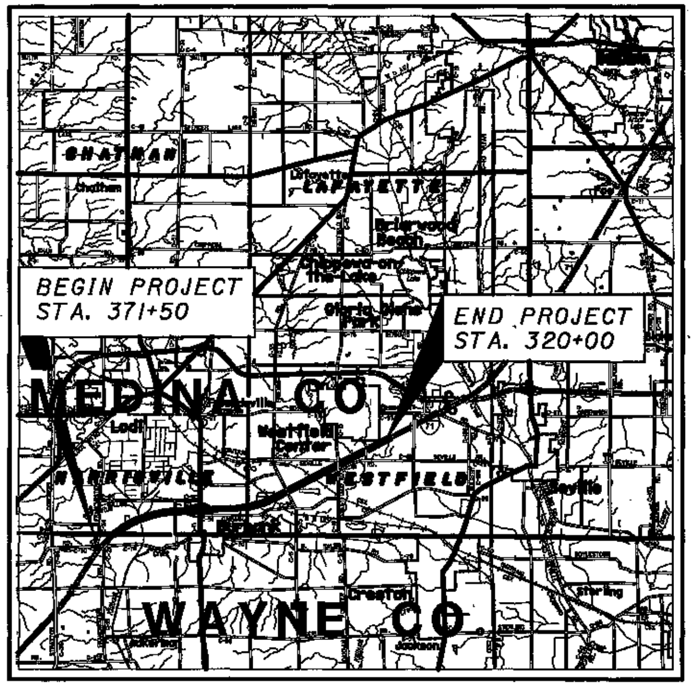
WAY - IR 71 - 7.04/0.00
050048 PID - 14017
DIST 3 2/23/2005

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

WAY-71-7.04
MED-71-0.00

RECONSTRUCTION OF EXISTING SEPARATED CROSSINGS WITH THE WHEELING AND LAKE ERIE RR AND CSXT RR

CONGRESS TOWNSHIP
WAYNE COUNTY
HARRISVILLE, WESTFIELD & GUILFORD TOWNSHIPS
MEDINA COUNTY



LOCATION MAP

LATITUDE: 40°59′48″ LONGITUDE: 81°59′43″

SCALE IN MILES
0 1 2 3 4

PORTION TO BE IMPROVED	▬
INTERSTATE & DIVIDED HIGHWAY	═
UNDIVIDED STATE & FEDERAL ROUTES	—
OTHER ROADS	┄

DESIGN DESIGNATION	IR71	SR83
CURRENT ADT (2006)	48,930	15,900
DESIGN YEAR ADT (2026)	68,660	27,100
DESIGN HOURLY VOLUME (2026)	7,209	2,439
DIRECTIONAL DISTRIBUTION	55%	56%
TRUCKS (24 HOUR B&C)	31%	5%
DESIGN SPEED	70 MPH	40 MPH
LEGAL SPEED	65 MPH	40 MPH
DESIGN FUNCTIONAL -------- CLASSIFICATION	RURAL INTERSTATE	RURAL ARTERIAL

DESIGN EXCEPTIONS: NONE

INDEX OF SHEETS:

TITLE SHEET 1
IR 71 SCHEMATIC PLANS & CONTROL 2-7
SR 83 SCHEMATIC PLANS & CONTROL 8-11
TYPICAL SECTIONS 12-24A
GENERAL NOTES 25-33
SUBGRADE TREATMENT PLANS 34-40
MAINTENANCE OF TRAFFIC PLANS ... 41-102, 48A, 63A
SHEETS NOT USED 79, 80
GENERAL SUMMARIES 103-106
SUB-SUMMARIES 107-125A, 108A, 117A, 122A
ROADWAY CALCULATIONS 126-130
SUPERELEVATION TABLES 131-150
PROJECT SITE PLANS 151-158
PLAN & PROFILE - I.R. 71 159-194
CROSS SECTIONS - I.R. 71 195-305
PLAN & PROFILE - SR 83 .... 306-309, 309A-309E
CROSS SECTIONS - SR 83 310-325
PLAN & PROFILE & CROSS SECTIONS
RAMP A 326-330, 326A
RAMP B 331-335, 331A
RAMP C 336-339, 336A
RAMP D 340-344, 340A
GARMAN ROAD 345-346
WILLOW ROAD 347-349
PAV'T / INTERS'T'N / JT. DETAILS 350-361
IR71/ SR83 GRADING PLAN 362
DRIVEWAY DETAILS 363-367
SEWER PROFILES - SR 83 368-369
CULVERT DETAILS 370-371
DRAINAGE DETAILS 372-380
MISC. ROADWAY DETAILS 381-384
WASTE AREA SCHEMATIC PLAN 385-386
TRAFFIC CONTROL PLANS 387-459, 387A, 397A
LIGHTING PLANS 464-474
SHEETS NOT USED 460-463
STRUCTURES OVER 20′ 475-750
482A, 613A-613D, 617A, 667A, 713A
SHEETS NOT USED 479
RIGHT OF WAY 751-785
SOIL SHEETS 1-55

PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF THE RECONSTRUCTION OF 6.12 MILES OF I-71 INCLUDING THE ADDITION OF A THIRD LANE IN EACH DIRECTION IN THE MEDIAN AREA. NEW GUARDRAIL, NEW OR RECONSTRUCTED DRAINAGE IN THE MEDIAN, RESURFACING OR REPLACEMENT OF THE RAMPS AT SR83, WIDENING OF SR83, AND THE RECONSTRUCTION OF ALL MAINLINE STRUCTURES. THE REPLACEMENT AND WIDENING OF THE SR83 STRUCTURE OVER IR71.

PROJECT EARTH DISTURBED AREA	158 AC.
ESTIMATED CONTRACTOR EARTH DISTURBED AREA	165 AC.
NOTICE OF INTENT EARTH DISTURBED AREA	174 AC.

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2002 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF MAINLINE I.R. 71 OR S.R. 83 AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF THE TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

UNDER AUTHORITY OF SECTION 4511.21, DIVISION (I) OF THE OHIO REVISED CODE, THE REVISED PRIMA FACIE SPEED LIMITS AS INDICATED HEREIN ARE DETERMINED TO BE REASONABLE AND SAFE, AND ARE HEREBY ESTABLISHED FOR THE DURATION OF THIS PROJECT. THE PRIMA FACIE SPEED LIMIT OR LIMITS HEREBY ESTABLISHED SHALL BECOME EFFECTIVE WHEN APPROPRIATE SIGNS GIVING NOTICE THEREOF ARE ERECTED.

APPROVED Thomas M. O'Leary pcB
DATE 10/18/04 DISTRICT DEPUTY DIRECTOR

APPROVED Gordon Proctor Jr.
DATE 11-23-04 DIRECTOR, DEPARTMENT OF TRANSPORTATION

BURGESS & NIPLE	MS CONSULTANTS	
IR71 ROADWAY PLANS:	SR83 ROADWAY PLANS	PLAN PREPARED BY: BURGESS & NIPLE 100 WEST ERIE ST. PAINESVILLE, OHIO 44077
ERIC N. FORSBERG E-4317 SIGNED: Eric Forsberg DATE: 12-18-03	BRADY B. BURTON E-61170 SIGNED: Brady Burton DATE: 12/17/03	MOODY - NOLAN
MED-71-0031 L&R, 0342 L&R BRIDGE PLANS WILLIAM T. LOGAN E-36389 SIGNED: William T. Logan DATE: 12/17/03	MED-71-0060 L&R, 0188 BRIDGE PLANS ROBERT W. BALLARD III 67283 SIGNED: Robert W. Ballard DATE: 12-16-03	MED-71-0437 L&R MED-71-0539 L&R BRIDGE PLANS GEORGE TOMASHUK E-4902 SIGNED: Geo Tomashuk DATE: 12-17-03

BP-2.5	7/28/00	STANDARD CONSTRUCTION DRAWINGS								HL-10.11 HL-10.12	1/06/04 4/19/02	SUPPLEMENTAL SPECIFICATIONS	
BP-1.1	7/28/00	DM-4.3	7/19/02	MH-1.1	7/19/02	MT-35.10	4/20/01			TC-51.11	4/20/01		
BP-2.1	7/28/00	DM-4.4	7/19/02	MH-1.2	7/19/02	MT-95.30	7/16/04	MT-99.60	10/18/02	TC-51.12	4/20/01	802	7/19/02
BP-2.2	7/28/00	F-2.1	7/28/00	RM-1.1	4/18/03	MT-95.31	7/16/04	MT-101.60	10/18/02	TC-52.10	4/20/01	832	4/17/04
BP-2.3	7/28/00	F-3.1	7/28/00	RM-4.2	4/18/03	MT-95.32	7/16/04	MT-101.70	10/18/02	TC-52.20	4/20/01	833	2/12/03
BP-3.1	7/28/00	F-3.3	7/28/00	RM-4.3	4/18/03	MT-95.40	7/16/04	MT-102.10	10/18/02	TC-61.10	1/19/01	837	3/9/99
BP-4.1	7/28/00	F-3.4	7/28/00	RM-4.5	4/18/03	MT-95.41	7/16/04	MT-105.10	10/18/02	TC-65.10	10/19/01	843	4/18/03
BP-5.1	7/28/00	GR-1.1	4/18/03	RM-4.6	1/16/04	MT-95.60	4/19/02	MT-105.11	10/18/02	TC-65.11	10/19/01	846	4/19/02
BP-8.1	7/28/00	GR-2.1	1/16/04	HL-10.31	7/20/01	MT-97.10	4/19/02	MT-110.10	10/18/02	TC-65.12	10/19/01	864	7/11/00
BP-9.1	10/17/03	GR-3.1	4/18/03	HL-20.11	4/19/02	MT-97.11	4/19/02	MT-110.20	10/18/02	TC-71.10	4/19/02	880	10/18/02
CB-1.1	7/19/02	GR-3.2	4/18/03	HL-20.21	4/19/02	MT-98.12	4/19/02	MT-110.30	10/18/02	TC-72.20	1/19/01	894	10/18/02
CB-2.2	7/19/02	GR-4.2	10/17/03	HL-30.11	4/19/02	MT-98.13	4/19/02	TC-12.30	1/19/01	TC-73.10	1/19/01	908	4/18/03
CB-3.1	7/19/02	GR-5.1	4/18/03	HL-30.21	4/19/02	MT-98.14	4/19/02	TC-21.20	1/19/01	TC-81.20	1/16/04	937	3/9/99
CB-3.2	7/19/02	GR-5.2	1/16/04	HL-30.22	4/19/02	MT-98.15	7/16/04	TC-22.20	1/19/01			954	9/9/97
CB-3.4	7/19/02	GR-5.3	1/16/04	HL-40.10	4/19/02	MT-98.16	4/19/02	TC-41.10	1/19/01	AS-1-81	7/19/02		
DM-1.1	7/18/03	GR-6.1	4/18/03	HL-50.11	7/20/01	MT-98.17	10/18/02	TC-41.20	1/19/01	ICD-1-82	7/19/02		
DM-1.4	7/19/02	GR-6.2	4/18/03	HL-60.11	1/16/04	MT-98.18	10/18/02	TC-41.40	7/16/04	PCB-91	7/19/02		
DM-2.1	7/20/01	I-1.2	7/19/02	HL-60.12	7/20/01	MT-99.20M	1/30/95	TC-41.50	7/16/04	PSID-99	7/18/03		
DM-4.1	7/19/02	HW-2.1	7/19/02	HL-60.21	7/20/01	MT-99.30	4/16/04	TC-42.10	1/19/01	SBR-1-99	7/19/02		
DM-4.2	7/19/02	HW-2.2	7/19/02	HL-60.31	7/20/01	MT-99.31	4/16/04	TC-42.20	7/16/04	SICD-1-99	7/19/02		

SPECIAL PROVISIONS		
WATERWAY PERMIT NWP#3&14	ARES RETAINING WALL: MAY 2003	MSE PLUS RETAINING WALLS: MAY 2003
RETAINED EARTH WALLS: MAY 2003	REINFORCED EARTH RETAINING WALL: MAY 2003	

UNDERGROUND UTILITIES
TWO WORKING DAYS
BEFORE YOU DIG
CALL 1-800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

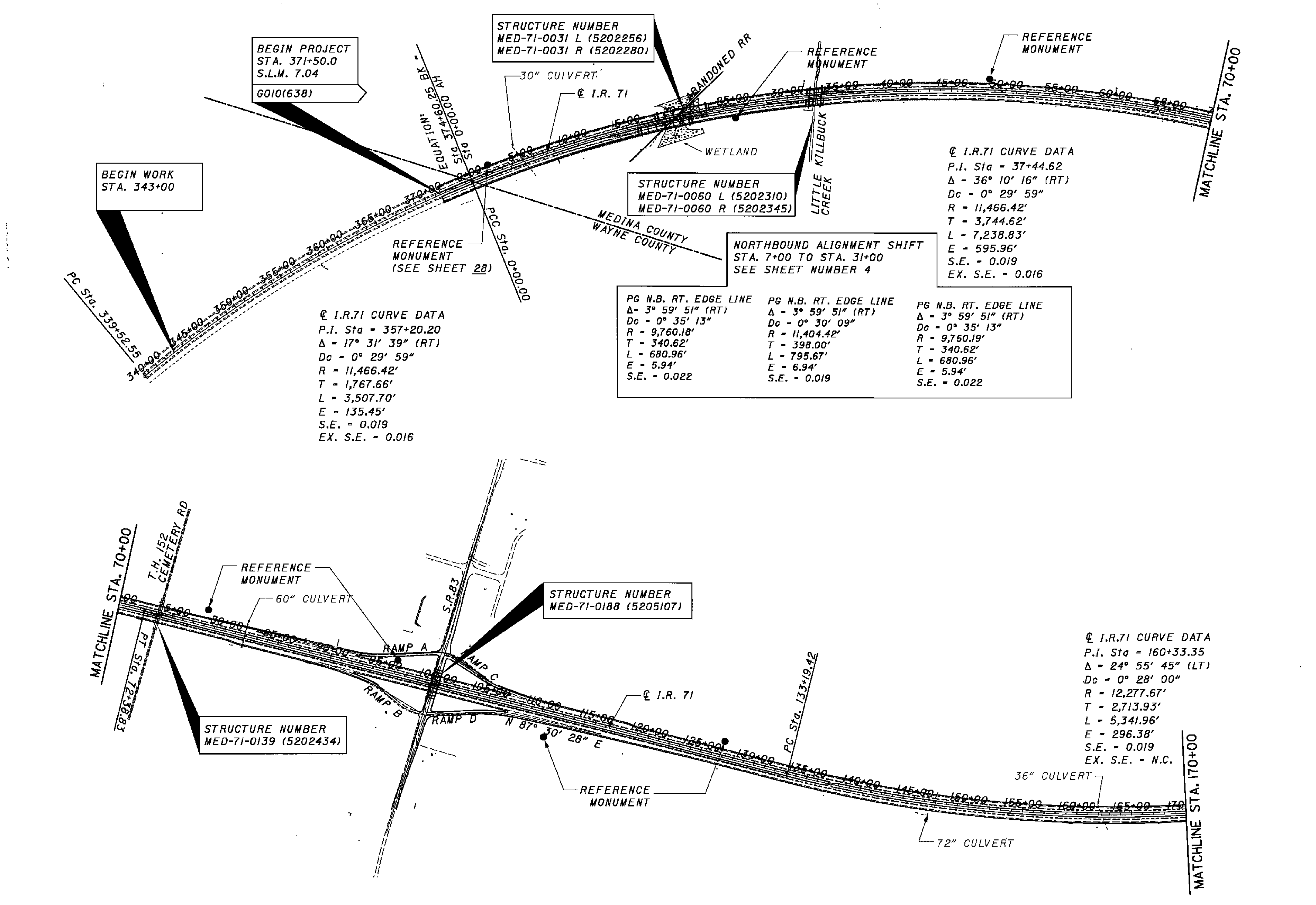
FEDERAL PROJECT NO.
G010(638)

PID NO.
14017

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT
WHEELING AND LAKE ERIE R.R.
CSXT R.R.

WAY/MED-71-7.04/0.00



NORTHBOUND ALIGNMENT SHIFT
STA. 7+00 TO STA. 31+00
SEE SHEET NUMBER 4

PG N.B. RT. EDGE LINE	PG N.B. RT. EDGE LINE	PG N.B. RT. EDGE LINE
Δ= 3° 59' 51" (RT)	Δ - 3° 59' 51" (RT)	Δ - 3° 59' 51" (RT)
Dc - 0° 35' 13"	Dc - 0° 30' 09"	Dc - 0° 35' 13"
R - 9,760.18'	R - 11,404.42'	R - 9,760.19'
T - 340.62'	T - 398.00'	T - 340.62'
L - 680.96'	L - 795.67'	L - 680.96'
E - 5.94'	E - 6.94'	E - 5.94'
S.E. - 0.022	S.E. - 0.019	S.E. - 0.022

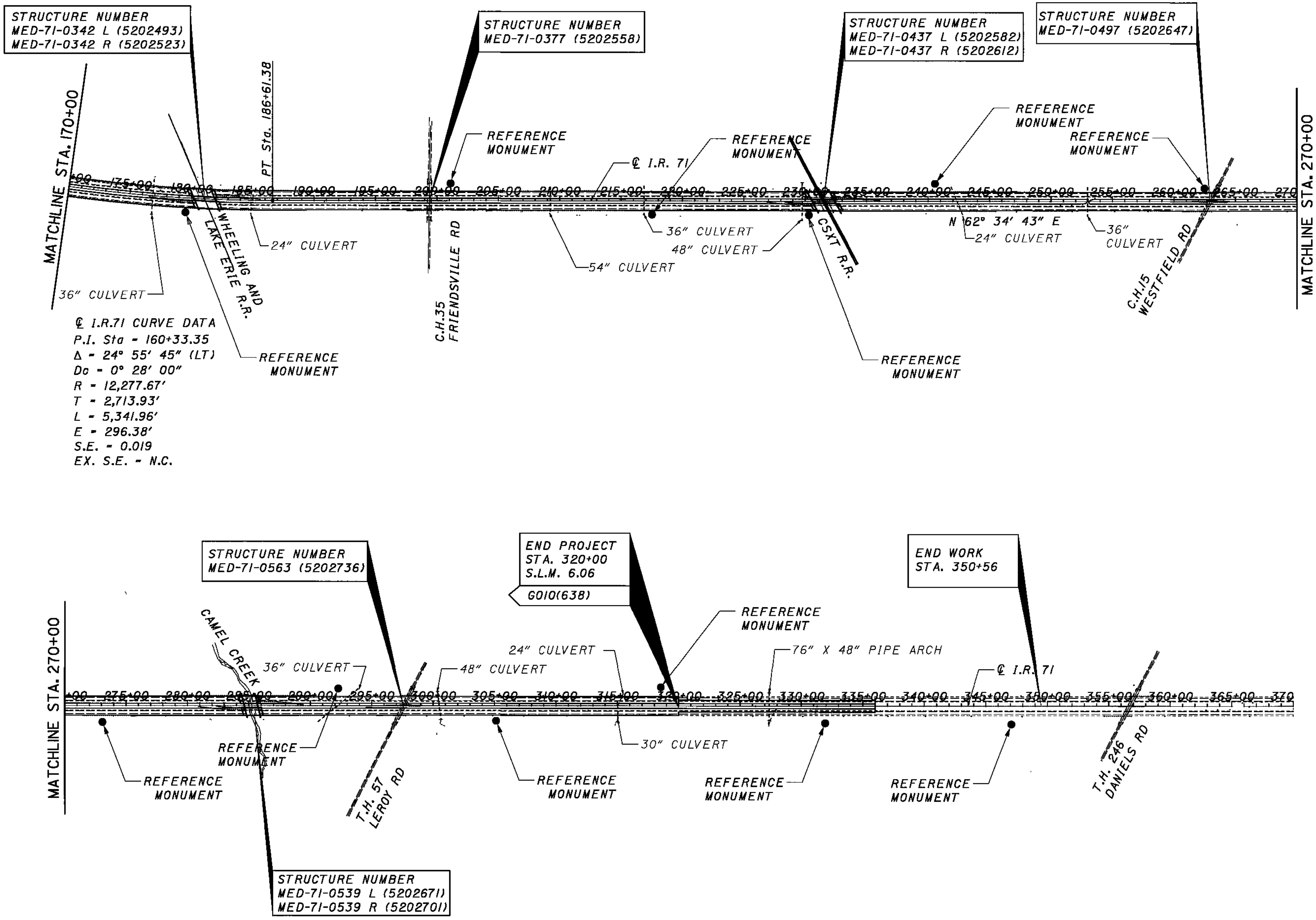
℄ I.R.71 CURVE DATA
P.I. Sta - 357+20.20
Δ - 17° 31' 39" (RT)
Dc - 0° 29' 59"
R - 11,466.42'
T - 1,767.66'
L - 3,507.70'
E - 135.45'
S.E. - 0.019
EX. S.E. - 0.016

℄ I.R.71 CURVE DATA
P.I. Sta - 37+44.62
Δ - 36° 10' 16" (RT)
Dc - 0° 29' 59"
R - 11,466.42'
T - 3,744.62'
L - 7,238.83'
E - 595.96'
S.E. - 0.019
EX. S.E. - 0.016

℄ I.R.71 CURVE DATA
P.I. Sta = 160+33.35
Δ - 24° 55' 45" (LT)
Dc - 0° 28' 00"
R - 12,277.67'
T - 2,713.93'
L - 5,341.96'
E - 296.38'
S.E. - 0.019
EX. S.E. - N.C.

SCHEMATIC PLAN

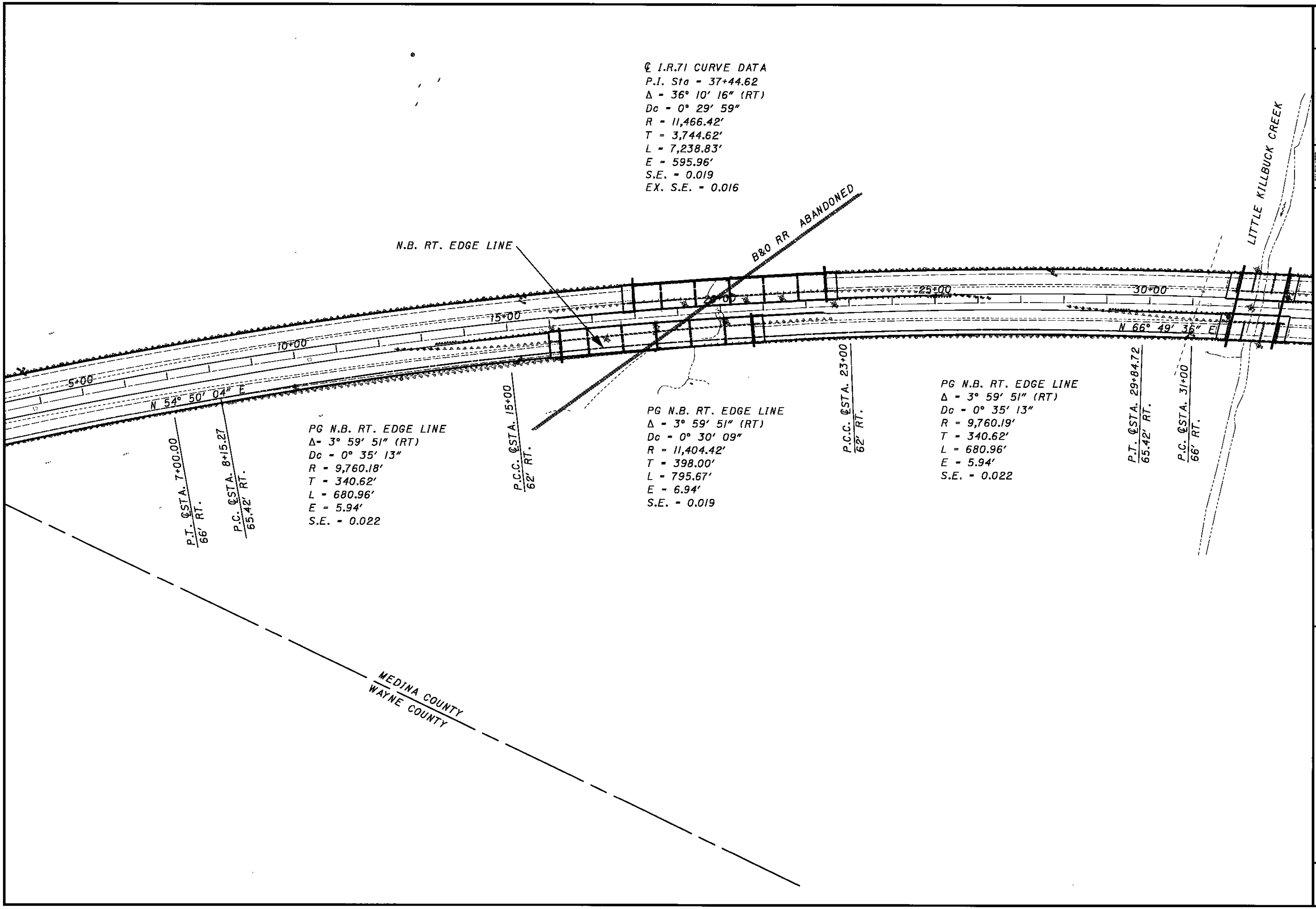
WAY/MED-71-7.04/0.00



℄ I.R.71 CURVE DATA
P.I. Sta - 160+33.35
Δ - 24° 55' 45" (LT)
Dc - 0° 28' 00"
R - 12,277.67'
T - 2,713.93'
L - 5,341.96'
E - 296.38'
S.E. - 0.019
EX. S.E. - N.C.

SCHEMATIC PLAN

WAY/MED-71-7.04/0.00



℄ I.R.71 CURVE DATA
P.I. Sta - 37+44.62
Δ - 36° 10′ 16″ (RT)
Dc - 0° 29′ 59″
R - 11,466.42′
T - 3,744.62′
L - 7,238.83′
E - 595.96′
S.E. - 0.019
EX. S.E. - 0.016

PG N.B. RT. EDGE LINE
Δ- 3° 59′ 51″ (RT)
Dc - 0° 35′ 13″
R - 9,760.18′
T - 340.62′
L - 680.96′
E - 5.94′
S.E. - 0.022

PG N.B. RT. EDGE LINE
Δ - 3° 59′ 51″ (RT)
Dc - 0° 30′ 09″
R - 11,404.42′
T - 398.00′
L - 795.67′
E - 6.94′
S.E. - 0.019

PG N.B. RT. EDGE LINE
Δ - 3° 59′ 51″ (RT)
Dc - 0° 35′ 13″
R - 9,760.19′
T - 340.62′
L - 680.96′
E - 5.94′
S.E. - 0.022

NORTHBOUND ALIGNMENT SHIFT
STA. 7+00 TO STA. 31+00

WAY/MED-71-7.04/0.00

NO.	STATION	OFFSET	NORTHING	EASTING	ELEVATION	DESCRIPTION
2910	303+53.07	144.072R	477,028.89	2,094,120.05	1,054.35	ODOT MONUMENT
2041	372+22.83	0.270L	482,522.89	2,098,183.00	970.36	C/L MONUMENT
2501	373+58.82	84.264L	482,674.53	2,098,234.87		HUB @ COUNTY
2502	1+02.72	83.195R	482,671.31	2,098,498.89		COUNTY LINE MONUMENT
BM					937.44	BM #2 [] - CUT TOP OF HEADWALL RT. OF CL STA 378+51
BM					969.07	BM #1 "[]" CUT ON CONCRETE BASE OF SIGN RT SIDE SR 71 ENTERING MEDINA CO.
3001	5+62.42	0.468L	483,013.76	2,098,814.32	959.95	C/L MONUMENT
BM					945.54	BM #3 STEEL POST 10' SE OF SE GUARDRAIL NB LANES @ STA 13+00
3002	13+62.27	0.425L	483,459.24	2,099,478.48	942.88	C/L MONUMENT
TBM					942.66	TBM #102 "X" CUT ON NW BOLT NW END OF NORTHERLY PARAPET WALL NORTHERLY SIDE I-71 NORTHBOUND MED71-0031R
TBM					931.39	TBM #104 "X" CUT ON SE BOLT SE END OF SOUTHERLY PARAPET WALL SOUTHERLY SIDE I-71 SB BRIDGE MED 71-0031L
TBM					932.25	TBM #103 X-CUT NW BOLT OF NW ABUT NB LANES
BM					922.08	BM # 4 TOP STEEL POST SE SIDE NB LANES 200' NE OF BRIDGE MED 71-0031L
BM					916.22	BM # 5 TOP STELL POST SE OF NB LANES 200' SW OF BR# MED 71 0060R
TBM					920.35	TBM # 105 "X" CUT ON SE BOLT TOP PARAPET WALL NW END OF NORHTERLY PARAPET WALL NB LANES BRIDGE # MED 71 0060 R
TBM					919.71	TBM#106 "X" CUT ON TOP SE BOLT TOP SE END OF SOUTHERLY PARAPET WALL OF I-71 SOUTHBOUND BRIDGE MED 71-0060R
BM					913.55	BM # 6 [] - CUT CONC N LEG OF SIGN "EXIT 204 1 MILE"
3003	23+62.24	0.718L	483,949.61	2,100,349.65	922.11	C/L MONUMENT
3004	33+62.21	0.015L	484,361.33	2,101,260.61	914.59	C/L MONUMENT
3005	41+61.67	0.467L	484,633.38	2,102,012.21	910.64	C/L MONUMENT
BM					911.27	BM # 7 [] - CUT CONC N LEG SIGN "FOOD - EXIT 204"
3006	49+63.13	4.992L	484,856.84	2,102,781.92	909.68	C/L MONUMENT
3007	49+63.16	4.944R	484,847.20	2,102,784.34	909.31	C/L MONUMENT
3901	57+20.59	138.331L	485,145.27	2,103,499.76	921.89	ODOT MONUMENT
3008	57+62.78	4.929L	485,021.24	2,103,564.68	914.54	C/L MONUMENT
3009	57+62.74	5.029R	485,011.42	2,103,566.35	914.35	C/L MONUMENT
3010	65+62.29	4.909L	485,130.72	2,104,356.85	921.40	C/L MONUMENT
3011	65+62.39	4.978R	485,120.90	2,104,357.95	921.60	C/L MONUMENT
BM					935.50	BM # 9 TOP STELL POST NW SIDE I-71 50' NE OF OVERPASS BEFORE EXIT 204
BM					933.22	BM # 10 [] - CUT SE COR HEADWALL @ BEGINNING OF EXIT 204 NB (SE SIDE 71)
3012	86+23.30	4.901L	485,240.27	2,106,414.93	938.53	C/L MONUMENT
3013	86+23.27	5.091R	485,230.29	2,106,415.33	938.60	C/L MONUMENT
3014	92+70.78	4.976L	485,268.50	2,107,061.80	944.85	C/L MONUMENT
BM					955.19	BM # 11 ""[]"" CUT ON CONCRETE BASE OF N LEG OF SIGN SOUTH SIDE OF I-71 N BOUND BETWEEN OFF RAMP
3015	92+70.79	4.966R	485,258.57	2,107,062.24	944.84	C/L MONUMENT
3016	101+86.88	0.104R	485,303.26	2,107,977.25	952.03	C/L MONUMENT
3902	104+12.40	219.067R	485,094.32	2,108,212.08	965.67	ODOT MONUMENT
3017	109+86.89	0.030R	485,338.13	2,108,776.50	958.59	C/L MONUMENT
BM					963.03	BM # 12 TOP STEEL POST E SIDE I-71 300' NE OF CL 109+90
3018	117+86.90	0.049R	485,372.89	2,109,575.76	963.08	C/L MONUMENT
BM					965.51	BM # 13 TOP STEEL POST SE SIDE I-71 150' NE OF CL STA 117+87
3019	125+36.93	0.031R	485,405.53	2,110,325.08	963.45	C/L MONUMENT
BM					960.27	BM # 14 [] - CUT COR HEADWALL SE SIDE 71 150' NE OF CL STA 125+37
TBM					961.26	TBM # 107 [] - CUT NE COR CATCH BASIN 25' SW OF PAVED TURN AROUND (IN MEDIAN)
BM					953.87	BM # 15 [] - CUT HEADWALL SE SIDE I-71 500' NE OF BM #14

CALCULATED
CHECKED

HORIZONTAL AND VERTICAL CONTROL
SCHEMATIC PLAN

WAY/MED-71-7.04/0.00

NO.	STATION	OFFSET	NORTHING	EASTING	ELEVATION	DESCRIPTION
3020	142+55.58	0.385R	485,515.51	2,112,039.68	951.42	C/L MONUMENT
BM					944.82	BM # 16 [] - CUT HEADWALL SE SIDE I-71 250' NE OF CL STA 142+56
3903	150+86.77	139.034R	485,506.43	2,112,886.80	955.79	ODOT MONUMENT
3021	151+86.37	0.432R	485,661.57	2,112,958.75	944.08	C/L MONUMENT
3022	159+91.53	4.795L	485,848.85	2,113,741.55	948.44	C/L MONUMENT
BM					946.33	BM # 17 [] - CUT HEADWALL NW SIDE I-71 50 NE OF CL STA 160+00
3023	159+91.10	5.140R	485,839.14	2,113,743.70	948.91	C/L MONUMENT
3024	166+85.95	0.409R	486,041.99	2,114,408.36	959.95	C/L MONUMENT
BM					973.76	BM # 18 [] - CUT CONC SE LEG SIGN "FOOD - EXIT 204" SB NW SIDE I-71
3025	174+85.84	0.185R	486,316.64	2,115,159.49	976.70	C/L MONUMENT
TBM					990.11	TBM # 108 X-CUT SE BOLT TOP PARAPET WALL SW ABUT OF NB LANES BR # MED 71 0340R
TBM					991.28	TBM # 109 X-CUT NW BOLT TOP PARAPET WALL NW ABUT OF SB LANES BR # MED 71 0342 L
BM					981.99	BM # 19 TOP STEEL POST E SIDE I-71 100' N OF BRD # MED 71 0342R
BM					975.57	BM # 20 [] - CUT SE SIDE CATCH BASIN SE I-71 200' S OF CL STA 193+00
3026	192+90.97	0.020R	487,097.37	2,116,786.05	981.03	C/L MONUMENT
3904	195+52.14	146.883R	487,087.29	2,117,085.51	994.25	ODOT MONUMENT
BM					979.28	BM # 21 TOP STELL POST SE SIDE I-71 300' NE OF BR # MED 71 0377
3027	206+46.72	0.209L	487,721.94	2,117,989.36	972.70	C/L MONUMENT
BM					969.56	BM # 22 [] - CUT SW COR HEADWALL SE SIDE I-71 @ CL STA 206+50
3028	211+49.85	0.224L	487,953.66	2,118,435.96	969.91	C/L MONUMENT
BM					978.14	BM # 23 TOP STELL POST NW SIDE I-71 @ SLM 206 2' SE OF R/W FENCE
3029	215+85.91	0.276L	488,154.52	2,118,823.00	971.21	C/L MONUMENT
3905	219+03.51	158.726L	488,441.44	2,119,031.94	985.63	ODOT MONUMENT
3030	227+93.39	0.033L	488,710.39	2,119,894.93	991.82	C/L MONUMENT
BM					988.90	BM # 24 [] - CUT CENTER HEADWALL NW SIDE I-71 100' SE OF CL STA 227+93
TBM					1,002.86	TBM # 110 X-CUT SW BOLT TOP PARAPET WALL SW ABUT OF NB LANES BR MED 71 0437R
TBM					1,005.31	TBM # 111 X-CUT NW BOLT TOP PARAPET WALL OF NW ABUT SB LANES BR # MED 71 0437L
BM					1,004.23	BM # 25 TOP STEEL POST SE SIDE I-71 200' NE OF BR # MED 71 0437R
BM					1,003.02	BM # 26 [] - CUT CENTER HEADWALL SE SIDE I-71 500' NE OF BR # MED 71 0437R
3031	241+54.07	0.109L	489,337.09	2,121,102.69	1,009.00	C/L MONUMENT
3906	249+24.54	141.222R	489,566.47	2,121,851.68	1,015.65	ODOT MONUMENT
3032	249+92.37	0.062L	489,723.12	2,121,846.82	1,006.88	C/L MONUMENT
3033	258+53.11	0.054R	490,119.41	2,122,610.91	999.32	C/L MONUMENT
BM					998.99	BM # 27 [] - CUT CENTER CATCH BASIN SE SIDE I-71 300' SW OF CL STA 258+00
BM					1,018.84	BM H-306 (NGS BM) DISC ON BRIDGE # MED 71 4.97 NGS ELEV 1018.820
3034	266+54.36	0.120R	490,488.36	2,123,322.16	992.81	C/L MONUMENT
3907	272+74.75	153.952L	490,910.83	2,123,801.89	1,006.45	ODOT MONUMENT
3035	281+54.00	0.181R	491,178.93	2,124,653.33	982.21	C/L MONUMENT
BM					976.62	BM # 28 [] - CUT CENTER HEADWALL SE SIDE 71 50' SE OF CL STA 281+54
TBM					988.71	TBM # 112 X-CUT NW BOLT TOP PARAPET WALL OF SW ABUT NB LANES BR # MED 71 0539R
TBM					989.56	TBM # 113 X-CUT SE BOLT TOP PARAPET WALL OF SE ABUT SB LANES BR # MED 71 0539L
BM					981.47	BM # 29 [] - CUT SE SIDE HEADWALL SE SIDE I-71 500' SW OF BR # MED 71 0539R
BM					1,004.99	BM # 30 [] - CUT CONC NE LEG OF SIGN "EXIT 209 2 MILES" SE SIDE I-71 @ BR # MED 71 0563
3036	297+31.11	0.327R	491,905.11	2,126,053.31	1,006.58	C/L MONUMENT
BM					1,005.31	BM # 31 [] - CUT CENTER HEADWALL SE SIDE I-71 250' SW OF BR # MED 71 0563
BM					1,036.52	BM # 33 [] - CUT CENTER OF HEADWALL SE SIDE I-71 500' SW OF SLM 208
3038	319+36.04	0.255R	492,920.61	2,128,010.47	1,045.30	C/L MONUMENT
3039	326+26.71	0.247R	493,238.70	2,128,623.54	1,059.10	C/L MONUMENT
BM					1,060.24	BM # 34 [] - CUT CENTER OF HEADWAL SE SIDE 50' SW OF SIGN "CAMPING - EXIT 209" NB
3040	331+27.01	0.439R	493,468.93	2,129,067.72	1,069.30	C/L MONUMENT

CALCULATED
CHECKED

SCHEMATIC PLAN
HORIZONTAL AND VERTICAL CONTROL

WAY/MED-71-7.04/0.00

PROPOSED MONUMENTS - APPROXIMATE LOCATIONS							PROPOSED MONUMENTS - AS-BUILT LOCATIONS				
NO.	STATION	OFFSET	NORTHING	EASTING	ELEVATION	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING	ELEVATION
	1+90.00	83.00 L	482,856.044	2,098,465.565	TO BE DETERMINED	PROPOSED MONUMENT					
	25+00.00	77.00 R	483,941.367	2,100,507.201	TO BE DETERMINED	PROPOSED MONUMENT					
	48+50.00	85.00 L	484,906.667	2,102,652.242	TO BE DETERMINED	PROPOSED MONUMENT					
	77+00.00	121.00 L	485,316.115	2,105,487.457	TO BE DETERMINED	PROPOSED MONUMENT					
	96+00.00	121.00 L	485,398.734	2,107,385.660	TO BE DETERMINED	PROPOSED MONUMENT					
	110+75.00	143.00 R	485,199.122	2,108,870.744	TO BE DETERMINED	PROPOSED MONUMENT					
	126+85.00	136.00 L	485,547.867	2,110,467.090	TO BE DETERMINED	PROPOSED MONUMENT					
	179+90.00	81.00 R	486,440.867	2,115,656.405	TO BE DETERMINED	PROPOSED MONUMENT					
	202+00.00	115.00 L	487,618.106	2,117,539.973	TO BE DETERMINED	PROPOSED MONUMENT					
	217+50.00	81.00 R	488,157.951	2,119,006.085	TO BE DETERMINED	PROPOSED MONUMENT					
	230+50.00	81.00 R	488,756.642	2,120,160.022	TO BE DETERMINED	PROPOSED MONUMENT					
	241+50.00	82.00 L	489,407.912	2,121,061.363	TO BE DETERMINED	PROPOSED MONUMENT					
	262+00.00	85.00 L	490,354.664	2,122,879.651	TO BE DETERMINED	PROPOSED MONUMENT					
	273+00.00	111.00 R	490,687.270	2,123,946.323	TO BE DETERMINED	PROPOSED MONUMENT					
	292+00.00	111.00 L	491,759.336	2,125,530.607	TO BE DETERMINED	PROPOSED MONUMENT					
	305+00.00	111.00 R	492,160.970	2,126,786.782	TO BE DETERMINED	PROPOSED MONUMENT					
	319+50.00	118.00 L	493,032.010	2,127,968.403	TO BE DETERMINED	PROPOSED MONUMENT					
	332+00.00	105.00 R	493,409.730	2,129,180.656	TO BE DETERMINED	PROPOSED MONUMENT					
	347+00.00	112.00 R	494,094.313	2,130,515.345	TO BE DETERMINED	PROPOSED MONUMENT					

NO.	STATION	OFFSET	NORTHING	EASTING	ELEVATION	DESCRIPTION
MED-71-0031 L&R						
0201	16+05.12	31.24	483557.97	2099702.24	939.78	O.C. SET I.P.'S
0202	16+66.83	20.91	483598.12	2099750.04	915.43	O.C. SET I.P.'S
0203	18+33.90	15.39	483686.09	2099891.88	906.66	O.C. SET I.P.'S
0204	19+40.25	-4.44	483755.31	2099974.95	906.70	O.C. SET I.P.'S
0205	22+12.43	-4.52	483884.43	2100214.68	910.58	O.C. SET I.P.'S
0206	22+63.92	-25.84	483927.12	2100250.58	927.58	O.C. SET I.P.'S
MED-71-0060 L&R						
0207	31+87.76	-16.98	484310.79	2101092.65	917.02	O.C. SET I.P.'S
0208	32+15.75	-8.98	484314.20	2101121.60	907.28	O.C. SET I.P.'S
0209	32+80.13	-1.05	484331.45	2101184.16	903.77	O.C. SET I.P.'S
0127	32+78.23	-123.87	484444.38	2101135.82	902.96	O.C. SET I.P.'S
0122	32+10.81	264.61	484059.76	2101222.25	901.92	O.C. SET I.P.'S
0199	33+23.74	0.63	484346.35	2101225.18	917.03	O.C. FOUND I.P.
MED-71-0342 L&R						
0230	180+22.42	32.59	486498.40	2115666.10	987.15	O.C. SET I.P.'S
0231	180+49.70	23.61	486517.91	2115687.26	974.94	O.C. SET I.P.'S
0232	180+93.61	3.99	486554.09	2115719.01	958.84	O.C. SET I.P.'S
0233	181+80.69	102.85	486501.41	2115840.04	957.28	O.C. SET I.P.'S
0234	180+79.39	-116.19	486657.32	2115655.87	958.99	O.C. SET I.P.'S
0235	181+75.70	-0.52	486592.83	2115791.55	974.80	O.C. SET I.P.'S
0236	182+08.43	10.90	486596.46	2115826.03	987.20	O.C. SET I.P.'S
MED-71-0437 L&R						
0250	232+69.13	19.66	488912.01	2120326.28	1002.73	O.C. SET I.P.'S
0251	231+16.50	-0.30	488859.43	2120181.61	973.11	O.C. SET I.P.'S
0252	232+15.15	-9.30	488912.85	2120265.03	989.07	O.C. SET I.P.'S
0253	230+68.71	-2.54	488839.41	2120138.16	990.39	O.C. SET I.P.'S
0254	230+50.98	7.66	488822.19	2120127.12	999.10	O.C. SET I.P.'S

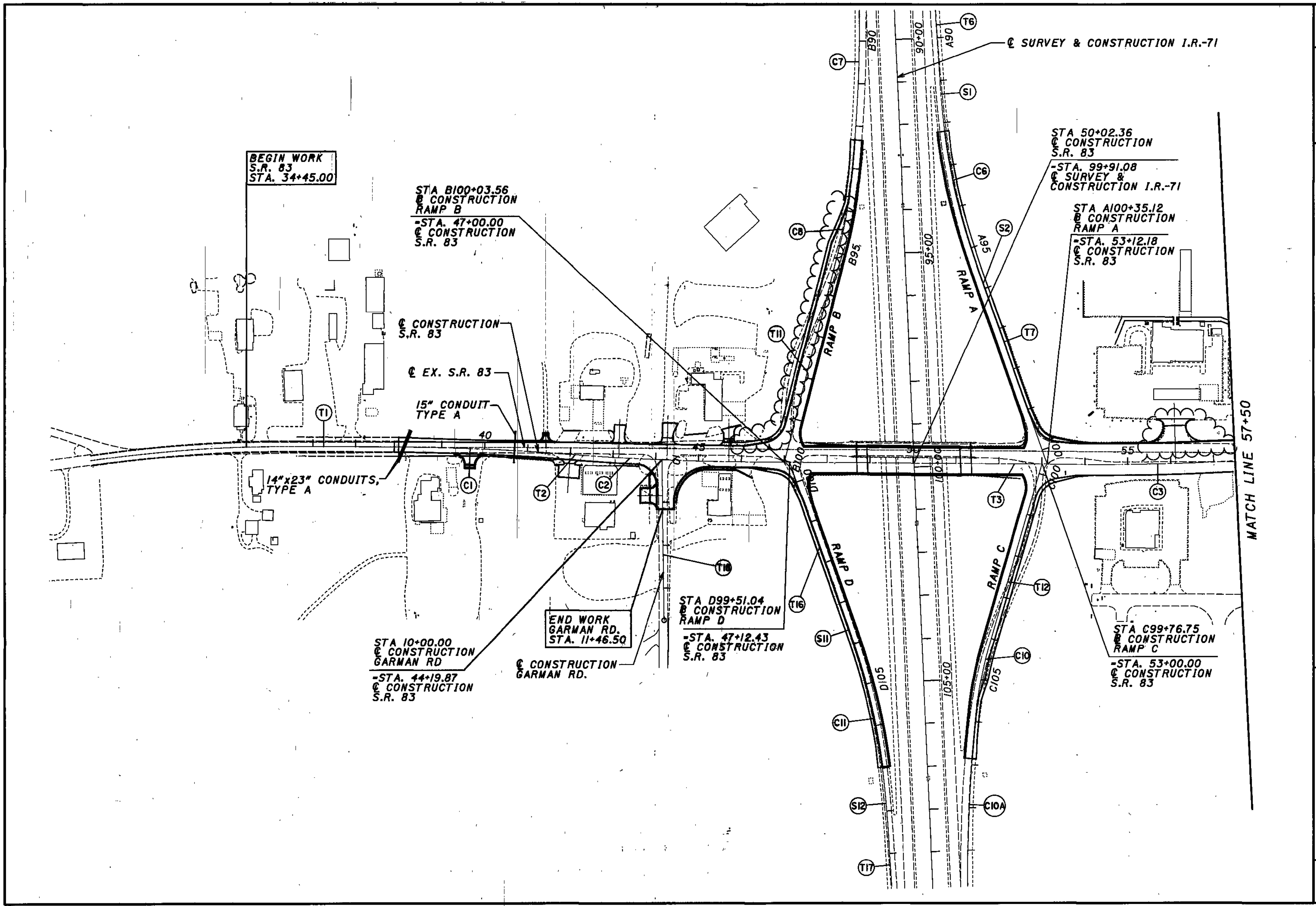
LEGEND

O.C. = OTTIS COMPTON
- = LEFT
+ = RIGHT

CALCULATED
CHECKED

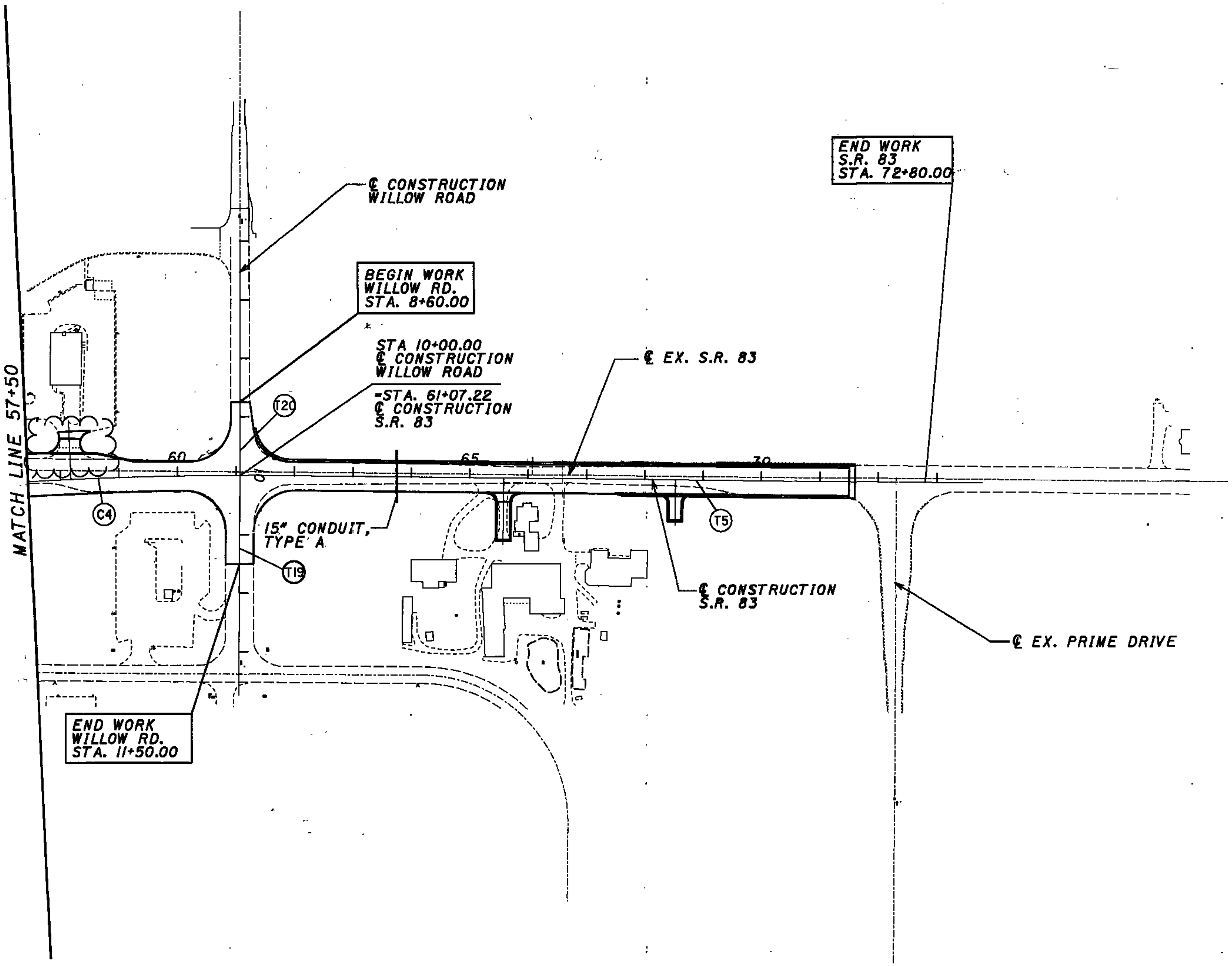
SCHEMATIC PLAN
HORIZONTAL AND VERTICAL CONTROL

WAY/MED-71-7.04/0.00



S.R.83 SCHEMATIC PLAN

WAY/MED-71-7.04/0.00



S.R. 83 SCHEMATIC PLAN

WAY/MED-71-7.04/0.00

ALIGNMENT DATA

RELOCATED S.R. 83

(T1)

STA. = 35+61.88
STA. = 37+82.62
L= 220.74
BRG. = N00°19'26"E

(C1)

CURVE DATA
P.I. STA. 39+68.39
Δ=03°42'50" RT.
Dc=01°00'00"
T=185.77'
L=371.40'
R=5,729.58'
E=3.01'
e max= N.C.
P.C. STA.=37+82.62
P.T. STA.=41+54.02

(T2)

STA. = 35+61.88
STA. = 37+82.62
L= 220.74
BRG. = N00°19'26"E

(C2)

CURVE DATA
P.I. STA. 44+32.04
Δ = 03°33'33"RT.
Dc=01°00'00"
T=178.02'
L=355.92'
R=5,729.58'
E=2.76'
e max= N.C.
P.C. STA.=42+54.02
P.T. STA.=46+09.94

(T3)

STA. = 46+09.94
STA. = 53+98.00
L= 788.06
BRG. = N00°28'43"E

(C3)

CURVE DATA
P.I. STA. 55+59.73
Δ = 03°14'02"RT
Dc=01°00'00"
T=161.74'
L=323.39'
R=5,729.58'
E=2.28'
e max= N.C.
P.C. STA.=53+98.00
P.T. STA.=57+21.38

(T4)

STA. = 57+21.38
STA. = 58+21.38
L= 100.00
BRG. = N02°45'19"W

(C4)

CURVE DATA
P.I. STA. 59+90.25
Δ = 03°22'35"RT
Dc=01°00'00"
T=168.86'
L=337.63'
R=5,729.58'
E=2.49'
e max= N.C.
P.C. STA.=58+21.38
P.T. STA.=61+59.01

(T5)

STA. = 61+59.01
STA. = 73+77.36
L= 1218.34
BRG. = N00°37'16"

N.C. = NORMAL CROWN

RAMPS

RAMP A

(T6)

STA. = A75+33.23
STA. = A90+33.55
L= 1,500.32'
BRG. = N86°18'51"E

(S1)

P.I. STA. A91+66.92
Δ=04°00'00" LT.
Dc=04°00'00"
R=1,439.39'
Ls=200.00'
LT=133.37'
ST=66.70'
k=99.98'
P=1.16'
e max=0.052
T.S. STA.= A90+33.55
S.C. STA.= A92+33.55

(C6)

CURVE DATA
P.I. STA. A93+30.83
Δ=07°46'13" RT.
Dc=04°00'00"
T=97.28'
L=194.26'
R=1,432.39'
E=3.30'
e max=0.052
P.C. STA.= A92+33.55
P.T. STA.= A94+27.81

(S2)

P.I. STA. A94+94.51
Δ=04°00'00" LT.
Dc=04°00'00"
R=1,432.39'
Ls=200.00'
LT=133.37'
ST=66.70'
k=99.98'
P=1.16'
e max=0.052
C.S. STA.= A94+27.81
S.T. STA.= A96+27.81

(T7)

STA. = A96+27.81
STA. = A100+35.12
L= 407.31
BRG. = N70°32'38"E

RAMP B

(T8) NOT SHOWN ON SCHEMATIC

STA. = B80+36.40
STA. = B81+37.12
L= 100.72'
BRG. = S85°38'58"E

(T9) NOT SHOWN ON SCHEMATIC

STA. = B81+37.12
STA. = B87+79.39
L= 642.27'
BRG. = N87°30'28"E

(C7)

CURVE DATA
P.I. STA. B90+59.31
Δ=08°22'57" RT.
Dc=01°30'00"
T=279.92
L=558.83
R=3,820'
E=10.24
e max=0.028
P.C. STA.= B87+79.39
P.T. STA.= B93+38.22

(C8)

P.I. STA. B94+09.29
Δ=08°30'45" RT.
Dc=06°00'00"
T=71.07'
L=141.87'
R=954.93
E=2.64'
e max=0.059
P.C. STA.= B93+38.22
P.T. STA.= B94+80.10

(T10)

T10 NOT USED

(C8A)

C8A NOT USED

(T11)

STA. = B94+80.10
STA. = B100+03.56
L= 523.46'
BRG. = S75°35'50"E

RAMP C

(T12)

STA. = C99+76.75
STA. = C104+07.85
L= 431.10'
BRG. = S73°47'29"E

(C9)

C9 NOT USED

(T13)

T13 NOT USED

(C10)

CURVE DATA
P.I. STA.= C104+94.07
Δ=10°19'06" RT
Dc=6°00'00"
T=86.22'
L=171.97'
R=954.94'
E=3.88'
e max=0.059
P.C. STA.= C104+79.82
P.T. STA.= C105+79.82

(C10A)

CURVE DATA
P.I. STA.= C108+59.73
Δ=08°22'57" LT
Dc=01°30'00"
T=279.92'
L=558.83'
R=3819.70'
E=10.24'
e max=0.028
P.C. STA.= C105+79.82
P.T. STA.= C111+38.65

(T14) NOT SHOWN ON SCHEMATIC

STA. = C111+38.65
STA. = C117+80.92
L= 642.27
BRG. = N87°30'28"E

(T15) NOT SHOWN ON SCHEMATIC

STA. = C117+80.92
STA. = C118+80.92
L= 100.00
BRG. = S85°38'58"E

RAMP D

(T16)

STA. = D99+51.04
STA. = D102+90.24
L= 339.20'
BRG. = N70°32'26"E

(S11)

P.I. STA.= D104+23.61
Δ =04°00'00" RT.
Dc=04°00'00"
R=1,432.39'
Ls=200.00'
LT=133.37'
ST=66.70'
k=99.98'
P=1.16'
e max=0.052
T.S. STA.= D102+90.24
S.C. STA.= D104+90.24

(C11)

CURVE DATA
P.I. STA.= D105+87.52
Δ=07°46'13" RT
Dc=04°00'00"
T=97.28'
L=194.26'
R=1,432.39'
E=3.30'
e max=0.052
P.C. STA.= D104+90.24
P.T STA.= D106+84.50

(S12)

P.I. STA. D107+51.20
Δ =04°00'00" RT.
Dc=04°00'00"
R=1,432.39'
Ls=200.00'
LT=133.37'
ST=66.70'
k=99.98'
P=1.16'
e max=0.052
C.S. STA.= D106+84.50
S.T. STA.= D108+84.50

(T17)

STA. = D108+84.50
STA. = D123+84.76
L= 1,500.26
BRG. = N86°18'51"E

GARMAN RD.

(T18)

STA. = 10+13.00
STA. = 11+00.00
L= 87'
BRG. = N89°53'56"E

WILLOW ROAD

(T19)

STA. = 10+00.00
STA. = 11+50.00
L= 150.00'
BRG. = S89°37'32"E

(T20)

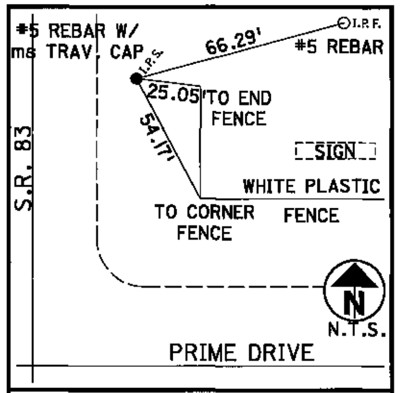
STA. = 8+75.00
STA. = 10+00.00
L= 125.00'
BRG. = N89°55'35"E

CALC. BY: CRG DATE: 5-12-02
CHKD. BY: LJS DATE: X-XX-02

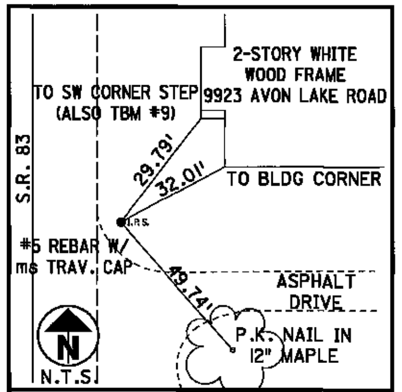
ALIGNMENT DATA

WAY/MED-71-7.04/0.00

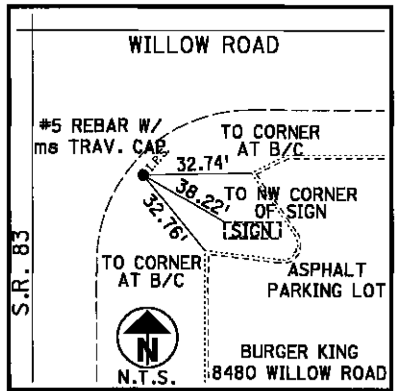
STATE ROUTE 83 THREE POINT REFERENCE TIES



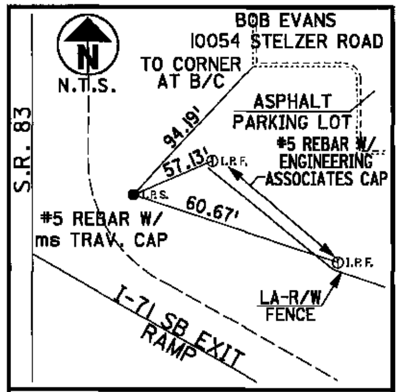
STA. 73+27.16, 64.16' RT
AVON LAKE ROAD
S.R. 83



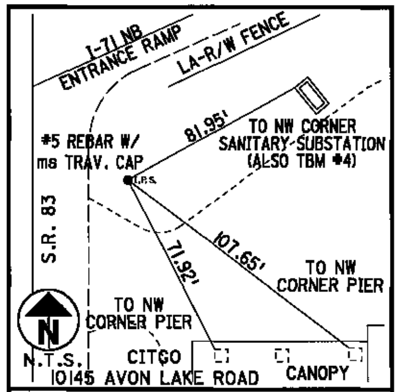
STA. 65+74.64, 23.44' RT
AVON LAKE ROAD
S.R. 83



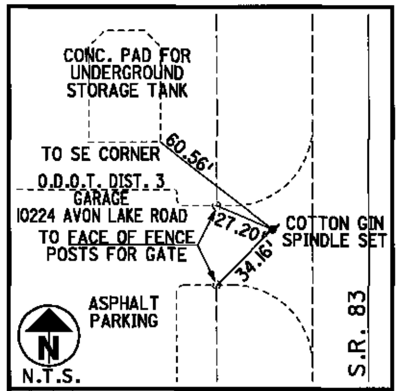
STA. 60+55.93, 49.69' RT
AVON LAKE ROAD
S.R. 83



STA. 53+54.50, 47.32' RT
AVON LAKE ROAD
S.R. 83



STA. 46+35.38, 34.64' RT
AVON LAKE ROAD
S.R. 83



STA. 36+96.08, 17.23' LT
AVON LAKE ROAD
S.R. 83

BENCH MARKS

T.B.M. #1

CHISELED SQUARE ON TOP OF NE CORNER OF GAS PUMP ISLAND AT O.D.O.T. DIST 3 GARAGE (10224 AVON LAKE ROAD, WEST SIDE OF S.R. 83.

ELEV. 956.58

T.B.M. #2

"X" CUT ON TOP OF NW BOLT AT N. SIGN POST TOWER FOR DUKE/DUCHESS SHOPPE AT N. DRIVE ENTRANCE ON GARMAN ROAD.

ELEV. 964.89

T.B.M. #3

CHISELED SQUARE ON NW CORNER OF CONC. WALL OF SANITARY SEWER PUMP STATION ON E. SIDE S.R. 83, ±100' OF I-71 ENTRANCE RAMP ON CITGO PROP.

ELEV. 971.27

T.B.M. #4

CHISELED "X" ON WEST BOLT ON TRAFFIC SIGNAL POLE IN THE SE QUADRANT OF S.R. 83 AND I-71 SB EXIT RAMP.

ELEV. 969.44

T.B.M. #5

SW CORNER OF STEP TO FRONT DOOR OF 2 STORY WHITE WOOD FRAME HOUSE (9923 AVON LAKE RD.).

ELEV. 967.41

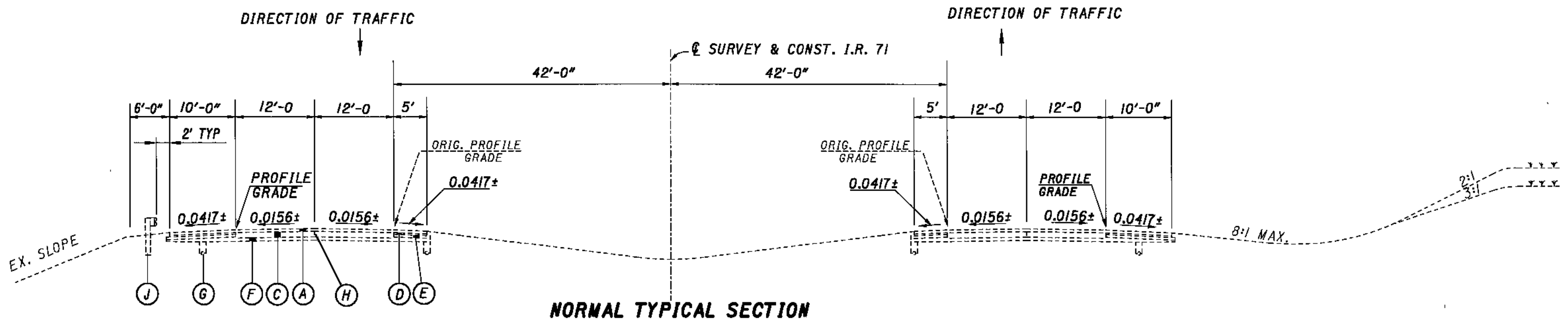
T.B.M. #6

CHISELED "X" ON WEST SIDE OF CONC. LIGHT POLE BASE ON EAST SIDE S.R. 83 AND IN NE QUADRANT OF S.R. 83 AND PRIME DRIVE.

ELEV. 947.58

CALCULATED SHG 05-02
CHECKED

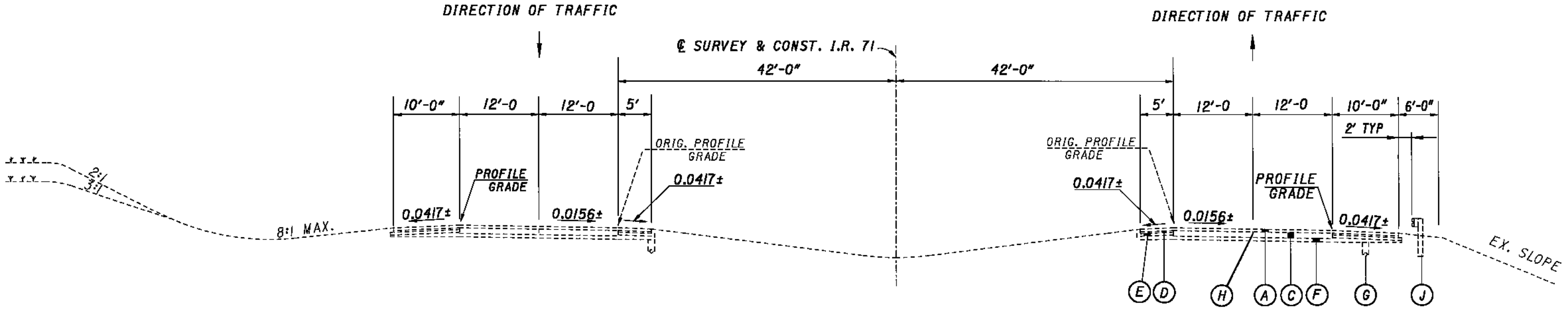
REFERENCE POINTS, BENCH MARKS AND CONVENTIONAL SIGNAGE



NORMAL TYPICAL SECTION

LIMITING STATIONS

STA. 73+11.95 TO STA. 173+86.95
STA. 220+85.21 TO STA. 230+30.63
STA. 232+68.29 TO STA. 284+32.85
STA. 286+01.40 TO STA. 320+00.00



SUPERELEVATED TYPICAL SECTION

PROPOSED PROFILE GRADES < 0.75' DIFFERENCE
(ORIG. PROFILE GRADES APPROX. EQUAL)

LIMITING STATIONS

STA. 32+39.74 TO STA. 73+11.95

EXISTING ITEM LEGEND

Ⓐ ASPHALT CONCRETE
Ⓑ 9" REINFORCED CONCRETE PAVEMENT
Ⓒ 10" REINFORCED CONCRETE PAVEMENT
Ⓓ BITUMINOUS AGGREGATE BASE
Ⓔ AGGREGATE BASE
Ⓕ SUBBASE
Ⓖ UNDERDRAIN
Ⓗ STANDARD LONGITUDINAL JOINT
Ⓙ GUARDRAIL

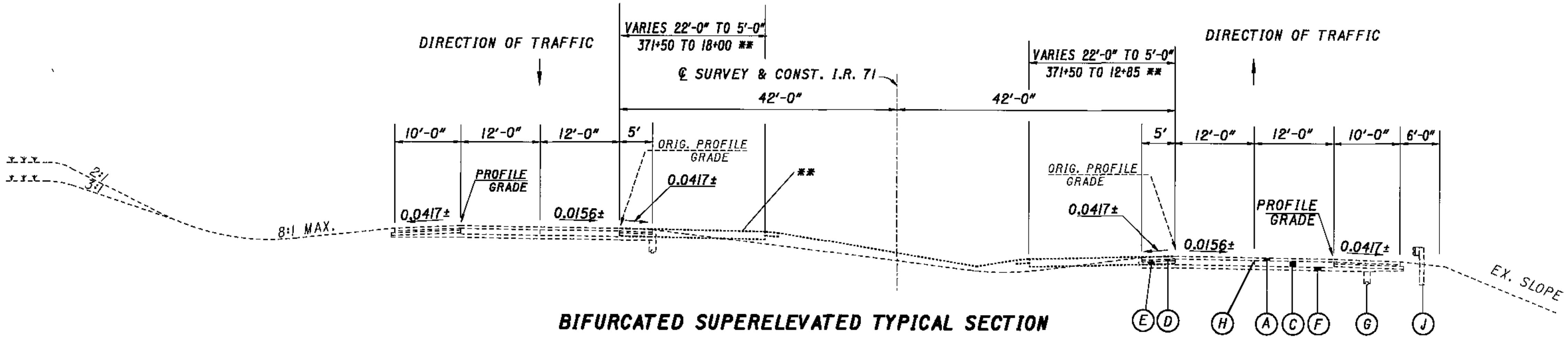
CALCULATED
CHECKED

EXISTING TYPICAL SECTIONS

WAY/MED-71-7.04/0.00

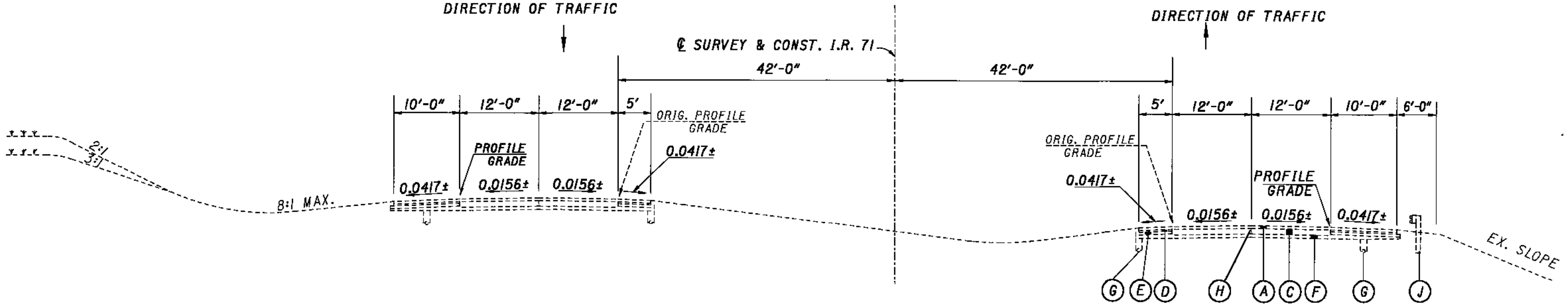
14017GYA.DGN

** - TEMPORARY PAVEMENT, CLASS A,
FROM WAY-71-0.28 PROJECT



BIFURCATED SUPERELEVATED TYPICAL SECTION

LIMITING STATIONS
STA. 371+50.00 TO STA. 0+00.00
STA. 0+00.00 TO STA. 32+39.74



BIFURCATED NORMAL TYPICAL SECTION

LIMITING STATIONS
STA. 173+86.95 TO STA. 179+88.69
STA. 182+12.67 TO STA. 220+85.21

EXISTING ITEM LEGEND

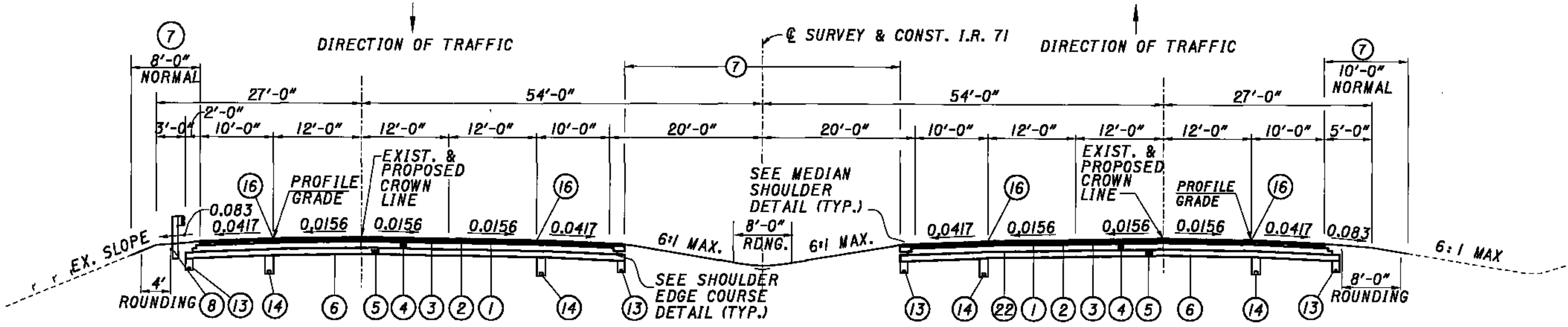
Ⓐ	ASPHALT CONCRETE
Ⓑ	9" REINFORCED CONCRETE PAVEMENT
Ⓒ	10" REINFORCED CONCRETE PAVEMENT
Ⓓ	BITUMINOUS AGGREGATE BASE
Ⓔ	AGGREGATE BASE
Ⓕ	SUBBASE
Ⓖ	UNDERDRAIN
Ⓗ	STANDARD LONGITUDINAL JOINT
Ⓙ	GUARDRAIL

CALCULATED
CHECKED

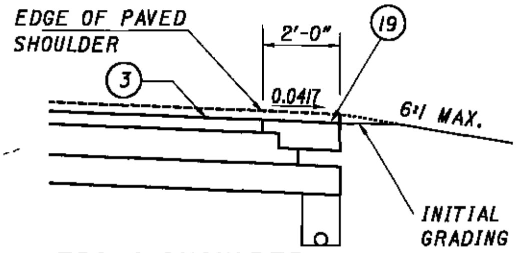
EXISTING TYPICAL SECTIONS

WAY/MED-71-7.04/0.00

14017GYA.DGN



NORMAL TYPICAL SECTION



MEDIAN SHOULDER TREATMENT DETAIL

SURFACE COURSE (DASHED) TO BE PLACED AFTER MOT PHASE.

NOTES:

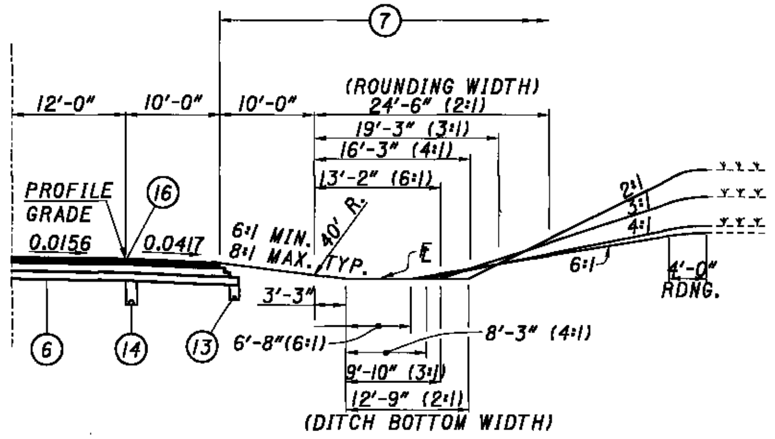
1. COLD LONGITUDINAL JOINTS IN THE 446 SURFACE COURSE SHALL BE LOCATED AT THE FINAL LANE LINE LOCATIONS AS PER BP-3.1.
2. SHOULDER RUMBLE STRIPS SHALL BE PROVIDED THROUGHOUT THE PROJECT LIMITS. SEE STANDARD CONSTRUCTION DRAWING BP-9.1 FOR DETAILS.
3. NORMAL DEPTH OF PIPE UNDERDRAIN IS 30" SHALLOW, UNLESS OTHERWISE NOTED.
4. PROVIDE 42" DEEP UNDERDRAINS IN AREAS OF 3 FT DEEP UNDERCUTS

SB LIMITING STATIONS

STA.	74+50.00	TO	STA.	131+25.00	- 5675.00
STA.	220+85.21	TO	STA.	230+03.30	- 918.09
STA.	232+38.28	TO	STA.	284+23.23	- 5184.95
STA.	285+83.33	TO	STA.	320+00.00	- 3416.67
				TOTAL	- 15194.71

NB LIMITING STATIONS

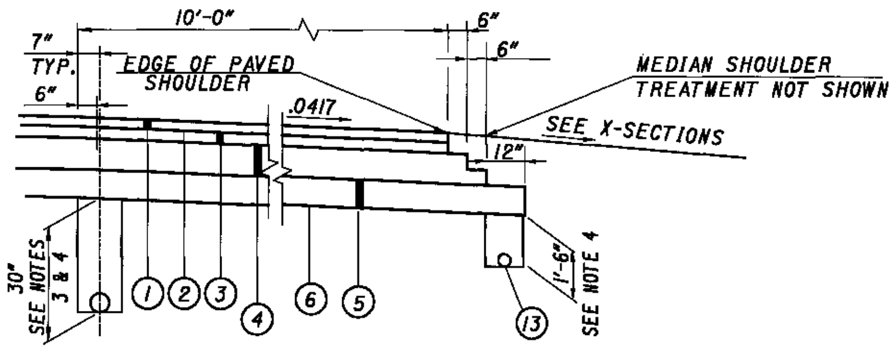
STA.	74+50.00	TO	STA.	131+25.00	- 5675.00
STA.	220+85.21	TO	STA.	230+61.01	- 975.80
STA.	232+95.99	TO	STA.	284+50.16	- 5154.17
STA.	286+10.26	TO	STA.	320+00.00	- 3389.74
				TOTAL	- 1594.71



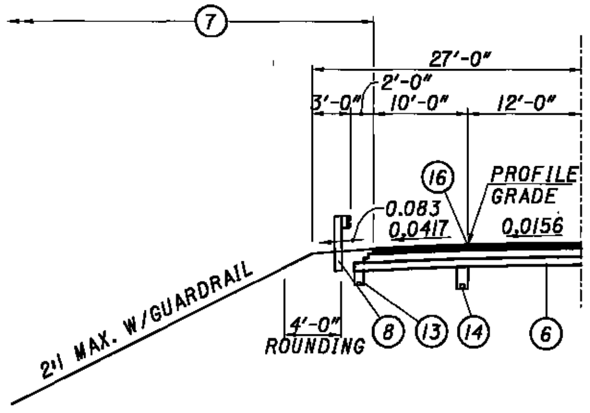
CUT TYPICAL SECTION - OUTSIDE SHOULDER

SAFETY GRADING CRITERIA SHOWN

FOR DITCH SECTION BEHIND GUARDRAIL SEE SHEET 17

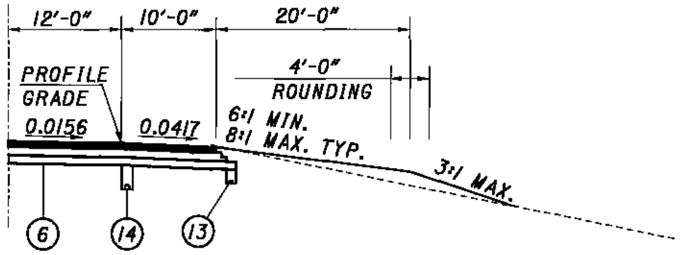


SHOULDER EDGE COURSE AND 4" UNDERDRAIN, 707.31 OR 707.41,



FILL TYPICAL SECTION - OUTSIDE SHOULDER

(WHERE ADDITIONAL GRADING IS REQUIRED - SEE CROSS SECTIONS)



FILL TYPICAL SECTION - OUTSIDE SHOULDER

SAFETY GRADING CRITERIA SHOWN

MAX. HT. OF FILL 16' AND NO R/W OR DITCH CONSTRAINTS

PROPOSED ITEM LEGEND

*	①	446	1 ½" ASPHALT CONCRETE SURFACE COURSE, TYPE 1H
*	②	407	TACK COAT FOR INTERMEDIATE COURSE (SEE GENERAL NOTE)
*	③	446	1 ¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-28
*	④	302	10½" ASPHALT CONCRETE BASE, PG64-22
	⑤	304	10" AGGREGATE BASE
	⑥	204	SUBGRADE COMPACTION
	⑦	659	SEEDING AND MULCHING (SEE GENERAL NOTE)
	⑧	606	GUARDRAIL, TYPE 5
*	⑨	407	TACK COAT (SEE GENERAL NOTE)
	⑩	254	PAVEMENT PLANING, ASPHALT CONCRETE (SEE TYPICAL SECTIONS FOR AVERAGE THICKNESS)

⑪	609	CONCRETE MEDIAN, AS PER PLAN
⑫	302	8" ASPHALT CONCRETE BASE, PG64-22
⑬	605	4" BY TYPE PIPE UNDERDRAIN, 707.31 OR 707.41, (18" NORMAL DEPTH)
⑭	605	6" BY TYPE PIPE UNDERDRAIN, 707.31 OR 707.41 (SHALLOW - 30" DEEP) (DEEP - 42" DEEP)
⑮	526	REINFORCED CONCRETE APPROACH SLAB
⑯		HOT LONGITUDINAL JOINT
⑰	622	CONCRETE BARRIER, SINGLE SLOPE, TYPE D
⑱		
⑲	301	8" ASPHALT CONCRETE BASE, PG-64-22, AS PER PLAN B
⑳	609	CURB, TYPE 2A

(21)	203	EXCAVATION
(22)	203	EMBANKMENT
(23)	452	9" NON-REINFORCED CONCRETE PAVEMENT
(24)	202	PAVEMENT REMOVED

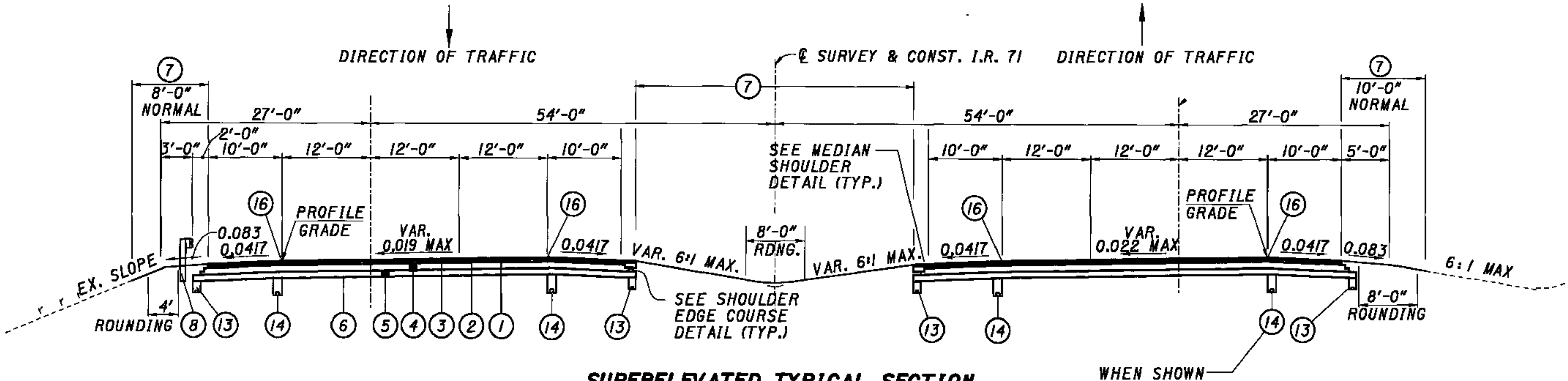
* - THE MAINLINE PAVEMENT BUILDUP OF ITEMS 1-4, 9 AND 16 ARE FOR INFORMATION ONLY. THESE ITEMS ARE TO BE INCLUDED UNDER ITEM 880 - ASPHALT CONCRETE (7 YEAR WARRANTY)

CALCULATED
CHECKED

PROPOSED TYPICAL SECTION

WAY/MED-71-7.04/0.00

1401TGYA.DGN



NOTES:

1. COLD LONGITUDINAL JOINTS IN THE 446 SURFACE COURSE SHALL BE LOCATED AT THE FINAL LANE LINE LOCATIONS AS PER BP-3.1.
2. SHOULDER RUMBLE STRIPS SHALL BE PROVIDED THROUGHOUT THE PROJECT LIMITS SEE STANDARD CONSTRUCTION DRAWING BP-9.1 FOR DETAILS.
3. FOR SHOULDER EDGE COURSE AND UNDERDRAIN DESIGN SEE DETAIL ON SHEET 14
4. FOR MEDIAN SHOULDER TREATMENT, SEE DETAIL ON SHEET 14

SUPERELEVATED TYPICAL SECTION

SB LIMITING STATIONS

STA. 33+42.07 TO STA. 74+50.00 * = 4107.93
STA. 131+25.00 TO STA. 173+86.95 ** = 4261.95
TOTAL = 8369.88

NB LIMITING STATIONS

STA. 33+21.63 TO STA. 74+50.00 * = 4128.37
STA. 131+25.00 TO STA. 173+86.95 ** = 4261.95
TOTAL = 8390.32

* APPROX. 0.75' EXISTING BIFURCATION (CURVE RIGHT)
** APPROX. 0.00' EXISTING BIFURCATION (CURVE LEFT) AS SHOWN

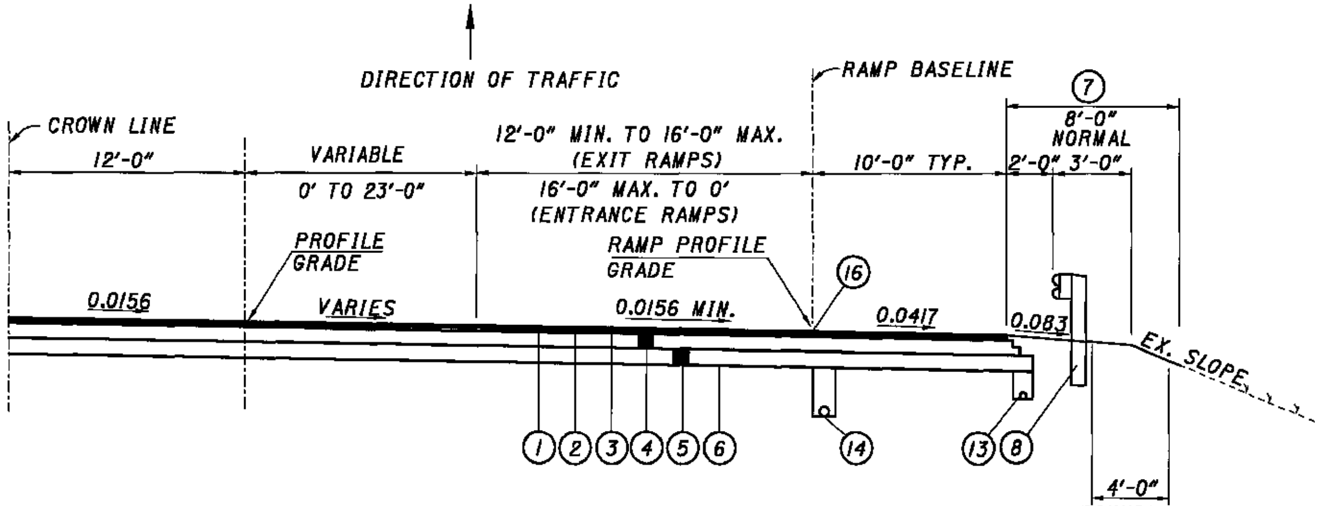
INSIDE PAVEMENT REPLACEMENT BETWEEN CONSTRUCTION STAGES

SB LIMITING STATIONS

STA. 156+00.00 TO STA. 172+00.00 (SEE SHEET 56)

NB LIMITING STATIONS

STA. 159+00.00 TO STA. 175+00.00 (SEE SHEET 55)



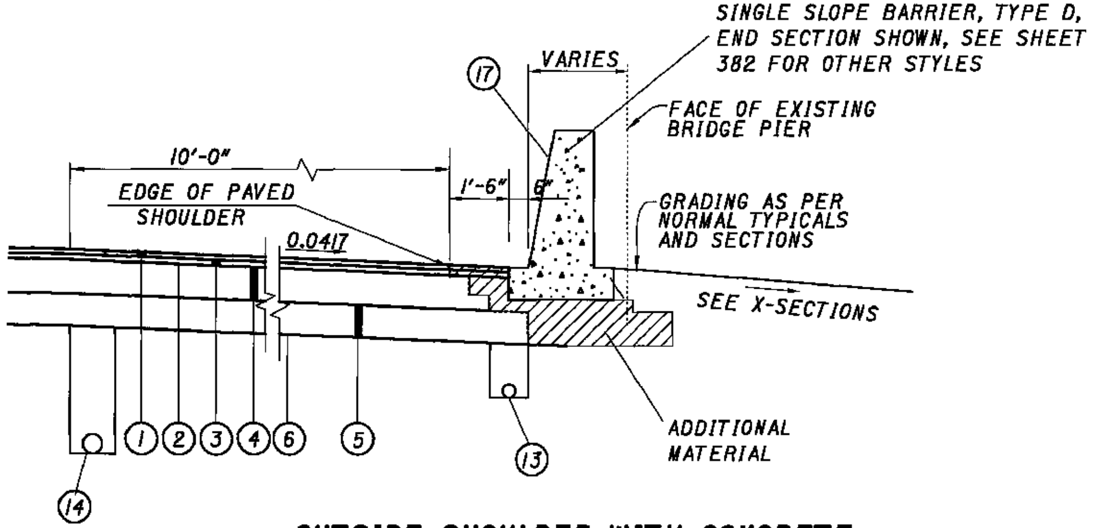
PROPOSED SPEED CHANGE LANE TYPICAL SECTION

SB LIMITING STATIONS

STA. 74+83.55 TO STA. 92+21.66 = 1738.11
STA. 106+84.36 TO STA. 118+80.92 = 1196.56

NB LIMITING STATIONS

STA. 80+37.12 TO STA. 92+33.67 = 1196.55
STA. 106+96.37 TO STA. 124.34.20 = 1737.89


SINGLE SLOPE BARRIER, TYPE D, END SECTION SHOWN, SEE SHEET 382 FOR OTHER STYLES
⑰
VARIES
FACE OF EXISTING BRIDGE PIER
10'-0"
EDGE OF PAVED SHOULDER
1'-6"
6"
GRADING AS PER NORMAL TYPICALS AND SECTIONS
0.0417
SEE X-SECTIONS
ADDITIONAL MATERIAL
① ② ③ ④ ⑥ ⑤ ⑬ ⑭

OUTSIDE SHOULDER WITH CONCRETE BARRIER TYPICAL SECTION

FOR LOCATIONS AND DETAILS SEE SHEETS 381 & 382

PROPOSED ITEM LEGEND

*	①	446	1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1H
*	②	407	TACK COAT FOR INTERMEDIATE COURSE (SEE GENERAL NOTE)
*	③	446	1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-28
*	④	302	10 1/2" ASPHALT CONCRETE BASE, PG64-22
	⑤	304	10" AGGREGATE BASE
	⑥	204	SUBGRADE COMPACTION
	⑦	659	SEEDING AND MULCHING (SEE GENERAL NOTE)
	⑧	606	GUARDRAIL, TYPE 5
*	⑨	407	TACK COAT (SEE GENERAL NOTE)
	⑩	254	PAVEMENT PLANING, ASPHALT CONCRETE (SEE TYPICAL SECTIONS FOR AVERAGE THICKNESS)
	⑪	609	CONCRETE MEDIAN, AS PER PLAN
	⑫	302	8" ASPHALT CONCRETE BASE, PG64-22
	⑬	605	4" BY TYPE PIPE UNDERDRAIN, 707.31 OR 707.41, (18" NORMAL DEPTH)
	⑭	605	6" BY TYPE PIPE UNDERDRAIN, 707.31 OR 707.41 (SHALLOW - 30" DEEP) (DEEP - 42" DEEP)
	⑮	526	REINFORCED CONCRETE APPROACH SLAB
	⑯		HOT LONGITUDINAL JOINT
	⑰	622	CONCRETE BARRIER, SINGLE SLOPE, TYPE D
	⑱		
	⑲	301	8" ASPHALT CONCRETE BASE, PG-64-22, AS PER PLAN B
	⑳	609	CURB, TYPE 2A
	㉑	203	EXCAVATION
	㉒	203	EMBANKMENT
	㉓	452	9" NON-REINFORCED CONCRETE PAVEMENT
	㉔	202	PAVEMENT REMOVED

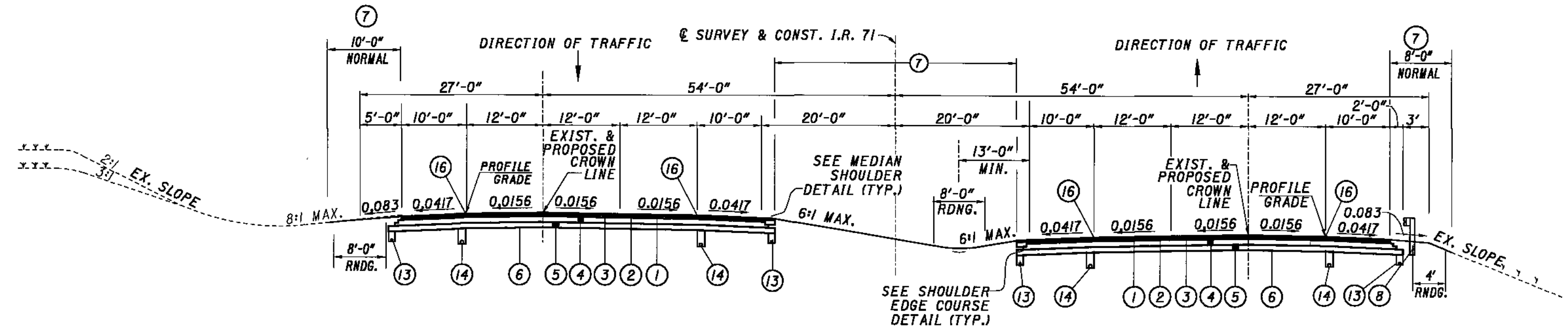
* - THE MAINLINE PAVEMENT BUILDUP OF ITEMS 1-4, 9 AND 16 ARE FOR INFORMATION ONLY. THESE ITEMS ARE TO BE INCLUDED UNDER ITEM 880 - ASPHALT CONCRETE (7 YEAR WARRANTY)

CALCULATED
CHECKED

PROPOSED TYPICAL SECTION

WAY/MED-71-7.04/0.00

GYB.DGN



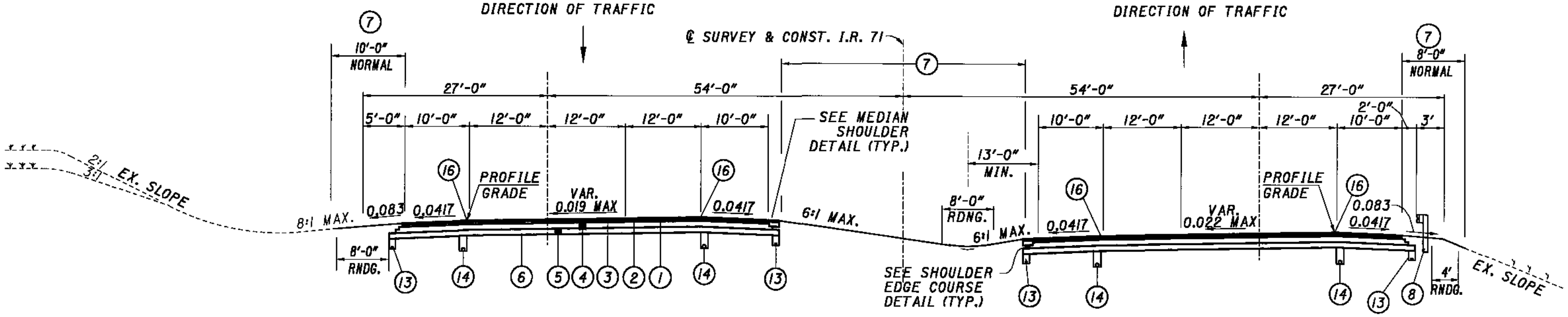
BIFURCATED NORMAL TYPICAL SECTION

LIMITING STATIONS
STA. 214+87.00 TO STA. 220+85.21 - 598.21

BIFURCATION VARIES
2'-4" MAX.

NOTES:

1. COLD LONGITUDINAL JOINTS IN THE 446 SURFACE COURSE SHALL BE LOCATED AT THE FINAL LANE LINE LOCATIONS AS PER BP-3.1.
2. SHOULDER RUMBLE STRIPS SHALL BE PROVIDED THROUGHOUT THE PROJECT LIMITS SEE STANDARD CONSTRUCTION DRAWING BP-9.1 FOR DETAILS.
3. FOR SHOULDER EDGE COURSE AND UNDERDRAIN DESIGN SEE DETAIL ON SHEET 14.
4. FOR MEDIAN SHOULDER TREATMENT, SEE DETAIL ON SHEET 14.



BIFURCATED SUPERELEVATED TYPICAL SECTION

SB LIMITING STATIONS

STA.	371+50.00	TO	STA.	374+60.25(BACK)	- (CURVE RIGHT)	- 310.25
STA.	0+00.00(AHEAD)	TO	STA.	17+74.27	(CURVE RIGHT)	- 1774.27
STA.	22+73.47	TO	STA.	31+82.50	(CURVE RIGHT)	- 909.03
STA.	173+86.95	TO	STA.	179+70.12	(CURVE LEFT) AS SHOWN	- 583.17
STA.	181+92.89	TO	STA.	188+75.00	(CURVE LEFT) AS SHOWN	- 682.11
					TOTAL	- 4258.83

BIFURCATION VARIES
2'-4" MAX. NORMAL
1'-0" MAX. FULL S.E., W/ LOW SIDE TOWARDS MEDIAN
3'-8" MAX. FULL S.E., W/ HIGH SIDE TOWARDS MEDIAN
SEE NEXT SHEET FOR GRADING WHEN
BIFURCATION EXCEEDS THESE LIMITS

NB LIMITING STATIONS

STA.	371+50.00	TO	STA.	374+60.25(BACK)	- (CURVE RIGHT)	- 310.25
STA.	0+00.00(AHEAD)	TO	STA.	15+94.75	(CURVE RIGHT)	- 1594.75
STA.	20+98.05	TO	STA.	31+61.05	(CURVE RIGHT)	- 1063.00
STA.	173+86.95	TO	STA.	180+23.21	(CURVE LEFT) AS SHOWN	- 636.26
STA.	182+43.25	TO	STA.	188+75.00	(CURVE LEFT) AS SHOWN	- 631.75
					TOTAL	- 4236.01

PROPOSED ITEM LEGEND

*	①	446	1 ½" ASPHALT CONCRETE SURFACE COURSE, TYPE 1H
*	②	407	TACK COAT FOR INTERMEDIATE COURSE (SEE GENERAL NOTE)
*	③	446	1 ¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-28
*	④	302	10½" ASPHALT CONCRETE BASE, PG64-22
	⑤	304	10" AGGREGATE BASE
	⑥	204	SUBGRADE COMPACTION
	⑦	659	SEEDING AND MULCHING (SEE GENERAL NOTE)
	⑧	606	GUARDRAIL, TYPE 5
*	⑨	407	TACK COAT (SEE GENERAL NOTE)
	⑩	254	PAVEMENT PLANING, ASPHALT CONCRETE (SEE TYPICAL SECTIONS FOR AVERAGE THICKNESS)
	⑪	609	CONCRETE MEDIAN, AS PER PLAN
	⑫	302	8" ASPHALT CONCRETE BASE, PG64-22
	⑬	605	4" BY TYPE PIPE UNDERDRAIN, 707.31 OR 707.41, (18" NORMAL DEPTH)
	⑭	605	6" BY TYPE PIPE UNDERDRAIN, 707.31 OR 707.41 (SHALLOW - 30" DEEP) (DEEP - 42" DEEP)
	⑮	526	REINFORCED CONCRETE APPROACH SLAB
	⑯		HOT LONGITUDINAL JOINT
	⑰	622	CONCRETE BARRIER, SINGLE SLOPE, TYPE D
	⑱		
	⑲	301	8" ASPHALT CONCRETE BASE, PG-64-22, AS PER PLAN B
	⑳	609	CURB, TYPE 2A
	㉑	203	EXCAVATION
	㉒	203	EMBANKMENT
	㉓	452	9" NON-REINFORCED CONCRETE PAVEMENT
	㉔	202	PAVEMENT REMOVED

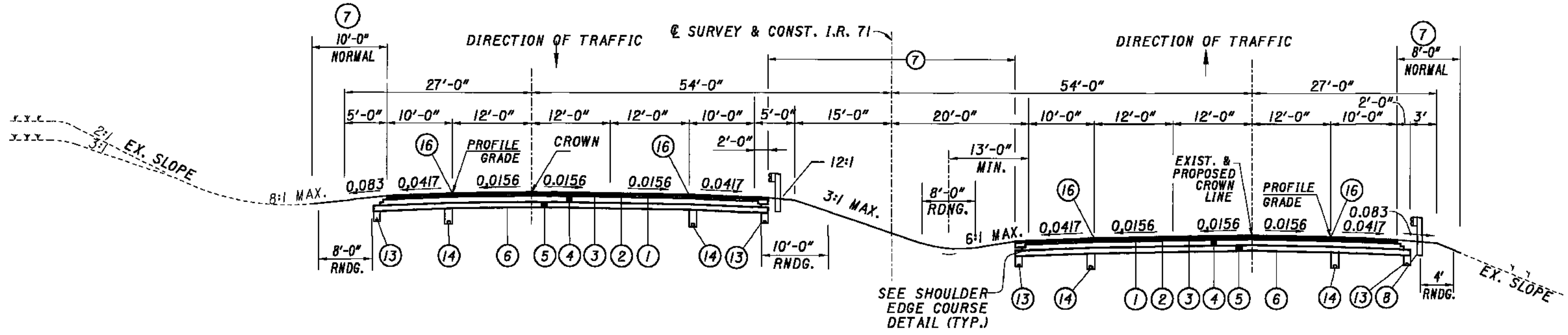
* - THE MAINLINE PAVEMENT BUILDUP OF ITEMS 1-4, 9 AND 16 ARE FOR INFORMATION ONLY. THESE ITEMS ARE TO BE INCLUDED UNDER ITEM 880 - ASPHALT CONCRETE (7 YEAR WARRANTY)

CALCULATED
CHECKED

PROPOSED TYPICAL SECTION

WAY/MED-71-7.04/0.00

GYB.DGN



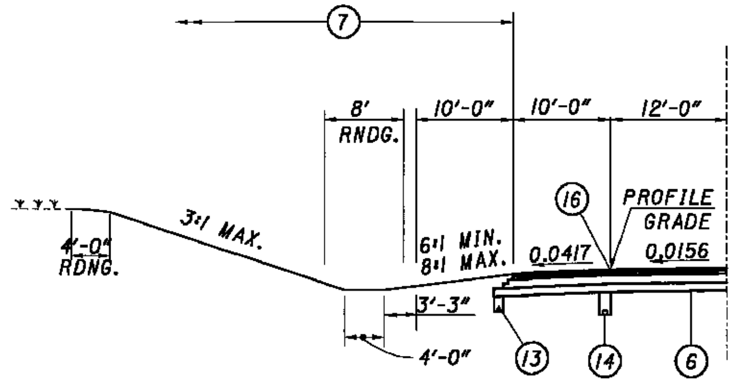
NOTES:

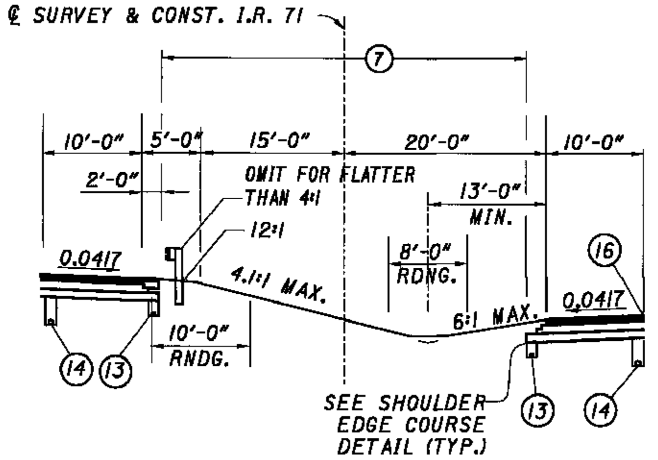
1. COLD LONGITUDINAL JOINTS IN THE 446 SURFACE COURSE SHALL BE LOCATED AT THE FINAL LANE LINE LOCATIONS AS PER BP-3.1.
2. SHOULDER RUMBLE STRIPS SHALL BE PROVIDED THROUGHOUT THE PROJECT LIMITS SEE STANDARD CONSTRUCTION DRAWING BP-9.1 FOR DETAILS.
3. FOR SHOULDER EDGE COURSE AND UNDERDRAIN DESIGN SEE DETAIL ON SHEET 14.
4. FOR MEDIAN SHOULDER TREATMENT, SEE DETAIL ON SHEET 14.

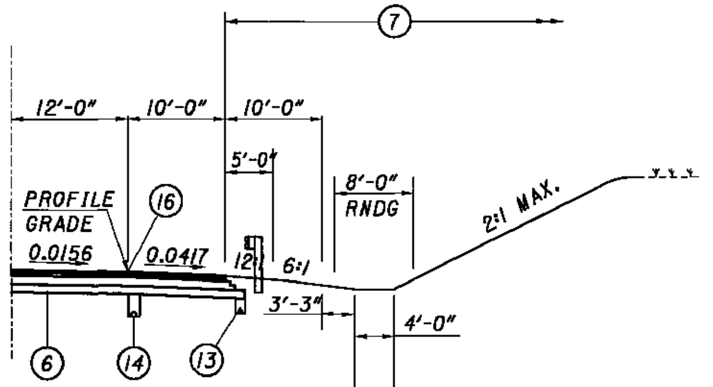
BIFURCATED NORMAL TYPICAL SECTION

LIMITING STATIONS
STA. 188+75.00 TO STA. 214+87.00 - 2612.00

BIFURCATION VARIES
5'-5" MAX.







CUT TYPICAL SECTION - OUTSIDE SHOULDER

CLEAR ZONE GRADING CRITERIA SHOWN

USE WHERE SAFETY GRADING IS IMPRACTICAL

TRANSITION MEDIAN GRADING

USING 4:1 MAX. CLEAR ZONE GRADING

SEE ABOVE FOR > 4:1 GRADING

BIFURCATION VARIES
NORMAL SECTION - 2'-4" MIN. TO 3'-9" MAX.
SUPERELEVATED SECTION -
1'-0" MIN. TO 2'-5" MAX. W/ LOW SIDE TOWARDS MEDIAN
3'-8" MIN. TO 5'-1" MAX. W/HIGH SIDE TOWARDS MEDIAN

CUT TYPICAL SECTION - OUTSIDE SHOULDER

TO BE USED BEHIND GUARDRAIL ONLY

PROPOSED ITEM LEGEND

*	①	446	1 ½" ASPHALT CONCRETE SURFACE COURSE, TYPE 1H
*	②	407	TACK COAT FOR INTERMEDIATE COURSE (SEE GENERAL NOTE)
*	③	446	1 ¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-28
*	④	302	10½" ASPHALT CONCRETE BASE, PG64-22
	⑤	304	10" AGGREGATE BASE
	⑥	204	SUBGRADE COMPACTION
	⑦	659	SEEDING AND MULCHING (SEE GENERAL NOTE)
	⑧	606	GUARDRAIL, TYPE 5
*	⑨	407	TACK COAT (SEE GENERAL NOTE)
	⑩	254	PAVEMENT PLANING, ASPHALT CONCRETE (SEE TYPICAL SECTIONS FOR AVERAGE THICKNESS)
	⑪	609	CONCRETE MEDIAN, AS PER PLAN
	⑫	302	8" ASPHALT CONCRETE BASE, PG64-22
	⑬	605	4" BY TYPE PIPE UNDERDRAIN, 707.31 OR 707.41, (18" NORMAL DEPTH)
	⑭	605	6" BY TYPE PIPE UNDERDRAIN, 707.31 OR 707.41 (SHALLOW - 30" DEEP) (DEEP - 42" DEEP)
	⑮	526	REINFORCED CONCRETE APPROACH SLAB
	⑯		HOT LONGITUDINAL JOINT
	⑰	622	CONCRETE BARRIER, SINGLE SLOPE, TYPE D
	⑱		
	⑲	301	8" ASPHALT CONCRETE BASE, PG-64-22, AS PER PLAN B
	⑳	609	CURB, TYPE 2A
	㉑	203	EXCAVATION
	㉒	203	EMBANKMENT
	㉓	452	9" NON-REINFORCED CONCRETE PAVEMENT
	㉔	202	PAVEMENT REMOVED

* - THE MAINLINE PAVEMENT BUILDUP OF ITEMS 1-4, 9 AND 16 ARE FOR INFORMATION ONLY. THESE ITEMS ARE TO BE INCLUDED UNDER ITEM 880 - ASPHALT CONCRETE (7 YEAR WARRANTY)

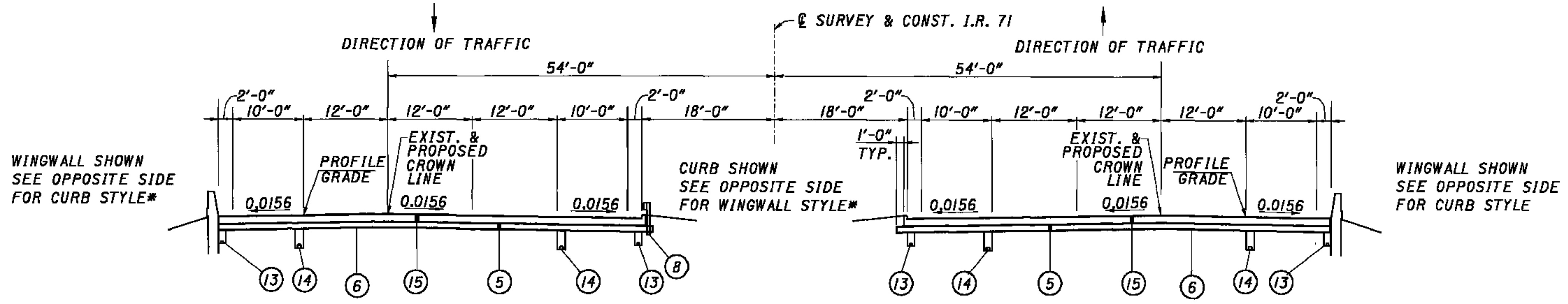
CALCULATED
CHECKED

PROPOSED TYPICAL SECTION

WAY/MED-71-7.04/0.00

17
785

GYB.DGN

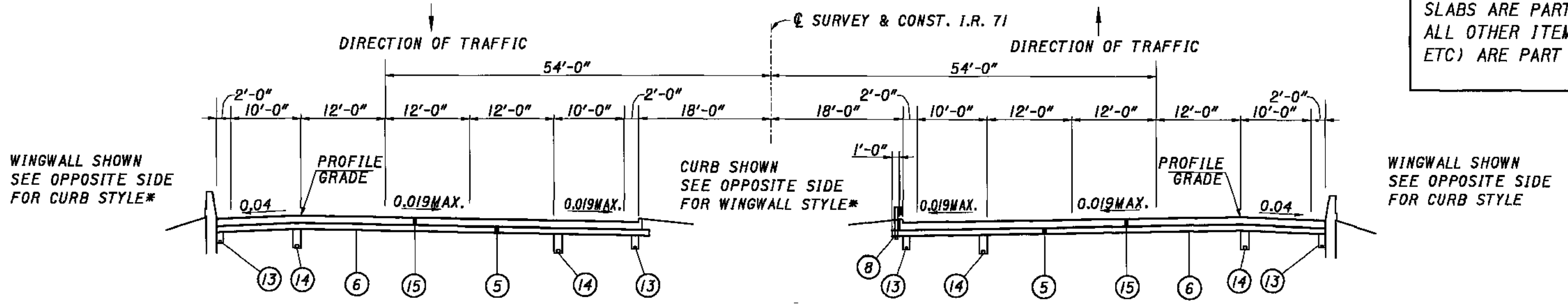


NORMAL TYPICAL SECTION

SOUTHBOUND LIMITING STATIONS				
STA. 230+03.30	TO	STA. 230+28.30	-	25.00
STA. 232+13.28	TO	STA. 232+38.28	-	25.00
STA. 284+23.23	TO	STA. 284+48.23	-	25.00
STA. 285+58.33	TO	STA. 285+83.33	-	25.00
		TOTAL	-	100.00

NORTHBOUND LIMITING STATIONS				
STA. 230+61.01	TO	STA. 230+86.01	-	25.00
STA. 232+70.99	TO	STA. 232+95.99	-	25.00
STA. 284+50.16	TO	STA. 284+75.16	-	25.00
STA. 285+85.26	TO	STA. 286+10.26	-	25.00
		TOTAL	-	100.00

ITEM 526 - REINFORCED CONCRETE APPROACH SLABS ARE PART OF THE STRUCTURE PAY ITEMS. ALL OTHER ITEMS SHOWN HERE (204, 304, 605, ETC) ARE PART OF THE ROADWAY ITEMS.



SUPERELEVATED TYPICAL SECTION

SOUTHBOUND LIMITING STATIONS				
STA. 17+74.27	TO	STA. 17+99.27	-	25.00
STA. 22+48.47	TO	STA. 22+73.47	-	25.00
STA. 31+82.50	TO	STA. 32+07.52	-	25.00
STA. 33+17.07	TO	STA. 33+42.07	-	25.00
STA. 179+70.12	TO	STA. 179+95.12	-	25.00
STA. 181+67.89	TO	STA. 181+92.89	-	25.00
		TOTAL	-	150.00

NORTHBOUND LIMITING STATIONS				
STA. 15+94.75	TO	STA. 16+19.75	-	25.00
STA. 20+73.05	TO	STA. 20+98.05	-	25.00
STA. 31+61.05	TO	STA. 31+86.05	-	25.00
STA. 32+96.63	TO	STA. 33+21.63	-	25.00
STA. 180+23.21	TO	STA. 180+48.21	-	25.00
STA. 182+18.35	TO	STA. 182+43.25	-	25.00
		TOTAL	-	150.00

PROPOSED ITEM LEGEND

*	①	446	1 ½" ASPHALT CONCRETE SURFACE COURSE, TYPE 1H
*	②	407	TACK COAT FOR INTERMEDIATE COURSE (SEE GENERAL NOTE)
*	③	446	1 ¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-28
*	④	302	10½" ASPHALT CONCRETE BASE, PG64-22
	⑤	304	10" AGGREGATE BASE
	⑥	204	SUBGRADE COMPACTION
	⑦	659	SEEDING AND MULCHING (SEE GENERAL NOTE)
	⑧	606	GUARDRAIL, TYPE 5
*	⑨	407	TACK COAT (SEE GENERAL NOTE)
	⑩	254	PAVEMENT PLANING, ASPHALT CONCRETE (SEE TYPICAL SECTIONS FOR AVERAGE THICKNESS)
	⑪	609	CONCRETE MEDIAN, AS PER PLAN
	⑫	302	8" ASPHALT CONCRETE BASE, PG64-22
	⑬	605	4" BY TYPE PIPE UNDERDRAIN, 707.31 OR 707.41, (18" NORMAL DEPTH)
	⑭	605	6" BY TYPE PIPE UNDERDRAIN, 707.31 OR 707.41 (SHALLOW - 30" DEEP) (DEEP - 42" DEEP)
	⑮	526	REINFORCED CONCRETE APPROACH SLAB
	⑯		HOT LONGITUDINAL JOINT
	⑰	622	CONCRETE BARRIER, SINGLE SLOPE, TYPE D
	⑱		
	⑲	301	8" ASPHALT CONCRETE BASE, PG-64-22, AS PER PLAN B
	⑳	609	CURB, TYPE 2A
	㉑	203	EXCAVATION
	㉒	203	EMBANKMENT
	㉓	452	9" NON-REINFORCED CONCRETE PAVEMENT
	㉔	202	PAVEMENT REMOVED

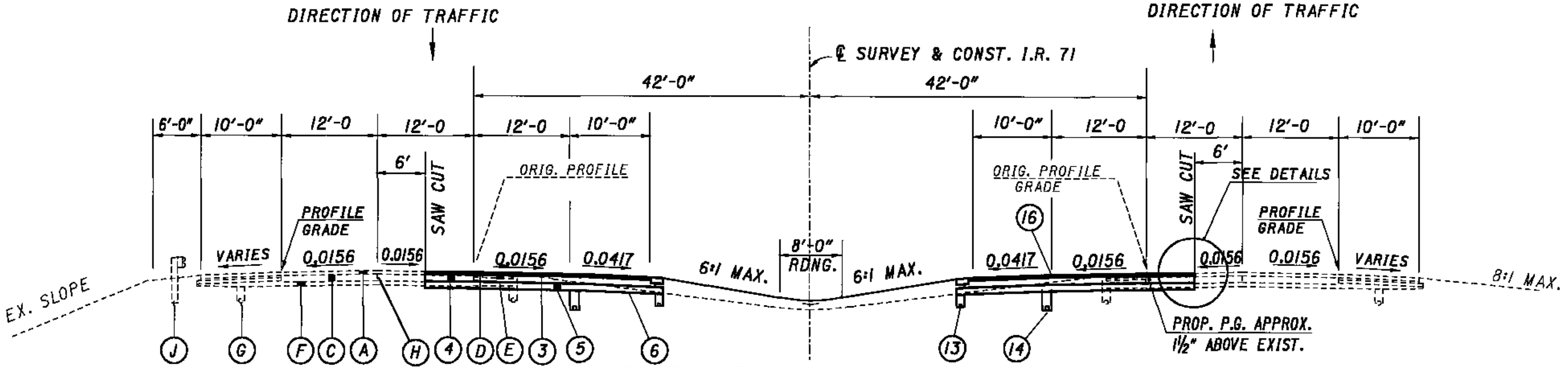
* - THE MAINLINE PAVEMENT BUILDUP OF ITEMS 1-4, 9 AND 16 ARE FOR INFORMATION ONLY. THESE ITEMS ARE TO BE INCLUDED UNDER ITEM 880 - ASPHALT CONCRETE (7 YEAR WARRANTY)

CALCULATED
CHECKED

APPROACH SLAB TYPICAL SECTION

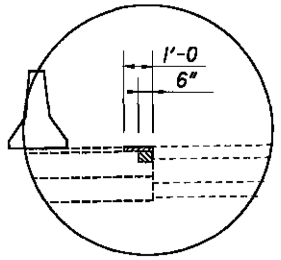
WAY/MED-71-7.04/0.00

GYB.DGN



PARTIAL PAVEMENT REPLACEMENT

LIMITING STATIONS
STA. 320+00.00 TO STA. 336+00.00 - 1600.00



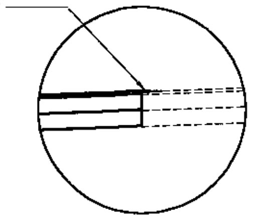
STEP DETAIL FOR PHASE 2

▨ - INDICATES PAVEMENT PLANING, BITUMINOUS

PLANE INTERMEDIATE COURSE, 12" WIDE BY 1¾" DEEP
& PLANE 302 BASE COURSE, 6" WIDE BY 4" DEEP

WEDGE USING ASPH. CONC. FOR
MAINT. TRAFFIC AT RATE NOT
TO EXCEED 1" IN 2'

WEDGING MAY APPLY
TO EITHER SIDE OF JOINT



MINOR LEVELING AT CONSTRUCTION JOINT

PROPOSED ITEM LEGEND

*	①	446	1 ½" ASPHALT CONCRETE SURFACE COURSE, TYPE 1H
*	②	407	TACK COAT FOR INTERMEDIATE COURSE (SEE GENERAL NOTE)
*	③	446	1 ¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-28
*	④	302	10½" ASPHALT CONCRETE BASE, PG64-22
	⑤	304	10" AGGREGATE BASE
	⑥	204	SUBGRADE COMPACTION
	⑦	659	SEEDING AND MULCHING (SEE GENERAL NOTE)
	⑧	606	GUARDRAIL, TYPE 5
*	⑨	407	TACK COAT (SEE GENERAL NOTE)
	⑩	254	PAVEMENT PLANING, ASPHALT CONCRETE (SEE TYPICAL SECTIONS FOR AVERAGE THICKNESS)
	⑪	609	CONCRETE MEDIAN, AS PER PLAN
	⑫	302	8" ASPHALT CONCRETE BASE, PG64-22
	⑬	605	4" BY TYPE PIPE UNDERDRAIN, 707.31 OR 707.41, (18" NORMAL DEPTH)
	⑭	605	6" BY TYPE PIPE UNDERDRAIN, 707.31 OR 707.41 (SHALLOW - 30" DEEP) (DEEP - 42" DEEP)
	⑮	526	REINFORCED CONCRETE APPROACH SLAB
	⑯		HOT LONGITUDINAL JOINT
	⑰	622	CONCRETE BARRIER, SINGLE SLOPE, TYPE D
	⑱		
	⑲	301	8" ASPHALT CONCRETE BASE, PG-64-22, AS PER PLAN B
	⑳	609	CURB, TYPE 2A
	㉑	203	EXCAVATION
	㉒	203	EMBANKMENT
	㉓	452	9" NON-REINFORCED CONCRETE PAVEMENT
	㉔	202	PAVEMENT REMOVED

EXISTING ITEM LEGEND

Ⓐ	ASPHALT CONCRETE
Ⓑ	9" REINFORCED CONCRETE PAVEMENT
Ⓒ	10" REINFORCED CONCRETE PAVEMENT
Ⓓ	BITUMINOUS AGGREGATE BASE
Ⓔ	AGGREGATE BASE
Ⓕ	SUBBASE
Ⓖ	UNDERDRAIN
Ⓗ	STANDARD LONGITUDINAL JOINT
Ⓙ	GUARDRAIL

NOTES:

1. FOR SHOULDER EDGE COURSE AND UNDERDRAIN DESIGN SEE DETAIL ON SHEET 14.
2. FOR MEDIAN SHOULDER TREATMENT, SEE DETAIL ON SHEET 14.

* - THE MAINLINE PAVEMENT BUILDUP OF ITEMS 1-4, 9 AND 16 ARE FOR INFORMATION ONLY. THESE ITEMS ARE TO BE INCLUDED UNDER ITEM 880 - ASPHALT CONCRETE (7 YEAR WARRANTY)

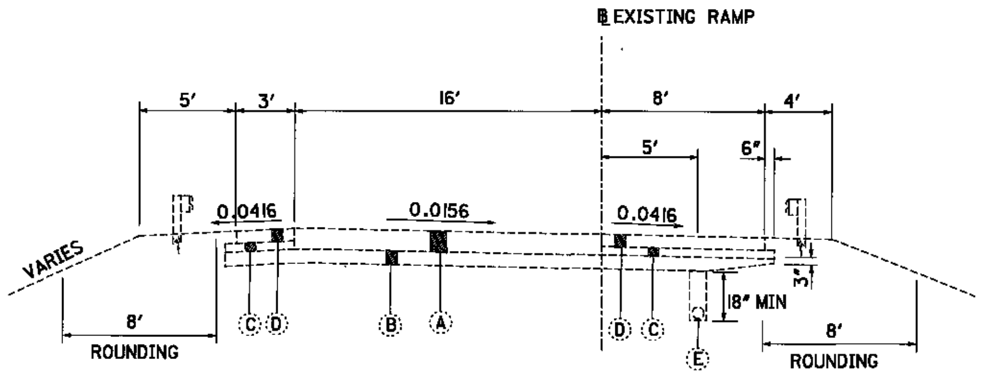
CALCULATED
CHECKED

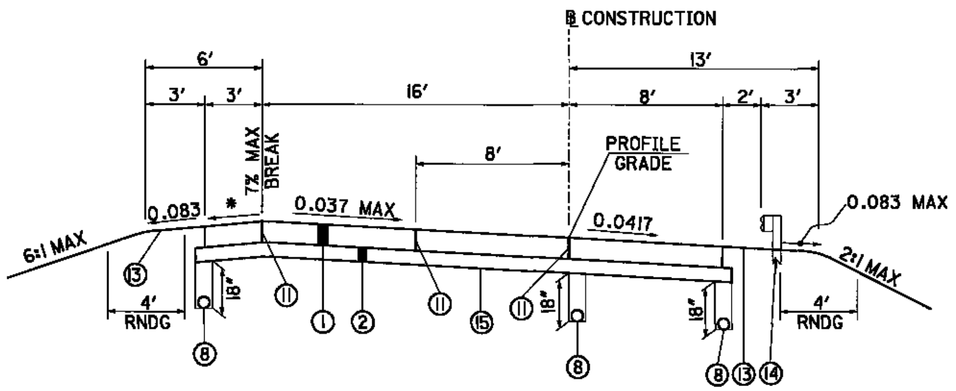
PROPOSED TYPICAL SECTION

WAY/MED-71-7.04/0.00

GYB.DGN

EXISTING SECTION



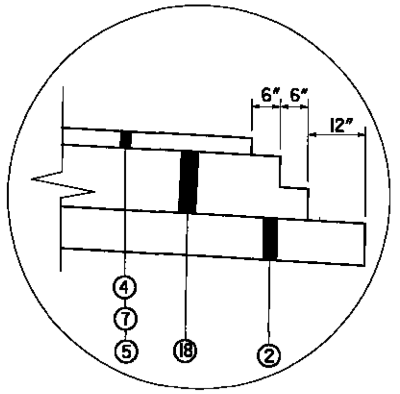


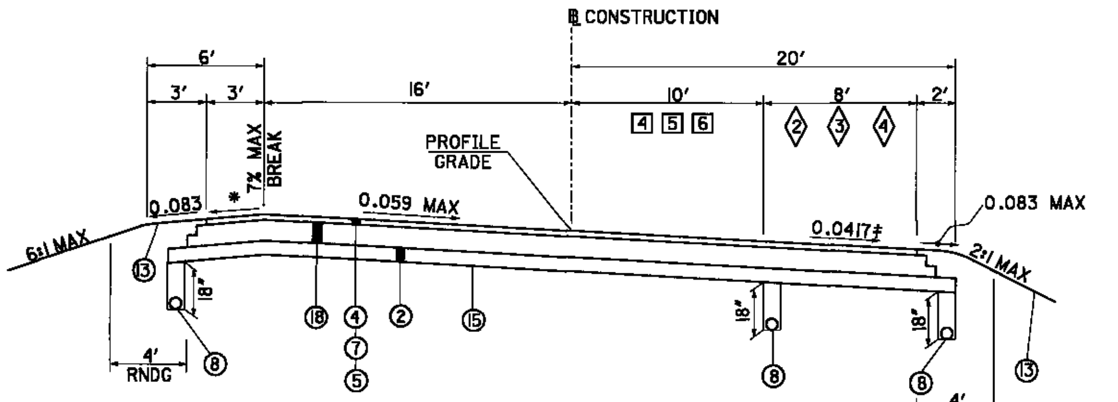
* VARIES FROM
0.033 TO 0.0417

SECTION APPLIES:

RAMP A: STA. A98+96.44 TO STA. A99+96.44 = 100.00 LIN. FT.

EDGE DETAIL





* VARIES FROM
0.011 TO 0.0417

‡ OR RATE OF SUPER
IF GREATER

4 RAMP A: STA. A92+20.56 TO STA. A98+96.44 - 0'

5 RAMP B: STA. B92+32.84 TO STA. B94+30.10 - 0'
STA. B93+80.10 TO STA. B94+30.10
VARIES 0' TO 10'

6 RAMP C: STA. C105+50.01 TO STA. C106+85.90 - 0'

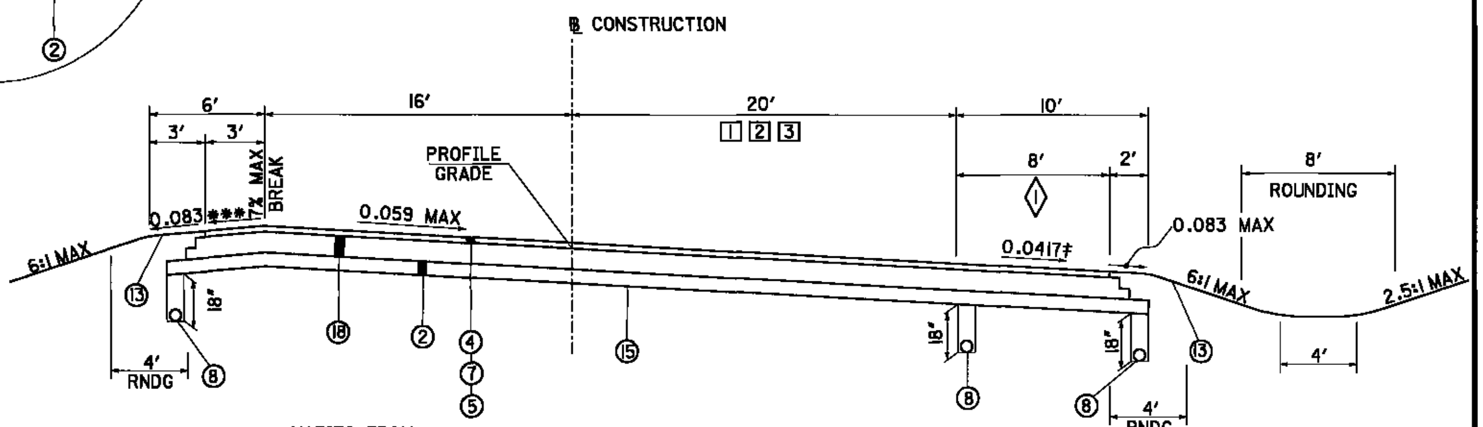
◇2 RAMP A: VARIES FROM 10' TO 8'

◇3 RAMP B: VARIES FROM 10' TO 8'
STA. B92+32.84 TO STA. B92+82.84

◇4 RAMP C: VARIES FROM 8' TO 10'
STA. C106+35.90 TO STA. C106+85.90

SECTION APPLIES:

RAMP A: STA. A92+20.56 TO STA. A98+96.44	=	675.88	LIN. FT.
RAMP B: STA. B92+32.84 TO STA. B94+30.10	=	197.26	LIN. FT.
RAMP C: STA. C105+50.01 TO STA. C106+85.90	=	135.89	LIN. FT.
TOTAL	=	1009.03	LIN. FT.



*** VARIES FROM
0.011 TO 0.0417

‡ OR RATE OF SUPER
IF GREATER

SECTION APPLIES:

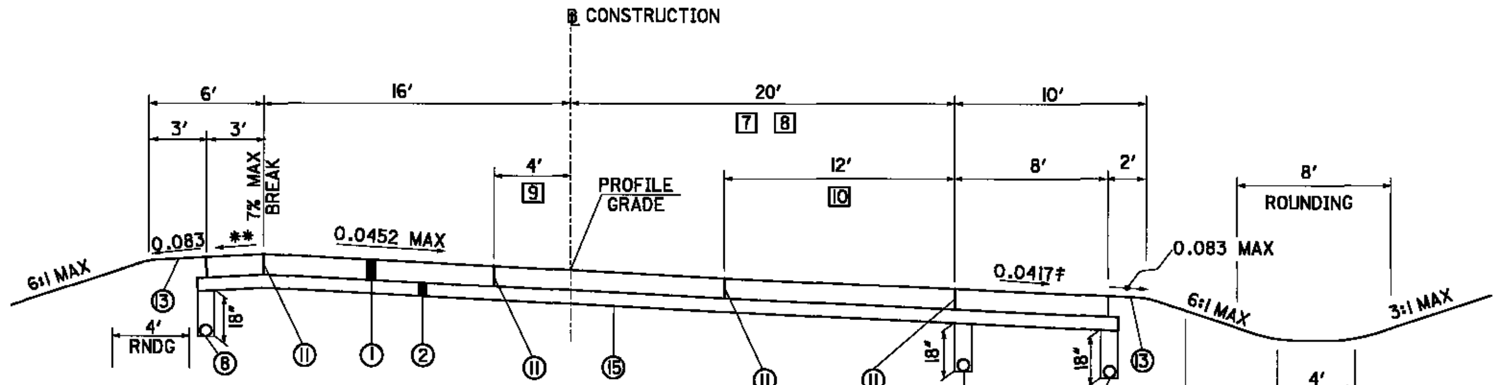
RAMP B: STA. B94+30.10 TO STA. B96+66.18	=	236.08	LIN. FT.
RAMP C: STA. C103+01.99 TO STA. C105+50.01	=	248.02	LIN. FT.
RAMP D: STA. D100+72.81 TO STA. D106+97.48	=	624.67	LIN. FT.
TOTAL	=	1108.77	LIN. FT.

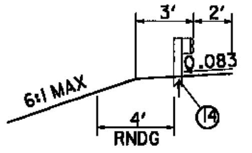
1 RAMP B: STA. B94+30.10 TO STA. B94+80.10
VARIES FROM 10' TO 20'

2 RAMP C: STA. C103+01.99 TO STA. C105+00.01 - 8'
STA. C105+00.01 TO STA. C105+50.01
VARIES FROM 8' TO 0'

3 RAMP D: STA. D100+72.81 TO STA. D106+97.48 - 0'

◇1 RAMP D: VARIES FROM 8' MIN TO 10' MAX
STA. D106+47.48 TO STA. D106+97.48





RAMP D: STA. D99+99.76 TO STA. D100+18.31

7 RAMP C: STA. C100+01.99 TO STA. C103+01.99 - 8'

8 RAMP D: STA. D99+72.81 TO STA. D100+72.81 - 0'

9 RAMP D: STA. D99+72.81 TO STA. D100+72.81 - 8'

10 RAMP B ONLY

** VARIES FROM
0.0248 TO 0.0417

‡ OR RATE OF SUPER
IF GREATER

SECTION APPLIES:

RAMP B: STA. B96+66.18 TO STA. B99+66.18	=	300.00	LIN. FT.
RAMP C: STA. C100+01.99 TO STA. C103+01.99	=	300.00	LIN. FT.
RAMP D: STA. D99+72.81 TO STA. D100+72.81	=	100.00	LIN. FT.
TOTAL	=	700.00	LIN. FT.

# - THE MAINLINE PAVEMENT BUILDUP OF ITEMS 4-5, 7 AND 18 ARE FOR INFORMATION ONLY. THESE ITEMS ARE TO BE INCLUDED UNDER ITEM 880 - ASPHALT CONCRETE (7 YEAR WARRANTY)

LEGEND

- Ⓐ REINFORCED PORTLAND CONCRETE CEMENT
- Ⓑ 6" SUBBASE
- Ⓒ 5" STABILIZED CRUSHED AGGREGATE SHOULDERS
- Ⓓ 3" BITUMINOUS MACADAM BASE COURSE
- Ⓔ UNDERDRAIN
- Ⓕ 6" CRUSHED AGGREGATE BASE COURSE
- Ⓖ 2" ASPHALTIC CONCRETE SURFACE COURSE
- Ⓗ 3" ASPHALTIC CONCRETE SURFACE COURSE

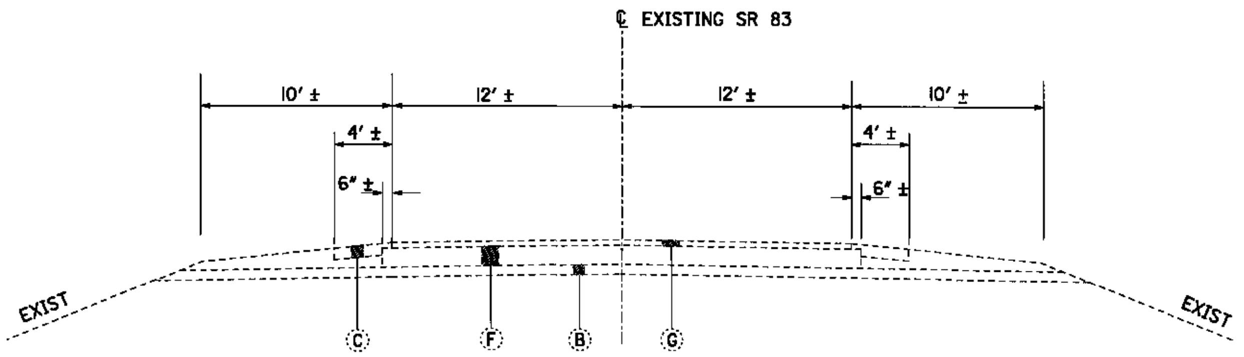
- ① ITEM 452 - 9" PLAIN CONCRETE PAVEMENT
- ② ITEM 304 - 6" AGGREGATE BASE
- ③ ITEM 254 - PAVEMENT PLANING, BITUMINOUS (MAX. DEPTH 3")
- # ④ ITEM 446 - 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE 1H
- # ⑤ ITEM 446 - 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG68-28
- # ⑦ ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE

- ⑧ ITEM 605 - 4" SHALLOW PIPE UNDERDRAIN (18" DEPTH)
- ⑩ TYPE D LONGITUDIAL JOINT PER BP-2.1
- ⑪ STANDARD LONGITUDIAL JOINT WITH TIE BARS
- ⑫ ITEM 609 - CURB, TYPE 2-A
- ⑬ ITEM 659 - SEEDING AND MULCHING, CLASS 2
- ⑭ ITEM 606 - GUARDRAIL, TYPE 5
- ⑮ ITEM 204 - SUBGRADE COMPACTION
- ⑰ ITEM 304 - 8" AGGREGATE SHOULDER
- # ⑱ ITEM 302 - 10½" ASPHALT CONCRETE BASE, PG64-22
- ⑲ ITEM 605 - AGGREGATE DRAIN (6" DEPTH)

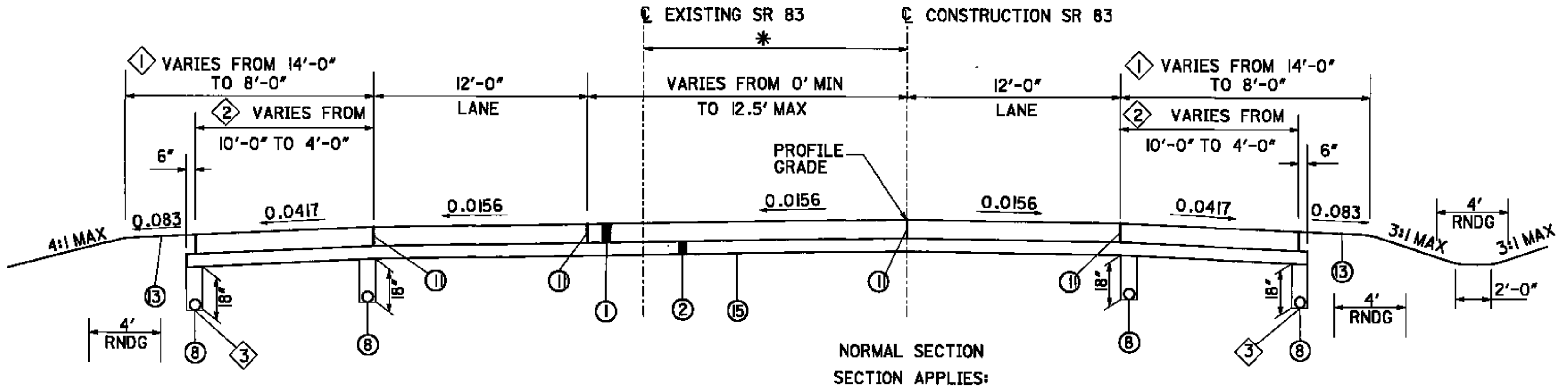
CALCULATED ESP
CHECKED BBB

TYPICAL SECTIONS
RAMPS AT SR 83 INTERCHANGE

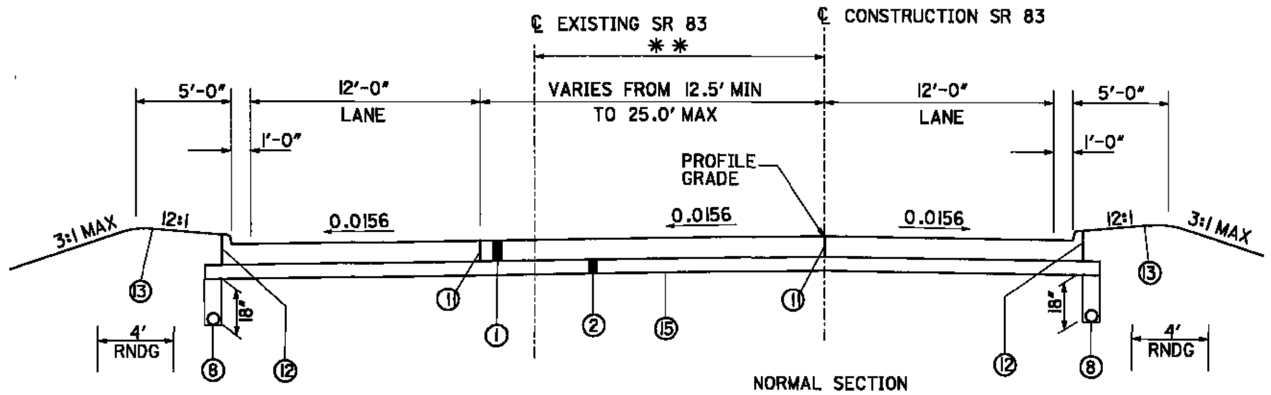
WAY/MED-71-7.04/0.00



EXISTING TYPICAL SECTION
STA. 38+00.00



NORMAL SECTION
SECTION APPLIES:
STA. 38+00 TO STA. 41+50 = 350 LIN.FT.



NORMAL SECTION
SECTION APPLIES:
STA. 41+50 TO STA. 47+00 = 550 LIN.FT.

◇1 VARIES FROM 14' AT STA. 38+00.00
TO 8' AT STA. 40+00.00

◇2 VARIES FROM 10' AT STA. 38+00.00
TO 4' AT STA. 40+00.00

◇3 APPLIES FROM STA. 38+00.00
TO STA. 39+00.00

* VARIES FROM 0' AT STA 38+00.00
TO 11.8" AT STA 41+50.00

** VARIES FROM 11.8" AT STA 41+50.00
TO 30' AT STA 47+00.00

LEGEND

- Ⓐ REINFORCED PORTLAND CONCRETE CEMENT
- Ⓑ 6" SUBBASE
- Ⓒ 5" STA..BILIZED CRUSHED AGGREGATE SHOULDERS
- Ⓓ 3" BITUMINOUS MACADAM BASE COURSE
- Ⓔ UNDERDRAIN
- Ⓕ 6" CRUSHED AGGREGATE BASE COURSE
- Ⓖ 2" ASPHALTIC CONCRETE SURFACE COURSE
- Ⓗ 3" ASPHALTIC CONCRETE SURFACE COURSE

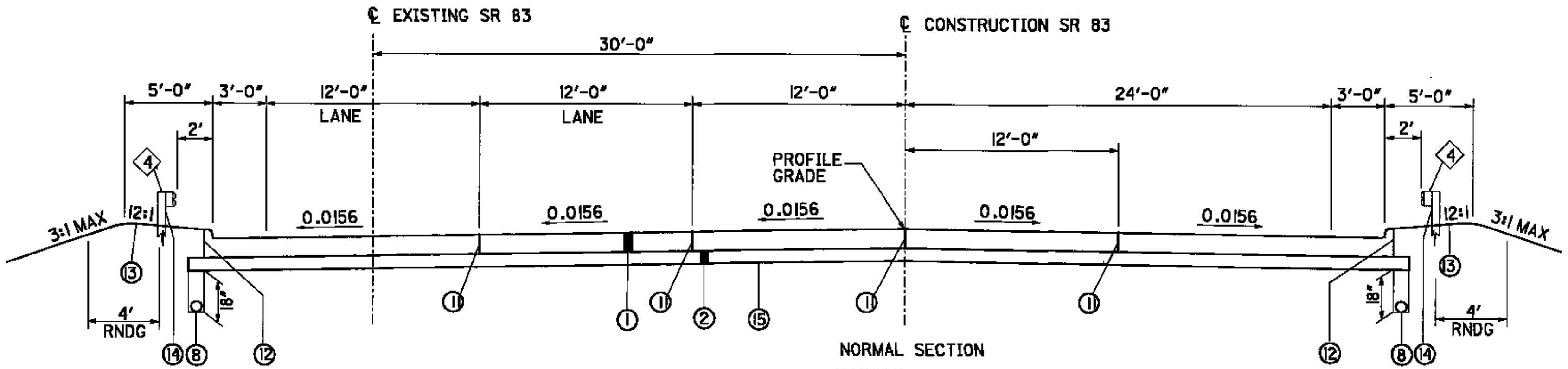
- ① ITEM 452 - 9" PLAIN CONCRETE PAVEMENT
- ② ITEM 304 - 6" AGGREGATE BASE
- ③ ITEM 254 - PAVEMENT PLANING, BITUMINOUS (MAX. DEPTH 3")
- ④ ITEM 446 - 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE 1H
- ⑤ ITEM 446 - 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG68-28
- ⑦ ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE

- ⑧ ITEM 605 - 4" SHALLOW PIPE UNDERDRAIN (18" DEPTH)
- ⑩ TYPE D LONGITUDIAL JOINT PER BP-2.1
- ⑪ STANDARD LONGITUDIAL JOINT WITH TIE BARS
- ⑫ ITEM 609 - CURB, TYPE 2-A
- ⑬ ITEM 659 - SEEDING AND MULCHING, CLASS 2
- ⑭ ITEM 606 - GUARDRAIL, TYPE 5
- ⑮ ITEM 204 - SUBGRADE COMPACTION
- ⑰ ITEM 304 - 8" AGGREGATE SHOULDER
- ⑱ ITEM 302 - 10½" ASPHALT CONCRETE BASE, PG64-22
- ⑲ ITEM 605 - AGGREGATE DRAIN (8" DEPTH)

CALCULATED ESP
CHECKED BBB

TYPICAL SECTIONS
SR 83

WAY/MED-71-7.04/0.00

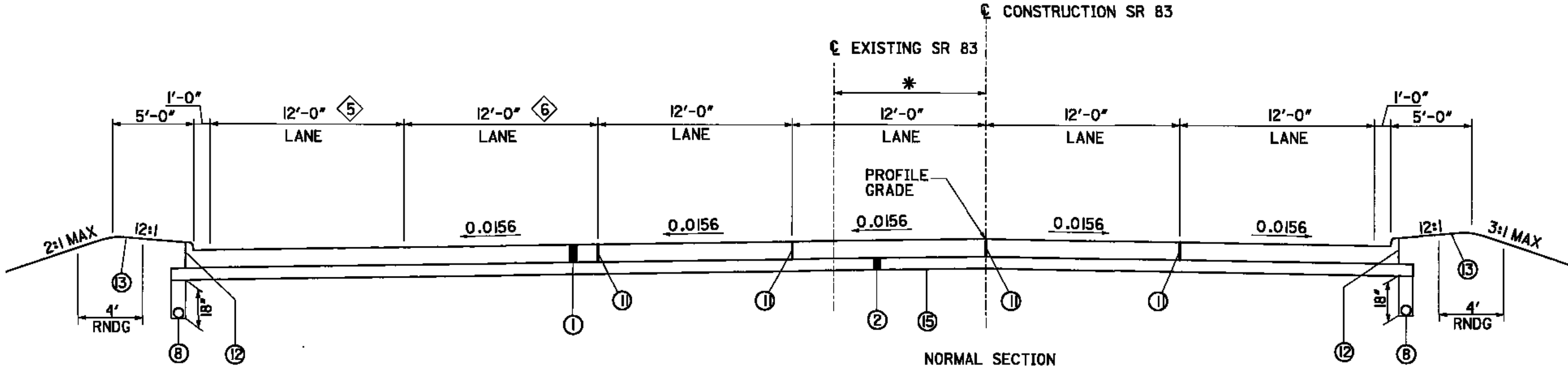


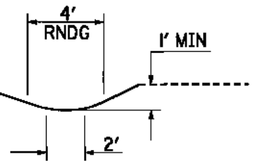
NORMAL SECTION

SECTION APPLIES:

STA. 47+00 TO STA. 48+69.21 = 169.21 LIN. FT.
STA. 51+35.57 TO STA. 53+00 = 164.43 LIN. FT.
TOTAL: 333.64 LIN. FT.

④ FROM STA. 47+10.00 TO STA. 48+61.15 - LEFT
FROM STA. 47+50.00 TO STA. 48+61.15 - RIGHT
FROM STA. 51+43.57 TO STA. 52+50.00 - LEFT
FROM STA. 51+43.57 TO STA. 52+60.00 - RIGHT





NORMAL SECTION

SECTION APPLIES:

STA. 53+00 TO STA. 61+00 = 800 LIN. FT.

* VARIES FROM 30' AT STA 53+00.00 TO 6.3' AT STA 61+00.00

⑤ VARIES FROM 12' AT STA. 58+65.00 TO 0' AT STA. 59+25.00

⑥ VARIES FROM 12' AT STA. 56+95.00 TO 0' AT STA. 60+20.85

LEGEND

Ⓐ REINFORCED PORTLAND CONCRETE CEMENT
Ⓑ 6" SUBBASE
Ⓒ 5" STABILIZED CRUSHED AGGREGATE SHOULDERS
Ⓓ 3" BITUMINOUS MACADAM BASE COURSE
Ⓔ UNDERDRAIN
Ⓕ 6" CRUSHED AGGREGATE BASE COURSE
Ⓖ 2" ASPHALTIC CONCRETE SURFACE COURSE
Ⓗ 3" ASPHALTIC CONCRETE SURFACE COURSE

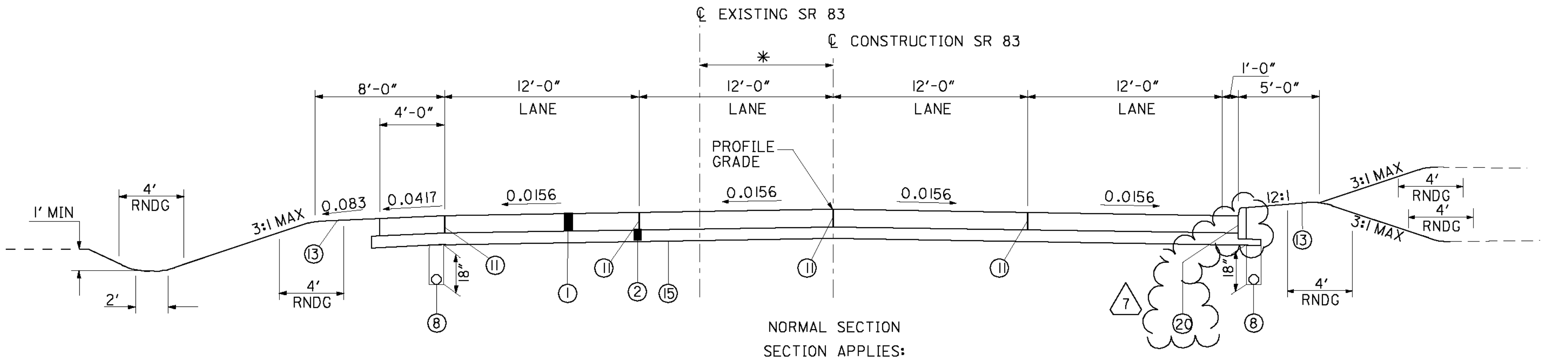
① ITEM 452 - 9" PLAIN CONCRETE PAVEMENT
② ITEM 304 - 6" AGGREGATE BASE
③ ITEM 254 - PAVEMENT PLANING, BITUMINOUS (MAX. DEPTH 3")
④ ITEM 446 - 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE 1H
⑤ ITEM 446 - 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG68-28
⑦ ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE

⑧ ITEM 605 - 4" SHALLOW PIPE UNDERDRAIN (18" DEPTH)
⑩ TYPE D LONGITUDIAL JOINT PER BP-2.1
⑪ STANDARD LONGITUDIAL JOINT WITH TIE BARS
⑫ ITEM 609 - CURB, TYPE 2-A
⑬ ITEM 659 - SEEDING AND MULCHING, CLASS 2
⑭ ITEM 606 - GUARDRAIL, TYPE 5
⑮ ITEM 204 - SUBGRADE COMPACTION
⑰ ITEM 304 - 8" AGGREGATE SHOULDER
⑱ ITEM 302 - 10½" ASPHALT CONCRETE BASE, PG64-22
⑲ ITEM 605 - AGGREGATE DRAIN (8" DEPTH)

CALCULATED ESP
CHECKED BBB

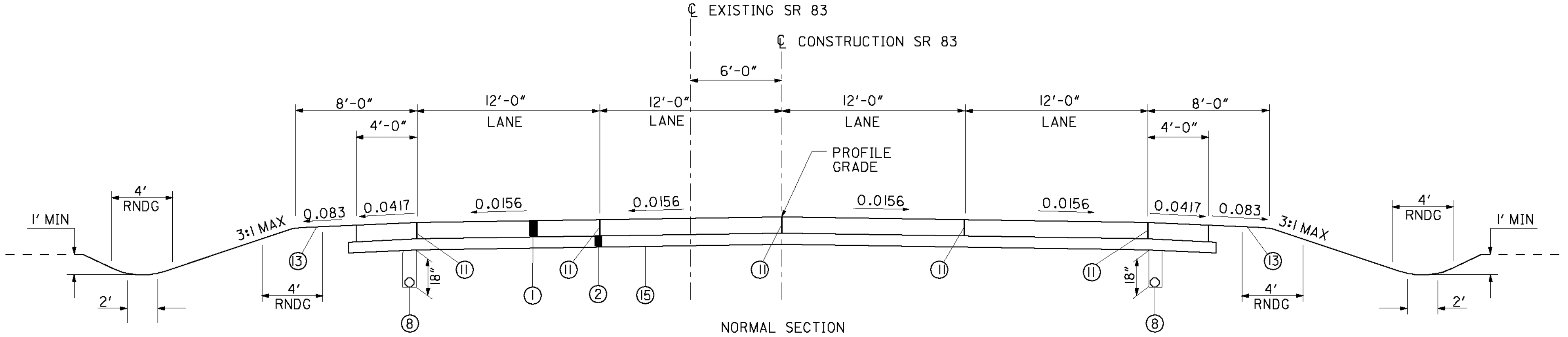
TYPICAL SECTIONS SR 83

WAY/MED-71-7.04/0.00

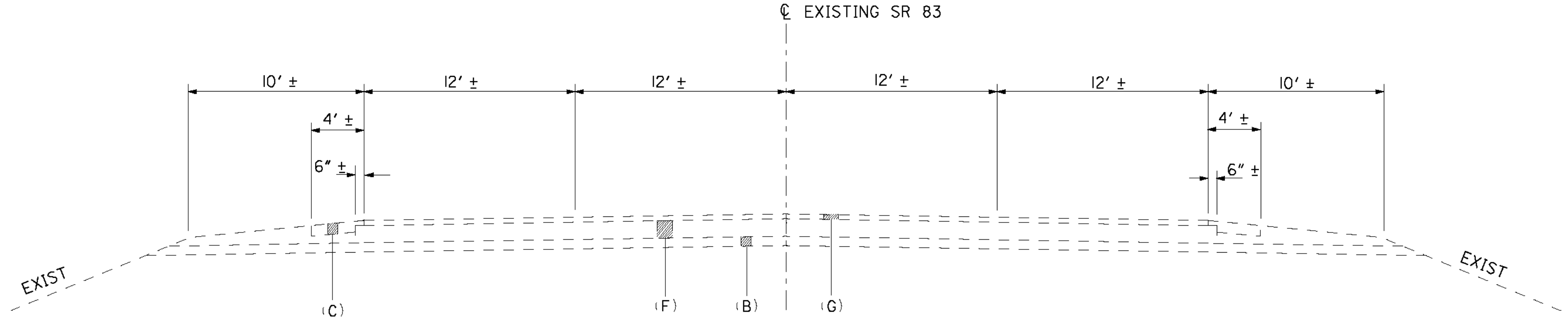


NORMAL SECTION
SECTION APPLIES:
STA. 61+00 TO STA. 67+50 = 650 LIN. FT.

* VARIES FROM 6.3' AT STA 61+00.00
TO 6' AT STA 61+59.01



NORMAL SECTION
SECTION APPLIES:
STA. 67+50 TO STA. 71+50 = 400 LIN. FT.



EXISTING TYPICAL SECTION
STA. 71+50.00

LEGEND

(A) REINFORCED PORTLAND CONCRETE CEMENT
(B) 6" SUBBASE
(C) 5" STABILIZED CRUSHED AGGREGATE SHOULDERS
(D) 3" BITUMINOUS MACADAM BASE COURSE
(E) UNDERDRAIN
(F) 6" CRUSHED AGGREGATE BASE COURSE
(G) 2" ASPHALTIC CONCRETE SURFACE COURSE
(H) 3" ASPHALTIC CONCRETE SURFACE COURSE

① ITEM 452 - 9" PLAIN CONCRETE PAVEMENT
② ITEM 304 - 6" AGGREGATE BASE
③ ITEM 254 - PAVEMENT PLANING, BITUMINOUS (MAX. DEPTH 3")
④ ITEM 446 - 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE 1H
⑤ ITEM 446 - 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG68-28
⑦ ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE

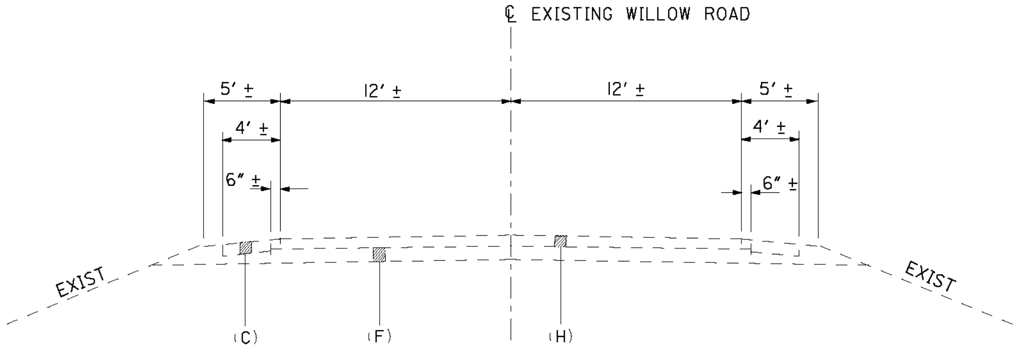
⑧ ITEM 605 - 4" SHALLOW PIPE UNDERDRAIN (18" DEPTH)
⑩ TYPE D LONGITUDIAL JOINT PER BP-2.1
⑪ STANDARD LONGITUDIAL JOINT WITH TIE BARS
⑫ ITEM 609 - CURB, TYPE 2-A
⑬ ITEM 659 - SEEDING AND MULCHING, CLASS 2
⑭ ITEM 606 - GUARDRAIL, TYPE 5
⑮ ITEM 204 - SUBGRADE COMPACTION
⑰ ITEM 304 - 8" AGGREGATE SHOULDER
⑱ ITEM 302 - 10½" ASPHALT CONCRETE BASE, PG64-22
⑲ ITEM 605 - AGGREGATE DRAIN (8" DEPTH)
7 ⑳ ITEM 609 - CURB, TYPE 6

CALCULATED ESP
CHECKED BBB

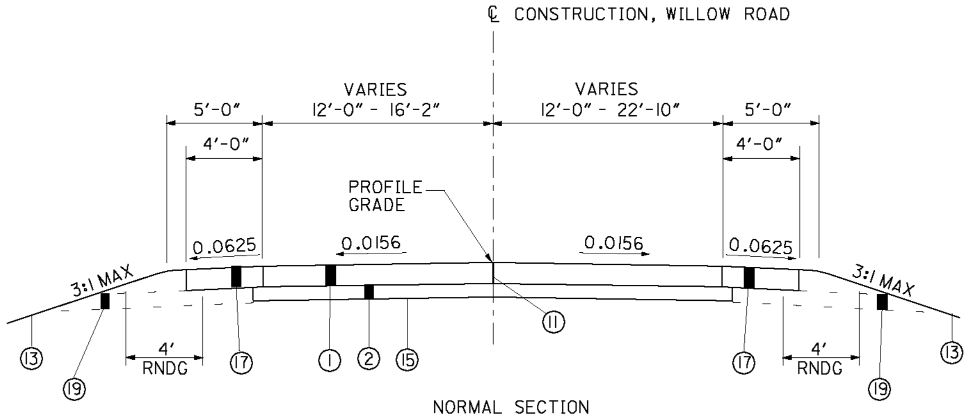
TYPICAL SECTIONS
SR 83

7 REVISED 02-10-06

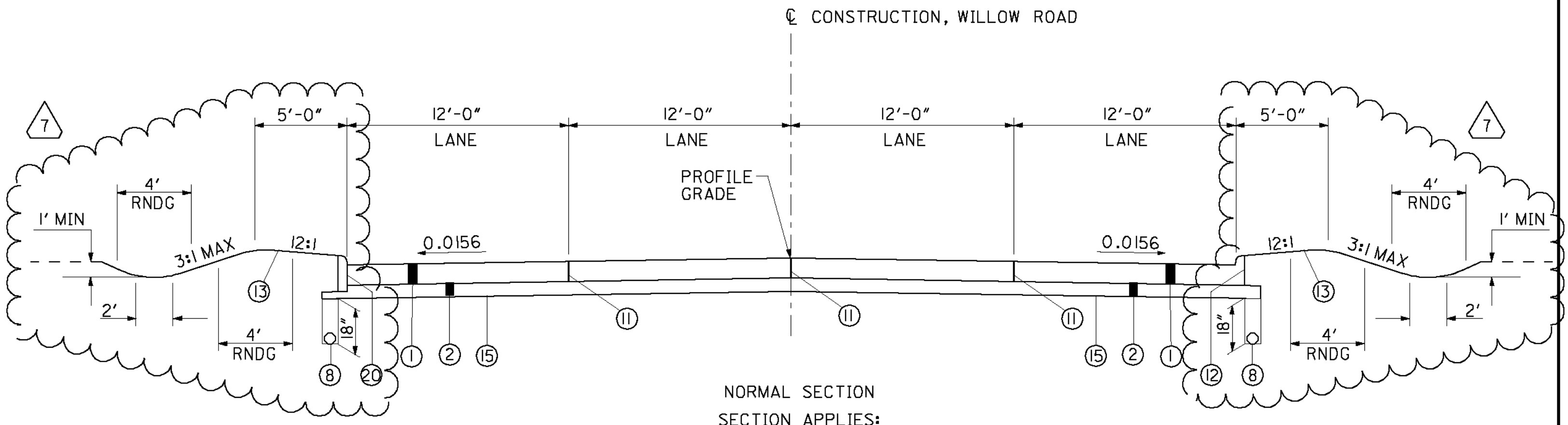
WAY/MED-71-7.04/0.00



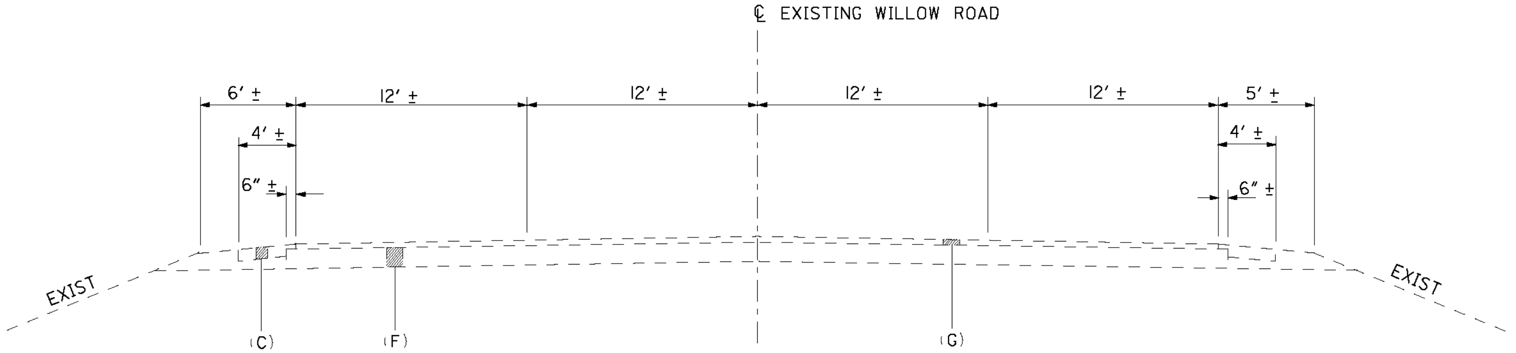
EXISTING TYPICAL SECTION
STA. 8+75



NORMAL SECTION
SECTION APPLIES:
STA. 8+75 TO STA. 9+20 = 45 LIN.FT.



NORMAL SECTION
SECTION APPLIES:
STA. 11+00 TO STA. 11+50 = 50 LIN.FT.



EXISTING TYPICAL SECTION
STA. 11+25

LEGEND

(A) REINFORCED PORTLAND CONCRETE CEMENT
(B) 6″ SUBBASE
(C) 5″ STABILIZED CRUSHED AGGREGATE SHOULDERS
(D) 3″ BITUMINOUS MACADAM BASE COURSE
(E) UNDERDRAIN
(F) 6″ CRUSHED AGGREGATE BASE COURSE
(G) 2″ ASPHALTIC CONCRETE SURFACE COURSE
(H) 3″ ASPHALTIC CONCRETE SURFACE COURSE

① ITEM 452 - 9″ PLAIN CONCRETE PAVEMENT
② ITEM 304 - 6″ AGGREGATE BASE
③ ITEM 254 - PAVEMENT PLANING, BITUMINOUS (MAX. DEPTH 3″)
④ ITEM 446 - 1½″ ASPHALT CONCRETE SURFACE COURSE, TYPE 1H
⑤ ITEM 446 - 1¾″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG68-28
⑦ ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE

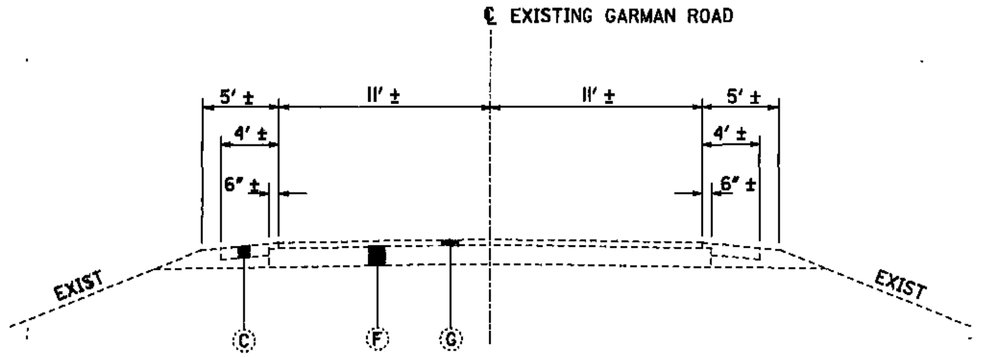
⑧ ITEM 605 - 4″ SHALLOW PIPE UNDERDRAIN (18″ DEPTH)
⑩ TYPE D LONGITUDIAL JOINT PER BP-2.1
⑪ STANDARD LONGITUDIAL JOINT WITH TIE BARS
⑫ ITEM 609 - CURB, TYPE 2-A
⑬ ITEM 659 - SEEDING AND MULCHING, CLASS 2
⑭ ITEM 606 - GUARDRAIL, TYPE 5
⑮ ITEM 204 - SUBGRADE COMPACTION
⑰ ITEM 304 - 8″ AGGREGATE SHOULDER
⑱ ITEM 302 - 10½″ ASPHALT CONCRETE BASE, PG64-22
⑲ ITEM 605 - AGGREGATE DRAIN (8″ DEPTH)
7 ⑳ ITEM 609 - CURB, TYPE 6

CALCULATED ESP
CHECKED BBB

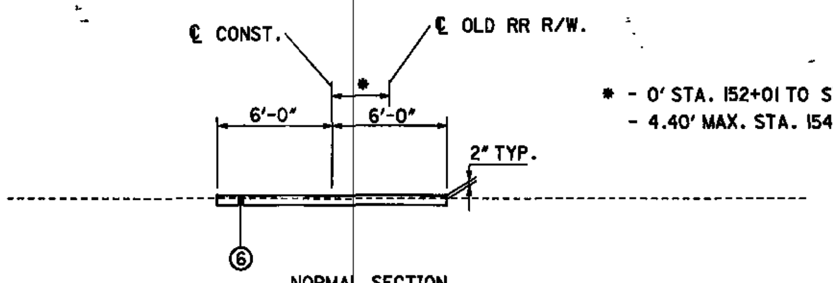
TYPICAL SECTIONS
WILLOW ROAD

7 REVISED 02-10-06

WAY/MED-71-7.04/0.00



EXISTING TYPICAL SECTION
STA. 11+00



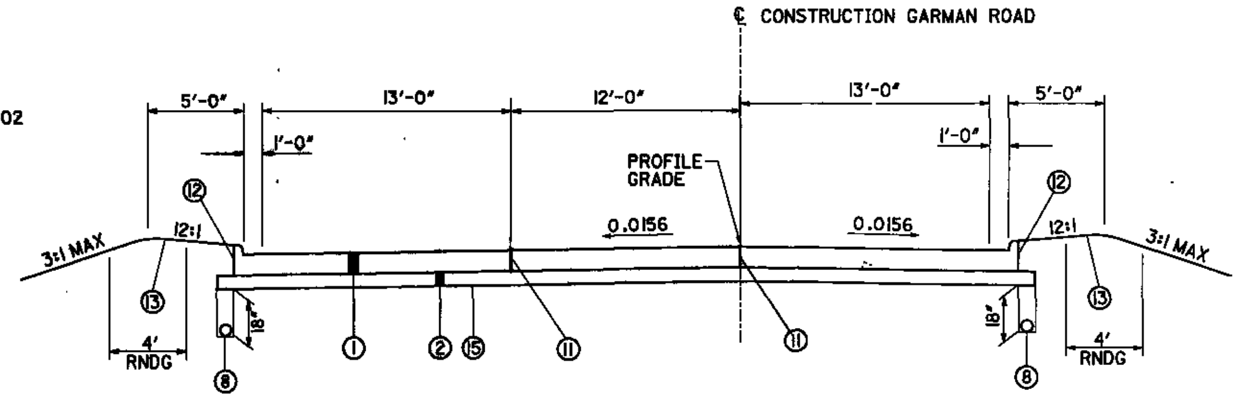
* - 0' STA. 152+01 TO STA. 154+98
- 4.40' MAX. STA. 154+98 TO STA. 158+02

NORMAL SECTION
ACCESS DRIVE UNDER BR. NO. MED-71-0031 L&R

STA. 152+01 TO STA. 158+02 = 601 LIN.FT.

FOR LOCATION SEE R/W SHEET 5/9

STATIONING IS BASED UPON OLD RR STATIONING



NORMAL SECTION
SECTION APPLIES:
STA. 10+13.01 TO STA. 11+16.50 = 103.49 LIN.FT.

LEGEND

- Ⓐ REINFORCED PORTLAND CONCRETE CEMENT
- Ⓑ 6" SUBBASE
- Ⓒ 5" STABILIZED CRUSHED AGGREGATE SHOULDERS
- Ⓓ 3" BITUMINOUS MACADAM BASE COURSE
- Ⓔ UNDERDRAIN
- Ⓕ 6" CRUSHED AGGREGATE BASE COURSE
- Ⓖ 2" ASPHALTIC CONCRETE SURFACE COURSE
- Ⓗ 3" ASPHALTIC CONCRETE SURFACE COURSE

- ① ITEM 452 - 9" PLAIN CONCRETE PAVEMENT
- ② ITEM 304 - 6" AGGREGATE BASE
- ③ ITEM 254 - PAVEMENT PLANING, BITUMINOUS (MAX. DEPTH 3")
- ④ ITEM 446 - 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE 1H
- ⑤ ITEM 446 - 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG68-28
- ⑥ ITEM 411 - 6" STABILIZED CRUSHED AGGREGATE
- ⑦ ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE

- ⑧. ITEM 605 - 4" SHALLOW PIPE UNDERDRAIN (18" DEPTH)
- ⑩ TYPE D LONGITUDIAL JOINT PER BP-2.1
- ⑪ STANDARD LONGITUDIAL JOINT WITH TIE BARS
- ⑫ ITEM 609 - CURB, TYPE 2-A
- ⑬ ITEM 659 - SEEDING AND MULCHING, CLASS 2
- ⑭ ITEM 606 - GUARDRAIL, TYPE 5
- ⑮ ITEM 204 - SUBGRADE COMPACTION
- ⑰ ITEM 304 - 8" AGGREGATE SHOULDER
- ⑱ ITEM 302 - 10½" ASPHALT CONCRETE BASE, PG64-22
- ⑲ ITEM 605 - AGGREGATE DRAIN (8" DEPTH)

CALCULATED ESP
CHECKED BBB

TYPICAL SECTIONS - GARMAN ROAD
R/W ACCESS DRIVE UNDER BR. NO. MED-71-0031 L&R

WAY/MED-71-7.04/0.00

24A
785

GENERAL NOTES

ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLY TO ALL CROSS-SECTIONS EVEN THOUGH OTHERWISE SHOWN.

UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

COLUMBIA GAS TRANSMISSION
589 NORTH STATE ROAD
MEDINA, OH 44256
ATTN: MR. JAY GARDNER
330-723-4900

COLUMBIA GAS OF OHIO
7080 FRY ROAD
P.O. BOX 30999
MIDDLEBURG HEIGHTS, OH 44130
440-891-2455, (800) 344-4077

GATHERCO INC.
5772 DRESSLER AVE. N.W.
NORTH CANTON, OHIO 44720
ATTN: BETH TILLMAN
(330) 498-9553

LORAIN MEDINA RURAL ELECTRIC
22898 WEST ROAD
P.O. BOX 158
WELLINGTON, OH 44090
ATTN: MR. KEVIN CONLEY
440-647-2133, (800)-222-5673

OHIO EDISON
6326 LAKE ROAD
ELYRIA, OH 44035
440-326-3257

MCI
120 RAVINE STREET
AKRON, OHIO 44303
ATTN: MR. ALLAN GUEST
(330) 253-8269

VERIZON
(A.K.A. GENERAL TELEPHONE)
6223 NORWALK ROAD
MEDINA, OH 44256
ATTN: MR. RANDY HOWARD
330-722-9586

TIME WARNER CABLE
2650 WEIR ROAD
WARREN, OH 44483
330-372-2522 EXT 5337

WATER:
VILLAGE OF LODI, OHIO
P.O. BOX 95
LODI, OHIO 44254
ATTN: MR. ROLAND JENKIN (FOR SANITARY)
(330) 948-1411
ATTN: MR. BILL MOATS (FOR WATER)
(330) 948-1214

TRAFFIC:
O.D.O.T. DISTRICT 3
906 NORTH CLARK STREET
ASHLAND, OHIO 44805
ATTN: MATT BLANKENSHIP
(419) 207-7045

MEDINA COUNTY ENGINEER
791 WEST SMITH ROAD
MEDINA, OHIO 44256
ATTN: MR. DAVID MILLER
(330) 723-9568

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON U.S.G.S DATUM.

AIRWAY/HIGHWAY CLEARANCE FOR AIRPORTS AND HELIPORTS

FOR THE PORTION OF THIS PROJECT NORTH OF STA. 200+00 (FRIENDSVILLE ROAD), THIS PROJECT HAS BEEN IDENTIFIED AS BEING WITHIN THE AIRWAY/HIGHWAY CLEARANCE FOR AIRPORTS AND HELIPORTS. THE CONTRACTOR IS ADVISED THAT NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT AT MAXIMUM OPERATING HEIGHT SHALL EXCEED A HEIGHT OF 13.5 Ft. IF ANY TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT WILL EXCEED THIS HEIGHT, THE CONTRACTOR IS ADVISED THAT COORDINATION WITH THE AIRPORT OWNER WILL BE NECESSARY PRIOR TO ERECTING SUCH TEMPORARY STRUCTURES OR OPERATING SUCH EQUIPMENT ON THE PROJECT. FOR PRIVATE USE AIRPORTS OR HELIPORTS, THE CONTRACTOR WILL BE REQUIRED TO COORDINATE WITH THE AIRPORT OWNER. THE CONTRACTOR IS ADVISED THAT NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT SHALL EXCEED THE PERMISSIBLE HEIGHT, UNTIL COORDINATION IS MET AND DOCUMENTATION HAS BEEN FURNISHED TO THE PROJECT ENGINEER. IF COORDINATION IS NOT OBTAINED, THEN THE PROJECT ENGINEER WILL HAVE THE AUTHORITY TO PROVIDE RESTRICTIONS AS REQUIRED.

Westfield Airport
Donnie George
6453 Seville Road
Seville, Ohio 44273
(330)-887-5769

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

CONVERSION OF STANDARD CONSTRUCTION DRAWINGS

THE METRIC STANDARD DRAWINGS REFERENCED IN THIS PLAN SHALL BE CONVERTED TO ENGLISH UNITS USING THE SI (METRIC) TO ENGLISH CONVERSION FACTORS PROVIDED IN 109.02 OF THE 2002 CMS. THE APPENDIX OF ASTM E 380 SHALL BE UTILIZED FOR ANY ADDITIONAL CONVERSION FACTORS REQUIRED. CONVERSIONS SHALL BE APPROPRIATELY PRECISE AND SHALL REFLECT STANDARD INDUSTRY ENGLISH VALUES WHERE SUITABLE.

COOPERATION BETWEEN CONTRACTORS

THE CONTRACTOR IS ADVISED OF THE PRESENCE OF POSSIBLY TWO (2) OTHER CONSTRUCTION CONTRACTS WITHIN OR IN THE VICINITY OF THE WORK LIMITS FOR THIS PROJECT. THE WAY-71-7.04 AND THE MED-71-6.06 PROJECTS MAY BE UNDER CONSTRUCTION AT THE SAME TIME AS THIS PROJECT AND 105.08 COOPERATION BETWEEN CONTRACTORS IS REQUIRED

RELATIONSHIP BAR CHART SCHEDULE

THE RELATIONSHIP BAR CHART SCHEDULE SHALL BE COMPUTER GENERATED ONLY. HAND DRAWN SCHEDULES ARE NOT ACCEPTABLE. SEE THE PROPOSAL NOTE FOR ADDITIONAL REQUIREMENTS.

ENVIRONMENTAL COMMITMENTS

STREAM CHANNEL EXCAVATION

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT ANY INCIDENTAL DISCHARGES ASSOCIATED WITH THE EXCAVATION AND HAULING OF MATERIAL FROM THE STREAM CHANNEL. THIS PERTAINS TO ANY EXCAVATION OPERATIONS SUCH AS, FOUNDATION PIER OR ABUTMENT EXCAVATION, CHANNEL CLEANOUT, EXCAVATION FOR ROCK CHANNEL PROTECTION AND REMOVAL OF ANY TEMPORARY FILL ASSOCIATED WITH CONSTRUCTION OPERATIONS.

DEMOLITION DEBRIS

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO AVOID AND / OR LIMIT DEMOLITION DEBRIS FROM ENTERING STREAMS. ANY MATERIAL THAT DOES FALL INTO STREAMS SHALL BE REMOVED AS SOON AS POSSIBLE.

INSTREAM WORK

1. BANK STABILIZATION WILL BE LIMITED TO WITHIN 25 FEET UPSTREAM AND DOWNSTREAM OF THE EXISTING STRUCTURE. BANK STABILIZATION WILL BE LIMITED TO REGRADING OF THE BANKS FOR THE TOE-OF-SLOPE (IN STREAM) TO THE TOP OF BANK AND WILL INCLUDE PLACEMENT OF ROCK CHANNEL PROTECTION WHERE REQUIRED. THIS WILL EXCLUDE WORK SUCH AS WIDENING, DEEPENING OR RELOCATION. THIS STABILIZATION WILL BE KEPT TO A MINIMUM.

2. WRITTEN PERMISSION WILL BE OBTAINED FROM THE CHIEF OF ODNR'S DIVISION OF WILDLIFE FOR ANY NECESSARY IN-STREAM BLASTING.

3. THE SPECIFICATIONS SET FORTH IN THE MOST CURRENT VERSION OF ODOT'S CONSTRUCTION AND MATERIAL SPECIFICATIONS, LOCATION AND DESIGN MANUAL, AND STANDARD DRAWINGS WILL BE USED TO ENSURE ADEQUATE EROSION AND SEDIMENT CONTROL DURING CONSTRUCTION.

WETLANDS

A LARGE WETLAND COMPLEX IS LOCATED ON BOTH SIDES OF IR-71 AT THE ABANDONED CSX RAILROAD (APPROX. STA. 20+00). WETLAND HABITATS ARE PRESENT ADJACENT TO AND BENEATH BRIDGE NO. MED-71-0031 L&R. THEREFORE, THE CONTRACTOR SHALL USE STRICT SEDIMENT CONTROL MEASURES IN AND AROUND THE EXISTING CATEGORY 3 WETLANDS. THE CONTRACTOR SHALL KEEP TO A MINIMUM, ANY AND ALL IMPACTS TO THESE WETLANDS. THE CONTRACTOR SHALL ALSO REFRAIN FROM TRANSFERRING ANY FUEL OR PETROCHEMICAL PRODUCT WITHIN CLOSE PROXIMITY OF THE EXISTING WETLAND AND SHALL AVOID USING THE WETLANDS FOR STAGING OR STORAGE OF MATERIALS OR EQUIPMENT.

WATERWAY PERMIT DETERMINATION (404/401)

ALL PROJECTS INVOLVING JURISDICTIONAL WATERS OF THE UNITED STATES (STREAMS, RIVERS, NON-ISOLATED WETLANDS) AND/OR ISOLATED WETLANDS ARE SUBJECT TO REGULATION UNDER SECTIONS 404 AND 401 OF THE CLEAN WATER ACT, AND POSSIBLY OHIO EPA ISOLATED WETLAND LAW. THE OHIO DEPARTMENT OF TRANSPORTATION - OFFICE OF ENVIRONMENTAL SERVICES (OES) AND/OR THE UNITED STATES ARMY CORPS OF ENGINEERS (USACE) HAS DETERMINED THAT THE PROJECT MEETS THE CRITERIA OF NATIONWIDE PERMITS (NWP's) 3-MAINTENANCE AND 14-LINEAR TRANSPORTATION PROJECTS. THIS PERMIT DETERMINATION WAS BASED ON ANTICIPATED STREAM IMPACTS ONLY AND DID NOT CONSIDER ANY TEMPORARY OR PERMANENT FILL MATERIAL BEING ADDED TO THE LARGE, CATEGORY 3 WETLAND COMPLEX LOCATED ON BOTH SIDES OF IR-71 AT THE ABANDONED CSX RAILROAD CROSSING (BRIDGE NO. MED-71-0031L&R, APPROXIMATE STA. 20+00). THE CONTRACTOR SHOULD BE AWARE THAT FOR ANY FILL MATERIAL TO BE ADDED TO THIS WETLAND, INCLUDING THROUGH THE USE OF TEMPORARY CONSTRUCTION ACCESS FILLS (I.E. CAUSEWAYS, CONSTRUCTION ACCESS PADS, COFFERDAMS, ETC.) A 404/401 INDIVIDUAL PERMIT IS REQUIRED FROM USACE AND THE OHIO ENVIRONMENTAL PROTECTION AGENCY. THE PROCESSING TIME FOR A 404/401 INDIVIDUAL PERMIT IS SIX TO EIGHT MONTHS. OES MUST BE CONSULTED IF IMPACTS TO ANY WETLANDS ARE EXPECTED.

ASBESTOS NOTIFICATION

AN ASBESTOS SURVEY OF THE BRIDGE(S) SCHEDULED FOR DEMOLITION OR RENOVATION WAS CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. THE SURVEY DETERMINED THAT NO ASBESTOS IS PRESENT ON THE BRIDGE(S).

THE BRIDGES WHICH WERE SURVEYED AND CONTAINED NO ASBESTOS ARE:

MED-71-0031 L&R	MED-71-0060 L&R
MED-71-0139	MED-71-0188
MED-71-0342 L&R	MED-71-0377
MED-71-0437 L&R	MED-71-0497
MED-71-0539 L&R	MED-71-0563

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORM, PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNER, WILL BE PROVIDED TO THE SUCCESSFUL BIDDER AT THE PRECONSTRUCTION MEETING. THE CONTRACTOR SHALL COMPLETE THE FORM AND RETURN IT TO THE DISTRICT CONSTRUCTION ENGINEER. THE COMPLETION OF THIS FORM MAY BE PERFORMED AT THE PRECONSTRUCTION MEETING. THE DISTRICT CONSTRUCTION ENGINEER SHALL SUBMIT IT (OEPA DISTRICT OFFICE OR THE LOCAL AIR AUTHORITY) AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF THE DEMOLITION OF THE BRIDGE. THE DISTRICT CONSTRUCTION ENGINEER SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE CONTRACTOR. THE CONTRACTOR SHALL NOT COMMENCE DEMOLITION OF THE STRUCTURE UNTIL THE ABOVE REQUIREMENTS ARE MET.

INFORMATION REQUIRED ON THE FORM WILL INCLUDE:

- THE CONTRACTORS NAME AND ADDRESS
- THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVAL AND RENOVATION
- A DESCRIPTION OF THE PLANNED DEMOLITION OR RENOVATION WORK AND THE METHOD(S) TO BE USED

A COPY OF THE OEPA FORM IS AVAILABLE FOR INSPECTION AT THE ODOT DISTRICT 3 OFFICE, 906 N. CLARK STREET, ASHLAND, OHIO, 44805.

BASIS FOR PAYMENT

THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE BID ITEM 202 FOR STRUCTURE REMOVAL.

ENVIRONMENTAL WORK : WAY/MED-71-7.04/0.00

ENVIRONMENTAL STUDIES HAVE SHOWN THAT THERE IS A POTENTIAL OF ENCOUNTERING PETROLEUM CONTAMINATED MATERIALS DURING EXCAVATIONS FOR NEW STORM SEWERS, CATCH BASINS, UNDERDRAINS, ETC. ADJACENT TO THE FOLLOWING PROPERTIES:

1. LODI DUCHESS, 10185 AVON LAKE AVENUE, STA. 41+50R TO STA. 43+50R AND
2. BURBANK AUTO REPAIR/ AMERICAN OIL, 10174 AVON LAKE AVE. STA. 41+50L TO STA. 43+50R.

BASED UPON THE BUSTR FILE REVIEW, SPECIAL MATERIAL HANDLING IS NOT WARRANTED FOR THE FOLLOWING SITES:

KHALSA TRUCK STOP, 10209 AVON LAKE AVENUE.
PILOT TRAVEL CENTER, 10048 AVON LAKE AVENUE.
83 CITGO, 10047 AVON LAKE AVENUE.
BP OIL #52000253, 10134 AVON LAKE AVENUE.
SUNOCO, 10046 AVON LAKE AVENUE.
BURBANK CITGO, 10354 AVON LAKE AVENUE.

IN THE EVENT PETROLEUM-CONTAMINATED MATERIALS ARE ENCOUNTERED, THE CONTRACTOR SHALL MANAGE THIS MATERIAL ACCORDING TO THE FOLLOWING NOTES. THE ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THIS WORK. ALL EXCAVATIONS WITHIN THE AFOREMENTIONED LIMITS SHALL BE PAID FOR UNDER THE ORIGINAL PLAN BID ITEMS.

THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH FIVE (5) DAYS NOTICE PRIOR TO ANY EXCAVATIONS WITHIN THE AFOREMENTIONED LIMITS TO PERMIT ARRANGING FOR THE NECESSARY TESTING SERVICES. ALL MATERIAL EXCAVATED BY THE CONTRACTOR BETWEEN THESE LIMITS SHALL BE SUBJECT TO MONITORING AND/OR TESTING BY AN INSPECTOR PROVIDED BY THE ENGINEER. UNDER THE DIRECTION OF THE ENGINEER, THE INSPECTOR WILL DETERMINE IF SAMPLING AND TESTING OF EXCAVATED MATERIAL IS REQUIRED.

ALL MATERIAL EXCAVATED BY THE CONTRACTOR BETWEEN THESE LIMITS MAY BE STOCKPILED IN AN AREA PROVIDED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. THE ENGINEER MAY PERMIT TEMPORARY STORAGE OF THE EXCAVATED MATERIAL IN A LINED AND COVERED ROLL-OFF BOX. THE ENGINEER MAY PERMIT TEMPORARY STORAGE OF THE EXCAVATED MATERIAL ON AN IMPERMEABLE MEMBRANE. THE MEMBRANE SHALL BE SURROUNDED BY BALES OF STRAW TO PREVENT THE SUSPECTED SOILS FROM COMING IN CONTACT WITH THE ORIGINAL SOILS. AN IMPERMEABLE MEMBRANE SHALL BE PLACED OVER THE STOCKPILE TO PREVENT CONTACT WITH PRECIPITATION AND/OR SURFACE RUN-OFF. THE ENGINEER MAY PERMIT THE CONTRACTOR TO DIRECT LOAD THE EXCAVATED CONTAMINATED MATERIAL INTO TRUCKS.

THE ENGINEER WILL DETERMINE IF THE EXCAVATED MATERIAL IS A PETROLEUM CONTAMINATED SOIL. THE ENGINEER WILL PROVIDE THE CONTRACTOR WITH THESE TEST RESULTS. CONTAMINATED MATERIAL SHALL BE PROPERLY TESTED, TRANSPORTED, AND DISPOSED OF IN A LICENSED (BY THE LOCAL HEALTH DEPARTMENT) AND PERMITTED (BY THE OHIO ENVIRONMENTAL PROTECTION AGENCY) SOLID WASTE FACILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS AND TO TRANSPORT THE MATERIAL TO A LICENSED AND PERMITTED SOLID WASTE DISPOSAL FACILITY. THE CONTRACTOR SHALL CONTACT THE FACILITY TO DETERMINE IF ANY ADDITIONAL TESTING IS REQUIRED FOR DISPOSAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONDUCTING AND ADDITIONAL SAMPLING AND ANALYSIS OF THIS MATERIAL.

THE CONTRACTOR SHALL FURNISH ALL THE LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO PROPERLY HANDLE, STORE (IF NECESSARY), TEST FOR DISPOSAL, TRANSPORT, AND DISPOSE OF REGULATED MATERIALS, INCLUDING ANY REQUIRED PERMITS, APPROVALS, OR FEES WITHIN THE LIMITS IDENTIFIED ABOVE. PAYMENT FOR THIS WORK SHALL BE MADE AT THE CONTRACT PRICE BID PER TON. THE BASIS FOR CONVERSION OF CUBIC YARDS TO TONS IS 2 TON/CUBIC YARD. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM SPECIAL - WORK INVOLVING PETROLEUM CONTAMINATED SOIL .... 1200 TON

CALCULATED AEP
CHECKED ENF

GENERAL NOTES

WAY/MED-71-7.04/0.00

PROTECTION OF RIGHT OF WAY LANDSCAPING

THE CONTRACTOR SHALL CONSTRICT ALL OF HIS/HER ACTIVITIES, EQUIPMENT STORAGE, AND STAGING TO WITHIN THE CONSTRUCTION AND GRADING LIMITS. SHOULD THE CONTRACTOR WISH TO USE ANY AREA OUTSIDE THESE LIMITS, A REQUEST IN WRITING MUST BE SUBMITTED TO THE PROJECT ENGINEER. THE DOCUMENT SUBMITTED MUST CLEARLY IDENTIFY THE AREAS THAT THE CONTRACTOR PLANS TO USE AND EXPLAIN THE PROPOSED USE AND RESTORATION OF THE AREA. THE ENGINEER SHALL APPROVE THE REQUEST IN WRITING BEFORE THE CONTRACTOR HAS PERMISSION TO USE THE AREA. PRIOR TO BEGINNING WORK, THE CONTRACTOR, SUPERINTENDENT OR HIS REPRESENTATIVE,

THE PROJECT ENGINEER, AND A REPRESENTATIVE OF THE MAINTAINING AGENCY SHALL REVIEW AND RECORD ALL LANDSCAPING ITEMS WITHIN THE RIGHT OF WAY (BOTH WITHIN AND OUTSIDE THE CONSTRUCTION AND GRADING LIMITS). A RECORD OF THIS REVIEW WILL BE KEPT IN THE PROJECT ENGINEER'S FILES. PRIOR TO FINAL ACCEPTANCE, A FINAL REVIEW OF LANDSCAPING ITEMS WILL BE MADE. ANY ITEMS DAMAGED BEYOND THE GRADING AND CONSTRUCTION LIMITS AS DEFINED ABOVE WILL BE REPLACED IN KIND OR AS DIRECTED BY THE PROJECT ENGINEER.

TREE REMOVAL RESTRICTIONS

THIS PROJECT IS WITHIN THE LIMITS OF THE FEDERAL ENDANGERED INDIANA BAT (MYOTIS SODALIS) AND MAY IMPACT THAT SPECIES HABITAT. UNAVOIDABLE CUTTING OF TREES WITH EXFOLIATING LOOSE OR PEELING BARK, SPLIT TRUNKS AND / OR BRANCHES, OR CAVATIES SHALL ONLY BE DONE BETWEEN SEPTEMBER 16 AND APRIL 14. TREE CUTTING SHALL BE LIMITED TO THE MINIMUM NECESSARY TO ACCOMMODATE CONSTRUCTION ACTIVITIES.

ITEM 690 - MONITORING WELLS

FIELD SURVEYS HAVE IDENTIFIED SEVERAL PROPERTIES THAT HAVE MONITORING WELLS THAT MAY BE IMPACTED BY THE CONSTRUCTION OF THESE IMPROVEMENTS. WHERE MONITORING WELLS ARE LOCATED THE CONTRACTOR SHALL MANAGE THE CONSTRUCTION ACTIVITIES IN THE VICINITY OF THESE MONITORING WELLS ACCORDING TO THE FOLLOWING NOTES:

1. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF THESE MONITORING WELLS PRIOR TO THE INITIATION OF CONSTRUCTION. THE CONTRACTOR IS DIRECTED TO AVOID DISTURBING THE MONITORING WELLS IF POSSIBLE.

2. IF AVOIDANCE IS NOT POSSIBLE, THE CONTRACTOR SHALL HAND DIG AROUND THE WELLS, BACKFILL IMMEDIATELY (NO/MINIMAL COMPACTION) AND PROTECT THE MONITORING WELLS FROM HEAVY EQUIPMENT RUNNING OVER THEM. THE CONTRACTOR SHALL INSTALL APPROPRIATE EROSION CONTROL MEASURES TO PREVENT CONTAMINATION OF THE MONITORING WELL AS A RESULT OF CONSTRUCTION ACTIVITIES.

3. AT LOCATIONS WHERE MONITORING WELLS WILL NEED TO BE ABANDONED AND RELOCATED, PRIOR TO THE RELOCATION OF THE MONITORING WELLS, THE CONTRACTOR MUST COORDINATE WITH THE PROPERTY OWNER REGARDING AN ACCEPTABLE AND APPROVABLE LOCATION FOR THE RELOCATED WELL. RELOCATED WELLS SHALL BE INSTALLED PER OEPA CRITERIA AND BY AN ENVIRONMENTAL DRILLING FIRM THAT IS QUALIFIED TO INSTALL MONITORING WELLS IN ACCORDANCE WITH STATE AND FEDERAL REGULATIONS.

THE ESTIMATED QUANTITY BELOW HAS BEEN PROVIDED IN THE GENERAL SUMMARY FOR THIS PURPOSE.

ITEM 690 - SPECIAL - ENVIRONMENTAL, MISC: MONITORING WELL ADJUST TO GRADE LUMP

4. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO PROTECT THE MONITORING WELLS AND TO RAISE OR LOWER MONITORING WELLS TO THE FINAL GRADE.

ROADWAY

CLEARING AND GRUBBING

ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS SHALL BE REMOVED UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED

SIZES	NO. TREES	NO. STUMPS	TOTAL
18"	2	--	2

DISPOSAL OF WASTE MATERIAL

THE AREAS OF THE INTERIOR OF THE IR71/IR76 LOOP RAMPS (LOCATED APPROXIMATELY 2 MILES NORTH OF THIS PROJECT) ARE AVAILABLE AS A WASTE SITE FOR THE DISPOSAL OF EXCAVATED MATERIAL, PAVEMENT REMOVED, AND CONCRETE REMOVED FROM STRUCTURES. ONLY THOSE AREAS DELINEATED ON THE "WASTE MATERIAL" SCHEMATIC PLAN WILL BE APPROVED FOR USE.

IF THE CONTRACTOR DESIRES TO USE ANY OF THESE SITES, HE MUST SUBMIT A GRADING PLAN TO THE DISTRICT FOR APPROVAL, AS WELL AS A SUMMARY OF THE MEANS AND METHODS FOR PERFORMING THE WORK IN ACCORDANCE WITH THE GUIDELINES SET HEREIN AND AS DIRECTED BY THE ENGINEER.

THE GENERAL GUIDELINES FOR GRADING PLAN APPROVAL ARE AS FOLLOWS:

1. THE PROPOSED FILL SLOPES SHALL NOT BE STEEPER THAN THE EXISTING SLOPES. SAFETY GRADING SHALL APPLY. FILL AREAS MAY UTILIZE SLOPES AS STEEP AS 4:1 BEYOND THE DITCHES. FILL HEIGHTS GREATER THAN 10' MUST BE APPROVED BY THE ODOT OFFICE OR GEOTECHNICAL ENGINEER.

2. MANHOLES AND CATCH BASINS SHALL BE ADJUSTED TO GRADE AND PIPES SHALL BE EXTENDED AS NECESSARY TO PROPAGATE THE EXISTING DRAINAGE FLOW PATTERNS.

3. CONCRETE TO BE PLACED IN THE WASTE AREA SHALL BE BROKEN INTO PIECES NOT EXCEEDING 2 FEET IN THE LARGEST DIMENSION. THE MATERIAL SHALL CONTAIN PIECES OF VARIOUS SIZES TO AID IN THE COMPACTION OF THE MATERIAL SUCH THAT NOT MORE THAN 50% OF THE MATERIAL SHALL BE LARGER THAN ONE FOOT IN THE LARGES DIMENSION AND NOT MORE THAN 75% OF THE MATERIAL IS GREATER THAN 4 INCHES IN THE LARGES DIMENSION. THE MATERIAL SHALL BE PLACED IN ACCORDANCE WITH 203.07 WITH EACH LIFT BEING ROLLED AS DIRECTED BY THE ENGINEER. ADDITIONAL WASTE FILL MATERIAL MAY BE INCORPORATED INTO THE CONCRETE TO AID COMPACTION. A 2 FOOT CAP OF SOIL AS DESCRIBED IN 203 SHALL BE PLACED ON TOP OF THE ROCK EMBANKMENT INCLUDING A MINIMUM OF 6 INCHES OF TOPSOIL. THE FILLED AREA SHALL BE SEEDED IN ACCORDANCE WITH ITEM 659. TEMPORARY EROSION CONTROLS SHALL BE PLACED AS DIRECTED BY THE ENGINEER.

4. THE CONTRACTOR SHALL PROVIDE A MAINTENANCE OF TRAFFIC PLAN FOR ACCESSING THE SITE, TO BE APPROVED BY THE ENGINEER.

ALL WORK DESCRIBED HEREIN AND ANY ADDITIONAL WORK NECESSARY IN CREATING THE FILL AREA SHALL BE PERFORMED AT THE CONTRACTORS EXPENSE.

ITEM 204 - PROOF ROLLING

AN ESTIMATED QUANTITY FOR THIS ITEM HAS BEEN PROVIDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER. (SEE SHEET 34)

ANY ADDITIONAL PROJECT QUANTITIES ARE TO BE DETERMINED BY PROJECT PERSONNEL AND WILL BE PAID FOR AS PART OF THE FINAL CHANGE ORDER FOR THE PROJECT.

CALCULATED AEP
CHECKED ENF

GENERAL NOTES

WAY/MED-71-7.04/0.00

GNA.DGN

BENCHING OF FOUNDATION SLOPES

THE CONTRACTOR SHALL CONSTRUCT THE EMBANKMENT USING BENCHED CONSTRUCTION WHEN REQUIRED BY SECTION 203.05 OF THE SPECIFICATIONS. THE BENCHING SHOWN ON THE CROSS SECTIONS IS PROVIDED TO SHOW LOCATIONS AND INTENT ONLY. IN ORDER TO MINIMIZE THE DISTURBANCE OF THE EXISTING SLOPES, THE CONTRACTOR SHALL USE A MINIMUM WIDTH FOR EACH BENCHED STEP COMMENSURATE WITH HIS EQUIPMENT. NO WAIVER OF THE SPECIFICATIONS IS INTENDED. THE DEPARTMENT WILL MEASURE EMBANKMENT BY THE NUMBER OF CUBIC YARDS OF MATERIAL IN THE FINAL POSITION, ACCEPTABLY PLACED, USING THE AVERAGE END AREA METHOD. FOR QUANTITIES MEASURED FOR PAYMENT, THE DEPARTMENT WILL USE THE ORIGINAL PLAN CROSS SECTIONS, AS THE ORIGINAL FIELD CROSS SECTIONS. THE DIFFERENCE BETWEEN THE FINAL CROSS SECTION AND THE ORIGINAL CROSS SECTION SHALL DETERMINE THE END AREA. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF 203.05.

ITEM 202- RAISED PAVEMENT MARKERS REMOVED AND DISPOSED

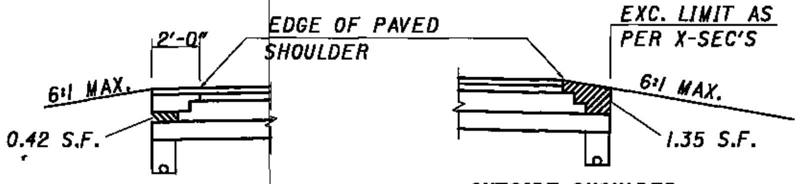
THE CONTRACTOR SHALL DISPOSE OF ALL RAISED PAVEMENT MARKERS (RPMS) ON THE PROJECT ACCORDING TO CMS 105.17. THE WORK SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO PERFORM THE WORK AND SHALL BE PAID FOR AT THE CONTRACT PRICE EACH FOR ITEM 202 - RPM REMOVED AND DISPOSED.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR REMOVING RAISED PAVEMENT MARKERS:

202 RAISED PAVEMENT MARKERS REMOVED AND DISPOSED 922 EACH

EARTHWORK VOLUME ADJUSTMENT

THE EARTHWORK CALCULATIONS AS SHOWN ON THE CROSS SECTIONS REFLECTS VOLUMES MEASURED TO THE EDGE OF THE SUBBASE. TO PLACE SOIL SHOWN IN THE CROSS HATCHED AREA, ADDITIONAL EMBANKMENT WILL BE REQUIRED AS TABULATED BELOW:



MEDIAN SHOULDER TREATMENT DETAIL

OUTSIDE SHOULDER TREATMENT DETAIL

LOCATION		LENGTH	END AREA	VOLUME
MAINLINE				
NB	MEDIAN	32634.5'	0.42 S.F.	508 C.Y.
	OUTSIDE	31034.5'	1.35 S.F.	1552 C.Y.
SB	MEDIAN	32636.9'	0.42 S.F.	508 C.Y.
	OUTSIDE	31036.9'	1.35 S.F.	1552 C.Y.
			TOTAL =	4120 C.Y.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY TO ADJUST THE EARTHWORK FOR PAVEMENT STEPS:

ITEM 203 - EMBANKMENT .... 4120 CU. YD.

PAVEMENT UNDERCUTS (REMOVAL OF SATURATED/UNSUITABLE MATERIAL)

THIS ITEM SHALL BE USED TO REMOVE UNSUITABLE MATERIAL WHICH CAN NOT BE TREATED WITH CEMENT STABILIZATION. SEE SHEET 34 FOR ADDITIONAL INFORMATION.

ITEM 209 - LINEAR GRADING (RESHAPE DITCH)

THIS WORK SHALL BE PERFORMED AT THE LOCATIONS AS SHOWN ON THE PLANS. IT SHALL ONLY APPLY WHEN REGRADING BY CROSS SECTIONS IS NOT INDICATED.

WORK SHALL INCLUDE RESTORATION OF THE DISTURBED AREAS IN ACCORDANCE WITH ITEM 659.

ANY ADDITIONAL PROJECT QUANTITIES ARE TO BE DETERMINED BY PROJECT PERSONNEL AND WILL BE PAID FOR AS PART OF THE FINAL CHANGE ORDER FOR THE PROJECT.

ITEM 209 - DITCH CLEANOUT

THIS WORK SHALL BE PERFORMED AT THE LOCATIONS AS SHOWN ON THE PLANS. THIS WORK APPLIES ONLY TO DITCH AREAS WHICH ARE NOT SHOWN TO BE AFFECTED BY THE REGRADING OPERATIONS.

THIS WORK SHALL CONSIST OF REESTABLISHING THE CROSS SECTION ON AN EXISTING DITCH. SURPLUS OR UNSUITABLE MATERIAL, AS DETERMINED BY THE ENGINEER, SHALL BE DISPOSED OF AS PER 203.01. EMBANKMENT REQUIRED FOR ERODED CONDITIONS SHALL MEET THE REQUIREMENTS OF 203 EXCEPT THAT THE COMPACTION REQUIREMENTS ARE WAIVED. ALSO INCLUDED IN THIS ITEM SHALL BE ALL MATERIALS, LABOR AND INCIDENTALS NECESSARY TO SEED AND MULCH THE CLEANED OUT DITCH AS PER CMS ITEM 659 SEEDING AND MULCHING. THE CONTRACTOR SHALL RESTORE, TO THE SATISFACTION OF THE ENGINEER, ANY DISTURBED AREAS CAUSED BY CONSTRUCTION OF THIS ITEM AT NO ADDITIONAL COST TO THE STATE.

PAYMENT FOR ALL THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID PER FOOT FOR ITEM 209, DITCH CLEANOUT.

ANY ADDITIONAL PROJECT QUANTITIES ARE TO BE DETERMINED BY PROJECT PERSONNEL AND WILL BE PAID FOR AS PART OF THE FINAL CHANGE ORDER FOR THE PROJECT.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A "W-BEAM RAIL SPLICE" AS SHOWN IN AASHTO M 180. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

ITEM 604 - REFERENCE MONUMENT

PROPOSED REFERENCE MONUMENT LOCATIONS LISTED ARE APPROXIMATE FOR STATIONING AND OFFSET. (SEE SHEET 7/785 FOR TABLE WITH NORTHINGS AND EASTINGS) THE ACTUAL LOCATIONS WILL BE STAKED BY THE DISTRICT THREE SURVEY DEPARTMENT PRIOR TO CONSTRUCTION. THE MONUMENTS WILL BE CONSTRUCTED AS ITEM 604 REFERENCE MONUMENT PER THE STANDARD DRAWING RM-1.1. MONUMENTS DISKS WILL BE PROVIDED BY ODOT DISTRICT THREE.

STATION	OFFSET	604 REFERENCE MONUMENT
1+90.00	83.00 L	1
25+00.00	77.00 R	1
48+50.00	85.00 L	1
77+00.00	121.00 L	1
96+00.00	121.00 L	1
110+75.00	143.00 R	1
126+85.00	136.00 L	1
179+90.00	81.00 R	1
202+00.00	115.00 L	1
217+50.00	81.00 R	1
TOTALS COLUMN A		10

STATION	OFFSET	604 REFERENCE MONUMENT
230+50.00	81.00 R	1
241+50.00	82.00 L	1
262+00.00	85.00 L	1
273+00.00	111.00 R	1
292+00.00	111.00 L	1
305+00.00	111.00 R	1
319+50.00	118.00 L	1
332+00.00	105.00 R	1
347+00.00	112.00 R	1
TOTALS	COLUMN A	9
TOTALS	COLUMN A	10
TOTALS CARRIED TO GENERAL SUMMARY		19

ITEM 606 - ANCHOR ASSEMBLY, TYPE E-98

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING GUARDRAIL END TERMINALS.

1) THE ET-2000 (1997) MANUFACTURED BY SYRO, INC., 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330- 545-4373).

THE LENGTH OF THE ET-2000 (1997) SYSTEM IS CONSIDERED TO BE 50', INCLUSIVE OF THE TWO 25' LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
SS265M	ET-2000 (1997) PLAN, ELEVATION & SECTIONS	6/20/97	3/6/98

2) THE SKT-350 MANUFACTURED BY ROAD SYSTEMS, INC., 7631 NEW CASTLE DRIVE, FRANKFORT, IL 60423 (TELEPHONE: 815-464-5917).

THE LENGTH OF THE SKT-350 SYSTEM IS CONSIDERED TO BE 50', INCLUSIVE OF FOUR 12'-6" LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE- APPROVED SHOP DRAWINGS:

DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
SKT-4M	SEQUENTIAL KINKING TERMINAL (SKT-350) ASSEMBLY WITH 4 FOUNDATION TUBES	12/11/97	3/6/98

THE FACE OF THE TYPE E-98 IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19, APPROXIMATELY 1'-6" X 1'-6".

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE E-98, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

A TYPE C DELINEATOR SHOULD BE INSTALLED ON A FLEXIBLE POST AT THE HEAD OF ALL TYPE E-98 UNITS LOCATED ON THE RIGHT SIDE OF THE THROUGH ROADWAY. A TYPE D DELINEATOR SHOULD BE INSTALLED ON A FLEXIBLE POST AT THE HEAD OF ALL TYPE E-98 UNITS LOCATED ON THE LEFT SIDE OF THE THROUGH ROADWAY. DELINEATORS SHALL COMPLY WITH STANDARD TRAFFIC DRAWINGS TC-61.10 AND CMS 620 AND ARE ITEMIZED IN THE GUARDRAIL SUBSUMMARY.

ITEM 606 - IMPACT ATTENUATOR, TYPE 1-98 (BIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING IMPACT ATTENUATORS:

1. THE C-A-T MANUFACTURED BY SYRO, INC., 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330 545-4373).

THE LENGTH OF THE C-A-T SYSTEM IS CONSIDERED TO BE 31'-3" LONG. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

ITEM 606 - IMPACT ATTENUATOR, TYPE 1-98 (BIDIRECTIONAL) - CONTINUED

DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
SS245M	CRASH-CUSHION ATTENUATING TERMINAL PLAN, ELEVATIONS AND SECTIONS FOR USE AS A LONGITUDINAL MEDIAN BARRIER TERMINAL OR CRASH CUSHION ATTENUATOR	4/10/97	3/6/98
SS224M	C-A-T TRANSITION TO MEDIAN BARRIER GUARDRAIL PLAN, ELEVATION AND SECTIONS	4/26/96	3/6/98
SS226M	C-A-T TRANSITION TO VERTICAL WALL OR PIER PLAN, ELEVATION AND SECTIONS	4/26/96	3/6/98

2. THE BRAKEMASTER MANUFACTURED BY ENERGY ABSORPTION SYSTEM, INC., ONE EAST WACKER DRIVE, CHICAGO, IL 60601 (TELEPHONE: 312 467-6750).

THE LENGTH OF THE BRAKEMASTER SYSTEM IS CONSIDERED TO BE 32'-8" LONG. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
92-00-01	BRAKEMASTER GENERAL ASSEMBLY (UNIDIRECTIONAL SYSTEM)	3/6/97	3/6/98
92-00-81	BRAKEMASTER (UNIDIRECTIONAL) WITH FOUNDATION TUBES	2/9/98	3/6/98
92-00-02	BRAKEMASTER GENERAL ASSEMBLY (BIDIRECTIONAL SYSTEM)	3/10/97	3/6/98
92-00-82	BRAKEMASTER (BIDIRECTIONAL) WITH FOUNDATION TUBES	2/9/98	3/6/98
9202024	ANCHOR ASSEMBLY, FOUNDATION TUBE, 6 ½ FT. [1.981 METERS], BRS	6/12/97	3/6/98

3) THE FLEAT-MT MANUFACTURED BY ROAD SYSTEMS, INC. (RSI), 3616 OLD HOWARD COUNTY AIRPORT ROAD, BIG SPRINGS, TX, 79720 (TELEPHONE 915-263-2435) AND AVAILABLE FROM RSI'S LIST OF APPROVED DISTRIBUTORS.

THE LENGTH OF THE FLEAT-MT SYSTEM IS CONSIDERED TO BE 37'-6" LONG. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION AS DETAILED ON THE FOLLOWING PRE- APPROVED SHOP DRAWINGS AND THE MANUFACTURERS INSTALLATION MANUAL.

DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
MEDFLT-W-US	FLARED ENERGY ABSORBING TERMINAL - FLEAT-MT ASSEMBLY FOR WOOD BREAKAWAY POST SYSTEM	4/10/02 REV. 5	1/6/03
MEDFLT-S-US	FLARED ENERGY ABSORBING TERMINAL - FLEAT-MT ASSEMBLY FOR STEEL BREAKAWAY POST SYSTEM	4/10/02 REV. 6	1/6/03

THE FACE OF THE TYPE 1-98 IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19, APPROXIMATELY 36" W x 12" H. PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, IMPACT ATTENUATOR, TYPE 1-98 (BIDIRECTIONAL), EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, HARDWARE, REFLECTIVE SHEETING, AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER

GENERAL NOTES

ITEM 606 - GUARDRAIL, TYPE 5

UNDERDRAIN OUTLETS SHALL BE LOCATED ALONG EACH GUARDRAIL RUN BEFORE THE FIRST POST IS SET. POSTS LOCATED OVER AN UNDERDRAIN OUTLET SHALL NOT BE DRIVEN, BUT SHALL BE SET IN DRILLED OR DUG HOLES. POSTS LOCATED WHERE THE AVAILABLE POST EMBEDMENT DEPTH IS LESS THAN 3'-5" AND GREATER THAN 2'-6" SHALL BE ENCASED WITH 4" (MIN.) OF CONCRETE (GR-2.2).

WHERE AVAILABLE POST EMBEDMENT DEPTH IS LESS THAN 2'-6", A PLATE, AS DETAILED ON SECTION B-B OF STANDARD CONSTRUCTION DRAWING GR-2.2, MAY BE USED AS AN ATERNATE ATTACHMENT METHOD.

ITEM 606 - ANCHOR ASSEMBLY, TYPE B-98

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING GUARDRAIL END TERMINALS.

1) THE SRT-350, GUARDRAIL END TERMINAL AS MANUFACTURED BY SYRO INC., 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330-545-4373).

THE LENGTH OF THE SRT-350 SYSTEM IS CONSIDERED TO BE 37'-6", INCLUSIVE OF THREE 12'-6" LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
SS444 SS444M	SLOTTED RAIL TERMINAL POST LAYOUT AND ERECTION DETAILS SRT-350 (12.5, 8 POST)	7/12/99 7/12/99	8/27/99
SS425M	SLOTTED RAIL TERMINAL SRT-350 POST LAYOUT AND ERECTION DETAILS (12.5, 9 POST)	6/21/97	3/6/98

2) THE FLEAT-350 MANUFACTURED BY ROAD SYSTEMS, INC., 2516 MALLORY LANE, STOW, OHIO, 44224, (TELEPHONE: 330-346-0721).

THE LENGTH OF THE FLEAT-350 IS CONSIDERED TO BE 37'-6", INCLUSIVE OF THREE 12'-6" LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
FLT-M	FLARED ENERGY ABSORBING TERMINAL (FLEAT-350) ASSEMBLY	4/16/98	7/31/98

GRADING SHALL BE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING GR-4.3M.

THE FACE OF THE TYPE B-98 IMPACT HEAD SHALL BE COVERED WITH TYPE G REFLECTIVE SHEETING, PER CMS 730.19: APPROXIMATELY 36" W x 12" H FOR THE SRT-350 AND 14" W x 20" H FOR THE FLEAT.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE B-98, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING REFLECTIVE SHEETING AND ALL RELATED HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM 607 FENCE, TYPE 47, AS PER PLAN

THIS ITEM SHALL BE USED TO REPLACE THE EXISTING RIGHT OF WAY FENCE THAT IS DISTURBED BY THIS PROJECT AT STREAM CROSSINGS AND BRIDGES. SPOT SECTIONS OF RUSTED FENCE MAY ALSO BE REPLACED.

ENSURE THAT THE NEW FENCE IS LOCATED INSIDE THE RIGHT OF WAY LINE IN ACCORDANCE WITH CURRENT STANDARDS. IN ALL CASES, CURRENT STANDARD CONSTRUCTION DRAWINGS SHALL BE USED TO ESTABLISH THE CORRECT CONFIGURATION AND LOCATION OF THE NEW FENCE.

THE WORK SHALL INCLUDE REMOVAL OF ALL OF THE EXISTING RIGHT OF WAY FENCE AND ASSOCIATED HARDWARE AND DISPOSAL. CORNER, END AND ANCHOR POSTS AND THEIR ASSOCIATED CONCRETE ENCASEMENTS ARE TO BE COMPLETELY REMOVED. METAL POSTS SHALL BE REMOVED OR DRIVEN A MINIMUM OF 6" BELOW THE EXISTING GROUND SURFACE.

ALL TREES AND BRUSH WITHIN THE AREA 2'-0" EITHER SIDE OF THE FENCE AND A SUFFICIENT DISTANCE INSIDE THE FENCE ALIGNMENT TO PERMIT ITS CONSTRUCTION SHALL BE REMOVED IN ACCORDANCE WITH ITEM 201, EXCEPT THAT NO STUMP MAY EXCEED A HEIGHT OF 2" ABOVE THE EXISTING GROUND SURFACE. THE STUMPS OF ALL TREES AND BRUSH SHALL BE TREATED WITH AN EPA REGISTERED HERBICIDE LABELED FOR CUT STUMP TREATMENT. THE HERBICIDE SHALL BE APPLIED ACCORDING TO LABEL INSTRUCTIONS. THE HERBICIDE USED FOR THIS PROJECT SHALL BE SHIPPED IN NEW SEALED CONTAINERS BEARING THE MANUFACTURER'S LABEL. THE CONTRACTOR SHALL BE LICENSED BY THE OHIO DEPARTMENT OF AGRICULTURE AS A COMMERCIAL OR LIMITED COMMERCIAL APPLICATORS OR UNDER THE DIRECT SUPERVISION OF THE SAME.

OHIO LAW REGULATES THE DISPOSAL OF LANDSCAPE WASTE THAT RESULT FROM ROADWAY CLEARING AND GRUBBING OPERATIONS. THE REGULATED WASTES INCLUDES BRUSH, TREES, STUMPS, TREE TRIMMINGS, BRANCHES, WEEDS, LEAVES, GRASS, SHRUBBERY, YARD TRIMMINGS, CROP RESIDUE, AND OTHER PLANT MATTER, EXCLUDING SOIL AND GARBAGE. THIS MATERIAL SHALL NOT BE BURIED OFF THE RIGHT-OF-WAY. THIS MATERIAL MAY BE BURIED IN NONSTRUCTURAL AREAS ON THE PROJECT SITE OR RIGHT-OF-WAY, WHERE PERMITTED BY THE ENGINEER.

ALL AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AND SEEDED ACCORDING TO ITEM 870 AND INCLUDED IN ITEM 607 FOR PAYMENT.

THE COST OF ALL THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 607, FENCE, TYPE 47, AS PER PLAN.

THE TYPICAL APPLICATIONS AT EACH PAIR OF STRUCTURES IS 2x33' ACROSS THE 2 MEDIANS AND 4x20' FOR ALL 4 CORNERS. TOTAL = 146' PER PAIR OF STRUCTURES.

BR. NO. MED-71-0031L&R, BR. NO. MED-71-0060L&R, BR. NO. MED-71-0342L&R, BR. NO. MED-71-0437L&R
BR. NO. MED-71-0539L&R.... 5 LOCATIONS @ 146' PER LOCATION = 730'

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED FOR USE AS DIRECTED BY THE ENGINEER:

607 - FENCE, TYPE 47, AS PER PLAN .... 730 FEET

ANY ADDITIONAL PROJECT QUANTITIES ARE TO BE DETERMINED BY PROJECT PERSONNEL AND WILL BE PAID FOR AS PART OF THE FINAL CHANGE ORDER FOR THE PROJECT.

NEW RIGHT OF WAY FENCING

TYPE CL FENCE AND GATE SHALL BE INSTALLED AT THE LOCATIONS SHOWN ON R/W SHEET 31/39 (781/785). THE PROPOSED FENCE SHALL BE LOCATED 2' INSIDE THE PROPOSED R/W UNLESS SHOWN OTHERWISE. THE GATE SHALL BE 15' WIDE AND SHALL BE CONSTRUCTED USING INDUSTRY STANDARD GATE DETAILS FOR A 15' GATE. THE CONTRACTOR SHALL SUPPLY CATALOG CUTS SHOWING THE GATE CONSTRUCTION DETAILS.

THE FOLLOWING QUANTITIES ARE INCLUDED TO PERFORM THE ABOVE WORK:

607 - FENCE, TYPE CL .... 277 FT.
607 - GATE, TYPE CL, AS PER PLAN .... 2 EACH

CALCULATED AEP
CHECKED ENF

ITEM SPECIAL - MAILBOX SUPPORT

THIS WORK SHALL CONSIST OF FURNISHING AND ERECTING MAILBOX SUPPORTS AND ANY ASSOCIATED MOUNTING HARDWARE IN ACCORDANCE WITH PLAN DETAILS, AND ATTACHING AN OWNER-SUPPLIED MAILBOX AT LOCATIONS SPECIFIED IN THE PLAN, OR OTHERWISE ESTABLISHED BY THE ENGINEER.

WOOD POSTS SHALL BE NOMINAL 4" BY 4" SQUAREOR 4 ½" DIAMETER ROUND, AND CONFORM TO 710.14.

STEEL POSTS SHALL BE NOMINAL PIPE SIZE 2" I.D., AND CONFORM TO AASHTO M 181.

HARDWARE (PLATES, SCREWS, BOLTS, ETC.) SHALL BE COMMERCIAL-GRADE GALVANIZED STEEL.

POSTS SHALL BE SET PER THE FIRST PARAGRAPH OF 606.03, AND SHALL IN NO INSTANCE BE ENCASED IN CONCRETE.

SUPPORT HARDWARE SHALL ACCOMMODATE EITHER A SINGLE OR A DOUBLE MAILBOX INSTALLATION, AND NO MORE THAN TWO BOXES MAY BE MOUNTED ON A SINGLE POST.

THE MAILBOX SHALL BE SECURELY AND NEATLY ATTACHED BY THE CONTRACTOR TO THE NEW SUPPORT. THE CONTRACTOR SHALL FURNISH ALL NECESSARY ATTACHMENT HARDWARE (NUTS, BOLTS, PLATES, SPACERS, AND WASHERS) AS NECESSARY TO ACCOMMODATE THE COMPLETE INSTALLATION.

IN THE ABSENCE OF A NEW BOX SUPPLIED BY THE OWNER, THE CONTRACTOR SHALL SALVAGE THE EXISTING BOX AND PLACE IT ON THE NEW SUPPORT. DUE CARE SHALL BE EXERCISED IN SUCH AN OPERATION, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY BOX DAMAGED BY IMPROPER HANDLING ON HIS PART, AS JUDGED AND DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE LOCAL POST MASTER REGARDING THE TIMING OF THE MOVEMENT OF ANY MAILBOX TO A NEW LOCATION.

PAYMENT UNDER THIS ITEM SHALL BE LIMITED TO FINAL PERMANENT INSTALLATIONS. TEMPORARY INSTALLATIONS SHALL BE IN ACCORDANCE WITH 107.10. HOWEVER, THE SAME MATERIAL AND SIZE LIMITATIONS AS FOR PERMANENT INSTALLATIONS SHALL APPLY.

MAILBOX SUPPORTS, COMPLETE IN PLACE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH, FOR ITEM SPECIAL MAILBOX SUPPORT SYSTEM, SINGLE.

PAVEMENT

PART-WIDTH CONSTRUCTION

BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND TO CONSTRUCT THE FULL PAVEMENT WIDTH IN STAGES, EXTREME CARE SHALL BE TAKEN TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LONGITUDINAL JOINTS SHALL BE LAPPED AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-3.1, AND AS SHOWN ON THE MAINTENANCE OF TRAFFIC TYPICAL SECTIONS.

CONTRACTION AND/OR EXPANSION JOINTS

ALTHOUGH SPECIFIC LOCATIONS OF CERTAIN CONTRACTION AND EXPANSION JOINTS HAVE BEEN DETAILED ON THIS PLAN, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. PROVISION OF EXPANSION JOINTS AT ALL MAJOR STRUCTURES AND THE MAXIMUM SPACING BETWEEN CONTRACTION JOINTS SHALL, IN ALL CASES, BE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING BP-2.2 AND THE SPECIFICATIONS.

ITEM 407, TACK COAT AND ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE

THE RATE OF APPLICATION OF THE 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. FOR ESTIMATING PURPOSES ONLY, THE PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF:

407, TACK COAT	0.07 GAL. PER SQ. YARD
407, TACK COAT FOR INTERMEDIATE COURSE	0.04 GAL. PER SQ. YARD

ITEM 301 - BITUMINOUS AGGREGATE BASE, PG-64-22, AS PER PLAN A

THIS ITEM SHALL BE USED TO PROVIDE THE OUTSIDE SHOULDER TREATMENT AS SHOWN ON THE MAINTENANCE OF TRAFFIC TYPICAL SECTIONS. THE SHOULDER IS TO BE PAVED WITH ITEM 301 AND MAINTAINED BY THE CONTRACTOR. COMPACTION IS TO BE WAIVED WHEN PLACED IN FRONT OF EXISTING GUARDRAIL.

EXCAVATION NECESSARY TO PLACE THIS MATERIAL IS TO BE INCLUDED. ALL WORK NECESSARY FOR A COMPLETE INSTALLATION AS MENTIONED ABOVE INCLUDING THE MAINTENANCE OF THIS ITEM IS TO BE INCLUDED IN THE CUBIC YARD COST OF ITEM 301 - BITUMINOUS AGGREGATE BASE, PG 64-22, AS PER PLAN A.

ITEM 301 - BITUMINOUS AGGREGATE BASE, PG-64-22, AS PER PLAN B

THIS ITEM SHALL BE USED TO PROVIDE THE MEDIAN SHOULDER TREATMENT AS SHOWN ON THE TYPICAL SECTIONS. THE SHOULDER IS TO BE PAVED WITH ITEM 301, STEPPED AS SHOWN. COMPACTION IS TO BE WAIVED WHEN PLACED IN FRONT OF EXISTING GUARDRAIL.

THE CONTRACTOR IS TO MAINTAIN THIS AREA PRIOR TO PLACING THE SURFACE COURSE.

EXCAVATION NECESSARY TO PLACE THIS MATERIAL IS TO BE INCLUDED. ALL WORK NECESSARY FOR A COMPLETE INSTALLATION AS MENTIONED ABOVE INCLUDING THE MAINTENANCE OF THIS ITEM IS TO BE INCLUDED IN THE CUBIC YARD COST OF ITEM 301 - BITUMINOUS AGGREGATE BASE, PG 64-22, AS PER PLAN B.

ITEM 526 - REINFORCED CONCRETE APPROACH SLAB AS PER PLAN

TWO SEPARATE THICKNESSES OF CLEAR OR OPAQUE POLYETHYLENE FILM, 705.06, SHALL BE PLACED ON THE PREPARED SUBBASE AND WHERE THE APPROACH SLAB IS TO BE CONSTRUCTED. THE POLYETHYLENE FILMS SHALL COMPLETELY COVER THE FULL LENGTH AND WIDTH OF THE SUBBASE BETWEEN THE SIDEWALL FORMS FOR THE APPROACH SLAB.

THE SHAPE OF THE CURBING ON APPROACH SLABS SHALL BE TRANSITIONED, FROM THE STANDARD SECTION ON THE APPROACHES TO THE SECTION USED ON THE BRIDGE, WITHIN THE LIMITS OF THE APPROACH SLAB.

MATERIALS, LABOR AND INSTALLATION SHALL BE INCLUDED FOR WITH APPROACH SLABS FOR PAYMENT.

ITEM 880 - ASPHALT CONCRETE WITH WARRANTY

LIFT THICKNESSES (AND STEP HEIGHTS) SHOWN IN THE PLAN ARE FOR QUANTITY ESTIMATION ONLY AND ARE NOT REQUIRED LIFT THICKNESSES FOR ACTUAL CONSTRUCTION. THE STEP WIDTHS AS SHOWN SHOULD BE MAINTAINED.

CALCULATED

CHECKED

GENERAL NOTES

DRAINAGE

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCES SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEMS.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEM.

EXISTING / PROPOSED PIPE CONNECTIONS

THE CONTRACTOR SHALL HAVE THE OPTION OF USING A COUPLING BAND TO JOIN EXISTING CORRUGATED METAL PIPE WITH A PROPOSED SECTION OF CORRUGATED METAL PIPE OR PLACING A CONCRETE COLLAR AS PER STANDARD CONSTRUCTION DRAWING DM-1.1. ALL CONCRETE PIPE CONNECTIONS SHALL HAVE A CONCRETE COLLAR AS PER STANDARD CONSTRUCTION DRAWING DM-1.1 PLACED AT THE JOINING OF EXISTING AND PROPOSED SECTIONS OF PIPE.

ANY EXPOSED METAL FROM THE PIPE CONNECTIONS OF A CORRUGATED METAL PIPE SHALL BE GALVANIZED COATED AS PER CMS SPECIFICATION 711.02 AND INCLUDED IN THE COST OF ITEM 603.

MASONRY COLLARS

MASONRY COLLARS, AS PER DM-1.1, SHALL BE CONSTRUCTED AT ALL LOCATIONS WHERE DISSIMILAR PIPE MATERIALS MEET, OR WHERE NORMAL JOINTING METHODS OR MATERIALS ARE NOT FEASIBLE OR UTILIZED. SEE DM-1.1 FOR ADDITIONAL REQUIREMENTS.

ITEM 202 - PIPE REMOVED

THE DEPARTMENT WILL MEASURE PIPE REMOVED BY THE NUMBER OF FEET, MEASURED FROM CENTER-TO-CENTER OF APPURTENANT SMALL STRUCTURES OR BETWEEN OPEN ENDS INCLUSIVE OF LENGTHS OF PIPE BENDS AND BRANCHES. THE DEPARTMENT WILL NOT DEDUCT FOR CATCH BASINS, INLETS, OR MANHOLES THAT ARE 6 FEET OR LESS ACROSS.

HEADWALL PATCHING

HEADWALLS ON THE PROJECT THAT ARE NOT BEING REPLACED MAY NEED PATCHING TO REPAIR MINOR FACIAL DETERIORATION. IF NEEDED, ITEM 519 - PATCHING CONCRETE STRUCTURES SHALL BE USED TO MAKE THESE REPAIRS.

PROJECT QUANTITIES ARE TO BE DETERMINED BY PROJECT PERSONNEL AND WILL BE PAID FOR AS PART OF THE FINAL CHANGE ORDER FOR THE PROJECT.

FARM DRAINS

ALL FARM DRAINS, WHICH ARE ENCOUNTERED DURING CONSTRUCTION, SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS.

EXISTING COLLECTORS AND ISOLATED FARM DRAINS, WHICH ARE ENCOUNTERED ABOVE THE ELEVATION OR ROADWAY DITCHES, SHALL BE OUTLETTED INTO THE ROADWAY DITCH USING ITEM 603 - 6" TYPE F CONDUIT AND OUTLETTED USING ITEM 604 - PRECAST REINFORCED CONCRETE OUTLET AS PER DM-1.1. THE OPTIMUM OUTLET ELEVATION SHALL BE 12" ABOVE THE FLOWLINE ELEVATION OF THE DITCH.

THE LOCATION, TYPE, SIZE AND GRADE OF REPLACEMENTS SHALL BE DETERMINED BY THE ENGINEER AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS.

OUTLETS SHALL BE AS PER STANDARD CONSTRUCTION DRAWING DM-1.1, EXCEPT WHEN THEY OUTLET INTO A DRAINAGE STRUCTURE.

PROJECT QUANTITIES ARE TO BE DETERMINED BY PROJECT PERSONNEL AND WILL BE PAID FOR AS PART OF THE FINAL CHANGE ORDER FOR THE PROJECT.

UNTREATED SEPTIC CONNECTIONS

THIS PLAN MAKES NO PROVISION FOR CONNECTING, NOR SHALL THE ENGINEER OR CONTRACTOR CONNECT, ANY UNTREATED SEPTIC DRAINAGE INTO THE HIGHWAY DRAINAGE SYSTEM. ANY PIPE CARRYING UNTREATED SEPTIC FLOW SHALL BE PLUGGED WITH CLASS C CONCRETE AT THE RIGHT OF WAY LINE. PAYMENT FOR PLUGGING SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 202 AND 203 ITEM.

TREATED SEPTIC CONNECTIONS

TREATED SEPTIC FLOW MAY BE DISCHARGED INTO THE HIGHWAY DRAINAGE SYSTEM PROVIDED THE OWNER HAS ACQUIRED AN OFFICIAL PERMIT FROM THE OHIO DEPARTMENT OF TRANSPORTATION.

IN EACH CASE WHERE A PERMIT HAS BEEN ISSUED FOR MAKING A TREATED SEPTIC CONNECTION INTO A HIGHWAY DRAINAGE CONDUIT, AN INSPECTION WELL SHALL BE PROVIDED IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING DM-3.1.

PROJECT QUANTITIES ARE TO BE DETERMINED BY PROJECT PERSONNEL AND WILL BE PAID FOR AS PART OF THE FINAL CHANGE ORDER FOR THE PROJECT.

ITEM 603 - CONDUIT BORED AND JACKED, AS PER PLAN

THE CONTRACTOR MAY INSTALL THE CONDUIT BY THE BORING AND JACKING METHOD OR BY OPEN CUT AS APPROPRIATE DEPENDING UPON LOCATION.

WHERE A CONDUIT IS TO BE INSTALLED BY THE METHOD OF BORING AND JACKING, NO TRENCH EXCAVATION SHALL BE CLOSER THAN 5 FEET TO THE EDGE OF PAVEMENT. TRENCHES SHALL BE ADEQUATELY SUPPORTED AND THE SPECIFICATION REQUIREMENTS FOR CLASS B BEDDING SHALL BE DISREGARDED. IF A CASING PIPE IS USED IN THE BORING AND JACKING OPERATION, THE VOID BETWEEN IT AND THE INTERIOR CARRIER PIPE SHALL BE COMPLETELY FILLED WITH ITEM 613, SAND, GROUT OR OTHER MATERIAL APPROVED BY THE ENGINEER.

PAYMENT FOR THE ENTIRE PIPE RUN WILL BE MADE AT THE UNIT PRICE BID FOR CONDUIT, BORED AND JACKED, AS PER PLAN.

MISCELLANEOUS METAL

EXISTING CASTINGS MAY PROVE TO BE UNSUITABLE FOR REUSE, AS DETERMINED BY THE ENGINEER. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO PROVIDE THE CASTINGS OF THE REQUIRED TYPE, SIZE AND STRENGTH (HEAVY DUTY) FOR THE PARTICULAR STRUCTURE IN QUESTION. ALL MATERIAL SHALL MEET ITEM 604 OF THE SPECIFICATIONS AND SHALL HAVE THE PRIOR APPROVAL OF THE ENGINEER.

THE CONTRACTOR IS CAUTIONED TO USE EXTREME CARE IN THE REMOVAL, STORAGE AND REPLACEMENT OF ALL EXISTING CASTINGS. CASTINGS DAMAGED BY THE NEGLIGENCE OF THE CONTRACTOR, AS DETERMINED BY THE ENGINEER, SHALL BE REPLACED WITH THE PROPERNEW CASTINGS AT THE EXPENSE OF THE CONTRACTOR.

PROJECT QUANTITIES ARE TO BE DETERMINED BY PROJECT PERSONNEL AND WILL BE PAID FOR AS PART OF THE FINAL CHANGE ORDER FOR THE PROJECT.

CALCULATED

CHECKED

GENERAL NOTES

WAY/MED-71-7.04/0.00

GNA.DGN

UNDERDRAIN CONNECTIONS

ALL EXISTING UNDERDRAINS SHALL BE CONNECTED INTO THE PROPOSED UNDERDRAINS. THIS SHALL BE ACCOMPLISHED BY INSTALLING 6" UNDERDRAINS TRANSVERSELY AT APPROXIMATELY 1000' SPACING WITH ONE ADDITIONAL CONNECTION AT THE HIGH SIDE OF EACH BRIDGE AND ONE ADDITIONAL CONNECTION AT EACH SAG.

MEDIAN - 41 LOCATIONS x 8' x 2 SIDES = 656 FT.
OUTSIDE - 41 LOCATIONS x 5' x 2 SIDES = 410 FT.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY TO PERFORM THIS ITEM OF WORK:

ITEM 605 - 6" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41 .... 1066 L.F.

SPRING DRAINS

THE FOLLOWING ITEMS WILL BE USED FOR DRAINING ANY SPRINGS SHOWN IN THE PLAN OR ENCOUNTERED DURING CONSTRUCTION. THE FOLLOWING TYPES OF PIPES MAY BE USED: 707.33, 707.41, 707.42 OR 707.45 PERFORATED PER 707.31.

SPRING DRAINS SHALL BE CONSTRUCTED AS SHOWN ON STANDARD CONSTRUCTION DRAWING DM-1.1 AND PAID FOR UNDER THE FOLLOWING ITEMS:

605, 6" UNCLASSIFIED PIPE UNDERDRAIN, FOR SPRINGS LIN. FT.
605, AGGREGATE DRAIN, FOR SPRINGS LIN. FT

PROJECT QUANTITIES ARE TO BE DETERMINED BY PROJECT PERSONNEL AND WILL BE PAID FOR AS PART OF THE FINAL CHANGE ORDER FOR THE PROJECT.

PROPOSED UNDERDRAINS

UNDERDRAIN OUTLET CONNECTIONS AND TRANSVERSE UNDERDRAINS MAY EXTEND ACROSS ADJOINING CONSTRUCTION PHASES. IN THESE SITUATIONS THE CONTRACTOR SHALL PROVIDE AND INSTALL TEMPORARY PLUGS OR CAPS AT THE LIMITS OF THE UNDERDRAIN CONSTRUCTION. DURING THE CONSTRUCTION OF THE SUBSEQUENT PHASE THE TEMPORARY PLUG OR CAP SHALL BE REMOVED, THE EXISTING UNDERDRAIN OR OUTLET SHALL BE INSPECTED FOR CLEANLINESS, CLEANED IF NECESSARY, AND THE UNDERDRAIN OR OUTLET CONSTRUCTION COMPLETED OR CONTINUED TO THE NEXT STAGE LIMIT. ALL MATERIAL, LABOR, AND INCIDENTALS NECESSARY TO PROVIDE, TO THE SATISFACTION OF THE ENGINEER, THE TEMPORARY CAPPING AND PIPE CLEANOUT BETWEEN EACH PHASE SHALL BE INCLUDED IN ITEM 603, 6" CONDUIT, TYPE F AND/OR ITEM 605, SHALLOW PIPE UNDERDRAIN, BY SIZE AND TYPE.

THE UNDERDRAINS AT THE NORTHERLY LIMITS OF STAGE 1 (OR STAGE 2) CONSTRUCTION WILL RECEIVE THE UNDERDRAIN FLOW FROM THE SUBSEQUENT NORTHERLY STAGE OR PROJECT. TEMPORARY CAPS SHALL BE PROVIDED DURING STAGE 1 (OR STAGE 2) CONSTRUCTION AT THESE LOCATIONS AND THE CONNECTION TO THE ADJOINING CONSTRUCTION STAGE SHALL BE AS REFERENCED ABOVE. ALL MATERIAL, LABOR, AND INCIDENTALS NECESSARY TO PROVIDE, TO THE SATISFACTION OF THE ENGINEER, THE TEMPORARY CAPPING AND PIPE CLEANOUT BETWEEN EACH STAGE SHALL BE INCLUDED IN ITEM 605, SHALLOW PIPE UNDERDRAIN, BY SIZE AND TYPE.

ITEM SPECIAL - FILL AND PLUG EXISTING CONDUIT

THIS ITEM SHALL CONSIST OF THE CONSTRUCTION OF BULKHEADS IN AN EXISTING CONDUIT AND FILLING THE AREA THUS SEALED OFF WITH LEAN GROUT, ITEM 613, SAND OR OTHER MATERIAL APPROVED BY THE ENGINEER.

BULKHEADS SHALL BE LOCATED AT THE LIMITS OF THE STRUCTURE TO BE FILLED AS INDICATED ON THE PLANS. THE BULKHEADS SHALL CONSIST OF BRICK OR CONCRETE MASONRY WITH A MINIMUM THICKNESS OF 12".

THE FILL MATERIAL SHALL BE PUMPED INTO PLACE, OR PLACED BY OTHER MEANS APPROVED BY THE ENGINEER, SO THAT , AFTER SETTLEMENT, AT LEAST 90 PERCENT OF THE CROSS-SECTIONAL AREA OF THE CONDUIT, FOR ITS ENTIRE LENGTH, SHALL BE FILLED. THE LENGTH OF FILLED AND PLUGGED CONDUIT TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF FEET (MEASURED ALONG THE CENTERLINE OF EACH CONDUIT FROM OUTER FACE TO OUTER FACE OF BULKHEADS) FILLED AND PLUGGED AS DESCRIBED ABOVE.

THE LENGTH, MEASURED AS PROVIDED ABOVE, SHALL BE PAID FOR AT THE CONTRACT PRICE PER FOOT FOR, ITEM SPECIAL, FILL AND PLUG EXISTING CONDUIT.

SS837 - LINER PIPE

THE SIZE SPECIFIED IS THE EXISTING CONDUIT SIZE WHICH THE LINER IS TO FIT INSIDE. THE MINIMUM INSIDE DIAMETER AND CORRESPONDING MATERIAL SHALL BE AS PER THE FOLLOWING LIST, (SIZES AND MATERIALS NOT SPECIFICALLY LISTED SHALL NOT BE PERMITTED):

EX. 30"	23.5" 707.42 OR 707.43, OR 26.3" SS937
EX. 36"	29.5" 707.42, 30.5" 707.43, OR 30" SS937
EX. 48"	44" 707.12 OR 707.24, 35.5" 707.42, 41.5" 707.43, 42" 748.06 OR 39.4" SS937

ITEM SPECIAL - PIPE CLEANOUT

THIS WORK SHALL BE PERFORMED AT THE LOCATIONS AS SHOWN ON THE PLANS. THIS WORK SHALL CONSIST OF REMOVING SEDIMENT AND DEBRIS FROM THE EXISTING DRAINAGE CONDUIT SPECIFIED IN THE PLANS. ALL MATERIALS REMOVED SHALL BE DISPOSED OF AS PER 203.05. ALL PIPES SHALL BE CLEANED OUT TO THE SATISFACTION OF THE ENGINEER.

CLEANOUT OF THE PIPE SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM SPECIAL-PIPE CLEANOUT (24" AND UNDER OR OVER 24"). THIS PRICE SHALL INCLUDE THE COST FOR MATERIAL, EQUIPMENT, LABOR, AND ALL INCIDENTALS REQUIRED TO COMPLETE THE CLEANOUT.

ANY ADDITIONAL PROJECT QUANTITIES ARE TO BE DETERMINED BY PROJECT PERSONNEL AND WILL BE PAID FOR AS PART OF THE FINAL CHANGE ORDER FOR THE PROJECT.

EROSION CONTROL

ITEM 659 - SEEDING AND MULCHING

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES. QUANTITY CALCULATIONS FOR ITEM 659, SEEDING AND MULCHING, ARE BASED ON THESE LIMITS AND QUANTITIES ARE CARRIED ON THE CROSS SECTIONS.

WATERING, MOWING AND REPAIR OF PERMANENT SEEDED AREAS

QUANTITIES FOR THE GROWTH AND CARE OF SEEDING AREAS ARE SHOWN ON SHEET 125A.

EROSION CONTROL

ITEMS 601, 660, 670, AND 671 ARE PROVIDED IN THE PLANS FOR EROSION CONTROL. ROCK OF A STABLE NATURE SHALL NOT BE REMOVED IN ORDER TO PLACE ANY OF THESE ITEMS AND TURF OF A STABLE NATURE SHALL NOT BE REMOVED IN ORDER TO PLACE ITEM 660 OR 671.

THE ENGINEER SHALL CHECK AND NON-PERFORM QUANTITIES OR ADJUST LOCATIONS AND QUANTITIES OF THESE ITEMS WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION. IN ADDITION, THESE ITEMS SHALL MEET THE REQUIREMENTS OF 108.04.

CALCULATED AEP
CHECKED ENF

GENERAL NOTES

WAY/MED-71-7.04/0.00

REMOVAL OF UNSUITABLE MATERIALS

UNSUITABLE SUBGRADE MATERIALS WERE ENCOUNTERED IN THE SUBSURFACE INVESTIGATION AND SHOULD BE ANTICIPATED AT THE LOCATIONS SHOWN IN THE SOIL SCHEMATIC PLANS. UNSUITABLE SOILS CONSIST OF A-4B SILT SOILS AND OTHER WEAK SOILS.

UNDERCUT SUBGRADE TREATMENTS

SOIL SCHEMATIC SHEET NUMBER		204 EXCAVATION OF SUBGRADE CU. YDS.	204 GRANULAR MATERIAL TYPE B CU. YDS.	204 GEOTEXTILE FABRIC SQ. YDS.				
37		6165	6165	11195				
38		2988	2988	2966				
39		6681	6681	12611				
40		2988	2988	2966				
TOTAL		18822	18822	29738				

SUBGRADE TREATMENT

UNDERCUTS WILL BE REQUIRED AT LOCATIONS THROUGHOUT THE LENGTH OF THIS PROJECT. THE DEPTH OF TREATMENT WILL BE A MINIMUM OF 12". DEPENDING UPON THE RESULTS OF THE PROOF ROLLING, THE DEPTH OF TREATMENT MAY BE ADJUSTED BY THE ENGINEER. THE DESIGN DEPTHS ARE SHOWN ON THE SOIL SCHEMATIC PLAN SHEETS 37 - 40.

QUANTITY CALCULATIONS

ITEM 204 - PROOF ROLLING

1 HR/ 2000 S.Y. x (215961 S.Y. N.B. + 215802 S.Y. S.B.) = 216 HRS
(TOTAL SUBGRADE AREA)

SECOND PROOF ROLLING AFTER PLACING UNDERCUTS

ITEM 204 - PROOF ROLLING

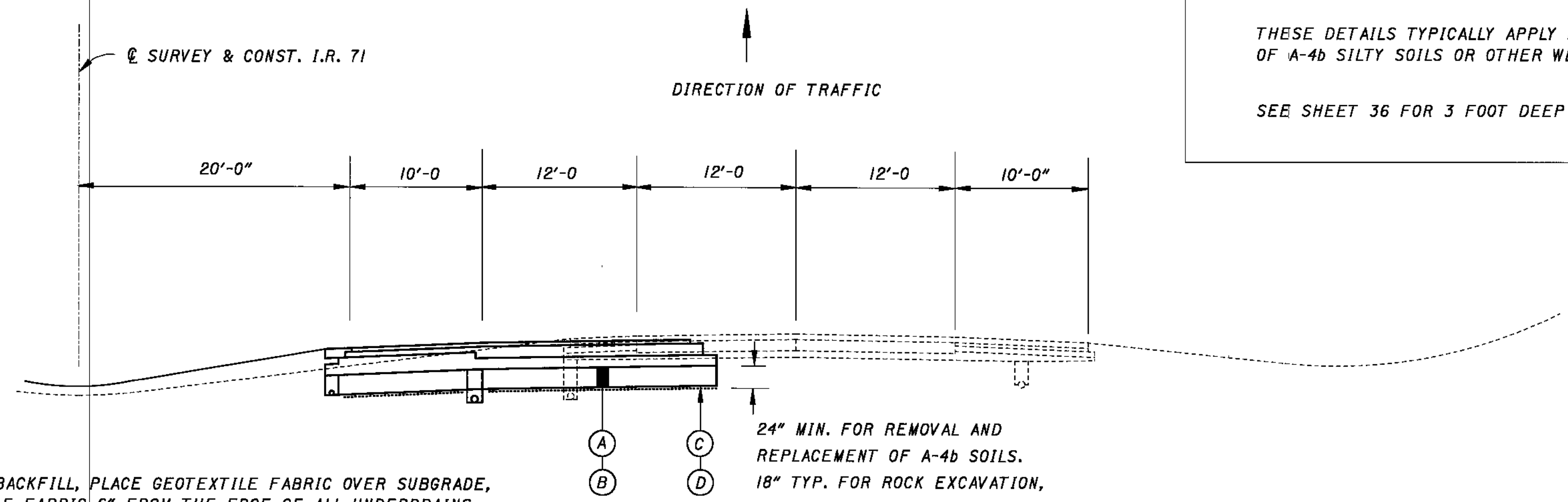
1 HR/ 2000 S.Y. x (29738 S.Y.) = 15 HRS
TOTAL = 231 HOURS

CALCULATED ENF
CHECKED KEH

SOIL STABILIZATION USING UNDERCUTS

THESE DETAILS TYPICALLY APPLY FOR REMOVAL OF A-4b SILTY SOILS OR OTHER WEAK SOILS.

SEE SHEET 36 FOR 3 FOOT DEEP UNDERCUTS



24" MIN. FOR REMOVAL AND REPLACEMENT OF A-4b SOILS.
18" TYP. FOR ROCK EXCAVATION,
12" MIN. AT OTHER LOCATIONS AS DIRECTED BY THE ENGINEER

UNDERCUT AND BACKFILL, PLACE GEOTEXTILE FABRIC OVER SUBGRADE, STOP GEOTEXTILE FABRIC 6" FROM THE EDGE OF ALL UNDERDRAINS.

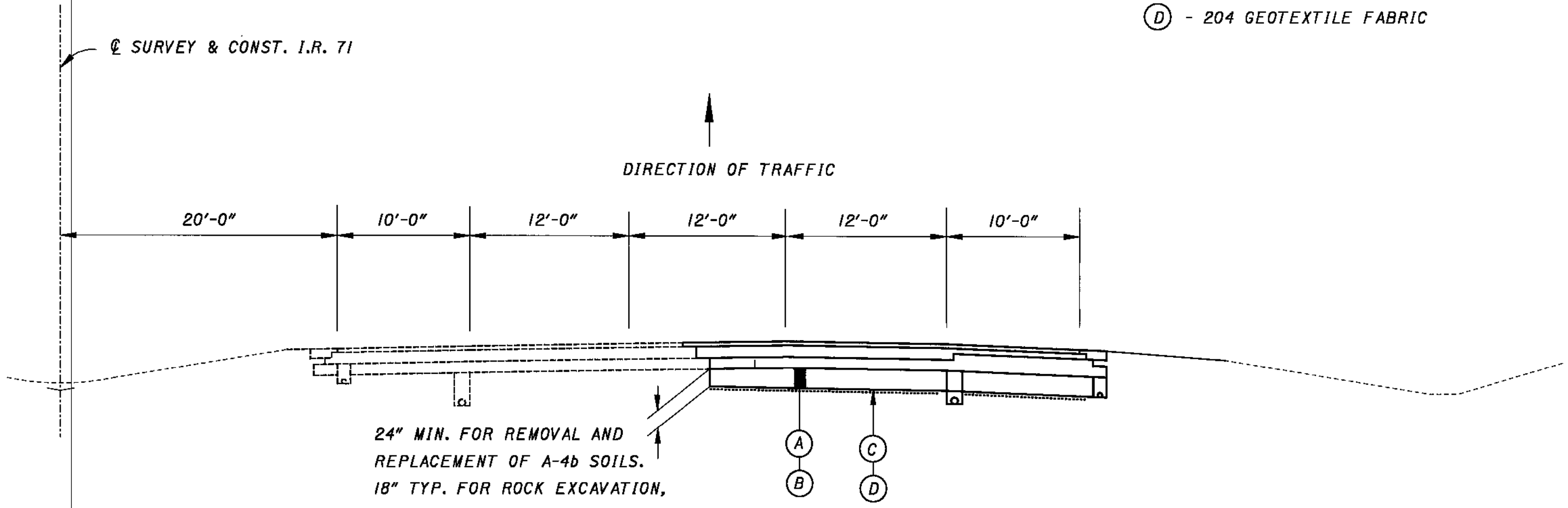
UNDERCUT TYPICAL SECTION

PHASE I

SEE SOIL SCHEMATIC PLANS FOR LOCATIONS

LEGEND

Ⓐ - 204 EXCAVATION OF SUBGRADE
Ⓑ - 204 GRANULAR EMBANKMENT, TYPE B
Ⓒ - 204 SUBGRADE COMPACTION
Ⓓ - 204 GEOTEXTILE FABRIC



24" MIN. FOR REMOVAL AND REPLACEMENT OF A-4b SOILS.
18" TYP. FOR ROCK EXCAVATION,
12" MIN. AT OTHER LOCATIONS AS DIRECTED BY THE ENGINEER

UNDERCUT AND BACKFILL, PLACE GEOTEXTILE FABRIC OVER SUBGRADE, STOP GEOTEXTILE FABRIC 6" FROM THE EDGE OF ALL UNDERDRAINS.

UNDERCUT TYPICAL SECTION

PHASE 2

SEE SOIL SCHEMATIC PLANS FOR LOCATIONS

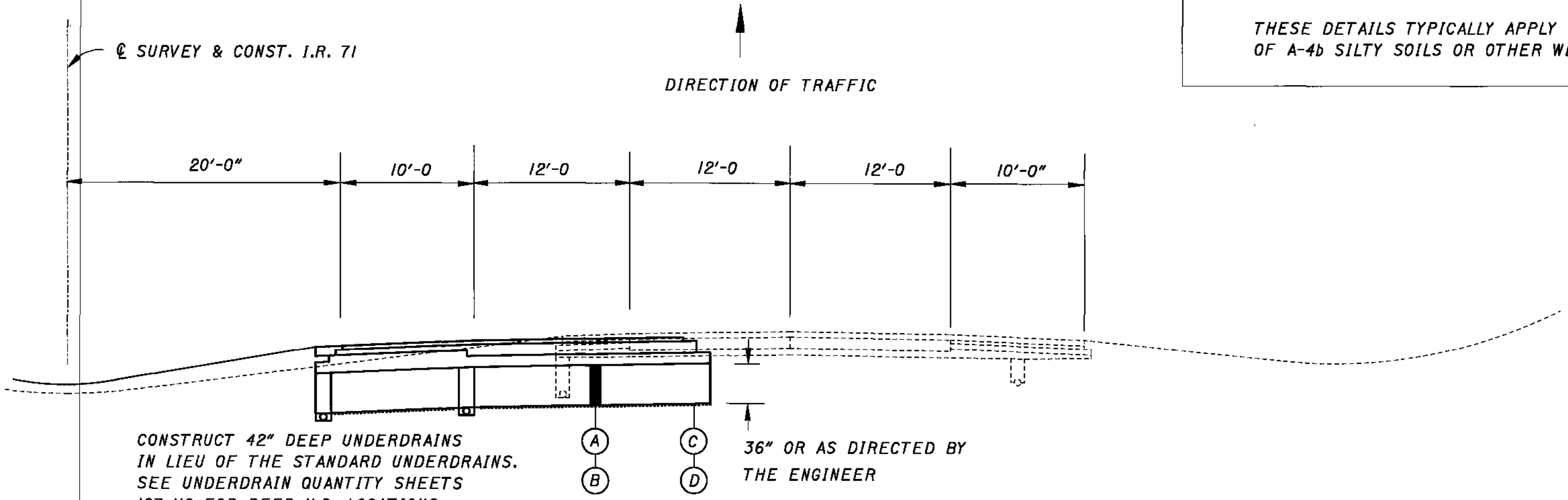
CALCULATED
CHECKED

TYPICAL UNDERCUT SECTION

WAY/MED-71-7.04/0.00

14017GYA.DGN

THESE DETAILS TYPICALLY APPLY FOR REMOVAL OF A-4b SILTY SOILS OR OTHER WEAK SOILS.



36" OR AS DIRECTED BY THE ENGINEER

CONSTRUCT 42" DEEP UNDERDRAINS IN LIEU OF THE STANDARD UNDERDRAINS. SEE UNDERDRAIN QUANTITY SHEETS 107-116 FOR DEEP U.D. LOCATIONS

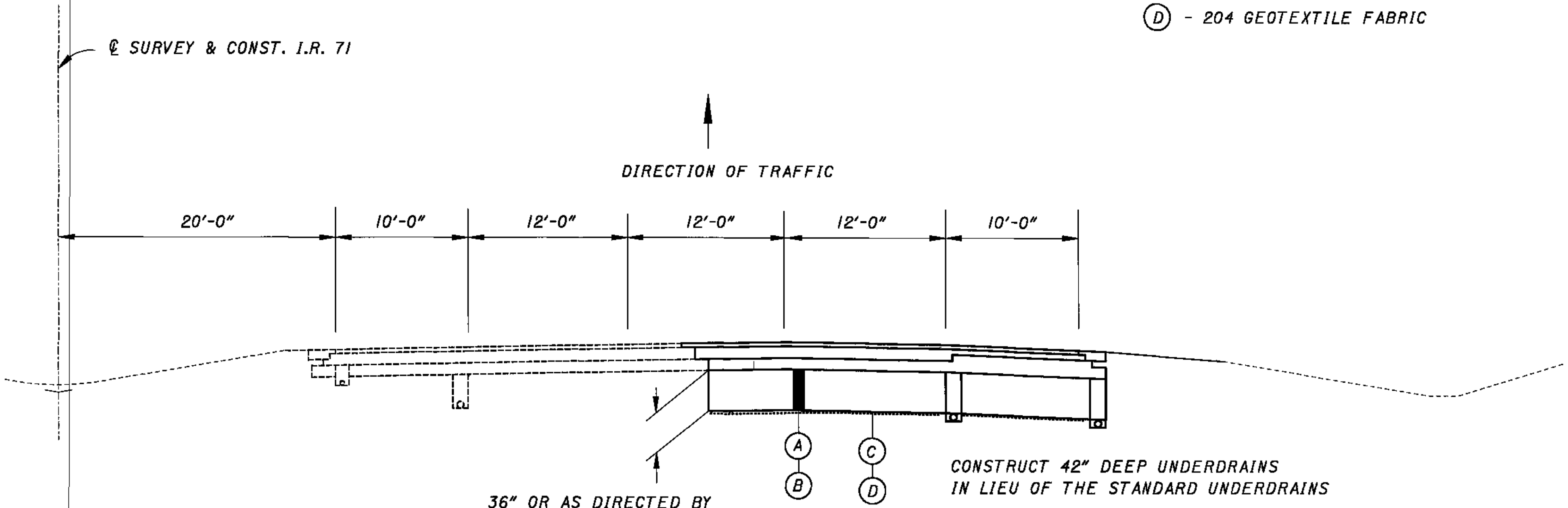
UNDERCUT AND BACKFILL, PLACE GEOTEXTILE FABRIC OVER SUBGRADE, STOP GEOTEXTILE FABRIC 6" FROM THE EDGE OF ALL UNDERDRAINS.

UNDERCUT TYPICAL SECTION
PHASE 1

SEE SOIL SCHEMATIC PLANS FOR LOCATIONS

LEGEND

- Ⓐ - 204 EXCAVATION OF SUBGRADE
- Ⓑ - 204 GRANULAR EMBANKMENT, TYPE B
- Ⓒ - 204 SUBGRADE COMPACTION
- Ⓓ - 204 GEOTEXTILE FABRIC



36" OR AS DIRECTED BY THE ENGINEER

CONSTRUCT 42" DEEP UNDERDRAINS IN LIEU OF THE STANDARD UNDERDRAINS

UNDERCUT AND BACKFILL, PLACE GEOTEXTILE FABRIC OVER SUBGRADE, STOP GEOTEXTILE FABRIC 6" FROM THE EDGE OF ALL UNDERDRAINS.

UNDERCUT TYPICAL SECTION
PHASE 2

SEE SOIL SCHEMATIC PLANS FOR LOCATIONS

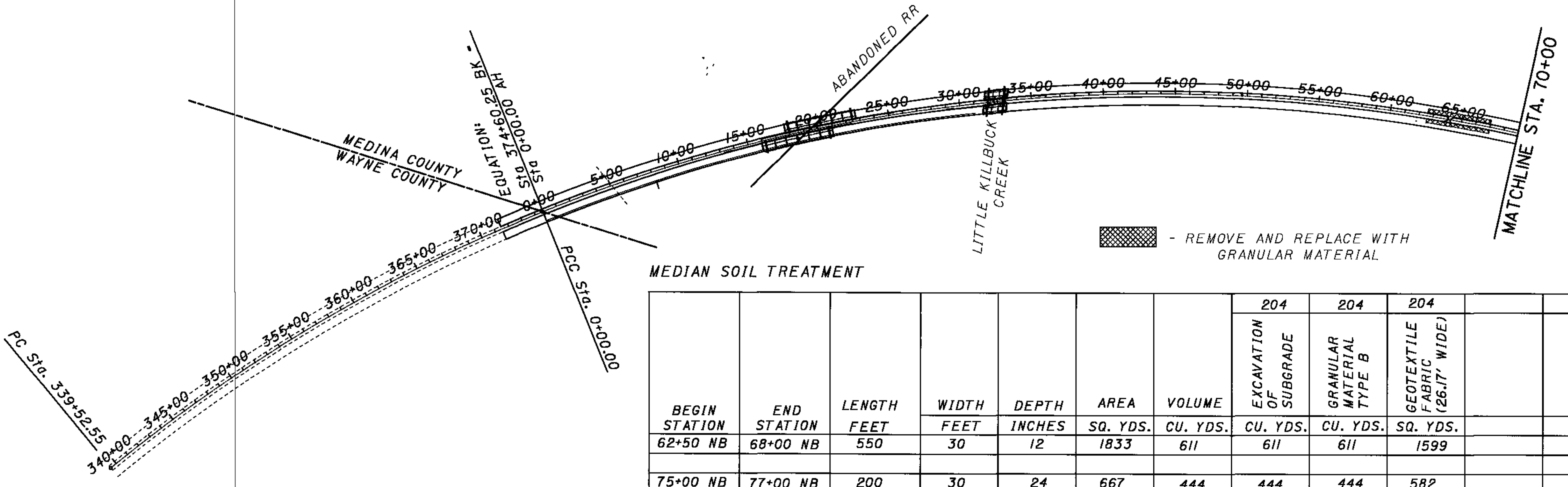
CALCULATED
CHECKED

TYPICAL 3' DEEP UNDERCUT SECTION

WAY/MED-71-7.04/0.00

36
785

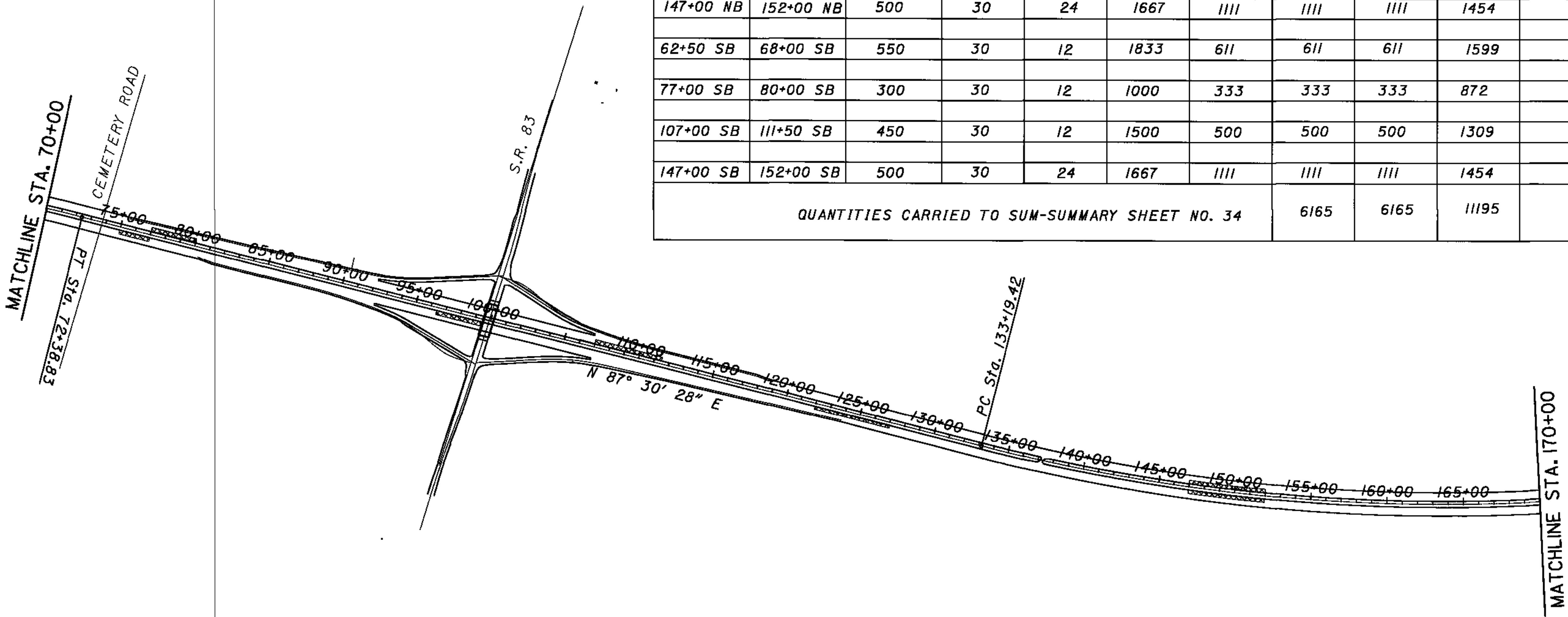
14017GYA.DGN



▨ - REMOVE AND REPLACE WITH GRANULAR MATERIAL

MEDIAN SOIL TREATMENT

BEGIN STATION	END STATION	LENGTH FEET	WIDTH FEET	DEPTH INCHES	AREA SQ. YDS.	VOLUME CU. YDS.	204 EXCAVATION OF SUBGRADE CU. YDS.	204 GRANULAR MATERIAL TYPE B CU. YDS.	204 GEOTEXTILE FABRIC (26.17' WIDE) SQ. YDS.		
62+50 NB	68+00 NB	550	30	12	1833	611	611	611	1599		
75+00 NB	77+00 NB	200	30	24	667	444	444	444	582		
96+50 NB	99+50 NB	300	30	12	1000	333	333	333	872		
122+00 NB	127+00 NB	500	30	24	1667	1111	1111	1111	1454		
147+00 NB	152+00 NB	500	30	24	1667	1111	1111	1111	1454		
62+50 SB	68+00 SB	550	30	12	1833	611	611	611	1599		
77+00 SB	80+00 SB	300	30	12	1000	333	333	333	872		
107+00 SB	111+50 SB	450	30	12	1500	500	500	500	1309		
147+00 SB	152+00 SB	500	30	24	1667	1111	1111	1111	1454		
QUANTITIES CARRIED TO SUM-SUMMARY SHEET NO. 34							6165	6165	11195		



HORIZONTAL SCALE IN FEET
0 200 400 800

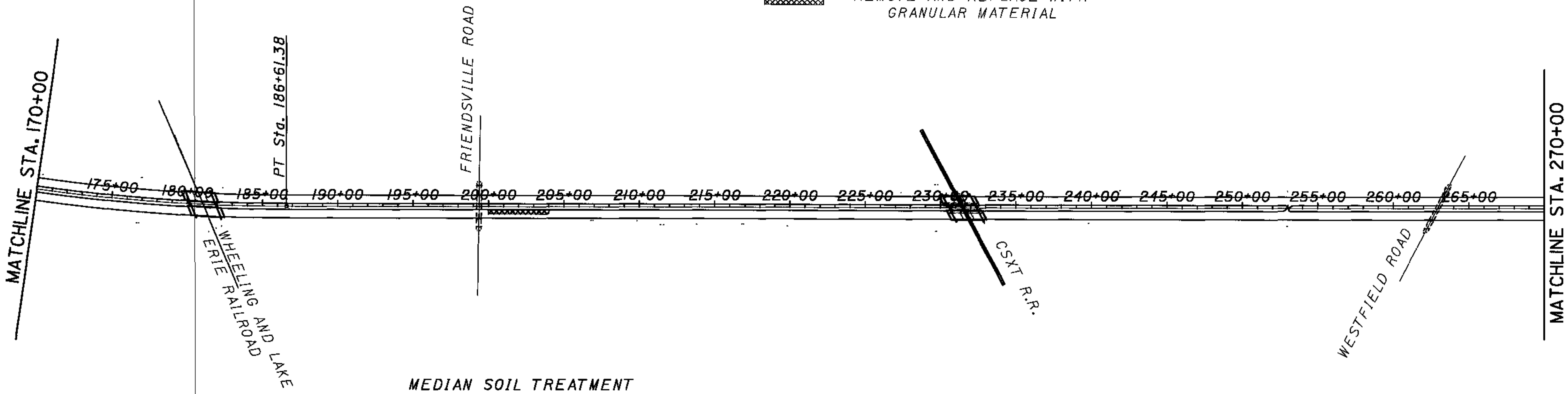
CALCULATED ENF
CHECKED KEH

SOIL SCHEMATIC PLAN - PHASE 1

WAY/MED-71-7.04/0.00

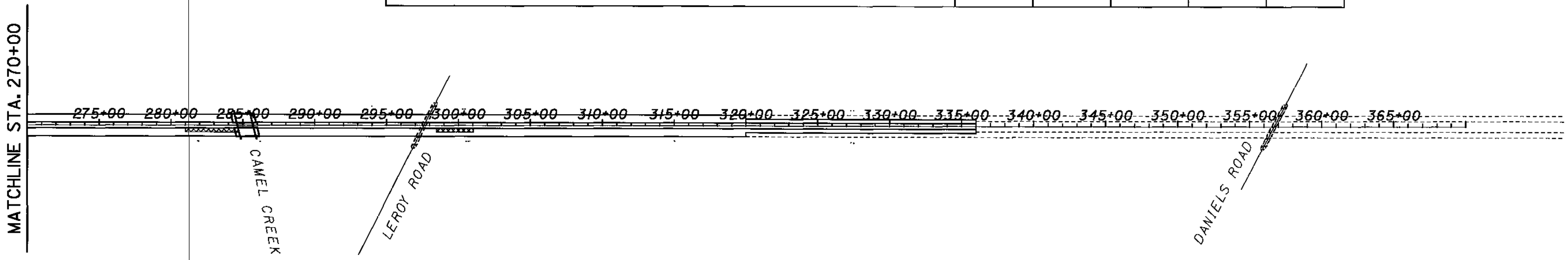
...\40171F001.dgn

▨ - REMOVE AND REPLACE WITH GRANULAR MATERIAL



MEDIAN SOIL TREATMENT

BEGIN STATION	END STATION	LENGTH FEET	WIDTH FEET	DEPTH INCHES	AREA SQ. YDS.	VOLUME CU. YDS.	204 EXCAVATION OF SUBGRADE CU. YDS.	204 GRANULAR MATERIAL TYPE B CU. YDS.	204 GEOTEXTILE FABRIC (26.17' WIDE) SQ. YDS.		
200+00 NB	204+00 NB	400	30	36	1333	1333	1333	1333	1163		
281+00 NB	284+70 NB	370	30	24	1233	822	822	822	1076		
298+50 NB	301+00 NB	250	30	36	833	833	833	833	727		
QUANTITIES CARRIED TO SUM-SUMMARY SHEET NO. 34							2988	2988	2966		



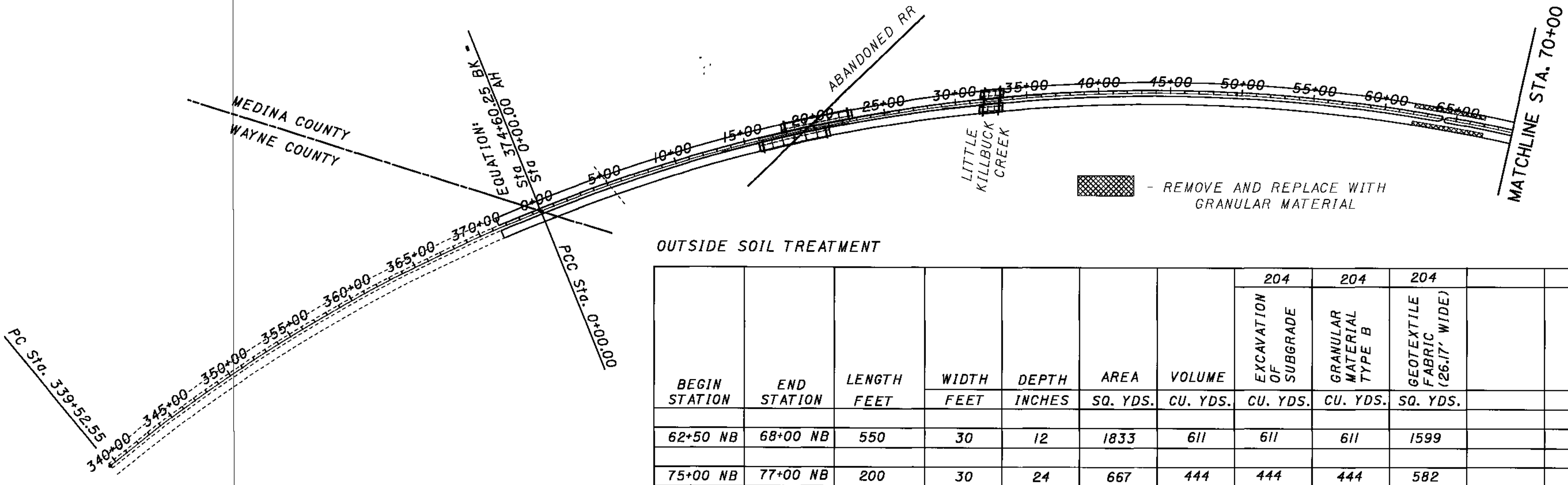
...\40171F001.dgn

0 200 400 800
HORIZONTAL SCALE IN FEET

CALCULATED ENF
CHECKED KEH

SOIL SCHEMATIC PLAN - PHASE 1

WAY/MED-71-7.04/0.00

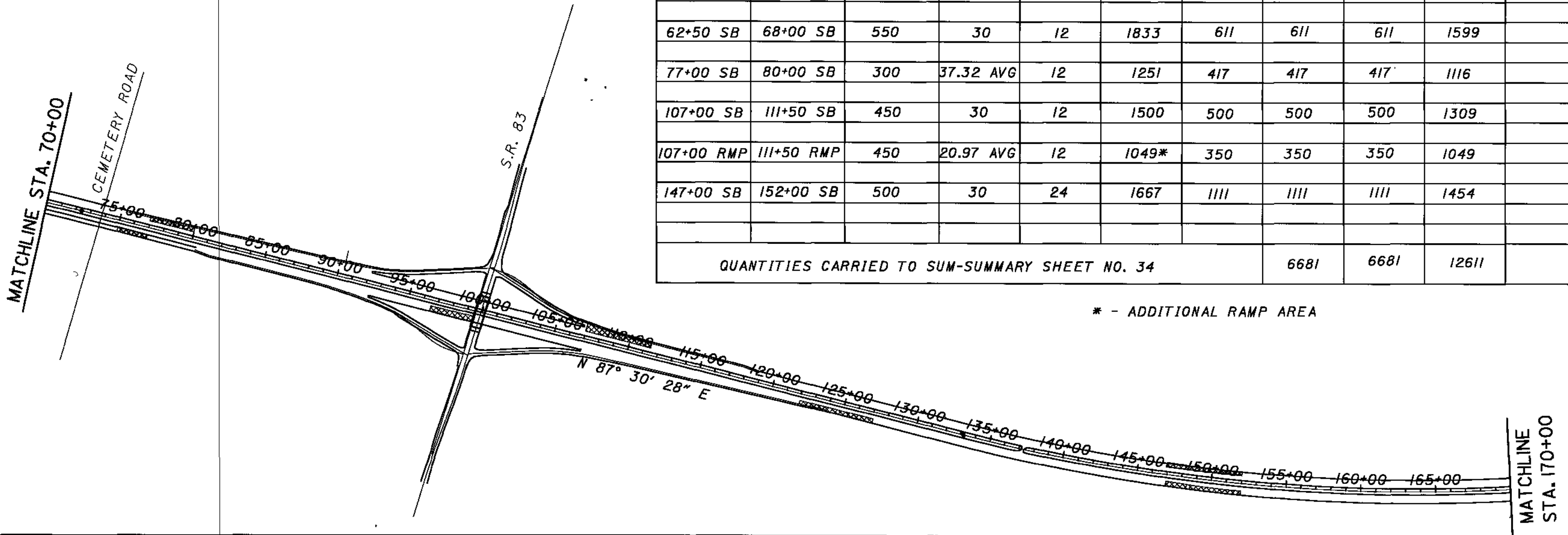


▨ - REMOVE AND REPLACE WITH GRANULAR MATERIAL

OUTSIDE SOIL TREATMENT

							204	204	204		
BEGIN STATION	END STATION	LENGTH FEET	WIDTH FEET	DEPTH INCHES	AREA SQ. YDS.	VOLUME CU. YDS.	EXCAVATION OF SUBGRADE CU. YDS.	GRANULAR MATERIAL TYPE B CU. YDS.	GEOTEXTILE FABRIC (26.17' WIDE) SQ. YDS.		
62+50 NB	68+00 NB	550	30	12	1833	611	611	611	1599		
75+00 NB	77+00 NB	200	30	24	667	444	444	444	582		
96+50 NB	99+50 NB	300	30	12	1000	333	333	333	872		
122+00 NB	127+00 NB	500	32.21 AVG	24	1789	1193	1193	1193	1577		
147+00 NB	152+00 NB	500	30	24	1667	1111	1111	1111	1454		
62+50 SB	68+00 SB	550	30	12	1833	611	611	611	1599		
77+00 SB	80+00 SB	300	37.32 AVG	12	1251	417	417	417	1116		
107+00 SB	111+50 SB	450	30	12	1500	500	500	500	1309		
107+00 RMP	111+50 RMP	450	20.97 AVG	12	1049*	350	350	350	1049		
147+00 SB	152+00 SB	500	30	24	1667	1111	1111	1111	1454		
QUANTITIES CARRIED TO SUM-SUMMARY SHEET NO. 34							6681	6681	12611		

* - ADDITIONAL RAMP AREA



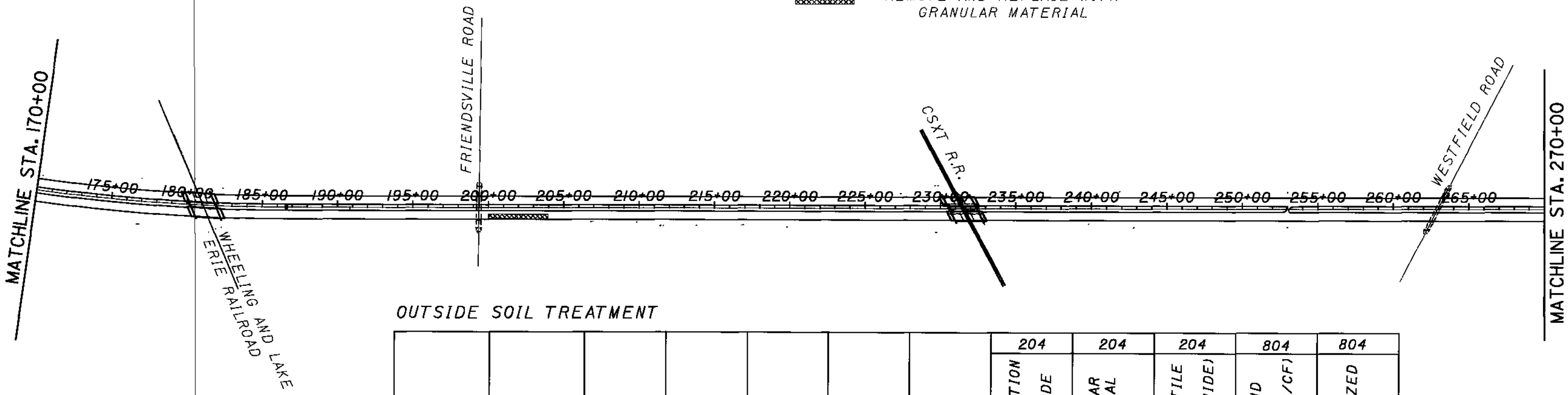
0 200 400 800
HORIZONTAL SCALE IN FEET

CALCULATED ENF
CHECKED KEH

SOIL SCHEMATIC PLAN - PHASE 2

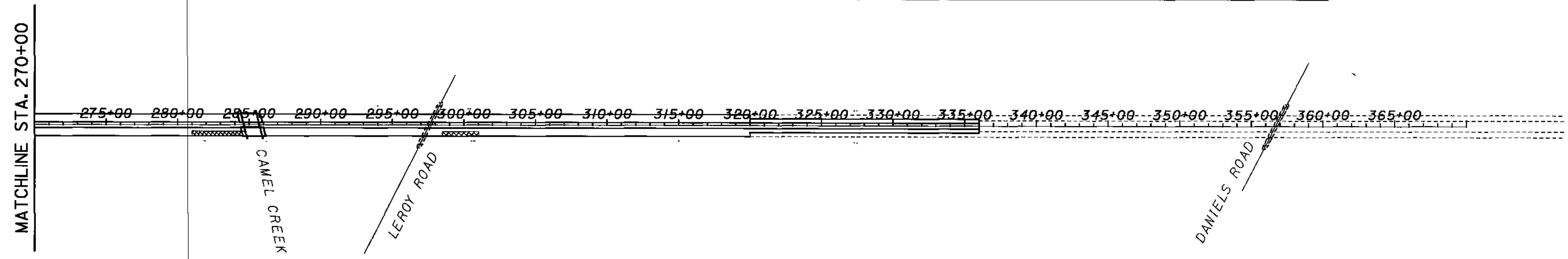
WAY/MED-71-7.04/0.00

▨ - REMOVE AND REPLACE WITH GRANULAR MATERIAL



OUTSIDE SOIL TREATMENT

BEGIN STATION	END STATION	LENGTH FEET	WIDTH FEET	DEPTH INCHES	AREA SQ. YDS.	VOLUME CU. YDS.	204 EXCAVATION OF SUBGRADE CU. YDS.	204 GRANULAR MATERIAL TYPE B CU. YDS.	204 GEOTEXTILE FABRIC (26.17' WIDE) SQ. YDS.	804 PORTLAND CEMENT (6.6 LBS/CF) TON	804 CEMENT STABILIZED BASE SQ. YDS.
200+00 NB	204+00 NB	400	30	36	1333	1333	1333	1333	1163		
281+00 NB	284+70 NB	370	30	24	1233	822	822	822	1076		
298+50 NB	301+00 NB	250	30	36	833	833	833	833	727		
QUANTITIES CARRIED TO SUM-SUMMARY SHEET NO. 34							2988	2988	2966		



0 200 400 800
HORIZONTAL SCALE IN FEET

CALCULATED ENF
CHECKED KEH

SOIL SCHEMATIC PLAN - PHASE 2

WAY/MED-71-7.04/0.00

40
785

...14017F001.dgn

614 MAINTAINING TRAFFIC

THE INTENT OF THIS PROJECT IS TO ADD A 3RD LANE ALONG THE MEDIAN SIDE OF IR 71 IN BOTH DIRECTIONS AND TO RECONSTRUCT EXISTING LANES, SHOULDERS, STRUCTURES AND RAMPS. ALONG SR83 THE PAVEMENT IS TO BE WIDENED AND REPLACED.

ALL WORK VEHICLES LICENSED TO OPERATE ON THE HIGHWAY, INCLUDING MATERIAL TRUCKS, SHALL BE EQUIPPED WITH A FLASHING, ROTATING OR OSCILLATING AMBER LIGHT VISIBLE TO ALL DIRECTIONS OF TRAFFIC A MINIMUM OF ONE-QUARTER MILE IN BRIGHT SUNLIGHT AND SHALL BE OPERATED WITH LIGHTED HEAD AND TAIL LAMPS. THE AMBER LIGHT SHALL BE IN OPERATION AT ALL TIMES WITHIN THE WORK ZONE AND WHILE TRAVELING TO AND FROM THE WORK ZONE WHENEVER THE VEHICLE SPEED IS BELOW 40 MPH. VEHICLE HAZARD LAMPS DO NOT SATISFY THIS REQUIREMENT. ALL OTHER EQUIPMENT SHALL BE EQUIPPED WITH A FLASHING, ROTATING OR OSCILLATING AMBER LIGHT VISIBLE TO ALL DIRECTIONS OF TRAFFIC A MINIMUM OF ONE-QUARTER MILE IN BRIGHT SUNLIGHT. THE AMBER LIGHT SHALL BE INOPERATION WHILE THE EQUIPMENT IS WITHIN THE WORK ZONE.

LIGHTING USED TO ILLUMINATE THE WORK AREA SHALL BE AIMED AND SHIELDED TO PREVENT GLARE ENCROACHING INTO OPEN TRAFFIC LANES. FOR ADDITIONAL NOTES SEE THE "FLOODLIGHTING" NOTE.

SHOULD THE CONTRACTOR FAIL TO MET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED LIQUIDATED DAMAGES PER 108.07 OF THE CMS.

ALL SIGNS, BARRICADES, SIGN SUPPORTS, CONES, DRUMS, FLAGGERS AND INCIDENTALS SHALL BE FURNISHED , ERECTED, MAINTAINED, AND REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH THE MOST RECENT REVISION, CURRENT EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (OMUTCD), EXCEPT AS NOTED WITHIN. INTERFERENCE WITH VEHICULAR TRAFFIC SHALL BE KEPT TO A MINIMUM AT ALL TIMES.

THE MAINTENANCE OF TRAFFIC DETAILS SHALL BE COORDINATED WITH THE MAINTENANCE OF TRAFFIC DETAILS OF ANY ADJACENT CONSTRUCTION PROJECTS. THE CONTRACTORS ARE REQUIRED TO COOPERATE WITH EACH OTHERS WORK ACTIVITIES DURING THE ENTIRE CONSTRUCTION PROCESS.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614 MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

MAINTAINING TRAFFIC - IR 71 REQUIREMENTS

GENERAL

TWO (2) LANES OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES ON I.R. 71, EXCEPT FOR MINIMUM PERIODS, AS NOTED BELOW, WHEN ONE LANE OF TRAFFIC IN EACH DIRECTION WILL BE PERMITTED.

I.R. 71 RECONSTRUCTION BY THIS PROJECT WILL BE BY TWO (2) SEPARATE STAGES AND EACH STAGE OF CONSTRUCTION WILL REQUIRE ONE CONSTRUCTION SEASON. SEE SCHEMATIC PLANS, SHEET NOS. 61 & 62 FOR DELINEATION OF CONSTRUCTION STAGE LIMITS. THE SEQUENCE FOR CONSTRUCTION SHALL BE STAGE 1, STAGE 2. THE CONSTRUCTION OF EACH STAGE SHALL BE COMPLETED AND TRAFFIC RETURNED TO THE NORMAL TWO OR NEW THREE LANES OF TRAFFIC IN EACH DIRECTION BY OCTOBER 15 OF EACH YEAR. OCTOBER 15 SHALL BE CONSIDERED TO CONSTITUTE AN INTERIM COMPLETION DATE AND LIQUIDATED DAMAGES WILL BE ASSESSED IN ACCORDANCE WITH 108.07 FOR EACH CALENDAR DAY THAT TRAFFIC IS STILL DIVERTED FROM THE NORMAL TRAFFIC LANES.

DUE TO THE TIME CONSTRAINTS AND THE TEMPERATURE RESTRICTIONS FOR PLACING THE ASPHALT SURFACE COURSE, THE CONTRACTOR WILL BE PERMITTED TO PLACE THE 446 SURFACE COURSE DURING THE SPRING OF THE NEXT YEAR. IF THE CONTRACTOR DOES NOT PLACE THE FINAL SURFACE COURSE BY OCTOBER 15, HE SHALL PLACE FULL-DIMENSIONAL PAVEMENT MARKINGS ON THE INTERMEDIATE COURSE TO PROVIDE THREE LANES OF TRAFFIC IN EACH DIRECTION OVER THE WINTER SEASON, AT HIS EXPENSE.

TWO LANE TRAFFIC WIDTH REQUIREMENTS:

UNLESS SPECIFICALLY STATED OR SHOWN IN THE PLANS, TWO LANES OF TRAFFIC SHALL CONSIST OF A MINIMUM OF TWO 11'-0" WIDE LANES PLUS 12" MINIMUM BUFFER ON EACH SIDE TO GUARDRAIL, PARAPETS, DRUMS, BARRIER OR EDGES OF PAVED SURFACES. THUS THE MINIMUM TWO LANE TRAFFIC WIDTH SHALL BE LIMITED TO 24'-0" CLEAR WIDTH.

WORKING HOURS RESTRICTION:

INTERSTATE 71 THROUGHOUT DISTRICT THREE (WAYNE AND MEDINA COUNTIES) IS A RESTRICTED WORK CORRIDOR DUE TO HIGH TRAFFIC VOLUMES. LANE CLOSURES OR OTHER WORK, INCLUDING INSTALLATION OF MAINTENANCE OF TRAFFIC DEVICES, WHICH OCCUPIES ANY PORTION OF THE PRESENT TRAVEL LANES IS RESTRICTED TO THE FOLLOWING HOURS:

NON-HOLIDAY WEEKS:

SUNDAY	9:00 P.M.	THROUGH MONDAY	6:00 A.M.
MONDAY	8:00 P.M.	THROUGH TUESDAY	6:00 A.M.
TUESDAY	8:00 P.M.	THROUGH WEDNESDAY	6:00 A.M.
WEDNESDAY	8:00 P.M.	THROUGH THURSDAY	6:00 A.M.
THURSDAY	8:00 P.M.	THROUGH FRIDAY	6:00 A.M.

HOLIDAY WEEKS: HOLIDAY ON MONDAY

TUESDAY	8:00 P.M.	THROUGH WEDNESDAY	6:00 A.M.
WEDNESDAY	8:00 P.M.	THROUGH THURSDAY	6:00 A.M.
THURSDAY	8:00 P.M.	THROUGH FRIDAY	6:00 A.M.
	HOLIDAY ON TUESDAY		
SUNDAY	9:00 P.M.	THROUGH MONDAY	6:00 A.M.
WEDNESDAY	8:00 P.M.	THROUGH THURSDAY	6:00 A.M.
THURSDAY	8:00 P.M.	THROUGH FRIDAY	6:00 A.M.
	HOLIDAY ON WEDNESDAY		
SUNDAY	9:00 P.M.	THROUGH MONDAY	6:00 A.M.
MONDAY	8:00 P.M.	THROUGH TUESDAY	6:00 A.M.
THURSDAY	8:00 P.M.	THROUGH FRIDAY	6:00 A.M.
	HOLIDAY ON THURSDAY		
SUNDAY	9:00 P.M.	THROUGH MONDAY	6:00 A.M.
MONDAY	8:00 P.M.	THROUGH TUESDAY	6:00 A.M.
TUESDAY	8:00 P.M.	THROUGH WEDNESDAY	6:00 A.M.
	HOLIDAY ON FRIDAY		
SUNDAY	9:00 P.M.	THROUGH MONDAY	6:00 A.M.
MONDAY	8:00 P.M.	THROUGH TUESDAY	6:00 A.M.
TUESDAY	8:00 P.M.	THROUGH WEDNESDAY	6:00 A.M.
WEDNESDAY	8:00 P.M.	THROUGH THURSDAY	6:00 A.M.

NO WORK WITHIN ACTIVE TRAVEL LANES OR WHICH WILL SLOW TRAFFIC IS PERMITTED AT ANY OTHER TIMES. ALL MAINTENANCE OF TRAFFIC WORK, INCLUDING INSTALLATION OF SIGNING AND LANE CLOSURES SHALL OCCUR WITHIN THE 9:00 P.M. THROUGH 6:00 A.M. TIME PERIODS. NO EXCEPTIONS ARE PERMITTED.

SEQUENCE OF CONSTRUCTION:

EACH CONSTRUCTION STAGE SHALL BE CONSTRUCTED IN PHASES. PRE-PHASE 1 CONSISTS OF PREPARATORY WORK WHICH IS REQUIRED FOR PHASE 1 MAINTENANCE OF TRAFFIC. PHASE 1 RECONSTRUCTS THE INSIDE PAVEMENT LANES. PHASE 2 RECONSTRUCTS THE OUTSIDE PAVEMENT LANES AND SHOULDER OF I.R. 71. THE REMAINDER OF THE FINAL SURFACE COURSE AND PAVEMENT MARKINGS ARE PLACED UNDER THE FINAL PHASE. SEE MAINTENANCE OF TRAFFIC TYPICAL SECTIONS AND PLAN DETAILS FOR THE VARIOUS PHASES OF CONSTRUCTION.

CONSTRUCTION STAGES 1&2, PHASES 1&2 HAVE USED STANDARD CONSTRUCTION DRAWING MT-102.10 AS A BASE, UNLESS SPECIFICALLY SHOWN OTHERWISE, ALL REQUIREMENTS OF THIS STANDARD CONSTRUCTION DRAWING SHALL BE INCORPORATED IN THE APPLICABLE CONSTRUCTION STAGES/PHASES AS DETAILED IN THESE PLANS EXCEPT FOR THE FOLLOWING ITEMS:

1. NO LIGHTING IS REQUIRED.
2. OC-53-36 "MAINTAIN PRESENT LANE" SIGN IS NOT REQUIRED. *
3. OW-138-36 (DIAGONAL ARROW) SIGN IS NOT REQUIRED. *

* - THESE SIGNS MAY BE REQUIRED IN SPECIAL SITUATIONS.

CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC
GENERAL NOTES

WAY/MED-71-7.04/0.00

MNA.DGN

MAINTAINING TRAFFIC - IR 71 REQUIREMENTS

OUTSIDE SHOULDER CONDITION

THE OUTSIDE SHOULDERS HAVE BEEN RECONSTRUCTED UNDER PROJECT WAY/MED-71-7.04/0.00 (PID78097) AND ARE READY TO BE USED FOR MAINTENANCE OF TRAFFIC SHIFTS. (SEE SHEET 53)

STAGE I - MAINTENANCE OF TRAFFIC

STAGE I CONSTRUCTION - SOUTH PORTION OF PROJECT INCLUDING SR 83 INTERCHANGE - ONE CONSTRUCTION SEASON.

PRE-PHASE I - AT THE BEGINNING OF THE FIRST CONSTRUCTION SEASON)

MAINTAIN A MINIMUM OF I LANE OF TRAFFIC IN EACH DIRECTION AS PER THE REQUIREMENTS, COMPLETE THE FOLLOWING WORK DURING THIS PHASE:

1. *REVISE EXISTING PAVEMENT MARKINGS AT RAMP SPEED CHANGE LANES. SEE SHEET 68 FOR DETAILS.*
2. *INSTALL TEMPORARY PAVEMENT MARKINGS IN PREPARATION FOR PHASE I.*
3. *SHIFT TRAFFIC INTO PHASE I POSITION, INSTALL PCB.*

NOTE: WORK ITEMS I THRU 3 MUST BE PERFORMED IMMEDIATELY PRIOR TO IMPLEMENTING PHASE I.

PHASE I - FIRST FULL CONSTRUCTION SEASON

MAINTAIN 2 LANES OF TRAFFIC IN EACH DIRECTION ON OUTSIDE DIRECTIONAL LANE AND ADJACENT PAVED SHOULDERS AS PER MAINTENANCE OF TRAFFIC PLAN DETAILS, SHEETS 53 & 54. MAINTAIN TRAFFIC ON ALL INTERCHANGE RAMPS DURING THIS PHASE. COMPLETE THE FOLLOWING WORK UNDER THIS PHASE:

1. *CONSTRUCT THE NEW INSIDE PAVEMENT LANES AND SHOULDER UP THROUGH THE 446 INTERMEDIATE COURSE.*

2. *RECONSTRUCT THE INSIDE PORTION OF THE BRIDGES. SEE STRUCTURE PLANS.*

3. *COMPLETE ALL MEDIAN DRAINAGE, GRADING, INSTALLATION OF GUARDRAIL AND EROSION CONTROL ITEMS.*

4. *INSTALL PCB, TEMPORARY PAVEMENT MARKINGS AND SIGNS, AS NEEDED, IN PREPARATION FOR SHIFT TO PHASE 2.*

PHASE 2 - SECOND HALF OF FIRST CONSTRUCTION SEASON

MAINTAIN 2 LANES OF TRAFFIC IN EACH DIRECTION ON THE NEW PAVEMENT CONSTRUCTED UNDER PHASE I. SEE MAINTENANCE OF TRAFFIC DETAILS, SHEETS 54 & 57. SEE MAINTENANCE OF TRAFFIC REQUIREMENTS FOR RAMPS ON SHEETS 63-67. COMPLETE THE FOLLOWING WORK UNDER THIS PHASE:

1. *CONSTRUCT THE REMAINING PAVEMENT AND OUTSIDE SHOULDER INCLUDING RAMP SPEED CHANGE LANES UP THROUGH THE 446 INTERMEDIATE COURSE (AND SURFACE COURSE, TIME AND WEATHER PERMITTING).*

PHASE 2 - SECOND HALF OF FIRST CONSTRUCTION SEASON (CONTINUED)

2. *RECONSTRUCT THE OUTSIDE PORTION OF THE BRIDGES. SEE STRUCTURE PLANS.*

3. *COMPLETE ALL DRAINAGE, GRADING, CONCRETE BARRIERS, GUARDRAIL, AND EROSION CONTROL ITEMS ON THE OUTSIDE SHOULDER.*

4. *RECONSTRUCT PORTION OF THE RAMP PAVEMENTS AND PAVED SHOULDERS AS PER RAMP TYPICAL SECTIONS AND MAINTENANCE OF TRAFFIC DETAILS.*

5. *INSTALL ADDITIONAL SIGNING AND DELINEATORS, AS REQUIRED.*

PHASE 2 - S.R. 83 INTERCHANGE RAMPS

DURING THE PHASE 2 WORK OUTLINED FOR MAINLINE I.R. 71 TWO SEPARATE CONSTRUCTION ACTIVITIES WILL BE REQUIRED TO COMPLETE THE SPEED CHANGE LANES AND PORTIONS OF THE RAMPS. THESE ACTIVITIES ARE REFERRED TO AS PHASES 2A AND 2B AND ARE TO BE COORDINATED WITH ADJOINING PHASE 2 CONSTRUCTION ACTIVITIES ALONG I.R. 71 AS DETAILED ON SHEETS 63-67.

FINAL PHASE - COMPLETION OF FIRST CONSTRUCTION SEASON

- MAINTAIN I OR 2 LANES OF TRAFFIC IN EACH DIRECTION AS PER THE REQUIREMENTS AND RESTRICTIONS NOTED ON SHEET 41. COMPLETE THE FOLLOWING WORK UNDER THIS PHASE:

1. *PLACE THE FINAL ASPHALT SURFACE COURSE.*
2. *APPLY FINAL PAVEMENT MARKINGS, RAISED PAVEMENT MARKERS AND SHOULDER RUMBLE STRIPS ON FINAL SURFACE COURSE AS PER THE TRAFFIC CONTROL PLANS.*
3. *COMPLETE MISCELLANEOUS ITEMS OF WORK AND FINAL CLEAN-UP.*
4. *OPEN ALL 3 LANES TO THE LIMITS SHOWN ON THE TRAFFIC CONTROL PLANS.*

INTERIM COMPLETION DATE - STAGE I CONSTRUCTION

OCTOBER 15 (OF THE SAME YEAR WHICH STAGE I CONSTRUCTION IS BEGUN) SHALL CONSTITUTE AN INTERIM COMPLETION DATE OF THE STAGE I WORK ITEMS LISTED ABOVE. LIQUIDATED DAMAGES IN ACCORDANCE WITH 108.07 SHALL BE ASSESSED FOR EACH DAY FOR WHICH THESE TIME LIMITS ARE NOT MET.

NORTHBOUND "LEFT LANE ENDS" SERIES SIGNS

THE "LEFT LANE ENDS - I MILE", "LEFT LANE ENDS - ½MILE" AND "LEFT LANE ENDS - MERGE RIGHT" SIGNS WILL ALREADY BE IN PLACE NORTHBOUND FROM THE WAY-71-0.28 PROJECT. THESE SIGNS ARE TO BE RE-USED FOR THIS PROJECT. THE CONTRACTOR SHALL REMOVE THESE SIGNS AT THE BEGINNING OF STAGE I - PHASE 2 CONSTRUCTION AND STORE THEM ON THE PROJECT SITE. THESE SIGNS SHALL THEN BE RE-ERECTED ON NEW WOOD SUPPORTS AT THE LOCATIONS SHOWN ON THE TRAFFIC CONTROL PLANS AT THE COMPLETION OF STAGE I - FINAL PHASE, PRIOR TO OPENING TO 3 LANES OF TRAFFIC. THE SAME WORK WILL ALSO BE REQUIRED FOR THE STAGE 2 PORTION OF THE PROJECT. PAYMENT FOR THIS WORK IS PAID FOR SEPARATELY IN THE TRAFFIC CONTROL PLANS.

CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC
GENERAL NOTES

WAY/MED-71-7.04/0.00

MNA.DGN

MAINTAINING TRAFFIC - IR 71 REQUIREMENTS

STAGE 2 - MAINTENANCE OF TRAFFIC

STAGE 2 CONSTRUCTION - NORTH PORTION OF PROJECT
- ONE CONSTRUCTION SEASON.

PRE-PHASE 1 - FALL BEFORE SECOND FULL CONSTRUCTION SEASON (OR ANYTIME DURING THE PREVIOUS CONSTRUCTION SEASON)

MAINTAIN A MINIMUM OF 1 LANE OF TRAFFIC IN EACH DIRECTION AS PER THE REQUIREMENTS, COMPLETE THE FOLLOWING WORK DURING THIS PHASE:

1. *CONSTRUCT EMERGENCY PARKING AREAS REQUIRED FOR PHASE 1 - SEE DETAIL, SHEET 78.*
2. *INSTALL TEMPORARY PAVEMENT MARKINGS IN PREPARATION FOR PHASE 1*
3. *SHIFT TRAFFIC INTO PHASE 1 POSITION, INSTALL PCB.*

NOTE: WORK ITEMS 2 THRU 3 MAY NOT BE COMPLETED IN FALL. THEY MUST BE PERFORMED IMMEDIATELY PRIOR TO IMPLEMENTING PHASE 1.

PHASE 1 - SECOND FULL CONSTRUCTION SEASON

MAINTAIN 2 LANES OF TRAFFIC IN EACH DIRECTION ON OUTSIDE DIRECTIONAL LANE AND ADJACENT PAVED SHOULDERS AS PER MAINTENANCE OF TRAFFIC PLAN DETAILS, SHEETS 53 & 54. MAINTAIN TRAFFIC ON ALL INTERCHANGE RAMPS DURING THIS PHASE. COMPLETE THE FOLLOWING WORK UNDER THIS PHASE:

1. *CONSTRUCT THE NEW INSIDE PAVEMENT LANES AND SHOULDER UP THROUGH THE 446 INTERMEDIATE COURSE.*

2. *RECONSTRUCT THE INSIDE PORTION OF THE BRIDGES. SEE STRUCTURE PLANS.*

3. *COMPLETE ALL MEDIAN DRAINAGE, GRADING, INSTALLATION OF GUARDRAIL AND EROSION CONTROL ITEMS.*

4. *CONSTRUCT EMERGENCY PARKING AREAS REQUIRED FOR PHASE 2, SEE DETAIL, SHEET 78.*

5. *INSTALL PCB, TEMPORARY PAVEMENT MARKINGS AND SIGNS, AS NEEDED, IN PREPARATION FOR SHIFT TO PHASE 2.*

PHASE 2 - SECOND HALF OF SECOND FULL CONSTRUCTION SEASON

MAINTAIN 2 LANES OF TRAFFIC IN EACH DIRECTION ON THE NEW PAVEMENT CONSTRUCTED UNDER PHASE 1. SEE MAINTENANCE OF TRAFFIC DETAILS, SHEETS 54 & 57. SEE MAINTENANCE OF TRAFFIC REQUIREMENTS FOR RAMPS ON SHEETS 63 - 67. COMPLETE THE FOLLOWING WORK UNDER THIS PHASE:

1. *CONSTRUCT THE REMAINING PAVEMENT AND OUTSIDE SHOULDER INCLUDING RAMP SPEED CHANGE LANES UP THROUGH THE 446 INTERMEDIATE COURSE (AND SURFACE COURSE, TIME AND WEATHER PERMITTING).*

PHASE 2 - SECOND HALF OF SECOND CONSTRUCTION SEASON (CONTINUED)

2. *RECONSTRUCT THE OUTSIDE PORTION OF THE BRIDGES. SEE STRUCTURE PLANS.*

3. *COMPLETE ALL DRAINAGE, GRADING, CONCRETE BARRIERS, GUARDRAIL, AND EROSION CONTROL ITEMS ON THE OUTSIDE SHOULDER.*

4. *INSTALL ADDITIONAL SIGNING AND DELINEATORS, AS REQUIRED.*

FINAL PHASE - COMPLETION OF SECOND CONSTRUCTION SEASON

- MAINTAIN 1 OR 2 LANES OF TRAFFIC IN EACH DIRECTION AS PER THE REQUIREMENTS AND RESTRICTIONS NOTED ON SHEET 41. COMPLETE THE FOLLOWING WORK UNDER THIS PHASE:

1. *PLACE THE FINAL ASPHALT SURFACE COURSE.*
2. *APPLY FINAL PAVEMENT MARKINGS, RAISED PAVEMENT MARKERS AND SHOULDER RUMBLE STRIPS ON FINAL SURFACE COURSE AS PER THE TRAFFIC CONTROL PLANS.*
3. *COMPLETE MISCELLANEOUS ITEMS OF WORK AND FINAL CLEAN-UP.*
4. *OPEN ALL 3 LANES TO THE LIMITS SHOWN ON THE TRAFFIC CONTROL PLANS.*

INTERIM COMPLETION DATE - STAGE 2 CONSTRUCTION

OCTOBER 15 (OF THE SAME YEAR WHICH STAGE 2 CONSTRUCTION IS BEGUN) SHALL CONSTITUTE AN INTERIM COMPLETION DATE OF THE STAGE 2 WORK ITEMS LISTED ABOVE. LIQUIDATED DAMAGES IN ACCORDANCE WITH 108.07 SHALL BE ASSESSED FOR EACH DAY FOR WHICH THESE TIME LIMITS ARE NOT MET.

COORDINATION WITH ADJACENT PROJECTS

THE CONSTRUCTION OF STAGE 2 OF THIS PROJECT MAY REQUIRE THE CONTRACTOR TO COORDINATE CONSTRUCTION WITH AN ADJACENT CONSTRUCTION PROJECT TO THE NORTH. IF REQUIRED, PHASE 1 AND 2 CONSTRUCTION MUST BE SCHEDULED FOR COORDINATION OF WORK ZONES WITH THE ADJOINING PROJECT.

IF COORDINATION IS NECESSARY, THE CONTRACTORS MUST COORDINATE THEIR WORK SCHEDULES AND SUBMIT TO THE DISTRICT CONSTRUCTION ENGINEER WHO WILL ESTABLISH THE FINAL APPROVED COORDINATED WORK SCHEDULE.

CONSTRUCTION ACCESS POINTS

CONSTRUCTION ACCESS POINTS IN THE PORTABLE CONRETE BARRIER ARE REQUIRED IN ORDER TO ACCESS THE WORK ZONE IN CERTAIN AREAS OF THE PROJECT. SEE SHEET 81 FOR NOTES AND DETAILS.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD). PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614-MAINTAINING TRAFFIC, UNLESS ITEMIZED SEPARATELY.

CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC
GENERAL NOTES

WAY/MED-71-7.04/0.00

MNA.DGN

MAINTAINING TRAFFIC - IR 71 REQUIREMENTS

FREEWAY CLOSURE

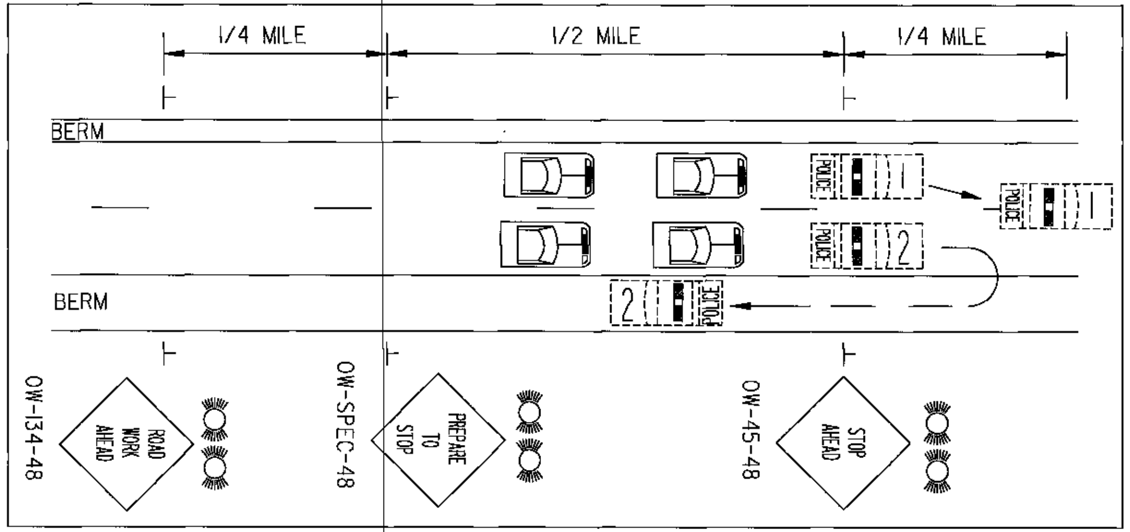
ANY TIME TRAFFIC MUST BE COMPLETELY STOPPED ON A FREEWAY, OR INTERSTATE IT SHALL BE DONE IN THE FOLLOWING MANNER: (THIS INCLUDES THE ERECTION OF OVERHEAD SIGN SUPPORTS OR BRIDGE BEAMS.) THE COMPLETE TRAFFIC STOPPAGE ON ALL LANES OF ANY DIRECTIONAL ROADWAY SHALL BE NO MORE THAN 10 MINUTES IN ANY ONE CONSECUTIVE 30 MINUTE PERIOD

A MINIMUM OF TWO (2) LAW ENFORCEMENT OFFICERS (L.E.O.) WITH PATROL VEHICLES SHALL BE USED TO PACE MOTORISTS TO A STOP. THERE SHALL BE ONE L.E.O. FOR EACH LANE ON THE FREEWAY.

AFTER TRAFFIC HAS BEEN SLOWED, ONE (1) PATROL VEHICLE SHALL TRAVEL ALONG THE ROADWAY SHOULDER 500 FEET BEHIND THE BACK UP OF STOPPED VEHICLES. WHERE STOPPAGE OCCURS IN THE VICINITY OF FREEWAY ENTRANCES, THE CONTRACTOR SHALL PLACE FLAGMEN ON THE RAMPS TO STOP TRAFFIC. PATROL VEHICLES SHALL HAVE FLASHING BEACONS.

TO PROVIDED ADEQUATE VISIBILITY TO APPROACHING MOTORIST THE CONTRACTOR SHALL ERECT AND MAINTAIN "ROADWORK AHEAD","PREPARE TO STOP", AND "STOP AHEAD" SIGNS WITH TWO FLASHING TWELVE INCH (12) TRAFFIC SIGNAL HEADS IN ACCORDANCE WITH 632.05. THESE SIGNS SHALL BE ILLUMINATED DURING NIGHT OPERATIONS AND SHALL BE 48 INCH BY 48 INCH SIGNS. PATROL VEHICLES AND SIGNS SHALL BE LOCATED IN ACCORDANCE WITH THE SKETCH BELOW.

STOPPING TRAFFIC SHALL BE DONE WHEN THE GREATEST NUMBER OF LANES IS PERMITTED TO BE CLOSED BY THE PLANS. A PORTABLE CHANGEABLE MESSAGE SIGN, FROM ODOTS PRE- APPROVED LIST, SHALL BE PLACED 1.5 MILES TO 2 MILES IN ADVANCE OF THE CLOSURE OR AS DIRECTED BY THE ENGINEER.



FINAL PAVEMENT MARKINGS / RUMBLE GROOVES / RAISED PAV'T MARKERS

PLACEMENT OF RUMBLE GROOVES AND RAISED PAVEMENT MARKERS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE "WORKING HOURS RESTRICTION" NOTE.

FINAL PAVEMENT MARKING SHALL BE INSTALL AS A MOVING OPERATION. THE CONTRACTOR SHALL PROVIDE TWO (2) TRAILING VEHICLES AS PER MT-99.20M FOLLOWING THE PAVEMENT MARKING EQUIPMENT. THE TWO (2) TRAILING VEHICLES SHALL TRAVEL 500 FEET APART WITH THE REMOTE VEHICLE TRAVELING ON THE SHOULDER (LEFT OR RIGHT AS APPLICABLE) WHERE USABLE SHOULDER IS AVAILABLE. THE FIRST TRAIL VEHICLE IN A TRAFFIC LANE SHALL BE EQUIPPED WITH A TRUCK MOUNTED ATTENUATOR MEETING NCHRP 350 REQUIREMENTS. THE INTERMEDIATE TRAILING VEHICLE SHALL TRAVEL IN THE CLOSED LANE 500 FEET BEHIND THE PAVEMENT MARKING EQUIPMENT.

THE ABOVE WORK ITEMS MAY BE PLACED, WHEREVER PRACTICLE, DURING THE END OF THE PHASE 2 WORK (IF THE FINAL SURFACE COURSE HAD BEEN PLACED) UTILIZING THE LONG TERM PHASE 2 SHIFTS.

FOR THREE LANE SECTIONS (AS AVAILABLE AT THE END OF THE FINAL PAVING PHASE) ONE LANE MAY BE CLOSED TO PERFORM THIS WORK.

TRENCH FOR TEMPORARY PAVEMENTS

TRENCH EXCAVATION FOR TEMPORARY PAVEMENTS NOT PROTECTED BY PORTABLE CONCRETE BARRIER SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AT ALL TIMES. PLACEMENT OF PROPOSED BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND EXCAVATION OPERATIONS. THE LENGTH OF WIDENING TRENCH WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO APPROVAL OF THE ENGINEER.

TRENCH CLOSING FOR TEMPORARY PAVEMENT

TEMPORARY PAVEMENTS SHALL BE COMPLETED TO A DEPTH OF NO MORE THAN 1½" BELOW THE EXISTING PAVEMENT BY THE END OF EACH WORK SHIFT. NO TRENCH SHALL BE LEFT OPEN OVERNIGHT. IN CASE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UNCOMPLETED BASE WIDENING SHALL BE BACKFILLED AT THE DIRECTION OF THE ENGINEER.

ASPHALT CONCRETE FOR MAINTAINING TRAFFIC

THE FOLLOWING ITEM WILL BE USED FOR THE MAINTENANCE OF THE EXISTING PAVEMENT, SHOULDERS OR BRIDGES:

614 - ASPHALT CONCRETE FOR MAINTAINING TRAFFIC 50 CU. YARD

CALCULATED DCF
CHECKED ENF

MAINTENANCE OF TRAFFIC
GENERAL NOTES

WAY/MED-71-7.04/0.00

MNA.DGN

MAINTAINING TRAFFIC - SR83 AND RAMP REQUIREMENTS

TRAFFIC WIDTH REQUIREMENTS

A MINIMUM OF ONE 11 FOOT LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES ON SR 83 AND ONE 10 FOOT LANE WITH ONE FOOT BARRIER OFFSET ON THE RAMPS TO AND FROM SR 83 BY USE OF THE EXISTING PAVEMENT, THE COMPLETED PAVEMENT, 615 PAVEMENT FOR MAINTAINING TRAFFIC, 615 ROADS FOR MAINTAINING TRAFFIC AND TEMPORARY SURFACES USING 410 AND 614.

HOLIDAY WORK RESTRICTIONS

NO WORK SHALL BE PERFORMED AND THE NUMBER OF EXISTING LANES SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

MEMORIAL DAY
CHRISTMAS
LABOR DAY
FOURTH OF JULY
NEW YEARS
THANKSGIVING
MOTHERS DAY

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR EVENT FALLS.

THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY OF THE WEEK	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH 6:00AM MONDAY
MONDAY	12:00N FRIDAY THROUGH 6:00AM TUESDAY
TUESDAY	12:00N MONDAY THROUGH 6:00AM WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 6:00AM THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 6:00AM MONDAY
FRIDAY	12:00N THURSDAY THROUGH 6:00AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00AM MONDAY

NO EXTENSIONS OF TIME SHALL BE GRANTED FOR DELAYS IN MATERIAL DELIVERIES, UNLESS SUCH DELAYS ARE INDUSTRY-WIDE, OR FOR LABOR STRIKES, UNLESS SUCH STRIKES ARE AREA-WIDE. SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED LIQUIDATED DAMAGES IN ACCORDANCE WITH CMS 108.07.

IN ADDITION, ALL AVAILABLE LANES, INCLUDING TURN LANES, SHALL BE OPENED TO TRAFFIC, WITH NO ONGOING WORK ADJACENT TO THEM, FROM NOVEMBER 20 TO JANUARY 6 OF EACH WINTER.

LANE CLOSURES

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

MAINTAINING TRAFFIC - S.R. 83

TWO WAY TRAFFIC, ONE LANE EACH WAY, SHALL BE MAINTAINED ON S.R. 83 AT ALL TIMES, EXCEPT THAT THE CONTRACTOR IS ALLOWED TO MAINTAIN ONE-LANE TWO-WAY TRAFFIC WITH FLAGGERS ON SR 83 BETWEEN WILLOW RD. AND PRIME DR. FOR ONE (1) DAY DURING MOT PHASE 2 WHEN PLACING CONCRETE FOR THE INSIDE LANE OF SB SR 83. THE DAY AND TIME SHALL BE APPROVED BY THE ENGINEER IN ADVANCE OF THE PAVING OPERATION. ACCESS TO ALL RAMPS SHALL BE MAINTAINED THRU THE USE OF PART WIDTH CONSTRUCTION AS DETAILED IN THE S.R. 83 MOT PLANS. △7

WINTER TIME LIMITATIONS

ALL EXISTING LANES, INCLUDING TURN LANES, SHALL BE OPEN TO TRAFFIC BETWEEN NOVEMBER 1 AND APRIL 1. NOVEMBER 1 SHALL BE CONSIDERED TO CONSTITUTE AN INTERIM COMPLETION DATE AND LIQUIDATED DAMAGES SHALL BE ASSESSED IN ACCORDANCE WITH CMS 108.07 FOR EACH CALENDAR DAY THAT ALL LANES ARE NOT OPEN AND AVAILABLE TO TRAFFIC.

SEQUENCE OF CONSTRUCTION (SR 83)

INTERIM COMPLETION DATE - SR 83

PHASES 1, 2 & 3 OF SR83 CONSTRUCTION MAY BE PERFORMED DURING IR71 STAGE 1 OR STAGE 2 PHASING.

OCTOBER 15 (OF THE SAME YEAR WHICH SR83 PHASE 1 CONSTRUCTION IS BEGUN) SHALL CONSTITUTE AN INTERIM COMPLETION DATE OF THE SR83 PHASE 1, 2 & 3 WORK ITEMS. LIQUIDATED DAMAGES IN ACCORDANCE WITH 108.07 SHALL BE ASSESSED FOR EACH DAY FOR WHICH THESE TIME LIMITS ARE NOT MET.

PRE-PHASE 1

CONSTRUCT TEMPORARY PAVEMENT AT THE FOLLOWING LOCATIONS:

1. ON THE WEST SIDE OF SR 83 FROM ABOUT STA. 58+87 TO STA. 70+08. △7
2. ON THE OUTSIDE (NORTH) SIDE OF RAMP C FROM ABOUT STA. C104+60 TO STA. C106+72 WITH A WIDTH OF UP TO 1.4 FEET.
3. ON THE INSIDE (NORTH) SIDE OF RAMP D FROM STA. 104+30 TO STA. 108+10, WITH A WIDTH OF UP TO 4.5 FEET TO OBTAIN THE MINIMUM RAMP WIDTH, ALLOWING THE PART 2 ALIGNMENT TO MATCH THE EXISTING RAMP ALIGNMENT.
4. ON THE NORTH SIDE OF WILLOW ROAD WEST OF SR83 AS SHOWN ON SHEET 93.
5. SR 83, WEST SIDE, FROM STA. 34+90 TO STA. 43+60
6. SR 83 EAST SIDE FROM STA. 34+90 TO STA. 41+45
7. ON THE SOUTH SIDE OF GARMAN ROAD AS SHOWN ON SHEET 89

THIS WORK SHALL BE PERFORMED NIGHTTIME BETWEEN THE HOURS OF 8 P.M. AND 6 A.M.

WHEN A LANE CLOSURE IS NECESSARY, THE WORK SHALL BE PERFORMED IN ACCORDANCE WITH STANDARD DRAWING MT-97.10. LANE CLOSURES SHALL NOT BE IMPLEMENTED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.

PREPARE THE ROADWAY FOR PHASE 1 TRAFFIC PATTERNS BY PLACING REQUIRED SIGN SUPPORTS AND SIGNS (COVERED). SHIFT TRAFFIC TO THE WEST EDGE OF THE EXISTING OR TEMPORARY PAVEMENT, ONE LANE AT A TIME WHILE REMOVING EXISTING MARKINGS, PLACING TEMPORARY MARKINGS AND PROVIDING SIGNS AS EACH LANE IS SHIFTED. ALL SHIFTING OF TRAFFIC AND PLACEMENT OF REQUIRED MARKINGS CHANNELIZING DEVICES, SIGNS AND BARRIER SHALL BE ACCOMPLISHED IN A WORK PERIOD WHICH DOES NOT INCLUDE THE HEAVY TRAFFIC PERIODS DEFINED ABOVE.

PLACE PORTABLE CONCRETE BARRIER (PCB) ON THE EXISTING STRUCTURE AND APPROACHES FROM STA. 47+60 TO STA. 52+40, PROVIDING BIDIRECTIONAL IMPACT ATTENTUATORS AT THE ENDS. THIS PCB NEED NOT BE BRIDGE MOUNTED OR ANCHORED.

ON I-71 BEGIN CONSTRUCTION OF THE ABUTMENTS FOR THE EAST SIDE OF THE PROPOSED STRUCTURE. ALL ACCESS SHALL BE FROM SR 83, NOT I-71.

CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC
GENERAL NOTES

△7 = REVISED 02-10-06
△2 = REVISED 10-11-04

WAY/MED-71-7.04/0.00

MAINTAINING TRAFFIC - SR83 AND RAMP REQUIREMENTS

PHASE 1

WITH TRAFFIC MAINTAINED IN TWO 11-FOOT LANES ON THE WESTERN PORTION OF EXISTING AND TEMPORARY SR 83 PAVEMENT, PLACE DRUMS, PCB & WORK ZONE IMPACT ATTENUATORS AS INDICATED ON SHEETS 83A AND 83B AND CONSTRUCT THE EASTERN LANES OF SR 83, INCLUDING THE 3 FEET OF TEMPORARY PAVEMENT ALONG THE EAST SIDE OF SR83 AS INDICATED ON SHEETS 83A THRU 83C △7 AND THE EASTERN HALF OF THE STRUCTURE AS SHOWN IN THE PLANS AND SECTIONS. MAINTAIN ACCESS AT DRIVES AND INTERSECTIONS AS DESCRIBED BELOW.

ON I-71 DURING PHASE 1 OF THE I-71 CONSTRUCTION WHEN THE INSIDE LANES AND MEDIAN ARE CLOSED, CONSTRUCT THE NEW CENTER PIER FOUNDATIONS FOR THE EAST SIDE OF THE PROPOSED STRUCTURE. CONSTRUCT THE NEW ABUTMENTS BY ACCESSING THE WORK AREA FROM SR 83 ONLY. PRIOR TO I-71 SWITCHING TO PHASE 2, IMPLEMENT A MEDIAN SHOULDER CLOSURE OF I-71 WITH PCB PLACED 6 FEET AWAY FROM THE OUTSIDE EDGE OF SHOULDER OF I-71 AND TAPERED IN ADVANCE OF THE WORK AREA AS SHOWN ON SHEET 95. THIS PCB SHALL REMAIN IN PLACE UNTIL THE ENTIRE NEW STRUCTURE IS COMPLETED AND PERMANENT GUARDRAIL PROTECTION INSTALLED.

ON I-71, AT THE COMPLETION OF PHASE 2 OF THE I-71 CONSTRUCTION, IMPLEMENT AN OUTSIDE SHOULDER CLOSURE OF I-71 WITH PCB PLACED 6 FEET AWAY FROM THE OUTSIDE EDGE LINE OF I-71 AND TAPERED IN ADVANCE OF THE WORK AREA AS SHOWN ON SHEET 95. THIS PCB SHALL REMAIN IN PLACE UNTIL THE ENTIRE EXISTING STRUCTURE HAS BEEN REMOVED.

CONSTRUCTION AT SIGNALIZED INTERSECTIONS

TRAFFIC WILL BE MAINTAINED WITH AT LEAST ONE 11 FT WIDE LANE (UNLESS WIDER LANES ARE SHOWN ON THE PLAN) IN EACH DIRECTION.

AT THE SR 83 INTERSECTIONS WITH THE NORTH BOUND RAMPS, SOUTHBOUND RAMPS AND WILLOW ROAD TRAFFIC WILL BE MAINTAINED ON THE EXISTING PAVEMENT WHILE THE EASTERN SIDE OF THE SR 83 PAVEMENT IS CONSTRUCTED IN TWO PARTS (PART 1 IS SHOWN ON SHEET 91 AND PART 2 ON SHEET 92). IN EACH PART, A QUADRANT OF THE INTERSECTION PAVEMENT WILL BE RECONSTRUCTED ALONG WITH ONE HALF OF THE RAMP OR ROADWAY ON THE EAST SIDE. IN THE CASE OF RAMPS, CONSTRUCT ONE-HALF (OR MORE) OF THE RAMP WHILE MAINTAINING TRAFFIC ON THE EXISTING PAVEMENT, PAVED SHOULDER (AND TEMPORARY PAVEMENT WHERE SPECIFIED). SEE SHEETS 86-88.

- RAMP D, PART 1 CONSTRUCTION WILL BE ACCOMPLISHED WITH TRAFFIC MAINTAINED ON THE INSIDE OF THE EXISTING PAVEMENT AND SHOULDER WHILE THE PROPOSED OUTSIDE OF THE RAMP IS CONSTRUCTED. THERE WILL BE NEED TO CONSTRUCT TEMPORARY PAVEMENT DURING PART 1 AND PART 2, IN ORDER TO OBTAIN THE MINIMUM MAINTAINED RAMP WIDTH. (SEE SHEET 88)

- RAMP C, PART 1 CONSTRUCTION WILL BE ACCOMPLISHED WITH TRAFFIC MAINTAINED ON THE OUTSIDE OF THE EXISTING PAVEMENT AND SHOULDER WHILE THE PROPOSED INSIDE OF THE RAMP IS CONSTRUCTED. THERE WILL BE NEED TO CONSTRUCT TEMPORARY PAVEMENT IN ORDER TO OBTAIN THE MINIMUM MAINTAINED RAMP WIDTH.

IN THE CASE OF WILLOW ROAD, THE SOUTHEAST QUADRANT WILL BE CONSTRUCTED DURING PART 1.

IN THE CASE OF PRIME ROAD, THE EAST SIDE OF THE PROPOSED SOUTHERN APPROACH WILL BE CONSTRUCTED DURING PHASE 1.

TEMPORARY SIGNAL OPERATION AND SIGNAL LOCATION ADJUSTMENTS SHALL BE ACCOMPLISHED AS SHOWN ON THE PLAN USING THE EXISTING OR TEMPORARY SPAN LOCATIONS AS SHOWN ON THE PLANS. CONSTRUCTION OF THE NEW SIGNAL SUPPORTS SHALL BE EXPEDITED TO PROVIDE SIGNAL CONTROL DURING PHASE 2.

ASPHALT CONCRETE FOR MAINTAINING TRAFFIC SHALL BE PLACED AS NECESSARY TO PROVIDE A SMOOTH TRANSITION FROM EXISTING TO PROPOSED PAVEMENT SURFACES DURING PHASE 1, PART 2. WHEN PART 1 WORK IS COMPLETED SHIFT RAMP OR WILLOW ROAD TRAFFIC TO THE ADJACENT QUADRANT AS SHOWN IN PART 2 AND ADJUST SIGNAL SUPPORTS AND HEAD LOCATIONS AS SHOWN. CONSTRUCT THE REMAINING EASTERN QUADRANT OF EACH INTERSECTION.

AT THE END OF PART 2, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC SHALL BE PLACED AS NECESSARY TO PROVIDE A SMOOTH TRANSITION FROM EXISTING TO PROPOSED SURFACES.

UPON COMPLETION OF THE PHASE 1 PROPOSED PAVEMENT CONSTRUCTION, THE CONTRACTOR SHALL INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AND CHANNELIZING DEVICES TO PREPARE FOR TRANSITION TO PHASE 2. REPOSITION PCB AND WORK ZONE ATTENUATORS TO PROTECT BRIDGE AND ROADWAY CONSTRUCTION, RUNNING FROM STA. 47+60 TO STA. 52+40, USING 293 FEET OF BRIDGE MOUNTED PCB ANCHORED ON THE NEW STRUCTURE DECK.

PHASE 2

CONSTRUCT TEMPORARY PAVEMENT AT THE FOLLOWING LOCATIONS:

1. ON THE INSIDE (NORTH) SIDE OF RAMP B FROM ABOUT STA. B91+74 TO STA. B94+00 WITH A WIDTH OF UP TO 1.0 FEET IN ORDER TO OBTAIN THE MINIMUM RAMP WIDTH, AND ALSO IN THE SOUTHWEST QUADRANT.

2. ON THE INSIDE (SOUTH) SIDE OF RAMP A FROM STA. 91+35 TO STA. 99+40 WITH A WIDTH OF UP TO 3.5 FEET IN ORDER TO OBTAIN THE MINIMUM RAMP WIDTH.

3. SR 83 EAST SIDE FROM STA. 34+90 TO STA. 41+45.

SHIFT TRAFFIC TO THE NEWLY CONSTRUCTED PERMANENT AND TEMPORARY PAVEMENT ON THE EAST SIDE OF SR 83 AND ALL TRAFFIC CONTROL DEVICES SHALL BE REVISED AS NECESSARY TO ACCOMMODATE THIS TRAFFIC FLOW. CONSTRUCTION SHALL THEN COMMENCE ON THE WEST SIDE OF SR 83, INCLUDING THE ROADWAY AND WESTERN PORTION OF THE STRUCTURE. MAINTAIN ACCESS AT DRIVES AND INTERSECTIONS AS DESCRIBED BELOW. UPON COMPLETION OF THE PHASE 2 PROPOSED PAVEMENT CONSTRUCTION, INSTALL PERMANENT TRAFFIC CONTROL DEVICES ON THE NEWLY CONSTRUCTED ROADWAY AND OPEN THE ROADWAY TO FINAL TRAFFIC PATTERNS.

ON I-71 CONSTRUCTION MAY BE IN EITHER STAGE 1, PHASE 1 OR PHASE 2, OR STAGE 2

IF IN PHASE 1, WHEN THE INSIDE LANES AND MEDIAN ARE CLOSED, CONSTRUCT THE NEW CENTER PIER AND ABUTMENTS FOR THE WEST SIDE OF THE PROPOSED STRUCTURE, ACCESSING THE ABUTMENT WORK AREA FROM SR 83 ONLY.

IF IN PHASE 2, WHEN THE OUTSIDE LANES ARE CLOSED, CONSTRUCT THE MEDIAN PIERS WHILE WORKING BEHIND THE PCB PLACED EARLIER. CONSTRUCT THE NEW ABUTMENTS FOR THE WEST SIDE OF THE PROPOSED STRUCTURE.

IF IN STAGE 2, CONSTRUCT THE MEDIAN PIER AND OUTSIDE ABUTMENTS WHILE WORKING BEHIND THE PCB'S PLACED EARLIER.

CONSTRUCTION AT SIGNALIZED INTERSECTIONS

TRAFFIC WILL BE MAINTAINED WITH AT LEAST ONE 11 FT WIDE LANE (UNLESS WIDER LANES ARE CALLED FOR ON THE PLAN) IN EACH DIRECTION.

AT THE SR 83 INTERSECTIONS WITH THE NORTHBOUND RAMPS, SOUTHBOUND RAMPS AND WILLOW ROAD, TRAFFIC WILL BE MAINTAINED ON THE NEWLY CONSTRUCTED PAVEMENT ON THE EAST SIDE OF SR 83 WHILE THE WEST SIDE IS CONSTRUCTED IN TWO PARTS (PART 1 IS SHOWN ON SHEET 93 AND PART 2 IS SHOWN ON SHEET 94). IN EACH PART, A QUADRANT OF THE INTERSECTION PAVEMENT WILL BE CONSTRUCTED ALONG WITH ONE-HALF OF THE RAMP OR ROADWAY ON THE WEST SIDE. IN THE CASE OF RAMPS, CONSTRUCT ONE-HALF (OR MORE) OF THE RAMP WHILE MAINTAINING TRAFFIC ON THE EXISTING PAVEMENT, PAVED SHOULDER (AND TEMPORARY PAVEMENT WHEN SPECIFIED). (SEE SHEETS 86 - 88)

AT THE RAMP B INTERSECTION, CONSTRUCT TEMPORARY PAVEMENT IN THE SOUTHWEST QUADRANT AS SHOWN TO PERMIT PART 1 CONSTRUCTION.

- RAMP B, PART 1 CONSTRUCTION WILL BE ACCOMPLISHED WITH TRAFFIC MAINTAINED ON THE OUTSIDE OF THE EXISTING PAVEMENT, SHOULDER, AND TEMPORARY PAVEMENT WHILE PROPOSED INSIDE OF THE RAMP IS CONSTRUCTED. THERE WILL BE NEED TO CONSTRUCT TEMPORARY PAVEMENT IN ORDER TO OBTAIN THE MINIMUM MAINTAINED RAMP WIDTH.

- RAMP A, PART 1 CONSTRUCTION WILL BE ACCOMPLISHED WITH TRAFFIC MAINTAINED ON THE OUTSIDE OF THE EXISTING PAVEMENT AND SHOULDER WHILE THE PROPOSED INSIDE OF THE RAMP IS CONSTRUCTED. THERE WILL BE NEED TO CONSTRUCT TEMPORARY PAVEMENT IN ORDER TO OBTAIN THE MINIMUM MAINTAINED RAMP WIDTH.

IN THE CASE OF WILLOW ROAD, THE SOUTHEAST QUADRANT WILL BE CONSTRUCTED DURING PART 1. THERE WILL BE A NEED TO CONSTRUCT TEMPORARY PAVEMENT BEYOND THE NORTH EDGE OF WILLOW ROAD EXISTING ROADWAY.

AT PRIME ROAD, THE WEST HALF OF PROPOSED SOUTHERN APPROACH WILL BE CONSTRUCTED.

CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC
GENERAL NOTES

△7 = REVISED 02-10-06
△2 = REVISED 10-11-04

WAY/MED-71-7.04/0.00

PHASE 2 (CON'T)

MAINTAINING TRAFFIC - SR83 AND RAMP REQUIREMENTS

TEMPORARY SIGNAL OPERATION AND SIGNAL LOCATION ADJUSTMENTS SHALL BE ACCOMPLISHED AS SHOWN ON THE PLAN, USING THE PROPOSED MAST ARM SYSTEM OR TEMPORARY SPANS. IF THE PROPOSED SIGNAL MAST ARMS AND NEW CONTROLLER ARE USED FOR TEMPORARY SIGNAL OPERATION, THE CONTRACTOR SHALL TEMPORARILY RELOCATE THE VIDEO DETECTION CAMERAS AND PROGRAM THEM TO PROVIDE FULLY ACTUATED OPERATION. SIGNAL TIMING SHALL BE AS CALLED FOR IN THE PROPSED SIGNAL PLAN.

ASPHALT CONCRETE FOR MAINTAINING TRAFFIC SHALL BE PLACED AS NECESSARY TO PROVIDE A SMOOTH TRANSITION FROM EXISTING TO PROPOSED PAVEMENT SURFACES, DURING PHASE 2, PART 2.

WHEN PART 1 WORK IS COMPLETED, SHIFT RAMP OR WILLOW ROAD TRAFFIC TO THE ADJACENT QUADRANT AS SHOWN IN PART 2, AND ADJUST SIGNAL HEAD LOCATIONS AS SHOWN. CONSTRUCT THE REMAINING EASTERN PORTION OF EACH INTERSECTION.

PHASE 3

SHIFT SOUTHBOUND TRAFFIC INTO THE COMPLETED SOUTH BOUND SIDE, COMPLETE WITH FINAL MARKINGS. ON THE NORTH BOUND SIDE, REMOVE TEMPORARY MARKINGS AND PLACE FINAL MARKINGS, WORKING ONE LANE AT A TIME FROM THE CENTER. REMOVE PAVEMENT FOR MAINTAINING TRAFFIC ON RAMP D.

CLOSE THE NORTHBOUND OUTSIDE LANE NORTH OF WILLOW RD. USING MT-95.31 IN ORDER TO REMOVE THE 3 FEET OF TEMPORARY PAVEMENT AND INSTALL THE EAST CURB. △

MAINTAINING DRIVES

ALL PROPERTIES ABUTTING SR 83 SHALL HAVE CONTINUOUS ACCESS TO SR 83 BY USE OF EXISTING, PROPOSED AND TEMPORARY PAVEMENTS SHOWN IN THE PLAN AND BY USE OF BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC.

PRIOR TO PHASE 1, DURING PHASE 1 AND DURING PHASE 2, DRIVES SHALL BE MAINTAINED BY HALF-WIDTH CONSTRUCTION WHILE MAINTAINING THE OTHER HALF OPEN. THE MINIMUM MAINTAINED HALF-WIDTH FOR ANY DRIVE SHALL BE 11 FEET PLUS ADEQUATE CORNER RADII FOR THE ANTICIPATED TRAFFIC. ALTERNATIVELY, WHERE A PROPERTY IS SERVED BY TWO OR THREE DRIVES, THE CONTRACTOR SHALL NOT CLOSE MORE THAN ONE DRIVE TO A PROPERTY AT ANY TIME. THE SETS OF DRIVES ARE:

DRIVES 1 AND 2, DRIVES 3, 4 AND 5 INCLUDING THE ROADWAY CONNECTING DRIVE 5 TO SR 83; DRIVES 7, 8 AND 6 INCLUDING THE ROADWAY CONNECTING DRIVE 6 TO SR 83; DRIVES 9 AND 10, DRIVES 104 AND 105; DRIVES 106, 107 AND 108; DRIVES 109 AND 110 (SEE TRAFFIC CONTROL PLAN SHEETS AND SHEETS 89 & 90 FOR DRIVE NUMBERING).

MAINTAINING INTERSECTIONS

THE INTERSECTIONS WITH RAMP C, RAMP D, PRIME ROAD, GARMAN RD. AND WILLOW DR. SHALL BE MAINTAINED WITH ONE LANE IN EACH DIRECTION OF TRAVEL AT ALL TIMES BY MEANS OF HALF-WIDTH CONSTRUCTION AT THE INTERSECTIONS AND TEMPORARY PAVEMENT, IF APPROVED BY THE ENGINEER. ELEVEN-FOOT LANE WIDTHS WITH TURNING RADII ADEQUATE FOR THE TRUCK TRAFFIC ANTICIPATED, SHALL BE PROVIDED.

LANE CLOSURES SHALL NOT BE IMPLEMENTED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER. LANE CLOSURES OF RAMP C, RAMP D, PRIME ROAD AND WILLOW DR SHALL BE LIMITED TO NOT MORE THAN 30 CALENDAR DAYS. LANE CLOSURE AT GARMAN RD. SHALL BE DETERMINED AND APPROVED BY THE ENGINEER. TRAFFIC MAY BE RESTRICTED TO A SINGLE BI-DIRECTIONAL LANE BY MEANS OF FLAGGERS IN ACCORDANCE WITH STANDARD DRAWING MT 97.10; HOWEVER, THESE LANE CLOSURES SHALL NOT BE IMPLEMENTED DURING THE HIGHER TRAFFIC HOURS LISTED ABOVE.

SEQUENCE OF CONSTRUCTION (RAMPS AT SR 83)

THE SR 83/I-71 RAMPS, IN THE AREAS ADJACENT TO SR 83, WILL BE CONSTRUCTED AT THE SAME TIME AS SR 83, AS IN ACCORDANCE WITH THE DESCRIPTIONS FOR SIGNALIZED INTERSECTIONS IN PHASES 1 AND 2 ABOVE ALL TRAFFIC SHIFTS SHALL BE ACCOMPLISHED WITH THE ASSISTANCE OF A LAW ENFORCEMENT OFFICER WITH PATROL CAR.

CONTINUITY OF TRAFFIC SIGNAL OPERATION

THE EXISTING TRAFFIC SIGNALS AT SR 83 AND RAMPS B-D, SR 83 AND RAMPS A-C, SR 83 AND WILLOW DR AND SR 83 AND PRIME ROAD, SHALL BE MAINTAINED IN CONTINUOUS CYCLING OPERATION USING EITHER THE EXISTING, PROPOSED OR TEMPORARY EQUIPMENT PROVIDED BY THE CONTRACTOR. THE EXISTING SIGNAL TIMING AND SETTINGS SHALL BE RETAINED EXCEPT AS OTHERWISE CALLED FOR ON THE WORK ZONE SIGNAL PLANS AND EXCEPT THAT IF A DETECTOR IS INOPERABLE, THAT PHASE SHALL BE SET TO RECALL-ON. EXISTING SPANS OR PROPOSED SUPPORTS MAY BE USED, OR IF NONE ARE SUITABLE FOR PROPER HEAD PLACEMENT, THE CONTRACTOR SHALL ERECT TEMPORARY SIGNAL SPANS AND POLES TO PROVIDE A SUITABLE SUPPORT. SIGNAL HEAD LOCATIONS SHALL BE IN ACCORDANCE WITH THE OMUTCD FOR THE TEMPORARY APPROACHES DURING EACH PHASE. WHERE SIDE STREET APPROACHES ARE CONSTRUCTED USING HALF-WIDTH PROCEDURES, SIGNALS SHALL BE RELOCATED TO ACCOMMODATE EACH PART OF THE WORK. (SEE SHEETS 91 - 94) WHENEVER SIGNALS ARE BEING REVISED TO ACCOMMODATE NEW APPROACH LANE LOCATIONS OR AT ANY TIME A SIGNAL IS OUT OF SERVICE, A LAW ENFORCEMENT OFFICER WITH PATROL CAR SHALL BE PROVIDED AT THE CONTRACTOR'S EXPENSE, TO GUIDE AND CONTROL TRAFFIC AT THE INTERSECTION UNTIL THE NEW SIGNAL EQUIPMENT AND OPERATION IS IN EFFECT.

AT LEAST 72 HOURS PRIOR TO MODIFICATIONS OF TRAFFIC SIGNAL OPERATION OR TIMING, THE CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO THE PROJECT ENGINEER, IN WRITING.

PLACEMENT OF ASPHALT CONCRETE

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT THAT ONE-WAY TRAFFIC WILL BE PERMITTED FOR MINIMUM PERIODS OF TIME CONSISTENT WITH THE REQUIREMENTS OF THE SPECIFICATIONS FOR PROTECTION OF COMPLETED ASPHALT CONCRETE COURSES.

TRENCH FOR WIDENING

TRENCH EXCAVATION FOR BASE WIDENING SHALL BE ONLY ON ONE SIDE OF THE PAVEMENT AT A TIME. THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AT ALL TIMES. PLACEMENT OF PROPOSED SUBBASE AND BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND EXCAVATION OPERATIONS. THE LENGTH OF WIDENING TRENCH WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO APPROVAL OF THE ENGINEER.

OVERNIGHT TRENCH CLOSING

THE BASE WIDENING SHALL BE COMPLETED TO A DEPTH OF NO MORE THAN 1 ½ INCHES BELOW THE EXISTING PAVEMENT BY THE END OF EACH WORK DAY. NO TRENCH SHALL BE LEFT OPEN OVERNIGHT EXCEPT FOR A SHORT LENGTH (25 FEET OR LESS) OF A WORK SECTION AT THE END OF THE TRENCH. IN CASE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UNCOMPLETED BASE WIDENING SHALL BE BACKFILLED AT THE DIRECTION OF THE ENGINEER.

QUANTITIES FOR MAINTAINING TRAFFIC

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC.

410, TRAFFIC COMPACTED SURFACE, TYPE A OR B	50 CU. YD.
410, TRAFFIC COMPACTED SURFACE, TYPE C	50 CU. YD.
614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	200 CU. YD.

CALCULATED DCF
CHECKED ENF

MAINTENANCE OF TRAFFIC
GENERAL NOTES

△1 = REVISED 02-10-06
△2 = REVISED 10-11-04

WAY/MED-71-7.04/0.00

GENERAL REQUIREMENTS

CURE WATER

THE CONTRACTOR IS RESPONSIBLE TO CONTROL ANY WATER THAT FLOWS ONTO THE ROADWAY. DURING TIMES WHEN THE WATER MAY FREEZE. IT IS THE CONTRACTORS RESPONSIBILITY TO MAKE SURE THE ROADWAY DOES NOT BECOME ICY.

ITEM 614, WORK ZONE PAVEMENT MARKINGS

THE "TEMPORARY" PAVEMENT MARKING DESCRIPTIONS AND LEGENDS SHOWN THROUGHOUT THESE PLANS SHOULD BE CONSIDERED TO READ "WORK ZONE" PAVEMENT MARKINGS AS PER THE 2002 CMS.

ITEM 614, WORK ZONE SIGNING

ALL WORK ZONE SIGNING SHALL UTILIZE AN ORANGE BACKGROUND COLOR EXCEPT FOR REGULATORY SIGNS.

ITEM 614, BARRIER REFLECTORS AND OBJECT MARKERS

BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE CONCRETE BARRIER USED FOR MAINTENANCE OF TRAFFIC AND ON ALL EXISTING GUARDRAIL OR BARRIER WHICH IS ADJACENT TO SHIFTED TRAFFIC. BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO THE APPROPRIATE STANDARD CONSTRUCTION DRAWING AND ITEM 626 EXCEPT THAT THE SPACING SHALL BE 50 FEET. WHEN ADDING BARRIER REFLECTORS TO AN EXISTING BARRIER WHICH HAS REFLECTORS, THE MARKERS SHALL BE LOCATED MIDWAY BETWEEN THE EXISTING FACE-MOUNTED REFLECTORS. FOR EXISTING GUARDRAIL OR BARRIER INSTALLATIONS, THE SPACING OF THE ADDITIONAL REFLECTORS SHALL BE 100' C/C, LOCATED MIDWAY BETWEEN EXISTING REFECTORS, THUS RESULTING IN A 50' SPACING.

ON NEW GUARDRAIL AND BARRIERS LOCATED ON THE MEDIAN SIDE, THE PROPOSED, 626 MARKERS SHALL BE INSTALLED AT 50' SPACING TO MEET THIS REQUIREMENT, BECAUSE THOSE REFLECTORS WILL ALREADY BE IN PLACE, ADDITIONAL 614 - BARRIER REFLECTORS WILL NOT BE NEEDED AT THOSE LOCATIONS.

ITEM 614 - TRANSITION AREA DELINEATION

IN TRANSITION AREAS OF LANE SHIFTS (DEFINED AS ANY LATERAL SHIFT OF TRAFFIC EQUAL TO OR GREATER THAN 4 FEET) AND CROSSOVERS, THE CONTRACTOR SHALL PROVIDE DELINEATION BY ONE OF THE FOLLOWING METHODS:

1. FULL PAVEMENT MARKINGS USING WET REFLECTIVE REMOVABLE TAPE (METHOD A ON MT-99.30).

OR

2. FULL PAVEMENT MARKINGS USING 740.06 TYPE I WORK ZONE PAVEMENT MARKING MATERIAL SUPPLEMENTED WITH WORK ZONE RAISED PAVEMENT MARKERS (METHOD B ON MT-99.30).

ALL MATERIALS FURNISHED SHALL BE LISTED ON THE DEPARTMENT'S PREQUALIFIED LISTS. THE INSTALLATION OF ALL MATERIALS SHALL MEET OR EXCEED THE MANUFACTURER'S RECOMMENDATIONS.

REMOVABLE PAVEMENT MARKINGS SHALL BE INSTALLED IN 10 FOOT OR LESS SEGMENTS.

PAYMENT FOR ITEM 614 - TRANSITION AREA DELINEATION SHALL BE MADE AT THE CONTRACT BID PRICE PER FOOT (REGARDLESS OF THE NUMBER OF LANES) AND INCLUDES THE COST OF FURNISHING, INSTALLING, MAINTAINING AND REMOVING, IF NECESSARY, ONE OF THE DELINEATION SCHEMES SPECIFIED ABOVE.

PAYMENT SHALL ALSO INCLUDE REPLACEMENT, AS PER 614.11.A OR 614.115.D, OF ANY PART OF THE DELINEATION SYSTEM WHICH, IN THE JUDGEMENT OF THE ENGINEER, FAILS. LANE CLOSURES REQUIRED TO REPAIR OR REPLACE MISSING TAPE OR WORK ZONE RAISED PAVEMENT MARKERS WILL BE AT THE ENGINEER'S APPROVAL AND AT THE CONTRACTOR'S COST.

ITEM 614 - REPLACEMENT SIGN

FLAT SHEET SIGNS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND. REPLACEMENT SIGNS SHALL BE NEW. OTHER MATERIALS MAY BE IN USED BUT GOOD CONDITION SUBJECT TO APPROVAL BY THE ENGINEER.

PAYMENT FOR THE NEW SIGNS SHALL BE MADE USING A PRICE PER EACH FOR ITEM 614 - REPLACEMENT SIGN, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF DAMAGED SIGNS, HARDWARE AND SUPPORTS, AND PROVIDING THE NECESSARY REPLACEMENT HARDWARE, SUPPORTS, ETC.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER.

ITEM 614 - REPLACEMENT SIGN .... 100 EACH

614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, AND MAINTAIN PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) AS CALLED FOR IN THE PLAN AND REMOVE WHEN NO LONGER NEEDED. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS MAINTAINED BY THE DIRECTOR. (HTTP://WWW.DOT.STATE.OH.US/TESTLAB/APPLISTS/MISC/PCMS.HTM) THE UNITS MUST HAVE A MINIMUM LEGIBILITY DISTANCE OF 850'.

EACH SIGN SHALL BE TRAILER MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM TO DIM THE SIGN DURING DARKNESS AND A TAMPER AND VANDAL PROOF ENCLOSURE SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT.

THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY.

THE NUMBER, LOCATION, PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE LOCATIONS OF THE PCMS MAY NOT BE WITHIN THE WORK LIMITS OF THE PROJECT BUT SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR, SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS WILL BE OFF, FACING AWAY FROM ALL TRAFFIC AND SHALL DISPLAY ONE OR MORE HIGH INTENSITY YELLOW REFLECTIVE SHEETING SURFACES OF 9" BY 15" MINIMUM SIZE FACING TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ODOT PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT AND TO REVISE SIGN MESSAGE, IF NECESSARY.

CALCULATED DCF
CHECKED ENF

MAINTENANCE OF TRAFFIC
GENERAL NOTES

WAY/MED-71-7.04/0.00

MNA.DGN

GENERAL REQUIREMENTS

614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN - (CONTINUED)

ONE PCMS UNIT SHALL BE MODIFIED BY THE ADDITION OF A HIGHWAY ADVISORY RADIO (HAR) AS FOLLOWS:

THE FOLLOWING SPECIFICATIONS ARE INTENDED TO SET MINIMUM ACCEPTABLE STANDARDS FOR A MOBILE HIGHWAY ADVISORY RADIO WHICH SHALL BE INTEGRATED WITH THE PCMS UNIT. THE HAR WILL BE USED TO TRANSMIT MESSAGES TO MOTORISTS REGARDING WORK ZONES, DETOURS, ACCIDENTS, MAINTENANCE ACTIVITIES, LOCAL ADVISORIES, INCLEMENT WEATHER, CONSTRUCTION SCHEDULES AND OTHER INFORMATION AS AUTHORIZED BY THE FEDERAL COMMUNICATIONS COMMISION (FCC) IN ITS FULES AND REGULATIONS SPECIFIED IN 47 CFR 90.242.

THE HAR MUST BE MOBILE, MOUNTED ONTO THE SAME TRAILER ON WHICH THE PCMS UNIT IS MOUNTED. THE HAR MUST BE POWERED FROM THE SOLAR POWER SOURCE USED TO POWER THE PCMS. THE SOLAR POWER SOURCE MUST BE ADEQUATE TO POWER BOTH THE PCMS AND HAR SIMULTANEOUSLY. CONNECTING AND DISCONNECTING THE HAR FROM THE POWER SOURCE MUST NOT INTERFERE WITH POWER OR OPERATION OF THE PCMS.

ALL EQUIPMENT MUST BE NEW AND MUST MEET ALL APPLICABLE FCC FULES AND REGULATIONS, INCLUDING 90.242 FOR TRAVELER'S INFORMATION STATIONS AND PART 68 FOR TELEPHONE EQUIPMENT. THE EQUIPMENT SUPPLIED MUST BE A STANDARD PRODUCTION MODEL. PROTOTYPE EQUIPMENT IS NOT ACCEPTABLE. THE VENDOR MUST PROVIDE ALL LICENSING FOR THE HAR PACKAGE. THE VENDOR MUST KNOW WHICH OF THE HAR AM/FM RADIO FREQUENCIES TO SUPPLY ODOT IN A CERTAIN AREA TO PREVENT INTERFERENCE. THE VENDOR MUST PROVIDE ALL NECESSARY WORK FOR OBTAINING THESE FREQUENCIES AND KNOW IN ADVANCE WHICH FREQUENCIES CAN AND CANNOT BE USED IN ORDER TO WORK WITH THEIR EQUIPMENT.

TECHNICAL SERVICE ASSISTANCE

THE HAR PROVIDER MUST BE AVAILABLE VIA TELEPHONE, 24 HOURS PER DAY, 365 DAYS PER YEAR FOR TECHNICAL SERVICE ASSISTANCE.

ENCLOSURE

THE HAR ELECTRONICS MUST BE HOUSED IN A LOCKING, WEATHER RESISTANT NON-VENTED ALUMINUM ENCLOSURE OR STEEL ENCLOSURE.

ELECTRONICS

THE BROADCAST COMPONENTS MUST INCLUDE AN AM TRANSMITTER, A DIGITAL RECORDER/PLAYER AND POWER CONNECTION FOR AC/DC POWER. DC POWER SHALL BE OBTAINED FROM THE SAME SOLAR POWER SOURCE USED TO POWER THE PCMS.

TRANSMITTER

THE TRANSMITTER SHALL HAVE THE CAPABILITY OF BROADCASTING ALONG THE ENTIRE RANGE OF AM FREQUENCY, FROM 530 TO 1700 kHZ. THE TRANSMITTER MUST NOT INTERFERE WITH OTHER BROADCAST STATIONS AS REQUIRED BY FCC RULES AND REGULATIONS 90.242. THE SYSTEM SHALL HAVE THE CAPABILITY OF OBTAINING MESSAGES BOTH LOCALLY AND REMOTELY, BY CELL PHONE. IT SHALL HAVE THE CAPABILITY OF LOADING, MONITORING, SCHEDULING AND CHOOSING FROM A SET OF STORED MESSAGES TO BROADCAST AND ALSO TO BROADCAST LIVE MESSAGES. THE TELEPHONE EQUIPMENT (TRANSMITTER AND ANTENNA) MUST MEET THE REQUIREMENTS OF FCC RULES AND REGULATIONS PART 90.242. OUTPUT SHALL BE 10 WATTS OR GREATER, ON 12 VOLTS OF POWER OR GREATER. THE TRANSMITTER MUST BE OPERABLE BETWEEN -35 DEGREES CELSIUS AND +85 DEGREES CELSIUS.

ANTENNA

THE ANTENNA MUST BE CAPABLE OF OPERATION WITHIN THE SAME FREQUENCY RANGE AS THE TRANSMITTER. THE ANTENNA MUST BE CONSTRUCTED OF ANODIZED ALUMINUM WITH STAINLESS STEEL TIPS. IT MUST BE CAPABLE OF WITHSTANDING WINDS UP TO 80 MPH.

DIGITAL RECORDER / PLAYER

THE EQUIPMENT MUST BE CERTIFIED UNDER FCC RULES AND REGULATIONS PART 68. THE EQUIPMENT MUST HAVE LOCAL AND REMOTE CONTROL OF ALL FUNCTIONS. IT SHALL HAVE A MINIMUM OF 2 YEAR BATTERY BACKUP FOR ALL MESSAGES. THE MEMORY SHALL BE A MINIMUM OF 40 MINUTES FOR MESSAGE RECORDING AND CAPACITY TO STORE 250 MESSAGES. SECURITY ACCESS CODES MUST BE PROVIDED. IT MUST BE OPERATIONAL AT TEMPERATURE RANGES FROM -40 DEGREES CELSIUS TO +85 DEGREES CELSUIS.

GROUND SYSTEM

THE HAR MUST HAVE ITS OWN GROUND SYSTEM.

UTILITIES

CELL PHONE SERVICE MUST BE PROVIDED WITH EACH HAR. ODOT WILL BE RESPONSIBLE FOR CONNECTION AND CELL PHONE USAGE.

FCC LICENSING

EACH UNIT MUST BE ACCOMPANIED BY A LICENSE FOR MOBILE OPERATION AS PER FCC RULES AND REGULATIONS 90.242.

TRAINING

ONE FULL DAY OF TRAINING TO TWO PERSONS MUST BE PROVIDED WITH EACH UNIT SOLD. THE TRAINING SHALL BE CONDUCTED BY THE MANUFACTURER'S TECHNICAL SERVICE PERSONNEL OR FACTORY AUTHORIZED REPRESENTATIVE. THE TRAINING MUST BE HANDS-ON TRAINING, MAKING USE OF THE PURCHASED UNIT.

EACH UNIT SHALL BE PROVIDED WITH AN OPERATOR'S MANUAL.

THE PCMS UNITS SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF 614.07. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS TO ASSURE PROMPT SERVICE IN THE EVENT OF A FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE MORE THAN 12 HOURS INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC AND THE ENTIRE COST TO CONTROL TRAFFIC ACCRUED BY THE DEPARTMENT WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24 HOURS PER DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE BID PER SIGN-MONTH FOR ALL SIGNS FURNISHED UNDER ITEM 614 PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK, INCLUDING RELOCATION IF NECESSARY.

THE FOLLOWING ESTIMATED QUANTITIES ARE PROVIDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER.

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN — 48* SIGN MNTH.

* IR 71 - 2 LOCATIONS @ 8 MONTHS PER STAGE (2 STAGES)
SR 83- 2 LOCATIONS @ 8 MONTHS PER DIRECTION
4 TOTAL UNITS

CALCULATED DCF
CHECKED ENF

MAINTENANCE OF TRAFFIC
GENERAL NOTES

WAY/MED-71-7.04/0.00

MNA.DGN

MAINTENANCE OF TRAFFIC GENERAL NOTES

WORKSITE TRAFFIC SUPERVISOR

THE CONTRACTOR SHALL EMPLOY (OTHER THAN THE SUPERINTENDENT) AND SUBJECT TO THE APPROVAL OF THE ENGINEER, A CERTIFIED WORKSITE TRAFFIC SUPERVISOR (WTS). THE WTS MAY BE CERTIFIED FROM ONE OF THE FOLLOWING ORGANIZATIONS:

1) AMERICAN TRAFFIC SAFETY SERVICE ASSOCIATION A.T.S.S.A. ,PHONE NUMBER 1-800-272-8772, CERTIFIED WORKSITE TRAFFIC SUPERVISOR (WTS)

2) THE NATIONAL SAFETY COUNCIL, TRAFFIC CONTROL ZONES SUPERVISORS COURSE PHONE NUMBER 1-800-441-5103

3) NATIONAL HIGHWAY INSTITUTE, DESIGN AND OPERATION OF WORK ZONE TRAFFIC CONTROL, PHONE NUMBER 1-703-235-0528

A CERTIFIED WTS SHALL BE PRESENT WHEN THE CONTRACTOR OR SUBCONTRACTOR INSTALLS A TRAFFIC RESTRICTION, LANE CLOSURE, ETC. THE CONTRACTOR OR SUBCONTRACTOR MUST PRESENT A COPY OF CERTIFICATES FOR ALL WTS TO THE ENGINEER. A WTS MUST BE PRESENT WHEN THE WORK ZONE IS BEING SET UP OR REMOVED.

THE WTS POSITION IS ESTABLISHED FOR THE PURPOSE OF MONITORING THE TRAFFIC CONTROL PLAN (TCP) AND CORRECTING ANY TRAFFIC CONTROL DEFICIENCIES IN THE WORK ZONE. THE WTS MUST ALSO COORDINATE WITH ALL LAW ENFORCING AGENCIES RESPONSIBLE FOR THE ROADWAY UNDER CONSTRUCTION AND RETRIEVE ALL CRASH REPORTS (OH-1) THAT OCCUR WHEN TEMPORARY TRAFFIC CONTROL DEVICES ARE IN PLACE. THE WTS SHALL OVERSEE ALL OPERATIONS THAT AFFECT THE MOVEMENT OF VEHICULAR AND PEDESTRIAN TRAFFIC THROUGH THE WORK ZONE. TRAFFIC CONTROL AND CRASH DATA EVALUATION WILL BE THE WTS MAIN RESPONSIBILITY WHEN A WORK ZONE IS IN PLACE.

DAILY, INCLUDING WEEKENDS AND HOLIDAYS, THE WTS SHALL SPEND A MINIMUM OF ONE HOUR REVIEWING THE WORK ZONE AND/OR CRASH DATA FOR DEFICIENCIES AND MAINTAINING THE WORK ZONE.

WEEKLY, THE WTS MUST RETRIEVE/COLLECT ALL CRASH REPORTS (OH-1) FROM ALL LAW ENFORCING AGENCIES, EVALUATE THE CRASHES, AND RECOMMEND SOLUTIONS TO ADDRESS ANY ISSUES WITH THE TCP THAT ARE POTENTIALLY CREATING CRASHES WITHIN THE WORK ZONE. THE WTS MUST PRESENT THESE SOLUTIONS TO THE ENGINEER FOR APPROVAL WEEKLY. UPON APPROVAL BY THE ENGINEER AND THE DISTRICT WORK ZONE TRAFFIC MANAGER (DWZTM), THE CONTRACTOR MUST IMPLEMENT THE RECOMMENDED SOLUTIONS TO THE WORK ZONE WITHIN ONE WEEK - ADDITIONAL COST TO BE PAID UNDER CONSTRUCTION AND MATERIALS SPECIFICATIONS - 109. THE WTS MUST INSPECT THE WORK ZONE AT THE BEGINNING AND THE END OF EACH WORK DAY AND ONE TIME PER WEEK DURING THE HOURS OF DARKNESS. THE FOLLOWING ITEMS SHALL BE INCLUDED, BUT NOT RESTRICTED TO, IN EACH REVIEW: TRAFFIC CONTROL DEVICE CONDITION; PLACEMENT; VISIBILITY; TRAFFIC FLOW CONDITIONS; INCIDENTS; CONGESTION POINTS; DELAYS; ADEQUACY OF ADVANCED INFORMATIONAL SIGNS BEYOND PROJECT LIMITS; INTERACTION OF WORK VEHICLES AND TRAFFIC; ACCIDENTS; PROPER STORAGE OF MATERIALS AND EQUIPMENT; CONFORMANCE WITH TCP; ADEQUACY OF TCP; CONFLICTING OR NON-CONFORMING PAVEMENT MARKINGS. THE WTS SHALL HAVE THE NECESSARY AUTHORITY TO IMMEDIATELY PERFORM ANY CORRECTIVE WORK. A RECORD OF EACH DAYS REVIEW SHALL BE GIVEN TO THE ENGINEER THE FOLLOWING WORKDAY IN WRITING AND SHALL INCLUDE ALL DEFICIENCIES AND RESOLUTIONS TO THE DEFICIENCIES. THE INSPECTION WILL BE DOCUMENTED ON THE LONG/SHORT TERM WORK ZONE REVIEW FORM PROVIDED BY ODOT. WEEKLY, THE INSPECTION FORM MUST BE ACCOMPANIED BY ALL OF THE OH-1 CRASH REPORTS AND THE PROPOSED SOLUTIONS TO ANY IDENTIFIED CRASH PROBLEMS.

IF THE RESTRICTIONS ARE SHORT TERM, THE WTS SHALL MONITOR THE ZONE FOR COMPLIANCE, DURING LANE CLOSURES; HE SHALL MAKE SURE ALL TRAFFIC CONTROL ITEMS ARE FUNCTIONING PROPERLY. TRAFFIC CONTROL AND CRASH DATA EVALUATION WILL BE THE WTS MAIN RESPONSIBILITY DURING IMPLEMENTATION OF ZONES OR SHORT TERM ZONES. THE WTS SHALL PROVIDE THE DWZTM A SKETCH OF THE TRAFFIC CONTROL PLAN (TCP) EVERYDAY THERE IS TO BE A SHORT TERM TRAFFIC RESTRICTION, LANE CLOSURE, ETC. THIS TCP SHALL SHOW HOW THE WORK ZONES ARE TO BE IMPLEMENTED.

THE WTS SHALL BE ON STANDBY 24-HOUR BASIS TO REPAIR AND/OR REPLACE DAMAGED OR MISSING TRAFFIC CONTROL DEVICES. A 24-HOUR CONTACT NUMBER(S) SHALL BE MADE AVAILABLE TO THE ENGINEER TO CONTACT THE WTS.

FAILURE OF THE CONTRACTOR TO COMPLY WITH ANY OF THE ABOVE, SHALL CONSTITUTE CAUSE FOR THE PROJECT ENGINEER TO DEDUCT $500.00 PER DAY FROM MONEY DUE TO THE CONTRACTOR NOT AS A PENALTY, BUT AS A LIQUIDATION DAMAGE.

PAYMENT FOR THE WTS SHALL BE PAID FOR UNDER THE MONTHLY UNITS FOR ITEM 614 - WORKSITE TRAFFIC SUPERVISOR.

ITEM 614 - WORKSITE TRAFFIC SUPERVISOR .... 20 MONTHS

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR

IN ADDITION TO THE REQUIREMENTS OF 614 AND THE LATEST EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), A UNIFORMED LAW ENFORCEMENT OFFICER AND OFFICIAL PATROL CAR WITH WORKING TOP MOUNTED EMERGENCY FLASHING LIGHTS SHALL BE PROVIDED FOR CONTROLLING TRAFFIC AS DIRECTED AND APPROVED BY THE ENGINEER FOR THE FOLLOWING TASKS:

A) TRANSITION FROM ONE TRAFFIC CONTROL PATTEREN TO ANOTHER
B) TO ALLOW FOR FINAL RESURFACING, PAVEMENT MARKING, BARRIER MOVEMENT OR OTHER ACTIVITIES WHEN LESS THAN 2 LANES DIRECTIONAL ARE PROVIDED FOR TRAFFIC.
C) FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED.
D) DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.
E) DURING A TRAFFIC SIGNAL INSTALLATION.

LAW ENFORCEMENT OFFICERS (L.E.O.'S) SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED. THE LEO'S ARE CONSIDERED TO BE EMPLOYED BY THE CONTRACTOR AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR ACTIONS. ALTHOUGH THEY ARE EMPLOYED BY THE CONTRACTOR, THE PROJECT ENGINEER SHALL HAVE CONTROL OVER THEIR PLACEMENT. THE OFFICIAL PATROL CAR SHALL BE A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE.

THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THESE SERVICES WITH:
THE STATE HIGHWAY PATROL (TELEPHONE: 330-725-4921) LOCATED AT 3149 FRANTZ ROAD, MEDINA OHIO 44256.

LAW ENFORCEMENT OFFICERS WITH PATROL CAR REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE HOURLY BASIS UNDER ITEM 614 LAW ENFORCEMENT OFFICER WITH PATROL CAR. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR .... 600 HOURS

THE HOURS PAID SHALL INCLUDE MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

IF THE CONTRACTOR WISHES TO UTILIZE LEO'S FOR FLAGGING AND TRAFFIC CONTROL OTHER THAN FOR THAT REQUIRED IN THESE PLANS, HE MAY DO SO AT HIS OWN EXPENSE. PAYMENT FOR THE EXCESS ABOVE THE CONTRACT REQUIREMENTS WILL BE INCLUDED UNDER ITEM 614 MAINTAINING TRAFFIC.

BUTT JOINTS

MILLED AREAS FOR BUTT JOINTS SHALL NOT BE LEFT OPEN TO TRAFFIC. BEFORE OPENING TO TRAFFIC A TEMPORARY ASPHALT CONCRETE WEDGE OF SUFFICIENT LENGTH SHALL BE CONSTRUCTED AT THE DROPOFF AS DIRECTED BY THE ENGINEER. ITEM 614 - ASPHALT CONCRETE FOR MAINTAINING TRAFFIC IS TO BE USED FOR THE WEDGE CONSTRUCTION. IT SHALL BE PLACED WHILE TRAFFIC IS PROHIBITED. BEFORE THE NEW PAVEMENT IS PLACED, THE WEDGE SHALL BE REMOVED AND THE COSTS SHALL BE CONSIDERED INCIDENTAL TO ITEM 614 - ASPHALT CONCRETE FOR MAINTAINING TRAFFIC.

THE FOLLOWING ITEM SHALL BE USED FOR THIS PURPOSE:

ITEM 614 - ASPHALT CONCRETE FOR MAINTAINING TRAFFIC .... 60 CU. YD.

"BUMP" (W8-1) AND "ADVISORY SPEED" (W13-1) SIGNS AND SUPPORTS SHALL BE ERECTED AND MAINTAINED AT THE BUTT JOINT UNTIL THE SURFACE COURSE IS COMPLETED. THE COSTS FOR PROVIDING, ERECTING, MAINTAINING AND SUBSEQUENTLY REMOVING THESE SIGNS AND SUPPORTS SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 - MAINTAINING TRAFFIC.

CALCULATED DCF
CHECKED ENF

CONSTRUCTION ZONES/ FINES DOUBLED

RII-H5a-48 SIGNS SHALL BE FURNISHED, ERECTED, AND MAINTAINED IN GOOD CONDITION AND/OR REPLACED AS NECESSARY AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. SIGNS SHALL BE MOUNTED AT THE APPROPRIATE OFFSETS AND ELEVATIONS AS PRESCRIBED BY THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. THEY SHALL BE MAINTAINED ON SUPPORTS MEETING CURRENT SAFETY CRITERIA.

THE SIGNS MAY BE ERECTED OR UNCOVERED NO MORE THAN FOUR HOURS BEFORE THE ACTUAL START OF WORK. THE SIGNS SHALL BE REMOVED OR COVERED NO LATER THAN FOUR HOURS FOLLOWING RESTORATION OF ALL LANES TO TRAFFIC WITH NO RESTRICTIONS, OR SOONER AS DIRECTED BY THE ENGINEER. TEMPORARY SIGN COVERING AND UNCOVERING DUE TO TEMPORARY LANE RESTORATIONS SHALL BE GUIDED BY THE FOUR-HOUR LIMITATIONS STATED ABOVE. SUCH LANE RESTORATIONS SHOULD BE EXPECTED TO REMAIN IN EFFECT FOR 30 OR MORE CONSECUTIVE CALENDAR DAYS, SUCH AS DURING WINTER SHUT-DOWNS.

(THE SIGNS SHALL BE DUAL MOUNTED. THE FIRST SIGN SHALL BE PLACED BETWEEN THE ROAD WORK AHEAD (W20-I) SIGN AND THE NEXT SIGN IN THE SEQUENCE. SIGNS SHALL BE ERECTED ON EACH ENTRANCE RAMP AND EVERY 2 MILES THROUGH THE CONSTRUCTION WORK LIMITS.)

THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED, BUT GOOD, CONDITION PROVIDED THE SIGNS MEET CURRENT ODOT SPECIFICATIONS. SIGN FACES SHALL BE REFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF CMS 730.19.

CONSTRUCTION ZONE/ FINES DOUBLED SIGNS AND SUPPORTS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGN AND NECESSARY SUPPORTS. IF A SIGN AND SUPPORT COMBINATION IS REMOVED AND REERECTED AT ANOTHER LOCATION AS DIRECTED BY THE ENGINEER, IT SHALL BE CONSIDERED ANOTHER UNIT.

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE, IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, ERECTING, MAINTAINING, COVERING DURING SUSPENSION OF WORK AND REMOVAL OF THE SIGN AND SUPPORT.

ITEM 614, CONSTRUCTION ZONE/ FINES DOUBLED SIGN 26 EACH

ITEM 614 - REPLACEMENT DRUM

DRUMS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND. REPLACEMENT DRUMS SHALL BE NEW.

PAYMENT FOR THE NEW DRUMS SHALL BE MADE USING A PRICE PER EACH FOR ITEM 614, REPLACEMENT DRUM, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF THE DAMAGED DRUM, AND PROVIDING AND MAINTAINING THE REPLACEMENT DRUM IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS FOR THE ORIGINAL DRUM.

THE FOLLOWING ESTIMATED QUANTITIY HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER.

ITEM 614 - REPLACEMENT DRUM .... 500 EACH

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616 - WATER .... 3000 M.GAL.

ITEM 614, WORK ZONE SPEED LIMIT SIGN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, COVER DURING SUSPENSION OF WORK, AND SUBSEQUENTLY REMOVE WORK ZONE SPEED LIMIT (R2-I) (55 MPH SPEED LIMIT) SIGNS AND SUPPORTS WITHIN THE WORK LIMITS IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS:

THE CONTRACTOR SHALL COVER OR REMOVE ANY EXISTING SPEED LIMIT OR MINIMUM SPEED LIMIT SIGNS WITHIN THE REDUCED SPEED ZONE. THESE SIGNS SHALL BE RESTORED DURING SUSPENSION OR TERMINATION OF THE REDUCED SPEED LIMIT. THE EXPENSE OF COVERING OR REMOVAL AND RESTORATION OF EXISTING SPEED LIMIT OR MINIMUM SPEED LIMIT SIGNS SHALL BE INCLUDED IN THE PAY ITEM FOR THE WORK ZONE SPEED LIMIT SIGNS.

THE WORK ZONE SPEED LIMIT SIGNS MAY BE ERECTED OR UNCOVERED NO MORE THAN FOUR HOURS BEFORE THE ACTUAL START OF WORK. THE SIGNS SHALL BE REMOVED OR COVERED NO LATER THAN FOUR HOURS FOLLOWING RESTORATION OF ALL LANES TO TRAFFIC WITH NO RESTRICTIONS, OR SOONER AS DIRECTED BY THE ENGINEER. TEMPORARY SIGN COVERING AND UNCOVERING DUE TO TEMPORARY LANE RESTORATIONS SHALL BE GUIDED BY THE FOUR-HOUR LIMITATIONS STATED ABOVE. SUCH LANE RESTORATIONS SHOULD BE EXPECTED TO REMAIN IN EFFECT FOR 30 OR MORE DAYS, SUCH AS DURING WINTER SHUTDOWNS.

(THE CONTRACTOR SHALL ERECT A WORK ZONE SPEED LIMIT SIGN IN ADVANCE OF ANY LANE RESTRICTION EXPECTED TO LAST AT LEAST 30 CONSECUTIVE CALENDAR DAYS, OR AS DIRECTED BY THE ENGINEER. THE SIGN SHALL BE MOUNTED ON BOTH SIDES OF DIVIDED HIGHWAYS. THE FIRST WORK ZONE SPEED LIMIT SIGN SHALL BE PLACED 500 FEET IN ADVANCE OF THE LANE REDUCTION TAPER OR AT A POINT WHEREVER CONSTRUCTION BEGINS, WHICHEVER COMES FIRST. THE SIGN SHALL BE MOUNTED ON THE RIGHT SIDE, 250 FEET IN ADVANCE OF THE LANE REDUCTION TAPER ON UNDIVIDED HIGHWAYS. THE SIGN SHALL BE REPEATED, ON THE SIDE NEAREST TRAFFIC, EVERY I MILE FOR 55 MPH ZONES AND EVERY ONE-HALF MILE FOR 50 MPH AND 45 MPH ZONES. THESE SIGNS SHALL ALSO BE ERECTED IMMEDIATELY AFTER EACH OPEN ENTRANCE RAMP WITHIN THE ZONE.)

A SIGN(S) TO INDICATE THE RESUMPTION OF THE STATUTORY SPEED LIMIT SHALL BE ERECTED AT THE END OF ANY REDUCED SPEED ZONE. R2-I (SPEED LIMIT) SIGNS SHALL BE USED ON UNDIVIDED ROADWAYS. R2-H2b (SPEED LIMIT) AND R2-H2a (SPEED LIMIT) SIGNS SHALL BE USED ON DIVIDED ROADWAYS. WHEN USED THE R2-H2b AND R2-H2A SIGNS SHALL BE MOUNTED SIDE-BY-SIDE ON SEPARATE SUPPORTS. THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED, BUT GOOD, CONDITION PROVIDED THE SIGNS MEET CURRENT ODOT SPECIFICATIONS. SIGN FACES SHALL BE REFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF CMS 730.19.

WORK ZONE SPEED LIMIT SIGNS SHALL BE MOUNTED ON TWO ITEM 630, GROUND MOUNTED SUPPORTS, NO. 3 POSTS.

WORK ZONE SPEED LIMIT SIGNS AND SUPPORTS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGNS AND NECESSARY SUPPORTS. IF A SIGN AND SUPPORT COMBINATION IS REMOVED AND REERECTED AT ANOTHER LOCATION WITHIN THE PROJECT DUE TO CHANGES IN THE SPEED ZONE DIRECTED BY THE ENGINEER, IT SHALL BE CONSIDERED ANOTHER UNIT.

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE IN PLACE, WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, ERECTING, MAINTAINING, COVERING DURING SUSPENSION OF WORK, AND REMOVING THE SIGNS AND SUPPORTS.

ITEM 614, WORK ZONE SPEED LIMIT SIGN 42 EACH

SIGNS AND SUPPORTS

THE CONTRACTOR SHALL PROVIDE, ERECT, AND MAINTAIN SIGNS AND SIGN SUPPORTS, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND TYPE III BARRICADES OF THE TYPE AND AT THE LOCATIONS SHOWN IN THE PLANS, OR STANDARD DRAWINGS OR AS DIRECTED BY THE ENGINEER.

CALCULATED DCF
CHECKED ENF

MAINTENANCE OF TRAFFIC
GENERAL NOTES

WAY/MED-71-7.04/0.00

FLOODLIGHTING

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHT TIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE ROADWAY. TO ENSURE THE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND THE ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND OPERATIVE PRIOR TO COMMENCING ANY WORK. IF GLARE IS DETECTED THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR MAINTAINING TRAFFIC.

ITEM 606 - ANCHOR ASSEMBLY REBUILT, TYPE E-98, AS PER PLAN A

PRIOR TO MOVING TRAFFIC TO THE OUTSIDE SHOULDER FOR MAINTAINING TRAFFIC, THIS ITEM SHALL BE PERFORMED TO REALIGN ALL ANCHOR ASSEMBLIES, TYPE E, WHERE ANY PORTION IS CLOSER THAN 3 FEET TO THE PROPOSED SHIFTED TRAFFIC EDGE LINE. THE CONTRACTOR SHALL CAREFULLY REMOVE 50 FEET OF GUARDRAIL (INCLUDING THE END ASSEMBLY) AND REINSTALL IT AT A 25:1 MIN. TO 15:1 MAX. TAPER RATE. THE NEAREST POINT OF THE E-98 HEAD SHALL BE LOCATED AT LEAST 1.25 TO 2.5 FEET FROM THE NORMAL GUARDRAIL OFFSET. THE CONTRACTOR SHALL MAXIMIZE THE OFFSET WITHIN THE ABOVE LIMITS AS FEASIBLE DUE TO THE EXISTING GRADING CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ANY PARTS DAMAGED AS A RESULT OF THE REMOVAL OPERATION.

THE FOLLOWING ITEM WILL BE USED TO PERFORM THIS WORK:

ITEM 606-ANCHOR ASSEMBLY REBUILT, TYPE E-98, AS PER PLAN A ....20 EACH

ITEM 606 - ANCHOR ASSEMBLY, TYPE E-98, AS PER PLAN

THIS ITEM SHALL INCLUDE ALL COSTS TO REMOVE THE DAMAGED ASSEMBLY AND COMPLETELY REPAIR/REPLACE THE ANCHOR ASSEMBLY. THIS WORK SHALL BE DONE WITHIN 24 HOURS OF BEING DAMAGED. NIGHT WORK ONLY WILL BE PERMITTED. LANE CLOSURES DURING REPAIRS SHALL BE IN ACCORDANCE WITH MT-95.30. ALL COSTS ASSOCIATED WITH MAINTAINING TRAFFIC DURING REPAIRS SHALL BE CONSIDERED INCIDENTAL TO THE WORK BEING PERFORMED.

THE FOLLOWING ITEM WILL BE USED TO PERFORM THIS WORK:

ITEM 606-ANCHOR ASSEMBLY , TYPE E-98, AS PER PLAN ....10 EACH

ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN

ASPHALT GRINDINGS, 12 INCHES DEEP, MAY BE USED IN LIEU OF THE MATERIAL REQUIREMENTS OF ITEM 615.

ITEM 622 PORTABLE CONCRETE BARRIER

TEMPORARILY FILLING THE VOID BETWEEN EXISTING PAVEMENT AND NEW PAVEMENT IS NOT ALLOWED. THE MATERIAL PLACED WILL BECOME CONTAMINATED AND THE STEP CONSTRUCTION WILL BE LOST, WHICH IS NOT ACCEPTABLE. THE CONTRACTOR HAS ONLY TWO OPTIONS OF SETTING UP THE PORTABLE CONCRETE BARRIER BETWEEN PHASES.

THE FIRST OPTION IS TO RETAIN THE PORTABLE CONCRETE BARRIER SETUP WHEN TRAFFIC IS ON THE EXISTING PAVEMENT AND PROVIDE ADDITIONAL PORTABLE CONCRETE BARRIER ON THE NEW SECTION OF PAVEMENT PRIOR TO SHIFTING TRAFFIC OVER ONTO THE NEW SECTION.

THE SECOND OPTION IS TO MOVE THE EXISTING PORTABLE CONCRETE BARRIER SETUP OVER TO THE NEW SECTION, BUT WITH RESTRICTIONS. MOVEMENT OF THE PORTABLE CONCRETE BARRIER BETWEEN PHASES SHALL BE ACCOMPLISHED IN ONE WORKING DAY AND ONLY AT NIGHT PER THE "WORK ZONE RESTRICTION" NOTE IN THE PLANS. A LANE CLOSURE OF THE LANE ADJACENT TO THE PORTABLE CONCRETE BARRIER IS NECESSARY TO PERFORM THIS WORK. THE CONTRACTOR SHALL USE MULTIPLE CREWS, EQUIPMENT, ETC., IN ORDER TO PERFORM THIS TASK.

THE CONTRACTOR SHALL SUBMIT A PLAN TO THE ENGINEER FOR APPROVAL SEVEN (7) DAYS IN ADVANCE. WORK SHALL NOT BEGIN UNTIL APPROVAL HAS BEEN GRANTED.

ALL COSTS INVOLVED IN REMOVING AND REINSTALLING THE PORTABLE CONCRETE BARRIER SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR ITEM 622 PORTABLE CONCRETE BARRIER.

GUARDRAIL DELINEATION AND HERBICIDAL SPRAYING DURING PHASE I MOT

PRIOR TO SHIFTING TRAFFIC TO THE OUTSIDE SHOULDER FOR PHASE I MOT OPERATIONS THE CONTRACTOR SHALL RECONSTRUCT ALL EXISTING TYPE E END TERMINALS AS NOTED ON THIS SHEET, USING ITEM 606 - ANCHOR ASSEMBLY REBUILT, TYPE E, AS PER PLAN A.

IN ADDITION, THE CONTRACTOR SHALL PLACE BARRIER REFLECTORS, TYPE A IN ACCORDANCE WITH ITEM 614 ALONG ALL EXISTING GUARDRAIL RUNS AND SPRAY A NON-SELECTIVE HERBICIDAL SPRAY, (ROUND-UP OR EQUAL) ON A FIVE FOOT WIDE STRIP ADJACENT TO THE OUTSIDE EDGE OF PAVED SHOULDER ALONG ALL EXISTING GUARDRAIL RUNS PRIOR TO SHIFTING TRAFFIC TO PHASE I.

ALL COST FOR PLACING AND SUPPLYING THE HERBICIDAL SPRAY ARE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 - MAINTAINING TRAFFIC.

SPEED MEASUREMENT MARKINGS

SPEED MEASUREMENT MARKINGS TO ASSIST IN THE ENFORCEMENT OF SPEED ZONES WITHIN THE CONSTRUCTION ZONES, SHALL BE UTILIZED FOR THIS PROJECT. MARKINGS SHALL BE 642, WHITE, 24 INCHES WIDE AND EXTEND APPROXIMATELY 2 FEET ON EITHER SIDE OF THE TEMPORARY LANE LINE. THEY SHALL BE PLACED AT 1/4 MILE INTERVALS OVER A MINIMUM ONE MILE LENGTH OF TANGENT ROADWAY. THE LINEAR MEASUREMENTS SHALL BE SURFACE MEASURE (NOT HORIZONTAL PROJECTION). EACH ROADWAY SHALL BE LAID OUT SEPARATELY. THE MARKINGS SHALL BE LAID OUT BY A REGISTERED SURVEYOR. AFTER PLACEMENT, THE MARKING INSTALLATION SHALL BE MEASURED BY A REGISTERED SURVEYOR AND A SEALED DOCUMENT SHALL BE PROVIDED TO THE ENGINEER WHICH LISTS THE EXACT SPACING OF ALL INSTALLED MARKINGS. ANY MARKINGS WHICH CREATE ZONE LENGTHS WHICH VARY FROM 1320 FEET BY MORE THAN ONE FOOT SHALL BE REPLACED.

THE FOLLOWING LOCATIONS SHALL RECEIVE SPEED MEASUREMENT MARKINGS:
STAGE 1, PHASES 1 & 2, NB & SB, STA. 75+00 TO STA. 127+80
STAGE 2, PHASE 1, NB & SB, STA. 190+00 TO STA. 322+00
STAGE 2, PHASE 2, NB & SB, STA. 190+00 TO STA. 308+00

ALL COST FOR SURVEYING, PLACING AND RE-SURVEYING ARE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 - MAINTAINING TRAFFIC.

CALCULATED DCF
CHECKED ENF

MAINTENANCE OF TRAFFIC
GENERAL NOTES

WAY/MED-71-7.04/0.00

ITEM 614 - WORK ZONE IMPACT ATTENUATOR, (UNIDIRECTIONAL OR BIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING IMPACT ATTENUATORS:

1) THE QUADGUARD CZ, (24" WIDE 6-BAY) TEMPORARY IMPACT ATTENUATOR MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC., ONE EAST WACKER DRIVE, CHICAGO, IL 60601 (TELEPHONE: 312-467-6750).

THE LENGTH OF THE 6-BAY QUADGUARD CZ IS 20'-9". INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG.#	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
QSCZCVR-T4	QUADGUARD CZ SYSTEM FOR CONSTRUCTION ZONES	5/13/99 Rev. J	8/27/99
35-40-10	QUADGUARD SYSTEM CONCRETE PAD, CZ, QG	11/19/97 Rev. D	8/27/99
35-40-16	QUADGUARD SYSTEM BACKUP ASSEMBLY, CZ, QG	7/30/99 Rev. F	8/27/99
354051Z	QUADGUARD CZ SYSTEM NOSE ASSEMBLY, CZ, QG, 24,30,36	5/17/99	8/27/99
35-40-18	TRANSITION ASSEMBLY, 4 OFFSET, QG	6/25/99 Rev. F	8/27/99
3540260	QUADGUARD SYSTEM PCMB ANCHOR ASSEMBLY	11/19/97 Rev. C	8/27/99

2) THE TRACC (TRINITY ATTENUATING CRASH CUSHION) MANUFACTURED BY TRINITY INDUSTRIES, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330-545-4373).

THE TRACC IS 21'-0" LONG AND 2'-7" WIDE. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG.#	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
SS450M	CRASH-CUSHION ATTENUATING TERMINAL PLAN, ELEVATION & SECTIONS	3/12/99 Rev. 1	8/27/99
SS455	TRACC TRANSITION TO W-BEAM MEDIAN BARRIER PLAN, ELEVATION & SECTIONS	2/18/99	8/27/99
SS461	TRACC TRANSITION TO CONCRETE SAFETY SHAPE BARRIER PLAN, ELEVATION & SECTIONS	6/30/99 Rev. 1	8/27/99
SS462	TRACC TRANSITION TO CONCRETE BARRIER SINGLE SLOPE PLAN, ELEVATION & SECTIONS	6/30/99	8/27/99

3) THE GREAT CZ IMPACT ATTENUATOR MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC.

THIS ATTENUATOR MAY BE USED UNTIL JANUARY 1, 2007 IF THE ITEM WAS PURCHASED BEFORE OCTOBER 1, 1998 AND IS IN THE CONTRACTOR'S INVENTORY.

THE CONTRACTOR SHALL PROVIDE A REPLACEMENT UNIT WHEN AN IMPACT IS SEVERE ENOUGH TO REQUIRE COMPLETE REPLACEMENT OF THE ATTENUATOR. THE CONTRACTOR SHALL HAVE A SPARE PARTS PACKAGE AVAILABLE ON THE PROJECT SITE AT ALL TIMES WHEN AN ATTENUATOR IS IN PLACE. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF ONE COMPLETE SPARE PARTS PACKAGE FOR EVERY 1 TO 6 UNITS INSTALLED ON THE PROJECT SITE. FOR EXAMPLE, 5 INSTALLED UNITS REQUIRE 1 SPARE PARTS PACKAGE AND 7 INSTALLED UNITS REQUIRE 2 SPARE PARTS PACKAGES.

WHEN BI-DIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS. PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 614, WORK ZONE IMPACT ATTENUATOR, (UNIDIRECTIONAL OR BI-DIRECTIONAL), EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT, MAINTAIN, REPAIR, REPLACE OR RELOCATE A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

CALCULATED
CHECKED

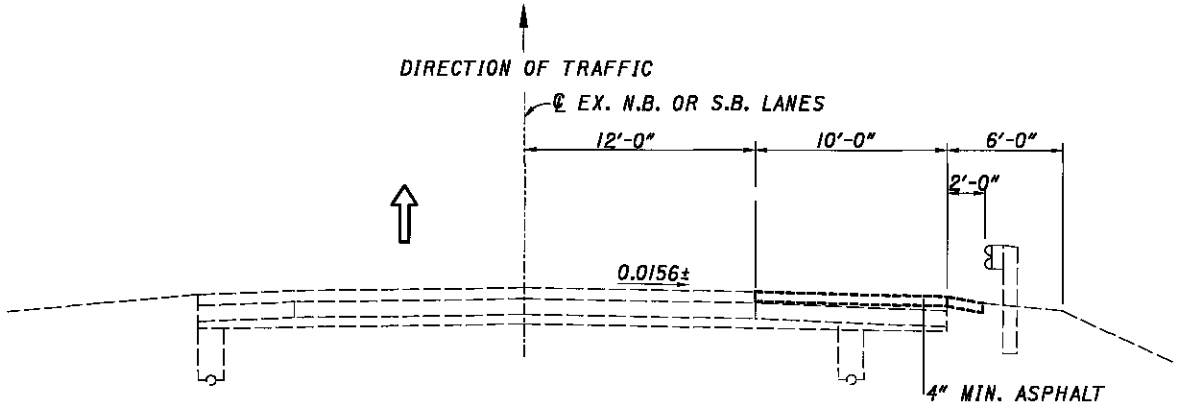
MAINTENANCE OF TRAFFIC
GENERAL NOTES

WAY/MED-71-7.04/0.00

MNA.DGN

LEGEND

①	254	PAVEMENT PLANING, BITUMINOUS (1 ½" MAX. - 0" MIN.)
②	448	1 ½" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-28
③	407	TACK COAT (SEE GENERAL NOTE)
④	301	8" ASPHALT CONCRETE BASE, PG 64-22, AS PER PLAN A
⑤	301	8" ASPHALT CONCRETE BASE, PG 64-22, AS PER PLAN B
⑭	605	6" BY TYPE PIPE UNDERDRAIN, 707.31 OR 707.41



OUTSIDE BERM RESURFACING TYPICAL SECTION BY PREVIOUS CONTRACT (2004)

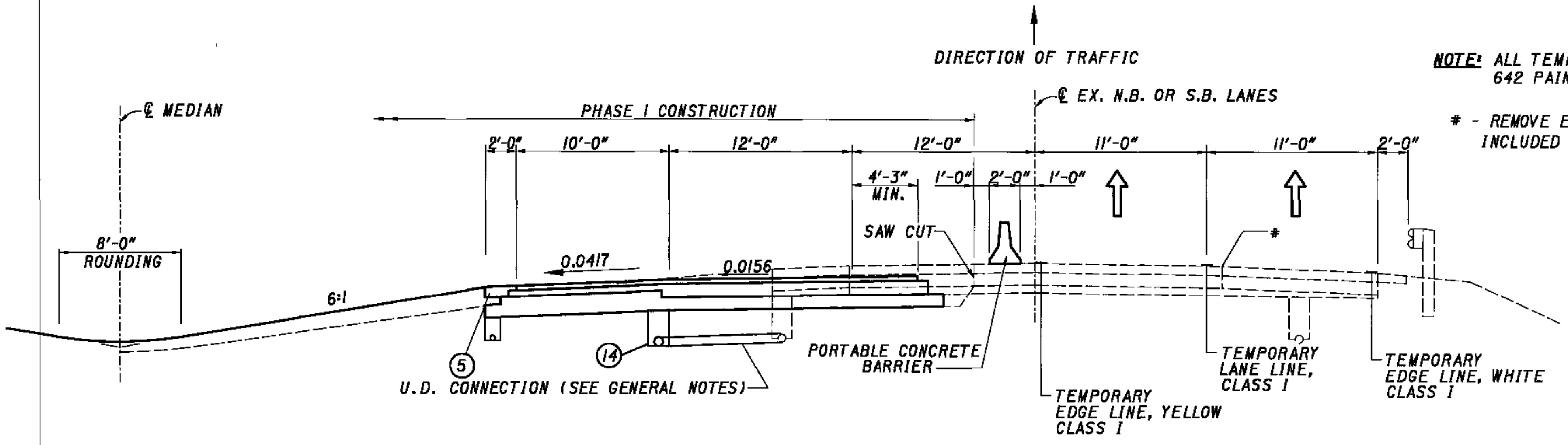
STA. 371+50* TO STA. 374+60* STA. 0+00 TO STA. 343+90 NORTHBOUND
STA. 371+50* TO STA. 374+60* STA. 0+00 TO STA. 349+56 SOUTHBOUND

NOTE: ALL STATION LIMITS SHOWN INCLUDE THE EXISTING BRIDGES WHICH ARE TO BE RECONSTRUCTED.

* - WAY. CO. STATIONING

NOTE: ALL TEMPORARY PAVEMENT MARKINGS SHALL BE 642 PAINT UNLESS OTHERWISE NOTED.

* - REMOVE EXISTING EDGE LINE, COST INCLUDED UNDER ITEM 614 - MAINTAINING TRAFFIC



MAINTENANCE OF TRAFFIC TYPICAL SECTION PHASE I

SOUTHBOUND

STA. 371+50 TO STA. 374+60*
STA. 0+00 TO STA. 80+00
STA. 92+00 TO STA. 106+00
STA. 114+00 TO STA. 156+00
STA. 172+00 TO STA. 320+00

NORTHBOUND

STA. 371+50 TO STA. 374+60*
STA. 0+00 TO STA. 86+00
STA. 94+00 TO STA. 107+00
STA. 119+00 TO STA. 159+00
STA. 175+00 TO STA. 320+00

* - WAY. CO. STATIONING

NOTE: ALL STATION LIMITS SHOWN INCLUDE THE EXISTING BRIDGES WHICH ARE TO BE RECONSTRUCTED.

MDA.DGN

CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC - TYPICAL SECTIONS STAGES 1 & 2, PHASE 1

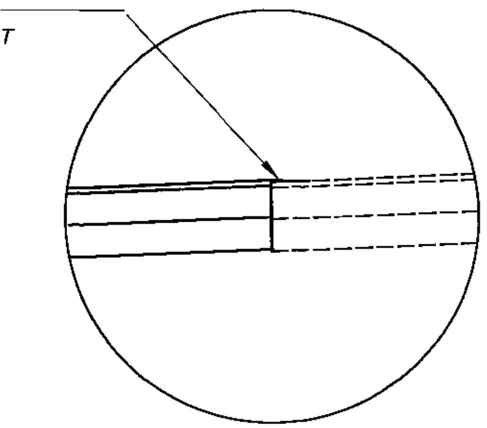
WAY/MED-71-7.04/0.00

LEGEND

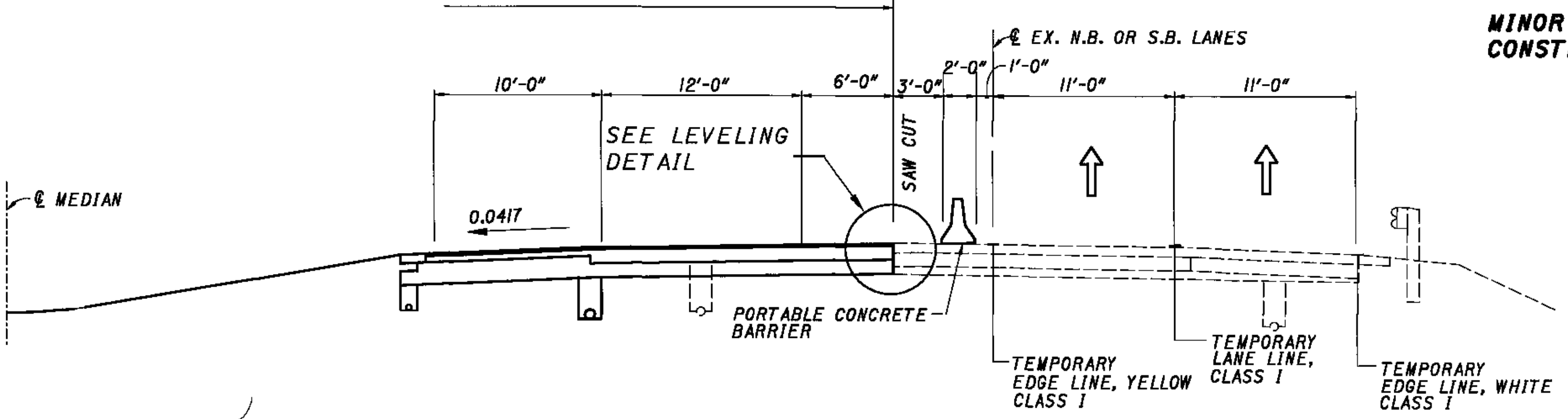
- ③ 446 1 ¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG-64-28
- ④ 302 4" ASPHALT CONCRETE BASE, PG 64-22
- ⑨ 407 TACK COAT (SEE GENERAL NOTE)
- ⑩ 254 PAVEMENT PLANING, BITUMINOUS

WEDGE USING 614-ASPHALT CONC. FOR MAINT. TRAFFIC AT RATE NOT TO EXCEED 1" IN 2'

WEDGING MAY APPLY TO EITHER SIDE OF JOINT



MINOR LEVELING AT CONSTRUCTION JOINT



MAINTENANCE OF TRAFFIC TYPICAL SECTION REQUIRING LONGITUDINAL BUTT JOINT

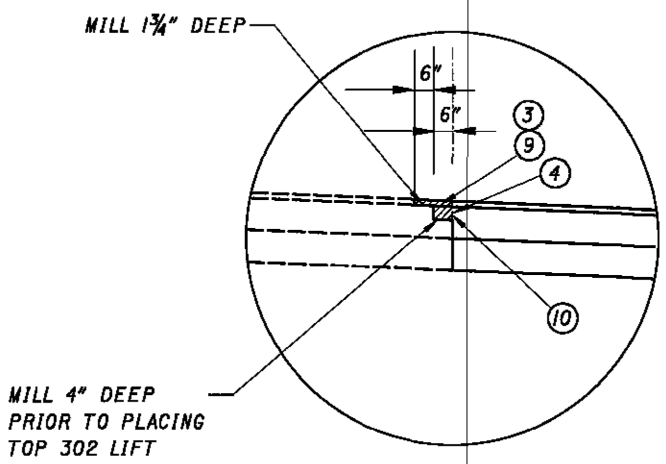
STAGE 1 OR 2, PHASE 1

SOUTHBOUND

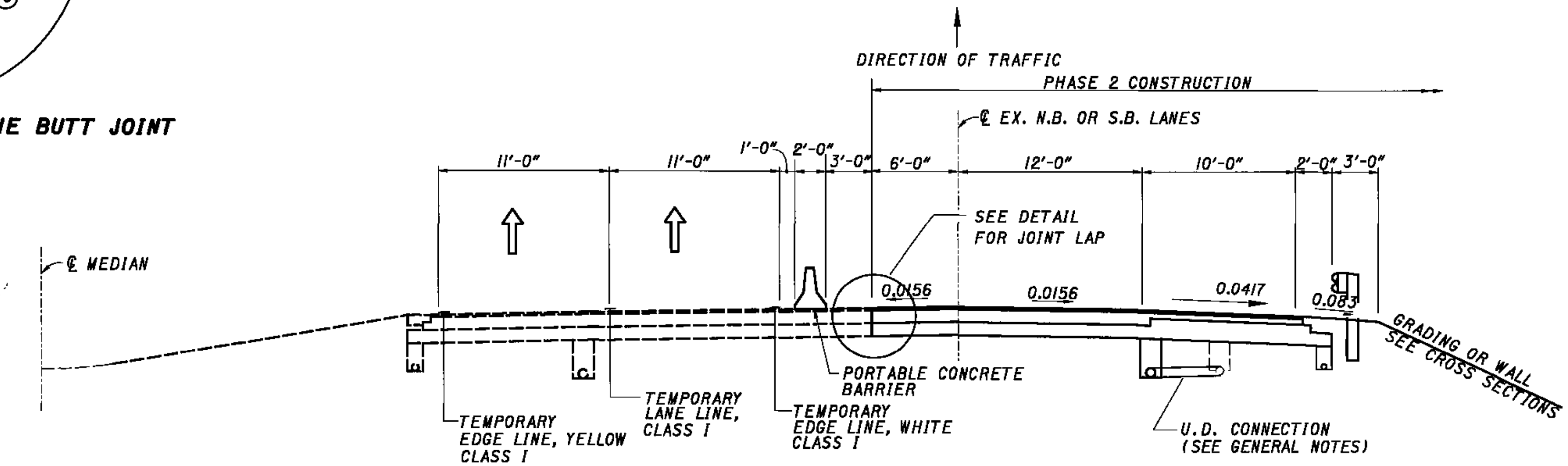
STA. 77+35 TO STA. 92+00 - 1465.00'
STA. 106+00 TO STA. 114+00 - 800.00'
STA. 320+00 TO STA. 336+00 - 1600.00'
TOTAL - 3865'

NORTHBOUND

STA. 86+00 TO STA. 94+00 - 800.00'
STA. 107+00 TO STA. 121+65 - 1465.00'
STA. 320+00 TO STA. 336+00 - 1600.00'
TOTAL - 3865'



CONVERSION OF MAINLINE BUTT JOINT TO LAPPED JOINT


DIRECTION OF TRAFFIC
PHASE 2 CONSTRUCTION
℄ EX. N.B. OR S.B. LANES
11'-0"
11'-0"
1'-0"
2'-0"
3'-0"
6'-0"
12'-0"
10'-0"
2'-0"
3'-0"
℄ MEDIAN
SEE DETAIL FOR JOINT LAP
0.0156
0.0156
0.0417
0.083
GRADING OR WALL SEE CROSS SECTIONS
PORTABLE CONCRETE BARRIER
TEMPORARY EDGE LINE, YELLOW CLASS I
TEMPORARY LANE LINE, CLASS I
TEMPORARY EDGE LINE, WHITE CLASS I
U.D. CONNECTION (SEE GENERAL NOTES)

MAINTENANCE OF TRAFFIC TYPICAL SECTION REQUIRING LONGITUDINAL BUTT JOINT

STAGE 1 OR 2, PHASE 2

SOUTHBOUND

STA. 77+35 TO STA. 92+00 - 1465.00'
STA. 106+00 TO STA. 114+00 - 800.00'
TOTAL - 2265'

NORTHBOUND

STA. 86+00 TO STA. 94+00 - 800.00'
STA. 107+00 TO STA. 121+65 - 1465.00'
TOTAL - 2265'

CALCULATED
CHECKED

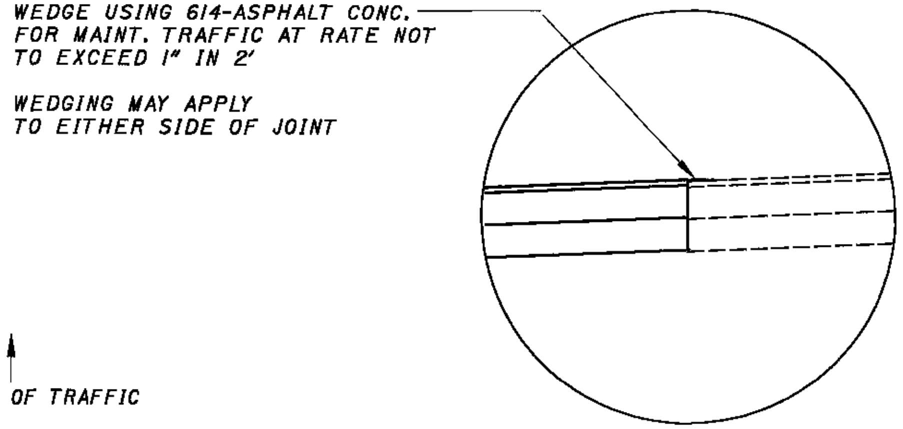
MAINTENANCE OF TRAFFIC - TYPICAL SECTIONS STAGE 1 OR 2, PHASES 1 & 2

WAY/MED-71-7.04/0.00

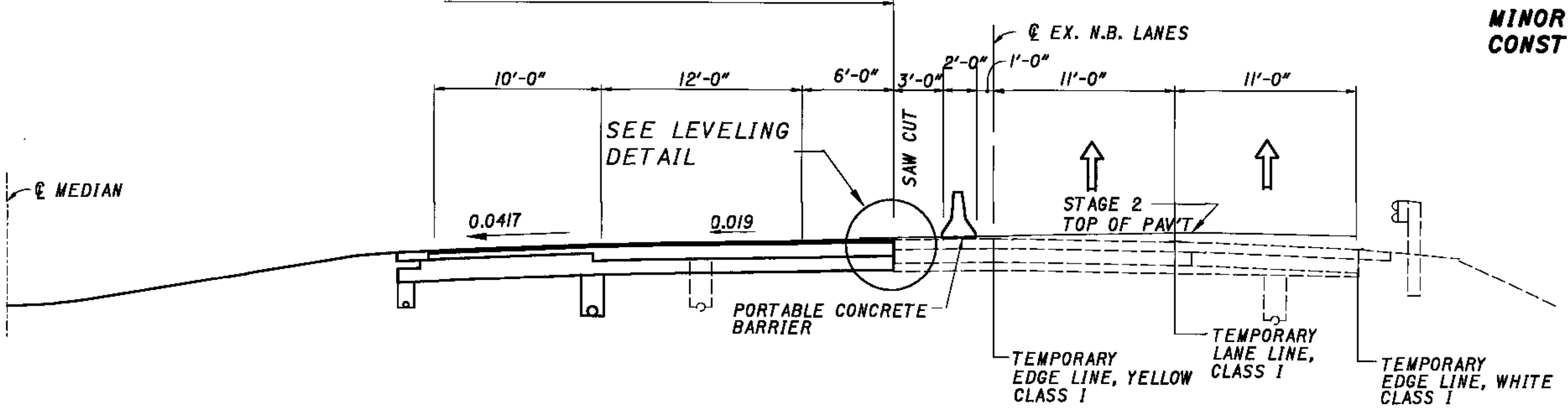
MDA.DGN

LEGEND

③ 446 1 ¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG-64-28
④ 302 4" ASPHALT CONCRETE BASE, PG 64-22
⑨ 407 TACK COAT (SEE GENERAL NOTE)
⑩ 254 PAVEMENT PLANING, BITUMINOUS


WEDGE USING 614-ASPHALT CONC. FOR MAINT. TRAFFIC AT RATE NOT TO EXCEED 1" IN 2'
WEDGING MAY APPLY TO EITHER SIDE OF JOINT

MINOR LEVELING AT CONSTRUCTION JOINT



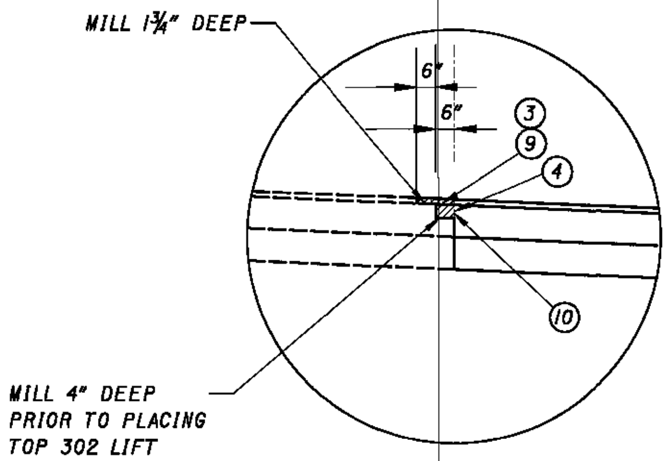
MAINTENANCE OF TRAFFIC TYPICAL SECTION REQUIRING LONGITUDINAL BUTT JOINT

STAGE 1, PHASE 1

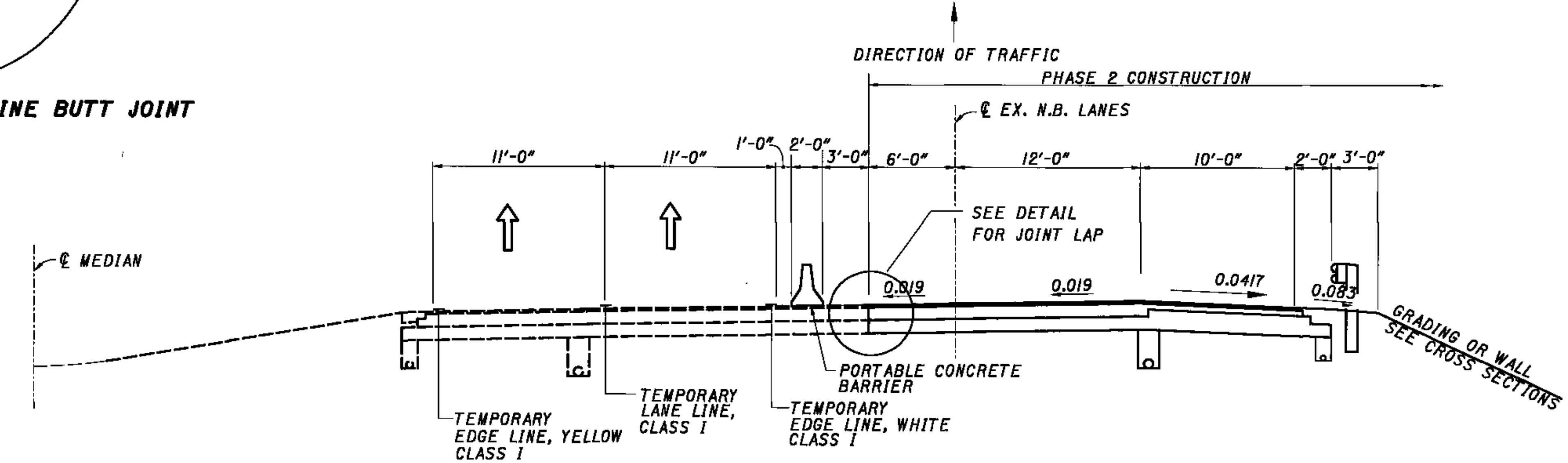
NORTHBOUND

STA. 159+00 TO STA. 175+00 - 1600'

SPECIAL DETAIL TO PARTIALLY CONSTRUCT SUPERELEVATED PAV'T ADJACENT TO EXISTING NON-SUPERELEVATED PAVEMENT



CONVERSION OF MAINLINE BUTT JOINT TO LAPPED JOINT



MAINTENANCE OF TRAFFIC TYPICAL SECTION REQUIRING LONGITUDINAL BUTT JOINT

STAGE 1, PHASE 2

NORTHBOUND

STA. 159+00 TO STA. 175+00 - 1600'

MDA.DGN

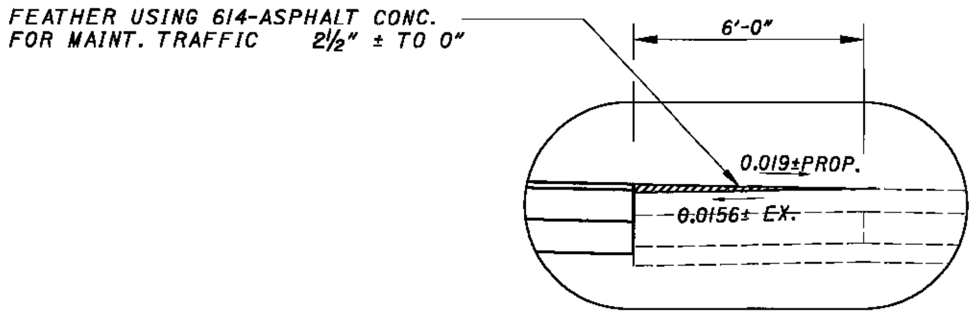
CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC - TYPICAL SECTIONS
STAGE 1, PHASES 1 & 2

WAY/MED-71-7.04/0.00

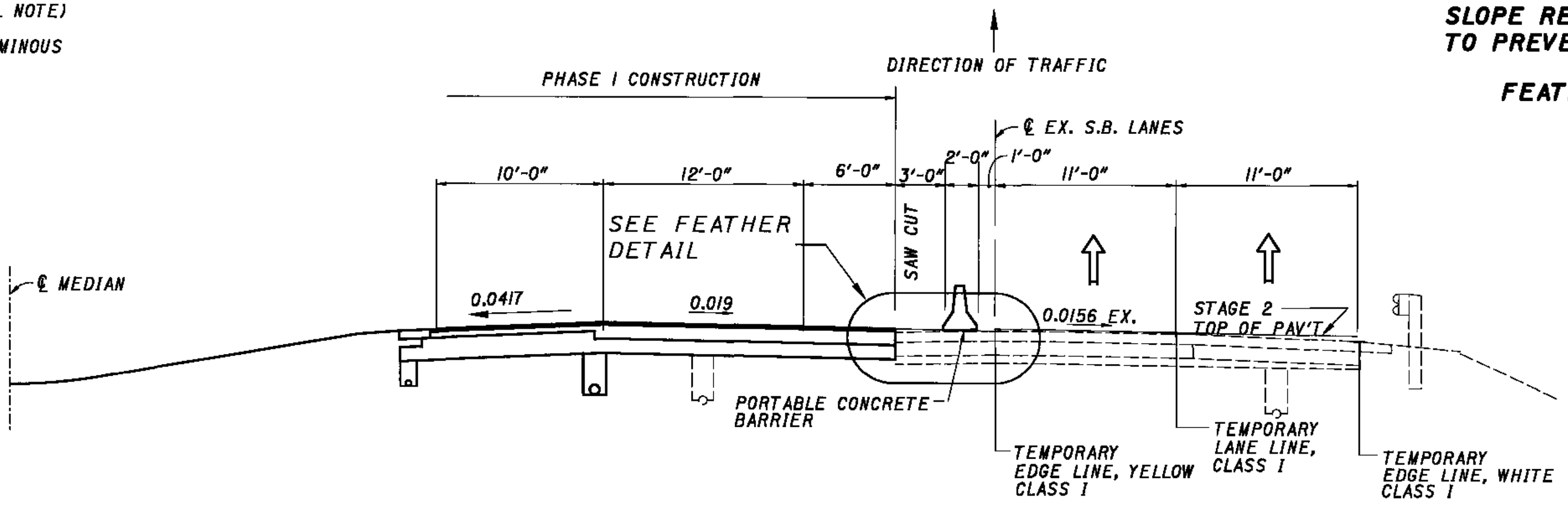
LEGEND

③ 446 1 ¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG-64-28
④ 302 4" ASPHALT CONCRETE BASE, PG 64-22
⑨ 407 TACK COAT (SEE GENERAL NOTE)
⑩ 254 PAVEMENT PLANING, BITUMINOUS


FEATHER USING 614-ASPHALT CONC.
FOR MAINT. TRAFFIC 2½" ± TO 0"
6'-0"
0.019±PROP.
0.0156± EX.

SLOPE REVERSAL LEVELING TO PREVENT PONDING

FEATHER DETAIL

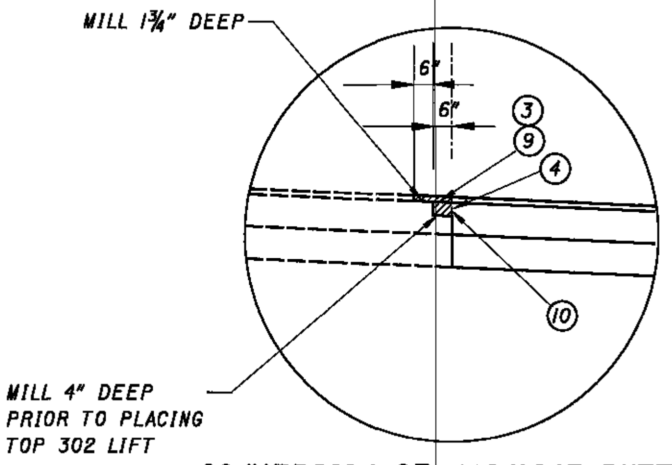


MAINTENANCE OF TRAFFIC TYPICAL SECTION REQUIRING LONGITUDINAL BUTT JOINT

STAGE 1, PHASE 1

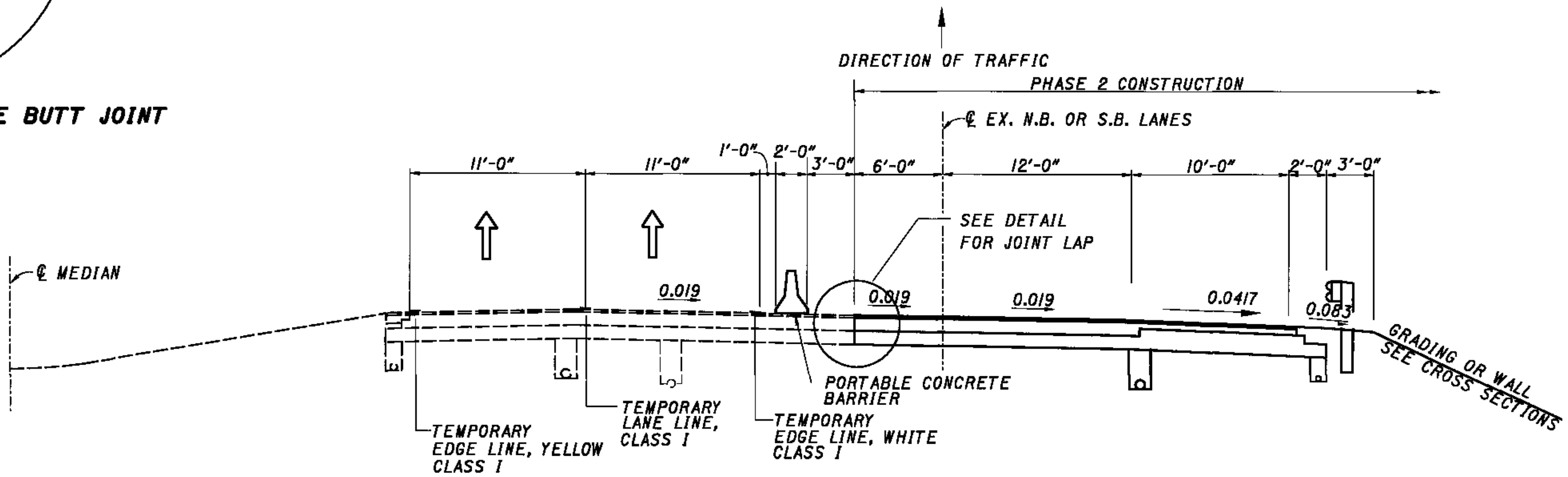
SOUTHBOUND

STA. 156+00 TO STA. 172+00 - 1600'



CONVERSION OF MAINLINE BUTT JOINT TO LAPPED JOINT

SPECIAL DETAIL TO PARTIALLY CONSTRUCT SUPERELEVATED PAV'T ADJACENT TO EXISTING NON-SUPERELEVATED PAVEMENT



MAINTENANCE OF TRAFFIC TYPICAL SECTION REQUIRING LONGITUDINAL BUTT JOINT

STAGE 1, PHASE 2

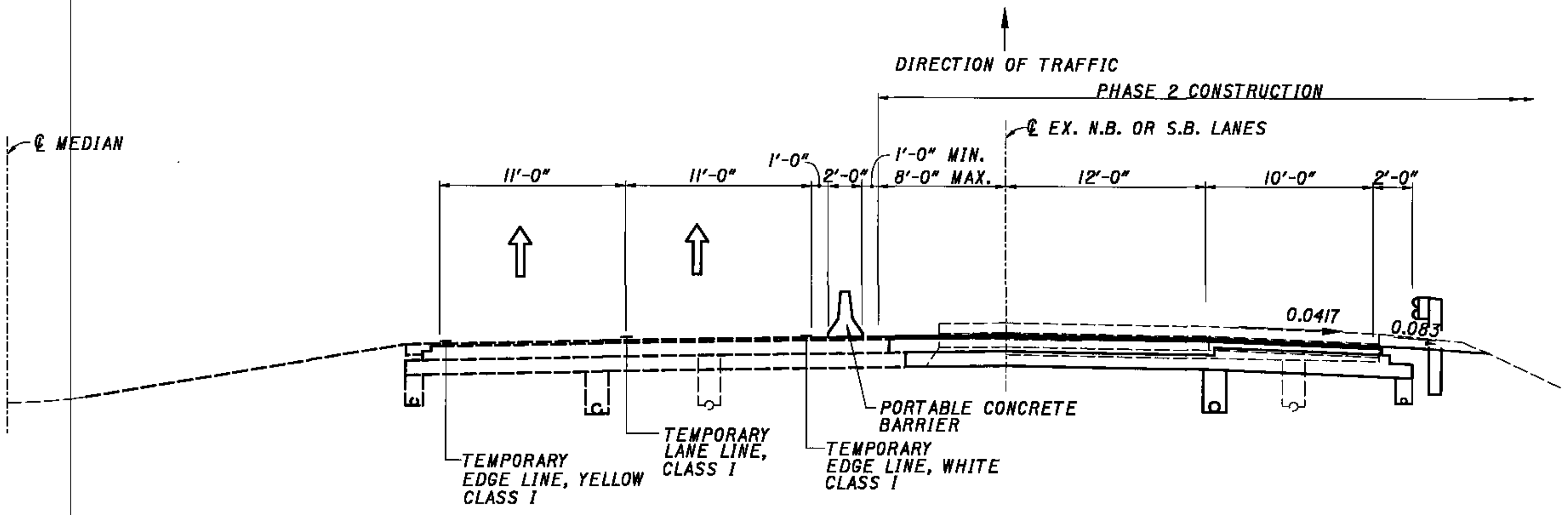
SOUTHBOUND

STA. 156+00 TO STA. 172+00 - 1600'

CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC - TYPICAL SECTIONS STAGE 1, PHASES 1 & 2

WAY/MED-71-7.04/0.00

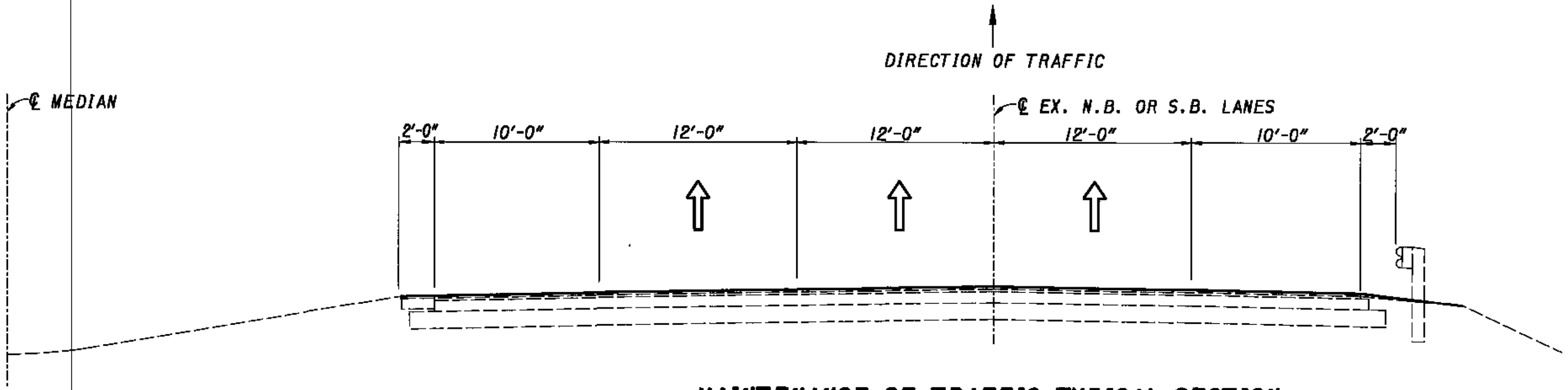


MAINTENANCE OF TRAFFIC TYPICAL SECTION
PHASE 2

SOUTHBOUND	NORTHBOUND
STA. 371+50 TO STA. 374+60*	STA. 371+50 TO STA. 374+60*
STA. 0+00 TO STA. 80+00	STA. 0+00 TO STA. 86+00
STA. 92+00 TO STA. 106+00	STA. 94+00 TO STA. 107+00
STA. 114+00 TO STA. 156+00	STA. 119+00 TO STA. 159+00
STA. 172+00 TO STA. 320+00	STA. 175+00 TO STA. 320+00

* - WAY. CO. STATIONING

__NOTE:__ ALL STATION LIMITS SHOWN INCLUDE THE EXISTING BRIDGES WHICH ARE TO BE RECONSTRUCTED



MAINTENANCE OF TRAFFIC TYPICAL SECTION
FINAL PHASE

APPLY FINAL SURFACE COURSE AND FINAL PAVEMENT MARKINGS, RPMS AND SHOULDER RUMBLE STRIPS

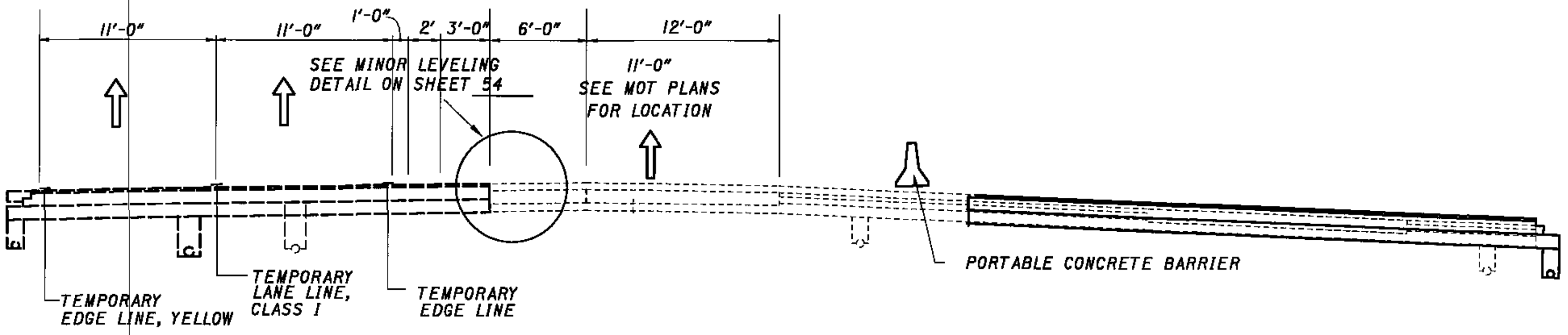
SEE TRAFFIC CONTROL PLANS FOR ADDITIONAL DETAILS

CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC - TYPICAL SECTIONS
STAGE 1 OR 2, PHASES 2 & FINAL

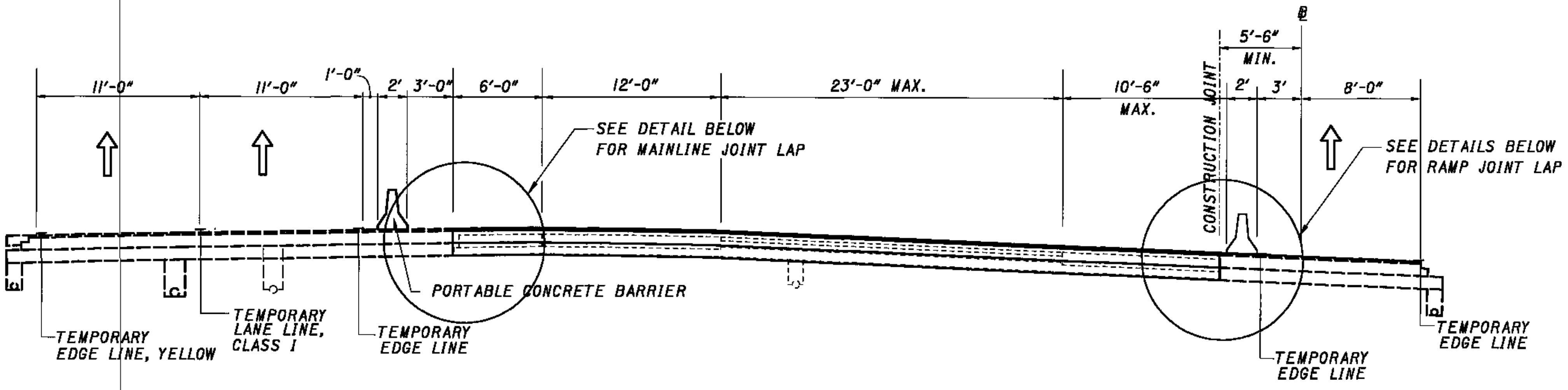
WAY/MED-71-7.04/0.00

MAINLINE BUTT JOINT DETAIL SHOWN IS TYPICALLY REQUIRED FOR 1465' ALONG THE SPEED CHANGE LANES, ELSEWHERE, THE TYPICAL LAP JOINT APPLIES.



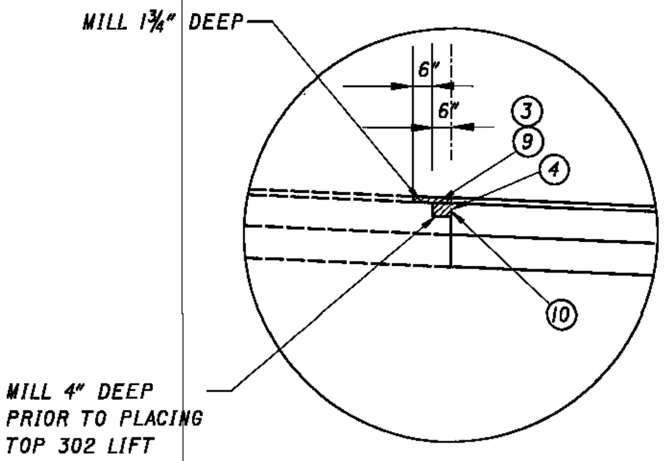
11'-0"
11'-0"
1'-0"
2'
3'-0"
6'-0"
12'-0"
SEE MINOR LEVELING DETAIL ON SHEET 54
11'-0"
SEE MOT PLANS FOR LOCATION
PORTABLE CONCRETE BARRIER
TEMPORARY EDGE LINE, YELLOW
TEMPORARY LANE LINE, CLASS I
TEMPORARY EDGE LINE

MAINTENANCE OF TRAFFIC TYPICAL SECTION
PHASE 2A - TYPICAL ENTRANCE AND EXIT RAMPS



11'-0"
11'-0"
1'-0"
2'
3'-0"
6'-0"
12'-0"
23'-0" MAX.
10'-6" MAX.
CONSTRUCTION JOINT
5'-6" MIN.
℄
2'
3'
8'-0"
SEE DETAIL BELOW FOR MAINLINE JOINT LAP
SEE DETAILS BELOW FOR RAMP JOINT LAP
PORTABLE CONCRETE BARRIER
TEMPORARY EDGE LINE, YELLOW
TEMPORARY LANE LINE, CLASS I
TEMPORARY EDGE LINE
TEMPORARY EDGE LINE
TEMPORARY EDGE LINE

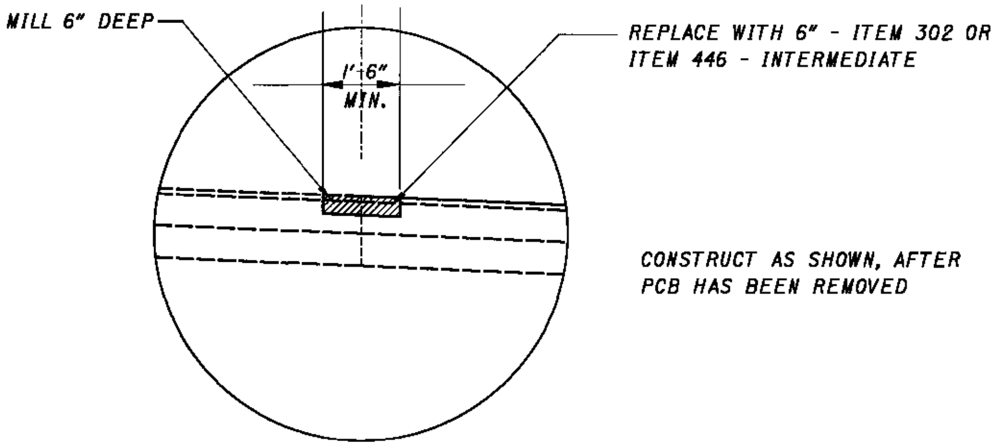
MAINTENANCE OF TRAFFIC TYPICAL SECTION
PHASE 2B - TYPICAL ENTRANCE AND EXIT RAMPS



CONVERSION OF MAINLINE OR RAMP BUTT JOINT TO LAPPED JOINT

FOR LEGEND SEE SHEET 54

RAMP BUTT JOINT DETAIL SHOWN IS REQUIRED AT FIRST 150' ALONG SPEED CHANGE LANE. ELSEWHERE, THE TYPICAL LAPPED JOINT CONSTRUCTION METHOD SHALL BE USED.



CONSTRUCT AS SHOWN, AFTER PCB HAS BEEN REMOVED

CONVERSION OF RAMP BUTT JOINT TO LAPPED JOINT

150' TYP. @ ENTRANCE RAMP SPEED CHANGE LANES
130' TYP. @ EXIT RAMP SPEED CHANGE LANES

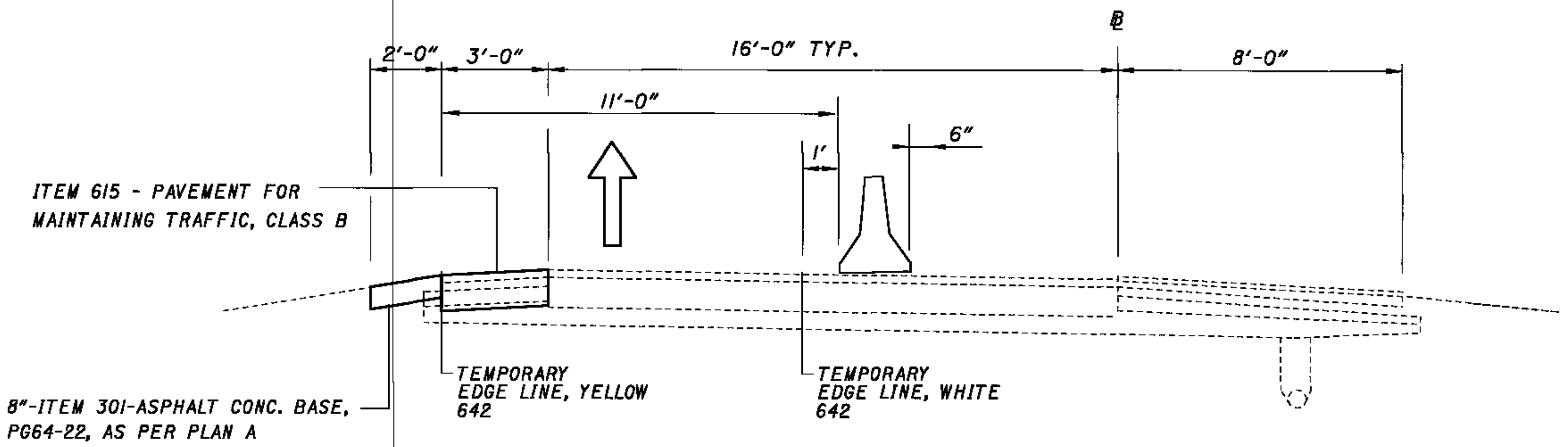
MDA.DGN

CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC - TYPICAL SECTIONS
STAGES 1 OR 2 - PHASES 2A & 2B

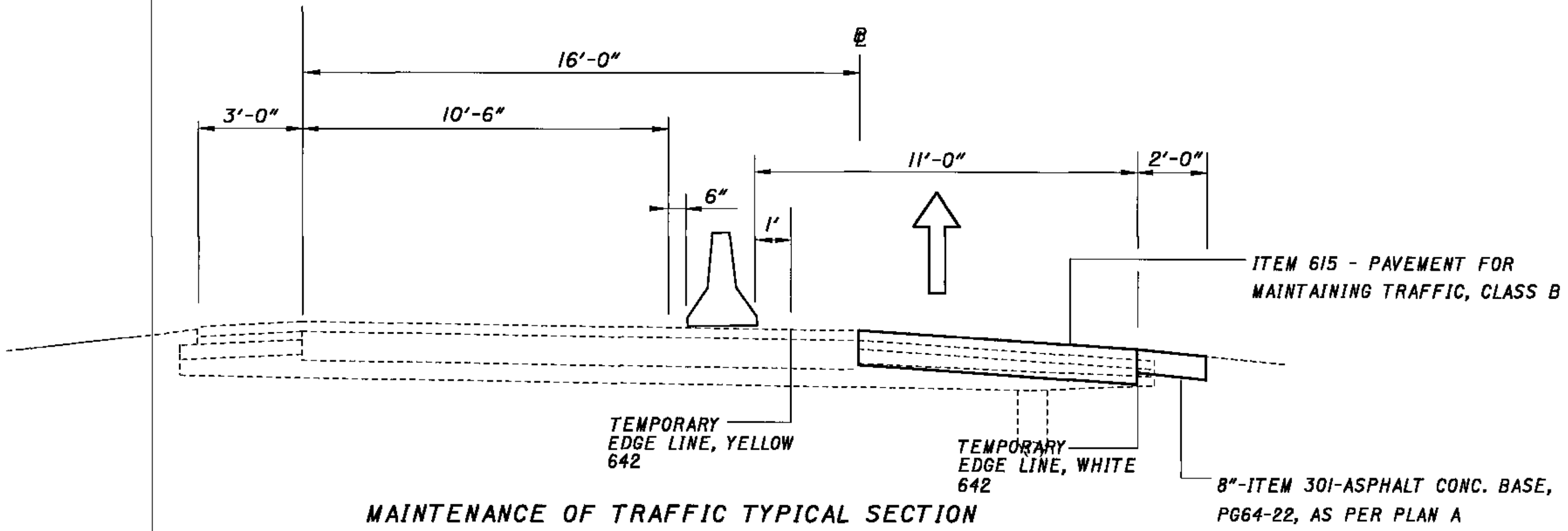
WAY/MED-71-7.04/0.00

DETAIL VALID FOR ENTRANCE RAMPS AND EXIT RAMPS IMMEDIATELY ADJACENT TO SPEED CHANGE LANES. THE EDGE LINES AND BARRIER WILL TAPER FROM THE POSITION SHOWN TO NORMAL OFFSETS.


℄
2'-0"
3'-0"
16'-0" TYP.
8'-0"
11'-0"
1'
6"
ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B
8"-ITEM 301-ASPHALT CONC. BASE, PG64-22, AS PER PLAN A
TEMPORARY EDGE LINE, YELLOW 642
TEMPORARY EDGE LINE, WHITE 642

MAINTENANCE OF TRAFFIC TYPICAL SECTION
PHASE 2A

OMIT PORTABLE CONCRETE BARRIER AT EXIT RAMPS


℄
16'-0"
3'-0"
10'-6"
11'-0"
2'-0"
6"
1'
ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B
TEMPORARY EDGE LINE, YELLOW 642
TEMPORARY EDGE LINE, WHITE 642
8"-ITEM 301-ASPHALT CONC. BASE, PG64-22, AS PER PLAN A

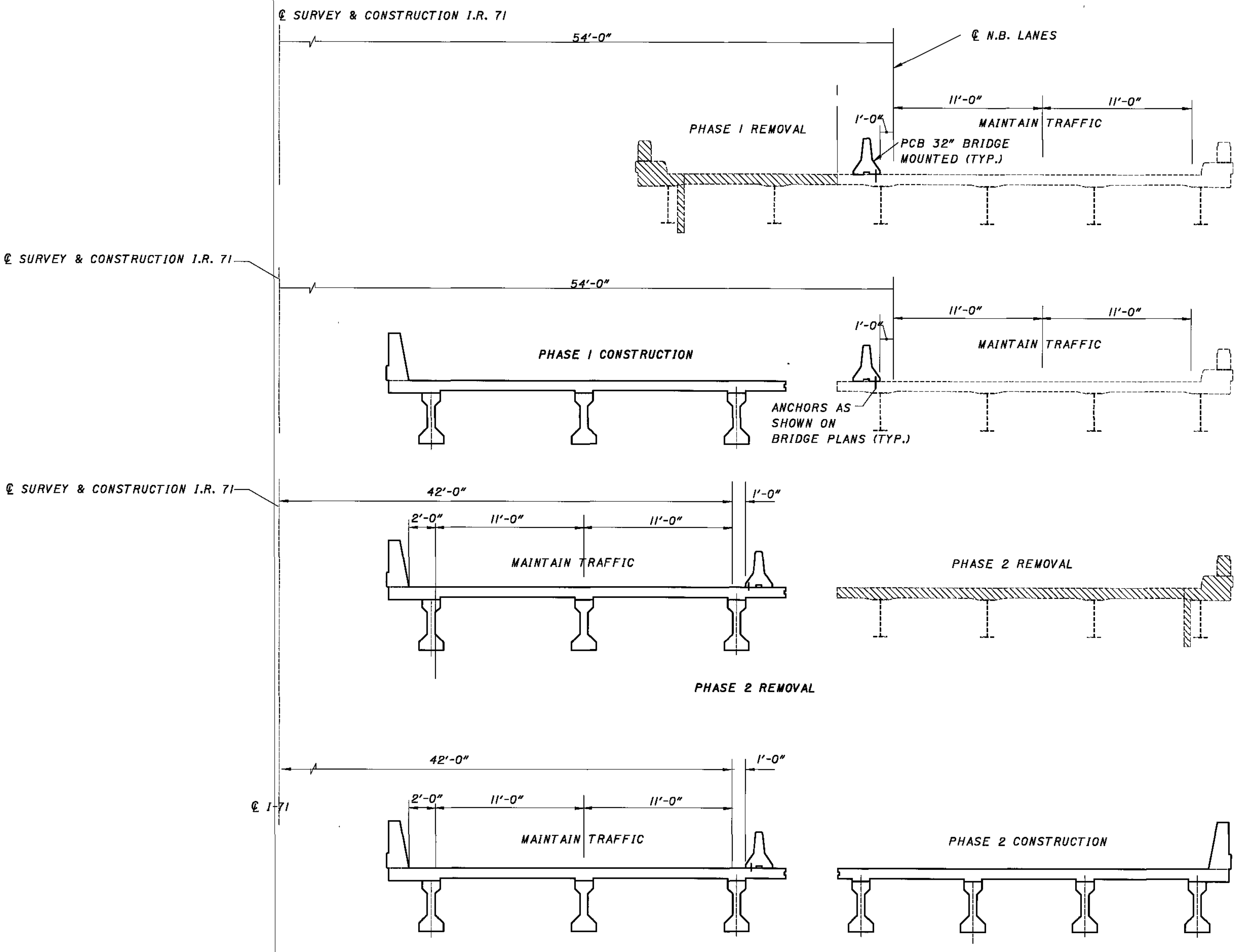
MAINTENANCE OF TRAFFIC TYPICAL SECTION
PHASE 2B

LOCATION	STATION TO STATION	SIDE	615 PAV'T FOR MAIN. TRAFFIC CLASS B SQ. YARD	301 ASPH. CONC. BASE PG64-22, AS PER PLAN A CU. YARD
RAMP A	92+20 TO 92+95	LT.	25.0	3.7
	92+20 TO 94+20	RT.	177.8	9.9
RAMP B	92+34 TO 93+09	LT.	25.0	3.7
	92+34 TO 94+34	RT.	177.8	9.9
RAMP C	106+09 TO 106+84	LT.	25.0	3.7
	104+84 TO 106+84	RT.	177.8	9.9
RAMP D	106+20 TO 106+96	LT.	25.0	3.7
	104+96 TO 106+96	RT.	177.8	9.9
TOTALS CARRIED TO M.O.T. SUBSUMMARY - SHEET 100			811.2	54.4

CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC - TYPICAL SECTIONS
SR83 RAMPS - PHASES 2A & 2B

WAY/MED-71-7.04/0.00



(NORTHBOUND LANES SHOWN, SOUTHBOUND OPPOSITE HAND)

CALCULATED

CHECKED

MAINTENANCE OF TRAFFIC - TYPICAL STRUCTURE TRANSVERSE SECTIONS

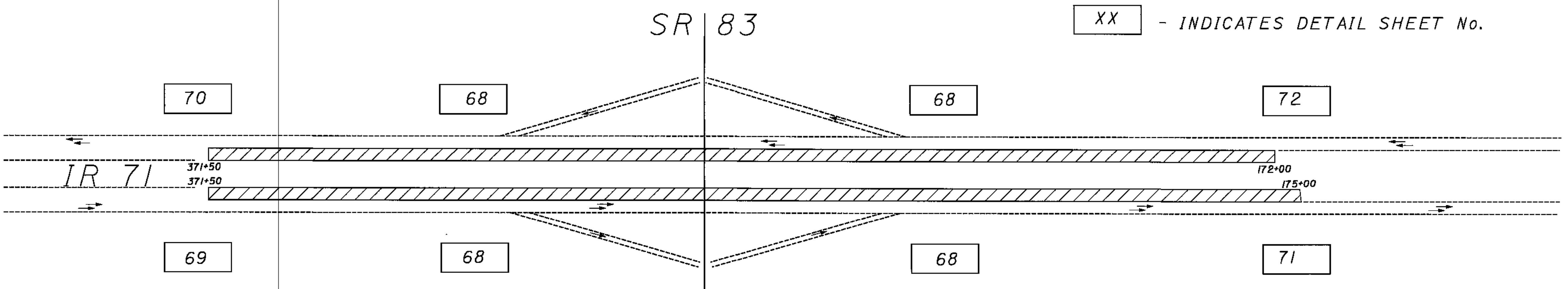
WAY/MED-71-7.04/0.00

MAINTENANCE OF TRAFFIC - STAGE 1
MOT ZONES - CROSS REFERENCE MAP

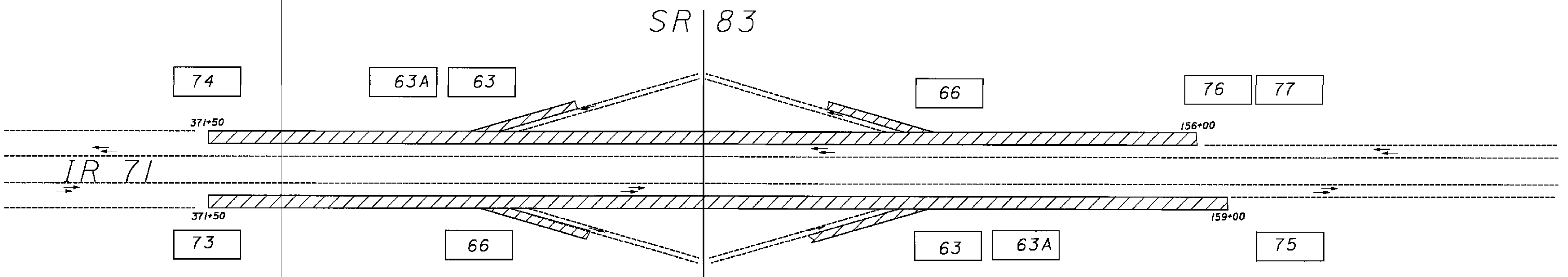
WAY/MED-71-7.04/0.00

XX - INDICATES DETAIL SHEET No.

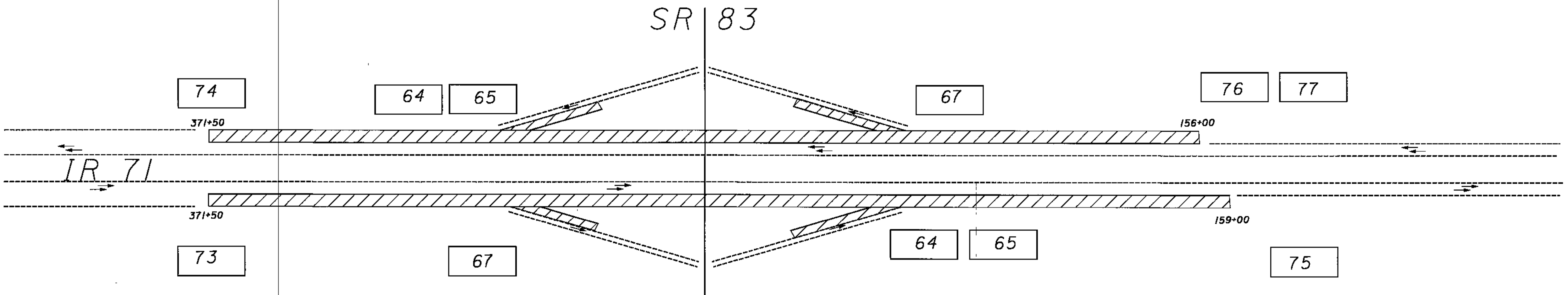
STAGE 1 - PHASE 1



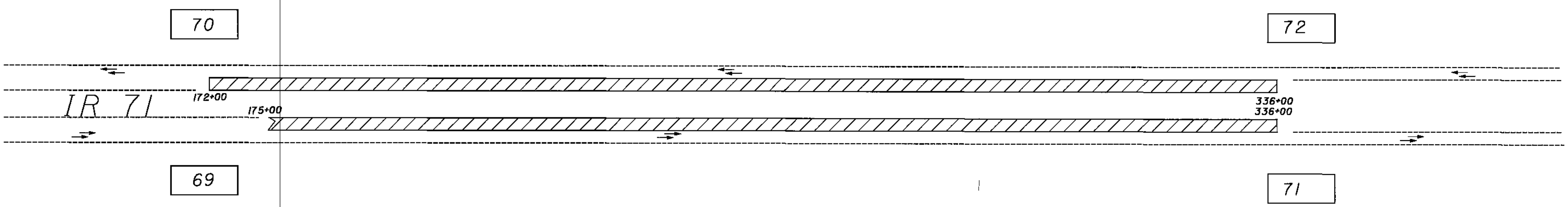
STAGE 1 - PHASE 2A



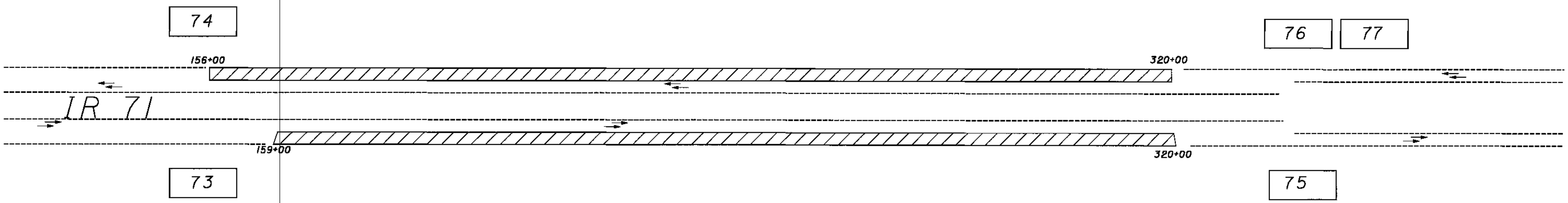
STAGE 1 - PHASE 2B



XX - INDICATES DETAIL SHEET No.



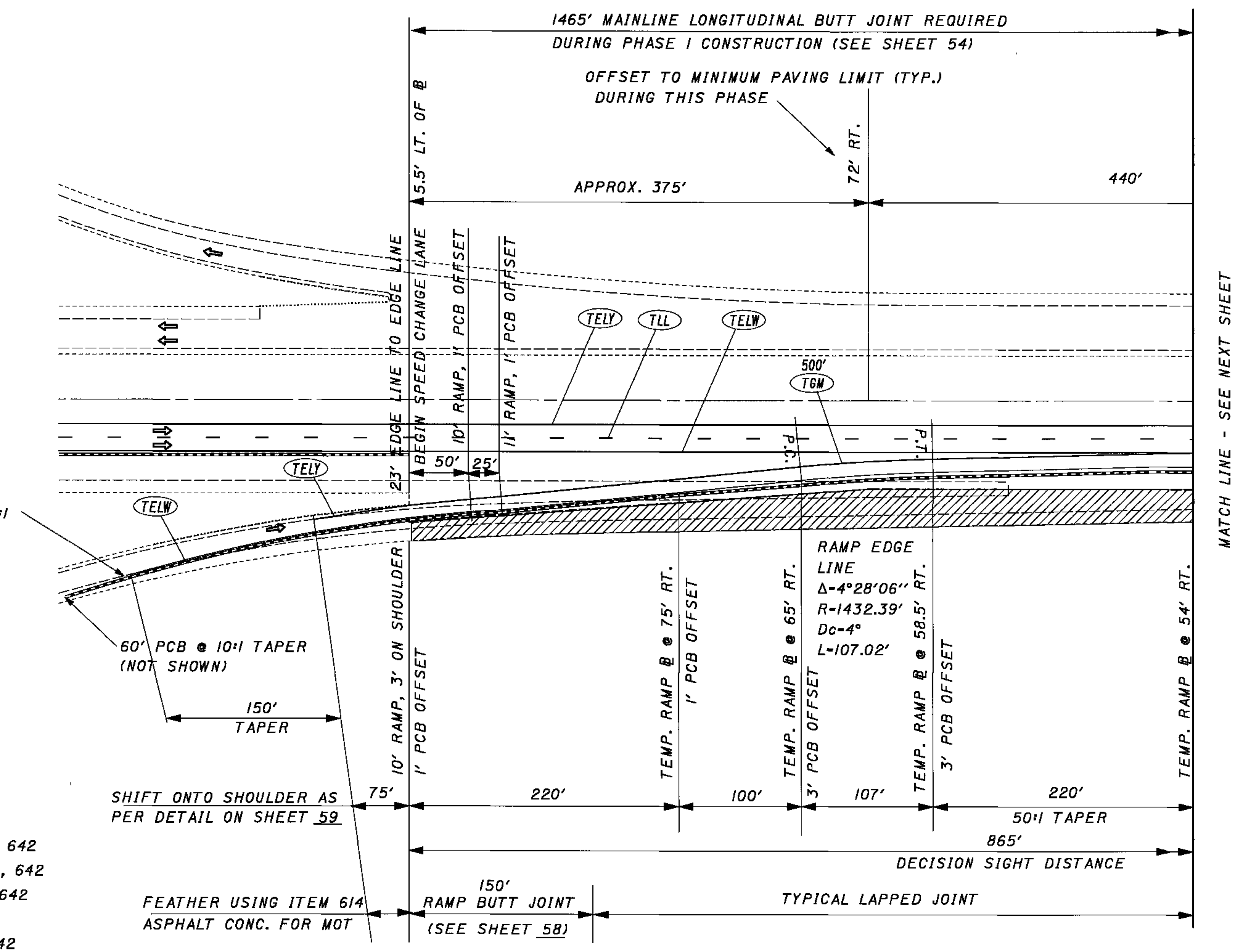
STAGE 2 - PHASE 1



STAGE 2 - PHASE 2

MAINTENANCE OF TRAFFIC - STAGE 2
MOT ZONES - CROSS REFERENCE MAP

WAY/MED-71-7.04/0.00



SHIFT TO NORMAL LANE POSITION @ 25:1
TAPER AS SHOWN, OR COORDINATE
WITH RAMP MOT DETAILS.

LEGEND

TELW - Temp. Edge Line, Class I, White, 642
TELY - Temp. Edge Line, Class I, Yellow, 642
TSLL - Temp. Solid Lane Line, Class I, 642
TLL - Temp. Lane Line, Class I, 642
TGM - Temp. Gore Marking, Class II, 642
TELW - Temp. Edge Line, White, Class I, 740.06 Type I
TELY - Temp. Edge Line, Yellow, Class I, 740.06, Type I
TSLL - Temp. Solid Lane Line, Class I, 740.06 Type I
TLL - Temp. Lane Line, Class I, 740.06 Type I

▬ - 32" Portable Concrete Barrier, 1' Offset to Edge Line (Typ.). Unless shown otherwise
○ ○ - Drums @ 60' c/c unless shown otherwise, 1' min' offset to edge line, (provide larger offset when shown)
▭ - Work Zone Impact Attenuator
○ - Offset to lane line or edge line from Centerline
▨ - Area of Construction During This Phase

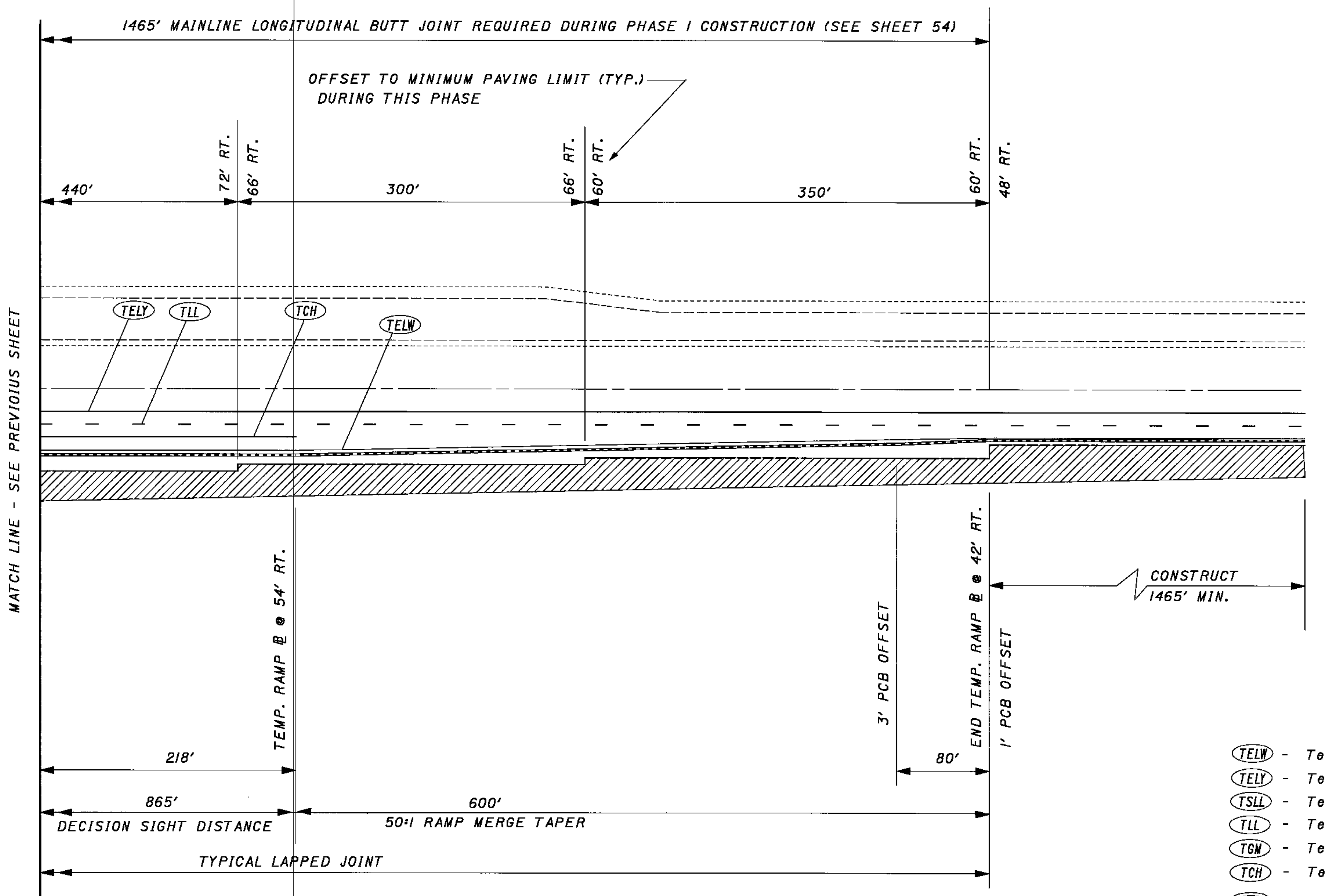
TYPICAL ENTRANCE RAMP
PHASE 2A

HORIZONTAL SCALE IN FEET
0 100

CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC - STAGE 1 OR 2
TYP. ENTRANCE RAMP - PHASE 2A

WAY/MED-71-7.04/0.00



TYPICAL ENTRANCE RAMP
PHASE 2A

LEGEND

- (TELW) - Temp. Edge Line, Class I, White, 642
- (TELY) - Temp. Edge Line, Class I, Yellow, 642
- (TSLL) - Temp. Solid Lane Line, Class I, 642
- (TLL) - Temp. Lane Line, Class I, 642
- (TGM) - Temp. Gore Marking, Class II, 642
- (TCH) - Temp. Chan. Line, Class I, 642
- ((TELW)) - Temp. Edge Line, White, Class I, 740.06 Type I
- ((TELY)) - Temp. Edge Line, Yellow, Class I, 740.06, Type I
- ((TSLL)) - Temp. Solid Lane Line, Class I, 740.06 Type I
- ((TLL)) - Temp. Lane Line, Class I, 740.06 Type I

- 32" Portable Concrete Barrier, 1' Offset to Edge Line (Typ.). Unless shown otherwise
○ ○ - Drums @ 60' c/c unless shown otherwise, 1' min' offset to edge line, (provide larger offset when shown)
- Work Zone Impact Attenuator
○ - Offset to lane line or edge line from Centerline
▨ - Area of Construction During This Phase

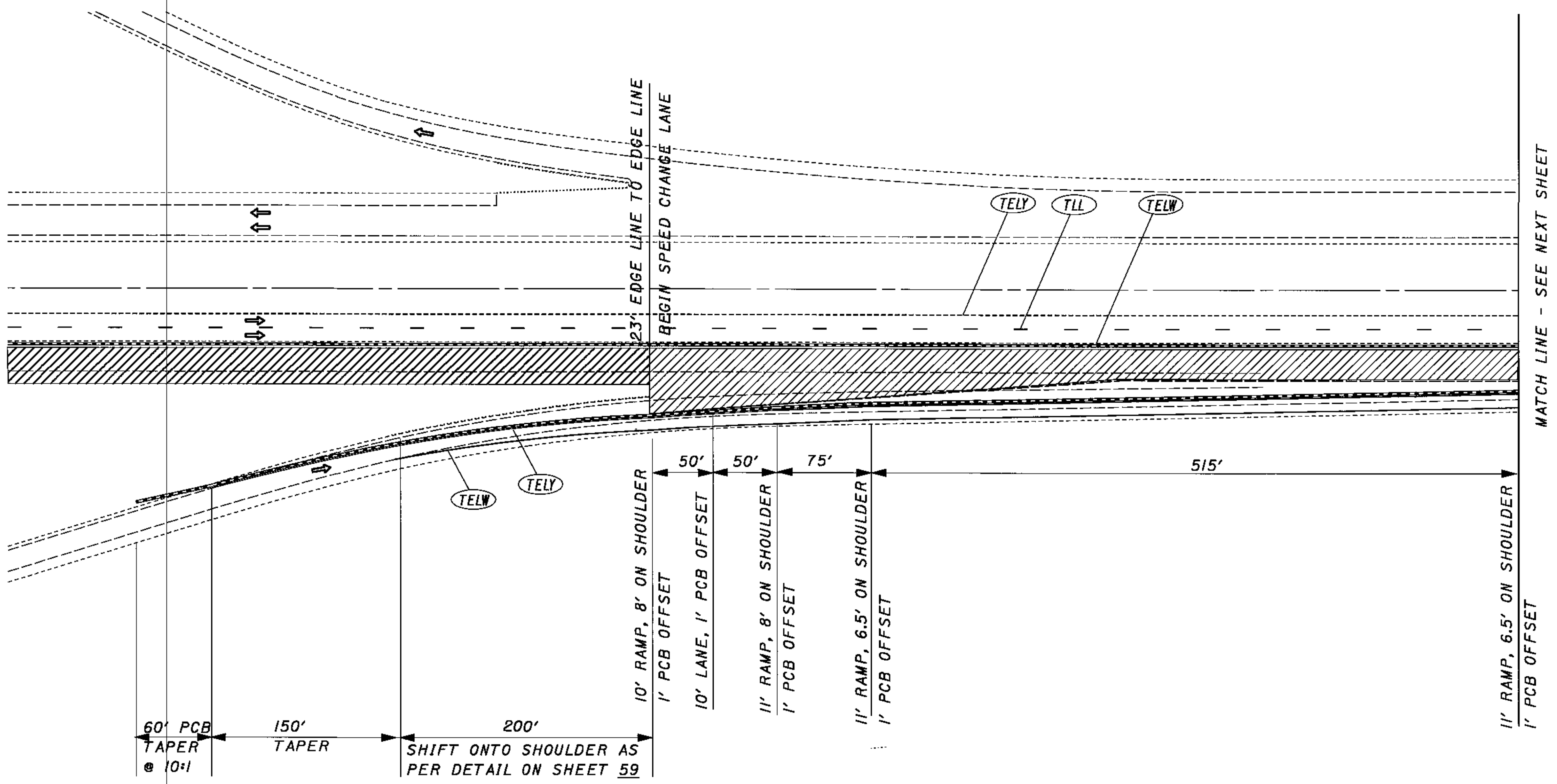
HORIZONTAL SCALE IN FEET
0
100

CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC - STAGE 1 OR 2
TYP. ENTRANCE RAMP - PHASE 2A

WAY/MED-71-7.04/0.00

\14017m+13.dgn



FEATHER USING ITEM 614
ASPHALT CONC. FOR MOT

SHIFT TO NORMAL LANE POSITION @ 25:1
TAPER AS SHOWN, OR COORDINATE
WITH RAMP MOT DETAILS.

TYPICAL ENTRANCE RAMP
PHASE 2B

LEGEND

- TELW - Temp. Edge Line, Class I, White, 642
- TELY - Temp. Edge Line, Class I, Yellow, 642
- TSLL - Temp. Solid Lane Line, Class I, 642
- TLL - Temp. Lane Line, Class I, 642
- TGM - Temp. Gore Marking, Class II, 642
- TELW - Temp. Edge Line, White, Class I, 740.06 Type I
- TELY - Temp. Edge Line, Yellow, Class I, 740.06, Type I
- TSLL - Temp. Solid Lane Line, Class I, 740.06 Type I
- TLL - Temp. Lane Line, Class I, 740.06 Type I
- 32" Portable Concrete Barrier, 1' Offset to Edge Line (Typ.). Unless shown otherwise
- ○ ○ - Drums @ 60' c/c unless shown otherwise, 1' min' offset to edge line, (provide larger offset when shown)
- Work Zone Impact Attenuator
- ○ - Offset to lane line or edge line from Centerline
- ▨ - Area of Construction During This Phase
- ------------ - Pav't markings from Phase 2A

N

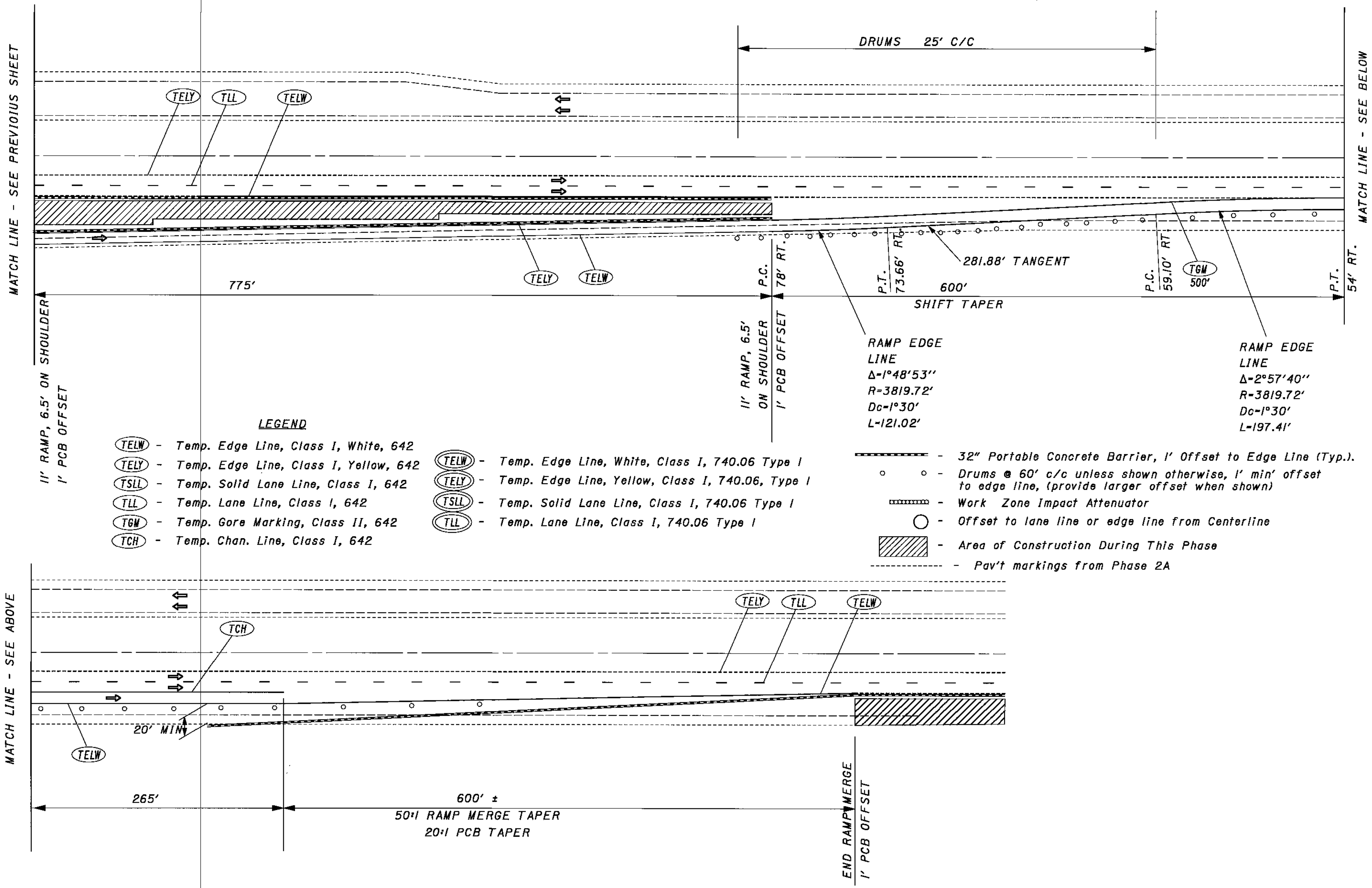
0 100
HORIZONTAL
SCALE IN FEET

CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC - STAGE 1 OR 2
TYP. ENTRANCE RAMP - PHASE 2B

WAY/MED-71-7.04/0.00

...\14017mt13.dgn



LEGEND

- TELW - Temp. Edge Line, Class I, White, 642
- TELY - Temp. Edge Line, Class I, Yellow, 642
- TSLL - Temp. Solid Lane Line, Class I, 642
- TLL - Temp. Lane Line, Class I, 642
- TGM - Temp. Gore Marking, Class II, 642
- TCH - Temp. Chan. Line, Class I, 642
- TELW - Temp. Edge Line, White, Class I, 740.06 Type I
- TELY - Temp. Edge Line, Yellow, Class I, 740.06, Type I
- TSLL - Temp. Solid Lane Line, Class I, 740.06 Type I
- TLL - Temp. Lane Line, Class I, 740.06 Type I
- ▬ - 32" Portable Concrete Barrier, 1' Offset to Edge Line (Typ.).
- ○ ○ - Drums @ 60' c/c unless shown otherwise, 1' min' offset to edge line, (provide larger offset when shown)
- ▭ - Work Zone Impact Attenuator
- ○ - Offset to lane line or edge line from Centerline
- ▨ - Area of Construction During This Phase
- - - - - Pav't markings from Phase 2A

TYPICAL ENTRANCE RAMP - PHASE 2B

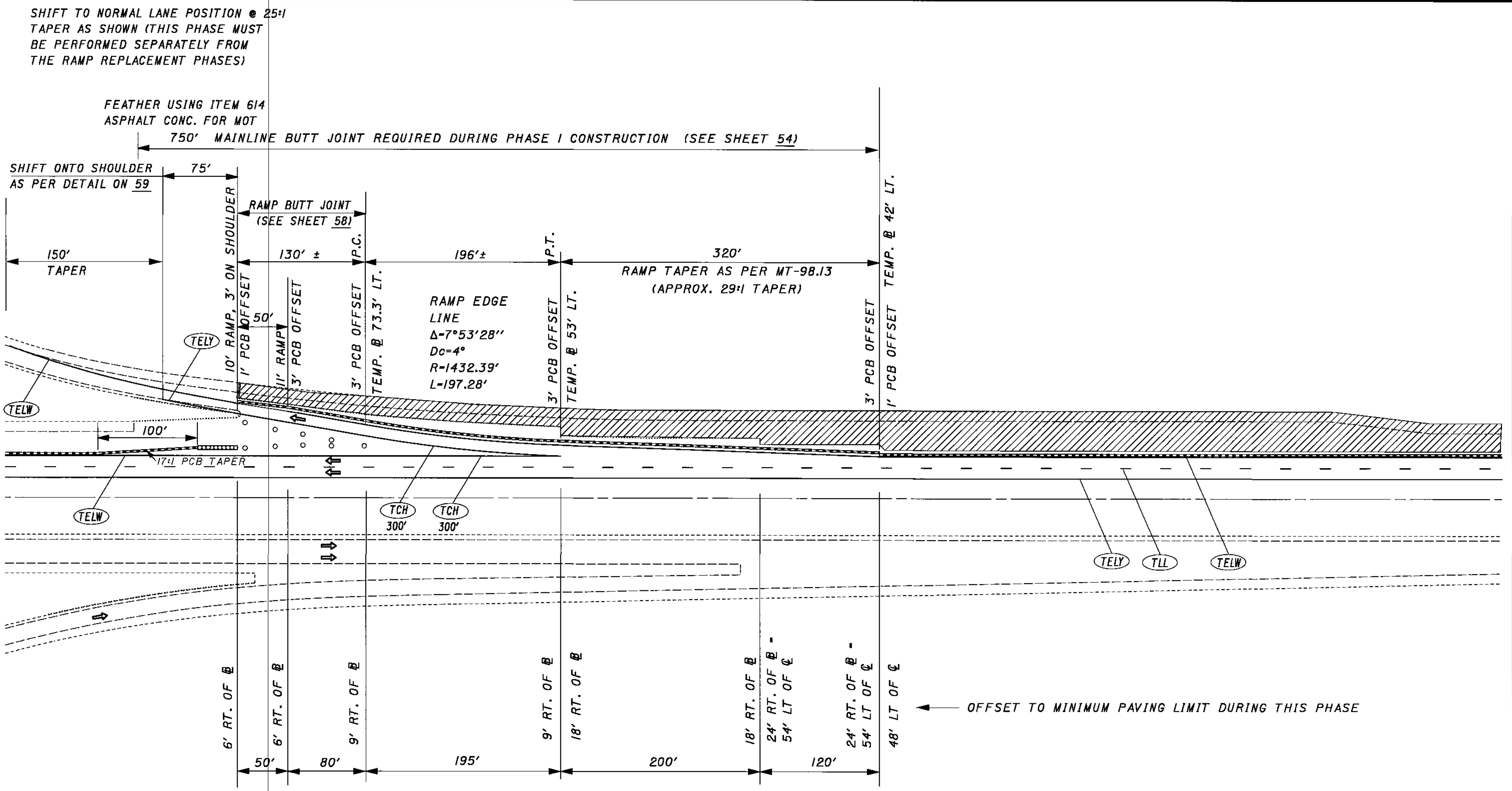
HORIZONTAL SCALE IN FEET
0 100

CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC - STAGE 1 OR 2
TYP. ENTRANCE RAMP - PHASE 2B

WAY/MED-71-7.04/0.00

...\14017mt13.dgn


SHIFT TO NORMAL LANE POSITION @ 25:1 TAPER AS SHOWN (THIS PHASE MUST BE PERFORMED SEPARATELY FROM THE RAMP REPLACEMENT PHASES)
FEATHER USING ITEM 614 ASPHALT CONC. FOR MOT
750' MAINLINE BUTT JOINT REQUIRED DURING PHASE 1 CONSTRUCTION (SEE SHEET 54)
SHIFT ONTO SHOULDER AS PER DETAIL ON 59
75'
RAMP BUTT JOINT (SEE SHEET 58)
150' TAPER
130' ±
P.C.
196'±
P.T.
320'
RAMP TAPER AS PER MT-98.13 (APPROX. 29:1 TAPER)
10' RAMP, 3' ON SHOULDER
1' PCB OFFSET
50'
11' RAMP
3' PCB OFFSET
3' PCB OFFSET
TEMP. ℄ 73.3' LT.
RAMP EDGE LINE
Δ=7°53'28"
Dc=4°
R=1432.39'
L=197.28'
3' PCB OFFSET
TEMP. ℄ 53' LT.
3' PCB OFFSET
1' PCB OFFSET
TEMP. ℄ 42' LT.
TELY
TELW
100'
17:1 PCB TAPER
TELW
TCH 300'
TCH 300'
TELY
TLL
TELW
6' RT. OF ℄
6' RT. OF ℄
9' RT. OF ℄
9' RT. OF ℄
18' RT. OF ℄
18' RT. OF ℄
24' RT. OF ℄ - 54' LT OF ℄
24' RT. OF ℄ - 54' LT OF ℄
48' LT OF ℄
OFFSET TO MINIMUM PAVING LIMIT DURING THIS PHASE
50'
80'
195'
200'
120'

LEGEND

(TELW) - Temp. Edge Line, Class I, White, 642
(TELY) - Temp. Edge Line, Class I, Yellow, 642
(TSLL) - Temp. Solid Lane Line, Class I, 642
(TLL) - Temp. Lane Line, Class I, 642
(TCH) - Temp. Chan. Line, Class I, 642

(TELW) - Temp. Edge Line, White, Class I, 740.06 Type I
(TELY) - Temp. Edge Line, Yellow, Class I, 740.06, Type I
(TSLL) - Temp. Solid Lane Line, Class I, 740.06 Type I
(TLL) - Temp. Lane Line, Class I, 740.06 Type I
(TCH) - Temp. Chan. Line, Class I, 740.06 Type I

▬ - 32" Portable Concrete Barrier, 1' Offset to Edge Line (Typ.). Unless shown otherwise
○ ○ - Drums @ 60' c/c unless shown otherwise, 1' min' offset to edge line, (provide larger offset when shown)
▬ - Work Zone Impact Attenuator
○ - Offset to lane line or edge line from Centerline
▨ - Area of Construction During This Phase

TYPICAL EXIT RAMP
PHASE 2A

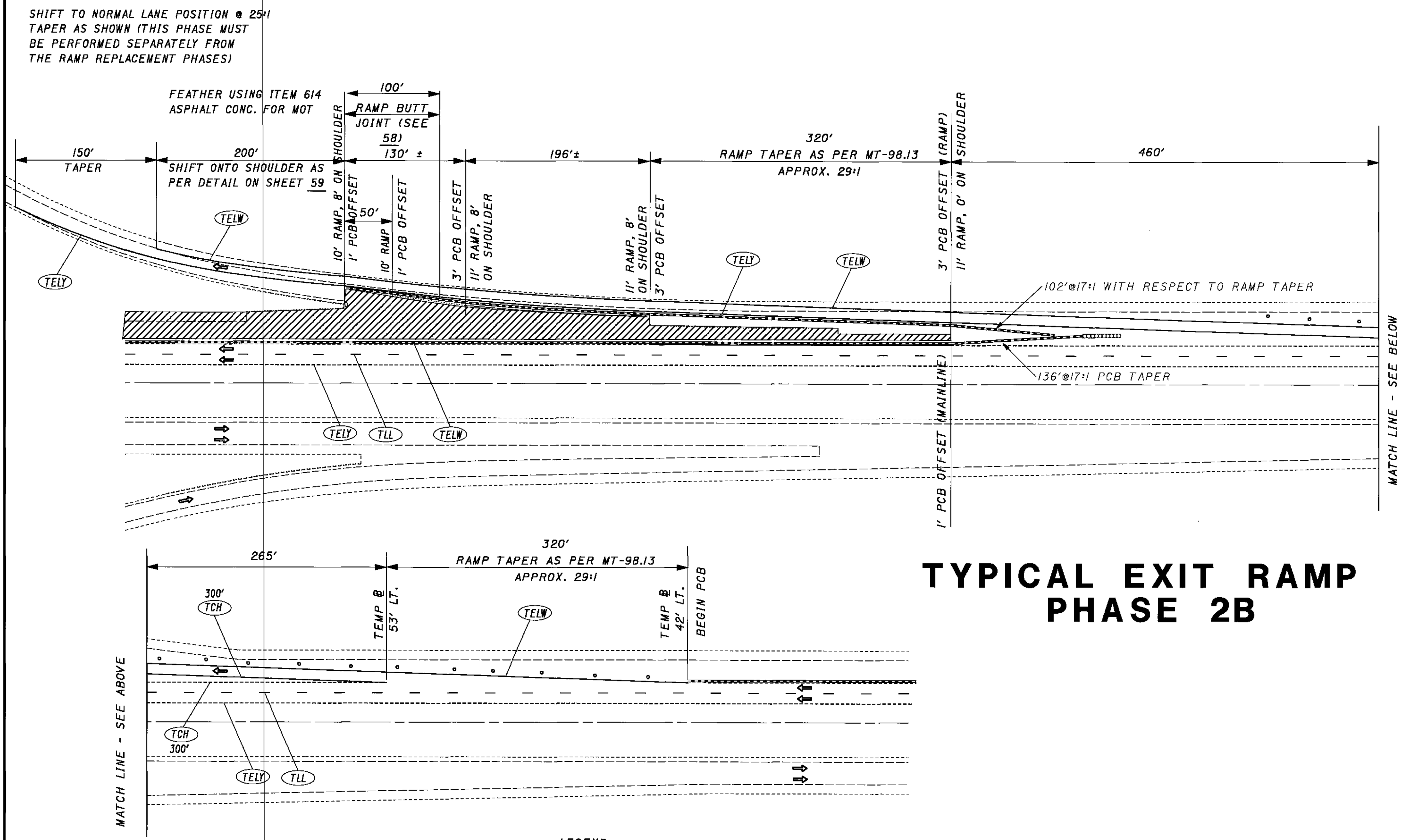
HORIZONTAL SCALE IN FEET
0
100

CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC - STAGE 1 OR 2
TYPICAL EXIT RAMP - PHASE 2A

WAY/MED-71-7.04/0.00

...\14017mt13.dgn



TYPICAL EXIT RAMP PHASE 2B

LEGEND

TELW	-	Temp. Edge Line, Class I, White, 642	TELW	-	Temp. Edge Line, White, Class I, 740.06 Type I
TELY	-	Temp. Edge Line, Class I, Yellow, 642	TELY	-	Temp. Edge Line, Yellow, Class I, 740.06, Type I
TSLL	-	Temp. Solid Lane Line, Class I, 642	TSLL	-	Temp. Solid Lane Line, Class I, 740.06 Type I
TLL	-	Temp. Lane Line, Class I, 642	TLL	-	Temp. Lane Line, Class I, 740.06 Type I
TCH	-	Temp. Chan. Line, Class I, 642	TCH	-	Temp. Chan. Line, Class I, 740.06 Type I

┄┄┄┄	-	Pav't markings from Phase 2A
▬▬▬	-	32" Portable Concrete Barrier, 1' Offset to Edge Line (Typ.). Unless shown otherwise
○ ○	-	Drums @ 60' c/c unless shown otherwise, 1' min' offset to edge line, (provide larger offset when shown)
▭	-	Work Zone Impact Attenuator
○	-	Offset to lane line or edge line from Centerline
▨	-	Area of Construction During This Phase

HORIZONTAL SCALE IN FEET
0 100

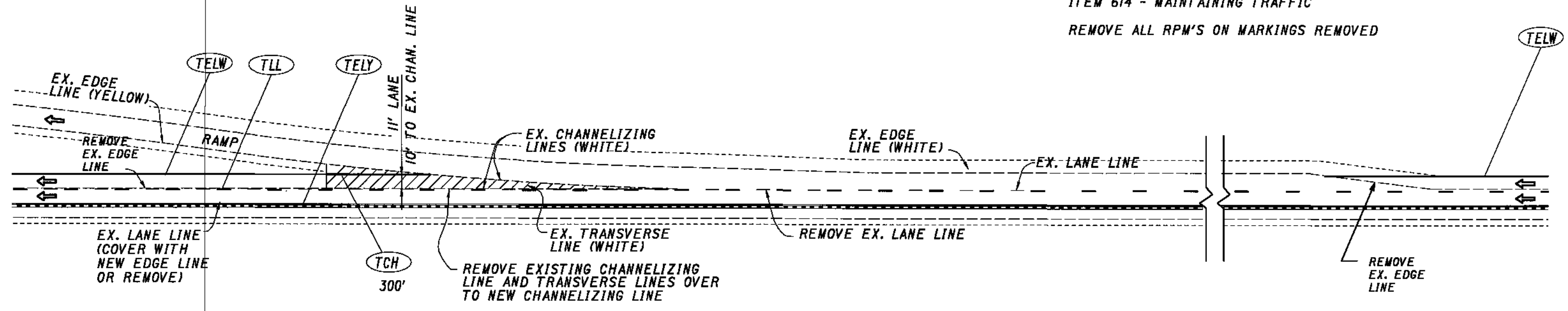
CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC - STAGE 1 OR 2
TYPICAL EXIT RAMP - PHASE 2B

WAY/MED-71-7.04/0.00

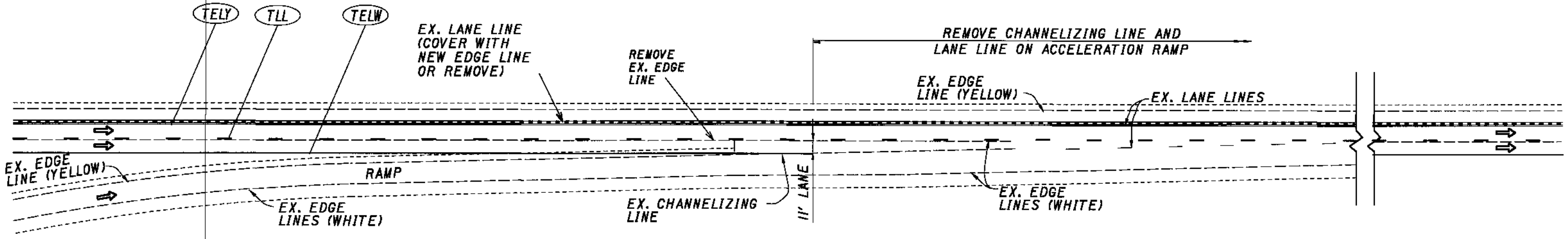
NOTES: ALL MARKINGS SHALL BE REMOVED UNDER ITEM 614 - MAINTAINING TRAFFIC

REMOVE ALL RPM'S ON MARKINGS REMOVED


TELW
TLL
TELY
TELW
EX. EDGE LINE (YELLOW)
RAMP
REMOVE EX. EDGE LINE
11' LANE
10' TO EX. CHAN. LINE
EX. CHANNELIZING LINES (WHITE)
EX. EDGE LINE (WHITE)
EX. LANE LINE
EX. LANE LINE (COVER WITH NEW EDGE LINE OR REMOVE)
TCH
300'
EX. TRANSVERSE LINE (WHITE)
REMOVE EXISTING CHANNELIZING LINE AND TRANSVERSE LINES OVER TO NEW CHANNELIZING LINE
REMOVE EX. LANE LINE
REMOVE EX. EDGE LINE

TYPICAL PAVEMENT MARKING

REVISIONS AT EXIT RAMP GORE AREA FOR STAGES 1 OR 2, PHASE 1 MAINTENANCE OF TRAFFIC



TYPICAL PAVEMENT MARKING

REVISIONS AT ENTRANCE RAMP FOR STAGES 1 OR 2, PHASE 1 MAINTENANCE OF TRAFFIC

NOTES: ALL MARKINGS SHALL BE REMOVED UNDER ITEM 614 - MAINTAINING TRAFFIC

REMOVE ALL RPM'S ON MARKINGS REMOVED

DURING THESE WORK ACTIVITIES THE FOLLOWING M.O.T. REQUIREMENTS ARE APPLICABLE:

1. DURING THE INSTALLATION OF THESE MARKINGS, THE OUTSIDE LANE OF IR 71 MAY BE CLOSED TO TRAFFIC AS PER STD. DWG. MT-95.30. (SEE THE MAINTENANCE OF TRAFFIC GENERAL NOTES FOR ALLOWABLE TIMES)
2. SIGNAGE TO THE EXIT RAMP SHALL BE AS PER STD. DWG. MT-98.14.

LEGEND

TELW	- Temp. Edge Line, Class I, White, 642	TELW	- Temp. Edge Line, White, Class I, 740.06 Type I
TELY	- Temp. Edge Line, Class I, Yellow, 642	TELY	- Temp. Edge Line, Yellow, Class I, 740.06, Type I
TSLL	- Temp. Solid Lane Line, Class I, 642	TSLL	- Temp. Solid Lane Line, Class I, 740.06 Type I
TLL	- Temp. Lane Line, Class I, 642	TLL	- Temp. Lane Line, Class I, 740.06 Type I
TCH	- Temp. Chan. Line, Class I, 642	TCH	- Temp. Chan. Line, Class I, 740.06 Type I

▬▬▬ - 32" Portable Concrete Barrier, 1' Offset to Edge Line (Typ.). Unless shown otherwise

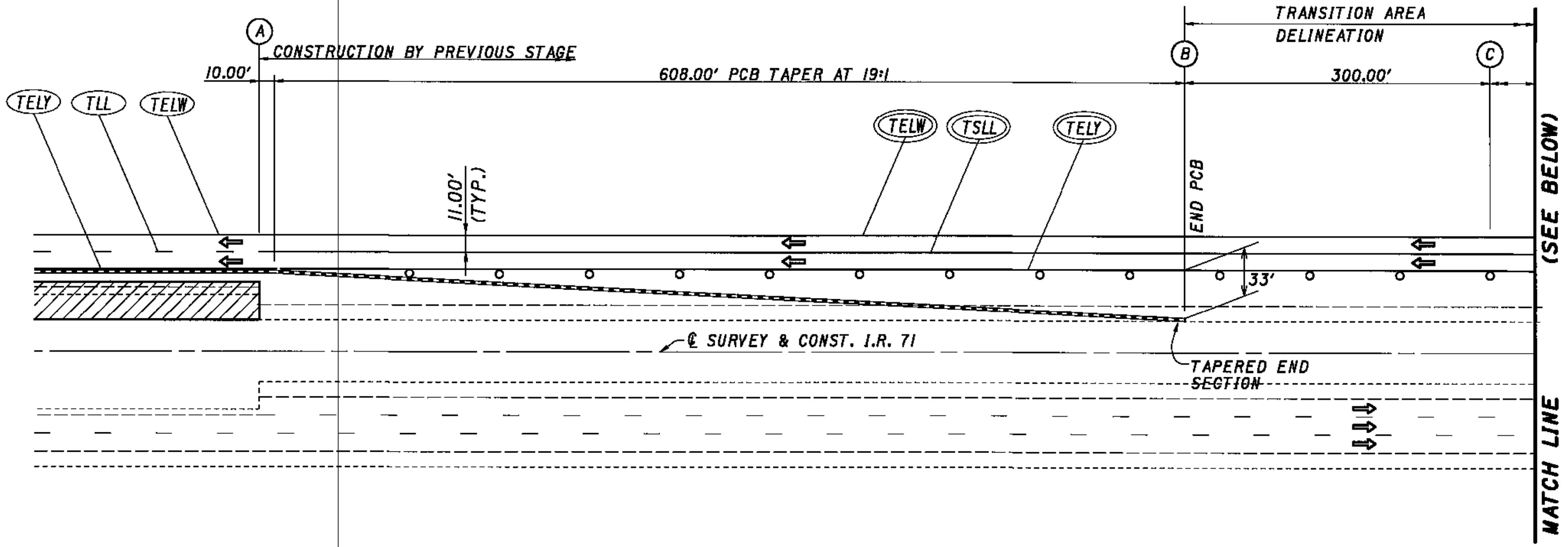
○ ○ - Drums @ 60' c/c unless shown otherwise, 1' min' offset to edge line, (provide larger offset when shown)

▭ - Work Zone Impact Attenuator

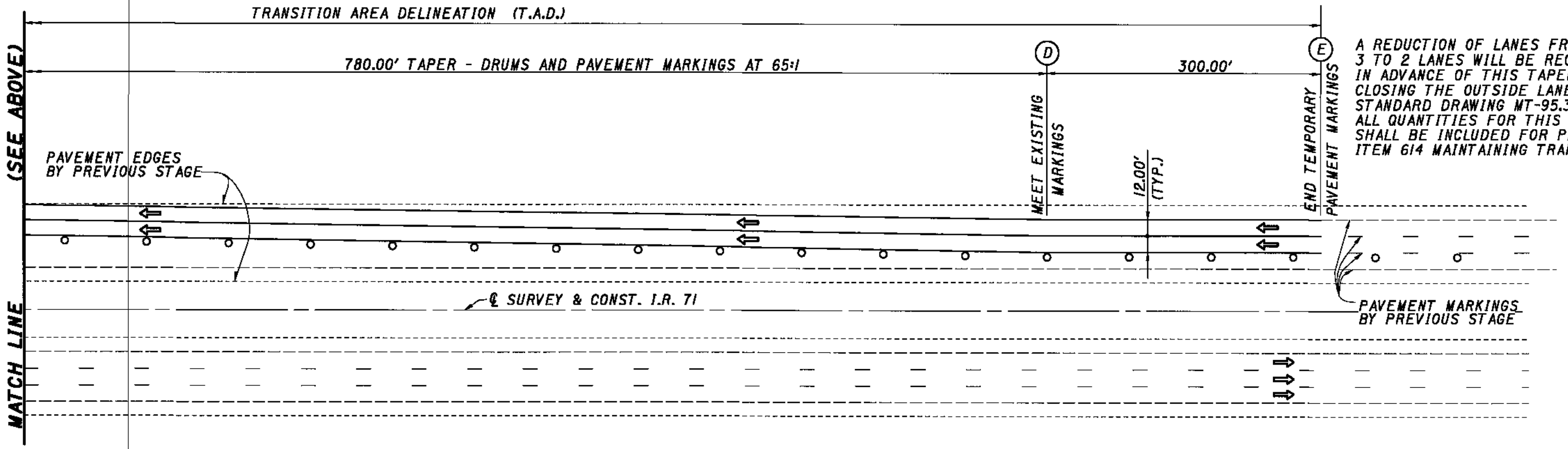
CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC
RAMP PHASE 1 PAVEMENT MARKING MODIFICATIONS

WAY/MED-71-7.04/0.00



NOTES:
1. DETAILS ARE SHOWN IN DIRECTION THAT TRAFFIC IS TRAVELING. TYPICAL ALL M.O.T. PLAN SHEETS.
2. THESE PLAN DETAILS ARE BASED ON STANDARD CONSTRUCTION DRAWING MT-102.10, AND ALL THE REQUIREMENTS OF THIS DRAWING SHALL BE INCORPORATED. AN EXCEPTION TO THE STANDARD DRAWING IS THE 65:1 TAPER RATES.
3. SEE PHASE I M.O.T. TYPICAL SECTION, SHEET 53. SEE SHEETS 99 & 100 FOR M.O.T. QUANTITIES.


TRANSITION AREA DELINEATION (T.A.D.)
780.00' TAPER - DRUMS AND PAVEMENT MARKINGS AT 65:1
Ⓓ
300.00'
Ⓔ
MEET EXISTING MARKINGS
12.00' (TYP.)
END TEMPORARY PAVEMENT MARKINGS
PAVEMENT EDGES BY PREVIOUS STAGE
℄ SURVEY & CONST. I.R. 71
PAVEMENT MARKINGS BY PREVIOUS STAGE
MATCH LINE (SEE ABOVE)

A REDUCTION OF LANES FROM 3 TO 2 LANES WILL BE REQUIRED IN ADVANCE OF THIS TAPER BY CLOSING THE OUTSIDE LANES AS PER STANDARD DRAWING MT-95.30. ALL QUANTITIES FOR THIS CLOSURE SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 614 MAINTAINING TRAFFIC.

NOTE: ALL TEMPORARY PAVEMENT MARKINGS ON PREVIOUSLY CONSTRUCTED NEW PAVEMENT SHALL BE 740.06, TYPE I ALL EXISTING CONFLICTING MARKINGS SHALL BE REMOVED UNDER ITEM 614 MAINTAINING TRAFFIC.

LEGEND

TELW - Temp. Edge Line, Class I, White, 642
TELY - Temp. Edge Line, Class I, Yellow, 642
TSLL - Temp. Solid Lane Line, Class I, 642
TLL - Temp. Lane Line, Class I, 642
TCH - Temp. Chan. Line, Class I, 642
TELW - Temp. Edge Line, White, Class I, 740.06 Type I
TELY - Temp. Edge Line, Yellow, Class I, 740.06, Type I
TSLL - Temp. Solid Lane Line, Class I, 740.06 Type I
TLL - Temp. Lane Line, Class I, 740.06 Type I
TCH - Temp. Chan. Line, Class I, 740.06 Type I
▬ - 32" Portable Concrete Barrier, 1' Offset to Edge Line (Typ.). Unless shown otherwise
○ ○ - Drums @ 60' c/c unless shown otherwise, 1' min' offset to edge line, (provide larger offset when shown)
▭ - Work Zone Impact Attenuator
▨ - Area of Construction During This Phase

THIS DETAIL IS APPLICABLE TO THE FOLLOWING M.O.T. STAGES - PHASES WITH STATIONING AS SHOWN IN THE TABLE.

*-WAY. CO. STATIONING

	REFERENCE STATIONS ON PLAN				
	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
STAGE 1 - PHASE 1 N.B.	371+50 *	365+32*	362+32 *	354+52*	351+52 *
STAGE 2 - PHASE 1 N.B.	175+00	168+82	165+82	158+02	155+02

CALCULATED
CHECKED

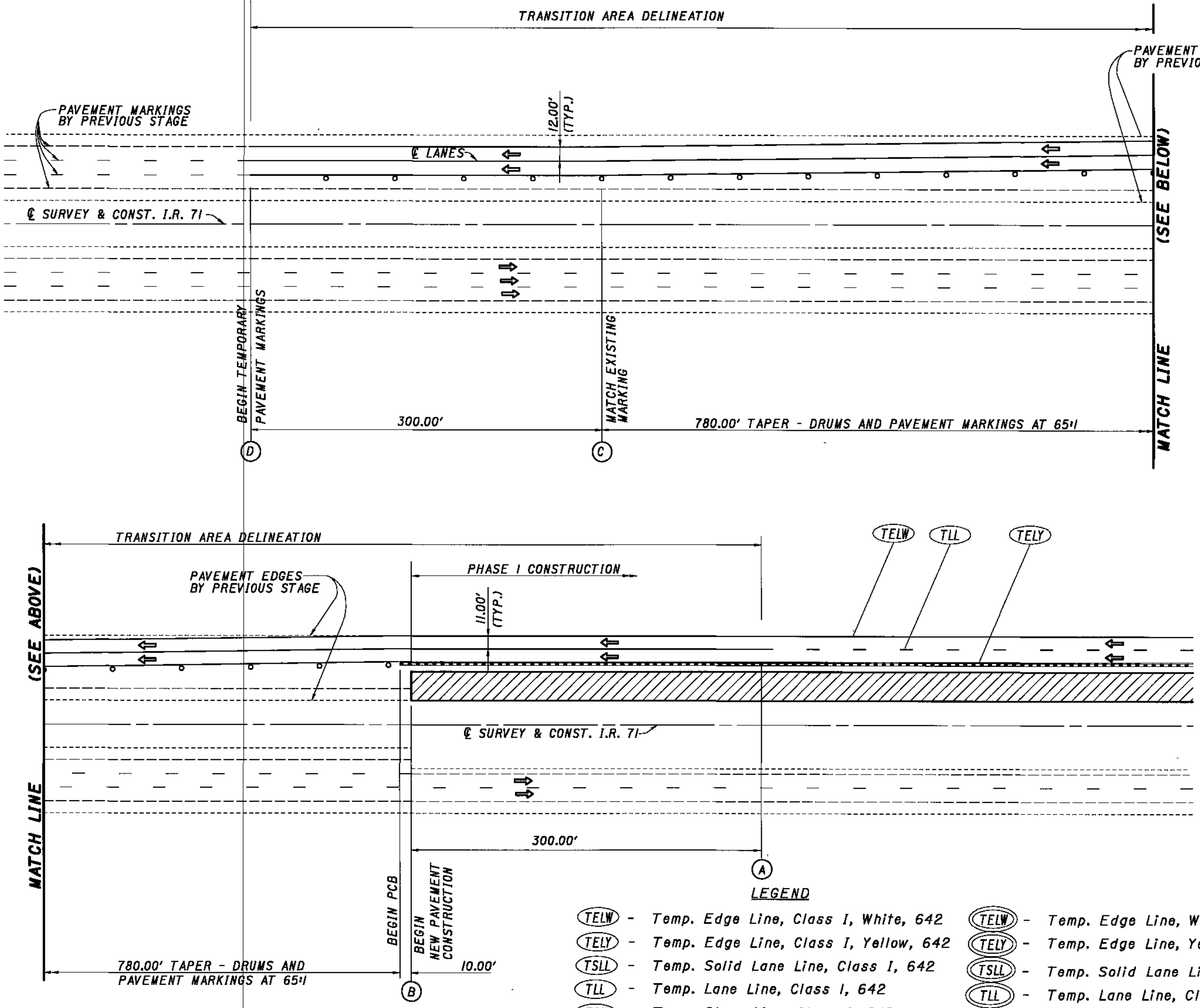
MAINTENANCE OF TRAFFIC-APPROACHING WORK ZONE TRAFFIC FROM PREVIOUS CONSTRUCTION PHASE TO OUTSIDE SHOULDER

WAY/MED-71-7.04/0.00

1/1

MPF.DGN

MAINTENANCE OF TRAFFIC - EXITING WORK ZONE TRAFFIC FROM OUTSIDE SHOULDER TO PREVIOUS STAGE



TRANSITION AREA DELINEATION
PAVEMENT EDGES BY PREVIOUS STAGE
PAVEMENT MARKINGS BY PREVIOUS STAGE
12.00' (TYP.)
℄ LANES
℄ SURVEY & CONST. I.R. 71
(SEE BELOW)
MATCH LINE
BEGIN TEMPORARY PAVEMENT MARKINGS
MATCH EXISTING MARKING
300.00'
780.00' TAPER - DRUMS AND PAVEMENT MARKINGS AT 65:1
D
C
TRANSITION AREA DELINEATION
PAVEMENT EDGES BY PREVIOUS STAGE
PHASE I CONSTRUCTION
11.00' (TYP.)
TELW
TLL
TELY
(SEE ABOVE)
℄ SURVEY & CONST. I.R. 71
MATCH LINE
300.00'
A
BEGIN PCB
BEGIN NEW PAVEMENT CONSTRUCTION
10.00'
780.00' TAPER - DRUMS AND PAVEMENT MARKINGS AT 65:1
B

NOTES:

1. DETAILS ARE SHOWN IN DIRECTION THAT TRAFFIC IS TRAVELING. TYPICAL ALL M.O.T. PLAN SHEETS.
2. THESE PLAN DETAILS ARE BASED ON STANDARD CONSTRUCTION DRAWING MT-102.10, AND ALL THE REQUIREMENTS OF THIS DRAWING SHALL BE INCORPORATED. AN EXCEPTION TO THE STANDARD DRAWING IS THE 65:1 TAPER RATES.
3. SEE PHASE I M.O.T. TYPICAL SECTION, SHEET 53. SEE SHEETS 99 & 100 FOR M.O.T. QUANTITIES.

LEGEND

TELW - Temp. Edge Line, Class I, White, 642
TELY - Temp. Edge Line, Class I, Yellow, 642
TSLL - Temp. Solid Lane Line, Class I, 642
TLL - Temp. Lane Line, Class I, 642
TCH - Temp. Chan. Line, Class I, 642

TELW - Temp. Edge Line, White, Class I, 740.06 Type I
TELY - Temp. Edge Line, Yellow, Class I, 740.06, Type I
TSLL - Temp. Solid Lane Line, Class I, 740.06 Type I
TLL - Temp. Lane Line, Class I, 740.06 Type I
TCH - Temp. Chan. Line, Class I, 740.06 Type I

▬ - 32" Portable Concrete Barrier, 1' Offset to Edge Line (Typ.). Unless shown otherwise
○ ○ - Drums @ 60' c/c unless shown otherwise, 1' min' offset to edge line, (provide larger offset when shown)
▬ - Work Zone Impact Attenuator
▨ - Area of Construction During This Phase

THIS DETAIL IS APPLICABLE TO THE FOLLOWING M.O.T. STAGES - PHASES WITH STATIONING AS SHOWN IN THE TABLE.

	REFERENCE STATIONS ON PLAN			
	Ⓐ	Ⓑ	Ⓒ	Ⓓ
STAGE 1 - PHASE 1 S.B.	374+50*	371+50 *	363+60 *	360+60 *
STAGE 2 - PHASE 1 S.B.	175+00	172+00	164+10	161+10

* - WAY. CO. STATIONING

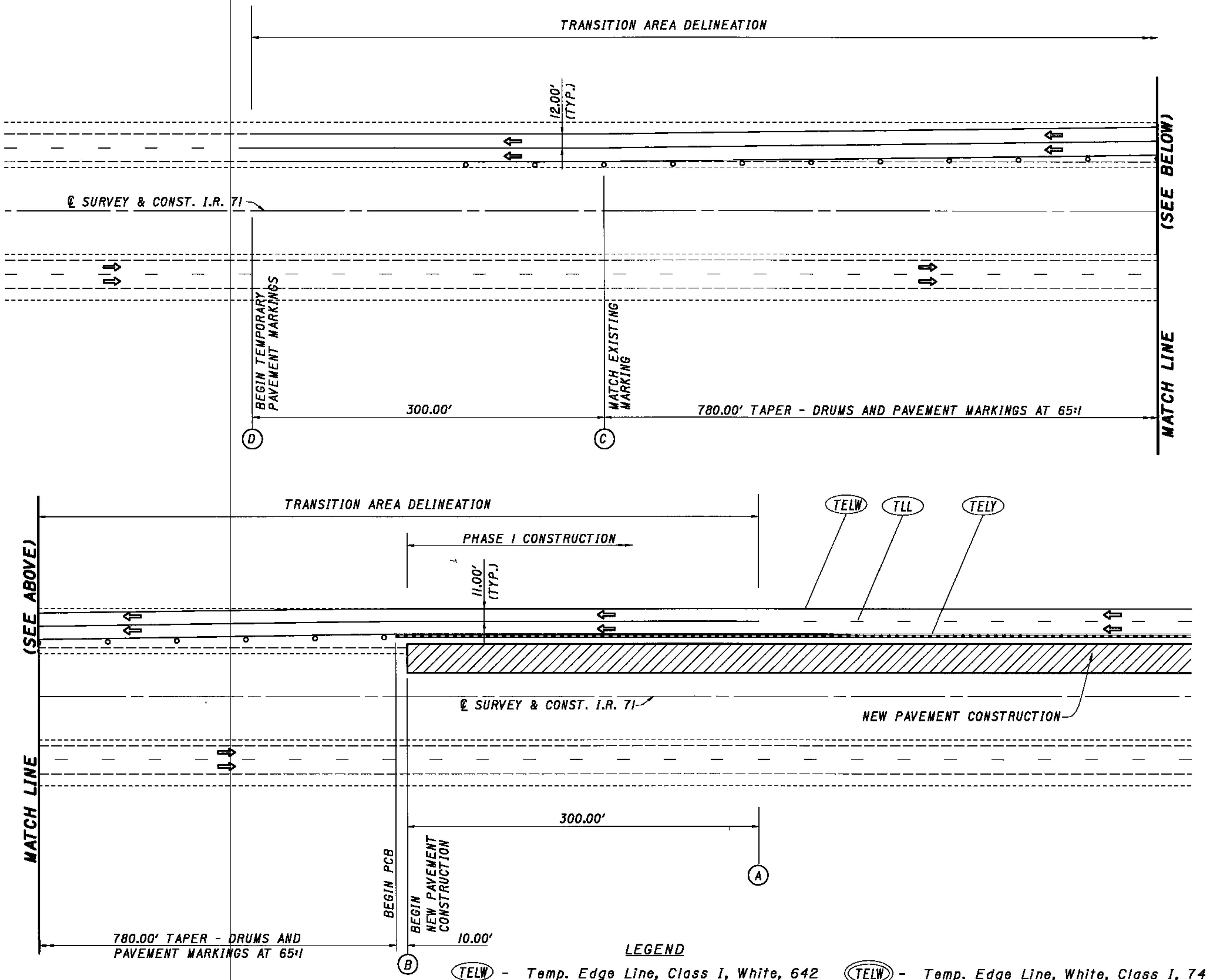
WAY/MED-71-7.04/0.00

1/1

CALCULATED

CHECKED

MPG.DGN


TRANSITION AREA DELINEATION
12.00' (TYP.)
(SEE BELOW)
℄ SURVEY & CONST. I.R. 71
BEGIN TEMPORARY PAVEMENT MARKINGS
MATCH EXISTING MARKING
300.00'
780.00' TAPER - DRUMS AND PAVEMENT MARKINGS AT 65:1
MATCH LINE
D
C
TRANSITION AREA DELINEATION
PHASE I CONSTRUCTION
11.00' (TYP.)
TELW
TLL
TELY
(SEE ABOVE)
MATCH LINE
℄ SURVEY & CONST. I.R. 71
NEW PAVEMENT CONSTRUCTION
300.00'
A
BEGIN PCB
BEGIN NEW PAVEMENT CONSTRUCTION
10.00'
780.00' TAPER - DRUMS AND PAVEMENT MARKINGS AT 65:1
B

NOTES:

1. DETAILS ARE SHOWN IN DIRECTION THAT TRAFFIC IS TRAVELING. TYPICAL ALL M.O.T. PLAN SHEETS.
2. THESE PLAN DETAILS ARE BASED ON STANDARD CONST. DRAWING MT-102.10, AND ALL THE REQUIREMENTS OF THIS DRAWING SHALL BE INCORPORATED. AN EXCEPTION TO THE STANDARD DRAWING IS THE 65:1 TAPER RATES.
3. SEE PHASE I M.O.T. TYPICAL SECTION, SHEET 53. SEE SHEETS 99 & 100 FOR M.O.T. QUANTITIES.

- AN ADJACENT CONSTRUCTION PROJECT MAY BE UNDER CONSTRUCTION SIMULTANEOUSLY WITH THIS PROJECT. THE WORK PHASES OF THE TWO PROJECTS MUST BE COORDINATED. ALL ITEMS OF WORK ON STAGE 2 PHASE I N.B., MAY BE NON-PERFORMED. SEE THE 614 MAINTAINING TRAFFIC NOTE FOR ADDITIONAL INFORMATION ON COORDINATION.

LEGEND

TELW - Temp. Edge Line, Class I, White, 642
TELY - Temp. Edge Line, Class I, Yellow, 642
TSLL - Temp. Solid Lane Line, Class I, 642
TLL - Temp. Lane Line, Class I, 642
TCH - Temp. Chan. Line, Class I, 642

TELW - Temp. Edge Line, White, Class I, 740.06 Type I
TELY - Temp. Edge Line, Yellow, Class I, 740.06, Type I
TSLL - Temp. Solid Lane Line, Class I, 740.06 Type I
TLL - Temp. Lane Line, Class I, 740.06 Type I
TCH - Temp. Chan. Line, Class I, 740.06 Type I

┅┅┅ - 32" Portable Concrete Barrier, 1' Offset to Edge Line (Typ.). Unless shown otherwise
○ ○ - Drums @ 60' c/c unless shown otherwise, 1' min' offset to edge line, (provide larger offset when shown)
▭ - Work Zone Impact Attenuator
▨ - Area of Construction During This Phase

THIS DETAIL IS APPLICABLE TO THE FOLLOWING M.O.T. STAGES - PHASES WITH STATIONING AS SHOWN IN THE TABLE.

	REFERENCE STATIONS ON PLAN			
	Ⓐ	Ⓑ	Ⓒ	Ⓓ
STAGE 1 - PHASE 1 N.B.	172+00	175+00	182+90	185+90
STAGE 2 - PHASE 1 N.B.●	333+00	336+00	343+90	346+90

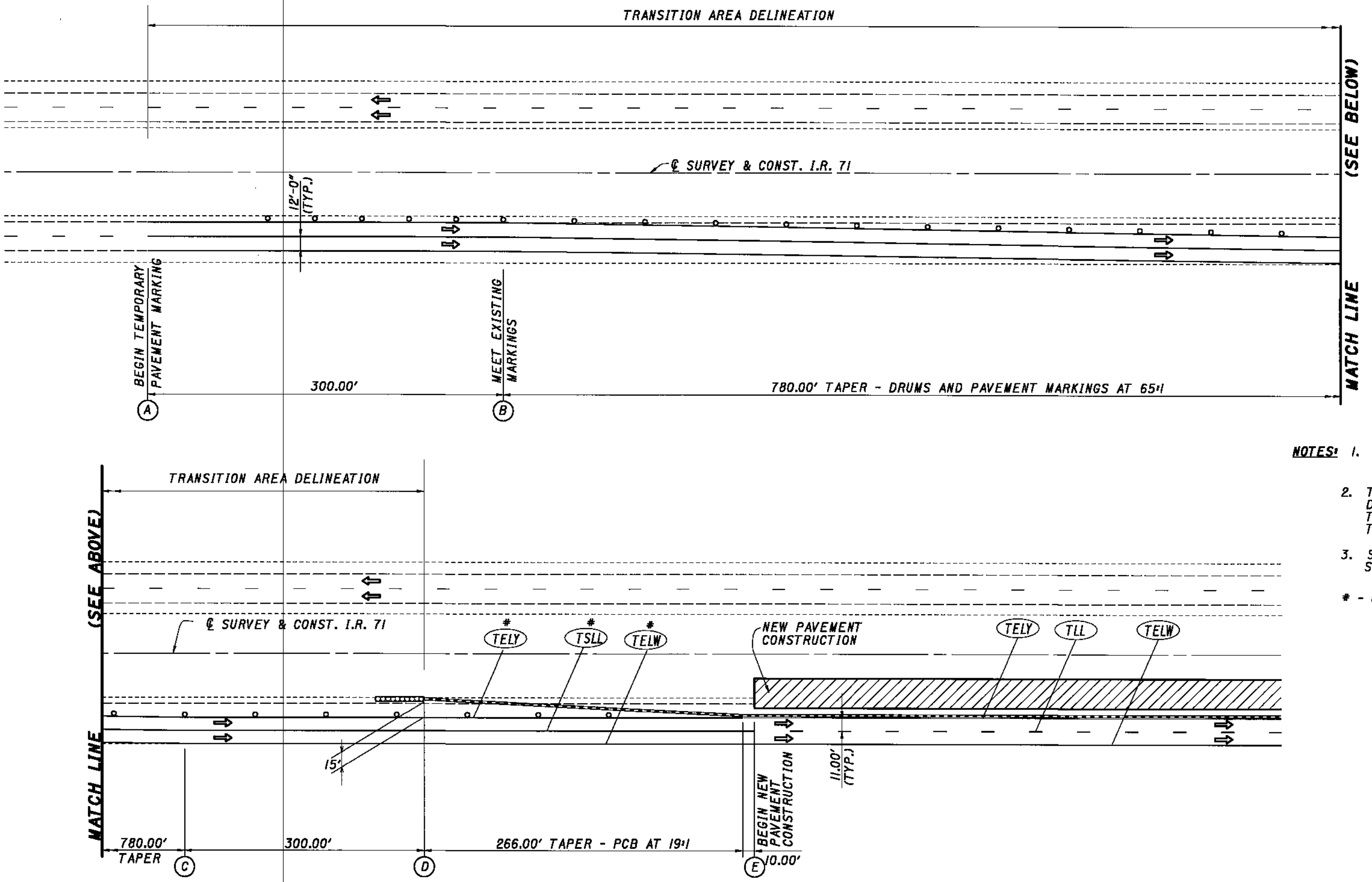
CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC - EXITING WORK ZONE TRAFFIC FROM OUTSIDE SHOULDER TO EXISTING PAVEMENT

WAY/MED-71-7.04/0.00

1/1

MPC.DGN


TRANSITION AREA DELINEATION
℄ SURVEY & CONST. I.R. 71
12'-0" (TYP.)
(SEE BELOW)
MATCH LINE
BEGIN TEMPORARY PAVEMENT MARKING
MEET EXISTING MARKINGS
300.00'
780.00' TAPER - DRUMS AND PAVEMENT MARKINGS AT 65:1
A
B
TRANSITION AREA DELINEATION
(SEE ABOVE)
℄ SURVEY & CONST. I.R. 71
#
TELY
#
TSLL
#
TELW
NEW PAVEMENT CONSTRUCTION
TELY
TLL
TELW
15'
11.00' (TYP.)
BEGIN NEW PAVEMENT CONSTRUCTION
MATCH LINE
780.00' TAPER
300.00'
266.00' TAPER - PCB AT 19:1
10.00'
C
D
E

NOTES:

1. DETAILS ARE SHOWN IN DIRECTION THAT TRAFFIC IS TRAVELING. TYPICAL ALL M.O.T. PLAN SHEETS.
2. THESE PLAN DETAILS ARE BASED ON STANDARD CONST. DRAWING MT-102.10, AND ALL THE REQUIREMENTS OF THIS DRAWING SHALL BE INCORPORATED. AN EXCEPTION TO THE STANDARD DRAWING IS THE 65:1 TAPER RATES.
3. SEE PHASE I M.O.T. TYPICAL SECTION, SHEET 53. SEE SHEETS 99 & 100 FOR M.O.T. QUANTITIES.

# - USE 740.06, TYPE I FOR STAGE 2

• AN ADJACENT CONSTRUCTION PROJECT MAY BE UNDER CONSTRUCTION SIMULTANEOUSLY WITH THIS PROJECT. THE WORK PHASES OF THE TWO PROJECTS MUST BE COORDINATED. ALL ITEMS OF WORK ON STAGE 2 PHASE I S.B., MAY BE NON-PERFORMED. SEE THE 614 MAINTAINING TRAFFIC NOTE FOR ADDITIONAL INFORMATION ON COORDINATION.

LEGEND

(TELW) - Temp. Edge Line, Class I, White, 642
(TELY) - Temp. Edge Line, Class I, Yellow, 642
(TSLL) - Temp. Solid Lane Line, Class I, 642
(TLL) - Temp. Lane Line, Class I, 642
(TCH) - Temp. Chan. Line, Class I, 642

((TELW)) - Temp. Edge Line, White, Class I, 740.06 Type I
((TELY)) - Temp. Edge Line, Yellow, Class I, 740.06, Type I
((TSLL)) - Temp. Solid Lane Line, Class I, 740.06 Type I
((TLL)) - Temp. Lane Line, Class I, 740.06 Type I
((TCH)) - Temp. Chan. Line, Class I, 740.06 Type I

- - - - - - - 32" Portable Concrete Barrier, 1' Offset to Edge Line (Typ.). Unless shown otherwise
○ ○ - Drums @ 60' c/c unless shown otherwise, 1' min' offset to edge line, (provide larger offset when shown)
▭ - Work Zone Impact Attenuator
▨ - Area of Construction During This Phase

THIS DETAIL IS APPLICABLE TO THE FOLLOWING M.O.T. STAGES - PHASES WITH STATIONING AS SHOWN IN THE TABLE.

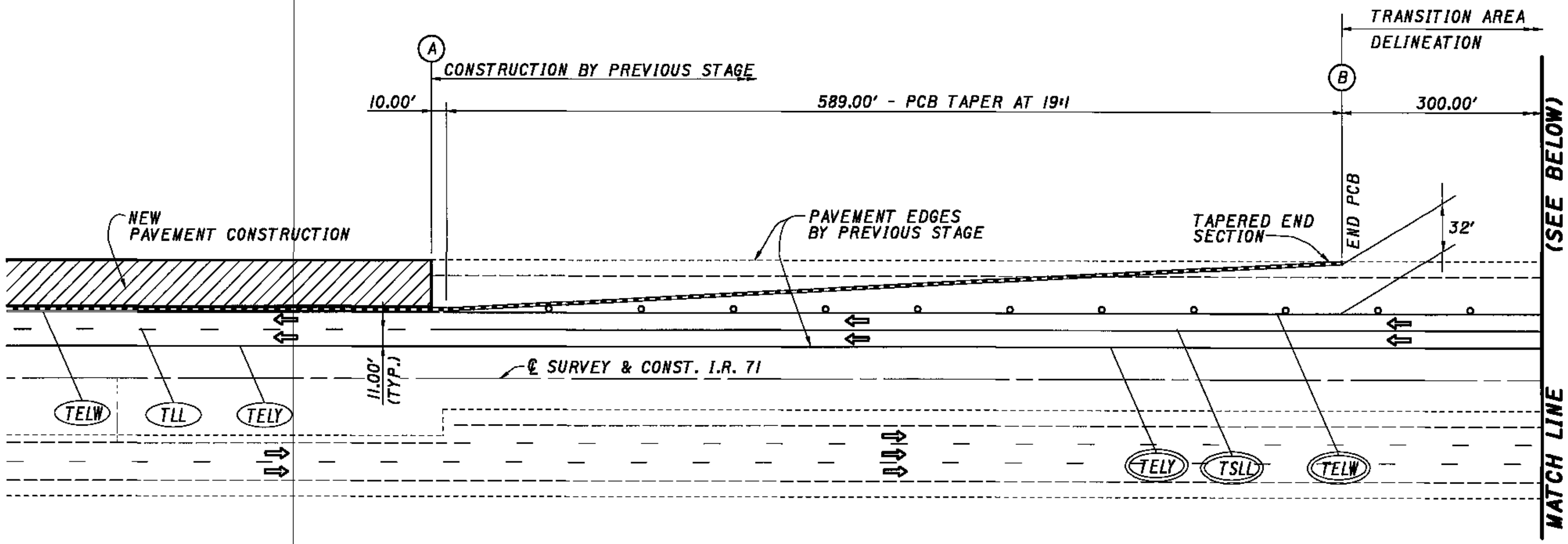
	REFERENCE STATIONS ON PLAN				
	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
STAGE 1 - PHASE 1 S.B.	188+56	185+56	177+76	174+76	172+00
STAGE 2 - PHASE 1 S.B. •	352+56	349+56	341+76	338+76	336+00

CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC - APPROACHING WORK ZONE TRAFFIC FROM EXISTING PAVEMENT TO OUTSIDE SHOULDER

WAY/MED-71-7.04/0.00

1/1

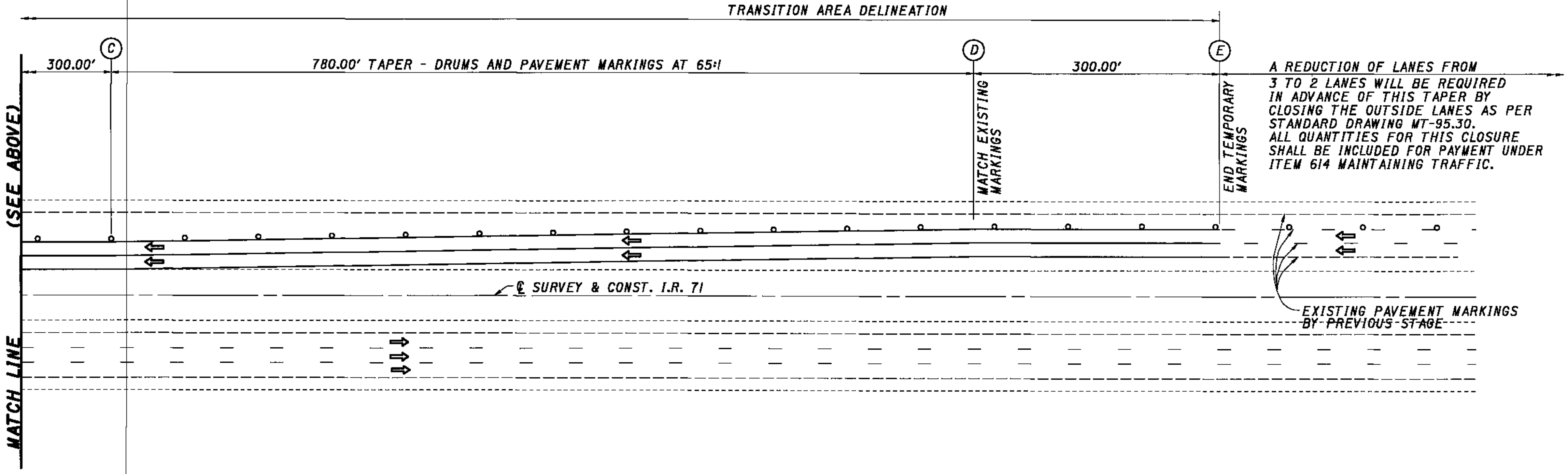

TRANSITION AREA DELINEATION
Ⓐ
CONSTRUCTION BY PREVIOUS STAGE
Ⓑ
10.00'
589.00' - PCB TAPER AT 19:1
300.00'
END PCB
NEW PAVEMENT CONSTRUCTION
PAVEMENT EDGES BY PREVIOUS STAGE
TAPERED END SECTION
32'
(SEE BELOW)
11.00' (TYP.)
℄ SURVEY & CONST. I.R. 71
TELW
TLL
TELY
TELY
TSLL
TELW
MATCH LINE

NOTES: 1. DETAILS ARE SHOWN IN DIRECTION THAT TRAFFIC IS TRAVELING. TYPICAL ALL M.O.T. PLAN SHEETS.

2. THESE PLAN DETAILS ARE BASED ON STANDARD CONST. DRAWING MT-102.10, AND ALL THE REQUIREMENTS OF THIS DRAWING SHALL BE INCORPORATED. AN EXCEPTION TO THE STANDARD DRAWING IS THE 65:1 TAPER RATES.

3. SEE PHASE 2 M.O.T. TYPICAL SECTION, SHEETS 54 & 57. SEE SHEETS 99 & 100 FOR .M.O.T. QUANTITIES.

NOTE: ALL TEMPORARY PAVEMENT MARKINGS ON PREVIOUSLY CONSTRUCTED NEW PAVEMENT SHALL BE 740.06, TYPE I ALL EXISTING CONFLICTING MARKINGS SHALL BE REMOVED UNDER ITEM 614 MAINTAINING TRAFFIC.


TRANSITION AREA DELINEATION
Ⓒ
Ⓓ
Ⓔ
300.00'
780.00' TAPER - DRUMS AND PAVEMENT MARKINGS AT 65:1
300.00'
(SEE ABOVE)
MATCH EXISTING MARKINGS
END TEMPORARY MARKINGS
℄ SURVEY & CONST. I.R. 71
EXISTING PAVEMENT MARKINGS BY PREVIOUS STAGE
MATCH LINE

A REDUCTION OF LANES FROM 3 TO 2 LANES WILL BE REQUIRED IN ADVANCE OF THIS TAPER BY CLOSING THE OUTSIDE LANES AS PER STANDARD DRAWING MT-95.30. ALL QUANTITIES FOR THIS CLOSURE SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 614 MAINTAINING TRAFFIC.

LEGEND

TELW - Temp. Edge Line, Class I, White, 642
TELY - Temp. Edge Line, Class I, Yellow, 642
TSLL - Temp. Solid Lane Line, Class I, 642
TLL - Temp. Lane Line, Class I, 642
TCH - Temp. Chan. Line, Class I, 642

TELW - Temp. Edge Line, White, Class I, 740.06 Type I
TELY - Temp. Edge Line, Yellow, Class I, 740.06, Type I
TSLL - Temp. Solid Lane Line, Class I, 740.06 Type I
TLL - Temp. Lane Line, Class I, 740.06 Type I
TCH - Temp. Chan. Line, Class I, 740.06 Type I

- 32" Portable Concrete Barrier, 1' Offset to Edge Line (Typ.). Unless shown otherwise
○ ○ - Drums @ 60' c/c unless shown otherwise, 1' min' offset to edge line, (provide larger offset when shown)
- Work Zone Impact Attenuator
▨ - Area of Construction During This Phase

* - WAY. CO. STATIONING

THIS DETAIL IS APPLICABLE TO THE FOLLOWING M.O.T. STAGES - PHASES WITH STATIONING AS SHOWN IN THE TABLE.

	REFERENCE STATIONS ON PLAN					
	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	
STAGE 1 - PHASE 2 N.B.	371+50 *	365+51 *	362+51 *	354+71 *	351+71 *	
STAGE 2 - PHASE 2 N.B.	159+00	153+01	150+01	142+21	139+21	

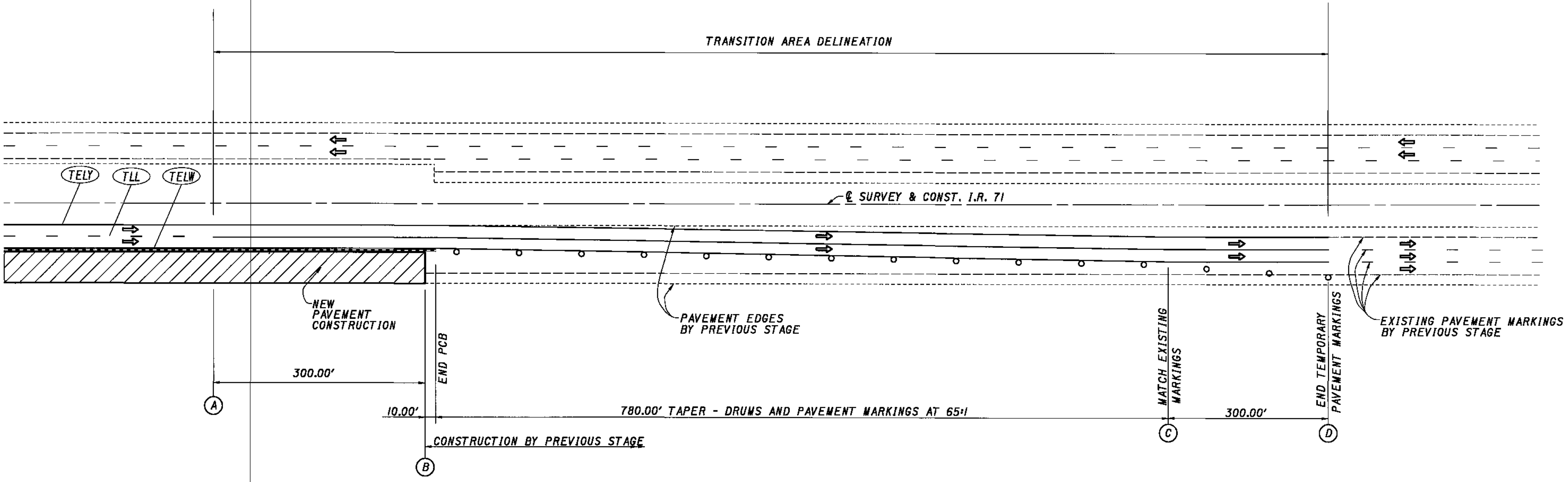
CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC - APPROACHING WORK ZONE TRAFFIC
FROM PREVIOUS CONSTRUCTION STAGE TO NEW CONSTRUCTION AREA

WAY/MED-71-7.04/0.00

1/1

MPI.DGN


TRANSITION AREA DELINEATION
TELY
TLL
TELW
℄ SURVEY & CONST. I.R. 71
NEW PAVEMENT CONSTRUCTION
PAVEMENT EDGES BY PREVIOUS STAGE
EXISTING PAVEMENT MARKINGS BY PREVIOUS STAGE
END PCB
MATCH EXISTING MARKINGS
END TEMPORARY PAVEMENT MARKINGS
300.00'
10.00'
780.00' TAPER - DRUMS AND PAVEMENT MARKINGS AT 65:1
300.00'
CONSTRUCTION BY PREVIOUS STAGE
A
B
C
D

NOTES:

1. DETAILS ARE SHOWN IN DIRECTION THAT TRAFFIC IS TRAVELING. TYPICAL ALL M.O.T. PLAN SHEETS.
2. THESE PLAN DETAILS ARE BASED ON STANDARD CONSTRUCTION DRAWING MT-102.10, AND ALL THE REQUIREMENTS OF THIS DRAWING SHALL BE INCORPORATED. AN EXCEPTION TO THE STANDARD DRAWING IS THE 65:1 TAPER RATES.
3. SEE PHASE 2 M.O.T. TYPICAL SECTION, SHEETS 54 & 57. SEE SHEETS 99 & 100 FOR M.O.T. QUANTITIES.

LEGEND

TELW	Temp. Edge Line, Class I, White, 642	TELW	Temp. Edge Line, White, Class I, 740.06 Type I
TELY	Temp. Edge Line, Class I, Yellow, 642	TELY	Temp. Edge Line, Yellow, Class I, 740.06, Type I
TSLL	Temp. Solid Lane Line, Class I, 642	TSLL	Temp. Solid Lane Line, Class I, 740.06 Type I
TLL	Temp. Lane Line, Class I, 642	TLL	Temp. Lane Line, Class I, 740.06 Type I
TCH	Temp. Chan. Line, Class I, 642	TCH	Temp. Chan. Line, Class I, 740.06 Type I

- 32" Portable Concrete Barrier, 1' Offset to Edge Line (Typ.). Unless shown otherwise

○ ○ - Drums @ 60' c/c unless shown otherwise, 1' min' offset to edge line, (provide larger offset when shown)

- Work Zone Impact Attenuator

▨ - Area of Construction During This Phase

THIS DETAIL IS APPLICABLE TO THE FOLLOWING M.O.T. STAGES - PHASES WITH STATIONING AS SHOWN IN THE TABLE.

	REFERENCE STATIONS ON PLAN				
	Ⓐ	Ⓑ	Ⓒ	Ⓓ	
STAGE 1 - PHASE 2 S.B.	374+50 *	371+50 *	363+70 *	360+70 *	
STAGE 2 - PHASE 2 S.B.	159+00	156+00	148+20	145+20	

* - WAY. CO. STATIONING

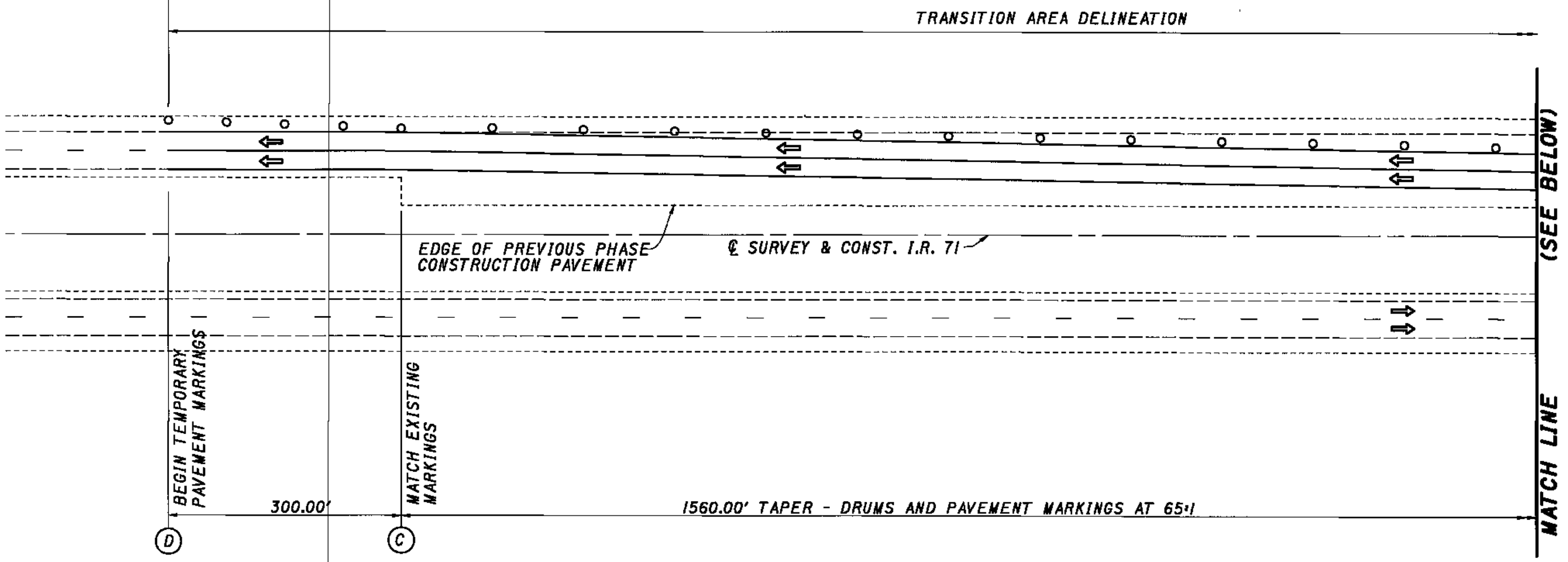
CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC-EXITING WORK ZONE TRAFFIC FROM NEW CONSTRUCTION AREA TO PREVIOUS CONSTRUCTION STAGE

WAY/MED-71-7.04/0.00

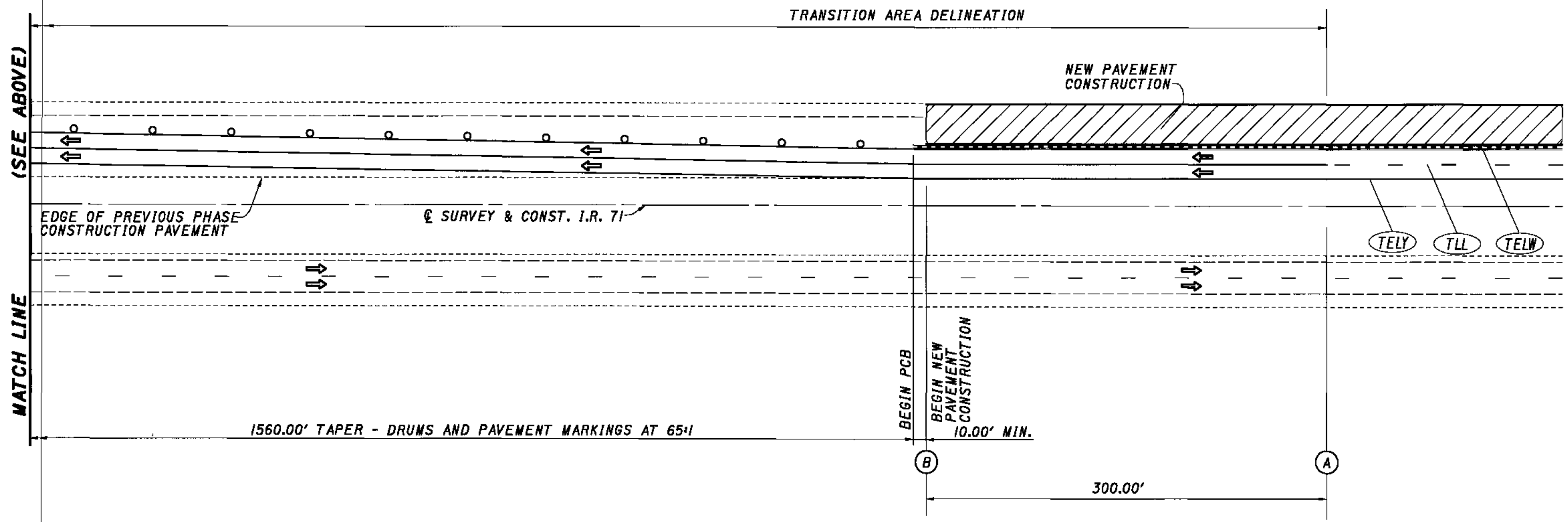
1/1

MPE.DGN


TRANSITION AREA DELINEATION
EDGE OF PREVIOUS PHASE CONSTRUCTION PAVEMENT
℄ SURVEY & CONST. I.R. 71
BEGIN TEMPORARY PAVEMENT MARKINGS
MATCH EXISTING MARKINGS
300.00'
1560.00' TAPER - DRUMS AND PAVEMENT MARKINGS AT 65:1
(D)
(C)
MATCH LINE (SEE BELOW)

NOTES:

1. DETAILS ARE SHOWN IN DIRECTION THAT TRAFFIC IS TRAVELING. TYPICAL ALL M.O.T. PLAN SHEETS.
2. THESE PLAN DETAILS ARE BASED ON STANDARD CONST. DRAWING MT-102.10, AND ALL THE REQUIREMENTS OF THIS DRAWING SHALL BE INCORPORATED. AN EXCEPTION TO THE STANDARD DRAWING IS THE 65:1 TAPER RATES.
3. SEE PHASE 2 M.O.T. TYPICAL SECTION, SHEETS 54 & 57. SEE SHEETS 99 & 100 FOR M.O.T. QUANTITIES.


MATCH LINE (SEE ABOVE)
TRANSITION AREA DELINEATION
NEW PAVEMENT CONSTRUCTION
EDGE OF PREVIOUS PHASE CONSTRUCTION PAVEMENT
℄ SURVEY & CONST. I.R. 71
TELY
TLL
TELW
BEGIN PCB
BEGIN NEW PAVEMENT CONSTRUCTION
10.00' MIN.
1560.00' TAPER - DRUMS AND PAVEMENT MARKINGS AT 65:1
(B)
(A)
300.00'

LEGEND

TELW - Temp. Edge Line, Class I, White, 642
TELY - Temp. Edge Line, Class I, Yellow, 642
TSLL - Temp. Solid Lane Line, Class I, 642
TLL - Temp. Lane Line, Class I, 642
TCH - Temp. Chan. Line, Class I, 642

TELW - Temp. Edge Line, White, Class I, 740.06 Type I
TELY - Temp. Edge Line, Yellow, Class I, 740.06, Type I
TSLL - Temp. Solid Lane Line, Class I, 740.06 Type I
TLL - Temp. Lane Line, Class I, 740.06 Type I
TCH - Temp. Chan. Line, Class I, 740.06 Type I

▬▬ - 32" Portable Concrete Barrier, 1' Offset to Edge Line (Typ.). Unless shown otherwise
○ ○ - Drums @ 60' c/c unless shown otherwise, 1' min' offset to edge line, (provide larger offset when shown)
▭ - Work Zone Impact Attenuator
▨ - Area of Construction During This Phase

• AN ADJACENT CONSTRUCTION PROJECT MAY BE UNDER CONSTRUCTION SIMULTANEOUSLY WITH THIS PROJECT. THE WORK PHASES OF THE TWO PROJECTS MUST BE COORDINATED. ALL ITEMS OF WORK ON STAGE 2 PHASE 2 N.B., MAY BE NON-PERFORMED. SEE THE 614 MAINTAINING TRAFFIC NOTE FOR ADDITIONAL INFORMATION ON COORDINATION.

THIS DETAIL IS APPLICABLE TO THE FOLLOWING M.O.T. STAGES - PHASES WITH STATIONING AS SHOWN IN THE TABLE.

	REFERENCE STATIONS ON PLAN			
	(A)	(B)	(C)	(D)
STAGE 1 - PHASE 2 N.B.	156+00	159+00	175+00	178+00
STAGE 2 - PHASE 2 N.B.•	317+00	320+00	336+00	339+00

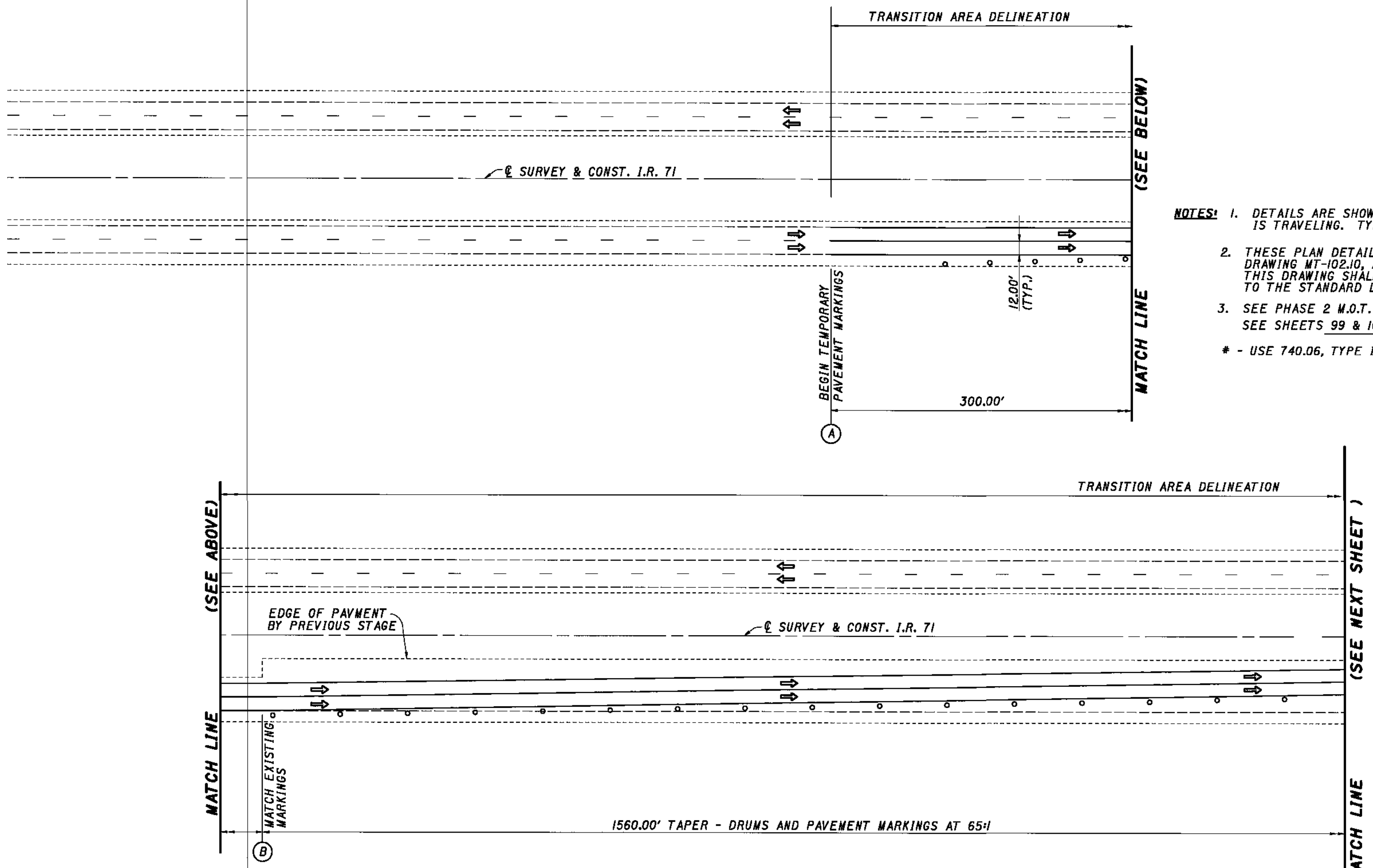
CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC - EXITING WORK ZONE TRAFFIC FROM NEW CONSTRUCTION AREA TO EXISTING PAVEMENT

WAY/MED-71-7.04/0.00

1/1

MPJ.DGN


TRANSITION AREA DELINEATION
℄ SURVEY & CONST. I.R. 71
(SEE BELOW)
MATCH LINE
BEGIN TEMPORARY PAVEMENT MARKINGS
12.00' (TYP.)
300.00'
(A)
TRANSITION AREA DELINEATION
(SEE ABOVE)
MATCH LINE
EDGE OF PAVMENT BY PREVIOUS STAGE
℄ SURVEY & CONST. I.R. 71
(SEE NEXT SHEET)
MATCH LINE
MATCH EXISTING MARKINGS
1560.00' TAPER - DRUMS AND PAVEMENT MARKINGS AT 65:1
(B)

NOTES:

1. DETAILS ARE SHOWN IN DIRECTION THAT TRAFFIC IS TRAVELING. TYPICAL ALL M.O.T. PLAN SHEETS.
2. THESE PLAN DETAILS ARE BASED ON STANDARD CONST. DRAWING MT-102.10, AND ALL THE REQUIREMENTS OF THIS DRAWING SHALL BE INCORPORATED. AN EXCEPTION TO THE STANDARD DRAWING IS THE 65:1 TAPER RATES.
3. SEE PHASE 2 M.O.T. TYPICAL SECTION, SHEETS 54 & 57. SEE SHEETS 99 & 100 FOR .M.O.T. QUANTITIES.

# - USE 740.06, TYPE I FOR STAGE 2

LEGEND

(TELW) - Temp. Edge Line, Class I, White, 642
(TELY) - Temp. Edge Line, Class I, Yellow, 642
(TSLL) - Temp. Solid Lane Line, Class I, 642
(TLL) - Temp. Lane Line, Class I, 642
(TCH) - Temp. Chan. Line, Class I, 642
((TELW)) - Temp. Edge Line, White, Class I, 740.06 Type I
((TELY)) - Temp. Edge Line, Yellow, Class I, 740.06, Type I
((TSLL)) - Temp. Solid Lane Line, Class I, 740.06 Type I
((TLL)) - Temp. Lane Line, Class I, 740.06 Type I
((TCH)) - Temp. Chan. Line, Class I, 740.06 Type I
▬ - 32" Portable Concrete Barrier, 1' Offset to Edge Line (Typ.). Unless shown otherwise
○ ○ - Drums @ 60' c/c unless shown otherwise, 1' min' offset to edge line, (provide larger offset when shown)
▭ - Work Zone Impact Attenuator
▨ - Area of Construction During This Phase

THIS DETAIL IS APPLICABLE TO THE FOLLOWING M.O.T. STAGES - PHASES WITH STATIONING AS SHOWN IN THE TABLE.

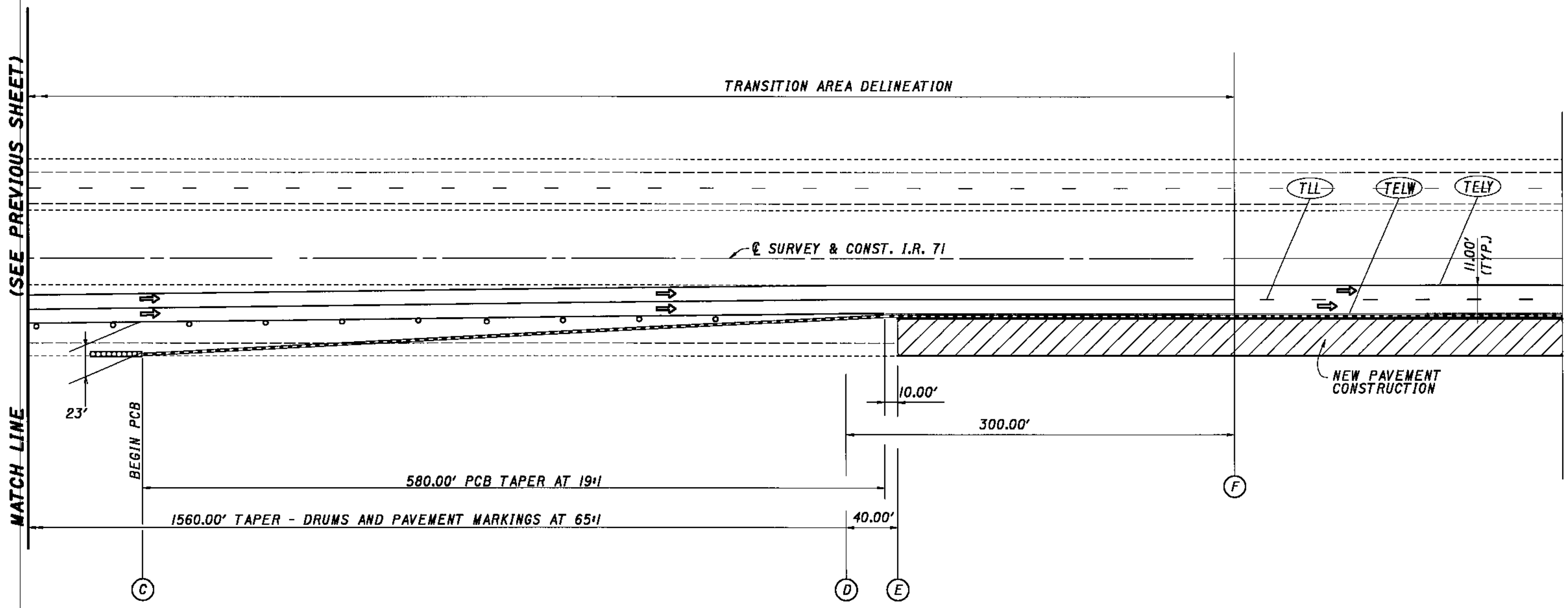
	REFERENCE STATIONS ON PLAN					
	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ
STAGE 1 - PHASE 2 S.B.	175+00	172+00	161+90	156+40	156+00	153+40
STAGE 2 - PHASE 2 S.B.•	339+00	336+00	325+90	320+40	320+00	317+40

CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC - APPROACHING WORK ZONE
TRAFFIC FROM EXISTING PAVEMENT TO CONSTRUCTION AREA

WAY/MED-71-7.04/0.00

1/2


(SEE PREVIOUS SHEET)
MATCH LINE
TRANSITION AREA DELINEATION
℄ SURVEY & CONST. I.R. 71
TLL
TELW
TELY
11.00' (TYP.)
NEW PAVEMENT CONSTRUCTION
23'
BEGIN PCB
10.00'
300.00'
580.00' PCB TAPER AT 19:1
1560.00' TAPER - DRUMS AND PAVEMENT MARKINGS AT 65:1
40.00'
C
D
E
F

LEGEND

TELW - Temp. Edge Line, Class I, White, 642
TELY - Temp. Edge Line, Class I, Yellow, 642
TSLL - Temp. Solid Lane Line, Class I, 642
TLL - Temp. Lane Line, Class I, 642
TCH - Temp. Chan. Line, Class I, 642

TELW - Temp. Edge Line, White, Class I, 740.06 Type I
TELY - Temp. Edge Line, Yellow, Class I, 740.06, Type I
TSLL - Temp. Solid Lane Line, Class I, 740.06 Type I
TLL - Temp. Lane Line, Class I, 740.06 Type I
TCH - Temp. Chan. Line, Class I, 740.06 Type I

▬ - 32" Portable Concrete Barrier, 1' Offset to Edge Line (Typ.). Unless shown otherwise
○ ○ - Drums @ 60' c/c unless shown otherwise, 1' min' offset to edge line, (provide larger offset when shown)
▭ - Work Zone Impact Attenuator
▨ - Area of Construction During This Phase

NOTES:

1. DETAILS ARE SHOWN IN DIRECTION THAT TRAFFIC IS TRAVELING. TYPICAL ALL M.O.T. PLAN SHEETS.
2. THESE PLAN DETAILS ARE BASED ON STANDARD CONSTRUCTION DRAWING MT-102.10, AND ALL THE REQUIREMENTS OF THIS DRAWING SHALL BE INCORPORATED. AN EXCEPTION TO THE STANDARD DRAWING IS THE 65:1 TAPER RATES.
3. SEE PHASE 2 M.O.T. TYPICAL SECTION, SHEETS 54 & 57. SEE SHEETS 99 & 100 FOR .M.O.T. QUANTITIES.

- • AN ADJACENT CONSTRUCTION PROJECT MAY BE UNDER CONSTRUCTION SIMULTANEOUSLY WITH THIS PROJECT. THE WORK PHASES OF THE TWO PROJECTS MUST BE COORDINATED. ALL ITEMS OF WORK ON STAGE 2 PHASE 2 S.B., MAY BE NON-PERFORMED. SEE THE 614 MAINTAINING TRAFFIC NOTE FOR ADDITIONAL INFORMATION ON COORDINATION.

THIS DETAIL IS APPLICABLE TO THE FOLLOWING M.O.T. STAGES - PHASES WITH STATIONING AS SHOWN IN THE TABLE.

	REFERENCE STATIONS ON PLAN					
	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ
STAGE 1 - PHASE 2 S.B.	175+00	172+00	161+90	156+40	156+00	153+40
STAGE 2 - PHASE 2 S.B.•	339+00	336+00	325+90	320+40	320+00	317+40

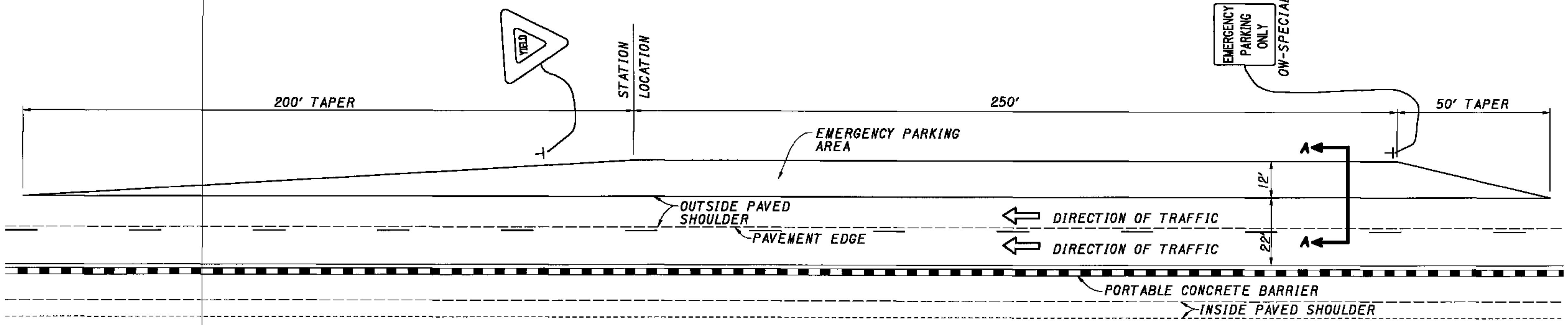
CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC - APPROACHING WORK ZONE TRAFFIC FROM EXISTING PAVEMENT TO NEW CONSTRUCTION AREA

WAY/MED-71-7.04/0.00

2/2

MPC2.DGN

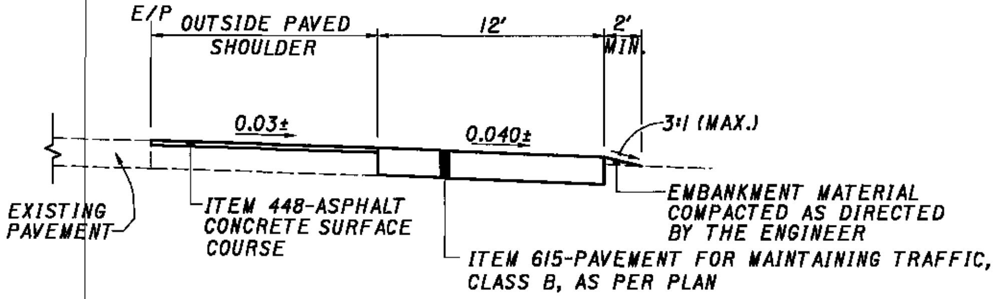


PLAN

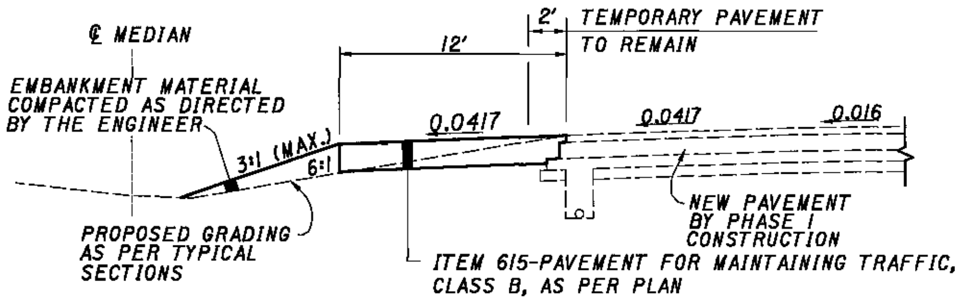
EMERGENCY PARKING AREAS ON OUTSIDE SHOULDER DURING STAGES 1 & 2, CONSTRUCTION PHASE 1

STAGE 2 - PHASE 1 - STA. 250+00 NB
STAGE 2 - PHASE 1 - STA. 248+00 SB

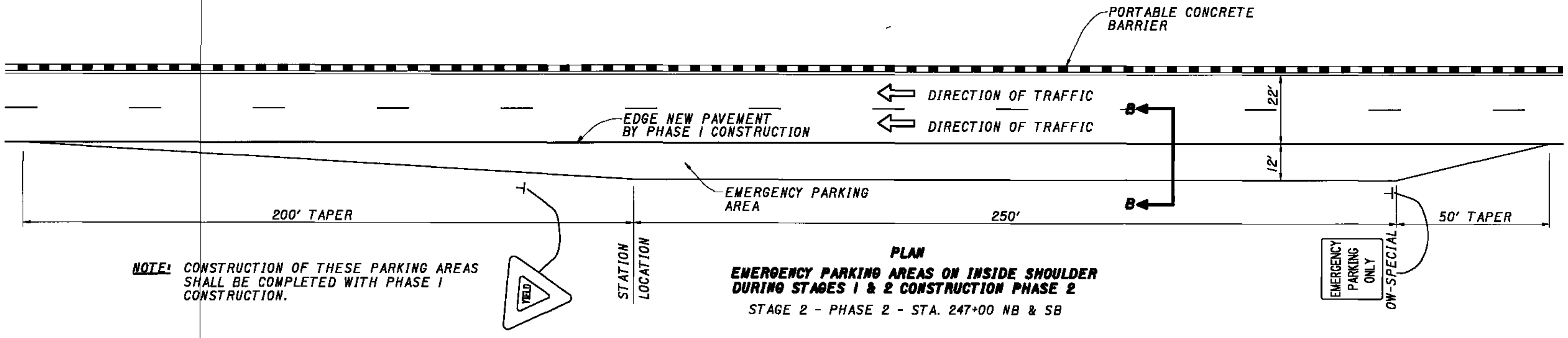
NOTE: CONSTRUCTION OF THESE PARKING AREAS SHALL BE COMPLETED PRIOR TO IMPLEMENTING PHASE 1, USING OMUTCD FIGURE C-12, STATIONARY OPERATIONS ON THE SHOULDER. (EXCEPT THAT REFLECTORIZED DRUMS SHALL BE USED IN LIEU OF CONES). SEE MAINTENANCE OF TRAFFIC GENERAL NOTES SHEET NO. 42 FOR ADDITIONAL RESTRICTIONS.


E/P
OUTSIDE PAVED SHOULDER
12′
2′ MIN.
0.03±
0.040±
3:1 (MAX.)
EXISTING PAVEMENT
ITEM 448-ASPHALT CONCRETE SURFACE COURSE
EMBANKMENT MATERIAL COMPACTED AS DIRECTED BY THE ENGINEER
ITEM 615-PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN

TYPICAL SECTION A-A
NOT TO SCALE


℄ MEDIAN
12′
2′
TEMPORARY PAVEMENT TO REMAIN
EMBANKMENT MATERIAL COMPACTED AS DIRECTED BY THE ENGINEER
0.0417
0.0417
0.016
3:1 (MAX.)
6:1
NEW PAVEMENT BY PHASE 1 CONSTRUCTION
PROPOSED GRADING AS PER TYPICAL SECTIONS
ITEM 615-PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN

TYPICAL SECTION B-B
NOT TO SCALE



PLAN

EMERGENCY PARKING AREAS ON INSIDE SHOULDER DURING STAGES 1 & 2 CONSTRUCTION PHASE 2

STAGE 2 - PHASE 2 - STA. 247+00 NB & SB

NOTE: CONSTRUCTION OF THESE PARKING AREAS SHALL BE COMPLETED WITH PHASE 1 CONSTRUCTION.

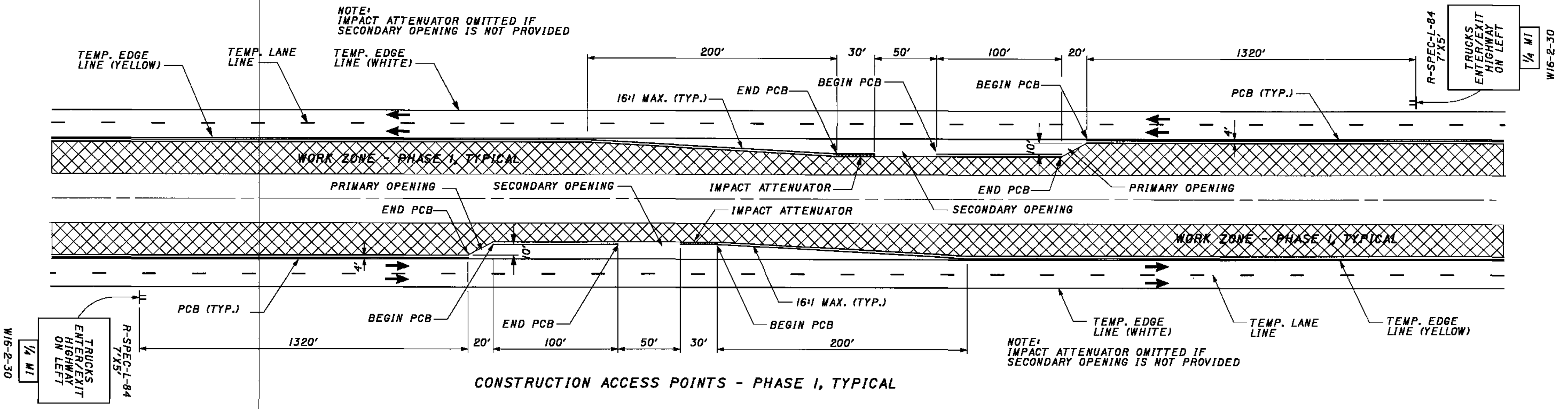
APPLICABLE M.O.T. CONSTRUCTION STAGES - PHASES
STAGE 2 - PHASE 1 - STA. 250+00 NB
STAGE 2 - PHASE 1 - STA. 248+00 SB
STAGE 2 - PHASE 2 - STA. 247+00 NB & SB

0 10 20 40
HORIZONTAL SCALE IN FEET

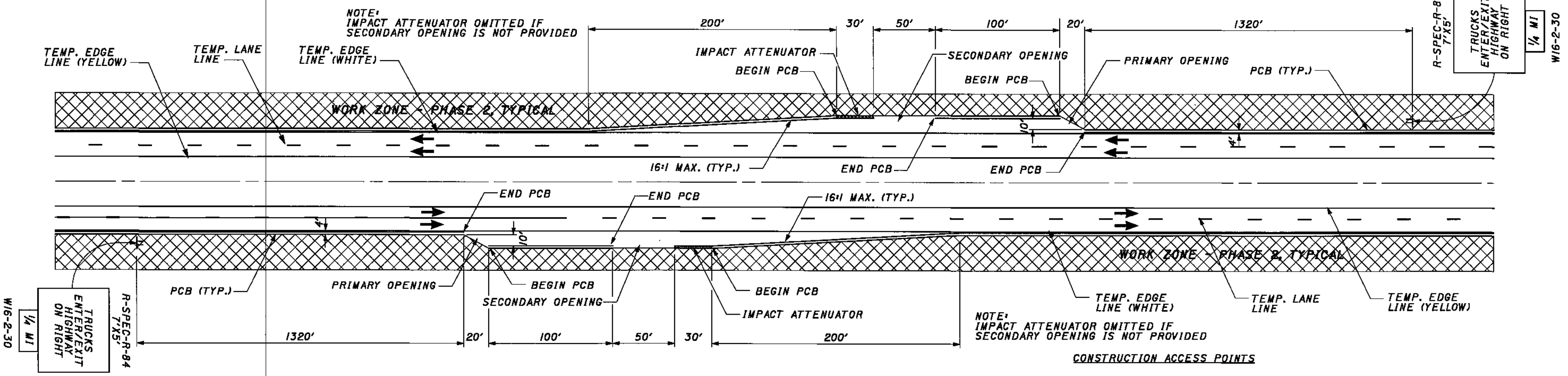
MAINTENANCE OF TRAFFIC - STAGES 1 & 2
EMERGENCY PARKING AREAS

WAY/MED-71-7.04/0.00

MDD.DGN



CONSTRUCTION ACCESS POINTS - PHASE 1, TYPICAL



CONSTRUCTION ACCESS POINTS - PHASE 2, TYPICAL

CONSTRUCTION ACCESS POINTS

CONSTRUCTION ACCESS POINT LOCATIONS MAY BE SELECTED BY THE CONTRACTOR WITH THE APPROVAL OF THE ENGINEER. THEY SHALL BE IN ACCORDANCE WITH THE DETAILS IN THE PLANS. THE LOCATIONS SHALL BE SELECTED FOR GOOD SIGHT DISTANCE AND EASE OF ACCESS FOR ENTERING VEHICLES (AVOID LOCATIONS JUST BEYOND CREST VERTICAL CURVES, ON CURVES TO THE SIDE OF THE ROAD WITH THE BARRIER, JUST BEYOND OVERHEAD STRUCTURES, ON UPGRADES, ETC.) IN THE EVENT THAT THE ENGINEER DETERMINES THAT AN ACCESS POINT DOES NOT FUNCTION IN A SAFE MANNER, HE SHALL ORDER IT IMMEDIATELY CLOSED AT NO COST TO THE STATE. ACCESS POINTS WHICH INCLUDE THE SECONDARY OPENING SHALL ALSO INCLUDE AN OPERABLE IMPACT ATTENUATOR AS DETAILED. WHEN AN IMPACT ATTENUATOR BECOMES INOPERABLE FOR ANY REASON, THE ENGINEER SHALL ORDER THE SECONDARY OPENING TO BE IMMEDIATELY CLOSED WITH THE PORTABLE CONCRETE BARRIER. ACCESS POINTS MAY BE RELOCATED, SUBJECT TO THE APPROVAL OF THE ENGINEER, AS NECESSARY TO ACCOMPLISH CONSTRUCTION ACTIVITIES.

ALL COSTS FOR RELOCATION OF PORTABLE CONCRETE BARRIER, INSTALLATION, REPAIR, REPLACEMENT, AND REMOVAL OF IMPACT ATTENUATORS, GRADING FOR ACCESS DRIVES AND RELATED COSTS SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC.

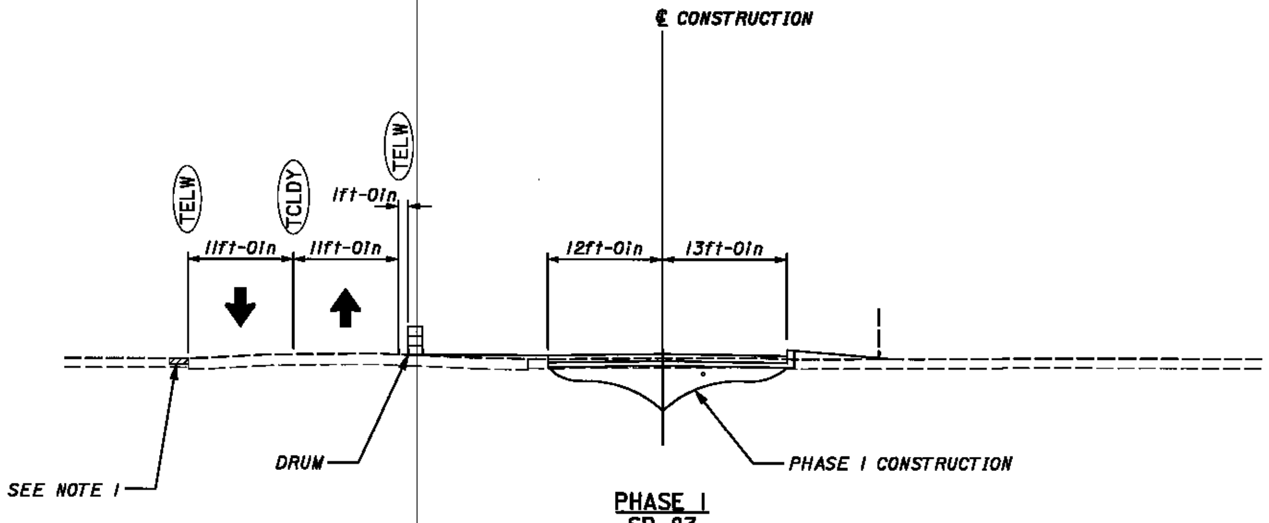
0
HORIZONTAL SCALE IN FEET

CALCULATED
CHECKED

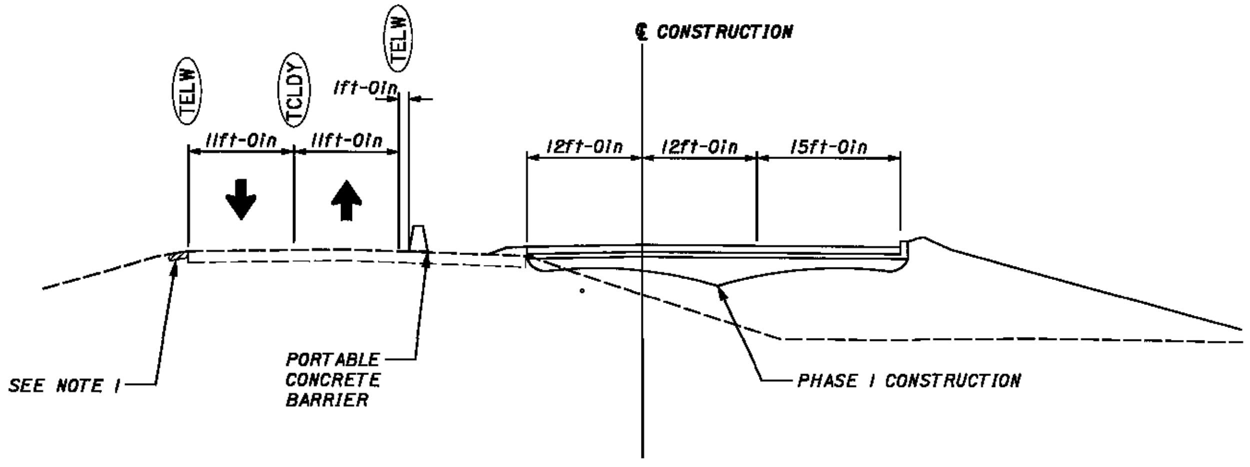
MAINTENANCE OF TRAFFIC
CONSTRUCTION ACCESS POINTS, TYPICAL

WAY/MED-71-7.04/0.00

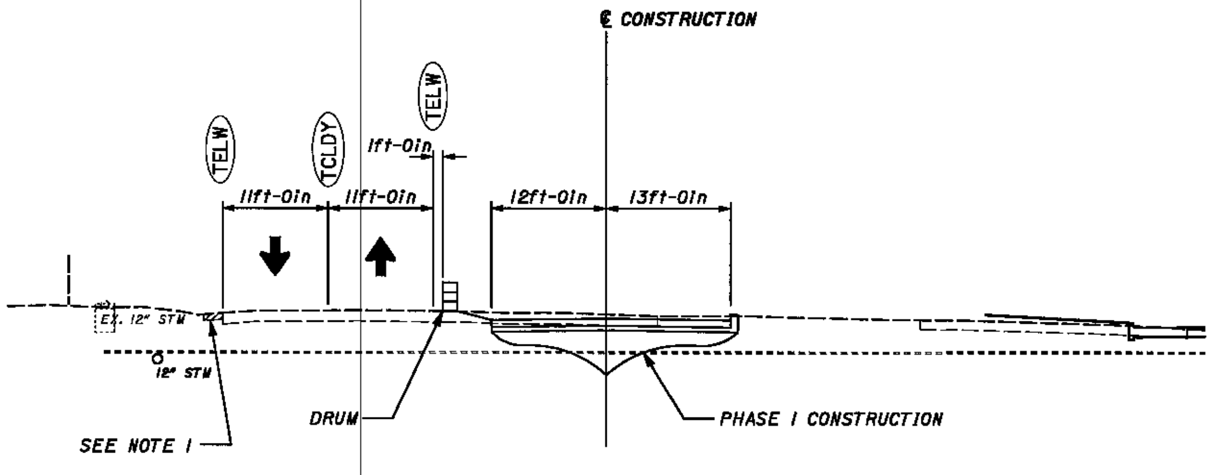
...\14017MPN.dgn



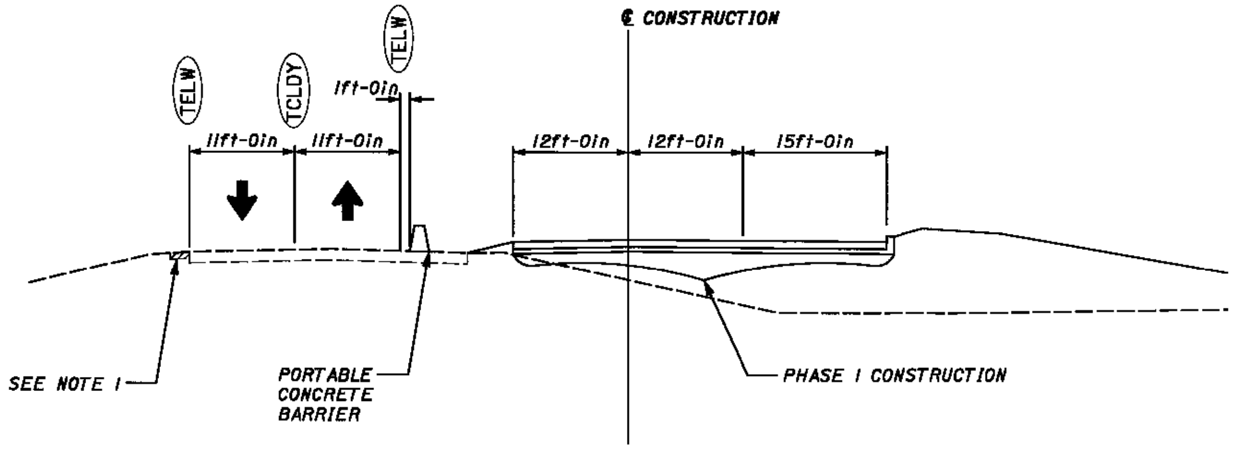
PHASE I
SR 83
STA. 46+00



PHASE I
SR 83
STA. 52+00



PHASE I
SR 83
STA. 44+00



PHASE I
SR 83
STA. 48+00

NOTE:

1. PLACE ITEM 301-ASPHALT CONCRETE BASE, 8" THICK, 2' WIDE ALONG EDGE OF EXISTING PAVEMENT PRIOR TO PHASE I TO STABILIZE PAVEMENT EDGE.

PAVEMENT MARKING LEGEND

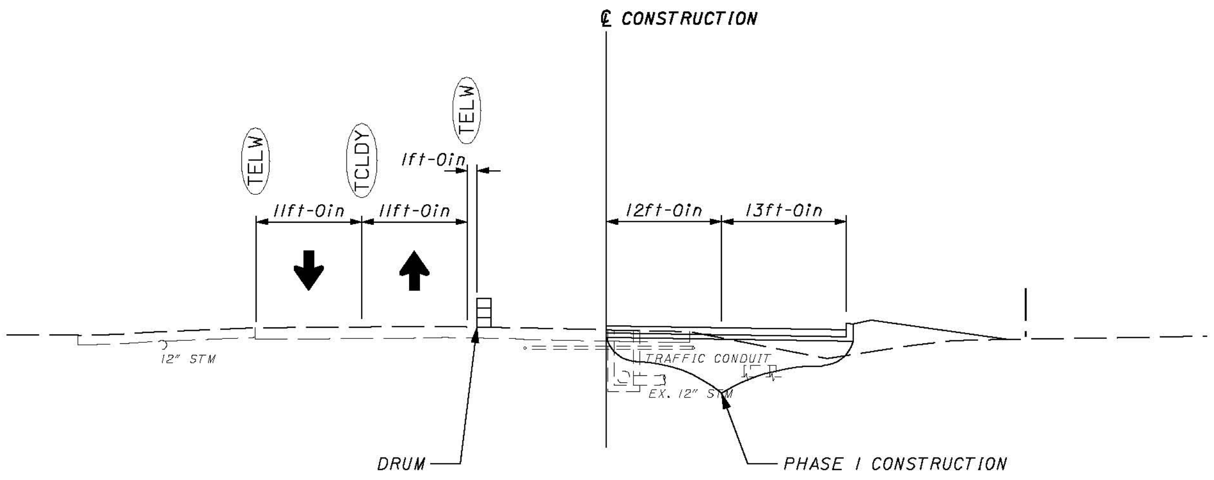
TELW	TEMPORARY EDGE LINE, WHITE
TCLDY	TEMPORARY CENTERLINE, DOUBLE YELLOW

0 10 20
HORIZONTAL
SCALE IN FEET

CALCULATED
CHECKED

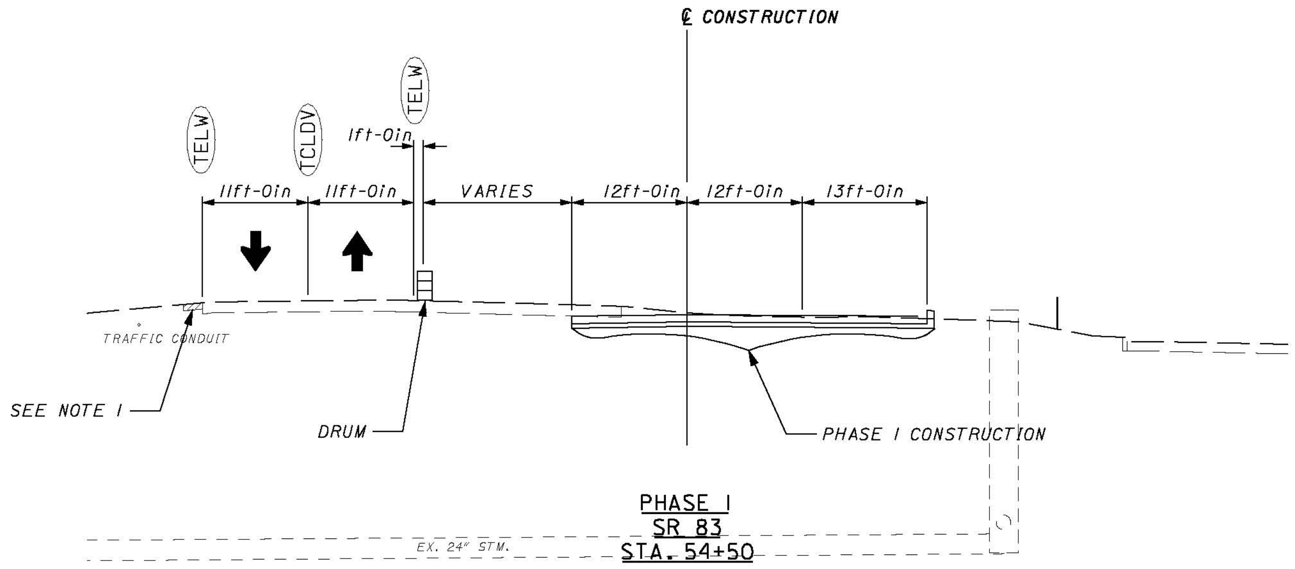
MAINTENANCE OF TRAFFIC SR 83
PHASE 1 SECTIONS

WAY/MED-71-7.04/0.00

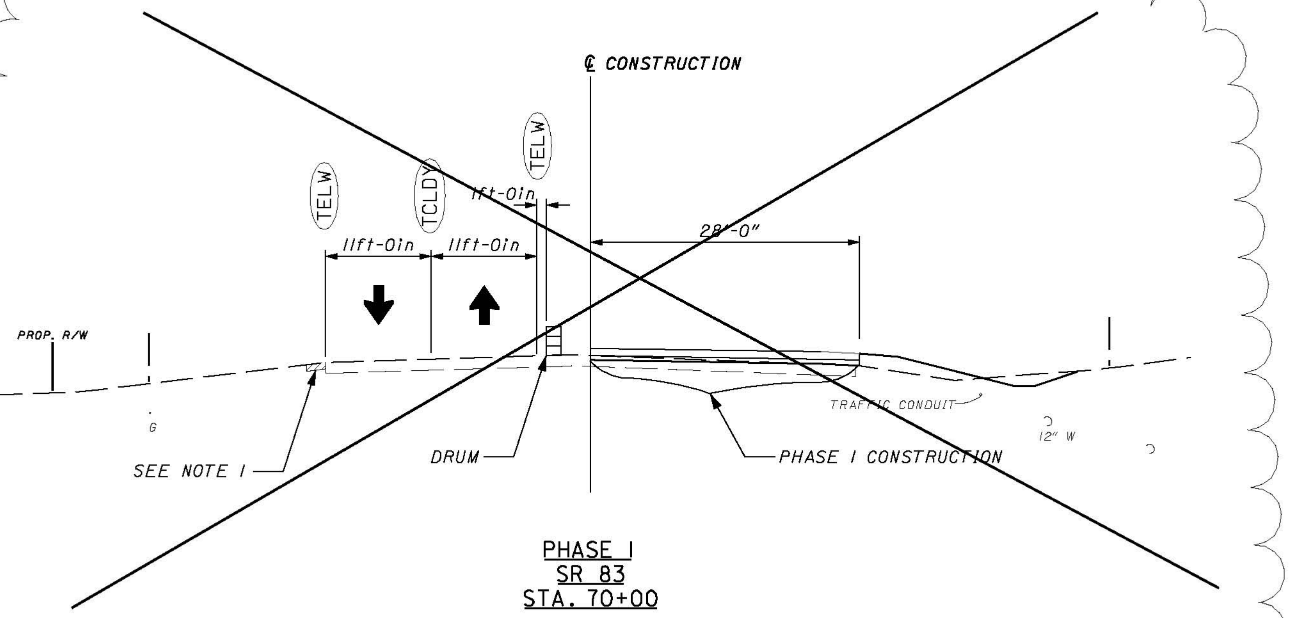


PHASE I
SR 83
STA. 58+00

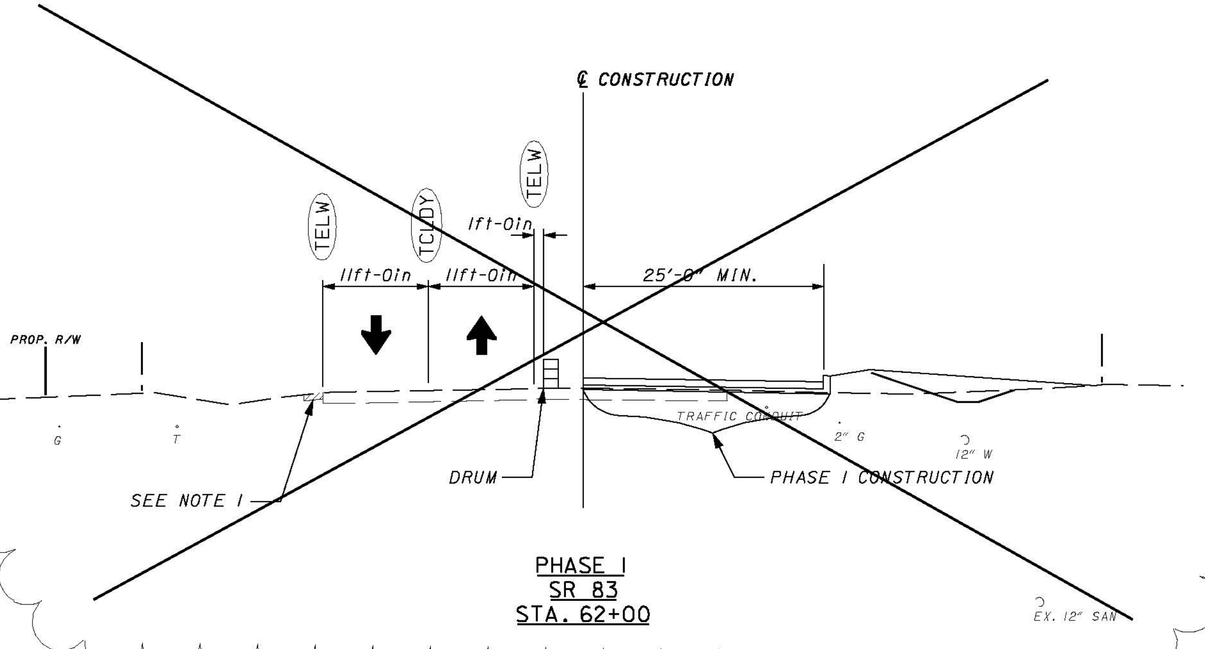
NOTE:
PHASE I CONSTRUCTION OF PROPOSED LANE, LEFT OF CENTERLINE, ENDS AT STA. 57+00.



PHASE I
SR 83
STA. 54+50



PHASE I
SR 83
STA. 70+00



PHASE I
SR 83
STA. 62+00

7

NOTE:

1. PLACE ITEM 301-ASPHALT CONCRETE BASE, 8" THICK, 2' WIDE ALONG EDGE OF EXISTING PAVEMENT PRIOR TO PHASE I TO STABILIZE PAVEMENT EDGE.

SEE SHEET 82 FOR MARKING LEGEND

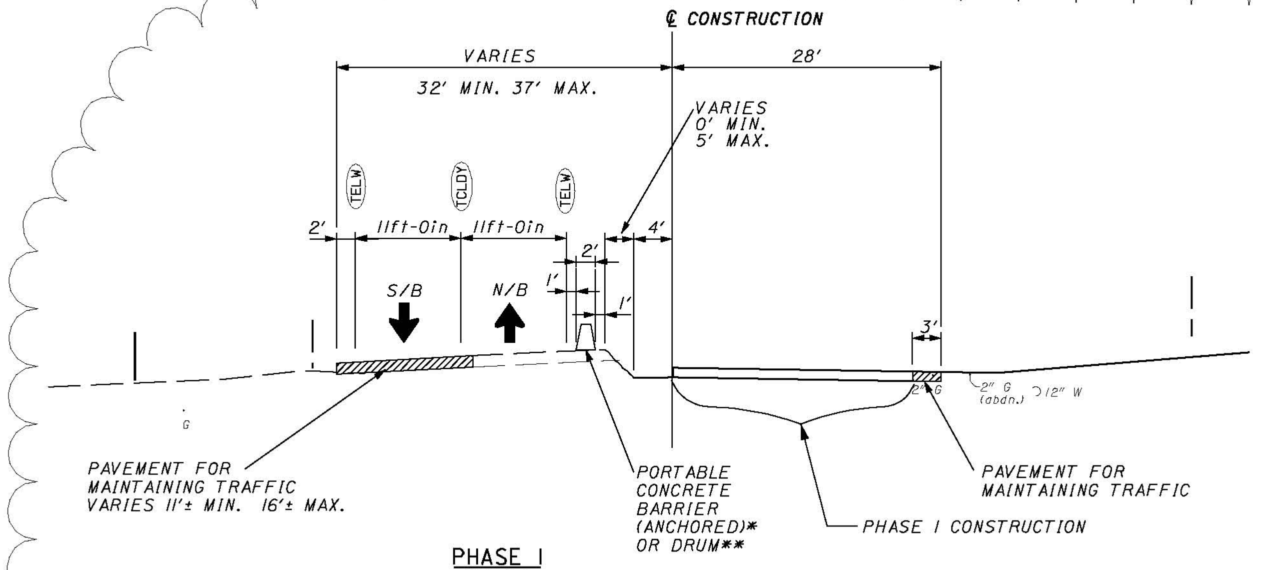
0 10 20
HORIZONTAL
SCALE IN FEET

CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC SR 83
PHASE 1 SECTIONS

7 = REVISED 02-10-06

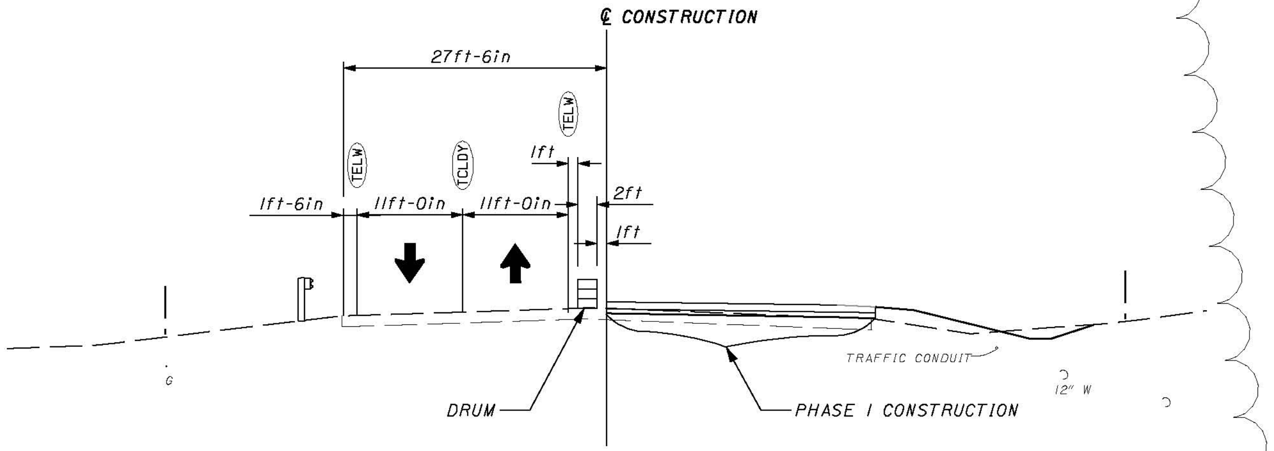
WAY/MED-71-7.04/0.00



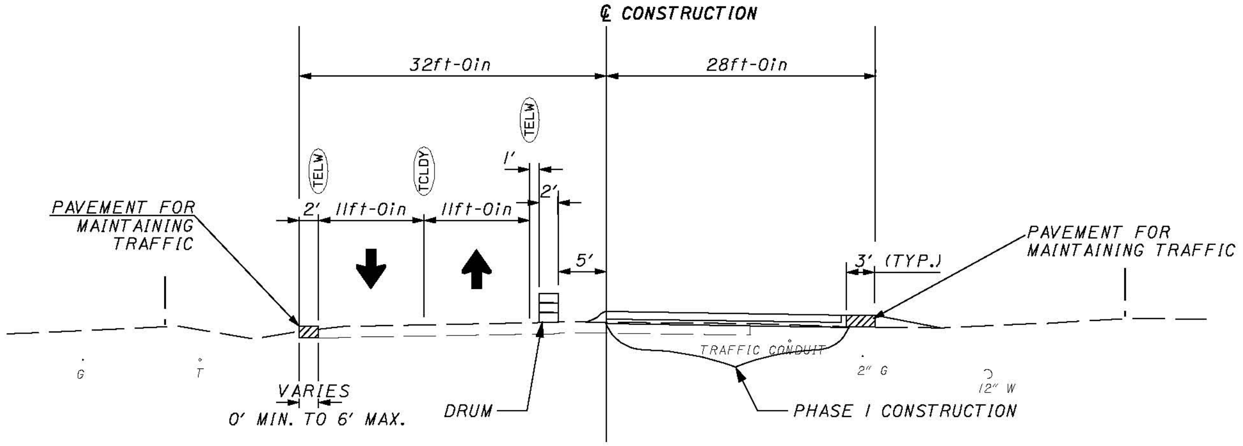
PHASE I
SR 83
STA. 63+50 TO STA. 65+50
STA. 68+00 TO STA. 70+00

* PCB USED STA. 65+00 TO 65+50
AND STA. 68+00 TO 70+00

** DRUMS USED STA. 63+50 TO 65+00

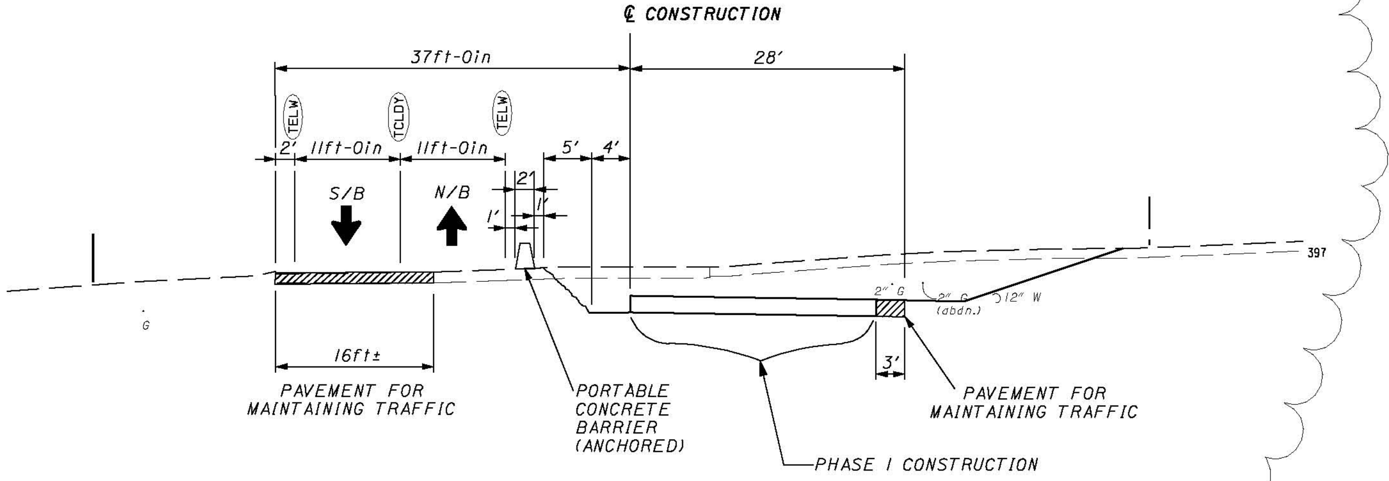


PHASE I
SR 83
STA. 70+00 TO 71+25



PHASE I
SR 83
STA. 58+80± TO STA. 63+50

EX. 12" SAN



PHASE I
SR 83
STA. 65+50 TO STA. 68+00

7

**SEE SHEET 82 FOR
MARKING LEGEND**

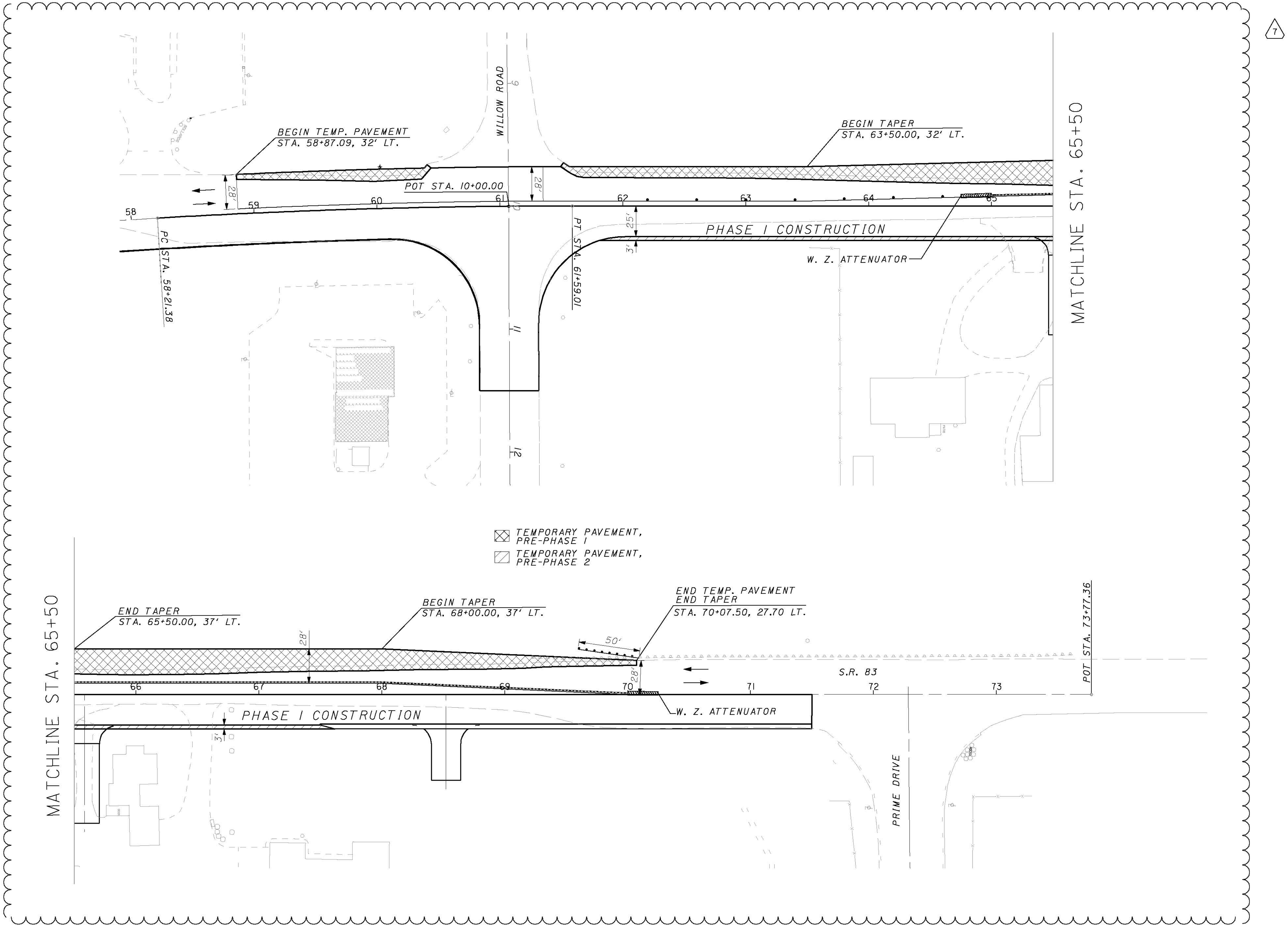
HORIZONTAL
SCALE IN FEET
0 10 20

CALCULATED
CHECKED

**MAINTENANCE OF TRAFFIC SR 83
PHASE 1 SECTIONS**

△ = REVISED 02-10-06

WAY/MED-71-7.04/0.00



HORIZONTAL
SCALE IN FEET
0 20 40 80

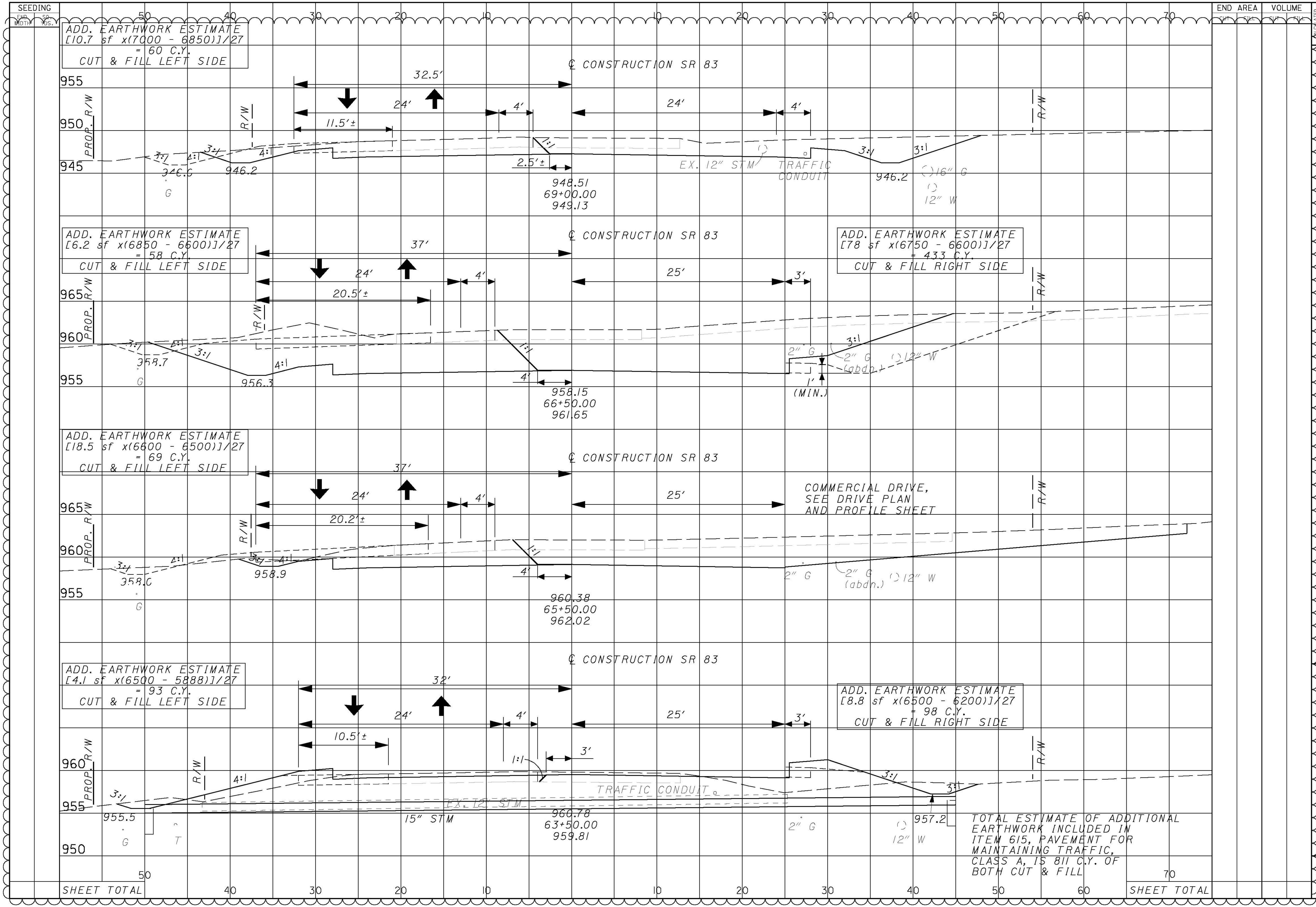
CALCULATED
MAC
CHECKED
BBB

PHASE 1 MOT PAVEMENT LAYOUT

7 REVISED 02-10-06

WAY/MED-71-7.04/0.00

83B
785



ADD. EARTHWORK ESTIMATE
[10.7 sf x(7000 - 6850)]/27
= 60 C.Y.
CUT & FILL LEFT SIDE

ADD. EARTHWORK ESTIMATE
[6.2 sf x(6850 - 6600)]/27
= 58 C.Y.
CUT & FILL LEFT SIDE

ADD. EARTHWORK ESTIMATE
[78 sf x(6750 - 6600)]/27
= 433 C.Y.
CUT & FILL RIGHT SIDE

ADD. EARTHWORK ESTIMATE
[18.5 sf x(6600 - 6500)]/27
= 69 C.Y.
CUT & FILL LEFT SIDE

ADD. EARTHWORK ESTIMATE
[4.1 sf x(6500 - 5888)]/27
= 93 C.Y.
CUT & FILL LEFT SIDE

ADD. EARTHWORK ESTIMATE
[8.8 sf x(6500 - 6200)]/27
= 98 C.Y.
CUT & FILL RIGHT SIDE

TOTAL ESTIMATE OF ADDITIONAL EARTHWORK INCLUDED IN ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, IS 811 C.Y. OF BOTH CUT & FILL

CALCULATED MAC
CHECKED BBB

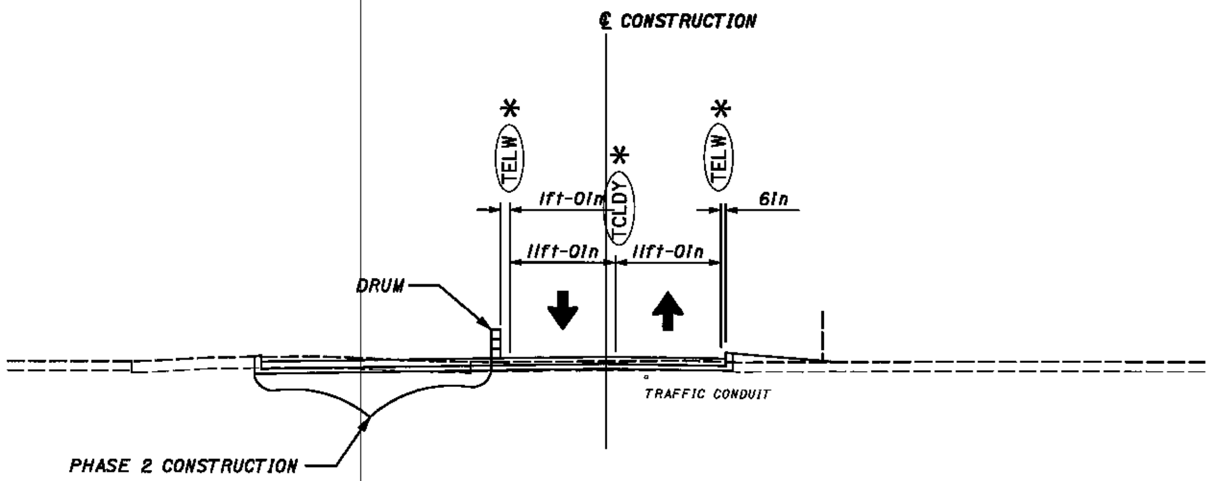
7

CROSS SECTIONS
MAINTENANCE OF TRAFFIC - PHASE 1

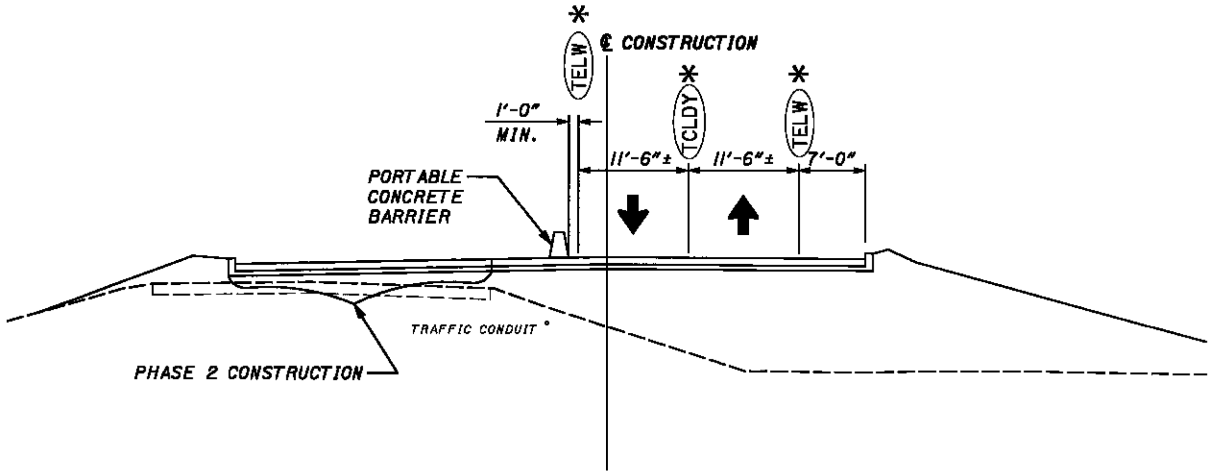
7 REVISED 02-10-06

WAY/MED-71-7.04/0.00

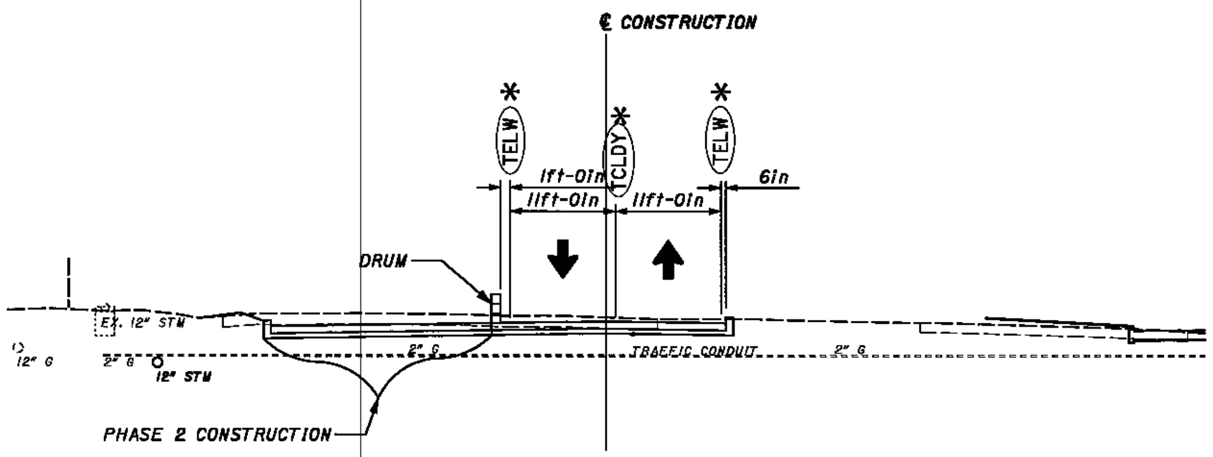
83C
785



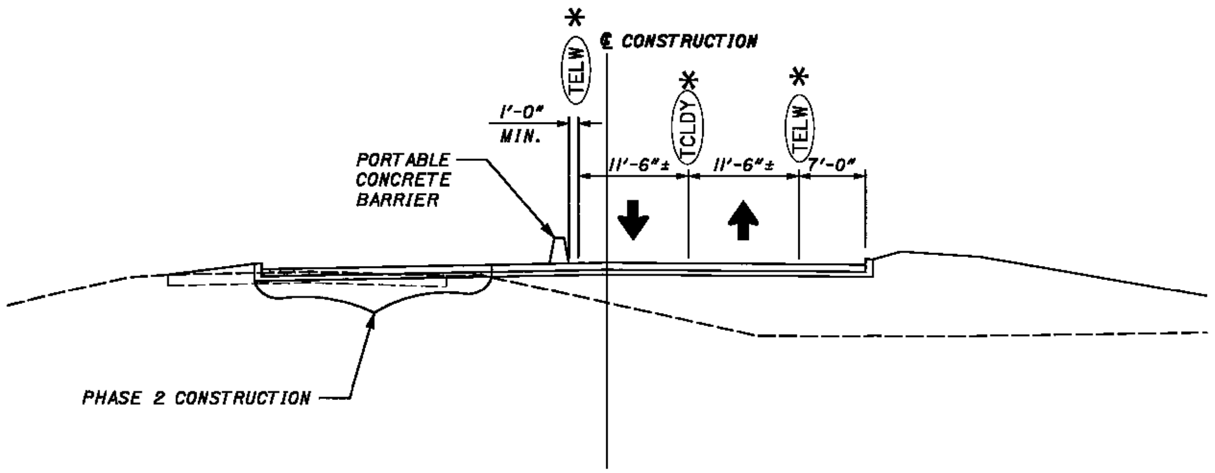
PHASE 2
SR 83
STA. 46+00



PHASE 2
SR 83
STA. 52+00



PHASE 2
SR 83
STA. 44+00



PHASE 2
SR 83
STA. 48+00

*** INDICATES TEMPORARY MARKINGS, 740.06 TYPE 1 (TAPE)**

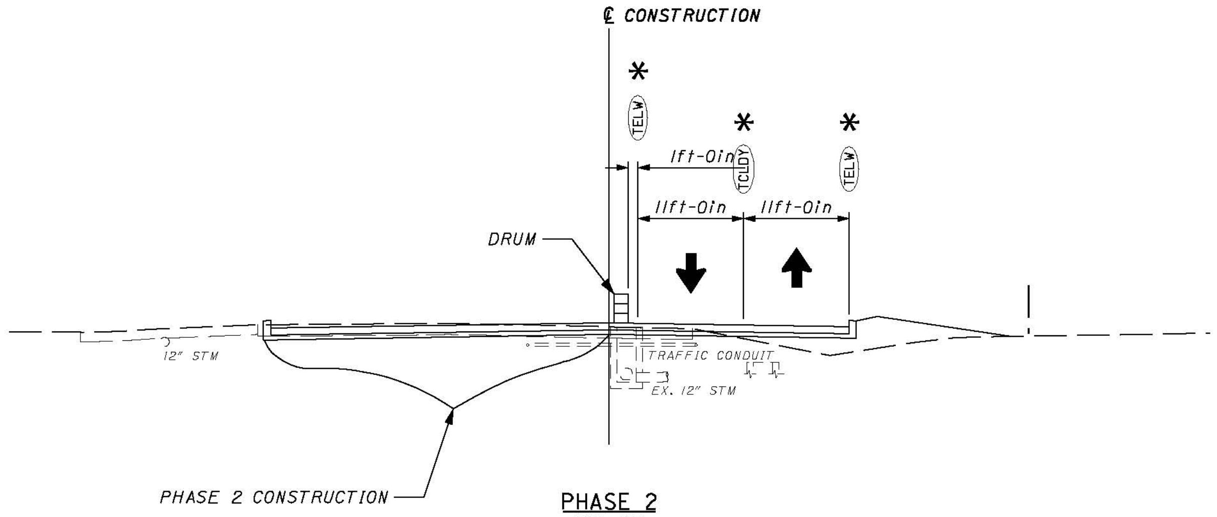
SEE SHEET 82 FOR MARKING LEGEND

0 10 20
HORIZONTAL SCALE IN FEET

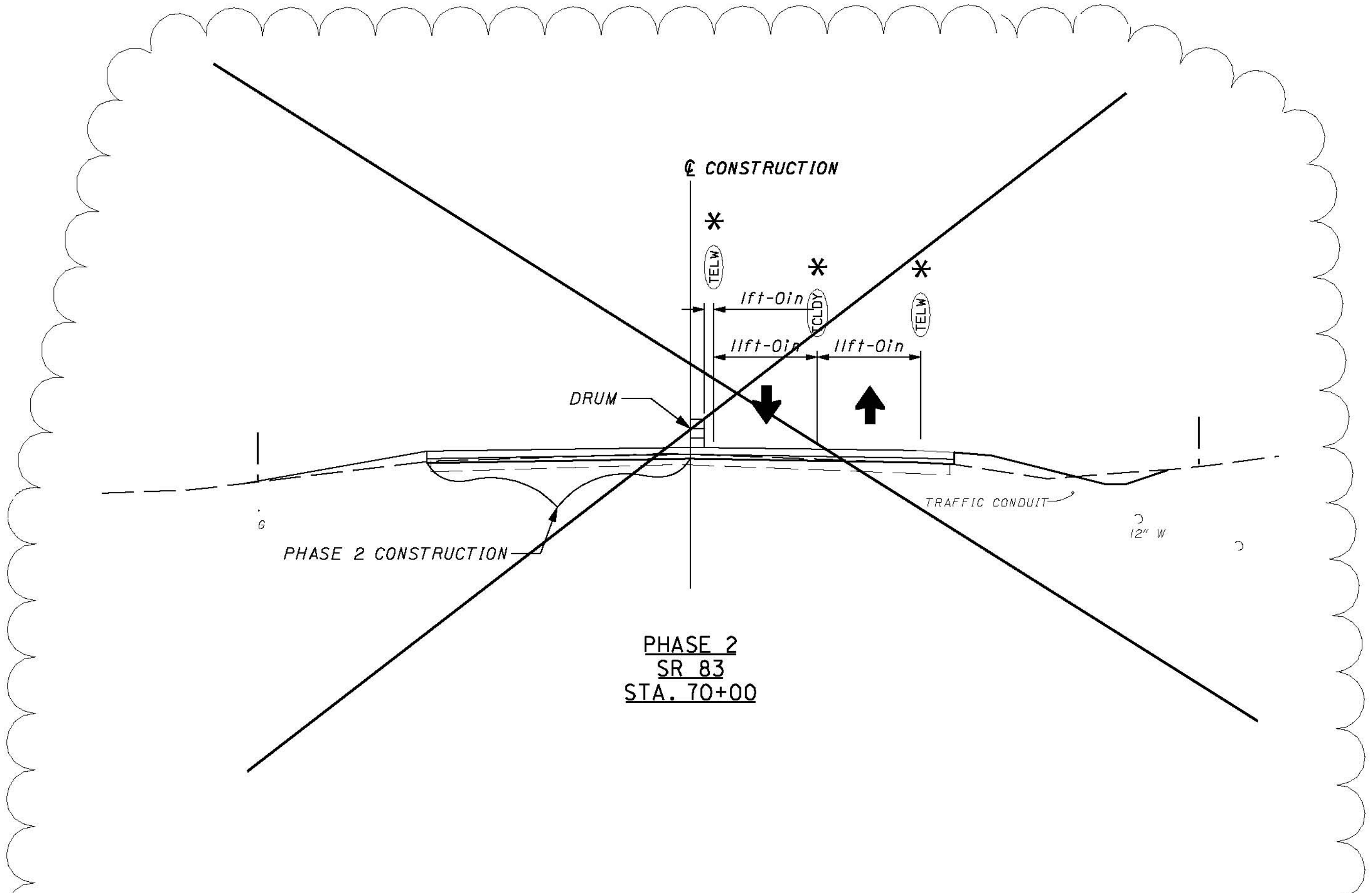
CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC SR 83
PHASE 2 SECTIONS

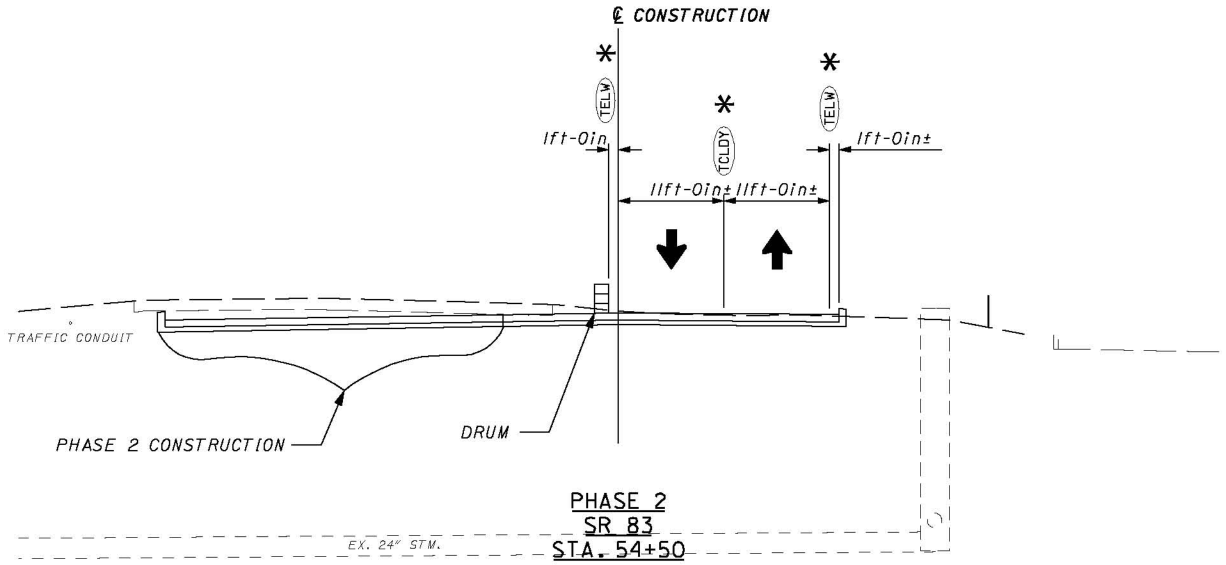
WAY/MED-71-7.04/0.00



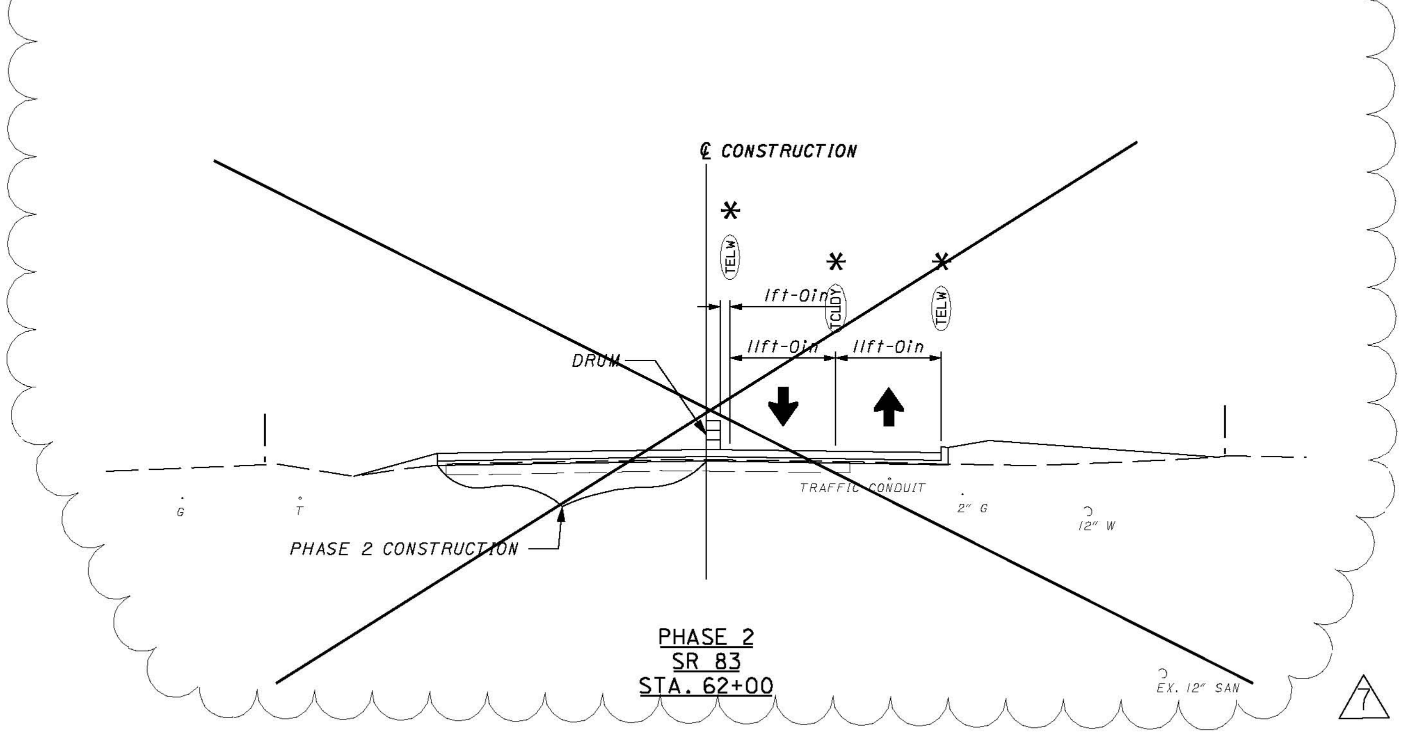
PHASE 2
SR 83
STA. 58+00



PHASE 2
SR 83
STA. 70+00



PHASE 2
SR 83
STA. 54+50



PHASE 2
SR 83
STA. 62+00

*** INDICATES TEMPORARY MARKINGS, 740.06 TYPE 1 (TAPE)**

SEE SHEET 82 FOR MARKING LEGEND

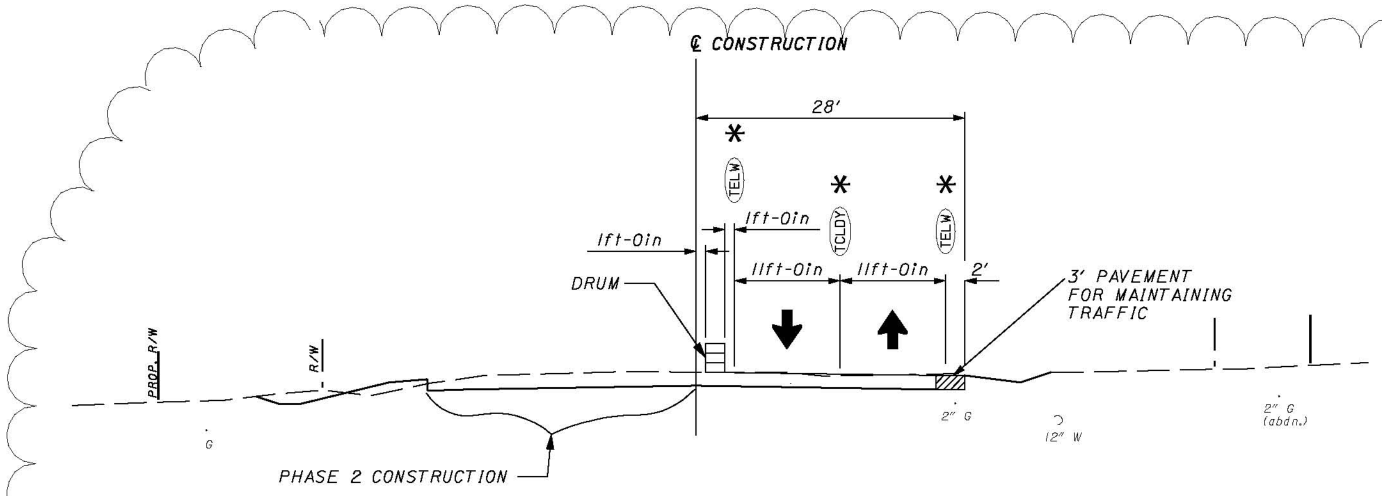
0 10 20
HORIZONTAL
SCALE IN FEET

CALCULATED
CHECKED

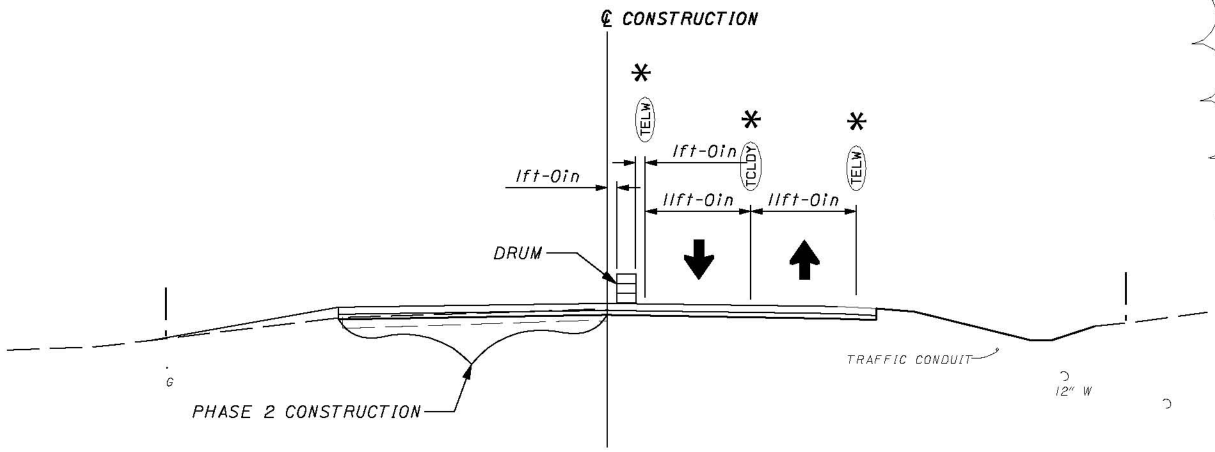
MAINTENANCE OF TRAFFIC SR 83
PHASE 2 SECTIONS

△7 = REVISED 02-10-06
△2 = REVISED 10-11-04

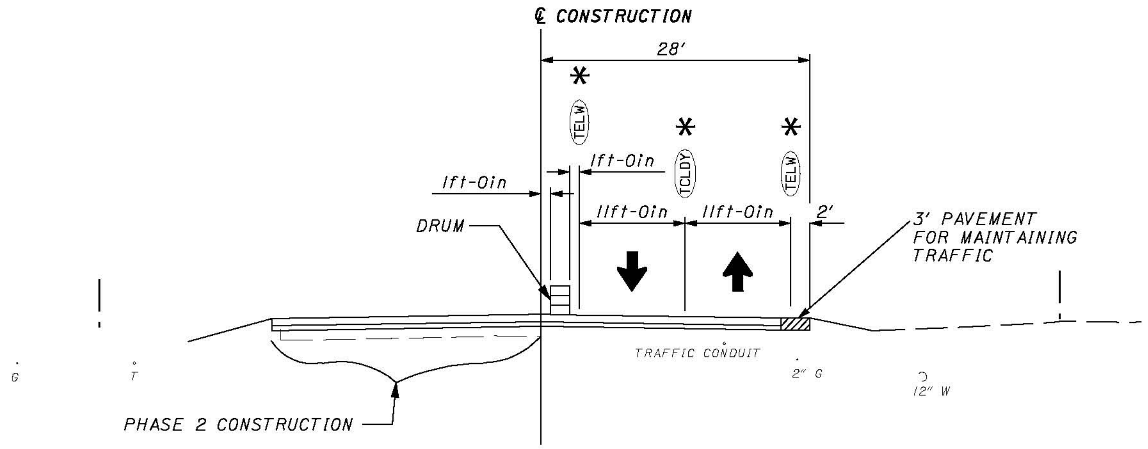
WAY/MED-71-7.04/0.00



PHASE 2
SR 83
STA. 63+50 TO STA. 65+50
STA. 68+00 TO STA. 70+00

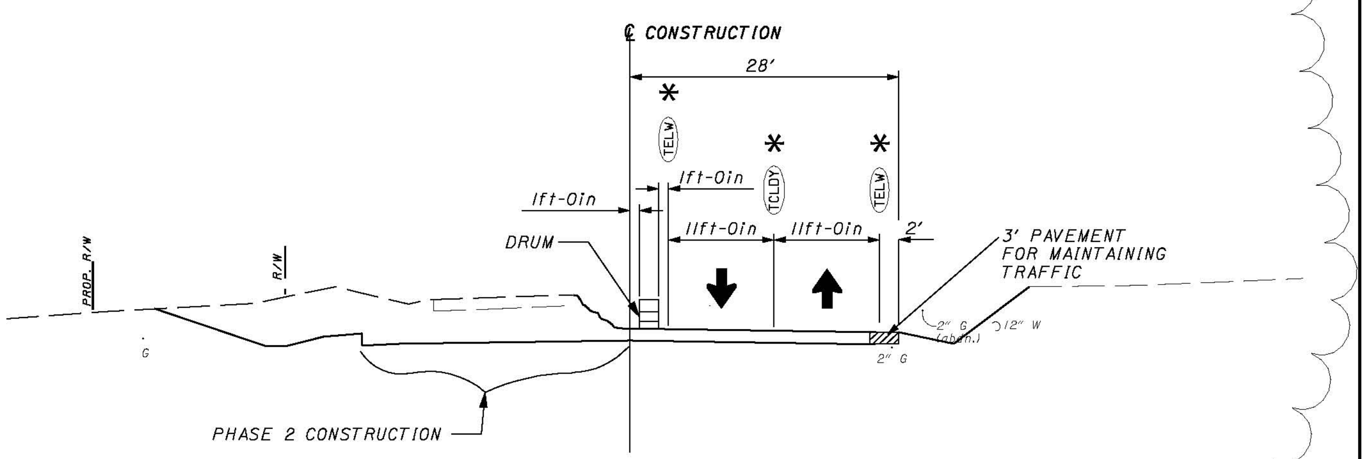


PHASE 2
SR 83
STA. 70+00 TO 71+50



PHASE 2
SR 83
STA. 58+80± TO 63+50

EX. 12" SAN



PHASE 2
SR 83
STA. 65+50 TO STA. 68+00

7

PHASE 2

THE CONTRACTOR IS PERMITTED TO UTILIZE FLAGGERS FOR A ONE LANE TWO-WAY OPERATION BETWEEN WILLOW RD. AND PRIME DR. WHEN PLACING THE INSIDE SB LANE OF SR 83, AT THE APPROVAL OF THE ENGINEER.

PHASE 3

IN ADDITION TO THE PHASE 3 WORK DESCRIBED ON SHEET 47, THE CONTRACTOR SHALL CLOSE THE NB RIGHT LANE OF SR 83 IN ORDER TO REMOVE THE 3 FT. WIDE STRIP OF TEMPORARY PAVEMENT AND INSTALL THE CURB.

*** INDICATES TEMPORARY MARKINGS, 740.06 TYPE 1 (TAPE)**

SEE SHEET 82 FOR MARKING LEGEND

0 10 20
HORIZONTAL SCALE IN FEET

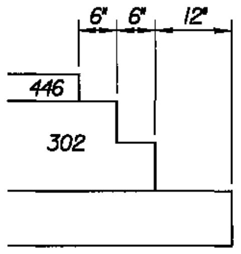
CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC SR 83
PHASE 2 SECTIONS

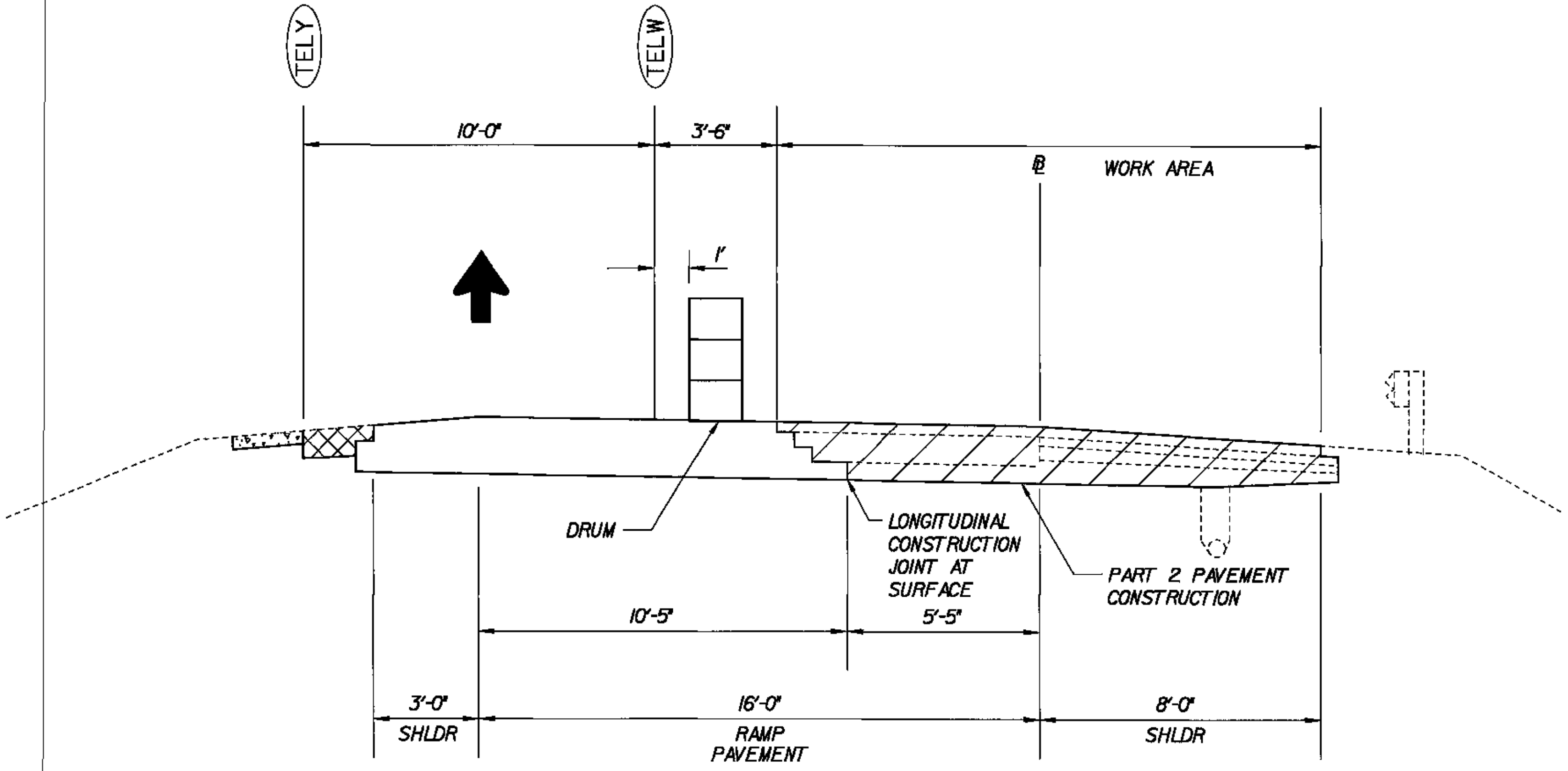
△ = REVISED 02-10-06

WAY/MED-71-7.04/0.00

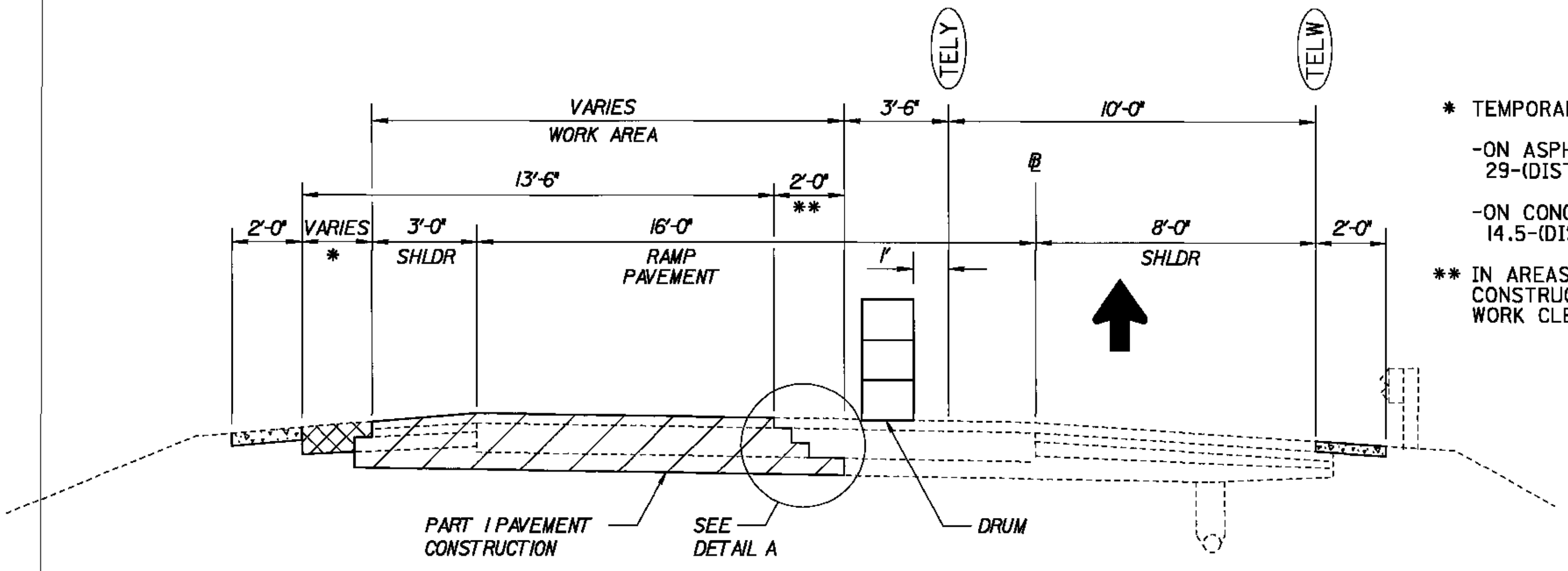
85A
785



DETAIL A
ASPHALT PAVEMENT



1-LANE RAMP SECTION TYPICAL FOR PART 2



LIMITING STATIONS
STA.92+19 TO STA.100+00 RAMP A
STA.92+34 TO STA.94+29 RAMP B
STA.105+50 TO 106+85 RAMP C

1-LANE RAMP SECTION TYPICAL FOR PART 1

* TEMPORARY PAVEMENT WIDTH VARIES WITH THE FORMULAS:

-ON ASPHALT PAVED RAMP SECTIONS:
29-(DISTANCE FROM RIGHT EX. EOS TO LEFT PR. EOS) = WIDTH

-ON CONCRETE PAVED RAMP SECTION:
14.5-(DISTANCE FROM CONSTRUCTION JOINT TO PR. EOS) = WIDTH

** IN AREAS OF CONCRETE RAMP, REPLACE THE 2'-0" STEPPED COURSE CONSTRUCTION FOR ASPHALT WITH A 1'-0" SPACE FOR FORMS AND WORK CLEARANCE.

▨	TEMPORARY PAVEMENT, CLASS A, AS NEEDED TO PROVIDE MINIMUM LANE WIDTH SHOWN
░	6" 301 ASPHALT CONCRETE BASE

PAVEMENT MARKING LEGEND

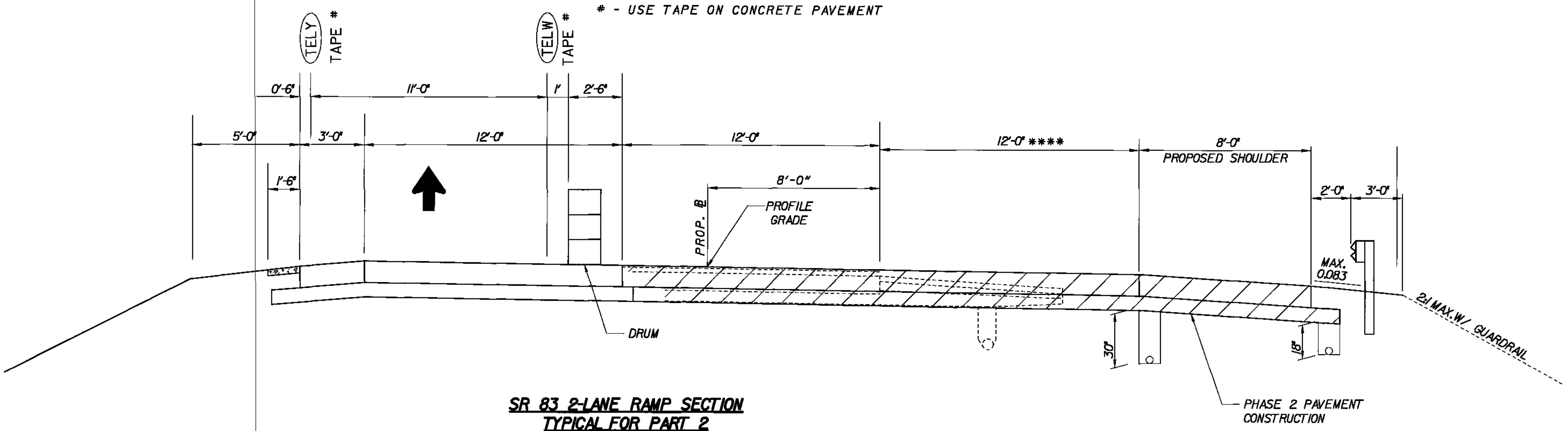
TELW	TEMPORARY EDGE LINE, WHITE
TELY	TEMPORARY EDGE LINE, YELLOW

0 2.5 5
HORIZONTAL SCALE IN FEET

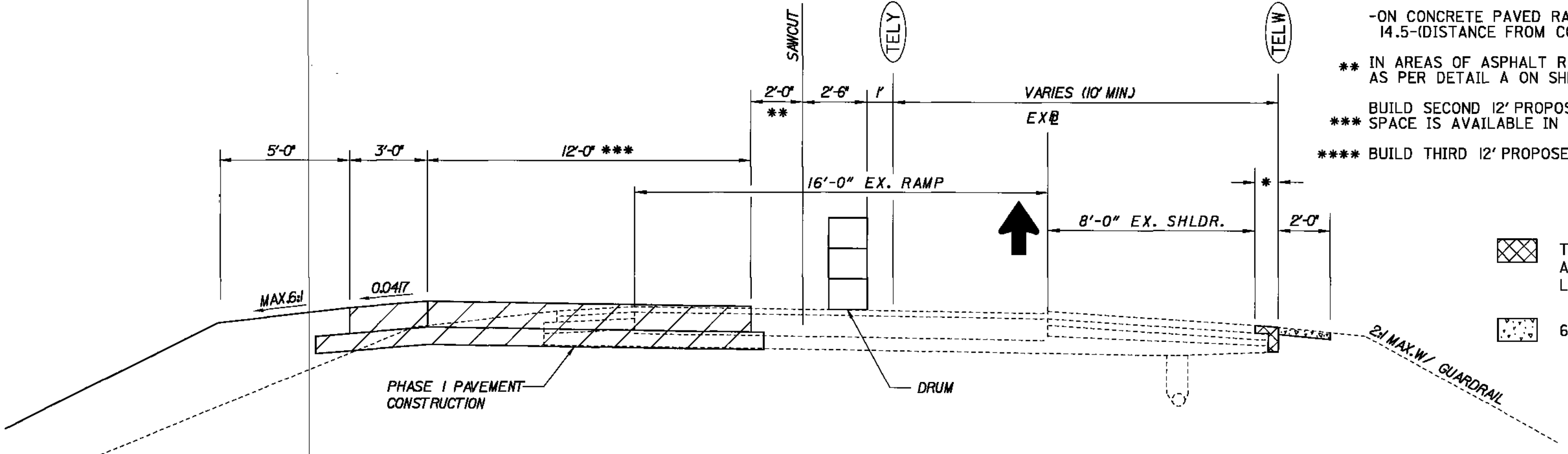
CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC SR 83
1-LANE RAMP SECTION TYPICAL FOR PART 1 AND PART 2

WAY/MED-71-7.04/0.00



SR 83 2-LANE RAMP SECTION
TYPICAL FOR PART 2



SR 83 2-LANE RAMP SECTION
TYPICAL FOR PART 1

LIMITING STATIONS
STA. 94+29 TO STA. 99+65 RAMP B
STA. 100+00 TO STA. 105+50 RAMP C

* TEMPORARY PAVEMENT WIDTH VARIES WITH THE FORMULAS:

-ON ASPHALT PAVED RAMP SECTIONS:
29-(DISTANCE FROM RIGHT EX. EOS TO LEFT PR. EOS) = WIDTH

-ON CONCRETE PAVED RAMP SECTION:
14.5-(DISTANCE FROM CONSTRUCTION JOINT TO PR. EOS) = WIDTH

** IN AREAS OF ASPHALT RAMP, PROVIDE A STEPPED COURSE AS PER DETAIL A ON SHEET 86.

*** BUILD SECOND 12' PROPOSED LANE IN AREAS WHERE WORKING SPACE IS AVAILABLE IN PART 1.

**** BUILD THIRD 12' PROPOSED LANE ONLY FOR RAMP B.

▩ TEMPORARY PAVEMENT, CLASS A, AS NEEDED TO PROVIDE MINIMUM LANE WIDTH SHOWN

▨ 6" 301 ASPHALT CONCRETE BASE

PAVEMENT MARKING LEGEND

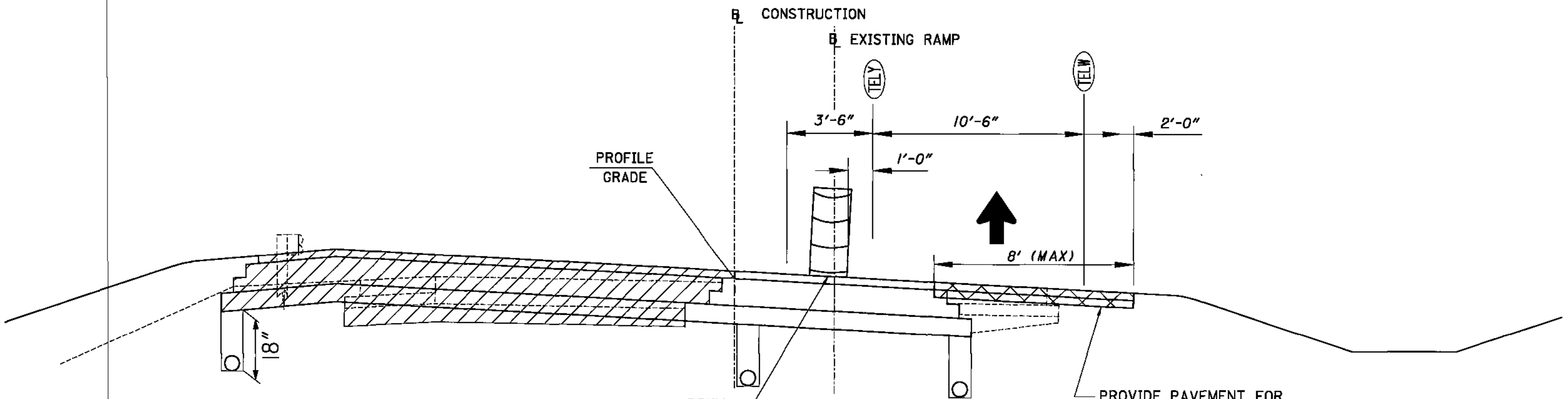
TELW	TEMPORARY EDGE LINE, WHITE
TELY	TEMPORARY EDGE LINE, YELLOW

HORIZONTAL SCALE IN FEET
0 2.5 5

CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC SR 83
2-LANE RAMP SECTION TYPICAL FOR
PART 1 AND PART 2

WAY/MED-71-7.04/0.00

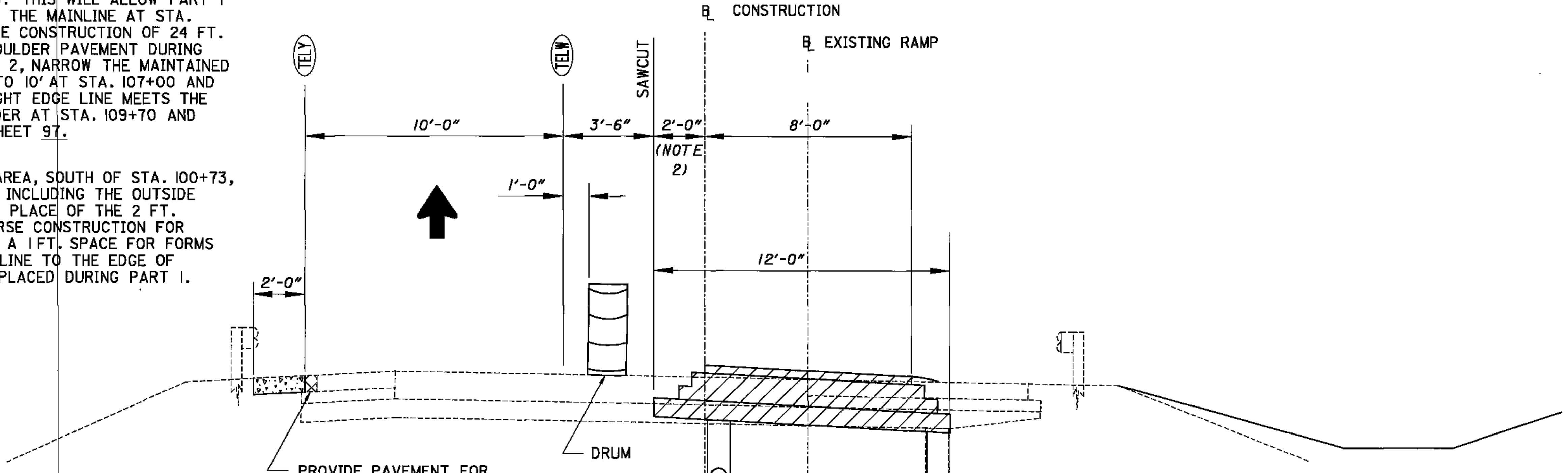

℄ CONSTRUCTION
℄ EXISTING RAMP
TELY
TELW
3'-6"
10'-6"
2'-0"
1'-0"
PROFILE GRADE
8' (MAX)
18"
DRUM
PROVIDE PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS NEEDED TO ASSURE 10' MIN. LANE WIDTH

SECTION FOR RAMP D
PART 2

NOTES:

1. AT THE NORTH END OF RAMP D, STA. 107+00, BUILD 4.5' WIDTH OF PAVEMENT FOR MAINTAINING TRAFFIC ON THE INSIDE ADJACENT TO THE INSIDE SHOULDER AND TAPER THIS PAVEMENT FROM 0 FT. AT STA. 104+30 TO 4.5' AT STA. 107+00 AND THEN TO 2.7' WIDTH WHERE IT INTERCEPTS THE PAVED GORE AT STA. 108+10. THIS WILL ALLOW PART 1 TRAFFIC TO BE SHIFTED TOWARD THE MAINLINE AT STA. 107+00 AND, IN TURN, ALLOW THE CONSTRUCTION OF 24 FT. OF RAMP D LANE AND RIGHT SHOULDER PAVEMENT DURING THIS PHASE. THEN DURING PART 2, NARROW THE MAINTAINED LANE FROM 12' AT STA. 105+80 TO 10' AT STA. 107+00 AND REDIRECT IT SUCH THAT THE RIGHT EDGE LINE MEETS THE EXISTING RIGHT EDGE OF SHOULDER AT STA. 109+70 AND FOLLOWS THE PATH SHOWN ON SHEET 97.

2. IN THE CONCRETE PAVED RAMP AREA, SOUTH OF STA. 100+73, CONSTRUCT 12 FT. OF PAVEMENT INCLUDING THE OUTSIDE SHOULDER DURING PART 1 AND IN PLACE OF THE 2 FT. ALLOWED FOR THE STEPPED COURSE CONSTRUCTION FOR ASPHALT PAVEMENT, SUBSTITUTE A 1 FT. SPACE FOR FORMS AND ACCESS FROM THE SAWCUT LINE TO THE EDGE OF PROPOSED CONCRETE PAVEMENT PLACED DURING PART 1.


℄ CONSTRUCTION
℄ EXISTING RAMP
TELY
TELW
SAWCUT
10'-0"
3'-6"
2'-0" (NOTE 2)
8'-0"
1'-0"
12'-0"
2'-0"
DRUM
PROVIDE PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS NEEDED TO ASSURE 10' LANE WIDTH (STA. 104+30 TO STA. 108+10) (SEE NOTES 1 & 2)

SECTION FOR RAMP D
PART 1

▨ WORK AREA

░ 6" 301 ASPHALT CONCRETE BASE, AS NEEDED

▩ PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

PAVEMENT MARKING LEGEND

TELW TEMPORARY EDGE LINE, WHITE

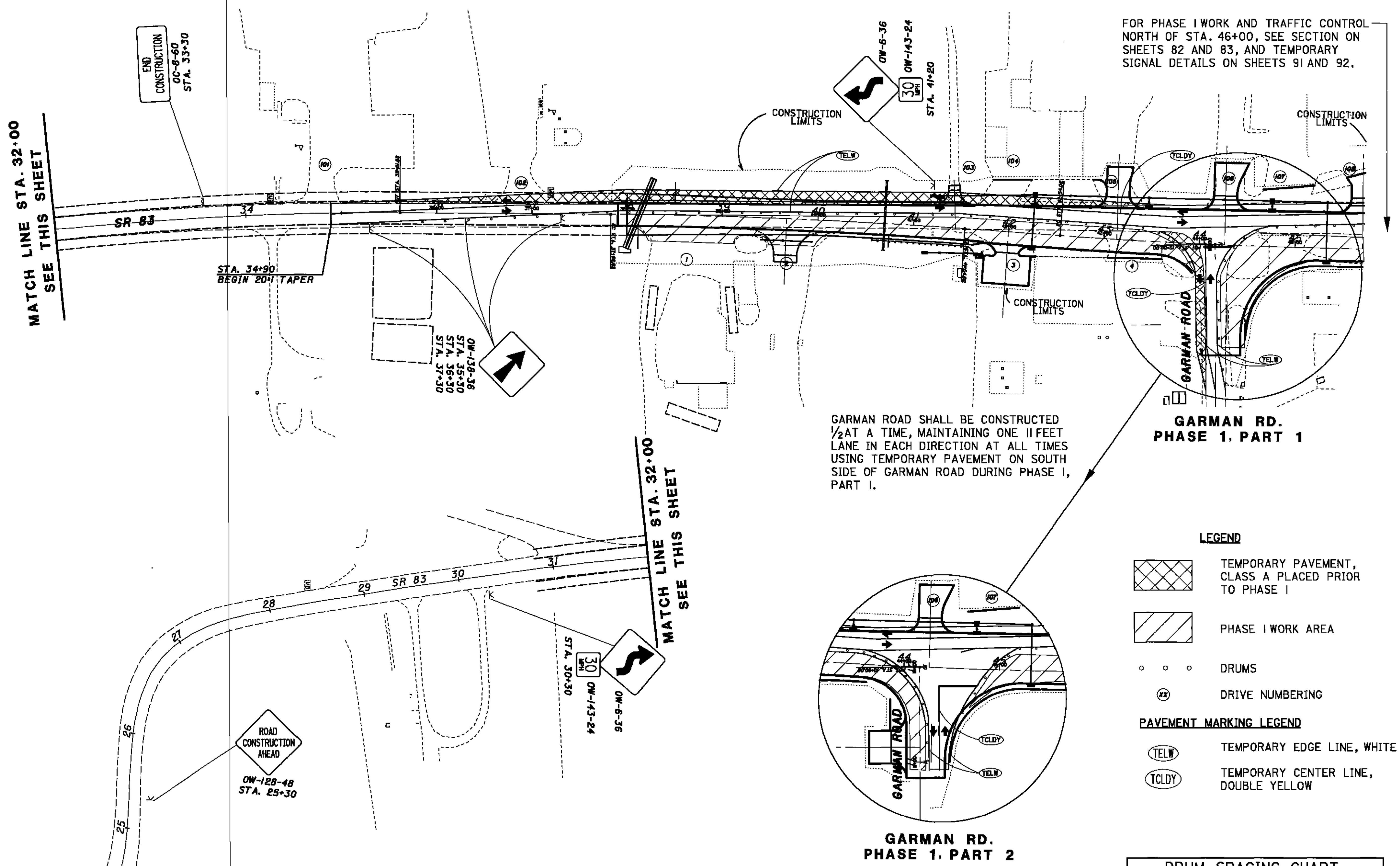
TELY TEMPORARY EDGE LINE, YELLOW

0 2.5 5
HORIZONTAL SCALE IN FEET

CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC SR 83
RAMP D SECTION TYPICAL FOR
PART 1 AND PART 2

WAY/MED-71-7.04/0.00


MATCH LINE STA. 32+00 SEE THIS SHEET
END CONSTRUCTION OC-8-60 STA. 33+30
SR 83
STA. 34+90 BEGIN 20:1 TAPER
OW-138-36 STA. 35+30 STA. 36+30 STA. 37+30
CONSTRUCTION LIMITS
OW-6-36 OW-143-24 STA. 41+20
30 MPH
TELW
TCLDY
GARMAN ROAD
GARMAN RD. PHASE 1, PART 1
GARMAN RD. PHASE 1, PART 2
MATCH LINE STA. 32+00 SEE THIS SHEET
OW-6-36 OW-143-24 STA. 30+30
ROAD CONSTRUCTION AHEAD
OW-128-48 STA. 25+30
N
HORIZONTAL SCALE IN FEET
0 50 100

FOR PHASE I WORK AND TRAFFIC CONTROL NORTH OF STA. 46+00, SEE SECTION ON SHEETS 82 AND 83, AND TEMPORARY SIGNAL DETAILS ON SHEETS 91 AND 92.

GARMAN ROAD SHALL BE CONSTRUCTED ½ AT A TIME, MAINTAINING ONE 11 FEET LANE IN EACH DIRECTION AT ALL TIMES USING TEMPORARY PAVEMENT ON SOUTH SIDE OF GARMAN ROAD DURING PHASE 1, PART 1.

LEGEND

▩	TEMPORARY PAVEMENT, CLASS A PLACED PRIOR TO PHASE 1
▨	PHASE 1 WORK AREA
○ ○ ○	DRUMS
(xx)	DRIVE NUMBERING

PAVEMENT MARKING LEGEND

(TELW)	TEMPORARY EDGE LINE, WHITE
(TCLDY)	TEMPORARY CENTER LINE, DOUBLE YELLOW

DRUM SPACING CHART

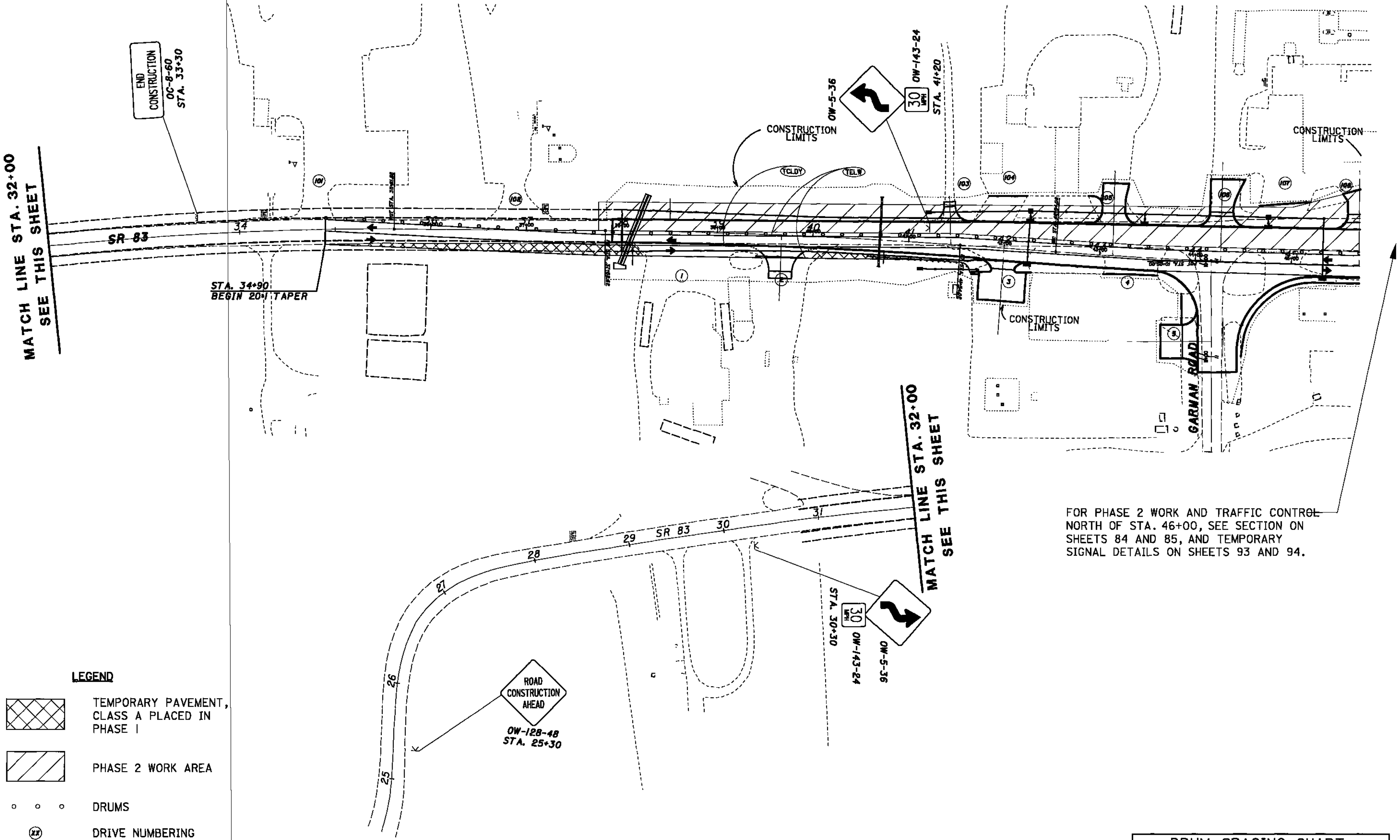
LOCATION	SPACING
TAPER	12 FT.
WORK AREA (TANGENT SECTION)	30 FT.
CLOSED DRIVEWAY	6 FT.
INTERSECTION RADII	10 FT.

CALCULATED

CHECKED

MAINTENANCE OF TRAFFIC SR 83 PHASE 1
STA. 24+50 TO STA. 45+71

WAY/MED-71-7.04/0.00



FOR PHASE 2 WORK AND TRAFFIC CONTROL NORTH OF STA. 46+00, SEE SECTION ON SHEETS 84 AND 85, AND TEMPORARY SIGNAL DETAILS ON SHEETS 93 AND 94.

LEGEND

▩	TEMPORARY PAVEMENT, CLASS A PLACED IN PHASE I
▨	PHASE 2 WORK AREA
○ ○ ○	DRUMS
(xx)	DRIVE NUMBERING

PAVEMENT MARKING LEGEND

(TELW)	TEMPORARY EDGE LINE WHITE
(TCLDY)	TEMPORARY CENTER LINE DOUBLE YELLOW

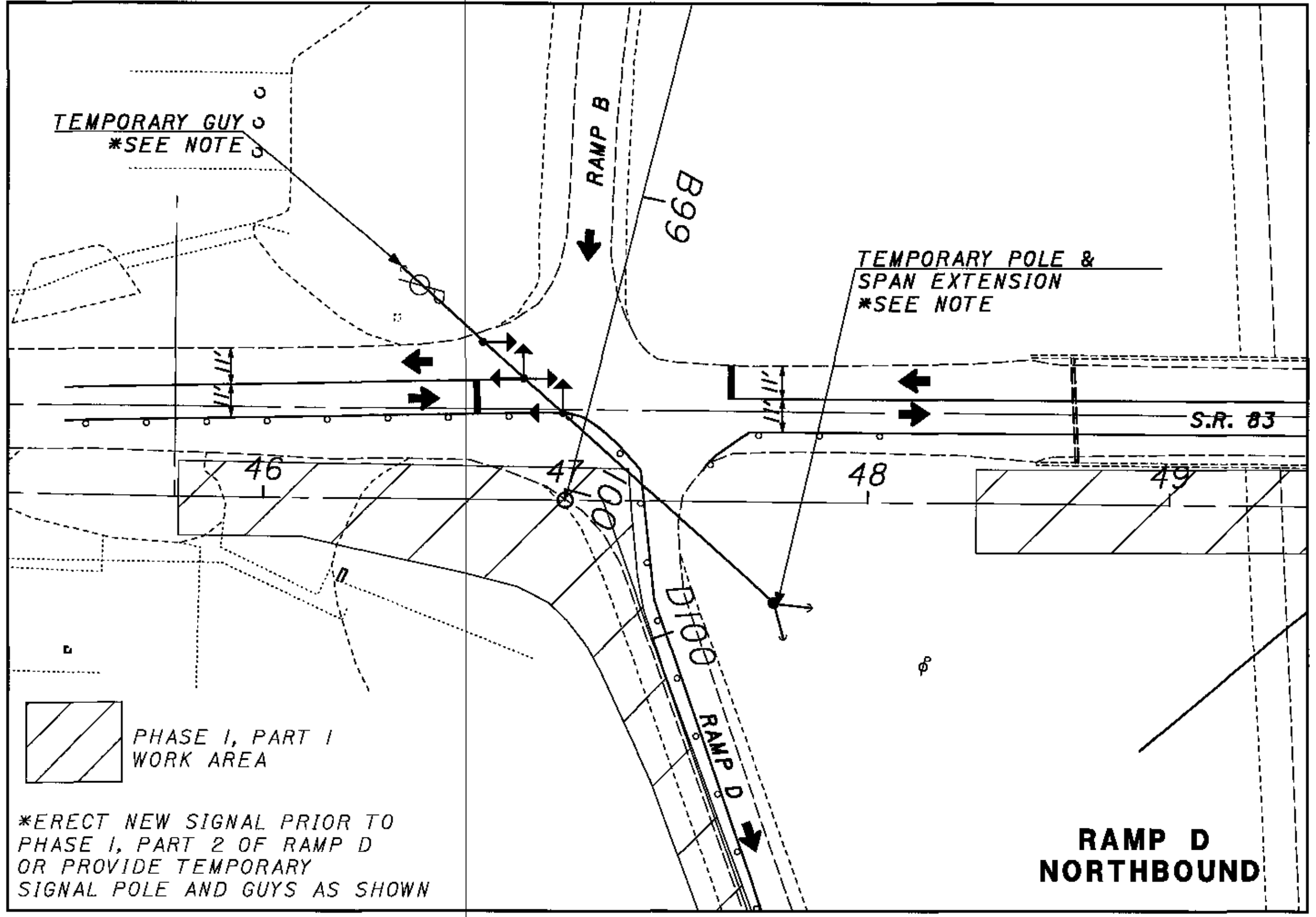
ALL TEMPORARY MARKINGS ON FINAL-PROPOSED PAVEMENT SHALL BE 740.06 TYPE I (TAPE)

DRUM SPACING CHART	
LOCATION	SPACING
TAPER	12 FT.
WORK AREA (TANGENT SECTION)	30 FT.
CLOSED DRIVEWAY	6 FT.
INTERSECTION RADII	10 FT.

CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC SR 83 PHASE 2
STA. 24+50 TO STA. 45+71

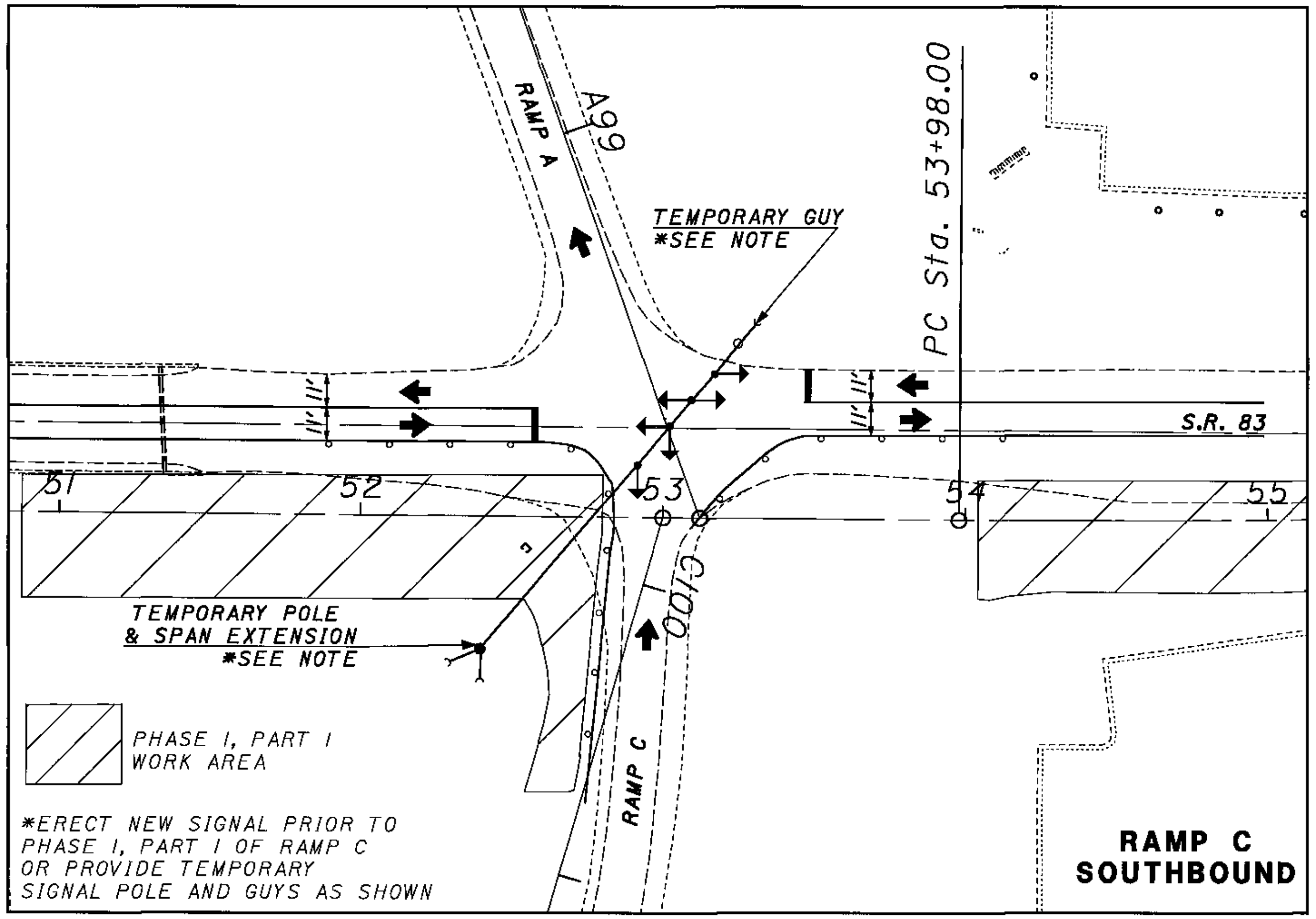
WAY/MED-71-7.04/0.00



▨ PHASE I, PART I WORK AREA

*ERECT NEW SIGNAL PRIOR TO PHASE I, PART 2 OF RAMP D OR PROVIDE TEMPORARY SIGNAL POLE AND GUYS AS SHOWN

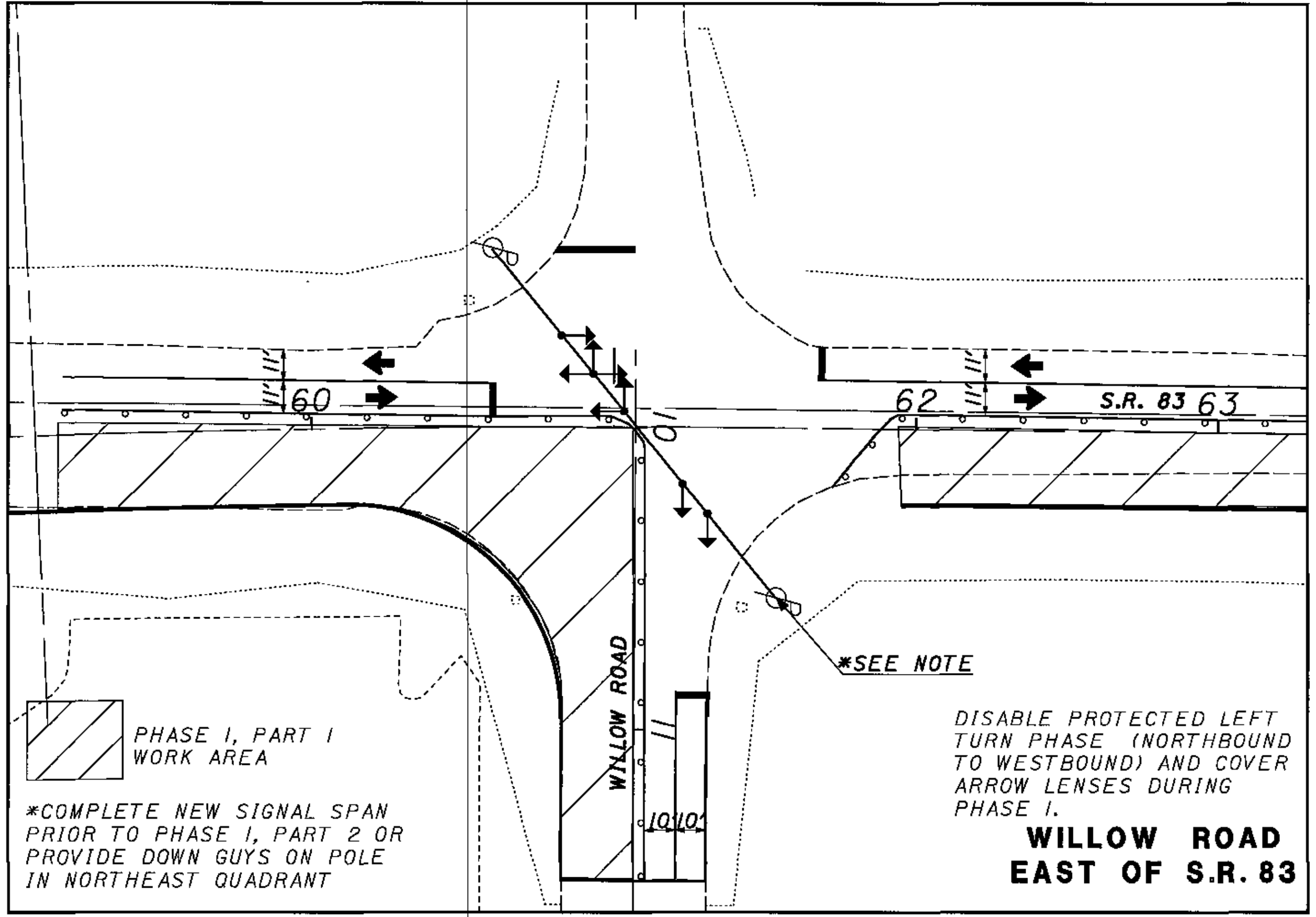
RAMP D NORTHBOUND



▨ PHASE I, PART I WORK AREA

*ERECT NEW SIGNAL PRIOR TO PHASE I, PART I OF RAMP C OR PROVIDE TEMPORARY SIGNAL POLE AND GUYS AS SHOWN

RAMP C SOUTHBOUND

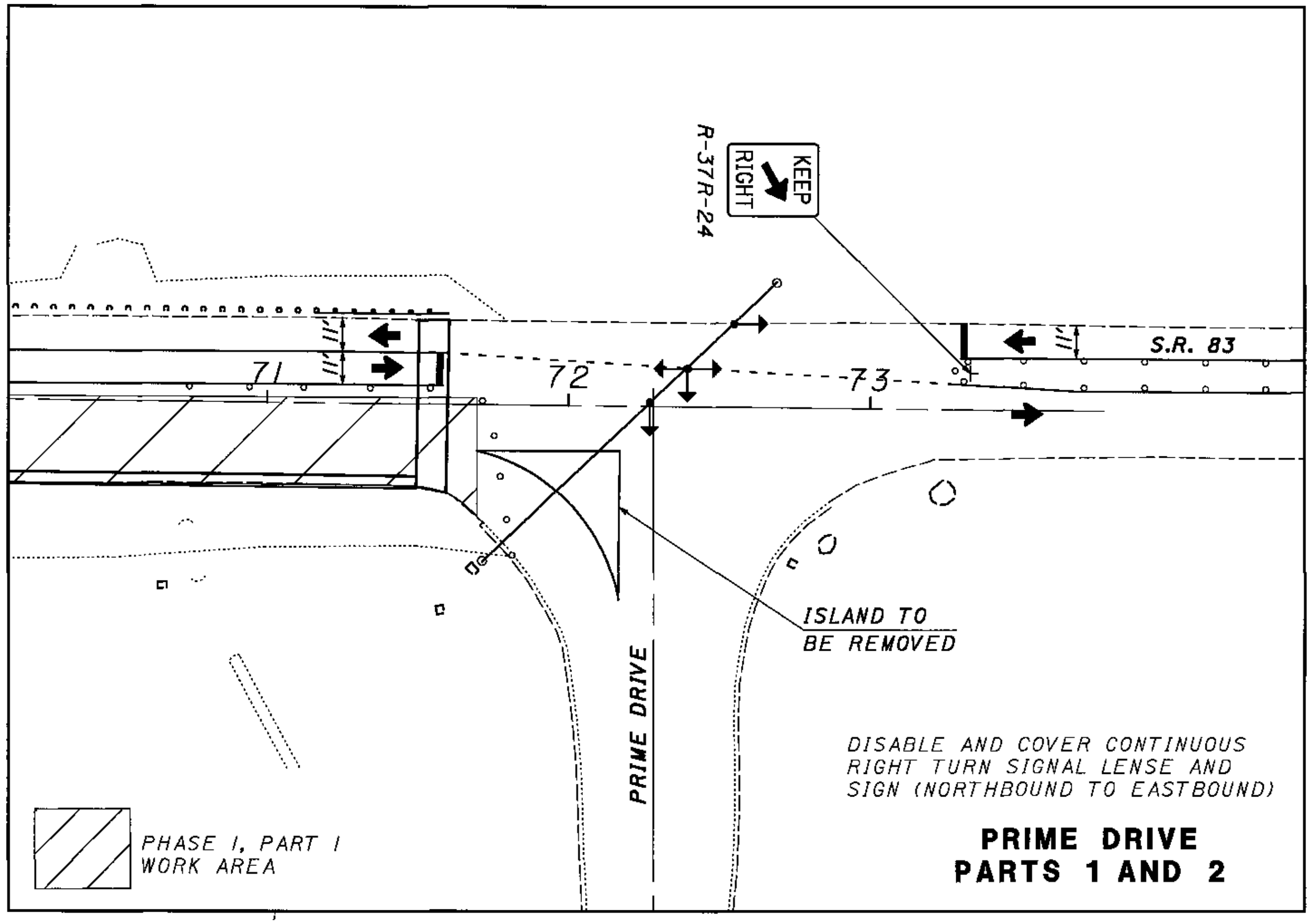


▨ PHASE I, PART I WORK AREA

*COMPLETE NEW SIGNAL SPAN PRIOR TO PHASE I, PART 2 OR PROVIDE DOWN GUYS ON POLE IN NORTHEAST QUADRANT

DISABLE PROTECTED LEFT TURN PHASE (NORTHBOUND TO WESTBOUND) AND COVER ARROW LENSES DURING PHASE I.

WILLOW ROAD EAST OF S.R. 83



▨ PHASE I, PART I WORK AREA

DISABLE AND COVER CONTINUOUS RIGHT TURN SIGNAL LENSE AND SIGN (NORTHBOUND TO EASTBOUND)

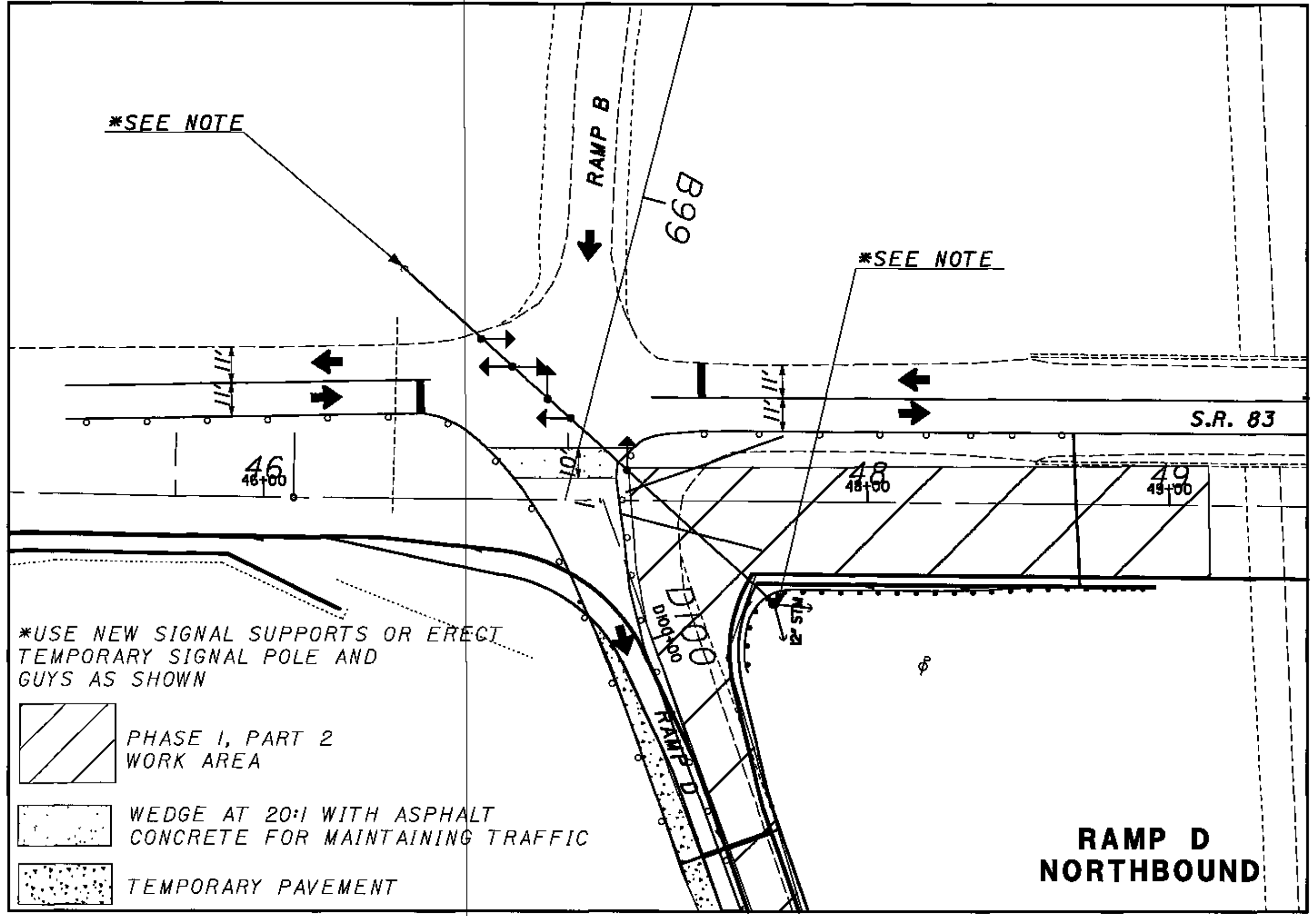
PRIME DRIVE PARTS 1 AND 2

0 30 60
HORIZONTAL SCALE IN FEET

CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC PHASE 1, PART 1

WAY/MED-71-7.04/0.00



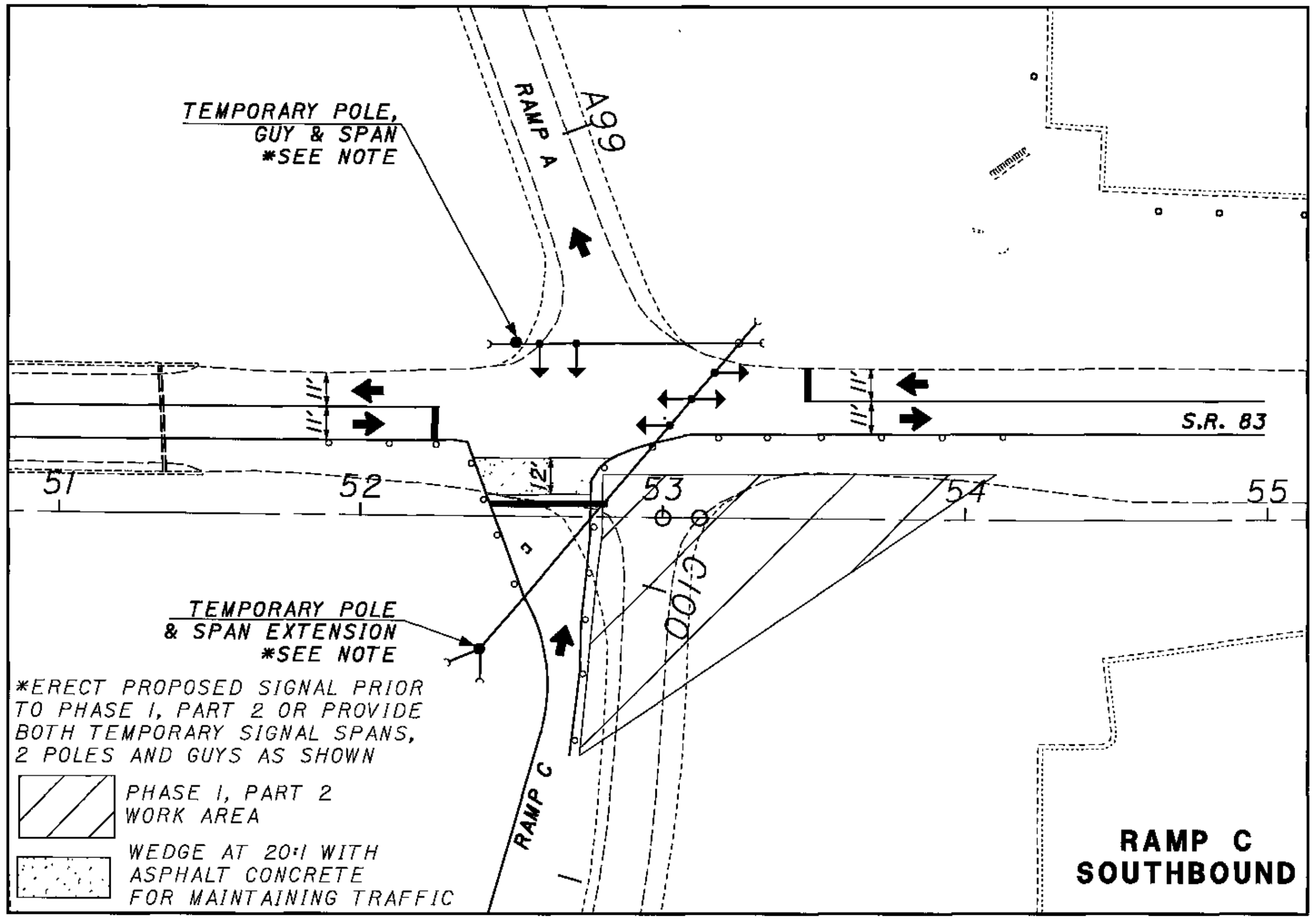
*USE NEW SIGNAL SUPPORTS OR ERECT TEMPORARY SIGNAL POLE AND GUYS AS SHOWN

▨ PHASE 1, PART 2 WORK AREA

░ WEDGE AT 20:1 WITH ASPHALT CONCRETE FOR MAINTAINING TRAFFIC

░ TEMPORARY PAVEMENT

RAMP D
NORTHBOUND

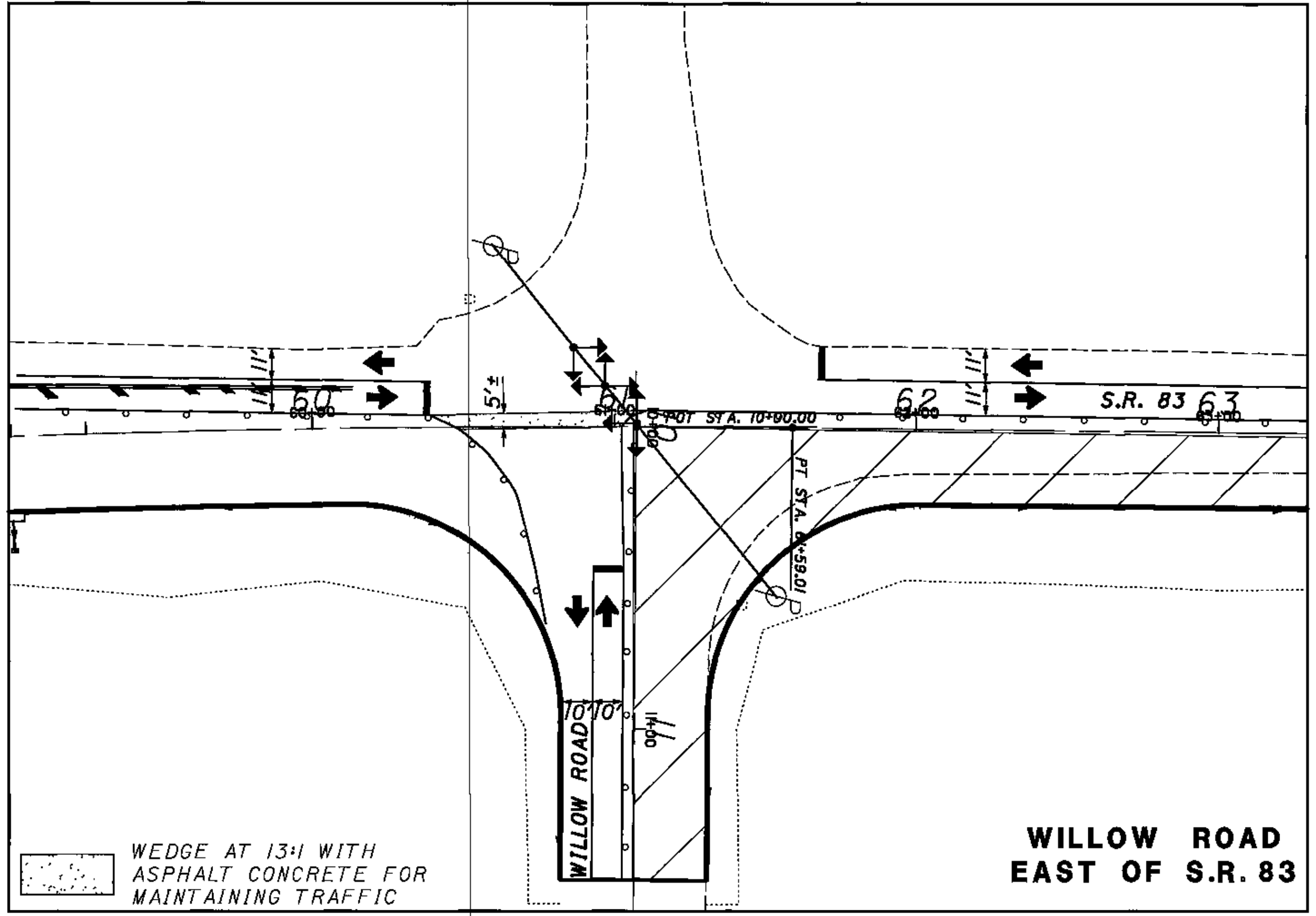

TEMPORARY POLE, GUY & SPAN *SEE NOTE
RAMP A
A99
S.R. 83
11' 11'
51
52
53
54
55
2'
C100
RAMP C
TEMPORARY POLE & SPAN EXTENSION *SEE NOTE

*ERECT PROPOSED SIGNAL PRIOR TO PHASE 1, PART 2 OR PROVIDE BOTH TEMPORARY SIGNAL SPANS, 2 POLES AND GUYS AS SHOWN

▨ PHASE 1, PART 2 WORK AREA

░ WEDGE AT 20:1 WITH ASPHALT CONCRETE FOR MAINTAINING TRAFFIC

RAMP C
SOUTHBOUND



░ WEDGE AT 13:1 WITH ASPHALT CONCRETE FOR MAINTAINING TRAFFIC

WILLOW ROAD
EAST OF S.R. 83

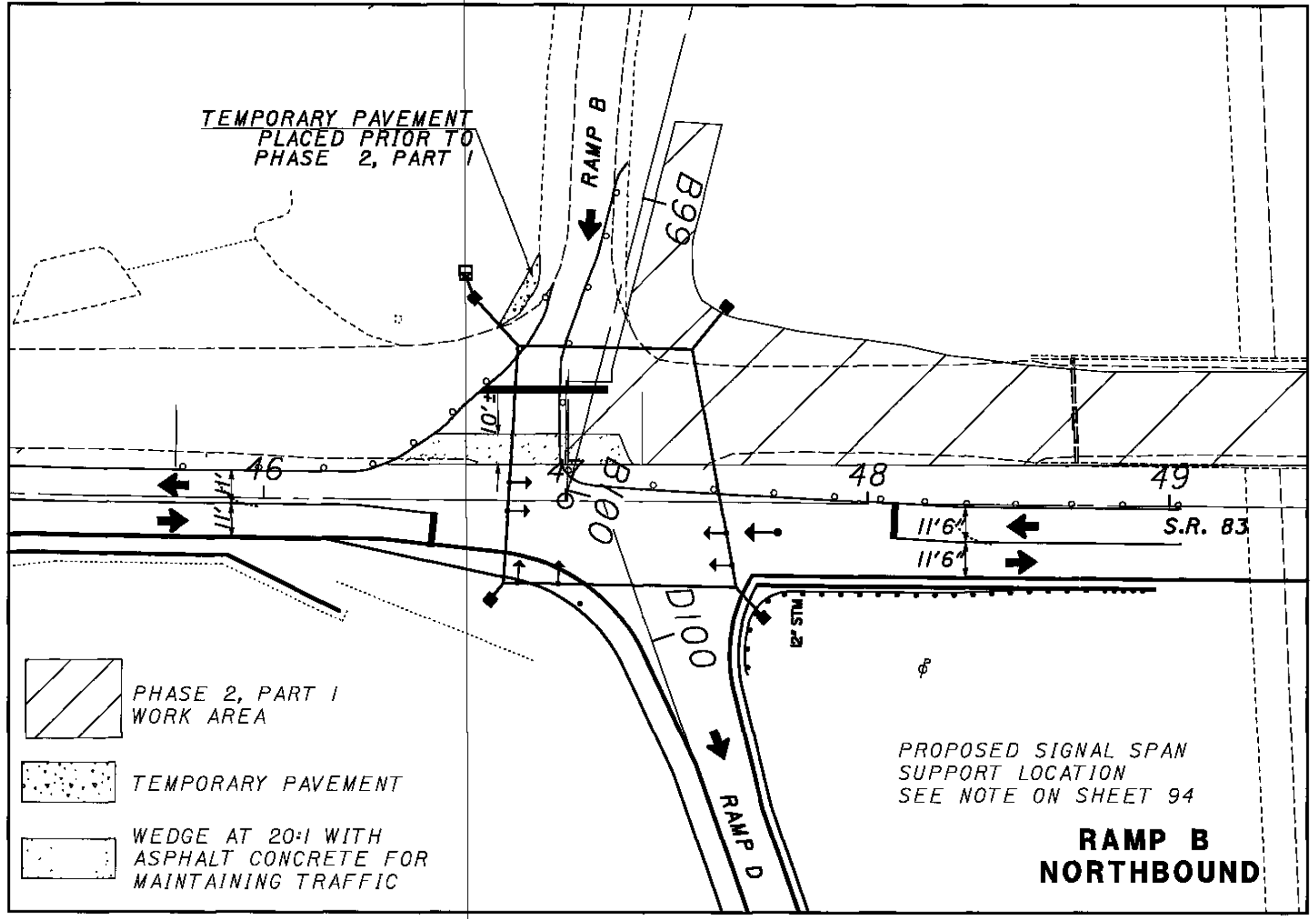
CONTROLLERS SHALL CONTINUE TO USE EXISTING. TRAFFIC SIGNAL TIMING, EXCEPT THAT IF A DETECTOR IS INOPERABLE, THAT PHASE SHALL BE SET TO RECALL-ON. AT LEAST 24 HOURS PRIOR TO MODIFICATIONS OF TRAFFIC SIGNAL OPERATION OR TIMING, THE CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO THE PROJECT ENGINEER.

0 30 60
HORIZONTAL SCALE IN FEET

CALCULATED
CHECKED

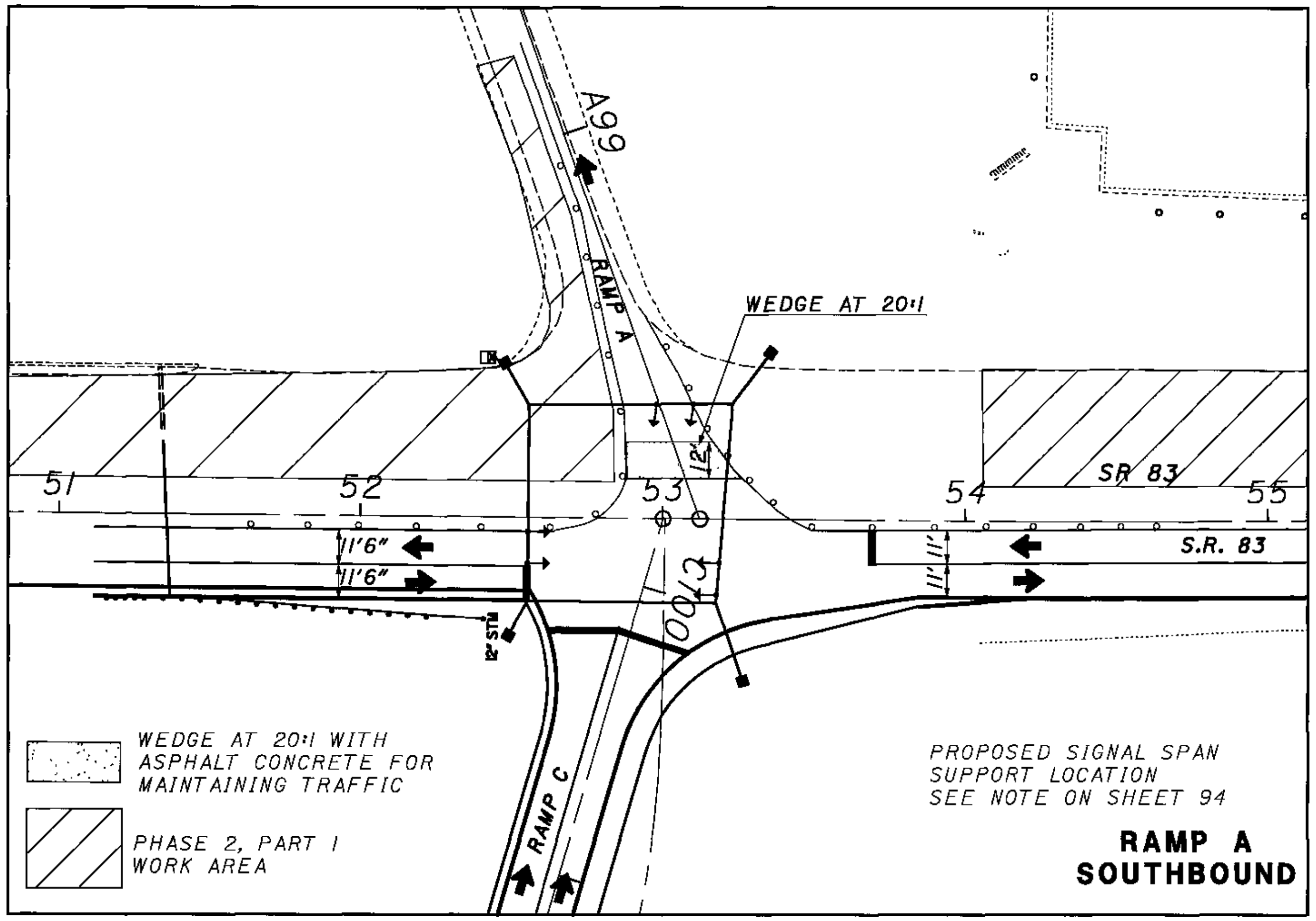
MAINTENANCE OF TRAFFIC
PHASE 1, PART 2

WAY/MED-71-7.04/0.00


TEMPORARY PAVEMENT PLACED PRIOR TO PHASE 2, PART 1
RAMP B
B99
10'±
46
47
48
49
B100
D100
11'
11'6"
11'6"
S.R. 83
12" STM
RAMP D
PHASE 2, PART 1 WORK AREA
TEMPORARY PAVEMENT
WEDGE AT 20:1 WITH ASPHALT CONCRETE FOR MAINTAINING TRAFFIC

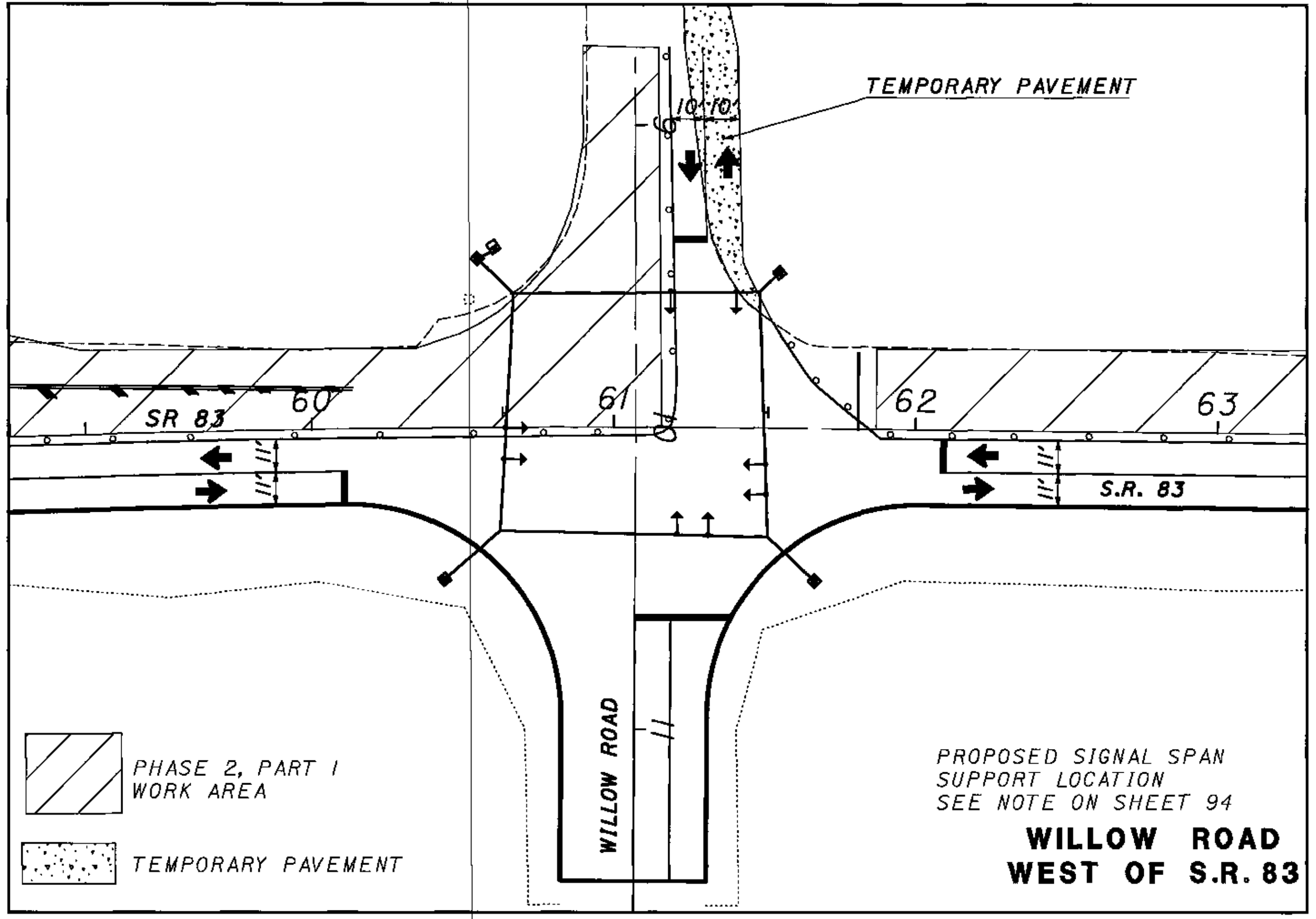
PROPOSED SIGNAL SPAN SUPPORT LOCATION SEE NOTE ON SHEET 94

RAMP B NORTHBOUND


A99
RAMP A
WEDGE AT 20:1
12'
51
52
53
54
55
SR 83
11'6"
11'6"
11'
S.R. 83
12" STM
C100
RAMP C
WEDGE AT 20:1 WITH ASPHALT CONCRETE FOR MAINTAINING TRAFFIC
PHASE 2, PART 1 WORK AREA

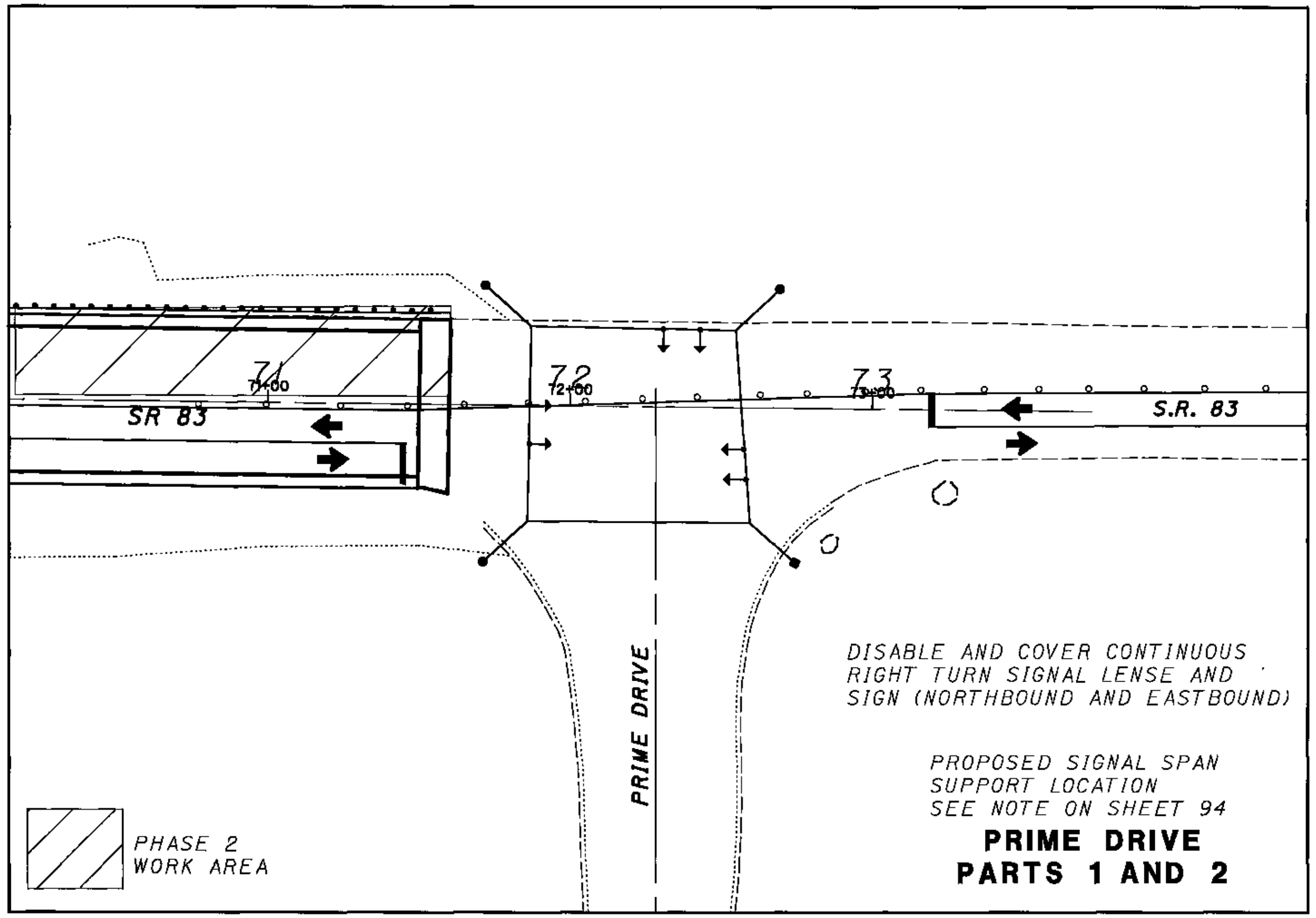
PROPOSED SIGNAL SPAN SUPPORT LOCATION SEE NOTE ON SHEET 94

RAMP A SOUTHBOUND



PROPOSED SIGNAL SPAN SUPPORT LOCATION SEE NOTE ON SHEET 94

WILLOW ROAD WEST OF S.R. 83



DISABLE AND COVER CONTINUOUS RIGHT TURN SIGNAL LENSE AND SIGN (NORTHBOUND AND EASTBOUND)

PROPOSED SIGNAL SPAN SUPPORT LOCATION SEE NOTE ON SHEET 94

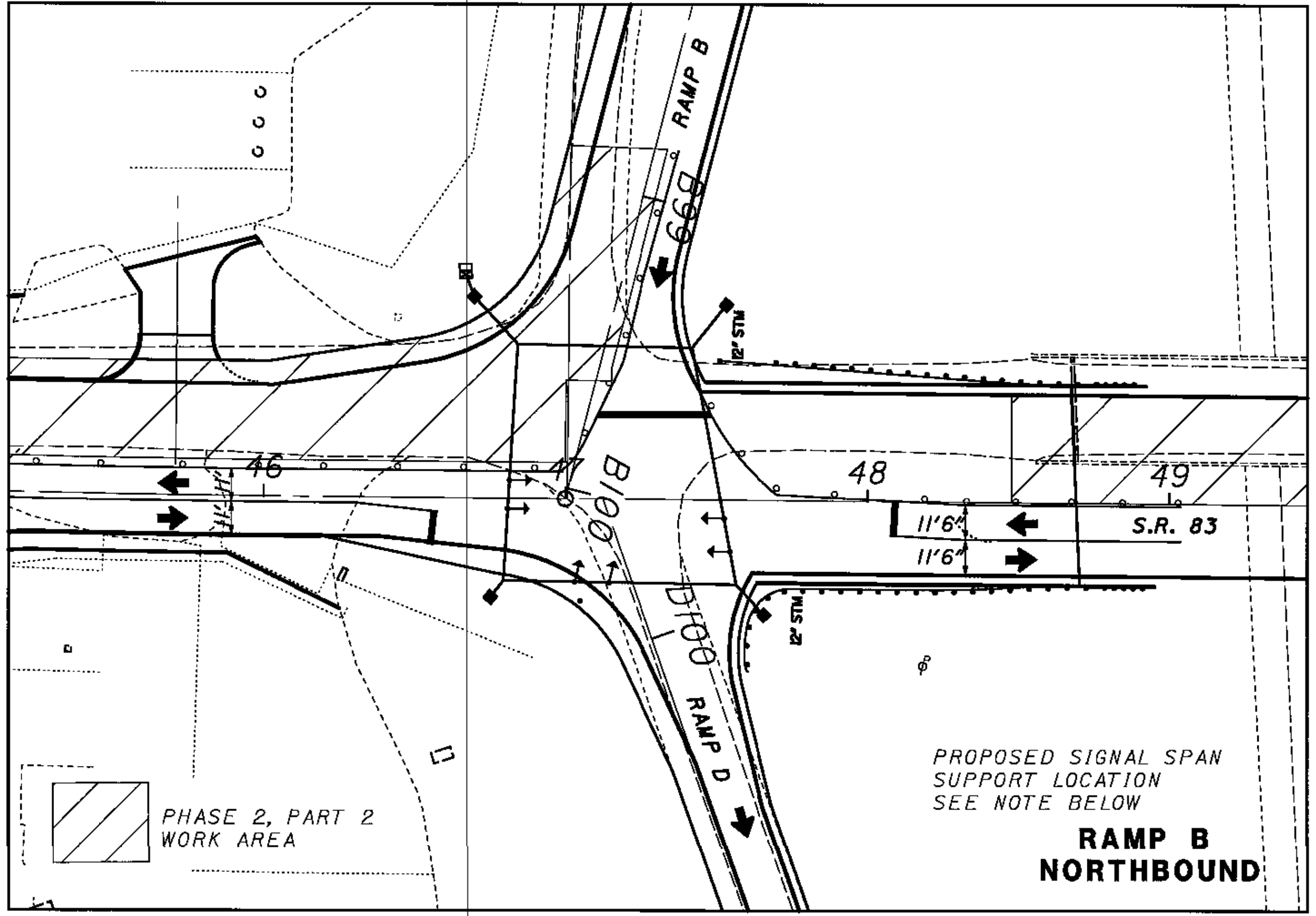
PRIME DRIVE PARTS 1 AND 2

0 30 60
HORIZONTAL SCALE IN FEET

CALCULATED
CHECKED

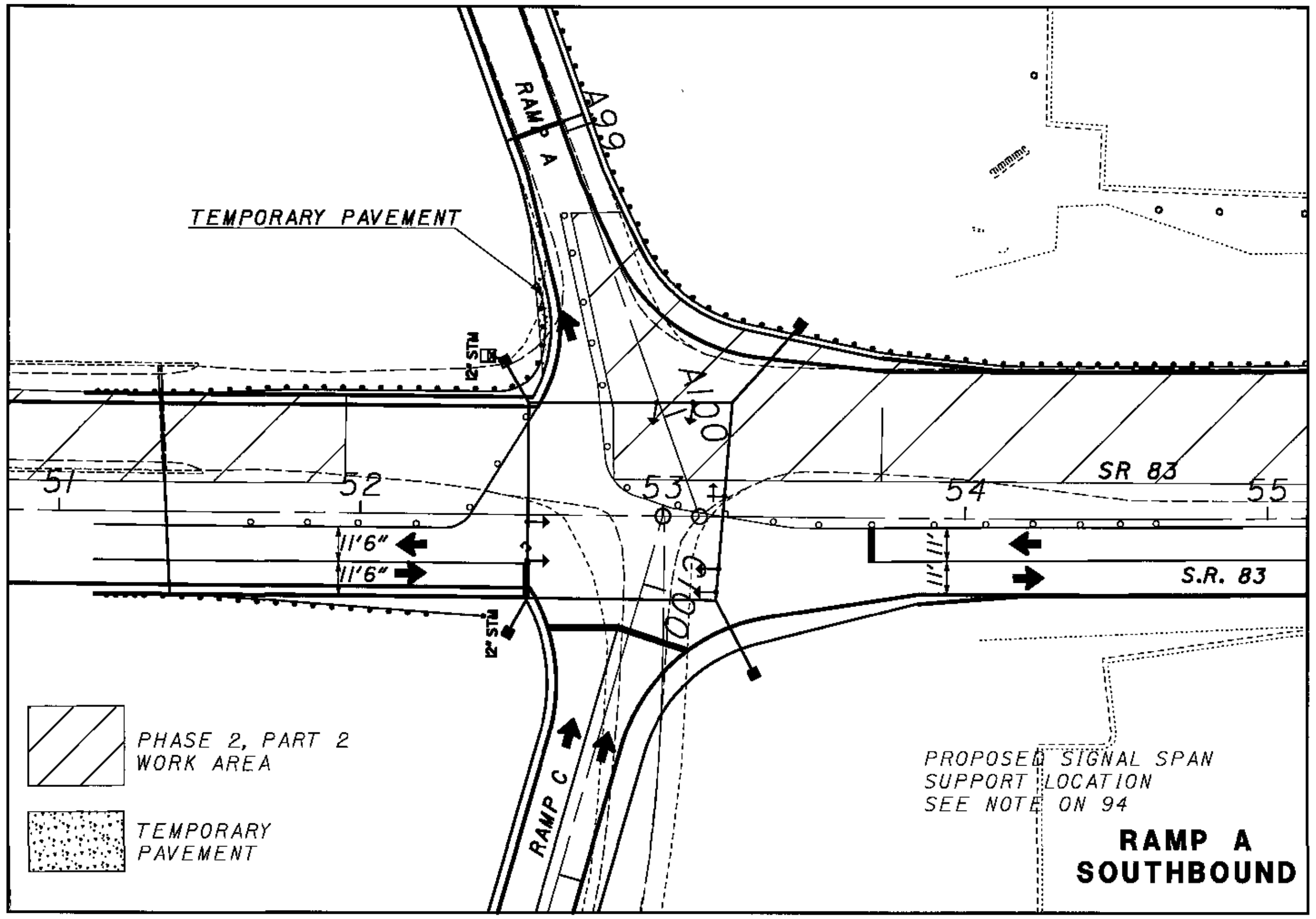
MAINTENANCE OF TRAFFIC
PHASE 2, PART 1

WAY/MED-71-7.04/0.00



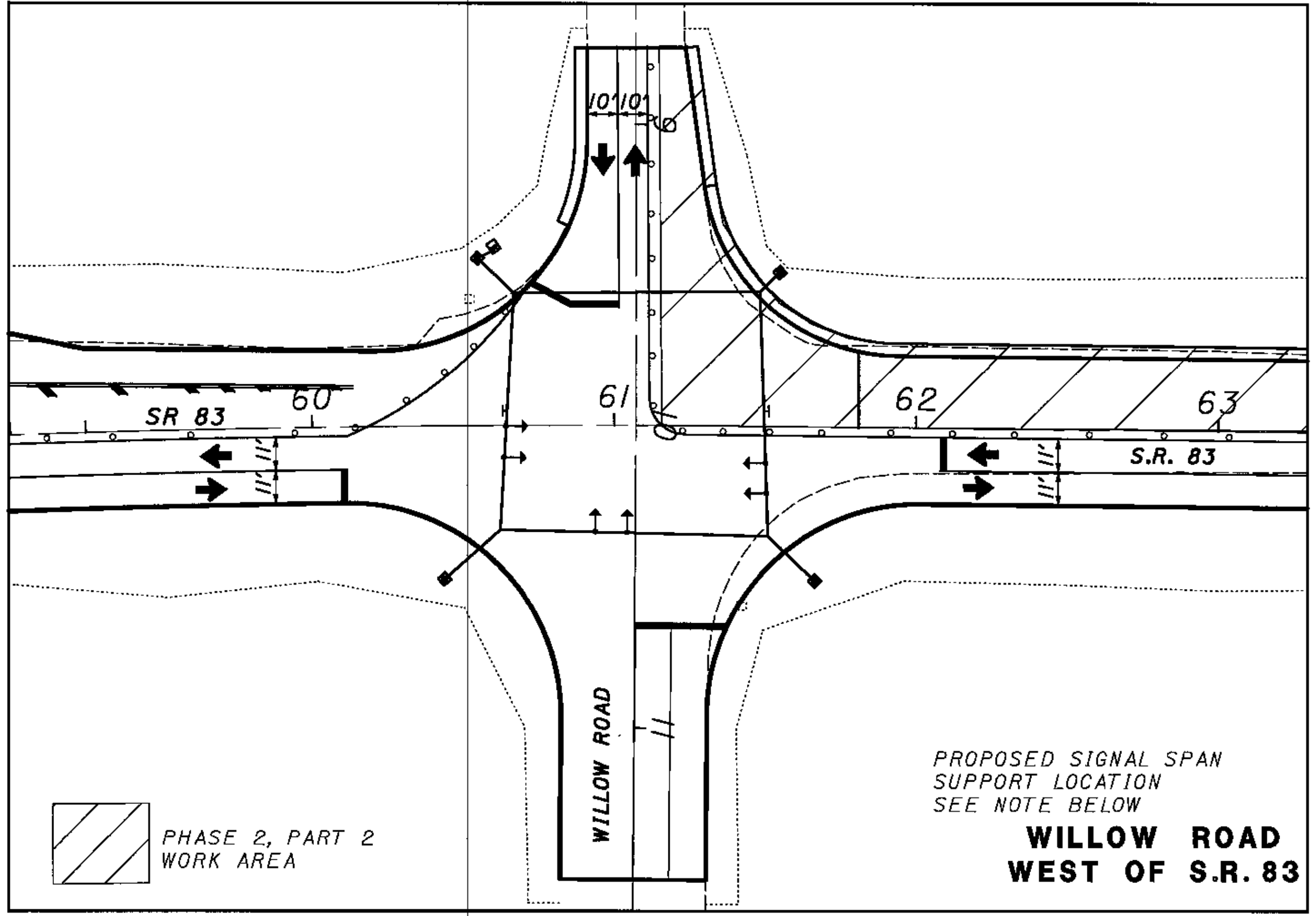
PROPOSED SIGNAL SPAN
SUPPORT LOCATION
SEE NOTE BELOW

RAMP B
NORTHBOUND



PROPOSED SIGNAL SPAN
SUPPORT LOCATION
SEE NOTE ON 94

RAMP A
SOUTHBOUND



PROPOSED SIGNAL SPAN
SUPPORT LOCATION
SEE NOTE BELOW

WILLOW ROAD
WEST OF S.R. 83

DURING PHASE 2, PROPOSED SIGNAL CONTROLLERS SHALL PROVIDE PHASING AND TIMING AS REQUIRED FOR THE PROPOSED SIGNAL. DETECTION FOR FULL ACTUATED OPERATION. DURING PHASE 2, PARTS 1 AND 2, SHALL BE PROVIDED BY TEMPORARY RELOCATION AND RE-AIMING OF VIDEO DETECTION CAMERAS AND PROGRAMMING THEM TO PROVIDE REQUIRED DETECTION. THE PROPOSED CONTROLLERS SHALL BE TEMPORARILY MODIFIED TO PRODUCE TWO PHASE OPERATION AND ALL TURN ARROWS SHALL BE COVERED AND PROTECTED TURN PHASES SHALL BE TEMPORARILY DISABLED.

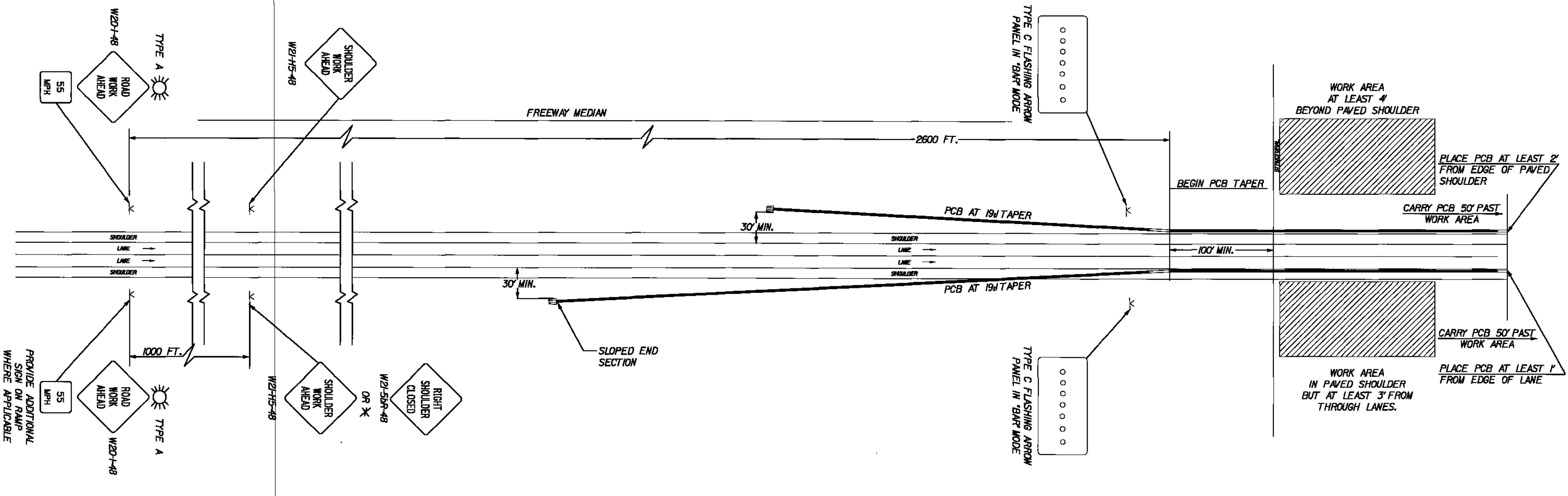
PROPOSED SIGNAL SPAN SUPPORT LOCATIONS ARE APPROXIMATE ONLY AND SHALL BE AS SHOWN ON SIGNAL PLAN SHEETS 449, 451,454 & 457.

0 30 60
HORIZONTAL
SCALE IN FEET

CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC
PHASE 2, PART 2

WAY/MED-71-7.04/0.00


TYPE A
W20-1-48
ROAD WORK AHEAD
55 MPH
SHOULDER WORK AHEAD
W21-H5-48
FREEWAY MEDIAN
2600 FT.
TYPE C FLASHING ARROW PANEL IN 'BAR' MODE
WORK AREA AT LEAST 4' BEYOND PAVED SHOULDER
STRUCTURE
PLACE PCB AT LEAST 2' FROM EDGE OF PAVED SHOULDER
BEGIN PCB TAPER
PCB AT 19:1 TAPER
30' MIN.
CARRY PCB 50' PAST WORK AREA
SHOULDER
LANE
LANE
SHOULDER
100' MIN.
30' MIN.
PCB AT 19:1 TAPER
CARRY PCB 50' PAST WORK AREA
1000 FT.
SLOPED END SECTION
PLACE PCB AT LEAST 1' FROM EDGE OF LANE
WORK AREA IN PAVED SHOULDER BUT AT LEAST 3' FROM THROUGH LANES.
PROVIDE ADDITIONAL SIGN ON RAMP WHERE APPLICABLE
55 MPH
ROAD WORK AHEAD
TYPE A
W20-1-48
SHOULDER WORK AHEAD
W21-H5-48
RIGHT SHOULDER CLOSED
W21-5bR-48 OR ✕
TYPE C FLASHING ARROW PANEL IN 'BAR' MODE

✕ DEPLOY W21-5bR ONLY IF PCB ENCROACHES INTO PAVED SHOULDER.

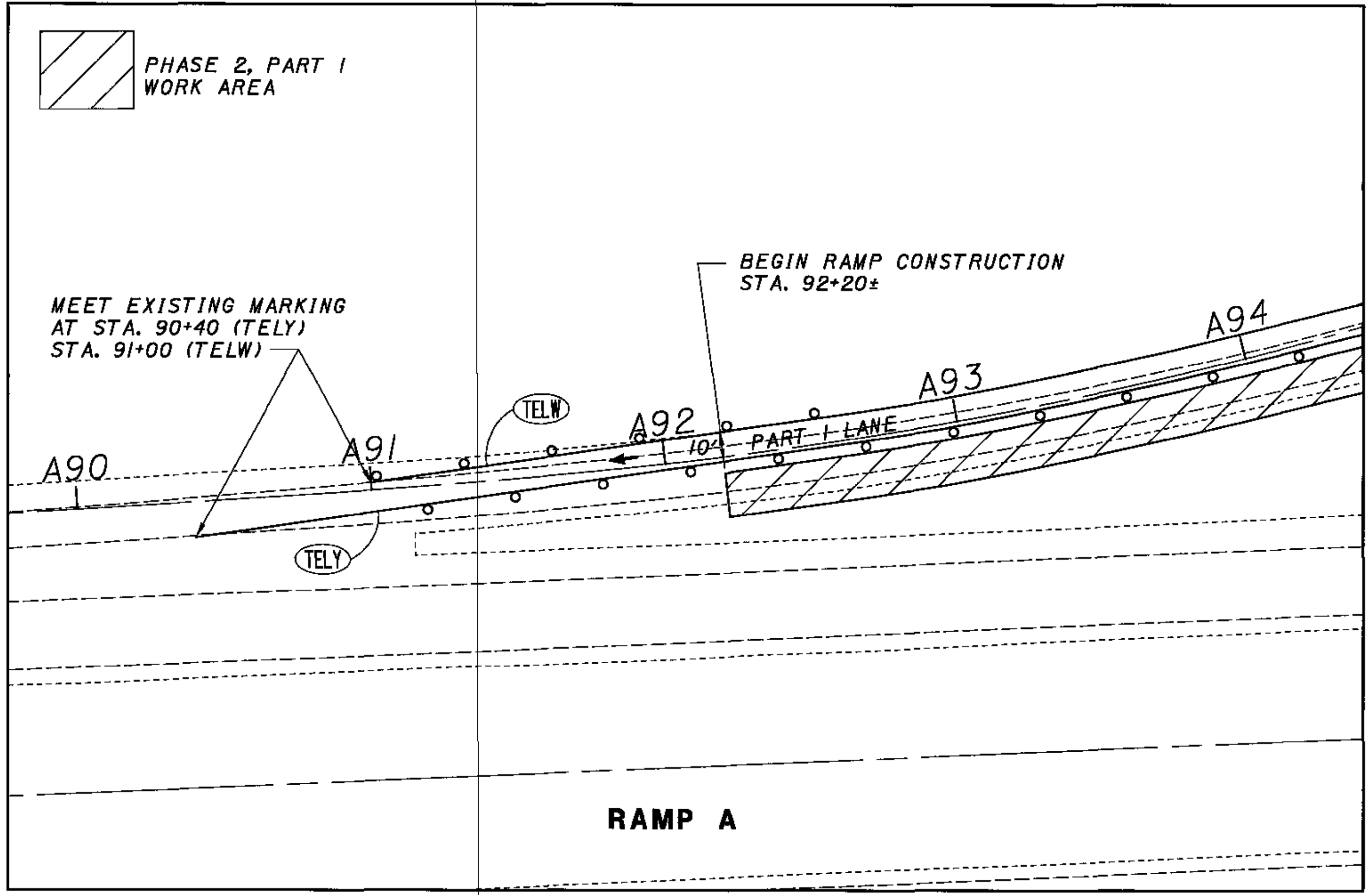
0 30 60
HORIZONTAL SCALE IN FEET

CALCULATED
CHECKED

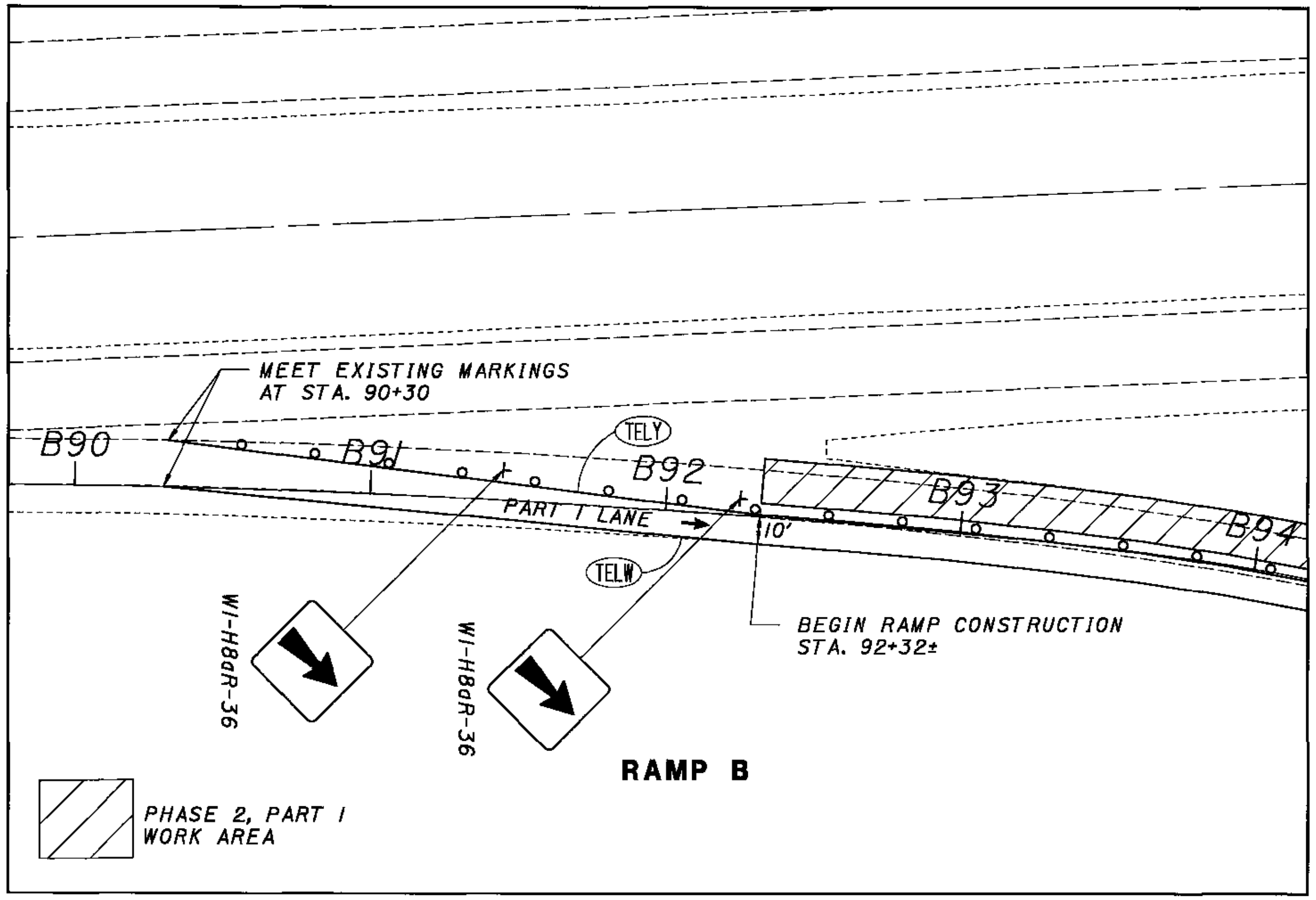
MAINTENANCE OF TRAFFIC
WORK ZONE SHOULDER CLOSURES (TYPICAL)

WAY/MED-71-7.04/0.00

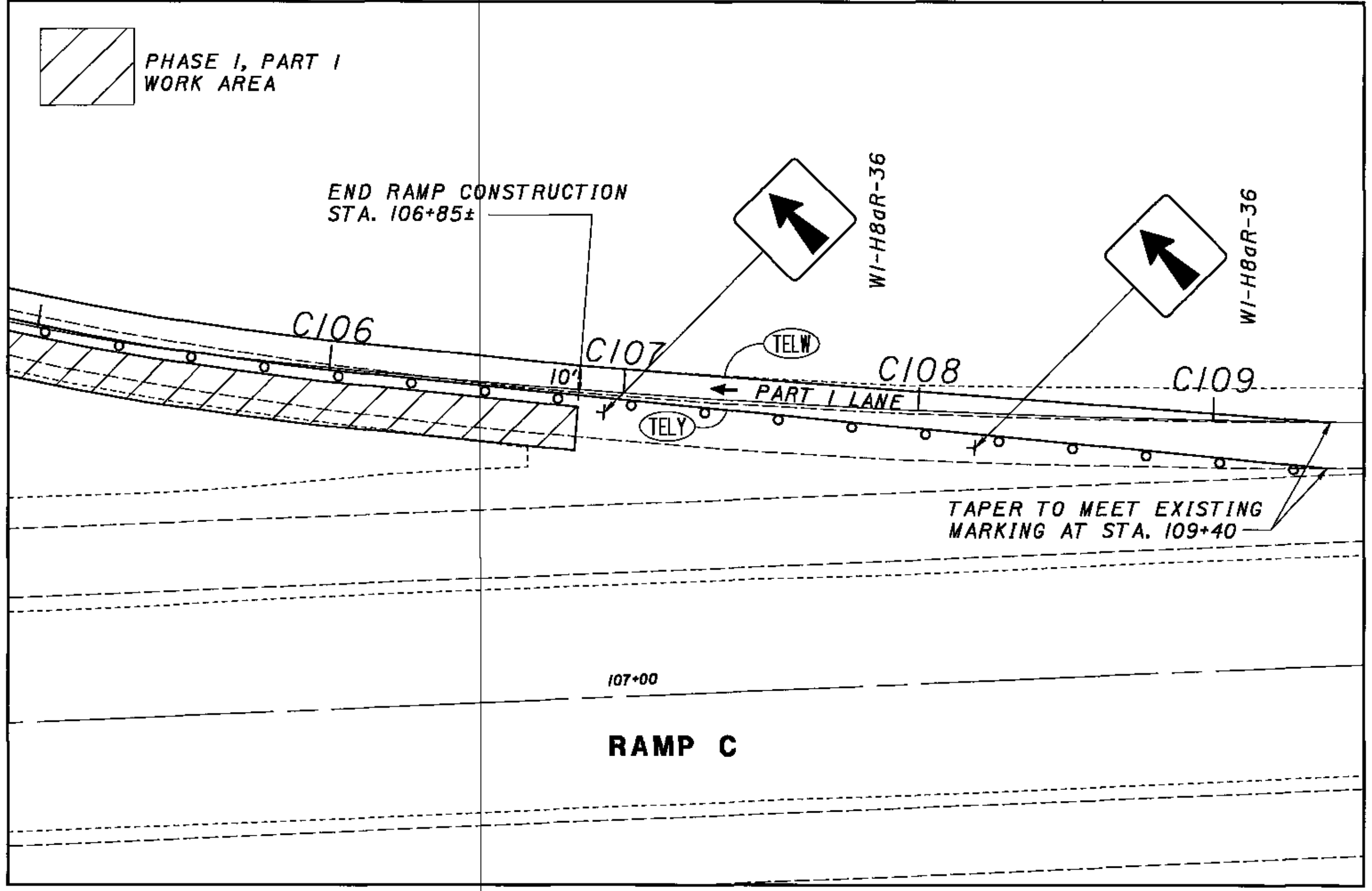
95
785


PHASE 2, PART I WORK AREA
MEET EXISTING MARKING AT STA. 90+40 (TELY) STA. 91+00 (TELW)
BEGIN RAMP CONSTRUCTION STA. 92+20±
A90
A91
A92
A93
A94
TELW
TELY
10'
PART I LANE

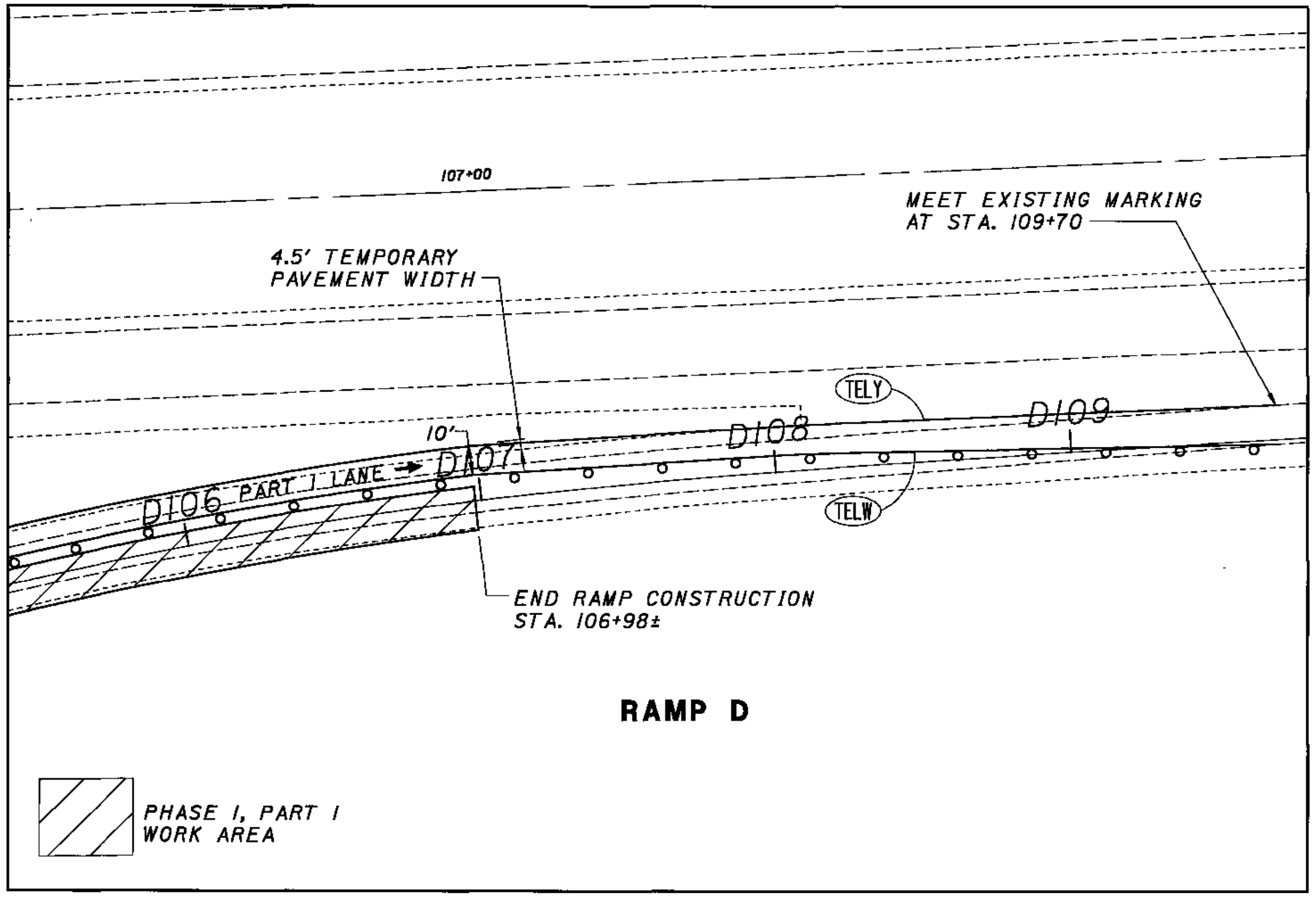
RAMP A


MEET EXISTING MARKINGS AT STA. 90+30
B90
B91
B92
B93
B94
TELY
TELW
PART I LANE
10'
W1-H8aR-36
W1-H8aR-36
BEGIN RAMP CONSTRUCTION STA. 92+32±
PHASE 2, PART I WORK AREA

RAMP B


PHASE I, PART I WORK AREA
END RAMP CONSTRUCTION STA. 106+85±
W1-H8aR-36
W1-H8aR-36
C106
C107
C108
C109
10'
TELW
TELY
PART I LANE
TAPER TO MEET EXISTING MARKING AT STA. 109+40
107+00

RAMP C


107+00
MEET EXISTING MARKING AT STA. 109+70
4.5' TEMPORARY PAVEMENT WIDTH
TELY
TELW
10'
D106
PART I LANE
D107
D108
D109
END RAMP CONSTRUCTION STA. 106+98±
PHASE I, PART I WORK AREA

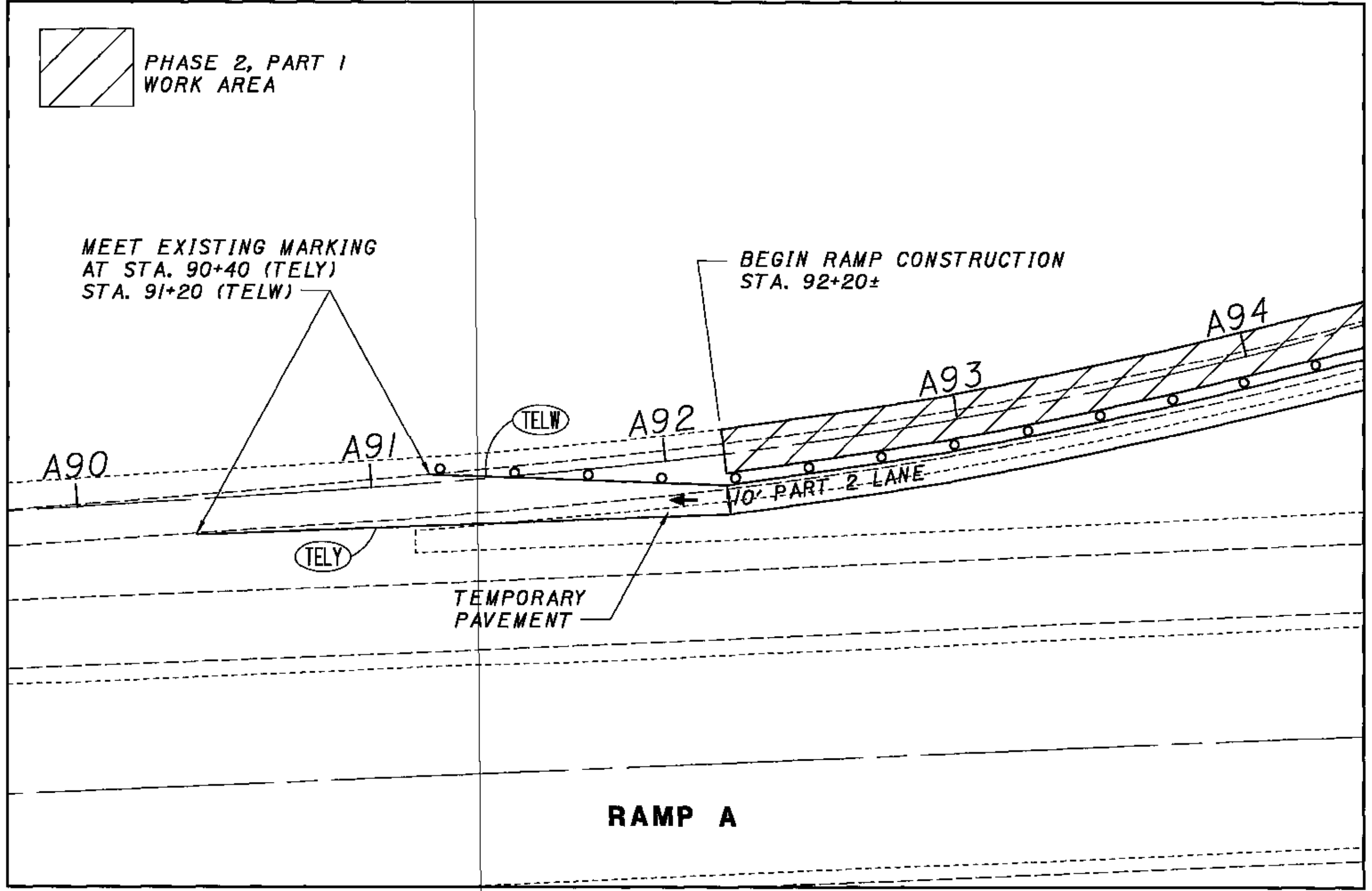
RAMP D

HORIZONTAL SCALE IN FEET
0 30 60

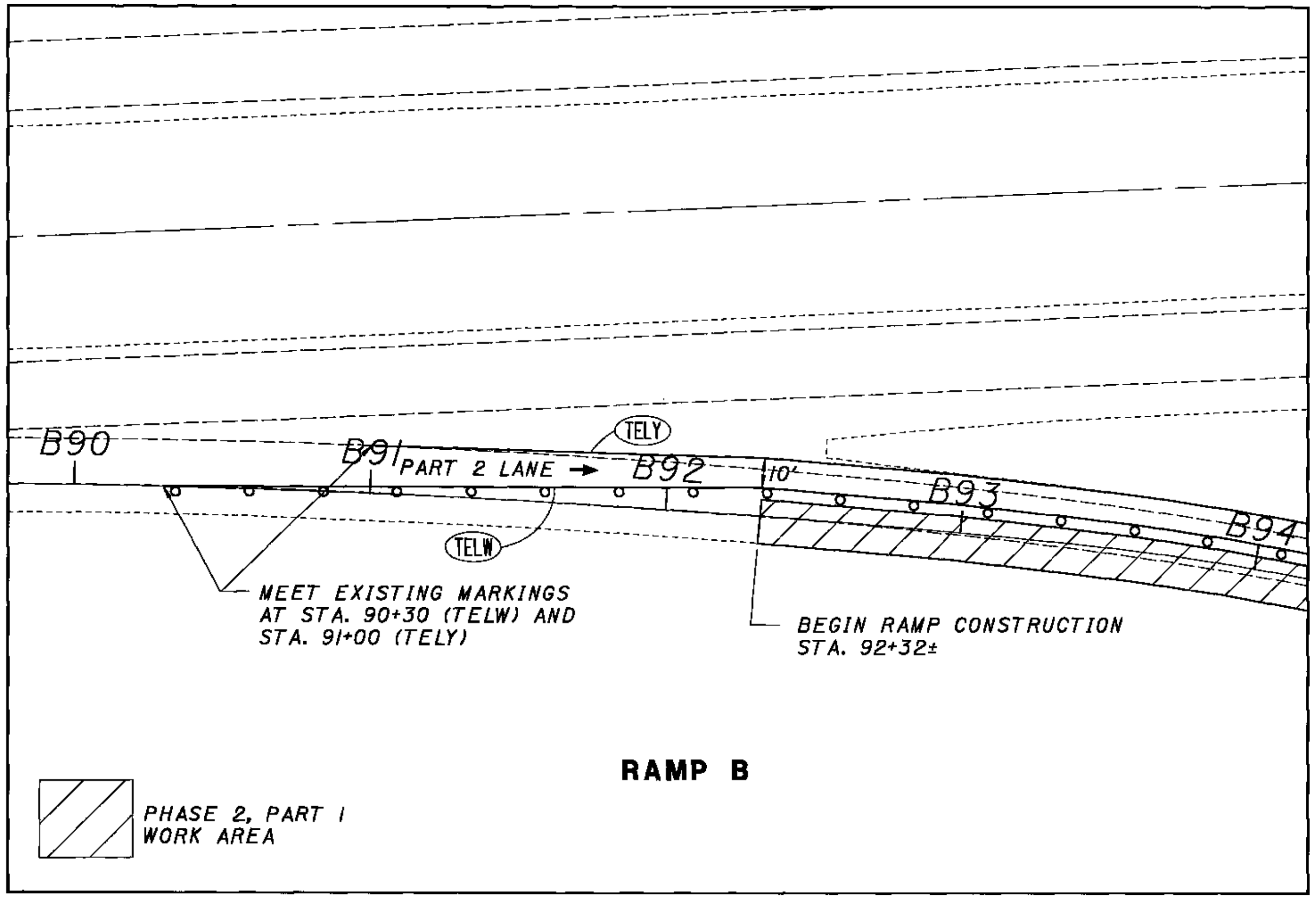
CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC PART 1

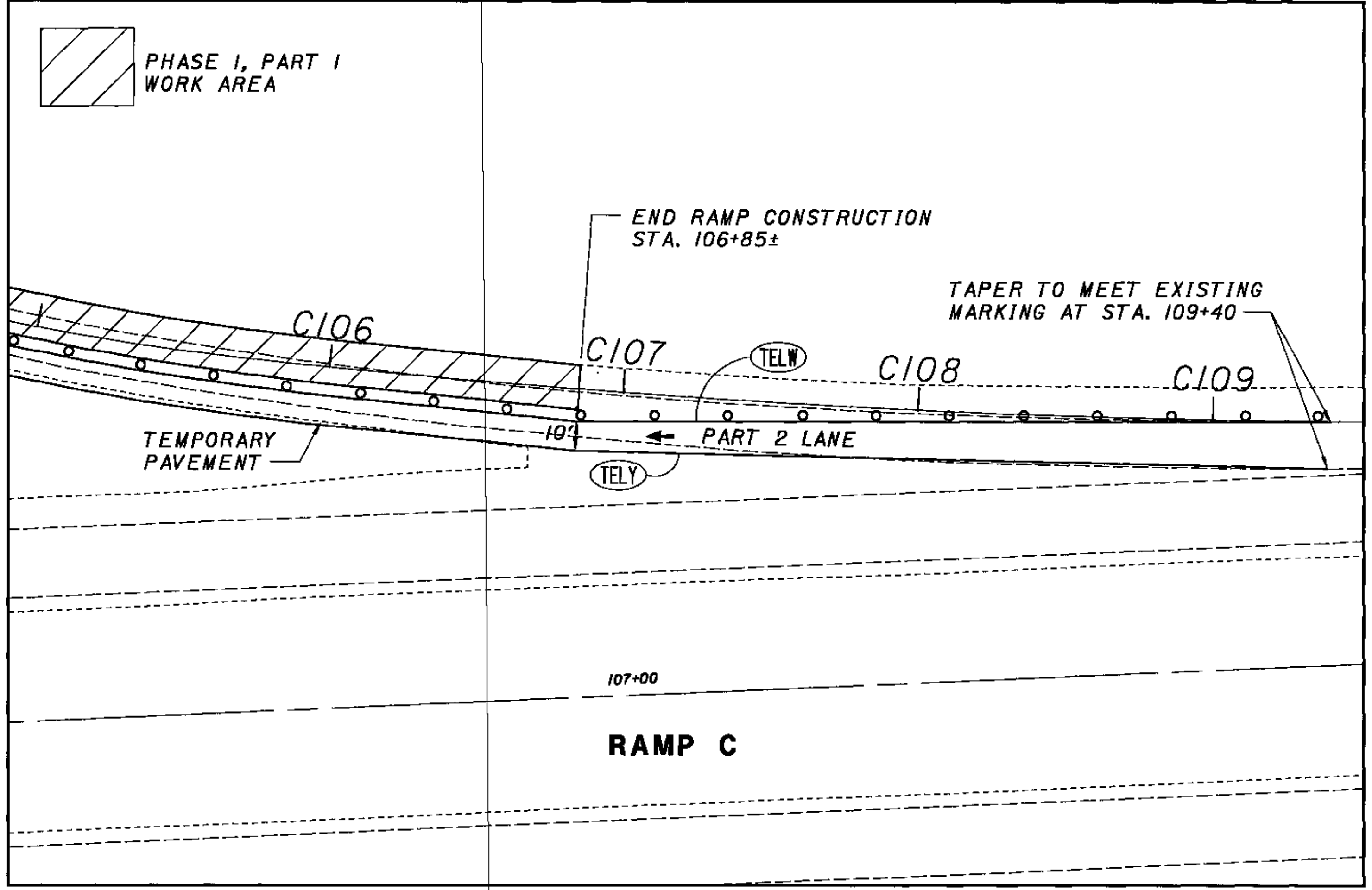
WAY/MED-71-7.04/0.00



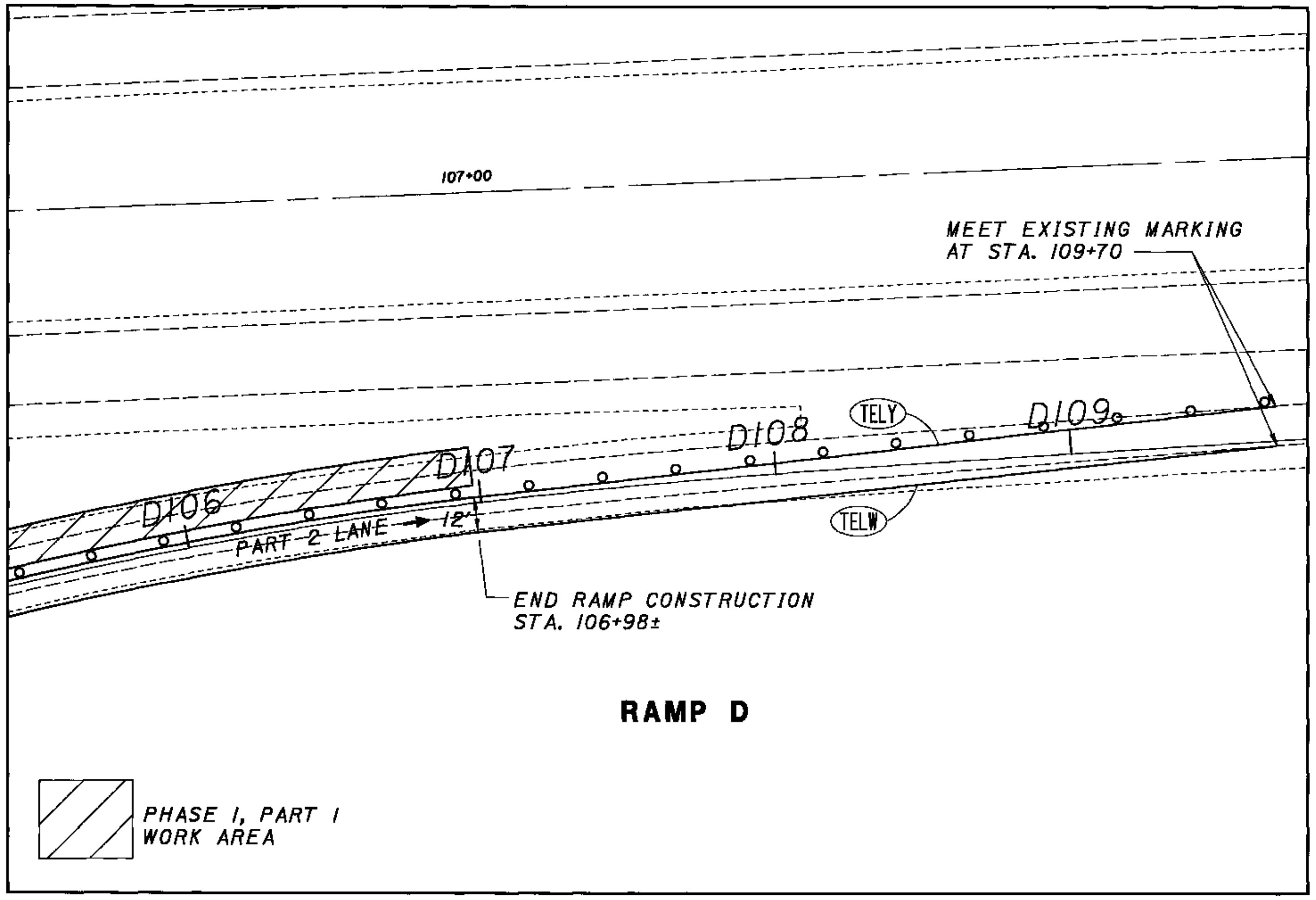
RAMP A



RAMP B



RAMP C



RAMP D

N

0 30 60
HORIZONTAL
SCALE IN FEET

CALCULATED
CHECKED

**MAINTENANCE OF TRAFFIC
PART 2**

WAY/MED-71-7.04/0.00

* - SEE GRAND TOTAL BELOW

- QUANTITIES CARRIED TO ITEM 880 SUMMARY TABLE ON SHEET 128

MEDIAN SHOULDER 301 EDGE COURSE - PHASE I

NORTHBOUND LENGTH (FROM SHEET 126) = 32631.3'
SOUTHBOUND LENGTH (FROM SHEET 127) = 32633.6'
SUB-TOTAL = 65264.9'
DEDUCT FOR MEDIAN EMERG. PARKING AREAS = -1000.0'
DEDUCT FOR SHOULDER ALONG RET. WALLS = -303.4'
TOTAL = 63961.5

AREA = $(3.25''\times24''+4.75''\times18'')\div144$/S.F.=1.1354 S.F./L.F.

ITEM 301 - ASPHALT CONCRETE BASE, PG64-22, AS PER PLAN B
63961.5' x 1.1354 S.F. ÷ 27 = 2690 C.Y.

ITEM 614 - ASPHALT CONCRETE FOR MAINTAINING TRAFFIC

PHASE 1 - MAINLINE LONGITUDINAL BUTT JOINTS

LEVELING (SEE SHEET 54) 7730'x2'x1/2"AVG./12"÷27 = 23.9 C.Y.
LEVELING (SEE SHEET 55) 1600'x2'x1/2"AVG./12"÷27 = 4.9 C.Y.
LEVELING (SEE SHEET 56) 1600x6'x1.25"AVG./12"÷27 = 37.0 C.Y.
TOTAL = 65.8 C.Y.

BUTT JOINT TO LAPPED JOINT CONVERSION QUANTITIES

PHASE 2 - MAINLINE

FROM SHEET 54 - 4530'
FROM SHEET 55 - 1600'
FROM SHEET 56 - 1600'
TOTAL = 7730'

ITEM 254 - PAVEMENT PLANING, BITUMINOUS
7730'x1'÷9 = 859 S.Y. *

ITEM 302 - ASPHALT CONCRETE BASE, PG64-22
7730'x0.5'x4"/12"÷27 = 47.7 C.Y. *

ITEM 407 - TACK COAT
7730'x1'/9 x .07 GAL/S.Y. = 60 GAL. #

ITEM 446 - ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2
PG64-28 .... 7730'x1'x1.75"/12"÷27 = 41.8 C.Y. #

PHASE 2B - SPEED CHANGE LANES
2 ENTRANCE RAMPS @ 150' = 300', 2 EXIT RAMPS @ 130' = 260' TOTAL = 560'

ITEM 254 - PAVEMENT PLANING, BITUMINOUS
560'x1.5'÷9 = 93.3 S.Y. *

ITEM 302 - ASPHALT CONCRETE BASE, PG64-22
560'x1.5'x6"/12"÷27 = 15.6 C.Y. *

EMERGENCY PARKING AREAS

TYPICAL AREA - (200'+50')x6' AVG. + 250'x12' = 4500 S.F.

ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN
4 EACH @ 4500 S.F. ÷ 9 = 2000 S.Y.

GRAND TOTAL

ITEM 254 - PAVEMENT PLANING, BITUMINOUS .. 859 + 93 = 952 S.Y.
ITEM 302 - ASPHALT CONCRETE BASE .... 47.7 + 15.6 = 63.3 C.Y. #

CALCULATED ENF
CHECKED DCF

MAINTENANCE OF TRAFFIC CALCULATIONS

WAY/MED-71-7.04/0.00

SHEET NUMBER	LOCATION	SIDE	301	614																615		622		
			ASPHALT CONCRETE BASE, PG 64-22, AS PER PLAN A	WORK ZONE IMPACT ATTENUATOR, UNIDIRECTIONAL	BARRIER REFLECTOR, TYPE A	BARRIER REFLECTOR, TYPE B	OBJECT MARKER	TRANSITION AREA DELINEATION	TEMPORARY EDGE LINE, CLASS I, 642 PAINT (WHITE)	TEMPORARY EDGE LINE, CLASS I, 642 PAINT (YELLOW)		TEMPORARY LANE LINE, CLASS I, 642 PAINT (DASHED)	TEMPORARY CHANNELIZING LINE, CLASS I, 642 PAINT	TEMPORARY GORE MARKING CLASS II, 642 PAINT	TEMPORARY EDGE LINE, CLASS I, 740.06, TYPE I (WHITE)	TEMPORARY EDGE LINE, CLASS I, 740.06, TYPE I (YELLOW)	TEMPORARY LANE LINE, CLASS I, 740.06, TYPE I (SOLID)		PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B	PORTABLE CONCRETE BARRIER, 32"	PORTABLE CONCRETE BARRIER, 32" BRIDGE MOUNTED	
			CU. YD.	EACH	EACH	EACH	EACH	FEET	FEET	FEET		FEET	FEET	FEET	FEET	FEET	FEET		SQ. YDS.	SQ. YDS.	FEET	FEET	
	STAGES 1&2 - PRE-PHASE 1																						
	STA. 371+50 TO STA. 336+00 (OUTSIDE SHOULDER)	NB			143	13																	
	STA. 371+50 TO STA. 336+00 (OUTSIDE SHOULDER)	SB			149	13																	
	STAGE 1 - PHASE 1																						
	NORTHBOUND																						
69	STA. 351+52 TO STA. 371+50	NB				13	13	1380							618	618	618				620		
	STA. 371+50 TO STA. 374+60	NB				6	6		310	310		310									310		
	STA. 0+00 TO STA. 81+20	NB				162	162		8120	8120		8120									7560	560	
68	STA. 81+20 TO STA. 91+00	NB				20	20			980		980	300								980		
	STA. 91+00 TO STA. 110+89	NB				40	40		1989	1989		1989									1989		
68	STA. 110+89 TO STA. 119+04	NB				16	16			815		815									815		
	STA. 119+04 TO STA. 172+00	NB				107	107		5296	5296		5296									5296		
71	STA. 172+00 TO STA. 185+90	NB				6	6	1390													310		
	SOUTHBOUND																						
70	STA. 360+60 TO STA. 371+50	SB				1	1	1090													10		
	STA. 371+50 TO STA. 374+60	SB				6	6	300	10	10		10									310		
	STA. 0+00 TO STA. 80+14	SB				160	160		8014	8014		8014									7454	560	
68	STA. 80+14 TO STA. 88+29	SB				16	16			815		815									815		
	STA. 88+29 TO STA. 104+75	SB				33	33		1646	1646		1646									1646		
68	STA. 104+75 TO STA. 117+98	SB				26	26			1323		1323	300								1323		
	STA. 117+98 TO STA. 172+00	SB				108	108		5402	5402		5402									5402		
72	STA. 172+00 TO STA. 188+56	SB		1		6	6	1380	276	276		276									276		
	STAGE 1 - PHASE 2A																						
	NORTHBOUND																						
73	STA. 351+71 TO STA. 371+50	NB				13	13	1380							599	599	599				599		
	STA. 371+50 TO STA. 374+60	NB				6	6		310	310		310									310		
	STA. 0+00 TO STA. 85+88	NB				172	172		8588	8588		8588									8028	560	
66	STA. 85+88 TO STA. 93+73	NB		1		15	15		485	785		785	300								745		
66	RAMP B	NB							551	101			300										
	STA. 93+73 TO STA. 115+60	NB				44	44		2187	2187		2187									2187		
63	STA. 106+95 TO STA. 115+60	NB							647	137			218	500									
63	RAMP D	NB				6	6		225	75											285		
	STA. 115+60 TO STA. 156+00	NB				81	81		4040	4040		4040									4040		
75	STA. 156+00 TO STA. 178+00	NB				6	6	2200													310		
	SOUTHBOUND																						
74	STA. 360+70 TO STA. 371+50	SB						1080													10		
	STA. 371+50 TO STA. 374+60	SB				7	7	300	10	10		10									310		
	STA. 0+00 TO STA. 92+22	SB				185	185		9222	9222		9222									9222	560	
63	STA. 83+57 TO STA. 92+22	SB							647	137			218	500									
63	RAMP A	SB				6	6		225	75											285		
	STA. 92+22 TO STA. 105+42	SB				26	26		1320	1320		1320									1320		
66	STA 105+42 TO STA. 113+27	SB		1		8	8		485	785		785	300								420		
66	RAMP C	SB				7	7		551	101			300								326		
	STA. 113+27 TO STA. 153+40	SB				81	81		4013	4013		4013									4273		
76	STA. 153+40 TO STA. 175+00	SB		1		17	17	2160													850		
TOTALS CARRIED TO GENERAL SUMMARY				4	292	1432	1406	12660	64569	66882		66256	2236	1000	1217	1217	1217				68636	2240	
									24.90 MI.			12.55 MI.			0.46 MI.		0.23 MI.						

CALCULATED ENF
CHECKED DCF

MAINTENANCE OF TRAFFIC SUBSUMMARY

WAY/MED-71-7.04/0.00

			301	614															615		622		
SHEET NUMBER	LOCATION	SIDE	ASPHALT CONCRETE BASE, PG 64-22, AS PER PLAN A	WORK ZONE IMPACT ATTENUATOR, UNIDIRECTIONAL	BARRIER REFLECTOR, TYPE A	BARRIER REFLECTOR, TYPE B	OBJECT MARKER	TRANSITION AREA DELINEATION	TEMPORARY EDGE LINE, CLASS I, 642 PAINT (WHITE)	TEMPORARY EDGE LINE, CLASS I, 642 PAINT (YELLOW)		TEMPORARY LANE LINE, CLASS I, 642 PAINT (DASHED)	TEMPORARY CHANNELIZING LINE, CLASS I, 642 PAINT	TEMPORARY GORE MARKING CLASS II, 642 PAINT	TEMPORARY EDGE LINE, CLASS I, 740.06, TYPE I (WHITE)	TEMPORARY EDGE LINE, CLASS I, 740.06, TYPE I (YELLOW)	TEMPORARY LANE LINE, CLASS I, 740.06, TYPE I (SOLID)		PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B	PORTABLE CONCRETE BARRIER, 32"	PORTABLE CONCRETE BARRIER, 32" BRIDGE MOUNTED	
			CU. YD.	EACH	EACH	EACH	EACH	FEET	FEET	FEET		FEET	FEET	FEET	FEET	FEET	FEET		SQ. YDS.	SQ. YDS.	FEET	FEET	
	STAGE 1 - PHASE 2B																						
	NORTHBOUND																						
67	STA. 84+52 TO STA. 93+73	NB		1		18	18		320												921		
67	RAMP B	NB				15	15		1891	1421			600								748		
64	RAMP D	NB				9	9		200	350											410		
64	STA. 106+95 TO STA. 115+60	NB				35	35		865	865											1730		
65	STA. 115+60 TO STA. 121+60	NB				24	24		1200	600											1200		
65	STA. 121+60 TO STA. 127+60	NB							600	100				500									
65	STA. 127+60 TO STA. 136+25	NB				14	14		865				265								680		
	SOUTHBOUND																						
65	STA. 62+92 TO STA. 71+57	SB				14	14		865				265								680		
65	STA. 71+57 TO STA. 77+57	SB							600	100				500									
65	STA. 77+57 TO STA. 83+57	SB				24	24		1200	600											1200		
64	STA. 83+57 TO STA. 92+22	SB				35	35		865	865											1730		
64	RAMP A	SB				9	9		200	350											410		
67	STA. 105+42 TO STA. 114+63	SB		1		18	18		320												921		
67	RAMP C	SB				15	15		1891	1421			600								748		
	STAGE 2 - PHASE 1																						
	NORTHBOUND																						
69	STA. 155+02 TO STA. 168+82	NB						1380															
69	STA. 168+82 TO STA. 175+00	NB				13	13								618	618	618				618		
	STA. 175+00 TO STA. 333+00	NB				316	316		15800	15800		15800									15330	470	
71	STA. 333+00 TO STA. 346+90	NB				6	6	1390													310		
	SOUTHBOUND																						
70	STA. 161+10 TO STA. 175+00	SB				6	6	1390													310		
	STA. 175+00 TO STA. 336+00	SB				322	322		16100	16100		16100									15630	470	
72	STA. 336+00 TO STA. 352+56	SB		1		7	7	1380							276	276	276				276		
	STAGE 2 - PHASE 2																						
	NORTHBOUND																						
73	STA. 139+21 TO STA. 159+00	NB				13	13	1380							599	599	599				599		
	STA. 159+00 TO STA. 317+00	NB				316	316		15800	15800		15800									15330	470	
75	STA. 317+00 TO STA. 339+00	NB				6	6	2200													310		
	SOUTHBOUND																						
74	STA. 145+20 TO STA. 156+00	SB						1080													10		
	STA. 156+00 TO STA. 317+40	SB				323	323	300	16140	16140		16140									15670	470	
76	STA. 317+40 TO STA. 339+00	SB		1		17	17	2160													850		
	SHOULDER REPLACEMENT																						
59	RAMPS - PHASES 2A & 2B		54																	811			
TOTALS CARRIED TO GENERAL SUMMARY			54	4		1575	1575	12660	75722	70512		63840	1730	1000	1493	1493	1493			811	76621	1880	
									27.70 MI.			12.09 MI.			0.57 MI.		0.28 MI.						

CALCULATED ENF
CHECKED DCF

MAINTENANCE OF TRAFFIC SUBSUMMARY

WAY/MED-71-7.04/0.00

MAINTENANCE OF TRAFFIC QUANTITIES

SHEET NO.	STATION	SIDE	614	614	614	614	614	614	614	614	614	614	615	301	622		622
			WORK ZONE CENTER LINE CLASS I, 642 PAINT	WORK ZONE CENTER LINE CLASS I, 740.06, TYPE I	WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT	WORK ZONE EDGE LINE YELLOW, CLASS I, 642 PAINT	WORK ZONE EDGE LINE WHITE, CLASS I, 740.06, TYPE I	WORK ZONE EDGE LINE YELLOW, CLASS I, 740.06, TYPE I	WORK ZONE DOTTED LINE, 642 PAINT	WORK ZONE STOP LINE, 642 PAINT	WORK ZONE STOP LINE, 740.06, TYPE I	WORK ZONE IMPACT ATTENUATOR, (UNIDIRECTIONAL OR BIDIRECTIONAL)	PAVEMENT FOR MAINTANINIG TRAFFIC, CLASS A **	ASPHALT CONCRETE BASE, PG 64-22, AS PER PLAN A **	PORTABLE CONCRETE BARRIER, 32"		PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED
			FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	EA.	SQ.YD.	CU. YD.	FT.		FT.
	PRE PHASE I																
89	SR 83: 34+90 - 43-60	L											944				
-	SR 83: 47+60 - 52+40	R										2			480		
-	△7											△7					
-	SR 83: 58+87 - 70+08	L											1471.4				
-	RMP C: 105+00 - 107+00	R											26.7				
-	RMP C: 99+65 - 100+35	L												3.5			
-	RMP C: 103+50 - 107+45	L												19.5			
-	RAMP D104+30 - 108+10	L											116.7				
-	RMP D: 100+00 - 108+10	L												39.5			
	SR 83: 34+90 - 76.00	L												203			
	GARMAN	R											172.0				
	PHASE I	△7									△7					△7	
83B	SR 83: 65+00 - 70+00	L										2					500
-	SR 83: 34+90 - 76+00		4110		8220												
	PART I																
91	SR 83: 46+72	L								11							
91	SR 83: 47+54	L								11							
91	SR 83: 52+57	L								11							
91	SR 83: 53+30	L								11							
91	SR 83: 60+60	L								11							
91	SR 83: 61+69	L								11							
91	SR 83: 71+58	L								11							
91	SR 83: 72+33	L								11							
91	SR 83: 71+58 - 72+33	L							75								
-	RMP D: 99+00 - 109+00	R/L			1000	1000											
-	RMP C: 99+50 - 109+00	R/L			950	950											
91	WILLOW: 10+00 - 12+70	R/L	260		380					10							
-	GARMAN	R/L	120		400					25							
	PART 2																
92	SR 83: 46+52	L								11							
92	SR 83: 47+45	L	9		40					11							
92	SR 83: 52+25	L	32							11							
92	SR 83: 53+48	L			60					11							
92	SR 83: 60+38	L								11							
92	SR 83: 61+69	L			100												
-	RMP D: 99+00 - 109+00	R/L			827	827	173	173					620				
-	RMP C: 99+50 - 109+00	R/L			598	598	352	352									
	RMP C: 100+05 - 106+86	R												33.6			
92	WILLOW: 10+00 - 12+70	R/L		260			490			10							
-	GARMAN	R/L		90			300			40							
95	I-71: NB RDWY - MEDIAN														450		
95	I-71: SB RDWY - MEDIAN														450		
95	I-71: NB RDWY - OUTSIDE														680		
95	I-71: SB RDWY - OUTSIDE														680		
	PRE PHASE 2																
-	RMP A: 91+45 - 99+40	R											167.2				
-	RMP A: 91+20 - 99+60	R										△7		41.5			
85A	SR 83 61+81 - 67+62	R											189.3				
	TOTAL COLUMN A		4531	350	12575	3375	1315	525	75	218	0	4	3707.3	340.6	2740		500 △7

* ALL MARKINGS ON FINAL CONCRETE PAVEMENT SURFACE SHALL BE REMOVBLE TAPE, 740.06 TYPE I.

** CALCULATIONS SHOWN OH SHEET 102

SHEET NO.	STATION	SIDE	614	614	614	614	614	614	614	614	614	614	615	301	622		622
			WORK ZONE CENTER LINE CLASS I, 642 PAINT	WORK ZONE CENTER LINE CLASS I, 740.06, TYPE I	WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT	WORK ZONE EDGE LINE YELLOW, CLASS I, 642 PAINT	WORK ZONE EDGE LINE, WHITE, CLASS I, 740.06, TYPE I	WORK ZONE EDGE LINE, YELLOW, CLASS I, 740.06, TYPE I	WORK ZONE DOTTED LINE, 642 PAINT	WORK ZONE STOP LINE, 642 PAINT	WORK ZONE STOP LINE, 740.06, TYPE I	WORK ZONE IMPACT ATTENUATOR, (UNIDIRECTIONAL OR BIDIRECTIONAL)	PAVEMENT FOR MAINTANINIG TRAFFIC, CLASS A **	ASPHALT CONCRETE BASE, PG 64-22, AS PER PLAN A **	PORTABLE CONCRETE BARRIER, 32"		PORTABLE CONCRETE BARRIER,32", BRIDGE MOUNTED
			FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	EA.	EA.	SQ.YD.	CU. YD.	FT.		FT.
	RMP B: 91+74 - 94+00	L											25.1				
-	RMP B: 91+74 - 93+50	L												8.7			
-	RMP B: 98+80 - 99+55	L												3.7			
-	RMP B: 99+20 - 99+55												10.2				
	PHASE 2 *																
-	WILLOW: 7+90 - 9+65	L											200				
-	SR 83: 34+90 - 41+45	R											477				
-	SR 83: 34+90 - 76+00	R		4110			8220										
-	SR 83: 47+60 - 52+40	R										2			187		293
	SR 83: 34+90 - 41+45	L												32.35			
	PART I																
93	SR 83: 46+55	R									11						
93	SR 83: 48+08	R									11.5						
93	SR 83: 52+54	R									11.5						
93	SR 83: 53+70	R									11						
93	SR 83: 60+10	R									11						
93	SR 83: 62+08	R									11						
93	SR 83: 71+43	R									11						
93	SR 83: 73+20	R									11						
-	RMP B: 90+30 - 99+90	R/L			960	960											
-	RMP A: 90+00 - 100+40	R/L			1040	1040											
93	WILLOW: 6+80 - 10+00	R/L		250			640				10						
-	RMP A: 91+45 - 99+30	R												38.8			
-	RMP B: 91+74 - 95+86	L												20.4			
	PART 2																
94	SR 83: 46+55	R					75										
94	SR 83: 53+70	R					20										
94	SR 83: 61+08	R					80										
-	RMP B: 90+30 - 99+90	R/L			449	449	511	511			42						
-	RMP A: 90+00 - 100+40	R/L			896	896	144	144									
94	WILLOW: 6+80 - 10+00	R/L		250			640				30						
TOTAL COLUMN B			0	4610	3345	3345	10330	655	0	0	171	2	712.3	104	187		293
														△7			
TOTAL COLUMN A			4531	350	12575	3375	1315	525	75	218	0	4	3707.3	340.6	2740		500
TOTAL THIS SHEET			4531	4960	22640		12825		75	218	171	6	4419.6	444.6	2927		793
TOTAL (FT)			4531	4990	2260		12825		75	218					2927		793
TOTAL (MI)			.858	.94	4.29		2.43										
TOTALS CARRIED TO GENERAL SUMMARY			0.86 (MI)	0.94 (MI)	4.29 (MI)		2.43 (MI)		75	218	171	6	4420	444.6	2927	△7	793

ITEM 606	EA.	FT.
GUARDRAIL TYPE 5		37.5
GUARDRAIL ANCHOR ASSEMBLY, TYPE T	1	
TOTAL	1	37.5

△7

BARRIER ITEM	LENGTH	614 - BARRIER REFLECTOR TYPE B	614 - OBJECT MARKER
PCB, 32"	2927	59	59
PCB, 32", BR. MTD	793	17	17
TOTAL		76	76

△7

△7 = REVISED 02-10-06
△2 = REVISED 10-11-04

CALCULATED GSC
CHECKED JEG

WAY/MED-71-7.04/0.00

101
785

CALCULATIONS FOR ITEM 615-PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

STATIONS	SIDE/COMMENT	WIDTH	CALCULATION	SQUARE YARDS	
PRE PHASE I					
SR 83					
34+90 - 69+50	L	VARIES (SEE PLAN)	GRAPHICALLY MEASURED	944.00	
△7					944.00
58+87 - 70+08	L	VARIES (SEE PLAN)	GRAPHICALLY MEASURED	1471.4	1471.4
GARMAN	R	VARIES (SEE PLAN)	GRAPHICALLY MEASURED		172.0
PHASE I, PRE PART I					
RAMP D	INSIDE SHLDR FOR PART I				
104+30		1			
			70*(1+1.2)/2/9=	8.56	
105+00		1.2			
			100*(1.2+2.9)/2/9=	22.78	
106+00		2.9			
			100*(2.9+4.5)/2/9=	41.11	
107+00		4.5			
			100*(4.5+2.9)/2/9=	41.11	
108+00		2.9			
			10*(2.9+2.7)/2/9=	3.11	
108+10		2.7			
					116.67
RAMP D	OUTSIDE SHLDR FOR PART II	VARIES (SEE PLAN)	GRAPHICALLY MEASURED		620.0
RAMP C	INSIDE SHLDR FOR PART I				
104+60		1			
			90*(1+1.4)/2/9=	12.00	
105+50		1.4			
			50*(1.4+1)/2/9=	6.67	
106+00		1			
			72*(1+1)/2/9=	8.00	
106+72		1			26.67

CALCULATIONS FOR ITEM 615-PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A (CONT.)

STATIONS	SIDE/COMMENT	WIDTH	CALCULATION	SQUARE YARDS	
PHASE 2, PRE PART I					
SR 83					
34+90 - 41+45		VARIES (SEE PLAN)	GRAPHICALLY MEASURED		200
△7					
61+81 - 67+62	R	3′	GRAPHICALLY MEASURED	189.3	189.3
WILLOW					
7+90 - 9+65		VARIES (SEE PLAN)	GRAPHICALLY MEASURED		477
RAMP A	INSIDE SHLDR FOR PART I				
91+45		1			
			75*(1+1.5)/2/9=	10.42	
92+20		1.5			
			80*(1.5+1.5)/2/9=	13.33	
93+00		1.5			
			100*(1.5+1.6)/2/9=	17.22	
94+00		1.6			
			100*(1.6+2)/2/9=	20.00	
95+00		2			
			100*(2+2.2)/2/9=	23.33	
96+00		2.2			
			100*(2.2+1.9)/2/9=	22.78	
97+00		1.9			
			100*(1.9+1.9)/2/9=	21.11	
98+00		1.9			
			96.4*(1.9+3.2)/2/9=	27.31	
98+96.4		3.2			
			3.6*(3.2+3.5)/2/9=	1.34	
99+00		3.5			
			10*(3.5+3.4)/2/9=	3.83	
99+10		3.4			
			15*(3.4+1.7)/2/9=	4.25	
99+25		1.7			
			15*(1.7+1)/2/9=	2.25	
99+40		1			
					167.18
RAMP B	INSIDE SHLDR FOR PART I				
91+74		1			
	TAPER		78*(1+1)/2/9=	8.67	
92+52		1			
			48*(1+1)/2/9=	5.33	
93+00		1			
	TAPER		100*(1+1)/2/9=	11.11	
94+00		1			
					25.11
99+20					
	GRAPHICAL MEASURE			10.22	10.22
99+55					

CALCULATIONS FOR ITEM 301-ASPHALT CONCRETE BASE, AS PER PLAN A

STATIONS	SIDE/COMMENT	WIDTH	CALCULATION	CUBIC YARDS
PRE-PHASE I				
SR 83: 34+90-76+00	L	2	4110*2*8/12/27=	202.96
RAMP C				
	OUTSIDE FOR PART I			
99+65 - 100+35		2	70*2*8/12/27=	3.46
103+50 - 107+45		2	395*2*8/12/27=	19.51
	INSIDE FOR PART 2			
100+05 - 106+86		2	681*2*8/12/27=	33.63
RAMP D				
	INSIDE FOR PART I			
100+00 - 108+10		2	800*2*8/12/27=	39.51
	OUTSIDE FOR PART 2			
	NONE REQUIRED			
PRE-PHASE 2				
SR 83: 34+90-41+45				34.35
RAMP A				
	OUTSIDE FOR PART I			
91+20 - 99+60		2	840*2*8/12/27=	41.48
	INSIDE FOR PART 2			
91+45 - 99+30		2	785*2*8/12/27=	38.77
RAMP B				
	OUTSIDE FOR PART I			
91+74 - 93+50			176*2*8/12/27=	8.69
98+80 - 99+55			75*2*8/12/27=	3.70
	INSIDE FOR PART 2			
91+74 - 95+86			412*2*8/12/27=	20.35

QUANTITIES CARRIED ON SHEET 101

CALCULATED GSC
CHECKED JEG

MAINTENANCE OF TRAFFIC CALCULATIONS

△7 = REVISED 02-10-06
△2 = REVISED 10-11-04

WAY/MED-71-7.04/0.00

SHEET NUMBER																						ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
26	27	28	30	34	51	118	119	121	122	122A	123	124	125A	126	127	128	129	130	373	382	384						
																										ROADWAY	
																						201	11000	LUMP		CLEARING AND GRUBBING	
							27															202	11004	27	EACH	STRUCTURE REMOVED	
								1														202	20010	1	EACH	HEADWALL REMOVED	
									196							1333						202	22900	1529	SQ YD	APPROACH SLAB REMOVED	
								761	6433							176674						202	23000	183868	SQ YD	PAVEMENT REMOVED	
																200						202	32000	200	FT	CURB REMOVED	
							358															202	32600	358	FT	GUTTER REMOVED	
							4881	632	355	55												202	35100	5868	FT	PIPE REMOVED, 24" AND UNDER	
							4846															202	35200	4846	FT	PIPE REMOVED, OVER 24"	
								613	238		28076	5720										202	38000	34647	FT	GUARDRAIL REMOVED	
										12												202	38800	12	EACH	GUARD POST REMOVED	
		922																				202	54000	922	EACH	RAISED PAVEMENT MARKER REMOVED AND DISPOSED	
								LUMP														202	56000	LUMP		BUILDING DEMOLISHED: ONE STORY WOOD	
																										FRAME, PARCEL No. 014-14D-24-031	
							3															202	58000	3	EACH	MANHOLE REMOVED	
							57	9														202	58100	66	EACH	CATCH BASIN REMOVED	
							1															202	58500	1	EACH	CATCH BASIN ABANDONED	
						219																SPECIAL	20270000	219	FT	FILL AND PLUG EXISTING CONDUIT	33
							292															SPECIAL	20270100	292	FT	PIPE CLEANOUT	33
								52	25													202	75000	77	FT	FENCE REMOVED	
								11	5	9												202	75300	25	EACH	PULL BOX REMOVED	
								5														202	75400	5	EACH	LIGHT POLE REMOVED	
								1														202	98000	1	LUMP	REMOVAL MISC.: (SIGN)	
								1														202	98000	1	LUMP	REMOVAL MISC.: (TRENCH DRAIN)	
													242996				89					203	10000	243085	CU YD	EXCAVATION	
		4120											74559									203	20000	78679	CU YD	EMBANKMENT	
														215961	215802		27547	5456	84	225	408	204	10000	465483	SQ YD	SUBGRADE COMPACTION	
				18822																		204	13000	18822	CU YD	EXCAVATION OF SUBGRADE	
				18822																		204	30010	18822	CU YD	GRANULAR MATERIAL, TYPE B	
				231													9.1	1.8				204	45000	242	HOUR	PROOF ROLLING	
				29738																		204	50000	29738	SQ YD	GEOTEXTILE FABRIC	
							49															209	10000	49	FT	DITCH CLEANOUT	
							2250															209	60200	22.50	MILE	LINEAR GRADING, RESHAPE DITCH	
		19																				604	40500	19	EACH	REFERENCE MONUMENT	
									1288		25273	3282										606	13000	29843	FT	GUARDRAIL, TYPE 5	
											250	100										606	15500	350	FT	GUARDRAIL, BARRIER DESIGN, TYPE 5	
											2	1										606	22000	3	EACH	ANCHOR ASSEMBLY, TYPE B-98	
									2		27	7										606	22010	36	EACH	ANCHOR ASSEMBLY, TYPE E-98	
					10																	606	22011	10	EACH	ANCHOR ASSEMBLY, TYPE E-98, AS PER PLAN	51
									2													606	25000	2	EACH	ANCHOR ASSEMBLY, TYPE A	
									7		18	5										606	26500	30	EACH	ANCHOR ASSEMBLY, TYPE T	
					20																	606	28051	20	EACH	ANCHOR ASSEMBLY REBUILT, TYPE E-98, AS PER PLAN A	51
									4		21	7										606	35000	32	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
											8	2										606	35100	10	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 2	
											4	2										606	60010	6	EACH	IMPACT ATTENUATOR, TYPE 1-98 (BIDIRECTIONAL)	
			730																			607	15001	730	FT	FENCE, TYPE 47, AS PER PLAN	30
			277																			607	20000	277	FT	FENCE, TYPE CL	
			2																			607	50901	2	FT	GATE, TYPE CL, AS PER PLAN	30
											230	138										622	10160	368	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE D	
											5	3										622	25000	8	EACH	CONCRETE BARRIER, END SECTION, TYPE D	
								2		1												SPECIAL	69050350	3	EACH	MAILBOX REMOVED AND RESET	
1200																						SPECIAL	69065016	1200	TON	WORK INVOLVING PETROLEUM CONTAMINATED SOIL	26
	LUMP																					SPECIAL	69070000	LUMP		ENVIRONMENTAL MISC.: MONITORING WELL ADJUST TO GRADE	27

CALCULATED

CHECKED

GENERAL SUMMARY

WAY/MED-71-7.04/0.00

SHEET NUMBER																ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
		116	117	117A	118	119	120	122	125A	373											
																				EROSION CONTROL	
							7									601	11000	7	SQ. YD.	RIPRAP USING 6" REINFORCED CONCRETE SLAB	
						27										601	32104	27	CU YD	ROCK CHANNEL PROTECTION, TYPE B WITH FABRIC FILTER	
							6.8									601	32200	6.8	CU YD	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	
						144										601	32204	144	CU YD	ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER	
						283										601	37500	283	FT	PAVED GUTTER, TYPE 1-2	
						75										601	38100	75	FT	PAVED GUTTER, TYPE 1-6	
									4							659	00100	4	EACH	SOIL ANALYSIS TEST	
									33270							659	00300	33270	CU YD	TOPSOIL	
									288899							659	10000	288899	SQ YD	SEEDING AND MULCHING	
									15000							659	14000	15000	SQ YD	REPAIR SEEDING AND MULCHING	
									15000							659	15000	15000	SQ YD	INTER-SEEDING	
									41.76							659	20000	41.76	TON	COMMERCIAL FERTILIZER	
									61.93							659	31000	61.93	ACRE	LIME	
									1900							659	35000	1900	M GAL	WATER	
									700							659	40000	700	M SQ FT	MOWING	
							733			173						660	20000	906	SQ YD	SODDING REINFORCED	
						9926										670	00700	9926	SQ YD	DITCH EROSION PROTECTION	
																832	10000	1	EACH	STORM WATER POLLUTION PREVENTION PLAN	
																832	30000	500000	EACH	EROSION CONTROL	
																				DRAINAGE	
						21	4.7									602	20000	25.7	CU YD	CONCRETE MASONRY	
		1543	35	167												603	00100	1745	FT	4" CONDUIT, TYPE B	
		482	86	57												603	00406	625	FT	4" CONDUIT, TYPE F	
								46								603	00510	46	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	
		5124														603	00900	5124	FT	6" CONDUIT, TYPE B	
		1101														603	01500	1101	FT	6" CONDUIT, TYPE F	
							331									603	04400	331	FT	12" CONDUIT, TYPE B	
							741									603	04600	741	FT	12" CONDUIT, TYPE C	
							56									603	04900	56	FT	12" CONDUIT, TYPE D	
					617											603	05200	617	FT	12" CONDUIT, TYPE F 707.05, TYPE C	
							168									603	05700	168	FT	15" CONDUIT, TYPE A	
							72									603	05900	72	FT	15" CONDUIT, TYPE B	
					1604											603	06100	1604	FT	15" CONDUIT, TYPE C	
							45									603	06400	45	FT	15" CONDUIT, TYPE D	
					398											603	06700	398	FT	15" CONDUIT, TYPE F 707.05, TYPE C	
					361		353									603	07600	714	FT	18" CONDUIT, TYPE C	
					250											603	08200	250	FT	18" CONDUIT, TYPE F 707.05, TYPE C	
					2092											603	10600	2092	FT	24" CONDUIT, TYPE C	
					63											603	11200	63	FT	24" CONDUIT, TYPE F 707.05, TYPE C	
					483											603	12100	483	FT	27" CONDUIT, TYPE C	
					828											603	13600	828	FT	30" CONDUIT, TYPE C	
					44											603	16200	44	FT	36" CONDUIT, TYPE A 706.02	
					3259											603	16600	3259	FT	36" CONDUIT, TYPE C	
					144											603	19600	144	FT	42" CONDUIT, TYPE C	
					12											603	20700	12	FT	48" CONDUIT, TYPE A 706.02	
					36											603	23600	36	FT	60" CONDUIT, TYPE A 706.02	
					14											603	26000	14	FT	72" CONDUIT, TYPE A 706.02	
							156									603	52200	156	FT	14" X 23" CONDUIT, TYPE A, 706.04	

CALCULATED

CHECKED

GENERAL SUMMARY

WAY/MED-71-7.04/0.00

SHEET NUMBER																					ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
33	98	100	101	116	117	117A	118	119	120	121	122	122A	126	127	129	130	366	373	382	384						
																									DRAINAGE CONTINUED	
							8														603	53200	8	FT	48" X 76" CONDUIT, TYPE A, 706.04	
				938																	603	96600	938	FT	CONDUIT, BORED OR JACKED: 6" TYPE B, AS PER PLAN	32
							137														603	96600	137	FT	CONDUIT, BORED OR JACKED: 15" TYPE B, 706.02, AS PER PLAN	32
							131														603	96600	131	FT	CONDUIT, BORED OR JACKED: 18" TYPE B, 706.02, AS PER PLAN	32
							140														603	96600	140	FT	CONDUIT, BORED OR JACKED: 24" TYPE B, 706.02, AS PER PLAN	32
							98														603	96600	98	FT	CONDUIT, BORED OR JACKED: 27" TYPE B, 706.02, AS PER PLAN	32
							146														603	96600	146	FT	CONDUIT, BORED OR JACKED: 30" TYPE B, 706.02, AS PER PLAN	32
							92														603	96600	92	FT	CONDUIT, BORED OR JACKED: 36" TYPE B, 706.02, AS PER PLAN	32
								10	4												604	00800	14	EACH	CATCH BASIN, NO. 3A	
								46													604	01200	46	EACH	CATCH BASIN, NO. 4	
								3													604	01400	3	EACH	CATCH BASIN, NO. 4A	
								6													604	01600	6	EACH	CATCH BASIN, NO. 5	
								1													604	01800	1	EACH	CATCH BASIN, NO. 5A	
									1												604	02000	1	EACH	CATCH BASIN, NO. 6	
								1													604	04100	1	EACH	CATCH BASIN, NO. 2-2A	
								1													604	04100	1	EACH	CATCH BASIN, NO. 2-2B	
									4												604	04900	4	EACH	CATCH BASIN, NO. 2-3	
										1											604	09000	1	EACH	CATCH BASIN ADJUSTED TO GRADE	
								4													604	09500	4	EACH	CATCH BASIN RECONSTRUCTED TO GRADE	
									16												604	17500	16	EACH	INLET, NO. 2-A-6	
									4												604	18700	4	EACH	INLET, NO. 2-A-12	
								16	5												604	31500	21	EACH	MANHOLE, NO. 3	
										3	4										604	34500	7	EACH	MANHOLE ADJUSTED TO GRADE	
								7													604	35500	7	EACH	MANHOLE RECONSTRUCTED TO GRADE	
				12	6						4										604	36600	22	EACH	PRECAST REINFORCED CONCRETE OUTLET	
				124204	5761	7048															605	05100	137013	FT	4" SHALLOW PIPE UNDERDRAINS	
				3486																	605	05150	3486	FT	4" DEEP PIPE UNDERDRAINS	
				192	529	1498															605	05200	2219	FT	4" UNCLASSIFIED PIPE UNDERDRAINS	
1066				121204							138										605	11100	122408	FT	6" SHALLOW PIPE UNDERDRAINS	
				3486																	605	12200	3486	FT	6" DEEP PIPE UNDERDRAINS	
				166																	605	13300	166	FT	6" UNCLASSIFIED PIPE UNDERDRAINS	
					81																605	31100	81	FT	AGGREGATE DRAINS	
								332													837	10000	332	FT	LINER PIPE, 30"	33
								311													837	10000	311	FT	LINER PIPE, 36"	33
								311													837	10000	311	FT	LINER PIPE, 48"	33
								109													837	20000	109	CU YD	BACKFILL FOR LINER PIPE	
																										33
																										33
																									PAVEMENT	
	952										90	77									254	01000	1119	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE	
		54	445																		301	46001	499	CU YD	ASPHALT CONCRETE BASE, PG64-22, AS PER PLAN A	31
	2690																				301	46001	2690	CU YD	ASPHALT CONCRETE BASE, PG64-22, AS PER PLAN B	31
													60972	60928	4694	918	199	26	94	114	304	20000	127948	CU YD	AGGREGATE BASE	
																	306				408	10000	306	GALLON	PRIME COAT	
															133						411	10000	133	CU YD	STABILIZED CRUSHED AGGREGATE	
																	37				448	46048	37	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I, PG64-22 (DRIVEWAYS)	
																	27				448	48020	27	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE I, PG64-22 (DRIVEWAYS)	
											134										SPECIAL	45130000	134	FT	PRESSURE RELIEF JOINT, TYPE A	
																	944				452	12000	944	SQ YD	8" NON-REINFORCED CONCRETE PAVEMENT	
															23247	2410					452	13000	25657	SQ YD	9" NON-REINFORCED CONCRETE PAVEMENT	

CALCULATED

CHECKED

GENERAL SUMMARY

WAY/MED-71-7.04/0.00

SHEET NUMBER																				ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
44	47	48	48A	49	50	98	99	100	101	122	122A	123	124	128	129	130	366	373	400						
																								PAVEMENT CONTINUED	
															4375		433			609	14000	4808	FT	CURB, TYPE 2-A	
																	159	181		609	26000	340	FT	CURB, TYPE 6	
																			26	618	40600	26	MILE	RUMBLE STRIPS, TYPE 2 (ASPHALT CONCRETE)	
														159011		2423				880	15000	161434	CU YD	ASPHALT CONCRETE (7 YEAR WARRANTY)	
																								WATER WORK	
										2	1									638	10800	3	EACH	VALVE BOX ADJUSTED TO GRADE	
																								MAINTENANCE OF TRAFFIC	
	50																			410	12000	50	CU YD	TRAFFIC COMPACTED SURFACE, TYPE A OR B	
	50																			410	13000	50	CU YD	TRAFFIC COMPACTED SURFACE, TYPE C	
				600																614	11100	600	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR	
				20																614	11500	20	MONTH	WORKSITE TRAFFIC SUPERVISOR	
							12660	12660												614	11600	25320	FT	TRANSITION AREA DELINEATION	
							4	4	4											614	12340	12	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL OR BIDIRECTIONAL)	
					42															614	12470	42	EACH	WORK ZONE SPEED LIMIT SIGN	
					26															614	12480	26	EACH	CONSTRUCTION ZONE/FINES DOUBLED SIGN	
		100																		614	12500	100	EACH	REPLACEMENT SIGN	
					500															614	12600	500	EACH	REPLACEMENT DRUM	
50	200			60		66														614	13000	376	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
							292					342	52							614	13200	686	EACH	BARRIER REFLECTOR, TYPE A	
							1432	1575	65			4	83							614	13300	3159	EACH	BARRIER REFLECTOR, TYPE B	
							1406	1575	65											614	13350	3046	EACH	OBJECT MARKER, ONE WAY	
			48																	614	18601	48	SIGN MNTH	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	48A
							12.55	12.09												614	20100	24.64	MILE	WORK ZONE LANE LINE, CLASS I, 642 PAINT	
							0.23	0.28												614	20200	0.51	MILE	WORK ZONE LANE LINE, CLASS I, 740.06, TYPE I, SOLID	
									0.86											614	21100	0.86	MILE	WORK ZONE CENTER LINE, CLASS I, 642 PAINT	
									0.94											614	21200	0.94	MILE	WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE I	
							24.90	27.70	4.26											614	22100	56.89	MILE	WORK ZONE EDGE LINE, CLASS I, 642 PAINT	
							0.46	0.57	2.43											614	22200	3.46	MILE	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I	
							2236	1730												614	23200	3966	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	
									75											614	24200	75	FT	WORK ZONE DOTTED LINE, CLASS I, 642 PAINT	
									218											614	26200	218	FT	WORK ZONE STOP LINE, CLASS I, 642 PAINT	
									171											614	26400	171	FT	WORK ZONE STOP LINE, CLASS I, 740.06, TYPE I	
							1000	1000												614	28200	2000	FT	WORK ZONE GORE MARKING, CLASS II, 642 PAINT	
									2961											615	20000	2961	SQ YD	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	
								811			25									615	25000	836	SQ YD	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B	
						2000														615	25001	2000	SQ YD	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN	51
					3000															616	10000	3000	M. GAL.	WATER	
							68636	76621	2927		88									622	40020	148272	FT	PORTABLE CONCRETE BARRIER, 32"	
							2240	1880	293											622	40040	4413	FT	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED	
																								FOR TRAFFIC CONTROL SUMMARY SEE SHEET 399	
																								FOR TRAFFIC SIGNAL SUMMARY SEE SHEETS 445, 446	
																								FOR LIGHTING GENERAL SUMMARY SEE SHEET 467	
																								FOR STRUCTURE GENERAL SUMMARIES SEE SHEETS 480, 486, 563, 592, 618, 668, 714	
																								FOR MSE WALL SUMMARY SEE SHEET 613A	
																				614	11000	LUMP		MAINTAINING TRAFFIC	
																				619	16020	22	MONTH	FIELD OFFICE, TYPE C	
																				623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
																				624	10000	LUMP		MOBILIZATION	

CALCULATED
CHECKED

GENERAL SUMMARY

WAY/MED-71-7.04/0.00

REFERENCE NO.	SHEET NUMBER	STATION RANGE FROM	STATION RANGE TO	SIDE	603 4" CONDUIT, TYPE B	603 6" CONDUIT, TYPE B	603 4" CONDUIT, TYPE F	603 6" CONDUIT, TYPE F	603 CONDUIT BORED OR JACKED, AS PER PLAN, 6" TYPE B	604 PRECAST REINFORCED CONCRETE OUTLET	605 4" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	605 6" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	605 4" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41	605 6" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41
					FEET	FEET	FEET	FEET	FEET	EACH	FEET	FEET	FEET	FEET
UD1	160	371+50.25	3+84	SB							694			
UD2	160	371+50.25	3+84	SB								694		
UD3	160	371+50.25	3+84	SB								694		
UD4	160	371+50.25	3+84	SB							694			
UD5	160	371+50.25	3+84	NB							694			
UD6	160	371+50.25	3+84	NB								694		
UD7	160	371+50.25	3+84	NB								694		
UD8	160	371+50.25	3+84	NB							694			
UD9	160	3+84		SB	11	52	5	18						
UD10	160													
UD11	160	3+84		NB		3	4		72	1				
UD12	160	3+88	6+00	SB	10						202			
UD13	160	3+88	6+00	SB		10						202		
UD14	160	3+88	6+00	SB		10						202		
UD15	160	3+88	6+00	SB	10						202			
UD16	160	3+88	6+00	NB	10						202			
UD17	160	3+88	6+00	NB		10						202		
UD18	160	3+88	6+00	NB		10						202		
UD19	160	3+88	6+00	NB	10						202			
UD1	161	6+00	10+33	SB							433			
UD2	161	6+00	10+33	SB								433		
UD3	161	6+00	10+33	SB								433		
UD4	161	6+00	10+33	SB							433			
UD5	161	6+00	10+33	NB							433			
UD6	161	6+00	10+33	NB								433		
UD7	161	6+00	10+33	NB								433		
UD8	161	6+00	10+33	NB							433			
UD9	161	10+33		SB	11	52	5	17						
UD10	161													
UD11	161	10+33		NB		3	4		73	1				
UD12	161	10+37	16+00	SB	10						553			
UD13	161	10+37	16+00	SB		10						553		
UD14	161	10+37	16+00	SB		10						553		
UD15	161	10+37	16+00	SB	10						553			
UD16	161	10+37	16+00	NB	10						553			
UD17	161	10+37	16+00	NB		10						553		
UD18	161	10+37	16+00	NB		10						553		
UD19	161	10+37	16+00	NB	10						553			
TOTAL COLUMN A					102	190	18	35	145	2	7528	7528		

4" OR 6" DEEP UNDERDRAINS (42" DEEP) ARE TO BE USED IN THE 3 FT. DEEP UNDERCUT AREAS AS DETAILED ON SHEET 36 AT THE LOCATIONS SHOWN ON SHEETS 38 & 40.

REFERENCE NO.	SHEET NUMBER	STATION RANGE FROM	STATION RANGE TO	SIDE	603 4" CONDUIT, TYPE B	603 6" CONDUIT, TYPE B	603 4" CONDUIT, TYPE F	603 6" CONDUIT, TYPE F	603 CONDUIT BORED OR JACKED, AS PER PLAN, 6" TYPE B	604 PRECAST REINFORCED CONCRETE OUTLET	605 4" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	605 6" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	605 4" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41	605 6" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41
					FEET	FEET	FEET	FEET	FEET	EACH	FEET	FEET	FEET	FEET
UD1	162	16+00	17+94	SB							194			
UD2	162	16+00	17+94	SB								194		
UD3	162	16+00	17+94	SB								194		
UD4	162	16+00	17+94	SB							194			
UD5	162	16+00	16+15	NB							15			
UD6	162	16+00	16+15	NB								15		
UD7	162	16+00	16+15	NB								15		
UD8	162	16+00	16+15	NB							15			
UD9	162	16+15		NB		3	4		75	1				
UD10	162	17+94		SB		4	5		75	1				
UD11	162	22+52	26+00	SB							348			
UD12	162	22+52	26+00	SB								348		
UD13	162	22+52	26+00	SB								348		
UD14	162	22+52	26+00	SB							348			
UD15	162	20+77	26+00	NB							523			
UD16	162	20+77	26+00	NB								523		
UD17	162	20+77	26+00	NB								523		
UD18	162	20+77	26+00	NB							523			
UD19	162	26+00		NB		3	4		75	1				
UD1	163	26+00	31+97	SB							597			
UD2	163	26+00	31+97	SB								597		
UD3	163	26+00	31+97	SB								597		
UD4	163	26+00	31+97	SB							597			
UD5	163	26+04	31+75	NB	10						561			
UD6	163	26+04	31+75	NB		10						561		
UD7	163	26+04	31+75	NB		10						561		
UD8	163	26+04	31+75	NB	10						561			
UD9	163	31+75		NB		3	4		73	1				
UD10	163	31+97		SB		4	5		78	1				
UD11	163	33+25	33+59	SB							34			
UD12	163	33+63	36+00	SB							237			
UD13	163	33+23	36+00	SB								277		
UD14	163	33+16	36+00	SB								284		
UD15	163	33+14	36+00	SB							286			
UD16	163	32+96	33+30	NB							34			
UD17	163	33+34	36+00	NB	10						256			
UD18	163	32+97	36+00	NB		10						293		
UD19	163	33+05	36+00	NB		10						285		
UD20	163	33+07	36+00	NB	10						283			
TOTAL COLUMN B					40	57	22		376	5	5606	5615		
TOTAL COLUMN A					102	190	18	35	145	2	7528	7528		
TOTALS CARRIED TO SHEET 116					142	247	40	35	521	7	13134	13143		

JEL
CHECKED

UNDERDRAIN QUANTITIES

WAY/MED-71-7.04/0.00

REFERENCE NO.	SHEET NUMBER	STATION RANGE		SIDE		603					604	605			
						4" CONDUIT, TYPE B	6" CONDUIT, TYPE B	4" CONDUIT, TYPE F	6" CONDUIT, TYPE F	CONDUIT BORED OR JACKED, AS PER PLAN, 6" TYPE B	PRECAST REINFORCED CONCRETE OUTLET	4" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	6" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	4" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41	6" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41
		FROM	TO			FEET	FEET	FEET	FEET	FEET	EACH	FEET	FEET	FEET	FEET
UD1	164	36+00	40+60	SB								460			
UD2	164	36+00	40+60	SB									460		
UD3	164	36+00	40+60	SB									460		
UD4	164	36+00	40+60	SB								460			
UD5	164	36+00	40+60	NB								460			
UD6	164	36+00	40+60	NB									460		
UD7	164	36+00	40+60	NB									460		
UD8	164	36+00	40+60	NB								460			
UD9	164	40+60		NB		11	54	5	12						
UD10	164	40+60		SB		11	52	5	12						
UD11	164	40+64	46+00	SB		10						336			
UD12	164	40+64	46+00	SB			10						336		
UD13	164	40+64	46+00	SB			10						336		
UD14	164	40+64	46+00	SB		10						336			
UD15	164	40+64	46+00	NB								346			
UD16	164	40+64	46+00	NB									346		
UD17	164	40+64	46+00	NB									346		
UD18	164	40+64	46+00	NB								346			
UD1	165	46+00	47+35	SB								135			
UD2	165	46+00	47+35	SB									135		
UD3	165	46+00	47+35	SB									135		
UD4	165	46+00	47+35	SB								135			
UD5	165	46+00	47+65	NB								165			
UD6	165	46+00	47+65	NB									165		
UD7	165	46+00	47+65	NB									165		
UD8	165	46+00	47+65	NB								165			
UD9	165	47+35		SB			4	5		87	1				
UD10	165	47+65		NB		11	54	5	12						
UD11	165	47+35	54+61	SB								726			
UD12	165	47+35	54+61	SB									726		
UD13	165	47+35	54+61	SB									726		
UD14	165	47+35	54+61	SB								726			
UD15	165	47+65	54+61	NB								696			
UD16	165	47+65	54+61	NB									696		
UD17	165	47+65	54+61	NB									696		
UD18	165	47+65	54+61	NB								696			
UD19	165	54+65		SB		11	52	5	12						
UD20	165	54+65		NB		11	54	5	12						
UD21	165	54+65	56+00	SB								135			
UD22	165	54+65	56+00	SB									135		
UD23	165	54+65	56+00	SB									135		
UD24	165	54+65	56+00	SB								135			
UD25	165	54+65	56+00	NB								135			
TOTAL COLUMN A						75	290	30	48	87	1	7053	6918		

REFERENCE NO.	SHEET NUMBER	STATION RANGE		SIDE		603					604	605			
						4" CONDUIT, TYPE B	6" CONDUIT, TYPE B	4" CONDUIT, TYPE F	6" CONDUIT, TYPE F	CONDUIT BORED OR JACKED, AS PER PLAN, 6" TYPE B	PRECAST REINFORCED CONCRETE OUTLET	4" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	6" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	4" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41	6" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41
		FROM	TO			FEET	FEET	FEET	FEET	FEET	EACH	FEET	FEET	FEET	FEET
UD23	165	54+65	56+00	NB									135		
UD24	165	54+65	56+00	NB									135		
UD25	165	54+65	56+00	NB								135			
UD1	166	56+00	59+59	SB								359			
UD2	166	56+00	59+59	SB									359		
UD3	166	56+00	59+59	SB									359		
UD4	166	56+00	59+59	SB								359			
UD5	166	56+00	59+59	NB								359			
UD6	166	56+00	59+59	NB									359		
UD7	166	56+00	59+59	NB									359		
UD8	166	56+00	59+59	NB								359			
UD9	166	64+66	66+00	SB								134			
UD10	166	64+66	66+00	SB									134		
UD11	166	64+66	66+00	SB									134		
UD12	166	64+66	66+00	SB								134			
UD13	166	64+66	66+00	NB								134			
UD14	166	64+66	66+00	NB									134		
UD15	166	64+66	66+00	NB									134		
UD16	166	64+66	66+00	NB								134			
UD17	166	64+66		SB		11	52	5	14						
UD18	166	64+66		NB		11	54	5	14						
UD19	166	59+63	64+58	NB								495			
UD20	166	59+63	64+58	NB									495		
UD21	166	59+63	64+58	NB									495		
UD22	166	59+63	64+58	NB								495			
UD23	166	59+63	64+58	SB								495			
UD24	166	59+63	64+58	SB									495		
UD25	166	59+63	64+58	SB									495		
UD26	166	59+63	64+58	SB								495			
UD27	166	59+63		SB		11	54	5	22						
UD28	166	59+63		NB		11	50	3	5						
TOTAL COLUMN B						44	210	18	55			4087	4222		
TOTAL COLUMN A						75	290	30	48	87	1	7053	6918		
TOTALS CARRIED TO SHEET 116						119	500	48	103	87	1	11140	11140		

4" OR 6" DEEP UNDERDRAINS (42" DEEP) ARE TO BE USED IN THE 3 FT. DEEP UNDERCUT AREAS AS DETAILED ON SHEET 36 AT THE LOCATIONS SHOWN ON SHEETS 38 & 40.

JEL
CHECKED BKM

UNDERDRAIN QUANTITIES

WAY/MED-71-7.04/0.00

14017QSB.dgn

REFERENCE NO.	SHEET NUMBER	STATION RANGE FROM	STATION RANGE TO	SIDE	603					604	605			
					4" CONDUIT, TYPE B	6" CONDUIT, TYPE B	4" CONDUIT, TYPE F	6" CONDUIT, TYPE F	CONDUIT BORED OR JACKED, AS PER PLAN, 6" TYPE B	PRECAST REINFORCED CONCRETE OUTLET	4" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	6" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	4" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41	6" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41
					FEET	FEET	FEET	FEET	FEET	EACH	FEET	FEET	FEET	FEET
UD1	167	66+00	70+58	SB							458			
UD2	167	66+00	70+58	SB								458		
UD3	167	66+00	70+58	SB								458		
UD4	167	66+00	70+58	SB							458			
UD5	167	66+00	70+58	NB							458			
UD6	167	66+00	70+58	NB								458		
UD7	167	66+00	70+58	NB								458		
UD8	167	66+00	70+58	NB							458			
UD9	167	75+65		SB	11	52	5	14						
UD10	167	75+65	76+00	SB							35			
UD11	167	75+65	76+00	SB								35		
UD12	167	75+65	76+00	SB								35		
UD13	167	75+65	76+00	NB							35			
UD14	167	75+65		NB	11	52	5	14						
UD15	167	75+65	76+00	NB							35			
UD16	167	75+65	76+00	NB								35		
UD17	167	75+65	76+00	NB								35		
UD18	167	75+65	76+00	NB							35			
UD19	167	70+62	75+61	SB							499			
UD20	167	70+62	75+61	SB								499		
UD21	167	70+62	75+61	SB								499		
UD22	167	70+62	75+61	SB							499			
UD23	167	70+62		SB	11	54	5	26						
UD24	167	70+62	75+61	NB	10						499			
UD25	167	70+62	75+61	NB		10						499		
UD26	167	70+62	75+61	NB		10						499		
UD27	167	70+62	75+61	NB	10						499			
UD28	167	70+62	75+61	NB	15	50								
UD1	168	76+00	81+02	SB							502			
UD2	168	76+00	81+02	SB								502		
UD3	168	76+00	81+02	SB								502		
UD4	168	76+00	81+02	SB							502			
UD5	168	76+00	81+10	NB							510			
UD6	168	76+00	81+10	NB								510		
UD7	168	76+00	81+10	NB								510		
UD8	168	76+00	81+10	NB							510			
UD9	168	81+06		SB	11	67	5	14						
UD10	168	81+06	86+00	SB	10						484			
UD11	168	81+06	86+00	SB		10						484		
UD12	168	81+06	86+00	SB		10						484		
UD13	168	81+06	86+00	SB	10						484			
UD14	168	81+14		NB	11	61	5	14						
UD15	168	81+14	86+00	NB							486			
TOTAL COLUMN A					110	376	25	82			7446	6960		

REFERENCE NO.	SHEET NUMBER	STATION RANGE FROM	STATION RANGE TO	SIDE	603					604	605			
					4" CONDUIT, TYPE B	6" CONDUIT, TYPE B	4" CONDUIT, TYPE F	6" CONDUIT, TYPE F	CONDUIT BORED OR JACKED, AS PER PLAN, 6" TYPE B	PRECAST REINFORCED CONCRETE OUTLET	4" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	6" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	4" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41	6" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41
					FEET	FEET	FEET	FEET	FEET	EACH	FEET	FEET	FEET	FEET
UD16	168	81+14	86+00	NB								486		
UD17	168	81+14	86+00	NB								486		
UD18	168	81+14	86+00	NB							486			
UD1	169	86+00	87+86	SB	10						176			
UD2	169	86+00	87+86	SB		10						176		
UD3	169	86+00	87+86	SB								186		
UD4	169	86+00	87+86	SB							186			
UD5	169	86+00	87+86	NB							186			
UD6	169	86+00	87+86	NB								186		
UD7	169	86+00	87+86	NB								186		
UD8	169	86+00	87+86	NB							186			
UD9	169	87+90		SB	11	79	5	14						
UD10	169	87+90	92+22	SB							432			
UD11	169	87+90	92+22	SB								432		
UD12	169	87+90	93+86	SB								596		
UD13	169	87+90	93+86	SB							596			
UD14	169	87+90		NB	11	64	5	14						
UD15	169	87+90	92+34	NB							444			
UD16	169	87+90	92+34	NB								444		
UD17	169	87+90	93+86	NB								596		
UD18	169	87+90	93+86	NB							596			
UD19	169	92+22		SB	11	37								
UD20	169	92+34		NB	11	37								
UD21	169	92+22	93+86	SB							164			
UD22	169	92+22	93+86	SB								164		
UD23	169	92+34	93+86	NB								152		
UD24	169	92+34	93+86	NB							152			
UD25	169	93+94		SB		15	5	10						
UD26	169	93+94		SB		15	5	14						
UD27	169	93+94		NB		15	5	10						
UD28	169	93+94		NB		15	5	14						
UD29	169	93+94	96+00	SB							206			
UD30	169	93+94	96+00	SB								206		
UD31	169	93+94	96+00	SB								206		
UD32	169	93+94	96+00	SB							206			
UD33	169	93+94	96+00	NB							206			
UD34	169	93+94	96+00	NB								206		
UD35	169	93+94	96+00	NB								206		
UD36	169	93+94	96+00	NB							206			
TOTAL COLUMN B					54	287	30	76			4428	4914		
TOTAL COLUMN A					110	376	25	82			7446	6960		
TOTALS CARRIED TO SHEET 116					164	663	55	158			11874	11874		

JEL
CHECKED BKM

UNDERDRAIN QUANTITIES

WAY/MED-71-7.04/0.00

108A
785

\40170SB.dgn

REFERENCE NO.	SHEET NUMBER	STATION RANGE		SIDE		603					604	605			
		FROM	TO			4" CONDUIT, TYPE B	6" CONDUIT, TYPE B	4" CONDUIT, TYPE F	6" CONDUIT, TYPE F	CONDUIT BORED OR JACKED, AS PER PLAN, 6" TYPE B	PRECAST REINFORCED CONCRETE OUTLET	4" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	6" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	4" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41	6" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41
						FEET	FEET	FEET	FEET	FEET	EACH	FEET	FEET	FEET	FEET
UD1	170	96+00	96+71	SB								71			
UD2	170	96+00	96+71	SB									71		
UD3	170	96+00	96+71	SB									71		
UD4	170	96+00	96+71	SB								71			
UD5	170	96+00	96+71	NB								71			
UD6	170	96+00	96+71	NB									71		
UD7	170	96+00	96+71	NB									71		
UD8	170	96+00	96+71	NB								71			
UD9	170	101+85		SB		11	52	5	14						
UD10	170	101+85		NB		11	52	5	14						
UD11	170	101+85	106+00	SB								415			
UD12	170	101+85	106+00	SB									415		
UD13	170	101+85	106+00	SB									415		
UD14	170	101+85	106+00	SB								415			
UD15	170	101+85	106+00	NB								415			
UD16	170	101+85	106+00	NB									415		
UD17	170	101+85	106+00	NB									415		
UD18	170	101+85	106+00	NB								415			
UD19	170	96+71	101+81	NB								510			
UD20	170	96+71	101+81	NB									510		
UD21	170	96+71	101+81	NB									510		
UD22	170	96+71	101+81	NB								510			
UD23	170	96+71	101+81	SB								510			
UD24	170	96+71	101+81	SB									510		
UD25	170	96+71	101+81	SB									510		
UD26	170	96+71	101+81	SB								510			
UD27	170	96+71		NB		11	55	5	5						
UD28	170	96+71		SB		11	55	5	17						
UD1	171	106+00	106+46	SB								46			
UD2	171	106+00	106+46	SB									46		
UD3	171	106+00	106+46	SB									46		
UD4	171	106+00	106+46	SB								46			
UD5	171	106+00	106+46	NB								46			
UD6	171	106+00	106+46	NB									46		
UD7	171	106+00	106+46	NB									46		
UD8	171	106+00	106+46	NB								46			
UD9	171	106+54		SB		11	52	5	14						
UD10	171	106+54		NB		11	52	5	14						
UD11	171	106+54	106+83	SB								29			
UD12	171	106+54	114+85	SB									831		
UD13	171	106+54	114+85	SB								831			
UD14	171	106+54	114+85	NB								831			
UD15	171	106+54	114+85	NB									831		
TOTAL COLUMN A						66	318	30	78			5859	5830		

REFERENCE NO.	SHEET NUMBER	STATION RANGE		SIDE		603					604	605			
		FROM	TO			4" CONDUIT, TYPE B	6" CONDUIT, TYPE B	4" CONDUIT, TYPE F	6" CONDUIT, TYPE F	CONDUIT BORED OR JACKED, AS PER PLAN, 6" TYPE B	PRECAST REINFORCED CONCRETE OUTLET	4" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	6" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	4" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41	6" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41
						FEET	FEET	FEET	FEET	FEET	EACH	FEET	FEET	FEET	FEET
UD16	171	106+54	106+96	NB								42			
UD17	171	106+85	114+85	SB								831			
UD18	171	106+85	114+85	SB									831		
UD19	171	106+98	114+85	NB									831		
UD20	171	106+98	114+85	NB								831			
UD21	171	114+89		SB		11	64	5	12						
UD22	171	114+89		NB		11	71	5	12						
UD23	171	114+89	116+00	SB								111			
UD24	171	114+89	116+00	SB									111		
UD25	171	114+89	116+00	SB									111		
UD26	171	114+89	116+00	SB								111			
UD27	171	114+89	116+00	NB								111			
UD28	171	114+89	116+00	NB									111		
UD29	171	114+89	116+00	NB									111		
UD30	171	114+89	116+00	NB								111			
UD1	172	116+00	122+75	SB								675			
UD2	172	116+00	122+75	SB									675		
UD3	172	116+00	122+75	SB									675		
UD4	172	116+00	122+75	SB								675			
UD5	172	116+00	122+75	NB								675			
UD6	172	116+00	122+75	NB									675		
UD7	172	116+00	122+75	NB									675		
UD8	172	116+00	122+75	NB								675			
UD9	172	122+75	126+00	SB								325			
UD10	172	122+75	126+00	SB									325		
UD11	172	122+75	126+00	SB									325		
UD12	172	122+75	126+00	SB								325			
UD13	172	122+75	126+00	NB								325			
UD14	172	122+75	126+00	NB									325		
UD15	172	122+75	126+00	NB									325		
UD16	172	122+75	126+00	NB								325			
TOTAL COLUMN B						22	135	10	24			6148	6106		
TOTAL COLUMN A						66	318	30	78			5859	5830		
TOTALS CARRIED TO SHEET 116						88	453	40	102			12007	11936		

4" OR 6" DEEP UNDERDRAINS (42" DEEP) ARE TO BE USED IN THE 3 FT. DEEP UNDERCUT AREAS AS DETAILED ON SHEET 36 AT THE LOCATIONS SHOWN ON SHEETS 38 & 40.

\14017DSB.dgn

JEL
CHECKED
BKM

UNDERDRAIN QUANTITIES

WAY/MED-71-7.04/0.00

REFERENCE NO.	SHEET NUMBER	STATION RANGE		SIDE		603					604	605			
						4" CONDUIT, TYPE B	6" CONDUIT, TYPE B	4" CONDUIT, TYPE F	6" CONDUIT, TYPE F	CONDUIT BORED OR JACKED, AS PER PLAN, 6" TYPE B	PRECAST REINFORCED CONCRETE OUTLET	4" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	6" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	4" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41	6" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41
		FROM	TO			FEET	FEET	FEET	FEET	FEET	EACH	FEET	FEET	FEET	FEET
UD1	173	126+00	126+83	SB								83			
UD2	173	126+00	126+83	SB									83		
UD3	173	126+00	126+83	SB									83		
UD4	173	126+00	126+83	SB								83			
UD5	173	126+00	126+83	NB								83			
UD6	173	126+00	126+83	NB									83		
UD7	173	126+00	126+83	NB									83		
UD8	173	126+00	126+83	NB								83			
UD9	173	126+83		SB		11	52	5	14						
UD10	173	126+83		NB		11	52	5	14						
UD11	173	126+87	136+00	SB								913			
UD12	173	126+87	136+00	SB									913		
UD13	173	126+87	136+00	SB									913		
UD14	173	126+87	136+00	SB								913			
UD15	173	126+87	136+00	NB								913			
UD16	173	126+87	136+00	NB									913		
UD17	173	126+87	136+00	NB									913		
UD18	173	126+87	136+00	NB								913			
UD1	174	136+00	136+84	SB								84			
UD2	174	136+00	136+84	SB									84		
UD3	174	136+00	136+84	SB									84		
UD4	174	136+00	136+84	SB								84			
UD5	174	136+00	136+84	NB								84			
UD6	174	136+00	136+84	NB									84		
UD7	174	136+00	136+84	NB									84		
UD8	174	136+00	136+84	NB								84			
UD9	174	136+84		SB		11	54	5	16						
UD10	174	136+84		NB		11	52	5	19						
UD11	174	136+88	145+53	SB								865			
UD12	174	136+88	145+53	SB									865		
UD13	174	136+88	145+53	SB									865		
UD14	174	136+88	145+53	SB								865			
UD15	174	136+88	145+53	NB								865			
UD16	174	136+88	145+53	NB									865		
UD17	174	136+88	145+53	NB									865		
UD18	174	136+88	145+53	NB								865			
UD19	174	145+53		SB		11	54	5	18						
UD20	174	145+53		NB		11	52	5	9						
UD21	174	145+57	146+00	SB								43			
UD22	174	145+57	146+00	SB									43		
UD23	174	145+57	146+00	SB									43		
UD24	174	145+57	146+00	SB								43			
UD25	174	145+57	146+00	NB		10						33			
TOTAL COLUMN A						76	316	30	90			7899	7866		

REFERENCE NO.	SHEET NUMBER	STATION RANGE		SIDE		603					604	605			
						4" CONDUIT, TYPE B	6" CONDUIT, TYPE B	4" CONDUIT, TYPE F	6" CONDUIT, TYPE F	CONDUIT BORED OR JACKED, AS PER PLAN, 6" TYPE B	PRECAST REINFORCED CONCRETE OUTLET	4" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	6" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	4" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41	6" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41
		FROM	TO			FEET	FEET	FEET	FEET	FEET	EACH	FEET	FEET	FEET	FEET
UD26	174	145+57	146+00	NB			10						33		
UD27	174	145+57	146+00	NB			10						33		
UD28	174	145+57	146+00	NB		10						33			
UD1	175	146+00	152+64	SB		10						654			
UD2	175	146+00	152+64	SB			10						654		
UD3	175	146+00	152+64	SB			10						654		
UD4	175	146+00	152+64	SB		10						654			
UD5	175	146+00	152+64	NB		10						654			
UD6	175	146+00	152+64	NB			10						654		
UD7	175	146+00	152+64	NB			10						654		
UD8	175	146+00	152+64	NB		10						654			
UD9	175	152+64		SB		11	54	5	16						
UD10	175	152+64		NB		11	52	5	11						
UD11	175	152+64	156+00	SB								336			
UD12	175	152+64	156+00	SB									336		
UD13	175	152+64	156+00	SB									336		
UD14	175	152+64	156+00	SB								336			
UD15	175	152+64	156+00	NB								336			
UD16	175	152+64	156+00	NB									336		
UD17	175	152+64	156+00	NB									336		
UD18	175	152+64	156+00	NB								336			
UD1	176	156+00	159+85	SB								385			
UD2	176	156+00	159+85	SB									385		
UD3	176	156+00	159+85	SB									385		
UD4	176	156+00	159+85	SB								385			
UD5	176	156+00	159+85	NB								385			
UD6	176	156+00	159+85	NB								385			
UD7	176	156+00	159+85	NB									385		
UD8	176	156+00	159+85	NB								385			
UD9	176	159+89		SB		11	54	5	12						
UD10	176	159+89		NB		11	52	5	12						
UD11	176	159+89	166+00	SB								611			
UD12	176	159+89	166+00	SB									611		
UD13	176	159+89	166+00	SB									611		
UD14	176	159+89	166+00	SB								611			
UD15	176	159+89	166+00	NB								611			
UD16	176	159+89	166+00	NB								611			
UD17	176	159+89	166+00	NB									611		
UD18	176	159+89	166+00	NB								611			
TOTAL COLUMN B						94	272	20	51			8973	7014		
TOTAL COLUMN A						76	316	30	90			7899	7866		
TOTALS CARRIED TO SHEET 116						170	588	50	141			16872	14880		

JEL
CHECKED BKM

UNDERDRAIN QUANTITIES

WAY/MED-71-7.04/0.00

REFERENCE NO.	SHEET NUMBER	STATION RANGE		SIDE	603					604	605			
		FROM	TO		4" CONDUIT, TYPE B	6" CONDUIT, TYPE B	4" CONDUIT, TYPE F	6" CONDUIT, TYPE F	CONDUIT BORED OR JACKED, AS PER PLAN, 6" TYPE B	PRECAST REINFORCED CONCRETE OUTLET	4" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	6" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	4" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41	6" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41
					FEET	FEET	FEET	FEET	FEET	EACH	FEET	FEET	FEET	FEET
UD1	177	166+00	169+85	SB							385			
UD2	177	166+00	169+85	SB								385		
UD3	177	166+00	169+85	SB								385		
UD4	177	166+00	169+85	SB							385			
UD5	177	166+00	169+85	NB							385			
UD6	177	166+00	169+85	NB								385		
UD7	177	166+00	169+85	NB								385		
UD8	177	166+00	169+85	NB							385			
UD9	177	169+89		SB	11	54	5	12						
UD10	177	169+89		NB	11	52	5	12						
UD11	177	169+89	176+00	SB							611			
UD12	177	169+89	176+00	SB								611		
UD13	177	169+89	176+00	SB								611		
UD14	177	169+89	176+00	SB							611			
UD15	177	169+89	176+00	NB							611			
UD16	177	169+89	176+00	NB								611		
UD17	177	169+89	176+00	NB								611		
UD18	177	169+89	176+00	NB							611			
UD1	178	176+00	179+81	SB							381			
UD2	178	176+00	179+87	SB								387		
UD3	178	176+00	180+05	SB								405		
UD4	178	176+00	180+09	SB							409			
UD5	178	176+00	180+55	NB	10						445			
UD6	178	176+00	180+50	NB		10						440		
UD7	178	176+00	180+33	NB		10						423		
UD8	178	176+00	180+27	NB	10						417			
UD9	178	181+60	181+88	SB									28	
UD10	178	181+66	181+88	SB										22
UD11	178	181+88		SB		3	4		73	1				
UD12	178	182+05	182+32	NB									27	
UD13	178	182+10	182+32	NB										22
UD14	178	182+32		NB	11	52	5	6						
UD15	178	181+88	184+25	SB	10						227			
UD16	178	181+88	184+25	SB		10						227		
UD17	178	181+88	184+25	SB		10						227		
UD18	178	181+88	184+25	SB	10						227			
UD19	178	182+32	183+25	NB							93			
UD20	178	182+32	183+25	NB								93		
UD21	178	182+32	183+25	NB								93		
UD22	178	182+32	183+25	NB							93			
UD23	178	184+25	186+00	SB							175			
UD24	178	184+25	186+00	SB								175		
UD25	178	184+25	186+00	SB								175		
TOTAL COLUMN A					73	201	19	30	73	1	6451	6629	55	44

\4017DSB.dgn

REFERENCE NO.	SHEET NUMBER	STATION RANGE		SIDE	603					604	605			
		FROM	TO		4" CONDUIT, TYPE B	6" CONDUIT, TYPE B	4" CONDUIT, TYPE F	6" CONDUIT, TYPE F	CONDUIT BORED OR JACKED, AS PER PLAN, 6" TYPE B	PRECAST REINFORCED CONCRETE OUTLET	4" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	6" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	4" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41	6" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41
					FEET	FEET	FEET	FEET	FEET	EACH	FEET	FEET	FEET	FEET
UD26	178	184+25	186+00	SB							175			
UD27	178	183+25	186+00	NB							275			
UD28	178	183+25	186+00	NB								275		
UD29	178	183+25	186+00	NB								275		
UD30	178	183+25	186+00	NB							275			
UD1	179	186+00	190+84	SB							484			
UD2	179	186+00	190+84	SB								484		
UD3	179	186+00	190+84	SB							484			
UD4	179	187+25	190+84	SB								359		
UD5	179	186+00	190+84	NB							484			
UD6	179	186+00	190+84	NB								484		
UD7	179	186+00	190+84	NB							484			
UD8	179	187+25	190+84	NB								359		
UD9	179	190+84		SB	11	52	5	21						
UD10	179	190+84		NB	11	52	5	6						
UD11	179	190+88	196+00	SB							512			
UD12	179	190+88	196+00	SB								512		
UD13	179	190+88	196+00	SB								512		
UD14	179	190+88	196+00	SB							512			
UD15	179	190+88	196+00	NB							512			
UD16	179	190+88	196+00	NB								512		
UD17	179	190+88	196+00	NB								512		
UD18	179	190+88	196+00	NB							512			
TOTAL COLUMN B					22	104	10	27			4709	4284		
TOTAL COLUMN A					73	201	19	30	73	1	6451	6629	55	44
TOTALS CARRIED TO SHEET 116					95	305	29	57	73	1	11160	10913	55	44

4" OR 6" DEEP UNDERDRAINS (42" DEEP) ARE TO BE USED IN THE 3 FT. DEEP UNDERCUT AREAS AS DETAILED ON SHEET 36 AT THE LOCATIONS SHOWN ON SHEETS 38 & 40.

JEL
CHECKED BKM

UNDERDRAIN QUANTITIES

WAY/MED-71-7.04/0.00

REFERENCE NO.	SHEET NUMBER	STATION RANGE FROM	STATION RANGE TO	SIDE	603 4" CONDUIT, TYPE B	603 6" CONDUIT, TYPE B	603 4" CONDUIT, TYPE F	603 6" CONDUIT, TYPE F	603 CONDUIT BORED OR JACKED, AS PER PLAN, 6" TYPE B	604 PRECAST REINFORCED CONCRETE OUTLET	605 4" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	605 6" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	605 4" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41	605 6" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41	605 4" DEEP PIPE UNDERDRAIN, 707.31 OR 707.41	605 6" DEEP PIPE UNDERDRAIN, 707.31 OR 707.41
		FROM	TO		FEET	FEET	FEET	FEET	FEET	EACH	FEET	FEET	FEET	FEET	FEET	FEET
UD1	180	196+00	198+08	SB							208					
UD2	180	196+00	198+08	SB								208				
UD3	180	196+00	198+08	SB								208				
UD4	180	196+00	198+08	SB							208					
UD5	180	196+00	198+08	NB							208					
UD6	180	196+00	198+08	NB								208				
UD7	180	196+00	198+08	NB								208				
UD8	180	196+00	198+08	NB							208					
UD9	180	198+08		SB	11	52	5	21								
UD10	180	198+08		NB	11	52	5	6								
UD11	180	198+12	202+96	SB							484					
UD12	180	198+12	202+96	SB								484				
UD13	180	198+12	202+96	SB								484				
UD14	180	198+12	202+96	SB							484					
UD15	180	198+12	202+96	NB											484	
UD16	180	198+12	202+96	NB												484
UD17	180	198+12	202+96	NB												484
UD18	180	198+12	202+96	NB											484	
UD19	180	203+00	206+00	SB							300					
UD20	180	203+00	206+00	SB								300				
UD21	180	203+00	206+00	SB								300				
UD22	180	203+00	206+00	SB							300					
UD23	180	203+00	206+00	NB											300	
UD24	180	203+00	206+00	NB												300
UD25	180	203+00	206+00	NB												300
UD26	180	203+00	206+00	NB											300	
UD27	180	202+96		NB	11	54	6	21								
UD28	180	202+96		SB	11	55	7									
UD1	181	206+00	207+48	SB							148					
UD2	181	206+00	207+48	SB								148				
UD3	181	206+00	207+48	SB								148				
UD4	181	206+00	207+48	SB							148					
UD5	181	206+00	207+48	NB											148	
UD6	181	206+00	207+48	NB												148
UD7	181	206+00	207+48	NB												148
UD8	181	206+00	207+48	NB											148	
UD9	181	207+48		SB	11	52	5	20								
UD10	181	207+48		NB	11	52	5	7								
UD11	181	207+52	212+25	SB	10						463					
UD12	181	207+52	212+25	SB		10						463				
UD13	181	207+52	212+25	SB		10						463				
UD14	181	207+52	212+25	SB	10						463					
UD15	181	207+52	209+89	NB	10						227					
TOTAL COLUMN A					96	337	33	75			3849	3622			1864	1864

REFERENCE NO.	SHEET NUMBER	STATION RANGE FROM	STATION RANGE TO	SIDE	603 4" CONDUIT, TYPE B	603 6" CONDUIT, TYPE B	603 4" CONDUIT, TYPE F	603 6" CONDUIT, TYPE F	603 CONDUIT BORED OR JACKED, AS PER PLAN, 6" TYPE B	604 PRECAST REINFORCED CONCRETE OUTLET	605 4" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	605 6" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	605 4" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41	605 6" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41	605 4" DEEP PIPE UNDERDRAIN, 707.31 OR 707.41	605 6" DEEP PIPE UNDERDRAIN, 707.31 OR 707.41
		FROM	TO		FEET	FEET	FEET	FEET	FEET	EACH	FEET	FEET	FEET	FEET	FEET	FEET
UD16	181	207+52	209+89	NB		10						227				
UD17	181	207+52	209+89	NB		10						227				
UD18	181	207+52	209+89	NB	10						227					
UD19	181	209+89		NB	11	52	5	4								
UD20	181	212+25		SB		3	4		82	1						
UD21	181	209+89	213+84	NB	10						385					
UD22	181	209+89	213+84	NB		10						385				
UD23	181	209+89	213+84	NB		10						385				
UD24	181	209+89	213+84	NB	10						385					
UD25	181	212+25	213+84	SB							159					
UD26	181	212+25	213+84	SB								159				
UD27	181	212+25	213+84	SB								159				
UD28	181	212+25	213+84	SB							159					
UD29	181	213+88		SB	11	52	5	20								
UD30	181	213+88		NB	11	52	5	5								
UD31	181	213+88	216+00	SB							212					
UD32	181	213+88	216+00	SB								212				
UD33	181	213+88	216+00	SB								212				
UD34	181	213+88	216+00	SB							212					
UD35	181	213+88	216+00	NB							212					
UD36	181	213+88	216+00	NB								212				
UD37	181	213+88	216+00	NB								212				
UD38	181	213+88	216+00	NB							212					
TOTAL COLUMN B					63	199	19	29	82	1	2163	2390				
TOTAL COLUMN A					96	337	33	75			3849	3622			1864	1864
TOTALS CARRIED TO SHEET 116					159	536	52	104	82	1	6012	6012			1864	1864

4" OR 6" DEEP UNDERDRAINS (42" DEEP) ARE TO BE USED IN THE 3 FT. DEEP UNDERCUT AREAS AS DETAILED ON SHEET 36 AT THE LOCATIONS SHOWN ON SHEETS 38 & 40.

JEL
CHECKED

UNDERDRAIN QUANTITIES

WAY/MED-71-7.04/0.00

\14017DSB.dgn

REFERENCE NO.	SHEET NUMBER	STATION RANGE		SIDE	603					604	605			
					4" CONDUIT, TYPE B	6" CONDUIT, TYPE B	4" CONDUIT, TYPE F	6" CONDUIT, TYPE F	CONDUIT BORED OR JACKED, AS PER PLAN, 6" TYPE B	PRECAST REINFORCED CONCRETE OUTLET	4" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	6" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	4" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41	6" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41
		FROM	TO		FEET	FEET	FEET	FEET	FEET	EACH	FEET	FEET	FEET	FEET
UD1	182	216+00	219+84	SB	10						374			
UD2	182	216+00	219+84	SB		10						374		
UD3	182	216+00	219+84	SB		10						374		
UD4	182	216+00	219+84	SB	10						374			
UD5	182	216+00	219+84	NB	10						374			
UD6	182	216+00	219+84	NB		10						374		
UD7	182	216+00	219+84	NB		10						374		
UD8	182	216+00	219+84	NB	10						374			
UD9	182	219+88		SB	11	52	5	14						
UD10	182	219+88		NB	11	52	5	14						
UD11	182	219+88	226+00	SB							612			
UD12	182	219+88	226+00	SB								612		
UD13	182	219+88	226+00	SB								612		
UD14	182	219+88	226+00	SB							612			
UD15	182	219+88	226+00	NB							612			
UD16	182	219+88	226+00	NB								612		
UD17	182	219+88	226+00	NB								612		
UD18	182	219+88	226+00	NB							612			
UD1	183	226+00	230+12	SB	10						402			
UD2	183	226+00	230+18	SB		10						408		
UD3	183	226+00	230+37	SB		10						427		
UD4	183	226+00	230+43	SB	10						433			
UD5	183	226+00	230+94	NB	10						494			
UD6	183	226+00	230+88	NB		10						488		
UD7	183	226+00	230+69	NB		10						469		
UD8	183	226+00	230+63	NB	10						463			
UD9	183	232+05	232+36	SB									31	
UD10	183	232+11	232+36	SB										25
UD11	183	232+36		SB		3	4		72	1				
UD12	183	232+56	232+87	NB									31	
UD13	183	232+62	232+87	NB										25
UD14	183	232+87		NB	11	52	5	14						
UD15	183	232+36	236+00	SB	10						354			
UD16	183	232+36	236+00	SB		10						354		
UD17	183	232+36	236+00	SB		10						354		
UD18	183	232+36	236+00	SB	10						354			
UD19	183	232+87	236+00	NB							313			
UD20	183	232+87	236+00	NB								313		
UD21	183	232+87	236+00	NB								313		
UD22	183	232+87	236+00	NB							313			
TOTAL COLUMN A					133	259	19	42	72	1	7070	7070	62	50

..\14017DSB.dgn

REFERENCE NO.	SHEET NUMBER	STATION RANGE		SIDE	603					604	605			
					4" CONDUIT, TYPE B	6" CONDUIT, TYPE B	4" CONDUIT, TYPE F	6" CONDUIT, TYPE F	CONDUIT BORED OR JACKED, AS PER PLAN, 6" TYPE B	PRECAST REINFORCED CONCRETE OUTLET	4" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	6" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	4" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41	6" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41
		FROM	TO		FEET	FEET	FEET	FEET	FEET	EACH	FEET	FEET	FEET	FEET
UD1	184	236+00	239+83	SB							383			
UD2	184	236+00	239+83	SB								383		
UD3	184	236+00	239+83	SB								383		
UD4	184	236+00	239+83	SB							383			
UD5	184	236+00	239+83	NB							383			
UD6	184	236+00	239+83	NB								383		
UD7	184	236+00	239+83	NB								383		
UD8	184	236+00	239+83	NB							383			
UD9	184	239+87		SB	11	52	5	14						
UD10	184	239+87		NB	11	52	5	14						
UD11	184	239+87	244+25	SB							438			
UD12	184	239+87	244+25	SB								438		
UD13	184	239+87	244+25	SB								438		
UD14	184	239+87	244+25	SB							438			
UD15	184	239+87	244+25	NB							438			
UD16	184	239+87	244+25	NB								438		
UD17	184	239+87	244+25	NB								438		
UD18	184	239+87	244+25	NB							438			
UD19	184	244+25	246+00	SB							175			
UD20	184	244+25	246+00	SB								175		
UD21	184	244+25	246+00	SB								175		
UD22	184	244+25	246+00	SB							175			
UD23	184	244+25	246+00	NB							175			
UD24	184	244+25	246+00	NB								175		
UD25	184	244+25	246+00	NB								175		
UD26	184	244+25	246+00	NB							175			
TOTAL COLUMN B					22	104	10	28			3984	3984		
TOTAL COLUMN A					133	259	19	42	72	1	7070	7070	62	50
TOTALS CARRIED TO SHEET 116					155	363	29	70	72	1	11054	11054	62	50

4" OR 6" DEEP UNDERDRAINS (42" DEEP) ARE TO BE USED IN THE 3 FT. DEEP UNDERCUT AREAS AS DETAILED ON SHEET 36 AT THE LOCATIONS SHOWN ON SHEETS 38 & 40.

..\14017DSB.dgn

JEL
CHECKED
BKM

UNDERDRAIN QUANTITIES

WAY/MED-71-7.04/0.00

REFERENCE NO.	SHEET NUMBER	STATION RANGE		SIDE	603					604	605			
		FROM	TO		4" CONDUIT, TYPE B	6" CONDUIT, TYPE B	4" CONDUIT, TYPE F	6" CONDUIT, TYPE F	CONDUIT BORED OR JACKED, AS PER PLAN, 6" TYPE B	PRECAST REINFORCED CONCRETE OUTLET	4" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	6" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	4" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41	6" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41
					FEET	FEET	FEET	FEET	FEET	EACH	FEET	FEET	FEET	FEET
UD1	185	246+00	252+68	SB							668			
UD2	185	246+00	252+68	SB								668		
UD3	185	246+00	252+68	SB								668		
UD4	185	246+00	252+68	SB							668			
UD5	185	246+00	252+68	NB							668			
UD6	185	246+00	252+68	NB								668		
UD7	185	246+00	252+68	NB								668		
UD8	185	246+00	252+68	NB							668			
UD9	185	252+68		SB	11	52	5	14						
UD10	185	252+68		NB	11	52	5	14						
UD11	185	252+72	256+00	SB	10						318			
UD12	185	252+72	256+00	SB		10						318		
UD13	185	252+72	256+00	SB		10						318		
UD14	185	252+72	256+00	SB	10						318			
UD15	185	252+72	256+00	NB	10						318			
UD16	185	252+72	256+00	NB		10						318		
UD17	185	252+72	256+00	NB		10						318		
UD18	185	252+72	256+00	NB	10						318			
UD1	186	256+00	260+90	SB							490			
UD2	186	256+00	260+90	SB								490		
UD3	186	256+00	260+90	SB								490		
UD4	186	256+00	260+90	SB							490			
UD5	186	256+00	260+90	NB							490			
UD6	186	256+00	260+90	NB								490		
UD7	186	256+00	260+90	NB								490		
UD8	186	256+00	260+90	NB							490			
UD9	186	260+90		SB	11	52	5	14						
UD10	186	260+90		NB	11	52	5	14						
UD11	186	260+94	266+00	SB	10						496			
UD12	186	260+94	266+00	SB		10						496		
UD13	186	260+94	266+00	SB		10						496		
UD14	186	260+94	266+00	SB	10						496			
UD15	186	260+94	266+00	NB	10						496			
UD16	186	260+94	266+00	NB		10						496		
UD17	186	260+94	266+00	NB		10						496		
UD18	186	260+94	266+00	NB	10						496			
TOTAL COLUMN A					124	288	20	56			7888	7888		

REFERENCE NO.	SHEET NUMBER	STATION RANGE		SIDE	603					604	605			
		FROM	TO		4" CONDUIT, TYPE B	6" CONDUIT, TYPE B	4" CONDUIT, TYPE F	6" CONDUIT, TYPE F	CONDUIT BORED OR JACKED, AS PER PLAN, 6" TYPE B	PRECAST REINFORCED CONCRETE OUTLET	4" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	6" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	4" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41	6" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41
					FEET	FEET	FEET	FEET	FEET	EACH	FEET	FEET	FEET	FEET
UD1	187	266+04	271+33	SB							533			
UD2	187	266+04	271+33	SB								533		
UD3	187	266+04	271+33	SB								533		
UD4	187	266+04	271+33	SB							533			
UD5	187	266+04	271+33	NB							533			
UD6	187	266+04	271+33	NB								533		
UD7	187	266+04	271+33	NB								533		
UD8	187	266+04	271+33	NB							533			
UD9	187	271+33		SB	11	52	5	14						
UD10	187	271+33		NB	11	52	5	14						
UD11	187	271+37	276+00	SB							463			
UD12	187	271+37	276+00	SB								463		
UD13	187	271+37	276+00	SB								463		
UD14	187	271+37	276+00	SB							463			
UD15	187	271+37	276+00	NB							463			
UD16	187	271+37	276+00	NB								463		
UD17	187	271+37	276+00	NB								463		
UD18	187	271+37	276+00	NB							463			
UD19	187	266+00		SB	11	54	5	18						
UD20	187	266+00		NB	11	54	5	5						
TOTAL COLUMN B					44	212	20	51			3984	3984		
TOTAL COLUMN A					124	288	20	56			7888	7888		
TOTALS CARRIED TO SHEET 116					168	500	40	107			11872	11872		

4" OR 6" DEEP UNDERDRAINS (42" DEEP) ARE TO BE USED IN THE 3 FT. DEEP UNDERCUT AREAS AS DETAILED ON SHEET 36 AT THE LOCATIONS SHOWN ON SHEETS 38 & 40.

JEL
CHECKED

UNDERDRAIN QUANTITIES

WAY/MED-71-7.04/0.00

REFERENCE NO.	SHEET NUMBER	STATION RANGE FROM	STATION RANGE TO	SIDE	603 4" CONDUIT, TYPE B	603 6" CONDUIT, TYPE B	603 4" CONDUIT, TYPE F	603 6" CONDUIT, TYPE F	603 CONDUIT BORED OR JACKED, AS PER PLAN, 6" TYPE B	604 PRECAST REINFORCED CONCRETE OUTLET	605 4" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	605 6" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	605 4" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41	605 6" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41
					FEET	FEET	FEET	FEET	FEET	EACH	FEET	FEET	FEET	FEET
UD1	188	276+00	281+88	SB							588			
UD2	188	276+00	281+88	SB								588		
UD3	188	276+00	281+88	SB								588		
UD4	188	276+00	281+88	SB							588			
UD5	188	276+00	281+88	NB	10						578			
UD6	188	276+00	281+88	NB		10						578		
UD7	188	276+00	281+88	NB		10						578		
UD8	188	276+00	281+88	NB	10						578			
UD9	188	281+88		SB	11	52	5	14						
UD10	188	281+88		NB	11	52	5	14						
UD11	188	281+88	284+39	SB							251			
UD12	188	281+88	284+41	SB								253		
UD13	188	281+88	284+51	SB								263		
UD14	188	281+88	284+54	SB							266			
UD15	188	281+88	284+77	NB							289			
UD16	188	281+88	284+75	NB								287		
UD17	188	281+88	284+65	NB								277		
UD18	188	281+88	284+63	NB							275			
UD19	188	285+56	285+70	SB									14	
UD20	188	285+59	285+70	SB										11
UD21	188	285+70		SB		3	4		75	1				
UD22	188	285+95	286+00	NB									5	
UD23	188	285+92	286+00	NB										8
UD24	188	285+83	286+00	NB										17
UD25	188	285+80	286+00	NB									20	
UD26	188	285+70	286+00	SB							30			
UD27	188	285+70	286+00	SB								30		
UD28	188	285+70	286+00	SB								30		
UD29	188	285+70	286+00	SB							30			
TOTAL COLUMN A					42	127	14	28	75	1	3473	3472	39	36

REFERENCE NO.	SHEET NUMBER	STATION RANGE FROM	STATION RANGE TO	SIDE	603 4" CONDUIT, TYPE B	603 6" CONDUIT, TYPE B	603 4" CONDUIT, TYPE F	603 6" CONDUIT, TYPE F	603 CONDUIT BORED OR JACKED, AS PER PLAN, 6" TYPE B	604 PRECAST REINFORCED CONCRETE OUTLET	605 4" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	605 6" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	605 4" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41	605 6" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41	605 4" DEEP PIPE UNDERDRAIN, 707.31 OR 707.41	605 6" DEEP PIPE UNDERDRAIN, 707.31 OR 707.41
					FEET	FEET	FEET	FEET	FEET	EACH	FEET	FEET	FEET	FEET	FEET	FEET
UD1	189	286+00	292+47	SB							647					
UD2	189	286+00	292+47	SB								647				
UD3	189	286+00	292+47	SB								647				
UD4	189	286+00	292+47	SB							647					
UD5	189	286+00	286+18	NB									18			
UD6	189	286+00	286+18	NB										18		
UD7	189	286+00	286+18	NB										18		
UD8	189	286+00	286+18	NB									18			
UD9	189	286+18		NB	11	52	5	12								
UD10	189	286+18	292+47	NB	10						619					
UD11	189	286+18	292+47	NB		10						619				
UD12	189	286+18	292+47	NB		10						619				
UD13	189	286+18	292+47	NB	10						619					
UD14	189	292+51		SB	11	52	5	14								
UD15	189	292+51		NB	11	52	5	14								
UD16	189	292+51	296+00	SB	10						349					
UD17	189	292+51	296+00	SB		10						349				
UD18	189	292+51	296+00	SB		10						349				
UD19	189	292+51	296+00	SB	10						349					
UD20	189	292+51	296+00	NB											349	
UD21	189	292+51	296+00	NB												349
UD22	189	292+51	296+00	NB												349
UD23	189	292+51	296+00	NB											349	
TOTAL COLUMN B					73	196	15	40			3230	3230	36	36	698	698
TOTAL COLUMN A					42	127	14	28	75	1	3473	3472	39	36		
TOTALS CARRIED TO SHEET 116					115	323	29	68	75	1	6703	6702	75	72	698	698

4" OR 6" DEEP UNDERDRAINS (42" DEEP) ARE TO BE USED IN THE 3 FT. DEEP UNDERCUT AREAS AS DETAILED ON SHEET 36 AT THE LOCATIONS SHOWN ON SHEETS 38 & 40.

JEL
CHECKED

UNDERDRAIN QUANTITIES

WAY/MED-71-7.04/0.00

REFERENCE NO.	SHEET NUMBER	STATION RANGE		SIDE	603					604	605					
		FROM	TO		4" CONDUIT, TYPE B	6" CONDUIT, TYPE B	4" CONDUIT, TYPE F	6" CONDUIT, TYPE F	CONDUIT BORED OR JACKED, AS PER PLAN, 6" TYPE B	PRECAST REINFORCED CONCRETE OUTLET	4" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	6" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	4" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41	6" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41	4" DEEP PIPE UNDERDRAIN, 707.31 OR 707.41	6" DEEP PIPE UNDERDRAIN, 707.31 OR 707.41
					FEET	FEET	FEET	FEET	FEET	EACH	FEET	FEET	FEET	FEET	FEET	FEET
UD1	190	296+00	300+72	SB	10						462					
UD2	190	296+00	300+72	SB		10						462				
UD3	190	296+00	300+72	SB		10						462				
UD4	190	296+00	300+72	SB	10						462					
UD5	190	296+00	300+72	NB	10										462	
UD6	190	296+00	300+72	NB		10										462
UD7	190	296+00	300+72	NB		10										462
UD8	190	296+00	300+72	NB	10										462	
UD9	190	300+76		SB	11	52	5	14								
UD10	190	300+76		NB	11	52	5	14								
UD11	190	300+76	305+33	SB							457					
UD12	190	300+76	305+33	SB								457				
UD13	190	300+76	305+33	SB								457				
UD14	190	300+76	305+33	SB							457					
UD15	190	300+76	305+33	NB							457					
UD16	190	300+76	305+33	NB								457				
UD17	190	300+76	305+33	NB								457				
UD18	190	300+76	305+33	NB							457					
UD19	190	305+37		SB	11	52	5	14			349					
UD20	190	305+37		NB	11	52	5	14			349					
UD21	190	305+37	306+00	SB							63					
UD22	190	305+37	306+00	SB								63				
UD23	190	305+37	306+00	SB								63				
UD24	190	305+37	306+00	SB							63					
UD25	190	305+37	306+00	NB							63					
UD26	190	305+37	306+00	NB								63				
UD27	190	305+37	306+00	NB								63				
UD28	190	305+37	306+00	NB							63					
UD1	191	306+00	315+40	SB	10						930					
UD2	191	306+00	315+40	SB		10						930				
UD3	191	306+00	315+40	SB		10						930				
UD4	191	306+00	315+40	SB	10						930					
UD5	191	306+00	315+40	NB	10						930					
UD6	191	306+00	315+40	NB		10						930				
UD7	191	306+00	315+40	NB		10						930				
UD8	191	306+00	315+40	NB	10						930					
UD9	191	315+44		SB	11	52	5	14								
UD10	191	315+44		NB	11	52	5	14								
UD11	191	315+44	316+00	SB							56					
UD12	191	315+44	316+00	SB								56				
UD13	191	315+44	316+00	SB								56				
UD14	191	315+44	316+00	SB							56					
UD15	191	315+44	316+00	NB							56					
TOTAL COLUMN A					146	392	30	84			7590	6836			924	924

4" OR 6" DEEP UNDERDRAINS (42" DEEP) ARE TO BE USED IN THE 3 FT. DEEP UNDERCUT AREAS AS DETAILED ON SHEET 36 AT THE LOCATIONS SHOWN ON SHEETS 38 & 40.

REFERENCE NO.	SHEET NUMBER	STATION RANGE		SIDE	603					604	605					
		FROM	TO		4" CONDUIT, TYPE B	6" CONDUIT, TYPE B	4" CONDUIT, TYPE F	6" CONDUIT, TYPE F	CONDUIT BORED OR JACKED, AS PER PLAN, 6" TYPE B	PRECAST REINFORCED CONCRETE OUTLET	4" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	6" SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	4" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41	6" UNCLASSIFIED PIPE UNDERDRAIN, 707.31 OR 707.41	4" DEEP PIPE UNDERDRAIN, 707.31 OR 707.41	6" DEEP PIPE UNDERDRAIN, 707.31 OR 707.41
					FEET	FEET	FEET	FEET	FEET	EACH	FEET	FEET	FEET	FEET	FEET	FEET
UD16	191	315+44	316+00	SB								56				
UD17	191	315+44	316+00	SB								56				
UD18	191	315+44	316+00	SB							56					
UD1	192	316+00	317+82	SB							182					
UD2	192	316+00	317+82	SB								182				
UD3	192	316+00	317+82	SB								182				
UD4	192	316+00	317+82	SB							182					
UD5	192	316+00	317+82	NB							182					
UD6	192	316+00	317+82	NB								182				
UD7	192	316+00	317+82	NB								182				
UD8	192	316+00	317+82	NB							182					
UD9	192	317+86		SB	11	52	5	14								
UD10	192	317+86		NB	11	52	5	14								
UD11	192	317+86	320+00	SB							214					
UD12	192	317+86	320+00	SB								214				
UD13	192	317+86	326+00	SB								814				
UD14	192	317+86	326+00	SB							814					
UD15	192	317+86	320+00	NB							214					
UD16	192	317+86	320+00	NB								214				
UD17	192	317+86	326+00	NB								814				
UD18	192	317+86	326+00	NB							814					
UD1	193	326+00	327+32	SB								132				
UD2	193	326+00	327+32	SB							132					
UD3	193	326+00	327+32	NB								132				
UD4	193	326+00	327+32	NB							132					
UD5	193	327+52		SB		35	5	11								
UD6	193	327+52		NB		35	5	11								
UD7	193	327+52	331+84	SB								434				
UD8	193	327+52	331+84	SB							434					
UD9	193	327+52	331+84	NB			10					424				
UD10	193	327+52	331+84	NB		10					424					
UD11	193	331+88		SB		35	5	11								
UD12	193	331+88		NB		35	5	11								
UD13	193	331+88	336+00	SB								412				
UD14	193	331+88	336+00	SB							412					
UD15	193	331+88	336+00	NB								412				
UD16	193	331+88	336+00	NB							412					
TOTAL COLUMN B					22	254	40	72			4786	4842				
TOTAL COLUMN A					146	392	30	84			7590	6836			924	924
TOTALS CARRIED TO SUMMARY BELOW					168	646	70	156			12376	11678			924	924
	107	371+50.25	36+00		142	247	40	35	521	7	13134	13143				
	108	36+00	66+00		119	500	48	103	87	1	11140	11140				
	108A	66+00	96+00		164	663	55	158			11874	11874				
	109	96+00	126+00		88	453	40	102			12007	11936				
	110	126+00	166+00		170	588	50	141			16872	14880				
	111	166+00	196+00		95	305	29	57	73	1	11160	10913	55	44		
	112	196+00	216+00		159	536	52	104	82	1	6012	6012			1864	1864
	113	216+00	246+00		155	363	29	70	72	1	11054	11054	62	50		
	114	246+00	266+00		168	500	40	107			11872	11872				
	115	266+00	296+00		115	323	29	68	75	1	6703	6702	75	72	698	698
	116	296+00	336+00		168	646	70	156			12376	11678			924	924
SHEET TOTALS CARRIED TO GENERAL SUMMARY					1543	5124	482	1101	938	12	124,204	121,204	192	166	3486	3486

JEL
CHECKED

UNDERDRAIN QUANTITIES

WAY/MED-71-7.04/0.00

\4017DSB.dgn

UNDERDRAIN SUB-SUMMARY

WAY/MED-71-7.04/0.00

CALCULATED ESP CHECKED BBB

1 = REVISED 07-08-04
2 = REVISED 07-30-04
3 = REVISED 08-31-04
4 = REVISED 10-11-04
7 REVISED 02-10-06

REF NO.	SHEET NO.	UNDERDRAIN OUTLET ALIGNMENT	FROM	TO	SIDE	ELEV	STATION	TYPE	603 4" CONDUIT TYPE B LIN.FT	603 4" CONDUIT TYPE F LIN FT	605 4" SHALLOW PIPE UNDERDRAIN 18" DEPTH LIN FT	605 4" SHALLOW PIPE UNDERDRAIN 30" DEPTH LIN FT	605 4" UNCLASSIFIED PIPE UNDERDRAIN LIN FT	605 AGGREGATE DRAINS LIN FT	604 PRECAST REINFORCED CONCRETE OUTLET EACH		STANDARD BENDS AND BRANCHES FOR INFORMATION ONLY 45 WYE FITTING EACH	TEE FITTING EACH	END CAP EACH	4"x4"-45 WYE EACH	4"x90 EACH	4"x45 EACH
U-1	306	SR 83	38+10.00	40+67.00	RT	950.40	38+10.00	U-1	10	13	215		42		1				1		1	
U-2	306	SR 83	38+10.00	38+67.00	RT		38+10.00	U-1			15		42					1	1			
U-3	306-307	SR 83	38+30.00	42+20.00	LT	950.60	38+50.00	U-3	9	12	390				1			1	2			2
U-4	306	SR 83	38+30.00	38+67.00	LT		38+50.00	U-3			37							1	2	1		1
U-5	306-307	SR 83	40+75.00	42+20.00	RT	950.60	40+75.00	U-5	4	8	125		20		1				1		1	2
U-6	307	SR 83	42+25.00	43+90.00	RT	954.75	42+25.00	CB			165								1			
U-7	307	SR 83	42+25.00	43+40.00	LT	954.55	42+25.00	CB			115								1			
U-8	307	SR 83	43+45.00	44+70.00	LT	959.20	43+45.00	CB			125								1			
U-9	307-308	SR 83	44+75.00	46+93.77	LT	964.65	44+75.00	CB			228								1			3
U-10	308	SR 83	45+48.00	46+87.00	LT	966.64	45+48.00	U-9			120		30						1	1		2
U-11	307	GARMAN	10+21.75	11+16.50	RT	EXIST.	11+16.50	EXIST.			81		20						1			
U-12	307	GARMAN	10+14.00	11+16.50	LT	EXIST.	11+16.50	EXIST.			129		20						1			
U-13	307-308	SR 83	45+33.17	47+00.00	RT	955.05	44+75.00	CB			171								1			1
U-14	308	SR 83	47+60.00	48+65.00	LT	970.30	47+60.00	CB			105								1			
U-15	308	SR 83	47+80.00	48+68.00	RT	971.04	47+80.00	CB			88								1			
U-16	309	SR 83	51+35.00	52+40.00	LT	967.98	52+40.00	CB			80		25						1			
U-17	309	SR 83	51+38.00	52+40.00	RT	967.93	52+40.00	CB			102								1			
U-18	309-309A	SR 83	53+12.00	55+00.00	RT	959.75	55+00.00	CB			195								1			3
U-19	309-309A	SR 83/RAMP A	52+89.69	55+00.00	LT	959.57	55+00.00	CB			210								1			3
U-20	309	SR 83/RAMP A	52+96.61	53+34.43	LT	964.17	53+40.67	U-19			27		20						1	1		1
U-21	309A	SR 83	55+08.00	56+89.00	LT	955.51	56+89.00	CB			181								1			
U-22	309A-309B	SR 83	56+97.00	57+61.00	LT	955.08	57+61.00	CB			64								1			2
U-23	309A	SR 83	55+08.00	56+81.00	RT	955.82	56+81.00	CB			173								1			
U-24	309A-309B	SR 83	56+89.00	57+61.00	RT	955.08	57+61.00	CB			72								1			
U-25	309B	SR 83	57+65.66	57+73.00	RT	955.06	57+73.00	CB			8								1			
U-26	309B	SR 83	57+73.00	57+80.33	RT	955.06	57+73.00	CB			8								1			
U-27	309B	SR 83	57+65.66	57+73.00	LT	955.06	57+73.00	CB			8								1			
U-28	309B	SR 83	57+73.00	59+23.00	LT	955.06	57+73.00	CB			147								1			
U-29	NOT USED																					
U-30	309B	SR 83	57+85.00	59+20.00	RT	955.07	57+85.00	CB			135								1			
U-31	309B	SR 83	59+25.00	60+33.00	RT	956.80	59+25.00	INLET			108								1			
U-32	309B	SR 83	59+26.50	60+83.46	LT	956.30	59+26.50	CB			121		50						1			
U-33	309B,347	WILLOW ROAD	10+31.00	11+50.00	RT	EXIST.	11+50.00	EXIST.			110		30						1			
U-34	309B,309C,347	WILLOW ROAD	10+25.00	11+50.00	LT	EXIST.	11+50.00	EXIST.			131		30						1			
U-35	309B,347	WILLOW ROAD	8+75.00	9+33.72	LT/RT	VARIES	VARIES	DITCH						81					2			
U-36	309B,309C	SR 83	61+30.33	64+93.00	LT	957.30	64+23.72	U-25	4	14	370				1			1	2			
U-37	309C	SR 83	62+02.00	64+23.72	RT	957.55	64+23.72	CB			222								1			
U-38	309C	SR 83	64+23.72	64+93.00	RT	957.55	64+23.72	CB			70								1			
U-39	309C-309E	SR 83	64+95.00	71+49.00	LT	942.47	70+50.00	U-28	4	22	555		100		1				1		1	
U-40	309C,309D	SR 83	64+95.00	67+25.00	RT	951.95	67+25.00	CB			230								1			
U-41	309D,309E	SR 83	67+30.00	71+49.00	RT	942.47	70+50.00	U-41	4	17	320		100		1				1		1	3
TOTALS CARRIED TO GENERAL SUMMARY									35	86	5756		529	81	6			4	44	3	4	23

REF NO.	SHEET NO.	ALIGNMENT	FROM	TO	SIDE	UNDERDRAIN OUTLET ELEV	UNDERDRAIN OUTLET STATION	UNDERDRAIN OUTLET TYPE	603 4" CONDUIT TYPE B	603 4" CONDUIT TYPE F	605 4" SHALLOW PIPE UNDERDRAIN 18" DEPTH	605 4" SHALLOW PIPE UNDERDRAIN 30" DEPTH	605 4" UNCLASSIFIED PIPE UNDERDRAIN	605 AGGREGATE DRAINS	604 PRECAST REINFORCED CONCRETE OUTLET		STANDARD (FOR INFORMATION ONLY) 45 WYE FITTING	STANDARD (FOR INFORMATION ONLY) TEE FITTING	STANDARD (FOR INFORMATION ONLY) END CAP	BENDS AND BRANCHES (FOR INFORMATION ONLY) 4"x4"- 45 WYE	BENDS AND BRANCHES (FOR INFORMATION ONLY) 4"x90	BENDS AND BRANCHES (FOR INFORMATION ONLY) 4"x45
									LIN.FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	EACH		EACH	EACH	EACH	EACH	EACH	EACH
U-42	326	RAMP A	92+20.56	93+80.00	RT	944.00	92+20.56	U-43	21		130		30						1			
U-43	326	RAMP A	92+20.56	93+80.00	LT	943.33	92+20.56	I-71			60		100						1			
U-44	326	RAMP A	92+20.56	93+80.00	LT	943.78	92+20.56	I-71			160								1			
U-45	326-326A	RAMP A	93+82.00	99+57.49	LT		93+82.00	U-46			520		55					1	1	1		
U-46	326-326A	RAMP A	93+82.00	99+54.99	LT	946.50	93+82.00	CB	29	11	552		20						1		1	1
U-47	326-326A	RAMP A	93+82.00	99+78.67	RT		93+82.00	U-46			546		70						1		1	2
U-48	331	RAMP B	92+32.84	93+82.00	LT		92+32.84	U-49	21		48		100						1			
U-49	331	RAMP B	92+32.84	93+82.00	RT	943.80	92+32.84	I-71			48		100						1			
U-50	331	RAMP B	92+32.84	93+82.00	RT	944.34	92+32.84	I-71			148								1			
U-51	331-331A	RAMP B	93+84.00	99+53.75	LT		93+84.00	U-53			537		50					1	1			
U-52	331-331A	RAMP B	93+84.00	99+35.47	RT		93+94.00	U-53			517		35					1	1			2
U-53	331-331A	RAMP B	93+84.00	99+32.85	RT	946.60	93+94.00	CB	31	11	550								1		1	4
U-54	336-336A	RAMP C	100+08.71	106+85.90	LT		106+45.10	U-56			435		242						1		1	4
U-55	336-336A	RAMP C	100+43.54	106+85.90	LT		106+45.10	U-56			437		206						1		1	2
U-56	336-336A	RAMP C	100+15.95	106+85.90	RT	954.78	106+45.10	CB	29	21	520		150						1		2	2
U-57	340-340A	RAMP D	99+94.72	106+97.48	LT	955.36	106+46.02	CB	36	14	565		140						1		2	2
U-58	340-340A	RAMP D	99+71.81	106+97.48	RT		106+46.02	U-57			630		100					1	1			
U-59	340-340A	RAMP D	99+59.84	106+97.48	RT		106+46.02	U-57			645		100					1	1			2
		TOTALS CARRIED TO GENERAL SUMMARY							167	57	7048		1498					5	18	1	9	21

CALCULATED ESP

CHECKED BBB

UNDERDRAIN SUB-SUMMARY

WAY/MED-71-7.04/0.00

SHEET NUMBER	STATION RANGE FROM	STATION RANGE TO	603 12" CONDUIT, TYPE F, 707.05 TYPE C	603 15" CONDUIT, TYPE C, 706.02 *	603 15" CONDUIT, TYPE F, 707.05, TYPE C	603 CONDUIT BORED OR JACKED, AS PER PLAN 15" TYPE B, 706.02,	603 CONDUIT BORED OR JACKED, AS PER PLAN 18" TYPE B, 706.02	603 18" CONDUIT, TYPE C, 706.02 *	603 18" CONDUIT, TYPE F, 707.05, TYPE C	603 CONDUIT BORED OR JACKED, AS PER PLAN 24" TYPE B, 706.02	603 24" CONDUIT, TYPE C, 706.02 *	603 24" CONDUIT, TYPE F, 707.05, TYPE C	603 27" CONDUIT, TYPE C, 706.02 *	603 CONDUIT BORED OR JACKED, AS PER PLAN 27" TYPE B, 706.02	603 30" CONDUIT, TYPE C, 706.02 *	603 CONDUIT BORED OR JACKED, AS PER PLAN 30" TYPE B, 706.02	603 36" CONDUIT, TYPE A, 706.02	603 36" CONDUIT, TYPE C, 706.02 *	603 CONDUIT BORED OR JACKED, AS PER PLAN 36" TYPE B, 706.02	603 42" CONDUIT, TYPE C, 706.02 *	603 48" CONDUIT, TYPE A, 706.02	603 60" CONDUIT, TYPE A, 706.02	603 72" CONDUIT, TYPE A, 706.02	603 76"X48" CONDUIT, TYPE A, 706.02	SPECIAL FILL AND PLUG EXISTING CONDUIT	* CLOSED CONDUIT SPECIFICATIONS ARE SHOWN TO INDICATE MATERIAL NEEDED TO MATCH EXISTING CONDUIT TYPE. AT THOSE LOCATIONS ANY APPROPRATE 603 MATERAIL MAY BE USED.
			FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	
159	361+00	371+00																								
160	371+00	6+00						6	70																	
161	6+00	16+00		6	22			11	76																	
162	16+00	26+00	138																							
163	26+00	36+00	48	6	64																					
164	36+00	46+00			40													12								
165	46+00	56+00		18														414								
166	56+00	66+00		12														1000								
167	66+00	76+00		187			131				915															
168	76+00	86+00		11														465				36				
169	86+00	96+00		6									6					12								
170	96+00	106+00											243													
171	106+00	116+00				137		6		140			6													
172	116+00	126+00																								
173	126+00	136+00		357																						
174	136+00	146+00		12				6															14			
175	146+00	156+00		15				200					204		459		16									
176	156+00	166+00		6																						
177	166+00	176+00						6	55																	
178	176+00	186+00	184	18	120																					
179	186+00	196+00		44																						
180	196+00	206+00	6	25				114				63		98				940								
181	206+00	216+00		33	61														92							
182	216+00	226+00						6	49																	
183	226+00	236+00	155	20	34															144					108	
184	236+00	246+00		6	21																					
185	246+00	256+00						6									20									
186	256+00	266+00		18							511															
187	266+00	276+00		12							533				6											
188	276+00	286+00	86												6			416								
189	286+00	296+00		12	36												8									
190	296+00	306+00		460							133										12					
191	306+00	316+00																								
192	316+00	326+00		242																						
193	326+00	336+00		78									18		357	146								8	111	
194	336+00	346+00																								
TOTALS CARRIED TO GENERAL SUMMARY			617	1,604	398	137	131	361	250	140	2,092	63	483	98	828	146	44	3,259	92	144	12	36	14	8	219	

CALCULATED

CHECKED

DRAINAGE SUBSUMMARY

WAY/MED-71-7.04/0:00

SHEET NUMBER	STATION RANGE		202							209		601				602	604										670	837				SPECIAL
			GUTTER REMOVED	PIPE REMOVED, 24" AND UNDER	PIPE REMOVED, OVER 24"	MANHOLE REMOVED	CATCH BASIN REMOVED	CATCH BASIN ABANDONED	STRUCTURE REMOVED	RESHAPE DITCH	DITCH CLEANOUT	ROCK CHANNEL PROTECTION, TYPE B, WITH FABRIC FILTER	ROCK CHANNEL PROTECTION, TYPE C, WITH FABRIC FILTER	PAVED GUTTER, TYPE 1-2	PAVED GUTTER, TYPE 1-6	CONCRETE MASONRY	CATCH BASIN, NO. 2-2A	CATCH BASIN, NO. 2-2B	CATCH BASIN, NO. 3A	CATCH BASIN, NO. 4	CATCH BASIN, NO. 4A	CATCH BASIN, NO. 5	CATCH BASIN, NO. 5A	CATCH BASIN, RECONSTRUCT TO GRADE	MANHOLE, NO. 3	MANHOLE, RECONSTRUCT TO GRADE	DITCH EROSION PROTECTION	30" LINER PIPE	36" LINER PIPE	48" LINER PIPE	BACKFILL FOR LINER PIPE	PIPE CLEANOUT (24" AND UNDER)
	FROM	TO	FEET	FEET	FEET	EACH	EACH	EACH	EACH	FEET	FEET	CU. YD.	CU. YD.	FEET	FEET	CU. YD.	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	SQ. YD.	FEET	FEET	FEET	CU. YD.	FEET
159	361+00	371+00																														
160	371+00	6+00		72			1		1			5.1	2			0.33				1							125	332			22	
161	6+00	16+00		112			2		2				4			0.60				2							250					
162	16+00	26+00											4			0.42			2													
163	26+00	36+00		69			1		2				8			0.96			2	1				1			250					
164	36+00	46+00		31	12		1		1				2			0.27					1			1			250					
165	46+00	56+00		18	414		4													3		1					948					
166	56+00	66+00		12	1000		1													1					1		490					
167	66+00	76+00		1192			2													1					3	1	125					
168	76+00	86+00		11	481		1		3				20.8			4.32				1					1	1	125					
169	86+00	96+00		207	18		6	1	1											2		2					915					
170	96+00	106+00			243		1													1					1	1	125					
171	106+00	116+00		271	86		4													2		2					750					
172	116+00	126+00																														
173	126+00	136+00		357			2			600										2							250					
174	136+00	146+00		18	8		2		1				21.7			2.77				2						1	250					
175	146+00	156+00		215	667		3		1	150			3			0.69				3							500					
176	156+00	166+00		6			1			100										1							125					
177	166+00	176+00		57			1		1	600			2			0.33				1							125					
178	176+00	186+00		135			2		3	800			11.3			1.65			2	2							167		311		23	292
179	186+00	196+00		44			1													1						2	125					
180	196+00	206+00		187	997		4										1	1		1			1		2		250					
181	206+00	216+00		65	69		3		3				6			1.23				2	1						500					
182	216+00	226+00		51			1		1				2			0.33				1							178					
183	226+00	236+00		42			2		1				6			0.69			2	2					2		250			311	64	
184	236+00	246+00		23			1		1		26		2			0.27				1							125					
185	246+00	256+00		6	12		1		2		23		12			1.38				1							125					
186	256+00	266+00		505		1	1													1		1			3		250					
187	266+00	276+00		345	6		1													1					1		125					
188	276+00	286+00	13		412	1	1						4		13	0.42			2	1	1						250					
189	286+00	296+00	97	44	8		2		2			22	2	75	22	0.96				2							250					
190	296+00	306+00	143	486	12		2						25	143						3					1		691					
191	306+00	316+00	65											65										1		1	125					
192	316+00	326+00		242																				1			428					
193	326+00	336+00	40	58	401	1	2		1				5.7		40	3.24				3					1		484					
194	336+00	346+00																														
TOTALS CARRIED TO GENERAL SUMMARY			358	4,881	4,846	3	57	1	27	2,250	49	27.1	143.5	283	75	20.86	1	1	10	46	3	6	1	4	16	7	9926	332	311	311	109	292

CALCULATED
CHECKED

DRAINAGE SUBSUMMARY

WAY/MED-71-7.04/0.00

REF NO.	SHEET NO.	ALIGNMENT	STATION TO STATION	SIDE	601		602	603								604						660
					ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	RIPRAP USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN	CONCRETE MASONRY	12" CONDUIT, TYPE B	12" CONDUIT, TYPE C	12" CONDUIT, TYPE D	15" CONDUIT, TYPE A	15" CONDUIT, TYPE B	15" CONDUIT, TYPE D	18" CONDUIT, TYPE C	14" X 23" CONDUIT, TYPE A, 706.04	CATCH BASIN, NO. 6	CATCH BASIN, TYPE 2-3	CATCH BASIN, NO. 3A	INLET, NO. 2-A-6	INLET, NO. 2-A-12	MANHOLE NO. 3	SODDING REINFORCED
					CU YD	SQ YD	CU YD	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	EACH	EACH	EACH	EACH	EACH	EACH	SQ YD
D-1	306	SR83	37+97.97-38+25.70	LT/RT	2.6	3.5	0.6								78							
D-2	306	SR83	38+00.15-38+28.81	LT/RT	2.6	3.5	0.6								78							
D-3	306	SR83	39+41.00-39+96.80	RT						56												
D-4	306	SR83	40+70.00	LT/RT	0.8		0.5				73											
D-5	307	SR83	41+15.98-41+73.69	RT			0.2		57													
D-6	307	SR83	42+25.00	LT/RT				43											1			
D-7	307	SR83	42+25.00	LT					11										1			
D-8	307	SR83	41+21.00-42+25.00	LT			0.2		104								1					
D-9	307	SR83	43+45.00	LT					11										1			
D-10	307	SR83	42+25.00-43+45.00	LT					119												1	
D-11	307	SR83	43+45.00-44+75.00	LT					129								1					
D-12	307	SR83	45+33.00	LT/RT				62											1			
D-13	307	SR83	44+75.00	LT					8										1			
D-14	308	SR83	47+60.00	LT			0.2		40									1				
D-15	308	SR83	47+80.00	RT			0.2		23									1				
D-16	309	SR83	52+40.00	RT			0.2		22									1				
D-17	309	SR83	52+40.00	LT			0.2		33									1				
D-18	309A	SR83	55+00.00	LT/RT				74												1		
D-19	309A	SR83	55+00.00	LT					12											1		
D-20	309A	SR83	54+41.08-55+00.00	LT										70							1	
D-21	309B	SR83	57+73.00	RT					14								1					
D-22	309B	SR83	57+73.00	LT/RT								72							1			
D-23	309B	SR83	57+73.00	LT															1			
D-24	309A,309B	SR83	56+89.00-57+73.00	LT										10 84			1					
D-25	309C	SR83	63+75.00	LT/RT	0.8		0.5				95											
D-26	309C	SR83	64+25.00	RT			0.2		15										1			
D-27	309D	SR83	67+25.00	RT					12										1			
D-28	309D	SR83	67+25.00-67+65.00	RT			0.2		40												1	
D-29	309D	SR83	68+32.00-68+76.20	RT			0.5						45									
D-30			NOT USED																			
D-31	309A	SR83	56+81.00-56+89.00	LT/RT				74												1		
D-32	309A	SR83	56+89.00	LT					5											1		
D-33	309A	SR83	55+00.00-56+89.00	LT										189							1	
D-34	309B	SR83	59+25.00	RT			0.2		16										1			
D-35	309B	SR83	59+28.50	LT			0.2		18										1			
D-36	309B	SR83	57+61.00-57+73.00	RT				12											1			
D-37	309B	SR83	57+85.00-57+73.00	RT				12											1			
D-38	309B	SR83	57+89.60-57+73.00	LT				16								1						
D-39	309B	SR83	57+61.00-57+73.00	LT				12											1			
D-40	309C	SR83	64+05.00	RT				20											1			
D-41	309C	SR83	64+45.00	RT				20											1			
D-50	307	SR83	44+75.00-45+33.00	LT					58												1	
EC-1	331	RAMP B	93+00.00-95+50.00	RT																		247
EC-2	331A	RAMP B	95+50.00-96+50.00	RT																		100
EC-3	326	RAMP A	93+00.00-96+50.00	LT																		386
TOTALS CARRIED TO GENERAL SUMMARY					6.8	7.0	4.7	345	747	56	168	72	45	353	156	1	4	4	16	4	5	733

CALC. BY: CRG DATE: 05-19-03
CHKD BY: BBB DATE: 05-19-03

△1 = REVISED 07-08-04 △3 = REVISED 08-31-04
△2 = REVISED 07-30-04 △4 REVISED 10-11-04
△7 REVISED 02-10-06

DRAINAGE SUB-SUMMARY

WAY/MED-71-7.04/0.00

REF NO.	SHEET NO.	ALIGNMENT	STATION TO STATION	SIDE	202												604		638		SPECIAL	
					BUILDING DEMOLISHED ONE STORY WOOD FRAME PARCEL No.014-14D-24-031	CATCH BASIN REMOVED		FENCE REMOVED	GUARDRAIL REMOVED	HEADWALL REMOVED	LIGHT POLE REMOVED	PAVEMENT REMOVED	PIPE REMOVED, 24" AND UNDER	PULL BOX REMOVED	REMOVAL MISC.: (SIGN)	REMOVAL MISC.: (TRENCH DRAIN)	CATCH BASIN ADJUSTED TO GRADE	MANHOLE ADJUSTED TO GRADE	FIRE HYDRANT ADJUSTED TO GRADE	WATER VALVE ADJUSTED TO GRADE	MAILBOX REMOVED AND RESET	
					LUMP	EACH		LIN FT	LIN FT	EACH	EACH	SQ YD	LIN FT	EACH	LUMP	LUMP	EACH	EACH	EACH	EACH	EACH	
SR-1	309D	SR83	66+00±	RT.	LUMP																	
R-1	306	SR83	38+06.00 - 38+19.00	LT/RT									39									
R-2	306	SR83	39+27.00	RT											LUMP							
R-3	306	SR83	39+12.00 - 39+35.00	RT								88										
R-4	306	SR83	40+70.00	LT/RT									42									
R-5	306	SR83	41+20.37	RT						1												
R-6	306-307	SR83	41+18.64 - 41+65.47	RT				52														
R-7	306	SR83	41+20.37 - 41+45.00	RT									25									
R-8	306	SR83	41+45.00	RT		1																
R-9	306-307	SR83	41+45.00 - 41+73.69	RT									34									
R-10	307	SR83	41+73.69	RT														1				
R-11	307	SR83	41+82.20	RT							1											
R-12	307	SR83	41+83.85 - 42+23.71	RT												LUMP						
R-13	307	SR83	42+93.79	RT							1											
R-14	307	SR83	42+28.16	LT																	1	
R-15	307	SR83	42+92.01	RT		1																
R-16	307	SR83	43+04.71 - 43+61.29	RT								30										
R-17	307	SR83	42+92.01 - 43+30.41	LT									39									
R-18	307	SR83	43+30.41	LT		1																
R-19	307	SR83	43+63.24	RT							1											
R-20	307	GARMAN	10+33.76 - 10+58.98	RT								48										
R-21	307	SR83	43+80.16	RT										1								
R-22	307	GARMAN	10+76.95	RT																	1	
R-23	307	GARMAN	10+00 - 11+00	LT								400										
R-24	307	SR83	44+50.36	LT										1								
R-25	307	SR83	44+66.99	LT											LUMP							
R-26	308	SR83	45+81.09 - 46+48.01	RT								195										
R-27	307	SR83	45+12.06	RT							1											
R-28	308	SR83	45+81.50	RT							1											
R-29	308	SR83	46+43.87	LT										1								
R-30	308	SR83	46+80.13	LT										1								
R-31	308	SR83	47+36.11 - 48+53.79	LT					150													
R-32	308	SR83	47+59.27 - 48+59.17	RT					100													
R-33	308	SR83	51+56.45	RT										1								
R-34	309	SR83	52+70.92	RT										1								
R-35	309,309A	SR83	RAMP A - 54+14.84	LT					362.5													
R-36	309A	SR83	53+87.14	RT														1				
R-37	309A	SR83	54+40.08	RT													1					
R-38	309A	SR83	54+40.08 - 56+11.28	RT									174									
R-39	309A	SR83	55+56.26	LT										1								
R-40	309A	SR83	56+11.28	RT		1																
R-41	309A-309B	SR83	56+11.28 - 57+77.38	RT									166									
R-42	309A	SR83	56+61.97	RT										1								
R-43	309	SR83	57+77.38	RT		1																
R-44	309B	SR83	57+77.38	RT		1																
R-45	309B	SR83	57+77.38	RT									14									
R-46	309B	SR83	57+77.38 - 58+50.23	RT									72									
R-47	309B	SR83	58+03.48	RT										1								
R-48	309B	SR83	58+48.56	RT		1																
R-49	309B	SR83	58+48.56	RT									27									
R-50	309B	SR83	58+48.56	RT		1																
R-51	309B	SR83	59+56.73	RT										1								
R-52	309B	SR83	60+52.41	LT										1								
R-53	309B	SR83	60+75.88	LT														1				
R-54	309C	SR83	65+29.89	RT		1																
TOTALS CARRIED TO GENERAL SUMMARY					LUMP	9		52	612.5	1	5	761	632	11	LUMP	LUMP	1	3			2	

CALC. BY KSG DATED [illegible]
CHKD. BY BBB DATED [illegible]

ROADWAY SUB-SUMMARY

WAY/MED-71-7.04/0.00

REF NO.	SHEET NO.	ALIGNMENT	STATION TO STATION	SIDE	202						254	603	604		605	606					638	SPECIAL
					APPROACH SLAB REMOVED	FENCE REMOVED	GUARDRAIL REMOVED	PAVEMENT REMOVED	PIPE REMOVED, 24" AND UNDER	PULL BOX REMOVED	PAVEMENT PLANING, ASPHALT CONCRETE	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET	MANHOLE ADJUSTED TO GRADE	PRECAST REINFORCED CONCRETE OUTLET	6" SHALLOW PIPE UNDERDRAIN	GUARDRAIL, TYPE 5	BRIDGE TERMINAL ASSEMBLY, TYPE 1	ANCHOR ASSEMBLY, TYPE A	ANCHOR ASSEMBLY, TYPE E-98	ANCHOR ASSEMBLY, TYPE T	VALVE BOX ADJUSTED TO GRADE	PRESSURE RELIEF JOINT, TYPE A
					SQ YD	LIN FT	LIN FT	SQ YD	LIN FT	EACH	SQ YD	LIN FT	EACH	EACH	LIN FT	LIN FT	EACH	EACH	EACH	EACH	EACH	LIN FT
R-55	309B	SR83	61+38.44	LT																	1	
R-56	309B	SR83	61+38.61	RT																	1	
R-57	309B	SR83	61+48.95	RT						1												
R-58	309C	SR83	62+59.20	RT						1												
R-59	309C	SR83	63+51.55 - 63+76.07	RT		25																
R-60	309C	SR83	63+75.00	LT/RT					68													
R-61	309C	SR83	63+86.30	RT						1												
R-62	309C	SR83	64+59.95	RT						1												
R-63	309C	SR83	64+83.45	RT									1									
R-65	309D	SR83	67+71.73	RT						1												
R-67	309D	SR83	68+29.10	RT									1									
R-68	309D-309E	SR83	69+21.61 - 71+59.87	LT			237.5															
R-69	309E	SR83	70+89.70	LT									1									
R-70	326-326A	RAMP A	93+00.00 - 99+96.44	LT/RT				1286														
R-71	331-331A	RAMP B	93+00.00 - 99+66.18	LT/RT				1222														
R-72	336-336A	RAMP C	100+01.99 - 106+00.00	LT/RT				1219														
R-73	340-340A	RAMP D	99+73.17 - 106+00.00	LT/RT				1226														
R-74	347	WILLOW	8+75.00 - 9+73.35	LT/RT				591														
R-75	347	WILLOW	10+20.84 - 11+50.00	LT/RT				889														
R-76	308	SR83	48+63.15 - 48+70.64	LT/RT								23		2	69							67
R-77	309	SR83	51+33.46 - 51+40.94	LT/RT								23		2	69							67
R-78	308	SR83	48+41.88 - 48+68.66	LT	98																	
R-79	309	SR83	51+33.55 - 51+60.38	LT	98																	
R-80	306	SR83	37+90.00 - 38+00.00	LT/RT							27											
R-81	309E	SR83	71+50.00 - 71+60.00	LT/RT							63											
R-82	309B	SR83	60+73.73	RT									1									
R-83	309C	SR83	63+90.49-65+29.89	RT					140													
R-84	306-307	SR83	41+45.00 - 42+92.01	LT/RT					147													
			GUARDRAIL SUMMARY																			
G-1	306	SR83	40+57.25 - 41+65.43	RT												50.00			1	1		
G-2	308	SR83	47+50.76 - 48+88.04	LT												118.75	1	1				
G-3	308	SR83	47+60.90 - 48+91.46	RT												131.25	1			2		
G-4	309	SR83	51+12.64 - 52+59.09	LT												156.25	1			2		
G-5	309	SR83	51+16.06 - 52+49.45	RT												106.25	1	1				
G-6	309-326	RAMP A/	97+00.00 -	LT																		
		SR83	55+84.15	LT												537.5				2		
G-7	309E	SR83	69+22.37 - 71+60.00	LT												187.50			1			
TOTALS CARRIED TO GENERAL SUMMARY					196	25	237.5	6433	355	5	90	46	4	4	138	1287.5	4	2	2	7	2	134

CALC. BY KSG DATED 08-21-08
CHKD. BY BBB DATED 08-25-08

ROADWAY SUB-SUMMARY

WAY/MED-71-7.04/0.00

REF NO.	SHEET NO.	ALIGNMENT	STATION TO STATION	SIDE	202			254	615	622	638	SPECIAL
					PIPE REMOVED, 24" AND UNDER	PULL BOX REMOVED	GUARD POST REMOVED	PAVEMENT PLANING, ASPHALT CONCRETE	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B	PORTABLE CONCRETE BARRIER	VALVE BOX ADJUSTED TO GRADE	MAILBOX REMOVED AND RESET
					LIN FT	EACH	EACH	SQ. YD	SQ. YD	LIN. FT.	EACH	EACH
R-85	309B	SR83	61+38.44	LT								
R-86	306	SR83	38+16.07	RT			1					
R-87	306	SR83	39+42.07	RT			1					
R-88	306	SR83	40+02.81	RT			1					
R-89	307	SR83	42+56.52	LT								1
R-90	307	SR83	42+25.23	RT		1						
R-91	307	SR83	42+65.17	RT		1						
R-92	307	SR83	43+00.00	RT		1						
R-93	307	SR83	43+32.95	RT		1						
R-94	307	GARMAN	10+34.76	LT			1					
R-95	307	GARMAN	10+35.24	LT			1					
R-96	307	GARMAN	10+68.59	LT			1					
R-97	307	SR83	44+65.87	LT			1					
R-98	307	SR83	44+73.30	RT			1					
R-99	307	SR83	44+73.33	RT			1					
R-100	307	SR83	45+13.44	LT			1					
R-101	308	SR83	45+54.94	RT							1	
R-102	308	SR83	45+80.47	LT			1					
R-103	308	SR83	46+39.52	LT			1					
R-104	308	SR83	46+44.05	LT		1						
R-105	308	RAMP B	99+27.98	LT		1						
R-106	309B	SR83	57+58.93	RT		1						
R-107	309B	WILLOW	10+57.36	RT		1						
R-108	309D	SR83	68+60.23 - 69+15.34	RT	55							
R-109	309D	SR83	69+14.63	RT		1						
R-110	345	GARMAN	11+16.50 - 11+46.50	LT					25			
R-111	345	GARMAN	10+52.29 - 11+33.42	LT						88		
R-112	345	GARMAN	11+16.50 - 11+26.50	LT/RT				23				
R-113	347	WILLOW	8+65.00 - 8+75.00	LT/RT				54				
TOTALS CARRIED TO GENERAL SUMMARY					55	9	12	77	25	88	1	1

CALC. BY KSG DATED [illegible]

CHKD BY BBB DATED [illegible]

ROADWAY SUB-SUMMARY

WAY/MED-71-7.04/0.00

REFERENCE NO.	SHEET NUMBER	STATION RANGE (PROPOSED GUARDRAIL) FROM	TO	SIDE	202 GUARDRAIL REMOVED	606 GUARDRAIL, TYPE 5	GUARDRAIL, TYPE 5A	GUARDRAIL, BARRIER DESIGN TYPE 5	ANCHOR ASSEMBLY, TYPE B-98	ANCHOR ASSEMBLY, TYPE E-98	ANCHOR ASSEMBLY, TYPE T	BRIDGE TERMINAL ASSEMBLY, TYPE 1	BRIDGE TERMINAL ASSEMBLY, TYPE 2	IMPACT ATTENUATOR, TYPE 1-98 (BIDIRECTIONAL)	IMPACT ATTENUATOR, TYPE 2-98 (UNIDIRECTIONAL)	622 CONCRETE BARRIER, SINGLE SLOPE, TYPE D	CONCRETE BARRIER, END SECTION TYPE D	626 BARRIER REFLECTOR, TYPE A	BARRIER REFLECTOR, TYPE B		620 DELINEATOR, TYPE C, POST MOUNTED	DELINEATOR, TYPE D, POST MOUNTED
					LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	EACH	EACH	EACH	EACH	EACH	EACH	LIN. FT.	EACH	EACH	EACH		EACH	EACH
GR1	160-162	371+43.85	16+21.58	RT	1925	1925						1						20				
GR2	160-162	371+46.16	18+01.71	LT	2318	2131.25							1					22				
GR3	161-162	13+34.47	16+22.20	RT	387.5	237.5				1		1						*6				1
GR4	162-163	20+71.88	31+83.81	RT	1250	1104.35						1	1					12				
GR5	162-163	22+45.88	32+14.28	LT	950	975						1	1					*11				
GR6	162	22+47.04	25+34.54	LT	375	237.5				1		1						*6				1
GR7	163	29+06.34	31+93.84	RT	375	237.5				1		1						*6				1
GR8	163-164	32+89.55	35+91.60	RT	1250	287.5					1		1					4				
GR9	163	33+07.68	35+95.18	LT	375	237.5				1		1						*6				1
GR10	163-165	33+18.92	37+65.88	LT	1512.5	412.5			1			1						5				
		45+48.00	49+20.47	LT		312.5				1	1							4			1	
GR11	166	55+96.22	57+85.00	RT		125				1	1							2			1	
GR12	167	71+87.37	73+32.10	RT	250	93.75				1		1				46	1	2	1		1	
GR13	167	72+22.75	74+04.00	RT	287.5	62.5		75			1			1				*4				
GR14	167	73+51.00	75+32.25	LT	287.5	62.5		75			1			1				*4				
GR15	167	74+17.90	75+60.68	LT	250	93.75				1		1				46	1	2	1		1	
GR16	168-169	79+00.00	89+87.50	LT	850	1025				1	1							11			1	
GR17	169	87+81.50	89+69.00	RT		125				1	1							2			1	
GR18	170	98+21.50	100+27.75	RT	287.5	112.5		50			1			1				*4				
GR19	170	99+42.00	101+48.25	LT	287.5	112.5		50			1			1				*4				
GR20	171	109+49.00	111+36.50	LT		125				1	1							2			1	
GR21	174	137+60.00	139+48.69	LT		125				1	1							2			1	
GR22	176-178	159+13.72	180+62.57	RT	2082.5	2112.5				1		1						22			1	
GR23	176-178	160+73.58	179+85.65	LT	1887.5	1887.5				1			1					20			1	
GR24	178	177+45.89	180+33.39	RT	375	237.5				1		1						*6				1
GR25	178	181+53.74	191+19.47	LT	900	912.5				1		1						10			1	
GR26	178	181+82.31	184+69.81	LT	375	237.5				1		1						*6				1
GR27	178	182+27.19	188+99.44	RT	687.5	662.5					1		1					8				
GR28	180	196+34.00	199+59.00	RT	287.5	262.5				1	1							*6				1
GR29	180	197+53.35	198+97.10	RT	250	93.75				1		1				46	1	2	1		1	
GR30	180-181	199+12.50	215+37.50	LT	287.5	1562.5				1	1							*32				1
GR31	180	199+77.90	201+21.65	LT	262.5	93.75				1		1				46	1	2	1		1	
GR32	180-183	204+01.05	231+01.05	RT	2600	2650				1		1						28			1	
GR33	181	208+00.00	214+37.50	LT	700	575				1	1							7			1	
GR34	183	226+91.90	230+16.90	LT	325	312.5					1		1					4				
GR35	183	228+36.93	230+68.18	RT	375	193.75			1			1						*5				
GR36	183-185	231+98.39	247+23.39	LT	1325	1475				1		1						16			1	
GR37	183	232+31.13	235+18.63	LT	375	237.5				1		1						*6				1
GR38	183-184	232+82.61	245+45.11	RT	1250	1250					1		1					13				1
GR39	186	259+91.00	263+16.00	RT	287.5	262.5				1	1							*6				
GR40	186	260+68.35	262+12.10	RT	225	93.75				1		1				46	1	2	1		1	
TOTALS CARRIED TO GENERAL SUMMARY					28,076	25,273		250	2	27	18	21	8	4		230	5	342	4		17	10

* - AT 50' SPACING TO ACCOMODATE MAINTENANCE OF TRAFFIC SHIFT

CALCULATED DCF
CHECKED ENF

GUARDRAIL SUBSUMMARY

WAY/MED-71-7.04/0.00

140176SB.dgn

REFERENCE NO.	SHEET NUMBER	STATION RANGE (PROPOSED GUARDRAIL) FROM	TO	SIDE	202	606										622		626			620	
					GUARDRAIL REMOVED	GUARDRAIL, TYPE 5	GUARDRAIL, TYPE 5A	GUARDRAIL, BARRIER DESIGN TYPE 5	ANCHOR ASSEMBLY, TYPE B-98	ANCHOR ASSEMBLY, TYPE E-98	ANCHOR ASSEMBLY, TYPE T	BRIDGE TERMINAL ASSEMBLY, TYPE 1	BRIDGE TERMINAL ASSEMBLY, TYPE 2	IMPACT ATTENUATOR, TYPE 1-98 (BIDIRECTIONAL)	IMPACT ATTENUATOR, TYPE 2-98 (UNIDIRECTIONAL)	CONCRETE BARRIER, SINGLE SLOPE, TYPE D	CONCRETE BARRIER, END SECTION TYPE D	BARRIER REFLECTOR, TYPE A	BARRIER REFLECTOR, TYPE B		DELINEATOR, TYPE C, POST MOUNTED	DELINEATOR, TYPE D, POST MOUNTED
		FROM	TO		LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	EACH	EACH	EACH	EACH	EACH	EACH	LIN. FT.	EACH	EACH	EACH		EACH	EACH
GR41	186	262+66.75	264+48.00	LT	287.5	87.5		50			1			1				*4				
GR42	186	263+72.90	265+16.65	LT	250	93.75				1		1				46	1	2	1		1	
GR43	188	275+40.02	284+83.77	RT	1325	893.75				1		1						10			1	
GR44	188	279+44.77	284+44.77	LT	462.5	487.5					1		1					6				
GR45	188	282+37.50	284+68.75	RT	375	193.75			1			1						*5				
GR46	188-189	285+49.73	290+30.98	LT	375	431.75				1		1						5			1	
GR47	188-189	285+64.69	288+58.44	LT	362.5	243.75				1		1						*6				1
GR48	188-189	285+88.73	289+01.23	RT	500	300					1		1					4				
GR49	189-190	294+56.50	297+81.50	RT	275	275				1	1							*6				1
GR50	189-190	295+38.35	296+82.10	RT	237.5	93.75				1		1				46	1	2	1		1	
GR51	190	297+28.25	299+09.50	LT	275	87.5		50			1			1				*4				
GR52	190	298+37.90	299+81.65	LT	237.5	93.75				1		1				46	1	2	1		1	
GR101	170	97+73	100+23	RT	250																	
GR102	170	99+00	101+62.5	LT	262.5																	
GR103	174-175	145+51	148+27	LT	275																	
	BRIDGE & RETAINING WALL BARRIER REFLECTORS																					
	MED-71-0031L		INSIDE																*10			
			OUTSIDE																5			
	RETAINING WALL		INSIDE																*3			
	MED-71-0031R		INSIDE																*10			
			OUTSIDE																5			
	RETAINING WALL		INSIDE																*3			
	MED-71-0060L		INSIDE																*3			
			OUTSIDE																2			
	MED-71-0060R		INSIDE																*3			
			OUTSIDE																2			
	MED-71-0342L		INSIDE																*4			
			OUTSIDE																2			
	MED-71-0342R		INSIDE																*4			
			OUTSIDE																2			
	MED-71-0437L		INSIDE																*4			
			OUTSIDE																2			
	MED-71-0437R		INSIDE																*4			
			OUTSIDE																2			
	MED-71-0539L		INSIDE																*3			
			OUTSIDE																2			
	MED-71-0539R		INSIDE																*3			
			OUTSIDE																2			
TOTALS CARRIED TO GENERAL SUMMARY					5,750	3,282		100	1	7	5	7	2	2		138	3	56	83		5	2

* - AT 50' SPACING TO ACCOMODATE MAINTENANCE OF TRAFFIC SHIFT

CALCULATED DCF
CHECKED ENF

GUARDRAIL SUBSUMMARY

WAY/MED-71-7.04/0.00

\14017GSC.dgn

SHEET NO.	STATION FROM	STATION TO	203 EXCAVATION CU. YD.	203 EMBANKMENT CU. YD.	659 SEEDING AND MULCHING SQ. YD.
	CROSS SECTIONS				
195	372+00	374+00	2135	399	2410
196	374+60.25/0+00	3+00	2573	1312	3380
197	4+00	5+00	1312	542	2373
198	6+00	8+00	1827	677	3052
199	9+00	11+00	1713	347	1924
200	12+00	14+00	1759	312	1774
201	15+00	16+00	949	121	842
202	17+00	19+00	150	315	414
203	20+00	22+00	659	411	1102
204	23+00	26+00	2338	299	2240
205	27+00	30+00	2326	337	2525
206	31+00	33+00	1061	275	1265
207	34+00	36+00	1745	1377	3084
208	37+00	40+00	2288	2296	5329
209	41+00	44+00	2380	2117	5030
210	45+00	47+00	1682	818	2562
211	48+00	50+00	1933	319	2065
212	51+00	54+00	2456	674	3241
213	55+00	57+00	1568	714	2390
214	58+00	61+00	2439	749	3518
215	62+00	65+00	2738	521	3441
216	66+00	68+00	2002	504	2763
217	69+00	72+00	5256	348	4035
218	73+00	75+00	5726	26	3224
219	76+00	79+00	2842	852	3229
220	80+00	82+00	494	1718	3457
221	83+00	86+00	987	1557	4180
222	87+00	89+00	983	969	2401
223	90+00	92+00	1461	884	2656
224	93+00	96+00	3558	667	3541
225	97+00	100+00	8869	6	5085
226	101+00	103+00	4849	70	3679
227	104+00	105+00	1678	204	1934
228	106+00	107+00	1969	277	1923
229	108+00	109+00	1492	383	1734
230	110+00	111+00	1443	376	1246
231	112+00	114+00	1967	744	2396
232	115+00	117+00	1752	826	3023
233	118+00	120+00	1717	578	2085
234	121+00	123+00	1726	626	1869
235	124+00	126+00	1625	700	1869
236	127+00	129+00	1801	513	1885
237	130+00	132+00	1817	512	2085
TOTALS - COLUMN A			94045	28272	114260

SHEET NO.	STATION FROM	STATION TO	203 EXCAVATION CU. YD.	203 EMBANKMENT CU. YD.	659 SEEDING AND MULCHING SQ. YD.
	CROSS SECTIONS				
238	133+00	135+00	1860	524	2090
239	136+00	138+00	1508	843	2434
240	139+00	141+00	1472	823	2990
241	142+00	144+00	1540	873	2752
242	145+00	146+00	901	731	2273
243	147+00	149+00	1494	704	2234
244	150+00	152+00	1745	555	2407
245	153+00	155+00	1724	454	2446
246	156+00	158+00	1784	492	2296
247	159+00	161+00	1445	631	2024
248	162+00	164+00	1028	883	2107
249	165+00	167+00	902	1196	2767
250	168+00	169+00	645	960	2123
251	170+00	172+00	861	2100	4040
252	173+00	175+00	1010	1665	4312
253	176+00	177+00	544	1113	3839
254	178+00	179+00	315	1378	4295
255	180+00	181+00	38	41	407
256	182+00	183+00	286	804	2451
257	184+00	186+00	982	717	2357
258	187+00	189+00	1587	553	1785
259	190+00	192+00	1998	356	2496
260	193+00	195+00	3124	149	2802
261	196+00	198+00	5975	3	3240
262	199+00	200+00	4626	0	2557
263	201+00	204+00	5909	22	4012
264	205+00	207+00	3127	84	2373
265	208+00	210+00	1723	361	2062
266	211+00	213+00	1937	268	1985
267	214+00	216+00	1589	576	2068
268	217+00	219+00	1627	532	1890
269	220+00	222+00	1797	539	2113
270	223+00	225+00	1853	666	2662
271	226+00	228+00	2272	496	2973
272	229+00	230+00	818	449	1901
273	231+00	232+00	248	220	677
274	233+00	235+00	2104	234	2118
275	236+00	239+00	2820	133	2312
276	240+00	242+00	1702	436	1796
277	243+00	246+00	2665	576	2768
278	247+00	250+00	2408	704	2663
279	251+00	254+00	2575	487	2230
280	255+00	258+00	2301	769	2624
TOTALS - COLUMN B			78869	26100	106751

SHEET NO.	STATION FROM	STATION TO	203 EXCAVATION CU. YD.	203 EMBANKMENT CU. YD.	659 SEEDING AND MULCHING SQ. YD.
	CROSS SECTIONS				
281	259+00	261+00	2852	392	2290
282	262+00	264+00	4150	16	2891
283	265+00	267+00	2209	413	2341
284	268+00	270+00	1665	601	2107
285	271+00	273+00	1714	533	1874
286	274+00	277+00	2311	618	2806
287	278+00	280+00	1883	110	1918
288	281+00	283+00	1536	335	1984
289	284+00	285+00	460	46	599
290	286+00	288+00	1871	359	2329
291	289+00	292+00	3097	240	3191
292	293+00	295+00	2597	485	2369
293	296+00	299+00	5038	69	3518
294	300+00	300+00	722	92	723
295	301+00	304+00	2244	758	3219
296	305+00	308+00	2609	782	3463
297	309+00	312+00	2503	869	3107
298	313+00	315+00	1966	528	2128
299	316+00	319+00	1933	821	2957
300	320+00	323+00	689	1093	1750
301	324+00	326+00	528	701	1200
302	327+00	329+00	624	570	1200
303	330+00	332+00	804	530	1200
304	333+00	335+00	680	759	1200
305	336+00	337+00	0	126	235
TOTALS - COLUMN C			46685	11846	52599
TOTALS - COLUMN A			94045	28272	114260
TOTALS - COLUMN B			78869	26100	106751
TOTALS CARRIED TO SHEET 125A			219599	66218	273610

CALCULATED AEP
CHECKED ENF

EARTHWORK QUANTITIES

WAY/MED-71-7.04/0.00

...\14017GQA.dgn

SHEET NO.	STATION		203		659
	FROM	TO	EXCAVATION CU. YD.	EMBANKMENT CU. YD.	SEEDING AND MULCHING SQ. YD.
	CROSS SECTIONS				
	SR83				
310	37+50	39+50	728	125	992
311	40+00	42+00	840	228	1224
312	42+50	44+50	1043	194	500
313	45+00	47+00	1031	395	921
314	47+50	48+50	385	1009	567
315	48+69.20	48+94.21	46	616	378
316	51+10.51	51+35.51	16	219	249
317	51+50	52+00	260	1819	590
318	52+50	54+50	1204	260	694
319	55+00	57+00	1330	139	563
320	57+50	59+50	866	667	1027
321	60+00	62+00	1410	520	951
322	62+50	64+50	581	681	1408
323	65+00	67+00	2466	57	1151
324	67+50	69+50	2296	2	1262
325	70+00	71+60	623	71	732
TOTALS - COLUMN A			15125	7002	13209

SHEET NO.	STATION		203		659
	FROM	TO	EXCAVATION CU. YD.	EMBANKMENT CU. YD.	SEEDING AND MULCHING SQ. YD.
	CROSS SECTIONS				
	RAMP A				
327	93+00	94+00	213	42	361
328	94+50	96+50	722	84	1244
329	97+00	98+00	399	10	678
330	98+50	99+50	425	0	500
	RAMP B				
332	93+00	93+50	93	3	197
333	94+00	95+50	1111	45	1125
334	96+00	97+50	1108	192	1238
335	98+00	99+50	641	337	1315
	RAMP C				
337	100+50	102+00	367	170	1030
338	102+50	104+00	250	228	970
339	104+50	106+00	437	125	1089
	RAMP D				
341	100+00	101+50	200	71	652
342	102+00	103+50	547	0	775
343	104+00	105+50	709	1	1078
344	106+00	106+00	128	4	222
	GARMAN ROAD				
346	10+50	11+50	364	4	47
	WILLOW ROAD				
348	8+50	9+50	198	9	200
349	10+50	12+00	360	14	191
TOTALS - COLUMN B			8272	1339	12912
TOTALS - COLUMN A			15125	7002	13209
TOTALS - SHEET 125			219599	66218	273610
SUB-TOTALS			242996	74559	299731
DEDUCTIONS FOR 660 & 670					-10832
TOTALS CARRIED TO GENERAL SUMMARY			242996	74559	288899

SEEDING AND MULCHING GROWTH AND CARE CALCULATIONS

TOPSOIL
111 C.Y. x 299731 S.Y. / 1000 S.Y. = 33270 C.Y.

SOIL ANALYSIS TEST
1 EACH x 33270 C.Y. / 10000 C.Y. = 3.3, USE 4 EACH

INTERSEEDING
5% x 288899 S.Y. = 14445 S.Y., USE 15000 S.Y.

REPAIR SEEDING AND MULCHING
5% x 288899 S.Y. = 14445 S.Y., USE 15000 S.Y.

COMMERCIAL FERTILIZER
30 LBS / 1000 S.F. x 299731 S.Y. x 9 S.F./S.Y.= 80927 LBS
20 LBS / 1000 S.F. x 14445 S.Y. x 9 S.F./S.Y. = 2600 LBS.
= 83527 LBS. = 41.76 TONS

LIME
299731 S.Y. x 9 S.F./S.Y. + 43560 S.F. PER ACRE
= 61.93 ACRES

WATER
2x300 GALS/1000 S.F. x 288899 S.Y.x 9 S.F./S.Y. = 1560055 GALS
1x300 GALS/1000 S.F. x 15000 S.Y. x 9 S.F./ S.Y = 40500 GALS
1x300 GALS/1000 S.F.x10832 S.Y.x9 S.F./S.Y.x 8 WEEKS= 233971 GALS
= 1834526 GALS = 1835 M. GALS. USE 1900 M. GALS.

MOWING
25% x 299731 = 74933 S.Y. x 9 S.F./S.Y. x 1 M.S.F./1000 S.F.
= 674 M.S.F., USE 700 M.S.F.

CALCULATED AEP
CHECKED ENF

EARTHWORK QUANTITIES

WAY/MED-71-7.04/0.00

NORTHBOUND PAVEMENT AREA

MAINLINE

FROM	TO	LENGTH	WIDTH	AREA
371+50.00	374+60.25	310.25	56.00	1930.44
0+00.00	15+94.75	1594.75	56.00	9922.89
20+98.05	31+61.05	1063.00	56.00	6614.22
33+21.63	180+23.21	14701.58	56.00	91476.50
182+43.25	230+61.01	4817.76	56.00	29977.17
232+95.99	284+50.16	5154.17	56.00	32070.39
286+10.26	320+00.00	3389.74	56.00	21091.72
320+00.00	336+00.00	1600.00	28.00	4977.78
SUB-TOTAL		32631.25		198061.11

SPEED CHANGE LANES

FROM	TO	LENGTH	WIDTH	AREA
80+37.12	81+37.12	100.00	6.00	66.67
81+37.12	87+79.39	642.27	12.00	856.36
87+79.39	92+33.67	454.28	20.99	1059.48
106+96.37	111+84.26	487.89	33.67	1825.25
111+84.26	124+34.26	1250.00	12.50	1736.11
SUB-TOTAL		2934.44		5543.87

TOTAL PAVEMENT SURFACE AREA = 203604.98 S.Y.

MEDIAN SHOULDER LENGTH = 32631.25′
OUTSIDE SHOULDER LENGTH = 31031.25′

ITEM 446 - SURFACE COURSE

FROM ABOVE, TOTAL AREA = 203604.98 S.Y.
DEDUCT 320+00 TO 336+00 (NO SURFACE) = -4977.78 S.Y.
ADD EXTRA 2′ MEDIAN SHOULDER
2′ x 31031.2 ÷ 9 = 6895.8 S.Y.
TOTAL = 205523.0 S.Y.
205523.0 S.Y. x 1.5″/36″ = 8563.5 C.Y. #

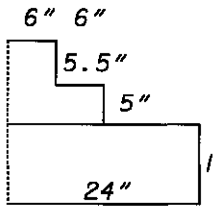
ITEM 446 - INTERMEDIATE COURSE

FROM ABOVE, TOTAL AREA = 203604.98 S.Y.
203604.98 S.Y. x 1.75″/36″ = 9897.5 C.Y. #

ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE

FROM ABOVE (SURFACE COURSE AREA) = 205523.0 S.Y.
205523.0 S.Y. x 0.04 GAL/S.Y. = 8220.9 GAL. #

- QUANTITIES CARRIED TO ITEM 880 SUMMARY TABLE ON SHEET 128



AREA = (6″x5.5″+12″x5″)/144=0.6458 S.F.
AREA = (24″x10″)/144=1.6667 S.F.

STEP FACTORS

ITEM 302- ASPHALT CONCRETE BASE

FROM PAVEMENT AREA CALC., TOTAL AREA = 203604.98 S.Y.
203604.98 S.Y. x 10.5″/36″ = 59384.8 C.Y.
ADD SHOULDER STEP
INSIDE: 32631.25′ x 0.6458 S.F. ÷ 27 = + 780.5 C.Y.
OUTSIDE: 31031.25′ x 0.6458 S.F. ÷ 27 = + 742.2 C.Y.
TOTAL = 60907.5 C.Y. #

ITEM 304- AGGREGATE BASE

FROM PAVEMENT AREA CALC., TOTAL AREA = 203604.98 S.Y.
203604.98 S.Y. x 10.0″/36″ = 56556.9 C.Y.
ADD MATERIAL AT SHOULDERS
INSIDE: 32631.25′ x 1.6667 ÷ 27 = + 2014.3 C.Y.
OUTSIDE: 31031.25′ x 1.6667 ÷ 27 = + 1915.5 C.Y.
APPROACH SLABS
WITH WINGWALL 1 x 25′ x 61.5′ x 10″/12″ ÷ 27 = + 47.5 C.Y.
WITHOUT WINGWALL 9 x 25′ x 63.0′ x 10″/12″ ÷ 27 = + 437.5 C.Y.
TOTAL = 60971.7 C.Y.

ITEM 204 - SUBGRADE COMPACTION

FROM PAVEMENT AREA CALC., TOTAL AREA = 203604.98 S.Y.
ADD 18″ PER SIDE (SEE CMS 204.08)
INSIDE: 32631.25′ x 1.5′ ÷ 9 = + 5438.5 S.Y.
OUTSIDE: 31031.25′ x 1.5′ ÷ 9 = + 5171.9 S.Y.
APPROACH SLABS
WITH WINGWALL 1 x 25′ x 61.5′ ÷ 9 = + 170.8 S.Y.
WITHOUT WINGWALL 9 x 25′ x 63.0′ ÷ 9= + 1575.0 S.Y.
TOTAL = 215961.2 S.Y.

ITEM 526 - REINFORCED CONCRETE APPROACH SLAB

SEE STRUCTURE PLANS FOR APPROACH SLAB PAYMENT
(204 AND 304 ITEMS PAID FOR WITH ROADWAY QUANTITIES)

CALCULATED DCF
CHECKED ENF

IR71 NORTHBOUND PAVEMENT CALCULATIONS

WAY/MED-71-7.04/0.00

SOUTHBOUND PAVEMENT AREA

MAINLINE

FROM	TO	LENGTH	WIDTH	AREA
371+50.00	374+60.25	310.25	56.00	1930.44
0+00.00	17+74.27	1774.27	56.00	11039.90
22+73.47	31+82.50	909.03	56.00	5656.19
33+42.07	179+70.12	14628.05	56.00	91018.98
181+92.89	230+03.30	4810.41	56.00	29931.44
232+38.28	284+23.23	5184.95	56.00	32261.91
285+83.33	320+00.00	3416.67	56.00	21259.28
320+00.00	336+00.00	1600.00	28.00	4977.78
SUB-TOTAL		32633.63		198075.92

SPEED CHANGE LANES

FROM	TO	LENGTH	WIDTH	AREA
74+83.55	87+33.55	1250.00	12.50	1736.11
87+33.55	90+33.55	300.00	28.12	937.33
90+33.55	92+21.66	188.11	34.12	713.15
106+84.36	111+38.65	454.29	20.98	1059.00
111+38.65	117+80.92	642.27	12.00	856.36
117+80.92	118+80.92	100.00	6.00	66.67
SUB-TOTAL		2934.67		5368.62

TOTAL PAVEMENT SURFACE AREA = 203444.54 S.Y.

MEDIAN SHOULDER LENGTH = 32633.63'
OUTSIDE SHOULDER LENGTH = 31033.63'

ITEM 446 - SURFACE COURSE

FROM ABOVE, TOTAL AREA = 203444.54 S.Y.
DEDUCT 320+00 TO 336+00 (NO SURFACE) = -4977.78 S.Y.
ADD EXTRA 2' MEDIAN SHOULDER
2' x 31033.6 ÷ 9 = 6896.4 S.Y.
TOTAL = 205363.1 S.Y.
205363.1 S.Y. x 1.5"/36" = 8556.8 C.Y. #

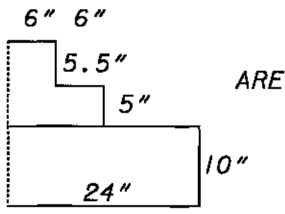
ITEM 446 - INTERMEDIATE COURSE

FROM ABOVE, TOTAL AREA = 203444.54 S.Y.
203444.54 S.Y. x 1.75"/36" = 9889.7 C.Y. #

ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE

FROM ABOVE (SURFACE COURSE AREA) = 205363.1 S.Y.
205363.1 S.Y. x 0.04 GAL/S.Y. = 8214.5 GAL. #

- QUANTITIES CARRIED TO ITEM 880 SUMMARY TABLE ON SHEET 128



AREA = (6"x5.5"+12"x5")/144=0.6458 S.F.
AREA = (24"x10")/144=1.6667 S.F.

STEP FACTORS

ITEM 302- ASPHALT CONCRETE BASE

FROM PAVEMENT AREA CALC., TOTAL AREA = 203444.54 S.Y.
203444.54 S.Y. x 10.5"/36" = 59338.0 C.Y.
ADD SHOULDER STEP
INSIDE: 32633.6' x 0.6458 S.F. ÷ 27 = + 780.5 C.Y.
OUTSIDE: 31033.6' x 0.6458 S.F. ÷ 27 = + 742.3 C.Y.
TOTAL = 60860.8 C.Y. #

ITEM 304- AGGREGATE BASE

FROM PAVEMENT AREA CALC., TOTAL AREA = 203444.54 S.Y.
203444.54 S.Y. x 10.0"/36" = 56512.4 C.Y.
ADD MATERIAL AT SHOULDERS
INSIDE: 32633.6' x 1.6667 S.F. ÷ 27 = + 2014.5 C.Y.
OUTSIDE: 31033.6' x 1.6667 S.F. ÷ 27 = + 1915.6 C.Y.
APPROACH SLABS
WITH WINGWALL 1 x 25' x 61.5' x 10"/12" ÷ 27 = + 47.5 C.Y.
WITHOUT WINGWALL 9 x 25' x 63.0' x 10"/12" ÷ 27 = + 437.5 C.Y.
TOTAL = 60927.5 C.Y.

ITEM 204 - SUBGRADE COMPACTION

FROM PAVEMENT AREA CALC., TOTAL AREA = 203444.54 S.Y.
ADD 18" PER SIDE (SEE 204.08)
INSIDE: 32633.6' x 1.5' ÷ 9 = + 5438.9 S.Y.
OUTSIDE: 31033.6' x 1.5' ÷ 9 = + 5172.3 S.Y.
APPROACH SLABS
WITH WINGWALL 1 x 25' x 61.5' ÷ 9 = + 170.8 S.Y.
WITHOUT WINGWALL 9 x 25' x 63.0' ÷ 9= + 1575.0 S.Y.
TOTAL = 215801.5 S.Y.

ITEM 526 - REINFORCED CONCRETE APPROACH SLAB

SEE STRUCTURE PLANS FOR APPROACH SLAB PAYMENT
(204 AND 304 ITEMS PAID FOR WITH ROADWAY QUANTITIES)

CALCULATED DCF
CHECKED ENF

IR 71 SOUTHBOUND PAVEMENT CALCULATIONS

WAY/MED-71-7.04/0.00

ITEM 202 - PAVEMENT AND CURB REMOVAL

NORTHBOUND

	FROM	TO	LENGTH	WIDTH	ITEM 202 PAVEMENT REMOVED AREA	ITEM 202 CURB REMOVED
MAINLINE	371+50.00	374+60.25	310.25	24.00	827.33	
	0+00.00	15+94.89	1594.89	24.00	4253.04	
	21+00.47	31+56.69	1056.22	24.00	2816.59	
	33+26.55	180+19.32	14692.77	24.00	39180.72	
	182+46.19	230+57.39	4811.20	24.00	12829.87	
	233+01.18	284+46.10	5144.92	24.00	13719.79	
	286+13.73	320+00.00	3386.27	24.00	9030.05	
	320+00.00	336+00.00	1600.00	6.00	1066.67	
SPEED CHANGE LANES	80+37.12	81+37.12	100.00	6.00	66.67	
	81+37.12	87+79.39	642.27	12.00	856.36	
	87+79.39	92+39.77	460.38	20.98	1073.20	
	92+39.77	93+39.77	100.00	12.00	133.33	100.00
	106+96.37	111+84.33	487.96	15.00	813.27	
	111+84.26	123+84.26	1200.00	12.50	1666.67	

SOUTHBOUND

	FROM	TO	LENGTH	WIDTH	ITEM 202 PAVEMENT REMOVED AREA	ITEM 202 CURB REMOVED
MAINLINE	371+50.00	374+60.25	310.25	24.00	827.33	
	0+00.00	17+73.47	1773.47	24.00	4729.25	
	22+74.47	31+78.51	904.04	24.00	2410.77	
	33+46.72	179+68.18	14621.46	24.00	38990.56	
	181+97.49	229+98.38	4800.89	24.00	12802.37	
	232+42.17	284+19.62	5177.45	24.00	13806.53	
	285+87.07	320+00.00	3412.93	24.00	9101.15	
	320+00.00	336+00.00	1600.00	6.00	1066.67	
SPEED CHANGE LANES	75+33.55	87+33.55	1200.00	12.50	1666.67	
	87+33.55	92+21.66	488.11	15.00	813.52	
	105+80.04	106+80.04	100.00	12.00	133.33	100.00
	106+80.04	111+38.65	458.61	20.98	1069.07	
	111+38.65	117+80.92	642.27	12.00	856.36	
	117+80.92	118+80.92	100.00	6.00	66.67	
				TOTAL	176673.8 S.Y.	200 L.F.

ITEM 202 - APPROACH SLAB REMOVAL

	FROM	TO	LENGTH	WIDTH	ITEM 202 APPROACH SLAB REMOVED AREA
NORTHBOUND	15+94.89	16+19.89	25.00	24.00	66.67
	20+75.47	21+00.47	25.00	24.00	66.67
	31+56.69	31+81.69	25.00	24.00	66.67
	33+01.55	33+26.55	25.00	24.00	66.67
	180+19.32	180+44.32	25.00	24.00	66.67
	182+21.19	182+46.19	25.00	24.00	66.67
	230+57.39	230+82.39	25.00	24.00	66.67
	232+76.18	233+01.18	25.00	24.00	66.67
	284+46.10	284+71.10	25.00	24.00	66.67
	285+88.73	286+13.73	25.00	24.00	66.67
SOUTHBOUND	17+73.47	17+98.47	25.00	24.00	66.67
	22+49.47	22+74.47	25.00	24.00	66.67
	31+78.51	32+03.51	25.00	24.00	66.67
	33+21.72	33+46.72	25.00	24.00	66.67
	179+68.18	179+93.18	25.00	24.00	66.67
	181+72.49	181+97.49	25.00	24.00	66.67
	229+98.38	230+23.38	25.00	24.00	66.67
	232+17.17	232+42.17	25.00	24.00	66.67
	284+19.62	284+44.62	25.00	24.00	66.67
	285+62.07	285+87.07	25.00	24.00	66.67
				TOTAL	1333.4 S.Y.

ITEM 880 - ASPHALT CONCRETE (7 YEAR WARRANTY)

SHEET NO.	302 ASPHALT CONCRETE BASE, PG64-22	407 TACK COAT FOR INTERMEDIATE COURSE	446 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2 PG64-28	446 ASPHALT CONCRETE SURFACE COURSE TYPE IH
	CU. YD.	GALLONS	CU. YD.	CU. YD.
98	63.3	60	41.8	
126	60907.5	8221	9897.5	8563.5
127	60860.8	8215	9889.7	8556.8
373	19.1	6	7.3	6.0
382	27.2	5	8.8	4.8
384	120.0	16	19.8	17.1
TOTALS	121997.9	16523	19864.9	17148.2

ITEM 880 - ASPHALT CONCRETE (7 YR WARRANTY) 159011 CU.YD.

CALCULATED DCF
CHECKED ENF

IR 71 PAVEMENT CALCULATIONS

WAY/MED-71-7.04/0.00

STATION FROM	STATION TO	LIN FT	PAVEMENT WIDTH FT	PAVEMENT AREA SQ YD	203 EXCAVATION CU YD	204 SUBGRADE COMPACTION SQ YD	204 PROOF ROLLING HOUR	302 10-1/2 " ASPHALT CONCRETE BASE PG64-22 CU YD	304 6" AGGREGATE BASE CU YD	407 TACK COAT FOR INTERMEDIATE COURSE GAL	411 STABILIZED CRUSHED AGGREGATE CU YD	446 1-1/2 " ASPHALT CONCRETE SURFACE COURSE CU YD	446 1-3/4 " ASPHALT CONCRETE INTERMEDIATE COURSE CU YD	452 9" NON-REINFORCED CONCRETE PAVEMENT SQ YD	609 CURB, TYPE 2-A LIN FT	609 CURB, TYPE 6 LIN FT
SR 83																
STA. 38+00.00	STA. 41+50.00	350.00	*	1093		1093	0.4		183					1093		
STA. 41+50.00	STA. 47+00.00	550.00	*	2935		3026	1.0		552					2935	1100	
STA. 47+00.00	STA. 48+69.21	169.21	*	1198		1236	0.4		225					1198	338	
STA. 51+35.51	STA. 53+00.00	164.49	*	1179		1216	0.4		221					1179	329	
STA. 53+00.00	STA. 61+00.00	800.00	*	6059		6237	2.0		1040					6059	1522	
STA. 61+00.00	STA. 67+50.00	650.00	49.50	3575		3647	1.2		620					3575		616
STA. 67+50.00	STA. 71+50.00	400.00	48.00	2133		2133	0.7		356					2133		
RAMP A																
STA. 93+00.00	STA. 98+96.44	596.44	16.00	1061		1061	0.3	310	177	42		44	52			
STA. 98+96.44	STA. 99+96.44	100.00	*	310		310	0.1		52					310		
RAMP B																
STA. 93+00.00	STA. 93+80.10	80.10	16.00	142		142	0.1	41	24	6		6	7			
STA. 93+80.10	STA. 96+66.18	286.08	36.00	1034**		1034	0.3	302	172	41		43	50			
STA. 96+66.18	STA. 99+66.18	300.00	*	1336		1336	0.4		223					1336		
RAMP C																
STA. 100+01.99	STA. 103+01.99	300.00	*	931		931	0.3		156					931		
STA. 103+01.99	STA. 105+50.01	248.02	24.00	621**		621	0.2	182	104	25		26	31			
STA. 105+50.01	STA. 106+00.00	49.99	16.00	89		89	0.1	26	15	4		4	5			
RAMP D																
STA. 99+73.17	STA. 100+73.17	100.00	*	282		282	0.1		47					282		
STA. 100+73.17	STA. 105+84.33	511.16	16.00	909		909	0.3	265	152	45		38	44			
STA. 105+84.33	STA. 106+00.00	15.67	15.90***	28		28	0.1	8	5	1		1	1			
WILLOW ROAD																
STA. 8+75.00	STA. 9+20.00	45.00	VARIES	636		636	0.2		106					636		
STA. 11+00.00	STA. 11+50.00	50.00	VARIES	897		897	0.3		150					897	110	110
GARMAN ROAD																
STA. 10+13.00	STA. 11+16.50	68.40	VARIES	683		683	0.2		114					683	280	
R/W ACCESS ROAD																
STA. 152+01	STA. 158+02	601.00	12.00	801	89						133					
GRAND TOTALS CARRIED TO GENERAL SUMMARY					89	27547	9.1	1134#	4694	164#	133	162#	190#	23247	3679	726

# - QUANTITIES CARRIED TO ITEM 880 SUMMARY TABLE ON SHEET 130

* VARIES, SEE PAVEMENT CALCULATIONS

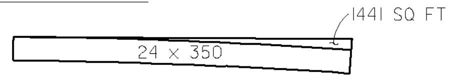
** ADJUSTED FOR TAPER

*** AVERAGE WIDTH

PAVEMENT CALCULATIONS

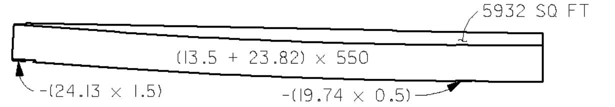
S.R. 83

STA. 38+00.00 - STA. 41+50.00



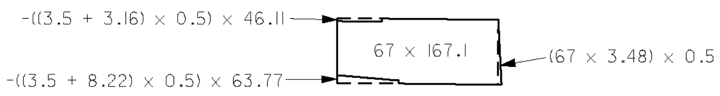
(24 x 350) + 1441 = 9841 SQ FT (1093 SQ YD)

STA. 41+50.00 - STA. 47+00.00



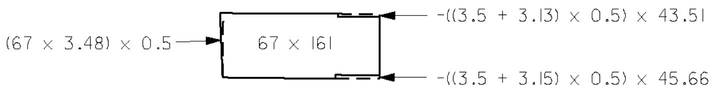
((13.5 + 23.82) x 550) + 5932 - (1.5 x 24.13) - (19.74 x 0.5) = 26412 SQ FT (2935 SQ YD)

STA. 47+00.00 - STA. 48+69.21



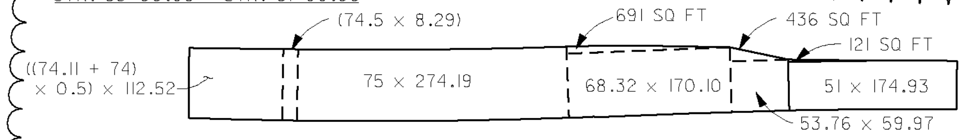
(67 x 167.1) + ((67 x 3.48) x 0.5) - (((3.5 + 3.16) x 0.5) x 46.11)
- (((3.5 + 8.22) x 0.5) x 63.77) = 10785 SQ FT (1198 SQ YD)

STA. 51+35.51 - STA. 53+00.00



(67 x 161) + ((67 x 3.48) x 0.5) - (((3.5 + 3.13) x 0.5) x 43.51)
- (((3.5 + 3.15) x 0.5) x 45.66) = 10608 SQ FT (1179 SQ YD)

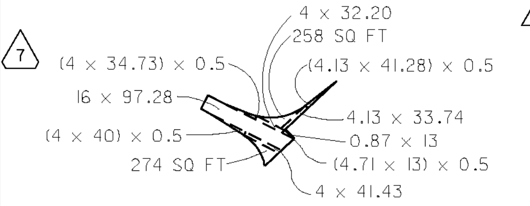
STA. 53+00.00 - STA. 61+00.00



(75 x 274.19) + (51 x 174.93) + (74.5 x 8.29) + (170.10 x 68.32) + 691 + 121 + 436
+ (((74.11 + 74) x 0.5) x 112.52) + (59.97 x 53.76) = 54530 SQ FT (6059 SQ YD)

RAMP A

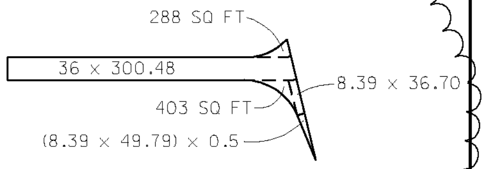
STA. 98+96.44 - STA. 99+96.44



(16 x 97.28) + ((4 x 34.73) x 0.5) + 258
+ ((4.13 x 41.28) x 0.5) + (4.13 x 33.74)
+ (4 x 32.20) + (4 x 41.43) + 274
+ ((4 x 40) x 0.5) + (0.87 x 13) +
+ ((4.71 x 13) x 0.5) = 2792 SQ FT (310 SQ YD)

RAMP B

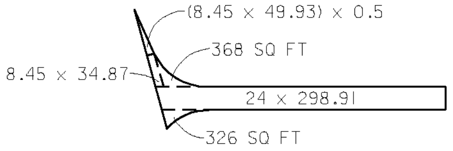
STA. 96+66.18 - STA. 99+66.18



(36 x 300.48) + 288 + 403 + (8.39 x 36.70)
+ ((8.39 x 49.79) x 0.5)
= 12027 SQ FT (1336 SQ YD)

RAMP C

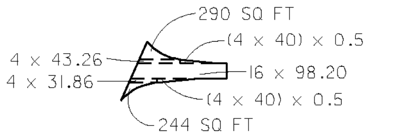
STA. 100+01.99 - STA. 103+01.99



(24 x 298.91) +368 + 326 + (8.45 x 34.87)
+ ((8.45 x 49.93) x 0.5)
= 8374 SQ FT (931 SQ YD)

RAMP D

STA. 99+73.17 - STA. 100+73.17



(16 x 98.20) + 290 + (4 x 31.86)
+ (4 x 43.26) + ((4 x 40) x 0.5)
+ ((4 x 40) x 0.5) + 244
= 2542 SQ FT (282 SQ YD)

7 REVISED 02-10-06

1 = REVISED 07-08-04 2 = REVISED 07-30-04 4 REVISED 10-11-04 5 REVISED 11-05-04

CALC. BY: KSG DATE: 05-21-03
CHKD BY: BBB DATE: 05-21-03

PAVEMENT SUB-SUMMARY

WAY/MED-71-7.04/0.00

STATION FROM	STATION TO	LIN FT	204 SUBGRADE COMPACTION SQ YD	204 PROOF ROLLING HOUR	302 10-1/2 " ASPHALT CONCRETE BASE PG64-22 CU YD	304 6" AGGREGATE BASE CU YD	407 TACK COAT FOR INTERMEDIATE COURSE GAL	446 1-1/2 " ASPHALT CONCRETE SURFACE COURSE CU YD	446 1-3/4 " ASPHALT CONCRETE INTERMEDIATE COURSE CU YD	452 9" NON-REINFORCED CONCRETE PAVEMENT SQ YD
SR 83										
STA. 38+00.00	STA. 41+50.00	350.00	461	0.2		77				461
STA. 61+00.00	STA. 67+50.00	650.00	400	0.1		67				400
STA. 67+50.00	STA. 71+50.00	400.00	356	0.1		60				356
RAMP A										
STA. 93+00.00	STA. 99+96.44	696.44	1170	0.4	243	195	30	31	36	160
RAMP B										
STA. 93+00.00	STA. 99+66.18	666.18	1036	0.3	149	179	18	19	22	424
RAMP C										
STA. 100+01.99	STA. 106+00.00	598.01	897	0.3	121	150	15	16	18	367
RAMP D										
STA. 99+72.81	STA. 106+00.00	627.19	1066	0.3	214	178	26	27	32	172
WILLOW ROAD										
STA. 8+75.00	STA. 9+20.00	45.00	70	0.1		12				70
GRAND TOTALS CARRIED TO GENERAL SUMMARY			5456	1.8	727 ✱	918	89✱	93✱	108✱	2410

✱ - QUANTITIES CARRIED TO ITEM 880 SUMMARY TABLE BELOW

ITEM 880 - ASPHALT CONCRETE (7 YEAR WARRANTY)

SHEET NO.	*302* *ASPHALT CONCRETE BASE, PG64-22* *CU. YD.*	*407* *TACK COAT FOR INTERMEDIATE COURSE* *GALLONS*	*446* *ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2 PG64-28* *CU. YD.*	*446* *ASPHALT CONCRETE SURFACE COURSE TYPE 1H* *CU. YD.*
THIS SHEET	*727*	*89*	*108*	*93*
129	*1134*	*168*	*195*	*166*
TOTALS	*1861*	*257*	*303*	*259*

ITEM 880 - ASPHALT CONCRETE (7 YR WARRANTY) *2423 CU.YD.*

CALC. BY KSG DATED [illegible]
CHKD. BY BBB DATED [illegible]

SHOULDER SUB-SUMMARY

WAY/MED-71-7.04/0.00

SUPERELEVATION TABLE NORTHBOUND

PI STA= 37+44.62	Dc= 0°29″59′

℄	30' RIGHT						42' RIGHT					54' RIGHT					OUTSIDE EDGE CONTROL 66' RIGHT	
STATION	REMARKS	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	PROFILE GRADE	STATION
371+50	F.S	973.68		0.23	0.0190	12.00	973.46		0.23	0.0190	12.00	973.23		0.23	0.0190	12.00	973.00	371+50
371+75		973.58		0.23	0.0190	12.00	973.36		0.23	0.0190	12.00	973.13		0.23	0.0190	12.00	972.90	371+75
372+00		973.47		0.23	0.0190	12.00	973.25		0.23	0.0190	12.00	973.02		0.23	0.0190	12.00	972.79	372+00
372+25		973.34		0.23	0.0190	12.00	973.12		0.23	0.0190	12.00	972.89		0.23	0.0190	12.00	972.66	372+25
372+50		973.21		0.23	0.0190	12.00	972.99		0.23	0.0190	12.00	972.76		0.23	0.0190	12.00	972.53	372+50
372+75		973.06		0.23	0.0190	12.00	972.84		0.23	0.0190	12.00	972.61		0.23	0.0190	12.00	972.38	372+75
373+00		972.90		0.23	0.0190	12.00	972.68		0.23	0.0190	12.00	972.45		0.23	0.0190	12.00	972.22	373+00
373+25		972.74		0.23	0.0190	12.00	972.52		0.23	0.0190	12.00	972.29		0.23	0.0190	12.00	972.06	373+25
373+50		972.56		0.23	0.0190	12.00	972.34		0.23	0.0190	12.00	972.11		0.23	0.0190	12.00	971.88	373+50
373+75		972.36		0.23	0.0190	12.00	972.14		0.23	0.0190	12.00	971.91		0.23	0.0190	12.00	971.68	373+75
374+00		972.16		0.23	0.0190	12.00	971.94		0.23	0.0190	12.00	971.71		0.23	0.0190	12.00	971.48	374+00
374+25		971.95		0.23	0.0190	12.00	971.73		0.23	0.0190	12.00	971.50		0.23	0.0190	12.00	971.27	374+25
374+50		971.72		0.23	0.0190	12.00	971.50		0.23	0.0190	12.00	971.27		0.23	0.0190	12.00	971.04	374+50
374+60.25																		374+60.25
0+00		971.63		0.23	0.0190	12.00	971.41		0.23	0.0190	12.00	971.18		0.23	0.0190	12.00	970.95	0+00
0+25		971.39		0.23	0.0190	12.00	971.17		0.23	0.0190	12.00	970.94		0.23	0.0190	12.00	970.71	0+25
0+50		971.14		0.23	0.0190	12.00	970.92		0.23	0.0190	12.00	970.69		0.23	0.0190	12.00	970.46	0+50
0+75		970.87		0.23	0.0190	12.00	970.65		0.23	0.0190	12.00	970.42		0.23	0.0190	12.00	970.19	0+75
1+00		970.60		0.23	0.0190	12.00	970.38		0.23	0.0190	12.00	970.15		0.23	0.0190	12.00	969.92	1+00
1+25		970.31		0.23	0.0190	12.00	970.09		0.23	0.0190	12.00	969.86		0.23	0.0190	12.00	969.63	1+25
1+50		970.02		0.23	0.0190	12.00	969.80		0.23	0.0190	12.00	969.57		0.23	0.0190	12.00	969.34	1+50
1+75		969.71		0.23	0.0190	12.00	969.49		0.23	0.0190	12.00	969.26		0.23	0.0190	12.00	969.03	1+75
2+00		969.39		0.23	0.0190	12.00	969.17		0.23	0.0190	12.00	968.94		0.23	0.0190	12.00	968.71	2+00
2+25		969.06		0.23	0.0190	12.00	968.84		0.23	0.0190	12.00	968.61		0.23	0.0190	12.00	968.38	2+25
2+50		968.72		0.23	0.0190	12.00	968.50		0.23	0.0190	12.00	968.27		0.23	0.0190	12.00	968.04	2+50
2+75		968.36		0.23	0.0190	12.00	968.14		0.23	0.0190	12.00	967.91		0.23	0.0190	12.00	967.68	2+75
3+00		968.00		0.23	0.0190	12.00	967.78		0.23	0.0190	12.00	967.55		0.23	0.0190	12.00	967.32	3+00
3+25		967.62		0.23	0.0190	12.00	967.40		0.23	0.0190	12.00	967.17		0.23	0.0190	12.00	966.94	3+25
3+50		967.24		0.23	0.0190	12.00	967.02		0.23	0.0190	12.00	966.79		0.23	0.0190	12.00	966.56	3+50
3+75		966.84		0.23	0.0190	12.00	966.62		0.23	0.0190	12.00	966.39		0.23	0.0190	12.00	966.16	3+75
4+00		966.43		0.23	0.0190	12.00	966.21		0.23	0.0190	12.00	965.98		0.23	0.0190	12.00	965.75	4+00
4+25		966.01		0.23	0.0190	12.00	965.79		0.23	0.0190	12.00	965.56		0.23	0.0190	12.00	965.33	4+25
4+50		965.58		0.23	0.0190	12.00	965.36		0.23	0.0190	12.00	965.13		0.23	0.0190	12.00	964.90	4+50
4+75		965.13		0.23	0.0190	12.00	964.91		0.23	0.0190	12.00	964.68		0.23	0.0190	12.00	964.45	4+75
5+00		964.68		0.23	0.0190	12.00	964.46		0.23	0.0190	12.00	964.23		0.23	0.0190	12.00	964.00	5+00
5+25		964.21		0.23	0.0190	12.00	963.99		0.23	0.0190	12.00	963.76		0.23	0.0190	12.00	963.53	5+25
5+50		963.74		0.23	0.0190	12.00	963.52		0.23	0.0190	12.00	963.29		0.23	0.0190	12.00	963.06	5+50
5+75		963.25		0.23	0.0190	12.00	963.03		0.23	0.0190	12.00	962.80		0.23	0.0190	12.00	962.57	5+75
6+00		962.75		0.23	0.0190	12.00	962.53		0.23	0.0190	12.00	962.30		0.23	0.0190	12.00	962.07	6+00
6+25		962.24		0.23	0.0190	12.00	962.02		0.23	0.0190	12.00	961.79		0.23	0.0190	12.00	961.56	6+25
6+50		961.72		0.23	0.0190	12.00	961.50		0.23	0.0190	12.00	961.27		0.23	0.0190	12.00	961.04	6+50
6+75		961.18		0.23	0.0190	12.00	960.96		0.23	0.0190	12.00	960.73		0.23	0.0190	12.00	960.50	6+75
7+00		960.64		0.23	0.0190	12.00	960.42		0.23	0.0190	12.00	960.19		0.23	0.0190	12.00	959.96	7+00
7+25		960.09		0.23	0.0190	12.00	959.87		0.23	0.0190	12.00	959.64		0.23	0.0190	12.00	959.41	7+25
7+50		959.54		0.23	0.0190	12.00	959.32		0.23	0.0190	12.00	959.09		0.23	0.0190	12.00	958.86	7+50
7+75		958.99		0.23	0.0190	12.00	958.77		0.23	0.0190	12.00	958.54		0.23	0.0190	12.00	958.31	7+75
8+00		958.44		0.23	0.0190	12.00	958.22		0.23	0.0190	12.00	957.99		0.23	0.0190	12.00	957.76	8+00
8+15.27		958.10		0.23	0.0190	12.00	957.88		0.23	0.0190	12.00	957.65		0.23	0.0190	12.00	957.42	8+15.27
8+25.00		957.92	321.6:1	0.24	0.0198	12.00	957.69	321.6:1	0.24	0.0198	12.00	957.45	321.6:1	0.24	0.0198	12.00	957.21	8+25.00
8+50		957.45		0.26	0.0220	12.00	957.19		0.26	0.0220	12.00	956.92		0.26	0.0220	12.00	956.66	8+50
8+75		956.90		0.26	0.0220	12.00	956.64		0.26	0.0220	12.00	956.37		0.26	0.0220	12.00	956.11	8+75
9+00		956.35		0.26	0.0220	12.00	956.09		0.26	0.0220	12.00	955.82		0.26	0.0220	12.00	955.56	9+00
9+25		955.80		0.26	0.0220	12.00	955.54		0.26	0.0220	12.00	955.27		0.26	0.0220	12.00	955.01	9+25
9+50		955.25		0.26	0.0220	12.00	954.99		0.26	0.0220	12.00	954.72		0.26	0.0220	12.00	954.46	9+50
9+75		954.70		0.26	0.0220	12.00	954.44		0.26	0.0220	12.00	954.17		0.26	0.0220	12.00	953.91	9+75
10+00		954.15		0.26	0.0220	12.00	953.89		0.26	0.0220	12.00	953.62		0.26	0.0220	12.00	953.36	10+00
10+25		953.60		0.26	0.0220	12.00	953.34		0.26	0.0220	12.00	953.07		0.26	0.0220	12.00	952.81	10+25
10+50		953.05		0.26	0.0220	12.00	952.79		0.26	0.0220	12.00	952.52		0.26	0.0220	12.00	952.26	10+50
10+75		952.50		0.26	0.0220	12.00	952.24		0.26	0.0220	12.00	951.97		0.26	0.0220	12.00	951.71	10+75
11+00		951.95		0.26	0.0220	12.00	951.69		0.26	0.0220	12.00	951.42		0.26	0.0220	12.00	951.16	11+00
11+25		951.40		0.26	0.0220	12.00	951.14		0.26	0.0220	12.00	950.87		0.26	0.0220	12.00	950.61	11+25
11+50		950.85		0.26	0.0220	12.00	950.59		0.26	0.0220	12.00	950.32		0.26	0.0220	12.00	950.06	11+50
11+75		950.30		0.26	0.0220	12.00	950.04		0.26	0.0220	12.00	949.77		0.26	0.0220	12.00	949.51	11+75
12+00		949.75		0.26	0.0220	12.00	949.49		0.26	0.0220	12.00	949.22		0.26	0.0220	12.00	948.96	12+00

CALCULATED

CHECKED

SUPERELEVATION TABLE

WAY/ MED-71-7.04/ 0.00

SUPERELEVATION TABLE NORTHBOUND

PI STA- 37+44.62 | Dc= 0°29"59'

℄	30' RIGHT						42' RIGHT					54' RIGHT					OUTSIDE EDGE CONTROL 66' RIGHT	
STATION	REMARKS	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	PROFILE GRADE	STATION
12+25		949.20		0.26	0.0220	12.00	948.94		0.26	0.0220	12.00	948.67		0.26	0.0220	12.00	948.41	12+25
12+50		948.65		0.26	0.0220	12.00	948.39		0.26	0.0220	12.00	948.12		0.26	0.0220	12.00	947.86	12+50
12+75		948.10		0.26	0.0220	12.00	947.84		0.26	0.0220	12.00	947.57		0.26	0.0220	12.00	947.31	12+75
13+00		947.55		0.26	0.0220	12.00	947.29		0.26	0.0220	12.00	947.02		0.26	0.0220	12.00	946.76	13+00
13+25		947.00		0.26	0.0220	12.00	946.74		0.26	0.0220	12.00	946.47		0.26	0.0220	12.00	946.21	13+25
13+50		946.45		0.26	0.0220	12.00	946.19		0.26	0.0220	12.00	945.92		0.26	0.0220	12.00	945.66	13+50
13+75		945.90		0.26	0.0220	12.00	945.64		0.26	0.0220	12.00	945.37		0.26	0.0220	12.00	945.11	13+75
14+00		945.35		0.26	0.0220	12.00	945.09		0.26	0.0220	12.00	944.82		0.26	0.0220	12.00	944.56	14+00
14+25		944.80		0.26	0.0220	12.00	944.54		0.26	0.0220	12.00	944.27		0.26	0.0220	12.00	944.01	14+25
14+50		944.25		0.26	0.0220	12.00	943.99		0.26	0.0220	12.00	943.72		0.26	0.0220	12.00	943.46	14+50
14+70		943.81		0.26	0.0220	12.00	943.54		0.26	0.0220	12.00	943.28		0.26	0.0220	12.00	943.02	14+70
14+75		943.68	277.8:1	0.26	0.0215	12.00	943.43	277.8:1	0.26	0.0215	12.00	943.17	277.8:1	0.26	0.0215	12.00	942.91	14+75
15+00		943.04		0.23	0.0190	12.00	942.82		0.23	0.0190	12.00	942.59		0.23	0.0190	12.00	942.36	15+00
15+25		942.49		0.23	0.0190	12.00	942.27		0.23	0.0190	12.00	942.04		0.23	0.0190	12.00	941.81	15+25
15+50		941.94		0.23	0.0190	12.00	941.72		0.23	0.0190	12.00	941.49		0.23	0.0190	12.00	941.26	15+50
15+75		941.39		0.23	0.0190	12.00	941.17		0.23	0.0190	12.00	940.94		0.23	0.0190	12.00	940.71	15+75
16+00		940.84		0.23	0.0190	12.00	940.62		0.23	0.0190	12.00	940.39		0.23	0.0190	12.00	940.16	16+00
16+25		940.29		0.23	0.0190	12.00	940.07		0.23	0.0190	12.00	939.84		0.23	0.0190	12.00	939.61	16+25
16+50		939.74		0.23	0.0190	12.00	939.52		0.23	0.0190	12.00	939.29		0.23	0.0190	12.00	939.06	16+50
16+75		939.19		0.23	0.0190	12.00	938.97		0.23	0.0190	12.00	938.74		0.23	0.0190	12.00	938.51	16+75
17+00		938.64		0.23	0.0190	12.00	938.42		0.23	0.0190	12.00	938.19		0.23	0.0190	12.00	937.96	17+00
17+25		938.09		0.23	0.0190	12.00	937.87		0.23	0.0190	12.00	937.64		0.23	0.0190	12.00	937.41	17+25
17+50		937.54		0.23	0.0190	12.00	937.32		0.23	0.0190	12.00	937.09		0.23	0.0190	12.00	936.86	17+50
17+75		936.99		0.23	0.0190	12.00	936.77		0.23	0.0190	12.00	936.54		0.23	0.0190	12.00	936.31	17+75
18+00		936.44		0.23	0.0190	12.00	936.22		0.23	0.0190	12.00	935.99		0.23	0.0190	12.00	935.76	18+00
18+25		935.89		0.23	0.0190	12.00	935.67		0.23	0.0190	12.00	935.44		0.23	0.0190	12.00	935.21	18+25
18+50		935.34		0.23	0.0190	12.00	935.12		0.23	0.0190	12.00	934.89		0.23	0.0190	12.00	934.66	18+50
18+75		934.79		0.23	0.0190	12.00	934.57		0.23	0.0190	12.00	934.34		0.23	0.0190	12.00	934.11	18+75
19+00		934.24		0.23	0.0190	12.00	934.02		0.23	0.0190	12.00	933.79		0.23	0.0190	12.00	933.56	19+00
19+25		933.69		0.23	0.0190	12.00	933.47		0.23	0.0190	12.00	933.24		0.23	0.0190	12.00	933.01	19+25
19+50		933.14		0.23	0.0190	12.00	932.92		0.23	0.0190	12.00	932.69		0.23	0.0190	12.00	932.46	19+50
19+75		932.59		0.23	0.0190	12.00	932.37		0.23	0.0190	12.00	932.14		0.23	0.0190	12.00	931.91	19+75
20+00		932.04		0.23	0.0190	12.00	931.82		0.23	0.0190	12.00	931.59		0.23	0.0190	12.00	931.36	20+00
20+25		931.49		0.23	0.0190	12.00	931.27		0.23	0.0190	12.00	931.04		0.23	0.0190	12.00	930.81	20+25
20+50		930.94		0.23	0.0190	12.00	930.72		0.23	0.0190	12.00	930.49		0.23	0.0190	12.00	930.26	20+50
20+75		930.39		0.23	0.0190	12.00	930.17		0.23	0.0190	12.00	929.94		0.23	0.0190	12.00	929.71	20+75
21+00		929.84		0.23	0.0190	12.00	929.62		0.23	0.0190	12.00	929.39		0.23	0.0190	12.00	929.16	21+00
21+25		929.30		0.23	0.0190	12.00	929.08		0.23	0.0190	12.00	928.85		0.23	0.0190	12.00	928.62	21+25
21+50		928.77		0.23	0.0190	12.00	928.55		0.23	0.0190	12.00	928.32		0.23	0.0190	12.00	928.09	21+50
21+75		928.25		0.23	0.0190	12.00	928.03		0.23	0.0190	12.00	927.80		0.23	0.0190	12.00	927.57	21+75
22+00		927.75		0.23	0.0190	12.00	927.53		0.23	0.0190	12.00	927.30		0.23	0.0190	12.00	927.07	22+00
22+25		927.26		0.23	0.0190	12.00	927.04		0.23	0.0190	12.00	926.81		0.23	0.0190	12.00	926.58	22+25
22+50		926.79		0.23	0.0190	12.00	926.57		0.23	0.0190	12.00	926.34		0.23	0.0190	12.00	926.11	22+50
22+75		926.33		0.23	0.0190	12.00	926.11		0.23	0.0190	12.00	925.88		0.23	0.0190	12.00	925.65	22+75
23+00		925.89		0.23	0.0190	12.00	925.67		0.23	0.0190	12.00	925.44		0.23	0.0190	12.00	925.21	23+00
23+25		925.55	277.8:1	0.26	0.0215	12.00	925.30	277.8:1	0.26	0.0215	12.00	925.04	277.8:1	0.26	0.0215	12.00	924.78	23+25
23+30		925.48		0.26	0.0220	12.00	925.22		0.26	0.0220	12.00	924.95		0.26	0.0220	12.00	924.69	23+30
23+50		925.15		0.26	0.0220	12.00	924.89		0.26	0.0220	12.00	924.62		0.26	0.0220	12.00	924.36	23+50
23+75		924.75		0.26	0.0220	12.00	924.49		0.26	0.0220	12.00	924.22		0.26	0.0220	12.00	923.96	23+75
24+00		924.36		0.26	0.0220	12.00	924.10		0.26	0.0220	12.00	923.83		0.26	0.0220	12.00	923.57	24+00
24+25		923.99		0.26	0.0220	12.00	923.73		0.26	0.0220	12.00	923.46		0.26	0.0220	12.00	923.20	24+25
24+50		923.63		0.26	0.0220	12.00	923.37		0.26	0.0220	12.00	923.10		0.26	0.0220	12.00	922.84	24+50
24+75		923.28		0.26	0.0220	12.00	923.02		0.26	0.0220	12.00	922.75		0.26	0.0220	12.00	922.49	24+75
25+00		922.95		0.26	0.0220	12.00	922.69		0.26	0.0220	12.00	922.42		0.26	0.0220	12.00	922.16	25+00
25+25		922.63		0.26	0.0220	12.00	922.37		0.26	0.0220	12.00	922.10		0.26	0.0220	12.00	921.84	25+25
25+50		922.33		0.26	0.0220	12.00	922.07		0.26	0.0220	12.00	921.80		0.26	0.0220	12.00	921.54	25+50
25+75		922.04		0.26	0.0220	12.00	921.78		0.26	0.0220	12.00	921.51		0.26	0.0220	12.00	921.25	25+75
26+00		921.76		0.26	0.0220	12.00	921.50		0.26	0.0220	12.00	921.23		0.26	0.0220	12.00	920.97	26+00
26+25		921.50		0.26	0.0220	12.00	921.24		0.26	0.0220	12.00	920.97		0.26	0.0220	12.00	920.71	26+25
26+50		921.25		0.26	0.0220	12.00	920.99		0.26	0.0220	12.00	920.72		0.26	0.0220	12.00	920.46	26+50
26+75		921.02		0.26	0.0220	12.00	920.76		0.26	0.0220	12.00	920.49		0.26	0.0220	12.00	920.23	26+75
27+00		920.80		0.26	0.0220	12.00	920.54		0.26	0.0220	12.00	920.27		0.26	0.0220	12.00	920.01	27+00
27+25		920.59		0.26	0.0220	12.00	920.33		0.26	0.0220	12.00	920.06		0.26	0.0220	12.00	919.80	27+25
27+50		920.40		0.26	0.0220	12.00	920.14		0.26	0.0220	12.00	919.87		0.26	0.0220	12.00	919.61	27+50

CALCULATED
CHECKED

SUPERELEVATION TABLE

WAY/MED-71-7.04/0.00

SUPERELEVATION TABLE NORTHBOUND

PI STA= 37+44.62 | Dc= 0°29″59′

℄	30' RIGHT						42' RIGHT					54' RIGHT					OUTSIDE EDGE CONTROL 66' RIGHT	
STATION	REMARKS	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	PROFILE GRADE	STATION
27+75		920.22		0.26	0.0220	12.00	919.96		0.26	0.0220	12.00	919.69		0.26	0.0220	12.00	919.43	27+75
28+00		920.06		0.26	0.0220	12.00	919.80		0.26	0.0220	12.00	919.53		0.26	0.0220	12.00	919.27	28+00
28+25		919.91		0.26	0.0220	12.00	919.65		0.26	0.0220	12.00	919.38		0.26	0.0220	12.00	919.12	28+25
28+50		919.78		0.26	0.0220	12.00	919.52		0.26	0.0220	12.00	919.25		0.26	0.0220	12.00	918.99	28+50
28+75		919.66		0.26	0.0220	12.00	919.40		0.26	0.0220	12.00	919.13		0.26	0.0220	12.00	918.87	28+75
29+00		919.55		0.26	0.0220	12.00	919.29		0.26	0.0220	12.00	919.02		0.26	0.0220	12.00	918.76	29+00
29+25		919.45		0.26	0.0220	12.00	919.19		0.26	0.0220	12.00	918.92		0.26	0.0220	12.00	918.66	29+25
29+50		919.35		0.26	0.0220	12.00	919.09		0.26	0.0220	12.00	918.82		0.26	0.0220	12.00	918.56	29+50
29+75		919.17	321.5:1	0.24	0.0198	12.00	918.94	321.5:1	0.24	0.0198	12.00	918.70	321.5:1	0.24	0.0198	12.00	918.46	29+75
29+84.72		919.10		0.23	0.0190	12.00	918.88		0.23	0.0190	12.00	918.65		0.23	0.0190	12.00	918.42	29+84.72
30+00		919.04		0.23	0.0190	12.00	918.82		0.23	0.0190	12.00	918.59		0.23	0.0190	12.00	918.36	30+00
30+25		918.94		0.23	0.0190	12.00	918.72		0.23	0.0190	12.00	918.49		0.23	0.0190	12.00	918.26	30+25
30+50		918.84		0.23	0.0190	12.00	918.62		0.23	0.0190	12.00	918.39		0.23	0.0190	12.00	918.16	30+50
30+75		918.74		0.23	0.0190	12.00	918.52		0.23	0.0190	12.00	918.29		0.23	0.0190	12.00	918.06	30+75
31+00		918.64		0.23	0.0190	12.00	918.42		0.23	0.0190	12.00	918.19		0.23	0.0190	12.00	917.96	31+00
31+25		918.54		0.23	0.0190	12.00	918.32		0.23	0.0190	12.00	918.09		0.23	0.0190	12.00	917.86	31+25
31+50		918.44		0.23	0.0190	12.00	918.22		0.23	0.0190	12.00	917.99		0.23	0.0190	12.00	917.76	31+50
31+75		918.34		0.23	0.0190	12.00	918.12		0.23	0.0190	12.00	917.89		0.23	0.0190	12.00	917.66	31+75
32+00		918.24		0.23	0.0190	12.00	918.02		0.23	0.0190	12.00	917.79		0.23	0.0190	12.00	917.56	32+00
32+25		918.14		0.23	0.0190	12.00	917.92		0.23	0.0190	12.00	917.69		0.23	0.0190	12.00	917.46	32+25
32+50		918.04		0.23	0.0190	12.00	917.82		0.23	0.0190	12.00	917.59		0.23	0.0190	12.00	917.36	32+50
32+75		917.94		0.23	0.0190	12.00	917.72		0.23	0.0190	12.00	917.49		0.23	0.0190	12.00	917.26	32+75
33+00		917.84		0.23	0.0190	12.00	917.62		0.23	0.0190	12.00	917.39		0.23	0.0190	12.00	917.16	33+00
33+25		917.74		0.23	0.0190	12.00	917.52		0.23	0.0190	12.00	917.29		0.23	0.0190	12.00	917.06	33+25
33+50		917.64		0.23	0.0190	12.00	917.42		0.23	0.0190	12.00	917.19		0.23	0.0190	12.00	916.96	33+50
33+75		917.58		0.23	0.0190	12.00	917.36		0.23	0.0190	12.00	917.13		0.23	0.0190	12.00	916.90	33+75
34+00		917.52		0.23	0.0190	12.00	917.30		0.23	0.0190	12.00	917.07		0.23	0.0190	12.00	916.84	34+00
34+25		917.46		0.23	0.0190	12.00	917.24		0.23	0.0190	12.00	917.01		0.23	0.0190	12.00	916.78	34+25
34+50		917.40		0.23	0.0190	12.00	917.18		0.23	0.0190	12.00	916.95		0.23	0.0190	12.00	916.72	34+50
34+75		917.34		0.23	0.0190	12.00	917.12		0.23	0.0190	12.00	916.89		0.23	0.0190	12.00	916.66	34+75
35+00		917.28		0.23	0.0190	12.00	917.06		0.23	0.0190	12.00	916.83		0.23	0.0190	12.00	916.60	35+00
35+25		917.22		0.23	0.0190	12.00	917.00		0.23	0.0190	12.00	916.77		0.23	0.0190	12.00	916.54	35+25
35+50		917.16		0.23	0.0190	12.00	916.94		0.23	0.0190	12.00	916.71		0.23	0.0190	12.00	916.48	35+50
35+75		917.10		0.23	0.0190	12.00	916.88		0.23	0.0190	12.00	916.65		0.23	0.0190	12.00	916.42	35+75
36+00		917.04		0.23	0.0190	12.00	916.82		0.23	0.0190	12.00	916.59		0.23	0.0190	12.00	916.36	36+00
36+25		916.98		0.23	0.0190	12.00	916.76		0.23	0.0190	12.00	916.53		0.23	0.0190	12.00	916.30	36+25
36+50		916.92		0.23	0.0190	12.00	916.70		0.23	0.0190	12.00	916.47		0.23	0.0190	12.00	916.24	36+50
36+75		916.86		0.23	0.0190	12.00	916.64		0.23	0.0190	12.00	916.41		0.23	0.0190	12.00	916.18	36+75
37+00		916.80		0.23	0.0190	12.00	916.58		0.23	0.0190	12.00	916.35		0.23	0.0190	12.00	916.12	37+00
37+25		916.74		0.23	0.0190	12.00	916.52		0.23	0.0190	12.00	916.29		0.23	0.0190	12.00	916.06	37+25
37+50		916.68		0.23	0.0190	12.00	916.46		0.23	0.0190	12.00	916.23		0.23	0.0190	12.00	916.00	37+50
37+75		916.62		0.23	0.0190	12.00	916.40		0.23	0.0190	12.00	916.17		0.23	0.0190	12.00	915.94	37+75
38+00		916.56		0.23	0.0190	12.00	916.34		0.23	0.0190	12.00	916.11		0.23	0.0190	12.00	915.88	38+00
38+25		916.50		0.23	0.0190	12.00	916.28		0.23	0.0190	12.00	916.05		0.23	0.0190	12.00	915.82	38+25
38+50		916.44		0.23	0.0190	12.00	916.22		0.23	0.0190	12.00	915.99		0.23	0.0190	12.00	915.76	38+50
38+75		916.38		0.23	0.0190	12.00	916.16		0.23	0.0190	12.00	915.93		0.23	0.0190	12.00	915.70	38+75
39+00		916.32		0.23	0.0190	12.00	916.10		0.23	0.0190	12.00	915.87		0.23	0.0190	12.00	915.64	39+00
39+25		916.26		0.23	0.0190	12.00	916.04		0.23	0.0190	12.00	915.81		0.23	0.0190	12.00	915.58	39+25
39+50		916.20		0.23	0.0190	12.00	915.98		0.23	0.0190	12.00	915.75		0.23	0.0190	12.00	915.52	39+50
39+75		916.14		0.23	0.0190	12.00	915.92		0.23	0.0190	12.00	915.69		0.23	0.0190	12.00	915.46	39+75
40+00		916.08		0.23	0.0190	12.00	915.86		0.23	0.0190	12.00	915.63		0.23	0.0190	12.00	915.40	40+00
40+25		916.02		0.23	0.0190	12.00	915.80		0.23	0.0190	12.00	915.57		0.23	0.0190	12.00	915.34	40+25
40+50		915.96		0.23	0.0190	12.00	915.74		0.23	0.0190	12.00	915.51		0.23	0.0190	12.00	915.28	40+50
40+75		915.90		0.23	0.0190	12.00	915.68		0.23	0.0190	12.00	915.45		0.23	0.0190	12.00	915.22	40+75
41+00		915.84		0.23	0.0190	12.00	915.62		0.23	0.0190	12.00	915.39		0.23	0.0190	12.00	915.16	41+00
41+25		915.78		0.23	0.0190	12.00	915.56		0.23	0.0190	12.00	915.33		0.23	0.0190	12.00	915.10	41+25
41+50		915.72		0.23	0.0190	12.00	915.50		0.23	0.0190	12.00	915.27		0.23	0.0190	12.00	915.04	41+50
41+75		915.66		0.23	0.0190	12.00	915.44		0.23	0.0190	12.00	915.21		0.23	0.0190	12.00	914.98	41+75
42+00		915.60		0.23	0.0190	12.00	915.38		0.23	0.0190	12.00	915.15		0.23	0.0190	12.00	914.92	42+00
42+25		915.54		0.23	0.0190	12.00	915.32		0.23	0.0190	12.00	915.09		0.23	0.0190	12.00	914.86	42+25
42+50		915.48		0.23	0.0190	12.00	915.26		0.23	0.0190	12.00	915.03		0.23	0.0190	12.00	914.80	42+50
42+75		915.42		0.23	0.0190	12.00	915.20		0.23	0.0190	12.00	914.97		0.23	0.0190	12.00	914.74	42+75
43+00		915.36		0.23	0.0190	12.00	915.14		0.23	0.0190	12.00	914.91		0.23	0.0190	12.00	914.68	43+00
43+25		915.24		0.23	0.0190	12.00	915.02		0.23	0.0190	12.00	914.79		0.23	0.0190	12.00	914.56	43+25

CALCULATED
CHECKED

SUPERELEVATION TABLE

WAY/MED-71-7.04/0.00

SUPERELEVATION TABLE NORTHBOUND

PI STA= 37+44.62 | Dc= 0°29"59'

℄	30' RIGHT						42' RIGHT					54' RIGHT					OUTSIDE EDGE CONTROL 66' RIGHT	
STATION	REMARKS	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	PROFILE GRADE	STATION
43+50		915.12		0.23	0.0190	12.00	914.90		0.23	0.0190	12.00	914.67		0.23	0.0190	12.00	914.44	43+50
43+75		915.00		0.23	0.0190	12.00	914.78		0.23	0.0190	12.00	914.55		0.23	0.0190	12.00	914.32	43+75
44+00		914.88		0.23	0.0190	12.00	914.66		0.23	0.0190	12.00	914.43		0.23	0.0190	12.00	914.20	44+00
44+25		914.76		0.23	0.0190	12.00	914.54		0.23	0.0190	12.00	914.31		0.23	0.0190	12.00	914.08	44+25
44+50		914.64		0.23	0.0190	12.00	914.42		0.23	0.0190	12.00	914.19		0.23	0.0190	12.00	913.96	44+50
44+75		914.52		0.23	0.0190	12.00	914.30		0.23	0.0190	12.00	914.07		0.23	0.0190	12.00	913.84	44+75
45+00		914.42		0.23	0.0190	12.00	914.20		0.23	0.0190	12.00	913.97		0.23	0.0190	12.00	913.74	45+00
45+25		914.32		0.23	0.0190	12.00	914.10		0.23	0.0190	12.00	913.87		0.23	0.0190	12.00	913.64	45+25
45+50		914.23		0.23	0.0190	12.00	914.01		0.23	0.0190	12.00	913.78		0.23	0.0190	12.00	913.55	45+50
45+75		914.15		0.23	0.0190	12.00	913.93		0.23	0.0190	12.00	913.70		0.23	0.0190	12.00	913.47	45+75
46+00		914.08		0.23	0.0190	12.00	913.86		0.23	0.0190	12.00	913.63		0.23	0.0190	12.00	913.40	46+00
46+25		914.02		0.23	0.0190	12.00	913.80		0.23	0.0190	12.00	913.57		0.23	0.0190	12.00	913.34	46+25
46+50		913.97		0.23	0.0190	12.00	913.75		0.23	0.0190	12.00	913.52		0.23	0.0190	12.00	913.29	46+50
46+75		913.93		0.23	0.0190	12.00	913.71		0.23	0.0190	12.00	913.48		0.23	0.0190	12.00	913.25	46+75
47+00		913.90		0.23	0.0190	12.00	913.68		0.23	0.0190	12.00	913.45		0.23	0.0190	12.00	913.22	47+00
47+25		913.87		0.23	0.0190	12.00	913.65		0.23	0.0190	12.00	913.42		0.23	0.0190	12.00	913.19	47+25
47+50		913.86		0.23	0.0190	12.00	913.64		0.23	0.0190	12.00	913.41		0.23	0.0190	12.00	913.18	47+50
47+75		913.85		0.23	0.0190	12.00	913.63		0.23	0.0190	12.00	913.40		0.23	0.0190	12.00	913.17	47+75
48+00		913.86		0.23	0.0190	12.00	913.64		0.23	0.0190	12.00	913.41		0.23	0.0190	12.00	913.18	48+00
48+25		913.87		0.23	0.0190	12.00	913.65		0.23	0.0190	12.00	913.42		0.23	0.0190	12.00	913.19	48+25
48+50		913.89		0.23	0.0190	12.00	913.67		0.23	0.0190	12.00	913.44		0.23	0.0190	12.00	913.21	48+50
48+75		913.92		0.23	0.0190	12.00	913.70		0.23	0.0190	12.00	913.47		0.23	0.0190	12.00	913.24	48+75
49+00		913.96		0.23	0.0190	12.00	913.74		0.23	0.0190	12.00	913.51		0.23	0.0190	12.00	913.28	49+00
49+25		914.01		0.23	0.0190	12.00	913.79		0.23	0.0190	12.00	913.56		0.23	0.0190	12.00	913.33	49+25
49+50		914.07		0.23	0.0190	12.00	913.85		0.23	0.0190	12.00	913.62		0.23	0.0190	12.00	913.39	49+50
49+75		914.14		0.23	0.0190	12.00	913.92		0.23	0.0190	12.00	913.69		0.23	0.0190	12.00	913.46	49+75
50+00		914.22		0.23	0.0190	12.00	914.00		0.23	0.0190	12.00	913.77		0.23	0.0190	12.00	913.54	50+00
50+25		914.30		0.23	0.0190	12.00	914.08		0.23	0.0190	12.00	913.85		0.23	0.0190	12.00	913.62	50+25
50+50		914.40		0.23	0.0190	12.00	914.18		0.23	0.0190	12.00	913.95		0.23	0.0190	12.00	913.72	50+50
50+75		914.50		0.23	0.0190	12.00	914.28		0.23	0.0190	12.00	914.05		0.23	0.0190	12.00	913.82	50+75
51+00		914.62		0.23	0.0190	12.00	914.40		0.23	0.0190	12.00	914.17		0.23	0.0190	12.00	913.94	51+00
51+25		914.74		0.23	0.0190	12.00	914.52		0.23	0.0190	12.00	914.29		0.23	0.0190	12.00	914.06	51+25
51+50		914.87		0.23	0.0190	12.00	914.65		0.23	0.0190	12.00	914.42		0.23	0.0190	12.00	914.19	51+50
51+75		915.01		0.23	0.0190	12.00	914.79		0.23	0.0190	12.00	914.56		0.23	0.0190	12.00	914.33	51+75
52+00		915.16		0.23	0.0190	12.00	914.94		0.23	0.0190	12.00	914.71		0.23	0.0190	12.00	914.48	52+00
52+25		915.32		0.23	0.0190	12.00	915.10		0.23	0.0190	12.00	914.87		0.23	0.0190	12.00	914.64	52+25
52+50		915.49		0.23	0.0190	12.00	915.27		0.23	0.0190	12.00	915.04		0.23	0.0190	12.00	914.81	52+50
52+75		915.67		0.23	0.0190	12.00	915.45		0.23	0.0190	12.00	915.22		0.23	0.0190	12.00	914.99	52+75
53+00		915.86		0.23	0.0190	12.00	915.64		0.23	0.0190	12.00	915.41		0.23	0.0190	12.00	915.18	53+00
53+25		916.05		0.23	0.0190	12.00	915.83		0.23	0.0190	12.00	915.60		0.23	0.0190	12.00	915.37	53+25
53+50		916.26		0.23	0.0190	12.00	916.04		0.23	0.0190	12.00	915.81		0.23	0.0190	12.00	915.58	53+50
53+75		916.47		0.23	0.0190	12.00	916.25		0.23	0.0190	12.00	916.02		0.23	0.0190	12.00	915.79	53+75
54+00		916.68		0.23	0.0190	12.00	916.46		0.23	0.0190	12.00	916.23		0.23	0.0190	12.00	916.00	54+00
54+25		916.89		0.23	0.0190	12.00	916.67		0.23	0.0190	12.00	916.44		0.23	0.0190	12.00	916.21	54+25
54+50		917.10		0.23	0.0190	12.00	916.88		0.23	0.0190	12.00	916.65		0.23	0.0190	12.00	916.42	54+50
54+75		917.31		0.23	0.0190	12.00	917.09		0.23	0.0190	12.00	916.86		0.23	0.0190	12.00	916.63	54+75
55+00		917.52		0.23	0.0190	12.00	917.30		0.23	0.0190	12.00	917.07		0.23	0.0190	12.00	916.84	55+00
55+25		917.73		0.23	0.0190	12.00	917.51		0.23	0.0190	12.00	917.28		0.23	0.0190	12.00	917.05	55+25
55+50		917.94		0.23	0.0190	12.00	917.72		0.23	0.0190	12.00	917.49		0.23	0.0190	12.00	917.26	55+50
55+75		918.15		0.23	0.0190	12.00	917.93		0.23	0.0190	12.00	917.70		0.23	0.0190	12.00	917.47	55+75
56+00		918.36		0.23	0.0190	12.00	918.14		0.23	0.0190	12.00	917.91		0.23	0.0190	12.00	917.68	56+00
56+25		918.57		0.23	0.0190	12.00	918.35		0.23	0.0190	12.00	918.12		0.23	0.0190	12.00	917.89	56+25
56+50		918.78		0.23	0.0190	12.00	918.56		0.23	0.0190	12.00	918.33		0.23	0.0190	12.00	918.10	56+50
56+75		918.99		0.23	0.0190	12.00	918.77		0.23	0.0190	12.00	918.54		0.23	0.0190	12.00	918.31	56+75
57+00		919.20		0.23	0.0190	12.00	918.98		0.23	0.0190	12.00	918.75		0.23	0.0190	12.00	918.52	57+00
57+25		919.41		0.23	0.0190	12.00	919.19		0.23	0.0190	12.00	918.96		0.23	0.0190	12.00	918.73	57+25
57+50		919.62		0.23	0.0190	12.00	919.40		0.23	0.0190	12.00	919.17		0.23	0.0190	12.00	918.94	57+50
57+75		919.83		0.23	0.0190	12.00	919.61		0.23	0.0190	12.00	919.38		0.23	0.0190	12.00	919.15	57+75
58+00		920.04		0.23	0.0190	12.00	919.82		0.23	0.0190	12.00	919.59		0.23	0.0190	12.00	919.36	58+00
58+25		920.25		0.23	0.0190	12.00	920.03		0.23	0.0190	12.00	919.80		0.23	0.0190	12.00	919.57	58+25
58+50		920.46		0.23	0.0190	12.00	920.24		0.23	0.0190	12.00	920.01		0.23	0.0190	12.00	919.78	58+50
58+75		920.67		0.23	0.0190	12.00	920.45		0.23	0.0190	12.00	920.22		0.23	0.0190	12.00	919.99	58+75
59+00		920.88		0.23	0.0190	12.00	920.66		0.23	0.0190	12.00	920.43		0.23	0.0190	12.00	920.20	59+00
59+25		921.09		0.23	0.0190	12.00	920.87		0.23	0.0190	12.00	920.64		0.23	0.0190	12.00	920.41	59+25

CALCULATED
CHECKED

SUPERELEVATION TABLE

WAY/MED-71-7.04/0.00

SUPERELEVATION TABLE NORTHBOUND

PI STA= 37+44.62 | Dc= 0°29"59'

℄		30' RIGHT					42' RIGHT					54' RIGHT					OUTSIDE EDGE CONTROL 66' RIGHT	
STATION	REMARKS	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	PROFILE GRADE	STATION
59+50		921.30		0.23	0.0190	12.00	921.08		0.23	0.0190	12.00	920.85		0.23	0.0190	12.00	920.62	59+50
59+75		921.51		0.23	0.0190	12.00	921.29		0.23	0.0190	12.00	921.06		0.23	0.0190	12.00	920.83	59+75
60+00		921.72		0.23	0.0190	12.00	921.50		0.23	0.0190	12.00	921.27		0.23	0.0190	12.00	921.04	60+00
60+25		921.93		0.23	0.0190	12.00	921.71		0.23	0.0190	12.00	921.48		0.23	0.0190	12.00	921.25	60+25
60+50		922.14		0.23	0.0190	12.00	921.92		0.23	0.0190	12.00	921.69		0.23	0.0190	12.00	921.46	60+50
60+75		922.35		0.23	0.0190	12.00	922.13		0.23	0.0190	12.00	921.90		0.23	0.0190	12.00	921.67	60+75
61+00		922.56		0.23	0.0190	12.00	922.34		0.23	0.0190	12.00	922.11		0.23	0.0190	12.00	921.88	61+00
61+25		922.77		0.23	0.0190	12.00	922.55		0.23	0.0190	12.00	922.32		0.23	0.0190	12.00	922.09	61+25
61+50		922.98		0.23	0.0190	12.00	922.76		0.23	0.0190	12.00	922.53		0.23	0.0190	12.00	922.30	61+50
61+75		923.19		0.23	0.0190	12.00	922.97		0.23	0.0190	12.00	922.74		0.23	0.0190	12.00	922.51	61+75
62+00		923.40		0.23	0.0190	12.00	923.18		0.23	0.0190	12.00	922.95		0.23	0.0190	12.00	922.72	62+00
62+25		923.61		0.23	0.0190	12.00	923.39		0.23	0.0190	12.00	923.16		0.23	0.0190	12.00	922.93	62+25
62+50		923.82		0.23	0.0190	12.00	923.60		0.23	0.0190	12.00	923.37		0.23	0.0190	12.00	923.14	62+50
62+75		924.03		0.23	0.0190	12.00	923.81		0.23	0.0190	12.00	923.58		0.23	0.0190	12.00	923.35	62+75
63+00		924.24		0.23	0.0190	12.00	924.02		0.23	0.0190	12.00	923.79		0.23	0.0190	12.00	923.56	63+00
63+25		924.45		0.23	0.0190	12.00	924.23		0.23	0.0190	12.00	924.00		0.23	0.0190	12.00	923.77	63+25
63+50		924.66		0.23	0.0190	12.00	924.44		0.23	0.0190	12.00	924.21		0.23	0.0190	12.00	923.98	63+50
63+75		924.87		0.23	0.0190	12.00	924.65		0.23	0.0190	12.00	924.42		0.23	0.0190	12.00	924.19	63+75
64+00		925.08		0.23	0.0190	12.00	924.86		0.23	0.0190	12.00	924.63		0.23	0.0190	12.00	924.40	64+00
64+25		925.29		0.23	0.0190	12.00	925.07		0.23	0.0190	12.00	924.84		0.23	0.0190	12.00	924.61	64+25
64+50		925.50		0.23	0.0190	12.00	925.28		0.23	0.0190	12.00	925.05		0.23	0.0190	12.00	924.82	64+50
64+75		925.71		0.23	0.0190	12.00	925.49		0.23	0.0190	12.00	925.26		0.23	0.0190	12.00	925.03	64+75
65+00		925.92		0.23	0.0190	12.00	925.70		0.23	0.0190	12.00	925.47		0.23	0.0190	12.00	925.24	65+00
65+25		926.13		0.23	0.0190	12.00	925.91		0.23	0.0190	12.00	925.68		0.23	0.0190	12.00	925.45	65+25
65+50		926.34		0.23	0.0190	12.00	926.12		0.23	0.0190	12.00	925.89		0.23	0.0190	12.00	925.66	65+50
65+75		926.55		0.23	0.0190	12.00	926.33		0.23	0.0190	12.00	926.10		0.23	0.0190	12.00	925.87	65+75
66+00		926.76		0.23	0.0190	12.00	926.54		0.23	0.0190	12.00	926.31		0.23	0.0190	12.00	926.08	66+00
66+25		926.97		0.23	0.0190	12.00	926.75		0.23	0.0190	12.00	926.52		0.23	0.0190	12.00	926.29	66+25
66+50		927.18		0.23	0.0190	12.00	926.96		0.23	0.0190	12.00	926.73		0.23	0.0190	12.00	926.50	66+50
66+75		927.39		0.23	0.0190	12.00	927.17		0.23	0.0190	12.00	926.94		0.23	0.0190	12.00	926.71	66+75
67+00		927.60		0.23	0.0190	12.00	927.38		0.23	0.0190	12.00	927.15		0.23	0.0190	12.00	926.92	67+00
67+25		927.81		0.23	0.0190	12.00	927.59		0.23	0.0190	12.00	927.36		0.23	0.0190	12.00	927.13	67+25
67+50		928.02		0.23	0.0190	12.00	927.80		0.23	0.0190	12.00	927.57		0.23	0.0190	12.00	927.34	67+50
67+75		928.23		0.23	0.0190	12.00	928.01		0.23	0.0190	12.00	927.78		0.23	0.0190	12.00	927.55	67+75
68+00		928.44		0.23	0.0190	12.00	928.22		0.23	0.0190	12.00	927.99		0.23	0.0190	12.00	927.76	68+00
68+25		928.65		0.23	0.0190	12.00	928.43		0.23	0.0190	12.00	928.20		0.23	0.0190	12.00	927.97	68+25
68+50		928.85		0.23	0.0190	12.00	928.63		0.23	0.0190	12.00	928.40		0.23	0.0190	12.00	928.17	68+50
68+75		929.05		0.23	0.0190	12.00	928.83		0.23	0.0190	12.00	928.60		0.23	0.0190	12.00	928.37	68+75
69+00		929.23		0.23	0.0190	12.00	929.01		0.23	0.0190	12.00	928.78		0.23	0.0190	12.00	928.55	69+00
69+25		929.40		0.23	0.0190	12.00	929.18		0.23	0.0190	12.00	928.95		0.23	0.0190	12.00	928.72	69+25
69+50		929.56		0.23	0.0190	12.00	929.34		0.23	0.0190	12.00	929.11		0.23	0.0190	12.00	928.88	69+50
69+75		929.71		0.23	0.0190	12.00	929.49		0.23	0.0190	12.00	929.26		0.23	0.0190	12.00	929.03	69+75
70+00		929.85		0.23	0.0190	12.00	929.63		0.23	0.0190	12.00	929.40		0.23	0.0190	12.00	929.17	70+00
70+25		929.98		0.23	0.0190	12.00	929.76		0.23	0.0190	12.00	929.53		0.23	0.0190	12.00	929.30	70+25
70+50		930.09		0.23	0.0190	12.00	929.87		0.23	0.0190	12.00	929.64		0.23	0.0190	12.00	929.41	70+50
70+75		930.20		0.23	0.0190	12.00	929.98		0.23	0.0190	12.00	929.75		0.23	0.0190	12.00	929.52	70+75
71+00		930.30		0.23	0.0190	12.00	930.08		0.23	0.0190	12.00	929.85		0.23	0.0190	12.00	929.62	71+00
71+25		930.40		0.23	0.0190	12.00	930.18		0.23	0.0190	12.00	929.95		0.23	0.0190	12.00	929.72	71+25
71+50		930.50		0.23	0.0190	12.00	930.28		0.23	0.0190	12.00	930.05		0.23	0.0190	12.00	929.82	71+50
71+75		930.60		0.23	0.0190	12.00	930.38		0.23	0.0190	12.00	930.15		0.23	0.0190	12.00	929.92	71+75
72+00	F.S	930.70	287.4:1	0.23	0.0190	12.00	930.48		0.23	0.0190	12.00	930.25		0.23	0.0190	12.00	930.02	72+00
72+25		930.73	↑	0.20	0.0168	12.00	930.52		0.20	0.0168	12.00	930.32		0.20	0.0168	12.00	930.12	72+25
72+38.83	F.C.	930.73		0.19	0.0156	12.00	930.54		0.19	0.0156	12.00	930.36		0.19	0.0156	12.00	930.17	72+38.83
72+50		930.74		0.17	0.0140	12.00	930.58		0.17	0.0140	12.00	930.41		0.19	0.0156	12.00	930.22	72+50
72+75		930.76		0.13	0.0105	12.00	930.63		0.13	0.0105	12.00	930.51		0.19	0.0156	12.00	930.32	72+75
73+00		930.79		0.08	0.0070	12.00	930.70		0.08	0.0070	12.00	930.62		0.19	0.0156	12.00	930.43	73+00
73+25		930.84		0.04	0.0035	12.00	930.80		0.04	0.0035	12.00	930.76		0.19	0.0156	12.00	930.57	73+25
73+50	H.F.	930.92		0.00	0.0000	12.00	930.92		0.00	0.0000	12.00	930.92		0.19	0.0156	12.00	930.73	73+50
73+75		931.01		-0.05	-0.0039	12.00	931.06		-0.05	-0.0039	12.00	931.11		0.19	0.0156	12.00	930.92	73+75
74+00		931.13		-0.09	-0.0078	12.00	931.22		-0.09	-0.0078	12.00	931.32		0.19	0.0156	12.00	931.13	74+00
74+25		931.28	↓	-0.14	-0.0117	12.00	931.42		-0.14	-0.0117	12.00	931.56		0.19	0.0156	12.00	931.37	74+25
74+50	N	931.44	287.4:1	-0.19	-0.0156	12.00	931.63		-0.19	-0.0156	12.00	931.82		0.19	0.0156	12.00	931.63	74+50

CALCULATED

CHECKED

SUPERELEVATION TABLE

WAY/MED-71-7.04/0.00

135

785

SUPERELEVATION TABLE NORTHBOUND

PI STA= 160+33.35 | Dc= 0°28"00'

℄	30' RIGHT						42' RIGHT					54' RIGHT					OUTSIDE EDGE CONTROL 66' RIGHT	
STATION	REMARKS	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	PROFILE GRADE	STATION
131+25	N	966.33	459.2:1	-0.19	-0.0156	12.00	966.52		-0.19	-0.0156	12.00	966.71		0.19	0.0156	12.00	966.52	131+25
131+50		966.15		-0.19	-0.0156	12.00	966.33		-0.19	-0.0156	12.00	966.52		0.14	0.0117	12.00	966.38	131+50
131+75		965.96		-0.19	-0.0156	12.00	966.15		-0.19	-0.0156	12.00	966.33		0.09	0.0078	12.00	966.24	131+75
132+00		965.76		-0.19	-0.0156	12.00	965.95		-0.19	-0.0156	12.00	966.14		0.05	0.0039	12.00	966.09	132+00
132+25	H.F	965.56		-0.19	-0.0156	12.00	965.74		-0.19	-0.0156	12.00	965.93		0.00	0.0000	12.00	965.93	132+25
132+50		965.36		-0.19	-0.0156	12.00	965.54		-0.19	-0.0156	12.00	965.73		-0.05	-0.0041	12.00	965.78	132+50
132+75		965.15		-0.19	-0.0156	12.00	965.33		-0.19	-0.0156	12.00	965.52		-0.10	-0.0083	12.00	965.62	132+75
133+00		964.93		-0.19	-0.0156	12.00	965.11		-0.19	-0.0156	12.00	965.30		-0.15	-0.0124	12.00	965.45	133+00
133+19.42	F.C	964.76		-0.19	-0.0156	12.00	964.95		-0.19	-0.0156	12.00	965.13		-0.19	-0.0156	12.00	965.32	133+19.42
133+25		964.70		-0.19	-0.0162	12.00	964.89		-0.19	-0.0162	12.00	965.09		-0.19	-0.0162	12.00	965.28	133+25
133+50	F.S	964.43	459.2:1	-0.23	-0.0190	12.00	964.65		-0.23	-0.0190	12.00	964.88		-0.23	-0.0190	12.00	965.11	133+50
133+75		964.25		-0.23	-0.0190	12.00	964.47		-0.23	-0.0190	12.00	964.70		-0.23	-0.0190	12.00	964.93	133+75
134+00		964.07		-0.23	-0.0190	12.00	964.29		-0.23	-0.0190	12.00	964.52		-0.23	-0.0190	12.00	964.75	134+00
134+25		963.88		-0.23	-0.0190	12.00	964.10		-0.23	-0.0190	12.00	964.33		-0.23	-0.0190	12.00	964.56	134+25
134+50		963.69		-0.23	-0.0190	12.00	963.91		-0.23	-0.0190	12.00	964.14		-0.23	-0.0190	12.00	964.37	134+50
134+75		963.49		-0.23	-0.0190	12.00	963.71		-0.23	-0.0190	12.00	963.94		-0.23	-0.0190	12.00	964.17	134+75
135+00		963.30		-0.23	-0.0190	12.00	963.52		-0.23	-0.0190	12.00	963.75		-0.23	-0.0190	12.00	963.98	135+00
135+25		963.09		-0.23	-0.0190	12.00	963.31		-0.23	-0.0190	12.00	963.54		-0.23	-0.0190	12.00	963.77	135+25
135+50		962.89		-0.23	-0.0190	12.00	963.11		-0.23	-0.0190	12.00	963.34		-0.23	-0.0190	12.00	963.57	135+50
135+75		962.67		-0.23	-0.0190	12.00	962.89		-0.23	-0.0190	12.00	963.12		-0.23	-0.0190	12.00	963.35	135+75
136+00		962.46		-0.23	-0.0190	12.00	962.68		-0.23	-0.0190	12.00	962.91		-0.23	-0.0190	12.00	963.14	136+00
136+25		962.24		-0.23	-0.0190	12.00	962.46		-0.23	-0.0190	12.00	962.69		-0.23	-0.0190	12.00	962.92	136+25
136+50		962.01		-0.23	-0.0190	12.00	962.23		-0.23	-0.0190	12.00	962.46		-0.23	-0.0190	12.00	962.69	136+50
136+75		961.79		-0.23	-0.0190	12.00	962.01		-0.23	-0.0190	12.00	962.24		-0.23	-0.0190	12.00	962.47	136+75
137+00		961.55		-0.23	-0.0190	12.00	961.77		-0.23	-0.0190	12.00	962.00		-0.23	-0.0190	12.00	962.23	137+00
137+25		961.32		-0.23	-0.0190	12.00	961.54		-0.23	-0.0190	12.00	961.77		-0.23	-0.0190	12.00	962.00	137+25
137+50		961.08		-0.23	-0.0190	12.00	961.30		-0.23	-0.0190	12.00	961.53		-0.23	-0.0190	12.00	961.76	137+50
137+75		960.83		-0.23	-0.0190	12.00	961.05		-0.23	-0.0190	12.00	961.28		-0.23	-0.0190	12.00	961.51	137+75
138+00		960.58		-0.23	-0.0190	12.00	960.80		-0.23	-0.0190	12.00	961.03		-0.23	-0.0190	12.00	961.26	138+00
138+25		960.33		-0.23	-0.0190	12.00	960.55		-0.23	-0.0190	12.00	960.78		-0.23	-0.0190	12.00	961.01	138+25
138+50		960.07		-0.23	-0.0190	12.00	960.29		-0.23	-0.0190	12.00	960.52		-0.23	-0.0190	12.00	960.75	138+50
138+75		959.81		-0.23	-0.0190	12.00	960.03		-0.23	-0.0190	12.00	960.26		-0.23	-0.0190	12.00	960.49	138+75
139+00		959.55		-0.23	-0.0190	12.00	959.77		-0.23	-0.0190	12.00	960.00		-0.23	-0.0190	12.00	960.23	139+00
139+25		959.28		-0.23	-0.0190	12.00	959.50		-0.23	-0.0190	12.00	959.73		-0.23	-0.0190	12.00	959.96	139+25
139+50		959.00		-0.23	-0.0190	12.00	959.22		-0.23	-0.0190	12.00	959.45		-0.23	-0.0190	12.00	959.68	139+50
139+75		958.73		-0.23	-0.0190	12.00	958.95		-0.23	-0.0190	12.00	959.18		-0.23	-0.0190	12.00	959.41	139+75
140+00		958.45		-0.23	-0.0190	12.00	958.67		-0.23	-0.0190	12.00	958.90		-0.23	-0.0190	12.00	959.13	140+00
140+25		958.17		-0.23	-0.0190	12.00	958.39		-0.23	-0.0190	12.00	958.62		-0.23	-0.0190	12.00	958.85	140+25
140+50		957.89		-0.23	-0.0190	12.00	958.11		-0.23	-0.0190	12.00	958.34		-0.23	-0.0190	12.00	958.57	140+50
140+75		957.61		-0.23	-0.0190	12.00	957.83		-0.23	-0.0190	12.00	958.06		-0.23	-0.0190	12.00	958.29	140+75
141+00		957.32		-0.23	-0.0190	12.00	957.54		-0.23	-0.0190	12.00	957.77		-0.23	-0.0190	12.00	958.00	141+00
141+25		957.04		-0.23	-0.0190	12.00	957.26		-0.23	-0.0190	12.00	957.49		-0.23	-0.0190	12.00	957.72	141+25
141+50		956.76		-0.23	-0.0190	12.00	956.98		-0.23	-0.0190	12.00	957.21		-0.23	-0.0190	12.00	957.44	141+50
141+75		956.48		-0.23	-0.0190	12.00	956.70		-0.23	-0.0190	12.00	956.93		-0.23	-0.0190	12.00	957.16	141+75
142+00		956.20		-0.23	-0.0190	12.00	956.42		-0.23	-0.0190	12.00	956.65		-0.23	-0.0190	12.00	956.88	142+00
142+25		955.92		-0.23	-0.0190	12.00	956.14		-0.23	-0.0190	12.00	956.37		-0.23	-0.0190	12.00	956.60	142+25
142+50		955.64		-0.23	-0.0190	12.00	955.86		-0.23	-0.0190	12.00	956.09		-0.23	-0.0190	12.00	956.32	142+50
142+75		955.36		-0.23	-0.0190	12.00	955.58		-0.23	-0.0190	12.00	955.81		-0.23	-0.0190	12.00	956.04	142+75
143+00		955.08		-0.23	-0.0190	12.00	955.30		-0.23	-0.0190	12.00	955.53		-0.23	-0.0190	12.00	955.76	143+00
143+25		954.80		-0.23	-0.0190	12.00	955.02		-0.23	-0.0190	12.00	955.25		-0.23	-0.0190	12.00	955.48	143+25
143+50		954.52		-0.23	-0.0190	12.00	954.74		-0.23	-0.0190	12.00	954.97		-0.23	-0.0190	12.00	955.20	143+50
143+75		954.24		-0.23	-0.0190	12.00	954.46		-0.23	-0.0190	12.00	954.69		-0.23	-0.0190	12.00	954.92	143+75
144+00		953.96		-0.23	-0.0190	12.00	954.18		-0.23	-0.0190	12.00	954.41		-0.23	-0.0190	12.00	954.64	144+00
144+25		953.68		-0.23	-0.0190	12.00	953.90		-0.23	-0.0190	12.00	954.13		-0.23	-0.0190	12.00	954.36	144+25
144+50		953.40		-0.23	-0.0190	12.00	953.62		-0.23	-0.0190	12.00	953.85		-0.23	-0.0190	12.00	954.08	144+50
144+75		953.12		-0.23	-0.0190	12.00	953.34		-0.23	-0.0190	12.00	953.57		-0.23	-0.0190	12.00	953.80	144+75
145+00		952.84		-0.23	-0.0190	12.00	953.06		-0.23	-0.0190	12.00	953.29		-0.23	-0.0190	12.00	953.52	145+00
145+25		952.56		-0.23	-0.0190	12.00	952.78		-0.23	-0.0190	12.00	953.01		-0.23	-0.0190	12.00	953.24	145+25
145+50		952.28		-0.23	-0.0190	12.00	952.50		-0.23	-0.0190	12.00	952.73		-0.23	-0.0190	12.00	952.96	145+50
145+75		952.00		-0.23	-0.0190	12.00	952.22		-0.23	-0.0190	12.00	952.45		-0.23	-0.0190	12.00	952.68	145+75
146+00		951.72		-0.23	-0.0190	12.00	951.94		-0.23	-0.0190	12.00	952.17		-0.23	-0.0190	12.00	952.40	146+00
146+25		951.45		-0.23	-0.0190	12.00	951.67		-0.23	-0.0190	12.00	951.90		-0.23	-0.0190	12.00	952.13	146+25
146+50		951.18		-0.23	-0.0190	12.00	951.40		-0.23	-0.0190	12.00	951.63		-0.23	-0.0190	12.00	951.86	146+50
146+75		950.93		-0.23	-0.0190	12.00	951.15		-0.23	-0.0190	12.00	951.38		-0.23	-0.0190	12.00	951.61	146+75

CALCULATED

CHECKED

SUPERELEVATION TABLE

WAY/MED-71-7.04/0.00

SUPERELEVATION TABLE NORTHBOUND

PI STA- 160+33.35	Dc- 0°28"00'

℄	30' RIGHT						42' RIGHT					54' RIGHT					OUTSIDE EDGE CONTROL 66' RIGHT	
STATION	REMARKS	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	PROFILE GRADE	STATION
147+00		950.69		-0.23	-0.0190	12.00	950.91		-0.23	-0.0190	12.00	951.14		-0.23	-0.0190	12.00	951.37	147+00
147+25		950.45		-0.23	-0.0190	12.00	950.67		-0.23	-0.0190	12.00	950.90		-0.23	-0.0190	12.00	951.13	147+25
147+50		950.23		-0.23	-0.0190	12.00	950.45		-0.23	-0.0190	12.00	950.68		-0.23	-0.0190	12.00	950.91	147+50
147+75		950.02		-0.23	-0.0190	12.00	950.24		-0.23	-0.0190	12.00	950.47		-0.23	-0.0190	12.00	950.70	147+75
148+00		949.82		-0.23	-0.0190	12.00	950.04		-0.23	-0.0190	12.00	950.27		-0.23	-0.0190	12.00	950.50	148+00
148+25		949.63		-0.23	-0.0190	12.00	949.85		-0.23	-0.0190	12.00	950.08		-0.23	-0.0190	12.00	950.31	148+25
148+50		949.45		-0.23	-0.0190	12.00	949.67		-0.23	-0.0190	12.00	949.90		-0.23	-0.0190	12.00	950.13	148+50
148+75		949.28		-0.23	-0.0190	12.00	949.50		-0.23	-0.0190	12.00	949.73		-0.23	-0.0190	12.00	949.96	148+75
149+00		949.12		-0.23	-0.0190	12.00	949.34		-0.23	-0.0190	12.00	949.57		-0.23	-0.0190	12.00	949.80	149+00
149+25		948.97		-0.23	-0.0190	12.00	949.19		-0.23	-0.0190	12.00	949.42		-0.23	-0.0190	12.00	949.65	149+25
149+50		948.84		-0.23	-0.0190	12.00	949.06		-0.23	-0.0190	12.00	949.29		-0.23	-0.0190	12.00	949.52	149+50
149+75		948.71		-0.23	-0.0190	12.00	948.93		-0.23	-0.0190	12.00	949.16		-0.23	-0.0190	12.00	949.39	149+75
150+00		948.59		-0.23	-0.0190	12.00	948.81		-0.23	-0.0190	12.00	949.04		-0.23	-0.0190	12.00	949.27	150+00
150+25		948.49		-0.23	-0.0190	12.00	948.71		-0.23	-0.0190	12.00	948.94		-0.23	-0.0190	12.00	949.17	150+25
150+50		948.39		-0.23	-0.0190	12.00	948.61		-0.23	-0.0190	12.00	948.84		-0.23	-0.0190	12.00	949.07	150+50
150+75		948.30		-0.23	-0.0190	12.00	948.52		-0.23	-0.0190	12.00	948.75		-0.23	-0.0190	12.00	948.98	150+75
151+00		948.23		-0.23	-0.0190	12.00	948.45		-0.23	-0.0190	12.00	948.68		-0.23	-0.0190	12.00	948.91	151+00
151+25		948.17		-0.23	-0.0190	12.00	948.39		-0.23	-0.0190	12.00	948.62		-0.23	-0.0190	12.00	948.85	151+25
151+50		948.11		-0.23	-0.0190	12.00	948.33		-0.23	-0.0190	12.00	948.56		-0.23	-0.0190	12.00	948.79	151+50
151+75		948.07		-0.23	-0.0190	12.00	948.29		-0.23	-0.0190	12.00	948.52		-0.23	-0.0190	12.00	948.75	151+75
152+00		948.04		-0.23	-0.0190	12.00	948.26		-0.23	-0.0190	12.00	948.49		-0.23	-0.0190	12.00	948.72	152+00
152+25		948.02		-0.23	-0.0190	12.00	948.24		-0.23	-0.0190	12.00	948.47		-0.23	-0.0190	12.00	948.70	152+25
152+50		948.00		-0.23	-0.0190	12.00	948.22		-0.23	-0.0190	12.00	948.45		-0.23	-0.0190	12.00	948.68	152+50
152+75		948.00		-0.23	-0.0190	12.00	948.22		-0.23	-0.0190	12.00	948.45		-0.23	-0.0190	12.00	948.68	152+75
153+00		948.01		-0.23	-0.0190	12.00	948.23		-0.23	-0.0190	12.00	948.46		-0.23	-0.0190	12.00	948.69	153+00
153+25		948.03		-0.23	-0.0190	12.00	948.25		-0.23	-0.0190	12.00	948.48		-0.23	-0.0190	12.00	948.71	153+25
153+50		948.06		-0.23	-0.0190	12.00	948.28		-0.23	-0.0190	12.00	948.51		-0.23	-0.0190	12.00	948.74	153+50
153+75		948.11		-0.23	-0.0190	12.00	948.33		-0.23	-0.0190	12.00	948.56		-0.23	-0.0190	12.00	948.79	153+75
154+00		948.16		-0.23	-0.0190	12.00	948.38		-0.23	-0.0190	12.00	948.61		-0.23	-0.0190	12.00	948.84	154+00
154+25		948.22		-0.23	-0.0190	12.00	948.44		-0.23	-0.0190	12.00	948.67		-0.23	-0.0190	12.00	948.90	154+25
154+50		948.29		-0.23	-0.0190	12.00	948.51		-0.23	-0.0190	12.00	948.74		-0.23	-0.0190	12.00	948.97	154+50
154+75		948.38		-0.23	-0.0190	12.00	948.60		-0.23	-0.0190	12.00	948.83		-0.23	-0.0190	12.00	949.06	154+75
155+00		948.47		-0.23	-0.0190	12.00	948.69		-0.23	-0.0190	12.00	948.92		-0.23	-0.0190	12.00	949.15	155+00
155+25		948.58		-0.23	-0.0190	12.00	948.80		-0.23	-0.0190	12.00	949.03		-0.23	-0.0190	12.00	949.26	155+25
155+50		948.69		-0.23	-0.0190	12.00	948.91		-0.23	-0.0190	12.00	949.14		-0.23	-0.0190	12.00	949.37	155+50
155+75		948.82		-0.23	-0.0190	12.00	949.04		-0.23	-0.0190	12.00	949.27		-0.23	-0.0190	12.00	949.50	155+75
156+00		948.95		-0.23	-0.0190	12.00	949.17		-0.23	-0.0190	12.00	949.40		-0.23	-0.0190	12.00	949.63	156+00
156+25		949.09		-0.23	-0.0190	12.00	949.32		-0.23	-0.0190	12.00	949.55		-0.23	-0.0190	12.00	949.78	156+25
156+50		949.25		-0.23	-0.0190	12.00	949.48		-0.23	-0.0190	12.00	949.71		-0.23	-0.0190	12.00	949.93	156+50
156+75		949.42		-0.23	-0.0190	12.00	949.65		-0.23	-0.0190	12.00	949.87		-0.23	-0.0190	12.00	950.10	156+75
157+00		949.60		-0.23	-0.0190	12.00	949.82		-0.23	-0.0190	12.00	950.05		-0.23	-0.0190	12.00	950.28	157+00
157+25		949.79		-0.23	-0.0190	12.00	950.02		-0.23	-0.0190	12.00	950.25		-0.23	-0.0190	12.00	950.48	157+25
157+50		950.01		-0.23	-0.0190	12.00	950.24		-0.23	-0.0190	12.00	950.47		-0.23	-0.0190	12.00	950.70	157+50
157+75		950.26		-0.23	-0.0190	12.00	950.49		-0.23	-0.0190	12.00	950.71		-0.23	-0.0190	12.00	950.94	157+75
158+00		950.53		-0.23	-0.0190	12.00	950.76		-0.23	-0.0190	12.00	950.99		-0.23	-0.0190	12.00	951.21	158+00
158+25		950.82		-0.23	-0.0190	12.00	951.05		-0.23	-0.0190	12.00	951.28		-0.23	-0.0190	12.00	951.51	158+25
158+50		951.15		-0.23	-0.0190	12.00	951.37		-0.23	-0.0190	12.00	951.60		-0.23	-0.0190	12.00	951.83	158+50
158+75		951.49		-0.23	-0.0190	12.00	951.72		-0.23	-0.0190	12.00	951.95		-0.23	-0.0190	12.00	952.17	158+75
159+00		951.86		-0.23	-0.0190	12.00	952.09		-0.23	-0.0190	12.00	952.32		-0.23	-0.0190	12.00	952.54	159+00
159+25		952.19		-0.23	-0.0190	12.00	952.42		-0.23	-0.0190	12.00	952.65		-0.23	-0.0190	12.00	952.87	159+25
159+50		952.52		-0.23	-0.0190	12.00	952.75		-0.23	-0.0190	12.00	952.98		-0.23	-0.0190	12.00	953.20	159+50
159+75		952.85		-0.23	-0.0190	12.00	953.08		-0.23	-0.0190	12.00	953.31		-0.23	-0.0190	12.00	953.53	159+75
160+00		953.18		-0.23	-0.0190	12.00	953.41		-0.23	-0.0190	12.00	953.64		-0.23	-0.0190	12.00	953.86	160+00
160+25		953.51		-0.23	-0.0190	12.00	953.74		-0.23	-0.0190	12.00	953.97		-0.23	-0.0190	12.00	954.19	160+25
160+50		953.84		-0.23	-0.0190	12.00	954.07		-0.23	-0.0190	12.00	954.30		-0.23	-0.0190	12.00	954.52	160+50
160+75		954.18		-0.23	-0.0190	12.00	954.41		-0.23	-0.0190	12.00	954.63		-0.23	-0.0190	12.00	954.86	160+75
161+00		954.53		-0.23	-0.0190	12.00	954.76		-0.23	-0.0190	12.00	954.99		-0.23	-0.0190	12.00	955.21	161+00
161+25		954.89		-0.23	-0.0190	12.00	955.12		-0.23	-0.0190	12.00	955.35		-0.23	-0.0190	12.00	955.58	161+25
161+50		955.27		-0.23	-0.0190	12.00	955.50		-0.23	-0.0190	12.00	955.73		-0.23	-0.0190	12.00	955.96	161+50
161+75		955.67		-0.23	-0.0190	12.00	955.90		-0.23	-0.0190	12.00	956.12		-0.23	-0.0190	12.00	956.35	161+75
162+00		956.08		-0.23	-0.0190	12.00	956.30		-0.23	-0.0190	12.00	956.53		-0.23	-0.0190	12.00	956.76	162+00
162+25		956.50		-0.23	-0.0190	12.00	956.73		-0.23	-0.0190	12.00	956.95		-0.23	-0.0190	12.00	957.18	162+25
162+50		956.93		-0.23	-0.0190	12.00	957.16		-0.23	-0.0190	12.00	957.39		-0.23	-0.0190	12.00	957.62	162+50
162+75		957.38		-0.23	-0.0190	12.00	957.61		-0.23	-0.0190	12.00	957.84		-0.23	-0.0190	12.00	958.07	162+75

CALCULATED
CHECKED

SUPERELEVATION TABLE

WAY/MED-71-7.04/0.00

SUPERELEVATION TABLE NORTHBOUND

PI STA- 160+33.35	Dc= 0°28″00′

℄		30' RIGHT					42' RIGHT					54' RIGHT					OUTSIDE EDGE CONTROL 66' RIGHT	
STATION	REMARKS	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	PROFILE GRADE	STATION
163+00		957.85		-0.23	-0.0190	12.00	958.08		-0.23	-0.0190	12.00	958.30		-0.23	-0.0190	12.00	958.53	163+00
163+25		958.32		-0.23	-0.0190	12.00	958.55		-0.23	-0.0190	12.00	958.78		-0.23	-0.0190	12.00	959.00	163+25
163+50		958.79		-0.23	-0.0190	12.00	959.02		-0.23	-0.0190	12.00	959.25		-0.23	-0.0190	12.00	959.48	163+50
163+75		959.26		-0.23	-0.0190	12.00	959.49		-0.23	-0.0190	12.00	959.72		-0.23	-0.0190	12.00	959.95	163+75
164+00		959.74		-0.23	-0.0190	12.00	959.96		-0.23	-0.0190	12.00	960.19		-0.23	-0.0190	12.00	960.42	164+00
164+25		960.21		-0.23	-0.0190	12.00	960.43		-0.23	-0.0190	12.00	960.66		-0.23	-0.0190	12.00	960.89	164+25
164+50		960.68		-0.23	-0.0190	12.00	960.91		-0.23	-0.0190	12.00	961.13		-0.23	-0.0190	12.00	961.36	164+50
164+75		961.18		-0.23	-0.0190	12.00	961.41		-0.23	-0.0190	12.00	961.64		-0.23	-0.0190	12.00	961.87	164+75
165+00		961.68		-0.23	-0.0190	12.00	961.91		-0.23	-0.0190	12.00	962.14		-0.23	-0.0190	12.00	962.37	165+00
165+25		962.19		-0.23	-0.0190	12.00	962.42		-0.23	-0.0190	12.00	962.64		-0.23	-0.0190	12.00	962.87	165+25
165+50		962.69		-0.23	-0.0190	12.00	962.92		-0.23	-0.0190	12.00	963.15		-0.23	-0.0190	12.00	963.38	165+50
165+75		963.19		-0.23	-0.0190	12.00	963.42		-0.23	-0.0190	12.00	963.65		-0.23	-0.0190	12.00	963.88	165+75
166+00		963.70		-0.23	-0.0190	12.00	963.93		-0.23	-0.0190	12.00	964.15		-0.23	-0.0190	12.00	964.38	166+00
166+25		964.19		-0.23	-0.0190	12.00	964.41		-0.23	-0.0190	12.00	964.64		-0.23	-0.0190	12.00	964.87	166+25
166+50		964.68		-0.23	-0.0190	12.00	964.90		-0.23	-0.0190	12.00	965.13		-0.23	-0.0190	12.00	965.36	166+50
166+75		965.17		-0.23	-0.0190	12.00	965.39		-0.23	-0.0190	12.00	965.62		-0.23	-0.0190	12.00	965.85	166+75
167+00		965.66		-0.23	-0.0190	12.00	965.88		-0.23	-0.0190	12.00	966.11		-0.23	-0.0190	12.00	966.34	167+00
167+25		966.15		-0.23	-0.0190	12.00	966.37		-0.23	-0.0190	12.00	966.60		-0.23	-0.0190	12.00	966.83	167+25
167+50		966.64		-0.23	-0.0190	12.00	966.86		-0.23	-0.0190	12.00	967.09		-0.23	-0.0190	12.00	967.32	167+50
167+75		967.13		-0.23	-0.0190	12.00	967.35		-0.23	-0.0190	12.00	967.58		-0.23	-0.0190	12.00	967.81	167+75
168+00		967.61		-0.23	-0.0190	12.00	967.84		-0.23	-0.0190	12.00	968.07		-0.23	-0.0190	12.00	968.30	168+00
168+25		968.10		-0.23	-0.0190	12.00	968.33		-0.23	-0.0190	12.00	968.56		-0.23	-0.0190	12.00	968.79	168+25
168+50		968.59		-0.23	-0.0190	12.00	968.82		-0.23	-0.0190	12.00	969.05		-0.23	-0.0190	12.00	969.28	168+50
168+75		969.08		-0.23	-0.0190	12.00	969.31		-0.23	-0.0190	12.00	969.54		-0.23	-0.0190	12.00	969.77	168+75
169+00		969.57		-0.23	-0.0190	12.00	969.80		-0.23	-0.0190	12.00	970.03		-0.23	-0.0190	12.00	970.26	169+00
169+25		970.06		-0.23	-0.0190	12.00	970.29		-0.23	-0.0190	12.00	970.52		-0.23	-0.0190	12.00	970.75	169+25
169+50		970.55		-0.23	-0.0190	12.00	970.78		-0.23	-0.0190	12.00	971.01		-0.23	-0.0190	12.00	971.24	169+50
169+75		971.04		-0.23	-0.0190	12.00	971.27		-0.23	-0.0190	12.00	971.50		-0.23	-0.0190	12.00	971.73	169+75
170+00		971.53		-0.23	-0.0190	12.00	971.76		-0.23	-0.0190	12.00	971.99		-0.23	-0.0190	12.00	972.22	170+00
170+25		972.02		-0.23	-0.0190	12.00	972.25		-0.23	-0.0190	12.00	972.48		-0.23	-0.0190	12.00	972.71	170+25
170+50		972.51		-0.23	-0.0190	12.00	972.74		-0.23	-0.0190	12.00	972.97		-0.23	-0.0190	12.00	973.20	170+50
170+75		973.00		-0.23	-0.0190	12.00	973.23		-0.23	-0.0190	12.00	973.46		-0.23	-0.0190	12.00	973.69	170+75
171+00		973.49		-0.23	-0.0190	12.00	973.72		-0.23	-0.0190	12.00	973.95		-0.23	-0.0190	12.00	974.18	171+00
171+25		973.98		-0.23	-0.0190	12.00	974.21		-0.23	-0.0190	12.00	974.44		-0.23	-0.0190	12.00	974.66	171+25
171+50		974.47		-0.23	-0.0190	12.00	974.70		-0.23	-0.0190	12.00	974.93		-0.23	-0.0190	12.00	975.15	171+50
171+75		974.96		-0.23	-0.0190	12.00	975.19		-0.23	-0.0190	12.00	975.42		-0.23	-0.0190	12.00	975.64	171+75
172+00		975.45		-0.23	-0.0190	12.00	975.68		-0.23	-0.0190	12.00	975.91		-0.23	-0.0190	12.00	976.13	172+00
172+25		975.94		-0.23	-0.0190	12.00	976.17		-0.23	-0.0190	12.00	976.40		-0.23	-0.0190	12.00	976.62	172+25
172+50		976.43		-0.23	-0.0190	12.00	976.66		-0.23	-0.0190	12.00	976.89		-0.23	-0.0190	12.00	977.11	172+50
172+75		976.92		-0.23	-0.0190	12.00	977.15		-0.23	-0.0190	12.00	977.38		-0.23	-0.0190	12.00	977.60	172+75
173+00		977.41		-0.23	-0.0190	12.00	977.64		-0.23	-0.0190	12.00	977.86		-0.23	-0.0190	12.00	978.09	173+00
173+25		977.90		-0.23	-0.0190	12.00	978.13		-0.23	-0.0190	12.00	978.35		-0.23	-0.0190	12.00	978.58	173+25
173+50		978.39		-0.23	-0.0190	12.00	978.62		-0.23	-0.0190	12.00	978.84		-0.23	-0.0190	12.00	979.07	173+50
173+75		978.87		-0.23	-0.0190	12.00	979.10		-0.23	-0.0190	12.00	979.33		-0.23	-0.0190	12.00	979.56	173+75
174+00		979.35		-0.23	-0.0190	12.00	979.58		-0.23	-0.0190	12.00	979.81		-0.23	-0.0190	12.00	980.04	174+00
174+25		979.82		-0.23	-0.0190	12.00	980.05		-0.23	-0.0190	12.00	980.28		-0.23	-0.0190	12.00	980.51	174+25
174+50		980.29		-0.23	-0.0190	12.00	980.51		-0.23	-0.0190	12.00	980.74		-0.23	-0.0190	12.00	980.97	174+50
174+75		980.74		-0.23	-0.0190	12.00	980.97		-0.23	-0.0190	12.00	981.20		-0.23	-0.0190	12.00	981.43	174+75
175+00		981.19		-0.23	-0.0190	12.00	981.42		-0.23	-0.0190	12.00	981.65		-0.23	-0.0190	12.00	981.87	175+00
175+25		981.63		-0.23	-0.0190	12.00	981.86		-0.23	-0.0190	12.00	982.09		-0.23	-0.0190	12.00	982.31	175+25
175+50		982.06		-0.23	-0.0190	12.00	982.29		-0.23	-0.0190	12.00	982.52		-0.23	-0.0190	12.00	982.75	175+50
175+75		982.49		-0.23	-0.0190	12.00	982.72		-0.23	-0.0190	12.00	982.94		-0.23	-0.0190	12.00	983.17	175+75
176+00		982.91		-0.23	-0.0190	12.00	983.13		-0.23	-0.0190	12.00	983.36		-0.23	-0.0190	12.00	983.59	176+00
176+25		983.32		-0.23	-0.0190	12.00	983.54		-0.23	-0.0190	12.00	983.77		-0.23	-0.0190	12.00	984.00	176+25
176+50		983.72		-0.23	-0.0190	12.00	983.95		-0.23	-0.0190	12.00	984.17		-0.23	-0.0190	12.00	984.40	176+50
176+75		984.11		-0.23	-0.0190	12.00	984.34		-0.23	-0.0190	12.00	984.57		-0.23	-0.0190	12.00	984.80	176+75
177+00		984.50		-0.23	-0.0190	12.00	984.73		-0.23	-0.0190	12.00	984.96		-0.23	-0.0190	12.00	985.18	177+00
177+25		984.88		-0.23	-0.0190	12.00	985.10		-0.23	-0.0190	12.00	985.33		-0.23	-0.0190	12.00	985.56	177+25
177+50		985.24		-0.23	-0.0190	12.00	985.46		-0.23	-0.0190	12.00	985.69		-0.23	-0.0190	12.00	985.92	177+50
177+75		985.58		-0.23	-0.0190	12.00	985.81		-0.23	-0.0190	12.00	986.04		-0.23	-0.0190	12.00	986.26	177+75
178+00		985.91		-0.23	-0.0190	12.00	986.14		-0.23	-0.0190	12.00	986.37		-0.23	-0.0190	12.00	986.59	178+00
178+25		986.22		-0.23	-0.0190	12.00	986.45		-0.23	-0.0190	12.00	986.68		-0.23	-0.0190	12.00	986.91	178+25
178+50		986.52		-0.23	-0.0190	12.00	986.75		-0.23	-0.0190	12.00	986.98		-0.23	-0.0190	12.00	987.20	178+50
178+75		986.80		-0.23	-0.0190	12.00	987.03		-0.23	-0.0190	12.00	987.26		-0.23	-0.0190	12.00	987.49	178+75

CALCULATED
CHECKED

SUPERELEVATION TABLE

WAY/MED-71-7.04/0.00

SUPERELEVATION TABLE NORTHBOUND

PI STA= 160+33.35 | Dc= 0°28″00′

℄	30' RIGHT						42' RIGHT					54' RIGHT					OUTSIDE EDGE CONTROL 66' RIGHT	
STATION	REMARKS	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	PROFILE GRADE	STATION
179+00		987.07		-0.23	-0.0190	12.00	987.30		-0.23	-0.0190	12.00	987.52		-0.23	-0.0190	12.00	987.75	179+00
179+25		987.32		-0.23	-0.0190	12.00	987.55		-0.23	-0.0190	12.00	987.78		-0.23	-0.0190	12.00	988.00	179+25
179+50		987.55		-0.23	-0.0190	12.00	987.78		-0.23	-0.0190	12.00	988.01		-0.23	-0.0190	12.00	988.24	179+50
179+75		987.77		-0.23	-0.0190	12.00	988.00		-0.23	-0.0190	12.00	988.23		-0.23	-0.0190	12.00	988.46	179+75
180+00		987.98		-0.23	-0.0190	12.00	988.21		-0.23	-0.0190	12.00	988.43		-0.23	-0.0190	12.00	988.66	180+00
180+25		988.17		-0.23	-0.0190	12.00	988.39		-0.23	-0.0190	12.00	988.62		-0.23	-0.0190	12.00	988.85	180+25
180+50		988.34		-0.23	-0.0190	12.00	988.57		-0.23	-0.0190	12.00	988.79		-0.23	-0.0190	12.00	989.02	180+50
180+75		988.50		-0.23	-0.0190	12.00	988.72		-0.23	-0.0190	12.00	988.95		-0.23	-0.0190	12.00	989.18	180+75
181+00		988.64		-0.23	-0.0190	12.00	988.86		-0.23	-0.0190	12.00	989.09		-0.23	-0.0190	12.00	989.32	181+00
181+25		988.77		-0.23	-0.0190	12.00	988.99		-0.23	-0.0190	12.00	989.22		-0.23	-0.0190	12.00	989.45	181+25
181+50		988.88		-0.23	-0.0190	12.00	989.10		-0.23	-0.0190	12.00	989.33		-0.23	-0.0190	12.00	989.56	181+50
181+75		988.97		-0.23	-0.0190	12.00	989.19		-0.23	-0.0190	12.00	989.42		-0.23	-0.0190	12.00	989.65	181+75
182+00		989.05		-0.23	-0.0190	12.00	989.27		-0.23	-0.0190	12.00	989.50		-0.23	-0.0190	12.00	989.73	182+00
182+25		989.11		-0.23	-0.0190	12.00	989.33		-0.23	-0.0190	12.00	989.56		-0.23	-0.0190	12.00	989.79	182+25
182+50		989.16		-0.23	-0.0190	12.00	989.38		-0.23	-0.0190	12.00	989.61		-0.23	-0.0190	12.00	989.84	182+50
182+75		989.19		-0.23	-0.0190	12.00	989.41		-0.23	-0.0190	12.00	989.64		-0.23	-0.0190	12.00	989.87	182+75
183+00		989.21		-0.23	-0.0190	12.00	989.43		-0.23	-0.0190	12.00	989.66		-0.23	-0.0190	12.00	989.89	183+00
183+25		989.21		-0.23	-0.0190	12.00	989.43		-0.23	-0.0190	12.00	989.66		-0.23	-0.0190	12.00	989.89	183+25
183+50		989.20		-0.23	-0.0190	12.00	989.42		-0.23	-0.0190	12.00	989.65		-0.23	-0.0190	12.00	989.88	183+50
183+75		989.17		-0.23	-0.0190	12.00	989.39		-0.23	-0.0190	12.00	989.62		-0.23	-0.0190	12.00	989.85	183+75
184+00		989.12		-0.23	-0.0190	12.00	989.34		-0.23	-0.0190	12.00	989.57		-0.23	-0.0190	12.00	989.80	184+00
184+25		989.06		-0.23	-0.0190	12.00	989.28		-0.23	-0.0190	12.00	989.51		-0.23	-0.0190	12.00	989.74	184+25
184+50		988.98		-0.23	-0.0190	12.00	989.20		-0.23	-0.0190	12.00	989.43		-0.23	-0.0190	12.00	989.66	184+50
184+75		988.89		-0.23	-0.0190	12.00	989.11		-0.23	-0.0190	12.00	989.34		-0.23	-0.0190	12.00	989.57	184+75
185+00		988.78		-0.23	-0.0190	12.00	989.00		-0.23	-0.0190	12.00	989.23		-0.23	-0.0190	12.00	989.46	185+00
185+25		988.66		-0.23	-0.0190	12.00	988.88		-0.23	-0.0190	12.00	989.11		-0.23	-0.0190	12.00	989.34	185+25
185+50		988.52		-0.23	-0.0190	12.00	988.74		-0.23	-0.0190	12.00	988.97		-0.23	-0.0190	12.00	989.20	185+50
185+75		988.36		-0.23	-0.0190	12.00	988.58		-0.23	-0.0190	12.00	988.81		-0.23	-0.0190	12.00	989.04	185+75
186+00		988.19		-0.23	-0.0190	12.00	988.41		-0.23	-0.0190	12.00	988.64		-0.23	-0.0190	12.00	988.87	186+00
186+25	F.S	988.00	510.2:1	-0.23	-0.0190	12.00	988.22		-0.23	-0.0190	12.00	988.45		-0.23	-0.0190	12.00	988.68	186+25
186+50		987.88		-0.20	-0.0167	12.00	988.08		-0.20	-0.0167	12.00	988.28		-0.20	-0.0167	12.00	988.48	186+50
186+61.38	F.C.	987.82		-0.19	-0.0156	12.00	988.01		-0.19	-0.0156	12.00	988.19		-0.19	-0.0156	12.00	988.38	186+61.38
186+75		987.73		-0.19	-0.0156	12.00	987.92		-0.19	-0.0156	12.00	988.11		-0.16	-0.0137	12.00	988.27	186+75
187+00		987.56		-0.19	-0.0156	12.00	987.75		-0.19	-0.0156	12.00	987.94		-0.12	-0.0103	12.00	988.06	187+00
187+25		987.40		-0.19	-0.0156	12.00	987.59		-0.19	-0.0156	12.00	987.78		-0.08	-0.0069	12.00	987.86	187+25
187+50		987.24		-0.19	-0.0156	12.00	987.43		-0.19	-0.0156	12.00	987.62		-0.04	-0.0034	12.00	987.66	187+50
187+75	H.F.	987.09		-0.19	-0.0156	12.00	987.27		-0.19	-0.0156	12.00	987.46		0.00	0.0000	12.00	987.46	187+75
188+00		986.93		-0.19	-0.0156	12.00	987.12		-0.19	-0.0156	12.00	987.31		0.05	0.0039	12.00	987.26	188+00
188+25		986.78		-0.19	-0.0156	12.00	986.97		-0.19	-0.0156	12.00	987.15		0.09	0.0078	12.00	987.06	188+25
188+50		986.63		-0.19	-0.0156	12.00	986.81		-0.19	-0.0156	12.00	987.00		0.14	0.0117	12.00	986.86	188+50
188+75	N	986.47	510.2:1	-0.19	-0.0156	12.00	986.66		-0.19	-0.0156	12.00	986.85		0.19	0.0156	12.00	986.66	188+75

CALCULATED | CHECKED

SUPERELEVATION TABLE

WAY/MED-71-7.04/0.00

SUPERELEVATION TABLE SOUTHBOUND

PI STA= 37+44.62	Dc= 0°29"59'

OUTSIDE EDGE CONTROL 66' LT.		54' LEFT					42' LEFT					30' LEFT						℄
STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	REMARKS	STATION
371+50	975.50	12.00	-0.0190	-0.23		975.27	12.00	-0.0190	-0.23		975.04	12.00	-0.0190	-0.23		974.82	F.S	371+50
371+75	975.43	12.00	-0.0190	-0.23		975.20	12.00	-0.0190	-0.23		974.97	12.00	-0.0190	-0.23		974.75		371+75
372+00	975.36	12.00	-0.0190	-0.23		975.13	12.00	-0.0190	-0.23		974.90	12.00	-0.0190	-0.23		974.68		372+00
372+25	975.28	12.00	-0.0190	-0.23		975.05	12.00	-0.0190	-0.23		974.82	12.00	-0.0190	-0.23		974.60		372+25
372+50	975.18	12.00	-0.0190	-0.23		974.95	12.00	-0.0190	-0.23		974.72	12.00	-0.0190	-0.23		974.50		372+50
372+75	975.07	12.00	-0.0190	-0.23		974.84	12.00	-0.0190	-0.23		974.61	12.00	-0.0190	-0.23		974.39		372+75
373+00	974.95	12.00	-0.0190	-0.23		974.72	12.00	-0.0190	-0.23		974.49	12.00	-0.0190	-0.23		974.27		373+00
373+25	974.81	12.00	-0.0190	-0.23		974.58	12.00	-0.0190	-0.23		974.35	12.00	-0.0190	-0.23		974.13		373+25
373+50	974.66	12.00	-0.0190	-0.23		974.43	12.00	-0.0190	-0.23		974.20	12.00	-0.0190	-0.23		973.98		373+50
373+75	974.50	12.00	-0.0190	-0.23		974.27	12.00	-0.0190	-0.23		974.04	12.00	-0.0190	-0.23		973.82		373+75
374+00	974.33	12.00	-0.0190	-0.23		974.10	12.00	-0.0190	-0.23		973.87	12.00	-0.0190	-0.23		973.65		374+00
374+25	974.15	12.00	-0.0190	-0.23		973.92	12.00	-0.0190	-0.23		973.69	12.00	-0.0190	-0.23		973.47		374+25
374+50	973.95	12.00	-0.0190	-0.23		973.72	12.00	-0.0190	-0.23		973.49	12.00	-0.0190	-0.23		973.27		374+50
374+60.25	STA EQ																	374+60.25
0+00	973.87	12.00	-0.0190	-0.23		973.64	12.00	-0.0190	-0.23		973.41	12.00	-0.0190	-0.23		973.19		0+00
0+25	973.66	12.00	-0.0190	-0.23		973.43	12.00	-0.0190	-0.23		973.20	12.00	-0.0190	-0.23		972.98		0+25
0+50	973.43	12.00	-0.0190	-0.23		973.20	12.00	-0.0190	-0.23		972.97	12.00	-0.0190	-0.23		972.75		0+50
0+75	973.19	12.00	-0.0190	-0.23		972.96	12.00	-0.0190	-0.23		972.73	12.00	-0.0190	-0.23		972.51		0+75
1+00	972.94	12.00	-0.0190	-0.23		972.71	12.00	-0.0190	-0.23		972.48	12.00	-0.0190	-0.23		972.26		1+00
1+25	972.68	12.00	-0.0190	-0.23		972.45	12.00	-0.0190	-0.23		972.22	12.00	-0.0190	-0.23		972.00		1+25
1+50	972.41	12.00	-0.0190	-0.23		972.18	12.00	-0.0190	-0.23		971.95	12.00	-0.0190	-0.23		971.73		1+50
1+75	972.12	12.00	-0.0190	-0.23		971.89	12.00	-0.0190	-0.23		971.66	12.00	-0.0190	-0.23		971.44		1+75
2+00	971.82	12.00	-0.0190	-0.23		971.59	12.00	-0.0190	-0.23		971.36	12.00	-0.0190	-0.23		971.14		2+00
2+25	971.51	12.00	-0.0190	-0.23		971.28	12.00	-0.0190	-0.23		971.05	12.00	-0.0190	-0.23		970.83		2+25
2+50	971.19	12.00	-0.0190	-0.23		970.96	12.00	-0.0190	-0.23		970.73	12.00	-0.0190	-0.23		970.51		2+50
2+75	970.85	12.00	-0.0190	-0.23		970.62	12.00	-0.0190	-0.23		970.39	12.00	-0.0190	-0.23		970.17		2+75
3+00	970.50	12.00	-0.0190	-0.23		970.27	12.00	-0.0190	-0.23		970.04	12.00	-0.0190	-0.23		969.82		3+00
3+25	970.14	12.00	-0.0190	-0.23		969.91	12.00	-0.0190	-0.23		969.68	12.00	-0.0190	-0.23		969.46		3+25
3+50	969.77	12.00	-0.0190	-0.23		969.54	12.00	-0.0190	-0.23		969.31	12.00	-0.0190	-0.23		969.09		3+50
3+75	969.39	12.00	-0.0190	-0.23		969.16	12.00	-0.0190	-0.23		968.93	12.00	-0.0190	-0.23		968.71		3+75
4+00	968.99	12.00	-0.0190	-0.23		968.76	12.00	-0.0190	-0.23		968.53	12.00	-0.0190	-0.23		968.31		4+00
4+25	968.58	12.00	-0.0190	-0.23		968.35	12.00	-0.0190	-0.23		968.12	12.00	-0.0190	-0.23		967.90		4+25
4+50	968.16	12.00	-0.0190	-0.23		967.93	12.00	-0.0190	-0.23		967.70	12.00	-0.0190	-0.23		967.48		4+50
4+75	967.73	12.00	-0.0190	-0.23		967.50	12.00	-0.0190	-0.23		967.27	12.00	-0.0190	-0.23		967.05		4+75
5+00	967.28	12.00	-0.0190	-0.23		967.05	12.00	-0.0190	-0.23		966.82	12.00	-0.0190	-0.23		966.60		5+00
5+25	966.82	12.00	-0.0190	-0.23		966.59	12.00	-0.0190	-0.23		966.36	12.00	-0.0190	-0.23		966.14		5+25
5+50	966.35	12.00	-0.0190	-0.23		966.12	12.00	-0.0190	-0.23		965.89	12.00	-0.0190	-0.23		965.67		5+50
5+75	965.87	12.00	-0.0190	-0.23		965.64	12.00	-0.0190	-0.23		965.41	12.00	-0.0190	-0.23		965.19		5+75
6+00	965.37	12.00	-0.0190	-0.23		965.14	12.00	-0.0190	-0.23		964.91	12.00	-0.0190	-0.23		964.69		6+00
6+25	964.87	12.00	-0.0190	-0.23		964.64	12.00	-0.0190	-0.23		964.41	12.00	-0.0190	-0.23		964.19		6+25
6+50	964.35	12.00	-0.0190	-0.23		964.12	12.00	-0.0190	-0.23		963.89	12.00	-0.0190	-0.23		963.67		6+50
6+75	963.82	12.00	-0.0190	-0.23		963.59	12.00	-0.0190	-0.23		963.36	12.00	-0.0190	-0.23		963.14		6+75
7+00	963.27	12.00	-0.0190	-0.23		963.04	12.00	-0.0190	-0.23		962.81	12.00	-0.0190	-0.23		962.59		7+00
7+25	962.72	12.00	-0.0190	-0.23		962.49	12.00	-0.0190	-0.23		962.26	12.00	-0.0190	-0.23		962.04		7+25
7+50	962.17	12.00	-0.0190	-0.23		961.94	12.00	-0.0190	-0.23		961.71	12.00	-0.0190	-0.23		961.49		7+50
7+75	961.62	12.00	-0.0190	-0.23		961.39	12.00	-0.0190	-0.23		961.16	12.00	-0.0190	-0.23		960.94		7+75
8+00	961.07	12.00	-0.0190	-0.23		960.84	12.00	-0.0190	-0.23		960.61	12.00	-0.0190	-0.23		960.39		8+00
8+25	960.52	12.00	-0.0190	-0.23		960.29	12.00	-0.0190	-0.23		960.06	12.00	-0.0190	-0.23		959.84		8+25
8+50	959.97	12.00	-0.0190	-0.23		959.74	12.00	-0.0190	-0.23		959.51	12.00	-0.0190	-0.23		959.29		8+50
8+75	959.42	12.00	-0.0190	-0.23		959.19	12.00	-0.0190	-0.23		958.96	12.00	-0.0190	-0.23		958.74		8+75
9+00	958.87	12.00	-0.0190	-0.23		958.64	12.00	-0.0190	-0.23		958.41	12.00	-0.0190	-0.23		958.19		9+00
9+25	958.32	12.00	-0.0190	-0.23		958.09	12.00	-0.0190	-0.23		957.86	12.00	-0.0190	-0.23		957.64		9+25
9+50	957.77	12.00	-0.0190	-0.23		957.54	12.00	-0.0190	-0.23		957.31	12.00	-0.0190	-0.23		957.09		9+50
9+75	957.22	12.00	-0.0190	-0.23		956.99	12.00	-0.0190	-0.23		956.76	12.00	-0.0190	-0.23		956.54		9+75
10+00	956.67	12.00	-0.0190	-0.23		956.44	12.00	-0.0190	-0.23		956.21	12.00	-0.0190	-0.23		955.99		10+00
10+25	956.12	12.00	-0.0190	-0.23		955.89	12.00	-0.0190	-0.23		955.66	12.00	-0.0190	-0.23		955.44		10+25
10+50	955.57	12.00	-0.0190	-0.23		955.34	12.00	-0.0190	-0.23		955.11	12.00	-0.0190	-0.23		954.89		10+50
10+75	955.02	12.00	-0.0190	-0.23		954.79	12.00	-0.0190	-0.23		954.56	12.00	-0.0190	-0.23		954.34		10+75
11+00	954.47	12.00	-0.0190	-0.23		954.24	12.00	-0.0190	-0.23		954.01	12.00	-0.0190	-0.23		953.79		11+00
11+25	953.92	12.00	-0.0190	-0.23		953.69	12.00	-0.0190	-0.23		953.46	12.00	-0.0190	-0.23		953.24		11+25
11+50	953.37	12.00	-0.0190	-0.23		953.14	12.00	-0.0190	-0.23		952.91	12.00	-0.0190	-0.23		952.69		11+50
11+75	952.82	12.00	-0.0190	-0.23		952.59	12.00	-0.0190	-0.23		952.36	12.00	-0.0190	-0.23		952.14		11+75
12+00	952.27	12.00	-0.0190	-0.23		952.04	12.00	-0.0190	-0.23		951.81	12.00	-0.0190	-0.23		951.59		12+00
12+25	951.72	12.00	-0.0190	-0.23		951.49	12.00	-0.0190	-0.23		951.26	12.00	-0.0190	-0.23		951.04		12+25

CALCULATED
CHECKED

SUPERELEVATION TABLE

WAY/MED-71-7.04/0.00

SUPERELEVATION TABLE SOUTHBOUND

PI STA= 37+44.62	Dc= 0°29″59′

OUTSIDE EDGE CONTROL 66' LT.		54' LEFT					42' LEFT					30' LEFT						℄
STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	REMARKS	STATION
12+50	951.17	12.00	-0.0190	-0.23		950.94	12.00	-0.0190	-0.23		950.71	12.00	-0.0190	-0.23		950.49		12+50
12+75	950.62	12.00	-0.0190	-0.23		950.39	12.00	-0.0190	-0.23		950.16	12.00	-0.0190	-0.23		949.94		12+75
13+00	950.07	12.00	-0.0190	-0.23		949.84	12.00	-0.0190	-0.23		949.61	12.00	-0.0190	-0.23		949.39		13+00
13+25	949.52	12.00	-0.0190	-0.23		949.29	12.00	-0.0190	-0.23		949.06	12.00	-0.0190	-0.23		948.84		13+25
13+50	948.97	12.00	-0.0190	-0.23		948.74	12.00	-0.0190	-0.23		948.51	12.00	-0.0190	-0.23		948.29		13+50
13+75	948.42	12.00	-0.0190	-0.23		948.19	12.00	-0.0190	-0.23		947.96	12.00	-0.0190	-0.23		947.74		13+75
14+00	947.87	12.00	-0.0190	-0.23		947.64	12.00	-0.0190	-0.23		947.41	12.00	-0.0190	-0.23		947.19		14+00
14+25	947.32	12.00	-0.0190	-0.23		947.09	12.00	-0.0190	-0.23		946.86	12.00	-0.0190	-0.23		946.64		14+25
14+50	946.77	12.00	-0.0190	-0.23		946.54	12.00	-0.0190	-0.23		946.31	12.00	-0.0190	-0.23		946.09		14+50
14+75	946.22	12.00	-0.0190	-0.23		945.99	12.00	-0.0190	-0.23		945.76	12.00	-0.0190	-0.23		945.54		14+75
15+00	945.67	12.00	-0.0190	-0.23		945.44	12.00	-0.0190	-0.23		945.21	12.00	-0.0190	-0.23		944.99		15+00
15+25	945.12	12.00	-0.0190	-0.23		944.89	12.00	-0.0190	-0.23		944.66	12.00	-0.0190	-0.23		944.44		15+25
15+50	944.57	12.00	-0.0190	-0.23		944.34	12.00	-0.0190	-0.23		944.11	12.00	-0.0190	-0.23		943.89		15+50
15+75	944.02	12.00	-0.0190	-0.23		943.79	12.00	-0.0190	-0.23		943.56	12.00	-0.0190	-0.23		943.34		15+75
16+00	943.47	12.00	-0.0190	-0.23		943.24	12.00	-0.0190	-0.23		943.01	12.00	-0.0190	-0.23		942.79		16+00
16+25	942.91	12.00	-0.0190	-0.23		942.68	12.00	-0.0190	-0.23		942.45	12.00	-0.0190	-0.23		942.23		16+25
16+50	942.35	12.00	-0.0190	-0.23		942.12	12.00	-0.0190	-0.23		941.89	12.00	-0.0190	-0.23		941.67		16+50
16+75	941.79	12.00	-0.0190	-0.23		941.56	12.00	-0.0190	-0.23		941.33	12.00	-0.0190	-0.23		941.11		16+75
17+00	941.23	12.00	-0.0190	-0.23		941.00	12.00	-0.0190	-0.23		940.77	12.00	-0.0190	-0.23		940.55		17+00
17+25	940.67	12.00	-0.0190	-0.23		940.44	12.00	-0.0190	-0.23		940.21	12.00	-0.0190	-0.23		939.99		17+25
17+50	940.11	12.00	-0.0190	-0.23		939.88	12.00	-0.0190	-0.23		939.65	12.00	-0.0190	-0.23		939.43		17+50
17+75	939.55	12.00	-0.0190	-0.23		939.32	12.00	-0.0190	-0.23		939.09	12.00	-0.0190	-0.23		938.87		17+75
18+00	938.99	12.00	-0.0190	-0.23		938.76	12.00	-0.0190	-0.23		938.53	12.00	-0.0190	-0.23		938.31		18+00
18+25	938.43	12.00	-0.0190	-0.23		938.20	12.00	-0.0190	-0.23		937.97	12.00	-0.0190	-0.23		937.75		18+25
18+50	937.87	12.00	-0.0190	-0.23		937.64	12.00	-0.0190	-0.23		937.41	12.00	-0.0190	-0.23		937.19		18+50
18+75	937.31	12.00	-0.0190	-0.23		937.08	12.00	-0.0190	-0.23		936.85	12.00	-0.0190	-0.23		936.63		18+75
19+00	936.75	12.00	-0.0190	-0.23		936.52	12.00	-0.0190	-0.23		936.29	12.00	-0.0190	-0.23		936.07		19+00
19+25	936.19	12.00	-0.0190	-0.23		935.96	12.00	-0.0190	-0.23		935.73	12.00	-0.0190	-0.23		935.51		19+25
19+50	935.63	12.00	-0.0190	-0.23		935.40	12.00	-0.0190	-0.23		935.17	12.00	-0.0190	-0.23		934.95		19+50
19+75	935.07	12.00	-0.0190	-0.23		934.84	12.00	-0.0190	-0.23		934.61	12.00	-0.0190	-0.23		934.39		19+75
20+00	934.51	12.00	-0.0190	-0.23		934.28	12.00	-0.0190	-0.23		934.05	12.00	-0.0190	-0.23		933.83		20+00
20+25	933.95	12.00	-0.0190	-0.23		933.72	12.00	-0.0190	-0.23		933.49	12.00	-0.0190	-0.23		933.27		20+25
20+50	933.39	12.00	-0.0190	-0.23		933.16	12.00	-0.0190	-0.23		932.93	12.00	-0.0190	-0.23		932.71		20+50
20+75	932.83	12.00	-0.0190	-0.23		932.60	12.00	-0.0190	-0.23		932.37	12.00	-0.0190	-0.23		932.15		20+75
21+00	932.29	12.00	-0.0190	-0.23		932.06	12.00	-0.0190	-0.23		931.83	12.00	-0.0190	-0.23		931.61		21+00
21+25	931.75	12.00	-0.0190	-0.23		931.52	12.00	-0.0190	-0.23		931.29	12.00	-0.0190	-0.23		931.07		21+25
21+50	931.23	12.00	-0.0190	-0.23		931.00	12.00	-0.0190	-0.23		930.77	12.00	-0.0190	-0.23		930.55		21+50
21+75	930.71	12.00	-0.0190	-0.23		930.48	12.00	-0.0190	-0.23		930.25	12.00	-0.0190	-0.23		930.03		21+75
22+00	930.21	12.00	-0.0190	-0.23		929.98	12.00	-0.0190	-0.23		929.75	12.00	-0.0190	-0.23		929.53		22+00
22+25	929.71	12.00	-0.0190	-0.23		929.48	12.00	-0.0190	-0.23		929.25	12.00	-0.0190	-0.23		929.03		22+25
22+50	929.22	12.00	-0.0190	-0.23		928.99	12.00	-0.0190	-0.23		928.76	12.00	-0.0190	-0.23		928.54		22+50
22+75	928.75	12.00	-0.0190	-0.23		928.52	12.00	-0.0190	-0.23		928.29	12.00	-0.0190	-0.23		928.07		22+75
23+00	928.28	12.00	-0.0190	-0.23		928.05	12.00	-0.0190	-0.23		927.82	12.00	-0.0190	-0.23		927.60		23+00
23+25	927.83	12.00	-0.0190	-0.23		927.60	12.00	-0.0190	-0.23		927.37	12.00	-0.0190	-0.23		927.15		23+25
23+50	927.38	12.00	-0.0190	-0.23		927.15	12.00	-0.0190	-0.23		926.92	12.00	-0.0190	-0.23		926.70		23+50
23+75	926.95	12.00	-0.0190	-0.23		926.72	12.00	-0.0190	-0.23		926.49	12.00	-0.0190	-0.23		926.27		23+75
24+00	926.52	12.00	-0.0190	-0.23		926.29	12.00	-0.0190	-0.23		926.06	12.00	-0.0190	-0.23		925.84		24+00
24+25	926.11	12.00	-0.0190	-0.23		925.88	12.00	-0.0190	-0.23		925.65	12.00	-0.0190	-0.23		925.43		24+25
24+50	925.70	12.00	-0.0190	-0.23		925.47	12.00	-0.0190	-0.23		925.24	12.00	-0.0190	-0.23		925.02		24+50
24+75	925.31	12.00	-0.0190	-0.23		925.08	12.00	-0.0190	-0.23		924.85	12.00	-0.0190	-0.23		924.63		24+75
25+00	924.92	12.00	-0.0190	-0.23		924.69	12.00	-0.0190	-0.23		924.46	12.00	-0.0190	-0.23		924.24		25+00
25+25	924.55	12.00	-0.0190	-0.23		924.32	12.00	-0.0190	-0.23		924.09	12.00	-0.0190	-0.23		923.87		25+25
25+50	924.18	12.00	-0.0190	-0.23		923.95	12.00	-0.0190	-0.23		923.72	12.00	-0.0190	-0.23		923.50		25+50
25+75	923.83	12.00	-0.0190	-0.23		923.60	12.00	-0.0190	-0.23		923.37	12.00	-0.0190	-0.23		923.15		25+75
26+00	923.48	12.00	-0.0190	-0.23		923.25	12.00	-0.0190	-0.23		923.02	12.00	-0.0190	-0.23		922.80		26+00
26+25	923.15	12.00	-0.0190	-0.23		922.92	12.00	-0.0190	-0.23		922.69	12.00	-0.0190	-0.23		922.47		26+25
26+50	922.82	12.00	-0.0190	-0.23		922.59	12.00	-0.0190	-0.23		922.36	12.00	-0.0190	-0.23		922.14		26+50
26+75	922.51	12.00	-0.0190	-0.23		922.28	12.00	-0.0190	-0.23		922.05	12.00	-0.0190	-0.23		921.83		26+75
27+00	922.20	12.00	-0.0190	-0.23		921.97	12.00	-0.0190	-0.23		921.74	12.00	-0.0190	-0.23		921.52		27+00
27+25	921.91	12.00	-0.0190	-0.23		921.68	12.00	-0.0190	-0.23		921.45	12.00	-0.0190	-0.23		921.23		27+25
27+50	921.62	12.00	-0.0190	-0.23		921.39	12.00	-0.0190	-0.23		921.16	12.00	-0.0190	-0.23		920.94		27+50
27+75	921.35	12.00	-0.0190	-0.23		921.12	12.00	-0.0190	-0.23		920.89	12.00	-0.0190	-0.23		920.67		27+75
28+00	921.08	12.00	-0.0190	-0.23		920.85	12.00	-0.0190	-0.23		920.62	12.00	-0.0190	-0.23		920.40		28+00
28+25	920.83	12.00	-0.0190	-0.23		920.60	12.00	-0.0190	-0.23		920.37	12.00	-0.0190	-0.23		920.15		28+25

CALCULATED

CHECKED

SUPERELEVATION TABLE

WAY/MED-71-7.04/0.00

SUPERELEVATION TABLE SOUTHBOUND

PI STA= 37+44.62	Dc= 0°29″59′

OUTSIDE EDGE CONTROL 66' LT.		54' LEFT					42' LEFT					30' LEFT						℄
STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	REMARKS	STATION
28+50	920.58	12.00	-0.0190	-0.23		920.35	12.00	-0.0190	-0.23		920.12	12.00	-0.0190	-0.23		919.90		28+50
28+75	920.35	12.00	-0.0190	-0.23		920.12	12.00	-0.0190	-0.23		919.89	12.00	-0.0190	-0.23		919.67		28+75
29+00	920.12	12.00	-0.0190	-0.23		919.89	12.00	-0.0190	-0.23		919.66	12.00	-0.0190	-0.23		919.44		29+00
29+25	919.91	12.00	-0.0190	-0.23		919.68	12.00	-0.0190	-0.23		919.45	12.00	-0.0190	-0.23		919.23		29+25
29+50	919.70	12.00	-0.0190	-0.23		919.47	12.00	-0.0190	-0.23		919.24	12.00	-0.0190	-0.23		919.02		29+50
29+75	919.51	12.00	-0.0190	-0.23		919.28	12.00	-0.0190	-0.23		919.05	12.00	-0.0190	-0.23		918.83		29+75
30+00	919.32	12.00	-0.0190	-0.23		919.09	12.00	-0.0190	-0.23		918.86	12.00	-0.0190	-0.23		918.64		30+00
30+25	919.15	12.00	-0.0190	-0.23		918.92	12.00	-0.0190	-0.23		918.69	12.00	-0.0190	-0.23		918.47		30+25
30+50	918.98	12.00	-0.0190	-0.23		918.75	12.00	-0.0190	-0.23		918.52	12.00	-0.0190	-0.23		918.30		30+50
30+75	918.83	12.00	-0.0190	-0.23		918.60	12.00	-0.0190	-0.23		918.37	12.00	-0.0190	-0.23		918.15		30+75
31+00	918.68	12.00	-0.0190	-0.23		918.45	12.00	-0.0190	-0.23		918.22	12.00	-0.0190	-0.23		918.00		31+00
31+25	918.55	12.00	-0.0190	-0.23		918.32	12.00	-0.0190	-0.23		918.09	12.00	-0.0190	-0.23		917.87		31+25
31+50	918.42	12.00	-0.0190	-0.23		918.19	12.00	-0.0190	-0.23		917.96	12.00	-0.0190	-0.23		917.74		31+50
31+75	918.31	12.00	-0.0190	-0.23		918.08	12.00	-0.0190	-0.23		917.85	12.00	-0.0190	-0.23		917.63		31+75
32+00	918.20	12.00	-0.0190	-0.23		917.97	12.00	-0.0190	-0.23		917.74	12.00	-0.0190	-0.23		917.52		32+00
32+25	918.11	12.00	-0.0190	-0.23		917.88	12.00	-0.0190	-0.23		917.65	12.00	-0.0190	-0.23		917.43		32+25
32+50	918.02	12.00	-0.0190	-0.23		917.79	12.00	-0.0190	-0.23		917.56	12.00	-0.0190	-0.23		917.34		32+50
32+75	917.94	12.00	-0.0190	-0.23		917.71	12.00	-0.0190	-0.23		917.48	12.00	-0.0190	-0.23		917.26		32+75
33+00	917.86	12.00	-0.0190	-0.23		917.63	12.00	-0.0190	-0.23		917.40	12.00	-0.0190	-0.23		917.18		33+00
33+25	917.78	12.00	-0.0190	-0.23		917.55	12.00	-0.0190	-0.23		917.32	12.00	-0.0190	-0.23		917.10		33+25
33+50	917.70	12.00	-0.0190	-0.23		917.47	12.00	-0.0190	-0.23		917.24	12.00	-0.0190	-0.23		917.02		33+50
33+75	917.62	12.00	-0.0190	-0.23		917.39	12.00	-0.0190	-0.23		917.16	12.00	-0.0190	-0.23		916.94		33+75
34+00	917.54	12.00	-0.0190	-0.23		917.31	12.00	-0.0190	-0.23		917.08	12.00	-0.0190	-0.23		916.86		34+00
34+25	917.46	12.00	-0.0190	-0.23		917.23	12.00	-0.0190	-0.23		917.00	12.00	-0.0190	-0.23		916.78		34+25
34+50	917.38	12.00	-0.0190	-0.23		917.15	12.00	-0.0190	-0.23		916.92	12.00	-0.0190	-0.23		916.70		34+50
34+75	917.32	12.00	-0.0190	-0.23		917.09	12.00	-0.0190	-0.23		916.86	12.00	-0.0190	-0.23		916.64		34+75
35+00	917.26	12.00	-0.0190	-0.23		917.03	12.00	-0.0190	-0.23		916.80	12.00	-0.0190	-0.23		916.58		35+00
35+25	917.20	12.00	-0.0190	-0.23		916.97	12.00	-0.0190	-0.23		916.74	12.00	-0.0190	-0.23		916.52		35+25
35+50	917.14	12.00	-0.0190	-0.23		916.91	12.00	-0.0190	-0.23		916.68	12.00	-0.0190	-0.23		916.46		35+50
35+75	917.08	12.00	-0.0190	-0.23		916.85	12.00	-0.0190	-0.23		916.62	12.00	-0.0190	-0.23		916.40		35+75
36+00	917.02	12.00	-0.0190	-0.23		916.79	12.00	-0.0190	-0.23		916.56	12.00	-0.0190	-0.23		916.34		36+00
36+25	916.96	12.00	-0.0190	-0.23		916.73	12.00	-0.0190	-0.23		916.50	12.00	-0.0190	-0.23		916.28		36+25
36+50	916.90	12.00	-0.0190	-0.23		916.67	12.00	-0.0190	-0.23		916.44	12.00	-0.0190	-0.23		916.22		36+50
36+75	916.84	12.00	-0.0190	-0.23		916.61	12.00	-0.0190	-0.23		916.38	12.00	-0.0190	-0.23		916.16		36+75
37+00	916.78	12.00	-0.0190	-0.23		916.55	12.00	-0.0190	-0.23		916.32	12.00	-0.0190	-0.23		916.10		37+00
37+25	916.72	12.00	-0.0190	-0.23		916.49	12.00	-0.0190	-0.23		916.26	12.00	-0.0190	-0.23		916.04		37+25
37+50	916.66	12.00	-0.0190	-0.23		916.43	12.00	-0.0190	-0.23		916.20	12.00	-0.0190	-0.23		915.98		37+50
37+75	916.60	12.00	-0.0190	-0.23		916.37	12.00	-0.0190	-0.23		916.14	12.00	-0.0190	-0.23		915.92		37+75
38+00	916.54	12.00	-0.0190	-0.23		916.31	12.00	-0.0190	-0.23		916.08	12.00	-0.0190	-0.23		915.86		38+00
38+25	916.48	12.00	-0.0190	-0.23		916.25	12.00	-0.0190	-0.23		916.02	12.00	-0.0190	-0.23		915.80		38+25
38+50	916.42	12.00	-0.0190	-0.23		916.19	12.00	-0.0190	-0.23		915.96	12.00	-0.0190	-0.23		915.74		38+50
38+75	916.36	12.00	-0.0190	-0.23		916.13	12.00	-0.0190	-0.23		915.90	12.00	-0.0190	-0.23		915.68		38+75
39+00	916.30	12.00	-0.0190	-0.23		916.07	12.00	-0.0190	-0.23		915.84	12.00	-0.0190	-0.23		915.62		39+00
39+25	916.24	12.00	-0.0190	-0.23		916.01	12.00	-0.0190	-0.23		915.78	12.00	-0.0190	-0.23		915.56		39+25
39+50	916.18	12.00	-0.0190	-0.23		915.95	12.00	-0.0190	-0.23		915.72	12.00	-0.0190	-0.23		915.50		39+50
39+75	916.12	12.00	-0.0190	-0.23		915.89	12.00	-0.0190	-0.23		915.66	12.00	-0.0190	-0.23		915.44		39+75
40+00	916.06	12.00	-0.0190	-0.23		915.83	12.00	-0.0190	-0.23		915.60	12.00	-0.0190	-0.23		915.38		40+00
40+25	916.00	12.00	-0.0190	-0.23		915.77	12.00	-0.0190	-0.23		915.54	12.00	-0.0190	-0.23		915.32		40+25
40+50	915.94	12.00	-0.0190	-0.23		915.71	12.00	-0.0190	-0.23		915.48	12.00	-0.0190	-0.23		915.26		40+50
40+75	915.88	12.00	-0.0190	-0.23		915.65	12.00	-0.0190	-0.23		915.42	12.00	-0.0190	-0.23		915.20		40+75
41+00	915.82	12.00	-0.0190	-0.23		915.59	12.00	-0.0190	-0.23		915.36	12.00	-0.0190	-0.23		915.14		41+00
41+25	915.76	12.00	-0.0190	-0.23		915.53	12.00	-0.0190	-0.23		915.30	12.00	-0.0190	-0.23		915.08		41+25
41+50	915.70	12.00	-0.0190	-0.23		915.47	12.00	-0.0190	-0.23		915.24	12.00	-0.0190	-0.23		915.02		41+50
41+75	915.64	12.00	-0.0190	-0.23		915.41	12.00	-0.0190	-0.23		915.18	12.00	-0.0190	-0.23		914.96		41+75
42+00	915.58	12.00	-0.0190	-0.23		915.35	12.00	-0.0190	-0.23		915.12	12.00	-0.0190	-0.23		914.90		42+00
42+25	915.46	12.00	-0.0190	-0.23		915.23	12.00	-0.0190	-0.23		915.00	12.00	-0.0190	-0.23		914.78		42+25
42+50	915.34	12.00	-0.0190	-0.23		915.11	12.00	-0.0190	-0.23		914.88	12.00	-0.0190	-0.23		914.66		42+50
42+75	915.22	12.00	-0.0190	-0.23		914.99	12.00	-0.0190	-0.23		914.76	12.00	-0.0190	-0.23		914.54		42+75
43+00	915.10	12.00	-0.0190	-0.23		914.87	12.00	-0.0190	-0.23		914.64	12.00	-0.0190	-0.23		914.42		43+00
43+25	914.98	12.00	-0.0190	-0.23		914.75	12.00	-0.0190	-0.23		914.52	12.00	-0.0190	-0.23		914.30		43+25
43+50	914.86	12.00	-0.0190	-0.23		914.63	12.00	-0.0190	-0.23		914.40	12.00	-0.0190	-0.23		914.18		43+50
43+75	914.74	12.00	-0.0190	-0.23		914.51	12.00	-0.0190	-0.23		914.28	12.00	-0.0190	-0.23		914.06		43+75
44+00	914.62	12.00	-0.0190	-0.23		914.39	12.00	-0.0190	-0.23		914.16	12.00	-0.0190	-0.23		913.94		44+00
44+25	914.52	12.00	-0.0190	-0.23		914.29	12.00	-0.0190	-0.23		914.06	12.00	-0.0190	-0.23		913.84		44+25

CALCULATED
CHECKED

SUPERELEVATION TABLE

WAY/MED-71-7.04/0.00

SUPERELEVATION TABLE SOUTHBOUND

PI STA= 37+44.62 | Dc= 0°29″59′

OUTSIDE EDGE CONTROL 66' LT.		54' LEFT					42' LEFT					30' LEFT						℄
STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	REMARKS	STATION
44+50	914.42	12.00	-0.0190	-0.23		914.19	12.00	-0.0190	-0.23		913.96	12.00	-0.0190	-0.23		913.74		44+50
44+75	914.33	12.00	-0.0190	-0.23		914.10	12.00	-0.0190	-0.23		913.87	12.00	-0.0190	-0.23		913.65		44+75
45+00	914.24	12.00	-0.0190	-0.23		914.01	12.00	-0.0190	-0.23		913.78	12.00	-0.0190	-0.23		913.56		45+00
45+25	914.17	12.00	-0.0190	-0.23		913.94	12.00	-0.0190	-0.23		913.71	12.00	-0.0190	-0.23		913.49		45+25
45+50	914.10	12.00	-0.0190	-0.23		913.87	12.00	-0.0190	-0.23		913.64	12.00	-0.0190	-0.23		913.42		45+50
45+75	914.05	12.00	-0.0190	-0.23		913.82	12.00	-0.0190	-0.23		913.59	12.00	-0.0190	-0.23		913.37		45+75
46+00	914.00	12.00	-0.0190	-0.23		913.77	12.00	-0.0190	-0.23		913.54	12.00	-0.0190	-0.23		913.32		46+00
46+25	913.96	12.00	-0.0190	-0.23		913.73	12.00	-0.0190	-0.23		913.50	12.00	-0.0190	-0.23		913.28		46+25
46+50	913.92	12.00	-0.0190	-0.23		913.69	12.00	-0.0190	-0.23		913.46	12.00	-0.0190	-0.23		913.24		46+50
46+75	913.90	12.00	-0.0190	-0.23		913.67	12.00	-0.0190	-0.23		913.44	12.00	-0.0190	-0.23		913.22		46+75
47+00	913.89	12.00	-0.0190	-0.23		913.66	12.00	-0.0190	-0.23		913.43	12.00	-0.0190	-0.23		913.21		47+00
47+25	913.88	12.00	-0.0190	-0.23		913.65	12.00	-0.0190	-0.23		913.42	12.00	-0.0190	-0.23		913.20		47+25
47+50	913.88	12.00	-0.0190	-0.23		913.65	12.00	-0.0190	-0.23		913.42	12.00	-0.0190	-0.23		913.20		47+50
47+75	913.89	12.00	-0.0190	-0.23		913.66	12.00	-0.0190	-0.23		913.43	12.00	-0.0190	-0.23		913.21		47+75
48+00	913.91	12.00	-0.0190	-0.23		913.68	12.00	-0.0190	-0.23		913.45	12.00	-0.0190	-0.23		913.23		48+00
48+25	913.93	12.00	-0.0190	-0.23		913.70	12.00	-0.0190	-0.23		913.47	12.00	-0.0190	-0.23		913.25		48+25
48+50	913.97	12.00	-0.0190	-0.23		913.74	12.00	-0.0190	-0.23		913.51	12.00	-0.0190	-0.23		913.29		48+50
48+75	914.01	12.00	-0.0190	-0.23		913.78	12.00	-0.0190	-0.23		913.55	12.00	-0.0190	-0.23		913.33		48+75
49+00	914.06	12.00	-0.0190	-0.23		913.83	12.00	-0.0190	-0.23		913.60	12.00	-0.0190	-0.23		913.38		49+00
49+25	914.12	12.00	-0.0190	-0.23		913.89	12.00	-0.0190	-0.23		913.66	12.00	-0.0190	-0.23		913.44		49+25
49+50	914.19	12.00	-0.0190	-0.23		913.96	12.00	-0.0190	-0.23		913.73	12.00	-0.0190	-0.23		913.51		49+50
49+75	914.26	12.00	-0.0190	-0.23		914.03	12.00	-0.0190	-0.23		913.80	12.00	-0.0190	-0.23		913.58		49+75
50+00	914.35	12.00	-0.0190	-0.23		914.12	12.00	-0.0190	-0.23		913.89	12.00	-0.0190	-0.23		913.67		50+00
50+25	914.44	12.00	-0.0190	-0.23		914.21	12.00	-0.0190	-0.23		913.98	12.00	-0.0190	-0.23		913.76		50+25
50+50	914.54	12.00	-0.0190	-0.23		914.31	12.00	-0.0190	-0.23		914.08	12.00	-0.0190	-0.23		913.86		50+50
50+75	914.65	12.00	-0.0190	-0.23		914.42	12.00	-0.0190	-0.23		914.19	12.00	-0.0190	-0.23		913.97		50+75
51+00	914.77	12.00	-0.0190	-0.23		914.54	12.00	-0.0190	-0.23		914.31	12.00	-0.0190	-0.23		914.09		51+00
51+25	914.90	12.00	-0.0190	-0.23		914.67	12.00	-0.0190	-0.23		914.44	12.00	-0.0190	-0.23		914.22		51+25
51+50	915.03	12.00	-0.0190	-0.23		914.80	12.00	-0.0190	-0.23		914.57	12.00	-0.0190	-0.23		914.35		51+50
51+75	915.17	12.00	-0.0190	-0.23		914.94	12.00	-0.0190	-0.23		914.71	12.00	-0.0190	-0.23		914.49		51+75
52+00	915.32	12.00	-0.0190	-0.23		915.09	12.00	-0.0190	-0.23		914.86	12.00	-0.0190	-0.23		914.64		52+00
52+25	915.48	12.00	-0.0190	-0.23		915.25	12.00	-0.0190	-0.23		915.02	12.00	-0.0190	-0.23		914.80		52+25
52+50	915.65	12.00	-0.0190	-0.23		915.42	12.00	-0.0190	-0.23		915.19	12.00	-0.0190	-0.23		914.97		52+50
52+75	915.83	12.00	-0.0190	-0.23		915.60	12.00	-0.0190	-0.23		915.37	12.00	-0.0190	-0.23		915.15		52+75
53+00	916.01	12.00	-0.0190	-0.23		915.78	12.00	-0.0190	-0.23		915.55	12.00	-0.0190	-0.23		915.33		53+00
53+25	916.21	12.00	-0.0190	-0.23		915.98	12.00	-0.0190	-0.23		915.75	12.00	-0.0190	-0.23		915.53		53+25
53+50	916.41	12.00	-0.0190	-0.23		916.18	12.00	-0.0190	-0.23		915.95	12.00	-0.0190	-0.23		915.73		53+50
53+75	916.62	12.00	-0.0190	-0.23		916.39	12.00	-0.0190	-0.23		916.16	12.00	-0.0190	-0.23		915.94		53+75
54+00	916.83	12.00	-0.0190	-0.23		916.60	12.00	-0.0190	-0.23		916.37	12.00	-0.0190	-0.23		916.15		54+00
54+25	917.04	12.00	-0.0190	-0.23		916.81	12.00	-0.0190	-0.23		916.58	12.00	-0.0190	-0.23		916.36		54+25
54+50	917.26	12.00	-0.0190	-0.23		917.03	12.00	-0.0190	-0.23		916.80	12.00	-0.0190	-0.23		916.58		54+50
54+75	917.47	12.00	-0.0190	-0.23		917.24	12.00	-0.0190	-0.23		917.01	12.00	-0.0190	-0.23		916.79		54+75
55+00	917.69	12.00	-0.0190	-0.23		917.46	12.00	-0.0190	-0.23		917.23	12.00	-0.0190	-0.23		917.01		55+00
55+25	917.90	12.00	-0.0190	-0.23		917.67	12.00	-0.0190	-0.23		917.44	12.00	-0.0190	-0.23		917.22		55+25
55+50	918.11	12.00	-0.0190	-0.23		917.88	12.00	-0.0190	-0.23		917.65	12.00	-0.0190	-0.23		917.43		55+50
55+75	918.33	12.00	-0.0190	-0.23		918.10	12.00	-0.0190	-0.23		917.87	12.00	-0.0190	-0.23		917.65		55+75
56+00	918.54	12.00	-0.0190	-0.23		918.31	12.00	-0.0190	-0.23		918.08	12.00	-0.0190	-0.23		917.86		56+00
56+25	918.75	12.00	-0.0190	-0.23		918.52	12.00	-0.0190	-0.23		918.29	12.00	-0.0190	-0.23		918.07		56+25
56+50	918.97	12.00	-0.0190	-0.23		918.74	12.00	-0.0190	-0.23		918.51	12.00	-0.0190	-0.23		918.29		56+50
56+75	919.18	12.00	-0.0190	-0.23		918.95	12.00	-0.0190	-0.23		918.72	12.00	-0.0190	-0.23		918.50		56+75
57+00	919.40	12.00	-0.0190	-0.23		919.17	12.00	-0.0190	-0.23		918.94	12.00	-0.0190	-0.23		918.72		57+00
57+25	919.61	12.00	-0.0190	-0.23		919.38	12.00	-0.0190	-0.23		919.15	12.00	-0.0190	-0.23		918.93		57+25
57+50	919.82	12.00	-0.0190	-0.23		919.59	12.00	-0.0190	-0.23		919.36	12.00	-0.0190	-0.23		919.14		57+50
57+75	920.04	12.00	-0.0190	-0.23		919.81	12.00	-0.0190	-0.23		919.58	12.00	-0.0190	-0.23		919.36		57+75
58+00	920.25	12.00	-0.0190	-0.23		920.02	12.00	-0.0190	-0.23		919.79	12.00	-0.0190	-0.23		919.57		58+00
58+25	920.46	12.00	-0.0190	-0.23		920.23	12.00	-0.0190	-0.23		920.00	12.00	-0.0190	-0.23		919.78		58+25
58+50	920.68	12.00	-0.0190	-0.23		920.45	12.00	-0.0190	-0.23		920.22	12.00	-0.0190	-0.23		920.00		58+50
58+75	920.89	12.00	-0.0190	-0.23		920.66	12.00	-0.0190	-0.23		920.43	12.00	-0.0190	-0.23		920.21		58+75
59+00	921.11	12.00	-0.0190	-0.23		920.88	12.00	-0.0190	-0.23		920.65	12.00	-0.0190	-0.23		920.43		59+00
59+25	921.32	12.00	-0.0190	-0.23		921.09	12.00	-0.0190	-0.23		920.86	12.00	-0.0190	-0.23		920.64		59+25
59+50	921.53	12.00	-0.0190	-0.23		921.30	12.00	-0.0190	-0.23		921.07	12.00	-0.0190	-0.23		920.85		59+50
59+75	921.75	12.00	-0.0190	-0.23		921.52	12.00	-0.0190	-0.23		921.29	12.00	-0.0190	-0.23		921.07		59+75
60+00	921.96	12.00	-0.0190	-0.23		921.73	12.00	-0.0190	-0.23		921.50	12.00	-0.0190	-0.23		921.28		60+00
60+25	922.18	12.00	-0.0190	-0.23		921.95	12.00	-0.0190	-0.23		921.72	12.00	-0.0190	-0.23		921.50		60+25

CALCULATED
CHECKED

SUPERELEVATION TABLE

WAY/MED-71-7.04/0.00

SUPERELEVATION TABLE SOUTHBOUND

PI STA= 37+44.62 | Dc= 0°29"59'

OUTSIDE EDGE CONTROL 66' LT.		54' LEFT					42' LEFT					30' LEFT						℄
STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	REMARKS	STATION
60+50	922.39	12.00	-0.0190	-0.23		922.16	12.00	-0.0190	-0.23		921.93	12.00	-0.0190	-0.23		921.71		60+50
60+75	922.60	12.00	-0.0190	-0.23		922.37	12.00	-0.0190	-0.23		922.14	12.00	-0.0190	-0.23		921.92		60+75
61+00	922.82	12.00	-0.0190	-0.23		922.59	12.00	-0.0190	-0.23		922.36	12.00	-0.0190	-0.23		922.14		61+00
61+25	923.03	12.00	-0.0190	-0.23		922.80	12.00	-0.0190	-0.23		922.57	12.00	-0.0190	-0.23		922.35		61+25
61+50	923.24	12.00	-0.0190	-0.23		923.01	12.00	-0.0190	-0.23		922.78	12.00	-0.0190	-0.23		922.56		61+50
61+75	923.46	12.00	-0.0190	-0.23		923.23	12.00	-0.0190	-0.23		923.00	12.00	-0.0190	-0.23		922.78		61+75
62+00	923.67	12.00	-0.0190	-0.23		923.44	12.00	-0.0190	-0.23		923.21	12.00	-0.0190	-0.23		922.99		62+00
62+25	923.89	12.00	-0.0190	-0.23		923.66	12.00	-0.0190	-0.23		923.43	12.00	-0.0190	-0.23		923.21		62+25
62+50	924.10	12.00	-0.0190	-0.23		923.87	12.00	-0.0190	-0.23		923.64	12.00	-0.0190	-0.23		923.42		62+50
62+75	924.31	12.00	-0.0190	-0.23		924.08	12.00	-0.0190	-0.23		923.85	12.00	-0.0190	-0.23		923.63		62+75
63+00	924.53	12.00	-0.0190	-0.23		924.30	12.00	-0.0190	-0.23		924.07	12.00	-0.0190	-0.23		923.85		63+00
63+25	924.74	12.00	-0.0190	-0.23		924.51	12.00	-0.0190	-0.23		924.28	12.00	-0.0190	-0.23		924.06		63+25
63+50	924.95	12.00	-0.0190	-0.23		924.72	12.00	-0.0190	-0.23		924.49	12.00	-0.0190	-0.23		924.27		63+50
63+75	925.17	12.00	-0.0190	-0.23		924.94	12.00	-0.0190	-0.23		924.71	12.00	-0.0190	-0.23		924.49		63+75
64+00	925.38	12.00	-0.0190	-0.23		925.15	12.00	-0.0190	-0.23		924.92	12.00	-0.0190	-0.23		924.70		64+00
64+25	925.60	12.00	-0.0190	-0.23		925.37	12.00	-0.0190	-0.23		925.14	12.00	-0.0190	-0.23		924.92		64+25
64+50	925.81	12.00	-0.0190	-0.23		925.58	12.00	-0.0190	-0.23		925.35	12.00	-0.0190	-0.23		925.13		64+50
64+75	926.03	12.00	-0.0190	-0.23		925.80	12.00	-0.0190	-0.23		925.57	12.00	-0.0190	-0.23		925.35		64+75
65+00	926.24	12.00	-0.0190	-0.23		926.01	12.00	-0.0190	-0.23		925.78	12.00	-0.0190	-0.23		925.56		65+00
65+25	926.46	12.00	-0.0190	-0.23		926.23	12.00	-0.0190	-0.23		926.00	12.00	-0.0190	-0.23		925.78		65+25
65+50	926.67	12.00	-0.0190	-0.23		926.44	12.00	-0.0190	-0.23		926.21	12.00	-0.0190	-0.23		925.99		65+50
65+75	926.89	12.00	-0.0190	-0.23		926.66	12.00	-0.0190	-0.23		926.43	12.00	-0.0190	-0.23		926.21		65+75
66+00	927.10	12.00	-0.0190	-0.23		926.87	12.00	-0.0190	-0.23		926.64	12.00	-0.0190	-0.23		926.42		66+00
66+25	927.30	12.00	-0.0190	-0.23		927.07	12.00	-0.0190	-0.23		926.84	12.00	-0.0190	-0.23		926.62		66+25
66+50	927.49	12.00	-0.0190	-0.23		927.26	12.00	-0.0190	-0.23		927.03	12.00	-0.0190	-0.23		926.81		66+50
66+75	927.68	12.00	-0.0190	-0.23		927.45	12.00	-0.0190	-0.23		927.22	12.00	-0.0190	-0.23		927.00		66+75
67+00	927.86	12.00	-0.0190	-0.23		927.63	12.00	-0.0190	-0.23		927.40	12.00	-0.0190	-0.23		927.18		67+00
67+25	928.03	12.00	-0.0190	-0.23		927.80	12.00	-0.0190	-0.23		927.57	12.00	-0.0190	-0.23		927.35		67+25
67+50	928.19	12.00	-0.0190	-0.23		927.96	12.00	-0.0190	-0.23		927.73	12.00	-0.0190	-0.23		927.51		67+50
67+75	928.34	12.00	-0.0190	-0.23		928.11	12.00	-0.0190	-0.23		927.88	12.00	-0.0190	-0.23		927.66		67+75
68+00	928.48	12.00	-0.0190	-0.23		928.25	12.00	-0.0190	-0.23		928.02	12.00	-0.0190	-0.23		927.80		68+00
68+25	928.62	12.00	-0.0190	-0.23		928.39	12.00	-0.0190	-0.23		928.16	12.00	-0.0190	-0.23		927.94		68+25
68+50	928.74	12.00	-0.0190	-0.23		928.51	12.00	-0.0190	-0.23		928.28	12.00	-0.0190	-0.23		928.06		68+50
68+75	928.86	12.00	-0.0190	-0.23		928.63	12.00	-0.0190	-0.23		928.40	12.00	-0.0190	-0.23		928.18		68+75
69+00	928.97	12.00	-0.0190	-0.23		928.74	12.00	-0.0190	-0.23		928.51	12.00	-0.0190	-0.23		928.29		69+00
69+25	929.07	12.00	-0.0190	-0.23		928.84	12.00	-0.0190	-0.23		928.61	12.00	-0.0190	-0.23		928.39		69+25
69+50	929.17	12.00	-0.0190	-0.23		928.94	12.00	-0.0190	-0.23		928.71	12.00	-0.0190	-0.23		928.49		69+50
69+75	929.27	12.00	-0.0190	-0.23		929.04	12.00	-0.0190	-0.23		928.81	12.00	-0.0190	-0.23		928.59		69+75
70+00	929.37	12.00	-0.0190	-0.23		929.14	12.00	-0.0190	-0.23		928.91	12.00	-0.0190	-0.23		928.69		70+00
70+25	929.46	12.00	-0.0190	-0.23		929.23	12.00	-0.0190	-0.23		929.00	12.00	-0.0190	-0.23		928.78		70+25
70+50	929.56	12.00	-0.0190	-0.23		929.33	12.00	-0.0190	-0.23		929.10	12.00	-0.0190	-0.23		928.88		70+50
70+75	929.66	12.00	-0.0190	-0.23		929.43	12.00	-0.0190	-0.23		929.20	12.00	-0.0190	-0.23		928.98		70+75
71+00	929.76	12.00	-0.0190	-0.23		929.53	12.00	-0.0190	-0.23		929.30	12.00	-0.0190	-0.23		929.08		71+00
71+25	929.85	12.00	-0.0190	-0.23		929.62	12.00	-0.0190	-0.23		929.39	12.00	-0.0190	-0.23		929.17		71+25
71+50	929.95	12.00	-0.0190	-0.23		929.72	12.00	-0.0190	-0.23		929.49	12.00	-0.0190	-0.23		929.27		71+50
71+75	930.05	12.00	-0.0190	-0.23		929.82	12.00	-0.0190	-0.23		929.59	12.00	-0.0190	-0.23		929.37		71+75
72+00	930.15	12.00	-0.0190	-0.23		929.92	12.00	-0.0190	-0.23		929.69	12.00	-0.0190	-0.23	510.2:1	929.47	F.S	72+00
72+25	930.24	12.00	-0.0168	-0.20		930.04	12.00	-0.0168	-0.20		929.84	12.00	-0.0168	-0.20	↑	929.63		72+25
72+38.83	930.30	12.00	-0.0156	-0.19		930.11	12.00	-0.0156	-0.19		929.93	12.00	-0.0156	-0.19		929.74	F.C.	72+38.83
72+50	930.34	12.00	-0.0140	-0.17		930.17	12.00	-0.0156	-0.19		929.98	12.00	-0.0156	-0.19		929.80		72+50
72+75	930.44	12.00	-0.0105	-0.13		930.31	12.00	-0.0156	-0.19		930.13	12.00	-0.0156	-0.19		929.94		72+75
73+00	930.55	12.00	-0.0070	-0.08		930.47	12.00	-0.0156	-0.19		930.28	12.00	-0.0156	-0.19		930.09		73+00
73+25	930.68	12.00	-0.0035	-0.04		930.64	12.00	-0.0156	-0.19		930.45	12.00	-0.0156	-0.19		930.26		73+25
73+50	930.82	12.00	0.0000	0.00		930.82	12.00	-0.0156	-0.19		930.63	12.00	-0.0156	-0.19		930.45	H.F.	73+50
73+75	930.99	12.00	0.0039	0.05		931.04	12.00	-0.0156	-0.19		930.85	12.00	-0.0156	-0.19		930.66		73+75
74+00	931.18	12.00	0.0078	0.09		931.27	12.00	-0.0156	-0.19		931.09	12.00	-0.0156	-0.19		930.90		74+00
74+25	931.39	12.00	0.0117	0.14		931.53	12.00	-0.0156	-0.19		931.34	12.00	-0.0156	-0.19	↓	931.16		74+25
74+50	931.62	12.00	0.0156	0.19		931.81	12.00	-0.0156	-0.19		931.62	12.00	-0.0156	-0.19	510.2:1	931.43	N	74+50

CALCULATED

CHECKED

SUPERELEVATION TABLE

WAY/MED-71-7.04/0.00

SUPERELEVATION TABLE SOUTHBOUND

PI STA= 160+33.35 | Dc= 0°28″00′

OUTSIDE EDGE CONTROL 66' LT.		54' LEFT					42' LEFT					30' LEFT						℄
STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	REMARKS	STATION
131+25	966.36	12.00	0.0156	0.19		966.55	12.00	-0.0156	-0.19		966.36	12.00	-0.0156	-0.19	258.6:1	966.17	N	131+25
131+50	966.23	12.00	0.0156	0.19		966.42	12.00	-0.0117	-0.14		966.28	12.00	-0.0117	-0.14	↑	966.14		131+50
131+75	966.19	12.00	0.0156	0.19		966.38	12.00	-0.0078	-0.09		966.28	12.00	-0.0078	-0.09		966.19		131+75
132+00	965.94	12.00	0.0156	0.19		966.13	12.00	-0.0039	-0.05		966.08	12.00	-0.0039	-0.05		966.03		132+00
132+25	965.79	12.00	0.0156	0.19		965.98	12.00	0.0000	0.00		965.98	12.00	0.0000	0.00		965.98	H.F	132+25
132+50	965.64	12.00	0.0156	0.19		965.83	12.00	0.0041	0.05		965.88	12.00	0.0041	0.05		965.93		132+50
132+75	965.48	12.00	0.0156	0.19		965.67	12.00	0.0083	0.10		965.77	12.00	0.0083	0.10		965.87		132+75
133+00	965.32	12.00	0.0156	0.19		965.51	12.00	0.0124	0.15		965.66	12.00	0.0124	0.15		965.80		133+00
133+19.42	965.19	12.00	0.0156	0.19		965.38	12.00	0.0156	0.19		965.56	12.00	0.0156	0.19		965.75	F.C	133+19.42
133+25	965.16	12.00	0.0162	0.19		965.35	12.00	0.0162	0.19		965.55	12.00	0.0162	0.19	↓	965.74		133+25
133+50	964.99	12.00	0.0190	0.23		965.22	12.00	0.0190	0.23		965.45	12.00	0.0190	0.23	258.6:1	965.67	F.S	133+50
133+75	964.82	12.00	0.0190	0.23		965.05	12.00	0.0190	0.23		965.28	12.00	0.0190	0.23		965.50		133+75
134+00	964.64	12.00	0.0190	0.23		964.87	12.00	0.0190	0.23		965.10	12.00	0.0190	0.23		965.32		134+00
134+25	964.46	12.00	0.0190	0.23		964.69	12.00	0.0190	0.23		964.92	12.00	0.0190	0.23		965.14		134+25
134+50	964.27	12.00	0.0190	0.23		964.50	12.00	0.0190	0.23		964.73	12.00	0.0190	0.23		964.95		134+50
134+75	964.09	12.00	0.0190	0.23		964.32	12.00	0.0190	0.23		964.55	12.00	0.0190	0.23		964.77		134+75
135+00	963.89	12.00	0.0190	0.23		964.12	12.00	0.0190	0.23		964.35	12.00	0.0190	0.23		964.57		135+00
135+25	963.70	12.00	0.0190	0.23		963.93	12.00	0.0190	0.23		964.16	12.00	0.0190	0.23		964.38		135+25
135+50	963.50	12.00	0.0190	0.23		963.73	12.00	0.0190	0.23		963.96	12.00	0.0190	0.23		964.18		135+50
135+75	963.29	12.00	0.0190	0.23		963.52	12.00	0.0190	0.23		963.75	12.00	0.0190	0.23		963.97		135+75
136+00	963.08	12.00	0.0190	0.23		963.31	12.00	0.0190	0.23		963.54	12.00	0.0190	0.23		963.76		136+00
136+25	962.87	12.00	0.0190	0.23		963.10	12.00	0.0190	0.23		963.33	12.00	0.0190	0.23		963.55		136+25
136+50	962.66	12.00	0.0190	0.23		962.89	12.00	0.0190	0.23		963.12	12.00	0.0190	0.23		963.34		136+50
136+75	962.44	12.00	0.0190	0.23		962.67	12.00	0.0190	0.23		962.90	12.00	0.0190	0.23		963.12		136+75
137+00	962.21	12.00	0.0190	0.23		962.44	12.00	0.0190	0.23		962.67	12.00	0.0190	0.23		962.89		137+00
137+25	961.99	12.00	0.0190	0.23		962.22	12.00	0.0190	0.23		962.45	12.00	0.0190	0.23		962.67		137+25
137+50	961.75	12.00	0.0190	0.23		961.98	12.00	0.0190	0.23		962.21	12.00	0.0190	0.23		962.43		137+50
137+75	961.52	12.00	0.0190	0.23		961.75	12.00	0.0190	0.23		961.98	12.00	0.0190	0.23		962.20		137+75
138+00	961.28	12.00	0.0190	0.23		961.51	12.00	0.0190	0.23		961.74	12.00	0.0190	0.23		961.96		138+00
138+25	961.03	12.00	0.0190	0.23		961.26	12.00	0.0190	0.23		961.49	12.00	0.0190	0.23		961.71		138+25
138+50	960.79	12.00	0.0190	0.23		961.02	12.00	0.0190	0.23		961.25	12.00	0.0190	0.23		961.47		138+50
138+75	960.54	12.00	0.0190	0.23		960.77	12.00	0.0190	0.23		961.00	12.00	0.0190	0.23		961.22		138+75
139+00	960.28	12.00	0.0190	0.23		960.51	12.00	0.0190	0.23		960.74	12.00	0.0190	0.23		960.96		139+00
139+25	960.02	12.00	0.0190	0.23		960.25	12.00	0.0190	0.23		960.48	12.00	0.0190	0.23		960.70		139+25
139+50	959.76	12.00	0.0190	0.23		959.99	12.00	0.0190	0.23		960.22	12.00	0.0190	0.23		960.44		139+50
139+75	959.49	12.00	0.0190	0.23		959.72	12.00	0.0190	0.23		959.95	12.00	0.0190	0.23		960.17		139+75
140+00	959.22	12.00	0.0190	0.23		959.45	12.00	0.0190	0.23		959.68	12.00	0.0190	0.23		959.90		140+00
140+25	958.94	12.00	0.0190	0.23		959.17	12.00	0.0190	0.23		959.40	12.00	0.0190	0.23		959.62		140+25
140+50	958.67	12.00	0.0190	0.23		958.90	12.00	0.0190	0.23		959.13	12.00	0.0190	0.23		959.35		140+50
140+75	958.38	12.00	0.0190	0.23		958.61	12.00	0.0190	0.23		958.84	12.00	0.0190	0.23		959.06		140+75
141+00	958.10	12.00	0.0190	0.23		958.33	12.00	0.0190	0.23		958.56	12.00	0.0190	0.23		958.78		141+00
141+25	957.81	12.00	0.0190	0.23		958.04	12.00	0.0190	0.23		958.27	12.00	0.0190	0.23		958.49		141+25
141+50	957.53	12.00	0.0190	0.23		957.76	12.00	0.0190	0.23		957.99	12.00	0.0190	0.23		958.21		141+50
141+75	957.24	12.00	0.0190	0.23		957.47	12.00	0.0190	0.23		957.70	12.00	0.0190	0.23		957.92		141+75
142+00	956.96	12.00	0.0190	0.23		957.19	12.00	0.0190	0.23		957.42	12.00	0.0190	0.23		957.64		142+00
142+25	956.67	12.00	0.0190	0.23		956.90	12.00	0.0190	0.23		957.13	12.00	0.0190	0.23		957.35		142+25
142+50	956.39	12.00	0.0190	0.23		956.62	12.00	0.0190	0.23		956.85	12.00	0.0190	0.23		957.07		142+50
142+75	956.10	12.00	0.0190	0.23		956.33	12.00	0.0190	0.23		956.56	12.00	0.0190	0.23		956.78		142+75
143+00	955.82	12.00	0.0190	0.23		956.05	12.00	0.0190	0.23		956.28	12.00	0.0190	0.23		956.50		143+00
143+25	955.53	12.00	0.0190	0.23		955.76	12.00	0.0190	0.23		955.99	12.00	0.0190	0.23		956.21		143+25
143+50	955.25	12.00	0.0190	0.23		955.48	12.00	0.0190	0.23		955.71	12.00	0.0190	0.23		955.93		143+50
143+75	954.96	12.00	0.0190	0.23		955.19	12.00	0.0190	0.23		955.42	12.00	0.0190	0.23		955.64		143+75
144+00	954.68	12.00	0.0190	0.23		954.91	12.00	0.0190	0.23		955.13	12.00	0.0190	0.23		955.36		144+00
144+25	954.43	12.00	0.0190	0.23		954.66	12.00	0.0190	0.23		954.88	12.00	0.0190	0.23		955.11		144+25
144+50	954.18	12.00	0.0190	0.23		954.41	12.00	0.0190	0.23		954.63	12.00	0.0190	0.23		954.86		144+50
144+75	953.93	12.00	0.0190	0.23		954.16	12.00	0.0190	0.23		954.38	12.00	0.0190	0.23		954.61		144+75
145+00	953.68	12.00	0.0190	0.23		953.91	12.00	0.0190	0.23		954.13	12.00	0.0190	0.23		954.36		145+00
145+25	953.43	12.00	0.0190	0.23		953.66	12.00	0.0190	0.23		953.88	12.00	0.0190	0.23		954.11		145+25
145+50	953.18	12.00	0.0190	0.23		953.41	12.00	0.0190	0.23		953.63	12.00	0.0190	0.23		953.86		145+50
145+75	952.93	12.00	0.0190	0.23		953.16	12.00	0.0190	0.23		953.38	12.00	0.0190	0.23		953.61		145+75
146+00	952.68	12.00	0.0190	0.23		952.91	12.00	0.0190	0.23		953.13	12.00	0.0190	0.23		953.36		146+00
146+25	952.43	12.00	0.0190	0.23		952.66	12.00	0.0190	0.23		952.88	12.00	0.0190	0.23		953.11		146+25
146+50	952.18	12.00	0.0190	0.23		952.41	12.00	0.0190	0.23		952.63	12.00	0.0190	0.23		952.86		146+50

CALCULATED | CHECKED

SUPERELEVATION TABLE

WAY/MED-71-7.04/0.00

SUPERELEVATION TABLE SOUTHBOUND

PI STA= 160+33.35	Dc= 0°28″00′

OUTSIDE EDGE CONTROL 66' LT.		54' LEFT					42' LEFT					30' LEFT						℄
STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	REMARKS	STATION
146+75	951.93	12.00	0.0190	0.23		952.16	12.00	0.0190	0.23		952.38	12.00	0.0190	0.23		952.61		146+75
147+00	951.68	12.00	0.0190	0.23		951.91	12.00	0.0190	0.23		952.13	12.00	0.0190	0.23		952.36		147+00
147+25	951.43	12.00	0.0190	0.23		951.66	12.00	0.0190	0.23		951.88	12.00	0.0190	0.23		952.11		147+25
147+50	951.18	12.00	0.0190	0.23		951.41	12.00	0.0190	0.23		951.63	12.00	0.0190	0.23		951.86		147+50
147+75	950.93	12.00	0.0190	0.23		951.16	12.00	0.0190	0.23		951.39	12.00	0.0190	0.23		951.62		147+75
148+00	950.70	12.00	0.0190	0.23		950.93	12.00	0.0190	0.23		951.16	12.00	0.0190	0.23		951.38		148+00
148+25	950.48	12.00	0.0190	0.23		950.71	12.00	0.0190	0.23		950.94	12.00	0.0190	0.23		951.16		148+25
148+50	950.27	12.00	0.0190	0.23		950.50	12.00	0.0190	0.23		950.73	12.00	0.0190	0.23		950.95		148+50
148+75	950.07	12.00	0.0190	0.23		950.30	12.00	0.0190	0.23		950.53	12.00	0.0190	0.23		950.76		148+75
149+00	949.89	12.00	0.0190	0.23		950.11	12.00	0.0190	0.23		950.34	12.00	0.0190	0.23		950.57		149+00
149+25	949.71	12.00	0.0190	0.23		949.94	12.00	0.0190	0.23		950.17	12.00	0.0190	0.23		950.39		149+25
149+50	949.55	12.00	0.0190	0.23		949.78	12.00	0.0190	0.23		950.00	12.00	0.0190	0.23		950.23		149+50
149+75	949.40	12.00	0.0190	0.23		949.62	12.00	0.0190	0.23		949.85	12.00	0.0190	0.23		950.08		149+75
150+00	949.26	12.00	0.0190	0.23		949.48	12.00	0.0190	0.23		949.71	12.00	0.0190	0.23		949.94		150+00
150+25	949.13	12.00	0.0190	0.23		949.36	12.00	0.0190	0.23		949.58	12.00	0.0190	0.23		949.81		150+25
150+50	949.01	12.00	0.0190	0.23		949.24	12.00	0.0190	0.23		949.47	12.00	0.0190	0.23		949.70		150+50
150+75	948.91	12.00	0.0190	0.23		949.13	12.00	0.0190	0.23		949.36	12.00	0.0190	0.23		949.59		150+75
151+00	948.81	12.00	0.0190	0.23		949.04	12.00	0.0190	0.23		949.27	12.00	0.0190	0.23		949.50		151+00
151+25	948.73	12.00	0.0190	0.23		948.96	12.00	0.0190	0.23		949.19	12.00	0.0190	0.23		949.41		151+25
151+50	948.66	12.00	0.0190	0.23		948.89	12.00	0.0190	0.23		949.12	12.00	0.0190	0.23		949.34		151+50
151+75	948.60	12.00	0.0190	0.23		948.83	12.00	0.0190	0.23		949.06	12.00	0.0190	0.23		949.28		151+75
152+00	948.55	12.00	0.0190	0.23		948.78	12.00	0.0190	0.23		949.01	12.00	0.0190	0.23		949.24		152+00
152+25	948.52	12.00	0.0190	0.23		948.75	12.00	0.0190	0.23		948.97	12.00	0.0190	0.23		949.20		152+25
152+50	948.49	12.00	0.0190	0.23		948.72	12.00	0.0190	0.23		948.95	12.00	0.0190	0.23		949.18		152+50
152+75	948.48	12.00	0.0190	0.23		948.71	12.00	0.0190	0.23		948.94	12.00	0.0190	0.23		949.17		152+75
153+00	948.48	12.00	0.0190	0.23		948.71	12.00	0.0190	0.23		948.94	12.00	0.0190	0.23		949.16		153+00
153+25	948.49	12.00	0.0190	0.23		948.72	12.00	0.0190	0.23		948.95	12.00	0.0190	0.23		949.17		153+25
153+50	948.51	12.00	0.0190	0.23		948.74	12.00	0.0190	0.23		948.97	12.00	0.0190	0.23		949.20		153+50
153+75	948.55	12.00	0.0190	0.23		948.77	12.00	0.0190	0.23		949.00	12.00	0.0190	0.23		949.23		153+75
154+00	948.59	12.00	0.0190	0.23		948.82	12.00	0.0190	0.23		949.05	12.00	0.0190	0.23		949.28		154+00
154+25	948.65	12.00	0.0190	0.23		948.88	12.00	0.0190	0.23		949.11	12.00	0.0190	0.23		949.33		154+25
154+50	948.72	12.00	0.0190	0.23		948.95	12.00	0.0190	0.23		949.17	12.00	0.0190	0.23		949.40		154+50
154+75	948.80	12.00	0.0190	0.23		949.03	12.00	0.0190	0.23		949.25	12.00	0.0190	0.23		949.48		154+75
155+00	948.89	12.00	0.0190	0.23		949.12	12.00	0.0190	0.23		949.35	12.00	0.0190	0.23		949.57		155+00
155+25	948.99	12.00	0.0190	0.23		949.22	12.00	0.0190	0.23		949.45	12.00	0.0190	0.23		949.68		155+25
155+50	949.11	12.00	0.0190	0.23		949.34	12.00	0.0190	0.23		949.56	12.00	0.0190	0.23		949.79		155+50
155+75	949.23	12.00	0.0190	0.23		949.46	12.00	0.0190	0.23		949.69	12.00	0.0190	0.23		949.92		155+75
156+00	949.37	12.00	0.0190	0.23		949.60	12.00	0.0190	0.23		949.83	12.00	0.0190	0.23		950.06		156+00
156+25	949.52	12.00	0.0190	0.23		949.75	12.00	0.0190	0.23		949.98	12.00	0.0190	0.23		950.21		156+25
156+50	949.68	12.00	0.0190	0.23		949.91	12.00	0.0190	0.23		950.14	12.00	0.0190	0.23		950.37		156+50
156+75	949.86	12.00	0.0190	0.23		950.08	12.00	0.0190	0.23		950.31	12.00	0.0190	0.23		950.54		156+75
157+00	950.04	12.00	0.0190	0.23		950.27	12.00	0.0190	0.23		950.50	12.00	0.0190	0.23		950.72		157+00
157+25	950.24	12.00	0.0190	0.23		950.46	12.00	0.0190	0.23		950.69	12.00	0.0190	0.23		950.92		157+25
157+50	950.44	12.00	0.0190	0.23		950.67	12.00	0.0190	0.23		950.90	12.00	0.0190	0.23		951.13		157+50
157+75	950.66	12.00	0.0190	0.23		950.89	12.00	0.0190	0.23		951.12	12.00	0.0190	0.23		951.35		157+75
158+00	950.89	12.00	0.0190	0.23		951.12	12.00	0.0190	0.23		951.35	12.00	0.0190	0.23		951.58		158+00
158+25	951.14	12.00	0.0190	0.23		951.36	12.00	0.0190	0.23		951.59	12.00	0.0190	0.23		951.82		158+25
158+50	951.39	12.00	0.0190	0.23		951.62	12.00	0.0190	0.23		951.85	12.00	0.0190	0.23		952.07		158+50
158+75	951.66	12.00	0.0190	0.23		951.88	12.00	0.0190	0.23		952.11	12.00	0.0190	0.23		952.34		158+75
159+00	951.93	12.00	0.0190	0.23		952.16	12.00	0.0190	0.23		952.39	12.00	0.0190	0.23		952.62		159+00
159+25	952.22	12.00	0.0190	0.23		952.45	12.00	0.0190	0.23		952.68	12.00	0.0190	0.23		952.90		159+25
159+50	952.52	12.00	0.0190	0.23		952.75	12.00	0.0190	0.23		952.98	12.00	0.0190	0.23		953.21		159+50
159+75	952.83	12.00	0.0190	0.23		953.06	12.00	0.0190	0.23		953.29	12.00	0.0190	0.23		953.52		159+75
160+00	953.16	12.00	0.0190	0.23		953.38	12.00	0.0190	0.23		953.61	12.00	0.0190	0.23		953.84		160+00
160+25	953.49	12.00	0.0190	0.23		953.72	12.00	0.0190	0.23		953.95	12.00	0.0190	0.23		954.18		160+25
160+50	953.84	12.00	0.0190	0.23		954.07	12.00	0.0190	0.23		954.29	12.00	0.0190	0.23		954.52		160+50
160+75	954.20	12.00	0.0190	0.23		954.42	12.00	0.0190	0.23		954.65	12.00	0.0190	0.23		954.88		160+75
161+00	954.57	12.00	0.0190	0.23		954.79	12.00	0.0190	0.23		955.02	12.00	0.0190	0.23		955.25		161+00
161+25	954.95	12.00	0.0190	0.23		955.17	12.00	0.0190	0.23		955.40	12.00	0.0190	0.23		955.63		161+25
161+50	955.34	12.00	0.0190	0.23		955.57	12.00	0.0190	0.23		955.80	12.00	0.0190	0.23		956.02		161+50
161+75	955.74	12.00	0.0190	0.23		955.97	12.00	0.0190	0.23		956.20	12.00	0.0190	0.23		956.43		161+75
162+00	956.16	12.00	0.0190	0.23		956.39	12.00	0.0190	0.23		956.62	12.00	0.0190	0.23		956.84		162+00
162+25	956.59	12.00	0.0190	0.23		956.82	12.00	0.0190	0.23		957.04	12.00	0.0190	0.23		957.27		162+25

CALCULATED
CHECKED

SUPERELEVATION TABLE

WAY/MED-71-7.04/0.00

SUPERELEVATION TABLE SOUTHBOUND

PI STA= 160+33.35	Dc = 0°28"00'

OUTSIDE EDGE CONTROL 66' LT.		54' LEFT					42' LEFT					30' LEFT						℄
STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	REMARKS	STATION
162+50	957.03	12.00	0.0190	0.23		957.26	12.00	0.0190	0.23		957.48	12.00	0.0190	0.23		957.71		162+50
162+75	957.47	12.00	0.0190	0.23		957.70	12.00	0.0190	0.23		957.93	12.00	0.0190	0.23		958.16		162+75
163+00	957.92	12.00	0.0190	0.23		958.15	12.00	0.0190	0.23		958.37	12.00	0.0190	0.23		958.60		163+00
163+25	958.40	12.00	0.0190	0.23		958.63	12.00	0.0190	0.23		958.86	12.00	0.0190	0.23		959.08		163+25
163+50	958.88	12.00	0.0190	0.23		959.11	12.00	0.0190	0.23		959.34	12.00	0.0190	0.23		959.57		163+50
163+75	959.36	12.00	0.0190	0.23		959.59	12.00	0.0190	0.23		959.82	12.00	0.0190	0.23		960.05		163+75
164+00	959.85	12.00	0.0190	0.23		960.08	12.00	0.0190	0.23		960.30	12.00	0.0190	0.23		960.53		164+00
164+25	960.33	12.00	0.0190	0.23		960.56	12.00	0.0190	0.23		960.79	12.00	0.0190	0.23		961.01		164+25
164+50	960.81	12.00	0.0190	0.23		961.04	12.00	0.0190	0.23		961.27	12.00	0.0190	0.23		961.50		164+50
164+75	961.29	12.00	0.0190	0.23		961.52	12.00	0.0190	0.23		961.75	12.00	0.0190	0.23		961.98		164+75
165+00	961.78	12.00	0.0190	0.23		962.01	12.00	0.0190	0.23		962.23	12.00	0.0190	0.23		962.46		165+00
165+25	962.28	12.00	0.0190	0.23		962.51	12.00	0.0190	0.23		962.73	12.00	0.0190	0.23		962.96		165+25
165+50	962.78	12.00	0.0190	0.23		963.01	12.00	0.0190	0.23		963.23	12.00	0.0190	0.23		963.46		165+50
165+75	963.28	12.00	0.0190	0.23		963.51	12.00	0.0190	0.23		963.73	12.00	0.0190	0.23		963.96		165+75
166+00	963.78	12.00	0.0190	0.23		964.01	12.00	0.0190	0.23		964.23	12.00	0.0190	0.23		964.46		166+00
166+25	964.28	12.00	0.0190	0.23		964.51	12.00	0.0190	0.23		964.73	12.00	0.0190	0.23		964.96		166+25
166+50	964.78	12.00	0.0190	0.23		965.01	12.00	0.0190	0.23		965.23	12.00	0.0190	0.23		965.46		166+50
166+75	965.28	12.00	0.0190	0.23		965.51	12.00	0.0190	0.23		965.73	12.00	0.0190	0.23		965.96		166+75
167+00	965.78	12.00	0.0190	0.23		966.01	12.00	0.0190	0.23		966.23	12.00	0.0190	0.23		966.46		167+00
167+25	966.28	12.00	0.0190	0.23		966.51	12.00	0.0190	0.23		966.73	12.00	0.0190	0.23		966.96		167+25
167+50	966.78	12.00	0.0190	0.23		967.01	12.00	0.0190	0.23		967.23	12.00	0.0190	0.23		967.46		167+50
167+75	967.28	12.00	0.0190	0.23		967.51	12.00	0.0190	0.23		967.73	12.00	0.0190	0.23		967.96		167+75
168+00	967.78	12.00	0.0190	0.23		968.01	12.00	0.0190	0.23		968.23	12.00	0.0190	0.23		968.46		168+00
168+25	968.28	12.00	0.0190	0.23		968.51	12.00	0.0190	0.23		968.73	12.00	0.0190	0.23		968.96		168+25
168+50	968.78	12.00	0.0190	0.23		969.01	12.00	0.0190	0.23		969.23	12.00	0.0190	0.23		969.46		168+50
168+75	969.28	12.00	0.0190	0.23		969.51	12.00	0.0190	0.23		969.73	12.00	0.0190	0.23		969.96		168+75
169+00	969.78	12.00	0.0190	0.23		970.01	12.00	0.0190	0.23		970.23	12.00	0.0190	0.23		970.46		169+00
169+25	970.28	12.00	0.0190	0.23		970.51	12.00	0.0190	0.23		970.73	12.00	0.0190	0.23		970.96		169+25
169+50	970.78	12.00	0.0190	0.23		971.01	12.00	0.0190	0.23		971.23	12.00	0.0190	0.23		971.46		169+50
169+75	971.28	12.00	0.0190	0.23		971.51	12.00	0.0190	0.23		971.73	12.00	0.0190	0.23		971.96		169+75
170+00	971.78	12.00	0.0190	0.23		972.01	12.00	0.0190	0.23		972.23	12.00	0.0190	0.23		972.46		170+00
170+25	972.28	12.00	0.0190	0.23		972.51	12.00	0.0190	0.23		972.73	12.00	0.0190	0.23		972.96		170+25
170+50	972.78	12.00	0.0190	0.23		973.01	12.00	0.0190	0.23		973.23	12.00	0.0190	0.23		973.46		170+50
170+75	973.28	12.00	0.0190	0.23		973.51	12.00	0.0190	0.23		973.73	12.00	0.0190	0.23		973.96		170+75
171+00	973.78	12.00	0.0190	0.23		974.01	12.00	0.0190	0.23		974.23	12.00	0.0190	0.23		974.46		171+00
171+25	974.28	12.00	0.0190	0.23		974.51	12.00	0.0190	0.23		974.73	12.00	0.0190	0.23		974.96		171+25
171+50	974.78	12.00	0.0190	0.23		975.01	12.00	0.0190	0.23		975.23	12.00	0.0190	0.23		975.46		171+50
171+75	975.23	12.00	0.0190	0.23		975.46	12.00	0.0190	0.23		975.69	12.00	0.0190	0.23		975.92		171+75
172+00	975.69	12.00	0.0190	0.23		975.91	12.00	0.0190	0.23		976.14	12.00	0.0190	0.23		976.37		172+00
172+25	976.14	12.00	0.0190	0.23		976.37	12.00	0.0190	0.23		976.60	12.00	0.0190	0.23		976.83		172+25
172+50	976.60	12.00	0.0190	0.23		976.82	12.00	0.0190	0.23		977.05	12.00	0.0190	0.23		977.28		172+50
172+75	977.05	12.00	0.0190	0.23		977.28	12.00	0.0190	0.23		977.51	12.00	0.0190	0.23		977.73		172+75
173+00	977.51	12.00	0.0190	0.23		977.73	12.00	0.0190	0.23		977.96	12.00	0.0190	0.23		978.19		173+00
173+25	977.96	12.00	0.0190	0.23		978.19	12.00	0.0190	0.23		978.42	12.00	0.0190	0.23		978.64		173+25
173+50	978.41	12.00	0.0190	0.23		978.64	12.00	0.0190	0.23		978.87	12.00	0.0190	0.23		979.10		173+50
173+75	978.87	12.00	0.0190	0.23		979.10	12.00	0.0190	0.23		979.33	12.00	0.0190	0.23		979.55		173+75
174+00	979.32	12.00	0.0190	0.23		979.55	12.00	0.0190	0.23		979.78	12.00	0.0190	0.23		980.01		174+00
174+25	979.78	12.00	0.0190	0.23		980.01	12.00	0.0190	0.23		980.24	12.00	0.0190	0.23		980.46		174+25
174+50	980.23	12.00	0.0190	0.23		980.46	12.00	0.0190	0.23		980.69	12.00	0.0190	0.23		980.92		174+50
174+75	980.69	12.00	0.0190	0.23		980.92	12.00	0.0190	0.23		981.14	12.00	0.0190	0.23		981.37		174+75
175+00	981.14	12.00	0.0190	0.23		981.37	12.00	0.0190	0.23		981.60	12.00	0.0190	0.23		981.83		175+00
175+25	981.60	12.00	0.0190	0.23		981.83	12.00	0.0190	0.23		982.05	12.00	0.0190	0.23		982.28		175+25
175+50	982.05	12.00	0.0190	0.23		982.28	12.00	0.0190	0.23		982.51	12.00	0.0190	0.23		982.74		175+50
175+75	982.51	12.00	0.0190	0.23		982.74	12.00	0.0190	0.23		982.96	12.00	0.0190	0.23		983.19		175+75
176+00	982.96	12.00	0.0190	0.23		983.19	12.00	0.0190	0.23		983.42	12.00	0.0190	0.23		983.65		176+00
176+25	983.43	12.00	0.0190	0.23		983.66	12.00	0.0190	0.23		983.89	12.00	0.0190	0.23		984.11		176+25
176+50	983.90	12.00	0.0190	0.23		984.13	12.00	0.0190	0.23		984.36	12.00	0.0190	0.23		984.58		176+50
176+75	984.36	12.00	0.0190	0.23		984.59	12.00	0.0190	0.23		984.82	12.00	0.0190	0.23		985.04		176+75
177+00	984.81	12.00	0.0190	0.23		985.04	12.00	0.0190	0.23		985.27	12.00	0.0190	0.23		985.49		177+00
177+25	985.24	12.00	0.0190	0.23		985.47	12.00	0.0190	0.23		985.70	12.00	0.0190	0.23		985.92		177+25
177+50	985.66	12.00	0.0190	0.23		985.89	12.00	0.0190	0.23		986.12	12.00	0.0190	0.23		986.34		177+50
177+75	986.06	12.00	0.0190	0.23		986.29	12.00	0.0190	0.23		986.52	12.00	0.0190	0.23		986.74		177+75
178+00	986.45	12.00	0.0190	0.23		986.68	12.00	0.0190	0.23		986.91	12.00	0.0190	0.23		987.13		178+00

CALCULATED
CHECKED

SUPERELEVATION TABLE

WAY/MED-71-7.04/0.00

SUPERELEVATION TABLE SOUTHBOUND

PI STA= 160+33.35 | Dc= 0°28"00'

OUTSIDE EDGE CONTROL 66' LT.		54' LEFT					42' LEFT					30' LEFT						℄
STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	REMARKS	STATION
178+25	986.82	12.00	0.0190	0.23		987.05	12.00	0.0190	0.23		987.28	12.00	0.0190	0.23		987.50		178+25
178+50	987.17	12.00	0.0190	0.23		987.40	12.00	0.0190	0.23		987.63	12.00	0.0190	0.23		987.85		178+50
178+75	987.51	12.00	0.0190	0.23		987.74	12.00	0.0190	0.23		987.97	12.00	0.0190	0.23		988.19		178+75
179+00	987.84	12.00	0.0190	0.23		988.07	12.00	0.0190	0.23		988.30	12.00	0.0190	0.23		988.52		179+00
179+25	988.14	12.00	0.0190	0.23		988.37	12.00	0.0190	0.23		988.60	12.00	0.0190	0.23		988.82		179+25
179+50	988.44	12.00	0.0190	0.23		988.67	12.00	0.0190	0.23		988.90	12.00	0.0190	0.23		989.12		179+50
179+75	988.72	12.00	0.0190	0.23		988.95	12.00	0.0190	0.23		989.18	12.00	0.0190	0.23		989.40		179+75
180+00	988.98	12.00	0.0190	0.23		989.21	12.00	0.0190	0.23		989.44	12.00	0.0190	0.23		989.66		180+00
180+25	989.23	12.00	0.0190	0.23		989.46	12.00	0.0190	0.23		989.69	12.00	0.0190	0.23		989.91		180+25
180+50	989.46	12.00	0.0190	0.23		989.69	12.00	0.0190	0.23		989.92	12.00	0.0190	0.23		990.14		180+50
180+75	989.68	12.00	0.0190	0.23		989.91	12.00	0.0190	0.23		990.14	12.00	0.0190	0.23		990.36		180+75
181+00	989.88	12.00	0.0190	0.23		990.11	12.00	0.0190	0.23		990.34	12.00	0.0190	0.23		990.56		181+00
181+25	990.06	12.00	0.0190	0.23		990.29	12.00	0.0190	0.23		990.52	12.00	0.0190	0.23		990.74		181+25
181+50	990.23	12.00	0.0190	0.23		990.46	12.00	0.0190	0.23		990.69	12.00	0.0190	0.23		990.91		181+50
181+75	990.39	12.00	0.0190	0.23		990.62	12.00	0.0190	0.23		990.85	12.00	0.0190	0.23		991.07		181+75
182+00	990.53	12.00	0.0190	0.23		990.76	12.00	0.0190	0.23		990.99	12.00	0.0190	0.23		991.21		182+00
182+25	990.65	12.00	0.0190	0.23		990.88	12.00	0.0190	0.23		991.11	12.00	0.0190	0.23		991.33		182+25
182+50	990.76	12.00	0.0190	0.23		990.99	12.00	0.0190	0.23		991.22	12.00	0.0190	0.23		991.44		182+50
182+75	990.86	12.00	0.0190	0.23		991.09	12.00	0.0190	0.23		991.32	12.00	0.0190	0.23		991.54		182+75
183+00	990.94	12.00	0.0190	0.23		991.17	12.00	0.0190	0.23		991.40	12.00	0.0190	0.23		991.62		183+00
183+25	991.00	12.00	0.0190	0.23		991.23	12.00	0.0190	0.23		991.46	12.00	0.0190	0.23		991.68		183+25
183+50	991.05	12.00	0.0190	0.23		991.28	12.00	0.0190	0.23		991.51	12.00	0.0190	0.23		991.73		183+50
183+75	991.08	12.00	0.0190	0.23		991.31	12.00	0.0190	0.23		991.54	12.00	0.0190	0.23		991.76		183+75
184+00	991.10	12.00	0.0190	0.23		991.33	12.00	0.0190	0.23		991.56	12.00	0.0190	0.23		991.78		184+00
184+25	991.10	12.00	0.0190	0.23		991.33	12.00	0.0190	0.23		991.56	12.00	0.0190	0.23		991.78		184+25
184+50	991.09	12.00	0.0190	0.23		991.32	12.00	0.0190	0.23		991.55	12.00	0.0190	0.23		991.77		184+50
184+75	991.06	12.00	0.0190	0.23		991.29	12.00	0.0190	0.23		991.52	12.00	0.0190	0.23		991.74		184+75
185+00	991.02	12.00	0.0190	0.23		991.25	12.00	0.0190	0.23		991.48	12.00	0.0190	0.23		991.70		185+00
185+25	990.96	12.00	0.0190	0.23		991.19	12.00	0.0190	0.23		991.42	12.00	0.0190	0.23		991.64		185+25
185+50	990.88	12.00	0.0190	0.23		991.11	12.00	0.0190	0.23		991.34	12.00	0.0190	0.23		991.56		185+50
185+75	990.79	12.00	0.0190	0.23		991.02	12.00	0.0190	0.23		991.25	12.00	0.0190	0.23		991.47		185+75
186+00	990.69	12.00	0.0190	0.23		990.92	12.00	0.0190	0.23		991.15	12.00	0.0190	0.23		991.37		186+00
186+25	990.57	12.00	0.0190	0.23		990.80	12.00	0.0190	0.23		991.03	12.00	0.0190	0.23	287.4:1	991.25	F.S	186+25
186+50	990.43	12.00	0.0167	0.20		990.63	12.00	0.0167	0.20		990.83	12.00	0.0167	0.20	↑	991.03		186+50
186+61.38	990.36	12.00	0.0156	0.19		990.55	12.00	0.0156	0.19		990.73	12.00	0.0156	0.19		990.92	F.C.	186+61.38
186+75	990.28	12.00	0.0156	0.19		990.47	12.00	0.0137	0.16		990.63	12.00	0.0137	0.16		990.80		186+75
187+00	990.11	12.00	0.0156	0.19		990.30	12.00	0.0103	0.12		990.42	12.00	0.0103	0.12		990.54		187+00
187+25	989.93	12.00	0.0156	0.19		990.12	12.00	0.0069	0.08		990.20	12.00	0.0069	0.08		990.28		187+25
187+50	989.73	12.00	0.0156	0.19		989.92	12.00	0.0034	0.04		989.96	12.00	0.0034	0.04		990.00		187+50
187+75	989.53	12.00	0.0156	0.19		989.72	12.00	0.0000	0.00		989.72	12.00	0.0000	0.00		989.72	H.F.	187+75
188+00	989.32	12.00	0.0156	0.19		989.51	12.00	-0.0039	-0.05		989.46	12.00	-0.0039	-0.05		989.41		188+00
188+25	989.12	12.00	0.0156	0.19		989.31	12.00	-0.0078	-0.09		989.21	12.00	-0.0078	-0.09		989.12		188+25
188+50	988.91	12.00	0.0156	0.19		989.10	12.00	-0.0117	-0.14		988.96	12.00	-0.0117	-0.14	↓	988.82		188+50
188+75	988.71	12.00	0.0156	0.19		988.90	12.00	-0.0156	-0.19		988.71	12.00	-0.0156	-0.19	287.4:1	988.52	N	188+75

CALCULATED

CHECKED

SUPERELEVATION TABLE

WAY/MED-71-7.04/0.00

SUPERELEVATION TABLE - RAMP A

P.I. STA.	A93+30.83	Dc = 04°00′

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	
-		-	-	0.00	A93+00.00	948.48	16.00	+0.0520	+0.83		949.31	M.L.
					A93+25.00	948.93					949.76	
					A93+50.00	949.44					950.27	
					A93+75.00	950.01					950.84	
					A94+00.00	950.65					951.48	
					A94+25.00	951.36					952.19	
					A94+27.81	951.44		+0.0520	+0.83	383.1:1	952.27	C.S.
					A94+50.00	952.13		+0.0480	+0.77		952.90	
					A94+75.00	952.97		+0.0435	+0.70		953.67	
					A95+00.00	953.87		+0.0389	+0.62		954.49	
					A95+25.00	954.83		+0.0344	+0.55		955.38	
					A95+50.00	955.81		+0.0298	+0.48		956.29	
					A95+75.00	956.79		+0.0253	+0.41		957.20	
					A96+00.00	957.77		+0.0207	+0.33		958.10	
					A96+25.00	958.75		+0.0162	+0.26		959.01	
					A96+27.81	958.86		+0.0156	+0.25		959.11	S.T.
					A96+50.00	959.73					959.98	
					A96+75.00	960.71					960.96	
					A97+00.00	961.69					961.64	
					A97+25.00	962.67					962.92	
					A97+50.00	963.65					963.90	
					A97+75.00	964.54					964.79	
					A98+00.00	965.35					965.60	
					A98+25.00	966.05					966.30	
					A98+50.00	966.66					966.91	
					A98+75.00	967.17					967.42	
-		-	-	0.00	A99+00.00	967.59	16.00		+0.25		967.84	
967.90		-0.01	-0.0156	0.82	A99+25.00	967.91	17.62		+0.28		968.19	
968.07		-0.06	-0.0156	3.66	A99+50.00	968.13	20.13		+0.31		968.44	
968.09		-0.10	-0.0156	6.62	A99+59.85	968.19	22.37	+0.0156	+0.35		968.54	
967.81		-0.46	-0.0300	15.38	A99+75.00	968.27	30.62	+0.0300	+0.92		969.19	
967.45		-0.86	-0.0374	22.87	A99+82.87	968.31	38.46	+0.0374	+1.44		969.75	

SUPERELEVATION TABLE - RAMP B

P.I. STA.	B94+09.29	Dc = 06°00′

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	
949.24		+0.51	+0.0316	16.00	B93+00.00	948.73	0.00	-	-	226.9:1	-	M.L.
949.76		+0.63	+0.0394		B93+25.00	949.13						
950.07		+0.70	+0.0435		B93+38.22	949.37						P.C.C.
950.36		+0.76	+0.0472		B93+50.00	949.60						
951.01		+0.88	+0.0550		B93+75.00	950.13						
951.16		+0.91	+0.0566		B93+80.10	950.25	0.00	-	-		-	
951.37		+0.94	+0.0590		B93+87.82	950.43	1.54	-0.0590	-0.09		950.34	F.S.
951.67		+0.94	+0.0590		B94+00.00	950.73	3.98	-0.0590	-0.23	221.6:1	950.50	
952.09		+0.94	+0.0590		B94+16.10	951.15	7.20	-0.0590	-0.42		950.73	F.S.
952.29		+0.90	+0.0562		B94+25.00	951.39	8.98	-0.0562	-0.50		950.89	
952.40		+0.87	+0.0546		B94+30.10	951.53	10.00	-0.0546	-0.55		950.98	
952.89		+0.77	+0.0483		B94+50.00	952.12	13.98	-0.0483	-0.68		951.44	
953.56		+0.65	+0.0404		B94+75.00	952.91	18.98	-0.0404	-0.77		952.14	
953.70		+0.62	+0.0388		B94+80.10	953.08	20.00	-0.0388	-0.78		952.30	P.T.
954.29		+0.52	+0.0325		B95+00.00	953.77		-0.0325	-0.65		953.12	
955.09		+0.40	+0.0247		B95+25.00	954.69		-0.0247	-0.49		954.20	
955.95		+0.27	+0.0168		B95+50.00	955.68		-0.0168	-0.34		955.34	
956.08		+0.25	+0.0156		B95+53.70	955.83		-0.0156	-0.31		955.52	
956.98					B95+75.00	956.73					956.42	
958.08					B96+00.00	957.83					957.52	
959.20					B96+25.00	958.95					958.64	
960.31					B96+50.00	960.06					959.75	
961.42					B96+75.00	961.17					960.86	
962.53					B97+00.00	962.28					961.97	
963.64					B97+25.00	963.39					963.08	
964.75					B97+50.00	964.50					964.19	
965.86					B97+75.00	965.61					965.30	
966.97					B98+00.00	966.72					966.41	
968.08					B98+25.00	967.83					967.52	
969.20					B98+50.00	968.95					968.64	
970.22					B98+75.00	969.97					969.66	
971.07		+0.25		16.00	B99+00.00	970.82	20.00		-0.31		970.51	
971.75		+0.26		16.90	B99+25.00	971.49	20.70		-0.32		971.17	
972.02		+0.31	+0.0156	19.56	B99+35.00	971.71	23.14	-0.0156	-0.36		971.35	
972.09		+0.34	+0.0167	20.42	B99+37.24	971.75	23.95	-0.0167	-0.40		971.35	
972.52		+0.53	+0.0193	27.53	B99+50.00	971.99	30.68	-0.0193	-0.59		971.40	
972.84		+0.72	+0.0209	34.46	B99+57.92	972.12	37.23	-0.0209	-0.78		971.34	

CALCULATED KSG
CHECKED BBB

SUPERELEVATION TABLE - RAMPS A & B

WAY/MED-71-7.04/0.00

SUPERELEVATION TABLE - RAMP C

P.I. STA. C104+94.07 | Dc = 06°00′

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	REMARKS
967.26		-1.13	-0.0452	24.89	C100+11.77	968.39	35.83	+0.0452	+1.62		970.01	
968.58		-0.62	-0.0405	15.20	C100+25.00	968.20	24.84	+0.0405	+1.01		969.21	
967.61		-0.29	-0.0333	8.60	C100+45.00	967.90	17.08	+0.0333	+0.57		968.47	
967.59		-0.24	-0.0301	8.10	C100+50.00	967.83	16.34	+0.0301	+0.49		967.32	
967.37		-0.12	-0.0156	8.00	C100+72.70	967.49	16.00	+0.0156	+0.25		967.74	
967.34					C100+75.00	967.46					967.71	
966.94					C101+00.00	967.06					967.31	
966.49					C101+25.00	966.61					966.86	
965.98					C101+50.00	966.10					966.35	
965.42					C101+75.00	965.54					965.79	
964.80					C102+00.00	964.92					965.17	
964.13					C102+25.00	964.25					964.50	
963.43					C102+50.00	963.55					963.80	
962.76					C102+75.00	962.88					963.13	
962.15					C103+00.00	962.27					962.52	
961.59					C103+25.00	961.71					961.96	
961.40		-0.12	-0.0156		C103+34.25	961.52		+0.0156	+0.25	221.6:1	961.77	
961.05		-0.16	-0.0206		C103+50.00	961.21		+0.0206	+0.33		961.54	
960.54		-0.23	-0.0285		C103+75.00	960.77		+0.0285	+0.46		961.23	
960.09		-0.29	-0.0363		C104+00.00	960.38		+0.0363	+0.58		960.96	
959.96		-0.31	-0.0388		C104+07.85	960.27		+0.0388	+0.62		960.89	P.C.
959.70		-0.35	-0.0442		C104+25.00	960.05		+0.0442	+0.71		960.76	
959.36		-0.42	-0.0521		C104+50.00	959.78		+0.0521	+0.83		960.61	
959.12		-0.47	-0.0590		C104+71.85	959.59		+0.0590	+0.94		960.53	F.S.
959.09		-0.47			C104+75.00	959.56					960.50	
958.93		-0.47		8.00	C105+00.00	959.40					960.34	
959.06		-0.24		4.00	C105+25.00	959.30					960.24	
959.08		-0.21	-0.0590	3.49	C105+30.22	959.29		+0.0590	+0.94	228.0:1	960.23	F.S.
-		-	-	0.00	C105+50.00	959.26		+0.0528	+0.84		960.10	
					C105+75.00	959.27		+0.0450	+0.72		960.99	
					C105+79.82	959.28		+0.0435	+0.70		959.98	P.C.C.
-		-	-	0.00	C106+00.00	959.34	16.00	+0.0372	+0.60		959.94	M.L.

SUPERELEVATION TABLE - RAMP D

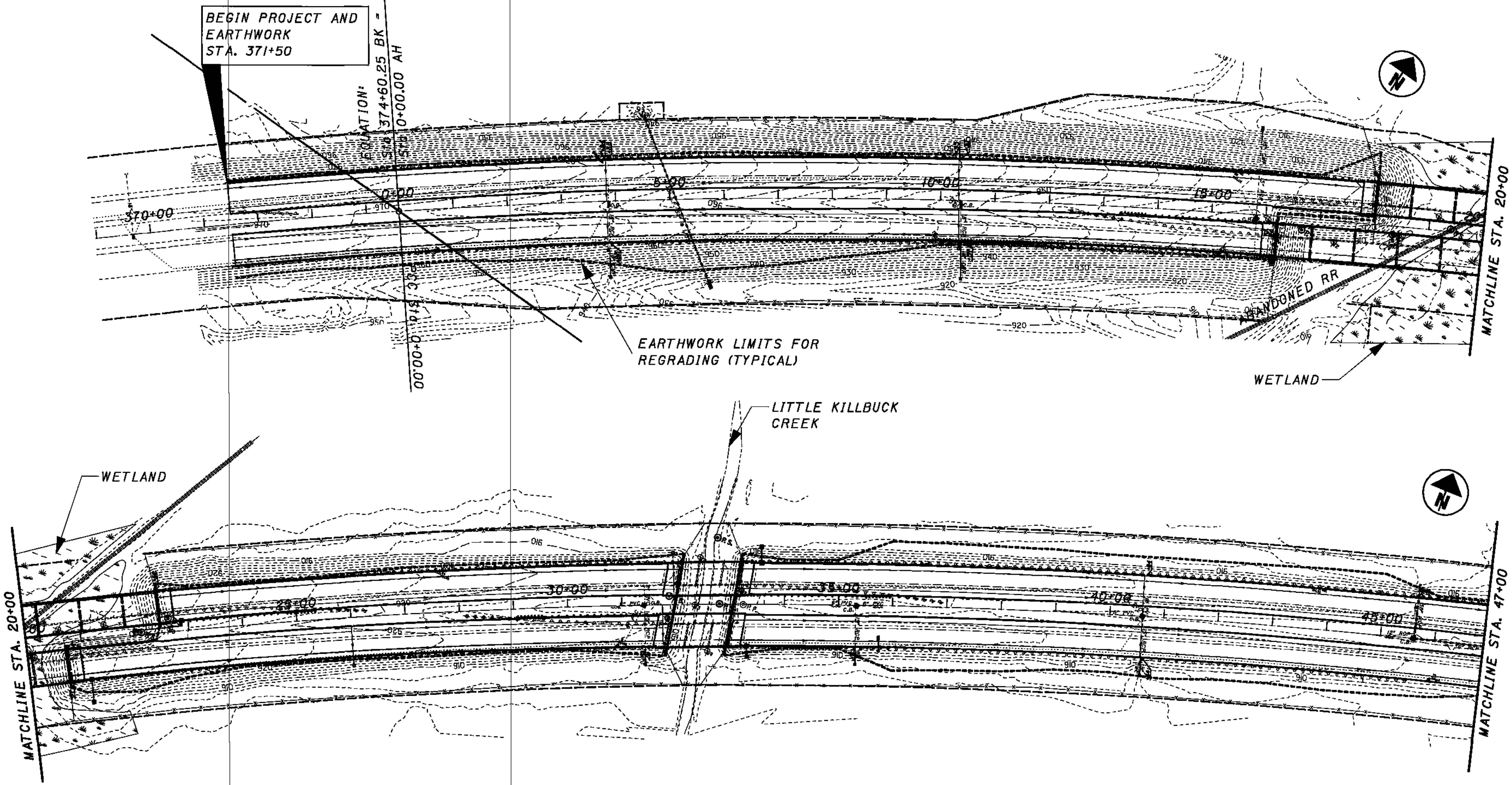
P.I. STA. D105+87.52 | Dc = 04°00′

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	REMARKS
973.32		+0.82	+0.0213	38.47	D99+90.52	972.50	6.78	-0.0213	-0.14		972.36	
972.97		+0.58	+0.0197	29.40	D100+00.00	972.39	4.45	-0.0197	-0.09		972.30	
972.35		+0.31	+0.0156	19.95	D100+25.00	972.04	1.84	-0.0156	-0.03		972.01	
971.86		+0.27		17.45	D100+50.00	971.59	0.00	-	-		-	
971.30		+0.25		16.00	D100+75.00	971.05						
970.67					D101+00.00	970.42						
969.97					D101+25.00	969.72						
969.27					D101+50.00	969.02						
968.57					D101+75.00	968.32						
967.87					D102+00.00	967.62						
967.17					D102+25.00	966.92						
966.47					D102+50.00	966.22						
965.79					D102+75.00	965.52						
965.34		+0.25	+0.0156		D102+90.24	965.09				383.1:1		T.S.
965.10		+0.28	+0.0174		D103+00.00	964.82						
964.47		+0.35	+0.0219		D103+25.00	964.12						
963.84		+0.40	+0.0265		D103+50.00	963.42						
963.26		+0.50	+0.0310		D103+75.00	962.76						
962.74		+0.57	+0.0356		D104+00.00	962.17						
962.28		+0.64	+0.0401		D104+25.00	961.64						
961.90		+0.72	+0.0447		D104+50.00	961.18						
961.57		+0.79	+0.0492		D104+75.00	960.78						
961.39		+0.83	+0.0520		D104+90.24	960.56						S.C.,F.S.
961.27					D105+00.00	960.44						
960.99					D105+25.00	960.16						
960.78					D105+50.00	959.95						
960.63					D105+75.00	959.80						
960.59					D105+84.50	959.76	0.00					
960.55		+0.83	+0.052	16.00	D106+00.00	959.72	0.00	-	-		-	M.L.

CALCULATED KSC
CHECKED BBB

SUPERELEVATION TABLE - RAMPS C & D

WAY/MED-71-7.04/0.00



PROJECT DATA	
TOTAL AREA	258 AC.*
PROJECT DISTURBED AREA	158 AC.*
CONTRACTOR DISTURBED AREA	165 AC.*
NOI DISTURBED AREA	174 AC.*
SOIL DATA	SEE SOIL PROFILE
LATITUDE	40° 59′ 48″
LONGITUDE	81° 59′ 43″
RECEIVING WATERS (NON TMDL REGULATED)	
IMMEDIATE	*SUBSEQUENT*
LITTLE KILLBUCK CREEK	KILLBUCK CREEK
CAMEL CREEK	
TWO (2) UNNAMED STREAMS	
SOIL CONSERVATION MAP	MEDINA CTY. SOIL SURVEY
IMPERVIOUS AREA (PRE CONSTRUCTION)	65 AC.
IMPERVIOUS AREA (POST CONSTRUCTION)	92 AC.

* CALCULATED AREAS INCLUDE I-71 AND S.R. 83 PROJECT LIMITS

RUNOFF COEFFICIENT

(108′ TYPICAL SECTION BETWEN CROWNS)

PRE-CONSTRUCTION

CONTRIBUTING WIDTH (W)	LAND USE	"C"	"CW"
34′	PAVED AREAS	.9	30.6
74′	EARTH BERMS AND SLOPES	.7	51.8
108′			82.4

WEIGHTED "C" = $\frac{82.4}{108}$ = 0.76

POST-CONSTRUCTION

CONTRIBUTING WIDTH (W)	LAND USE	"C"	"CW"
72′	PAVED AREAS	.9	64.8
36′	EARTH BERMS AND SLOPES	.7	25.2
108′			90.0

WEIGHTED "C" = $\frac{90}{108}$ = 0.83

PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF THE RECONSTRUCTION OF 6.12 MILES OF I-71 INCLUDING THE ADDITION OF A THIRD LANE IN EACH DIRECTION IN THE MEDIAN AREA. NEW GUARDRAIL, NEW OR RECONSTRUCTED DRAINAGE IN THE MEDIAN, RESURFACING OR REPLACEMENT OF THE RAMPS AT SR83, WIDENING OF SR83, AND THE RECONSTRUCTION OF ALL MAINLINE STRUCTURES. THE REPLACEMENT AND WIDENING OF THE SR83 STRUCTURE OVER IR71.

USGS 7.5 MINUTE QUADRANGLE MAPS

NAME	NUMBER
WESTFIELD CENTER	4666 III SW
CRESTON	4665 IV NW
WEST SALEM	4565 I NE

...\14017DEA.DGN

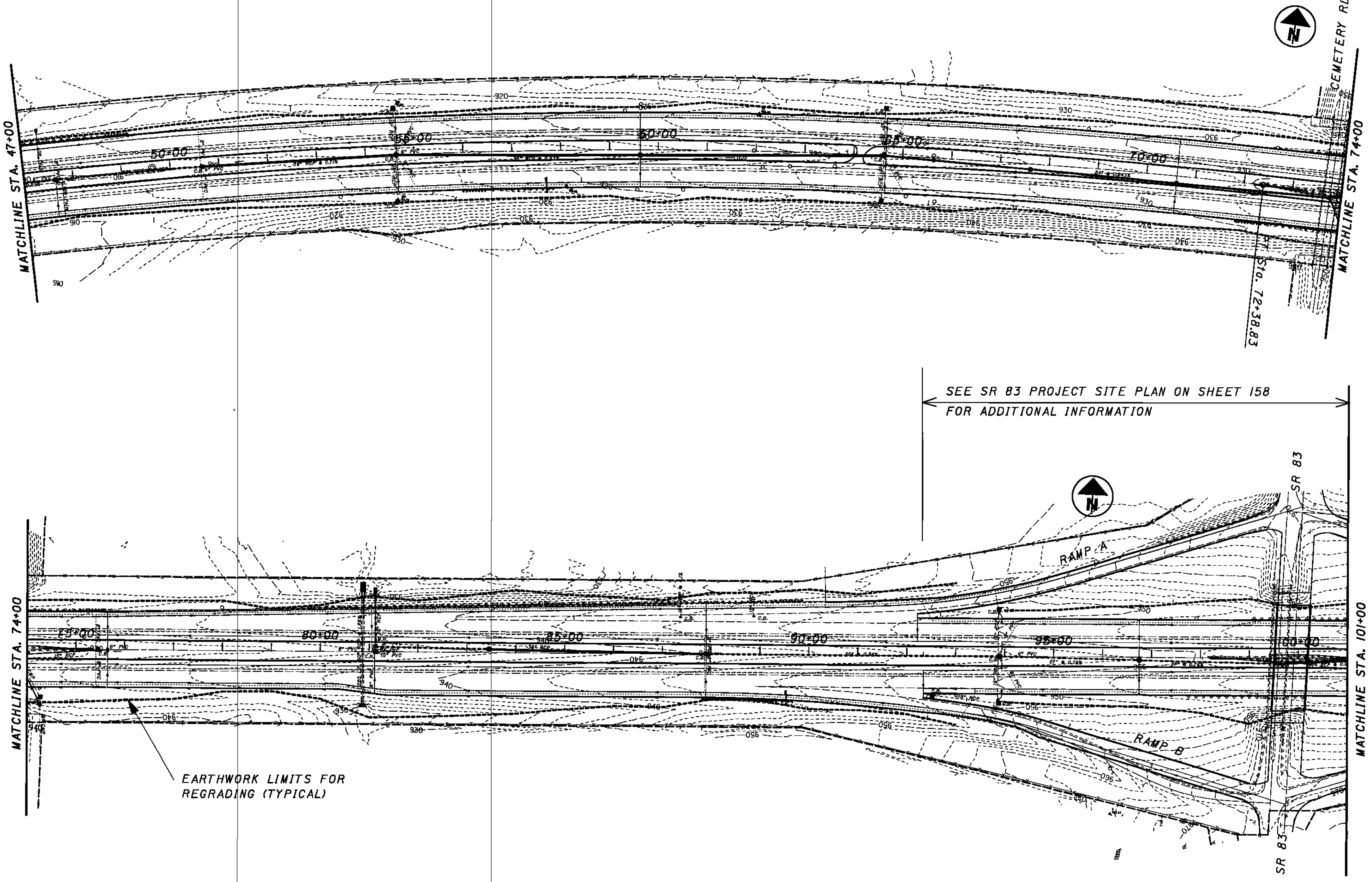
0 50 100 200
HORIZONTAL SCALE IN FEET

CALCULATED
CHECKED

PROJECT SITE PLAN
STA. 369+00 TO STA. 47+00

WAY/MED-71-7.04/0.00

151
785



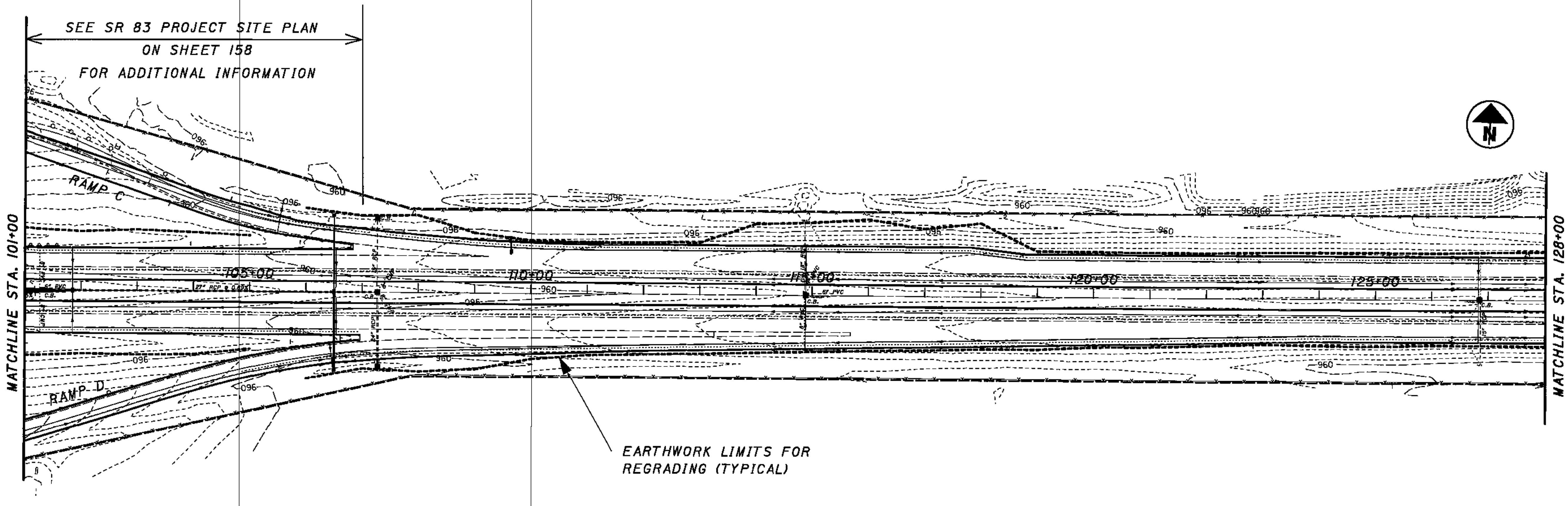
0 50 100 200
HORIZONTAL
SCALE IN FEET

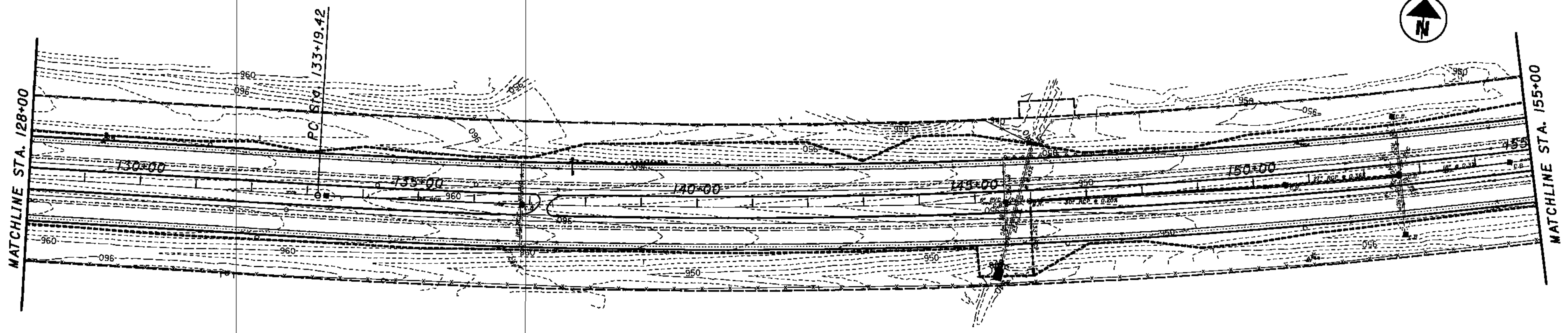
CALCULATED
CHECKED

PROJECT SITE PLAN
STA. 47+00 TO STA. 101+00

WAY/MED-71-7.04/0.00

...\14017DEB.DGN





0 50 100 200
HORIZONTAL
SCALE IN FEET

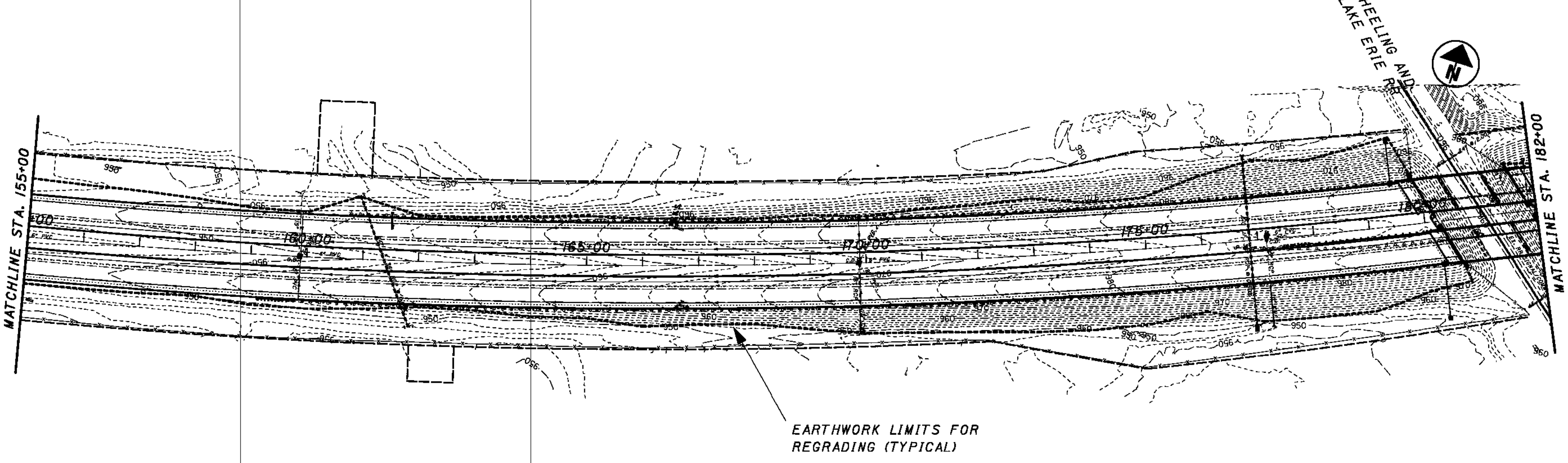
CALCULATED
CHECKED

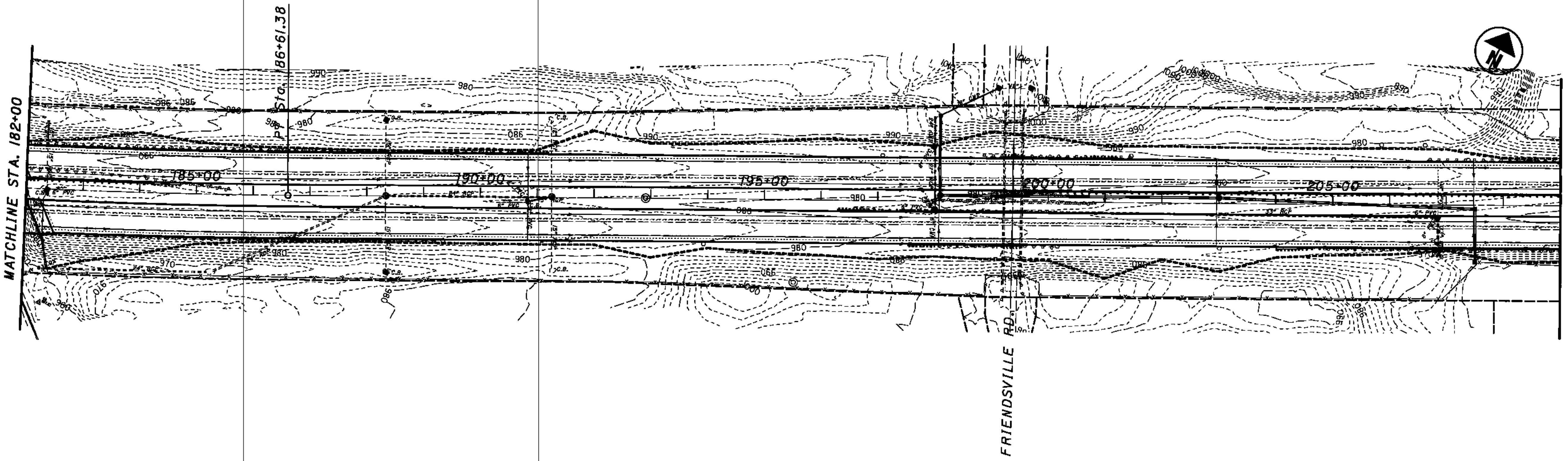
PROJECT SITE PLAN
STA. 101+00 TO STA. 155+00

WAY/MED-71-7.04/0.00

153
785

...\14017DEC.DGN





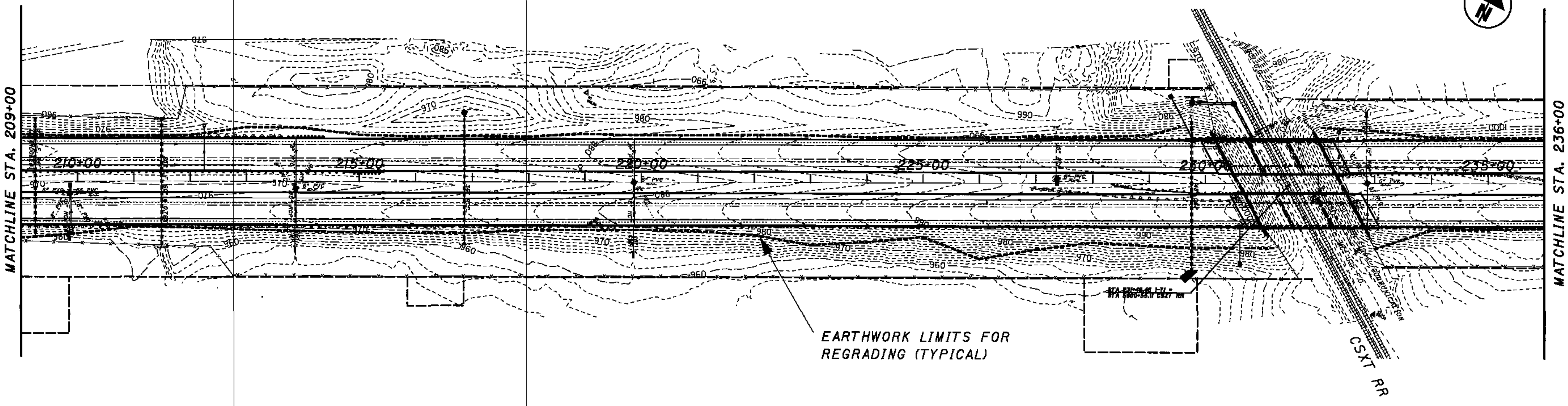
PROJECT SITE PLAN
STA. 155+00 TO STA. 209+00

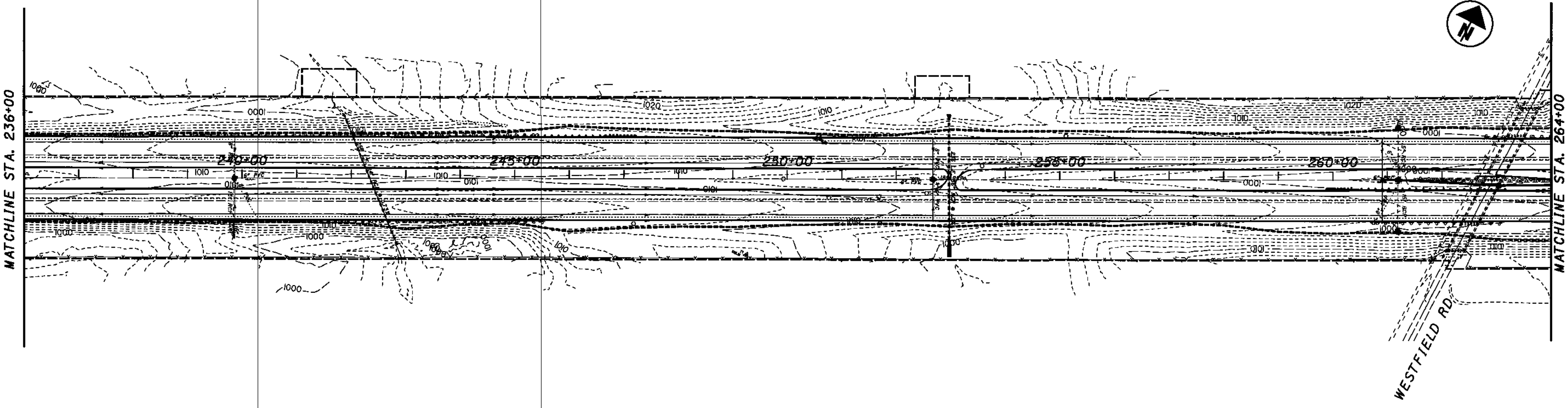
WAY/MED-71-7.04/0.00

0 50 100 200
HORIZONTAL SCALE IN FEET

CALCULATED
CHECKED

...\14017DED.DGN





HORIZONTAL
SCALE IN FEET
0 50 100 200

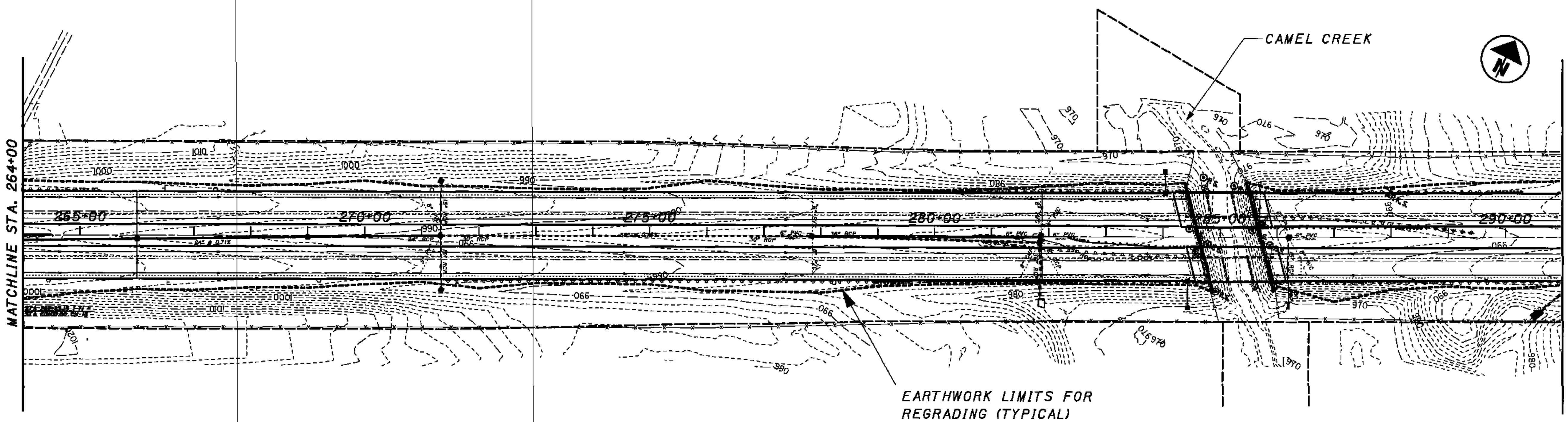
CALCULATED
CHECKED

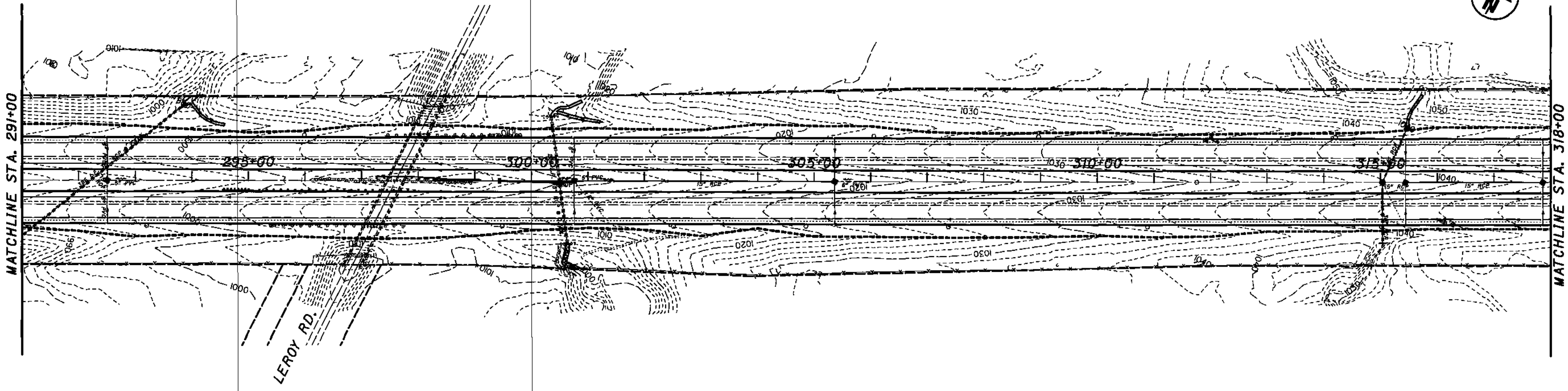
PROJECT SITE PLAN
STA. 209+00 TO STA. 264+00

WAY/MED-71-7.04/0.00

155
785

...\14017DEE.DGN





0 50 100 200
HORIZONTAL SCALE IN FEET

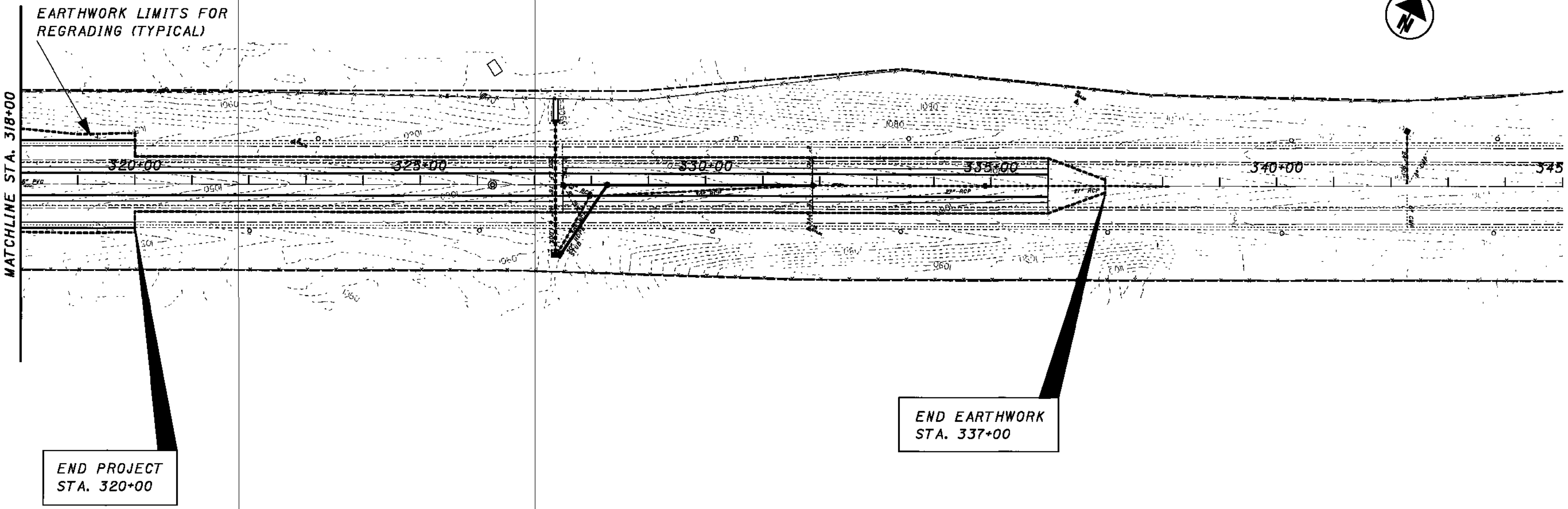
CALCULATED
CHECKED

PROJECT SITE PLAN
STA. 264+00 TO STA. 318+00

WAY/MED-71-7.04/0.00

156
785

...\14017DEF.DGN



EARTHWORK LIMITS FOR REGRADING (TYPICAL)

END PROJECT
STA. 320+00

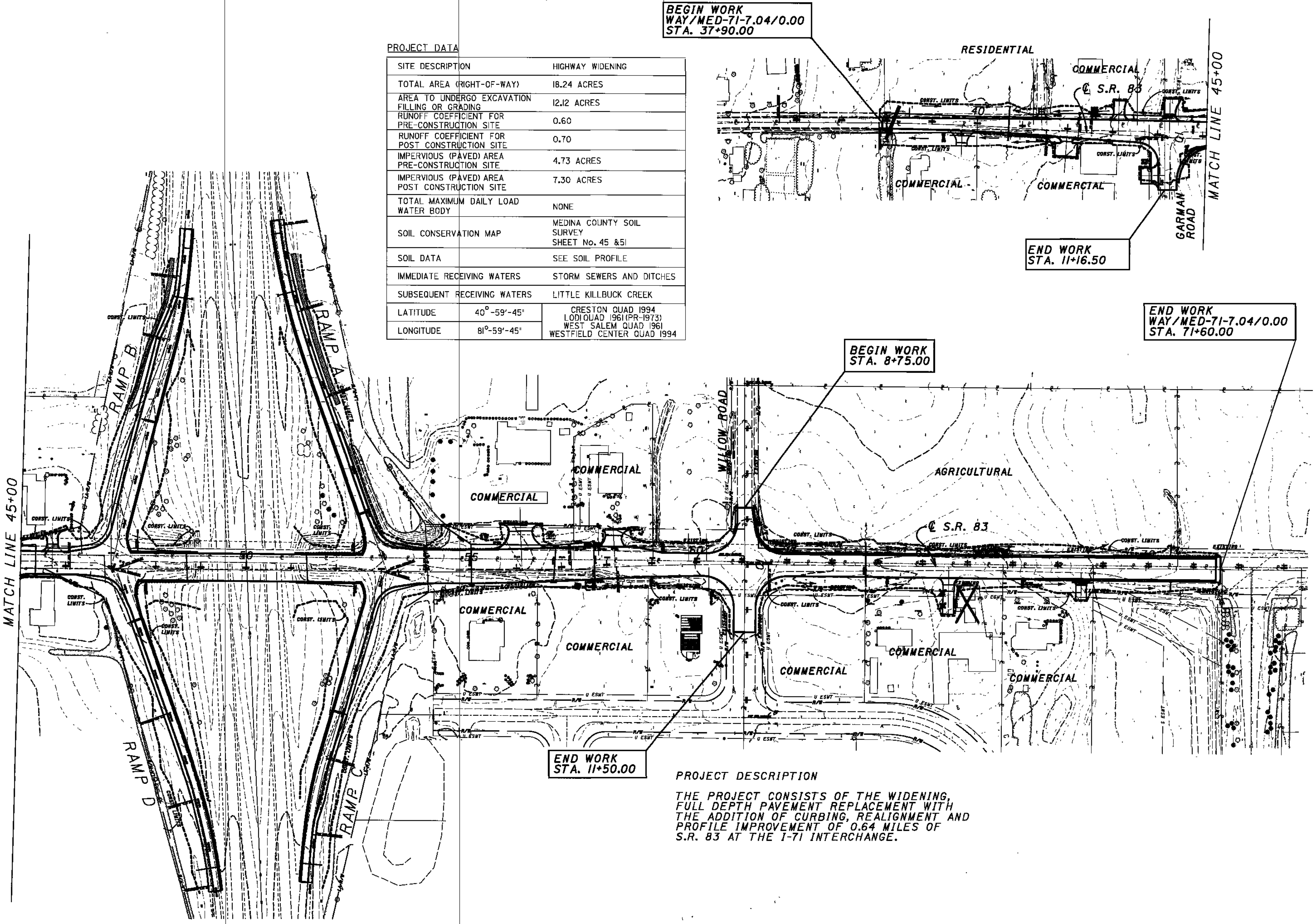
END EARTHWORK
STA. 337+00

CALCULATED
CHECKED

PROJECT SITE PLAN
STA. 318+00 TO STA. 345+00

WAY/MED-71-7.04/0.00

...\14017DEG.DGN



PROJECT DATA

SITE DESCRIPTION	HIGHWAY WIDENING	
TOTAL AREA (RIGHT-OF-WAY)	18.24 ACRES	
AREA TO UNDERGO EXCAVATION FILLING OR GRADING	12.12 ACRES	
RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE	0.60	
RUNOFF COEFFICIENT FOR POST CONSTRUCTION SITE	0.70	
IMPERVIOUS (PAVED) AREA PRE-CONSTRUCTION SITE	4.73 ACRES	
IMPERVIOUS (PAVED) AREA POST CONSTRUCTION SITE	7.30 ACRES	
TOTAL MAXIMUM DAILY LOAD WATER BODY	NONE	
SOIL CONSERVATION MAP	MEDINA COUNTY SOIL SURVEY SHEET No. 45 &51	
SOIL DATA	SEE SOIL PROFILE	
IMMEDIATE RECEIVING WATERS	STORM SEWERS AND DITCHES	
SUBSEQUENT RECEIVING WATERS	LITTLE KILLBUCK CREEK	
LATITUDE	40°-59'-45"	CRESTON QUAD 1994 LODI QUAD 1961 (PR-1973) WEST SALEM QUAD 1961 WESTFIELD CENTER QUAD 1994
LONGITUDE	81°-59'-45"	

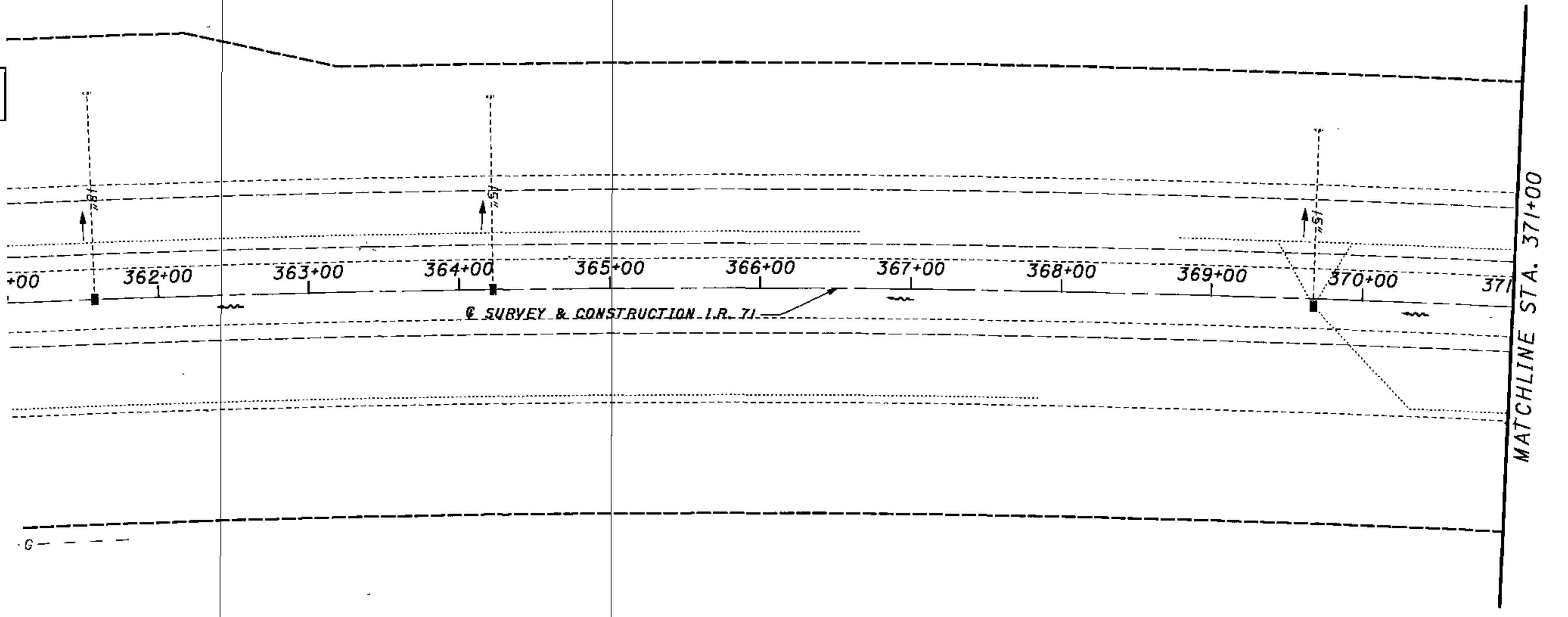
PROJECT DESCRIPTION

THE PROJECT CONSISTS OF THE WIDENING, FULL DEPTH PAVEMENT REPLACEMENT WITH THE ADDITION OF CURBING, REALIGNMENT AND PROFILE IMPROVEMENT OF 0.64 MILES OF S.R. 83 AT THE I-71 INTERCHANGE.

PROJECT SITE PLAN

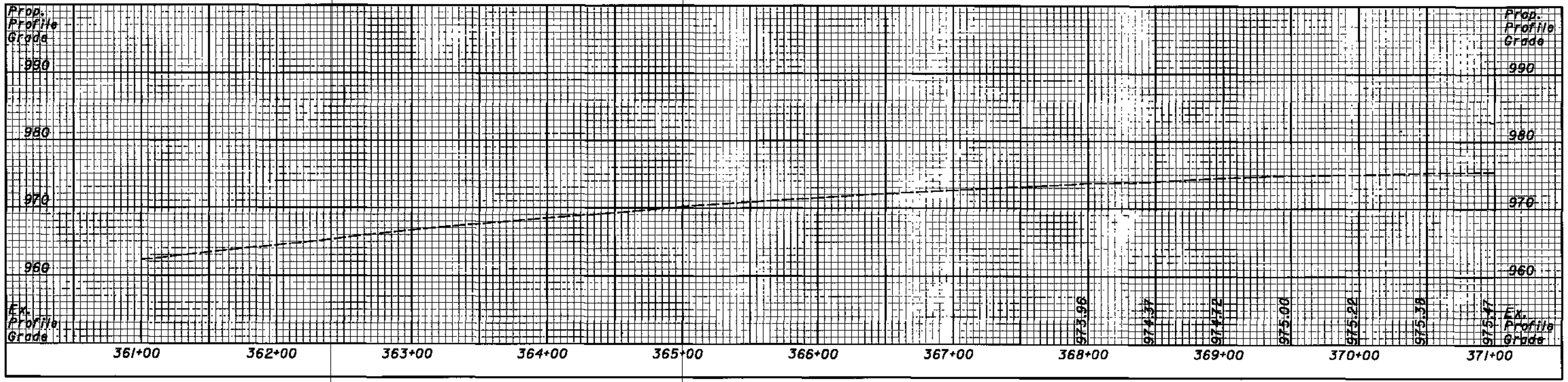
WAY/MED-71-7.04/0.00

BEGIN WORK
STA. 343+00

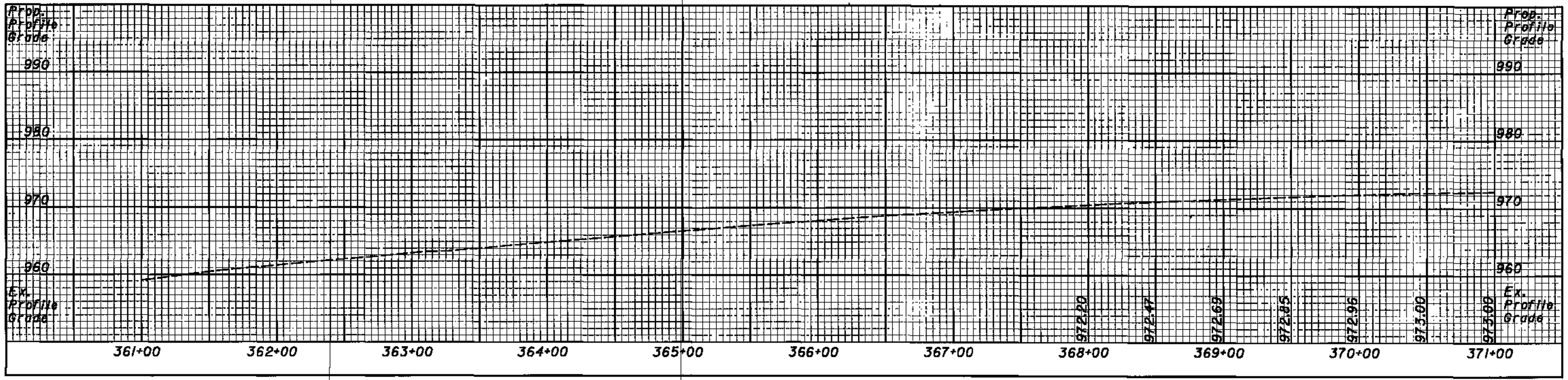


CROSS REFERENCES	
SHEET NO.	DESCRIPTION
409, 410	TRAFFIC CONTROL

SOUTH BOUND PROFILE



NORTH BOUND PROFILE



REF NO.	STATION FROM	STATION TO	SIDE											
TOTALS CARRIED TO GENERAL SUMMARY														

0 25 50 100
HORIZONTAL SCALE IN FEET

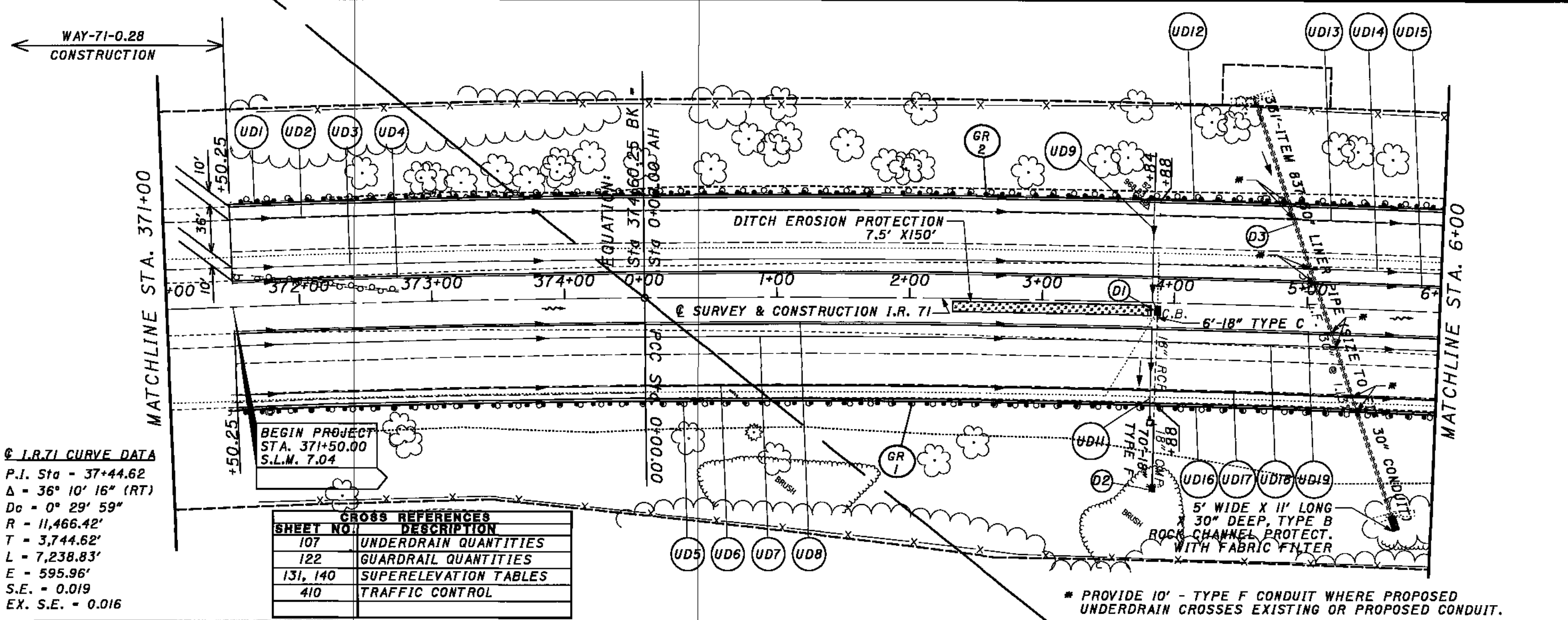
CALCULATED AEP
CHECKED KEH

PLAN AND PROFILE
STA. 361+00 TO STA. 371+00

WAY/MED-71-7.04/0.00

159
785

...\14017gpl.dgn



℄ I.R.71 CURVE DATA

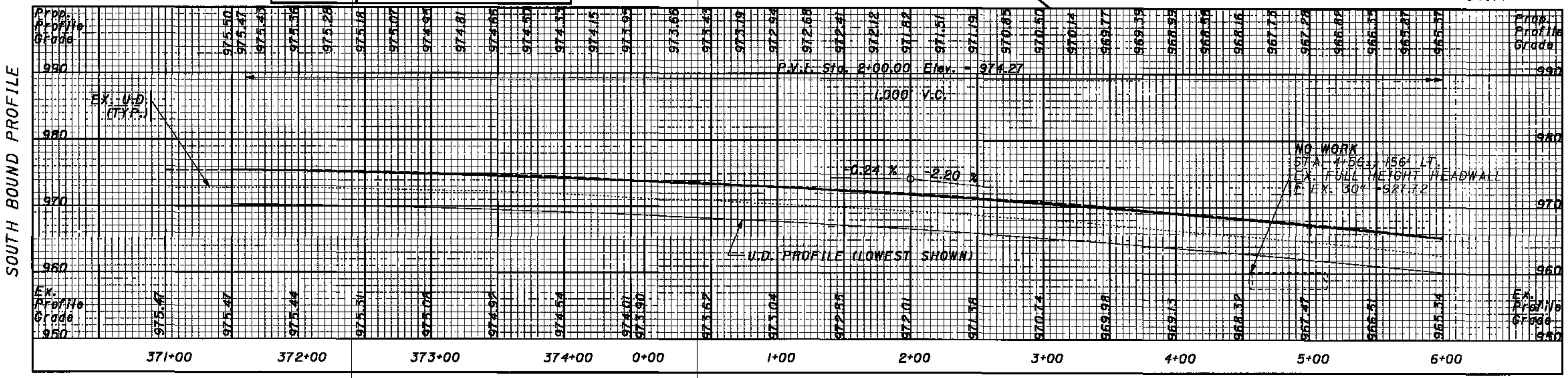
P.I. Sta = 37+44.62
Δ = 36° 10' 16" (RT)
Dc = 0° 29' 59"
R = 11,466.42'
T = 3,744.62'
L = 7,238.83'
E = 595.96'
S.E. = 0.019
EX. S.E. = 0.016

CROSS REFERENCES

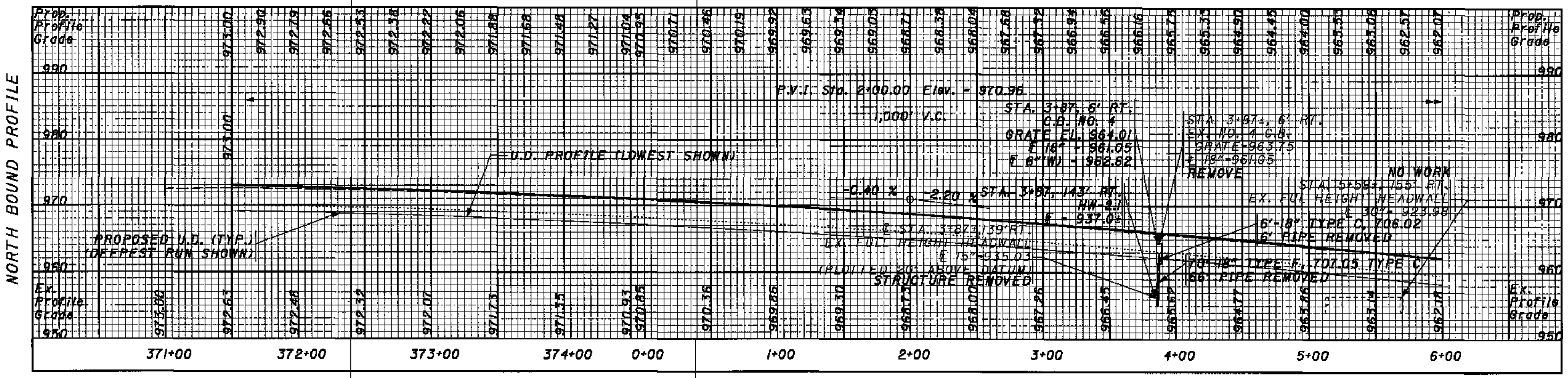
SHEET NO.	DESCRIPTION
107	UNDERDRAIN QUANTITIES
122	GUARDRAIL QUANTITIES
131, 140	SUPERELEVATION TABLES
410	TRAFFIC CONTROL

* PROVIDE 10' - TYPE F CONDUIT WHERE PROPOSED UNDERDRAIN CROSSES EXISTING OR PROPOSED CONDUIT.

SOUTH BOUND PROFILE



NORTH BOUND PROFILE



REF NO.	STATION FROM	STATION TO	SIDE	202 CATCH BASIN REMOVED	202 STRUCTURE REMOVED	202 PIPE REMOVED, 24" AND UNDER	601 ROCK CHANNEL PROTECT., TYPE B W/ F. FABRIC	601 ROCK CHANNEL PROTECT., TYPE C W/ F. FABRIC	602 CONCRETE MASONRY	603 18" CONDUIT TYPE F, 707.05 TYPE C	603 18" CONDUIT TYPE C, 706.02	604 NO. 4 CATCH BASIN	670 DITCH EROSION PROTECT.	837 LINER PIPE	837 BACKFILL FOR LINER PIPE
				EACH	EACH	FEET	CU. YD.	CU. YD.	CU. YD.	FEET	FEET	EACH	SQ. YD.	FEET	CU. YD.
D1	3+87		RT	1		6					6	1	125		
D2	3+87		RT		1	66		2	0.33	70					
D3	4+56	5+59					5.1							332	22
TOTALS CARRIED TO SUB-SUMMARY				1	1	72	5.1	2	0.33	70	6	1	125	332	22

0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED AEP
CHECKED KEH

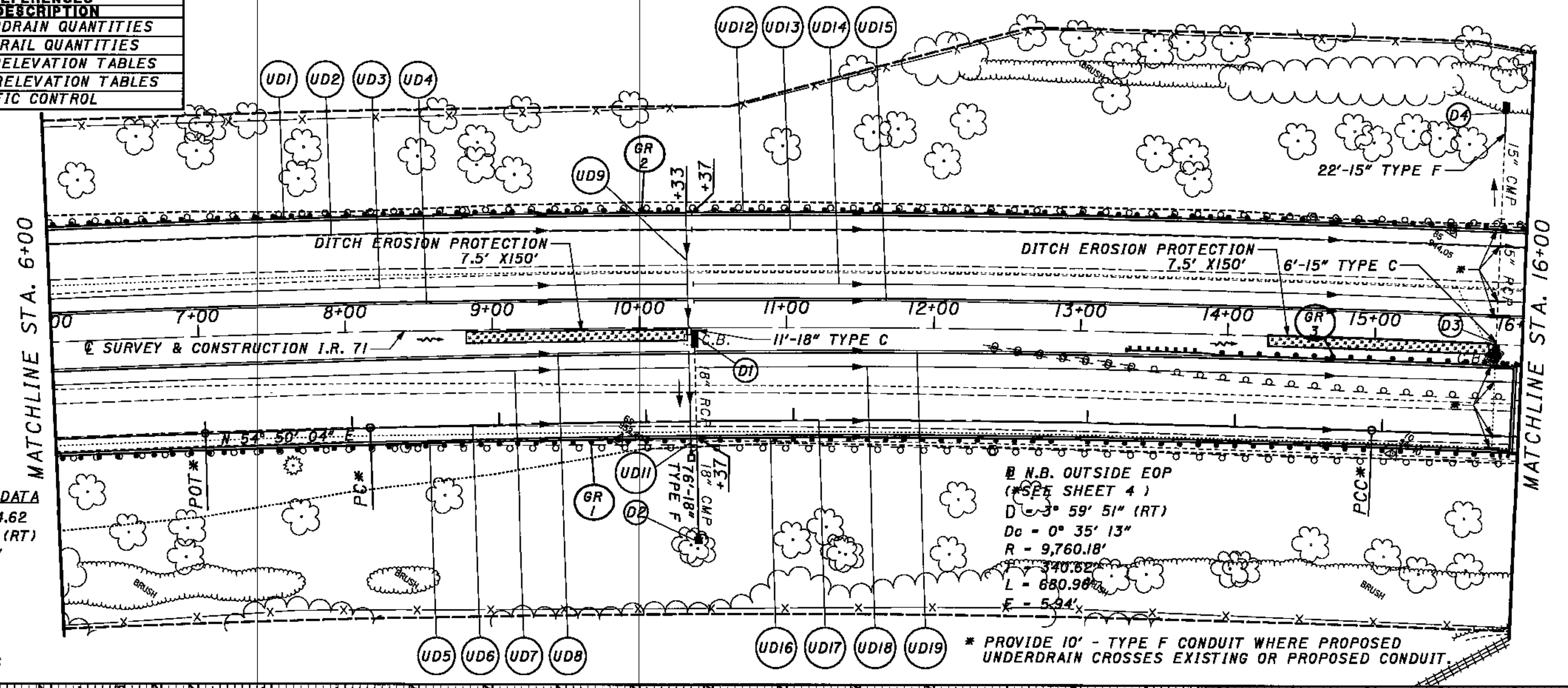
PLAN AND PROFILE
STA. 371+00.00 TO STA. 6+00.00

WAY/MED-71-7.04/0.00

160/785

...\1401Tgp2.dgn

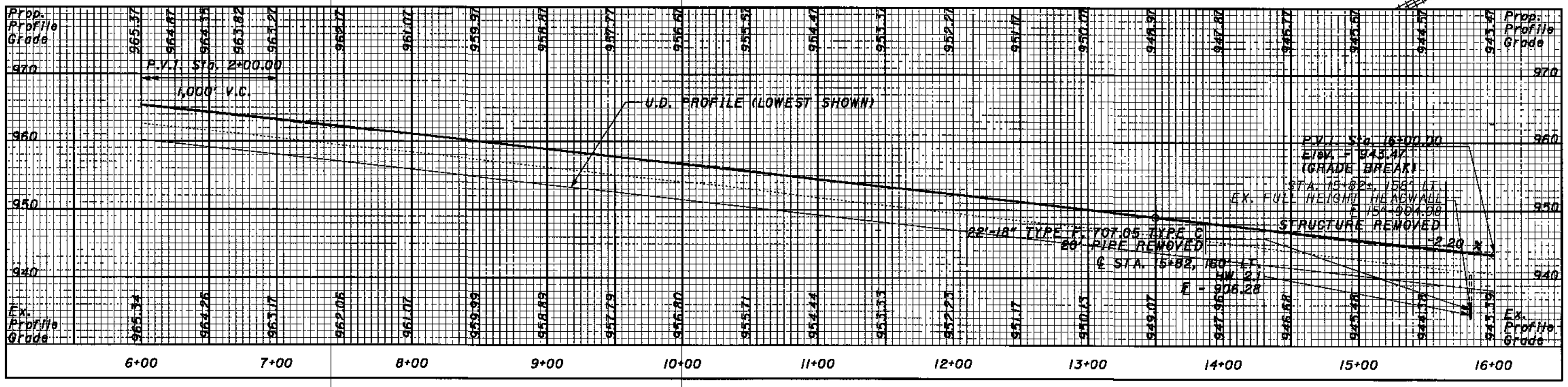
CROSS REFERENCES	
SHEET NO.	DESCRIPTION
107	UNDERDRAIN QUANTITIES
122	GUARDRAIL QUANTITIES
131, 132	SUPERELEVATION TABLES
140, 141	SUPERELEVATION TABLES
410	TRAFFIC CONTROL



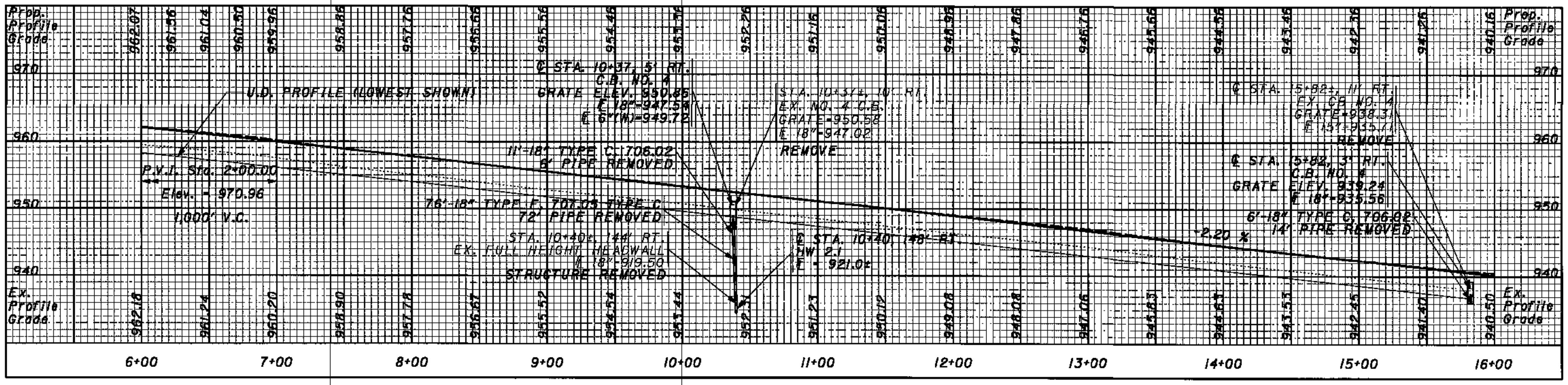
℄ I.R.71 CURVE DATA
P.I. Sta = 37+44.62
Δ = 36° 10' 16" (RT)
Dc = 0° 29' 59"
R = 11,466.42'
T = 3,744.62'
L = 7,238.83'
E = 595.96'
S.E. = 0.019
EX. S.E. = 0.016

* PROVIDE 10' - TYPE F CONDUIT WHERE PROPOSED UNDERDRAIN CROSSES EXISTING OR PROPOSED CONDUIT.

SOUTH BOUND PROFILE



NORTH BOUND PROFILE



REF NO.	STATION		SIDE	202	202	202	601	602	603	603	603	603	604	670
				CATCH BASIN REMOVED	STRUCTURE REMOVED	PIPE REMOVED, 24" AND UNDER	ROCK CHANNEL PROTECT., TYPE C W/ F. FABRIC	CONCRETE MASONRY	18" CONDUIT TYPE F, 707.05 TYPE C	18" CONDUIT TYPE C, 706.02	15" CONDUIT TYPE F, 707.05 TYPE C	15" CONDUIT TYPE C, 706.02	NO. 4 CATCH BASIN	DITCH EROSION PROTECT.
	FROM	TO		EACH	EACH	FEET	CU. YD.	CU. YD.	FEET	FEET	FEET	FEET	EACH	SQ. YD.
D1	10+37		RT	1		6				11			1	125
D2	10+37		RT		1	72	2	0.33	76					
D3	15+82		RT	1		14						6	1	125
D4	15+82		LT		1	20	2	0.27			22			
TOTALS CARRIED TO SUB-SUMMARY				2	2	112	4	0.60	76	11	22	6	2	250

0 25 50 100
HORIZONTAL SCALE IN FEET

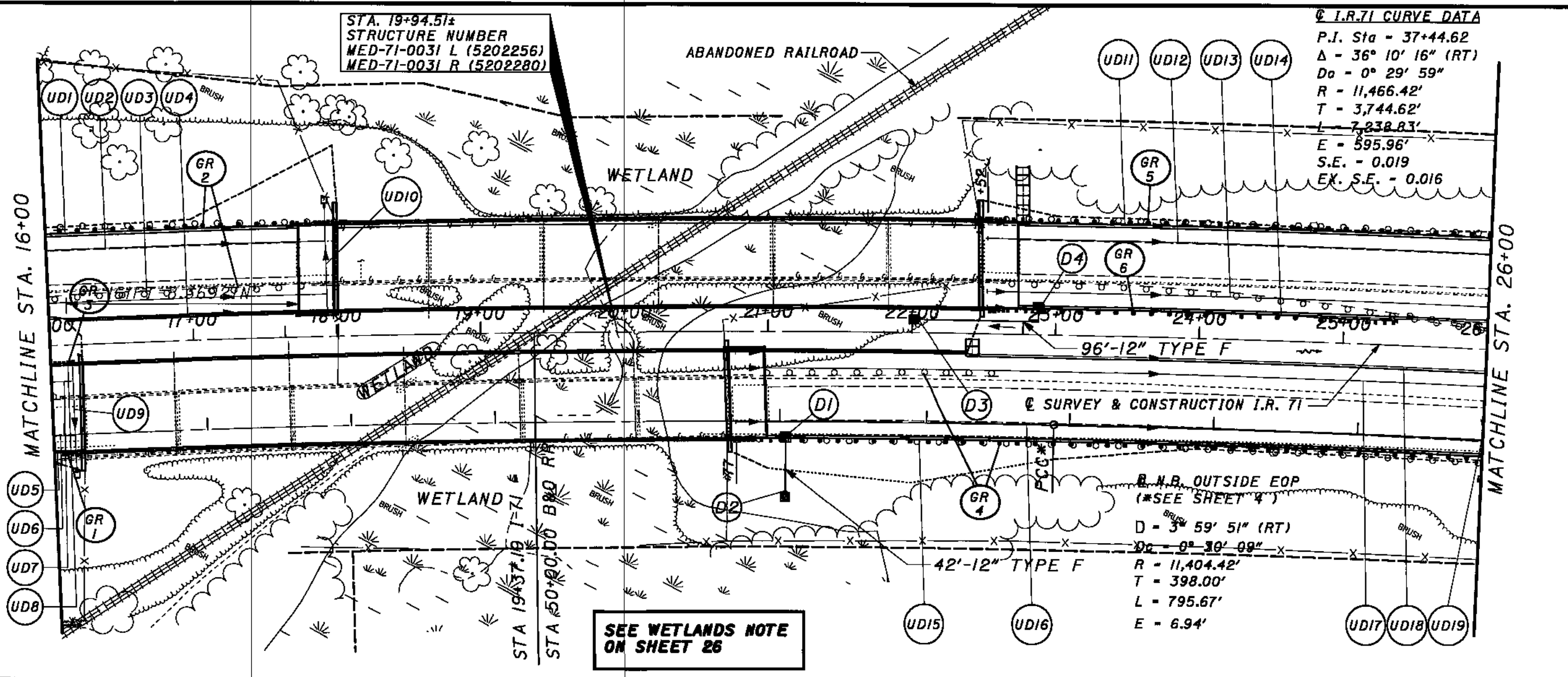
CALCULATED AEP
CHECKED KEH

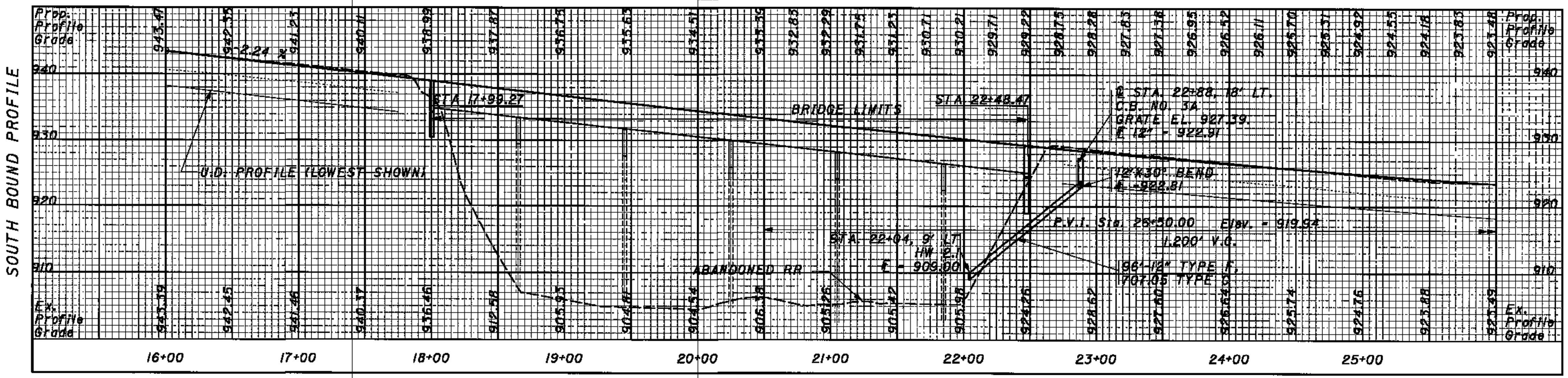
PLAN AND PROFILE
STA. 6+00.00 TO STA. 16+00.00

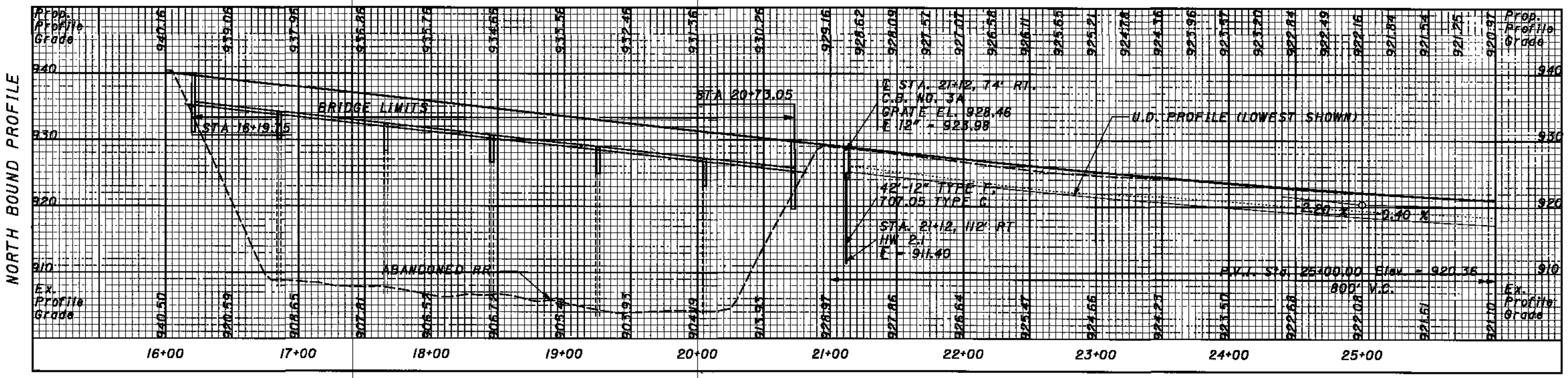
WAY/MED-71-7.04/0.00

...\14017gp3.dgn

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
107	UNDERDRAIN QUANTITIES
122	GUARDRAIL QUANTITIES
132, 141	SUPERELEVATION TABLES
411	TRAFFIC CONTROL
483-559	STRUCTURE PLANS







REF NO.	STATION		SIDE	601 ROCK CHANNEL PROTECT., TYPE C W/ F. FABRIC	602 CONCRETE MASONRY	603 12" CONDUIT TYPE F, 707.05 TYPE C	604 NO. 3A CATCH BASIN
	FROM	TO		CU. YD.	CU. YD.	FEET	EACH
D1	21+12		RT			42	1
D2	21+12		RT	2	0.21		
D3	22+04	22+88	LT	2	0.21	86	
D4	22+88		LT			10	1
TOTALS CARRIED TO SUB-SUMMARY				4	0.42	138	2

PLAN AND PROFILE
STA. 16+00.00 TO STA. 26+00.00

WAY/MED-71-7.04/0.00

CALCULATED AEP
CHECKED KEH

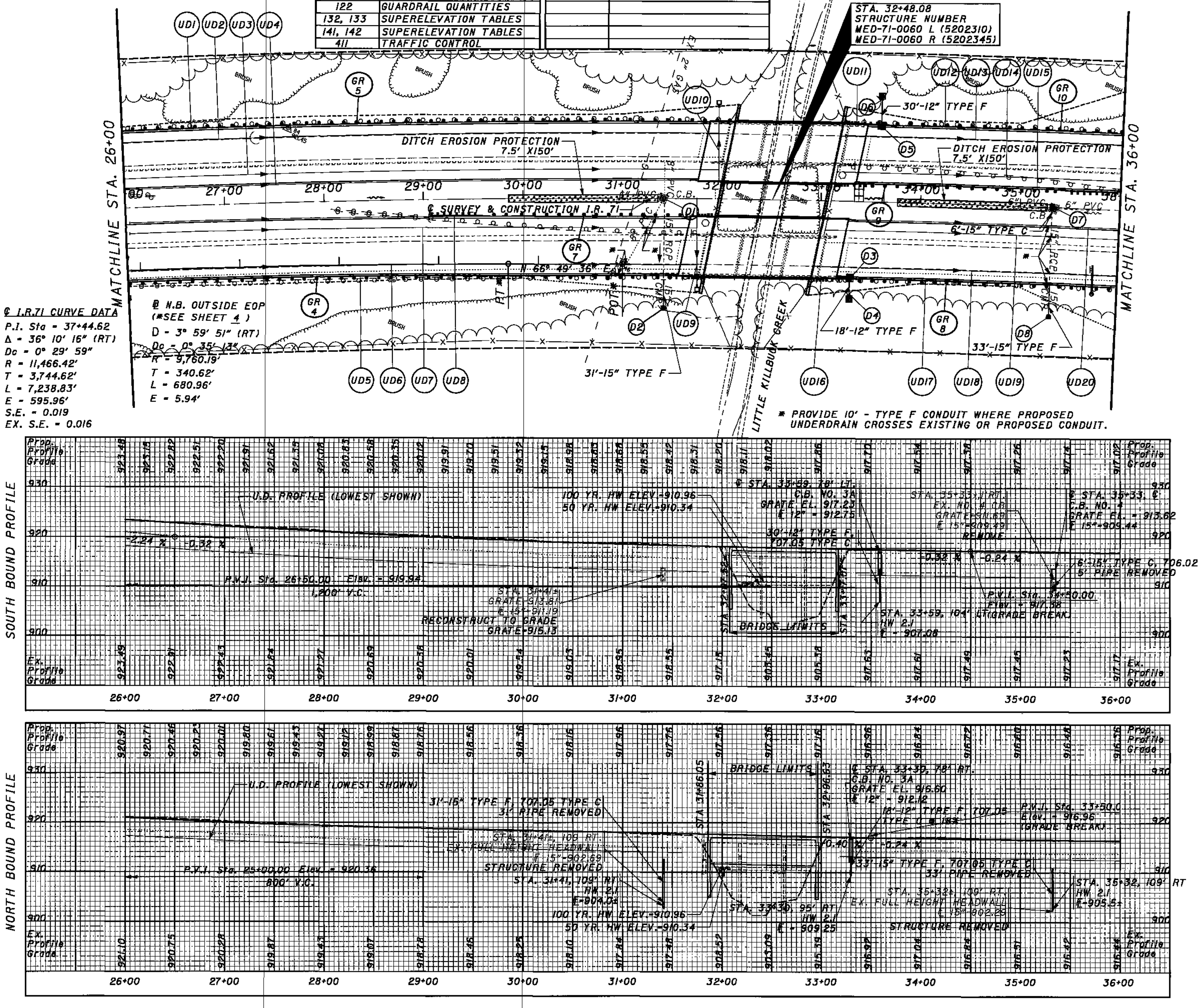
0 25 50 100
HORIZONTAL SCALE IN FEET

162
785

...\14017gp4.dgn

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
107	UNDERDRAIN QUANTITIES
122	GUARDRAIL QUANTITIES
132, 133	SUPERELEVATION TABLES
141, 142	SUPERELEVATION TABLES
411	TRAFFIC CONTROL

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
560-588	STRUCTURE PLANS



℄ I.R.71 CURVE DATA

P.I. Sta = 37+44.62
Δ = 36° 10' 16" (RT)
Dc = 0° 29' 59"
R = 11,466.42'
T = 3,744.62'
L = 7,238.83'
E = 595.96'
S.E. = 0.019
EX. S.E. = 0.016

℄ N.B. OUTSIDE EOP
(*SEE SHEET 4)
D = 3° 59' 51" (RT)
Dc = 0° 35' 13"
R = 9,760.19'
T = 340.62'
L = 680.96'
E = 5.94'

* PROVIDE 10' - TYPE F CONDUIT WHERE PROPOSED UNDERDRAIN CROSSES EXISTING OR PROPOSED CONDUIT.

REF NO.	STATION FROM	STATION TO	SIDE	202 CATCH BASIN REMOVED	202 STRUCTURE REMOVED	202 PIPE REMOVED 24" AND UNDER	601 ROCK CHANNEL PROTECT., TYPE C W/ F. FABRIC	602 CONCRETE MASONRY	603 15" CONDUIT TYPE F, 707.05 TYPE C	603 15" CONDUIT TYPE C, 706.02	603 12" CONDUIT TYPE F, 707.05 TYPE C	604 NO. 4 CATCH BASIN	604 CATCH BASIN RECONST. TO GRADE	604 NO. 3A CATCH BASIN	670 DITCH EROSION PROTECT.
				EACH	EACH	FEET	CU. YD.	CU. YD.	FEET	FEET	FEET	EACH	EACH	EACH	SQ. YD.
D1	31+41		℄										1		125
D2	31+41		RT		1	31	2	0.27	31						
D3	33+30		RT								18			1	
D4	33+30		RT				2	0.21							
D5	33+59		LT								30			1	
D6	33+59		LT				2	0.21							
D7	35+33		RT	1		5				6		1			125
D8	35+32		RT		1	33	2	0.27	33						
TOTALS CARRIED TO SUB-SUMMARY				1	2	69	8	0.96	64	6	48	1	1	2	250

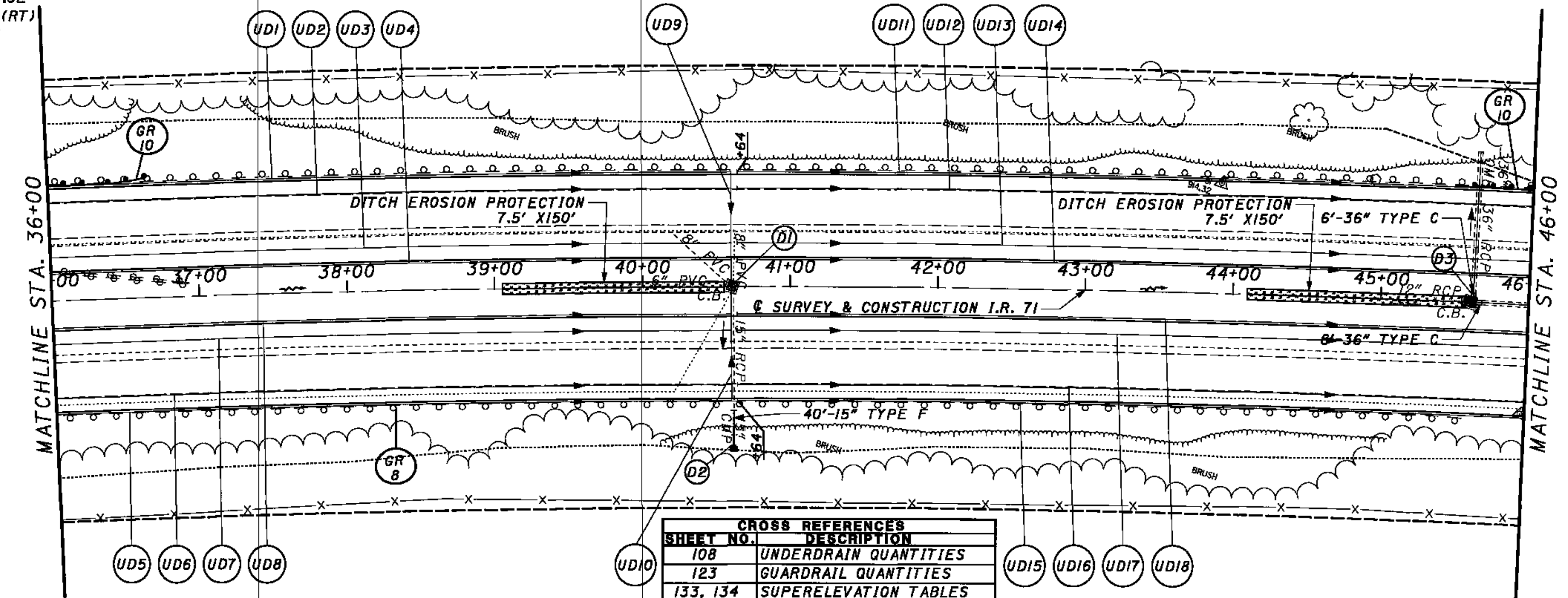
PLAN AND PROFILE
STA. 26+00.00 TO STA. 36+00.00

CALCULATED AEP
CHECKED KEH

0 25 50 100
HORIZONTAL SCALE IN FEET

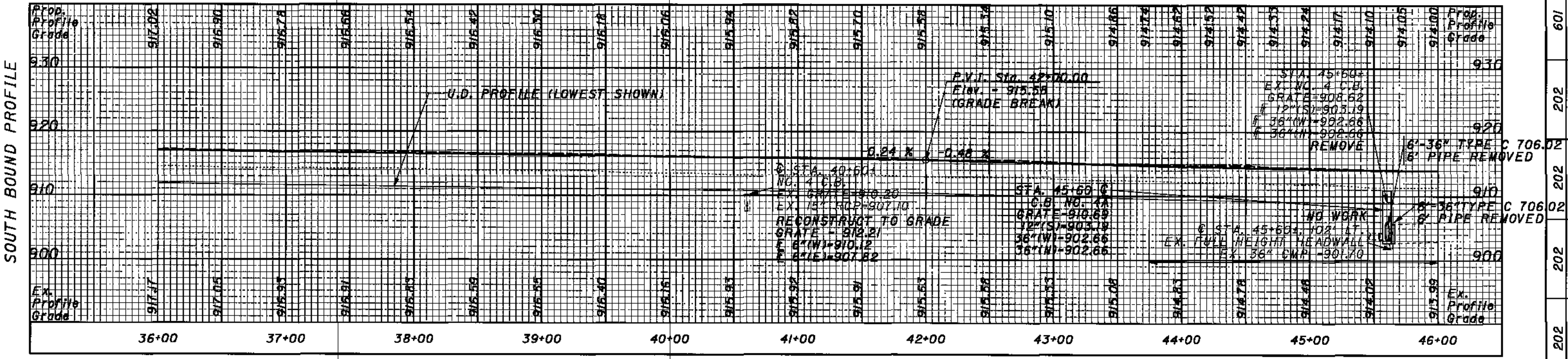
WAY/MED-71-7.04/0.00

℄ I.R.71 CURVE DATA
P.I. Sta = 37+44.62
Δ = 36° 10′ 16″ (RT)
Dc = 0° 29′ 59″
R = 11,466.42′
T = 3,744.62′
L = 7,238.83′
E = 595.96′
S.E. = 0.019
EX. S.E. = 0.016

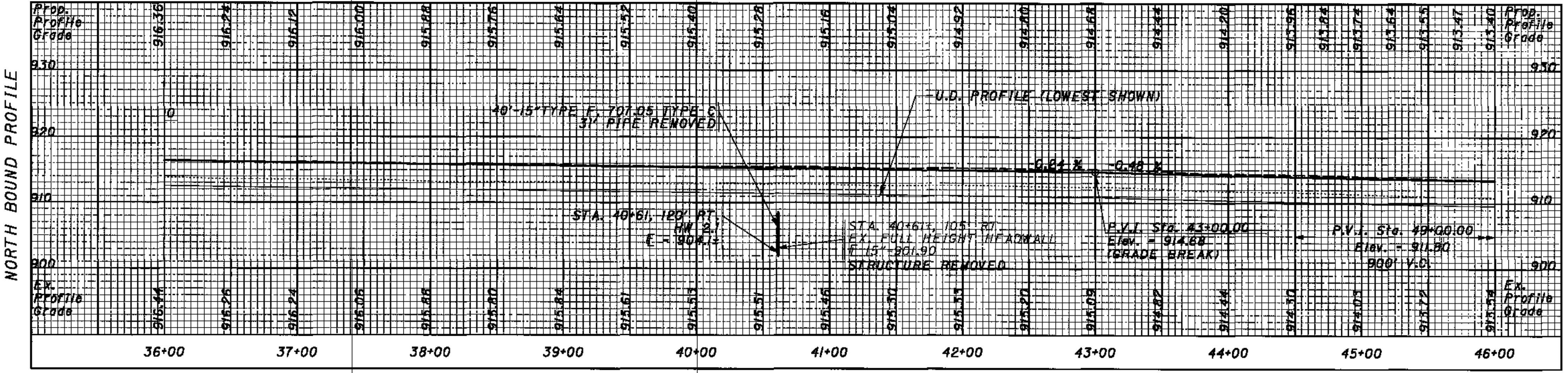


CROSS REFERENCES	
SHEET NO.	DESCRIPTION
108	UNDERDRAIN QUANTITIES
123	GUARDRAIL QUANTITIES
133, 134	SUPERELEVATION TABLES
142, 143	SUPERELEVATION TABLES
411, 412	TRAFFIC CONTROL

SOUTH BOUND PROFILE



NORTH BOUND PROFILE



REF NO.	STATION FROM	STATION TO	SIDE	202 CATCH BASIN REMOVED EACH	202 STRUCTURE REMOVED EACH	202 PIPE REMOVED, 24″ AND UNDER FEET	202 PIPE REMOVED, OVER 24″ FEET	601 ROCK CHANNEL PROTECT. TYPE C W/ F. FABRIC CU. YD.	602 CONCRETE MASONRY CU. YD.	603 15″ CONDUIT TYPE F, 707.05 TYPE C FEET	603 36″ CONDUIT TYPE C, 706.02 FEET	604 CATCH BASIN RECONST. TO GRADE EACH	604 NO. 4A CATCH BASIN EACH	670 DITCH EROSION PROTECT. SQ. YD.	
D1	40+60		℄									1		125	
D2	40+61		RT		1	31		2	0.27	40					
D3	45+60		℄	1			12				12		1	125	
TOTALS CARRIED TO SUB-SUMMARY				1	1	31	12	2	0.27	40	12	1	1	250	

0 25 50 100
HORIZONTAL SCALE IN FEET

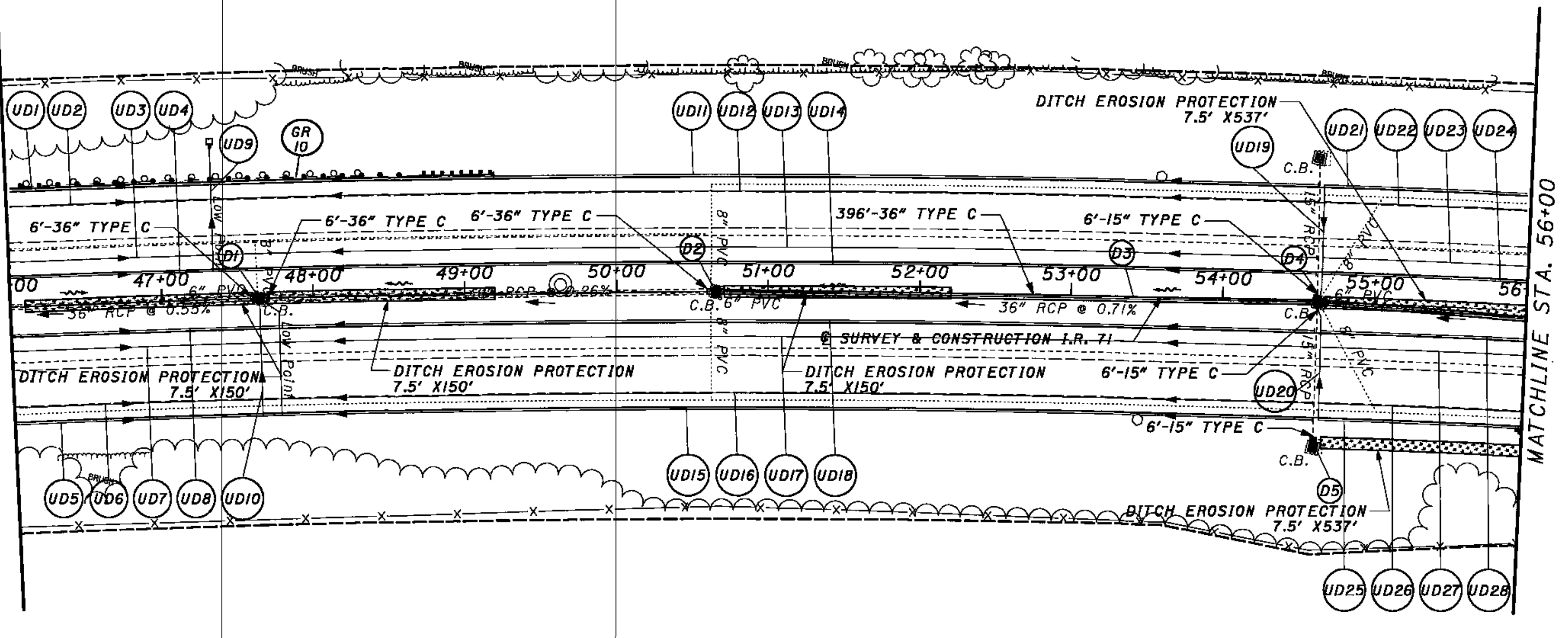
CALCULATED AEP
CHECKED KEH

PLAN AND PROFILE
STA. 36+00.00 TO STA. 46+00.00

WAY/MED-71-7.04/0.00

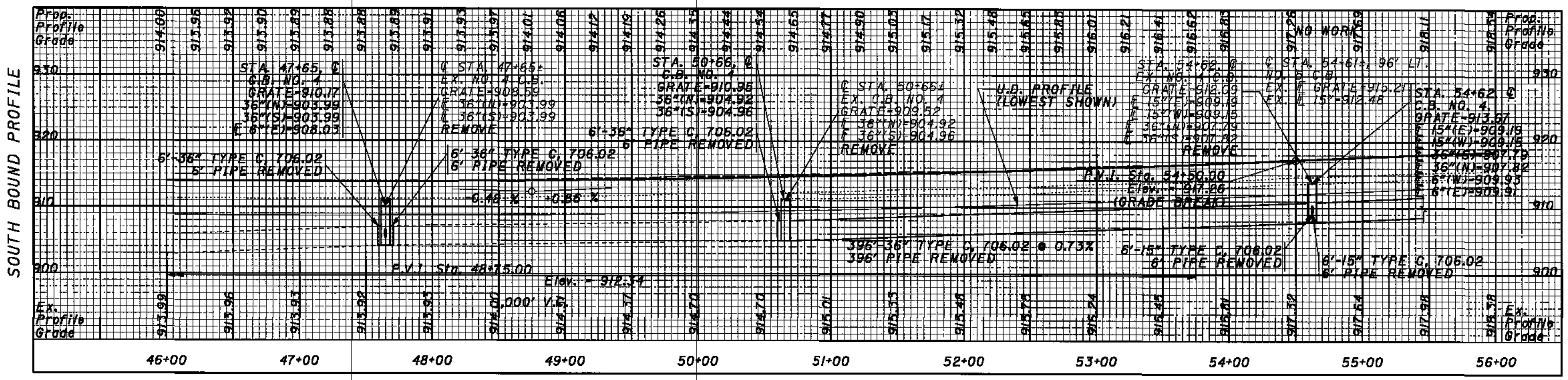
...\14017gp6.dgn

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
108	UNDERDRAIN QUANTITIES
123	GUARDRAIL QUANTITIES
134, 143	SUPERELEVATION TABLES
412	TRAFFIC CONTROL

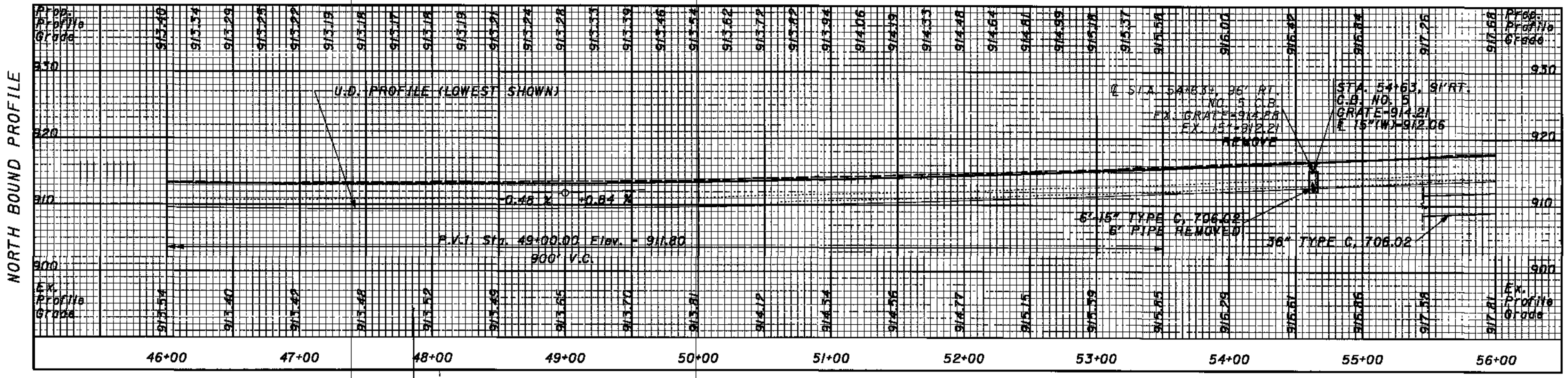

MATCHLINE STA. 46+00
MATCHLINE STA. 56+00
UD1 UD2 UD3 UD4 UD9 GR 10 UD11 UD12 UD13 UD14 UD19 UD21 UD22 UD23 UD24
UD5 UD6 UD7 UD8 UD10 UD15 UD16 UD17 UD18 UD20 UD25 UD26 UD27 UD28
D1 D2 D3 D4 D5
6'-36" TYPE C
6'-36" TYPE C
6'-36" TYPE C
396'-36" TYPE C
6'-15" TYPE C
6'-15" TYPE C
6'-15" TYPE C
DITCH EROSION PROTECTION 7.5' X537'
DITCH EROSION PROTECTION 7.5' X150'
DITCH EROSION PROTECTION 7.5' X150'
DITCH EROSION PROTECTION 7.5' X150'
DITCH EROSION PROTECTION 7.5' X537'
36" RCP @ 0.55%
36" RCP @ 0.26%
36" RCP @ 0.71%
6" PVC
8" PVC
C.B.
℄ SURVEY & CONSTRUCTION I.R. 71
47+00 48+00 49+00 50+00 51+00 52+00 53+00 54+00 55+00

℄ I.R.71 CURVE DATA
P.I. Sta = 37+44.62
Δ = 36° 10' 16" (RT)
Dc = 0° 29' 59"
R = 11,466.42'
T = 3,744.62'
L = 7,238.83'
E = 595.96'
S.E. = 0.019
EX. S.E. = 0.016

SOUTH BOUND PROFILE


Prop. Profile Grade
Ex. Profile Grade
930 920 910 900
STA. 47+65, ℄ C.B. NO. 4 GRATE=910.17 36"(N)=903.99 36"(S)=903.99 ℄ 6"(E)=908.03
℄ STA. 47+65± EX. NO. 4 C.B. GRATE=908.59 ℄ 36"(N)=903.99 ℄ 36"(S)=903.99 REMOVE
STA. 50+66, ℄ C.B. NO. 4 GRATE=910.95 36"(N)=904.92 36"(S)=904.96
℄ STA. 50+66± EX. C.B. NO. 4 GRATE=909.52 ℄ 36"(N)=904.92 ℄ 36"(S)=904.96 REMOVE
U.D. PROFILE (LOWEST SHOWN)
6'-36" TYPE C, 706.02 6' PIPE REMOVED
6'-36" TYPE C, 706.02 6' PIPE REMOVED
6'-36" TYPE C, 706.02 6' PIPE REMOVED
396'-36" TYPE C, 706.02 @ 0.73% 396' PIPE REMOVED
6'-15" TYPE C, 706.02 6' PIPE REMOVED
6'-15" TYPE C, 706.02 6' PIPE REMOVED
STA. 54+62, ℄ C.B. NO. 4 GRATE=913.57 15"(E)=909.19 15"(W)=909.15 36"(S)=907.79 36"(N)=907.82 6"(W)=909.95 6"(E)=909.91
NO WORK
P.V.I. Sta. 54+50.00 Elev. = 911.26 (GRADE BREAK)
P.V.I. Sta. 48+15.00 Elev. = 912.34 1,000' V.C.
-0.48 % +0.86 %
46+00 47+00 48+00 49+00 50+00 51+00 52+00 53+00 54+00 55+00 56+00

NORTH BOUND PROFILE


Prop. Profile Grade
Ex. Profile Grade
930 920 910 900
U.D. PROFILE (LOWEST SHOWN)
℄ STA. 54+63±, 96' RT. EX. NO. 5 C.B. EX. GRATE=914.88 EX. 15"=912.21 REMOVE
STA. 54+63, 91' RT. C.B. NO. 5 GRATE=914.21 ℄ 15"(W)=912.06
6'-15" TYPE C, 706.02 6' PIPE REMOVED
36" TYPE C, 706.02
P.V.I. Sta. 49+00.00 Elev. = 911.80 900' V.C.
-0.46 % +0.84 %
46+00 47+00 48+00 49+00 50+00 51+00 52+00 53+00 54+00 55+00 56+00

REF NO.	STATION FROM	STATION TO	SIDE	202 CATCH BASIN REMOVED EACH	202 PIPE REMOVED, 24" AND UNDER FEET	202 PIPE REMOVED, OVER 24" FEET	603 15" CONDUIT TYPE C, 706.02 FEET	603 36" CONDUIT TYPE C, 706.02 FEET	604 NO. 4 CATCH BASIN EACH	604 NO. 5 CATCH BASIN EACH	670 DITCH EROSION PROTECT. SQ. YD.
D1	47+65		℄	1		12		12	1		250
D2	50+66		℄	1		6		6	1		125
D3	50+66	54+62	℄			396		396			
D4	54+62		℄	1	12		12		1		125
D5	54+63		RT	1	6		6			1	448
D6	52+00	54+63	RT								
TOTALS CARRIED TO SUB-SUMMARY				4	18	414	18	414	3	1	948

0 25 50 100
HORIZONTAL SCALE IN FEET

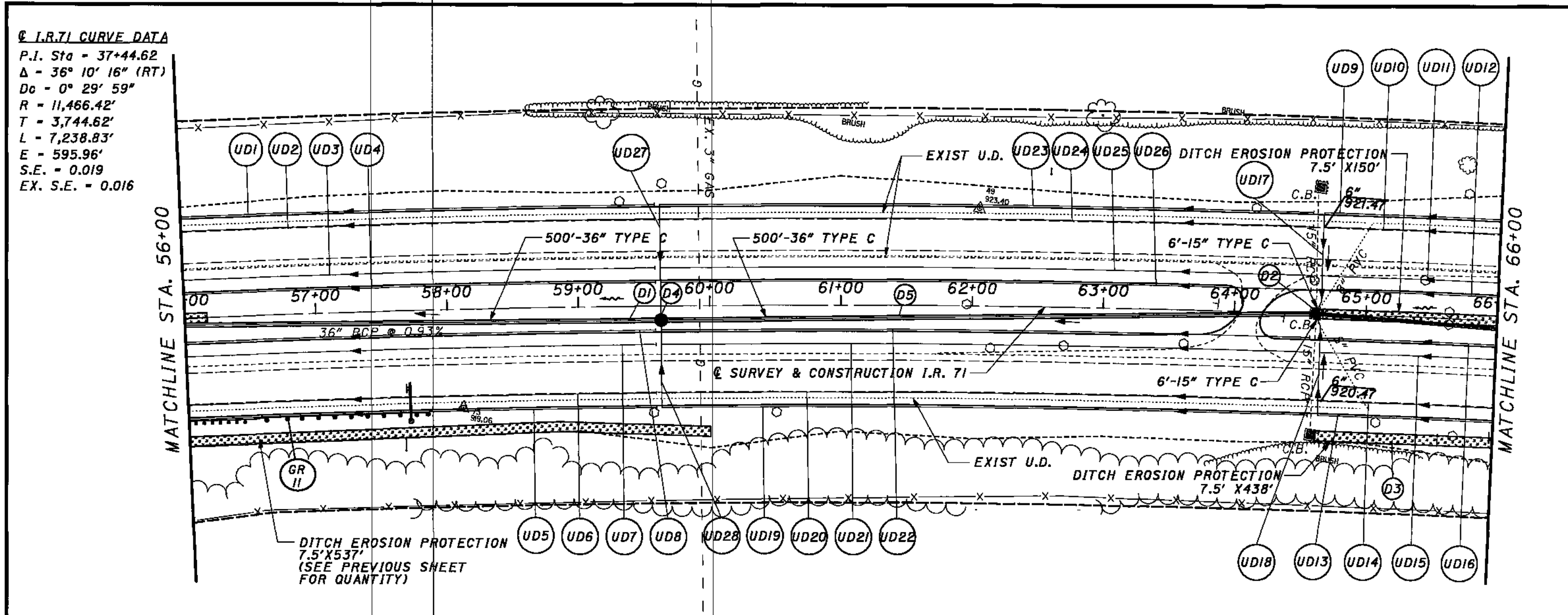
CALCULATED AEP
CHECKED KEH

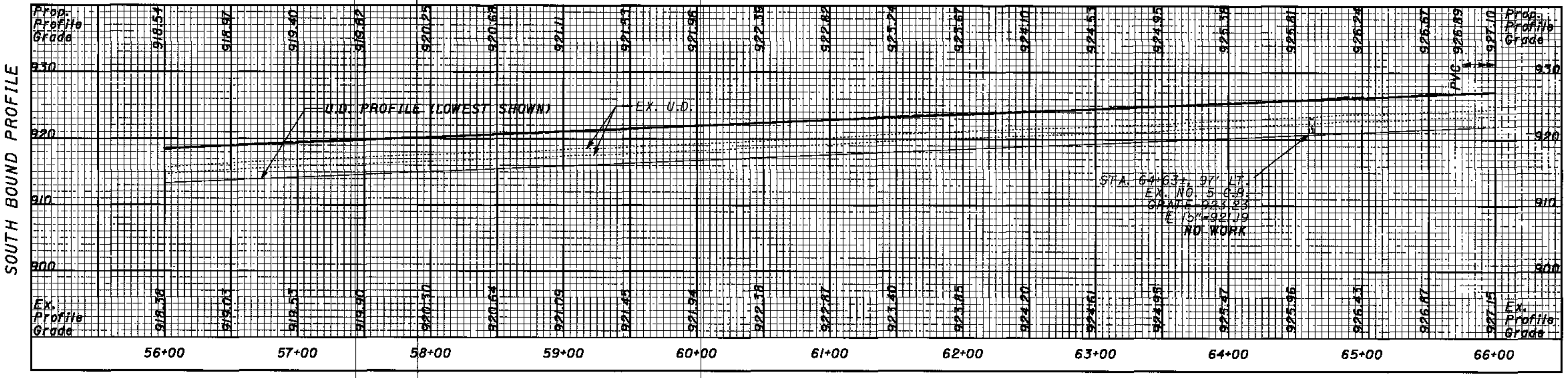
PLAN AND PROFILE
STA. 46+00.00 TO STA. 56+00.00

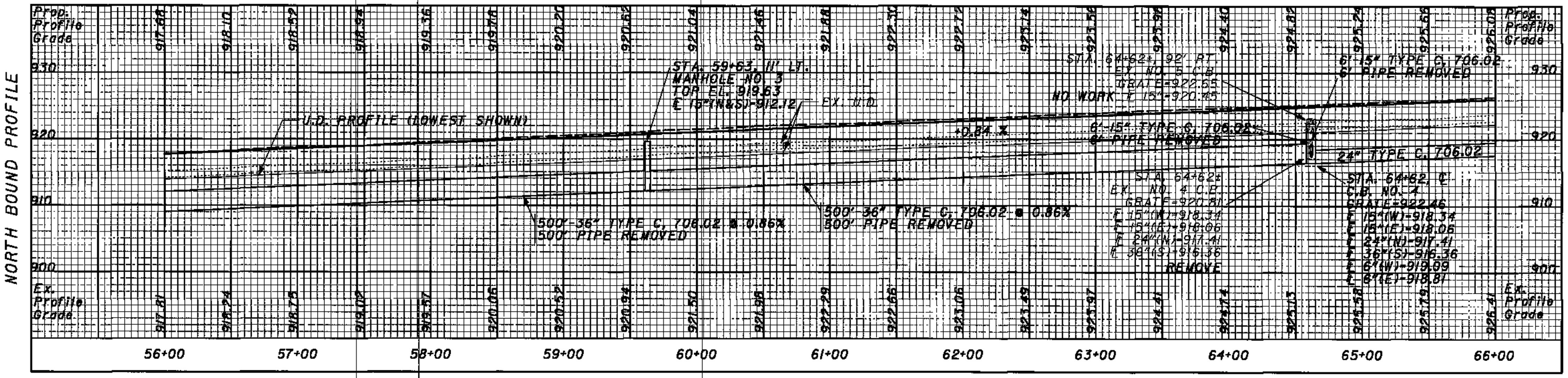
WAY/MED-71-7.04/0.00

...\14017gp7.dgn

℄ I.R.71 CURVE DATA
P.I. Sta = 37+44.62
Δ = 36° 10′ 16″ (RT)
Dc = 0° 29′ 59″
R = 11,466.42′
T = 3,744.62′
L = 7,238.83′
E = 595.96′
S.E. = 0.019
EX. S.E. = 0.016


MATCHLINE STA. 56+00
MATCHLINE STA. 66+00
UD1 UD2 UD3 UD4 UD5 UD6 UD7 UD8 UD9 UD10 UD11 UD12 UD13 UD14 UD15 UD16 UD17 UD18 UD19 UD20 UD21 UD22 UD23 UD24 UD25 UD26 UD27 UD28
D1 D2 D3 D4 D5
GR 11
EXIST U.D.
DITCH EROSION PROTECTION 7.5′ X150′
DITCH EROSION PROTECTION 7.5′ X438′
DITCH EROSION PROTECTION 7.5′X537′ (SEE PREVIOUS SHEET FOR QUANTITY)
500′-36″ TYPE C
6′-15″ TYPE C
36″ RCP @ 0.93%
℄ SURVEY & CONSTRUCTION I.R. 71
C.B.
6″ 921.47
6″ 920.47
EX. 3″ GAS
BRUSH
57+00 58+00 59+00 60+00 61+00 62+00 63+00 64+00 65+00




NORTH BOUND PROFILE
Prop. Profile Grade
Ex. Profile Grade
U.D. PROFILE (LOWEST SHOWN)
EX. U.D.
STA. 59+63, 11′ LT. MANHOLE NO. 3 TOP EL. 919.63 ℄ 15″(N&S)=912.12
STA. 64+62±, 92′ RT. EX. NO. 5 C.B. GRATE=922.65 ℄ 15″=920.45 NO WORK
6′-15″ TYPE C, 706.02 6′ PIPE REMOVED
24″ TYPE C, 706.02
+0.84 %
500′-36″ TYPE C, 706.02 @ 0.86% 500′ PIPE REMOVED
500′ 36″ TYPE C, 706.02 @ 0.86% 500′ PIPE REMOVED
STA. 64+62± EX. NO. 4 C.B. GRATE=920.81 ℄ 15″(N)=918.34 ℄ 15″(E)=918.06 ℄ 24″(N)=917.41 ℄ 36″(S)=916.36 REMOVE
STA. 64+62, ℄ C.B. NO. 4 GRATE=922.46 ℄ 15″(W)=918.34 ℄ 15″(E)=918.06 ℄ 24″(N)=917.41 ℄ 36″(S)=916.36 ℄ 6″(W)=919.09 ℄ 6″(E)=918.81
930 920 910 900
56+00 57+00 58+00 59+00 60+00 61+00 62+00 63+00 64+00 65+00 66+00

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
108	UNDERDRAIN QUANTITIES
123	GUARDRAIL QUANTITIES
134, 135	SUPERELEVATION TABLES
143, 144	SUPERELEVATION TABLES
412	TRAFFIC CONTROL

REF NO.	STATION		SIDE	202	202	202	603	603	604	604	670
				CATCH BASIN REMOVED	PIPE REMOVED, 24″ AND UNDER	PIPE REMOVED, OVER 24″	15″ CONDUIT TYPE C, 706.02	36″ CONDUIT TYPE C, 706.02	NO. 4 CATCH BASIN	NO. 3 MANHOLE	DITCH EROSION PROTECT.
	FROM	TO		EACH	FEET	FEET	FEET	FEET	EACH	EACH	SQ. YD.
D1	54+62	59+62	RT			500		500			
D2	64+62		℄	1	12		12		1		125
D3	64+62	69+00	RT								365
D4	59+62									1	
D5	59+62	64+62				500		500			
TOTALS CARRIED TO SUB-SUMMARY				1	12	1000	12	1000	1	1	490

0 25 50 100
HORIZONTAL SCALE IN FEET

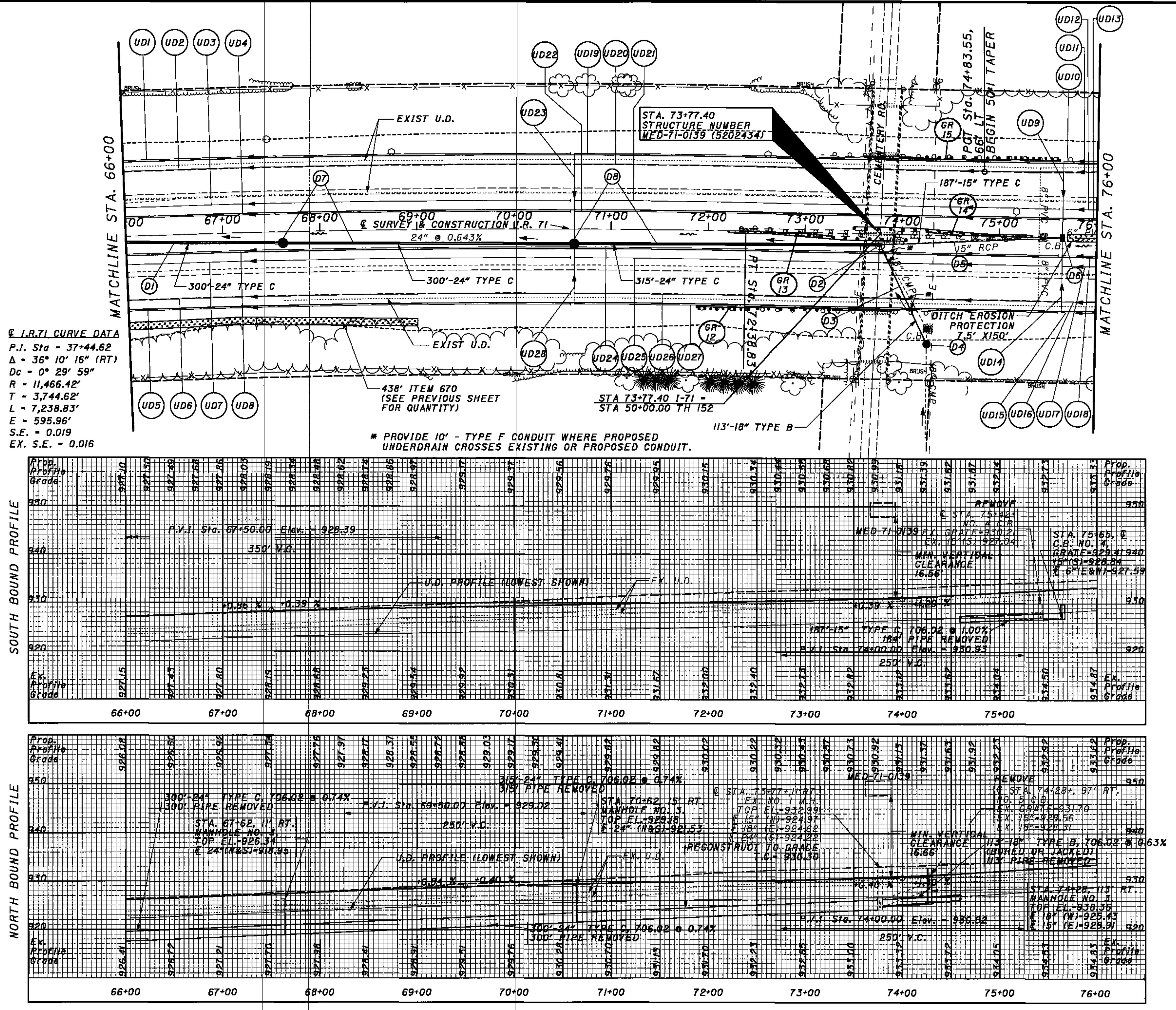
CALCULATED AEP
CHECKED KEH

PLAN AND PROFILE
STA. 56+00.00 TO STA. 66+00.00

WAY/MED-71-7.04/0.00

...\14017gp8.dgn

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
108A	UNDERDRAIN QUANTITIES
123	GUARDRAIL QUANTITIES
135, 144	SUPERELEVATION TABLES
412, 413	TRAFFIC CONTROL



℄ I.R.71 CURVE DATA
P.I. Sta = 37+44.62
Δ = 36° 10' 16" (RT)
Dc = 0° 29' 59"
R = 11,466.42'
T = 3,744.62'
L = 7,238.83'
E = 595.96'
S.E. = 0.019
EX. S.E. = 0.016

* PROVIDE 10' - TYPE F CONDUIT WHERE PROPOSED UNDERDRAIN CROSSES EXISTING OR PROPOSED CONDUIT.

REF NO.	STATION FROM	STATION TO	SIDE	202 CATCH BASIN REMOVED	202 PIPE REMOVED, 24" AND UNDER	603 CONDUIT, BORED OR JACKED, APP: 18" TYPE B, 706.02	603 15" CONDUIT TYPE C, 706.02	603 24" CONDUIT TYPE C, 706.02	604 NO. 4 CATCH BASIN	604 MANHOLE RECONST. TO GRADE	604 NO. 3 MANHOLE	670 DITCH EROSION PROTECT.
				EACH	FEET	FEET	FEET	FEET	EACH	EACH	EACH	SQ. YD.
D1	64+62	67+62	RT		300			300				
D2	73+77		RT							1		
D3	73+77	74+28	RT		113	131						
D4	74+28		RT	1							1	
D5	73+77	75+65	RT		164		187					
D6	75+65		℄	1					1			125
D7	67+62	70+62	RT		300			300			1	
D8	70+62	73+77	RT		315			315			1	
TOTALS CARRIED TO SUB-SUMMARY				2	1192	131	187	915	1	1	3	125

0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED AEP
CHECKED KEH

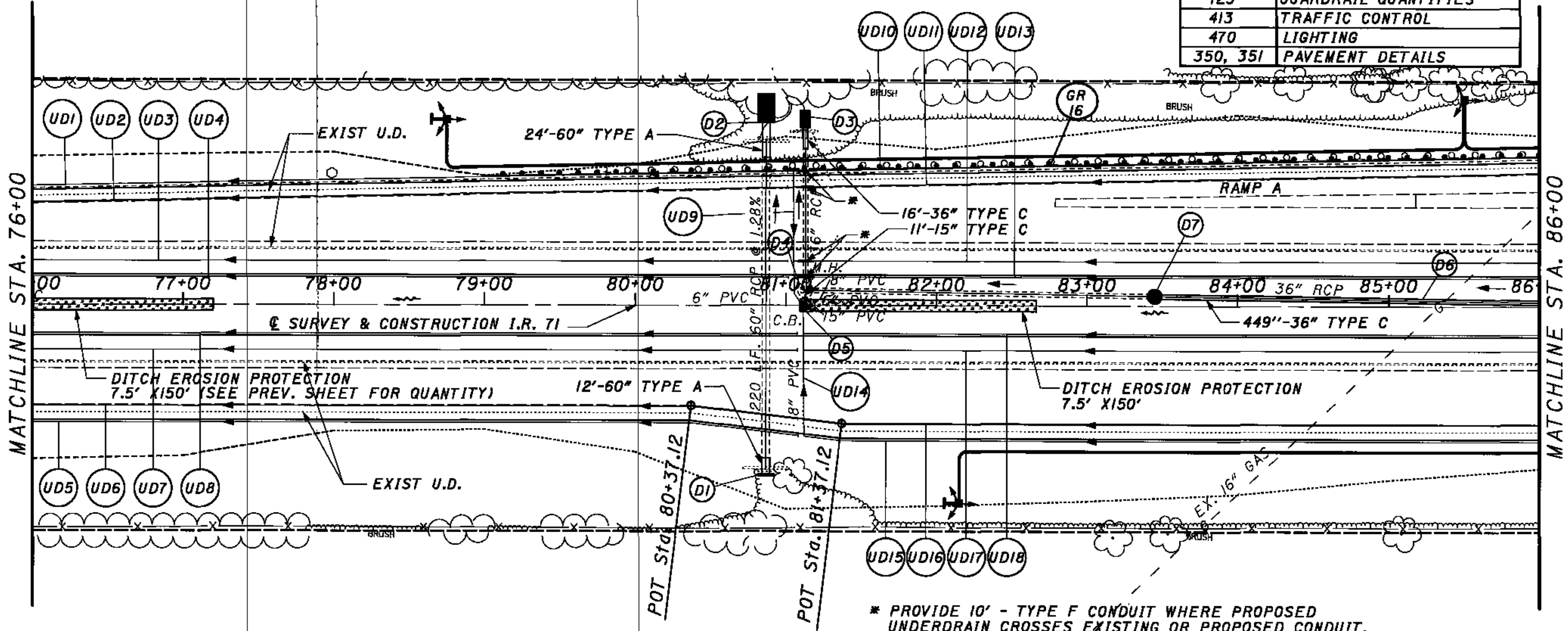
PLAN AND PROFILE
STA. 66+00.00 TO STA. 76+00.00

WAY/MED-71-7.04/0.00

167
785

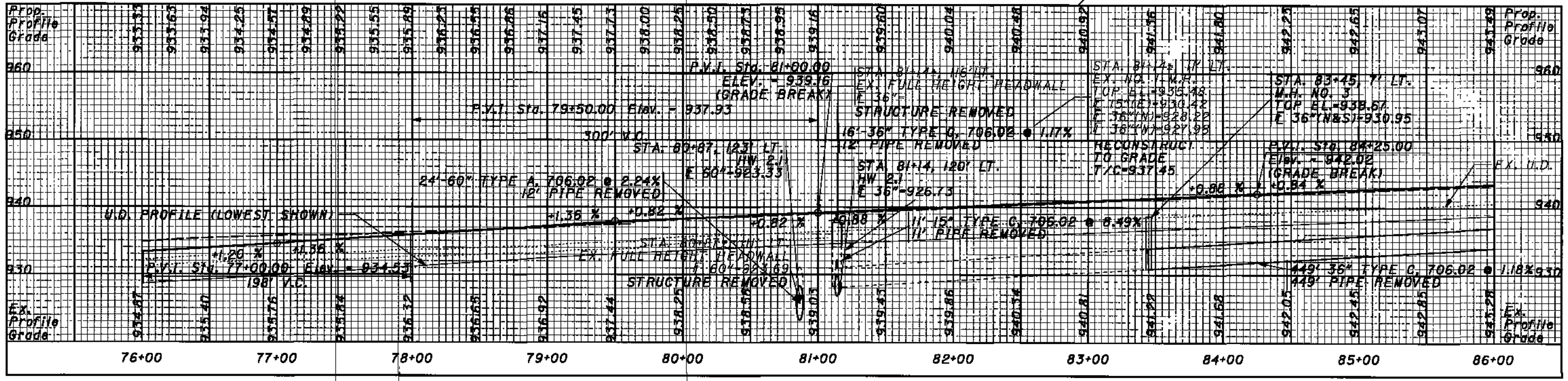
...\14017gp9.dgn

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
108A	UNDERDRAIN QUANTITIES
123	GUARDRAIL QUANTITIES
413	TRAFFIC CONTROL
470	LIGHTING
350, 351	PAVEMENT DETAILS

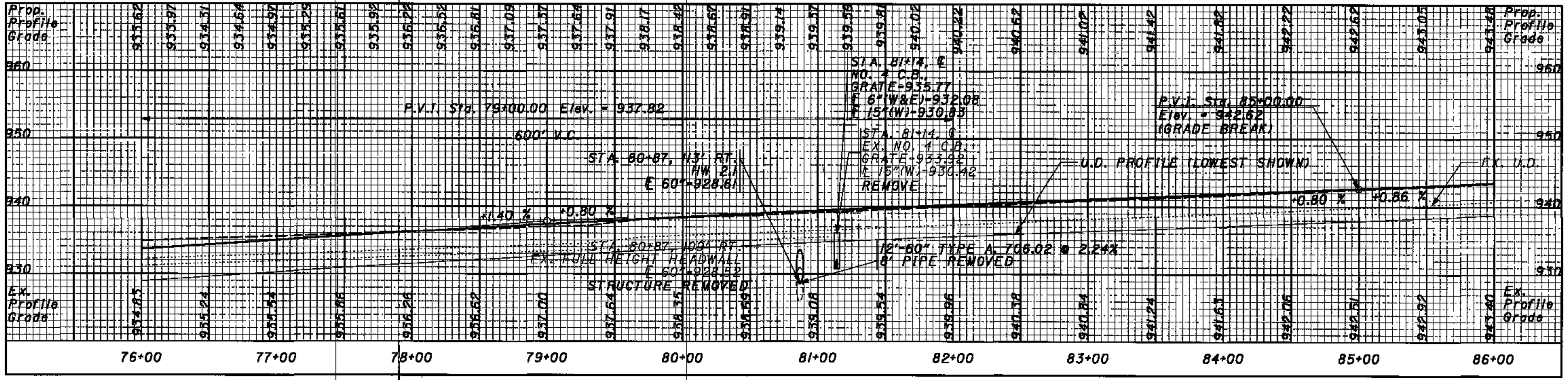


* PROVIDE 10' - TYPE F CONDUIT WHERE PROPOSED UNDERDRAIN CROSSES EXISTING OR PROPOSED CONDUIT.

SOUTH BOUND PROFILE


Prop. Profile Grade
935.33
935.63
935.94
934.25
934.57
934.89
935.22
935.55
935.89
936.23
936.55
936.86
937.16
937.45
937.73
938.00
938.25
938.50
938.75
938.95
939.16
939.60
940.04
940.48
940.92
941.36
941.80
942.25
942.65
943.07
943.49
960
950
940
930
P.V.I. Sta. 81+00.00 ELEV. = 939.16 (GRADE BREAK)
P.V.I. Sta. 79+50.00 Elev. = 937.93
300' V.C.
STA. 80+87, 123' LT. HW 2.1 ℄ 60"=923.33
24'-60" TYPE A, 706.02 @ 2.24% 12' PIPE REMOVED
U.D. PROFILE (LOWEST SHOWN)
+1.36 %
+0.82 %
+1.20 %
+1.36 %
P.V.I. Sta. 77+00.00 Elev. = 934.53
198' V.C.
EX. FULL HEIGHT HEADWALL ℄ 60"=923.69
STRUCTURE REMOVED
STA. 81+14, 116' LT. EX. FULL HEIGHT HEADWALL ℄ 36"= STRUCTURE REMOVED
16'-36" TYPE C, 706.02 @ 1.17% 12' PIPE REMOVED
STA. 81+14, 120' LT. HW 2.1 ℄ 36"=926.73
+0.88 %
11' 15" TYPE C, 706.02 @ 6.49% 11' PIPE REMOVED
STA. 81+14, 11' LT. EX. NO. 1 M.H. TOP EL.=935.48 ℄ 15"(E)=930.42 ℄ 36"(N)=928.22 ℄ 36"(W)=927.95 RECONSTRUCT TO GRADE T/C=937.45
STA. 83+45, 7' LT. M.H. NO. 3 TOP EL.=938.67 ℄ 36"(N&S)=930.95
P.V.I. Sta. 84+25.00 Elev. = 942.02 (GRADE BREAK)
+0.88 %
+0.84 %
EX. U.D.
449' 36" TYPE C, 706.02 @ 1.18% 449' PIPE REMOVED
Ex. Profile Grade
934.87
935.40
935.76
935.84
936.32
936.65
936.92
937.44
938.25
938.58
939.03
939.45
939.86
940.54
940.81
941.22
941.68
942.05
942.45
942.85
943.28
76+00
77+00
78+00
79+00
80+00
81+00
82+00
83+00
84+00
85+00
86+00

NORTH BOUND PROFILE



REF NO.	STATION FROM	STATION TO	SIDE	202 CATCH BASIN REMOVED	202 STRUCTURE REMOVED	202 PIPE REMOVED, 24" AND UNDER	202 PIPE REMOVED, OVER 24"	601 ROCK CHANNEL PROTECT., TYPE C W/ F. FABRIC	602 CONCRETE MASONRY	603 60" CONDUIT TYPE A	603 15" CONDUIT TYPE C 706.02	603 36" CONDUIT TYPE C 706.02	604 NO. 3 MANHOLE	604 NO. 4 CATCH BASIN	604 MANHOLE RECONST. TO GRADE	670 DITCH EROSION PROTECT.
				EACH	EACH	FEET	FEET	CU. YD.	CU. YD.	FEET	FEET	FEET	EACH	EACH	EACH	SQ. YD.
D1	80+87		RT		1		8		1.78	12						
D2	80+87		LL		1		12	17.5	1.78	24						
D3	81+14		LT		1		12	3.3	0.76			16				
D4	81.14		LT												1	
D5	81+14		℄	1		11					11			1		125
D6	83+45	87+90	℄				449					449				
D7	83+45		LT										1			
TOTALS CARRIED TO SUB-SUMMARY				1	3	11	481	20.8	4.32	36	11	465	1	1	1	125

CALCULATED AEP
CHECKED KEH

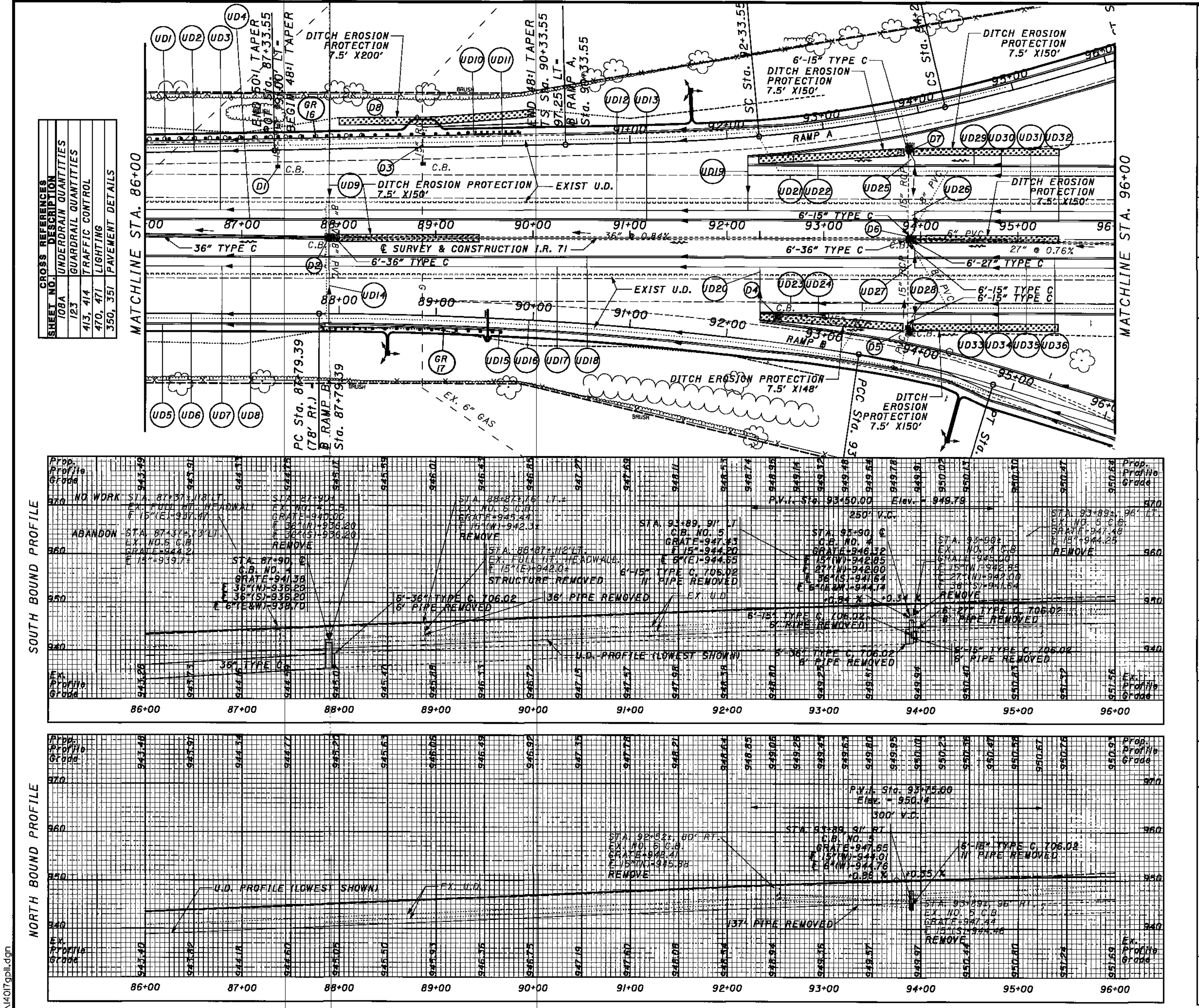
0 25 100
HORIZONTAL SCALE IN FEET

PLAN AND PROFILE
STA. 76+00.00 TO STA. 86+00.00

WAY/MED-71-7.04/0.00

...\14017gp10.dgn

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
108A	UNDERDRAIN QUANTITIES
123	GUARDRAIL QUANTITIES
413, 414	TRAFFIC CONTROL
470, 471	LIGHTING
350, 351	PAVEMENT DETAILS


MATCHLINE STA. 86+00
MATCHLINE STA. 96+00
DITCH EROSION PROTECTION 7.5' X200'
DITCH EROSION PROTECTION 7.5' X150'
DITCH EROSION PROTECTION 7.5' X148'
END 50:1 TAPER
END 48:1 TAPER
BEGIN 48:1 TAPER
RAMP A
RAMP B
℄ SURVEY & CONSTRUCTION I.R. 71
36" TYPE C
6'-36" TYPE C
6'-15" TYPE C
6'-27" TYPE C
27" @ 0.76%
36" @ 0.84%
EXIST U.D.
C.B.
EX. 6" GAS
BRUSH
PCC Sta. 93
PC Sta. 87+79.39 (78' Rt.) = ℄ RAMP B Sta. 87+79.39
SC Sta. 92+33.55
CS Sta. 94+2
UD1 UD2 UD3 UD4 UD5 UD6 UD7 UD8 UD9 UD10 UD11 UD12 UD13 UD14 UD15 UD16 UD17 UD18 UD19 UD20 UD21 UD22 UD23 UD24 UD25 UD26 UD27 UD28 UD29 UD30 UD31 UD32 UD33 UD34 UD35 UD36
D1 D2 D3 D4 D5 D6 D7 D8
GR 16
GR 17
SOUTH BOUND PROFILE
NORTH BOUND PROFILE
Prop. Profile Grade
Ex. Profile Grade
970
960
950
940
86+00
87+00
88+00
89+00
90+00
91+00
92+00
93+00
94+00
95+00
96+00
NO WORK
ABANDON STA. 87+37± 118' LT. EX. NO. 6 C.B. GRATE=944.2± ℄ 15"=939.7±
STA. 87+37± 118' LT. EX. FULL HT. HEADWALL ℄ 15"(E)=937.47
STA. 87+90, ℄ C.B. NO. 4 GRATE=941.38 ℄ 36"(N)=936.28 ℄ 36"(S)=936.20 ℄ 6"(E&W)=938.70
STA. 87+90± EX. NO. 4 C.B. GRATE=940.00 ℄ 36"(N)=936.20 ℄ 36"(S)=936.20 REMOVE
STA. 88+87+76' LT.± EX. NO. 6 C.B. GRATE=945.44 ℄ 15"(W)=942.3± REMOVE
STA. 88+87± 112' LT. EX. FULL HT. HEADWALL ℄ 15"(E)=942.0± STRUCTURE REMOVED
6'-36" TYPE C, 706.02 6' PIPE REMOVED
36' PIPE REMOVED
36" TYPE C
U.D. PROFILE (LOWEST SHOWN)
EX. U.D.
P.V.I. Sta. 93+50.00 Elev. = 949.79
250' V.C.
STA. 93+89, 91' LT. C.B. NO. 5 GRATE=947.85 ℄ 15"=944.20 ℄ 6"(E)=944.55
6'-15" TYPE C, 706.02 11' PIPE REMOVED
STA. 93+90, ℄ C.B. NO. 4 GRATE=946.32 ℄ 27"(N)=942.85 ℄ 27"(N)=942.90 ℄ 36"(S)=941.64 ℄ 6"(E&W)=944.14
STA. 93+89± 96' LT. EX. NO. 5 C.B. GRATE=947.48 ℄ 15"=944.25 REMOVE
STA. 93+90± EX. NO. 4 C.B. GRATE=945.00 ℄ 15"(N)=942.85 ℄ 27"(N)=942.00 ℄ 36"(S)=941.64 REMOVE
6'-27" TYPE C, 706.02 6' PIPE REMOVED
6'-15" TYPE C, 706.02 6' PIPE REMOVED
6'-36" TYPE C, 706.02 6' PIPE REMOVED
+0.34 %
P.V.I. Sta. 93+75.00 Elev. = 950.14
300' V.C.
STA. 92+52± 80' RT. EX. NO. 6 C.B. GRATE=948.41 ℄ 15"(N)=945.88 REMOVE
STA. 93+89, 91' RT. C.B. NO. 5 GRATE=947.65 ℄ 15"(W)=944.01 ℄ 6"(W)=944.76
6'-15" TYPE C, 706.02 11' PIPE REMOVED
+0.36 %
+0.35 %
STA. 93+89± 96' RT. EX. NO. 5 C.B. GRATE=947.44 ℄ 15"=944.46 REMOVE
137' PIPE REMOVED

REF NO.	STATION FROM	STATION TO	SIDE	202 CATCH BASIN REMOVED EACH	202 STRUCTURE REMOVED EACH	202 PIPE REMOVED, 24" AND UNDER FEET	202 PIPE REMOVED, OVER 24" FEET	202 CATCH BASIN ABANDONED EACH	603 36" CONDUIT TYPE C 706.02 FEET	603 15" CONDUIT TYPE C, 706.02 FEET	603 27" CONDUIT TYPE C 706.02 FEET	604 NO. 4 CATCH BASIN EACH	604 NO. 5 CATCH BASIN EACH	670 DITCH EROSION PROTECT. SQ. YD.
D1	87+37		LT					1						
D2	87+90		℄	1			6		6			1		125
D3	88+87		LT	1	1	36								
D4	92+52		RT	1		137								
D5	93+89		RT	1		11				6			1	248
D6	93+90		℄	1		12	12		6	12	6	1		125
D7	93+89		LT	1		11				6			1	250
D8	89+00	90+00	LT											167
TOTALS CARRIED TO SUB-SUMMARY				6	1	207	18	1	12	6	6	2	2	915

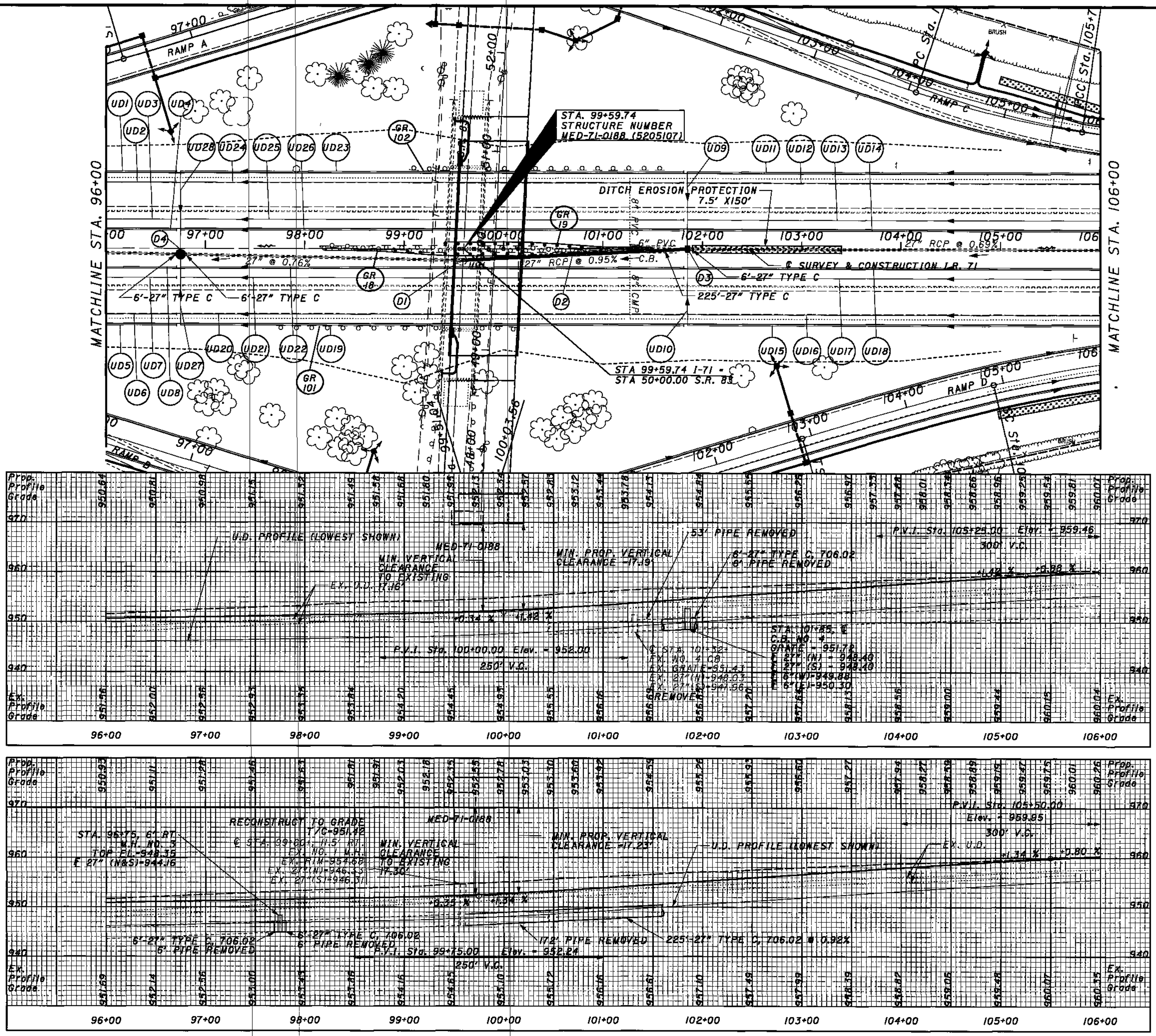
PLAN AND PROFILE
STA. 86+00.00 TO STA. 96+00.00

WAY/MED-71-7.04/0.00

CALCULATED AEP
CHECKED KEH

0 25 50 100
HORIZONTAL SCALE IN FEET

169
785



CROSS REFERENCES	
SHEET NO.	DESCRIPTION
109	UNDERDRAIN QUANTITIES
123	GUARDRAIL QUANTITIES
414	TRAFFIC CONTROL
471	LIGHTING
589-613	STRUCTURE PLANS

REF NO.	STATION		SIDE	202	202	603	604	604	604	670			
	FROM	TO		CATCH BASIN REMOVED	PIPE REMOVED, 24" AND OVER	27" CONDUIT TYPE C, 706.02	NO. 4 CATCH BASIN	MANHOLE RECONST. TO GRADE	NO. 3 MANHOLE	DITCH EROSION PROTECT.			
				EACH	FEET	FEET	EACH	EACH	EACH	SQ. YD.			
D1	99+60		RT					1					
D2	99+60	101+85	RT		225	225							
D3	101+85		℄	1	6	6	1			125			
D4	96+75		RT		12	12			1				
TOTALS CARRIED TO SUB-SUMMARY				1	243	243	1	1	1	125			

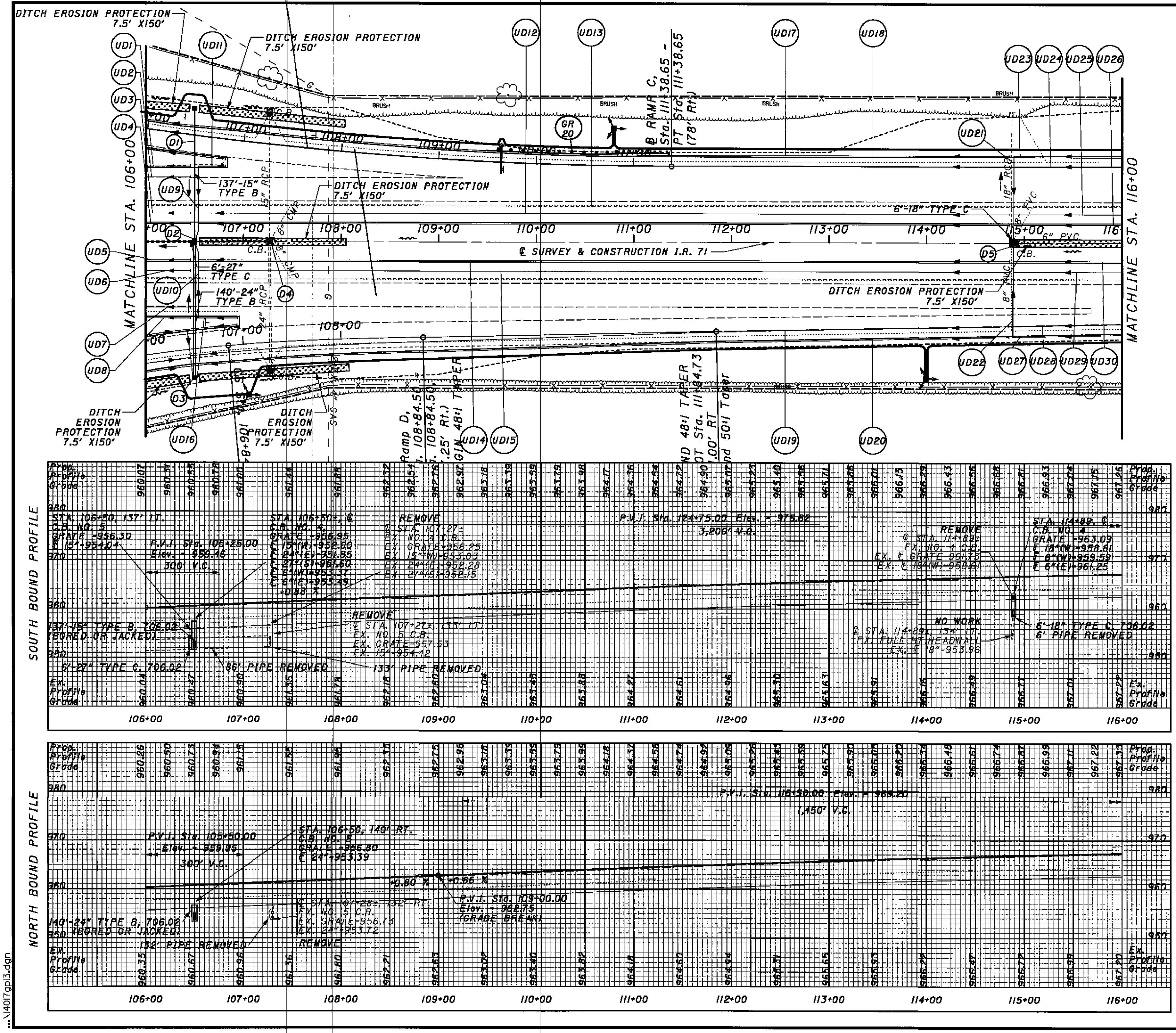
N

0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED AEP
CHECKED KEH

PLAN AND PROFILE
STA. 96+00.00 TO STA. 106+00.00

WAY/MED-71-7.04/0.00


DITCH EROSION PROTECTION 7.5' X150'
UD1
UD2
UD3
UD4
UD5
UD6
UD7
UD8
UD9
UD10
UD11
UD12
UD13
UD14
UD15
UD16
UD17
UD18
UD19
UD20
UD21
UD22
UD23
UD24
UD25
UD26
UD27
UD28
UD29
UD30
D1
D2
D3
D4
D5
GR 20
MATCHLINE STA. 106+00
MATCHLINE STA. 116+00
137'-15" TYPE B
6'-27" TYPE C
140'-24" TYPE B
6'-18" TYPE C
C.B.
℄ SURVEY & CONSTRUCTION I.R. 71
BRUSH
107+00
108+00
109+00
110+00
111+00
112+00
113+00
114+00
115+00
116+00
℄ RAMP C, PT Sta. 111+38.65 = Sta. 111+38.65 (78' Rt.)
Ramp D, 108+84.50 108+84.50 .25' Rt.) GIN 48:1 TAPER
ND 48:1 TAPER OT Sta. 111+84.73 .00' RT nd 50:1 Taper
SOUTH BOUND PROFILE
NORTH BOUND PROFILE
Prop. Profile Grade
Ex. Profile Grade
980
970
960
950
106+00
STA. 106+50, 137' LT. C.B. NO. 5 GRATE =956.30 ℄ 15"=954.04
P.V.I. Sta. 105+25.00 Elev. = 959.46 300' V.C.
STA. 106+50±, ℄ C.B. NO. 4 GRATE =956.95 ℄ 15"(W)=952.60 ℄ 24"(E)=951.85 ℄ 27"(S)=951.60 ℄ 6"(W)=953.37 ℄ 6"(E)=953.49 +0.88 %
REMOVE ℄ STA. 107+27± EX. NO. 3 C.B. EX. GRATE=956.25 EX. 15"(W)=953.63 EX. 24"(E)=952.28 EX. 27"(S)=952.15
P.V.I. Sta. 124+75.00 Elev. = 976.62 3,205' V.C.
REMOVE ℄ STA. 114+89± EX. NO. 4 C.B. EX. ℄ GRATE=961.78 EX. ℄ 18"(W)=958.91
STA. 114+89, ℄ C.B. NO. 4 GRATE =963.09 ℄ 18"(W)=958.61 ℄ 6"(W)=959.59 ℄ 6"(E)=961.25
137'-15" TYPE B, 706.02 (BORED OR JACKED)
REMOVE ℄ STA. 107+27±, 133' LT. EX. NO. 5 C.B. EX. GRATE=957.53 EX. 15"=954.42
NO WORK ℄ STA. 114+89±, 134' LT. EX. FULL HT HEADWALL EX. ℄ 18"=953.96
6'-18" TYPE C, 706.02 6' PIPE REMOVED
6'-27" TYPE C, 706.02
86' PIPE REMOVED
133' PIPE REMOVED
P.V.I. Sta. 116+50.00 Elev. = 989.20 1,450' V.C.
P.V.I. Sta. 105+50.00 Elev. = 959.95 300' V.C.
STA. 106+59, 140' RT. C.B. NO. 5 GRATE =956.80 ℄ 24"=953.39
+0.80 %
+0.86 %
P.V.I. Sta. 109+00.00 Elev. = 962.75 (GRADE BREAK)
℄ STA. 107+28±, 132' RT. EX. NO. 5 C.B. EX. GRATE=956.73 EX. 24"=953.72
140'-24" TYPE B, 706.02 (BORED OR JACKED)
132' PIPE REMOVED
REMOVE
960.07
960.51
960.53
960.78
961.00
961.44
961.88
962.32
962.54
962.76
962.97
963.18
963.39
963.59
963.79
963.98
964.17
964.36
964.54
964.72
964.90
965.07
965.23
965.40
965.56
965.71
965.86
966.01
966.15
966.29
966.43
966.56
966.68
966.81
966.93
967.04
967.15
967.26

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
109	UNDERDRAIN QUANTITIES
123	GUARDRAIL QUANTITIES
415	TRAFFIC CONTROL
472	LIGHTING
352, 353	PAVEMENT DETAILS

REF NO.	STATION FROM	STATION TO	SIDE	202 CATCH BASIN REMOVED	202 PIPE REMOVED, 24 " AND UNDER	202 PIPE REMOVED, OVER 24"	603 18" CONDUIT TYPEC, 706.02	603 27" CONDUIT TYPEC, 706.02	603 CONDUIT, BORED OR JACKED,APP: 15" TYPE B, 706.02	603 CONDUIT, BORED OR JACKED,APP: 24" TYPE B, 706.02	604 NO. 4 CATCH BASIN	604 NO. 5 CATCH BASIN	670 DITCH EROSION PROTECT.
				EACH	FEET	FEET	FEET	FEET	FEET	FEET	EACH	EACH	SQ. YD.
D1	106+50		LT						137			1	250
D2	106+50		℄					6			1		125
D3	106+50		RT							140		1	250
D4	107+27			3	265	86							
D5	114+89		℄	1	6		6				1		125
TOTALS CARRIED TO SUB-SUMMARY				4	271	86	6	6	137	140	2	2	750

0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED AEP
CHECKED KEH

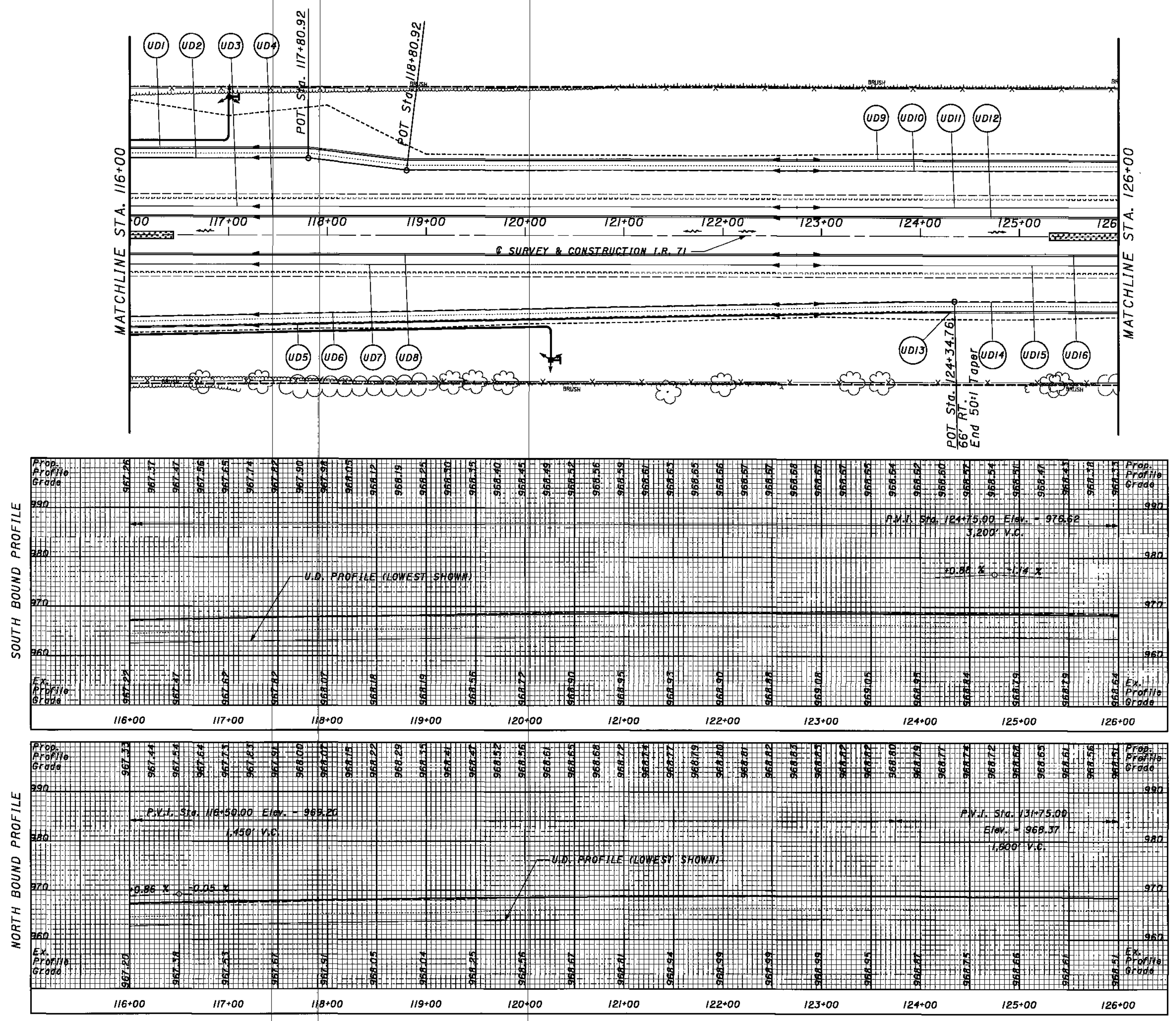
PLAN AND PROFILE
STA.106+00.00 TO STA. 116+00.00

WAY/MED-71-7.04/0.00

171
785

...\14017gp13.dgn

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
109	UNDERDRAIN QUANTITIES
123	GUARDRAIL QUANTITIES
415	TRAFFIC CONTROL
472	LIGHTING
352, 353	PAVEMENT DETAILS



REF NO.	STATION FROM	STATION TO	SIDE

TOTALS CARRIED TO SUB-SUMMARY

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED AEP
CHECKED KEH

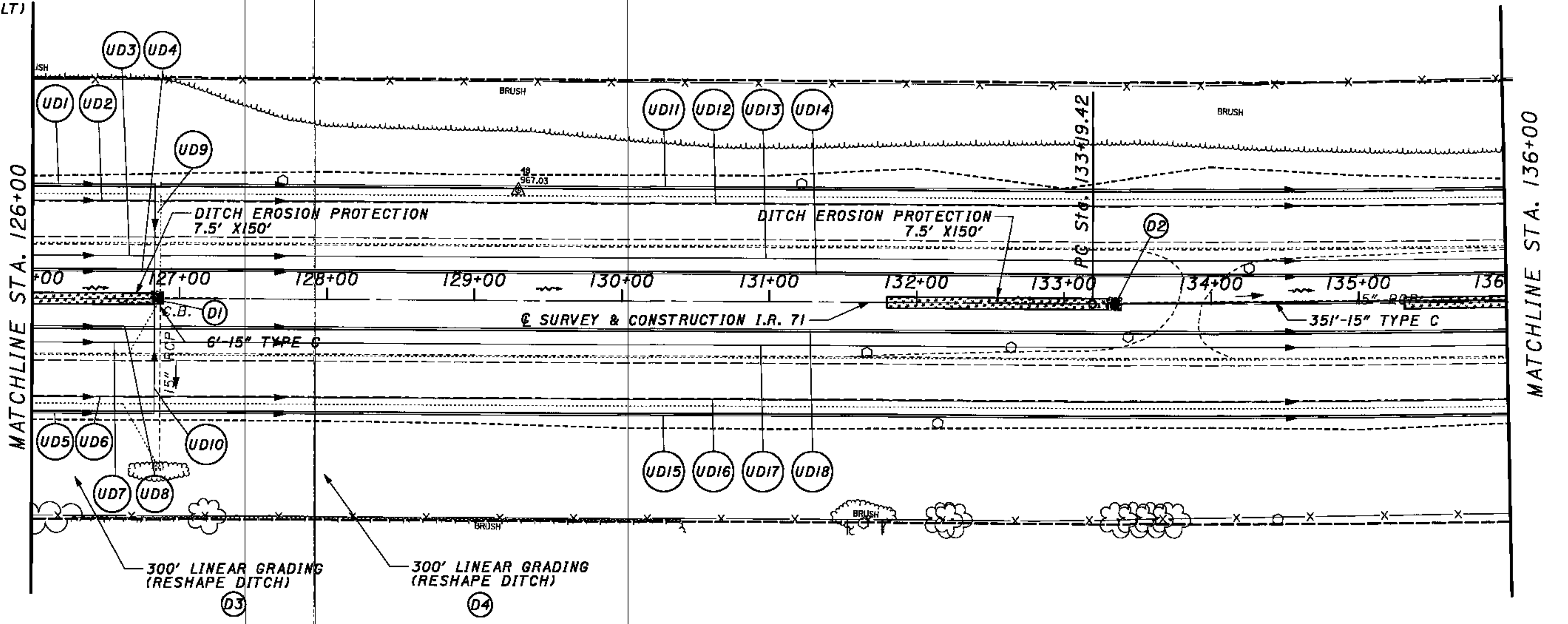
PLAN AND PROFILE
STA. 116+00.00 TO STA. 126+00.00

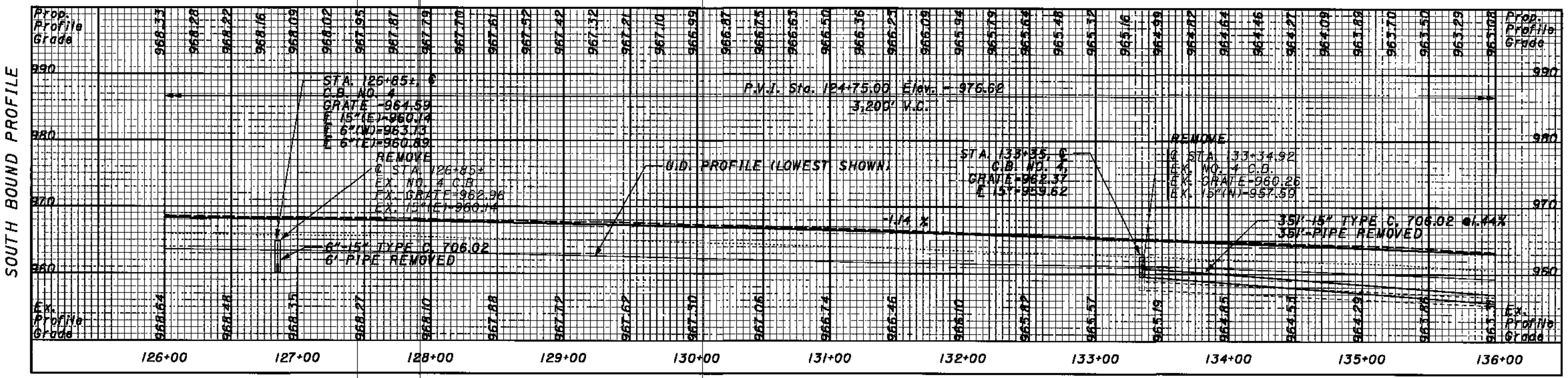
WAY/MED-71-7.04/0.00

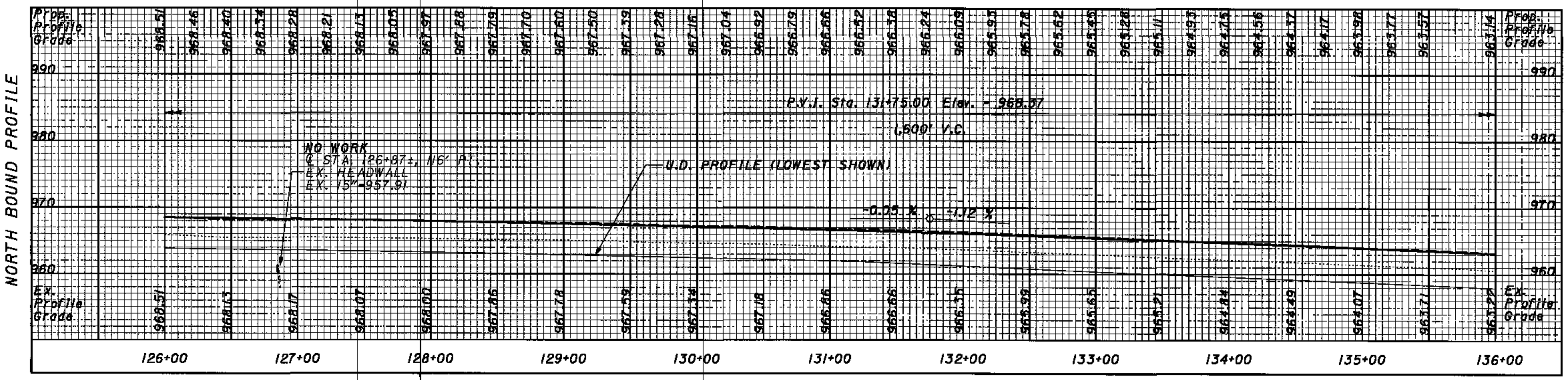
172
785

...\1401 7gp14.dgn

℄ I.R.71 CURVE DATA
P.I. Sta = 160+33.35
Δ = 24° 55′ 45″ (LT)
Dc = 0° 28′ 00″
R = 12,277.67′
T = 2,713.93′
L = 5,341.96′
E = 296.38′
S.E. = 0.019
EX. S.E. = N.C.







CROSS REFERENCES	
SHEET NO.	**DESCRIPTION**
110	UNDERDRAIN QUANTITIES
123	GUARDRAIL QUANTITIES
136, 145	SUPERELEVATION TABLES
415, 416	TRAFFIC CONTROL

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED AEP
CHECKED KEH

REF NO.	STATION FROM	STATION TO	SIDE	202 CATCH BASIN REMOVED	202 PIPE REMOVED, 24″ AND UNDER	209 RESHAPE DITCH	603 15″ CONDUIT TYPE C, 706.02	604 NO. 4 CATCH BASIN	670 DITCH EROSION PROTECT.
				EACH	FEET	FEET	FEET	EACH	SQ. YD.
D1	126+85		℄	1	6		6	1	125
D2	133+35	136+86	℄	1	351		351	1	125
D3	123+87	126+87	RT			300			
D4	126+87	129+87	RT			300			
TOTALS CARRIED TO SUB-SUMMARY				2	357	600	357	2	250

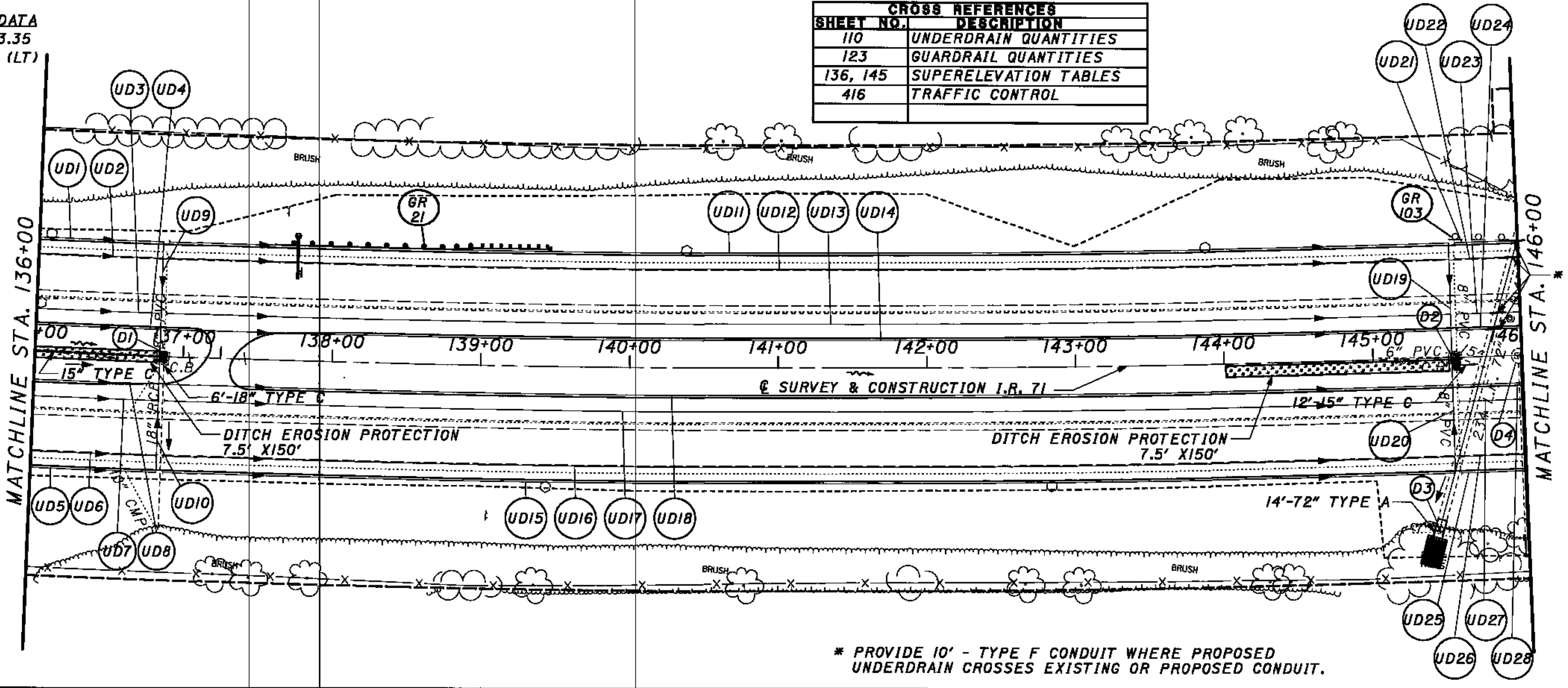
PLAN AND PROFILE
STA. 126+00.00 TO STA. 136+00.00

WAY/MED-71-7.04/0.00

...\14017gp15.dgn

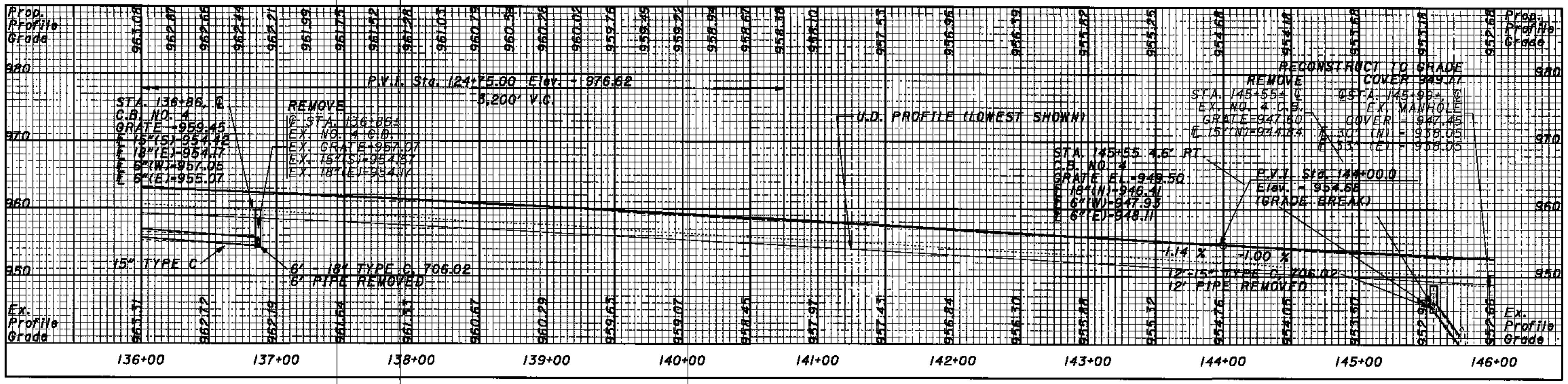
℄ I.R.71 CURVE DATA
P.I. Sta = 160+33.35
Δ = 24° 55′ 45″ (LT)
Dc = 0° 28′ 00″
R = 12,277.67′
T = 2,713.93′
L = 5,341.96′
E = 296.38′
S.E. = 0.019
EX. S.E. = N.C.

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
110	UNDERDRAIN QUANTITIES
123	GUARDRAIL QUANTITIES
136, 145	SUPERELEVATION TABLES
416	TRAFFIC CONTROL

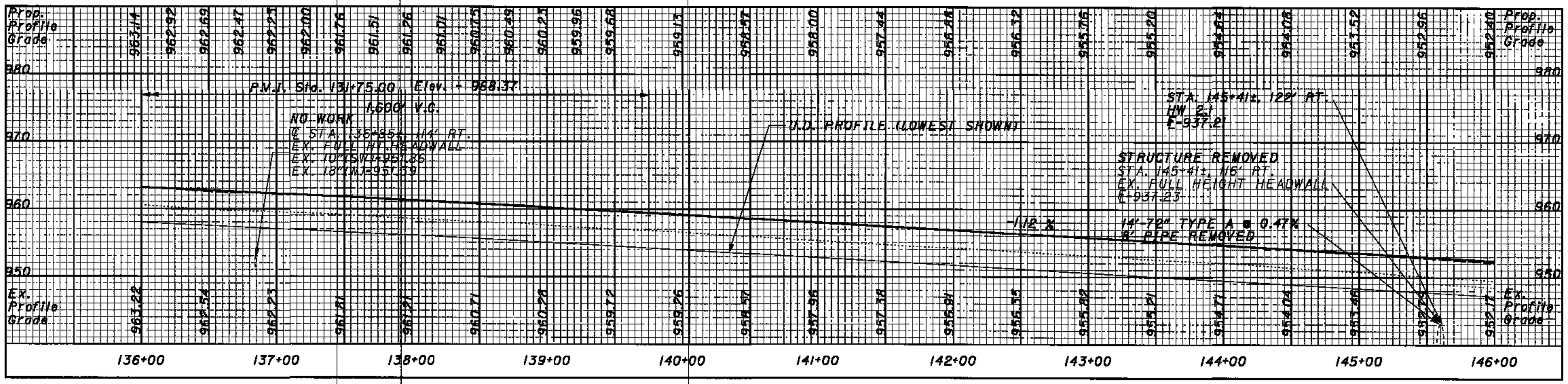


* PROVIDE 10′ - TYPE F CONDUIT WHERE PROPOSED UNDERDRAIN CROSSES EXISTING OR PROPOSED CONDUIT.

SOUTH BOUND PROFILE



NORTH BOUND PROFILE



REF NO.	STATION FROM	STATION TO	SIDE	202 CATCH BASIN REMOVED	202 STRUCTURE REMOVED	202 PIPE REMOVED, 24″ AND UNDER	202 PIPE REMOVED, OVER 24″	601 ROCK CHANNEL PROTECT., TYPE C W/ F. FABRIC	602 CONCRETE MASONRY	603 72″ CONDUIT TYPE A, 706.02	603 15″ CONDUIT TYPE C, 706.02	603 18″ CONDUIT TYPE C, 706.02	604 NO. 4 CATCH BASIN	604 MANHOLE RECONST. TO GRADE	670 DITCH EROSION PROTECT.
				EACH	EACH	FEET	FEET	CU. YD.	CU. YD.	FEET	FEET	FEET	EACH	EACH	SQ. YD.
D1	136+86		℄	1		6						6	1		125
D2	145+55		RT	1		12					12		1		125
D3	145+41		RT		1		8	21.7	2.77	14					
D4	145+99		℄											1	
TOTALS CARRIED TO SUB-SUMMARY				2	1	18	8	21.7	2.77	14	12	6	2	1	250

N

0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED AEP
CHECKED KEH

PLAN AND PROFILE
STA. 136+00.00 TO STA. 146+00.00

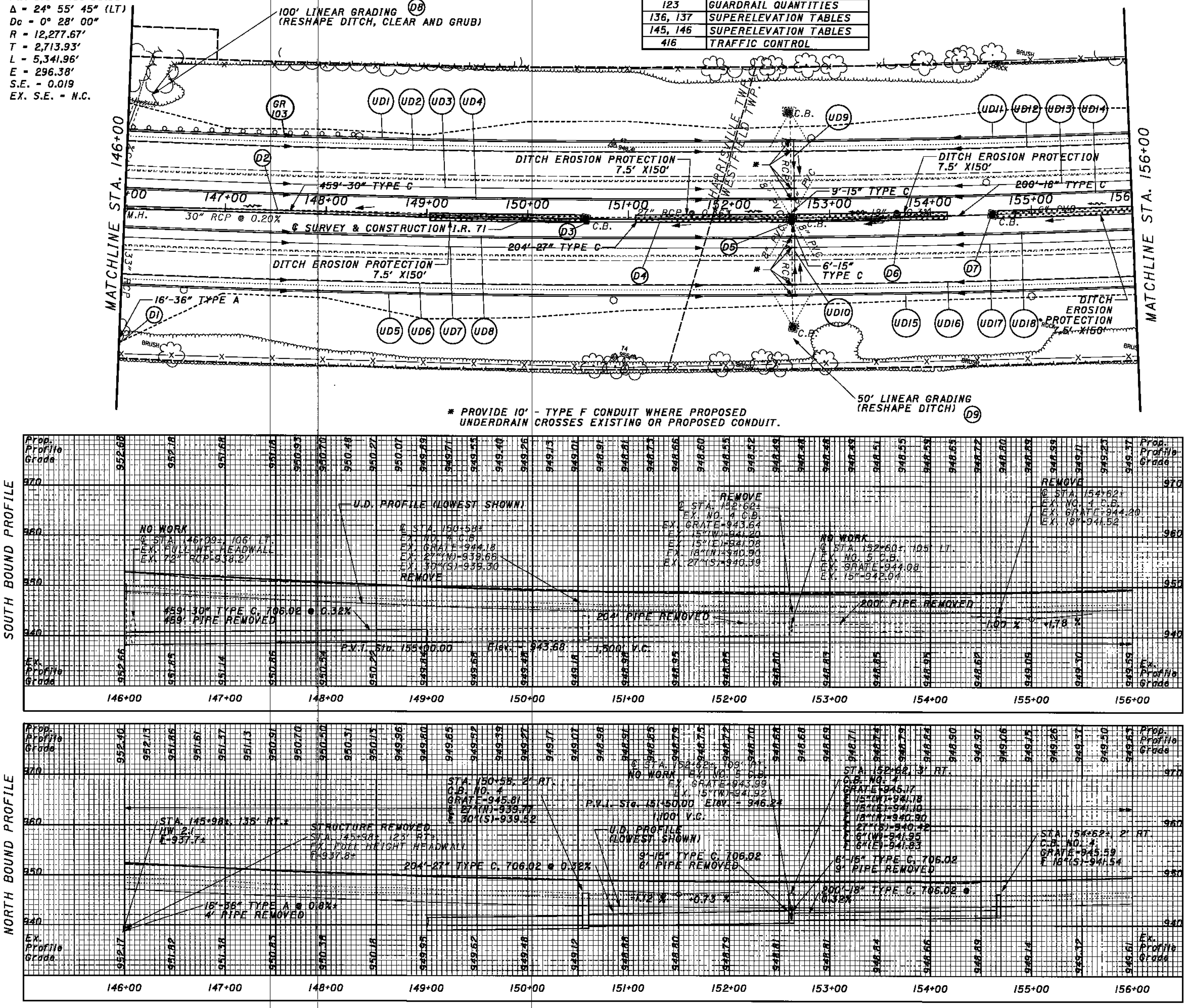
WAY/MED-71-7.04/0.00

174/785

...\14017gp16.dgn

℄ I.R.71 CURVE DATA
P.I. Sta = 160+33.35
Δ = 24° 55′ 45″ (LT)
Dc = 0° 28′ 00″
R = 12,277.67′
T = 2,713.93′
L = 5,341.96′
E = 296.38′
S.E. = 0.019
EX. S.E. = N.C.

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
110	UNDERDRAIN QUANTITIES
123	GUARDRAIL QUANTITIES
136, 137	SUPERELEVATION TABLES
145, 146	SUPERELEVATION TABLES
416	TRAFFIC CONTROL



100′ LINEAR GRADING (RESHAPE DITCH, CLEAR AND GRUB) D8
GR 103
UD1 UD2 UD3 UD4 UD5 UD6 UD7 UD8 UD9 UD10 UD11 UD12 UD13 UD14 UD15 UD16 UD17 UD18
D1 D2 D3 D4 D5 D6 D7
MATCHLINE STA. 146+00
MATCHLINE STA. 156+00
DITCH EROSION PROTECTION 7.5′ X150′
459′-30″ TYPE C
30″ RCP @ 0.20%
M.H.
℄ SURVEY & CONSTRUCTION I.R. 71
204′-27″ TYPE C
27″ RCP @ 0.36%
HARRISVILLE TWP. / WESTFIELD TWP.
C.B.
9′-15″ TYPE C
6′-15″ TYPE C
200′-18″ TYPE C
16′-36″ TYPE A
BRUSH
147+00 148+00 149+00 150+00 151+00 152+00 153+00 154+00 155+00
50′ LINEAR GRADING (RESHAPE DITCH) D9
* PROVIDE 10′ - TYPE F CONDUIT WHERE PROPOSED UNDERDRAIN CROSSES EXISTING OR PROPOSED CONDUIT.
SOUTH BOUND PROFILE
Prop. Profile Grade
Ex. Profile Grade
970 960 950 940
U.D. PROFILE (LOWEST SHOWN)
NO WORK ℄ STA. 146+09± 106′ LT. EX. FULL HT. HEADWALL EX. 72″ RCP-938.21′
℄ STA. 150+58± EX. NO. 4 C.B. EX. GRATE-944.18 EX. 27″(N)-939.66 EX. 30″(S)-939.30 REMOVE
REMOVE ℄ STA. 152+62± EX. NO. 4 C.B. EX. GRATE-943.64 EX. 15″(W)-941.20 EX. 15″(E)-941.08 EX. 18″(N)-940.90 EX. 27″(S)-940.39
NO WORK ℄ STA. 152+60± 105′ LT. EX. NO. 5 C.B. EX. GRATE-944.08 EX. 15″-942.04
REMOVE ℄ STA. 154+62± EX. NO. 4 C.B. EX. GRATE-944.20 EX. 18″-941.52
459′-30″ TYPE C, 706.02 @ 0.32% 459′ PIPE REMOVED
204′ PIPE REMOVED
200′ PIPE REMOVED
-1.07% +1.78%
P.V.I. Sta. 155+00.00 Elev. = 943.68 1,500′ V.C.
146+00 147+00 148+00 149+00 150+00 151+00 152+00 153+00 154+00 155+00 156+00
NORTH BOUND PROFILE
STA. 145+98± 135′ RT.± HW 2:1 E-937.7±
STRUCTURE REMOVED STA. 145+98± 125′ RT.± EX. FULL HEIGHT HEADWALL E-937.8±
STA. 150+58± 2′ RT. C.B. NO. 4 GRATE-945.81 E 27″(N)-939.77 E 30″(S)-939.52
NO WORK EX. GRATE-943.99 EX. 15″(W)-941.92
P.V.I. Sta. 151+50.00 Elev. = 946.24 1100′ V.C.
U.D. PROFILE (LOWEST SHOWN)
STA. 152+62± 3′ RT. C.B. NO. 4 GRATE-945.17 E 15″(W)-941.18 E 15″(E)-941.10 E 18″(N)-940.90 E 27″(S)-940.42 E 24″(W)-941.35 E 6″(E)-941.83
STA. 154+62± 2′ RT. C.B. NO. 4 GRATE-945.59 E 18″(S)-941.54
204′-27″ TYPE C, 706.02 @ 0.32%
9′-15″ TYPE C, 706.02 6′ PIPE REMOVED
6′-15″ TYPE C, 706.02 9′ PIPE REMOVED
200′-18″ TYPE C, 706.02 @ 0.32%
16′-36″ TYPE A @ 0.8%± 4′ PIPE REMOVED
-1.12% +0.73%
146+00 147+00 148+00 149+00 150+00 151+00 152+00 153+00 154+00 155+00 156+00

REF NO.	STATION FROM	STATION TO	SIDE	202 CATCH BASIN REMOVED	202 STRUCTURE REMOVED	202 PIPE REMOVED, 24″ AND UNDER	202 PIPE REMOVED, OVER 24″	209 RESHAPE DITCH	601 ROCK CHANNEL PROTECT., TYPE C W/ F. FABRIC	602 CONCRETE MASONRY	603 36″ CONDUIT TYPE A 706.02	603 CONDUIT TYPE C, 706.02 30″	603 CONDUIT TYPE C, 706.02 27″	603 18″ CONDUIT TYPE C, 706.02	603 15″ CONDUIT TYPE C, 706.02	604 NO. 4 CATCH BASIN	670 DITCH EROSION PROTECT.
				EACH	EACH	FEET	FEET	FEET	CU. YD.	CU. YD.	FEET	FEET	FEET	FEET	FEET	EACH	SQ. YD.
D1	145+98		RT		1		4		3	0.69	16						
D2	145+99	150+58	RT				459					459					
D3	150+58		RT	1												1	125
D4	150+58	152+62	RT				204						204				
D5	152+62		RT	1		15									15	1	250
D6	152+62	154+62	RT			200								200			
D7	154+62		RT	1												1	125
D8			LT					100									
D9			RT					50									
TOTALS CARRIED TO SUB-SUMMARY				3	1	215	667	150	3	0.69	16	459	204	200	15	3	500

0 25 50 100
HORIZONTAL SCALE IN FEET

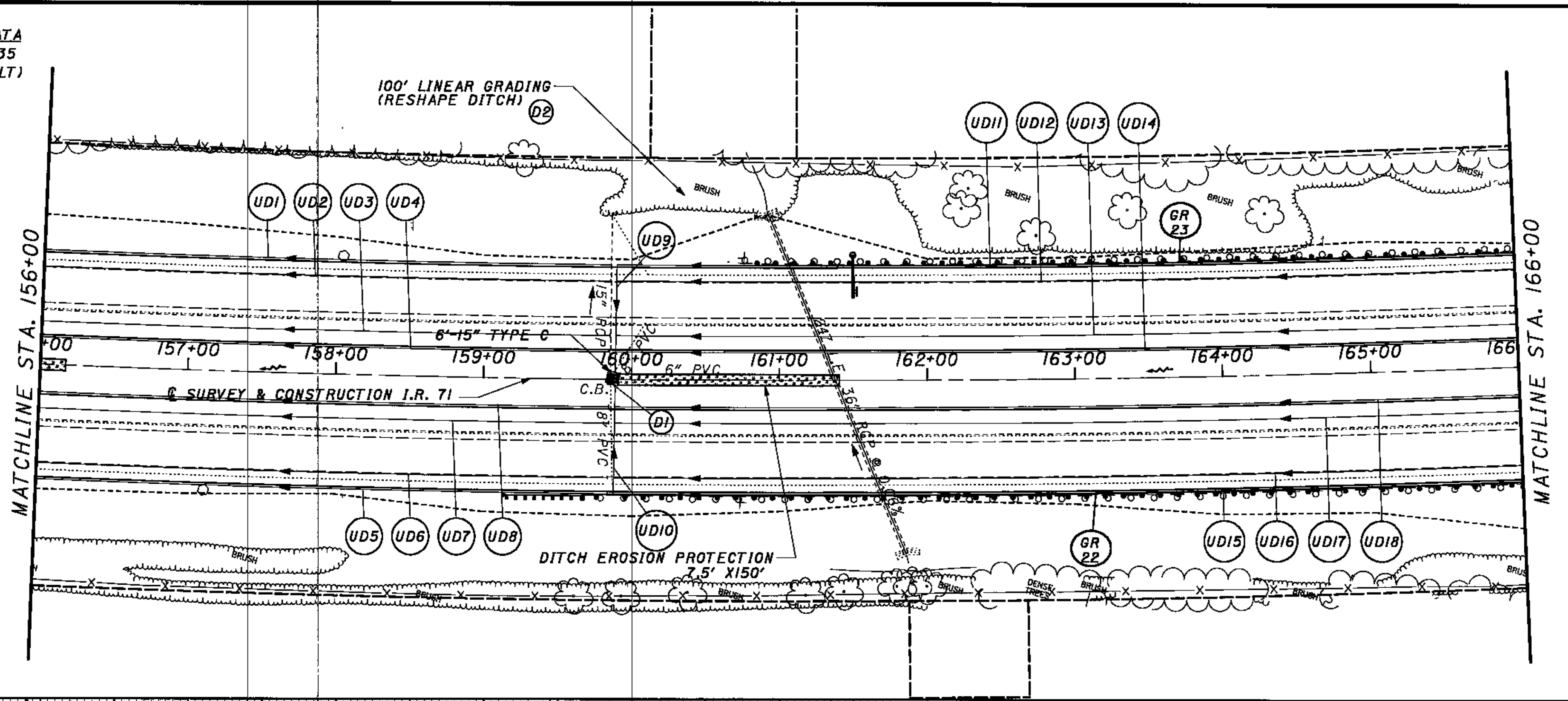
CALCULATED AEP
CHECKED KEH

PLAN AND PROFILE
STA. 146+00.00 TO STA. 156+00.00

WAY/MED-71-7.04/0.00

...\14017gp17.dgn

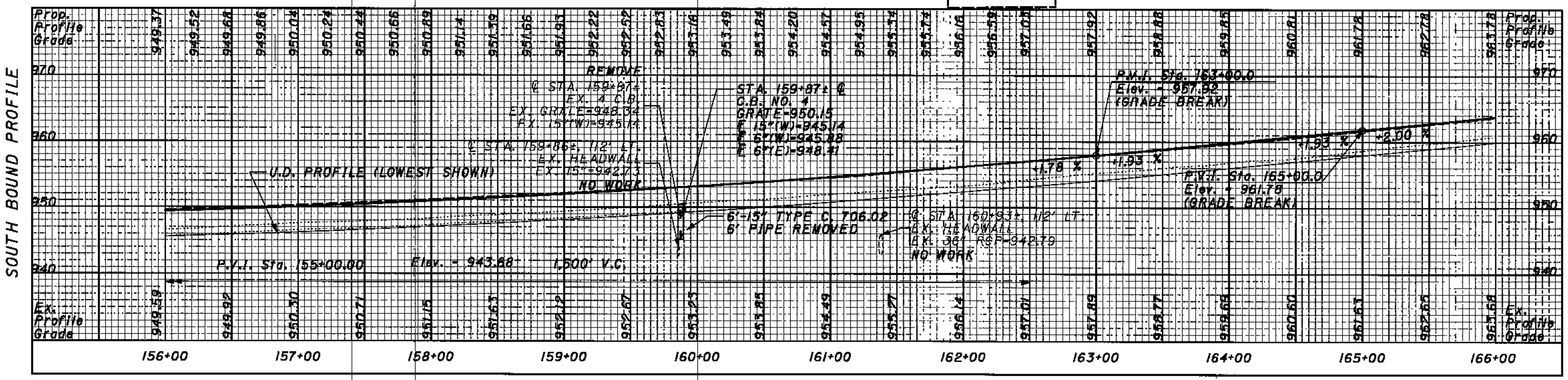
℄ I.R.71 CURVE DATA
P.I. Sta - 160+33.35
Δ - 24° 55′ 45″ (LT)
Dc - 0° 28′ 00″
R - 12,277.67′
T - 2,713.93′
L - 5,341.96′
E - 296.38′
S.E. - 0.019
EX. S.E. - N.C.



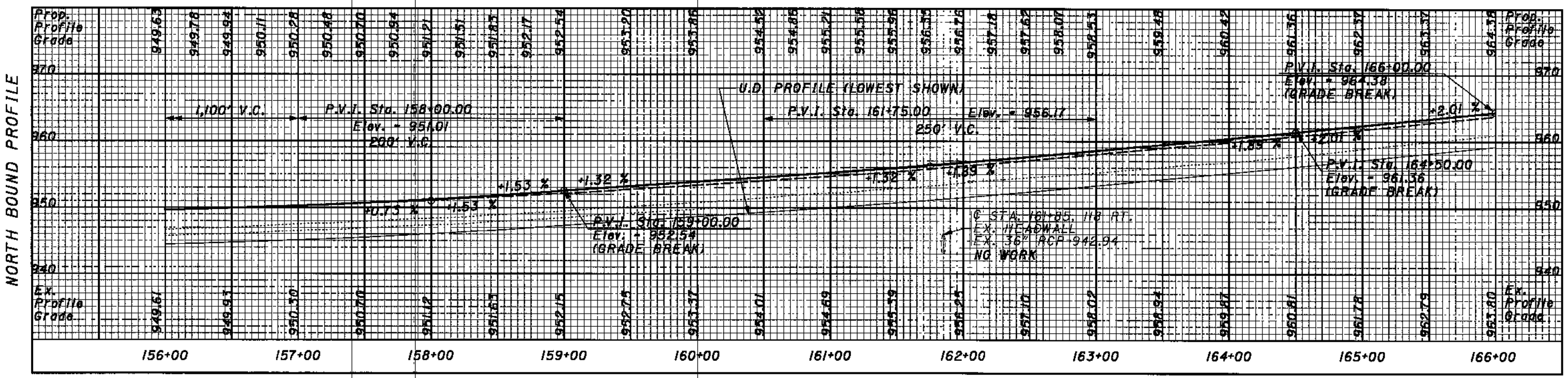
100′ LINEAR GRADING (RESHAPE DITCH) D2
UD1 UD2 UD3 UD4 UD5 UD6 UD7 UD8 UD9 UD10 UD11 UD12 UD13 UD14 UD15 UD16 UD17 UD18
GR 23
GR 22
BRUSH
DENSE TREES
MATCHLINE STA. 156+00
MATCHLINE STA. 166+00
157+00 158+00 159+00 160+00 161+00 162+00 163+00 164+00 165+00
6′-15″ TYPE C
15″ RCP
6″ PVC
18″ PVC
C.B.
D1
℄ SURVEY & CONSTRUCTION I.R. 71
EX. 36″ RCP
DITCH EROSION PROTECTION 7.5′ X150′

CROSS REFERENCES	
SHEET NO.	**DESCRIPTION**
110	UNDERDRAIN QUANTITIES
123	GUARDRAIL QUANTITIES
137, 138	SUPERELEVATION TABLES
146, 147	SUPERELEVATION TABLES
416, 417	TRAFFIC CONTROL

SOUTH BOUND PROFILE



NORTH BOUND PROFILE



REF NO.	STATION FROM	STATION TO	SIDE	202 CATCH BASIN REMOVED	202 PIPE REMOVED, 24″ AND UNDER	209 RESHAPE DITCH	603 15″ CONDUIT TYPE C, 706.02	604 NO. 4 CATCH BASIN	670 DITCH EROSION PROTECT.	
				EACH	FEET	FEET	FEET	EACH	SQ. YD.	
D1	159+87		℄	1	6		6	1	125	
D2	159+83	160+93	LT			100				
TOTALS CARRIED TO SUB-SUMMARY				1	6	100	6	1	125	

PLAN AND PROFILE
STA. 156+00.00 TO 166+00.00

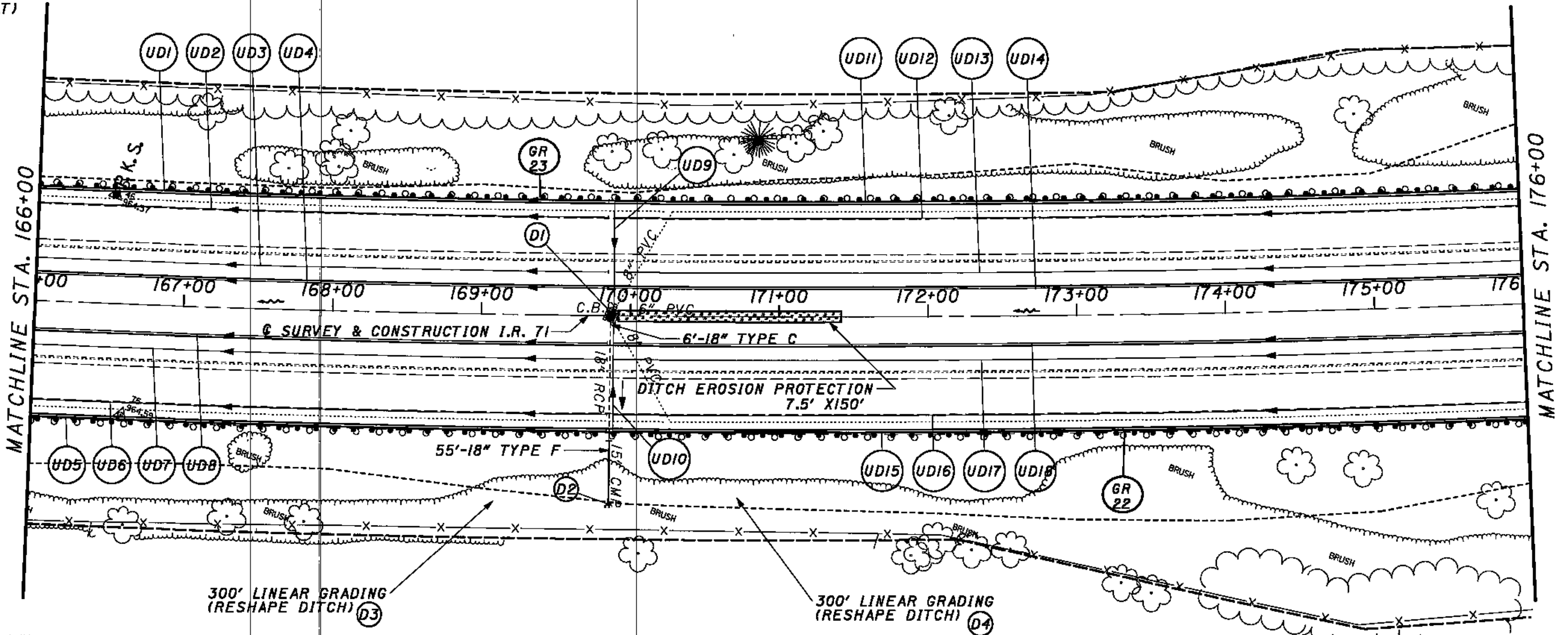
WAY/MED-71-7.04/0.00

CALCULATED AEP
CHECKED KEH

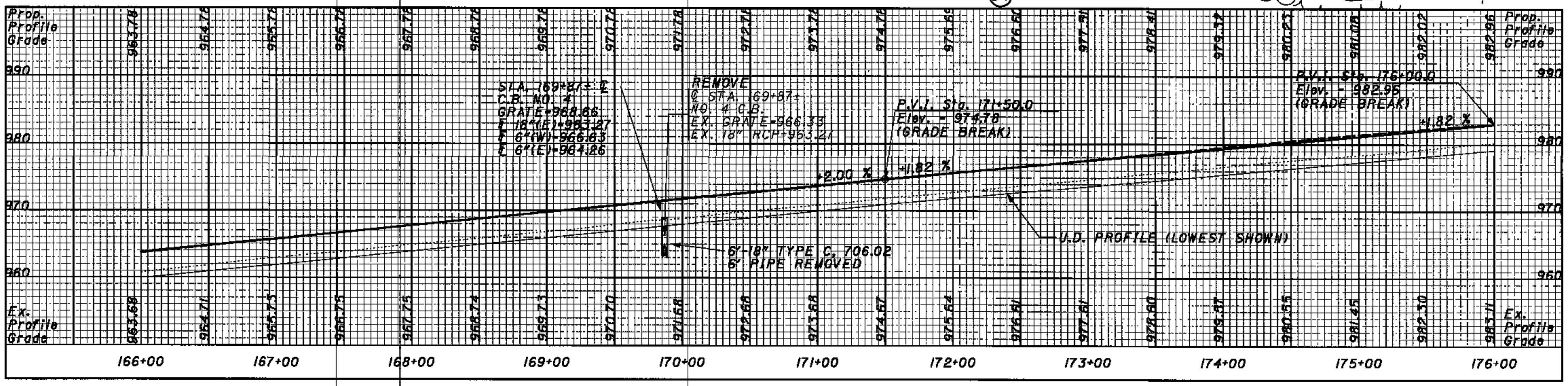
0 25 50 100
HORIZONTAL SCALE IN FEET

...\4017gp18.dgn

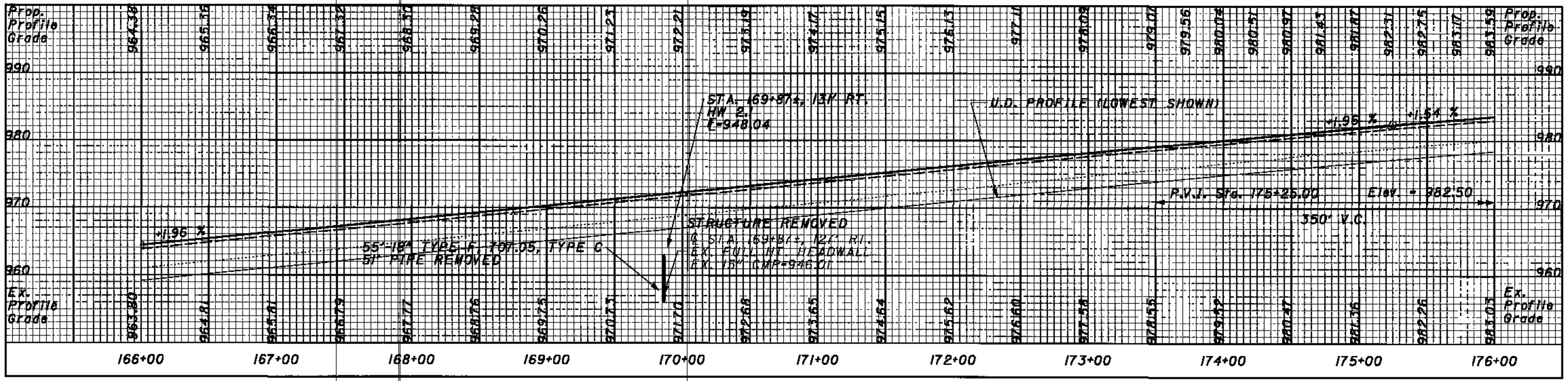
℄ I.R.71 CURVE DATA
P.I. Sta = 160+33.35
Δ = 24° 55′ 45″ (LT)
Dc = 0° 28′ 00″
R = 12,277.67′
T = 2,713.93′
L = 5,341.96′
E = 296.38′
S.E. = 0.019
EX. S.E. = N.C.



SOUTH BOUND PROFILE



NORTH BOUND PROFILE



CROSS REFERENCES

SHEET NO.	DESCRIPTION
111	UNDERDRAIN QUANTITIES
123	GUARDRAIL QUANTITIES
138, 147	SUPERELEVATION TABLES
417	TRAFFIC CONTROL

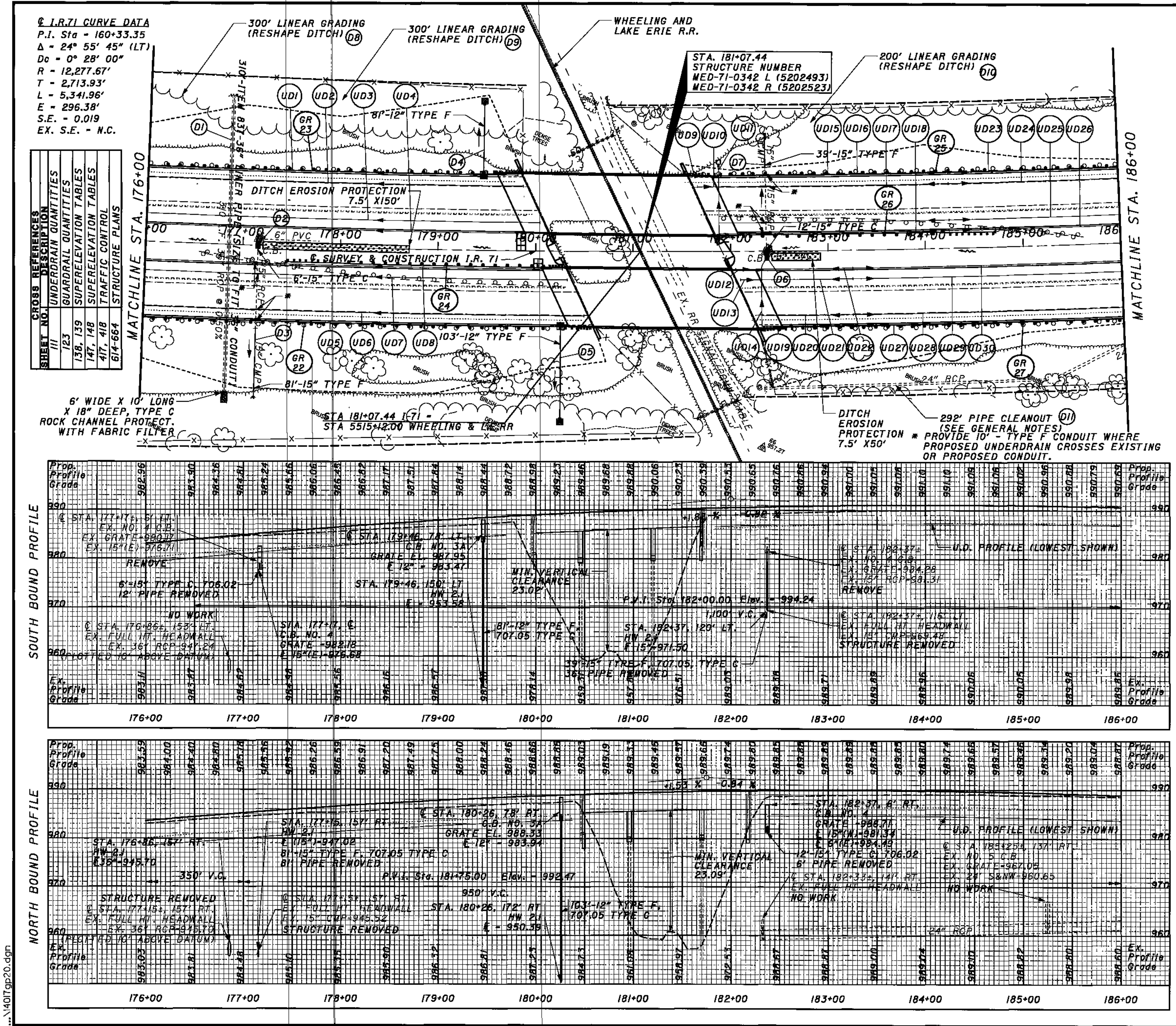
REF NO.	STATION FROM	STATION TO	SIDE	202 CATCH BASIN REMOVED EACH	202 STRUCTURE REMOVED EACH	202 PIPE REMOVED, 24″ AND UNDER FEET	209 RESHAPE DITCH FEET	601 ROCK CHANNEL PROTECT., TYPE C W/ F. FABRIC CU. YD.	602 CONCRETE MASONRY CU. YD.	603 18″ CONDUIT TYPE F, 707.05 TYPE C FEET	603 18″ CONDUIT TYPE C, 706.02 FEET	604 NO. 4 CATCH BASIN EACH	670 DITCH EROSION PROTECT. SQ. YD.
D1	169+87		℄	1		6					6	1	125
D2	169+87		RT		1	51		2	0.33	55			
D3	166+87	169+87	RT				300						
D4	169+87	172+87	RT				300						
TOTALS CARRIED TO SUB-SUMMARY				1	1	57	600	2	0.33	55	6	1	125

0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED AEP
CHECKED KEH

PLAN AND PROFILE
STA. 166+00.00 TO STA. 176+00.00

WAY/MED-71-7.04/0.00



℄ I.R.71 CURVE DATA
P.I. Sta = 160+33.35
Δ = 24° 55′ 45″ (LT)
Dc = 0° 28′ 00″
R = 12,277.67′
T = 2,713.93′
L = 5,341.96′
E = 296.38′
S.E. = 0.019
EX. S.E. = N.C.
CROSS REFERENCES
SHEET NO. | DESCRIPTION
111 | UNDERDRAIN QUANTITIES
123 | GUARDRAIL QUANTITIES
138, 139 | SUPERELEVATION TABLES
147, 148 | SUPERELEVATION TABLES
417, 418 | TRAFFIC CONTROL
614-664 | STRUCTURE PLANS
300′ LINEAR GRADING (RESHAPE DITCH) D8
300′ LINEAR GRADING (RESHAPE DITCH) D9
WHEELING AND LAKE ERIE R.R.
STA. 181+07.44 STRUCTURE NUMBER MED-71-0342 L (5202493) MED-71-0342 R (5202523)
200′ LINEAR GRADING (RESHAPE DITCH) D10
81′-12″ TYPE F
39′-15″ TYPE F
DITCH EROSION PROTECTION 7.5′ X150′
12′-15″ TYPE C
6″ PVC
℄ SURVEY & CONSTRUCTION I.R. 71
6′-15″ TYPE C
103′-12″ TYPE F
81′-15″ TYPE F
MATCHLINE STA. 176+00
MATCHLINE STA. 186+00
6′ WIDE X 10′ LONG X 18″ DEEP, TYPE C ROCK CHANNEL PROTECT. WITH FABRIC FILTER
STA 181+07.44 I-71 = STA 5515+12.00 WHEELING & LERR
DITCH EROSION PROTECTION 7.5′ X50′
292′ PIPE CLEANOUT D11 (SEE GENERAL NOTES)
* PROVIDE 10′ - TYPE F CONDUIT WHERE PROPOSED UNDERDRAIN CROSSES EXISTING OR PROPOSED CONDUIT.
24″ RCP
SOUTH BOUND PROFILE
NORTH BOUND PROFILE
Prop. Profile Grade
Ex. Profile Grade
U.D. PROFILE (LOWEST SHOWN)
MIN. VERTICAL CLEARANCE 23.02′
P.V.I. Sta. 182+00.00 Elev. = 994.24
1,100′ V.C.
MIN. VERTICAL CLEARANCE 23.09′
P.V.I. Sta. 181+75.00 Elev. = 992.47
350′ V.C.
950′ V.C.
(PLOTTED 10′ ABOVE DATUM)
176+00
177+00
178+00
179+00
180+00
181+00
182+00
183+00
184+00
185+00
186+00
0 25 50 100 HORIZONTAL SCALE IN FEET

REF NO.	STATION FROM	STATION TO	SIDE	202 CATCH BASIN REMOVED	202 STRUCTURE REMOVED	202 PIPE REMOVED, 24″ AND UNDER	209 RESHAPE DITCH	601 ROCK CHANNEL PROTECT., TYPE C W/ F. FABRIC	602 CONCRETE MASONRY	603 CONDUIT TYPE F, 707.05 TYPE C 12″	603 CONDUIT TYPE F, 707.05 TYPE C 15″	603 15″ CONDUIT TYPE C, 706.02	604 CATCH BASIN NO.4	604 CATCH BASIN NO.3A	670 DITCH EROSION PROTECT.	837 36″ LINER PIPE	837 BACKFILL FOR LINER PIPE	SPECIAL PIPE CLEANOUT (24″ AND UNDER)
				EACH	EACH	FEET	FEET	CU. YD.	CU. YD.	FEET	FEET	FEET	EACH	EACH	SQ. YD.	FEET	CU. YD.	FEET
D1	176+86				1			3.3	0.69							311	23	
D2	177+17		℄	1		12						6	1		125			
D3	176+86		RT		1	81		2	0.27		81							
D4	176+46		LT					2	0.21	81				1				
D5	180+26		RT					2	0.21	103				1				
D6	182+37		RT	1		6						12	1		42			
D7	182+37		LT		1	36		2	0.27		39							
D8	173+86	176+86	LT				300											
D9	176+86	179+86	LT				300											
D10	182+37	184+37	LT				200											
D11	182+33	185+25	RT															292
TOTALS CARRIED TO SUB-SUMMARY				2	3	135	800	11.3	1.65	184	120	18	2	2	167	311	23	292

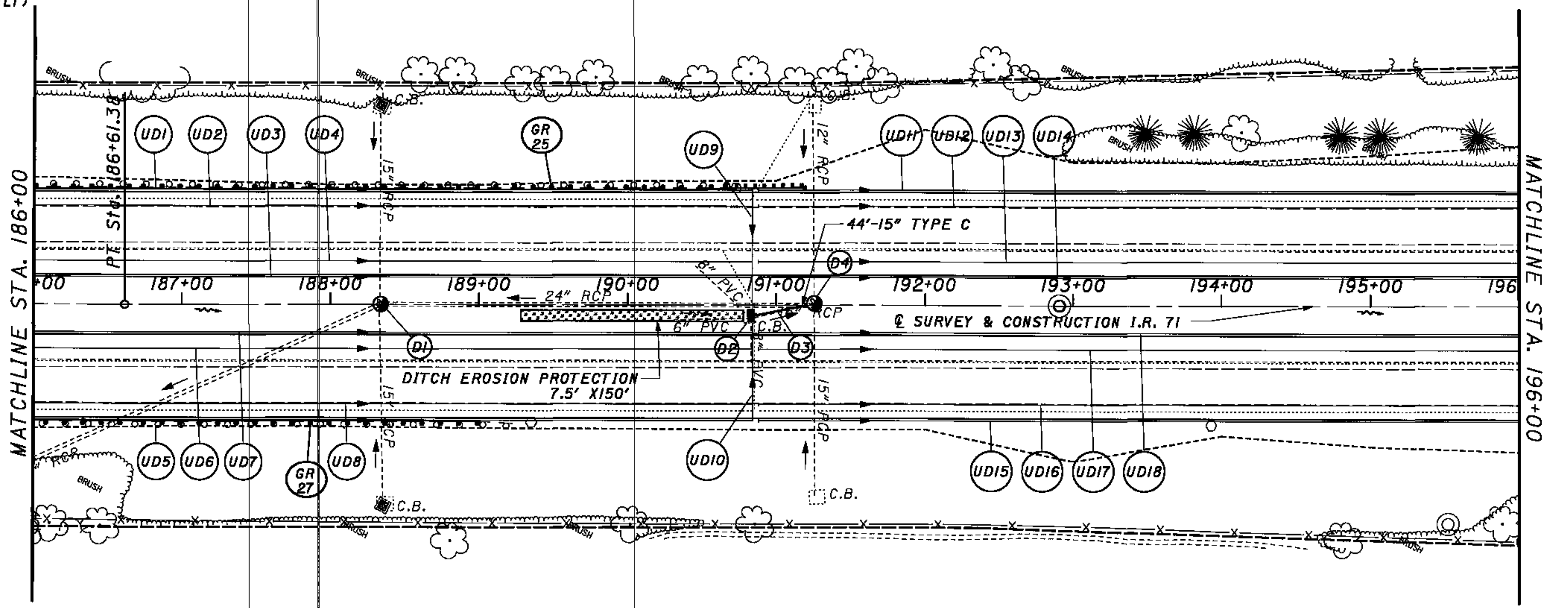
CALCULATED AEP
CHECKED KEH

PLAN AND PROFILE
STA. 176+00.00 TO STA. 186+00.00

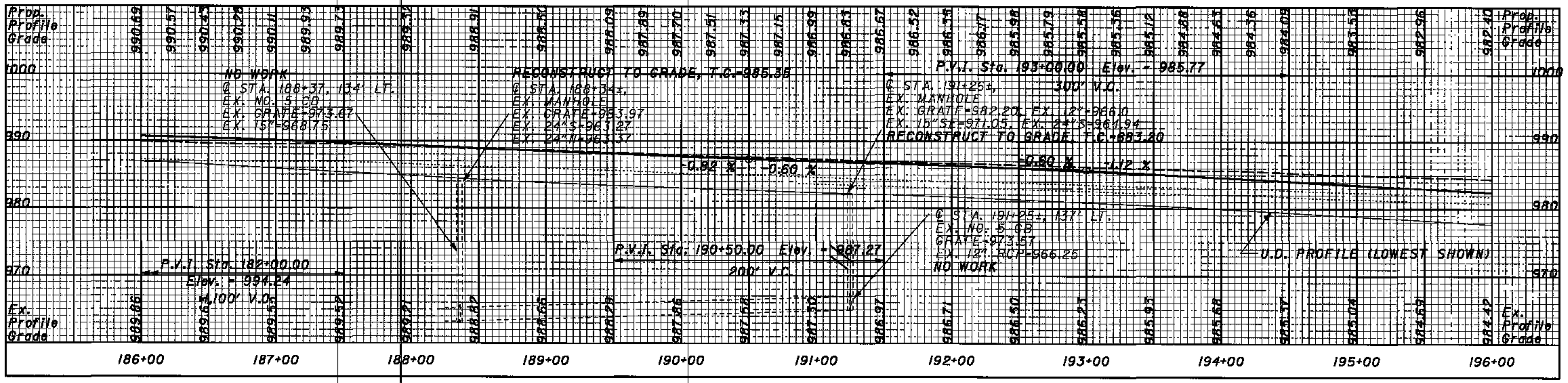
WAY/MED-71-7.04/0.00

...\14017gp20.dgn

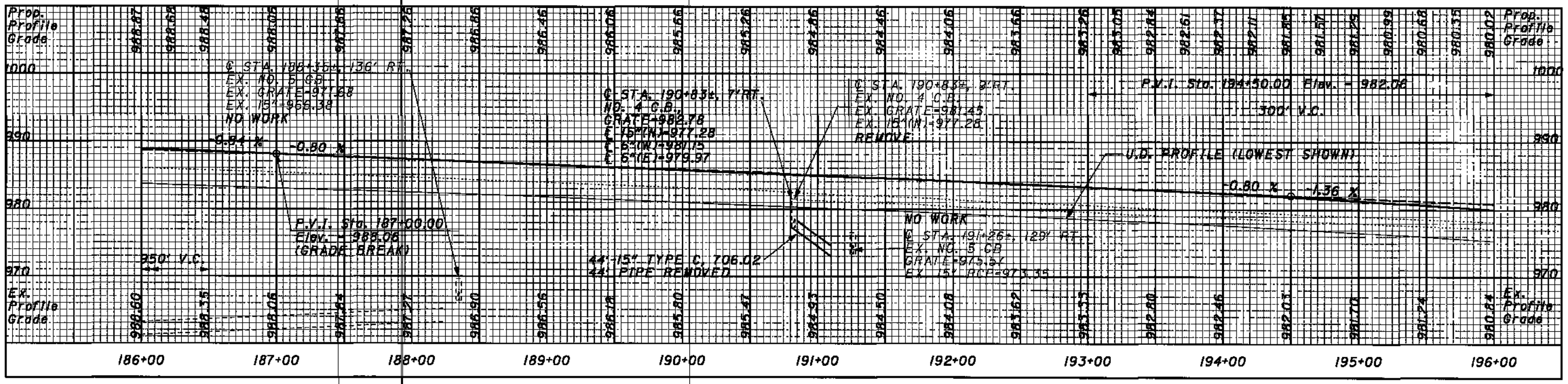
℄ I.R.71 CURVE DATA
P.I. Sta = 160+33.35
Δ = 24° 55′ 45″ (LT)
Dc = 0° 28′ 00″
R = 12,277.67′
T = 2,713.93′
L = 5,341.96′
E = 296.38′
S.E. = 0.019
EX. S.E. = N.C.



SOUTH BOUND PROFILE



NORTH BOUND PROFILE



CROSS REFERENCES	
SHEET NO.	DESCRIPTION
111	UNDERDRAIN QUANTITIES
123	GUARDRAIL QUANTITIES
139, 148	SUPERELEVATION TABLES
418	TRAFFIC CONTROL

REF NO.	STATION		SIDE	202	202	603	604	604	670
	FROM	TO		CATCH BASIN REMOVED	PIPE REMOVED, 24″ AND UNDER	15″ CONDUIT TYPE C, 706.02	NO. 4 CATCH BASIN	MANHOLE RECONST. TO GRADE	DITCH EROSION PROTECT.
				EACH	FEET	FEET	EACH	EACH	SQ. YD.
D1	188+34		℄					1	
D2	190+83		RT	1			1		125
D3	190+83	191+26	RT		44	44			
D4	191+26		℄					1	
TOTALS CARRIED TO SUB-SUMMARY				1	44	44	1	2	125

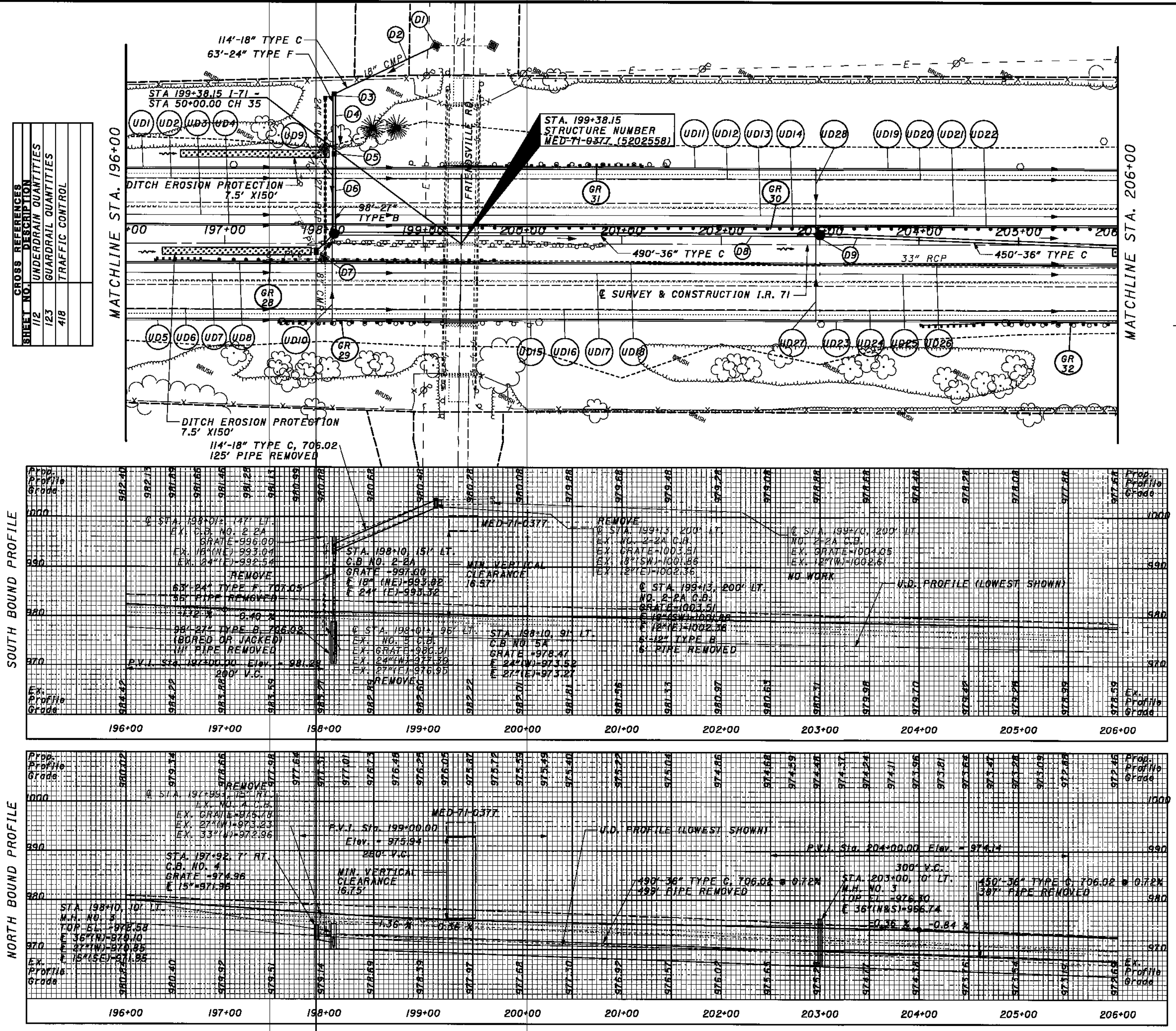
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED AEP
CHECKED KEH

PLAN AND PROFILE
STA. 186+00.00 TO STA. 196+00.00

WAY/MED-71-7.04/0.00

...\14017gp21A.dgn


114'-18" TYPE C
63'-24" TYPE F
18" CMP
12"
STA 199+38.15 I-71 = STA 50+00.00 CH 35
STA. 199+38.15 STRUCTURE NUMBER MED-71-0377 (5202558)
FRIENDSVILLE RD.
DITCH EROSION PROTECTION 7.5' X150'
98'-27" TYPE B
490'-36" TYPE C
450'-36" TYPE C
33" RCP
℄ SURVEY & CONSTRUCTION I.R. 71
MATCHLINE STA. 196+00
MATCHLINE STA. 206+00
114'-18" TYPE C, 706.02 125' PIPE REMOVED
D1
D2
D3
D4
D5
D6
D7
D8
D9
UD1
UD2
UD3
UD4
UD5
UD6
UD7
UD8
UD9
UD10
UD11
UD12
UD13
UD14
UD15
UD16
UD17
UD18
UD19
UD20
UD21
UD22
UD23
UD24
UD25
UD26
UD27
UD28
GR 28
GR 29
GR 30
GR 31
GR 32
BRUSH
197+00
198+00
199+00
200+00
201+00
202+00
203+00
204+00
205+00
SOUTH BOUND PROFILE
NORTH BOUND PROFILE
Prop. Profile Grade
Ex. Profile Grade
1000
990
980
970
196+00
197+00
198+00
199+00
200+00
201+00
202+00
203+00
204+00
205+00
206+00
℄ STA. 198+01±, 147' LT. EX. C.B. NO. 2-2A GRATE=996.00 EX. 15"(NE)-993.04 EX. 24"(E)-992.54
REMOVE
STA. 198+10, 15' LT. C.B. NO. 2-2A GRATE =997.00 E 18" (NE)-993.82 E 24" (E)-993.32
63'-24" TYPE F, 707.05 55' PIPE REMOVED
98'-27" TYPE B, 706.02 (BORED OR JACKED) 111' PIPE REMOVED
P.V.I. Sta. 197+00.00 Elev. = 981.28 200' V.C.
℄ STA. 198+01±, 96' LT. EX. NO. 5 C.B. EX. GRATE=980.91 EX. 24"(W)-977.59 EX. 27"(E)-976.95
REMOVE
STA. 198+10, 91' LT. C.B. NO. 5A GRATE =978.47 E 24"(W)-973.52 E 27"(E)-973.27
MED-71-0377
MIN. VERTICAL CLEARANCE 16.57'
REMOVE ℄ STA. 199+13, 200' LT. EX. NO. 2-2A C.B. EX. GRATE=1003.51 EX. 18"(SW)-1001.86 EX. 12"(E)-1002.36
℄ STA. 199+13, 200' LT. NO. 2-2A C.B. GRATE=1003.51 E 18"(SW)-1001.86 E 12"(E)-1002.36 6'-12" TYPE B 6' PIPE REMOVED
℄ STA. 199+70, 200' LT. NO. 2-2A C.B. EX. GRATE=1004.05 EX. 12"(W)-1002.61
NO WORK
U.D. PROFILE (LOWEST SHOWN)
℄ STA. 197+99±, 15' RT. EX. NO. 4 C.B. EX. GRATE=975.48 EX. 27"(W)-973.23 EX. 33"(N)-972.96
REMOVE
STA. 197+92, 7' RT. C.B. NO. 4 GRATE =974.96 E 15"=971.96
STA. 198+10, 10' LT. M.H. NO. 3 TOP EL. =978.58 E 36"(N)-970.10 E 27"(W)-970.85 E 15"(SE)-971.95
P.V.I. Sta. 199+00.00 Elev. = 975.94 250' V.C.
MIN. VERTICAL CLEARANCE 16.75'
490'-36" TYPE C, 706.02 @ 0.72% 499' PIPE REMOVED
P.V.I. Sta. 204+00.00 Elev. = 974.14 300' V.C.
STA. 203+00, 10' LT. M.H. NO. 3 TOP EL. =976.30 E 36"(N&S)-966.74
450'-36" TYPE C, 706.02 @ 0.72% 387' PIPE REMOVED
-1.36 %
-0.36 %
-0.84 %
-1.72 %
0.40 %

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
112	UNDERDRAIN QUANTITIES
123	GUARDRAIL QUANTITIES
418	TRAFFIC CONTROL

REF NO.	STATION FROM	STATION TO	SIDE	202 CATCH BASIN REMOVED	202 PIPE REMOVED, 24" AND UNDER	202 PIPE REMOVED, OVER 24"	603 36" CONDUIT TYPE C 706.02	603 CONDUIT, BORED OR JACKED, app'l 27" TYPE B, 706.02	603 CONDUIT TYPE F, 707.05 TYPE C 12"	603 CONDUIT TYPE F, 707.05 TYPE C 24"	603 CONDUIT TYPE C, 706.02 15"	603 CONDUIT TYPE C, 706.02 18"	604 NO. 4 CATCH BASIN	604 NO. 5A CATCH BASIN	604 NO. 2-2B CATCH BASIN	604 NO. 2-2A CATCH BASIN	604 MANHOLE NO. 3	670 DITCH EROSION PROTECT.
				EACH	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	EACH	EACH	EACH	EACH	EACH	SQ. YD.
D1	199+13		LT	1	6				6						1			
D2	199+13	198+10	LT		125							114						
D3	198+10		LT	1												1		
D4	198+10		LT		56					63								
D5	198+10		LT	1										1				125
D6	198+10		LT			111		98										
D7	198+10		RT	1							25		1					125
D8	198+10	203+00	RT			499	490										1	
D9	203+00	207+50				387	450										1	
TOTALS CARRIED TO SUB-SUMMARY				4	187	997	940	98	6	63	25	114	1	1	1	1	2	250

PLAN AND PROFILE
STA. 196+00.00 TO STA. 206+00.00

WAY/MED-71-7.04/0.00

HORIZONTAL SCALE IN FEET: 0 25 50 100

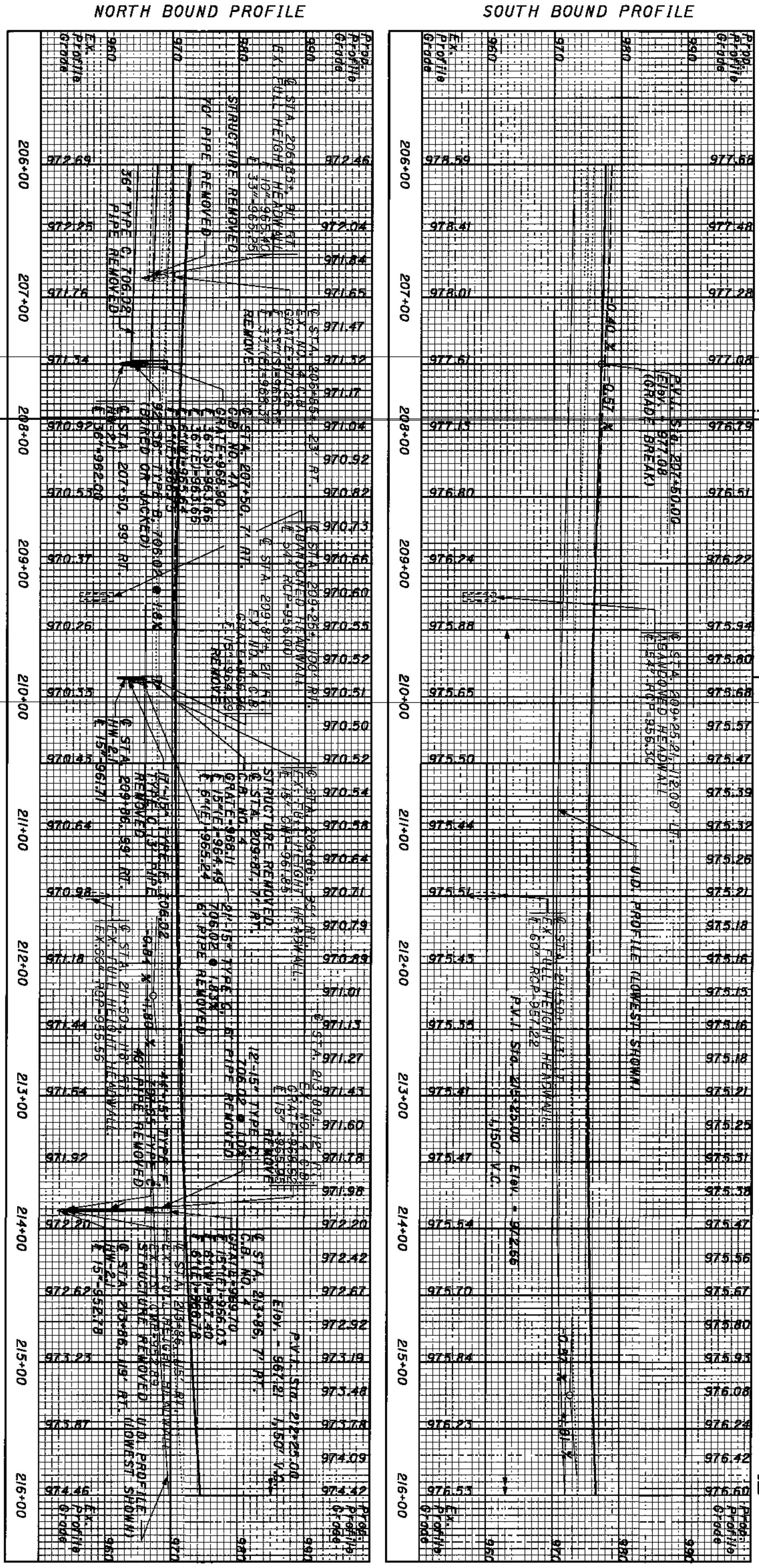
CALCULATED AEP
CHECKED KEH

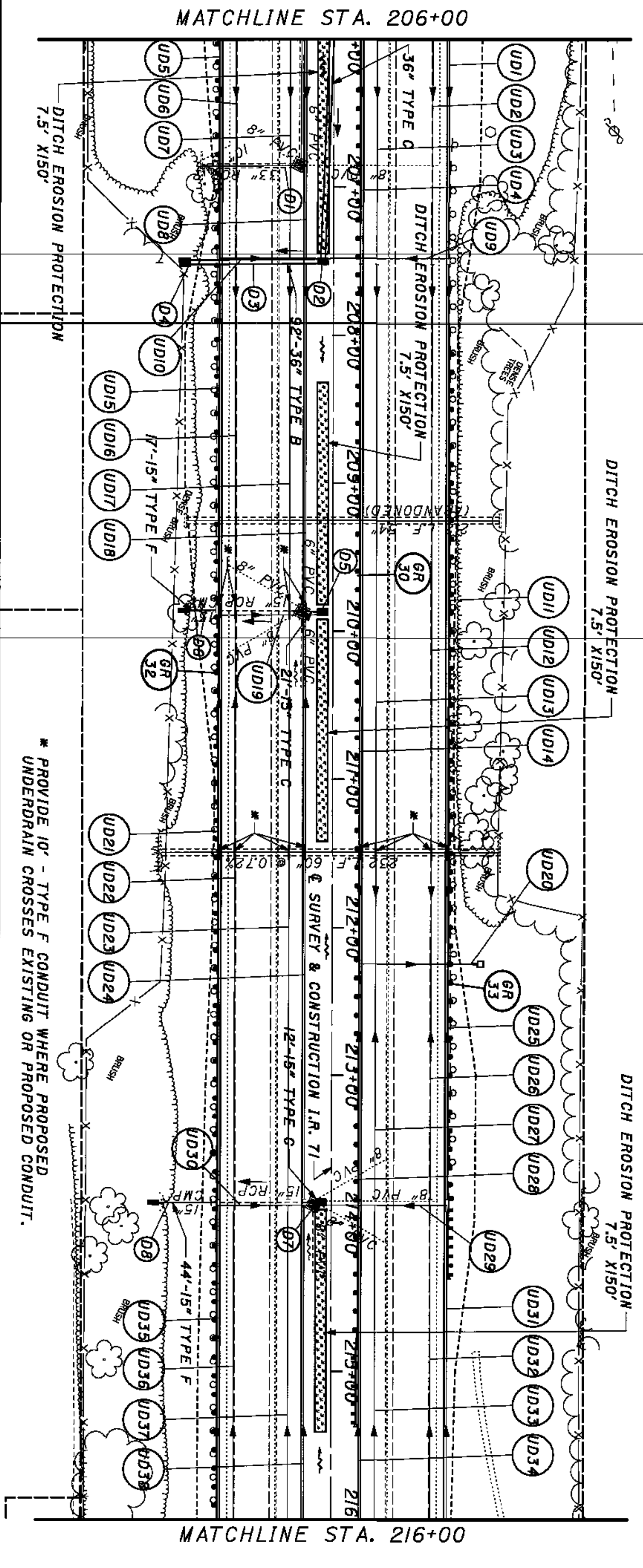
180
785

...\14017gp22.dgn

...\14017gp23.dgn

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
112	UNDERDRAIN QUANTITIES
123	GUARDRAIL QUANTITIES
418, 419	TRAFFIC CONTROL


NORTH BOUND PROFILE
SOUTH BOUND PROFILE
Prop. Profile Grade
Ex. Profile Grade
P.V.I. Sta. 207+50.00 Elev. = 977.08 (GRADE BREAK)
-0.40 %
-0.57 %
U.D. PROFILE (LOWEST SHOWN)
P.V.I. Sta. 215+25.00 Elev. = 972.66
1,150' V.C.
P.V.I. Sta. 212+25.00 Elev. = 967.21 1,150' V.C.
STRUCTURE REMOVED
70' PIPE REMOVED
36" TYPE C, 706.02 PIPE REMOVED
92'-36" TYPE B, 706.02 @ 1.8% (BORED OR JACKED)
21'-15" TYPE C, 706.02 @ 1.83%
6' PIPE REMOVED
12'-15" TYPE C, 706.02 @ 1.0%
17'-15" TYPE F, 706.02
44'-15" TYPE F
40' PIPE REMOVED
206+00
207+00
208+00
209+00
210+00
211+00
212+00
213+00
214+00
215+00
216+00



* PROVIDE 10' - TYPE F CONDUIT WHERE PROPOSED UNDERDRAIN CROSSES EXISTING OR PROPOSED CONDUIT.

REF NO.	STATION		SIDE	202 CATCH BASIN REMOVED	202 STRUCTURE REMOVED	202 PIPE REMOVED, 24" AND UNDER	202 PIPE REMOVED, OVER 24"	601 ROCK CHANNEL PROTECT., TYPE C W/ F. FABRIC	602 CONCRETE MASONRY	603 15" CONDUIT TYPE F, 707.05 TYPE C	603 15" CONDUIT TYPE C, 706.02	603 CONDUIT, BORED OR JACKED,APP: 36" TYPE B, 706.02	604 NO. 4 CATCH BASIN	604 NO. 4A CATCH BASIN	670 DITCH EROSION PROTECT.
	FROM	TO		EACH	EACH	FEET	FEET	CU. YD.	CU. YD.	FEET	FEET	FEET	EACH	EACH	SQ. YD.
D1	206+85		RT	1	1		69								
D2	207+50		RT											1	125
D3	207+50		RT									92			
D4	207+50		RT					2	0.69						
D5	209+87		RT	1		6					21		1		250
D6	209+86		RT		1	13		2	0.27	17					
D7	213+86		RT	1		6					12		1		125
D8	213+86		RT		1	40		2	0.27	44					
TOTALS CARRIED TO SUB-SUMMARY				3	3	65	69	6	1.23	61	33	92	2	1	500

181/785

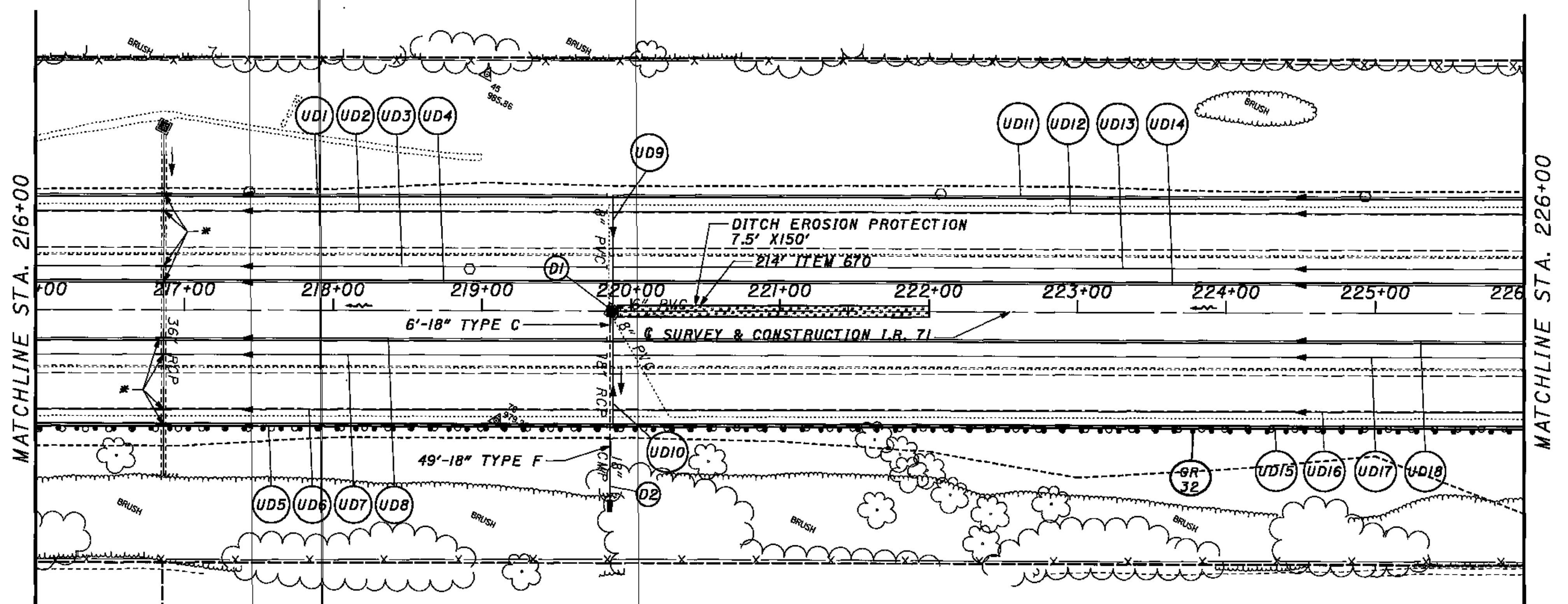
WAY/MED-71-7.04/0.00

PLAN AND PROFILE
STA. 206+00.00 TO STA. 216+00.00

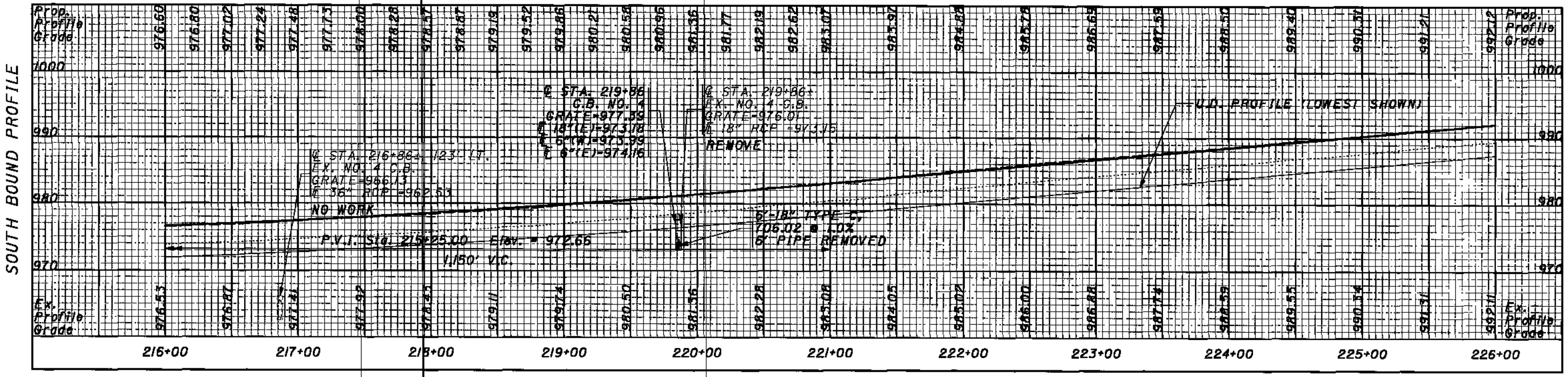
CALCULATED AEP
CHECKED KEH

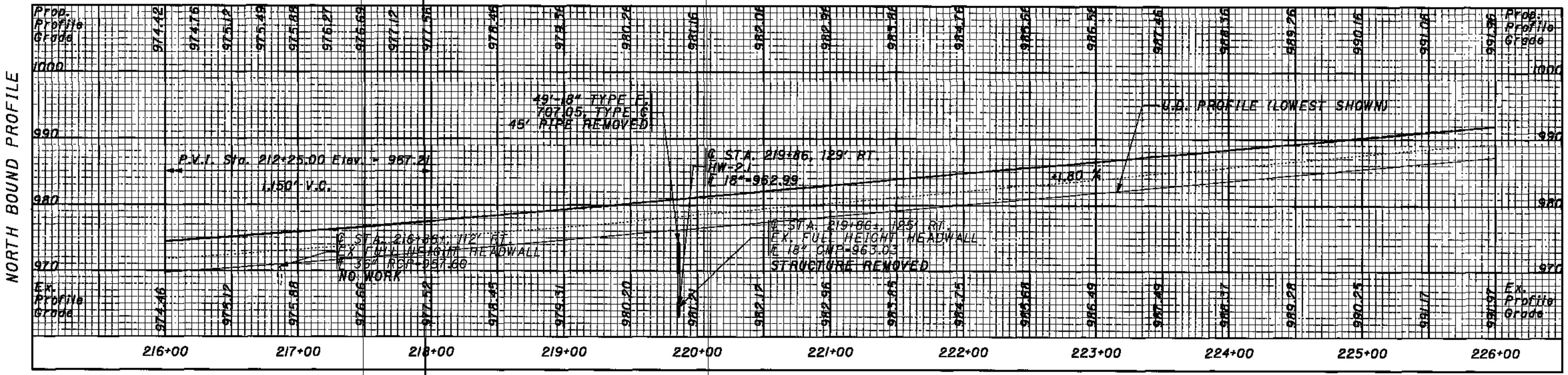
0 25 50 100
HORIZONTAL SCALE IN FEET

SHEET NO.	DESCRIPTION
113	UNDERDRAIN QUANTITIES
123	GUARDRAIL QUANTITIES
419	TRAFFIC CONTROL



* PROVIDE 10' - TYPE F CONDUIT WHERE PROPOSED UNDERDRAIN CROSSES EXISTING OR PROPOSED CONDUIT.





REF NO.	STATION FROM	STATION TO	SIDE	202 CATCH BASIN REMOVED	202 STRUCTURE REMOVED	202 PIPE REMOVED, 24" AND UNDER	601 ROCK CHANNEL PROTECT., TYPE C W/ F. FABRIC	602 CONCRETE MASONRY	603 18" CONDUIT TYPE F, 707.05 TYPE C	603 18" CONDUIT TYPE C, 706.02	604 NO. 4 CATCH BASIN	670 DITCH EROSION PROTECT.
				EACH	EACH	FEET	CU. YD.	CU. YD.	FEET	FEET	EACH	SQ. YD.
D1	219+86		RT	1		6				6	1	178
D2	219+86		RT		1	45	2	0.33	49			
TOTALS CARRIED TO SUB-SUMMARY				1	1	51	2	0.33	49	6	1	178

0 25 50 100
HORIZONTAL SCALE IN FEET

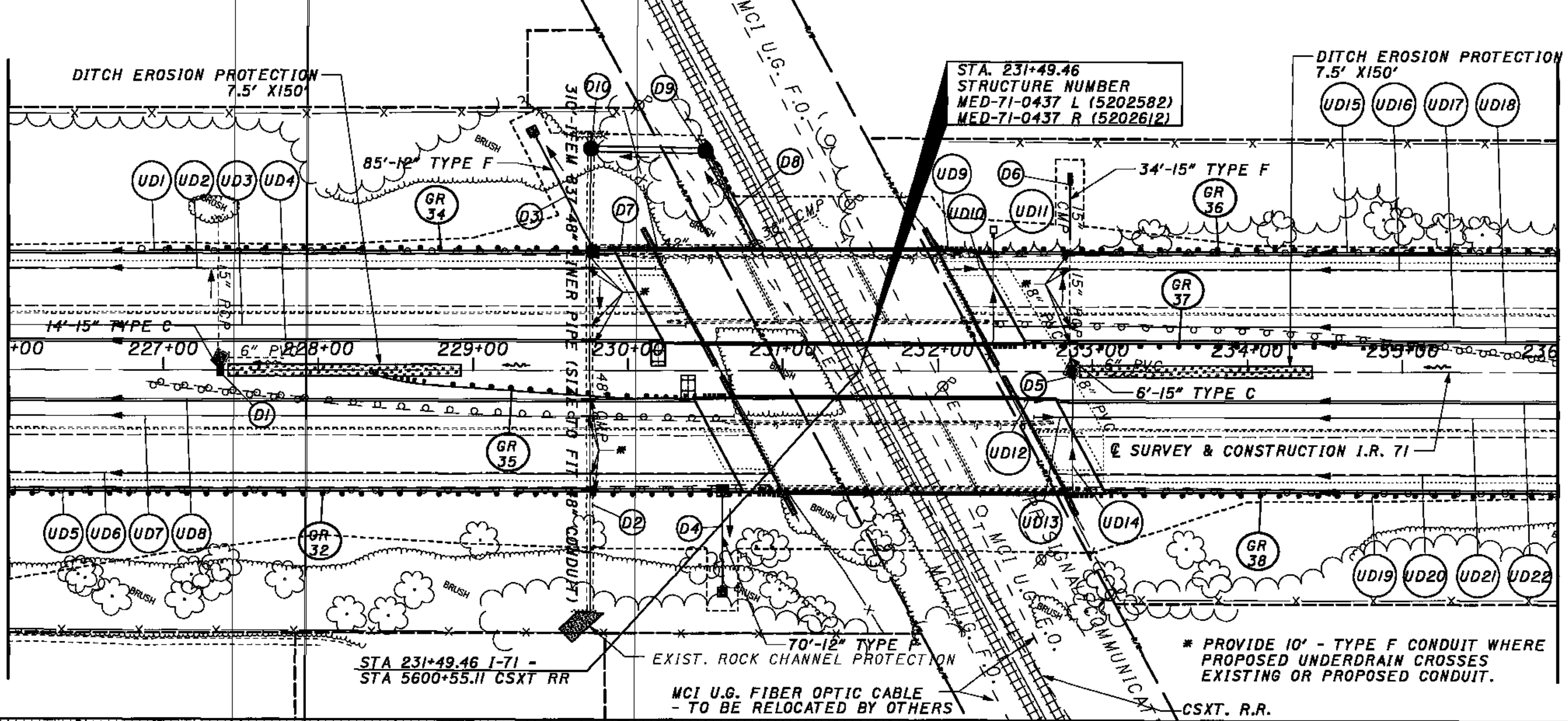
CALCULATED AEP
CHECKED KEH

PLAN AND PROFILE
STA. 216+00.00 TO STA. 226+00.00

WAY/MED-71-7.04/0.00

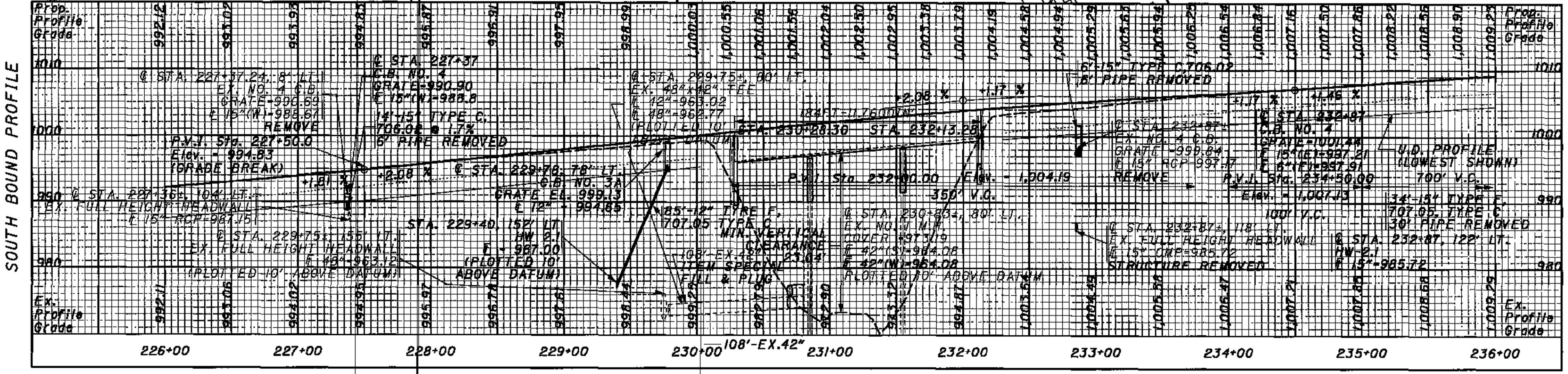
...\1017gp24.dgn

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
113	UNDERDRAIN QUANTITIES
123	GUARDRAIL QUANTITIES
419	TRAFFIC CONTROL
665-710	STRUCTURE PLANS



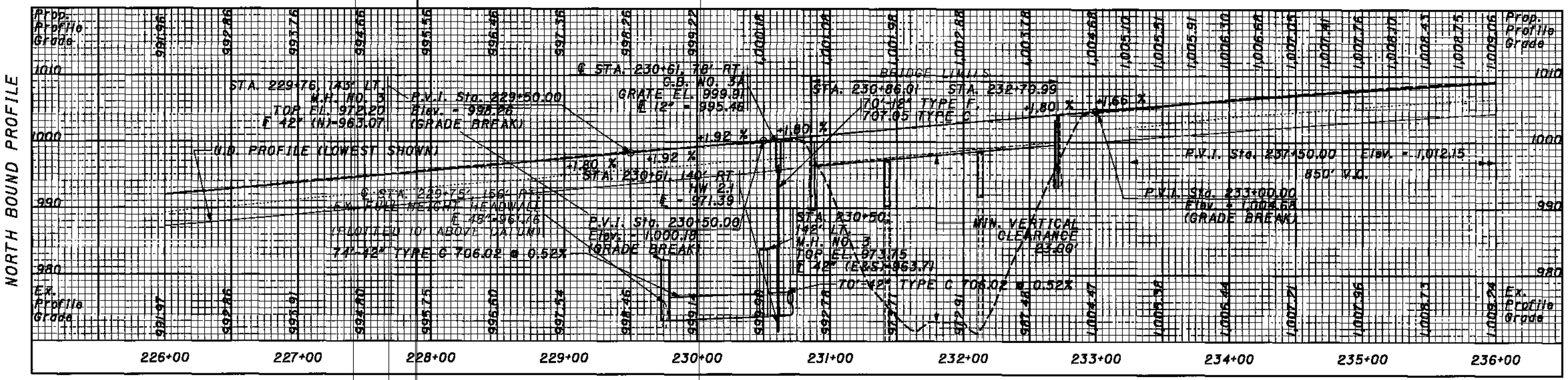
MATCHLINE STA. 226+00
MATCHLINE STA. 236+00
DITCH EROSION PROTECTION 7.5' X150'
STA. 231+49.46
STRUCTURE NUMBER
MED-71-0437 L (5202582)
MED-71-0437 R (5202612)
85'-12" TYPE F
34'-15" TYPE F
14'-15" TYPE C
6'-15" TYPE C
6" PVC
310'-ITEM 837 48" LINER PIPE (SIZE TO FIT 48" CONDUIT)
70'-12" TYPE F
EXIST. ROCK CHANNEL PROTECTION
STA 231+49.46 I-71 - STA 5600+55.11 CSXT RR
MCI U.G. FIBER OPTIC CABLE - TO BE RELOCATED BY OTHERS
CSXT. R.R.
MCI U.G. F.O.
℄ SURVEY & CONSTRUCTION I.R. 71
* PROVIDE 10' - TYPE F CONDUIT WHERE PROPOSED UNDERDRAIN CROSSES EXISTING OR PROPOSED CONDUIT.
UD1 UD2 UD3 UD4 UD5 UD6 UD7 UD8 UD9 UD10 UD11 UD12 UD13 UD14 UD15 UD16 UD17 UD18 UD19 UD20 UD21 UD22
D1 D2 D3 D4 D5 D6 D7 D8 D9 D10
GR 32 GR 34 GR 35 GR 36 GR 37 GR 38
BRUSH
226+00 227+00 228+00 229+00 230+00 231+00 232+00 233+00 234+00 235+00 236+00

SOUTH BOUND PROFILE



Prop. Profile Grade
Ex. Profile Grade
1010 1000 990 980
℄ STA. 227+37.24, 6' LT. C.B. NO. 4 GRATE=990.69 ℄ 15"(W)=988.61 REMOVE
℄ STA. 227+37 C.B. NO. 4 GRATE=990.90 ℄ 15"(N)=988.8
14'-15" TYPE C, 706.02 @ 1.7% 6' PIPE REMOVED
P.V.I. Sta. 227+50.0 Elev. = 994.83 (GRADE BREAK)
+1.81 % +2.08 %
℄ STA. 227+36±, 104' LT. EX. FULL HEIGHT HEADWALL ℄ 15" RCP=987.51
℄ STA. 229+75±, 155' LT. EX. FULL HEIGHT HEADWALL ℄ 48"=963.12 (PLOTTED 10' ABOVE DATUM)
℄ STA. 229+78, 78' LT. C.B. NO. 3A GRATE EL. 999.13 ℄ 12" = 994.85
STA. 229+40, 152' LT. HW 2.1 ℄ = 987.10 (PLOTTED 10' ABOVE DATUM)
℄ STA. 229+75±, 80' LT. EX. 48"=963.02 ℄ 48"=963.92 ℄ 48"=962.77 (PLOTTED 10')
85'-12" TYPE F, 707.05 TYPE C
108'-EX.42" ITEM SPECIAL FILL & PLUG
MIN. VERTICAL CLEARANCE = 23.04'
STA. 230+28.36 STA. 232+13.25
P.V.I. Sta. 232+00.00 Elev. = 1,004.19 350' V.C.
℄ STA. 230+83±, 80' LT. EX. NO. 4 M.H. COVER=987.919 ℄ 42"(S)=964.08 ℄ 42"(N)=964.08 (PLOTTED 10' ABOVE DATUM)
15" TYPE C, 706.02 6' PIPE REMOVED
℄ STA. 232+87 EX. NO. 4 C.B. GRATE=999.64 ℄ 15" RCP 997.17 REMOVE
℄ STA. 232+87 C.B. NO. 4 GRATE=1001.44 ℄ 15"(E)=997.21 ℄ 6"(F)=997.91
P.V.I. Sta. 234+50.00 Elev. = 1,007.13 100' V.C.
℄ STA. 232+87±, 118' LT. EX. FULL HEIGHT HEADWALL ℄ 15" CMP=985.72 STRUCTURE REMOVED
℄ STA. 232+87, 122' LT. HW 2.1 ℄ 15"=985.72
34'-15" TYPE F, 707.05 TYPE C 30' PIPE REMOVED
U.D. PROFILE (LOWEST SHOWN)
108'-EX.42"
226+00 227+00 228+00 229+00 230+00 231+00 232+00 233+00 234+00 235+00 236+00

NORTH BOUND PROFILE



Prop. Profile Grade
Ex. Profile Grade
1010 1000 990 980
STA. 229+76, 143' LT. M.H. NO. 3 TOP EL. 972.20 ℄ 42" (N)=963.07
P.V.I. Sta. 229+50.00 Elev. = 998.26 (GRADE BREAK)
℄ STA. 230+61, 78' RT. C.B. NO. 3A GRATE EL. 999.81 ℄ 12" = 995.46
U.D. PROFILE (LOWEST SHOWN)
+1.80 % +1.92 % +1.92 % +1.80 % +1.66 %
STA. 230+61, 140' RT HW 2.1 ℄ = 971.39
℄ STA. 229+75±, 156' RT. EX. FULL HEIGHT HEADWALL ℄ 48"=961.46 (PLOTTED 10' ABOVE DATUM)
74'-42" TYPE C 706.02 @ 0.52%
P.V.I. Sta. 230+50.00 Elev. = 1,000.78 (GRADE BREAK)
BRIDGE LIMITS
STA. 230+86.01 STA. 232+70.99
70'-12" TYPE F, 707.05 TYPE C
STA. 230+50, 142' LT. M.H. NO. 3 TOP EL. 973.75 ℄ 42" (E&S)=963.71
70'-42" TYPE C 706.02 @ 0.52%
MIN. VERTICAL CLEARANCE = 23.80'
P.V.I. Sta. 237+50.00 Elev. = 1,012.15 850' V.C.
P.V.I. Sta. 233+00.00 Elev. = 1,004.55 (GRADE BREAK)
226+00 227+00 228+00 229+00 230+00 231+00 232+00 233+00 234+00 235+00 236+00

REF NO.	STATION		SIDE	202	202	202	601	602	603		603		604	604		670	837	837	SPECIAL
				CATCH BASIN REMOVED	STRUCTURE REMOVED	PIPE REMOVED, 24" AND UNDER	ROCK CHANNEL PROTECT., TYPE C W/ F. FABRIC	CONCRETE MASONRY	CONDUIT TYPE F, 707.05 TYPE C		CONDUIT TYPE C, 706.02		MANHOLE NO. 3	CATCH BASIN		DITCH EROSION PROTECT.	48" PIPE LINER	BACKFILL FOR PIPE LINER	FILL & PLUG EXIST. CONDUIT
	FROM	TO							12"	15"	15"	42"		NO.4	NO.3A				
				EACH	EACH	FEET	CU. YD.	CU. YD.	FEET	FEET	FEET	FEET	FEET	EACH	EACH	SQ. YD.	FEET	CU. YD.	FOOT
D1	227+37		℄	1		6					14			1		125			
D2	229+76		RT														311	64	
D3	229+40	229+78	LT				2	0.21	85						1				
D4	230+61		RT				2	0.21	70						1				
D5	232+87		℄	1		6					6			1		125			
D6	232+87		LT		1	30	2	.027		34									
D7	299+75	230+83	LT																108
D8	230+50	230+83	LT									70							
D9	229+76	230+50	LT									74	1						
D10	229+76		LT										1						
TOTALS CARRIED TO SUB-SUMMARY				2	1	42	6	0.69	155	34	20	144	2	2	2	250	311	64	108

CALCULATED AEP
CHECKED KEH

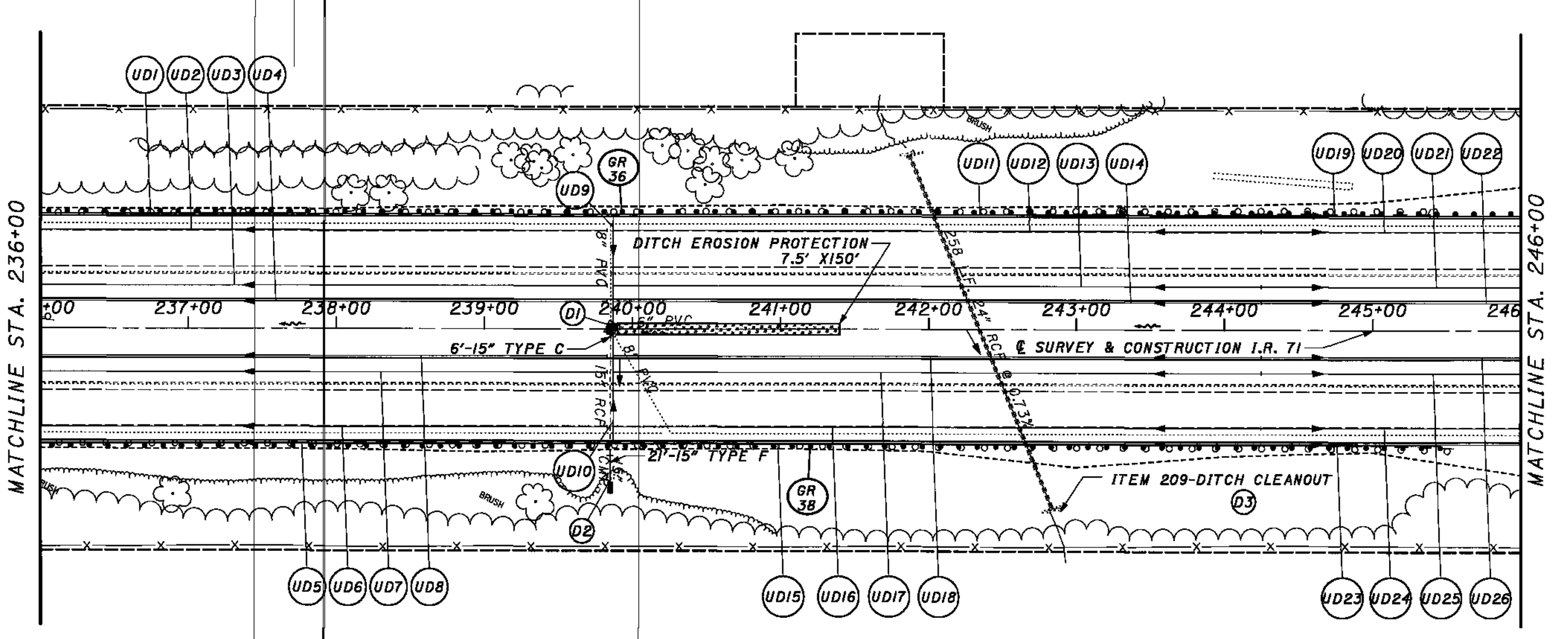
0 25 50 100
HORIZONTAL SCALE IN FEET

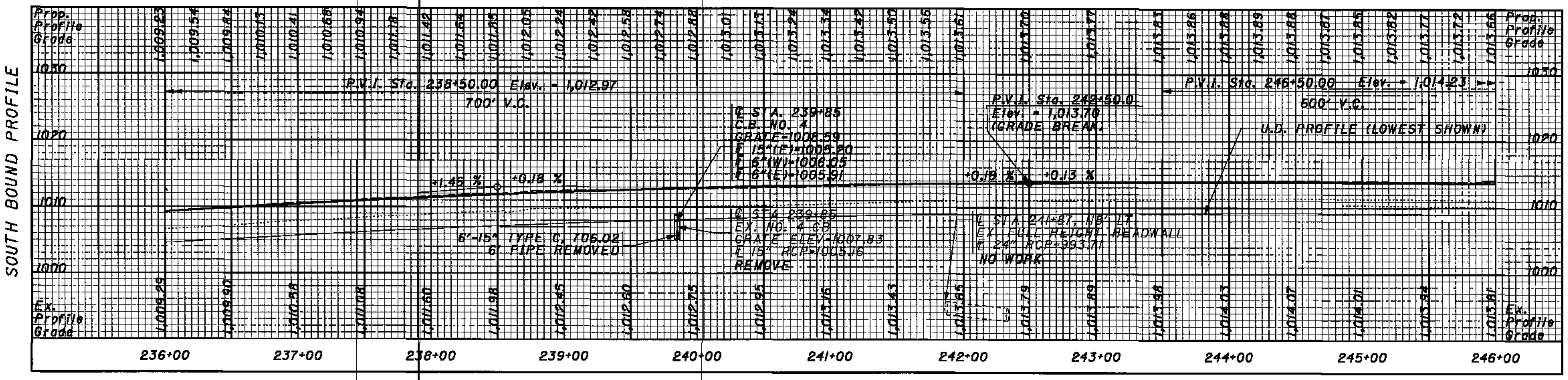
PLAN AND PROFILE
STA. 226+00.00 TO STA. 236+00.00

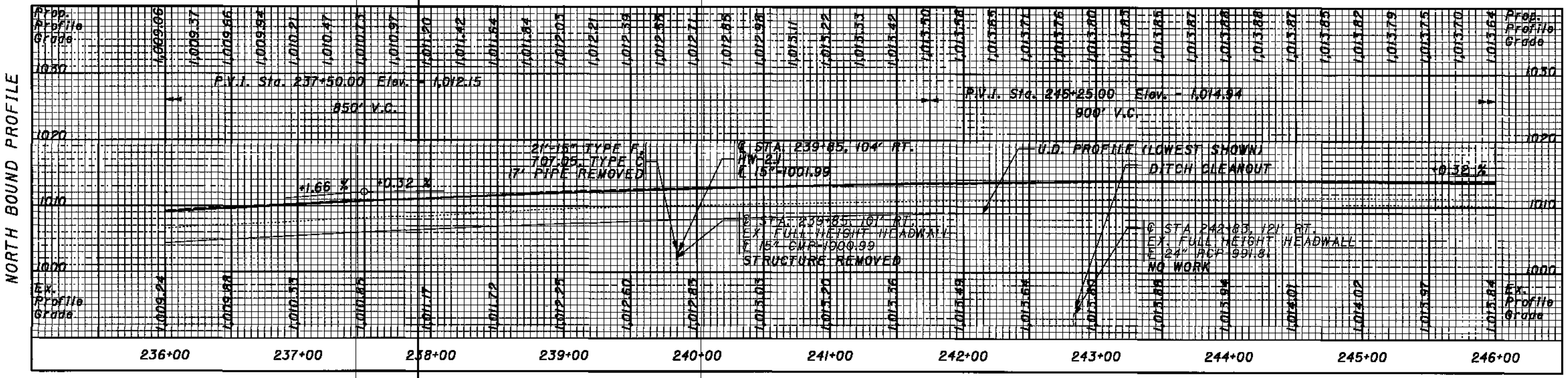
WAY/MED-71-7.04/0.00

...\4017gp25.dgn

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
113	UNDERDRAIN QUANTITIES
123	GUARDRAIL QUANTITIES
420	TRAFFIC CONTROL







REF NO.	STATION FROM	STATION TO	SIDE	202 CATCH BASIN REMOVED (EACH)	202 STRUCTURE REMOVED (EACH)	202 PIPE REMOVED, 24" AND UNDER (FEET)	209 DITCH CLEANOUT (FEET)	601 ROCK CHANNEL PROTECT., TYPE C W/ F. FABRIC (CU. YD.)	602 CONCRETE MASONRY (CU. YD.)	603 15" CONDUIT TYPE F, 707.05 TYPE C (FEET)	603 15" CONDUIT TYPE C, 706.02 (FEET)	604 NO. 4 CATCH BASIN (EACH)	670 DITCH EROSION PROTECT. (SQ. YD.)
D1	239+85		℄	1		6					6	1	125
D2	239+85		RT		1	17		2	0.27	21			
D3	242+83		RT				26						
TOTALS CARRIED TO SUB-SUMMARY				1	1	23	26	2	0.27	21	6	1	125

CALCULATED AEP
CHECKED KEH

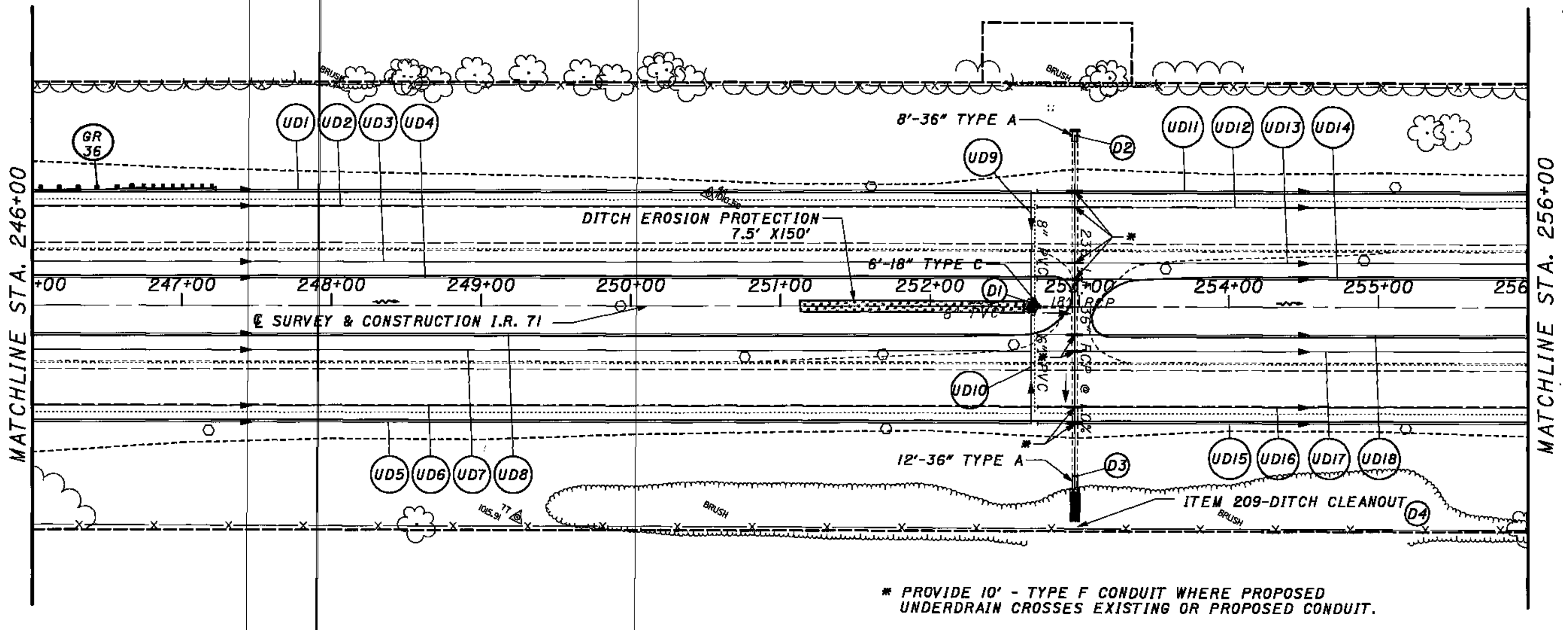
0 25 50 100
HORIZONTAL SCALE IN FEET

PLAN AND PROFILE
STA. 236+00.00 TO STA. 246+00.00

WAY/MED-71-7.04/0.00

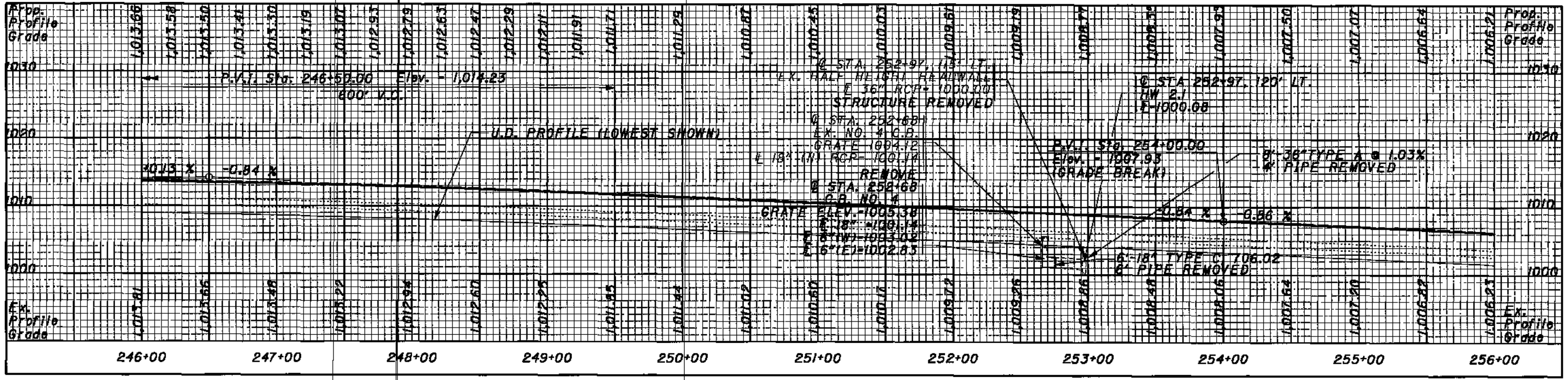
184
785

...\1407gp26.dgn

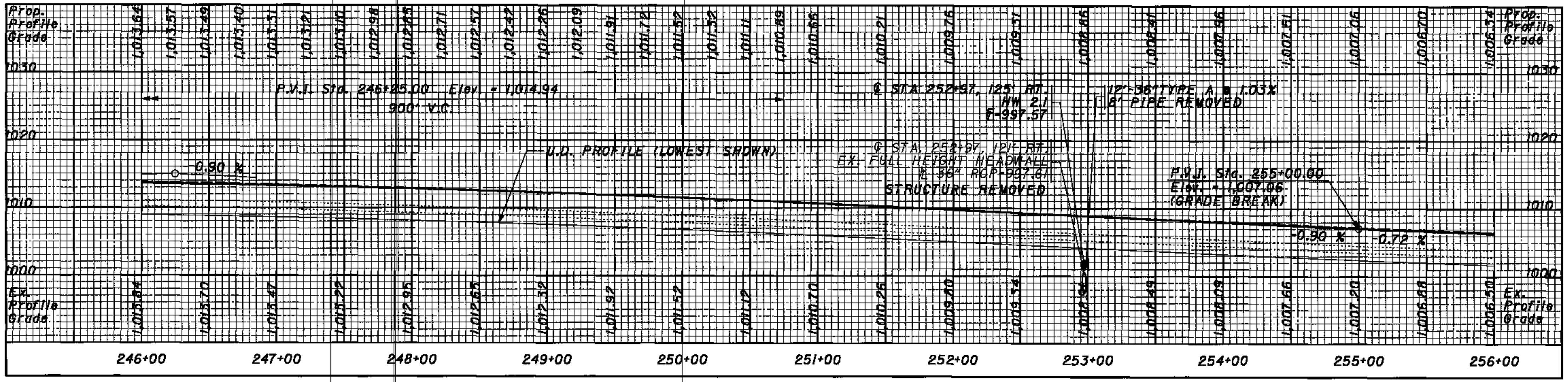


* PROVIDE 10' - TYPE F CONDUIT WHERE PROPOSED UNDERDRAIN CROSSES EXISTING OR PROPOSED CONDUIT.

SOUTH BOUND PROFILE



NORTH BOUND PROFILE



CROSS REFERENCES	
SHEET NO.	DESCRIPTION
114	UNDERDRAIN QUANTITIES
123	GUARDRAIL QUANTITIES
420	TRAFFIC CONTROL

REF NO.	STATION		SIDE	202	202	202	202	209	601	602	603	603	604	670
				CATCH BASIN REMOVED	STRUCTURE REMOVED	PIPE REMOVED, 24" AND UNDER	PIPE REMOVED, OVER 24"	DITCH CLEAN-OUT	ROCK CHANNEL PROTECT., TYPE C W/ F. FABRIC	CONCRETE MASONRY	18" CONDUIT TYPE C, 706.02	36" CONDUIT TYPE A	NO. 4 CATCH BASIN	DITCH EROSION PROTECT.
	FROM	TO		EACH	EACH	FEET	FEET	FEET	CU. YD.	CU. YD.	FEET	FEET	EACH	SQ. YD.
D1	252+68	252+74	℄	1		6					6		1	125
D2	252+97		LT		1		4			0.69		8		
D3	252+97		RT		1		8		12	0.69		12		
D4	252+97		RT					23						
TOTALS CARRIED TO SUB-SUMMARY				1	2	6	12	23	12	1.38	6	20	1	125

0 25 50 100
HORIZONTAL SCALE IN FEET

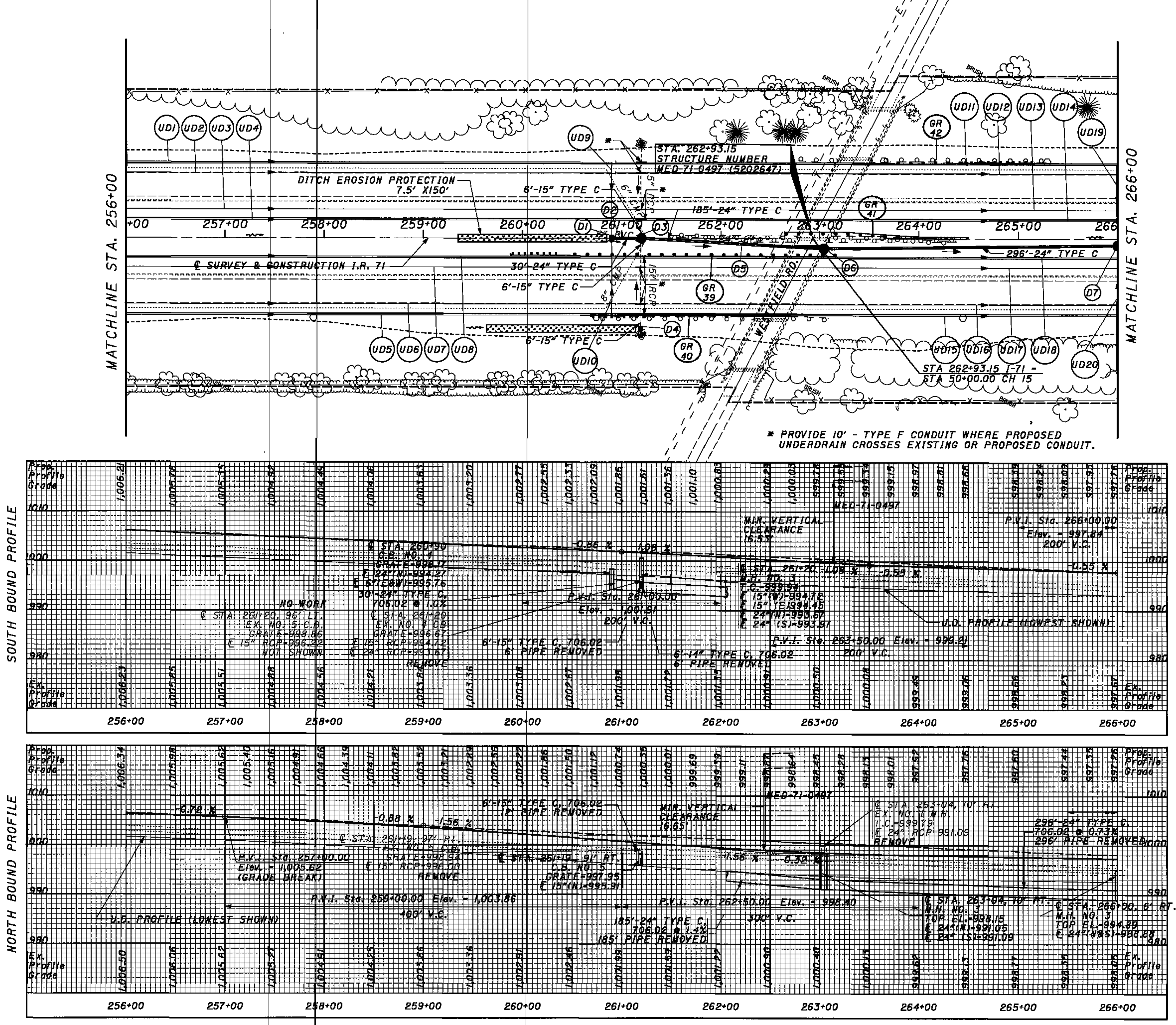
CALCULATED AEP
CHECKED KEH

PLAN AND PROFILE
STA. 246+00.00 TO STA. 256+00.00

WAY/MED-71-7.04/0.00

185
785

...\I407gp27.dgn



CROSS REFERENCES	
SHEET NO.	DESCRIPTION
114	UNDERDRAIN QUANTITIES
123, 124	GUARDRAIL QUANTITIES
420, 421	TRAFFIC CONTROL

REF NO.	STATION FROM	STATION TO	SIDE	202 CATCH BASIN REMOVED EACH	202 MANHOLE REMOVED EACH	202 PIPE REMOVED, 24" AND UNDER FEET	603 15" CONDUIT TYPE C, 706.02 FEET	603 24" CONDUIT TYPE C, 706.02 FEET	604 NO. 4 CATCH BASIN EACH	604 NO. 3 MANHOLE EACH	604 NO. 5 CATCH BASIN EACH	670 DITCH EROSION PROTECT. SQ. YD.	
D1	260+90		℄						1			125	
D2	260+90	261+20	℄					30					
D3	261+20		℄	1		12	12			1			
D4	261+19		RT	1		12	6				1	125	
D5	261+20	263+04	RT			185		185					
D6	263+04	266+00	RT		1	296		296		1			
D7	266+00		RT							1			
TOTALS CARRIED TO SUB-SUMMARY				1	1	505	18	511	1	3	1	250	

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED AEP
CHECKED KEH

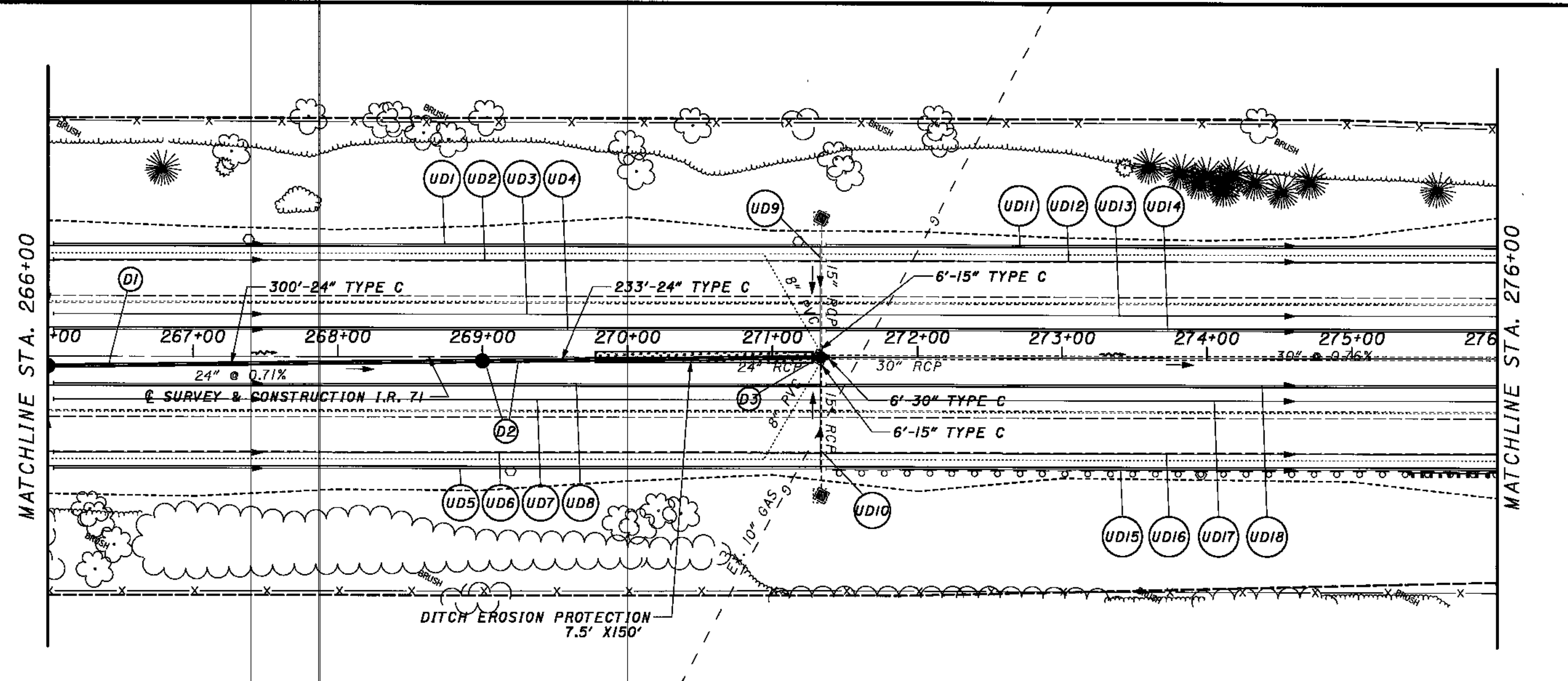
PLAN AND PROFILE
STA. 256+00.00 TO STA. 266+00.00

WAY/MED-71-7.04/0.00

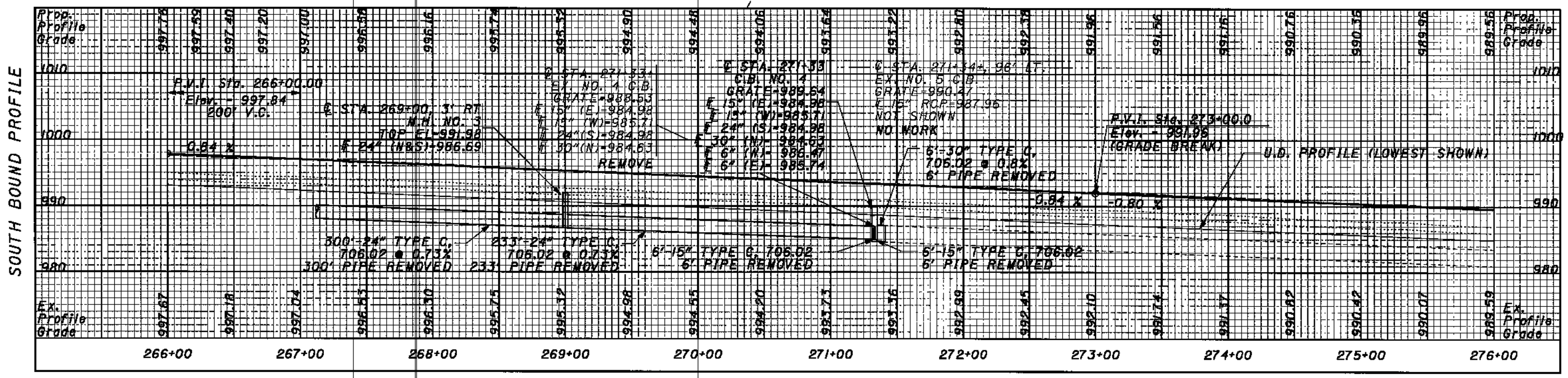
186
785

...\14017gp28.dgn

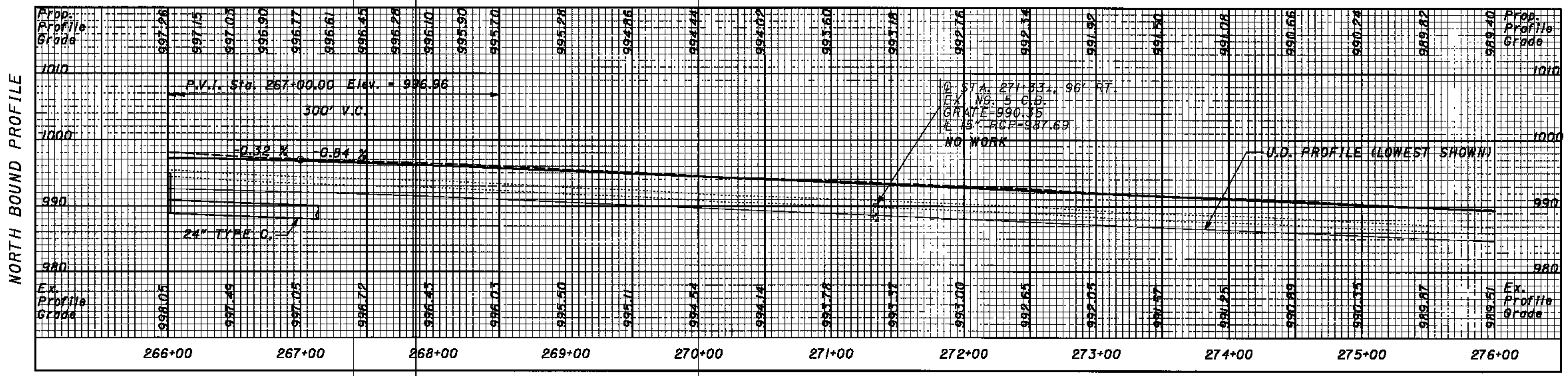
CROSS REFERENCES	
SHEET NO.	DESCRIPTION
114	UNDERDRAIN QUANTITIES
124	GUARDRAIL QUANTITIES
421	TRAFFIC CONTROL



SOUTH BOUND PROFILE



NORTH BOUND PROFILE



REF NO.	STATION FROM	STATION TO	SIDE	202 CATCH BASIN REMOVED EACH	202 PIPE REMOVED, 24" AND UNDER FEET	202 PIPE REMOVED, OVER 24" FEET	603 15" CONDUIT TYPE C, 706.02 FEET	603 24" CONDUIT TYPE C, 706.02 FEET	603 30" CONDUIT TYPE C 706.02 FEET	604 NO. 4 CATCH BASIN EACH	604 MANHOLE NO. 3 EACH	670 DITCH EROSION PROTECT. SQ. YD.
D1	266+00	269+00	RT		300			300			1	
D2	269+00	271+33	RT		233			233				
D3	271+33		℄	1	12	6	12		6	1		125
TOTALS CARRIED TO SUB-SUMMARY				1	345	6	12	533	6	1	1	125

0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED AEP
CHECKED KEH

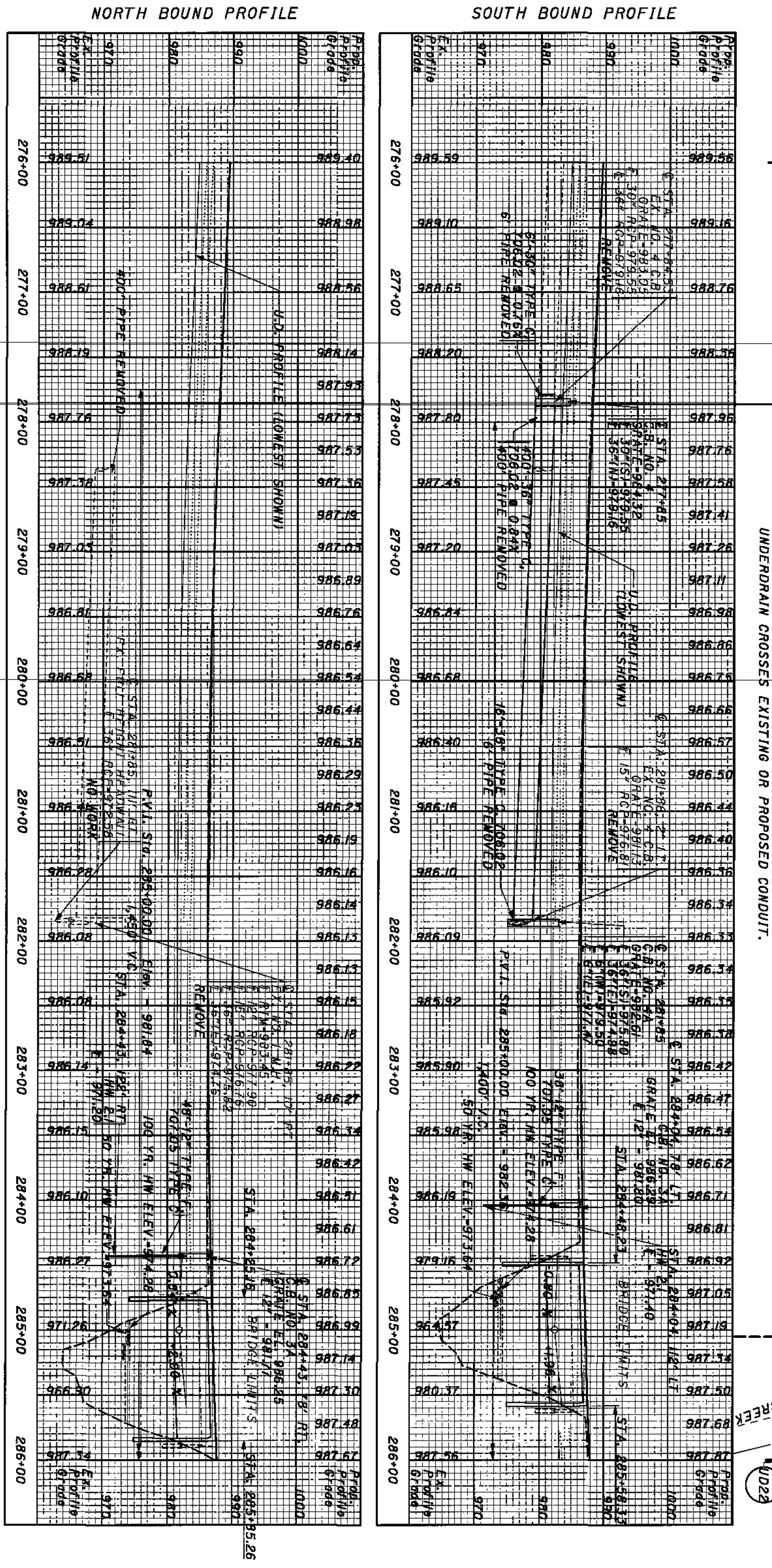
PLAN AND PROFILE
STA. 266+00.00 TO STA. 276+00.00

WAY/MED-71-7.04/0.00

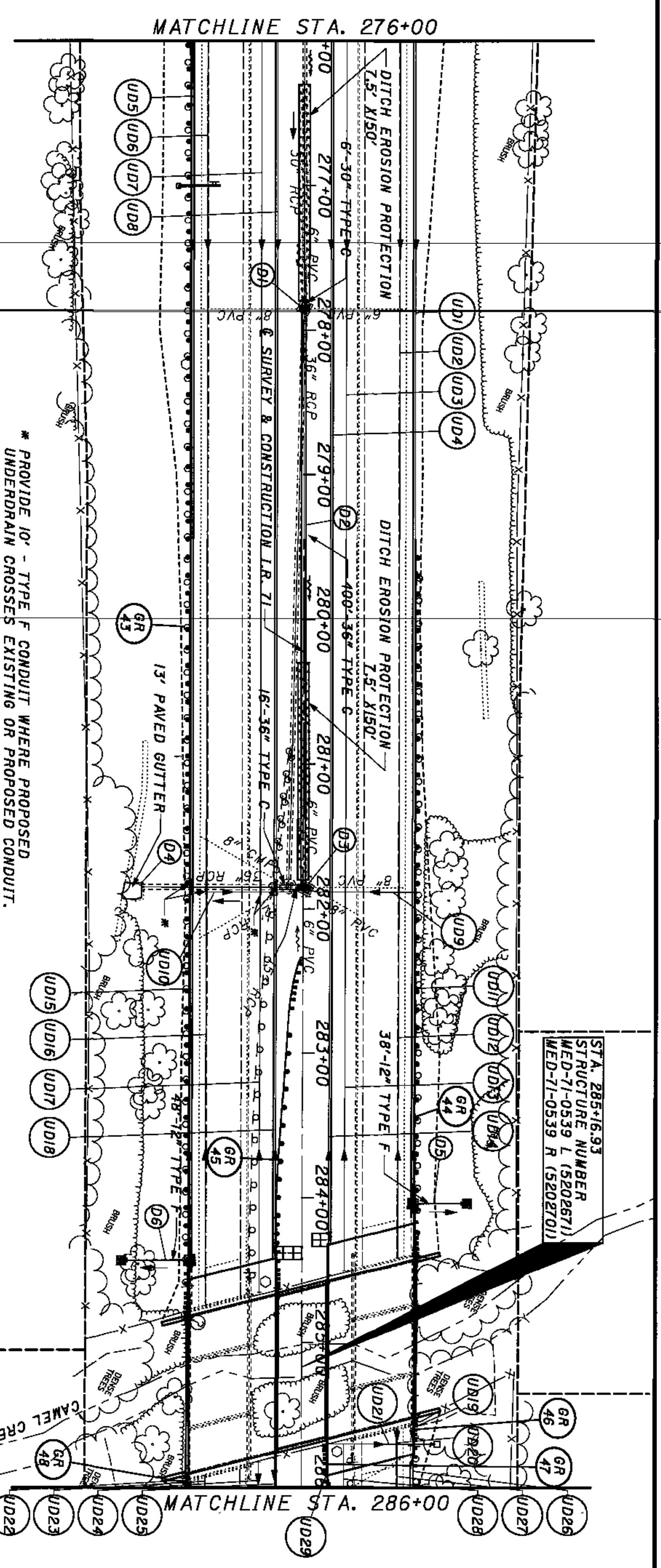
187
785

...\14017gp29.dgn

...\14017gp30.dgn



CROSS REFERENCES	
SHEET NO.	DESCRIPTION
115	UNDERDRAIN QUANTITIES
124	GUARDRAIL QUANTITIES
421	TRAFFIC CONTROL
711-750	STRUCTURE PLANS


MATCHLINE STA. 276+00
MATCHLINE STA. 286+00
276+00
277+00
278+00
279+00
280+00
281+00
282+00
283+00
284+00
285+00
DITCH EROSION PROTECTION 7.5' X150'
DITCH EROSION PROTECTION 7.5' X150'
6'-30" TYPE C
400'-36" TYPE C
16'-36" TYPE C
38'-12" TYPE F
48'-12" TYPE F
13' PAVED GUTTER
℄ SURVEY & CONSTRUCTION I.R. 71
30" RCP
36" RCP
6" PVC
8" PVC
36" RCP
STA. 285+16.93 STRUCTURE NUMBER MED-71-0539 L (5202671) MED-71-0539 R (5202701)
CAMEL CREEK
BRUSH
DENSE TREES
UD1 UD2 UD3 UD4 UD5 UD6 UD7 UD8 UD9 UD10 UD11 UD12 UD13 UD14 UD15 UD16 UD17 UD18 UD19 UD20 UD21 UD22 UD23 UD24 UD25 UD26 UD27 UD28 UD29
GR 43 GR 44 GR 45 GR 46 GR 47 GR 48
D1 D2 D3 D4 D5 D6

* PROVIDE 10' - TYPE F CONDUIT WHERE PROPOSED UNDERDRAIN CROSSES EXISTING OR PROPOSED CONDUIT.

REF NO.	STATION FROM	STATION TO	SIDE	202 GUTTER REMOVED	202 CATCH BASIN REMOVED	202 MANHOLE REMOVED	202 PIPE REMOVED, OVER 24"	601 ROCK CHANNEL PROTECT., TYPE C W/ F. FABRIC	601 PAVED GUTTER TYPE 1-6	602 CONCRETE MASONRY	603 12" CONDUIT TYPE F, 707.05 TYPE C	603 CONDUIT TYPE C, 706.02 30"	603 CONDUIT TYPE C, 706.02 36"	604 NO. 4 CATCH BASIN	604 4A CATCH BASIN	604 NO. 3A CATCH BASIN	670 DITCH EROSION PROTECT.
				FEET	EACH	EACH	FEET	CU. YD.	FEET	CU. YD.	FEET	FEET	FEET	EACH	EACH	EACH	SQ. YD.
D1	277+85		℄		1		6					6		1			125
D2	277+85	281+85	℄				400						400				
D3	281+85		℄			1	6						16		1		125
D4	281+85		RT	13					13								
D5	284+04		LT					2		0.21	38					1	
D6	284+43		RT					2		0.21	48					1	
TOTALS CARRIED TO SUB-SUMMARY				13	1	1	412	4	13	0.42	86	6	416	1	1	2	250

188
785

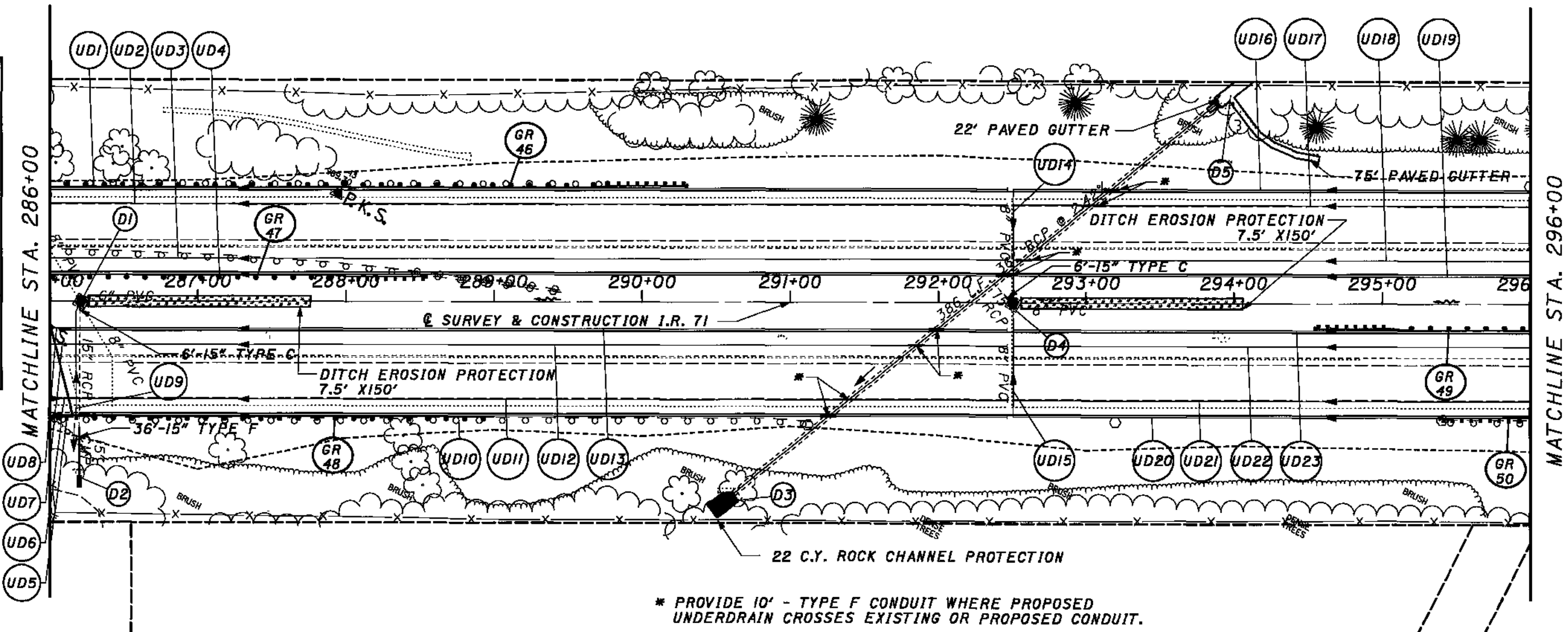
WAY/MED-71-7.04/0.00

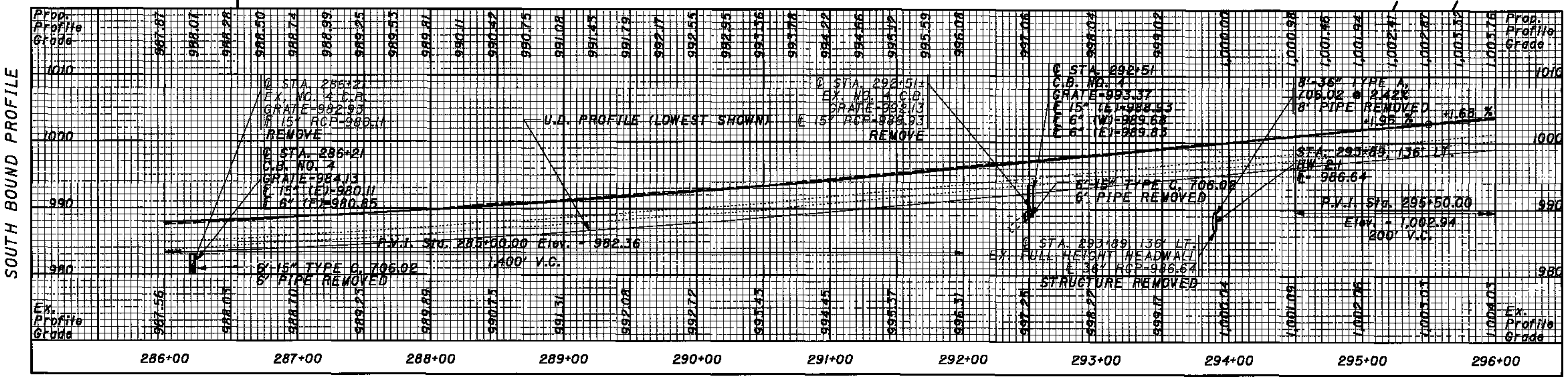
PLAN AND PROFILE
STA. 276+00.00 TO STA. 286+00.00

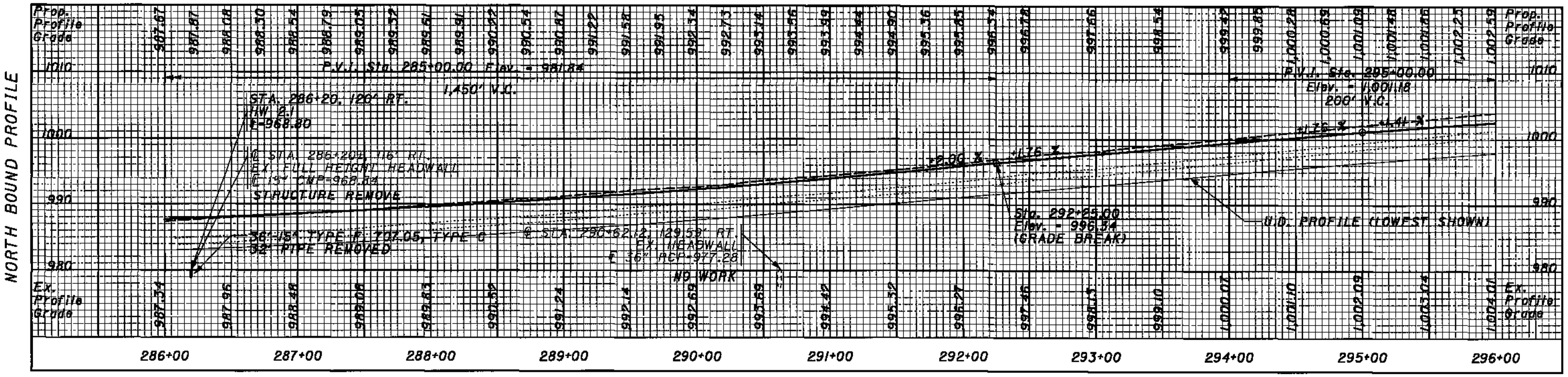
CALCULATED AEP
CHECKED KEH

0 25 50 100
HORIZONTAL SCALE IN FEET

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
115	UNDERDRAIN QUANTITIES
124	GUARDRAIL QUANTITIES
421, 422	TRAFFIC CONTROL




SOUTH BOUND PROFILE
Prop. Profile Grade
Ex. Profile Grade
1010
1000
990
980
℄ STA. 286+21 EX. NO. 4 C.B. GRATE-982.93 ℄ 15" RCP-980.11 REMOVE
℄ STA. 286+21 C.B. NO. 4 GRATE-984.13 ℄ 15" (E)-980.11 ℄ 6" (E)-980.85
U.D. PROFILE (LOWEST SHOWN)
℄ STA. 292+51 EX. NO. 4 C.B. GRATE-993.93 ℄ 15" RCP-989.93 REMOVE
℄ STA. 292+51 C.B. NO. 4 GRATE-993.37 ℄ 15" (E)-988.93 ℄ 6" (W)-989.68 ℄ 6" (E)-989.83
8'-36" TYPE A, 706.02 @ 2.42% 8' PIPE REMOVED
+1.96 %
+1.68 %
STA. 293+89, 136' LT. HW 2 ℄ 986.64
6'-15" TYPE C, 706.02 6' PIPE REMOVED
P.V.I. Sta. 295+50.00 Elev. = 1,002.94 200' V.C.
P.V.I. Sta. 285+00.00 Elev. = 982.36 1,400' V.C.
℄ STA. 293+89, 136' LT. EX. FULL HEIGHT HEADWALL ℄ 36" RCP-986.64 STRUCTURE REMOVED
6'-15" TYPE C, 706.02 6' PIPE REMOVED
286+00
287+00
288+00
289+00
290+00
291+00
292+00
293+00
294+00
295+00
296+00


NORTH BOUND PROFILE
Prop. Profile Grade
Ex. Profile Grade
1010
1000
990
980
P.V.I. Sta. 285+00.00 Elev. = 981.84 1,450' V.C.
STA. 286+20, 120' RT. HW 2 ℄ 968.80
℄ STA. 286+20, 116' RT. EX. FULL HEIGHT HEADWALL ℄ 15" CMP-968.84 STRUCTURE REMOVE
36'-15" TYPE F, 707.05, TYPE C 32' PIPE REMOVED
℄ STA. 290+62.12, 129.59' RT. EX. HEADWALL ℄ 36" RCP-977.28 NO WORK
+2.00 %
+1.76 %
Sta. 292+85.00 Elev. = 996.34 (GRADE BREAK)
U.D. PROFILE (LOWEST SHOWN)
P.V.I. Sta. 295+00.00 Elev. = 1,001.16 200' V.C.
+1.36 %
+1.41 %
286+00
287+00
288+00
289+00
290+00
291+00
292+00
293+00
294+00
295+00
296+00

REF NO.	STATION FROM	STATION TO	SIDE	202 GUTTER REMOVED EACH	202 CATCH BASIN REMOVED EACH	202 STRUCTURE REMOVED EACH	202 PIPE REMOVED, 24" AND UNDER FEET	202 PIPE REMOVED, OVER 24" FEET	601 ROCK CHANNEL PROTECT., TYPE C W/ F. FABRIC CU. YD.	601 ROCK CHANNEL PROTECT., TYPE B W/ F. FABRIC CU. YD.	601 PAVED GUTTER TYPE 1-2	601 PAVED GUTTER TYPE 1-6	602 CONCRETE MASONRY CU. YD.	603 15" CONDUIT TYPE F, 707.05 TYPE C FEET	603 15" CONDUIT, TYPE C, 706.02 FEET	603 36" CONDUIT, TYPE A, 706.02 FEET	604 NO. 4 CATCH BASIN EACH	670 DITCH EROSION PROTECT. SQ. YD.
D1	286+21		℄		1		6								6		1	125
D2	286+20		RT			1	32		2				0.27	36				
D3	290+62		RT							22								
D4	292+51		℄		1		6								6		1	125
D5	293+89		LT	97		1		8			75	22	0.69			8		
TOTALS CARRIED TO SUB-SUMMARY				97	2	2	44	8	2	22	75	22	0.96	36	12	8	2	250

CALCULATED AEP
CHECKED KEH

0 25 50 100
HORIZONTAL SCALE IN FEET

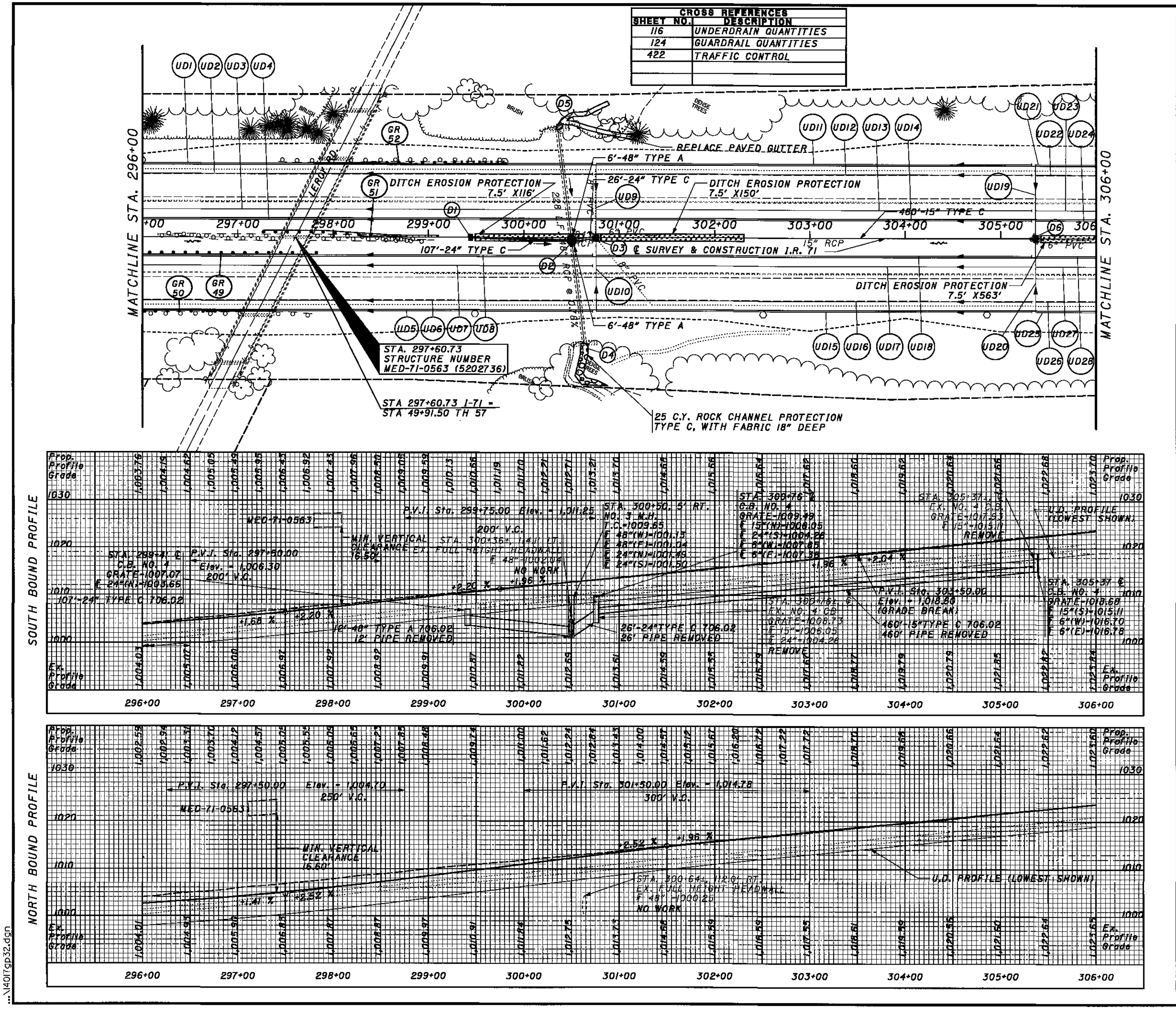
PLAN AND PROFILE
STA. 286+00.00 TO STA. 296+00.00

WAY/MED-71-7.04/0.00

...\4017gp31.dgn

CROSS REFERENCES

SHEET NO.	DESCRIPTION
116	UNDERDRAIN QUANTITIES
124	GUARDRAIL QUANTITIES
422	TRAFFIC CONTROL



REF NO.	STATION FROM	STATION TO	SIDE	202 GUTTER REMOVED	202 CATCH BASIN REMOVED	202 PIPE REMOVED, 24" AND UNDER	202 PIPE REMOVED, OVER 24"	601 ROCK CHANNEL PROTECT., TYPE C W/ F. FABRIC	601 PAVED GUTTER TYPE I-2	603 48" CONDUIT TYPE A 706.02	603 15" CONDUIT TYPE C, 706.02	603 24" CONDUIT TYPE C, 706.02	604 NO. 4 CATCH BASIN	604 NO. 3 MANHOLE	670 DITCH EROSION PROTECT.
				FEET	EACH	FEET	FEET	CU. YD.	FEET	FEET	FEET	FEET	EACH	EACH	SQ. YD.
D1	299+41	300+50	RT									107	1		97
D2	300+50		RT				12			12				1	
D3	300+50	300+76	RT		1	26						26	1		125
D4	300+64		RT					25							
D5	300+36		RT	143					143						
D6	300+76	303+37	RT		1	460					460		1		469
TOTALS CARRIED TO SUB-SUMMARY				143	2	486	12	25	143	12	460	133	3	1	691

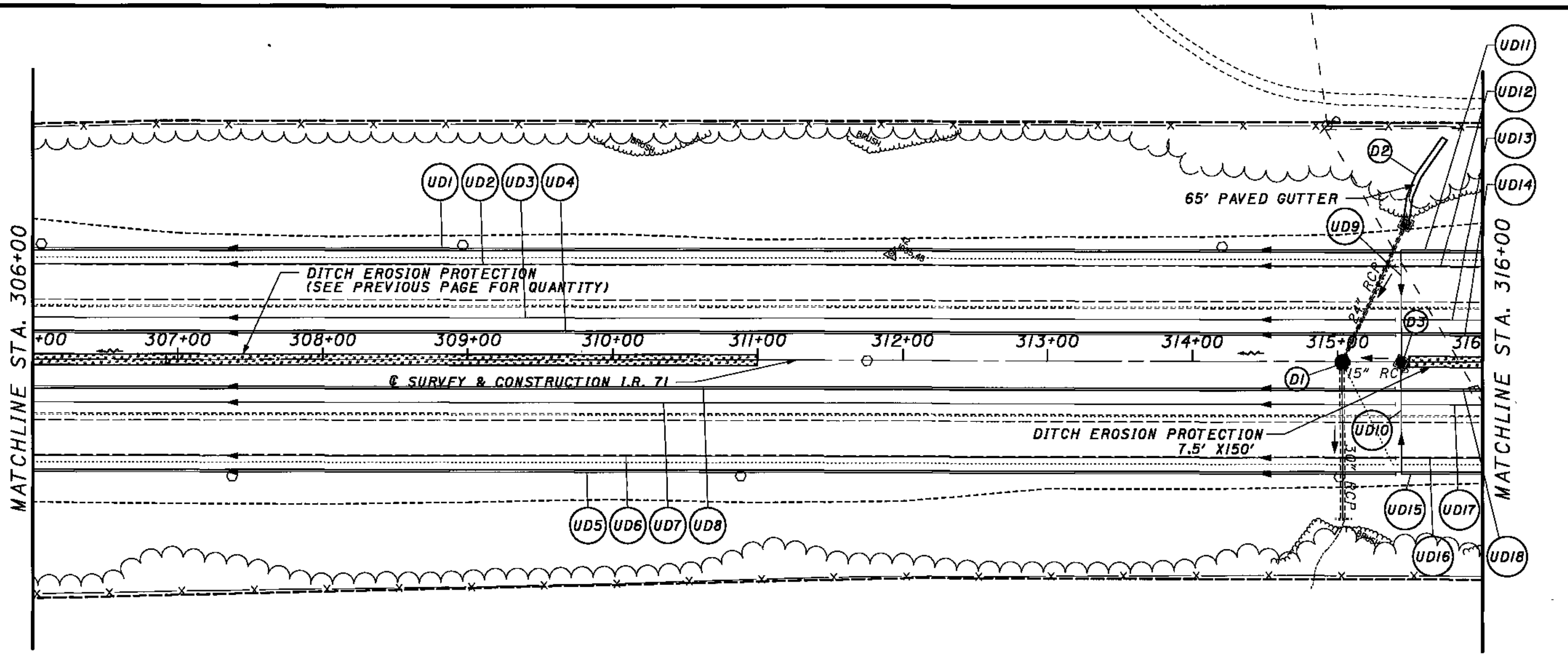
CALCULATED AEP
CHECKED KEH

0 25 50 100
HORIZONTAL SCALE IN FEET

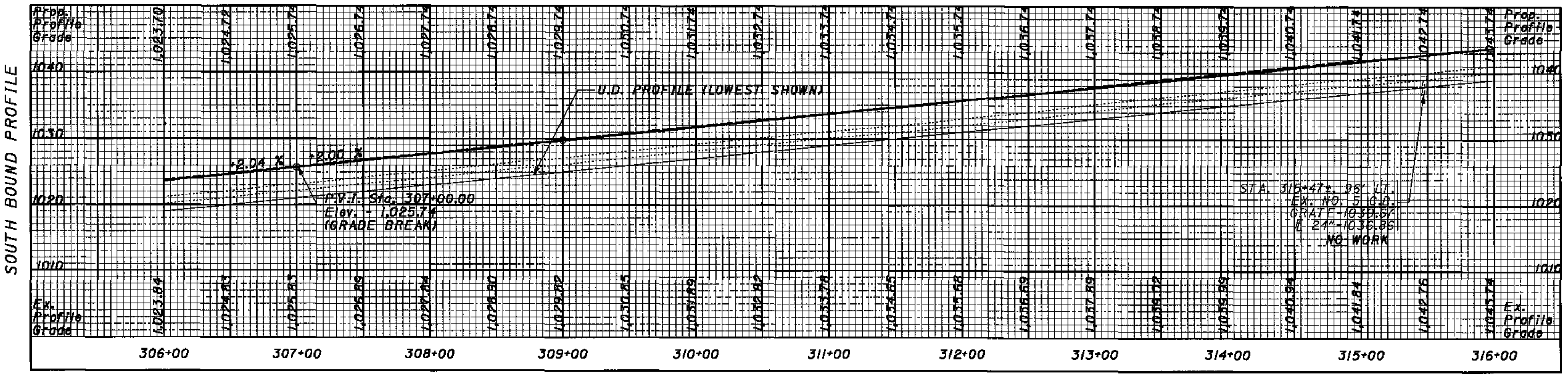
PLAN AND PROFILE
STA. 295+00.00 TO STA. 306+00.00

WAY/MED-71-7.04/0.00

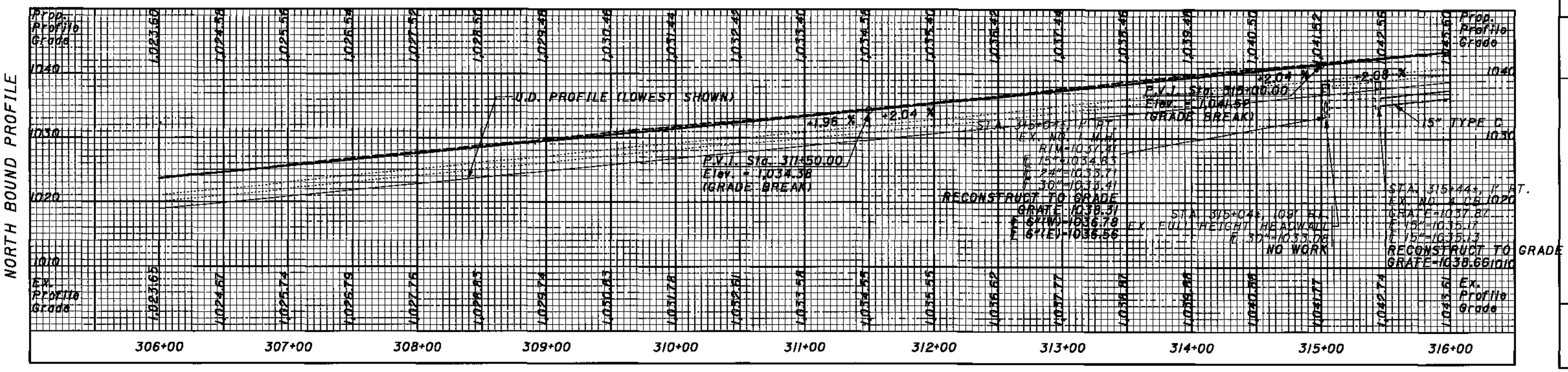
...\14017gp32.dgn



SOUTH BOUND PROFILE



NORTH BOUND PROFILE



CROSS REFERENCES	
SHEET NO.	DESCRIPTION
116	UNDERDRAIN QUANTITIES
124	GUARDRAIL QUANTITIES
422, 423	TRAFFIC CONTROL

REF NO.	STATION		SIDE	202	601	604	604	670
	FROM	TO		GUTTER REMOVED	PAVED GUTTER TYPE 1-2	MANHOLE RECONST. TO GRADE	CATCH BASIN RECONST. TO GRADE	DITCH EROSION PROTECT.
				FEET	FEET	EACH	EACH	SQ. YD.
D1	315+04		RT			1		
D2	315+47		RT	65	65			
D3	315+44		RT				1	125
TOTALS CARRIED TO SUB-SUMMARY				65	65	1	1	125

N

HORIZONTAL
SCALE IN FEET
0 25 50 100

CALCULATED AEP
CHECKED KEH

PLAN AND PROFILE
STA. 306+00.00 TO STA. 316+00.00

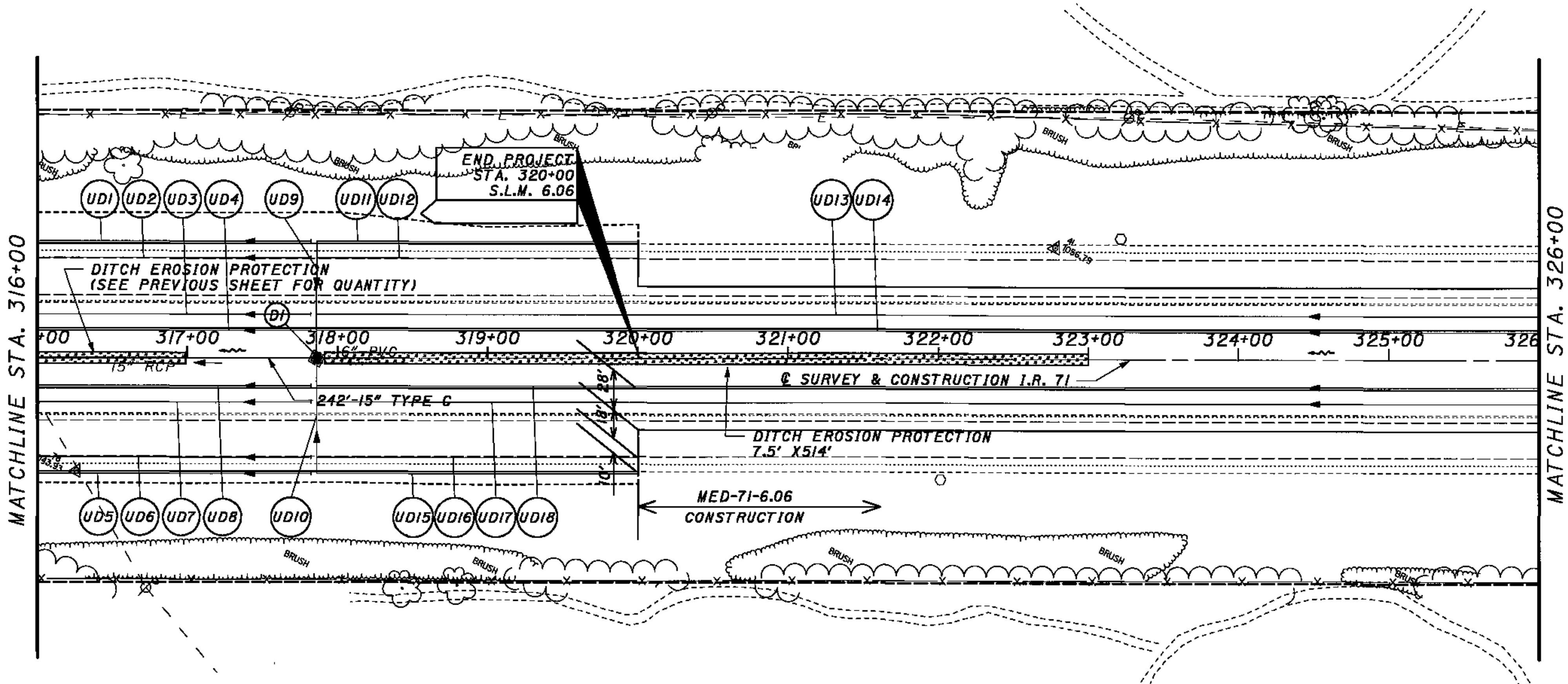
WAY/MED-71-7.04/0.00

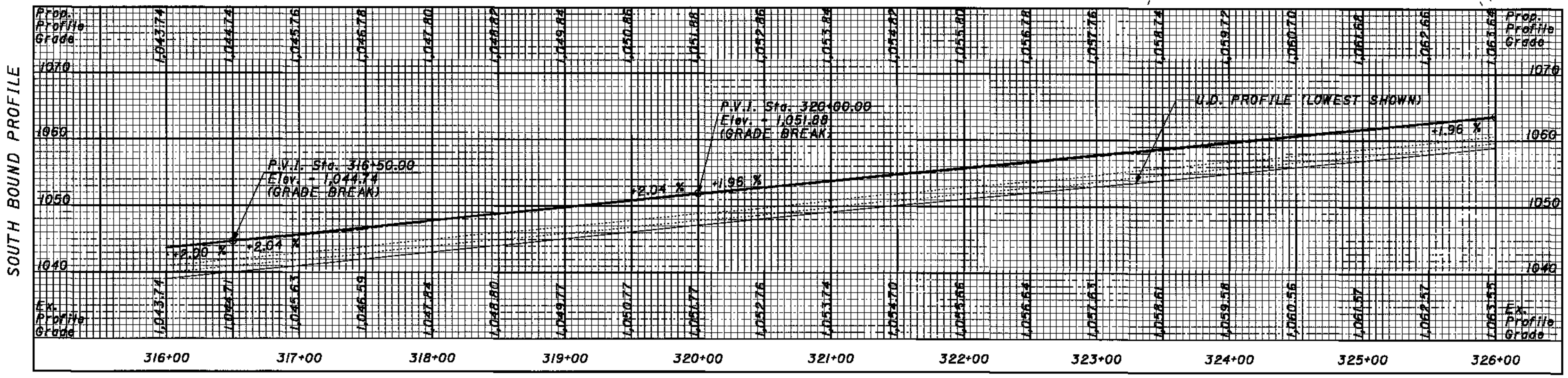
191
785

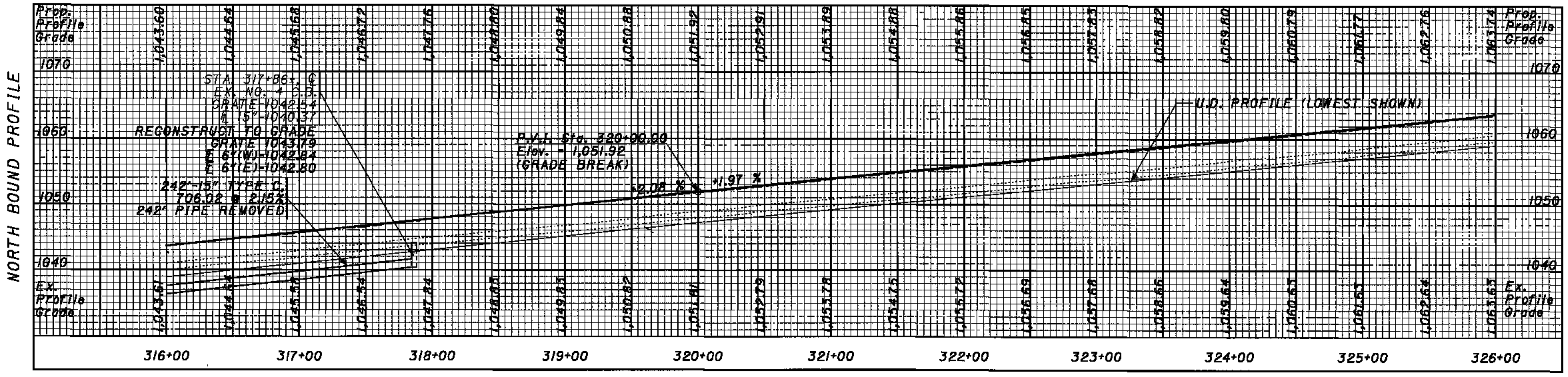
...\1401\7gp33.dgn

NO WORK

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
116	UNDERDRAIN QUANTITIES
124	GUARDRAIL QUANTITIES
423	TRAFFIC CONTROL







REF NO.	STATION		SIDE	202	603	604	670
	FROM	TO		PIPE REMOVED, 24" AND UNDER	15" CONDUIT TYPE C, 706.02	CATCH BASIN RECONST. TO GRADE	DITCH EROSION PROTECT.
				FEET	FEET	EACH	SQ. YD.
DI	317+86		℄	242	242	1	428
TOTALS CARRIED TO SUB-SUMMARY				242	242	1	428

0 25 50 100
HORIZONTAL
SCALE IN FEET

CALCULATED AEP
CHECKED KEH

PLAN AND PROFILE
STA. 316+00.00 TO STA. 326+00.00

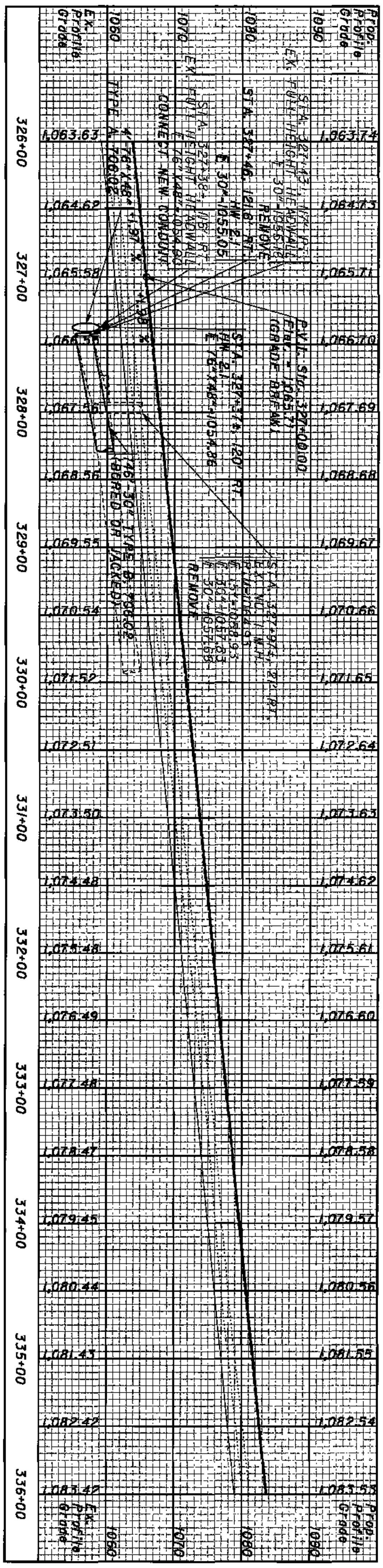
WAY/MED-71-7.04/0.00

192
785

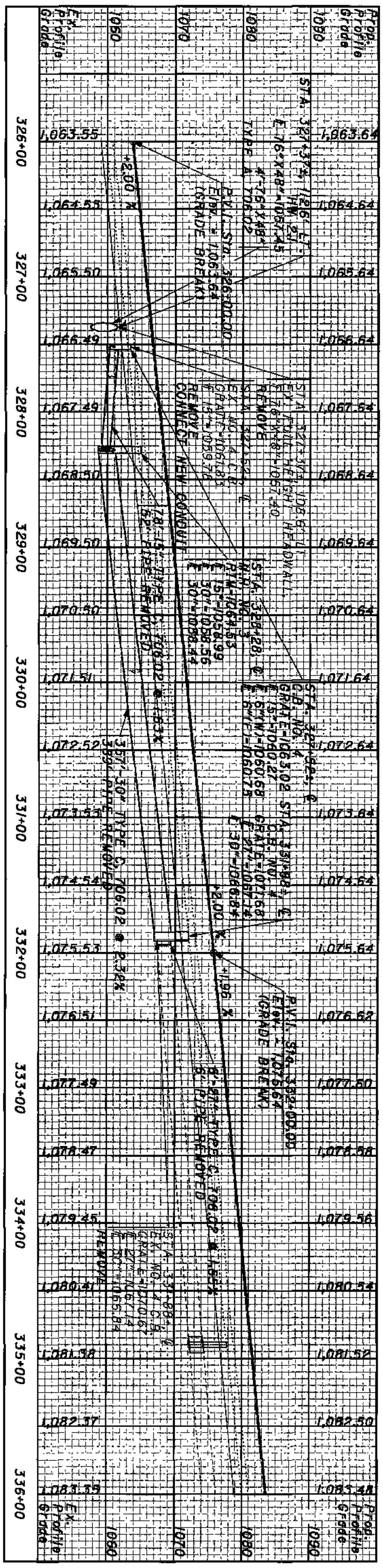
...\1407gp34.dgn

...\14017gp35.dgn

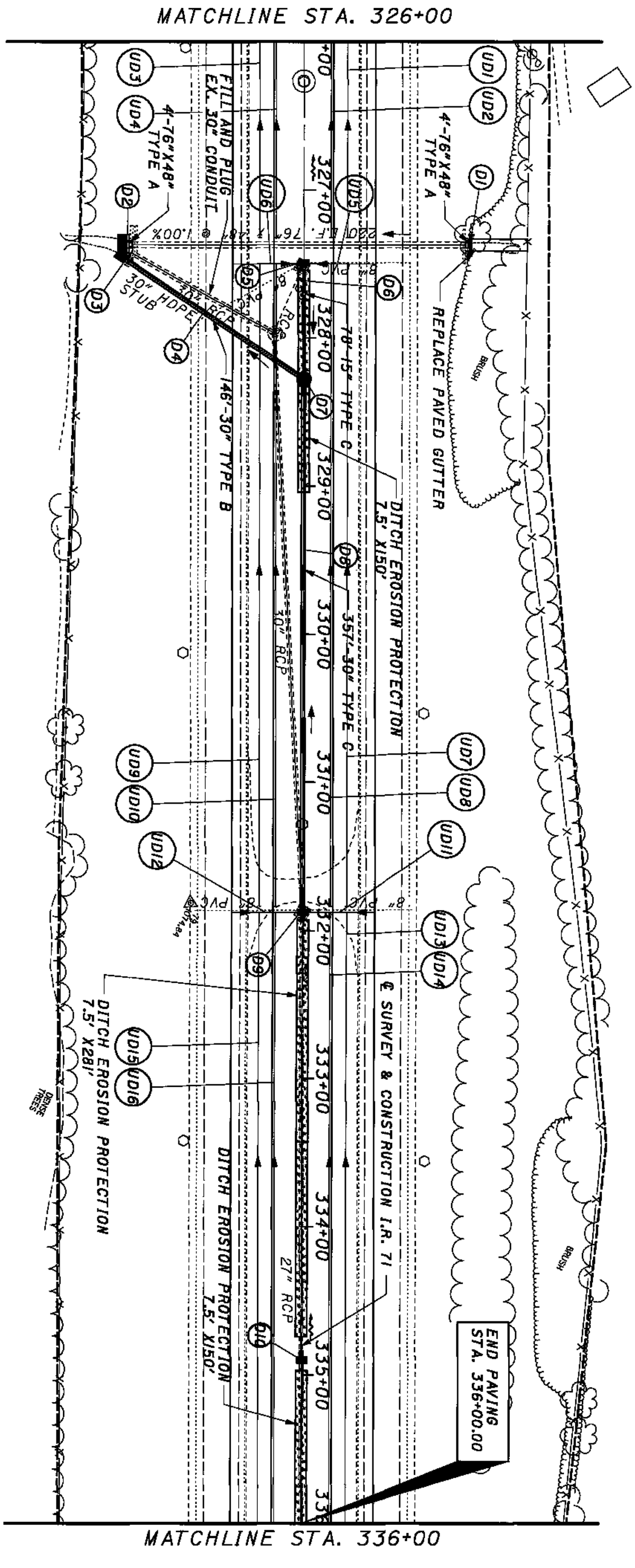
NORTH BOUND PROFILE



SOUTH BOUND PROFILE



CROSS REFERENCES	
SHEET NO.	DESCRIPTION
116	UNDERDRAIN QUANTITIES
124	GUARDRAIL QUANTITIES
423	TRAFFIC CONTROL



REF NO.	STATION FROM	STATION TO	SIDE	202 GUTTER REMOVED FEET	202 CATCH BASIN/ MANHOLE REMOVED CB EACH	202 CATCH BASIN/ MANHOLE REMOVED MH EACH	202 PIPE REMOVED ≤24" FEET	202 PIPE REMOVED >24" FEET	202 STRUCTURE REMOVED EACH	SPECIAL FILL AND PLUG EXIST. CONDUIT FEET	601 ROCK CHANNEL PROTECT., TYPE C W/ F. FABRIC CU. YD.	601 PAVED GUTTER TYPE 1-6 FEET	602 CONCRETE MASONRY CU. YD.	603 76" X48" CONDUIT TYPE A 706.02 FEET	603 CONDUIT TYPE C, 706.02 15" FEET	603 CONDUIT TYPE C, 706.02 27" FEET	603 CONDUIT TYPE C, 706.02 30" FEET	603 CONDUIT, BORED OR JACKED,APP: 30" TYPE B, 706.02 FEET	604 NO. 4 CATCH BASIN EACH	604 NO. 3 MANHOLE EACH	670 DITCH EROSION PROTECT. SQ. YD.
D1	327+37		LT	40								40	1.34	4							
D2	327+37		RT								3.5		1.34	4							
D3	327+37		RT						1		2.2		0.56								
D4	327+37	328+28	RT							111								146			
D5	327+52		℄		1														1		125
D6	327+52	328+28	℄				52								78						
D7	328+28		℄			1														1	
D8	328+28	331+88	℄					389									357				
D9	331+88		℄		1		6									6			1		234
D10	334+90	336+47	℄					12								12			1		125
TOTALS TO SUB-SUMMARY				40	2	1	58	401	1	111	5.7	40	3.24	8	78	18	357	146	3	1	484

193
785

WAY/MED-71-7.04/0.00

PLAN AND PROFILE
STA. 325+00.00 TO STA. 336+00.00

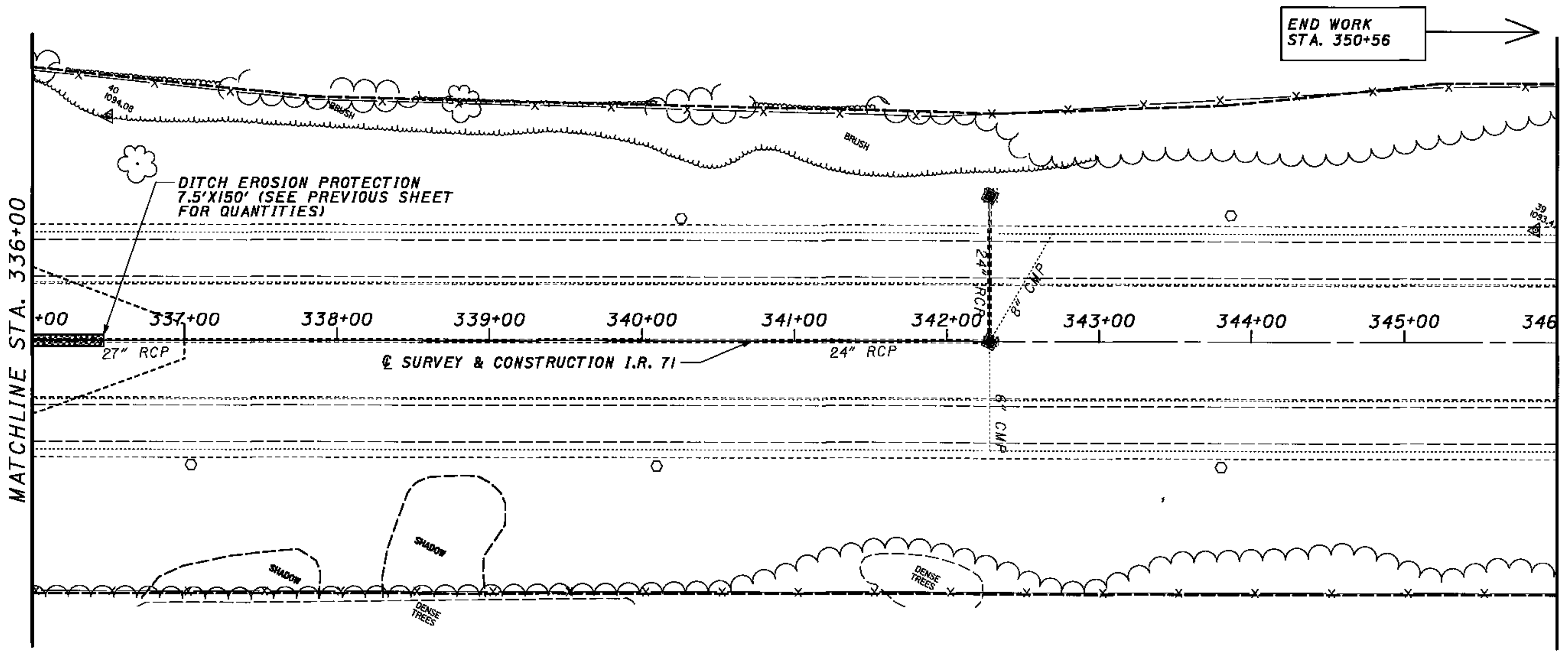
CALCULATED AEP
CHECKED KEH

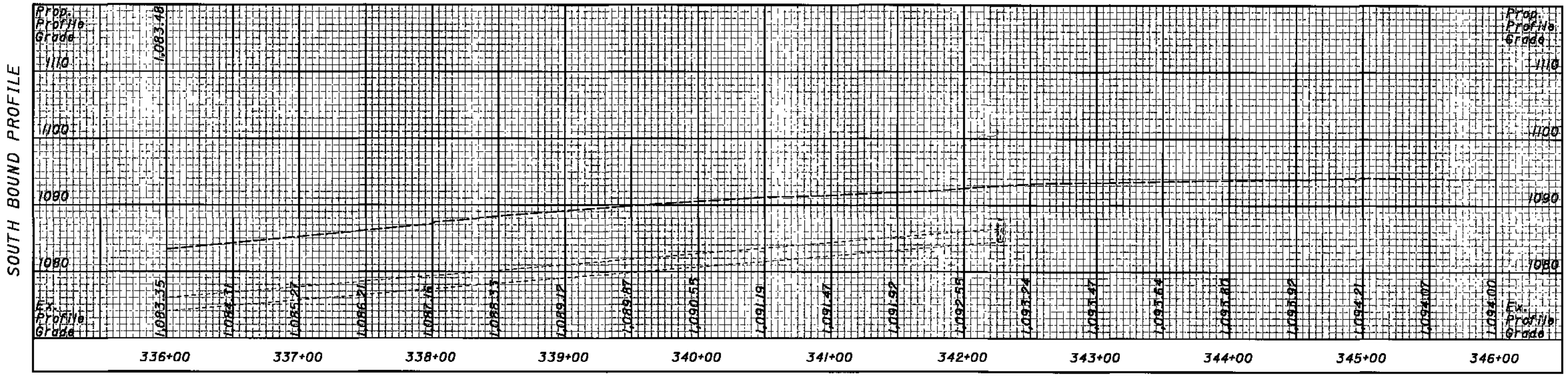
0 25 50 100
HORIZONTAL SCALE IN FEET

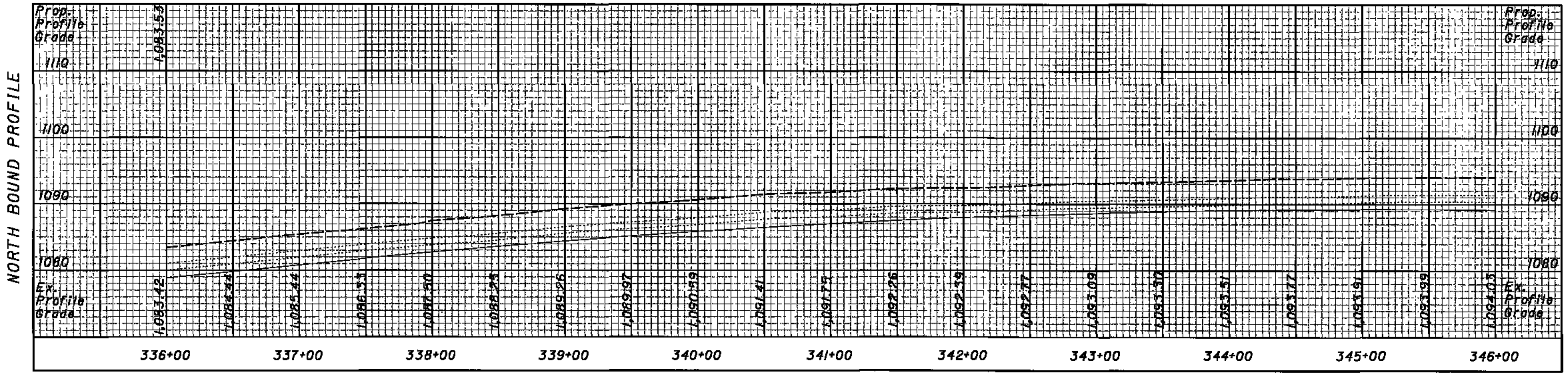
PLAN AND PROFILE
STA. 336+00.00 TO STA. 346+00.00

WAY/MED-71-7.04/0.00

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
423, 424	TRAFFIC CONTROL







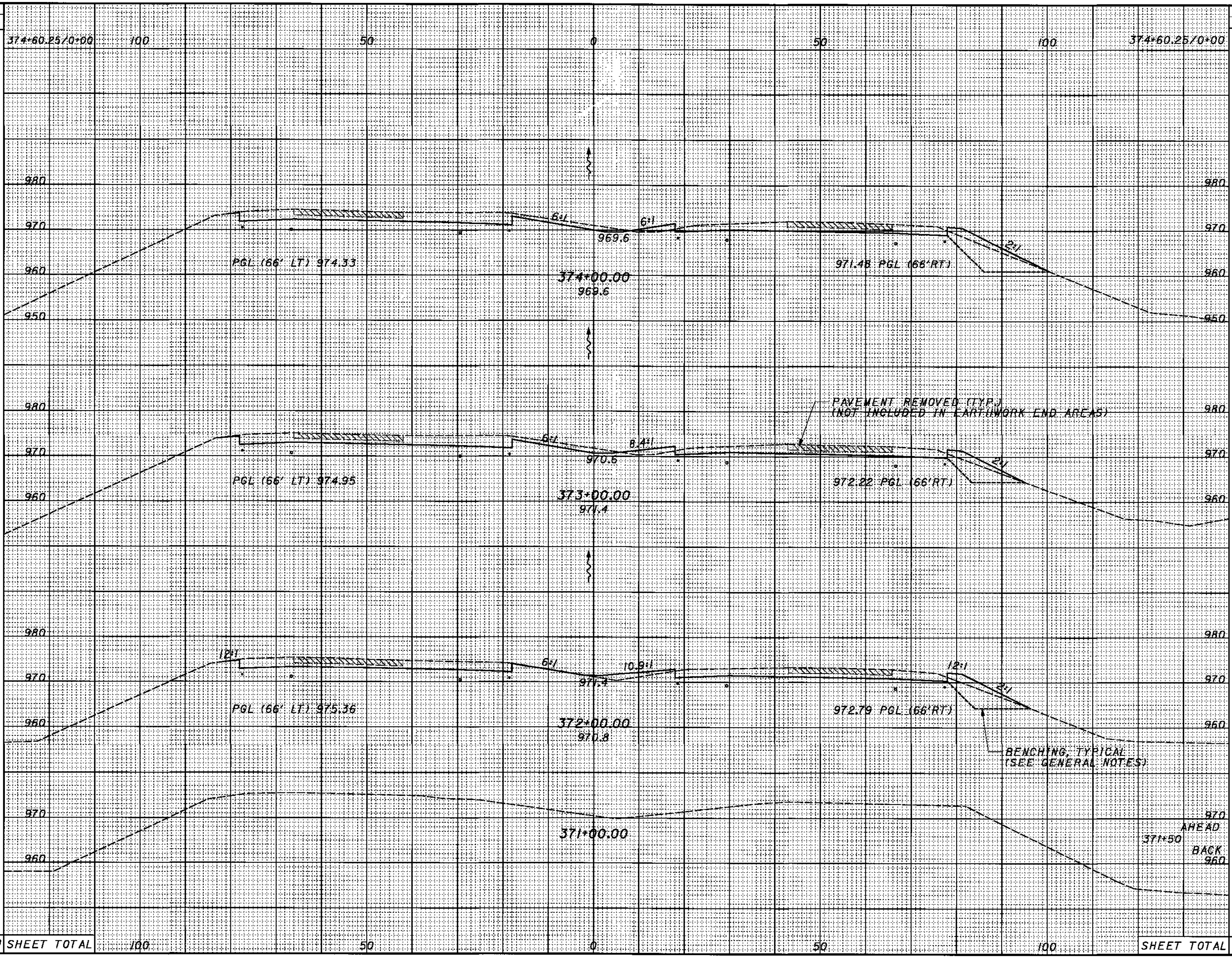
REF NO.	STATION FROM	STATION TO	SIDE

TOTALS CARRIED TO GENERAL SUMMARY

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED AEP
CHECKED KEH

...\4017gp36.dgn



SEEDING END WIDTH	SEEDING SQ. YDS.	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
72		374+60.25/0+00	167	38		
	493				406	78
75		374+00.00	197	31		
	789				730	110
67		373+00.00	197	28		
	750				682	115
68		372+00.00	171	34		
	378				317	64
68		371+50 AHEAD	171	34		
	0					
0		371+50 BACK	0	34		
					0	32
		371+00.00	0	0		
	2410	SHEET TOTAL			2135	399

CALCULATED AEP
CHECKED ENF

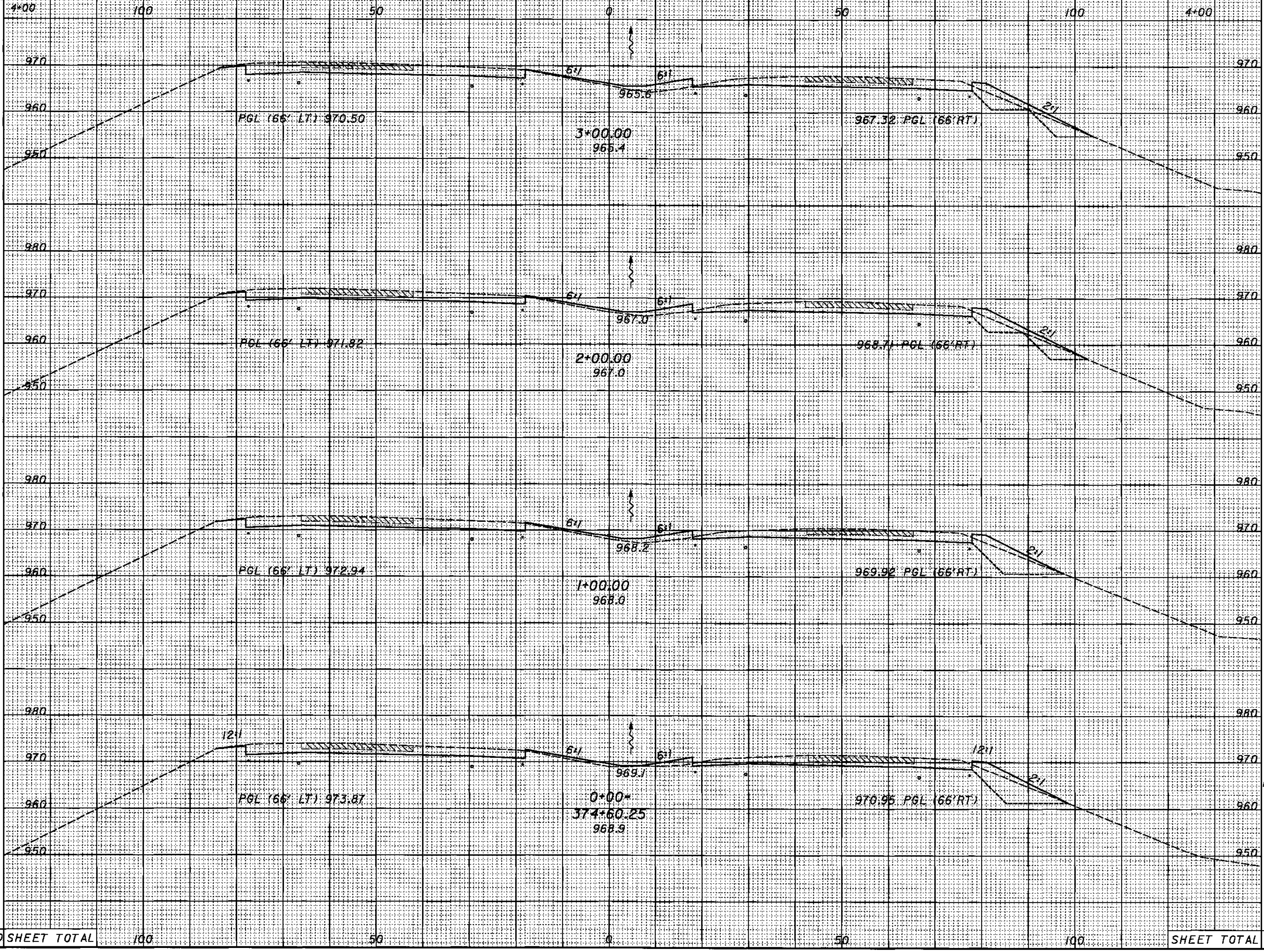
CROSS SECTIONS
STA. 372+00 TO STA. 374+00

WAY/MED-71-7.04/0.00

195
785

..\14017GXA.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
92	
	934
76	
	839
75	
	812
71	
	795
72	
	3380 SHEET TOTAL



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
179	55		
		660	199
177	52		
		652	183
175	47		
		638	167
170	43		
		623	151
167	38		
SHEET TOTAL		2573	1312

CALCULATED AEP
CHECKED ENF

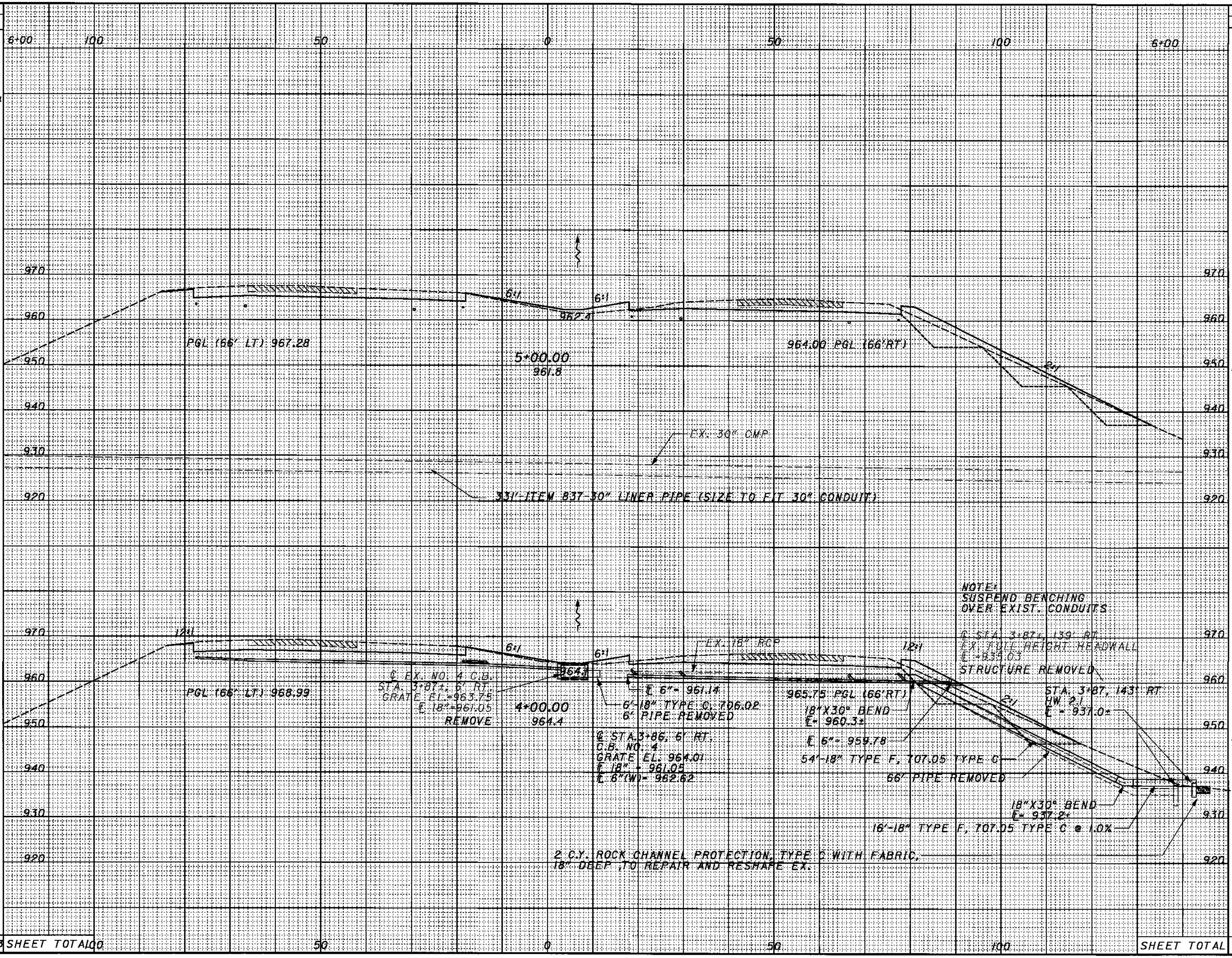
CROSS SECTIONS
STA. 0+00 TO STA. 3+00

WAY/MED-71-7.04/0.00

196
785

...\14017GXA.dgn

SEEDING	
END WIDTH	SQ. YDS.
109	
	1234
113	
	1139
92	
	2373 SHEET TOTAL



END AREA		VOLUME	
CUT	FILL	CUT	FILL
171	79		
		649	293
179	79		
		663	249
179	55		
		1312	542

CALCULATED AEP
CHECKED ENF

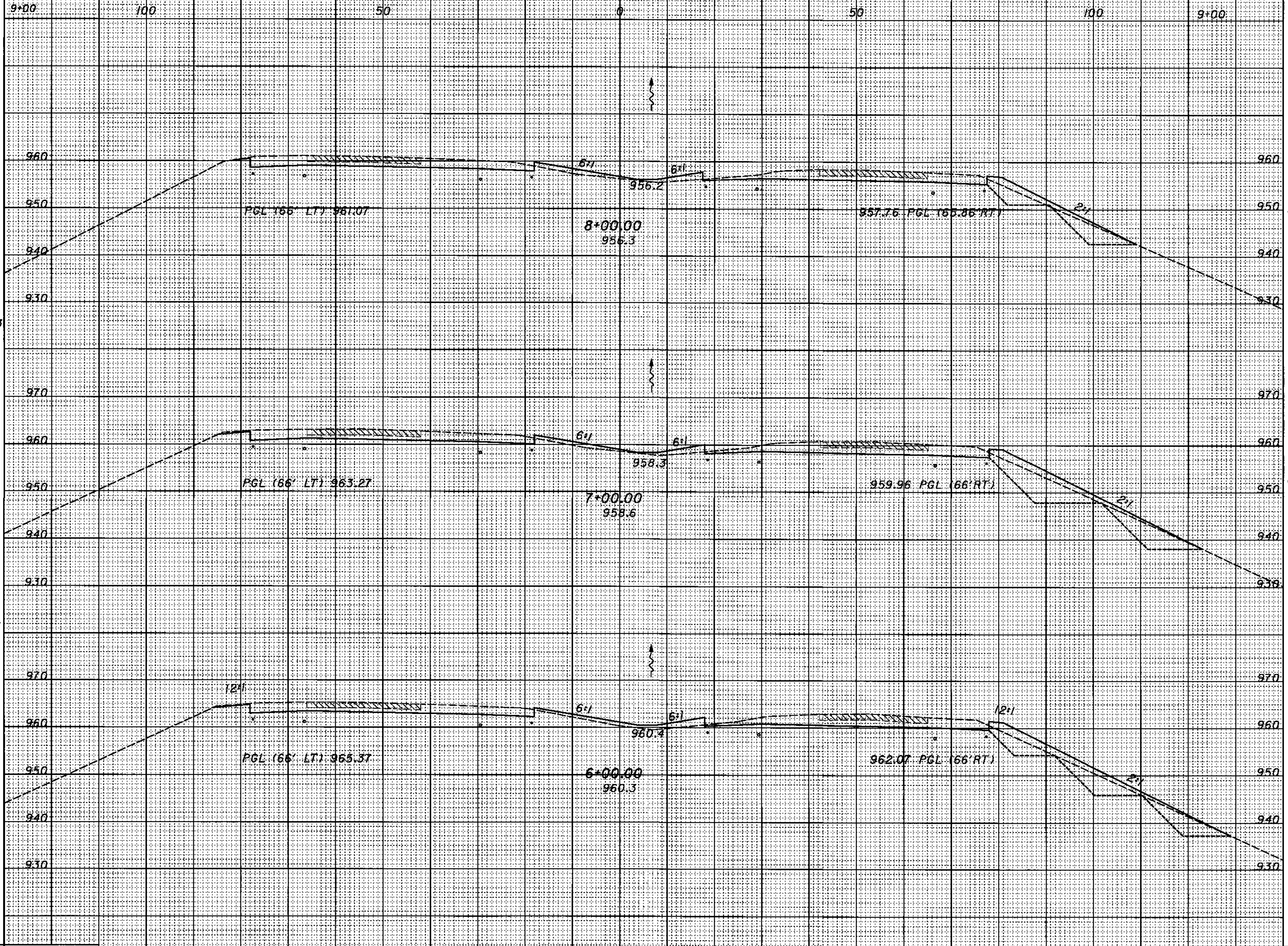
CROSS SECTIONS
STA. 4+00 TO STA. 5+00

WAY/MED-71-7.04/0.00

197
785

...\14017GXA.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
72	
	862
83	
	1023
101	
	1167
109	
	3052 SHEET TOTAL



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
156	37		
		581	172
158	56		
		611	231
172	69		
		635	274
171	79		
		1827	677

CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 6+00 TO STA. 8+00

WAY/MED-71-7.04/0.00

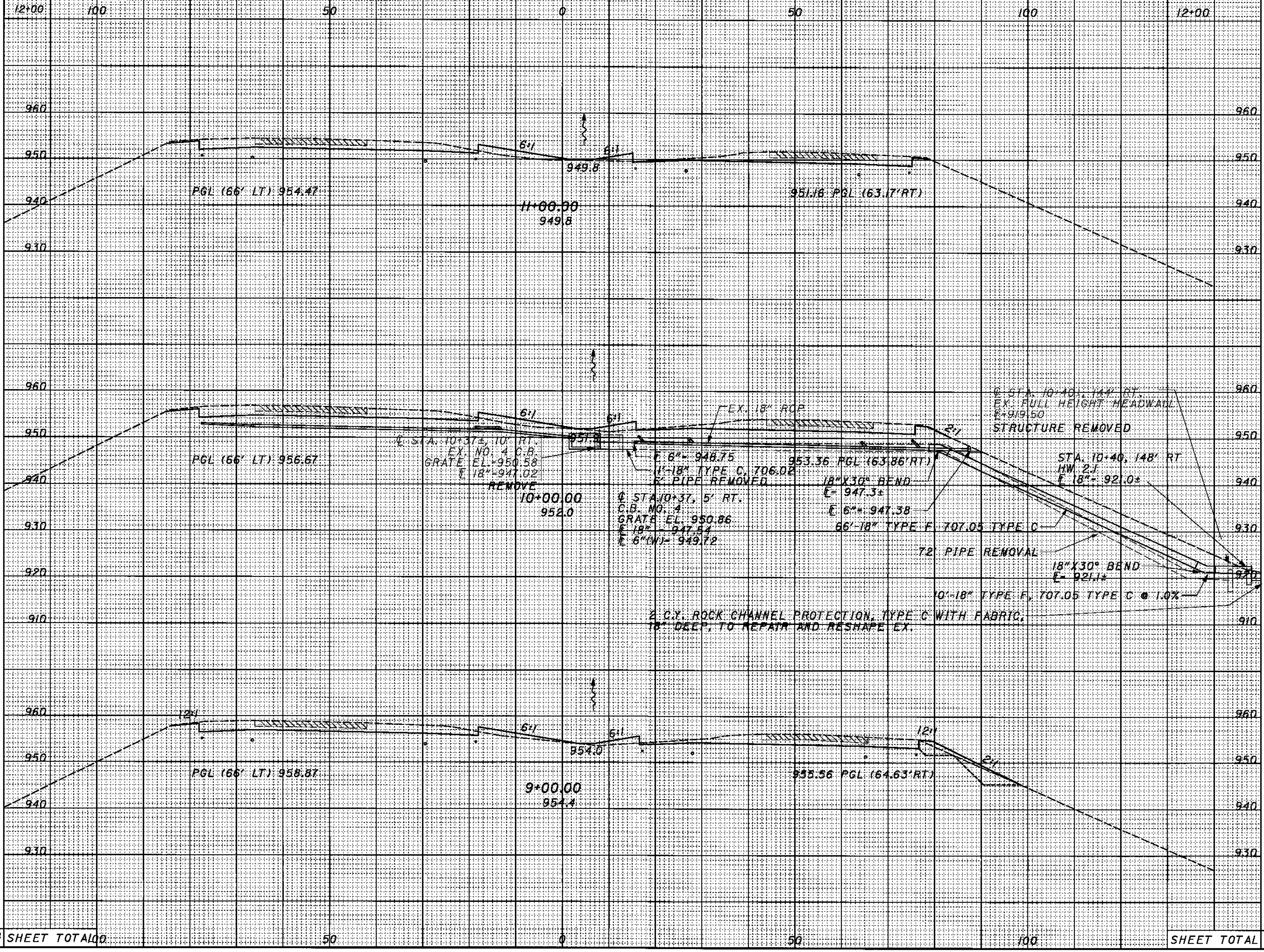
198
785

...\14017GXA.dgn

CROSS SECTIONS
STA. 9+00 TO STA. 11+00

WAY/MED-71-7.04/0.00

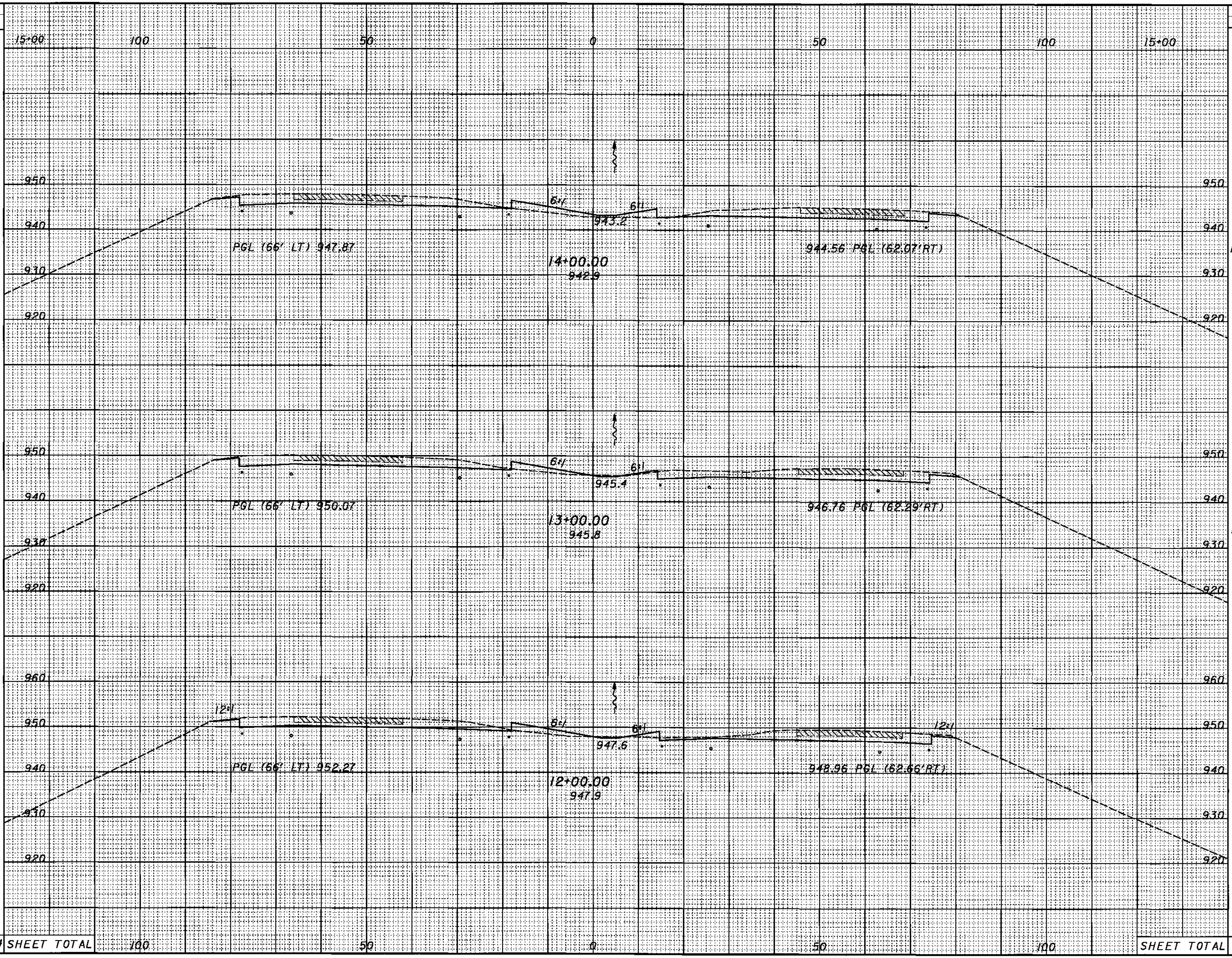
CALCULATED AEP
CHECKED ENF



SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
54		149	23		
	595			554	100
53		150	31		
	612			575	118
57		160	33		
	717			584	129
72		156	37		
	1924			1713	347

...\14017XA.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
51		131	38		
	584			534	136
54		157	35		
	595			620	99
53		178	18		
	595			605	77
54		149	23		
SHEET TOTAL	1774	SHEET TOTAL		1759	312



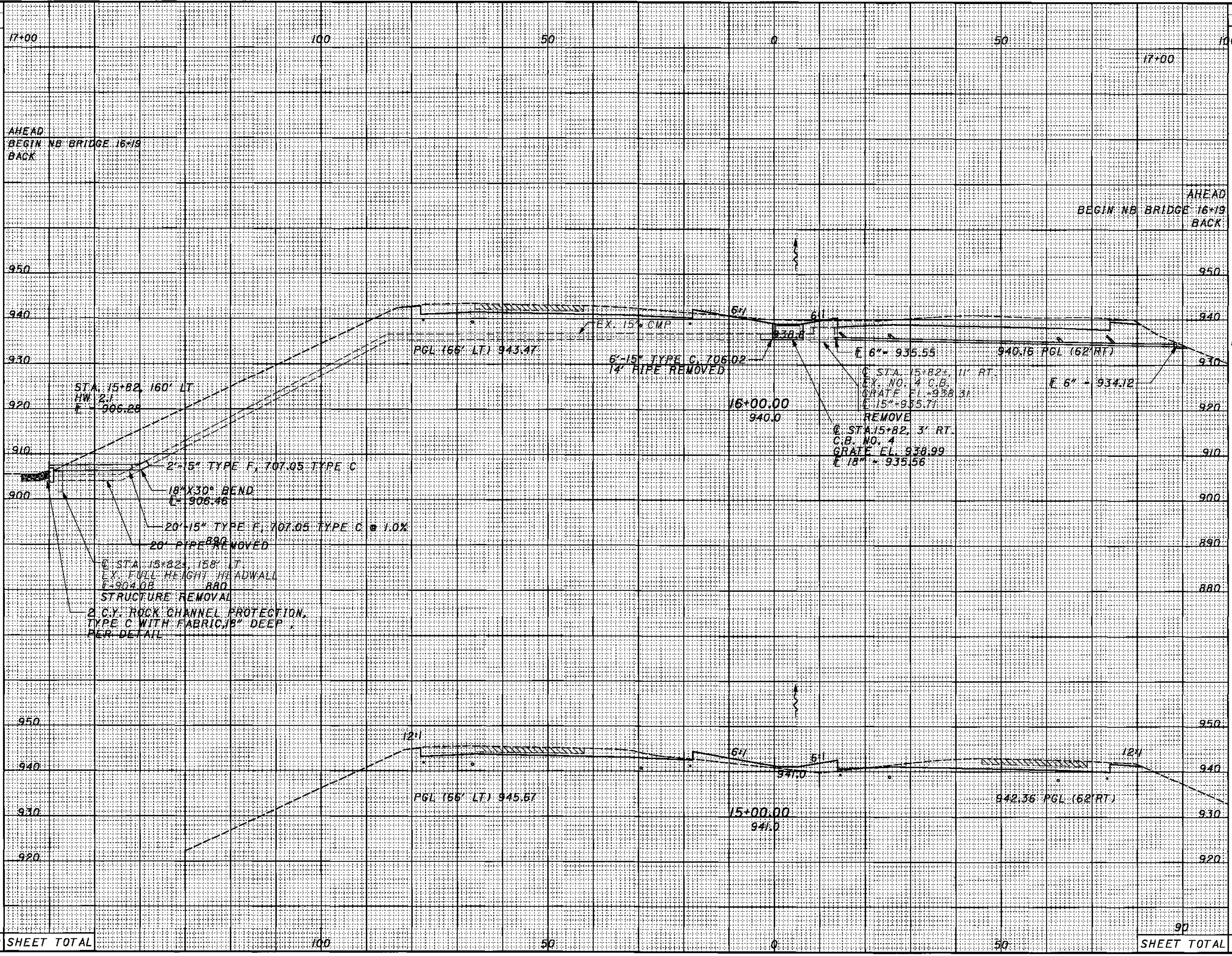
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 12+00 TO STA. 14+00

WAY/MED-71-7.04/0.00

...\14017GXA.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
11	
	163
25.5	
51	
	112
51	
	567
51	
	842



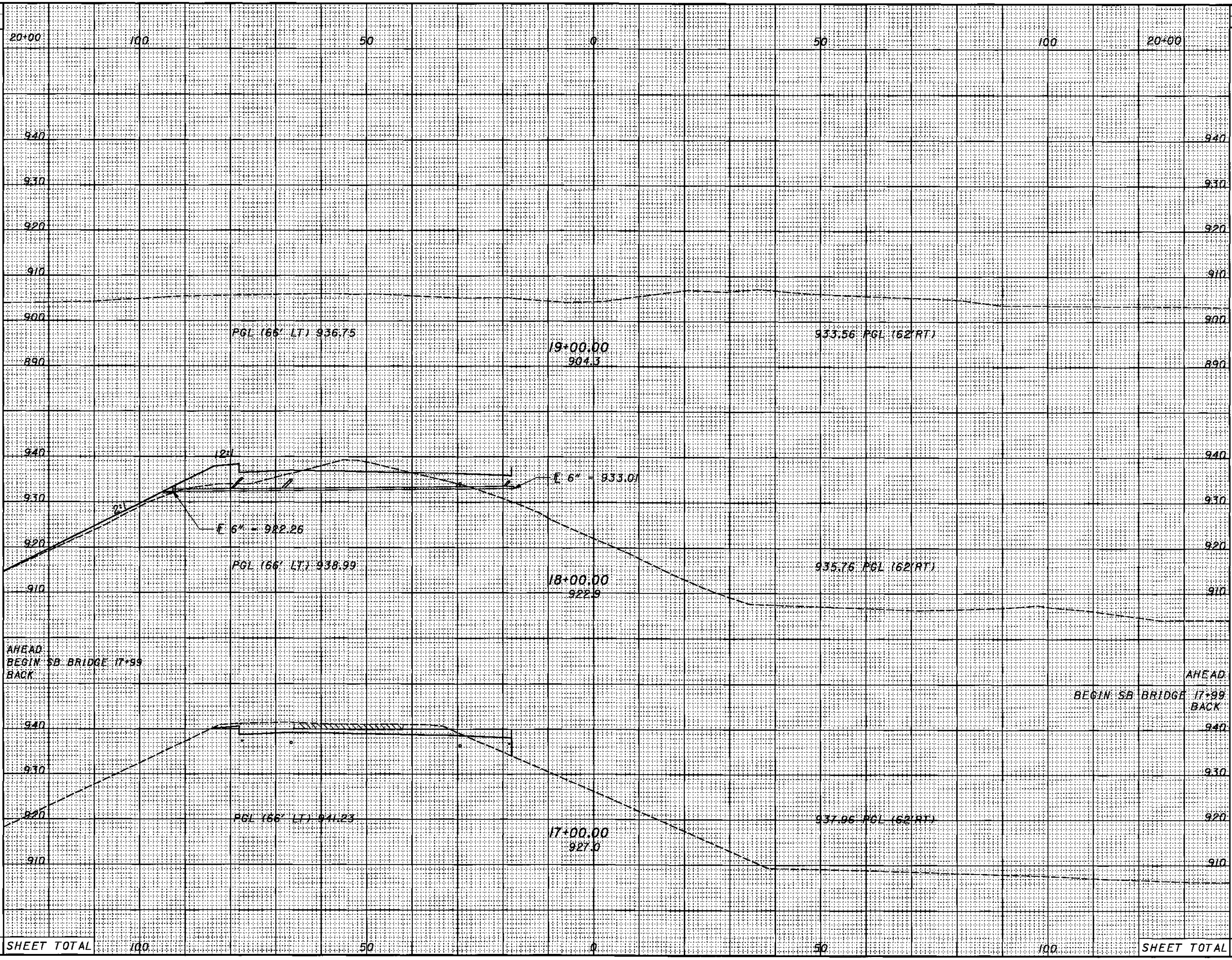
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
78	21		
		245	38
85	4		
169	8		
		124	4
182	4		
		580	79
131	38		
		949	121

CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 15+00 TO STA. 16+00

WAY/MED-71-7.04/0.00

...\14017GXA.dgn



SEEDING END WIDTH	SEEDING SQ. YDS.	Station	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0		20+00	0	0		
	0				0	0
0		19+00.00	0	0		
	0				0	0
		18+00.00	0	0		
					0	0
0		AHEAD BEGIN SB BRIDGE 17+99	0	0		
64		BACK	4	151		
	414				150	315
11		17+00.00	78	21		
	414	SHEET TOTAL			150	315

CALCULATED AEP
CHECKED ENF

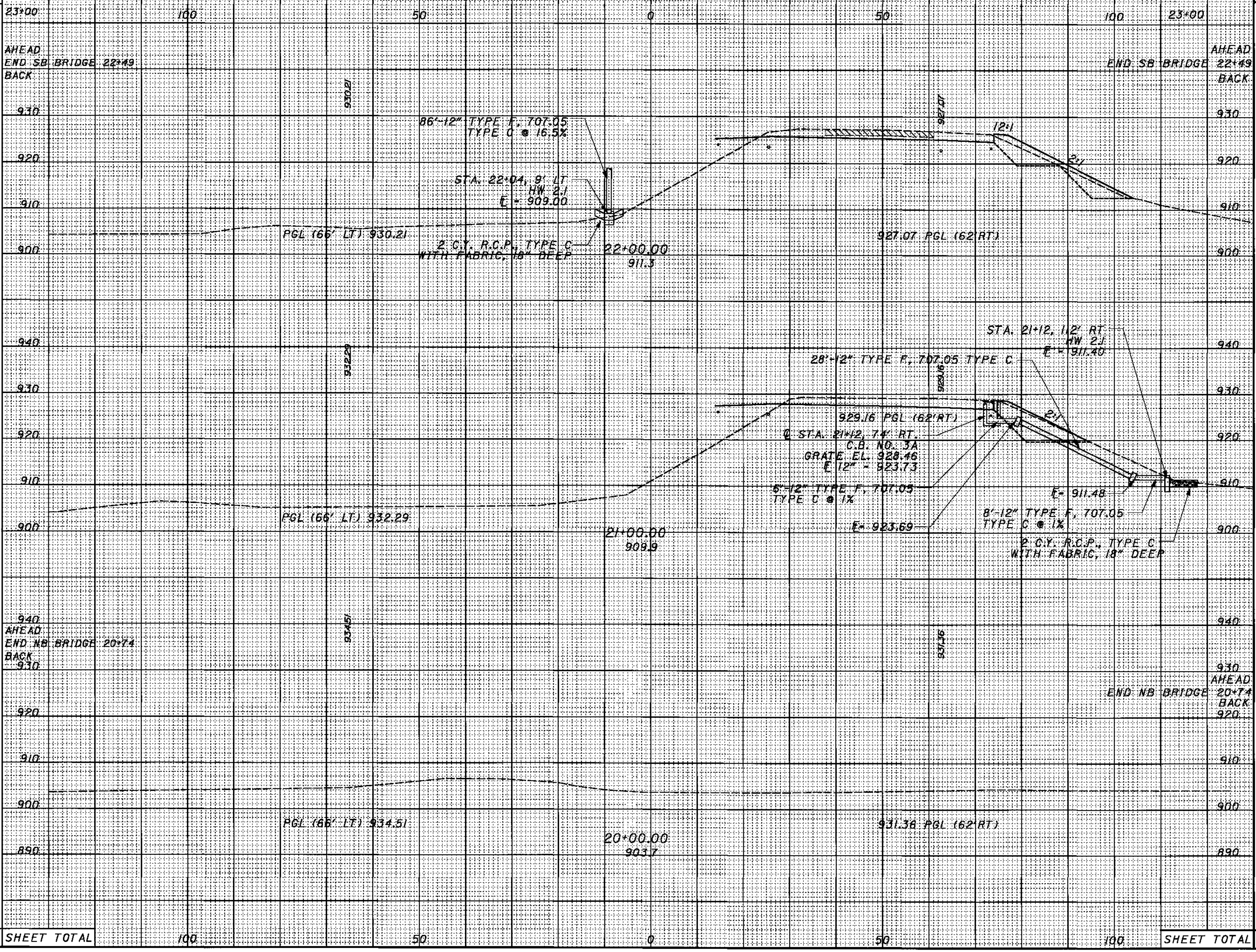
CROSS SECTIONS
STA. 17+00 TO STA. 19+00

WAY/MED-71-7.04/0.00

202
785

...\14017GXA.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
58	
	333
58	
29	
	178
37	
	456
45	
	135
45	
0	
	0
0	
	1102



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
158	29		
		298	56
157	30		
79	15		
		123	61
56	52		
		192	227
48	70		
		46	67
47	70		
0	0		
0	0		
		659	411

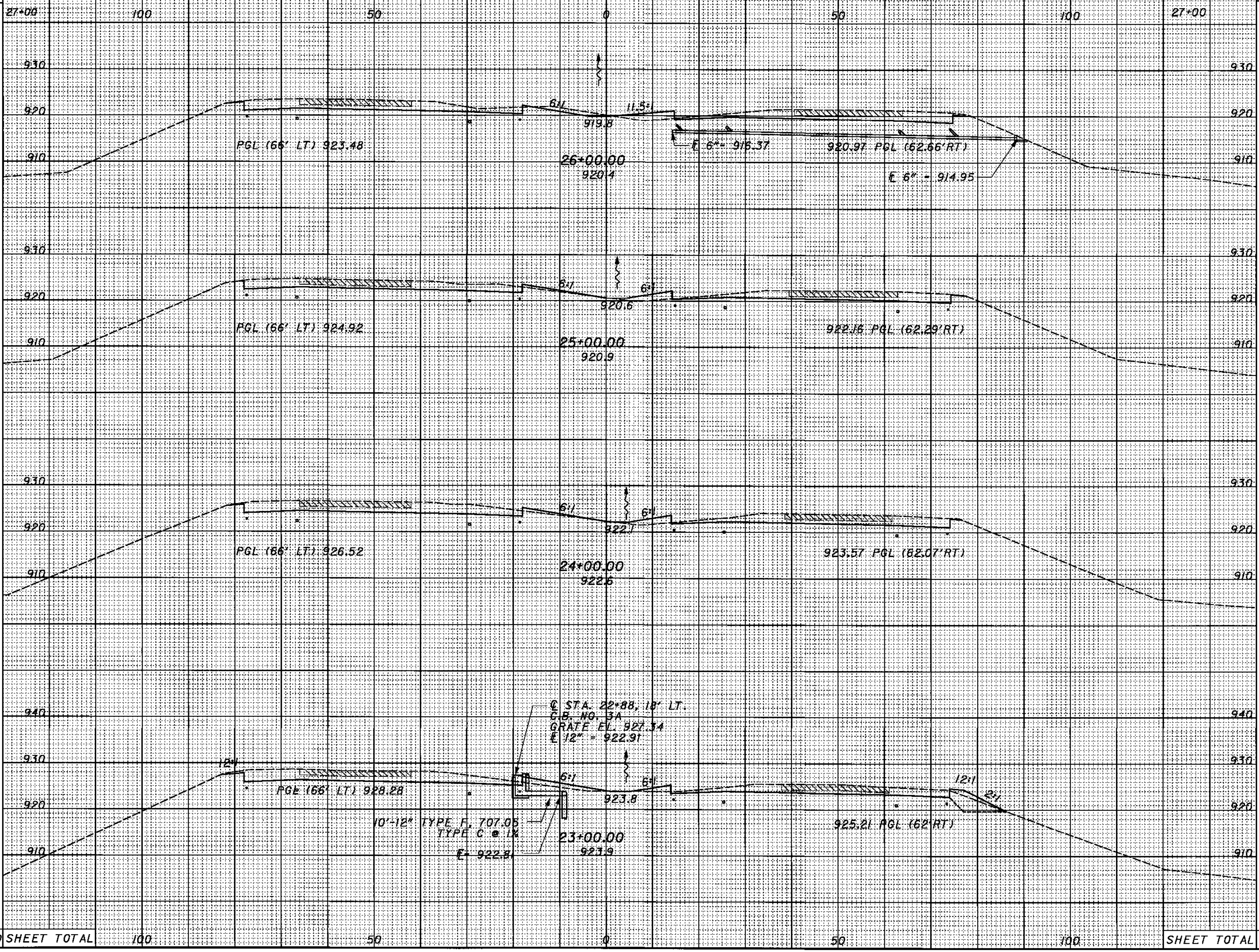
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 20+00 TO STA. 22+00

WAY/MED-71-7.04/0.00

...\14017GXA.dgn

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
55		169	30		
	578			616	86
49		164	17		
	539			557	65
48		137	18		
	534			563	64
48		167	16		
	589			602	84
58		158	29		
	2240 SHEET TOTAL		SHEET TOTAL	2338	299



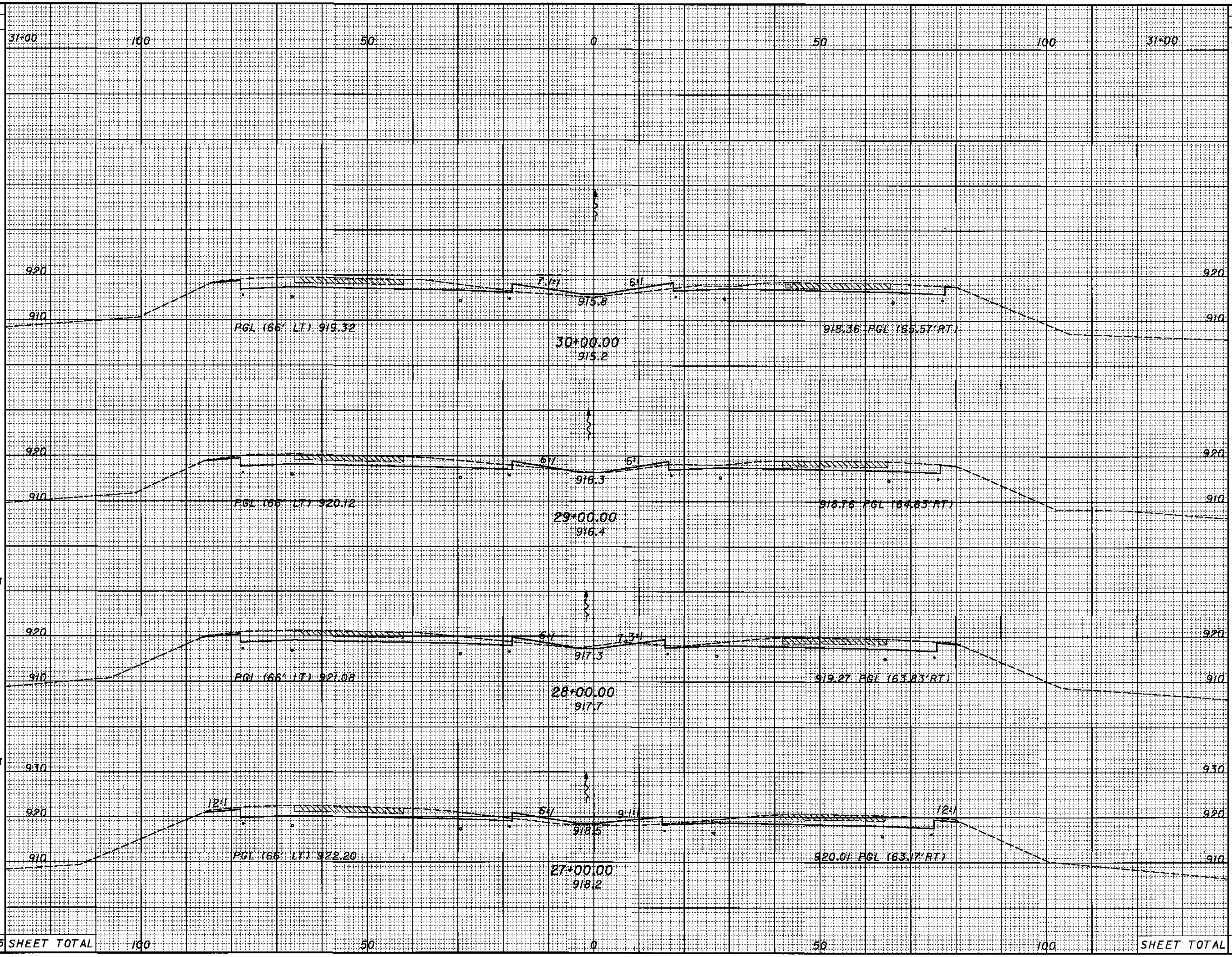
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 23+00 TO STA. 26+00

WAY/MED-71-7.04/0.00

...\4017GXA.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
65	
	667
55	
	612
55	
	623
57	
	623
55	
	2525



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
153	38		
		544	132
141	33		
		555	84
158	12		
		604	44
167	11		
		623	77
169	30		
		2326	337

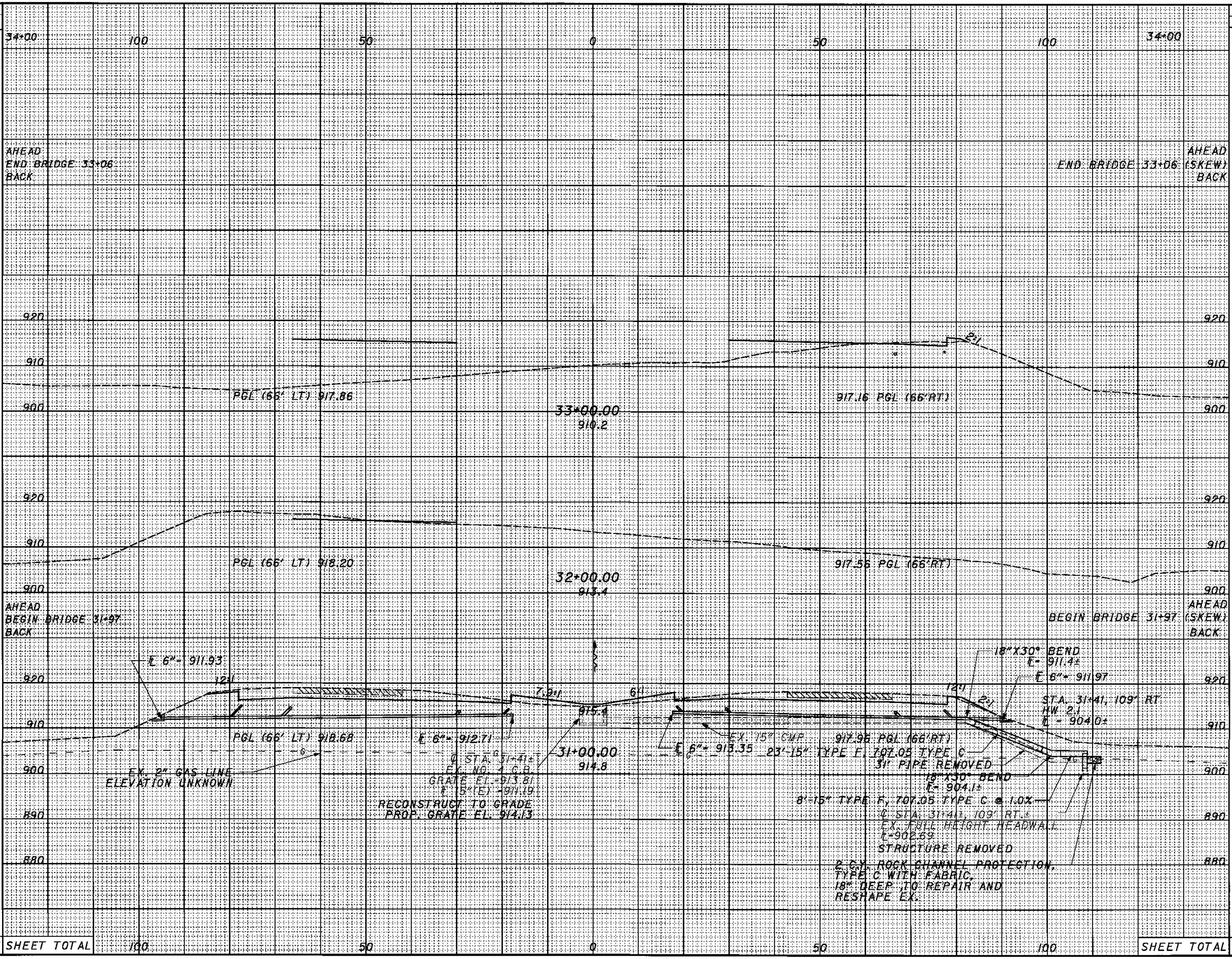
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 27+00 TO STA. 30+00

WAY/MED-71-7.04/0.00

205
785

...\14017GXA.dgn



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
54		154	37		
	562			535	134
54		154	40		
0		0	0		
	0			0	0
0		0	0		
	0			0	0
0		0	0		
				0	0
0		0	0		
65		139	40		
	703			526	141
65		153	38		
	1265			1061	275

CALCULATED AEP
CHECKED ENF

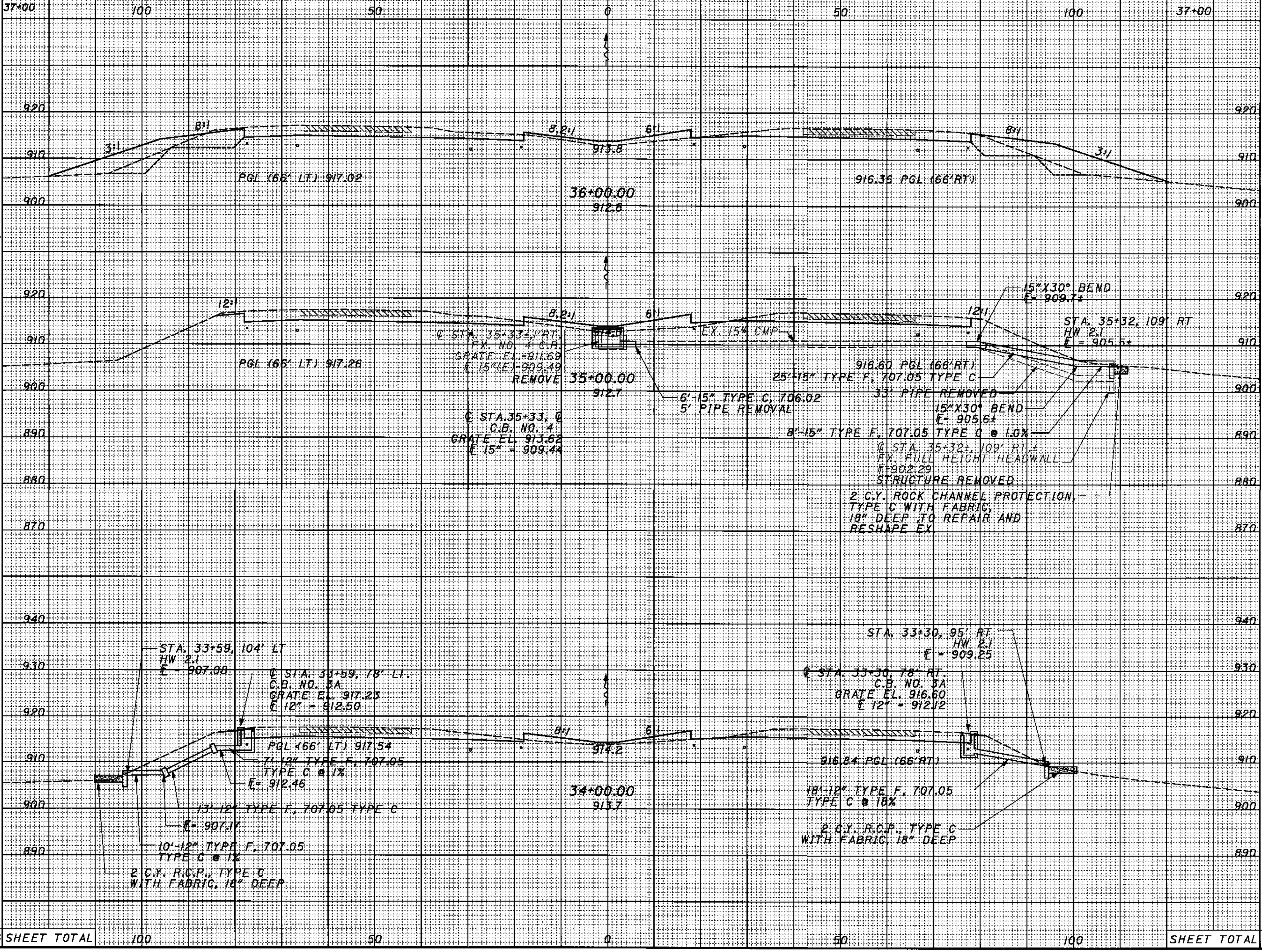
CROSS SECTIONS
STA. 31+00 TO STA. 33+00

WAY/MED-71-7.04/0.00

206
785

...\4017GXA.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
127		166	176		
	1439			596	712
132		155	208		
	1039			575	491
55		155	57		
	606			574	174
54		154	37		
	3084 SHEET TOTAL			1745	1377



CALCULATED AEP
CHECKED ENF

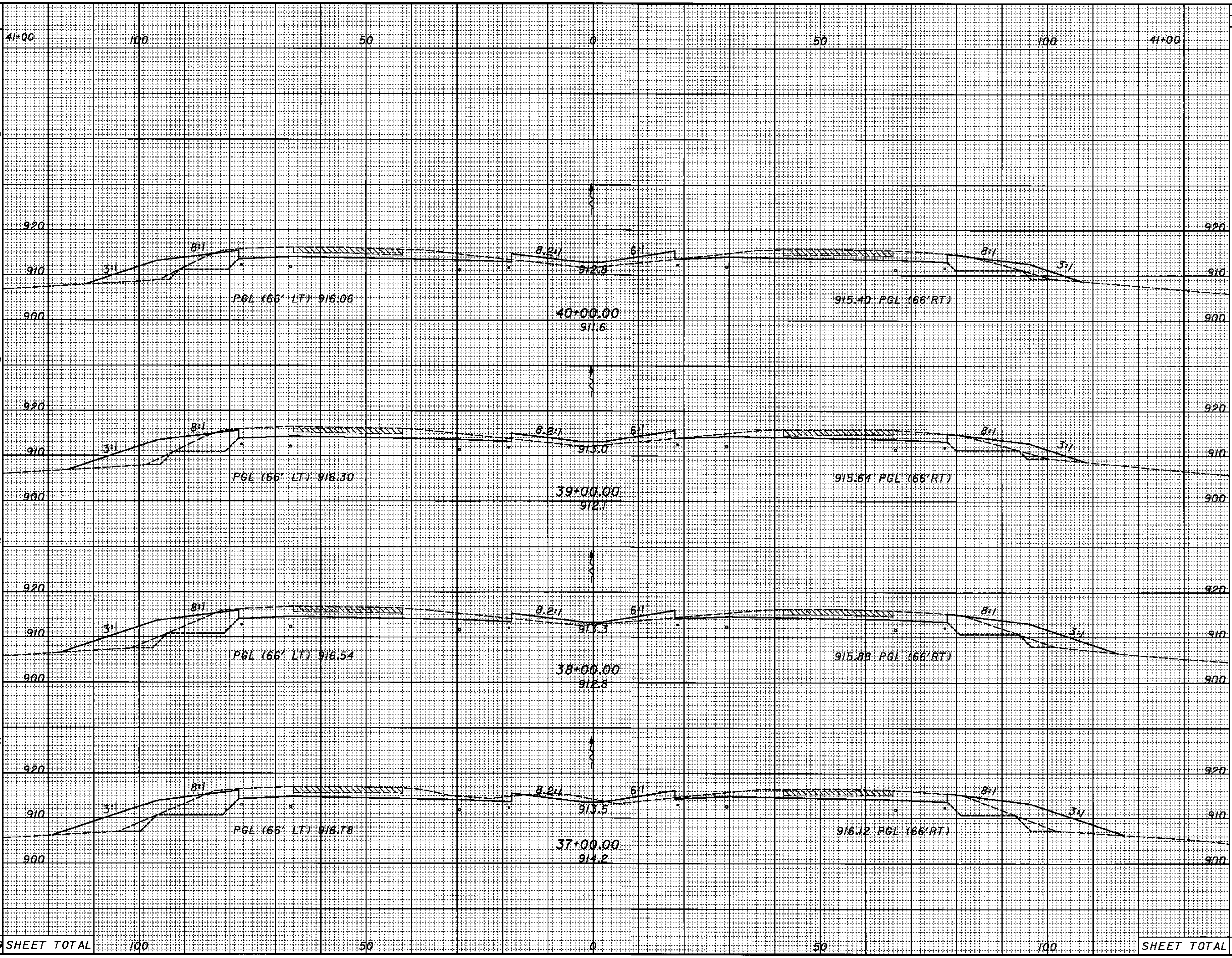
CROSS SECTIONS
STA. 34+00 TO STA. 36+00

WAY/MED-71-7.04/0.00

207
785

...\14017GXA.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
116	
	1250
109	
	1300
125	
	1384
124	
	1395
127	
	5329 SHEET TOTAL



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
160	141		
		577	509
151	133		
		553	528
147	151		
		561	607
156	176		
		597	652
166	176		
		2288	2296

CALCULATED AEP
CHECKED ENF

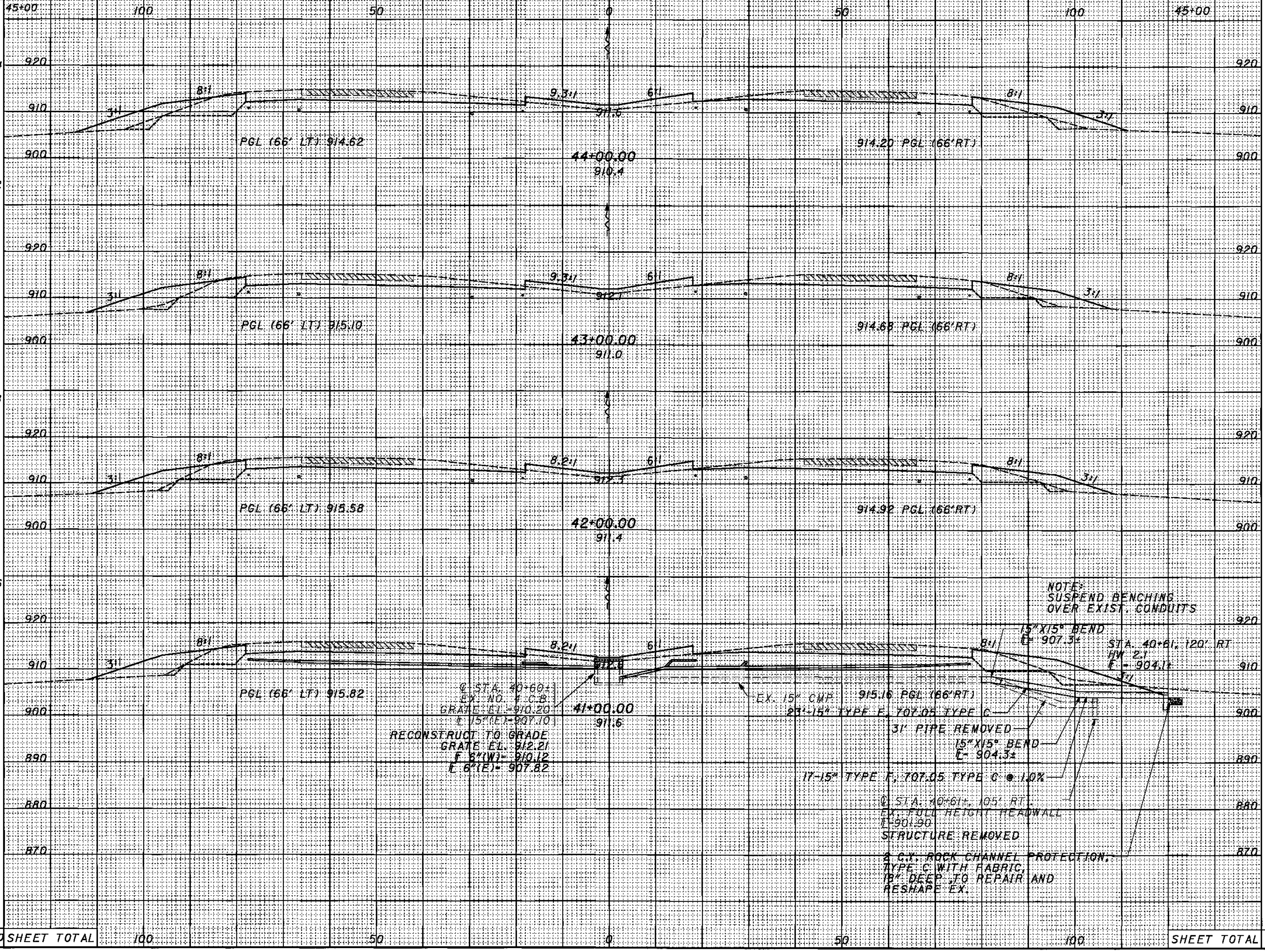
CROSS SECTIONS
STA. 37+00 TO STA. 40+00

WAY/MED-71-7.04/0.00

208
785

...\4017GXA.dgn

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
115		158	147		
	1284			591	549
116		160	149		
	1262			596	545
111		161	145		
	1228			598	515
110		161	133		
	1256			595	508
116		160	141		
	5030	SHEET TOTAL		2380	2117



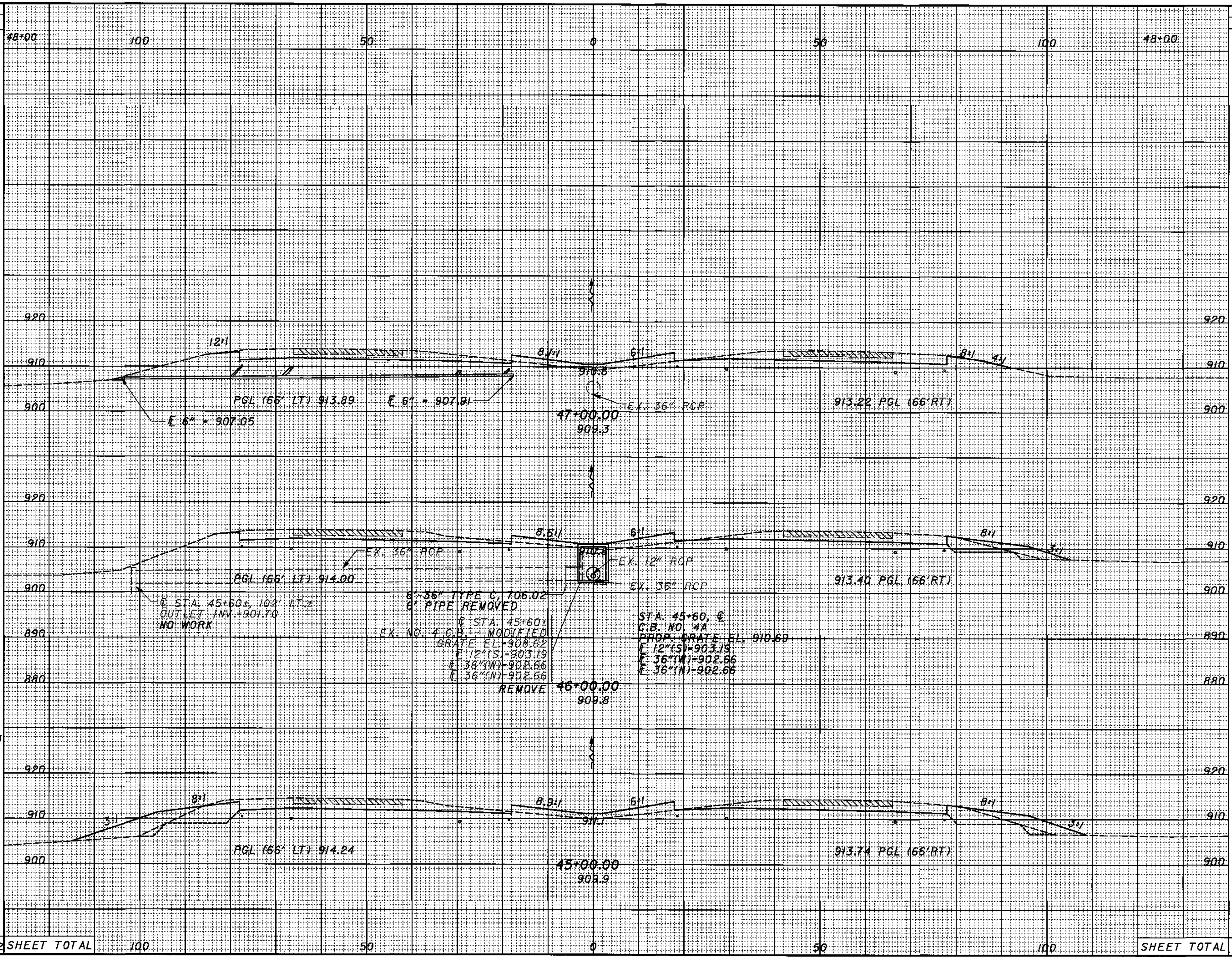
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 41+00 TO STA. 44+00

WAY/MED-71-7.04/0.00

...\1401TGXA.dgn

SEEDING	
END WIDTH	SQ. YDS.
58	
	689
66	
	800
78	
	1073
115	
	2562



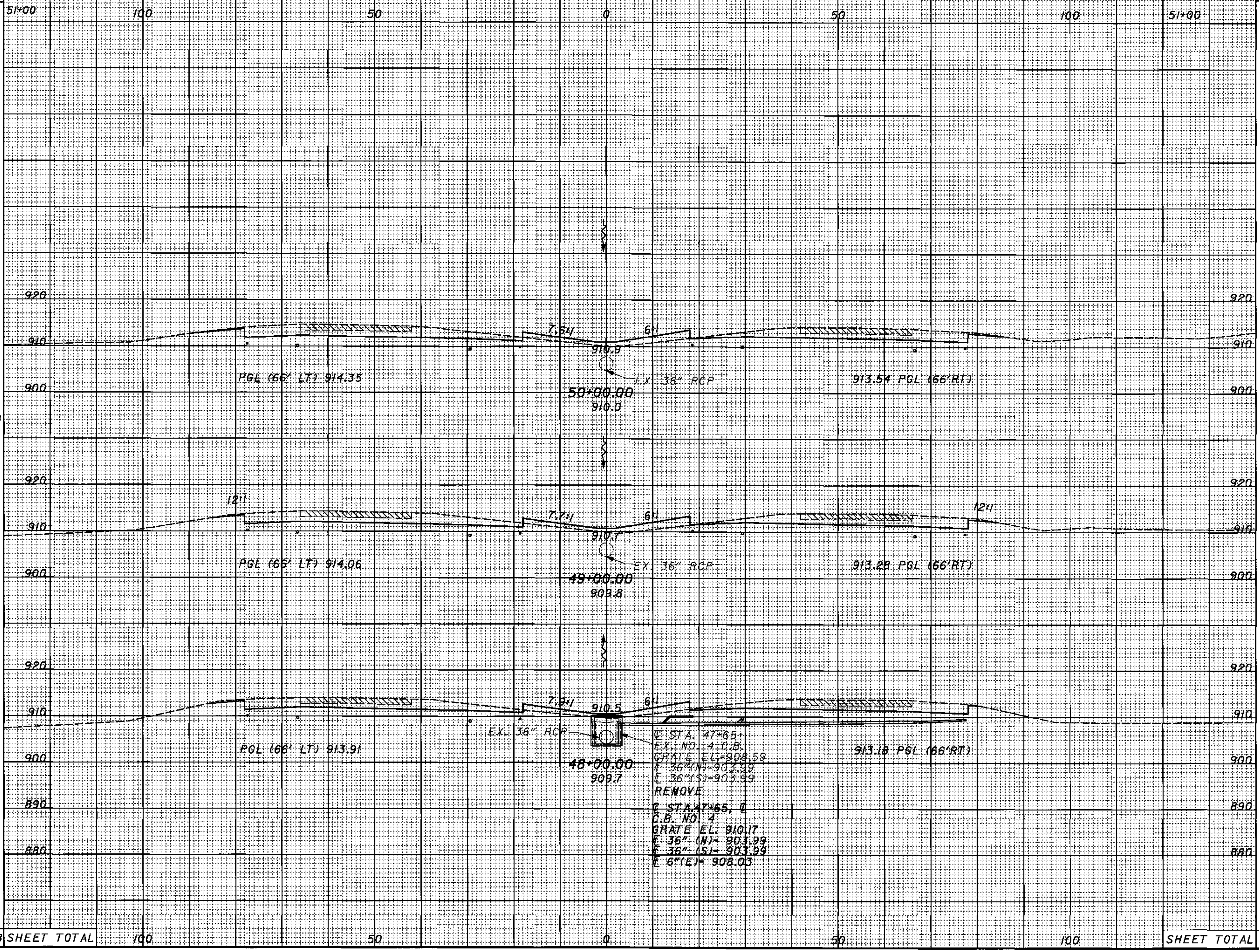
END AREA		VOLUME	
CUT	FILL	CUT	FILL
164	39		
		589	163
154	49		
		543	237
139	78		
		550	418
158	147		
		1682	818

CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 45+00 TO 47+00

WAY/MED-71-7.04/0.00

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
68		179	44		
	745			659	156
66		177	40		
	684			649	151
57		174	41		
	639			625	148
58		164	39		
	2068 SHEET TOTAL	SHEET TOTAL		1933	319



CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 48+00 TO 50+00

WAY/MED-71-7.04/0.00

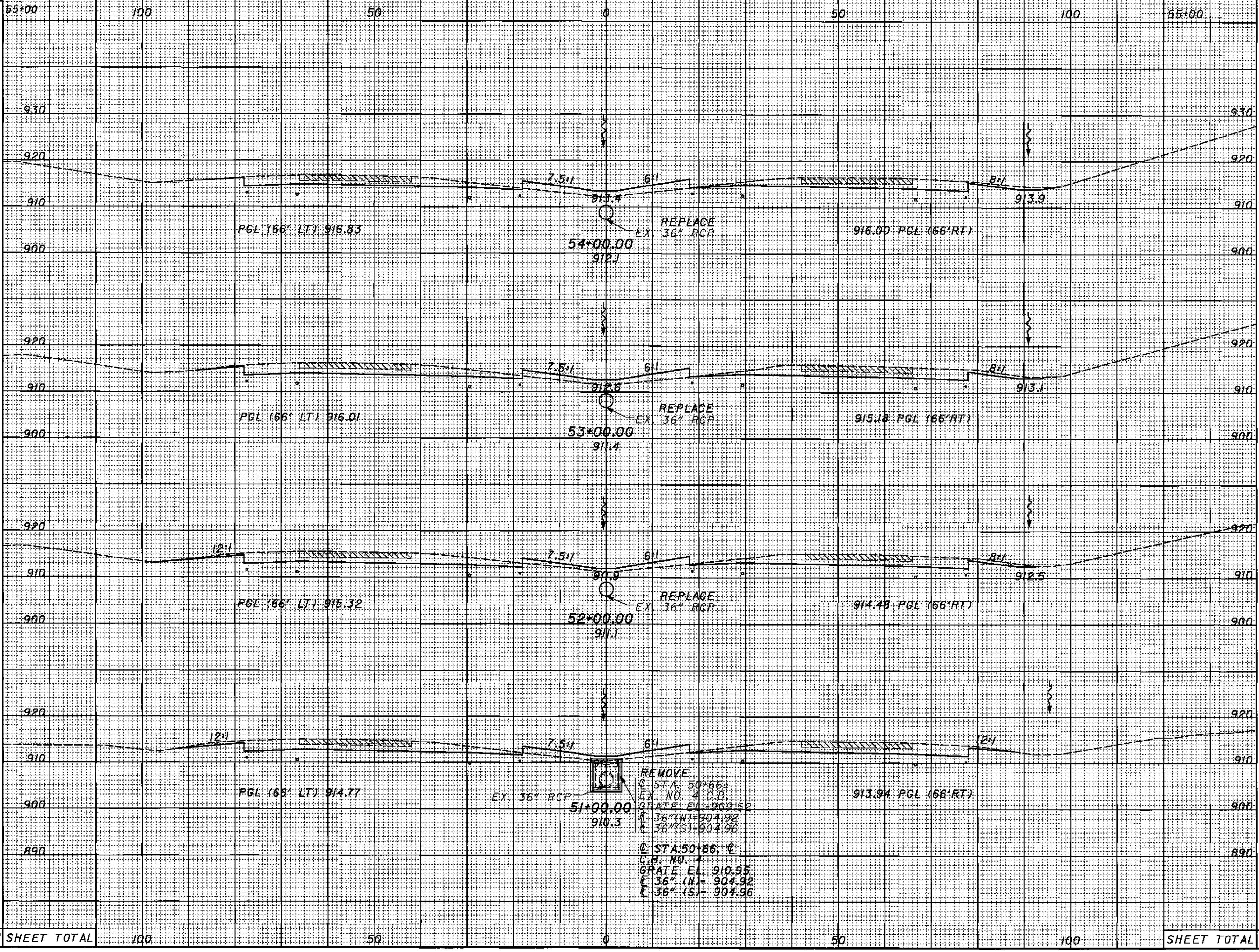
...\14017GXA.dgn

CROSS SECTIONS
STA. 51+00 TO STA. 54+00

WAY/MED-71-7.04/0.00

SEEDING END WIDTH	SEEDING SQ. YDS.	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
69		55+00	132	63		
	789				528	211
73		54+00.00	153	51		
	806				605	176
72		53+00.00	174	44		
	834				657	144
78		52+00.00	181	33		
	812				666	143
68		51+00.00	179	44		
	3241	SHEET TOTAL			2456	674

CALCULATED AEP
CHECKED ENF

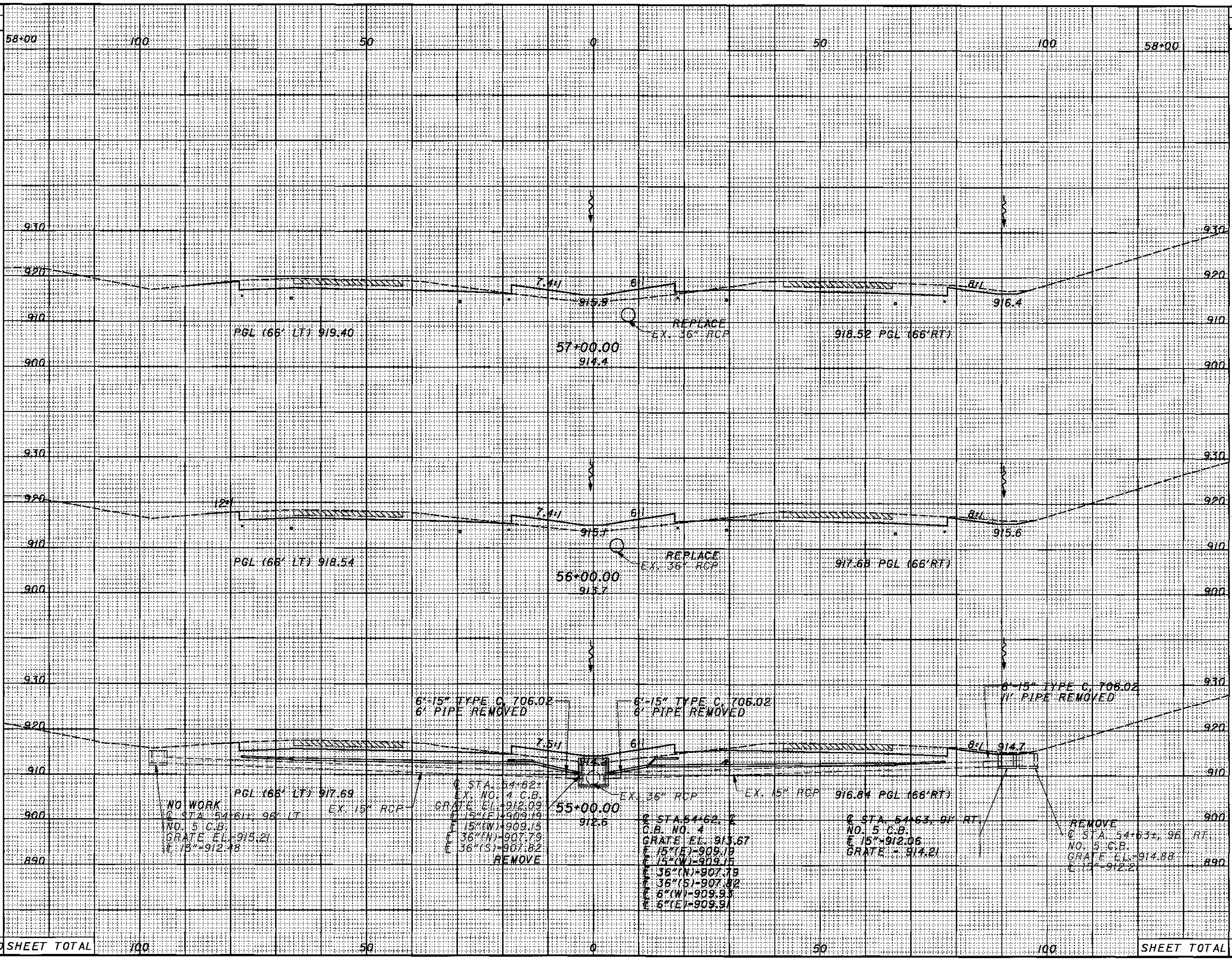


REMOVE
℄ STA. 50+66±
EX. NO. 4 C.B.
GRATE EL.-909.52
℄ 36"(N)-904.92
℄ 36"(S)-904.96

℄ STA.50+86, ℄
C.B. NO. 4
GRATE EL. 910.95
℄ 36" (N)- 904.92
℄ 36" (S)- 904.96

..\1401TGXA.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
73	
	817
74	
	800
70	
	773
69	
	2390 SHEET TOTAL



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
136	70		
		541	251
156	66		
		536	234
133	60		
		491	229
132	63		
		1568	714

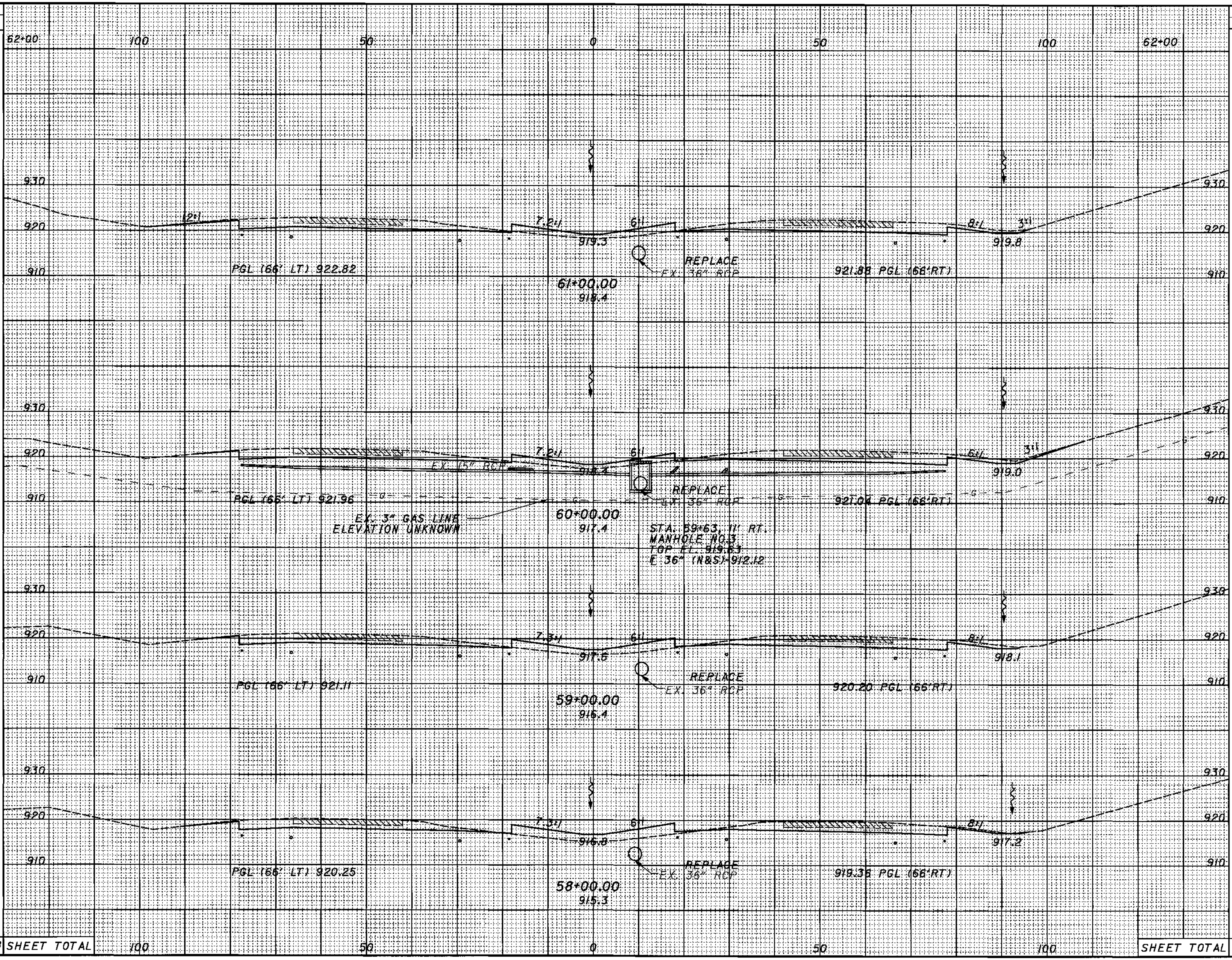
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 55+00 TO STA. 57+00

WAY/MED-71-7.04/0.00

...\14017GXA.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
82	
	917
83	
	934
85	
	867
71	
	800
73	
	3518



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
177	44		
		648	167
173	46		
		644	166
175	43		
		610	184
154	56		
		537	232
136	70		
		2439	749

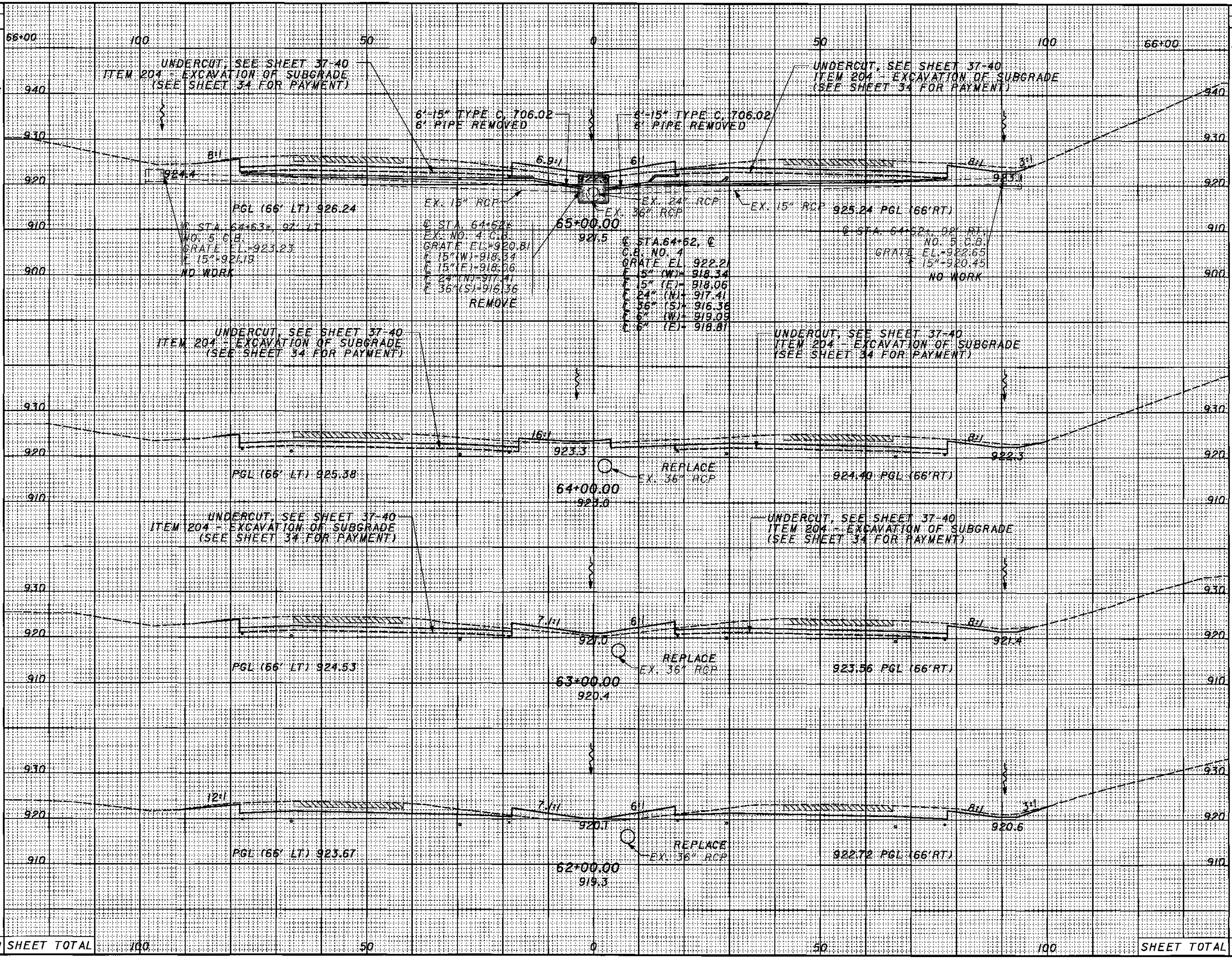
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 58+00 TO STA. 61+00

WAY/MED-71-7.04/0.00

...\14017GXA.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
93		175	55		
	923			655	188
73		179	46		
	812			710	107
73		204	12		
	828			712	83
76		180	33		
	878			661	143
82		177	44		
3441	SHEET TOTAL			2738	521



CALCULATED AEP
CHECKED ENF

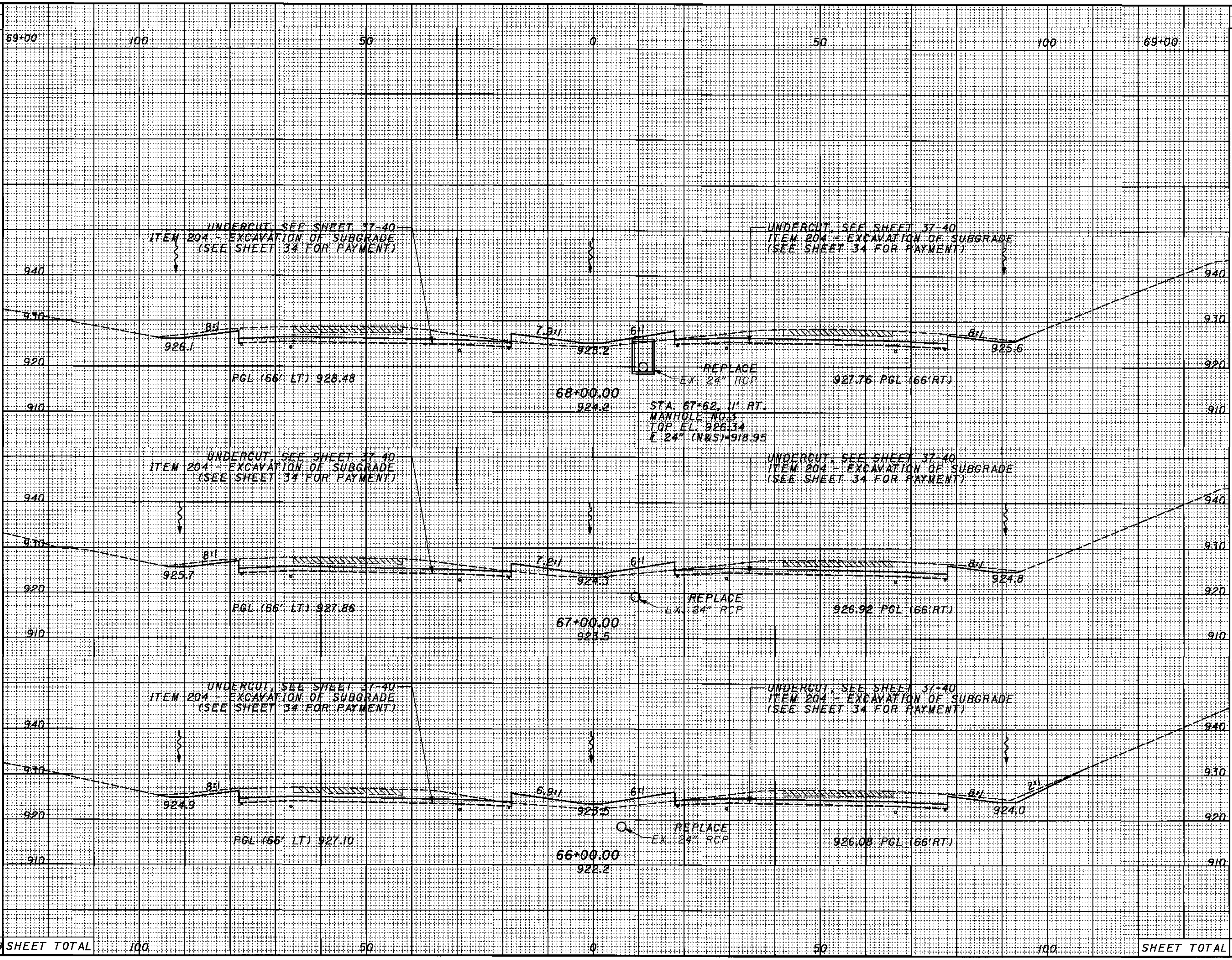
CROSS SECTIONS
STA. 62+00 TO STA. 65+00

WAY/MED-71-7.04/0.00

215
785

...\4017GXA.dgn

SEEDING	
END WIDTH	SQ. YDS.
91	
	950
80	
	873
77	
	945
93	
	2768



69+00
100
50
0
50
100
69+00
950
UNDERCUT, SEE SHEET 37-40
ITEM 204 - EXCAVATION OF SUBGRADE
(SEE SHEET 34 FOR PAYMENT)
UNDERCUT, SEE SHEET 37-40
ITEM 204 - EXCAVATION OF SUBGRADE
(SEE SHEET 34 FOR PAYMENT)
940
930
920
910
8:1
7.9:1
6:1
8:1
926.1
925.2
925.6
REPLACE
EX. 24" RCP
PGL (66' LT) 928.48
927.76 PGL (66'RT)
68+00.00
924.2
STA. 67+62, 11' RT.
MANHOLE NO.3
TOP EL. 926.34
E 24" (N&S)-918.95
UNDERCUT, SEE SHEET 37-40
ITEM 204 - EXCAVATION OF SUBGRADE
(SEE SHEET 34 FOR PAYMENT)
UNDERCUT, SEE SHEET 37-40
ITEM 204 - EXCAVATION OF SUBGRADE
(SEE SHEET 34 FOR PAYMENT)
940
930
920
910
8:1
7.2:1
6:1
8:1
925.7
924.3
924.8
REPLACE
EX. 24" RCP
PGL (66' LT) 927.86
926.92 PGL (66'RT)
67+00.00
923.5
UNDERCUT, SEE SHEET 37-40
ITEM 204 - EXCAVATION OF SUBGRADE
(SEE SHEET 34 FOR PAYMENT)
UNDERCUT, SEE SHEET 37-40
ITEM 204 - EXCAVATION OF SUBGRADE
(SEE SHEET 34 FOR PAYMENT)
940
930
920
910
8:1
6.9:1
6:1
8:1
2:1
924.9
923.5
924.0
REPLACE
EX. 24" RCP
PGL (66' LT) 927.10
926.08 PGL (66'RT)
66+00.00
922.2
SHEET TOTAL
100
50
0
50
100
SHEET TOTAL

END AREA		VOLUME	
CUT	FILL	CUT	FILL
219	39		
		738	155
179	44		
		636	164
164	44		
		628	185
175	55		
SHEET TOTAL		2002	504

CALCULATED AEP
CHECKED ENF

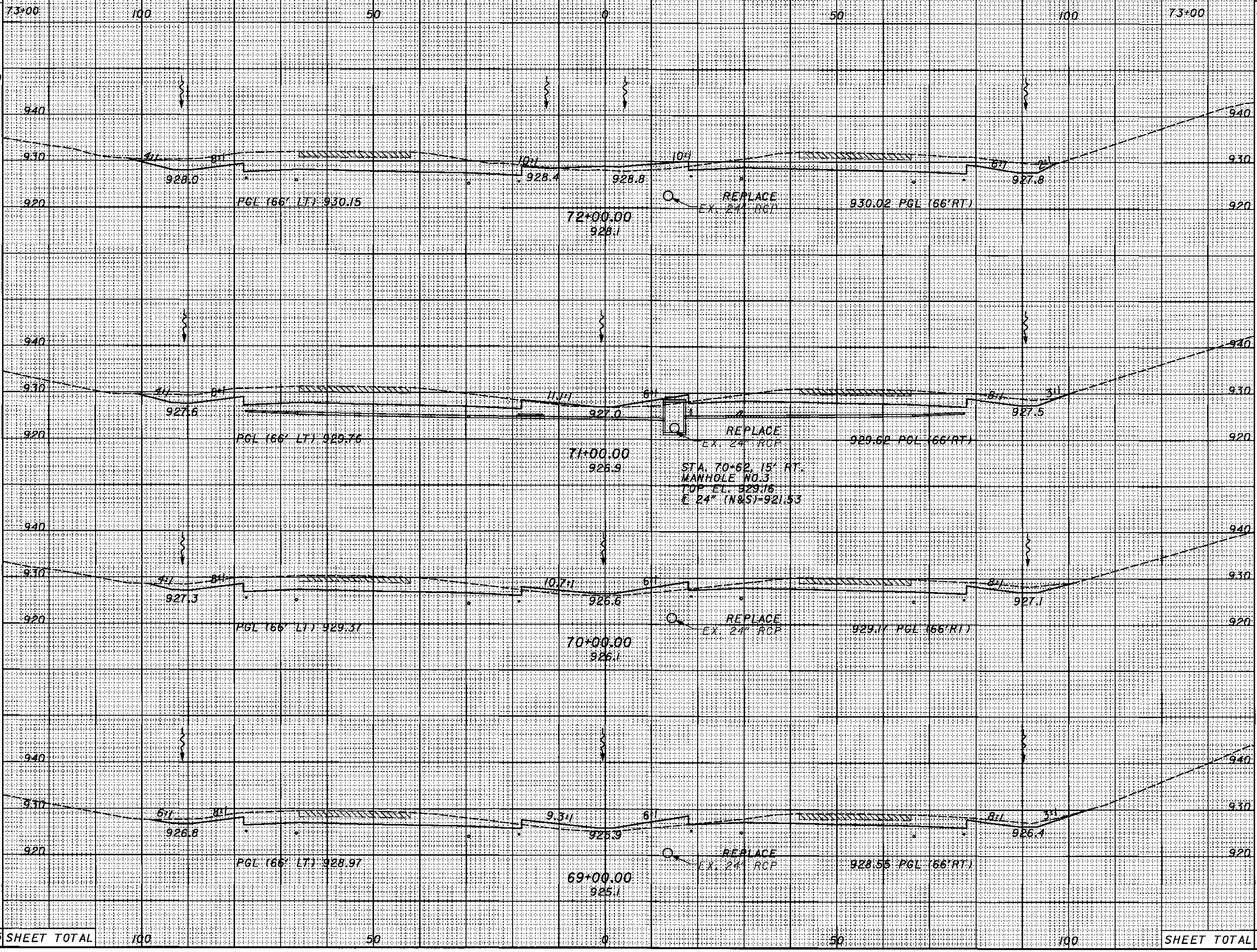
CROSS SECTIONS
STA. 66+00 TO STA. 68+00

WAY/MED-71-7.04/0.00

216
785

...\14017GXA.dgn

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
101		558	0		
	1050			1810	47
88		419	25		
	995			1404	83
91		339	20		
	995			1132	91
88		272	29		
	995			910	127
91		219	39		
	4035	SHEET TOTAL		5256	348



CALCULATED AEP
CHECKED ENF

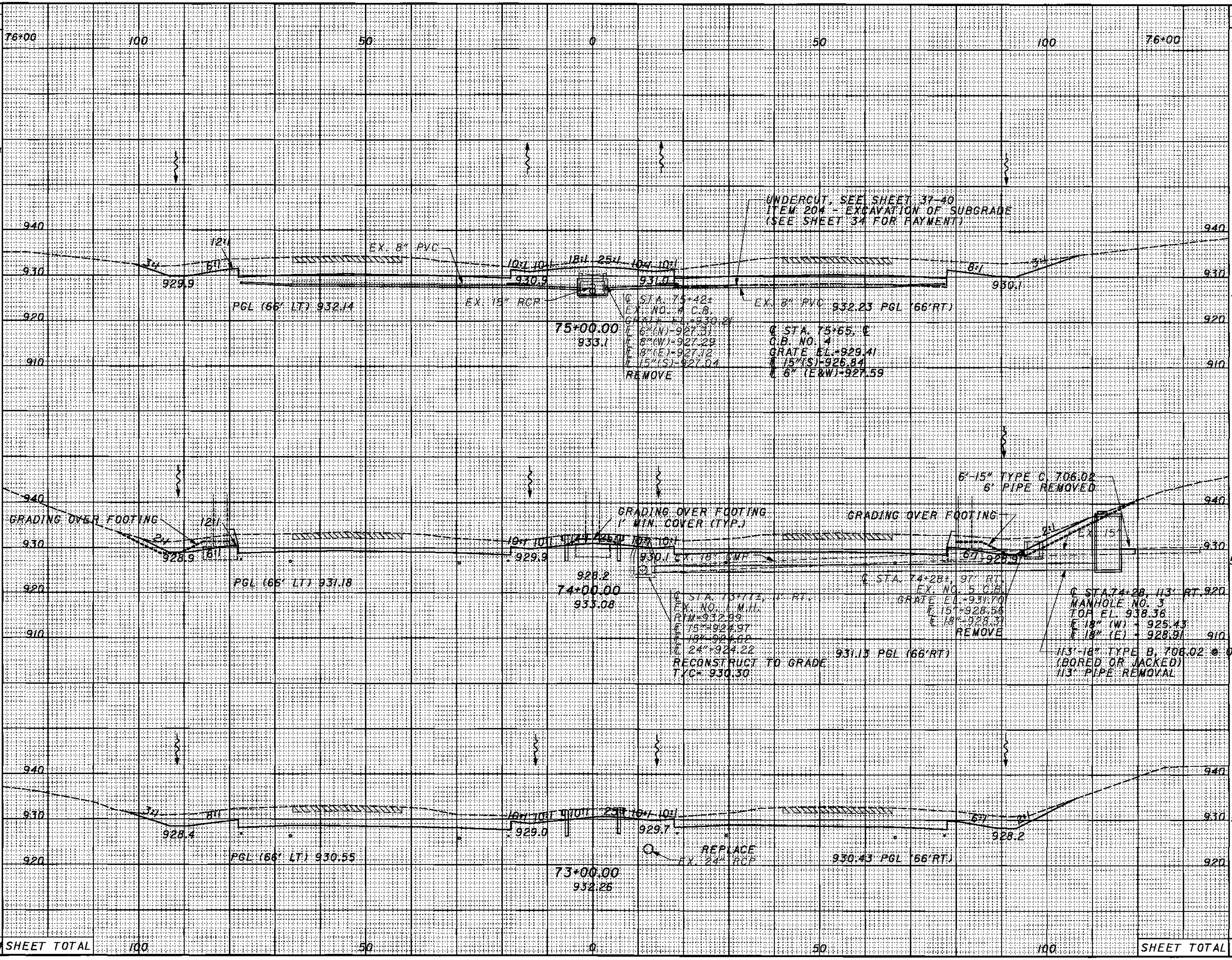
CROSS SECTIONS
STA. 69+00 TO STA. 72+00

WAY/MED-71-7.04/0.00

217
785

...\14017GXA.dgn

SEEDING	
END WIDTH	SQ. YDS.
89	
	1034
97	
	1084
98	
	1106
101	
	3224



END AREA		VOLUME	
CUT	FILL	CUT	FILL
364	14		
		1597	26
499	0		
		2009	0
586	0		
		2120	0
558	0		
		5726	26

CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 73+00 TO STA. 75+00

WAY/MED-71-7.04/0.00

...\14017GXA.dgn

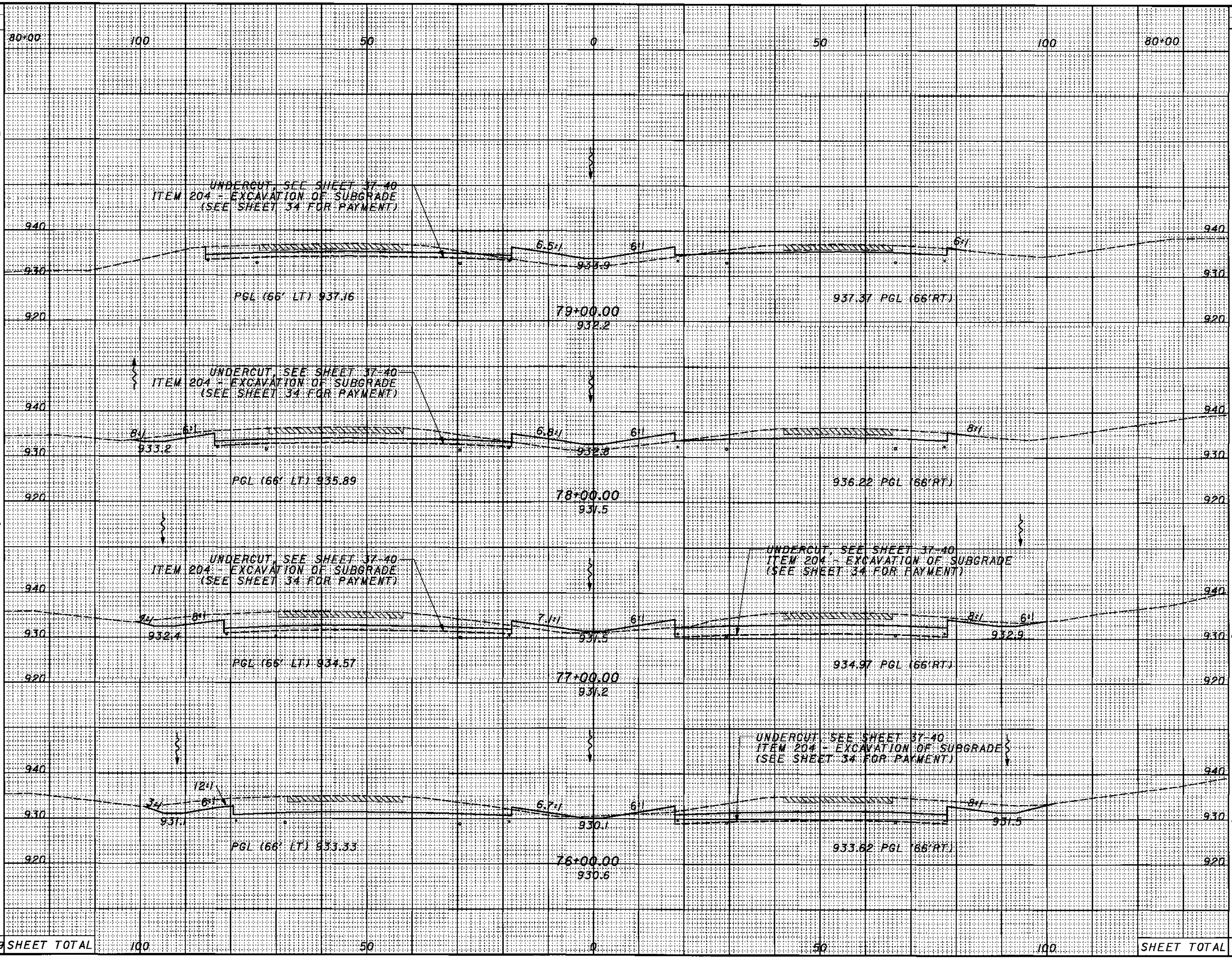
CROSS SECTIONS
STA. 76+00 TO STA. 79+00

WAY/MED-71-7.04/0.00

CALCULATED AEP
CHECKED ENF

219
785

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
68		61	98		
	689			300	336
56		101	83		
	695			520	264
69		179	59		
	867			840	168
87		274	32		
	978			1182	84
89		364	14		
	3229 SHEET TOTAL		SHEET TOTAL	2842	852



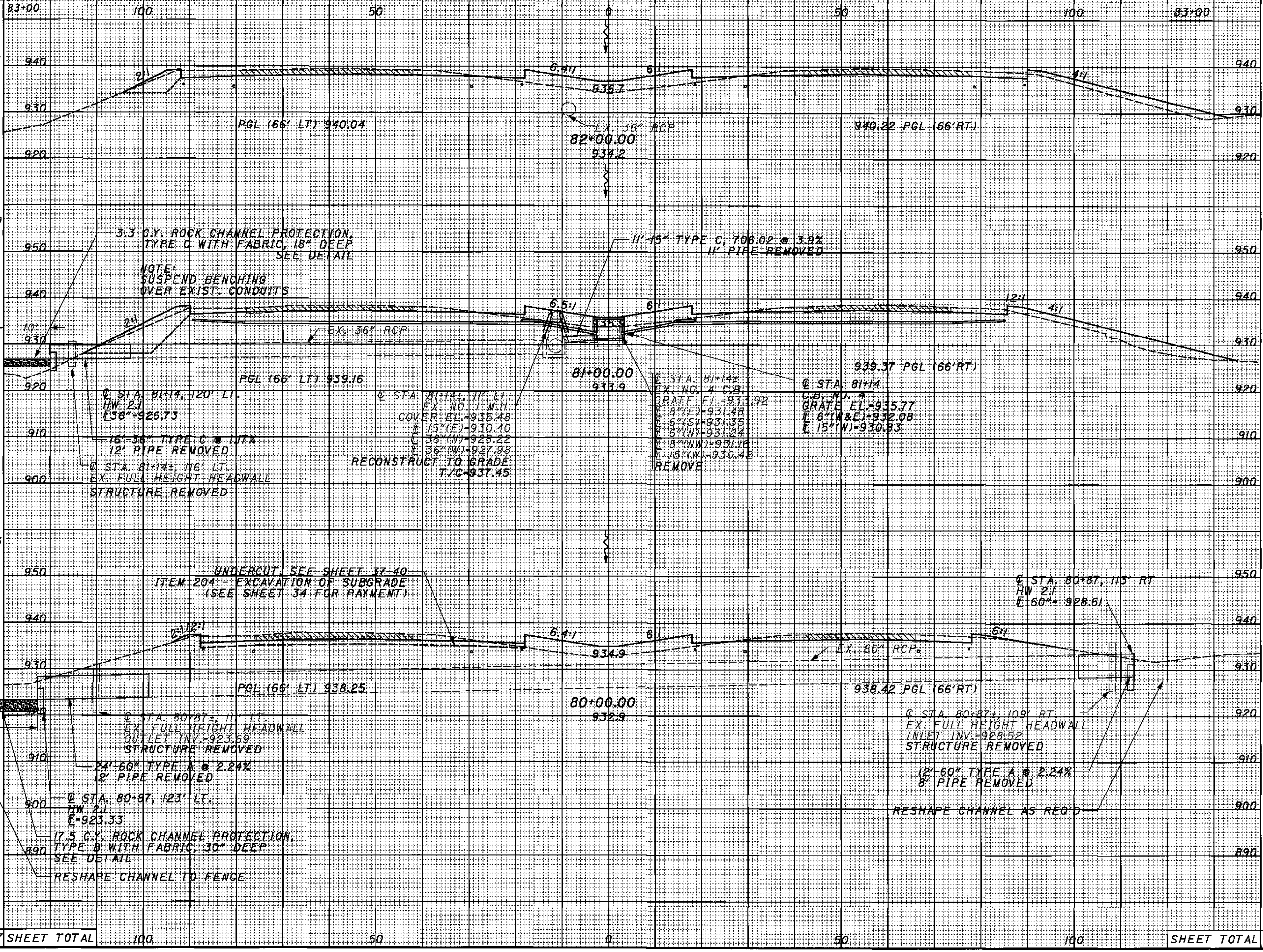
...\14017GXA.dgn

CROSS SECTIONS
STA. 80+00 TO STA. 82+00

WAY/MED-71-7.04/0.00

CALCULATED AEP
CHECKED ENF

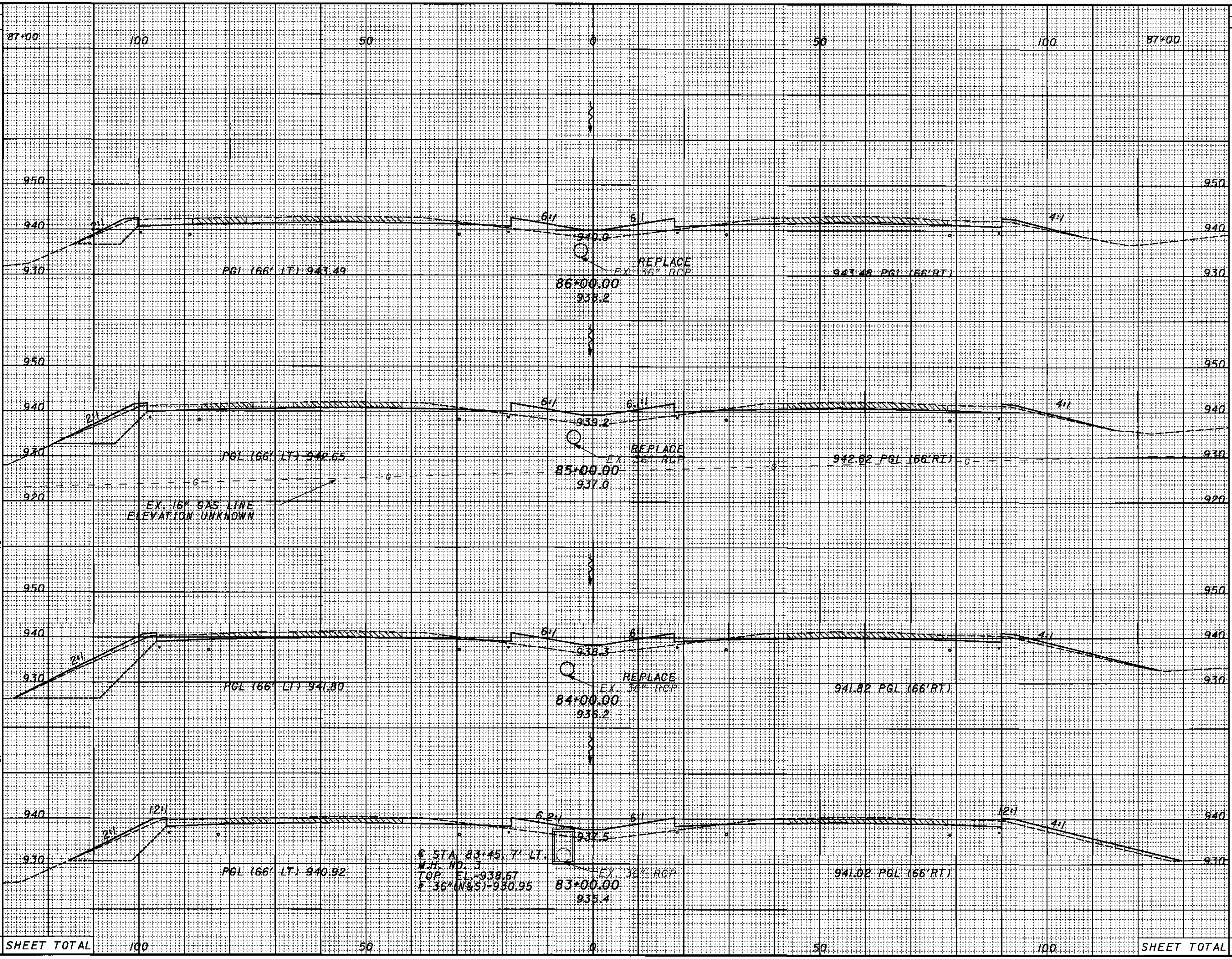
SEEDING END WIDTH	SEEDING SQ. YDS.
108	
	1173
103	
	1239
120	
	1045
68	
	3457 SHEET TOTAL



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
53	129		
		175	536
42	160		
		142	649
35	190		
		177	533
61	98		
		494	1718

...\14017GXA.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
70		79	82		
	823				
				291	321
78		78	91		
	950			260	367
93		62	107		
	1162			227	414
				209	455
	1245				
116		60	117		
108		53	129		
4180	SHEET TOTAL			987	1557

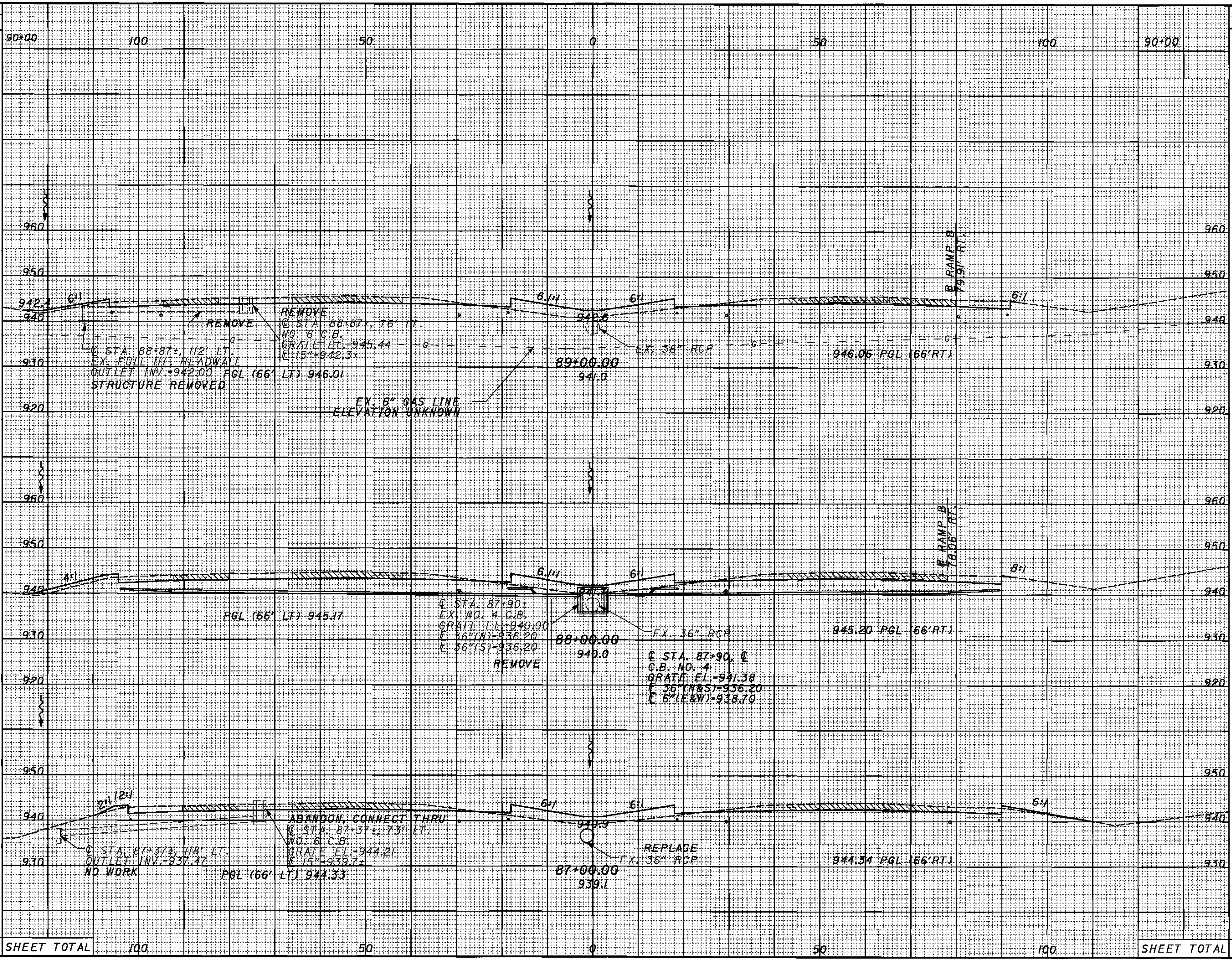


CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 83+00 TO STA. 86+00

WAY/MED-71-7.04/0.00

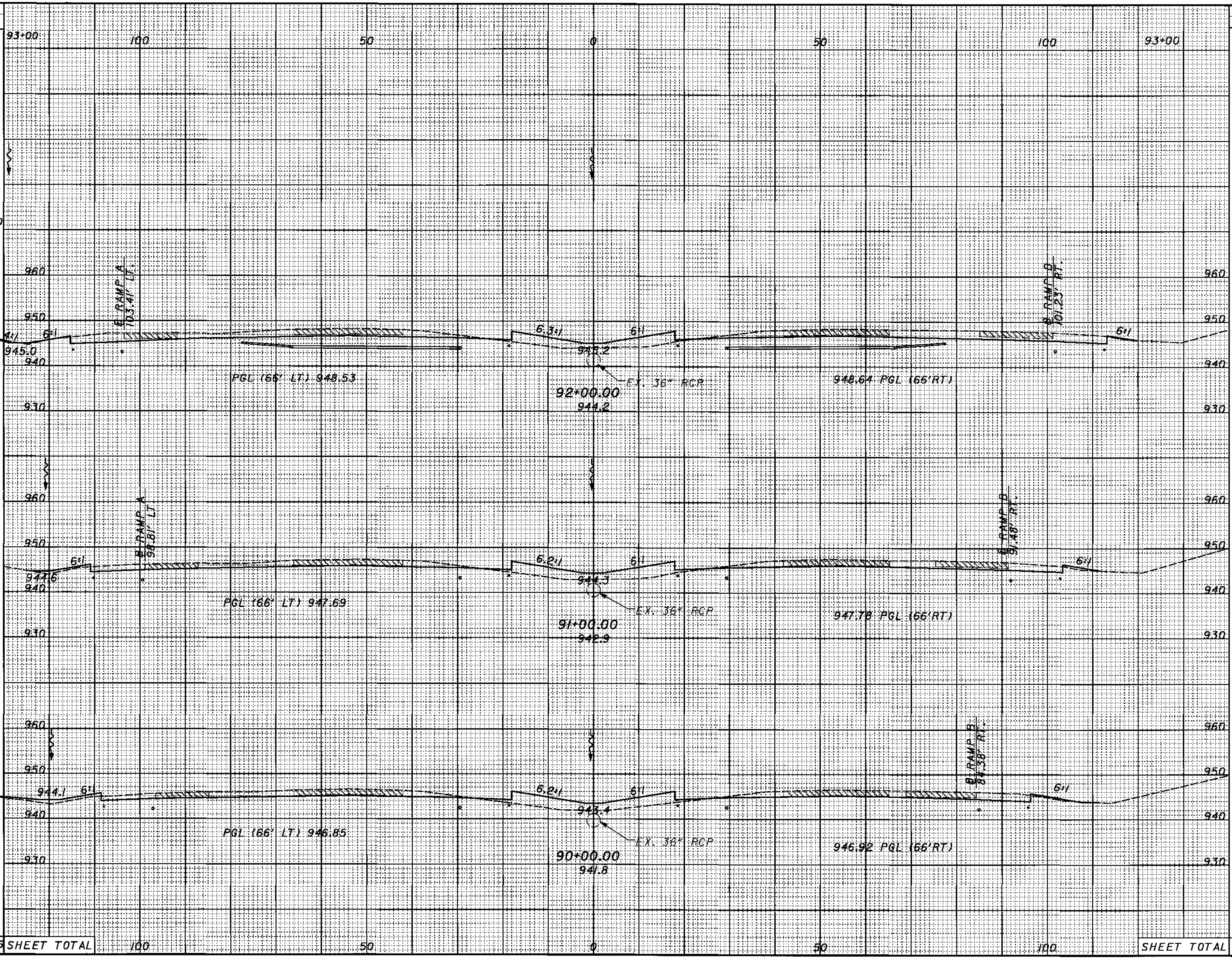
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
82		89	97		
	839			336	330
69		92	80		
	778			335	318
71		89	91		
	784			312	321
70		79	82		
	2401 SHEET TOTAL		SHEET TOTAL	983	969



CALCULATED	CHECKED
AEP	ENF

CROSS SECTIONS
STA. 87+00 TO STA. 89+00

WAY/MED-71-7.04/0.00



SEEDING END WIDTH	SEEDING SQ. YDS.	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
116		93+00	215	64		
	1050				666	247
73		92+00.00	145	69		
	778				449	292
67		91+00.00	98	89		
	828				346	345
82		90+00.00	89	97		
	2656	SHEET TOTAL			1461	884

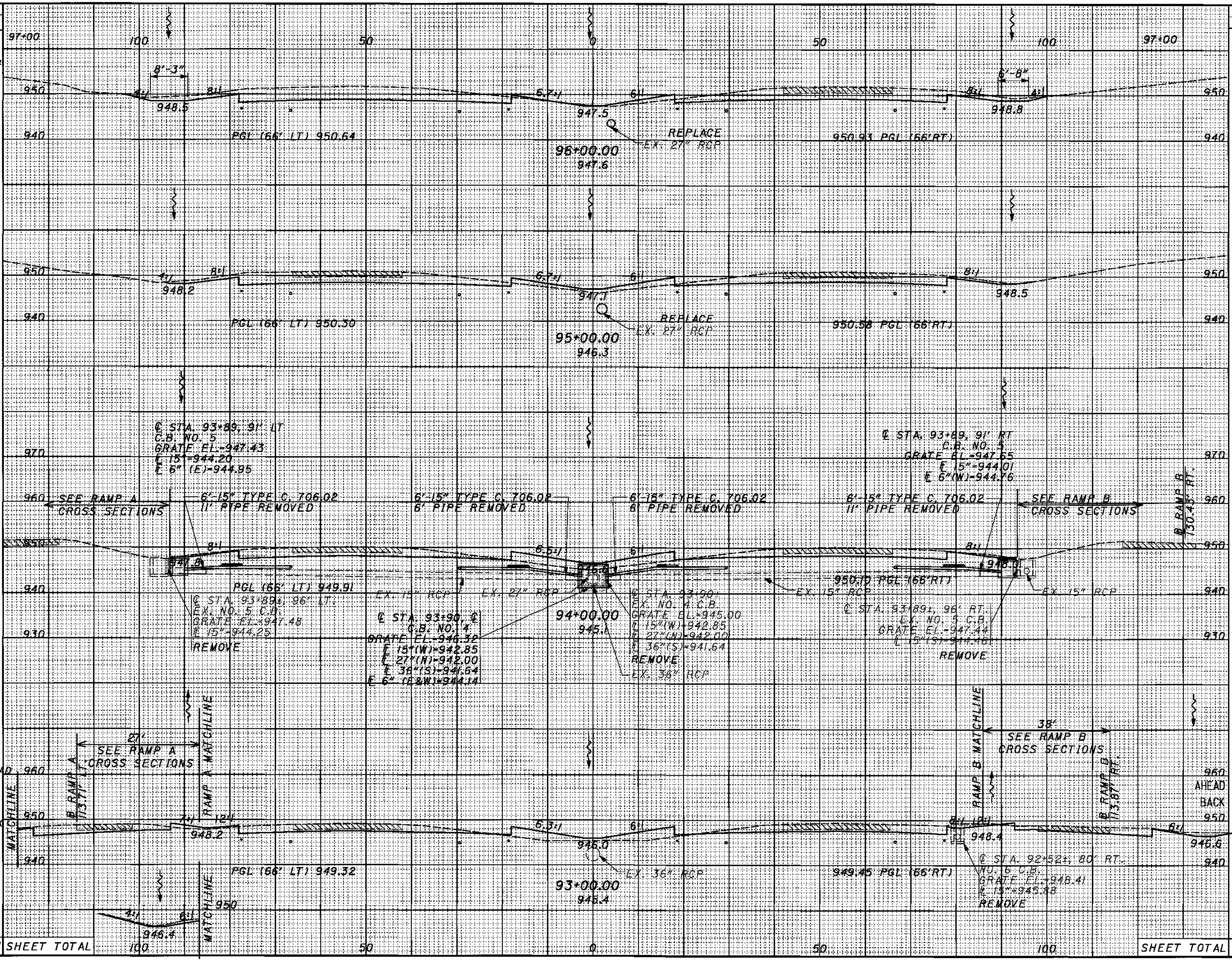
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 90+00 TO STA. 92+00

WAY/MED-71-7.04/0.00

223
785

...\14017GXA.dgn



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
95		386	3		
	1034			1228	31
91		277	13		
	956			881	87
81		199	34		
	867			780	251
75		222	102		
	684			669	298
48 AHEAD		AHEAD 139	59		
116 BACK		BACK 215	64		
	3541 SHEET TOTAL	SHEET TOTAL		3558	667

CALCULATED AEP
CHECKED ENF

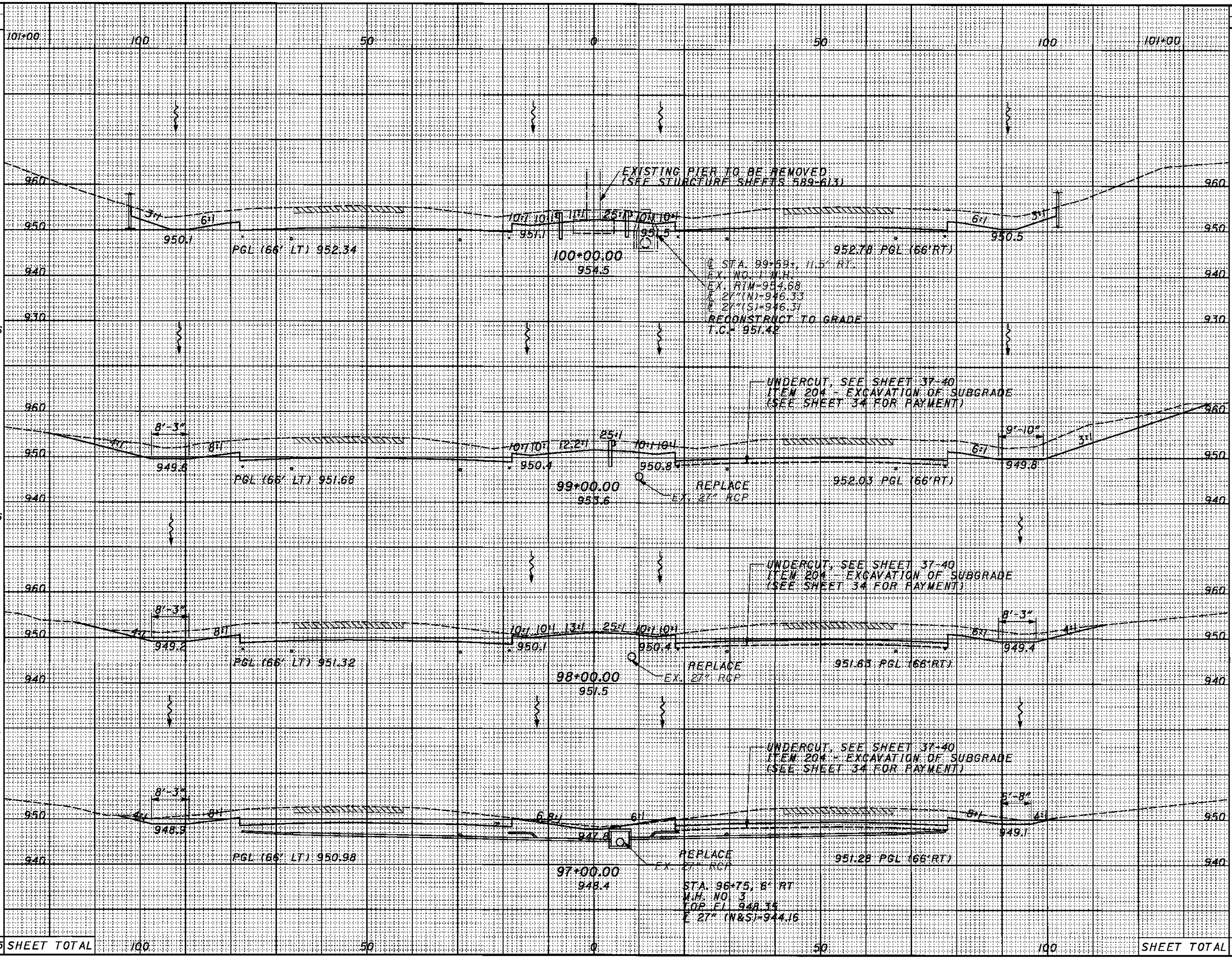
CROSS SECTIONS
STA. 93+00 TO STA. 96+00

WAY/MED-71-7.04/0.00

224
785

...\14017GXA.dgn

SEEDING	
END WIDTH	SQ. YDS.
118	
	1150
89	
	1306
146	
	1456
116	
	1173
95	
	5085



END AREA		VOLUME	
CUT	FILL	CUT	FILL
644	0		
		2388	0
646	0		
		2564	0
739	0		
		2285	0
495	0		
		1632	6
386	3		
		8869	6

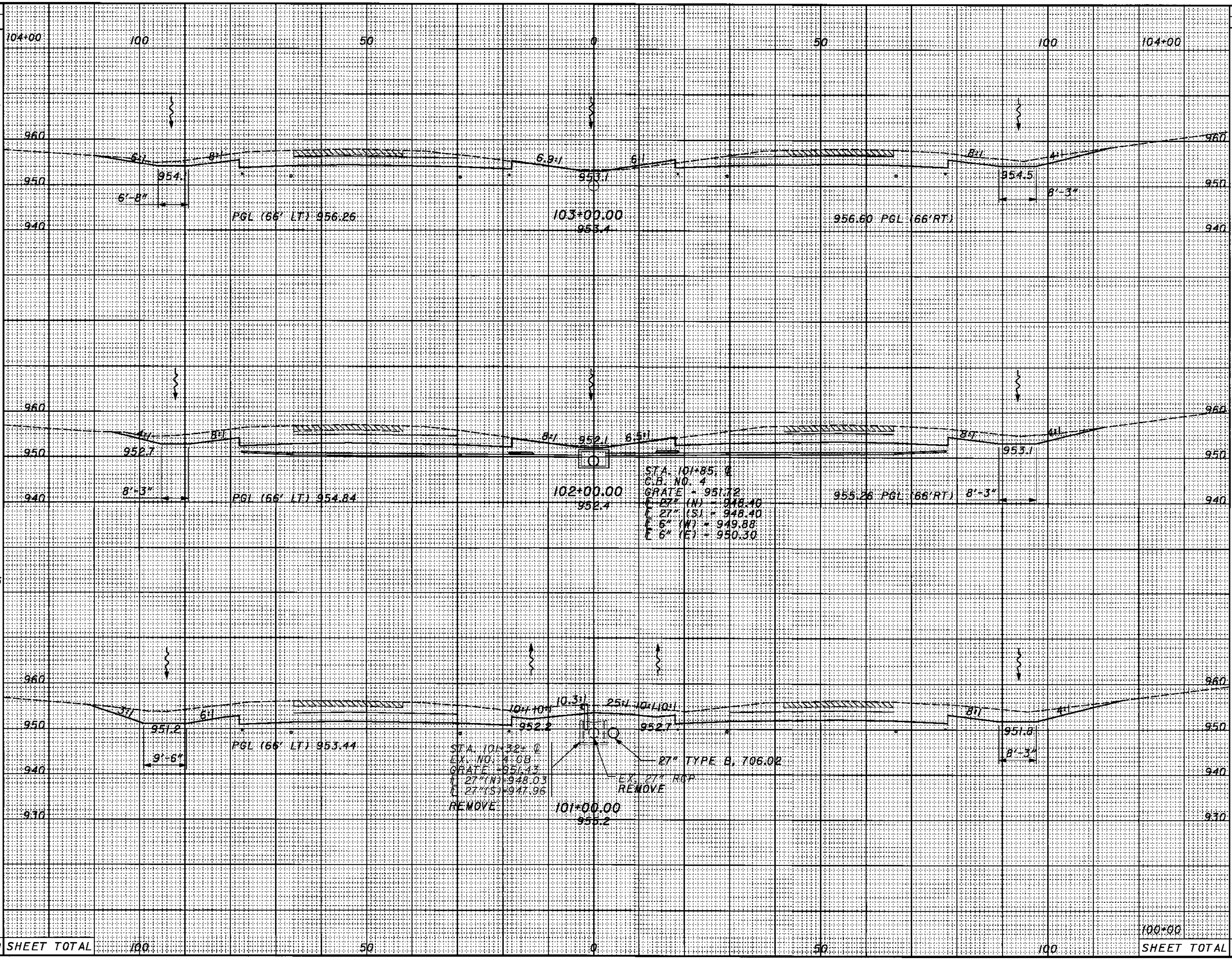
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 97+00 TO STA. 100+00

WAY/MED-71-7.04/0.00

...\40176XA.dgn

SEEDING END WIDTH	SQ. YDS.	END AREA CUT	FILL	VOLUME CUT	FILL
106		285	20		
	1217			1229	52
113		378	8		
	1217			1564	18
106		466	0		
	1245			2056	0
118		644	0		
	3679 SHEET TOTAL		SHEET TOTAL	4849	70



CALCULATED AEP

CHECKED ENF

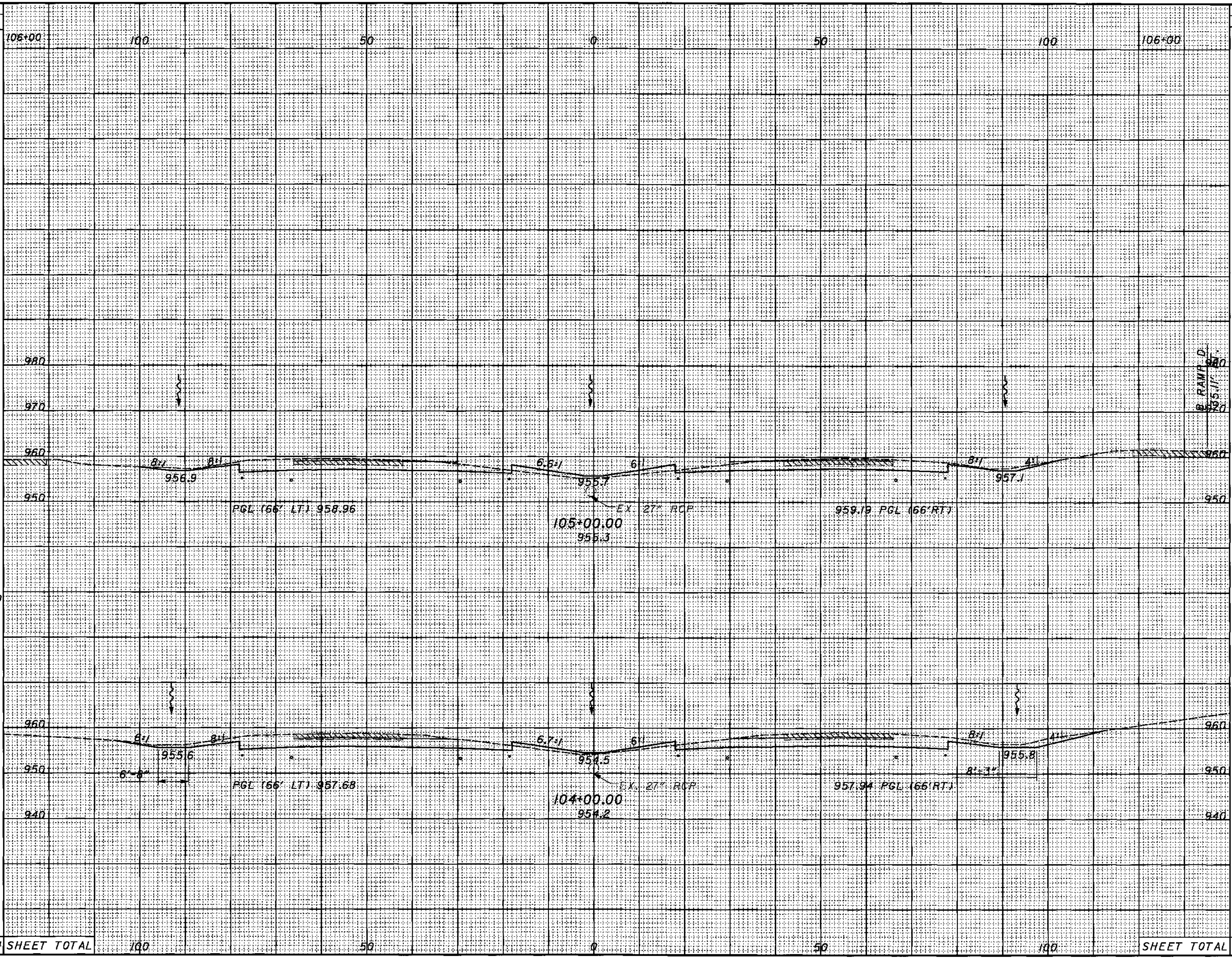
CROSS SECTIONS
STA. 101+00 TO STA. 103+00

WAY/MED-71-7.04/0.00

226
785

\140I7GXBI.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
62	
	845
90	
	1089
106	
	1934



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
229	28		
		787	110
196	31		
		891	94
285	20		
		1678	204

CALCULATED AEP
CHECKED ENF

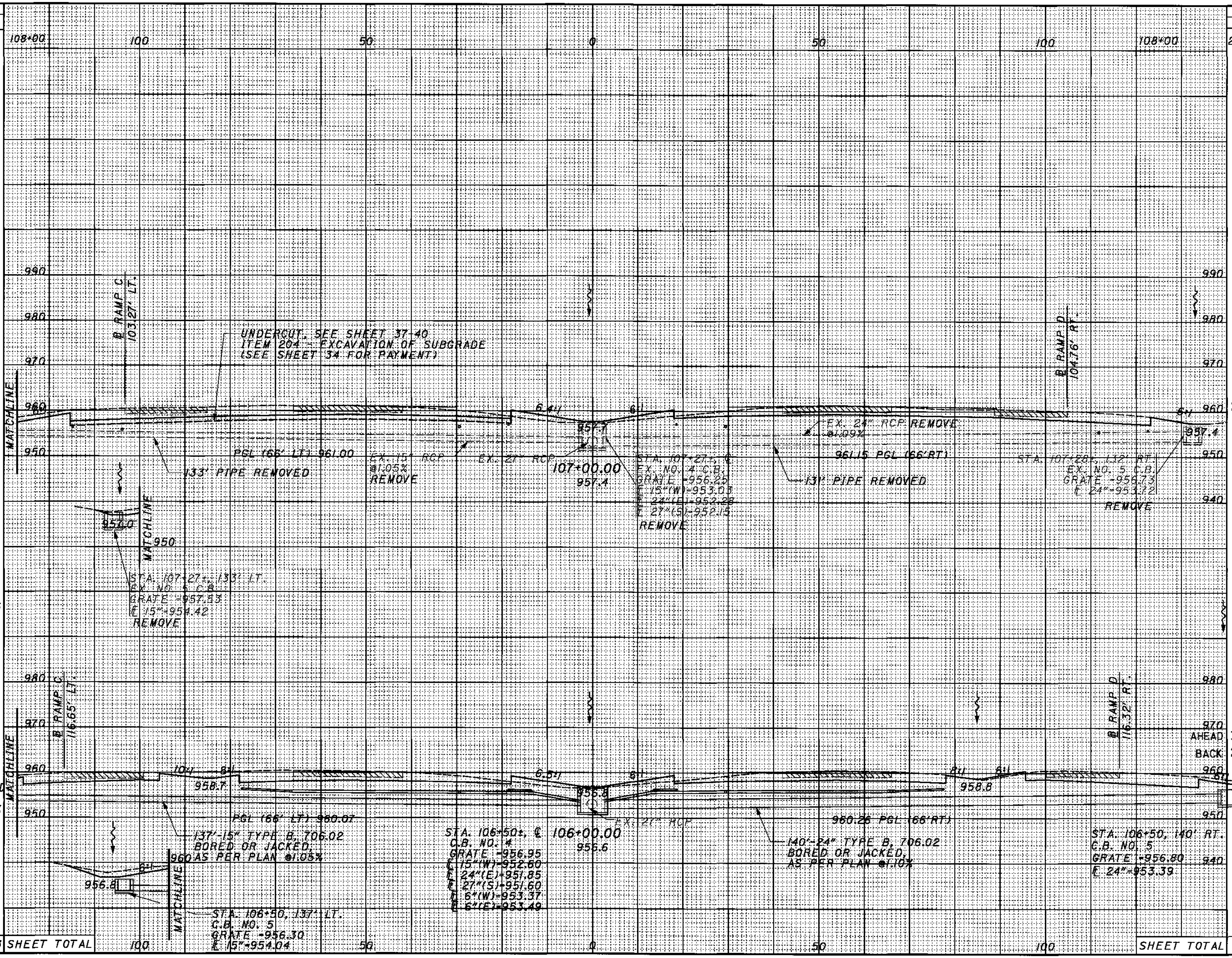
CROSS SECTIONS
STA. 104+00 TO STA. 105+00

WAY/MED-71-7.04/0.00

227
785

...\14017GXB1.dgn

SEEDING		
END WIDTH	SQ. YDS.	
102		
	878	
56		
	1045	
132	AHEAD	
62	BACK	
	1923	SHEET TOTAL



END AREA		VOLUME	
CUT	FILL	CUT	FILL
202	57		
		842	162
252	31		
		1127	115
AHEAD 356	31		
BACK 229	28		
SHEET TOTAL		1969	277

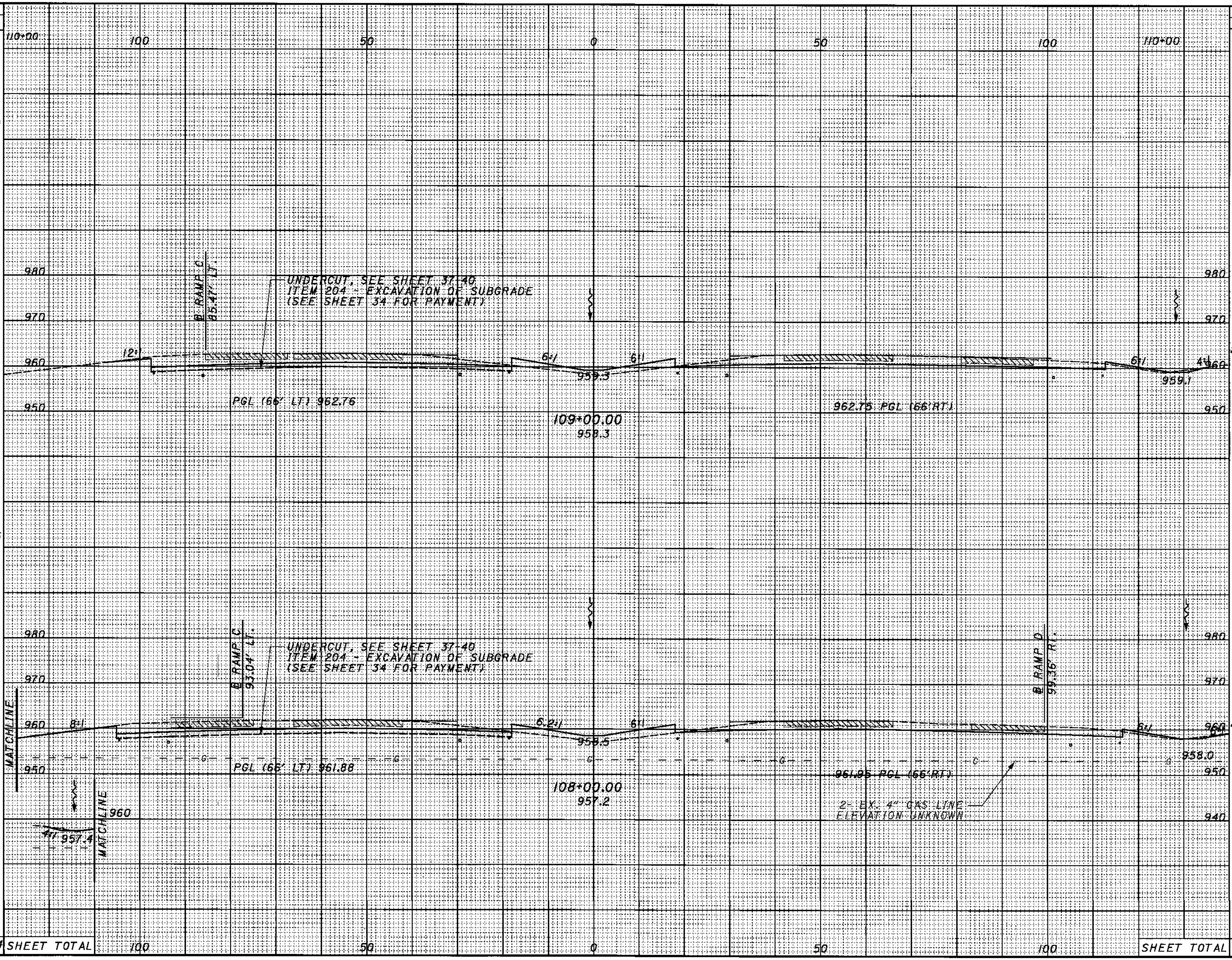
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 106+00 TO STA. 107+00

WAY/MED-71-7.04/0.00

...\4017GXBI.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
56	
	739
77	
	995
102	
	1734



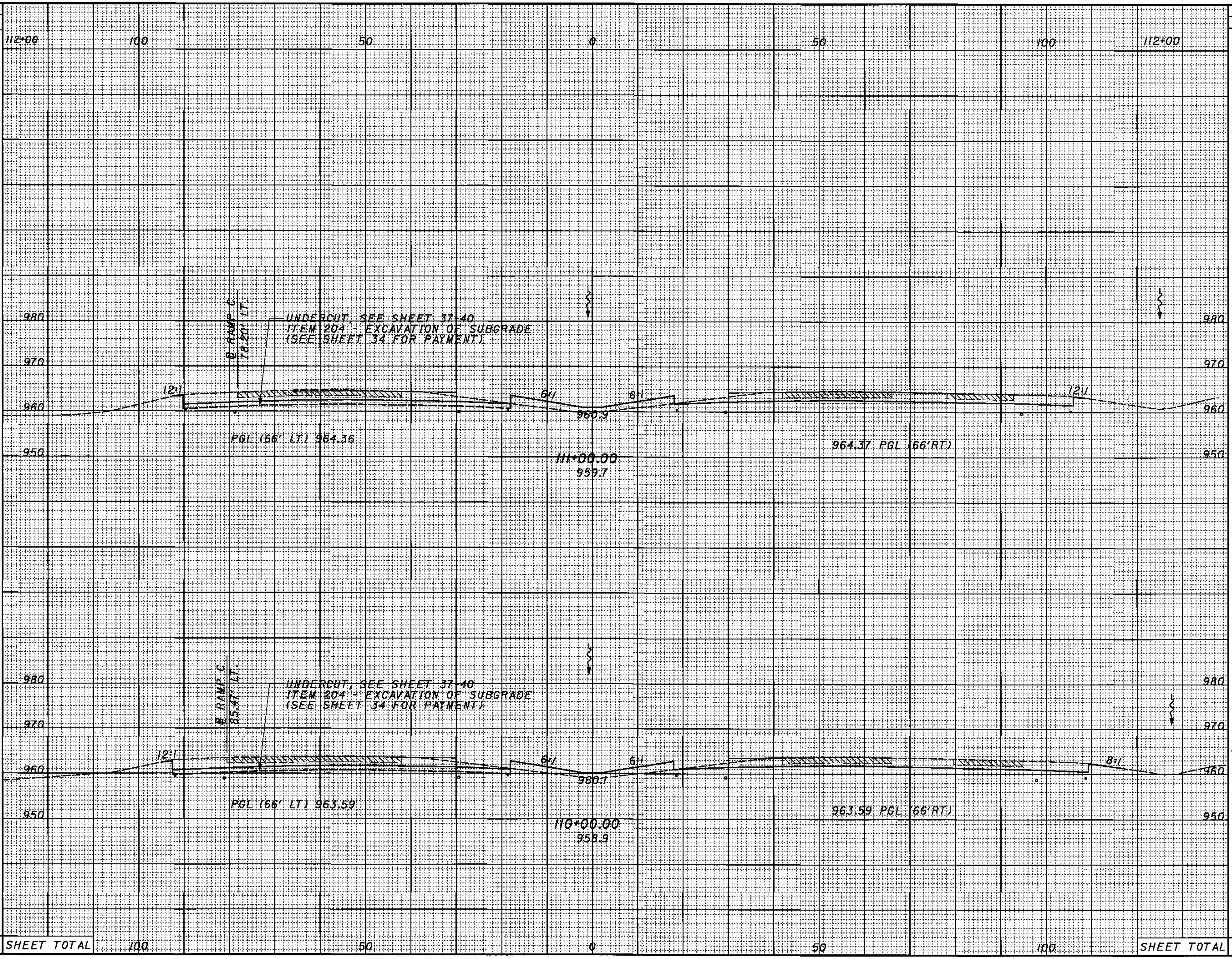
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
195	50		
		740	185
204	50		
		752	198
202	57		
		1492	383

CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 108+00 TO STA. 109+00

WAY/MED-71-7.04/0.00

SEEDING END WIDTH	SEEDING SQ. YDS.
56	
	623
56	
	623
56	
	1246



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
196	52		
		722	190
194	50		
		721	186
195	50		
		1443	376

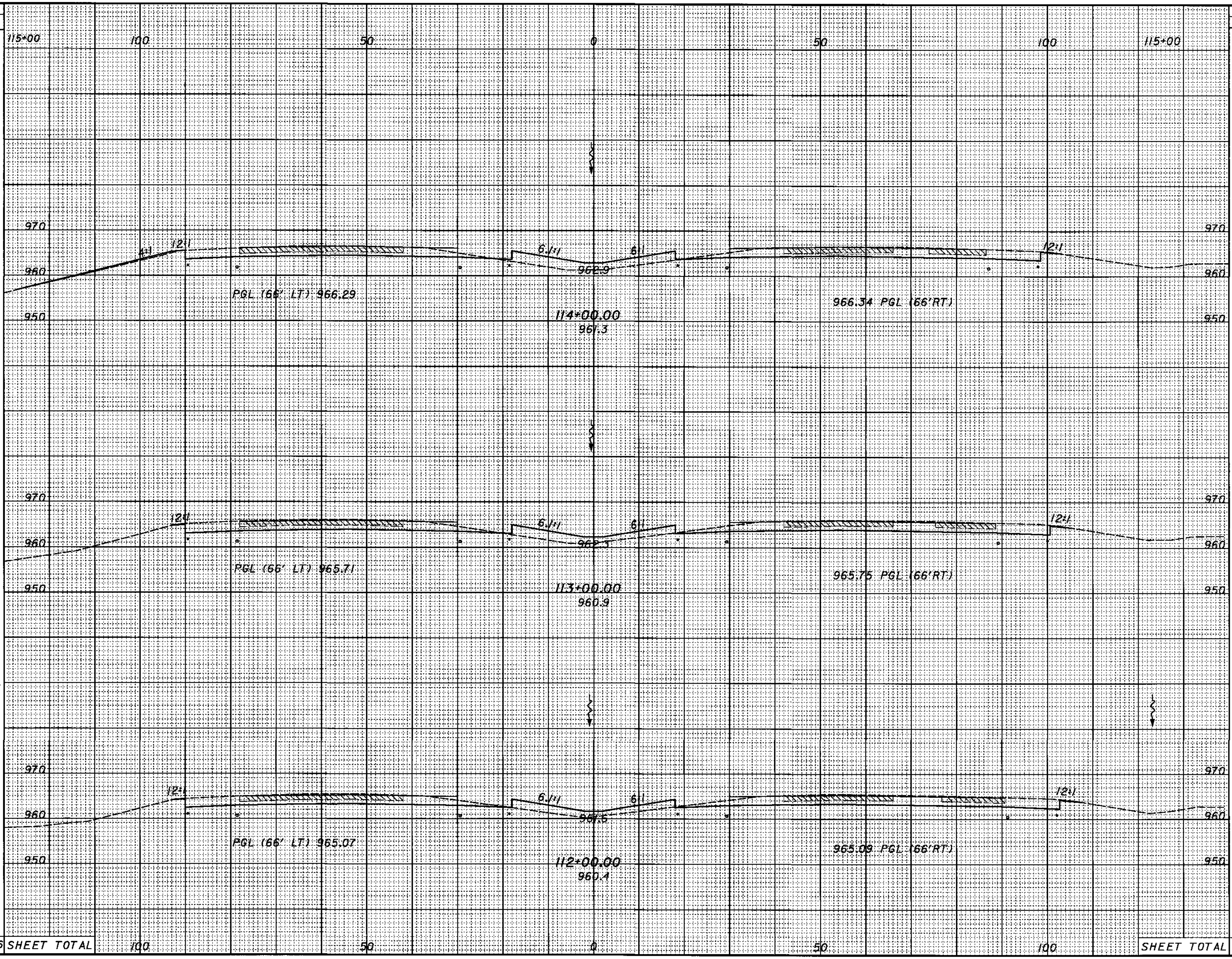
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 110+00 TO STA. 111+00

WAY/MED-71-7.04/0.00

230
785

...\140176XB1.dgn



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
91		159	81		
	984			591	290
86		160	76		
	789			655	249
56		193	59		
	623			721	205
56		196	52		
	2396			1967	744

CALCULATED AEP
CHECKED ENF

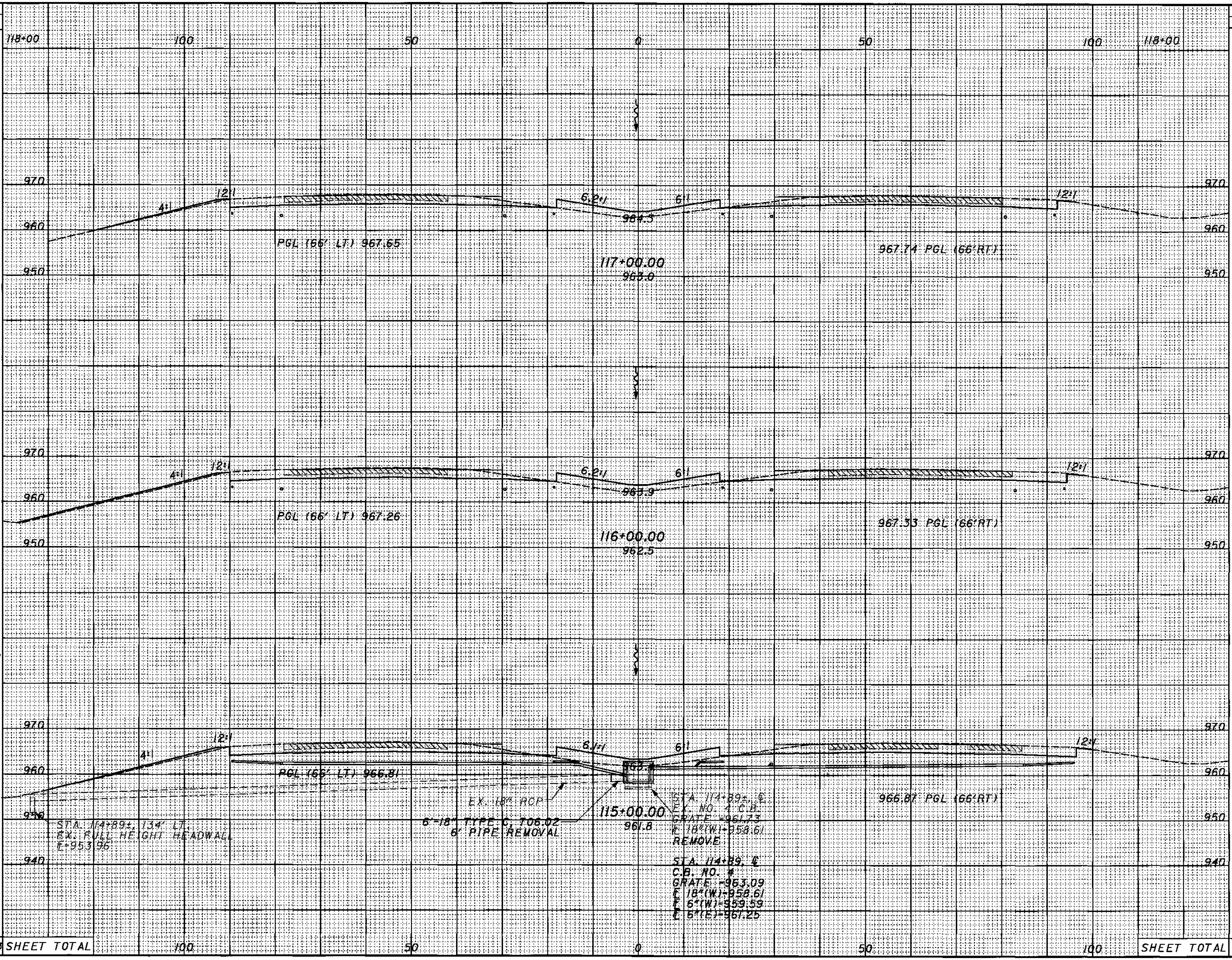
CROSS SECTIONS
STA. 112+00 TO STA. 114+00

WAY/MED-71-7.04/0.00

231
785

...\14017GXBI.dgn

SEEDING	
END WIDTH	SQ. YDS.
95	
	978
81	
	995
98	
	1050
91	
	3023



END AREA		VOLUME	
CUT	FILL	CUT	FILL
157	93		
		573	286
152	61		
		583	252
163	75		
		596	288
159	81		
		1752	826

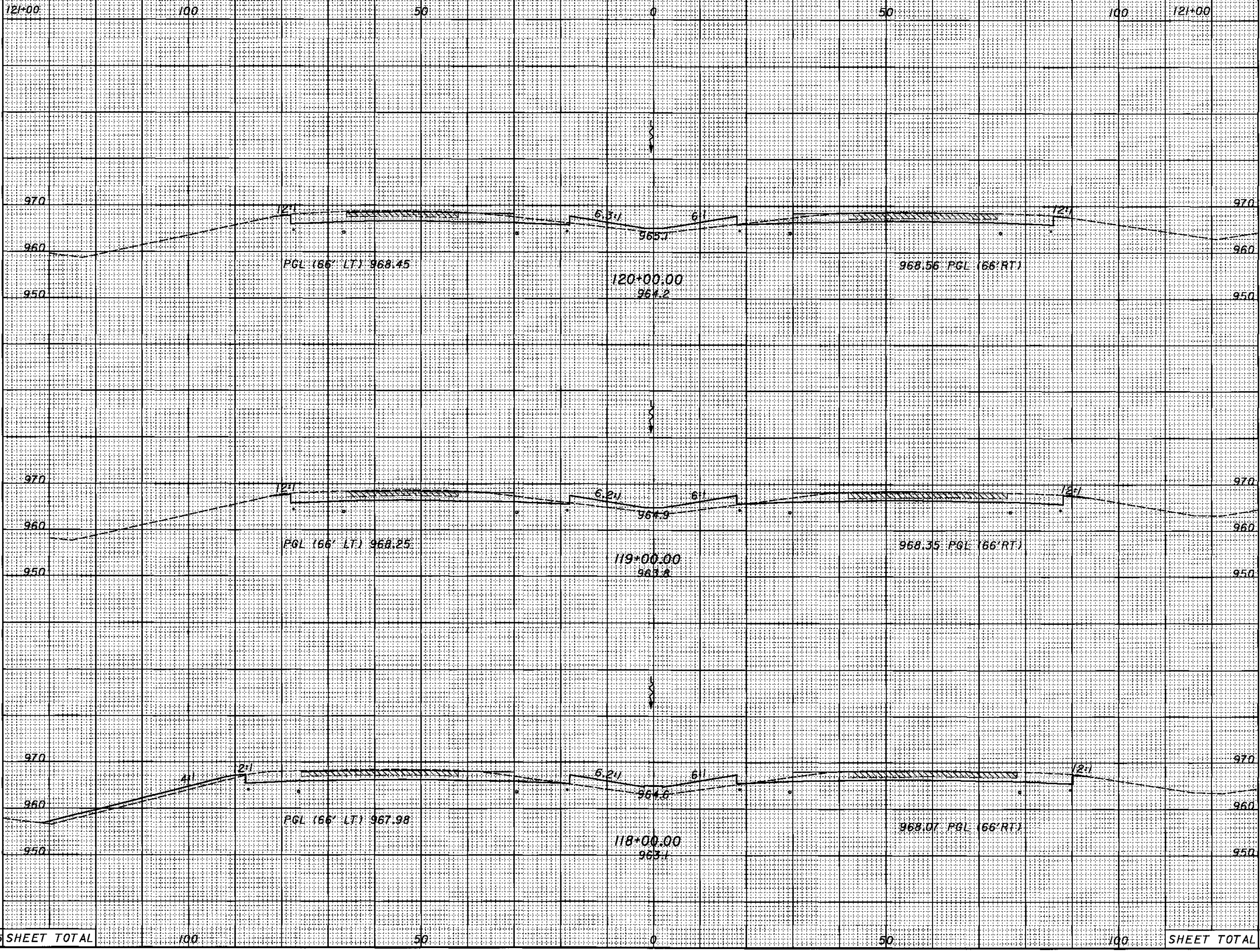
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 115+00 TO STA. 117+00

WAY/MED-71-7.04/0.00

..\401TGXB1.dgn

SEEDING	
END WIDTH	SQ. YDS.
56	
	623
56	
	623
56	
	839
95	
	2085



END AREA		VOLUME	
CUT	FILL	CUT	FILL
161	34		
		580	139
152	41		
		564	171
152	51		
		573	268
157	93		
		1717	578

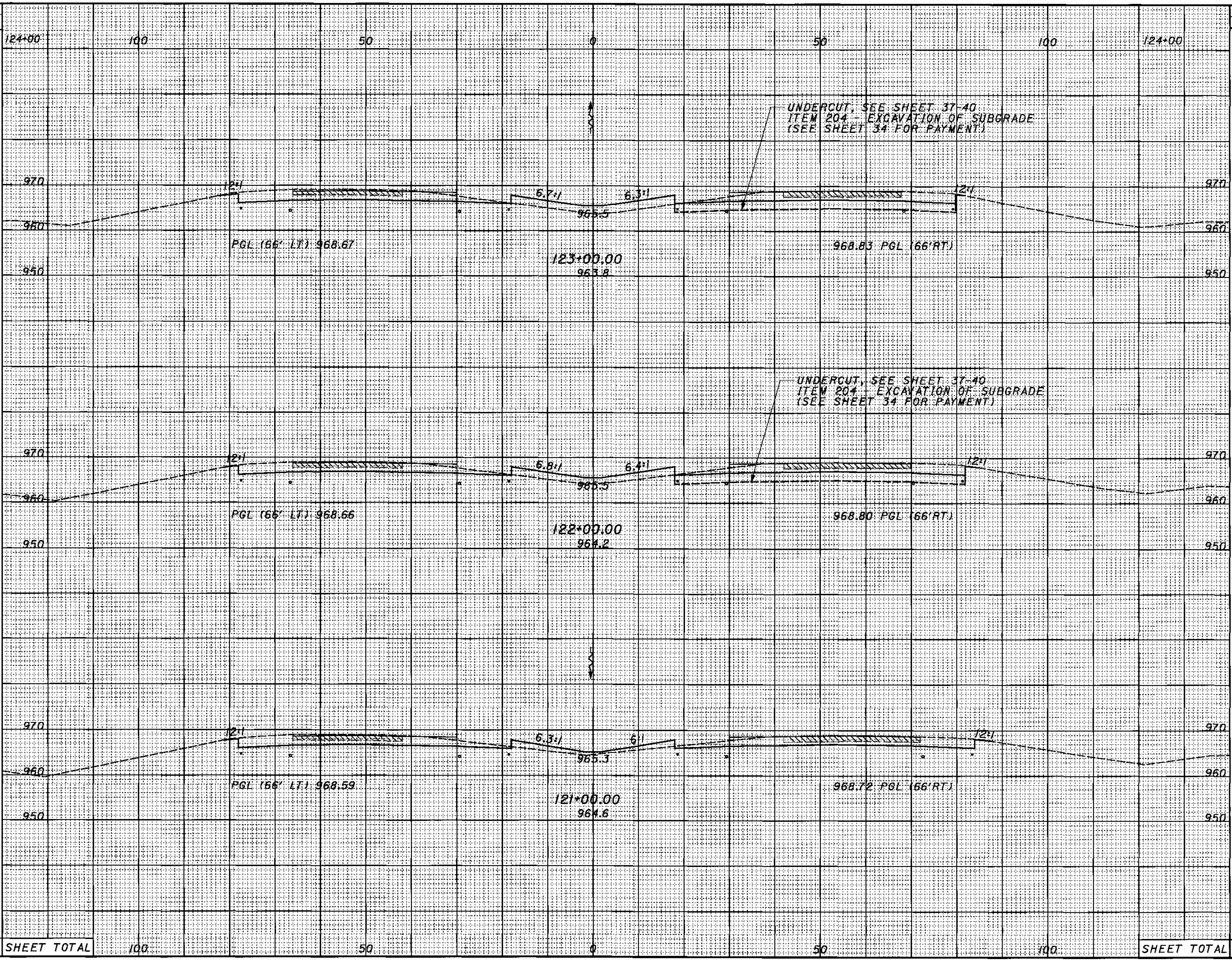
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 118+00 TO STA. 120+00

WAY/MED-71-7.04/0.00

...\140ITGXBI.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
56	
	623
56	
	623
56	
	623
56	
	1869



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
151	67		
		567	244
155	64		
		574	219
155	54		
		585	163
161	34		
		1726	626

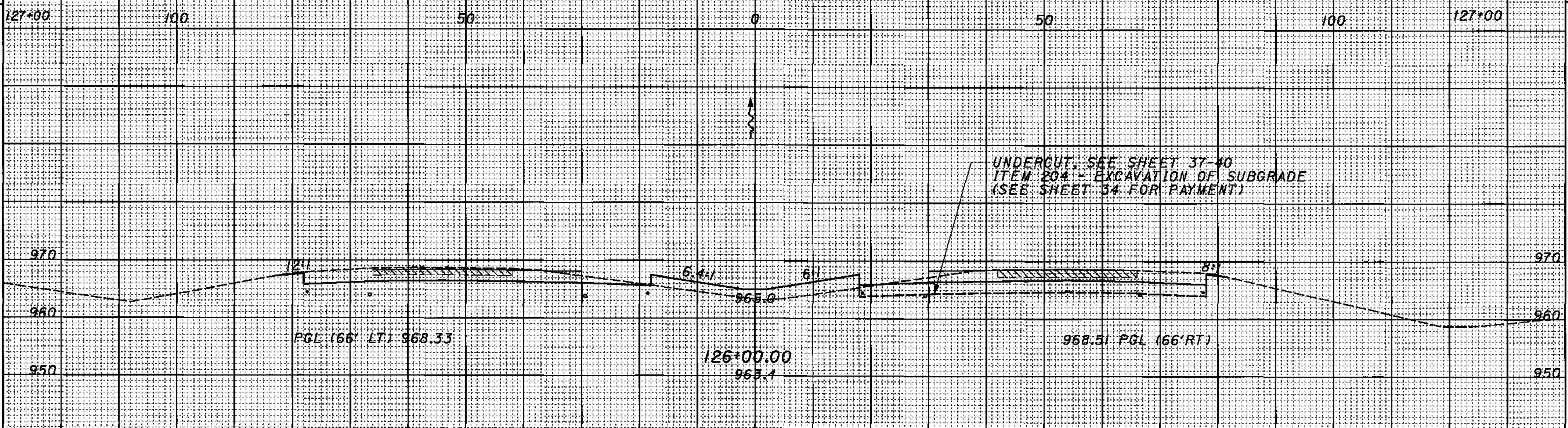
CALCULATED AEP
CHECKED ENF

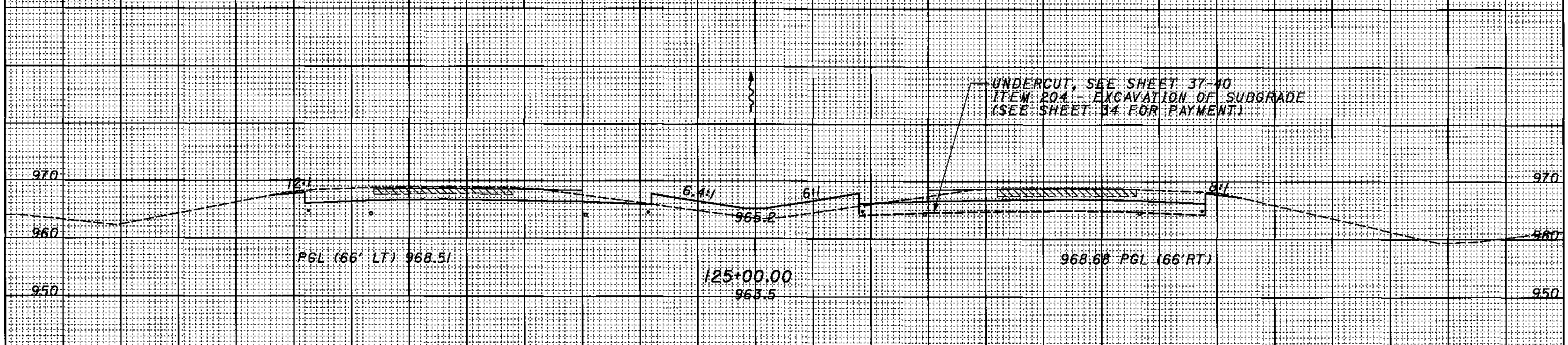
CROSS SECTIONS
STA. 121+00 TO STA. 123+00

WAY/MED-71-7.04/0.00

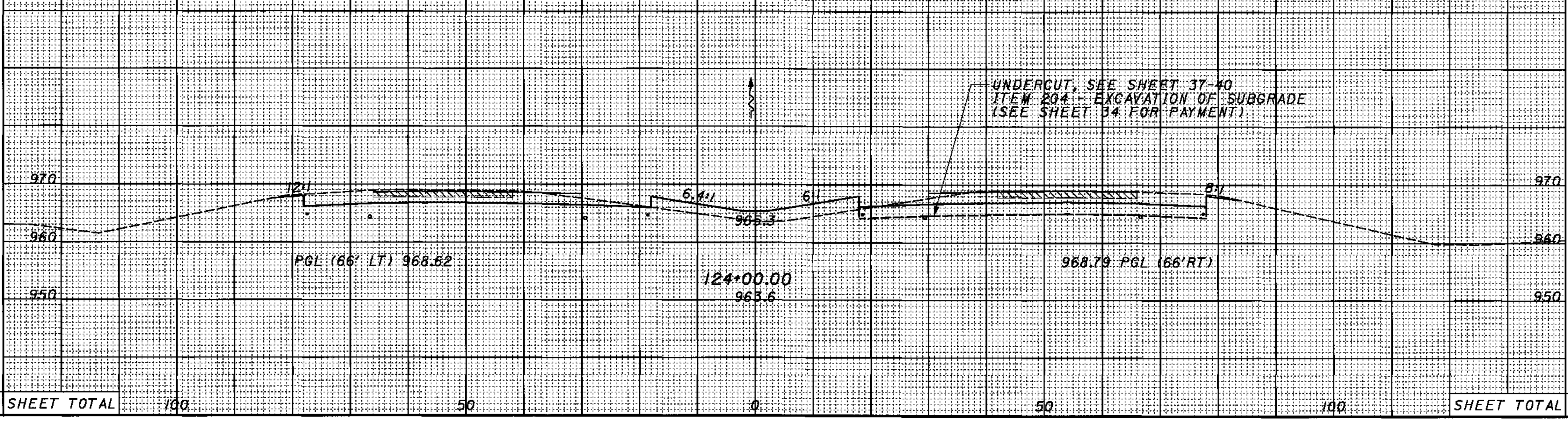
...\1017GXBl.dgn

SEEDING	
END WIDTH	SQ. YDS.
56	
	623
56	
	623
56	
	623
56	
SHEET TOTAL	1869





UNDERCUT, SEE SHEET 37-40
ITEM 204 - EXCAVATION OF SUBGRADE
(SEE SHEET 34 FOR PAYMENT)
970
960
950
12:1
6.4:1
6:1
8:1
965.2
PGL (66' LT) 968.51
968.68 PGL (66'RT)
125+00.00
963.5



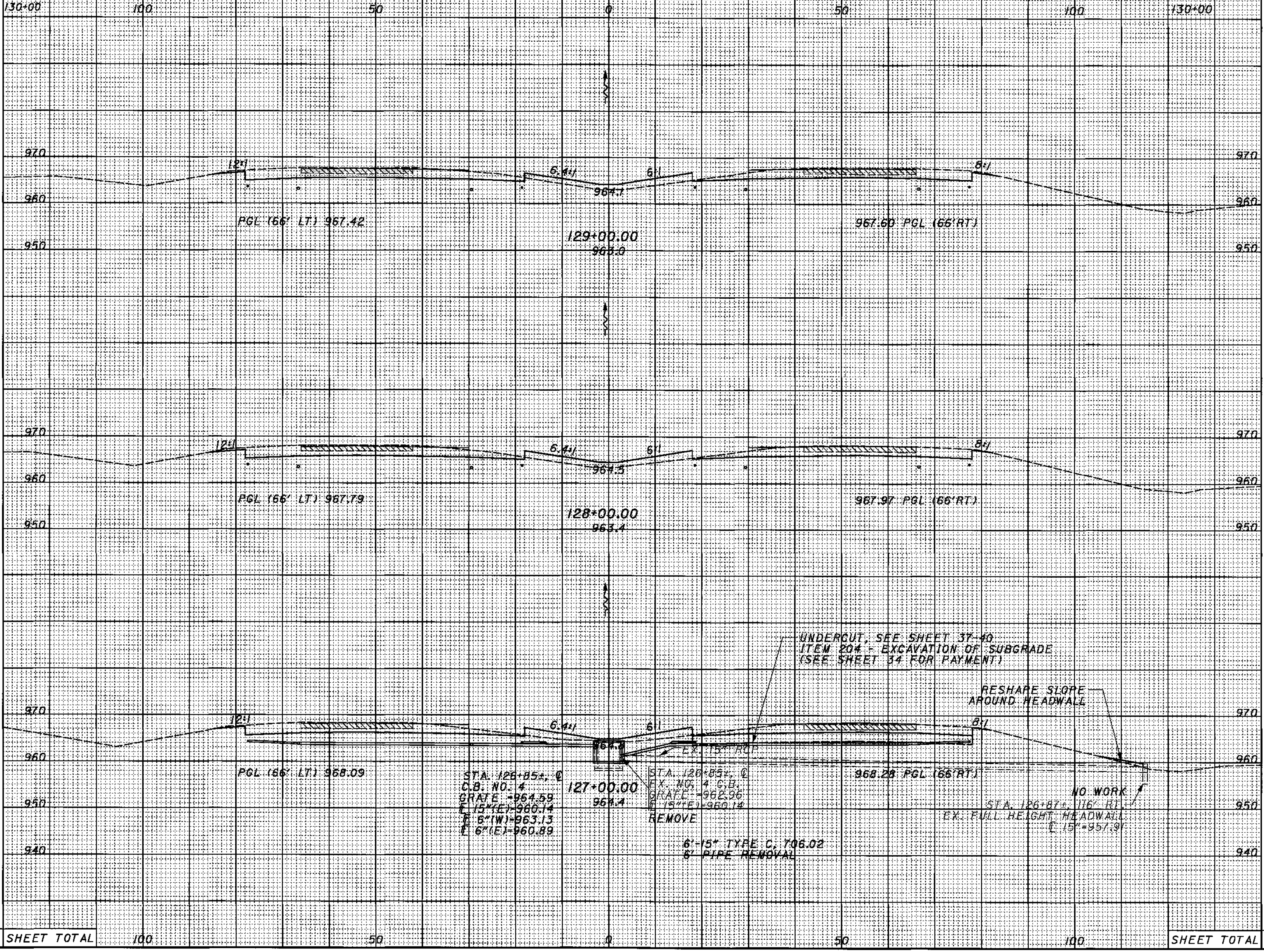
END AREA		VOLUME	
CUT	FILL	CUT	FILL
140	44		
		530	205
146	67		
		543	247
147	66		
		552	248
151	67		
SHEET TOTAL		1625	700

CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 124+00 TO STA. 126+00

WAY/MED-71-7.04/0.00

...\14017GXBI.dgn



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
59		167	48		
	639			623	173
56		170	45		
	623			617	172
56		163	47		
	623			561	168
56		140	44		
SHEET TOTAL	1885			1801	513

CALCULATED AEP

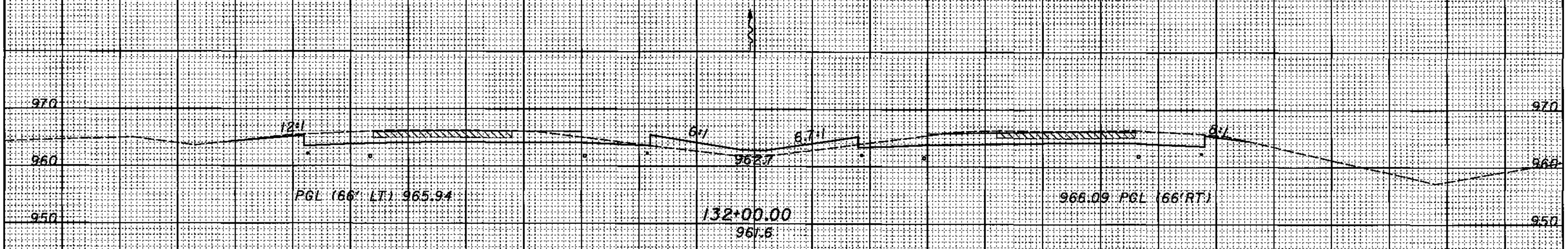
CHECKED ENF

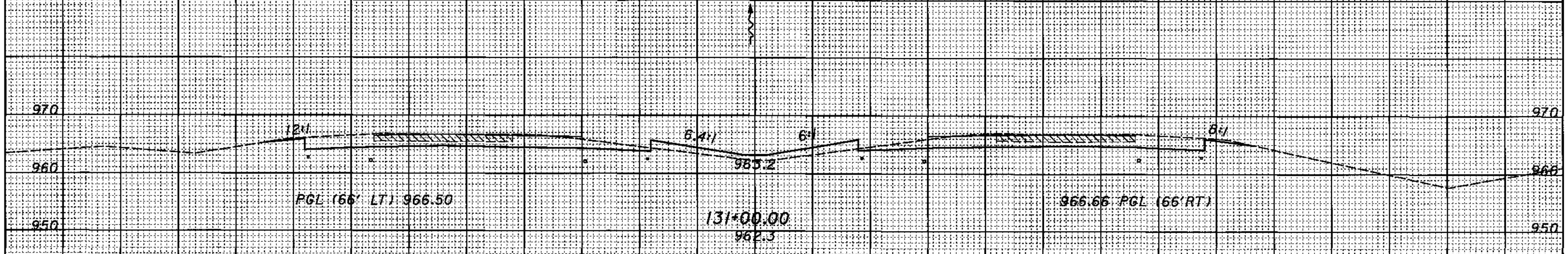
CROSS SECTIONS
STA. 127+00 TO STA. 129+00

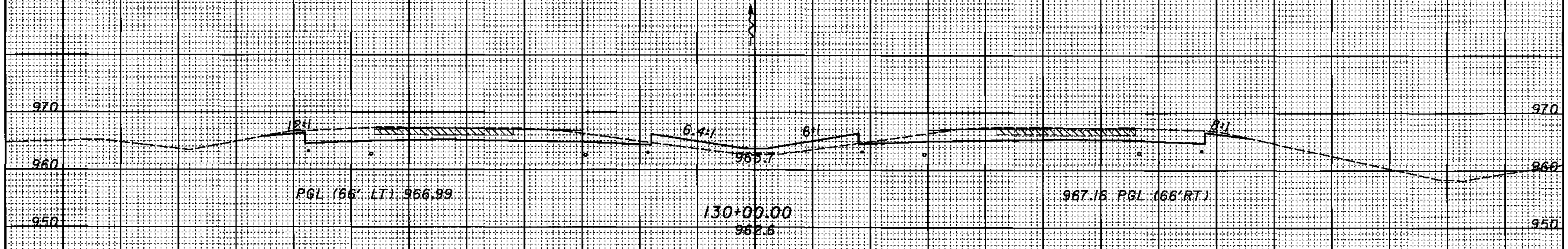
WAY/MED-71-7.04/0.00

...\14017GXB1.dgn

133+00 100 50 0 50 100 133+00







SHEET TOTAL 100 50 0 50 100 SHEET TOTAL

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
66		160	55		
	728			595	188
65		161	47		
	695			606	161
60		166	40		
	662			616	163
59		167	48		
	2085 SHEET TOTAL			1817	512

CALCULATED AEP
CHECKED ENF

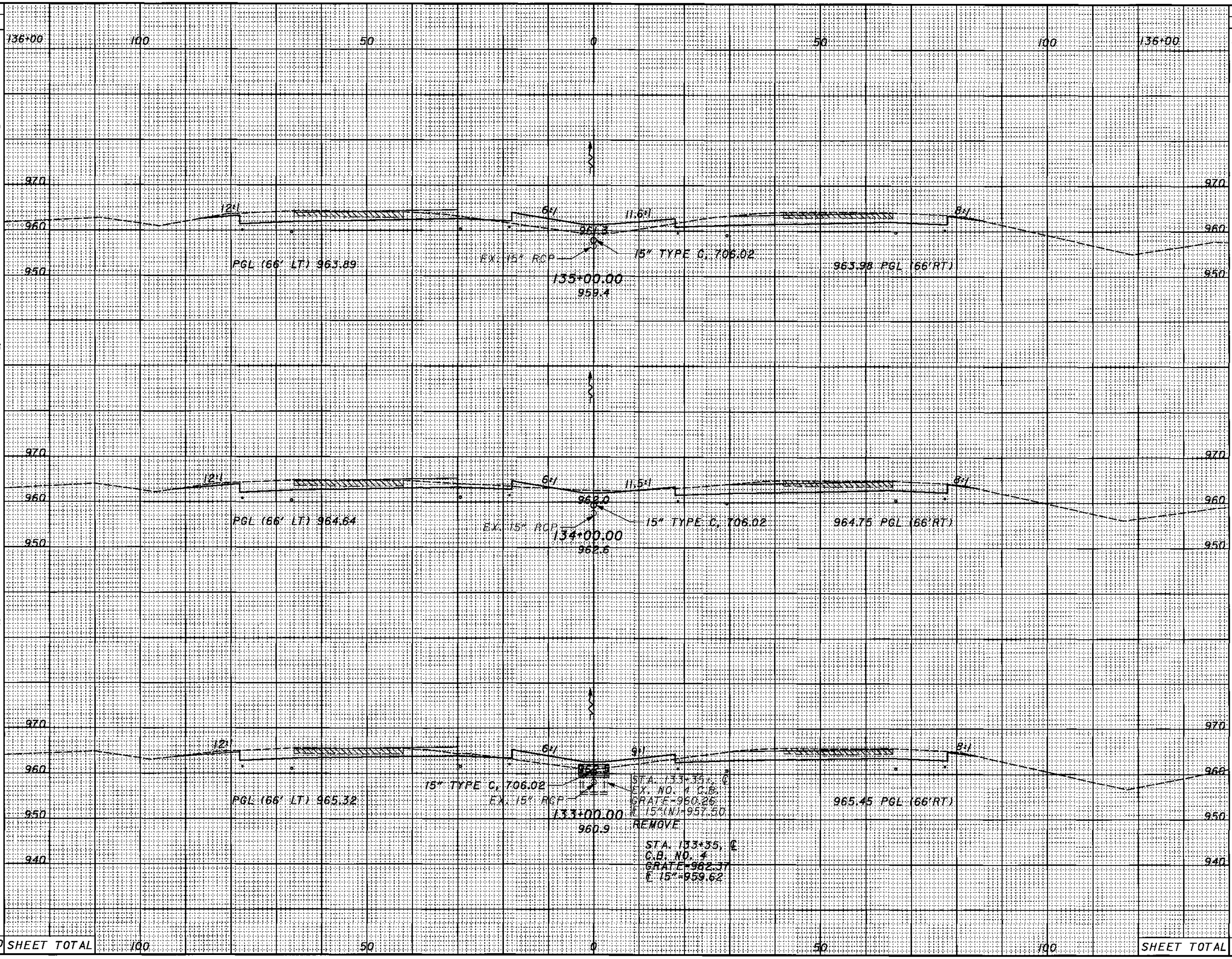
CROSS SECTIONS
STA. 130+00 TO STA. 132+00

WAY/MED-71-7.04/0.00

237
785

...\140176XBI.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
56	
	650
61	
	706
66	
	734
66	
	2090 SHEET TOTAL



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
153	76		
		595	268
168	69		
		640	141
177	7		
		625	115
160	55		
		1860	524

CALCULATED AEP
CHECKED ENF

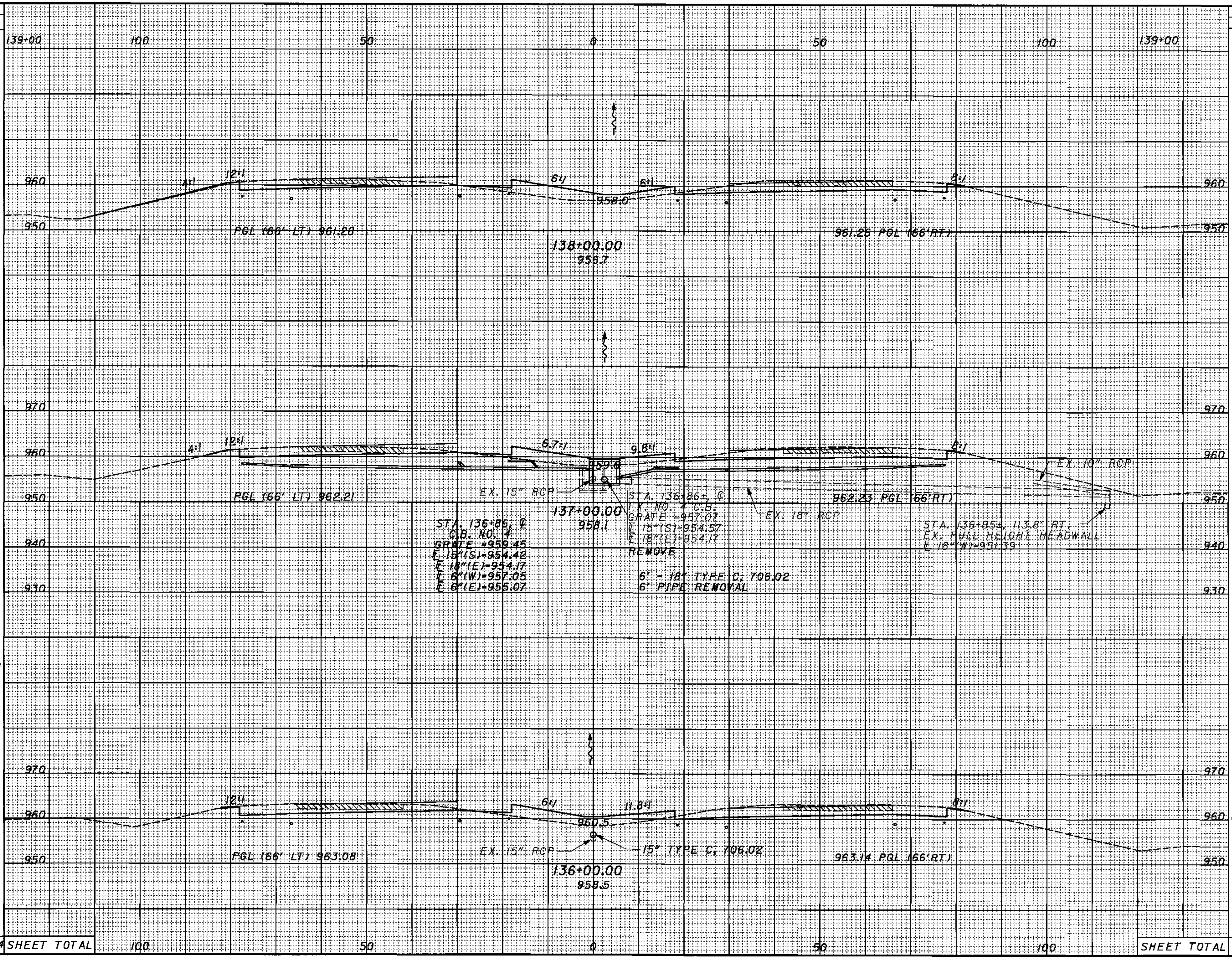
CROSS SECTIONS
STA. 133+00 TO STA. 135+00

WAY/MED-71-7.04/0.00

238
785

...\14017GXBI.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
88	
	967
86	
	817
61	
	650
56	
	2434



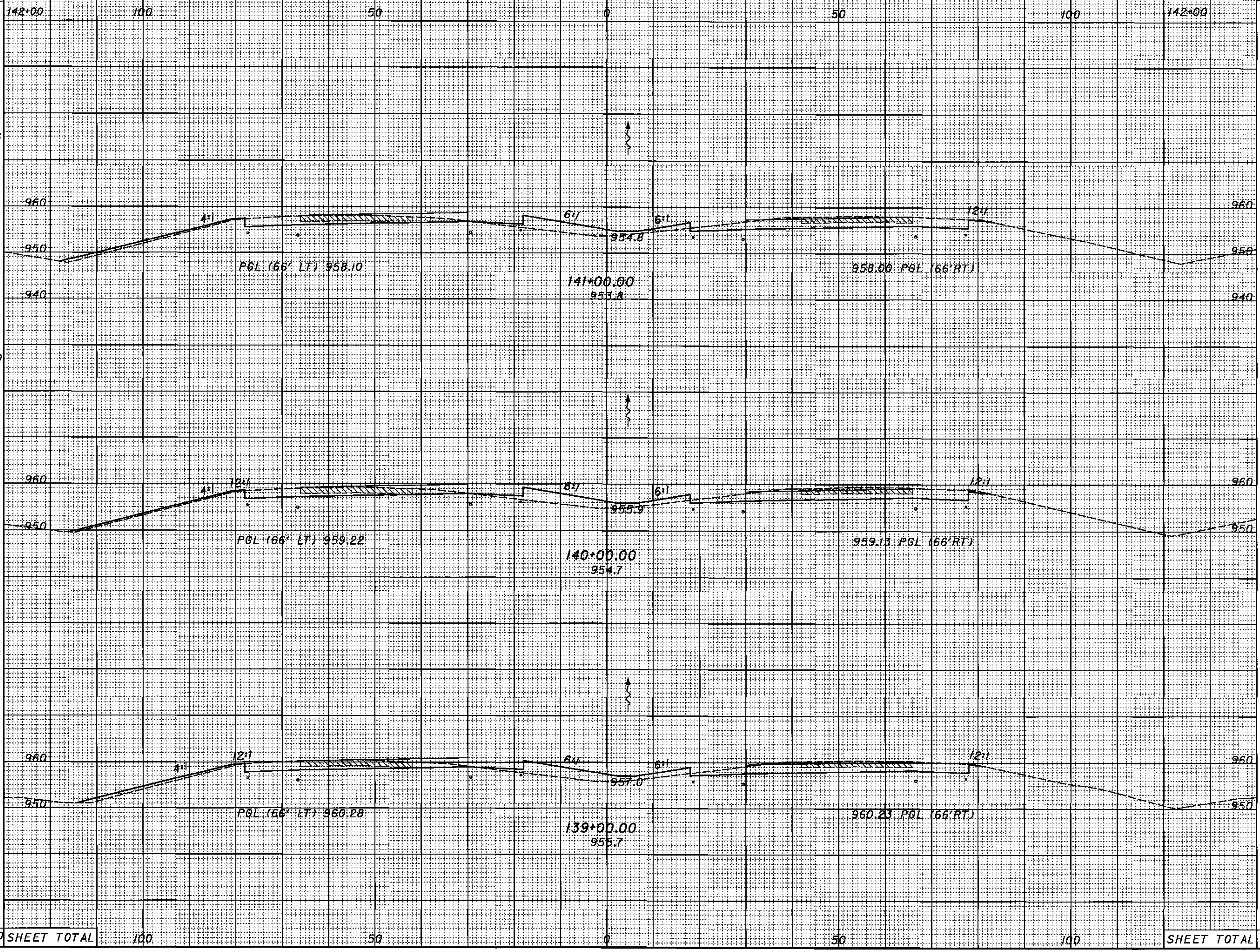
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
136	85		
		497	307
132	81		
		486	273
130	66		
		525	263
153	76		
		1508	843

CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 136+00 TO STA. 138+00

WAY/MED-71-7.04/0.00

SEEDING	
END WIDTH	SQ. YDS.
90	
	1006
91	
	1000
89	
	984
88	
	2990



END AREA		VOLUME	
CUT	FILL	CUT	FILL
137	59		
		489	249
127	75		
		483	278
134	75		
		500	296
136	85		
		1472	823

CALCULATED AEP
CHECKED ENF

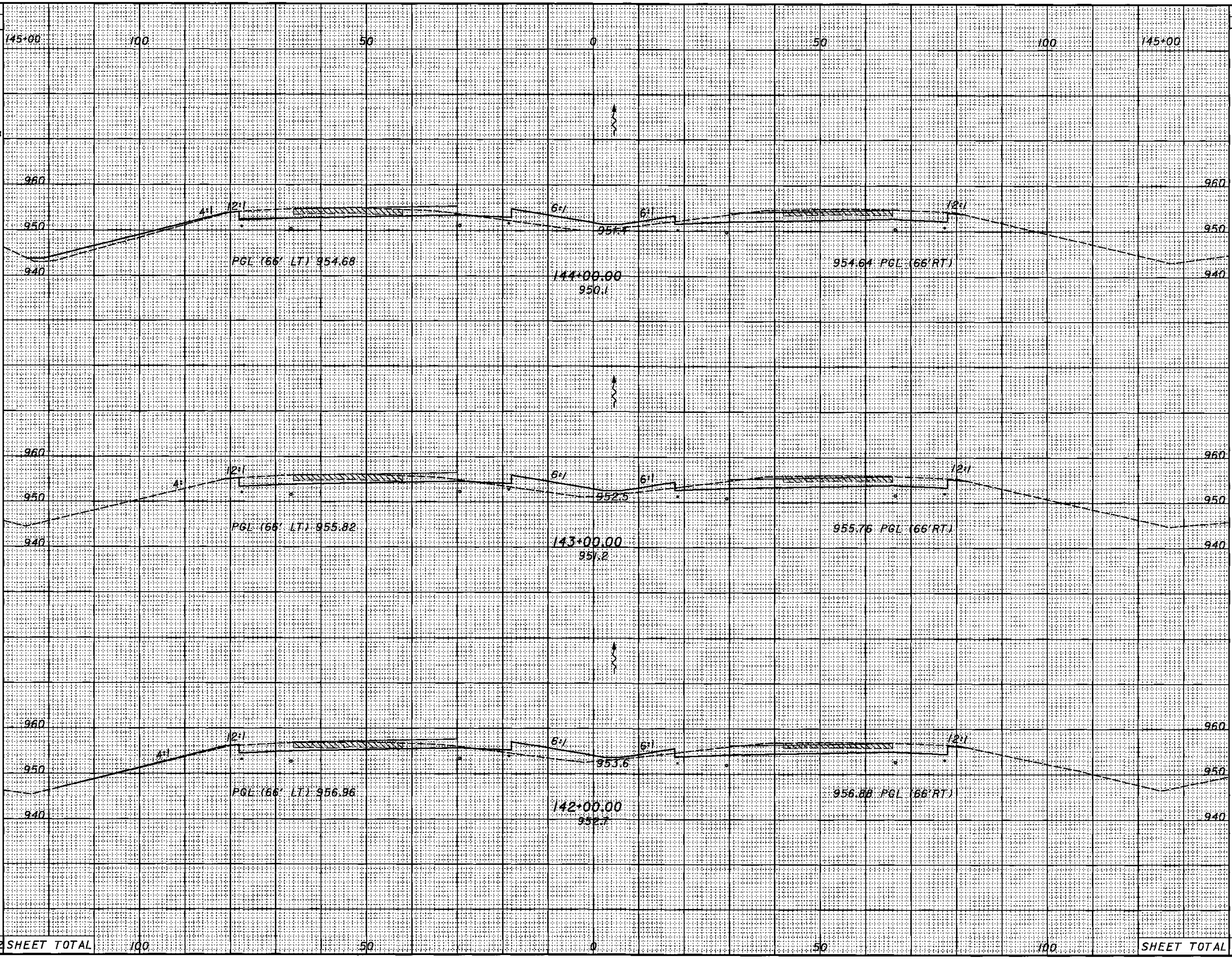
CROSS SECTIONS
STA. 139+00 TO STA. 141+00

WAY/MED-71-7.04/0.00

240
785

...\14017GXBI.dgn

SEEDING	
END WIDTH	SQ. YDS.
97	
	1084
98	
	856
56	
	812
90	
	2752



END AREA		VOLUME	
CUT	FILL	CUT	FILL
123	100		
		492	355
142	92		
		529	289
143	64		
		519	229
137	59		
		1540	873

CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 142+00 TO STA. 144+00

WAY/MED-71-7.04/0.00

...\14017GXB1.dgn

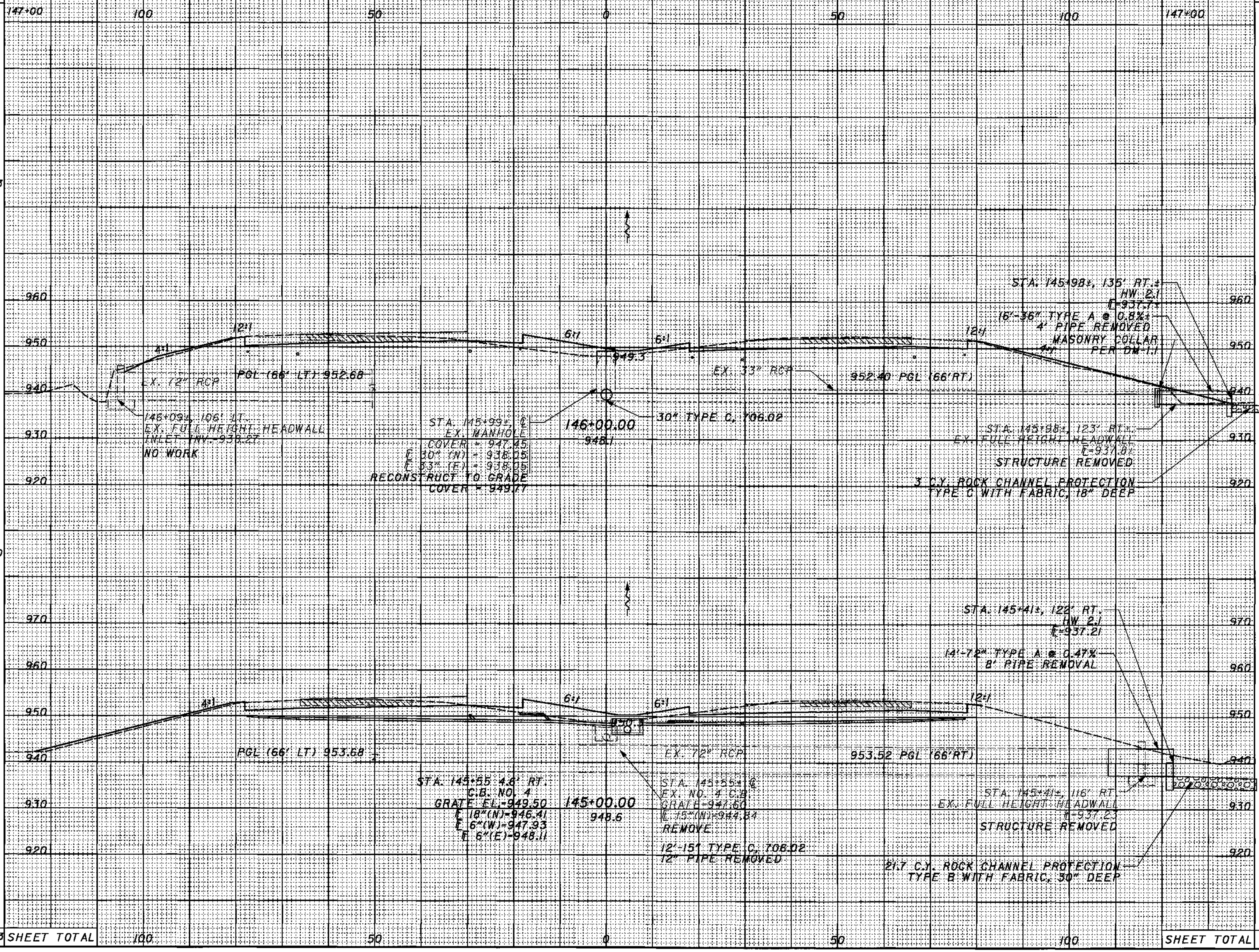
CROSS SECTIONS
STA. 145+00 TO STA. 146+00

WAY/MED-71-7.04/0.00

CALCULATED AEP
CHECKED ENF

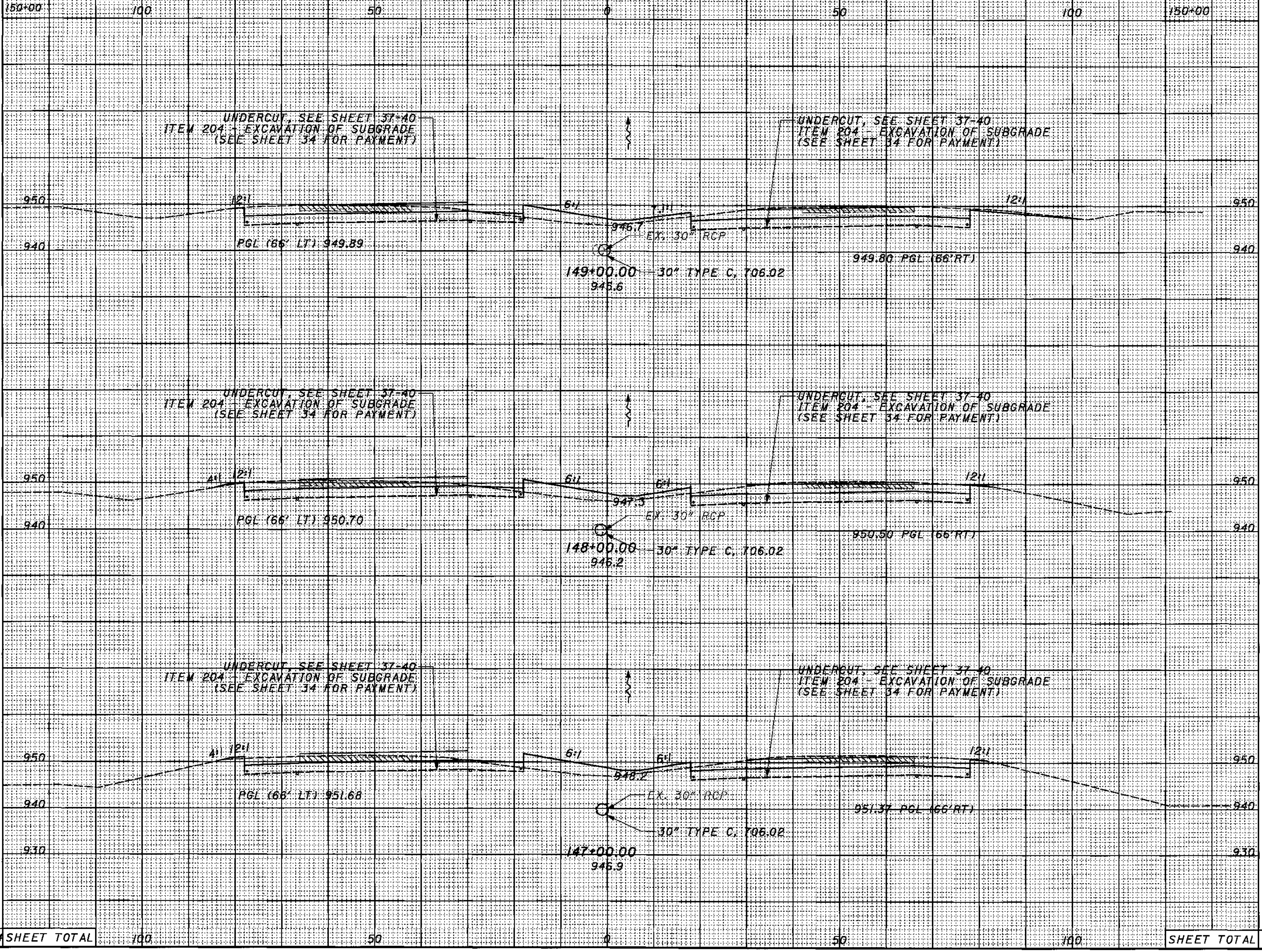
SEEDING END WIDTH	SEEDING SQ. YDS.
56	
	1023
128	
	1250
97	
	2273 SHEET TOTAL

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
118	73		
		446	341
122	111		
		455	390
123	100		
SHEET TOTAL		901	731



...\14017GXBI.dgn

SEEDING	
END WIDTH	SQ. YDS.
84	
	878
74	
	728
57	
	628
56	
	2234 SHEET TOTAL



END AREA		VOLUME	
CUT	FILL	CUT	FILL
158	57		
		560	215
144	59		
		491	231
121	66		
		443	258
118	73		
SHEET TOTAL		1494	704

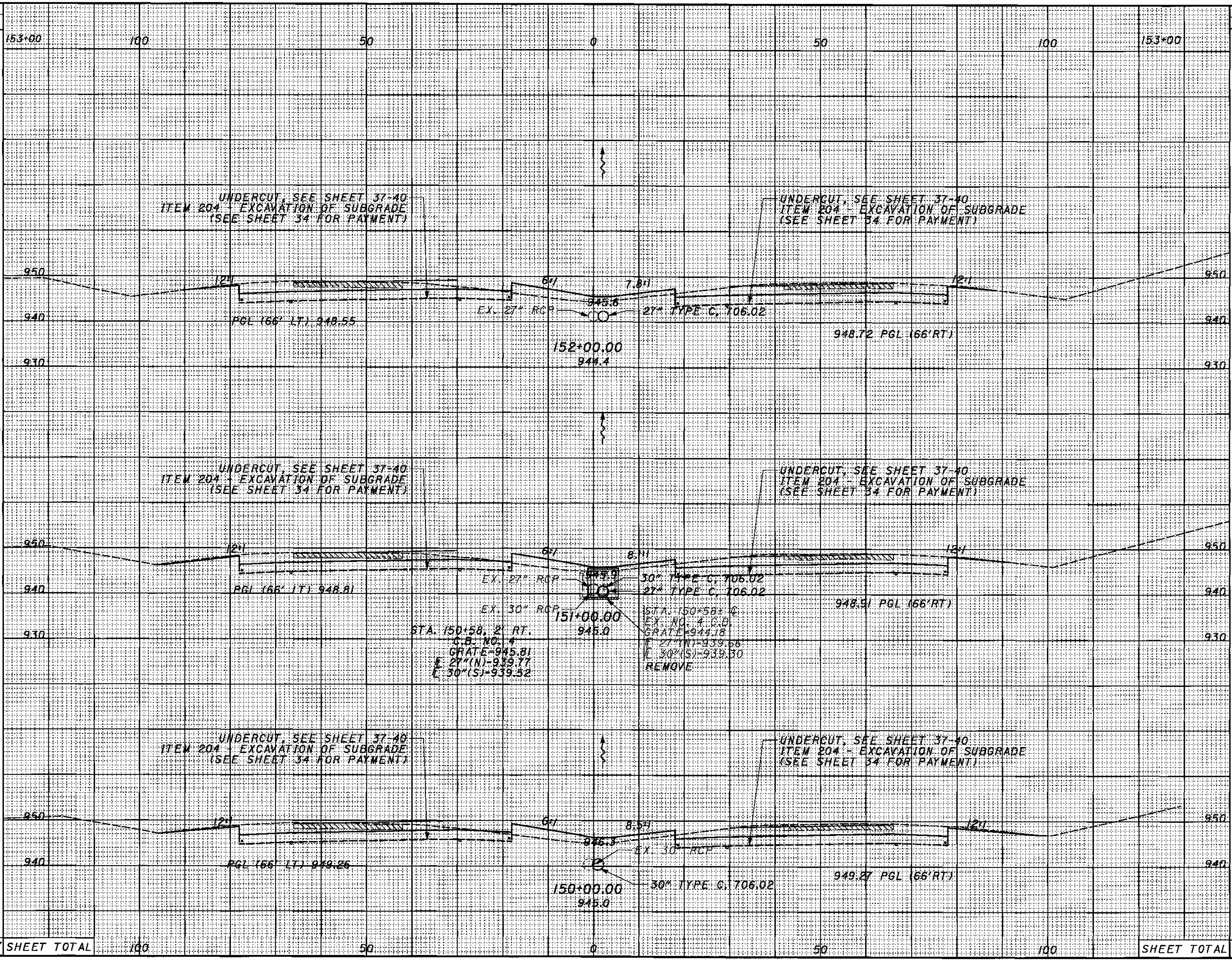
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 147+00 TO STA. 149+00

WAY/MED-71-7.04/0.00

...\14017GXB1.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
65	
	734
67	
	789
75	
	884
84	
	2407



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
169	42		
		598	173
153	52		
		569	186
154	48		
		578	196
158	57		
		1745	555

CALCULATED AEP
CHECKED ENF

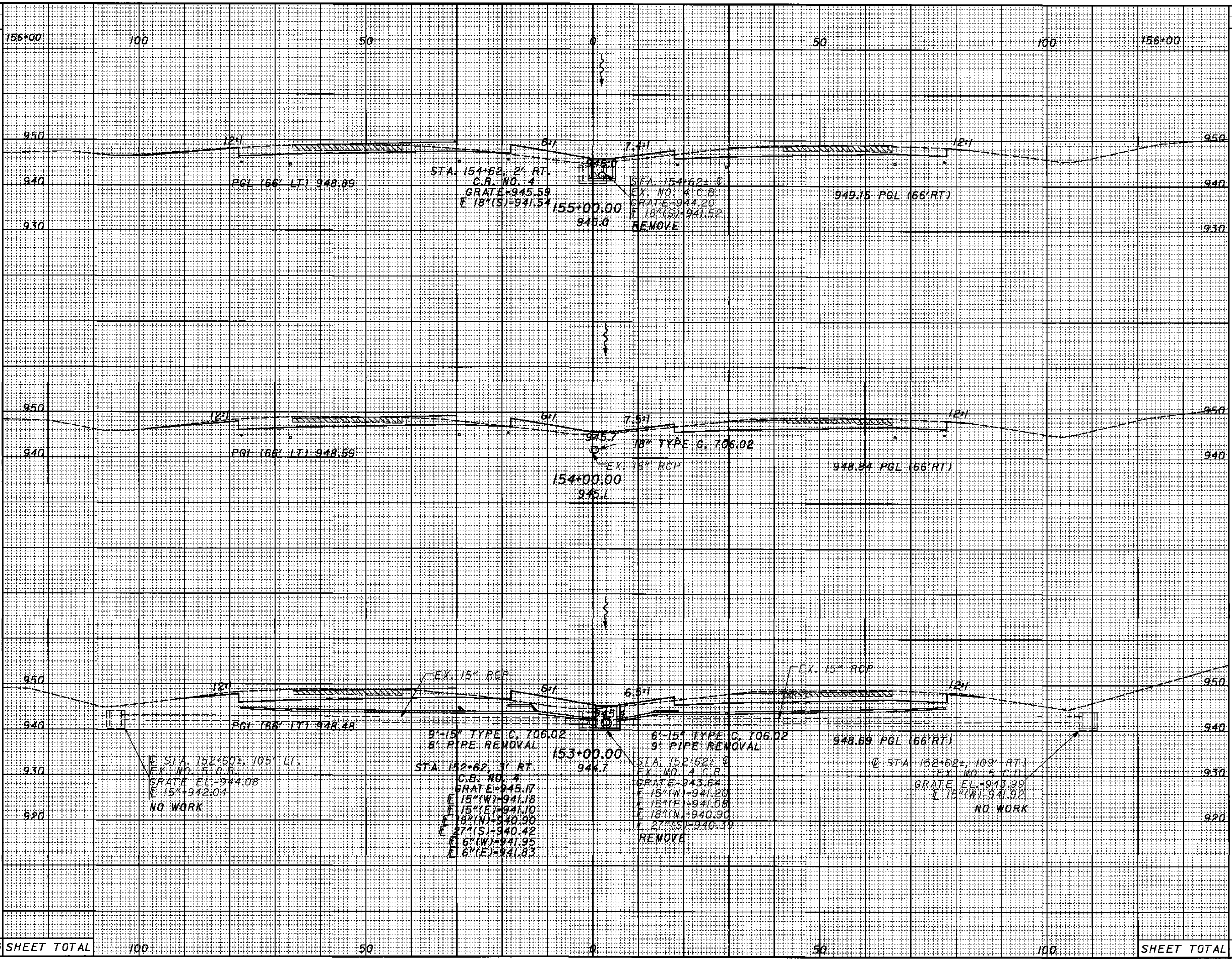
CROSS SECTIONS
STA. 150+00 TO STA. 152+00

WAY/MED-71-7.04/0.00

244
785

...\140176XB1.dgn

SEEDING	
END WIDTH	SQ. YDS.
75	
	845
77	
	834
73	
	767
65	
	2446



END AREA		VOLUME	
CUT	FILL	CUT	FILL
151	47		
		532	171
136	45		
		565	145
169	33		
		627	138
169	42		
		1724	454

CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 153+00 TO STA. 155+00

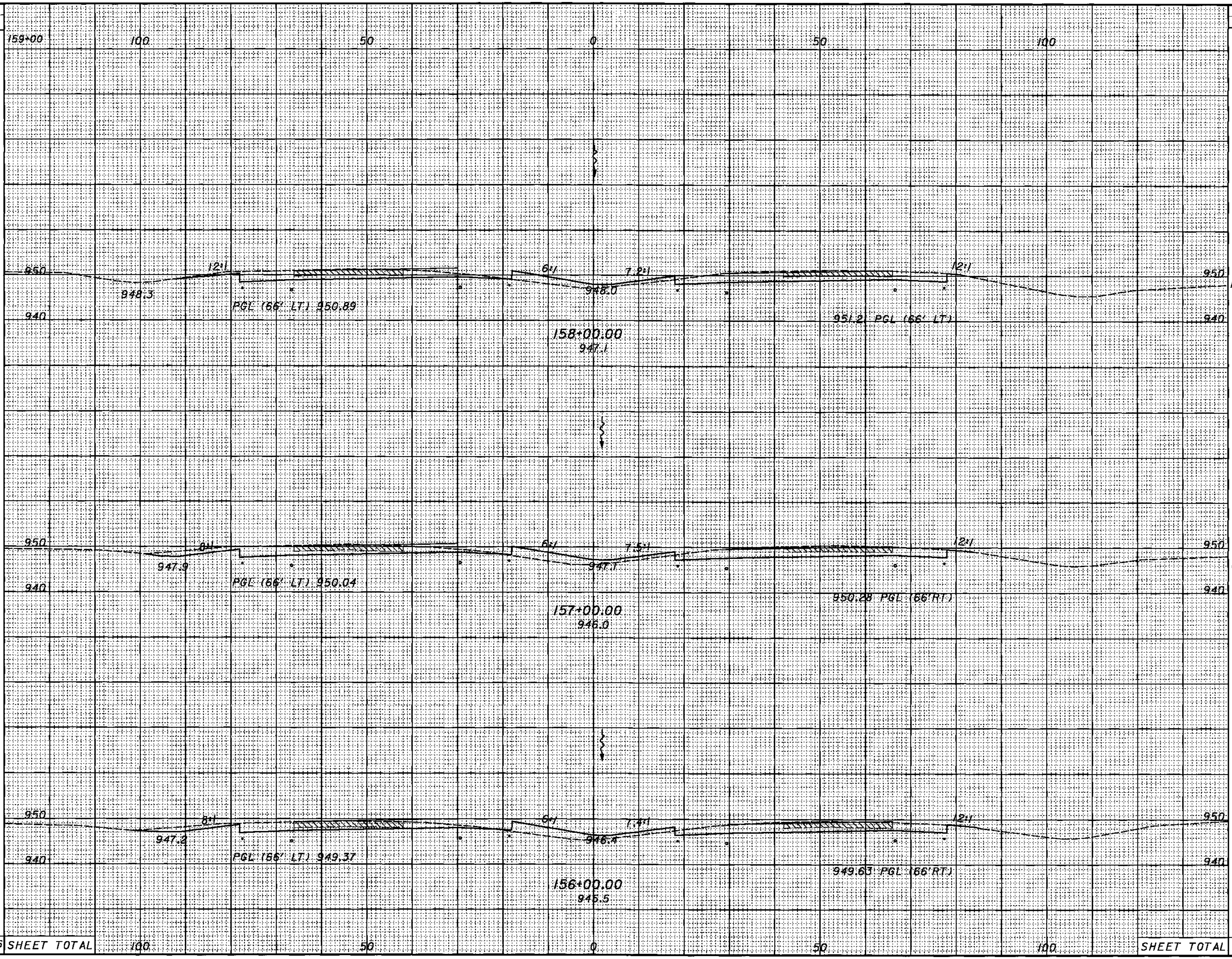
WAY/MED-71-7.04/0.00

...\4017GXB.dgn

CROSS SECTIONS
STA. 156+00 TO STA. 158+00

WAY/MED-71-7.04/0.00

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
62		134	49		
	712			546	161
66		160	38		
	767			628	157
72		178	47		
	817			610	174
75		151	47		
	2296 SHEET TOTAL			1784	492

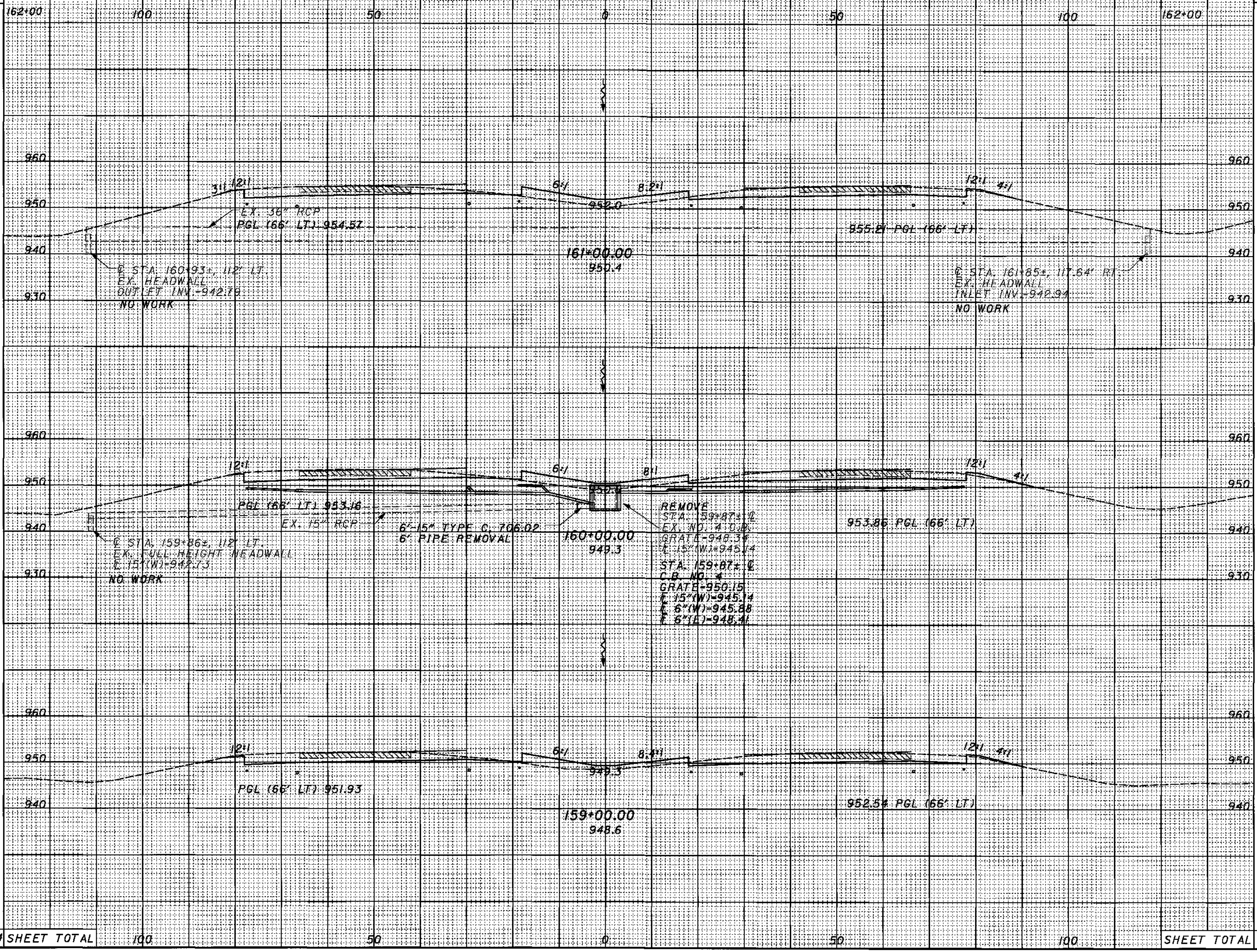


CALCULATED AEP
CHECKED ENF

246
785

...\14017GXB1.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
54	
	623
58	
	689
66	
	712
62	
	2024 SHEET TOTAL



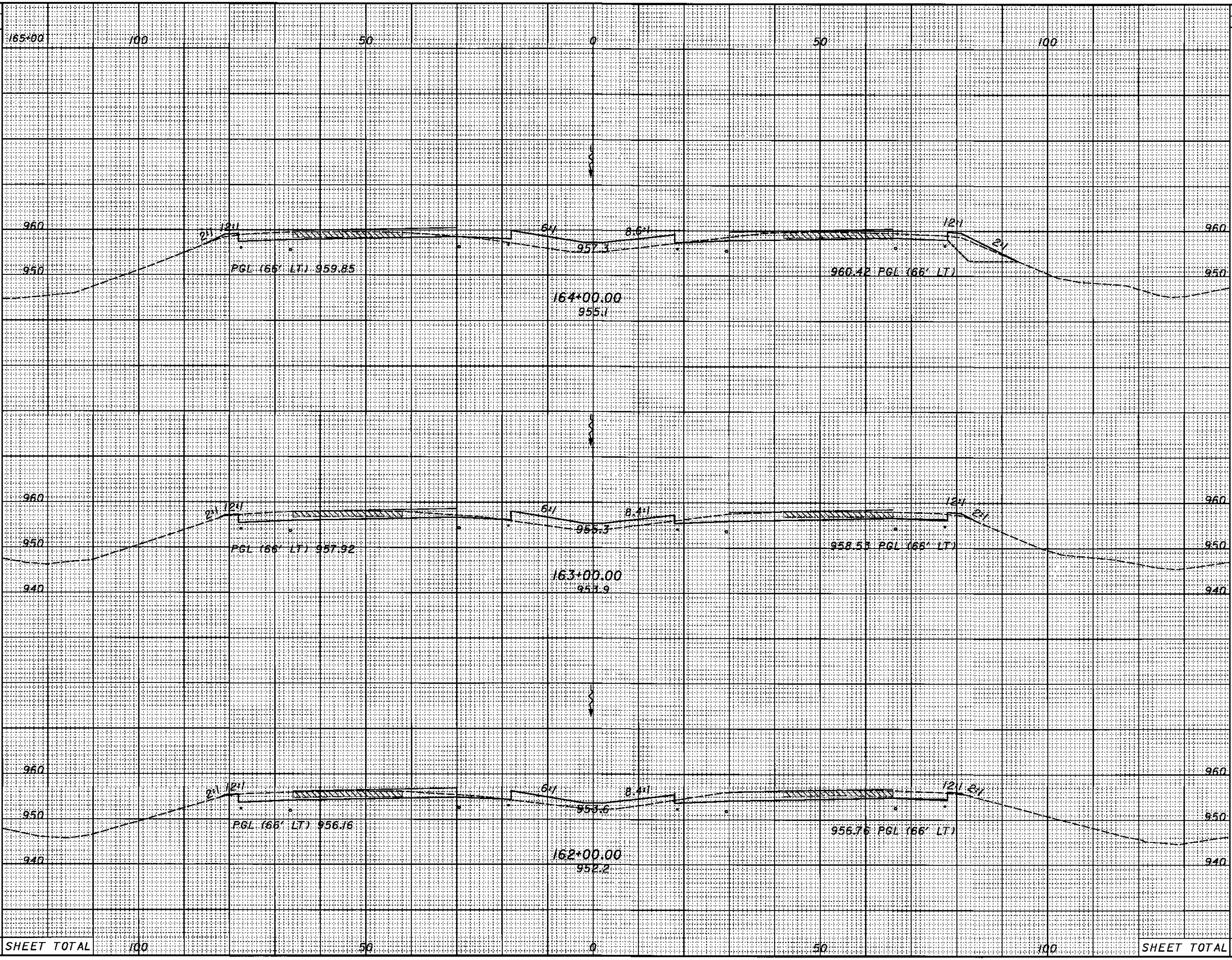
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
123	56		
		463	213
127	59		
		484	219
196	59		
		498	199
134	49		
SHEET TOTAL		1445	631

CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 159+00 TO STA. 161+00

WAY/MED-71-7.04/0.00

SEEDING END WIDTH	SEEDING SQ. YDS.
75	
	800
	695
56	
	612
54	
	2107



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
65	105		
		250	376
69	98		
		339	293
113	60		
		439	214
123	56		
		1028	883

SHEET TOTAL

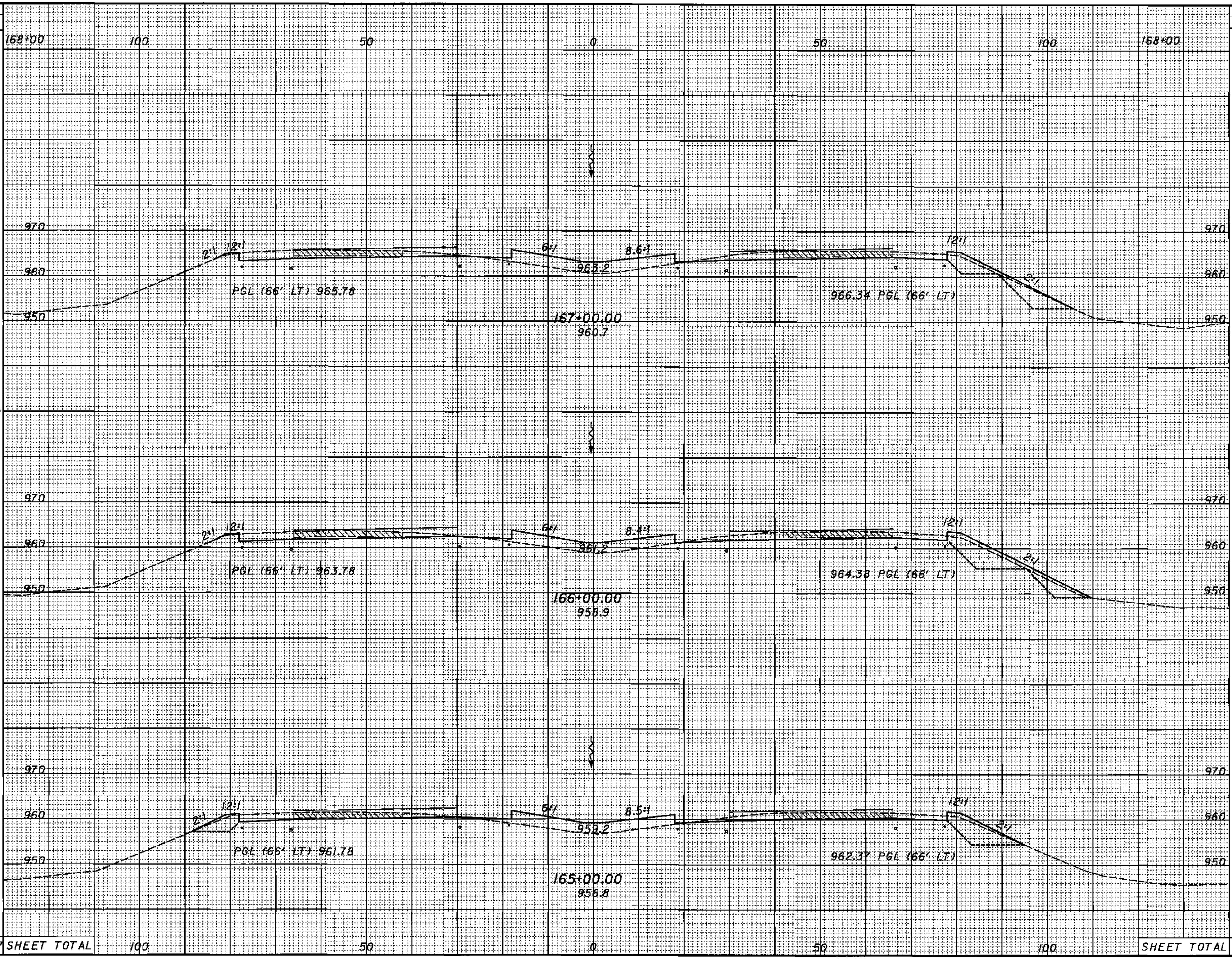
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 162+00 TO STA. 164+00

WAY/MED-71-7.04/0.00

...\1401TGXBI.dgn

SEEDING	
END WIDTH	SQ. YDS.
81	
	917
84	
	950
87	
	900
75	
	2767 SHEET TOTAL



END AREA		VOLUME	
CUT	FILL	CUT	FILL
90	106		
		326	394
86	106		
		307	403
80	111		
		269	399
65	105		
		902	1196

CALCULATED AEP
CHECKED ENF

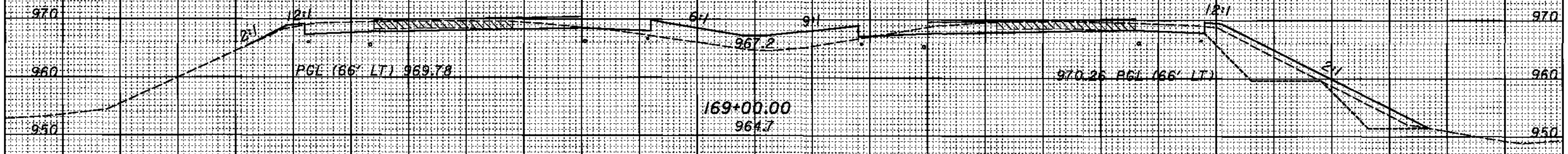
CROSS SECTIONS
STA. 165+00 TO STA. 167+00

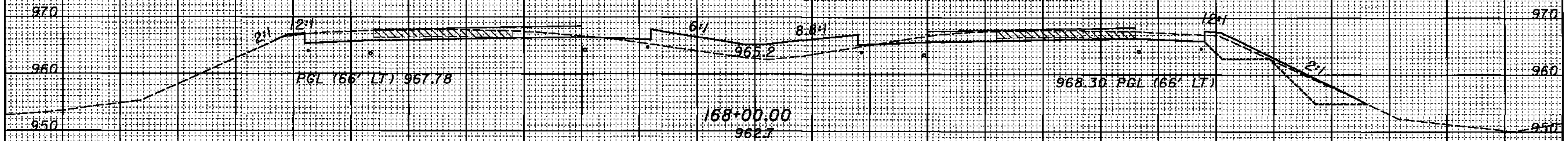
WAY/MED-71-7.04/0.00

...\4017GXBI.dgn

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
105		84	132		
	1128			317	504
98		87	140		
	995			328	456
81		90	106		
	2123 SHEET TOTAL		SHEET TOTAL	645	960

170+00 100 50 0 50 100 170+00





100 50 0 50 100

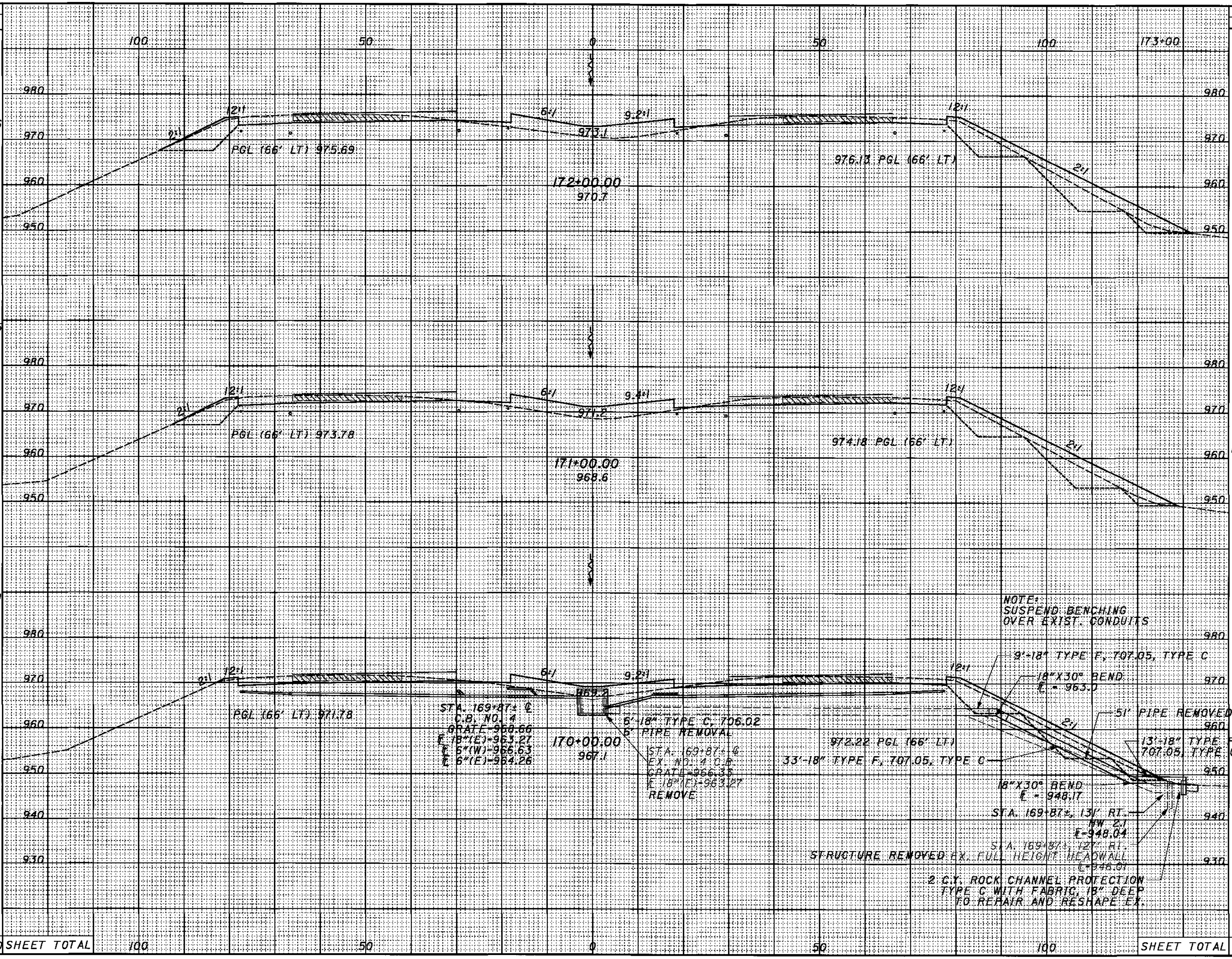
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 168+00 TO STA. 169+00

WAY/MED-71-7.04/0.00

...\14017GXBI.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
138	
	1456
124	
	1345
118	
	1239
105	
	4040



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
86	207		
		293	770
72	208		
		273	735
136	189		
		295	595
84	132		
		861	2100

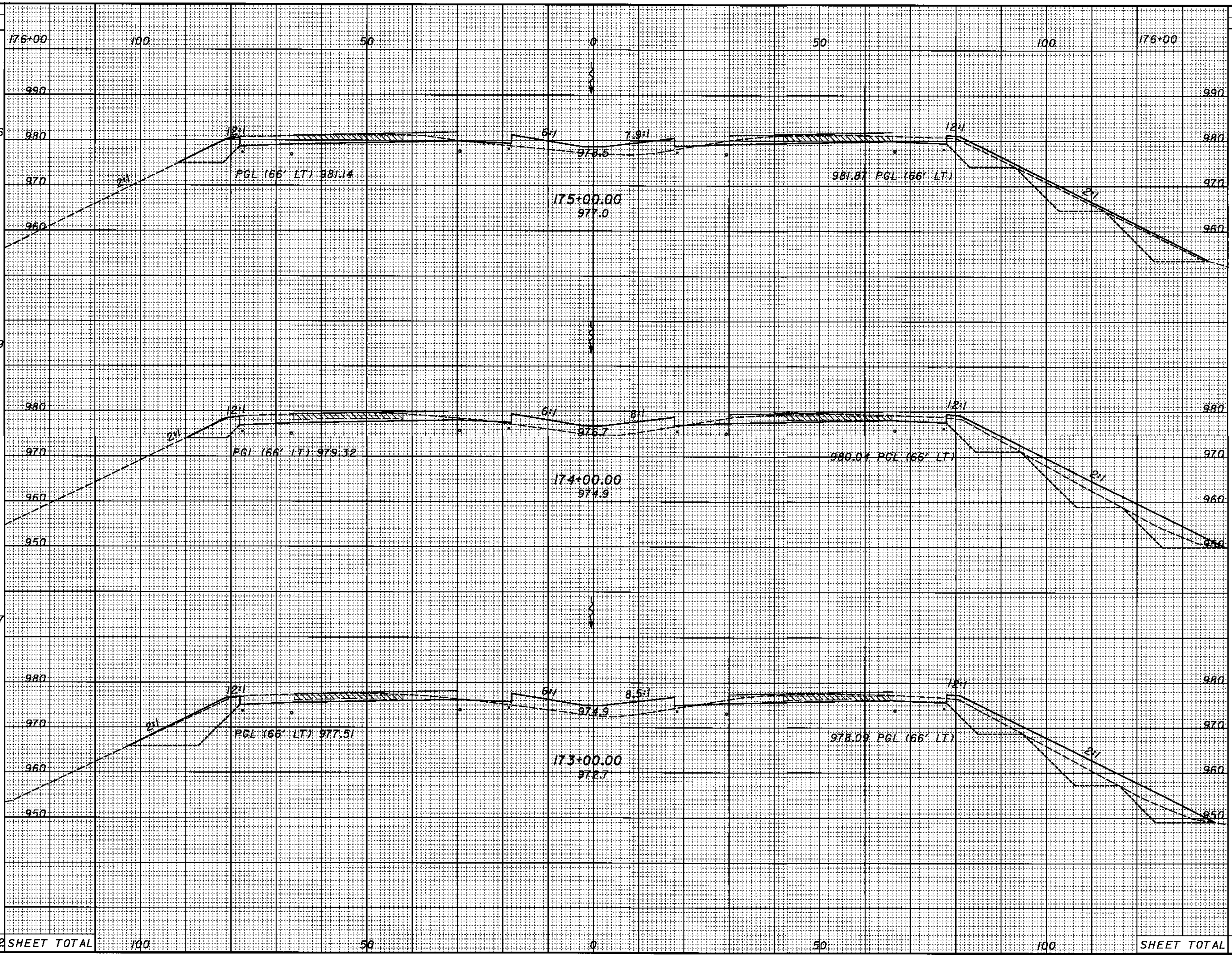
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 170+00 TO STA. 172+00

WAY/MED-71-7.04/0.00

...\140176XBl.dgn

SEEDING	
END WIDTH	SQ. YDS.
138	
	1456
124	
	1389
126	
	1467
138	
	4312



END AREA		VOLUME	
CUT	FILL	CUT	FILL
81	95		
		318	389
90	114		
		350	552
99	183		
		342	724
86	207		
		1010	1665

CALCULATED AEP
CHECKED ENF

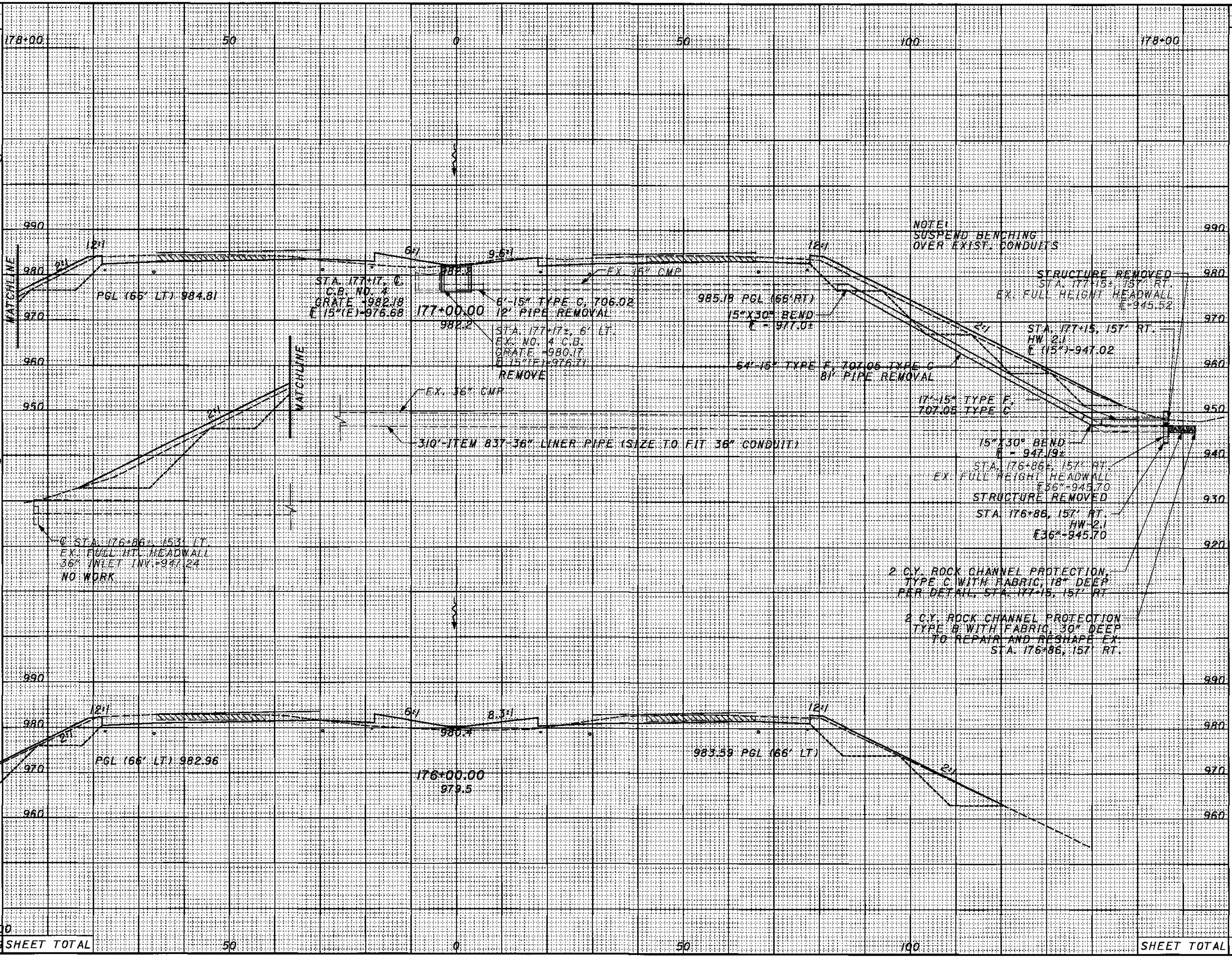
CROSS SECTIONS
STA. 173+00 TO STA. 175+00

WAY/MED-71-7.04/0.00

252
785

...\40I7GXBI.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
167	
	2000
193	
	1839
138	
	3839 SHEET TOTAL



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
55	182		
		247	637
79	161		
		297	476
81	95		
		544	1113

CALCULATED AEP
CHECKED ENF

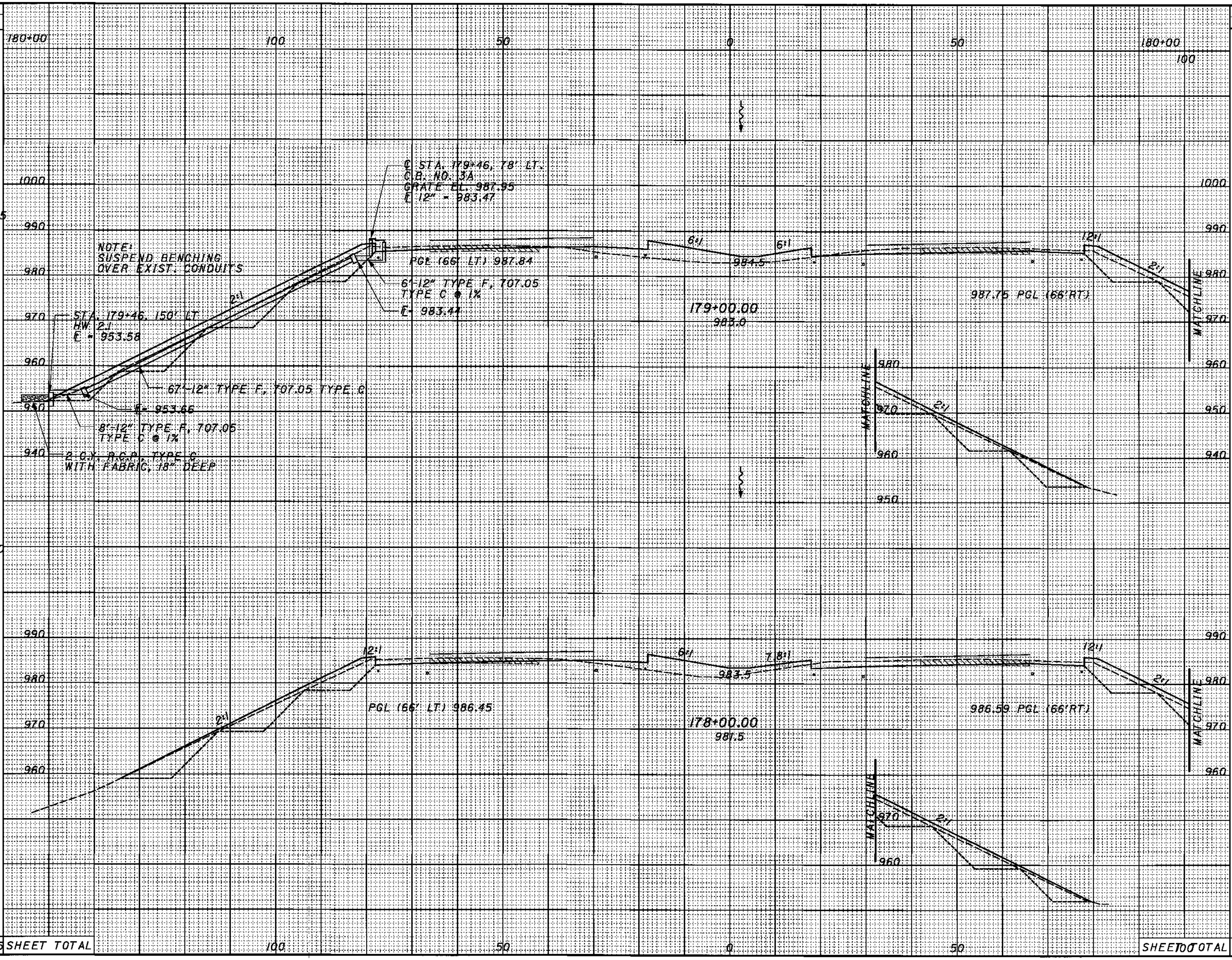
CROSS SECTIONS
STA. 176+00 TO STA. 177+00

WAY/MED-71-7.04/0.00

253
785

...\140176XBI.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
202	
	2245
202	
	2050
167	
	4295



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
47	36		
		150	554
34	262		
		165	824
55	182		
		315	1378

CALCULATED AEP
CHECKED ENF

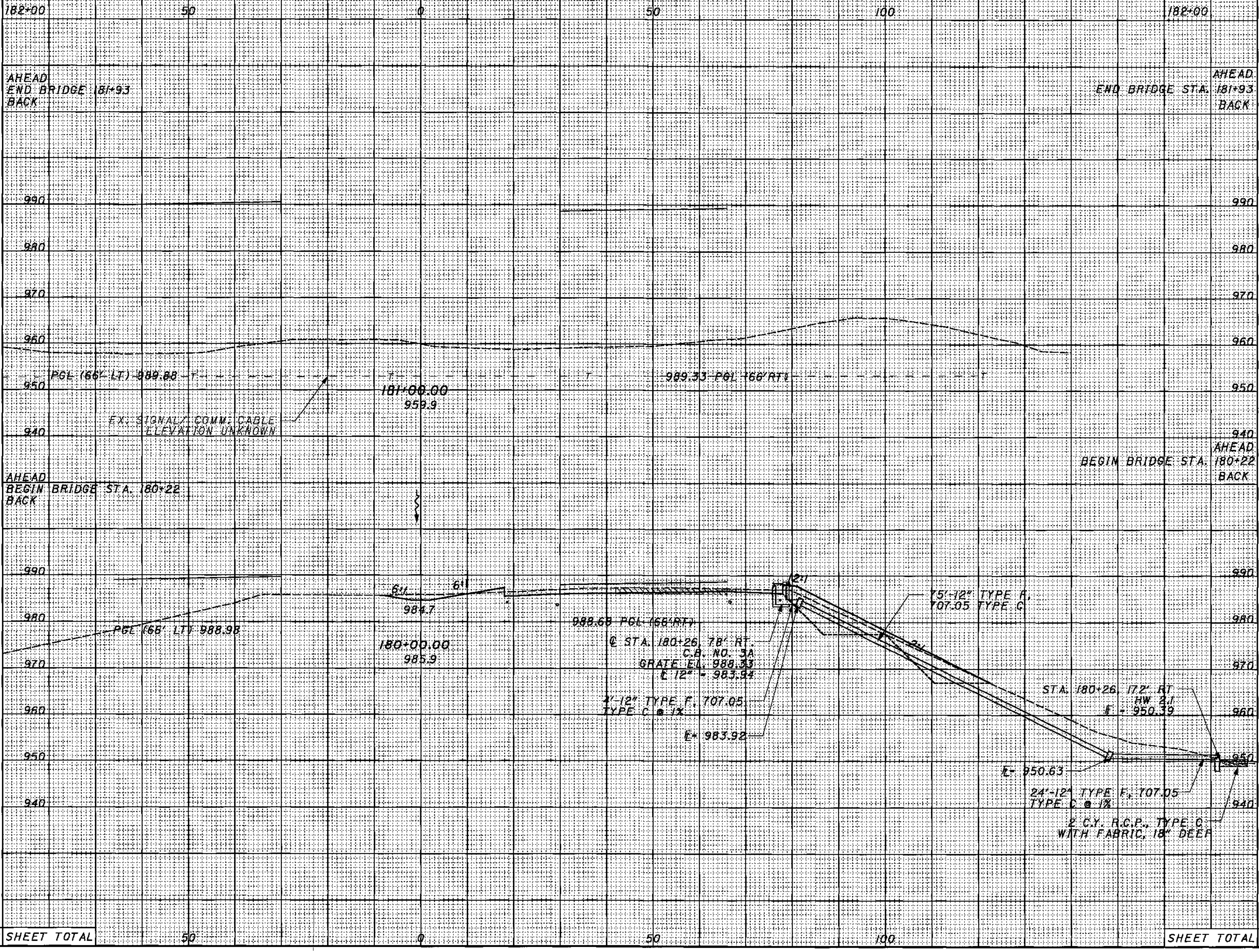
CROSS SECTIONS
STA. 178+00 TO STA. 179+00

WAY/MED-71-7.04/0.00

254
785

...\14017GXBl.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
110	
	56
33	
0	
	0
0	
	0
0	
85	
	351
202	
100	
	407



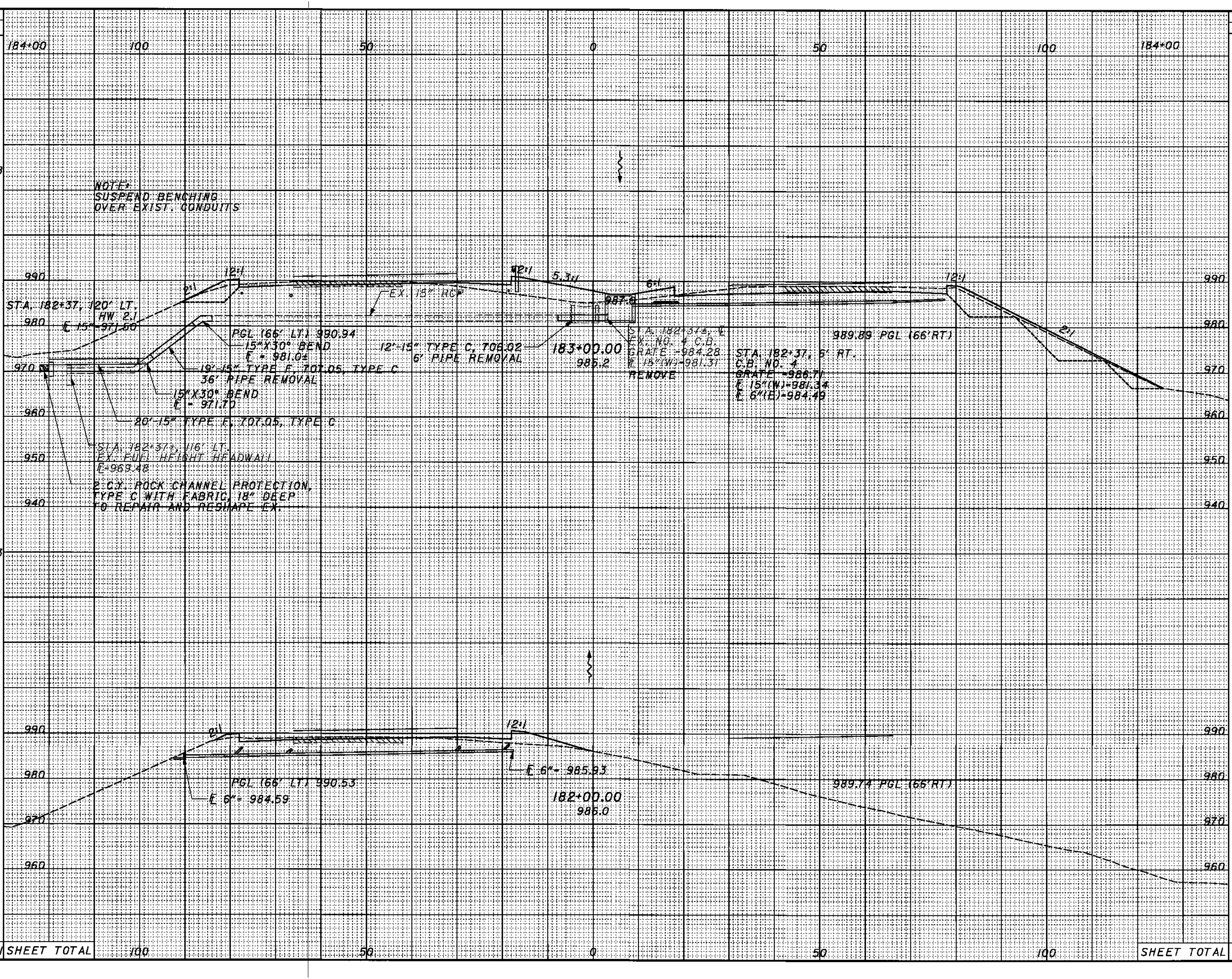
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	39		
		2	11
10	40		
0	0		
		0	0
0	0		
		0	0
0	0		
40	35		
		36	30
47	36		
		38	41

CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 180+00 TO STA. 181+00

WAY/MED-71-7.04/0.00

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
111		61	107		
	1228			199	465
110		47	143		
	1223			87	339
110		0	39		
	2451 SHEET TOTAL		SHEET TOTAL	286	804



CALCULATED AEP
CHECKED ENF

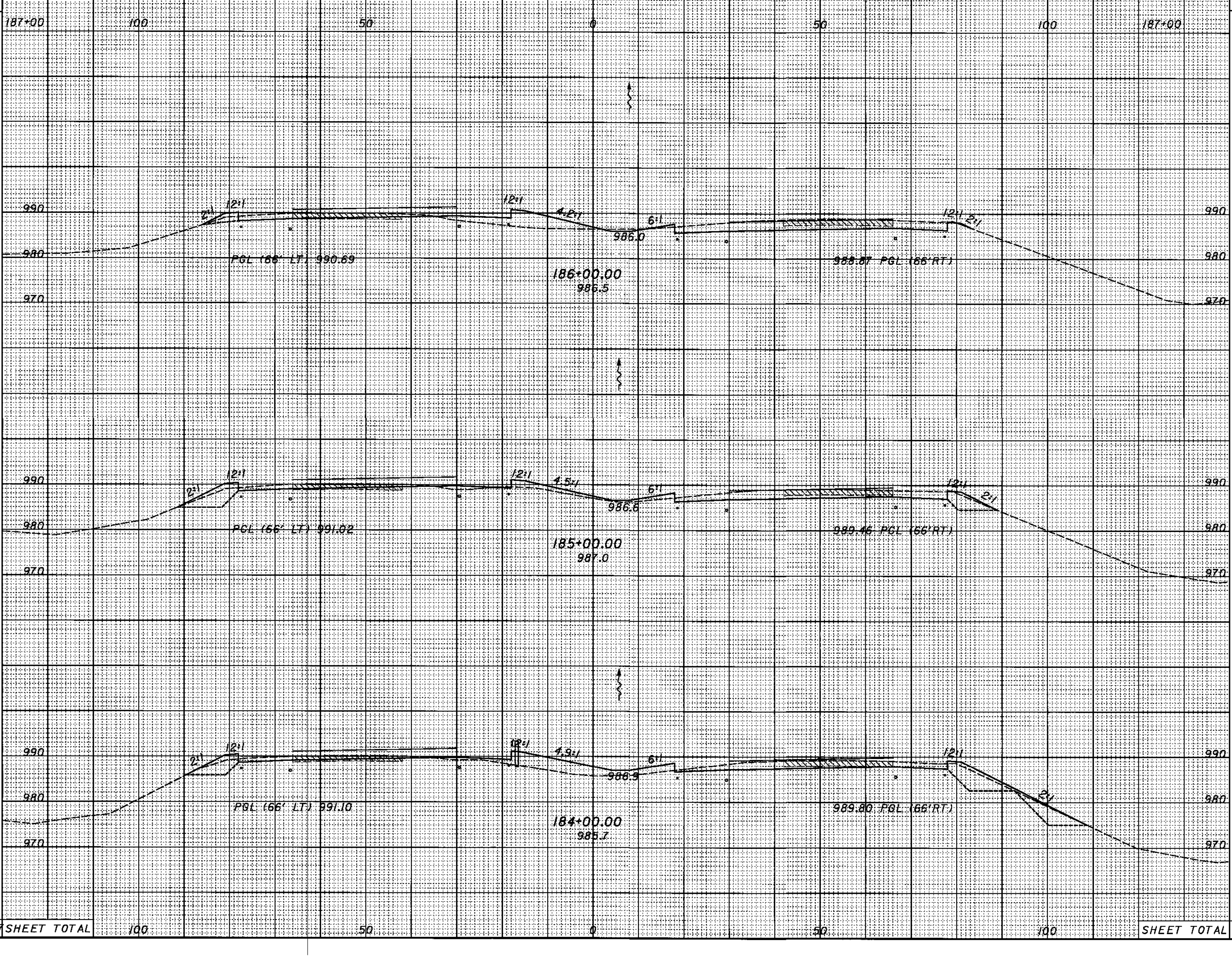
CROSS SECTIONS
STA. 182+00 TO STA. 183+00

WAY/MED-71-7.04/0.00

256
785

...\14017GXB1.dgn

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
55		119	49		
	628			401	217
58		98	68		
	717			325	214
71		78	47		
	1012			256	286
111		61	107		
	2357 SHEET TOTAL			982	717



CALCULATED AEP
CHECKED ENF

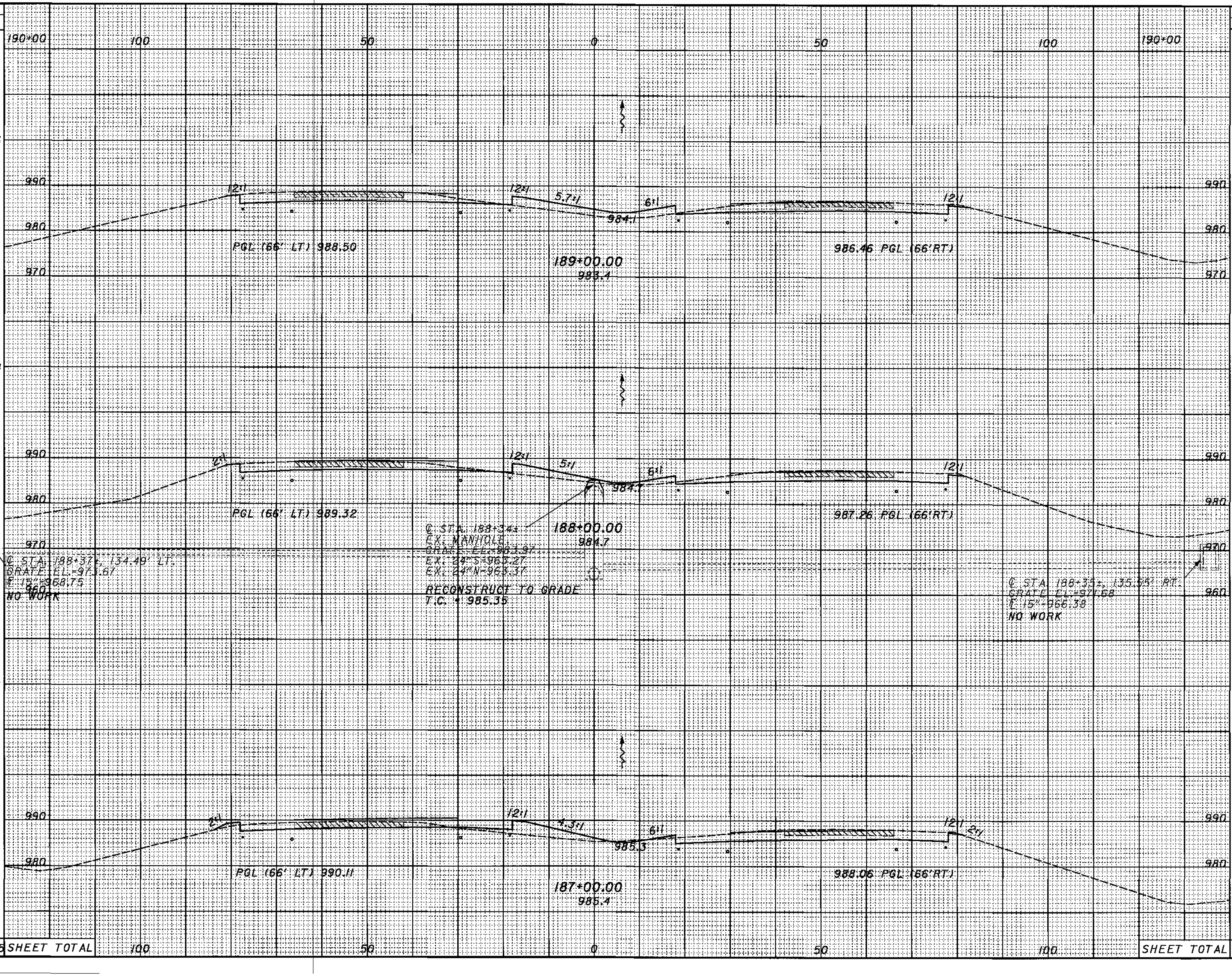
CROSS SECTIONS
STA. 184+00 TO STA. 186+00

WAY/MED-71-7.04/0.00

257
785

...\14017GX81.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
56	
	606
53	
	584
52	
	595
55	
	1785



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
167	50		
		588	200
150	57		
		529	184
135	42		
		470	169
119	49		
		1587	553

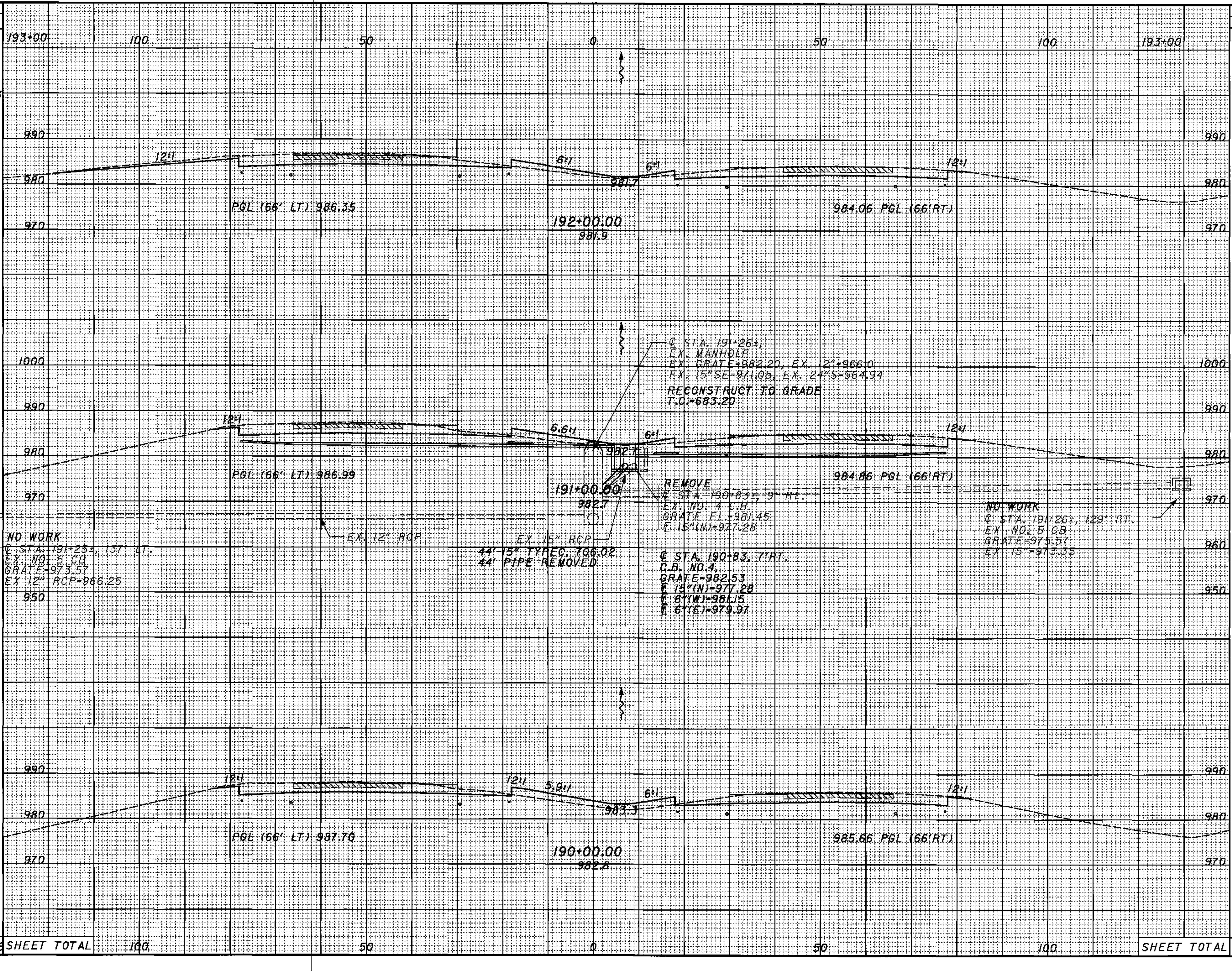
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 187+00 TO STA. 189+00

WAY/MED-71-7.04/0.00

258
785

...\14017GXBI.dgn



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
91		207	25		
	1023				
				725	98
93		185	28		
	839			653	108
58		168	30		
				620	150
	634				
56					
		167	50		
	2496			1998	356

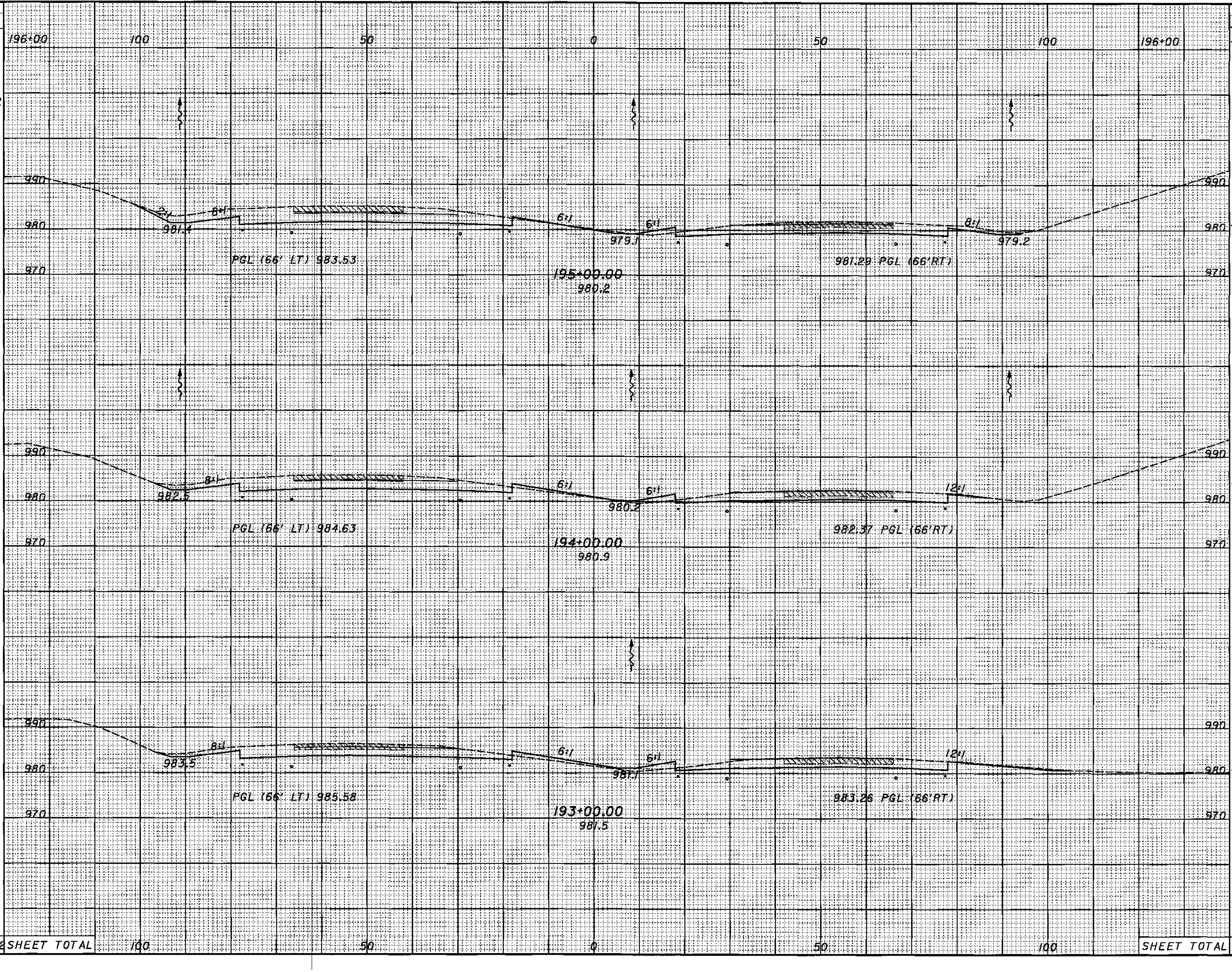
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 190+00 TO STA. 192+00

WAY/MED-71-7.04/0.00

...\14017GXBI.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
97	
	1012
85	
	878
73	
	912
91	
	2802



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
406	1		
		1315	18
304	8		
		995	50
233	19		
		814	81
207	25		
		3124	149

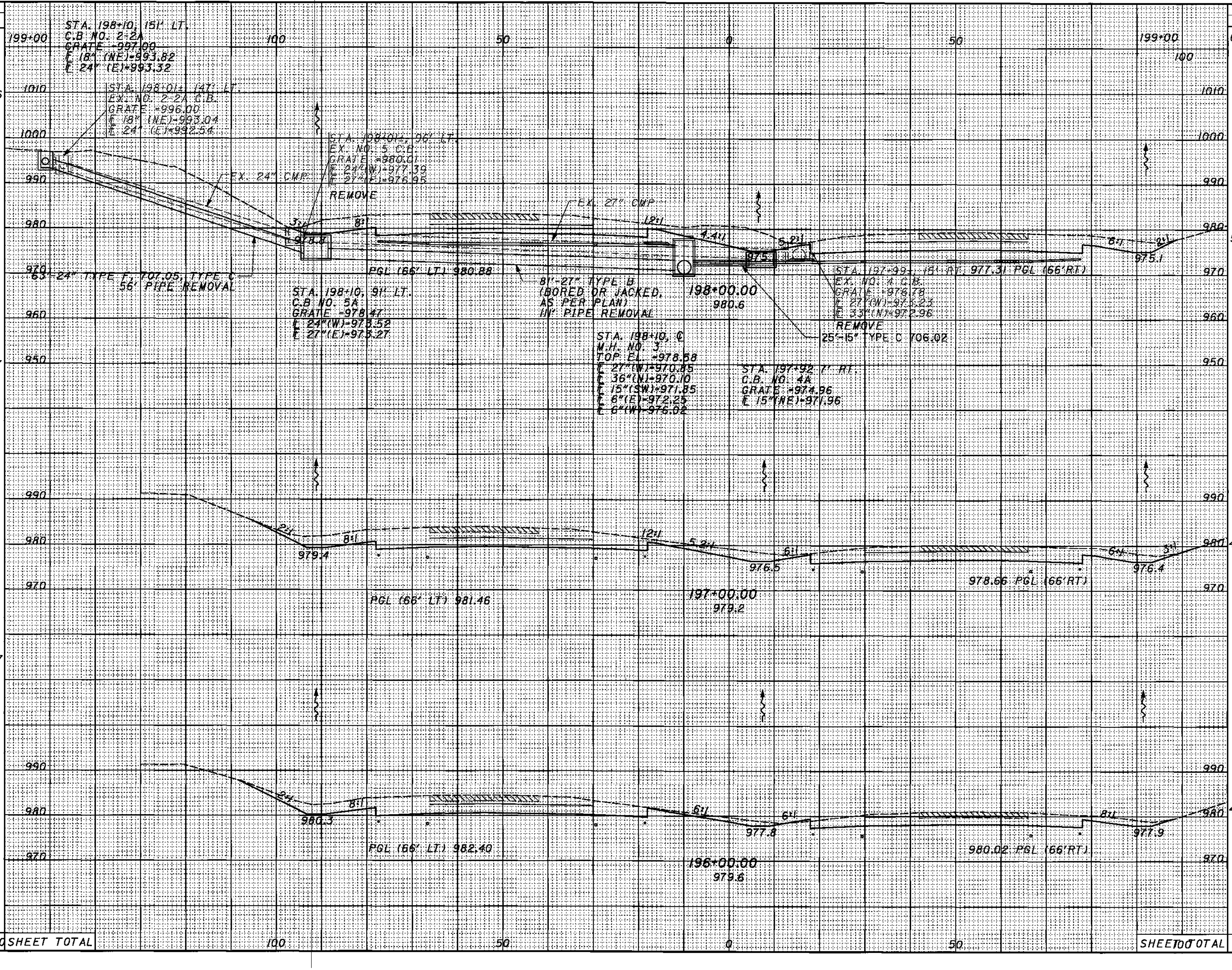
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 193+00 TO STA. 195+00

WAY/MED-71-7.04/0.00

...\1401TGXBI.dgn

SEEDING	
END WIDTH	SQ. YDS.
120	
	1156
88	
	1017
95	
	1067
97	
	3240



END AREA		VOLUME	
CUT	FILL	CUT	FILL
639	0		
		2279	0
592	0		
		2020	0
499	0		
		1676	3
406	1		
		5975	3

CALCULATED AEP
CHECKED ENF

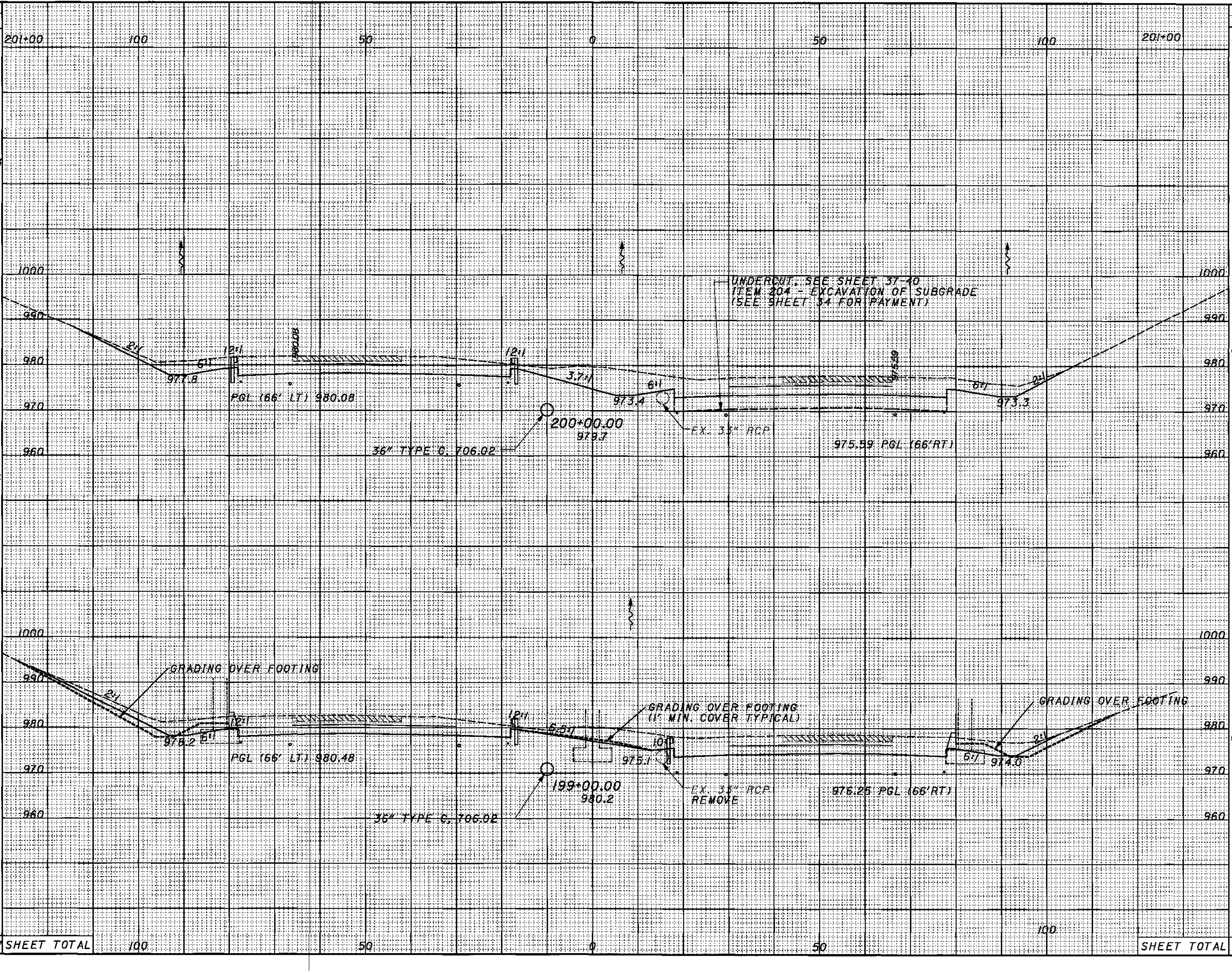
CROSS SECTIONS
STA. 196+00 TO STA. 198+00

WAY/MED-71-7.04/0.00

261
785

...\14017GXB1.dgn

SEEDING	
END WIDTH	SQ. YDS.
118	
	1273
111	
	1284
120	
SHEET TOTAL	2557



END AREA		VOLUME	
CUT	FILL	CUT	FILL
567	0		
		2247	0
646	0		
		2379	0
639	0		
SHEET TOTAL		4626	0

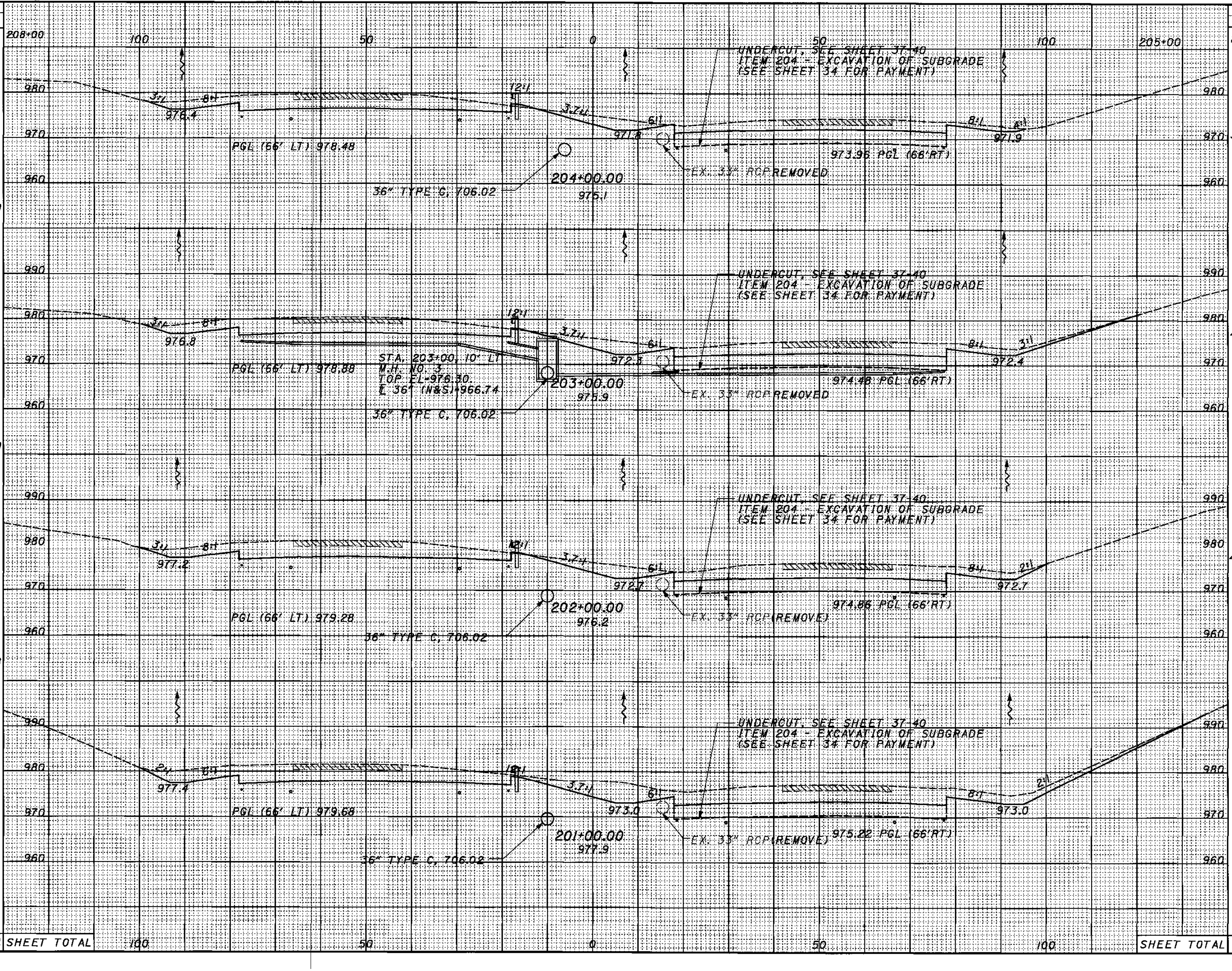
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 199+00 TO STA. 200+00

WAY/MED-71-7.04/0.00

...\14017GXB1.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
74	
	845
78	
	1000
102	
	1039
85	
	1128
118	
	4012



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
297	4		
		1162	12
330	2		
		1357	5
402	1		
		1542	3
430	1		
		1848	2
567	0		
		5909	22

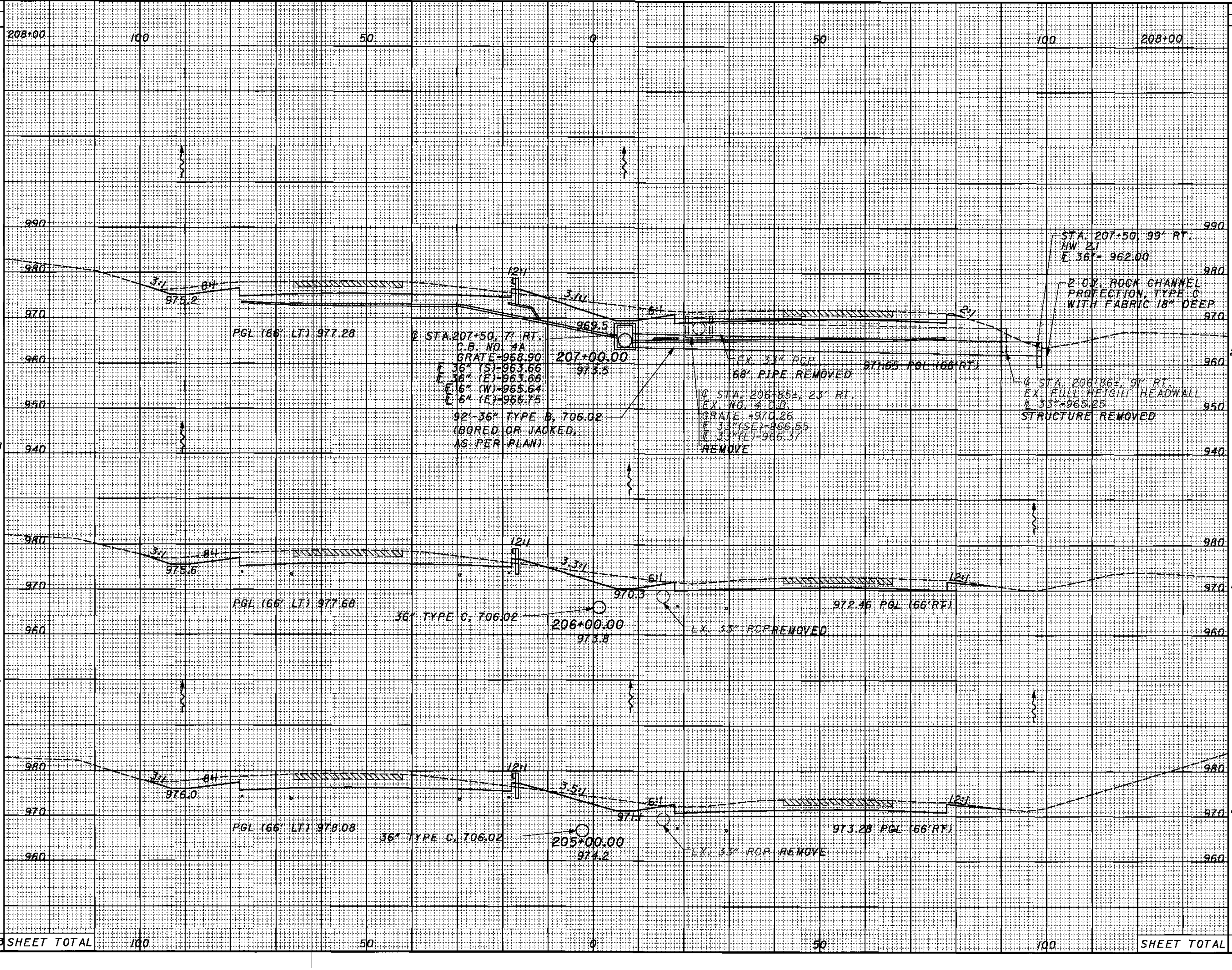
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 201+00 TO STA. 204+00

WAY/MED-71-7.04/0.00

\14017GXC.dgn

SEEDING	
END WIDTH	SQ. YDS.
73	
	789
69	
	778
71	
	806
74	
	2373



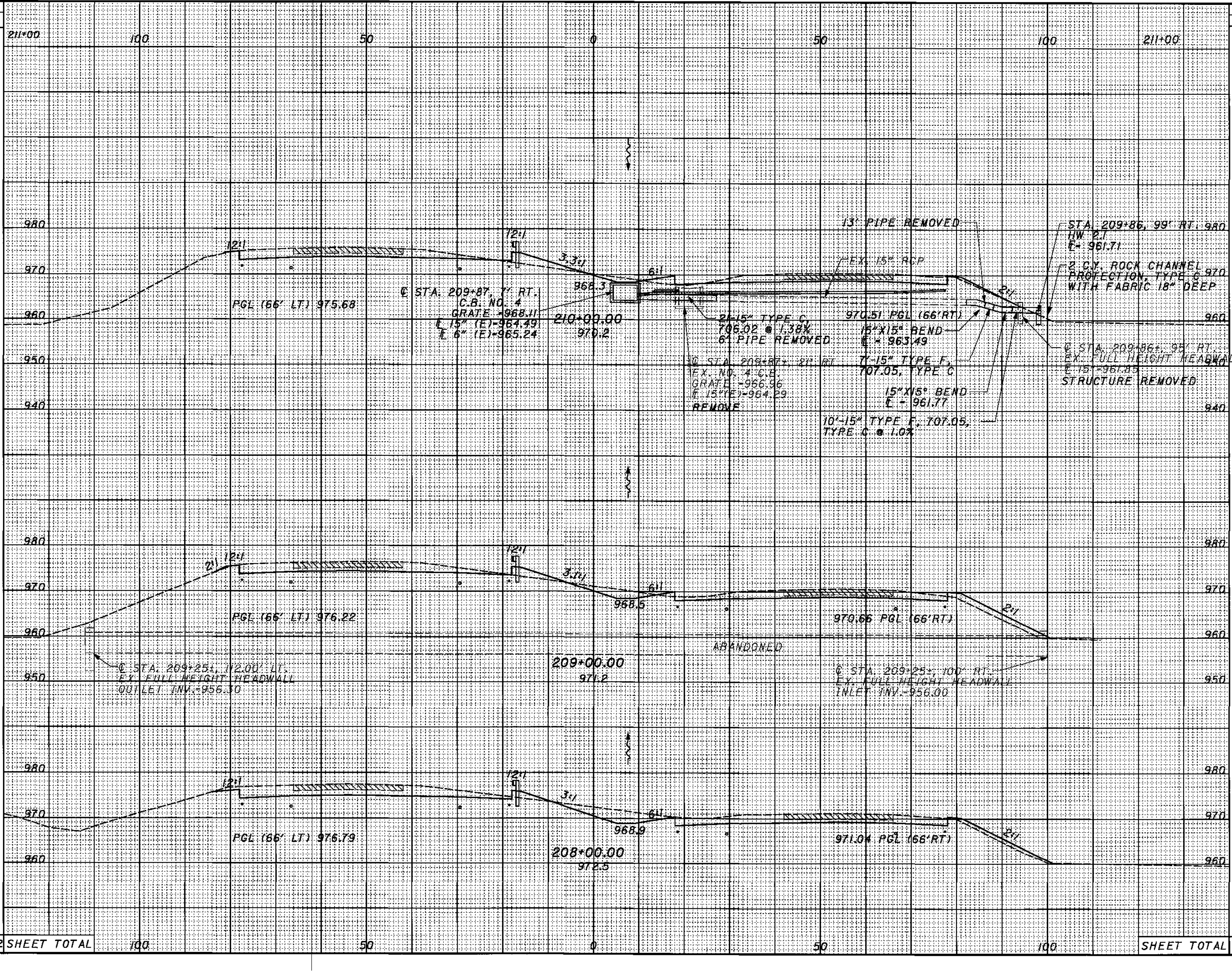
END AREA		VOLUME	
CUT	FILL	CUT	FILL
217	24		
		956	51
299	4		
		1088	16
288	5		
		1083	17
297	4		
		3127	84

CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 205+00 TO STA. 207+00

WAY/MED-71-7.04/0.00

SEEDING END WIDTH	SEEDING SQ. YDS.		END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
52			166	18		
	578				534	95
52			122	33		
	684				507	142
71			151	43		
	800				682	124
73			217	24		
	2062	SHEET TOTAL			1723	361



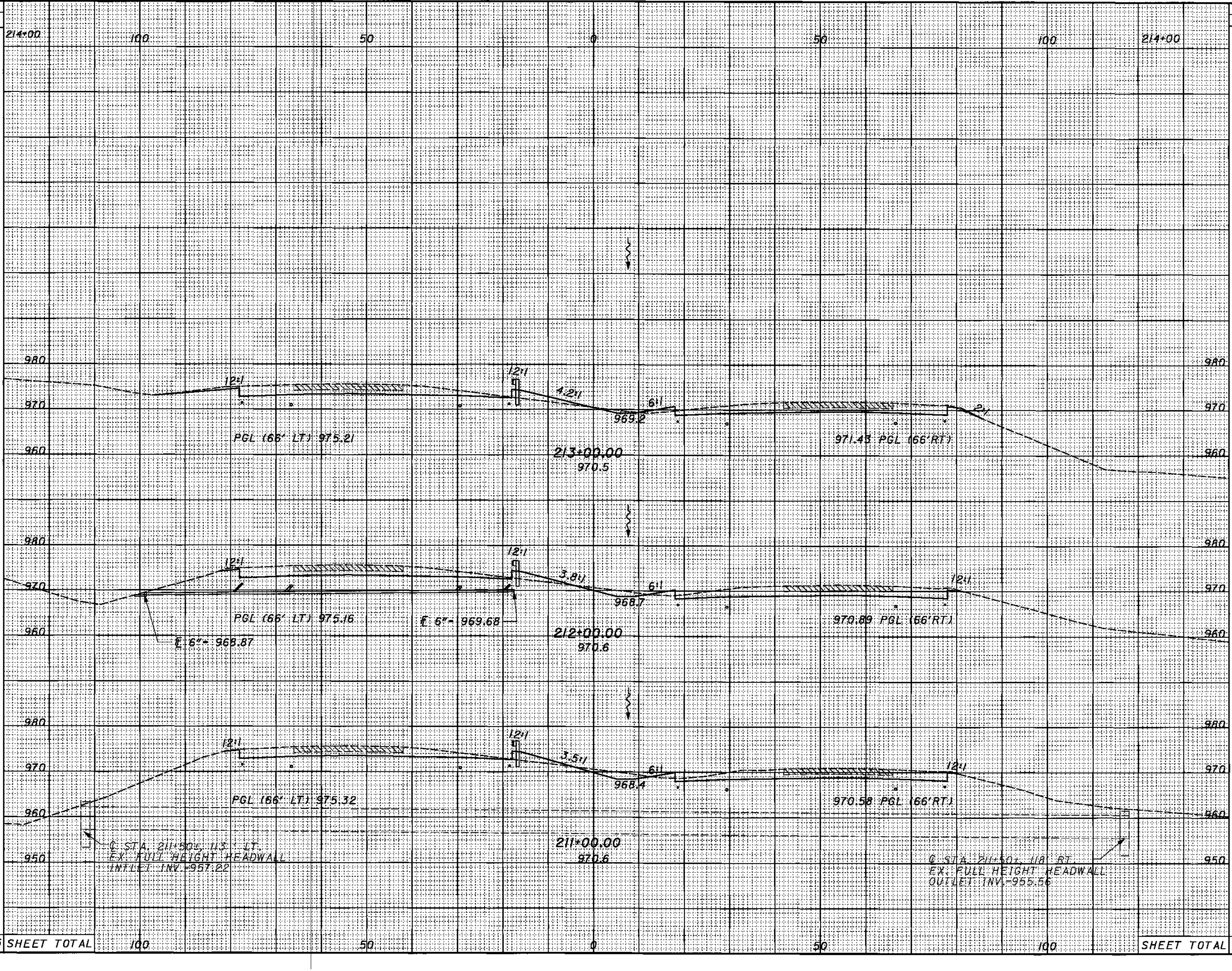
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 208+00 TO STA. 210+00

WAY/MED-71-7.04/0.00

..\14017GXC.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
67		157	46		
	745			616	129
67		176	24		
	662			670	75
52		186	17		
	578			651	64
52		166	18		
	1985			1937	268



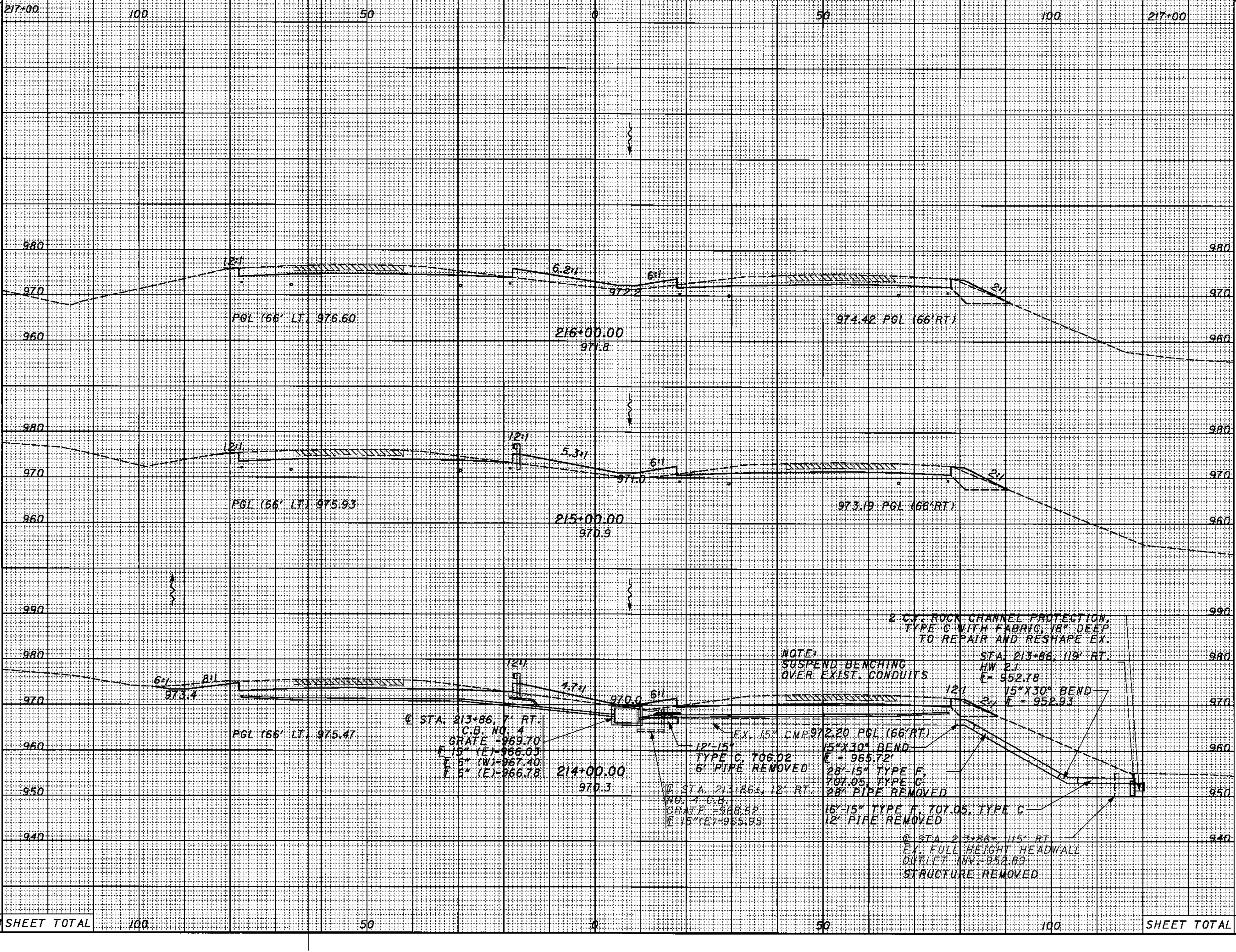
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 211+00 TO STA. 213+00

WAY/MED-71-7.04/0.00

...\40176XC.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
61		217+00	143	49		
	678				532	187
61		216+00	144	52		
	678				516	200
61		215+00	135	56		
	712				541	189
67		214+00	157	46		
	2068	SHEET TOTAL			1589	576



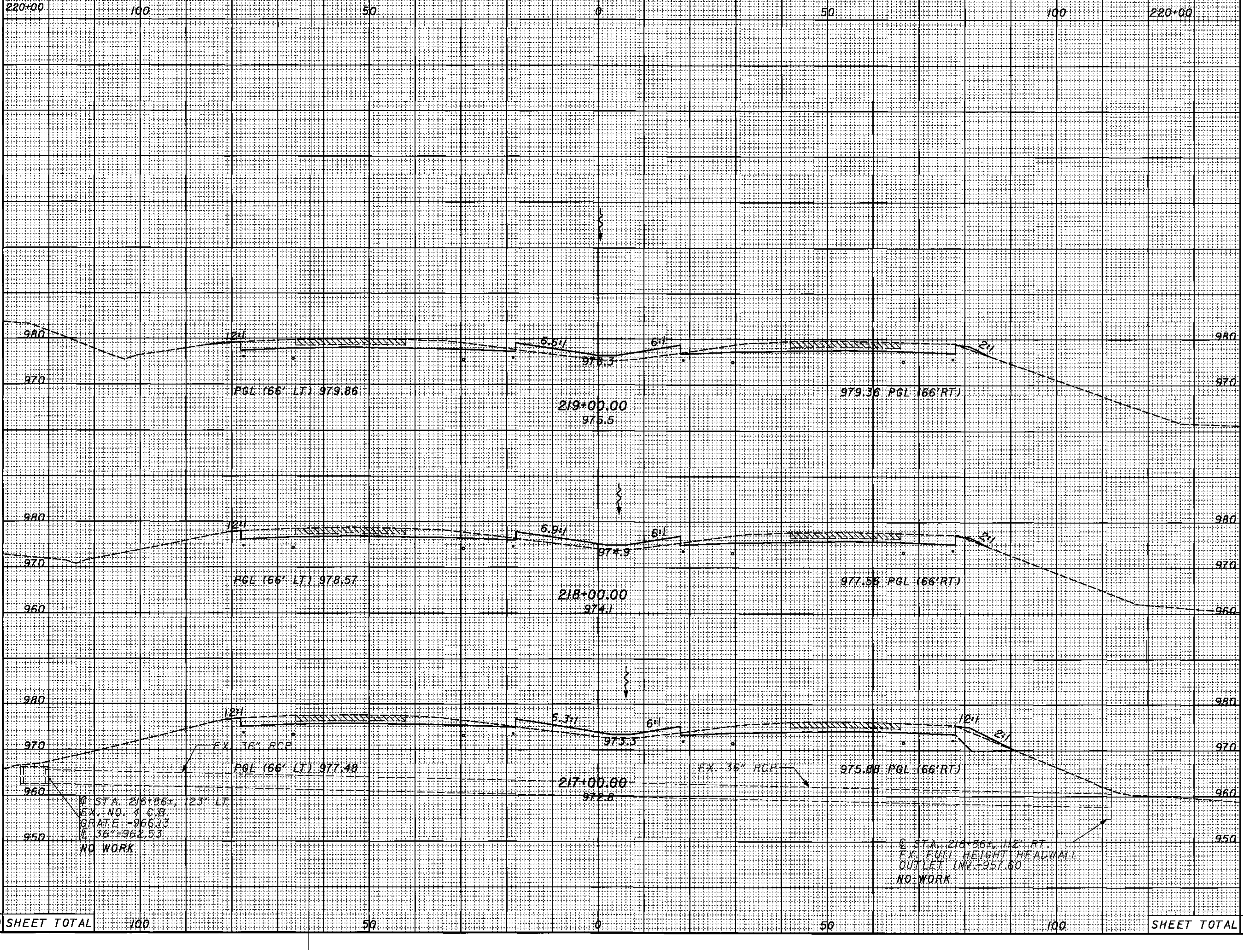
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 214+00 TO STA. 216+00

WAY/MED-71-7.04/0.00

...\14017GXC.dgn

SEEDING	
END WIDTH	SQ. YDS.
55	
	617
56	
	623
56	
	650
61	
	1890



END AREA		VOLUME	
CUT	FILL	CUT	FILL
152	46		
		552	178
146	50		
		540	178
145	46		
		535	176
143	49		
		1627	532

CALCULATED AEP

CHECKED ENF

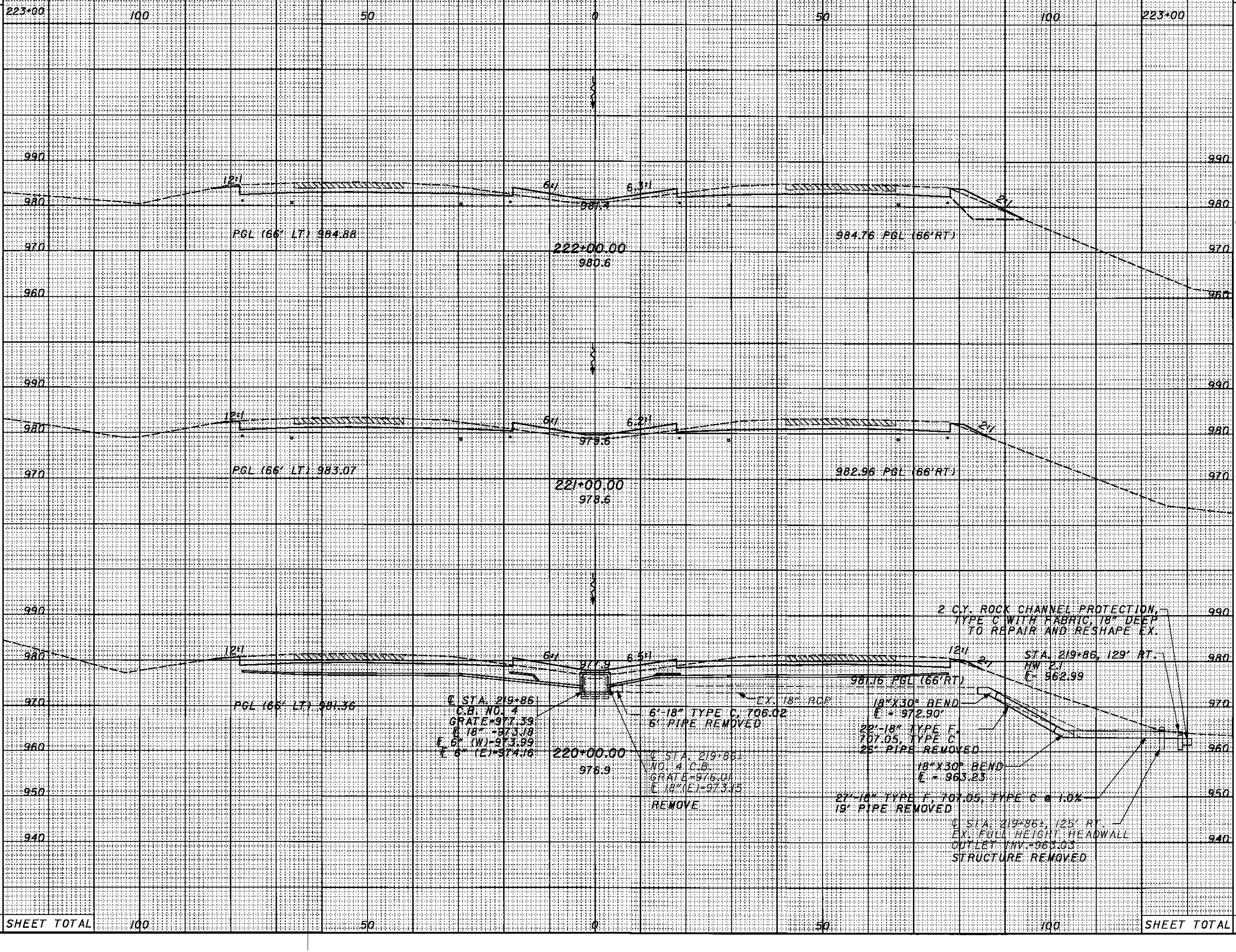
CROSS SECTIONS
STA. 217+00 TO STA. 219+00

WAY/MED-71-7.04/0.00

268
785

...\14017GXC.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
83	
	817
64	
	673
57	
	623
55	
	2113



℄ STA. 219+86
C.B. NO. 4
GRATE=977.39
℄ 18" =973.18
℄ 6" (W)=973.99
℄ 6" (E)=974.16

6'-18" TYPE C, 706.02
6' PIPE REMOVED

EX. 18" RCP

℄ STA. 219+86±
NO. 4 C.B.
GRATE=976.01
℄ 18"(E)=973.15
REMOVE

2 C.Y. ROCK CHANNEL PROTECTION,
TYPE C WITH FABRIC, 18" DEEP
TO REPAIR AND RESHAPE EX.

STA. 219+86, 129' RT.
HW 2.1
℄= 962.99

18"X30° BEND
℄ = 972.90'

22'-18" TYPE F,
707.05, TYPE C
26' PIPE REMOVED

18"X30° BEND
℄ = 963.23

27'-18" TYPE F, 707.05, TYPE C @ 1.0%
19' PIPE REMOVED

℄ STA. 219+86±, 125' RT.
EX. FULL HEIGHT HEADWALL
OUTLET INV.=963.03
STRUCTURE REMOVED

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
164	63		
		615	201
168	45		
		606	168
159	45		
		576	170
152	46		
		1797	539

CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 220+00 TO STA. 222+00

WAY/MED-71-7.04/0.00

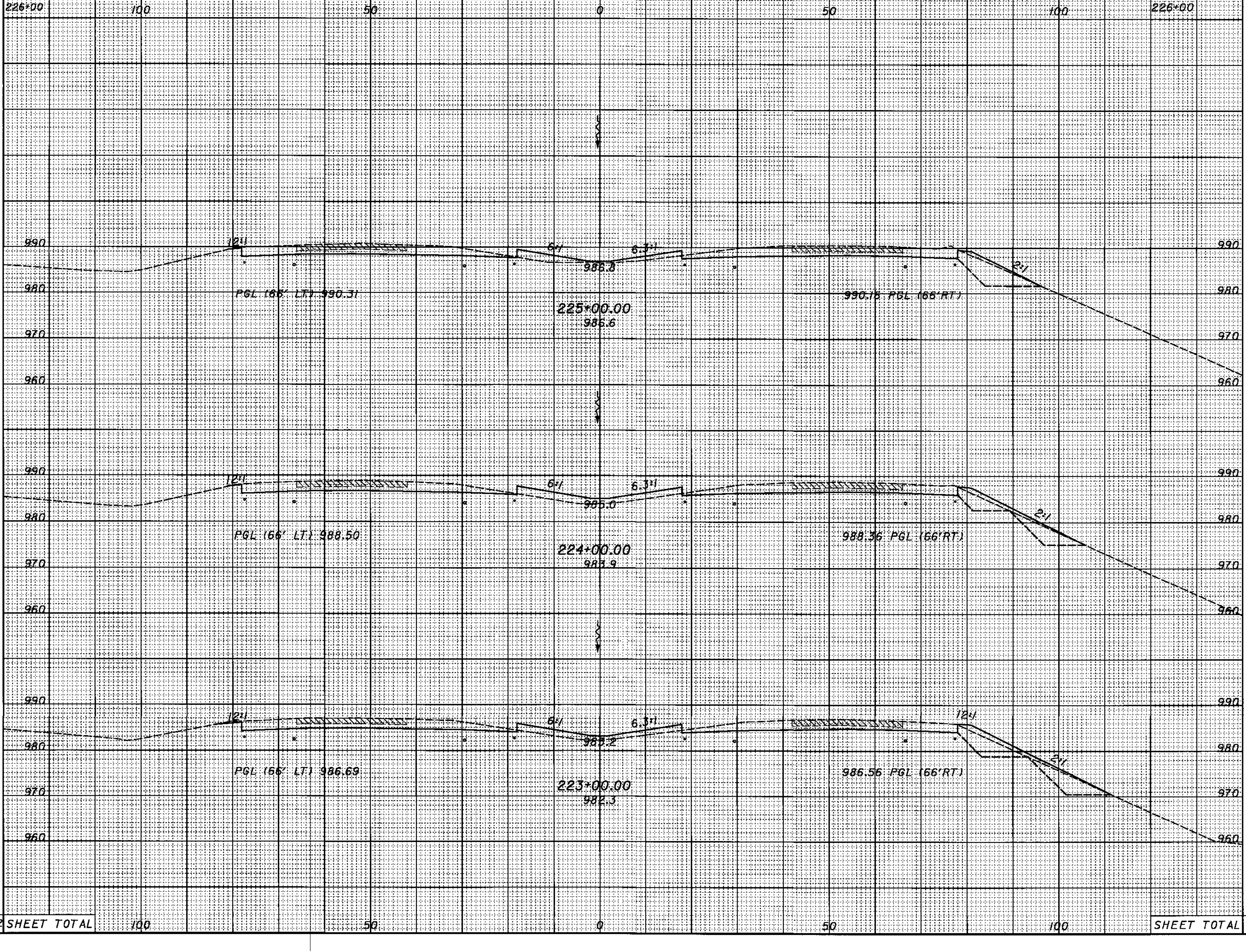
...\14017GXC.dgn

CROSS SECTIONS
STA. 223+00 TO STA. 225+00

WAY/MED-71-7.04/0.00

CALCULATED AEP
CHECKED ENF

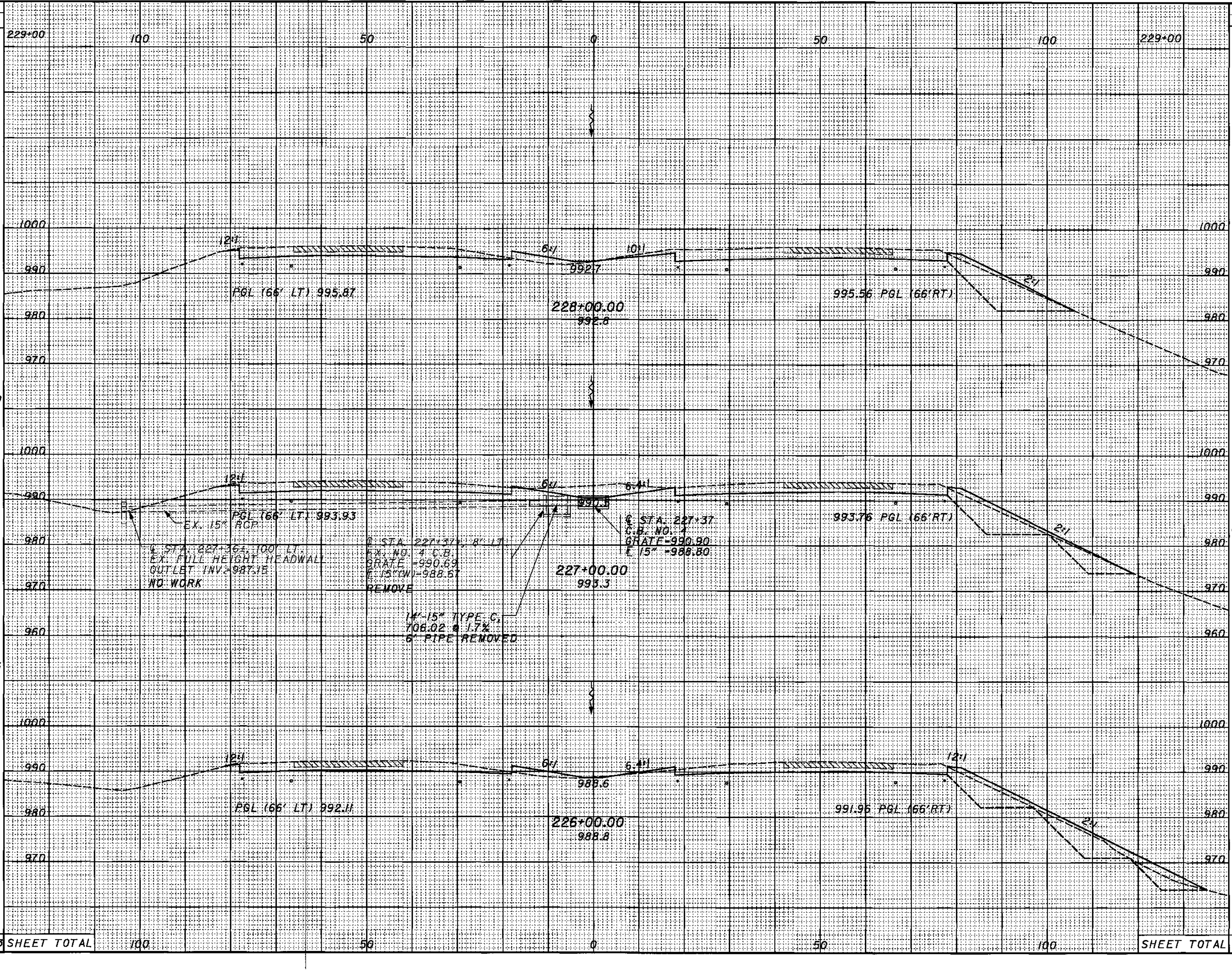
SEEDING END WIDTH	SEEDING SQ. YDS.
112	
	989
66	
	789
76	
	884
83	
	2662



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
170	80		
		633	226
171	42		
		617	201
162	66		
		603	239
164	63		
		1853	666

...\14017GXC.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
85		229+00	166	56		
	889				678	174
75		228+00.00	200	38		
	939				824	122
94		227+00.00	245	28		
	1145				770	200
112		226+00.00	170	80		
	2973	SHEET TOTAL			2272	496



CALCULATED AEP
CHECKED ENF

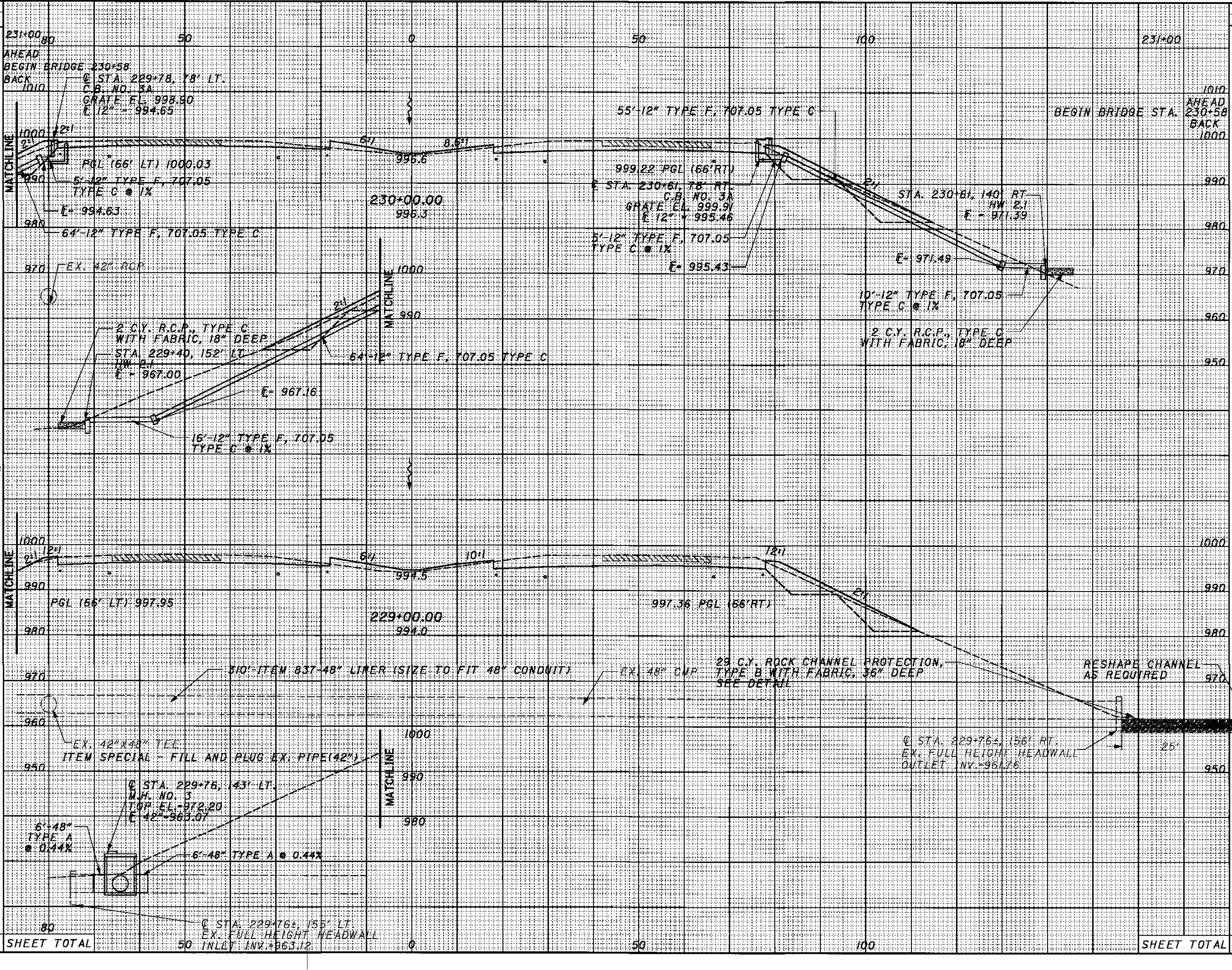
CROSS SECTIONS
STA. 226+00 TO STA. 228+00

WAY/MED-71-7.04/0.00

271
785

...\14017GXC.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
0	0
0	
119	767
119	
	1134
85	
	1901



SHEET TOTAL

SHEET TOTAL

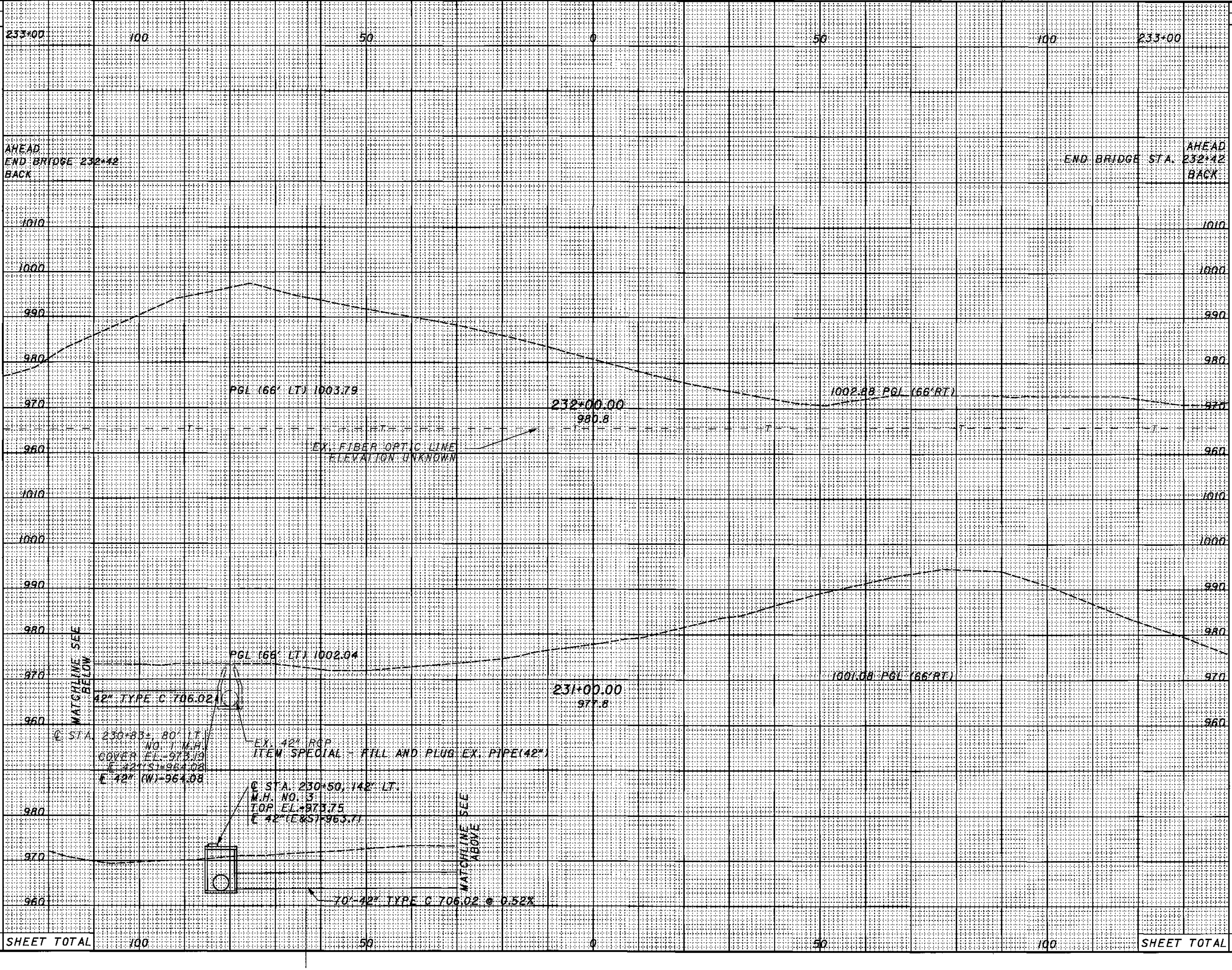
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	0		
0	0		
129	90		
		275	188
127	84		
		543	261
166	56		
		818	449

CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 229+00 TO STA. 230+00

WAY/MED-71-7.04/0.00

...\14017GXC.dgn



SEEDING END WIDTH	SEEDING SQ. YDS.		END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
105		233+00	118	90		
	677				248	220
105		AHEAD END BRIDGE 232+42	112	114		
0		BACK	0	0		
	0				0	0
0		232+00.00	0	0		
	0				0	0
0		231+00.00	0	0		
	677	SHEET TOTAL			248	220

CALCULATED AEP
CHECKED ENF

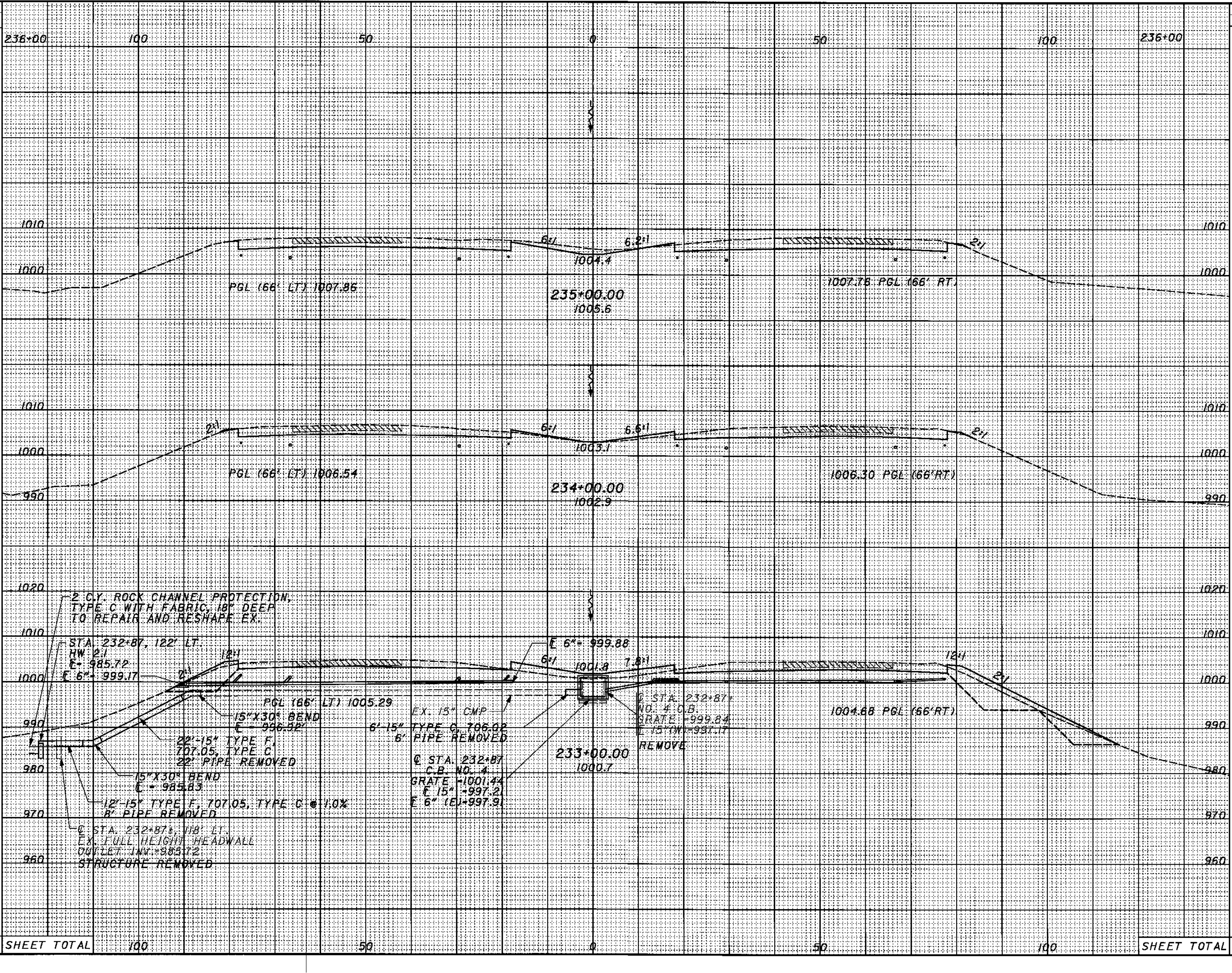
CROSS SECTIONS
STA. 231+00 TO STA. 232+00

WAY/MED-71-7.04/0.00

273
785

...\14017GXC.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
52		236+00	231	3		
	600				830	9
56		235+00.00	217	2		
	623				728	31
56		234+00.00	176	15		
	895				546	194
105		233+00.00	118	90		
	2118	SHEET TOTAL			2104	234


236+00
100
50
0
50
100
236+00
1010
1000
6:1
6.2:1
2:1
1004.4
PGL (66' LT) 1007.86
235+00.00
1005.6
1007.76 PGL (66' RT)
1010
1000
2:1
6:1
6.6:1
2:1
1003.1
PGL (66' LT) 1006.54
234+00.00
1002.9
1006.30 PGL (66'RT)
990
1020
2 C.Y. ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC, 18" DEEP TO REPAIR AND RESHAPE EX.
1010
STA. 232+87, 122' LT. HW 2.1 ℄= 985.72
℄ 6"= 999.17
12:1
2:1
℄ 6"= 999.88
6:1
1001.8
7.8:1
12:1
2:1
1000
PGL (66' LT) 1005.29
15"X30° BEND ℄ = 996.32'
EX. 15" CMP
℄ STA. 232+87± NO. 4 C.B. GRATE =999.84 ℄ 15"(W)=997.17 REMOVE
1004.68 PGL (66'RT)
990
22'-15" TYPE F, 707.05, TYPE C 22' PIPE REMOVED
6' 15" TYPE C, 706.02 6' PIPE REMOVED
233+00.00
1000.7
980
15"X30° BEND ℄ = 985.83
℄ STA. 232+87 C.B. NO. 4 GRATE =1001.44 ℄ 15" =997.21 ℄ 6" (E)=997.91
12'-15" TYPE F, 707.05, TYPE C @ 1.0% 8' PIPE REMOVED
970
℄ STA. 232+87±, 118' LT. EX. FULL HEIGHT HEADWALL OUTLET INV.=985.72 STRUCTURE REMOVED
960
SHEET TOTAL
100
50
0
50
100
SHEET TOTAL

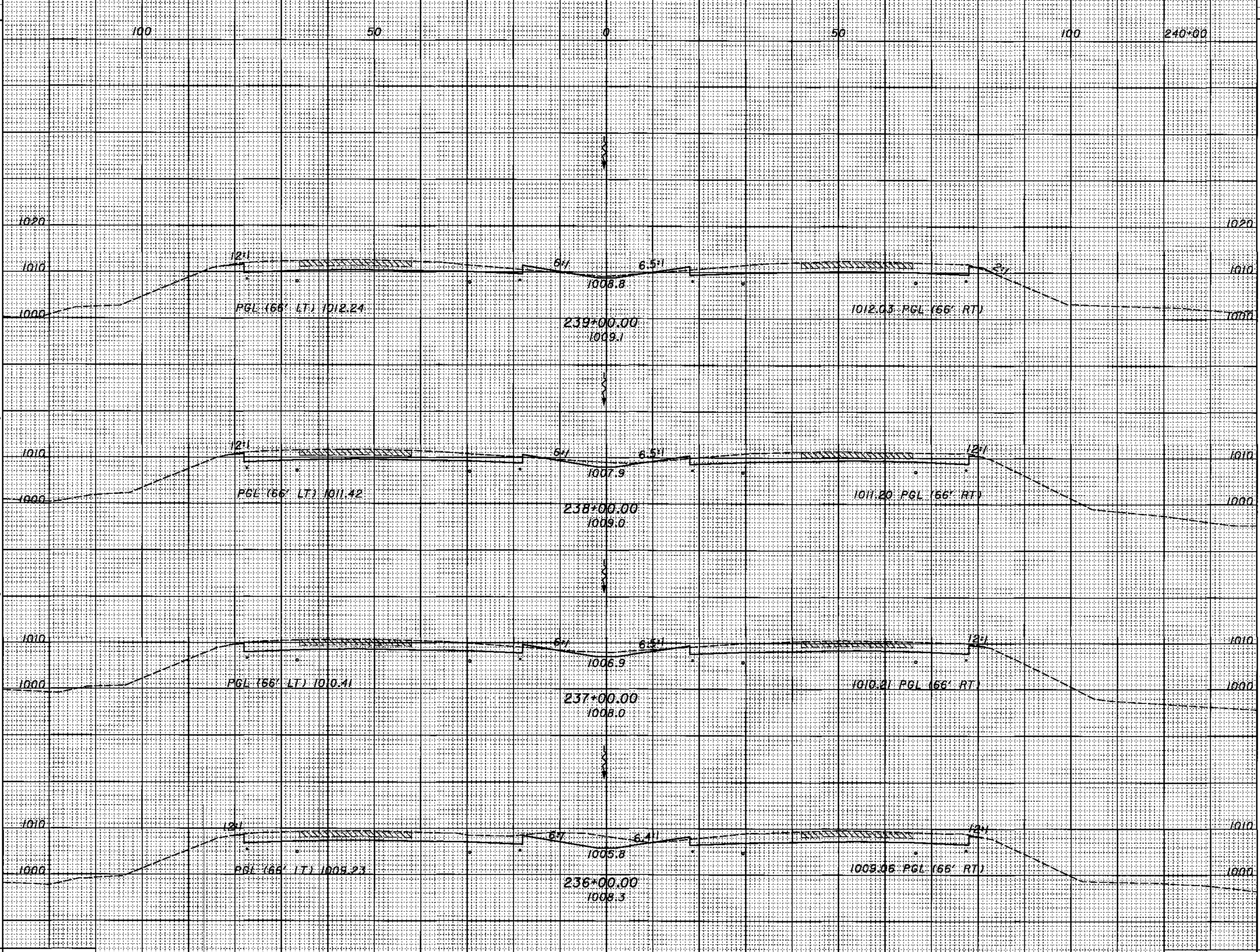
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 233+00 TO STA. 235+00

WAY/MED-71-7.04/0.00

...\14017GXC.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		240+00	164	38		
	578				636	87
52		239+00	179	9		
	578				679	25
52		238+00	187	4		
	578				712	12
52		237+00	197	2		
	578				793	9
52		236+00	231	3		
	2312 SHEET TOTAL		SHEET TOTAL		2820	133



CALCULATED AEP
CHECKED ENF

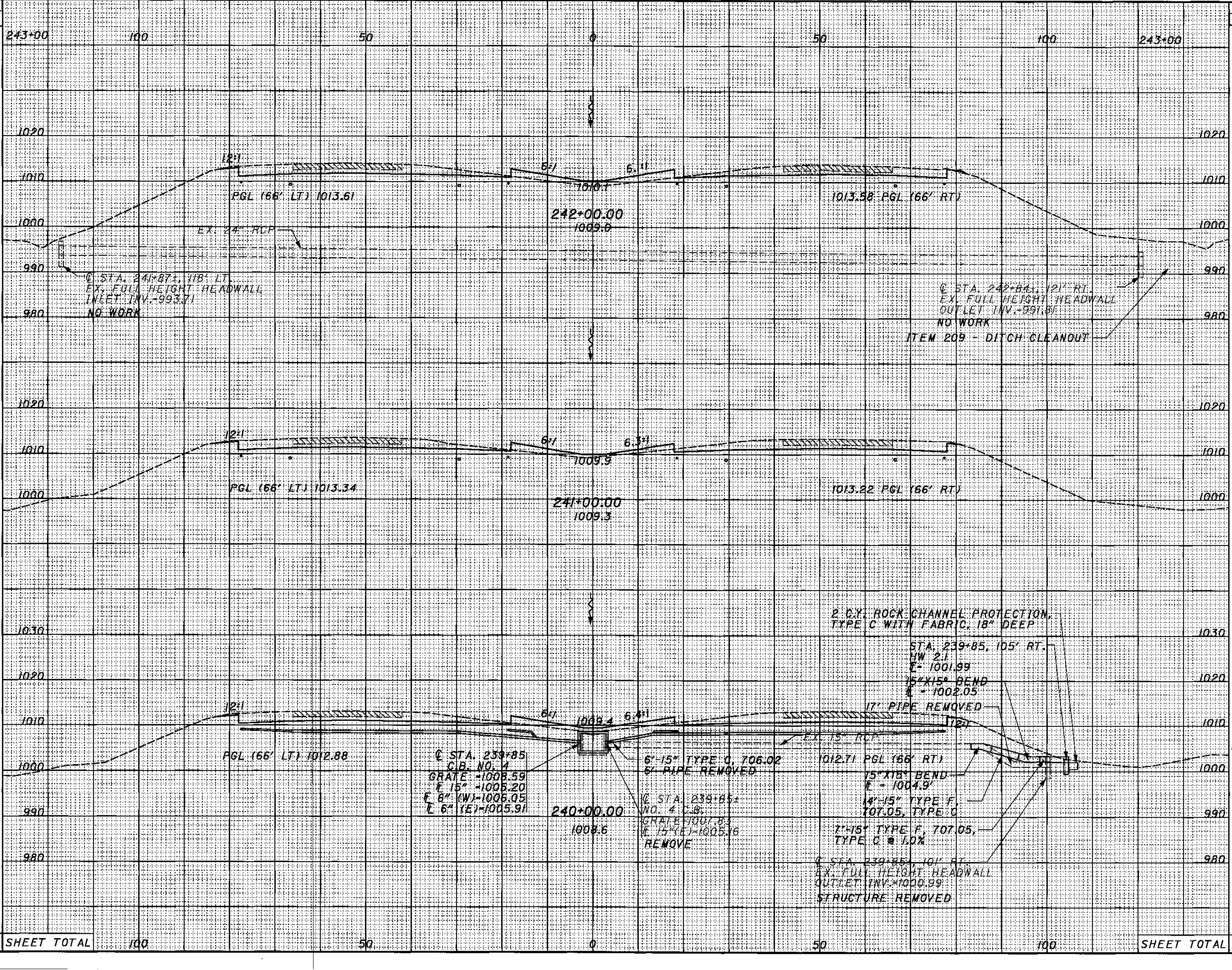
CROSS SECTIONS
STA. 236+00 TO STA. 239+00

WAY/MED-71-7.04/0.00

275
785

...\14017GXC.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
61	
	628
52	
	584
53	
	584
52	
	1796 SHEET TOTAL



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
160	36		
		564	156
145	48		
		551	149
152	33		
		587	131
164	38		
		1702	436

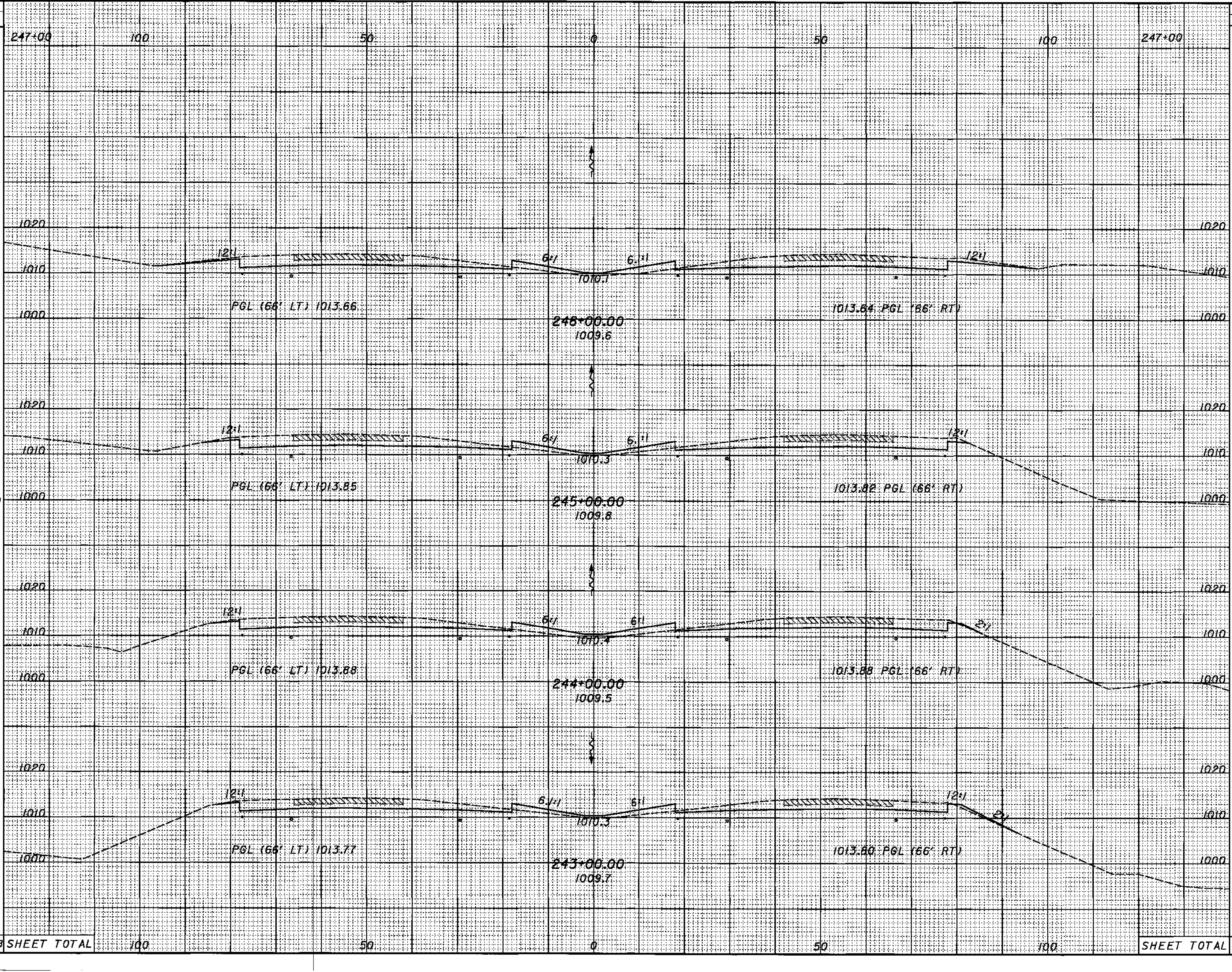
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 240+00 TO STA. 242+00

WAY/MED-71-7.04/0.00

276
785

\14017GXC.dgn



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
65		177	43		
	795			688	151
78		194	39		
	734			714	133
54		191	32		
	600			661	142
54		165	44		
	639			602	150
61		160	36		
	2768 SHEET TOTAL			2665	576

CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 243+00 TO STA. 246+00

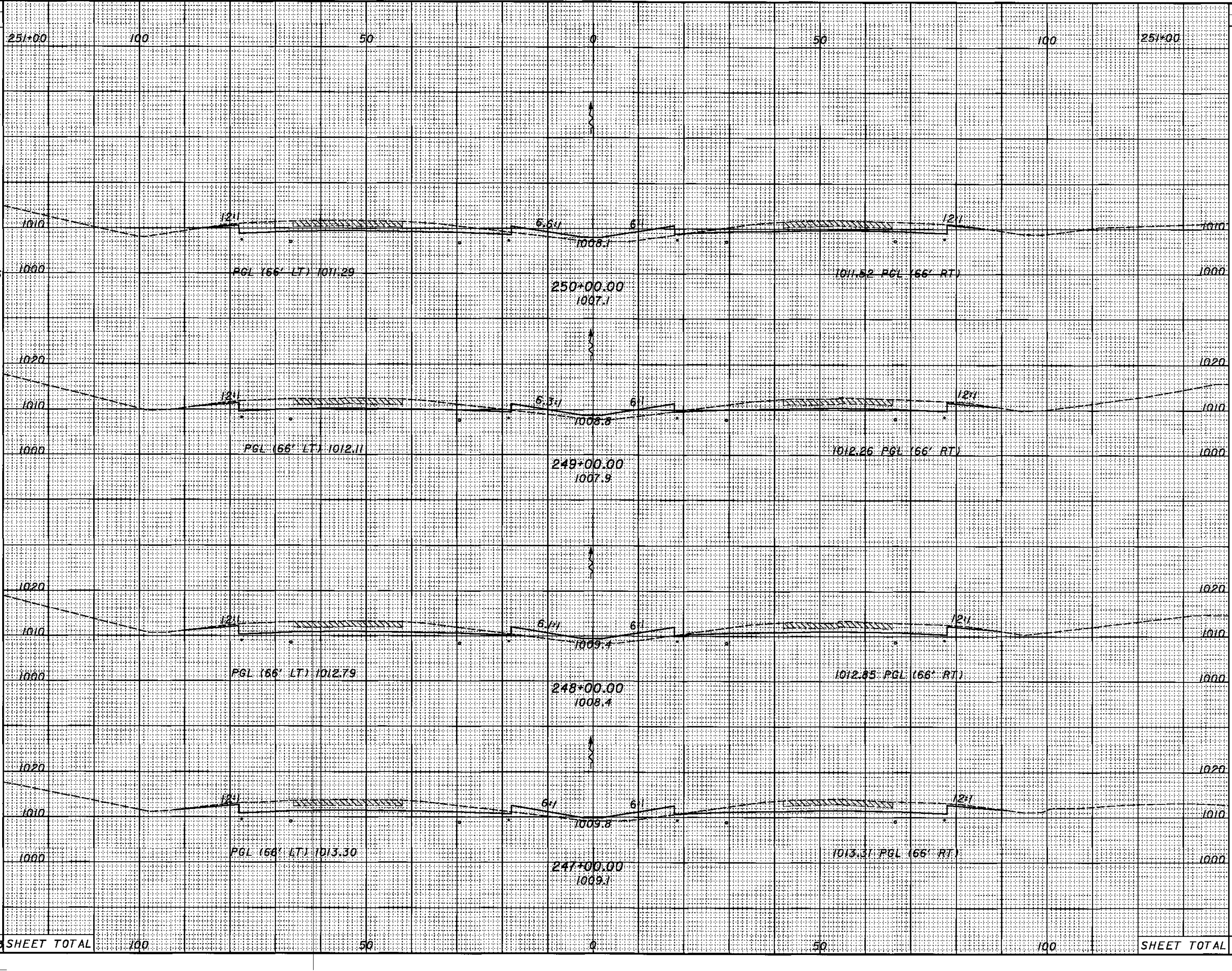
WAY/MED-71-7.04/0.00

...\14017GXC.dgn

CROSS SECTIONS
STA. 247+00 TO STA. 250+00

WAY/MED-71-7.04/0.00

SEEDING	
END WIDTH	SQ. YDS.
56	
	623
56	
	656
62	
	684
61	
	700
65	
	2663

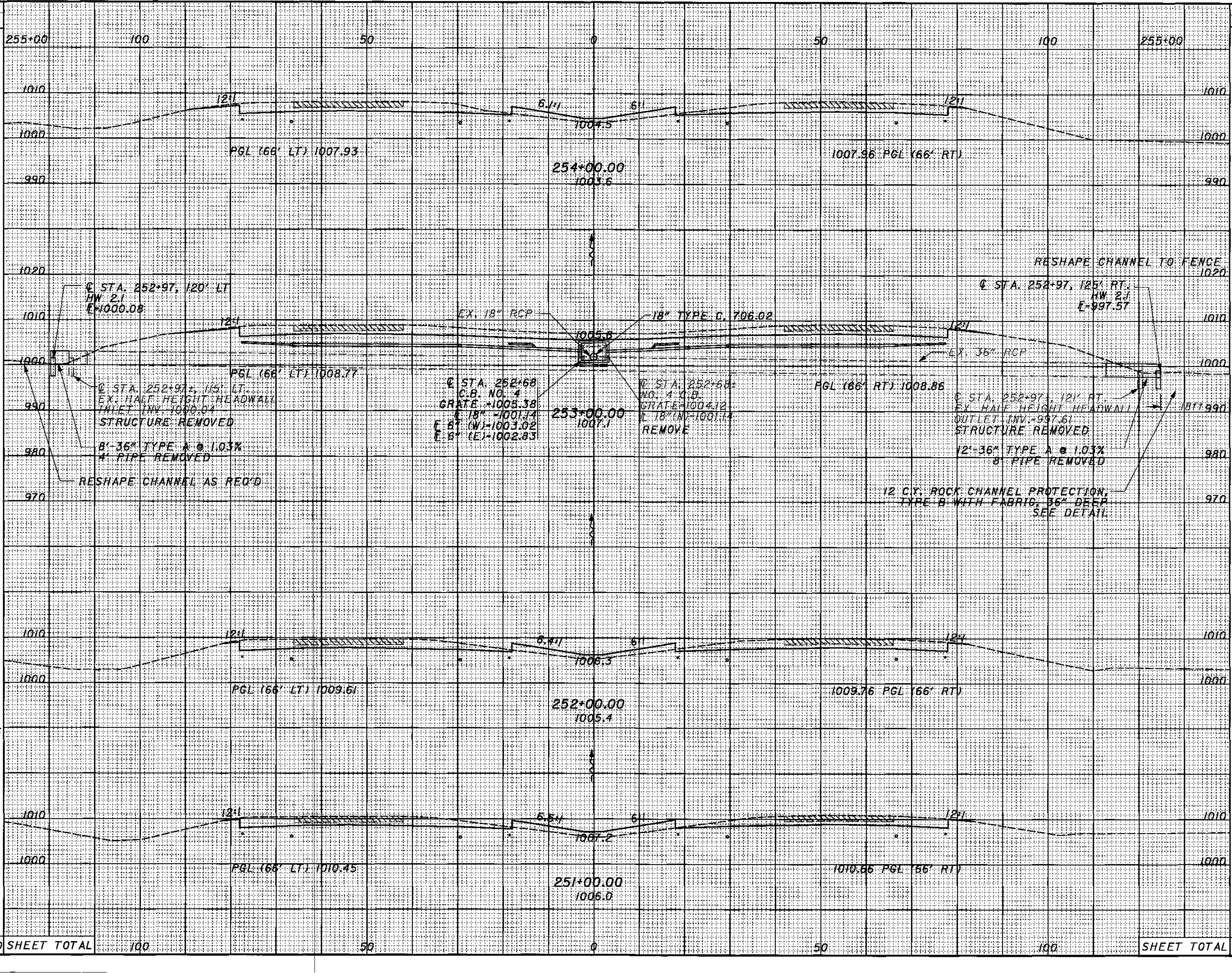


END AREA		VOLUME	
CUT	FILL	CUT	FILL
149	48		
		568	181
157	49		
		596	174
164	44		
		610	176
165	50		
		634	173
177	43		
		2408	704

CALCULATED AEP
CHECKED ENF

278
785

..\4017GXC.dgn



SEEDING END WIDTH	SEEDING SQ. YDS.	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
59		254+00.00	159	50		
	656				602	171
59			166	42		
	484				713	79
28		253+00.00	219	0		
	467				695	74
56		252+00.00	156	40		
	623				565	163
56		251+00.00	149	48		
	2230	SHEET TOTAL			2575	487

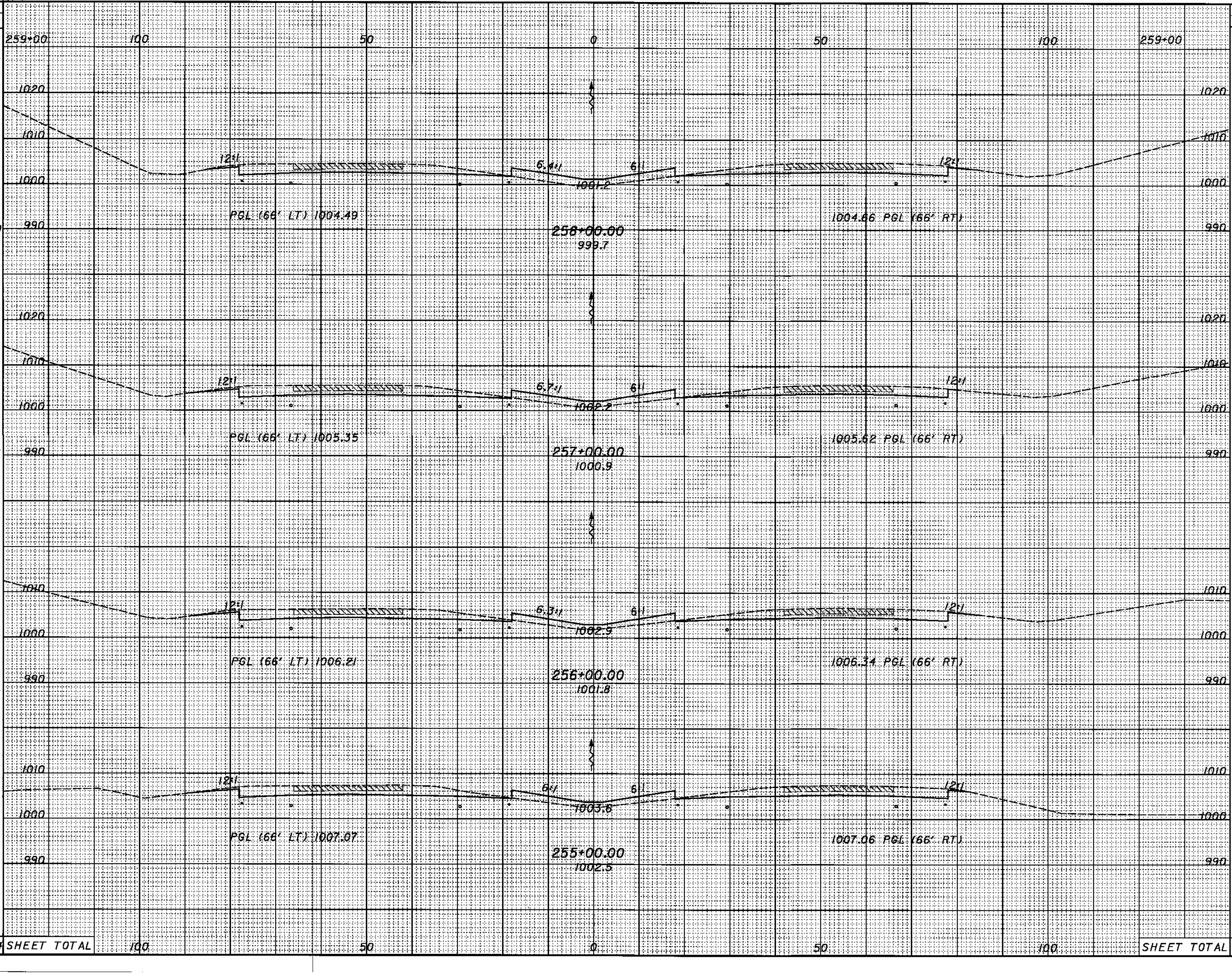
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 251+00 TO STA. 254+00

WAY/MED-71-7.04/0.00

..\14017XC.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
65	
	673
56	
	639
59	
	656
59	
	656
59	
	2624 SHEET TOTAL



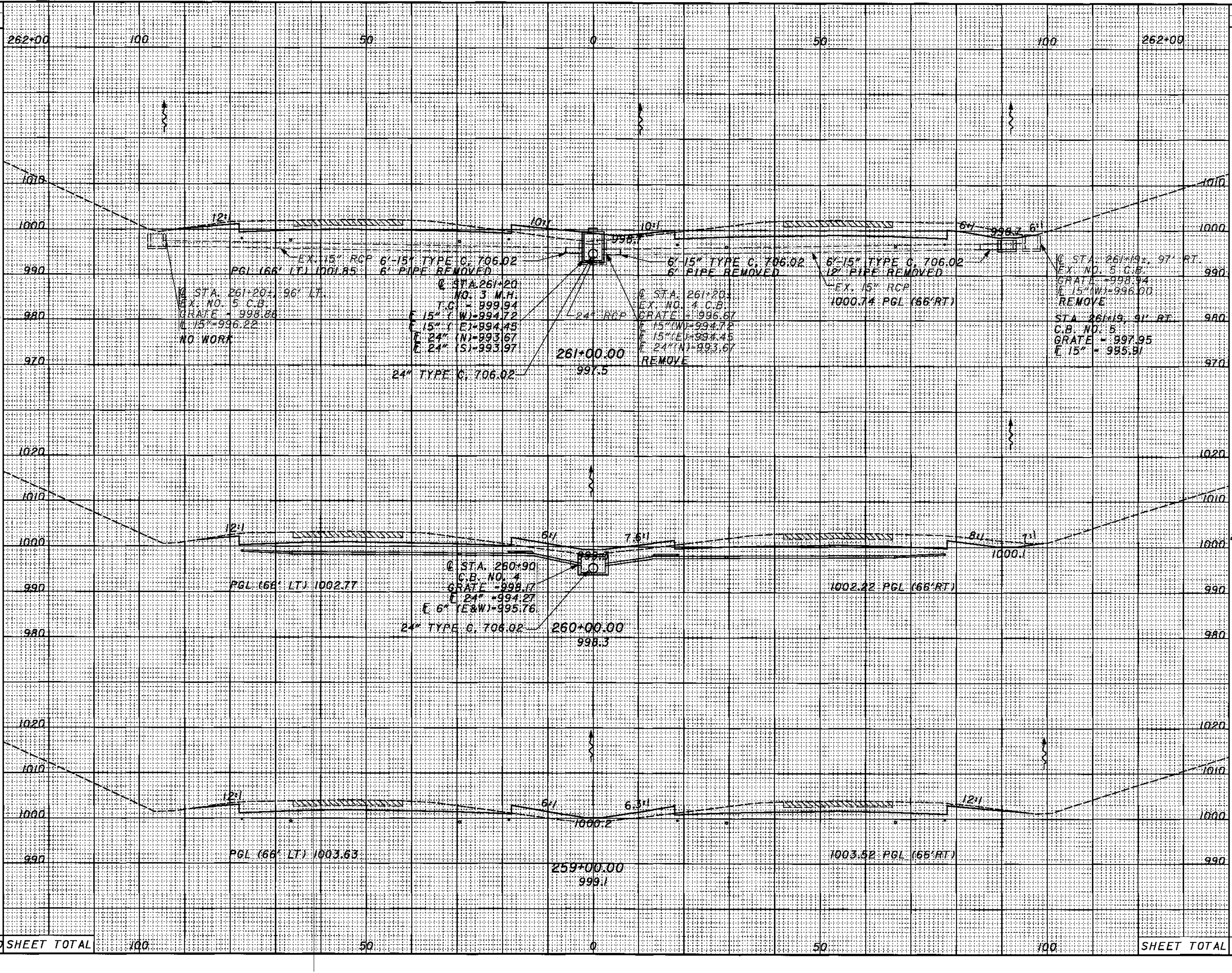
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
177	46		
		609	196
151	60		
		550	211
146	54		
		559	185
156	46		
		583	177
159	50		
		2301	769

CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 255+00 TO STA. 258+00

WAY/MED-71-7.04/0.00

..\14017GXC.dgn



SEEDING END WIDTH	SEEDING SQ. YDS.
81	
	845
71	
	739
62	
	706
65	
	2290 SHEET TOTAL

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
391	0		
		1208	75
261	45		
		899	157
224	40		
		745	160
177	46		
		2852	392

CALCULATED AEP
CHECKED ENF

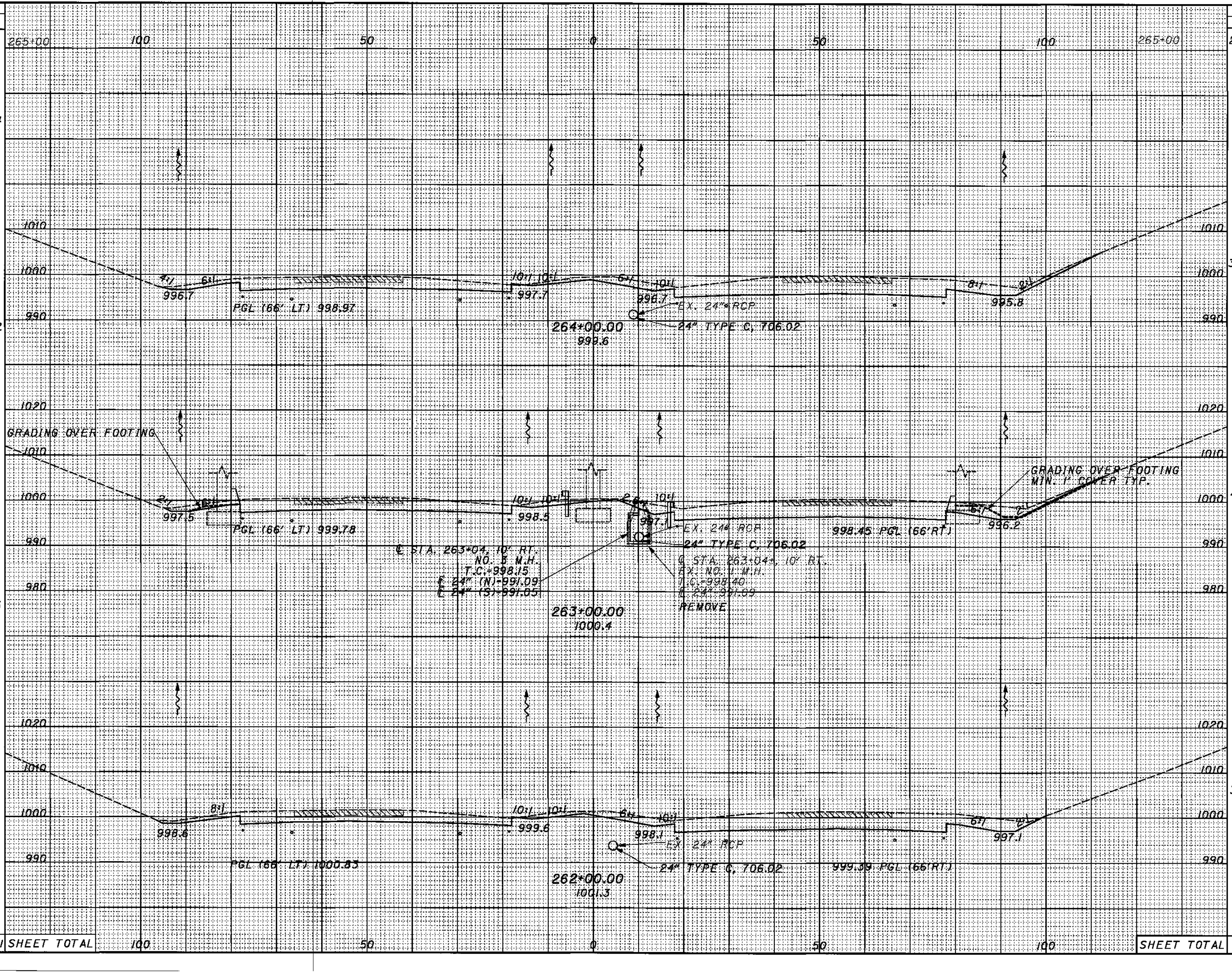
CROSS SECTIONS
STA. 259+00 TO STA. 261+00

WAY/MED-71-7.04/0.00

281
785

...\140176XC.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
75	
	934
93	
	1012
89	
	945
81	
	2891 SHEET TOTAL



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
273	6		
		1216	13
383	1		
		1460	2
405	0		
		1474	1
391	0		
SHEET TOTAL		4150	16

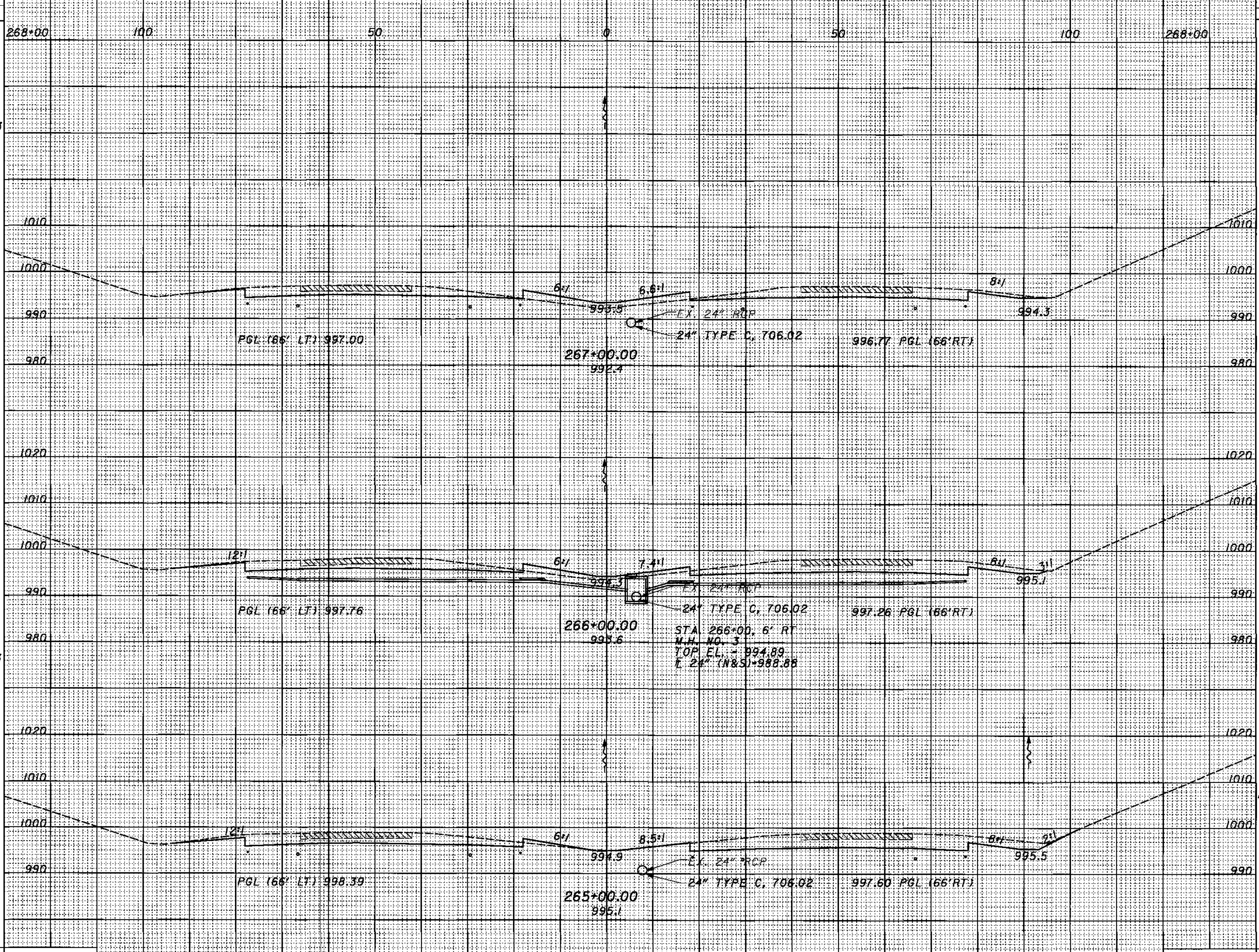
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 262+00 TO STA. 264+00

WAY/MED-71-7.04/0.00

...\14017GXC.dgn

CROSS SECTIONS
STA. 265+00 TO STA. 267+00

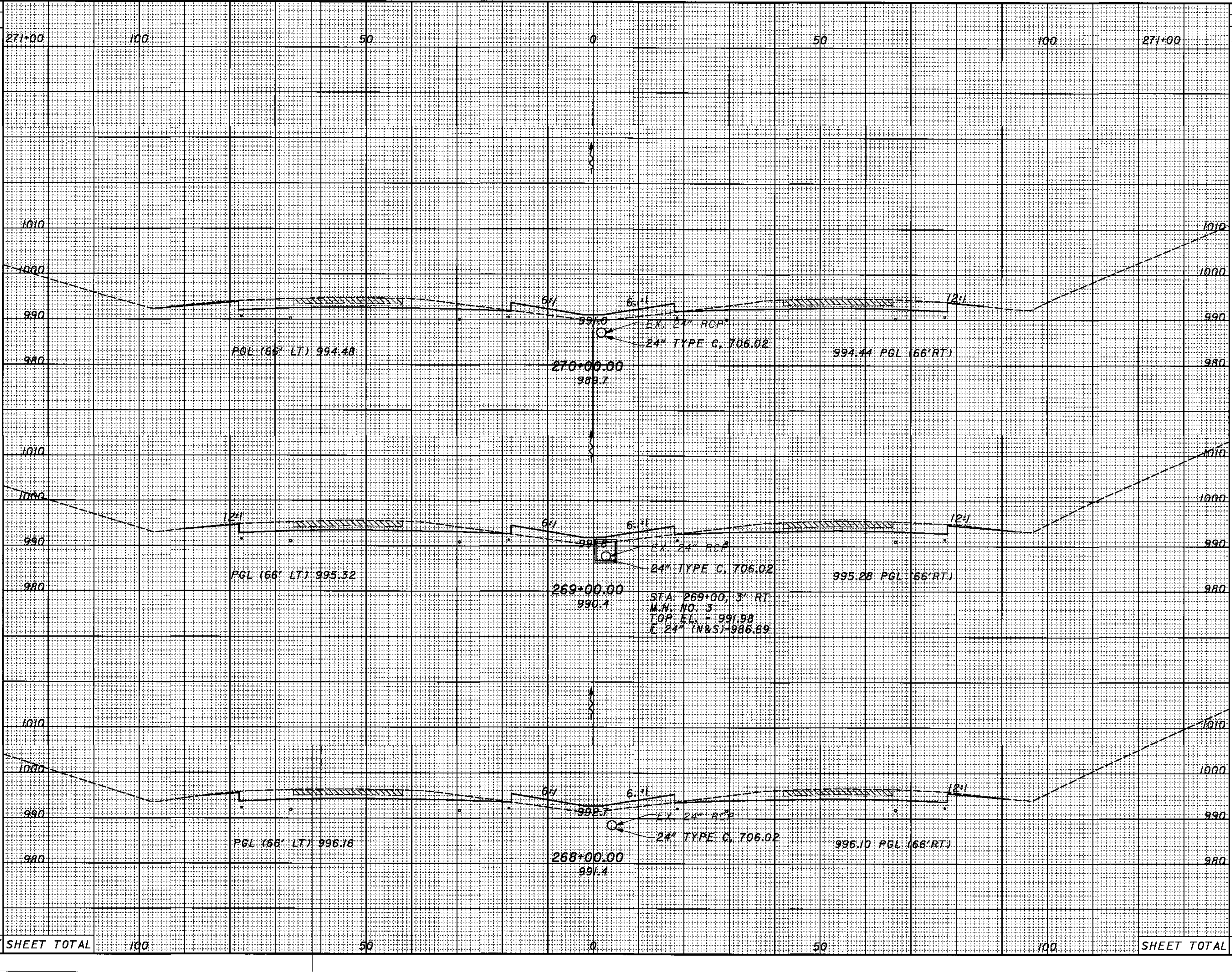


SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
60		157	53		
	723			599	189
70		166	49		
	795			706	151
73		215	33		
	823			904	73
75		273	6		
SHEET TOTAL	2341			2209	413

CALCULATED AEP
CHECKED ENF

WAY/MED-71-7.04/0.00

...\14017GXC.dgn



STA. 269+00, 3' RT.
M.H. NO. 3
TOP EL. = 991.98
E 24" (N&S)=986.69

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
57		152	52		
	684			552	194
66		146	53		
	728			546	203
65		149	57		
	695			567	204
60		157	53		
	2107 SHEET TOTAL			1665	601

CALCULATED AEP
CHECKED ENF

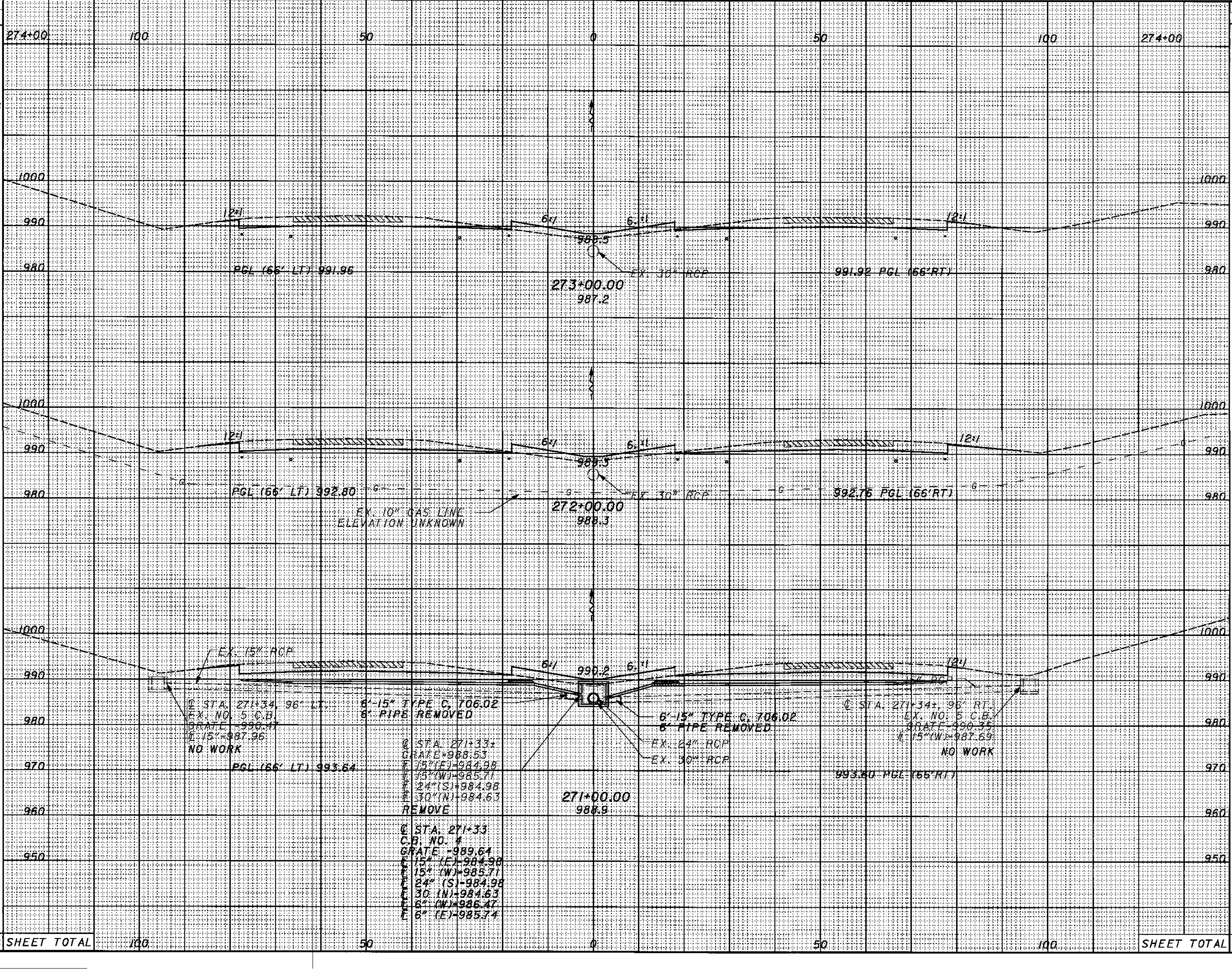
CROSS SECTIONS
STA. 268+00 TO STA. 270+00

WAY/MED-71-7.04/0.00

..\14017GXC.dgn

CROSS SECTIONS
STA. 271+00 TO STA. 273+00

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
56		152	44		
	623			563	174
56		152	50		
	623			576	178
56		158	46		
	628			575	181
57		152	52		
	1874 SHEET TOTAL		SHEET TOTAL	1714	533

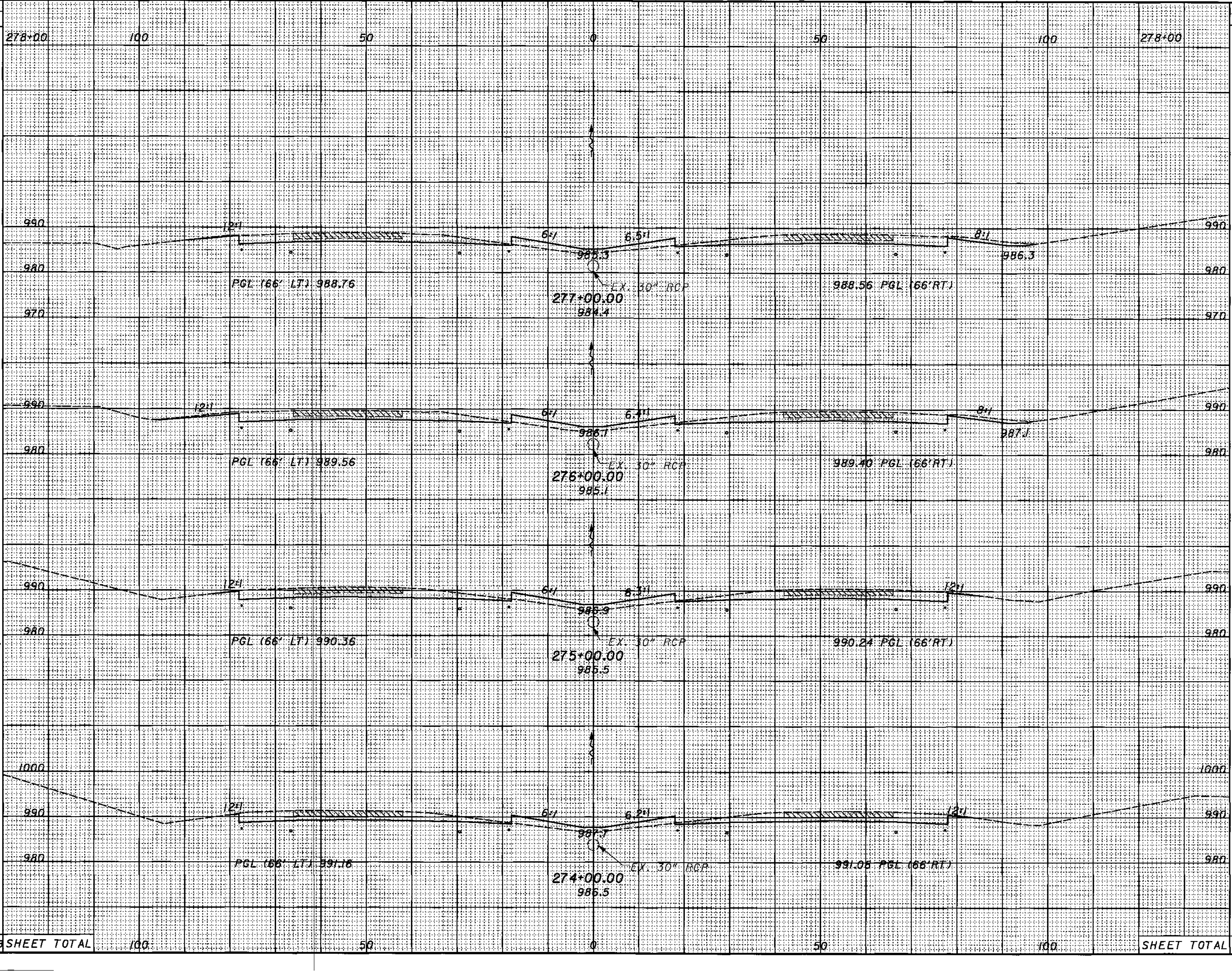


CALCULATED AEP
CHECKED ENF

WAY/MED-71-7.04/0.00

...\14017GXC.dgn

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
69		157	16		
	734			573	113
63		153	44		
	745			588	164
71		164	44		
	706			587	170
56		152	48		
	623			563	171
56		152	44		
	2808 SHEET TOTAL			2311	618



CALCULATED AEP
CHECKED ENF

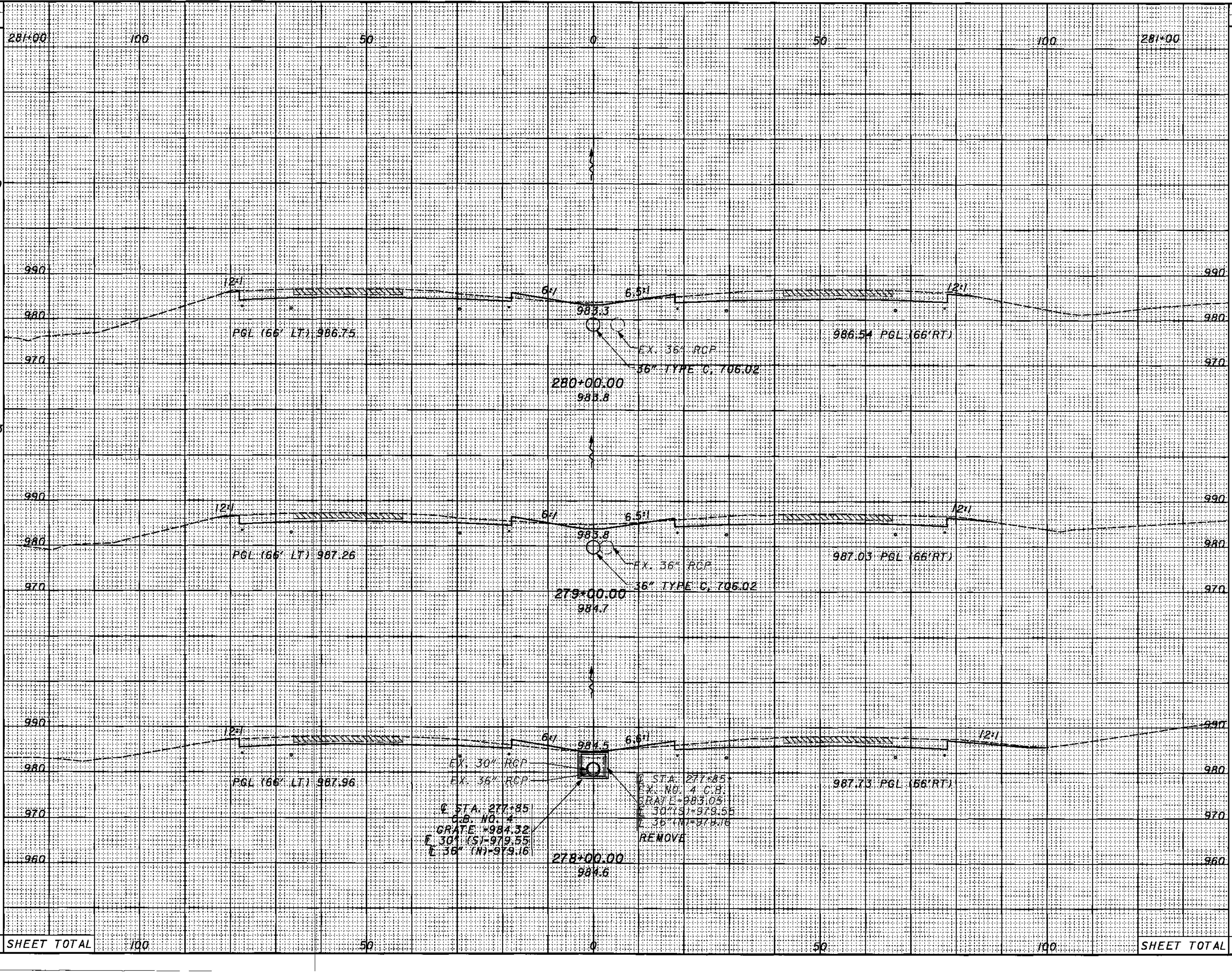
CROSS SECTIONS
STA. 274+00 TO STA. 277+00

WAY/MED-71-7.04/0.00

CROSS SECTIONS
STA. 278+00 TO STA. 280+00

WAY/MED-71-7.04/0.00

CALCULATED	CHECKED
AEP	ENF



SEEDING END WIDTH	SEEDING SQ. YDS.
52	
	589
54	
	623
58	
	706
69	
	1918 SHEET TOTAL

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
190	11		
		655	41
163	10		
		620	29
171	5		
		608	40
157	16		
SHEET TOTAL		1883	110

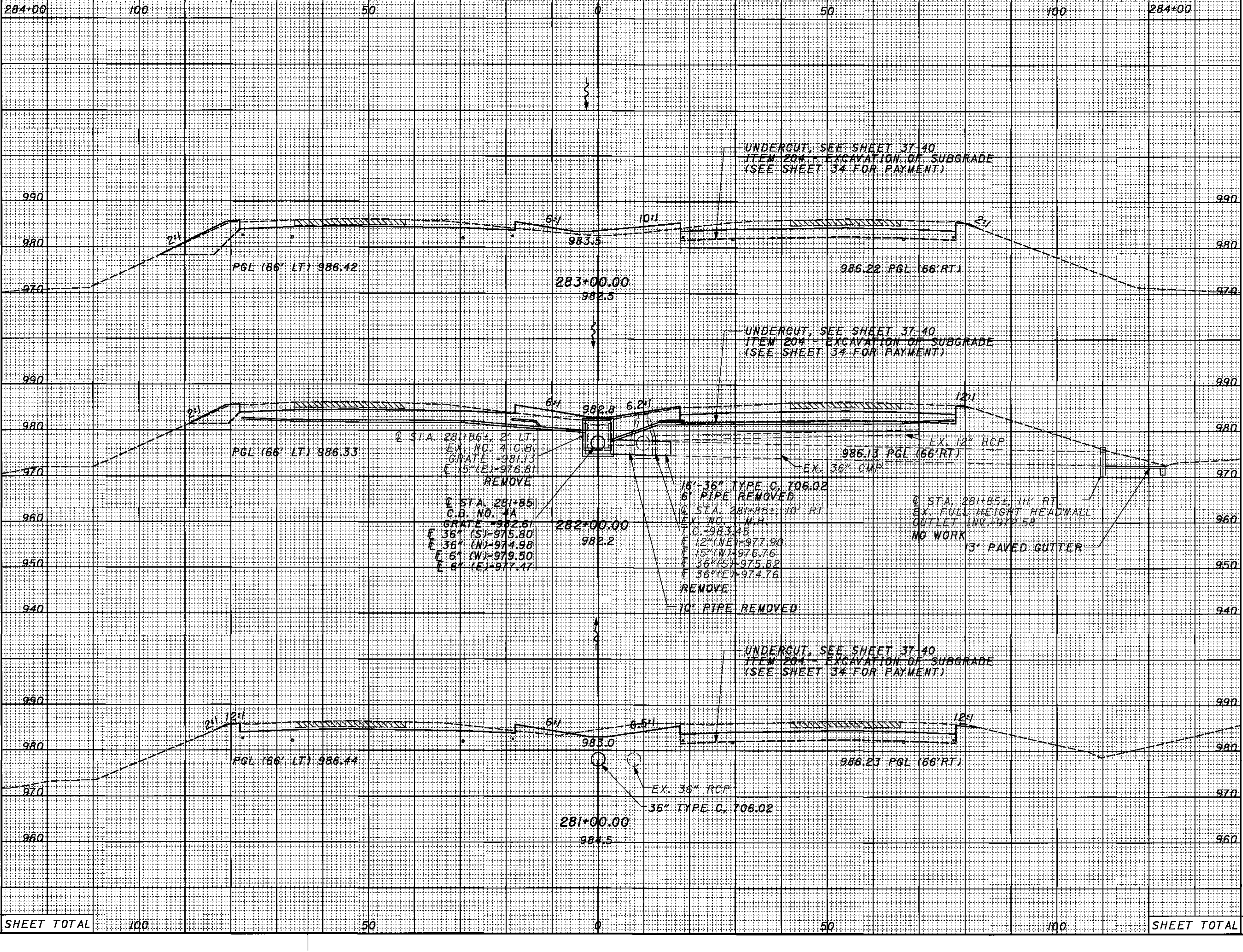
...\14017GXC.dgn

CROSS SECTIONS
STA. 281+00 TO STA. 283+00

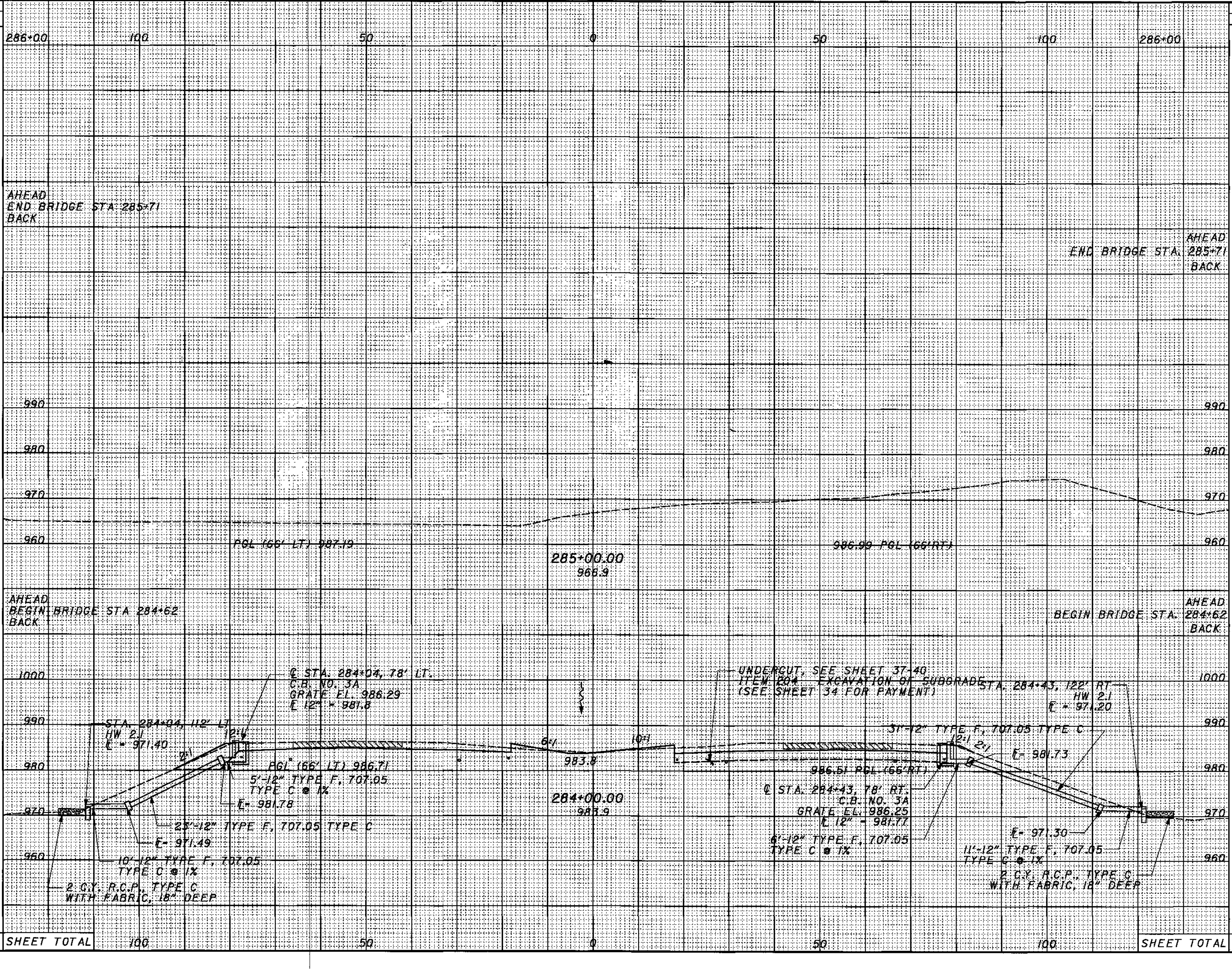
WAY/MED-71-7.04/0.00

CALCULATED AEP
CHECKED ENF

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
61		122	14		
	689			457	111
63		125	45		
	678			479	143
59		134	32		
	617			600	81
52		190	11		
SHEET TOTAL	1984			1536	335



...\14017GXC.dgn



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
55		166	11		
	178			179	12
55		166	11		
0		0	0		
	0			0	0
0		0	0		
	0			0	0
0		0	0		
61		122	15		
	421			281	34
61		122	14		
SHEET TOTAL	599			460	46

CALCULATED AEP
CHECKED ENF

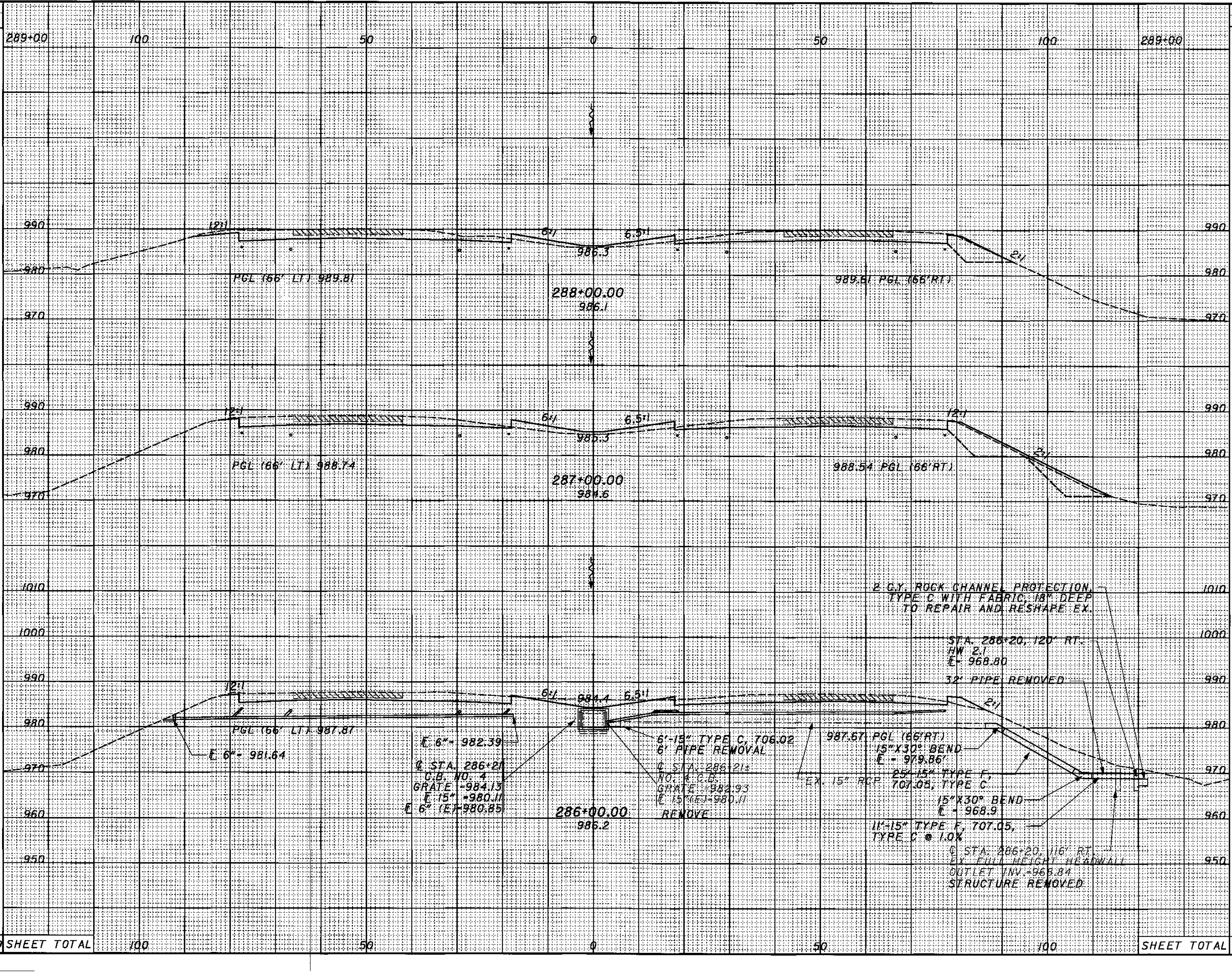
CROSS SECTIONS
STA. 284+00 TO STA. 285+00

WAY/MED-71-7.04/0.00

289
785

...\14017GXC.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
64	
	717
65	
	834
85	
	778
55	
	2329



289+00
100
50
0
50
100
289+00
990
980
970
12:1
6:1
6.5:1
2:1
986.3
PGL (66' LT) 989.81
989.81 PGL (66' RT)
288+00.00
986.1
990
980
970
12:1
6:1
6.5:1
12:1
2:1
985.3
PGL (66' LT) 988.74
988.54 PGL (66' RT)
287+00.00
984.6
1010
1000
990
980
970
960
950
2 C.Y. ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC, 18" DEEP TO REPAIR AND RESHAPE EX.
STA. 286+20, 120' RT. HW 2.1 ℄ - 968.80
32' PIPE REMOVED
12:1
6:1
984.4
6.5:1
2:1
PGL (66' LT) 987.87
℄ 6" - 981.64
℄ 6" - 982.39
℄ STA. 286+21 C.B. NO. 4 GRATE -984.13 ℄ 15" -980.11 ℄ 6" (E)-980.85
6'-15" TYPE C, 706.02 6' PIPE REMOVAL
℄ STA. 286+21± NO. 4 C.B. GRATE -982.93 ℄ 15"(E)-980.11 REMOVE
EX. 15" RCP
987.67 PGL (66' RT)
15"X30° BEND ℄ - 979.86'
25'-15" TYPE F, 707.05, TYPE C
15"X30° BEND ℄ - 968.9
11'-15" TYPE F, 707.05, TYPE C @ 1.0%
℄ STA. 286+20, 116' RT. EX. FULL HEIGHT HEADWALL OUTLET INV.-968.84 STRUCTURE REMOVED
286+00.00
986.2
SHEET TOTAL
100
50
0
50
100
SHEET TOTAL

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
215	11		
		715	78
171	31		
		582	159
143	55		
		574	122
166	11		
		1871	359

CALCULATED AEP
CHECKED ENF

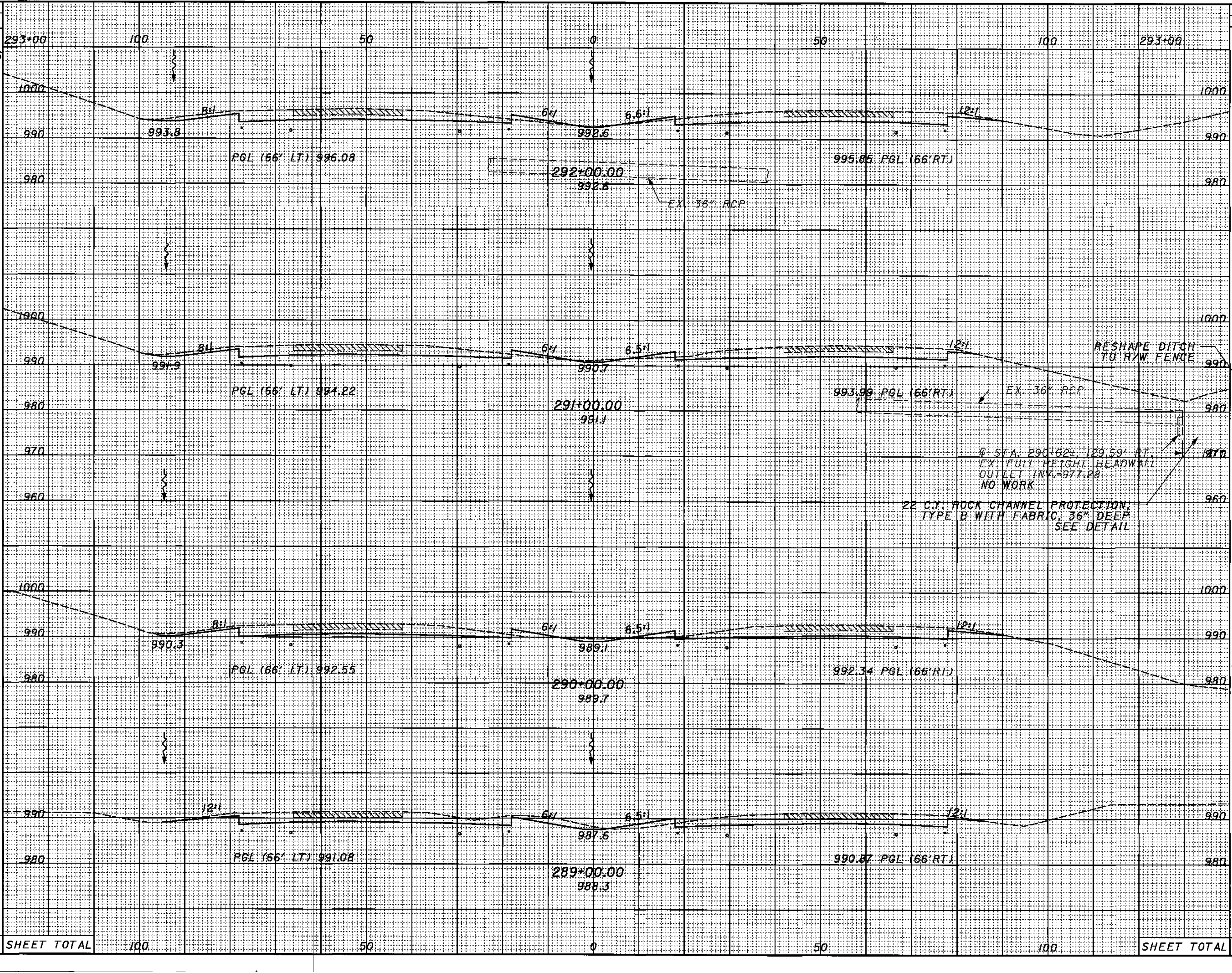
CROSS SECTIONS
STA. 286+00 TO STA. 288+00

WAY/MED-71-7.04/0.00

290
785

...\14017GXC.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
80	
	856
74	
	795
69	
	784
72	
	756
64	
	3191



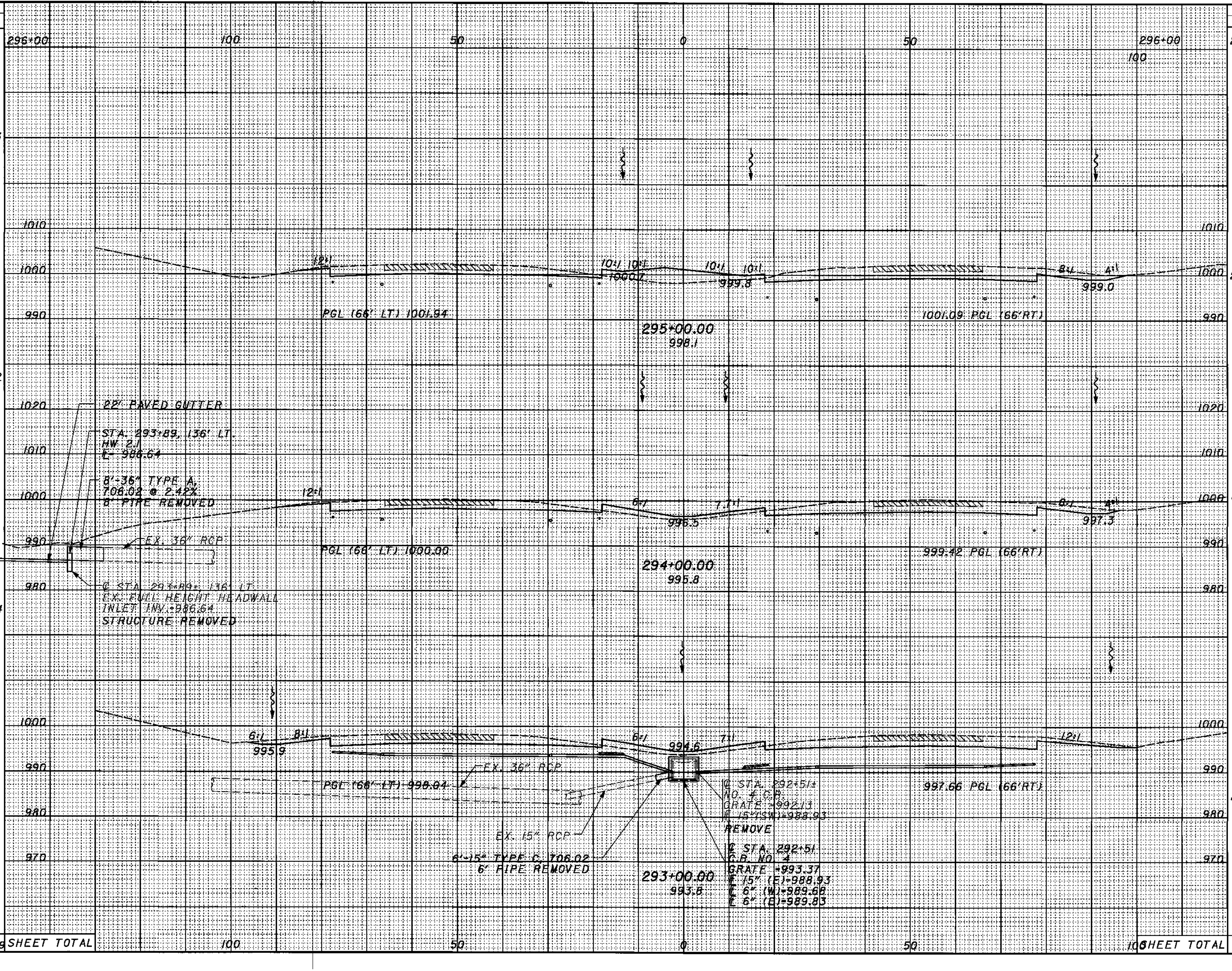
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
215	36		
		796	88
214	11		
		773	46
203	13		
		753	55
203	16		
		775	51
215	11		
		3097	240

CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 289+00 TO STA. 292+00

WAY/MED-71-7.04/0.00

...\14017GXC.dgn



SEEDING END WIDTH	SEEDING SQ. YDS.
72	
	773
67	
	762
70	
	834
80	
	2369

SHEET TOTAL

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
279	13		
		957	160
238	73		
		841	197
216	33		
		799	128
215	36		
		2597	485

SHEET TOTAL

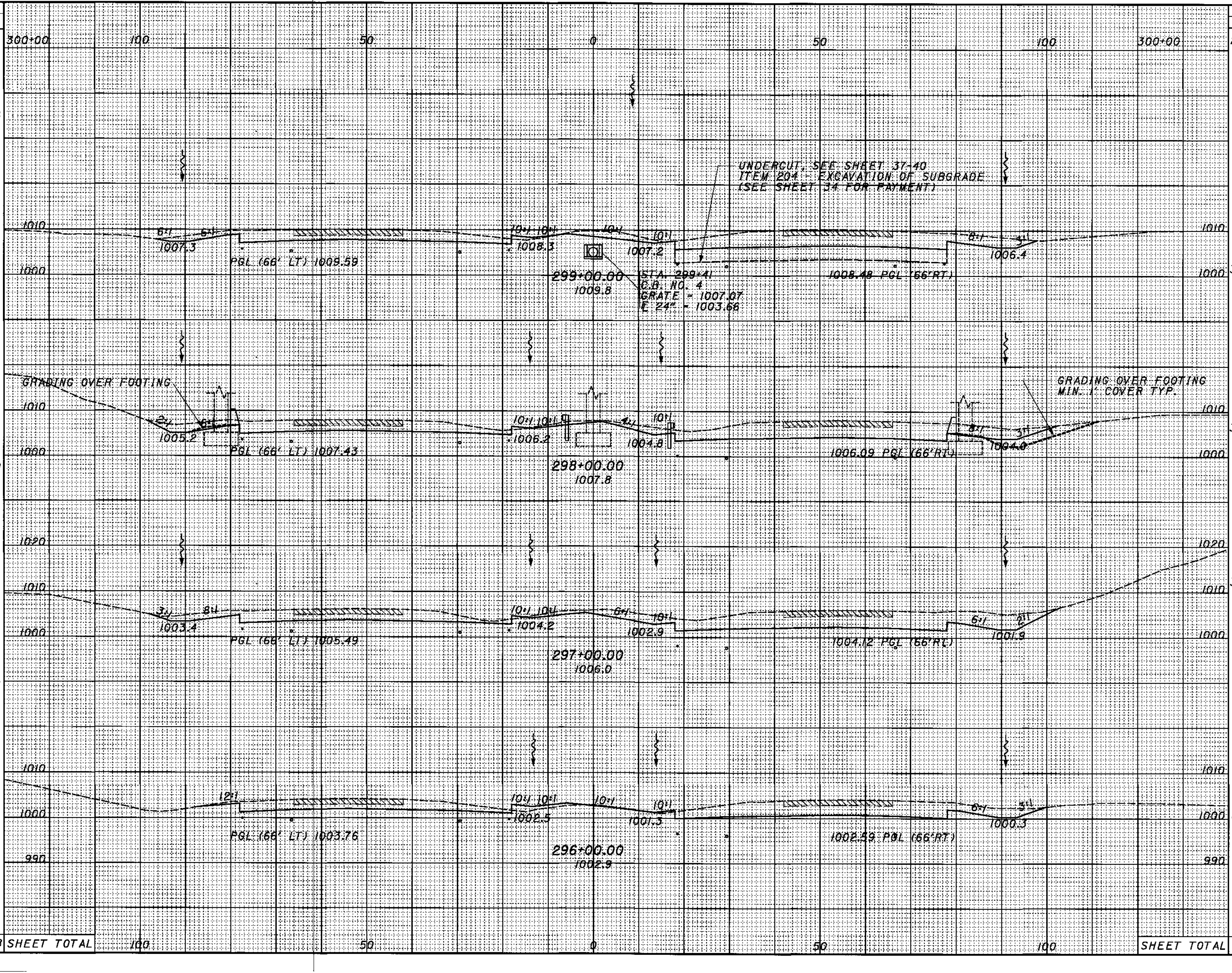
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 293+00 TO STA. 295+00

WAY/MED-71-7.04/0.00

..\401TGXC.dgn

SEEDING	
END WIDTH	SQ. YDS.
63	
	784
78	
	917
87	
	950
84	
	867
72	
	3518



UNDERCUT, SEE SHEET 37-40
ITEM 204 - EXCAVATION OF SUBGRADE
(SEE SHEET 34 FOR PAYMENT)

STA. 299+41
C.B. NO. 4
GRATE = 1007.07
E 24" = 1003.66

GRADING OVER FOOTING
MIN. 1' COVER TYP.

END AREA		VOLUME	
CUT	FILL	CUT	FILL
225	10		
		1045	27
339	4		
		1325	11
376	1		
		1424	5
393	1		
		1244	26
279	13		
		5038	69

CALCULATED AEP
CHECKED ENF

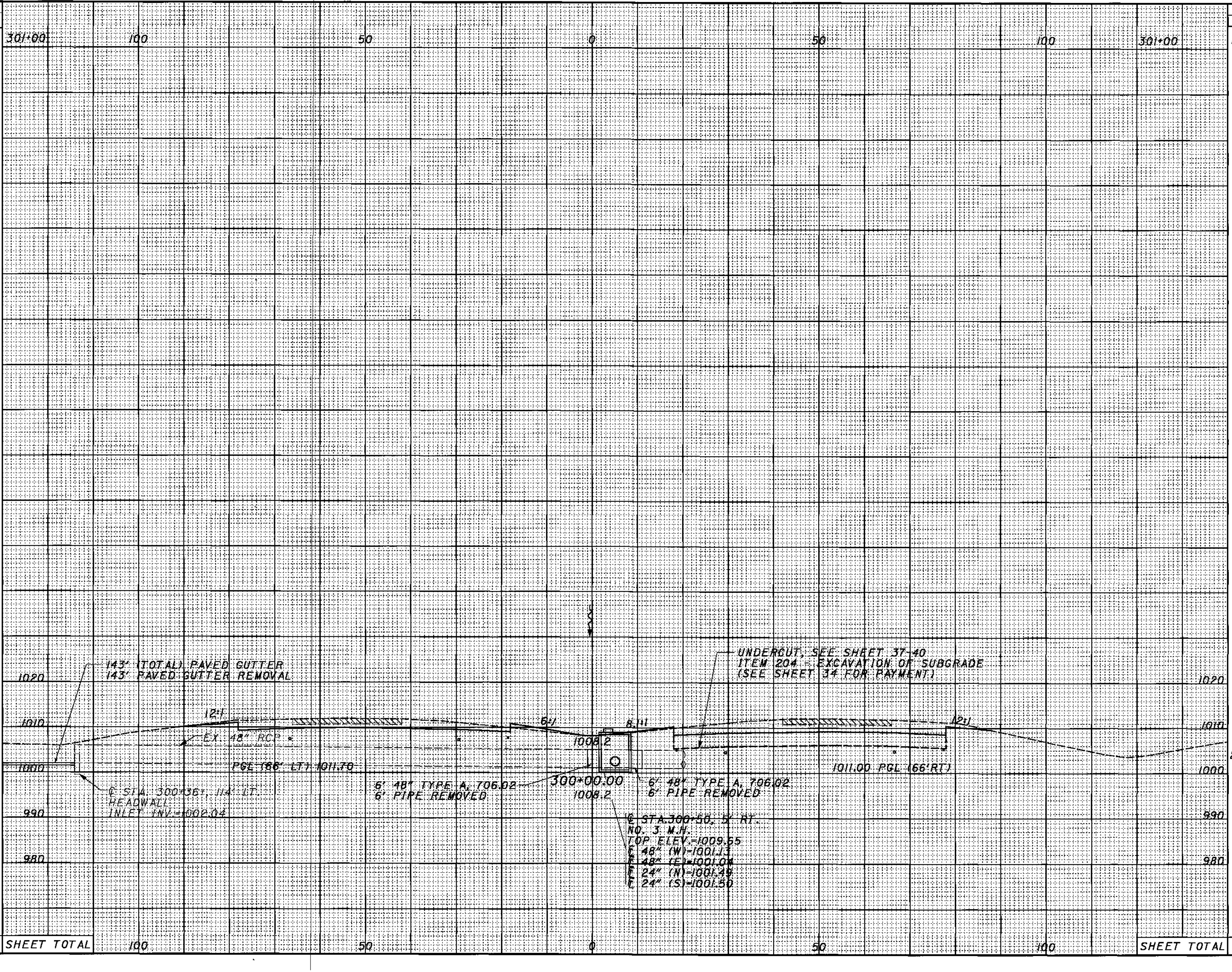
CROSS SECTIONS
STA. 296+00 TO STA. 299+00

WAY/MED-71-7.04/0.00

293
785

..\14017GXC.dgn

SEEDING	
END WIDTH	SQ. YDS.
67	
	723
63	
	723



END AREA		VOLUME	
CUT	FILL	CUT	FILL
165	40		
		722	92
225	10		
		722	92

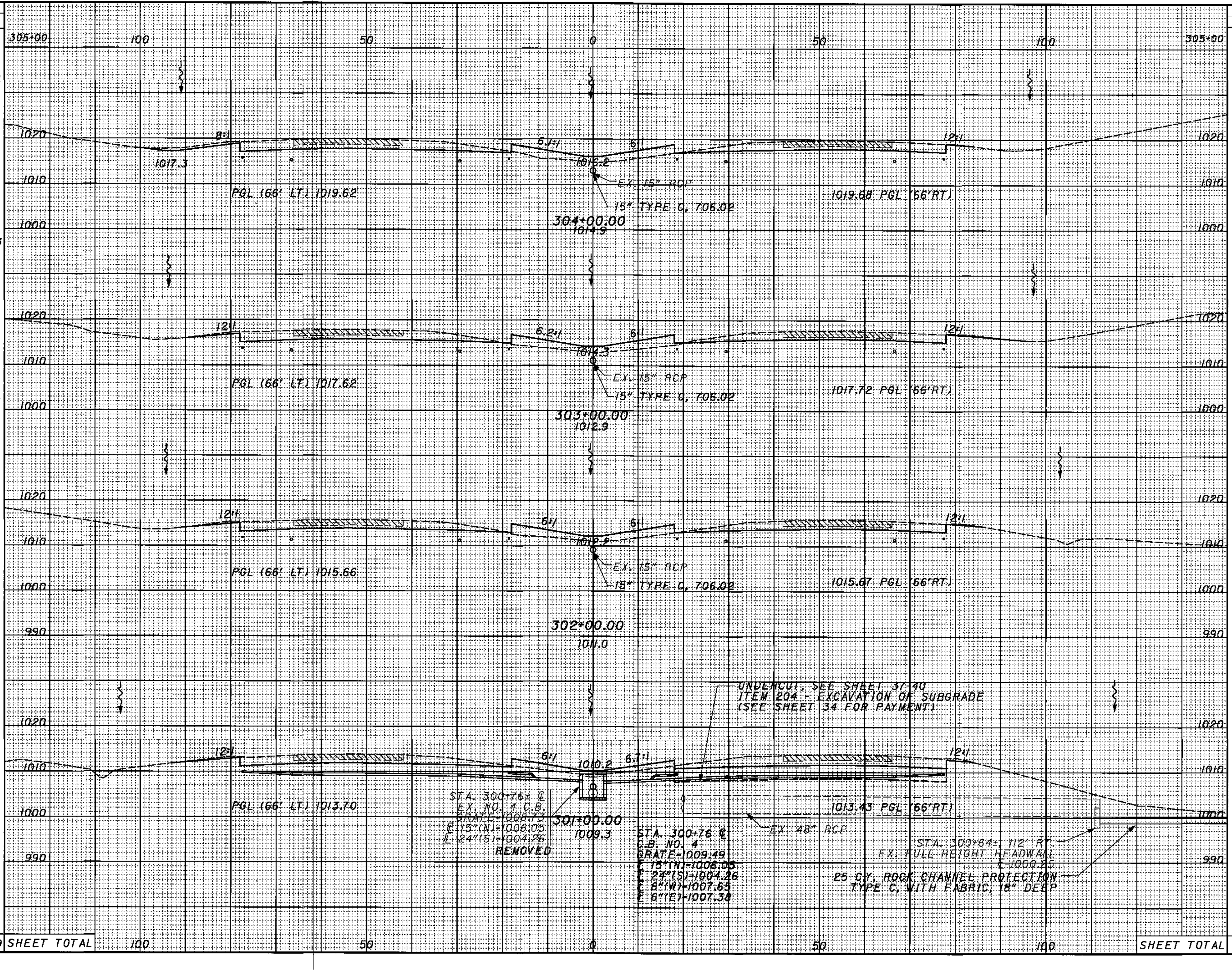
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 300+00

WAY/MED-71-7.04/0.00

...\14017GXC.dgn

SEEDING	
END WIDTH	SQ. YDS.
84	
	862
71	
	823
77	
	795
66	
	739
67	
	3219



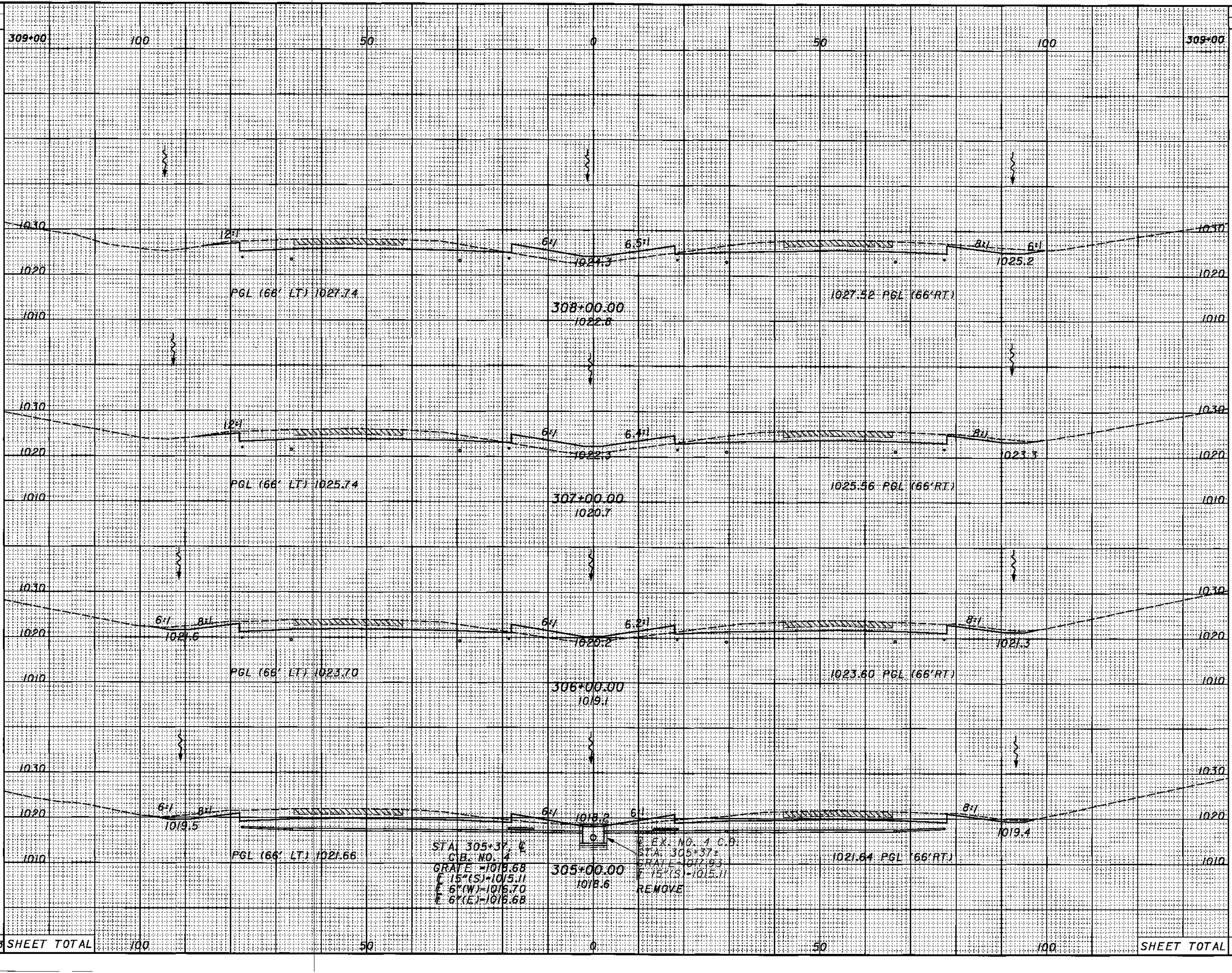
END AREA		VOLUME	
CUT	FILL	CUT	FILL
178	20		
		618	142
156	57		
		549	219
141	62		
		516	219
138	57		
		561	178
165	40		
		2244	758

CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 301+00 TO STA. 304+00

WAY/MED-71-7.04/0.00

	SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
309+00	73		176	59		
		817			657	221
308+00	74		179	60		
		828			646	228
307+00	75		171	63		
		884			646	206
306+00	84		179	49		
		934			660	127
305+00	84		178	20		
SHEET TOTAL		3463			2609	782



CALCULATED AEP
CHECKED ENF

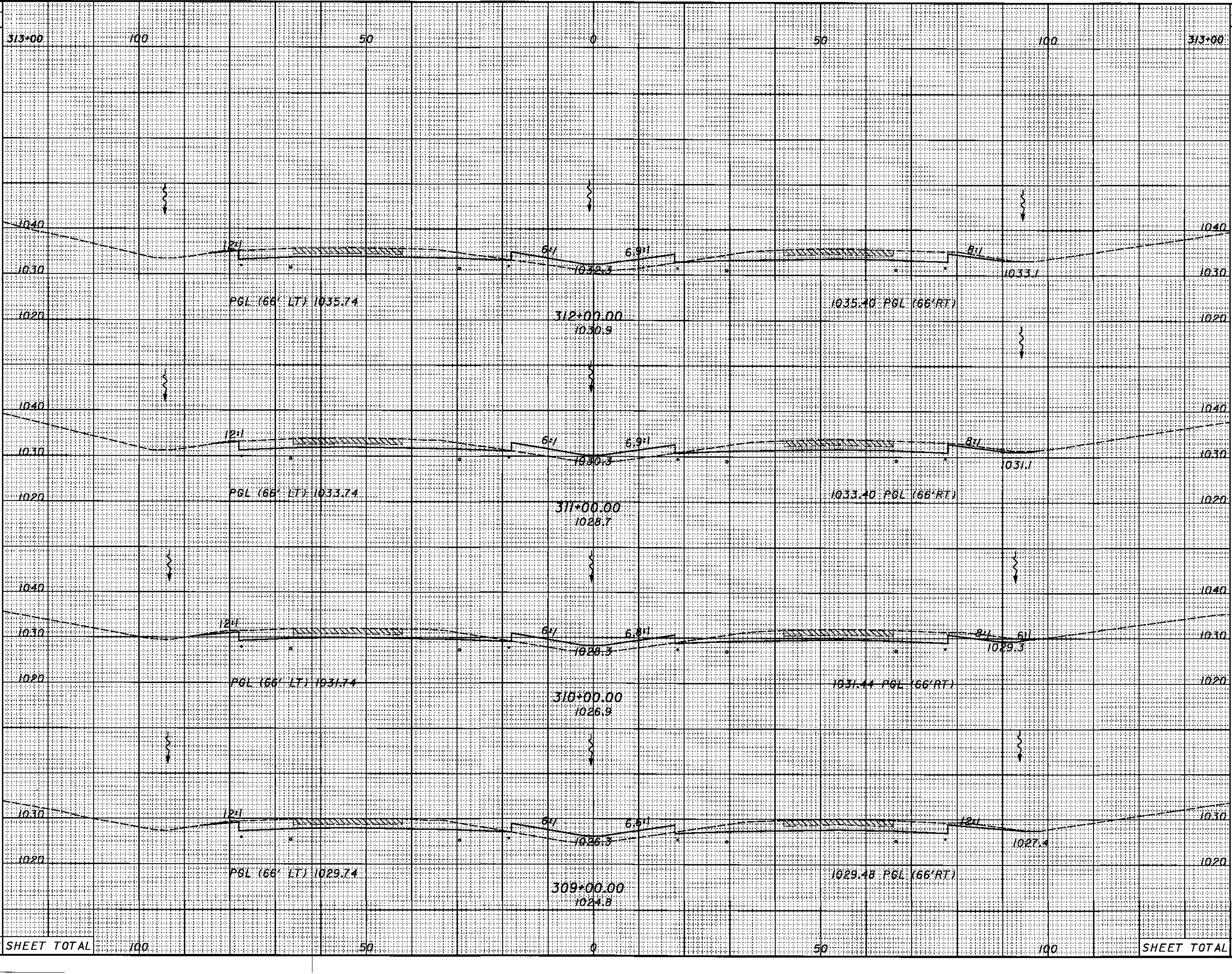
CROSS SECTIONS
STA. 305+00 TO STA. 308+00

WAY/MED-71-7.04/0.00

296
785

..\14017CXD.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
62	
	734
70	
	778
70	
	789
72	
	806
73	
	3107 SHEET TOTAL



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
175	53		
		612	211
155	61		
		584	225
160	61		
		638	218
185	57		
		669	215
176	59		
		2503	869

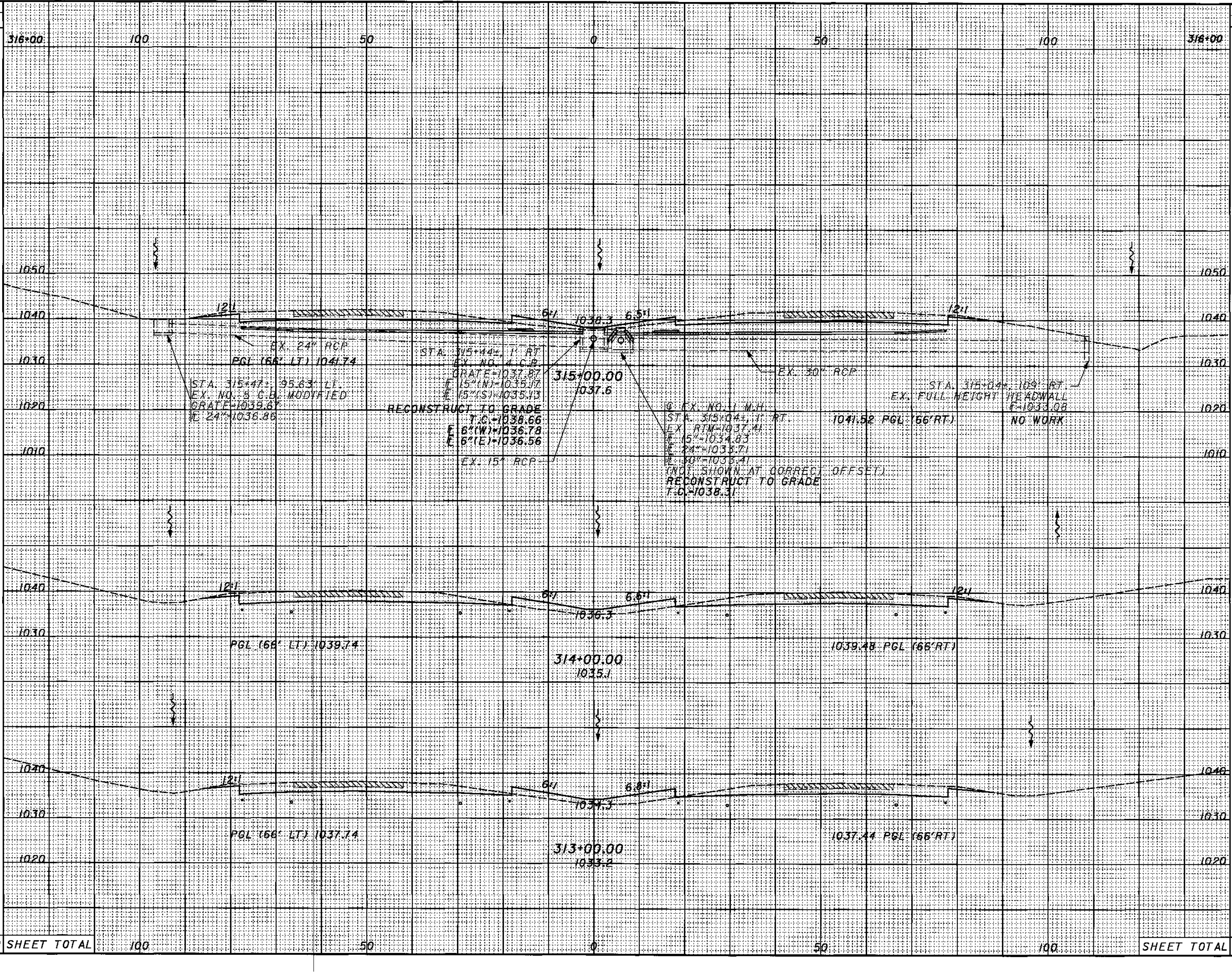
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 309+00 TO STA. 312+00

WAY/MED-71-7.04/0.00

...\14017GXD.dgn

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
69		157	50		
	739				
				624	158
64					
		180	35		
	700				
				675	168
		185	56		
62					
	689				
				667	202
		175	53		
62					
	2128			1966	528



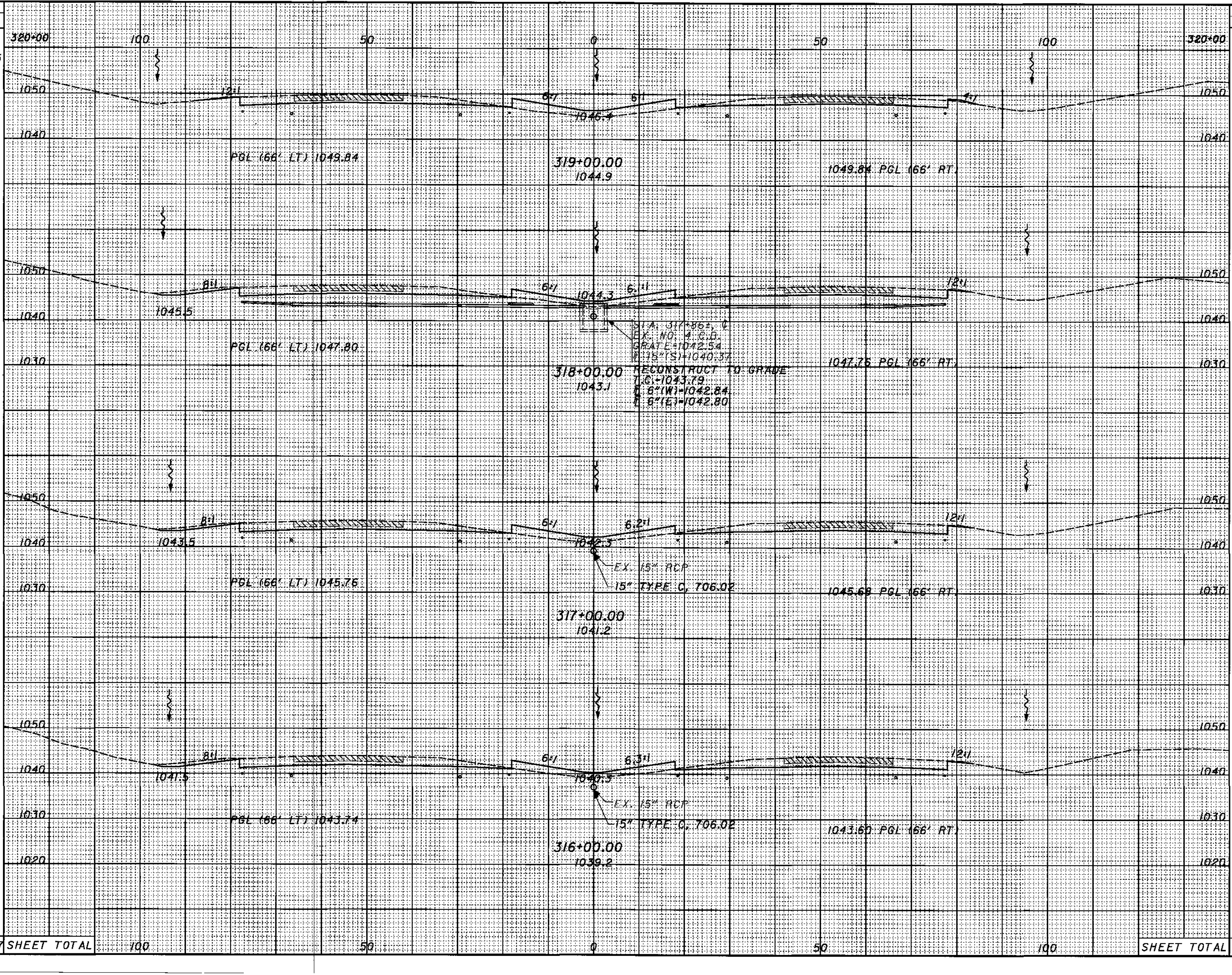
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 313+00 TO STA. 315+00

WAY/MED-71-7.04/0.00

..\14017GXD.dgn

SEEDING	
END WIDTH	SQ. YDS.
63	
	695
62	
	728
69	
	767
69	
	767
69	
SHEET TOTAL	2957



END AREA		VOLUME	
CUT	FILL	CUT	FILL
99	70		
		385	246
109	63		
		463	206
141	48		
		528	182
144	50		
		557	187
157	50		
		1933	821

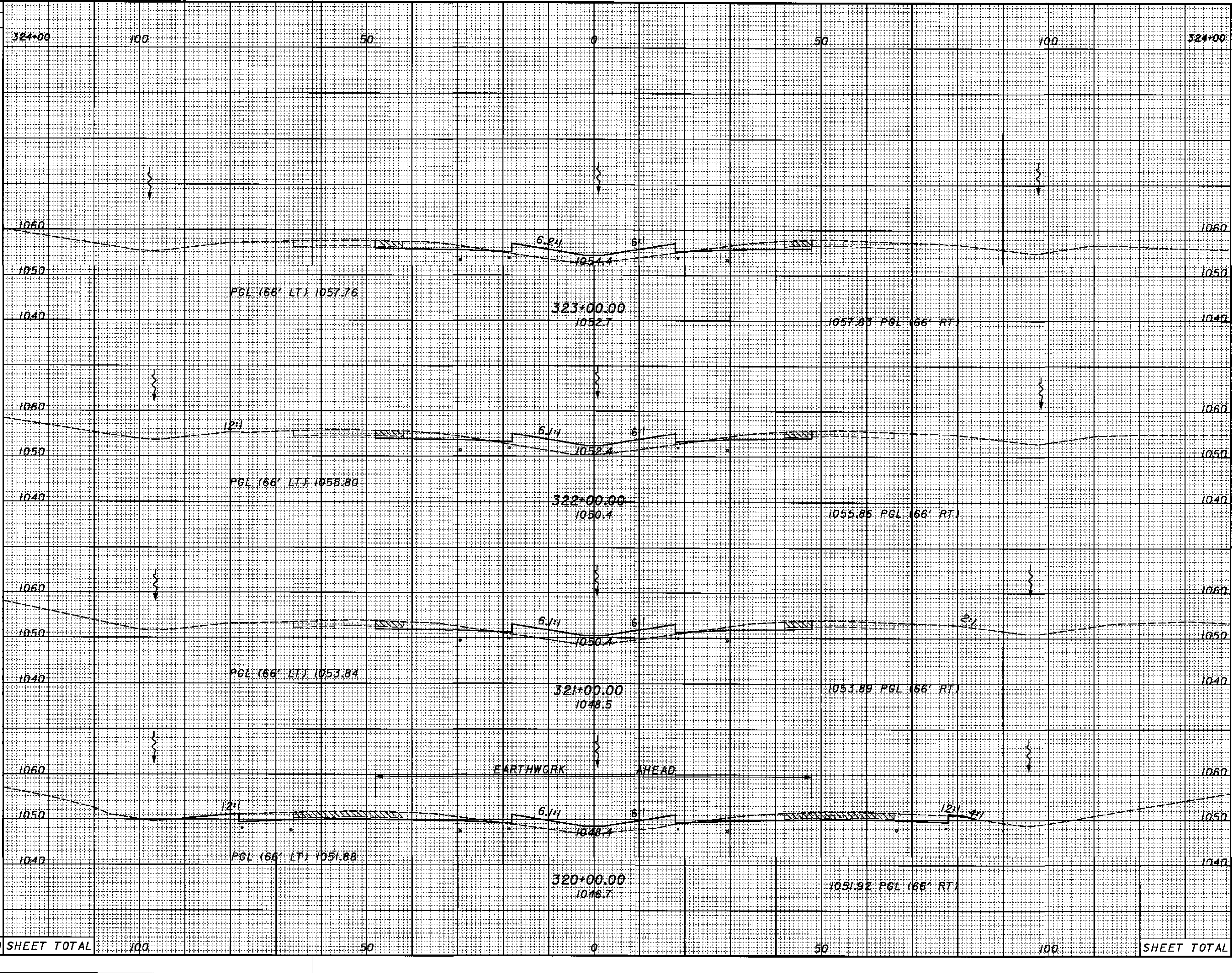
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 316+00 TO STA. 319+00

WAY/MED-71-7.04/0.00

...\14017GXD.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
36		324+00	45	64		
	400				171	245
36		323+00.00	47	68		
	400				168	283
36		322+00.00	43	84		
	400				169	296
36		321+00.00	48	76		
	550				181	269
63		320+00.00	99	70		
	1750	SHEET TOTAL			689	1093



CALCULATED AEP
CHECKED ENF

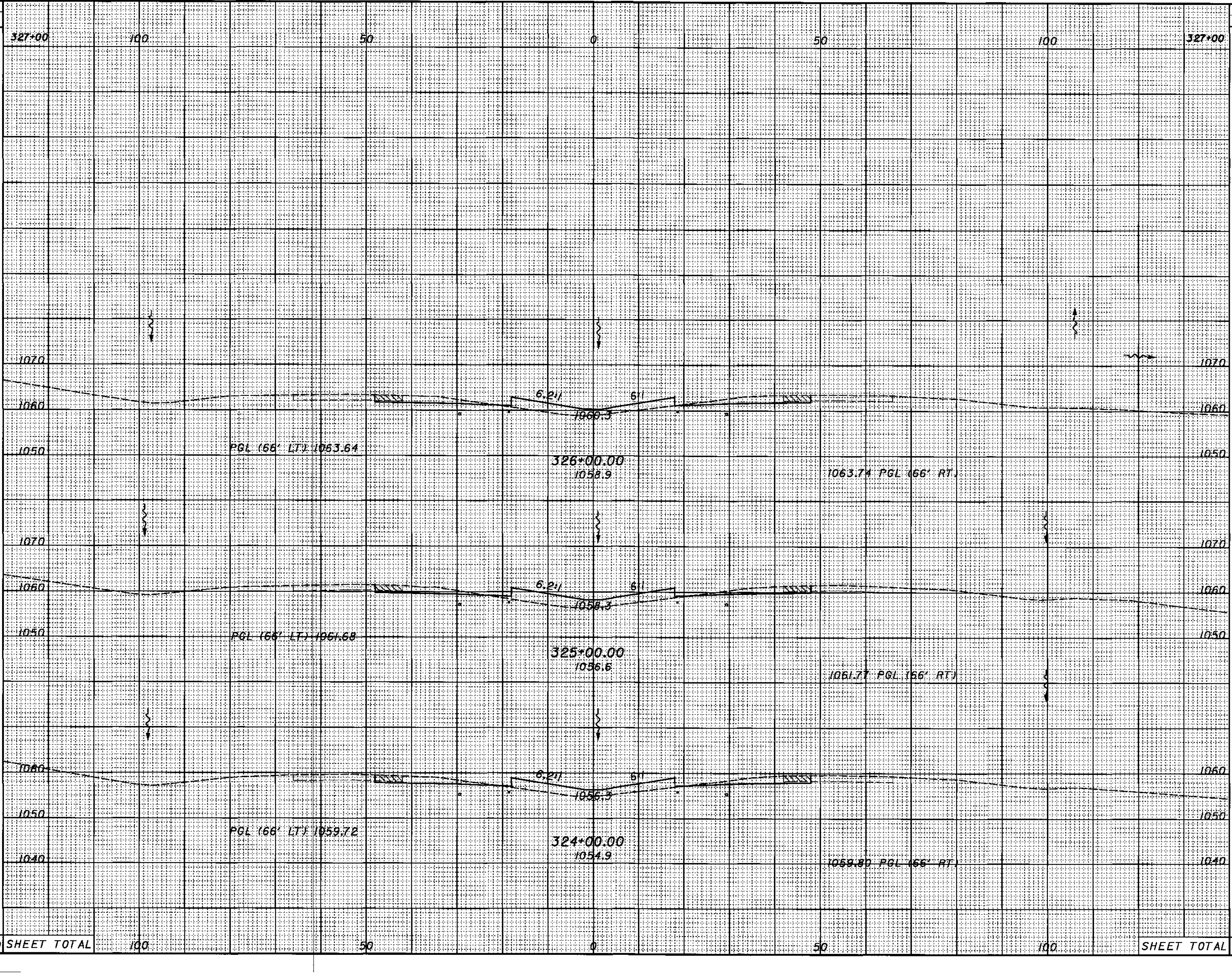
CROSS SECTIONS
STA. 320+00 TO STA. 323+00

WAY/MED-71-7.04/0.00

300
785

...\140176XD.dgn

SEEDING	
END WIDTH	SQ. YDS.
36	
	400
36	
	400
36	
	400
36	
	1200



END AREA		VOLUME	
CUT	FILL	CUT	FILL
56	41		
		196	188
50	60		
		170	253
42	76		
		162	260
45	64		
		528	701

CALCULATED AEP
CHECKED ENF

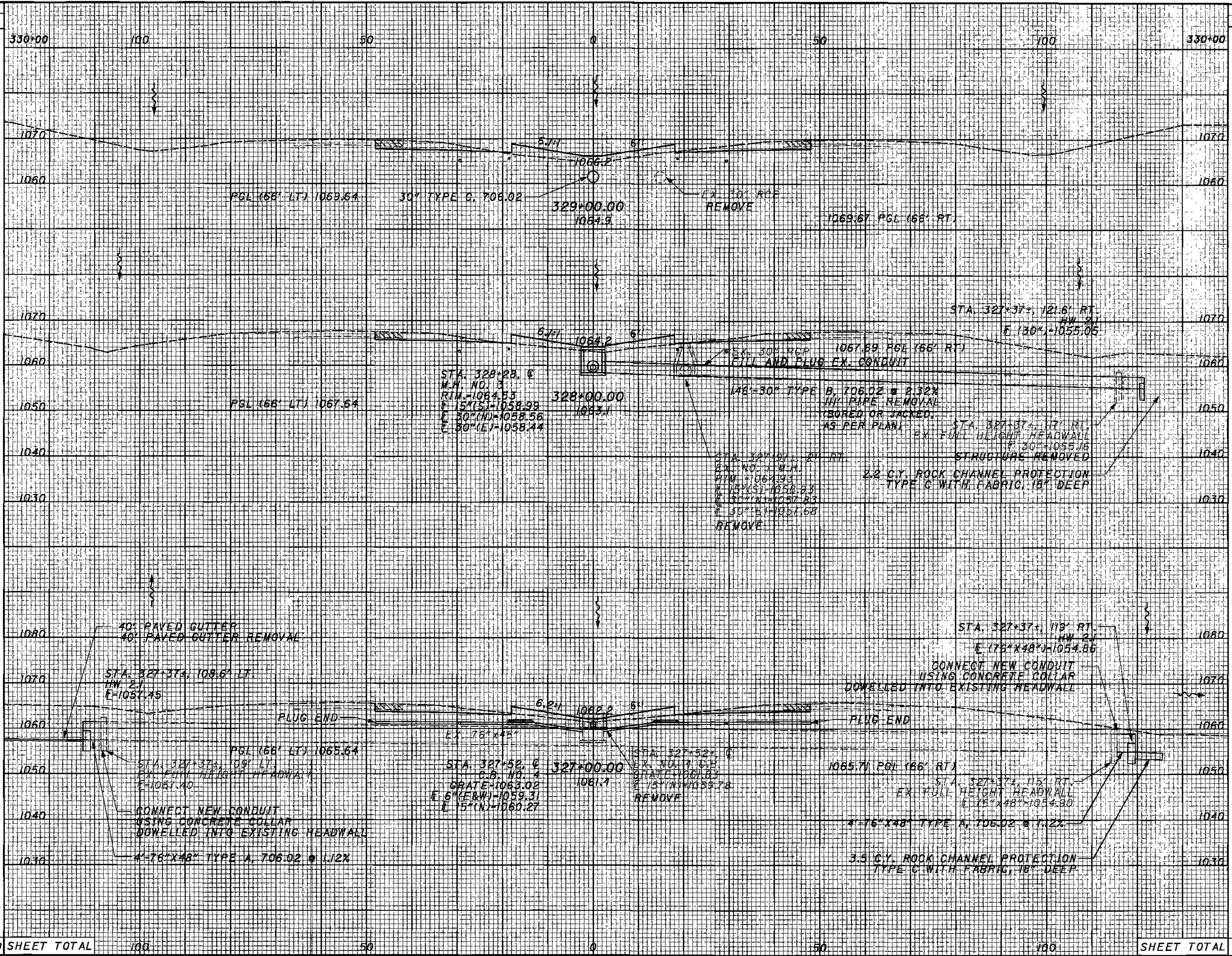
CROSS SECTIONS
STA. 324+00 TO STA. 326+00

WAY/MED-71-7.04/0.00

301
785

...\14017GX0.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
36	
	400
36	
	400
36	
	400
36	
	1200 SHEET TOTAL



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
71	52		
		244	198
60	55		
		194	199
45	52		
		186	173
56	41		
		624	570

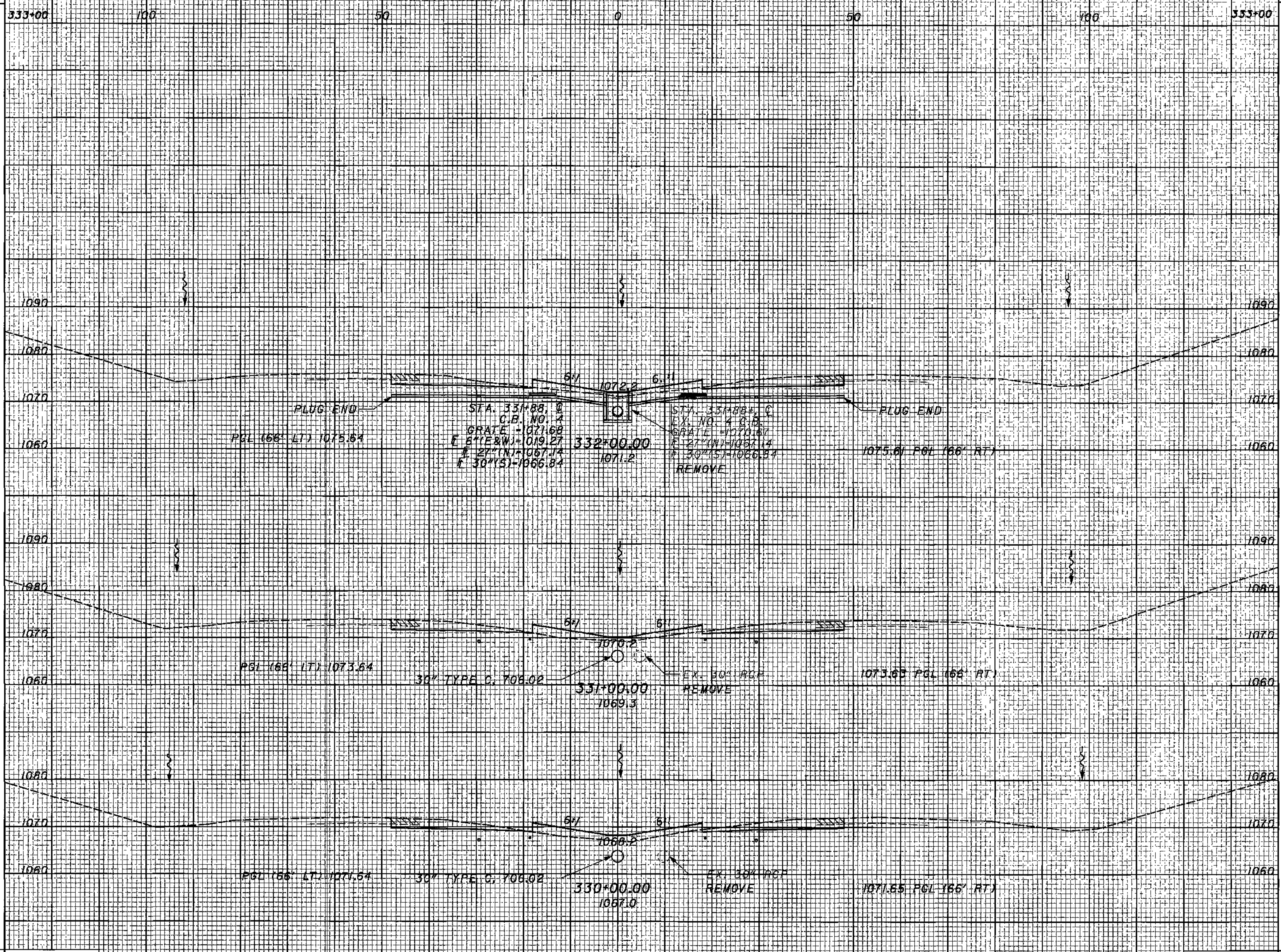
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 327+00 TO STA. 329+00

WAY/MED-71-7.04/0.00

...\14017GX0.dgn

	SEEDING		END AREA		VOLUME	
	END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
333+00	36		68	60		
		400			262	187
	36		73	41		
		400			273	162
	36		74	46		
		400			269	181
	36		71	52		
SHEET TOTAL		1200			804	530



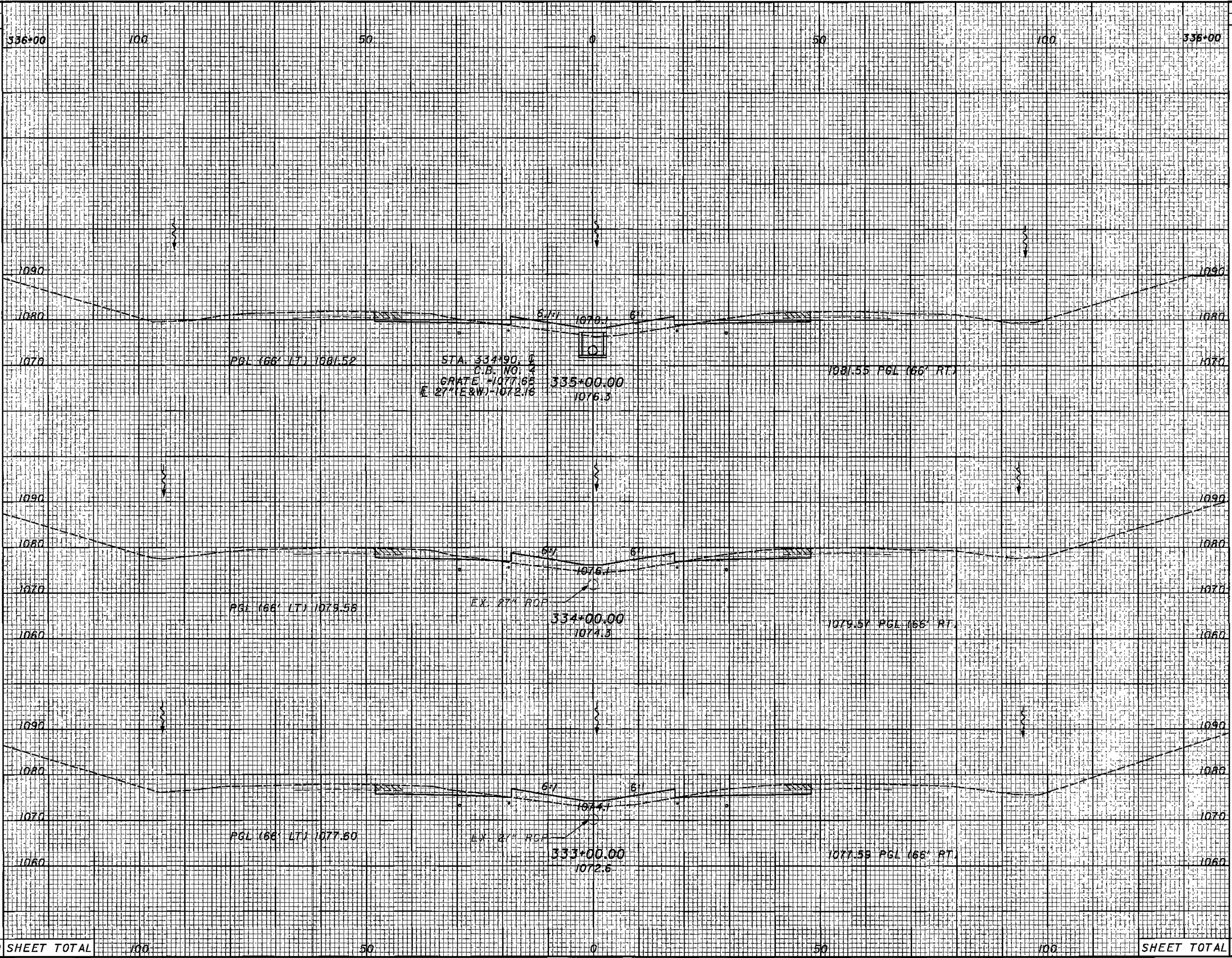
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 330+00 TO STA. 332+00

WAY/MED-71-7.04/0.00

...\14017GXD.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.	Station	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
36		336+00	60	67		
	400				220	257
36		335+00	59	72		
	400				222	262
36		334+00	61	70		
	400				238	240
36		333+00	68	60		
	1200	SHEET TOTAL			680	759



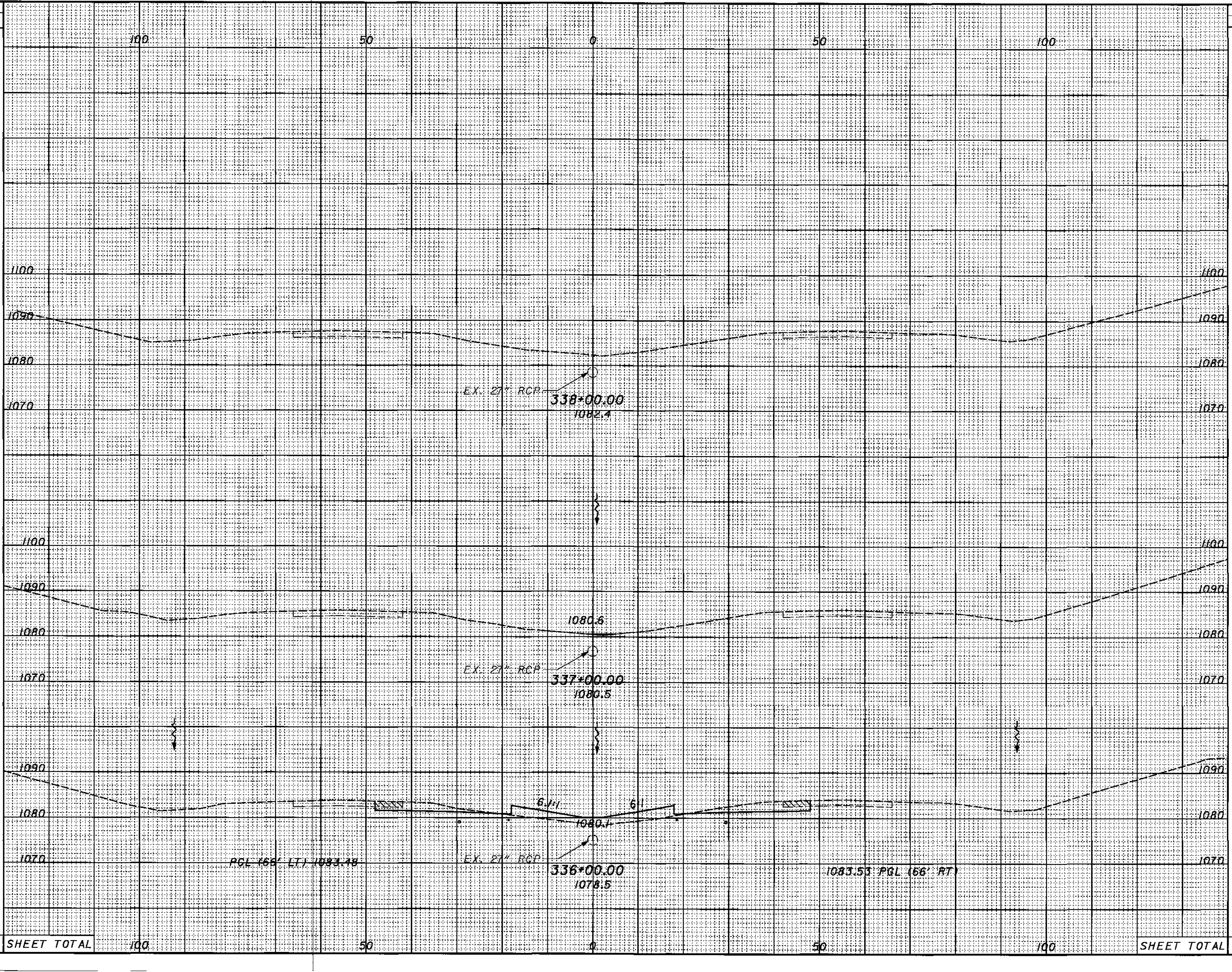
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 333+00 TO STA. 335+00

WAY/MED-71-7.04/0.00

...\14017GXD.dgn

SEEDING	
END WIDTH	SQ. YDS.
6	
	233
36	
233	SHEET TOTAL



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	1		
		0	126
60	67		
	SHEET TOTAL	0	126

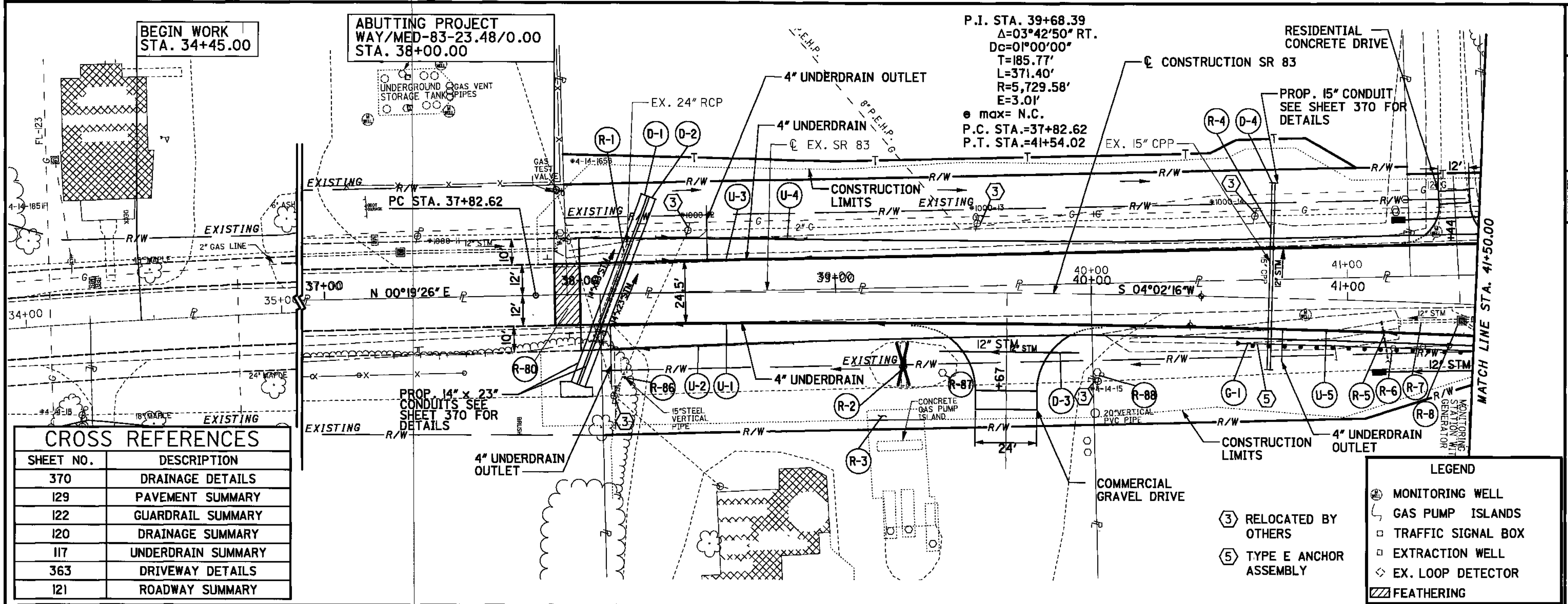
CALCULATED AEP
CHECKED ENF

CROSS SECTIONS
STA. 336+00 TO STA. 337+00

WAY/MED-71-7.04/0.00

305
785

...\140ITGXD.dgn



CROSS REFERENCES

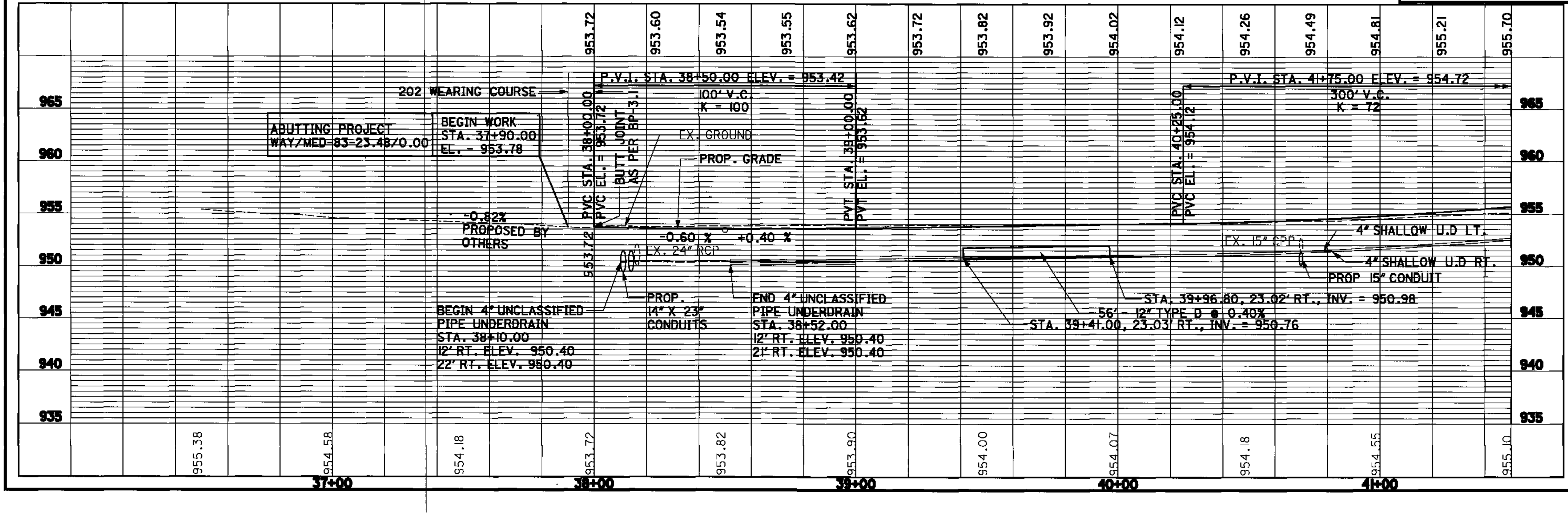
SHEET NO.	DESCRIPTION
370	DRAINAGE DETAILS
129	PAVEMENT SUMMARY
122	GUARDRAIL SUMMARY
120	DRAINAGE SUMMARY
117	UNDERDRAIN SUMMARY
363	DRIVEWAY DETAILS
121	ROADWAY SUMMARY

③ RELOCATED BY OTHERS

⑤ TYPE E ANCHOR ASSEMBLY

LEGEND

- MONITORING WELL
- GAS PUMP ISLANDS
- □ TRAFFIC SIGNAL BOX
- □ EXTRACTION WELL
- ◇ EX. LOOP DETECTOR
- ▨ FEATHERING



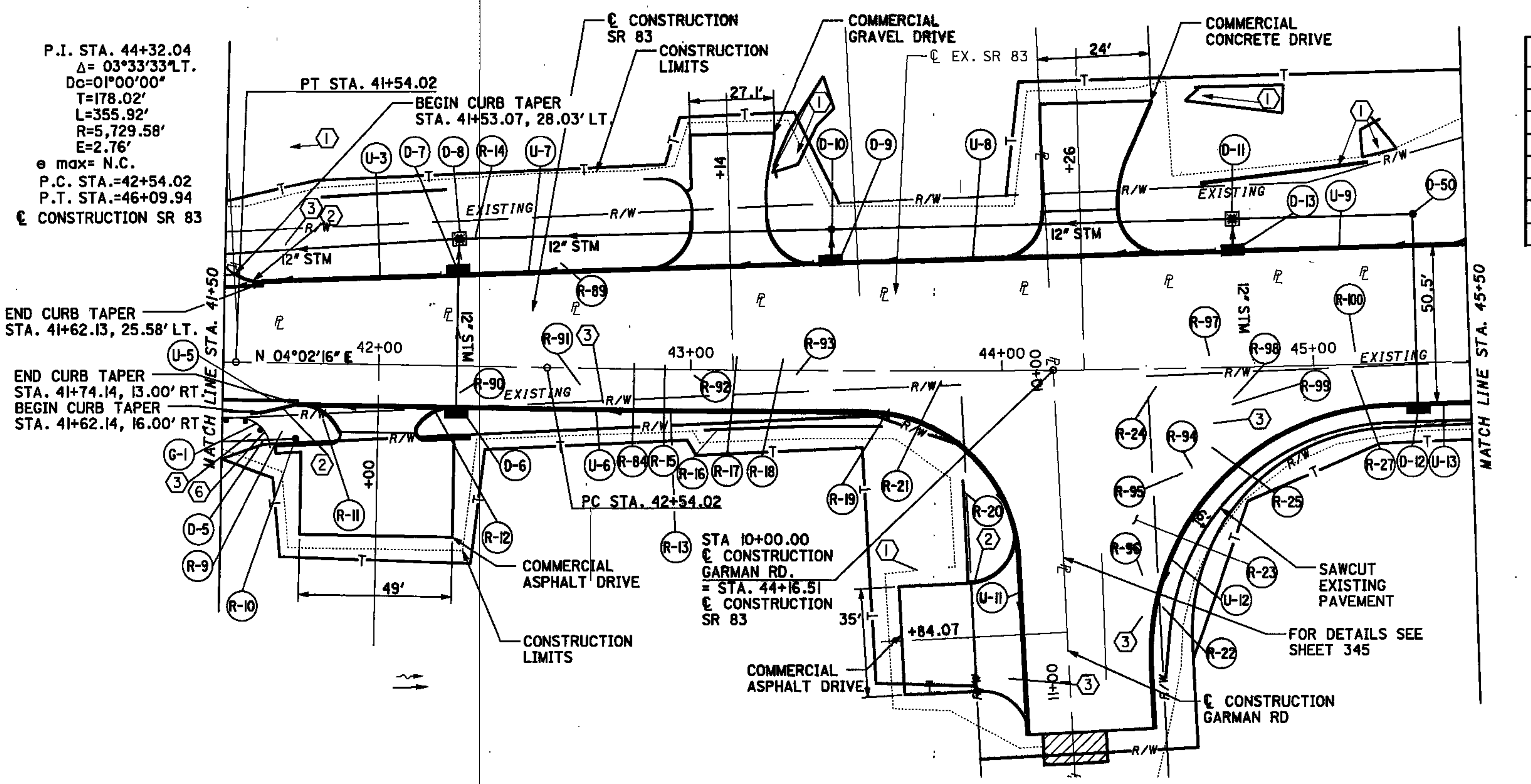
PLAN AND PROFILE - S.R. 83
STA. 37+90.00 TO STA. 41+50.00

CALCULATED KSG
CHECKED BBB

HORIZONTAL SCALE IN FEET 0 10 20 40

WAY/MED-71-7.04/0.00

P.I. STA. 44+32.04
Δ= 03°33'33"LT.
Dc=01°00'00"
T=178.02'
L=355.92'
R=5,729.58'
E=2.76'
e max= N.C.
P.C. STA.=42+54.02
P.T. STA.=46+09.94
℄ CONSTRUCTION SR 83

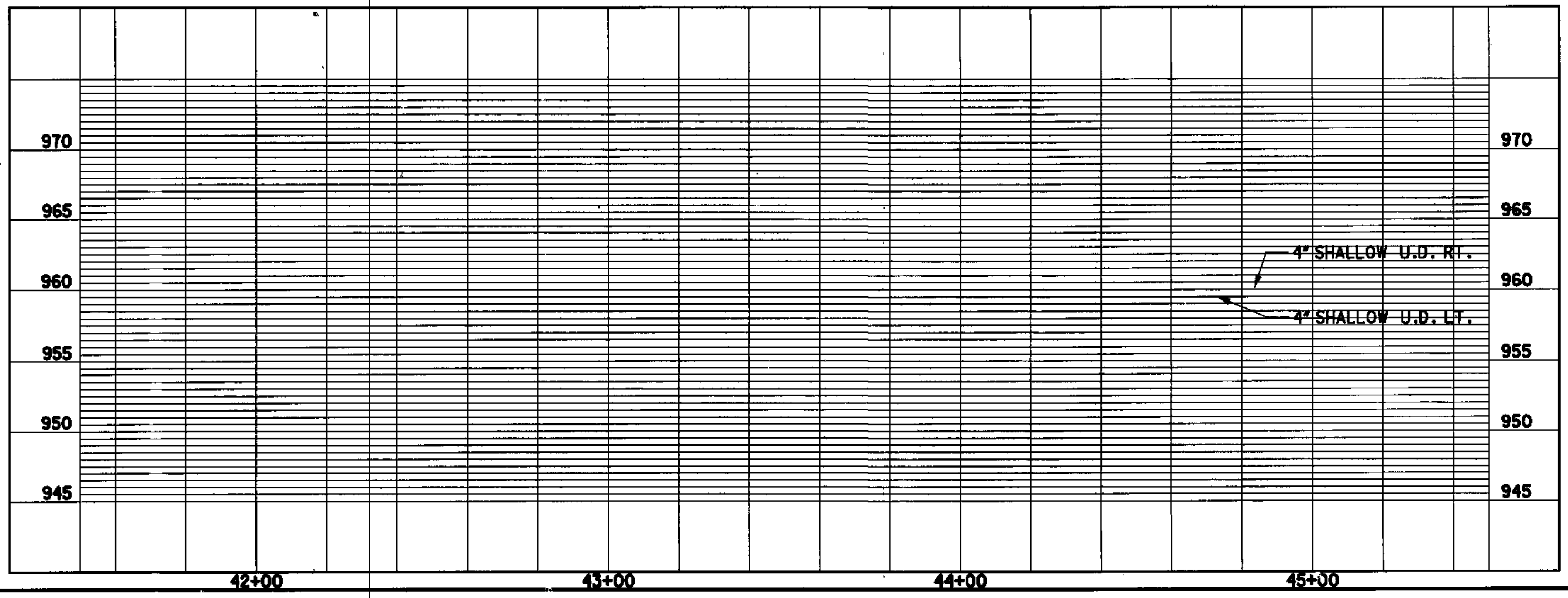


CROSS REFERENCES	
SHEET NO.	DESCRIPTION
368	DRAINAGE DETAILS
129	PAVEMENT SUMMARY
122	GUARDRAIL SUMMARY
120	DRAINAGE SUMMARY
117	UNDERDRAIN SUMMARY
363,364,367	DRIVEWAY DETAILS
121	ROADWAY SUMMARY

①	DO NOT DISTURB
②	TAPER CURB HEIGHT FROM 0" TO 6" IN 10'
③	RELOCATED BY OTHERS
⑥	TYPE T ANCHOR ASSEMBLY

NOTE: ALL MONITORING WELLS ARE NOT TO BE DAMAGED. LIDS TO BE ADJUSTED TO GRADE AS REQUIRED.

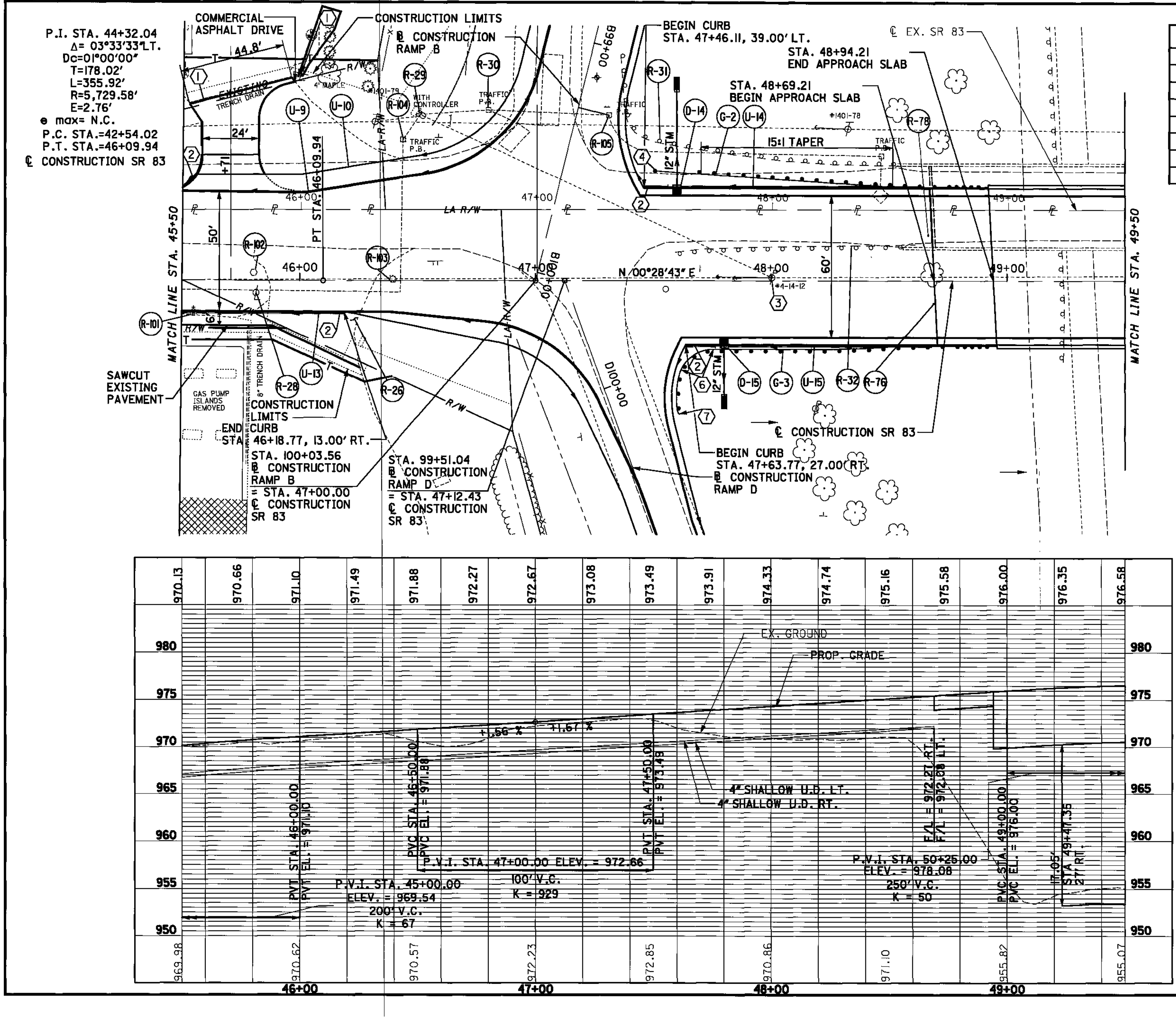
LEGEND	
⊕	MONITORING WELL
⟅	GAS PUMP ISLANDS
□	TRAFFIC SIGNAL BOX
□	EXTRACTION WELL
◇	EX. LOOP DETECTOR
▨	FEATHERING



CALCULATED KSG
CHECKED BBB

PLAN AND PROFILE - S.R. 83
STA. 41+50.00 TO STA. 45+50.00

WAY/MED-71-7.04/0.00



CROSS REFERENCES

SHEET NO.	DESCRIPTION
368	DRAINAGE DETAILS
129	PAVEMENT SUMMARY
122	GUARDRAIL SUMMARY
120	DRAINAGE SUMMARY
117	UNDERDRAIN SUMMARY
364	DRIVEWAY DETAILS
121,122	ROADWAY SUMMARY

① DO NOT DISTURB
② TAPER CURB HEIGHT FROM 0" TO 6" IN 10'
③ RELOCATED BY OTHERS
④ TYPE A ANCHOR ASSEMBLY
⑥ TYPE T ANCHOR ASSEMBLY
⑦ FLARED END SECTION

LEGEND

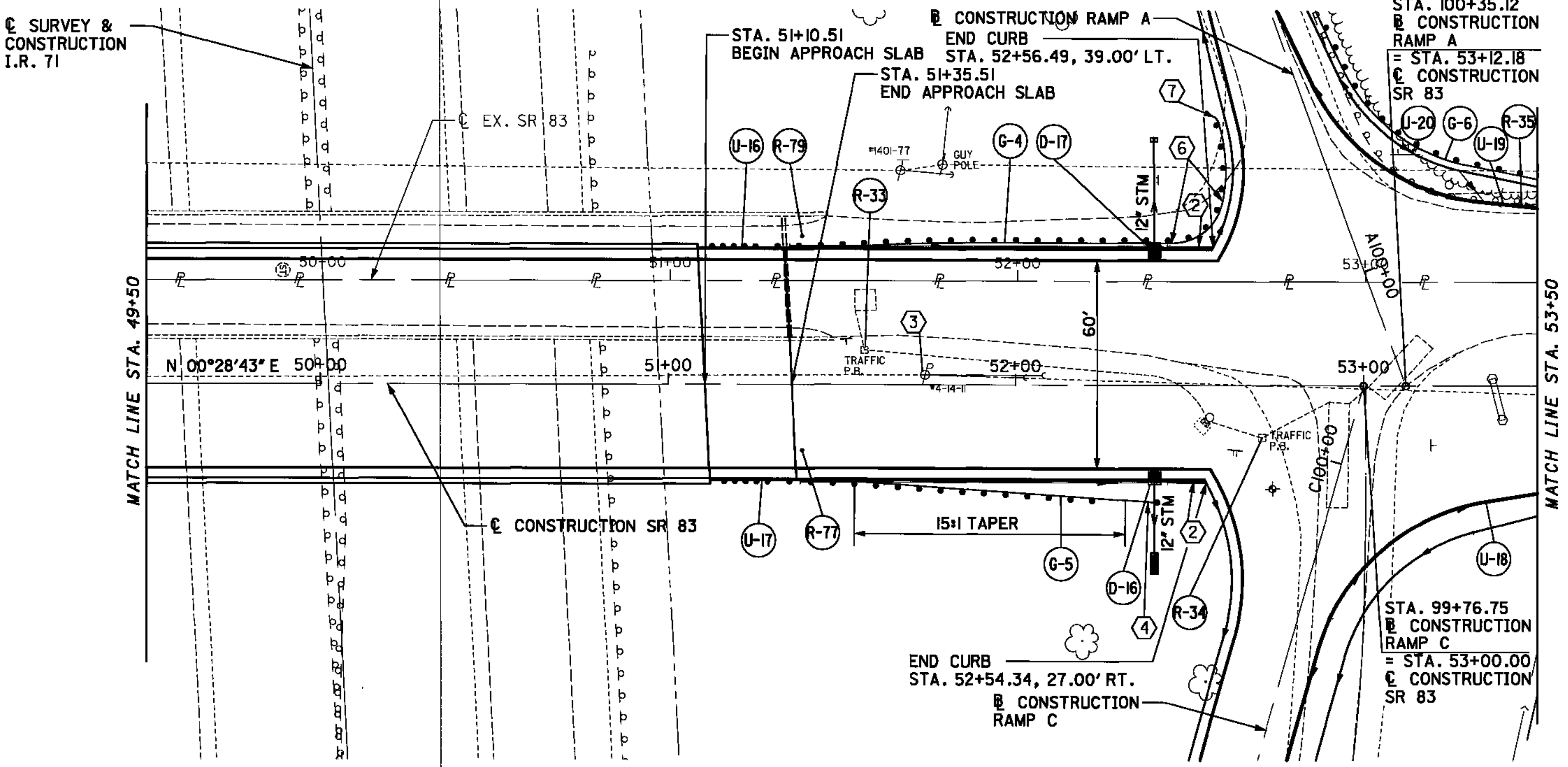
◍	MONITORING WELL
╮	GAS PUMP ISLANDS
▫	TRAFFIC SIGNAL BOX
▫	EXTRACTION WELL
◇	EX. LOOP DETECTOR
▨	FEATHERING

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED KSG
CHECKED BBB

PLAN AND PROFILE - S.R. 83
STA. 45+50.00 TO STA. 49+50.00

WAY/MED-71-7.04/0.00

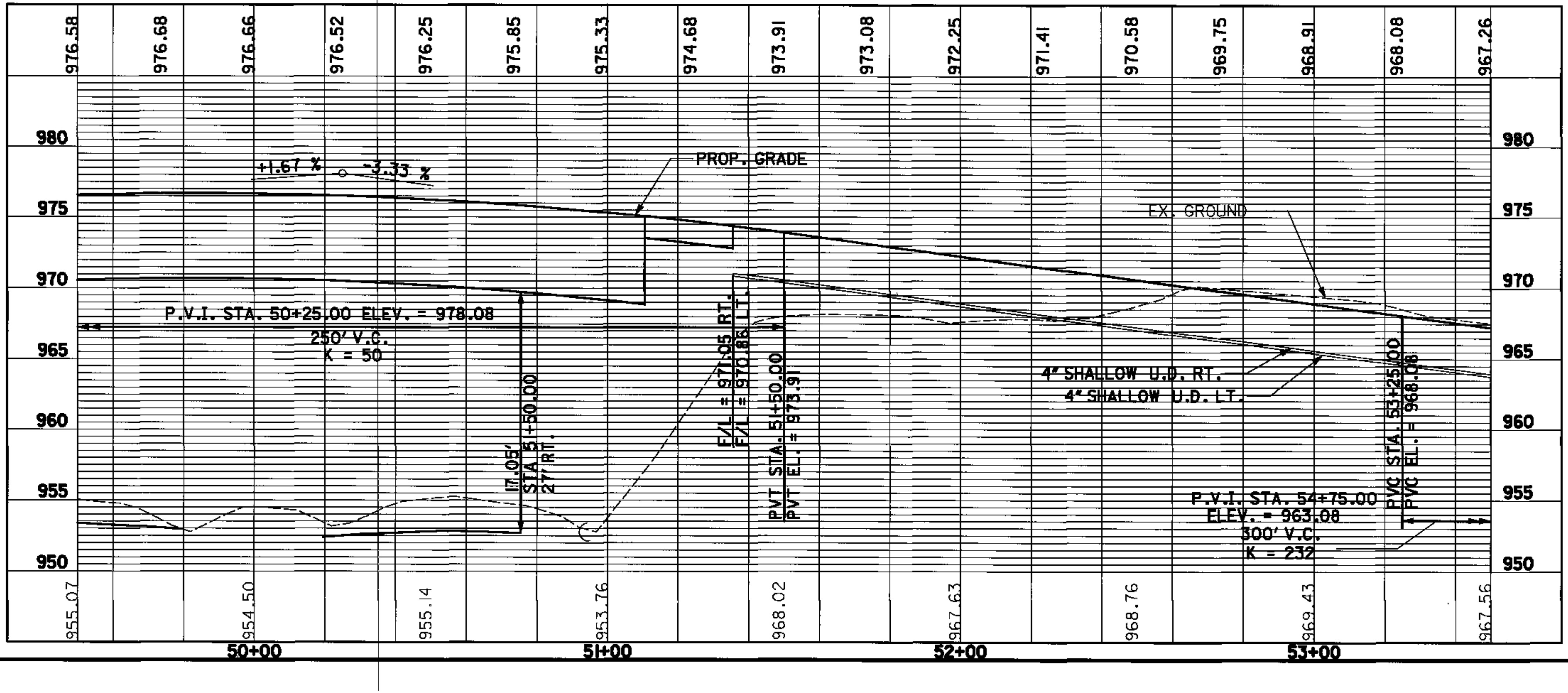

℄ SURVEY & CONSTRUCTION I.R. 71
℄ EX. SR 83
STA. 51+10.51 BEGIN APPROACH SLAB
STA. 51+35.51 END APPROACH SLAB
℗ CONSTRUCTION RAMP A
END CURB STA. 52+56.49, 39.00' LT.
STA. 100+35.12 ℗ CONSTRUCTION RAMP A = STA. 53+12.18 ℄ CONSTRUCTION SR 83
U-16
R-79
R-33
G-4
D-17
7
6
2
12" STM
U-20
G-6
R-35
U-19
A100+00
MATCH LINE STA. 49+50
MATCH LINE STA. 53+50
50+00
51+00
52+00
53+00
60'
3
N 00°28'43" E 50+00
51+00
52+00
53+00
TRAFFIC P.B.
C100+00
℄ CONSTRUCTION SR 83
U-17
R-77
15:1 TAPER
G-5
D-16
12" STM
2
4
R-34
U-18
END CURB STA. 52+54.34, 27.00' RT.
℗ CONSTRUCTION RAMP C
STA. 99+76.75 ℗ CONSTRUCTION RAMP C = STA. 53+00.00 ℄ CONSTRUCTION SR 83

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
369	DRAINAGE DETAILS
129	PAVEMENT SUMMARY
122	GUARDRAIL SUMMARY
120	DRAINAGE SUMMARY
117	UNDERDRAIN SUMMARY
121,122	ROADWAY SUMMARY

② TAPER CURB HEIGHT FROM 0" TO 6" IN 10'
③ RELOCATED BY OTHERS
④ TYPE A ANCHOR ASSEMBLY
⑥ TYPE T ANCHOR ASSEMBLY
⑦ FLARED END SECTION

LEGEND

⊕	MONITORING WELL
↳	GAS PUMP ISLANDS
□	TRAFFIC SIGNAL BOX
□	EXTRACTION WELL
◇	EX. LOOP DETECTOR
▨	FEATHERING

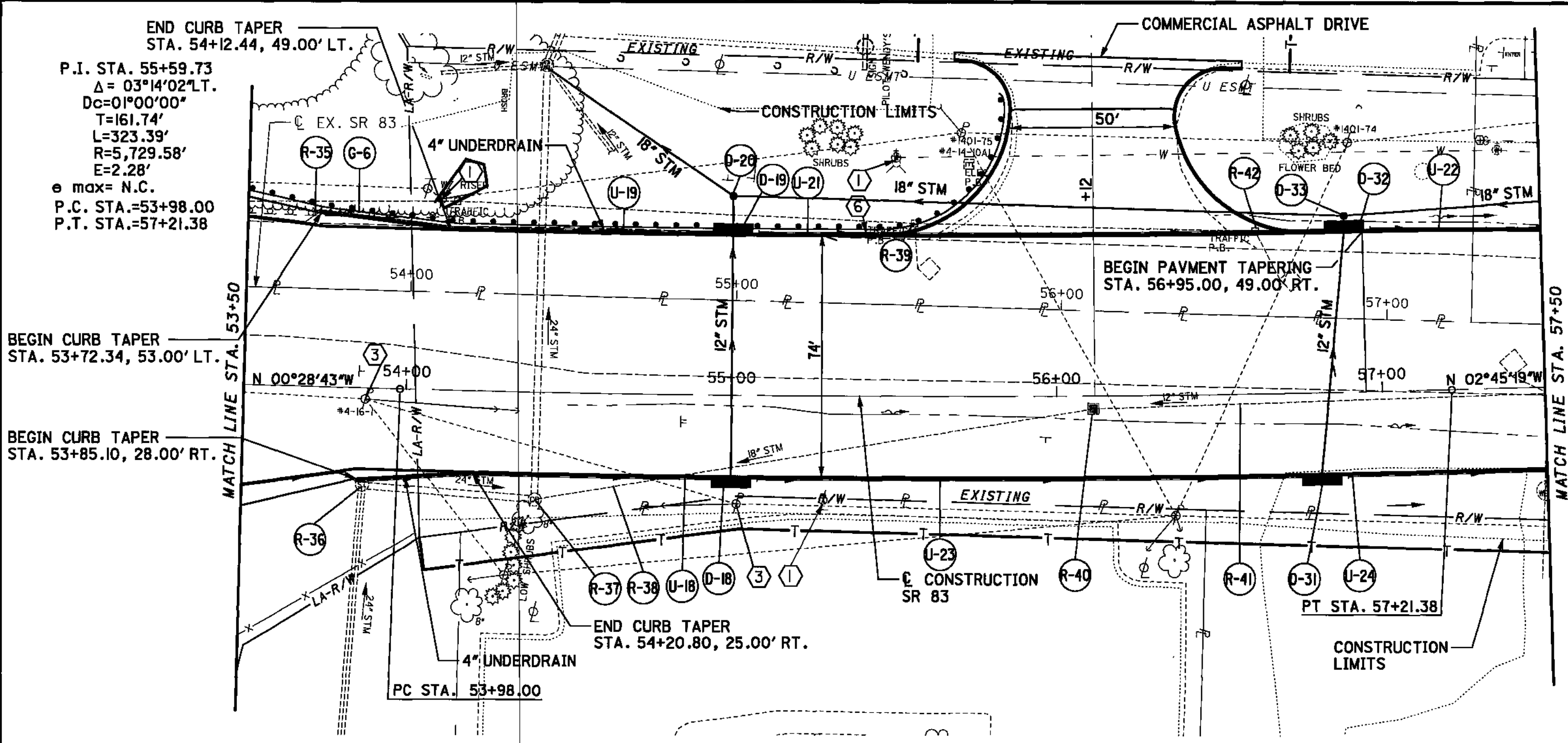


HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED KSG
CHECKED BBB

PLAN AND PROFILE - S.R. 83
STA. 49+50.00 TO STA. 53+50.00

WAY/MED-71-7.04/0.00

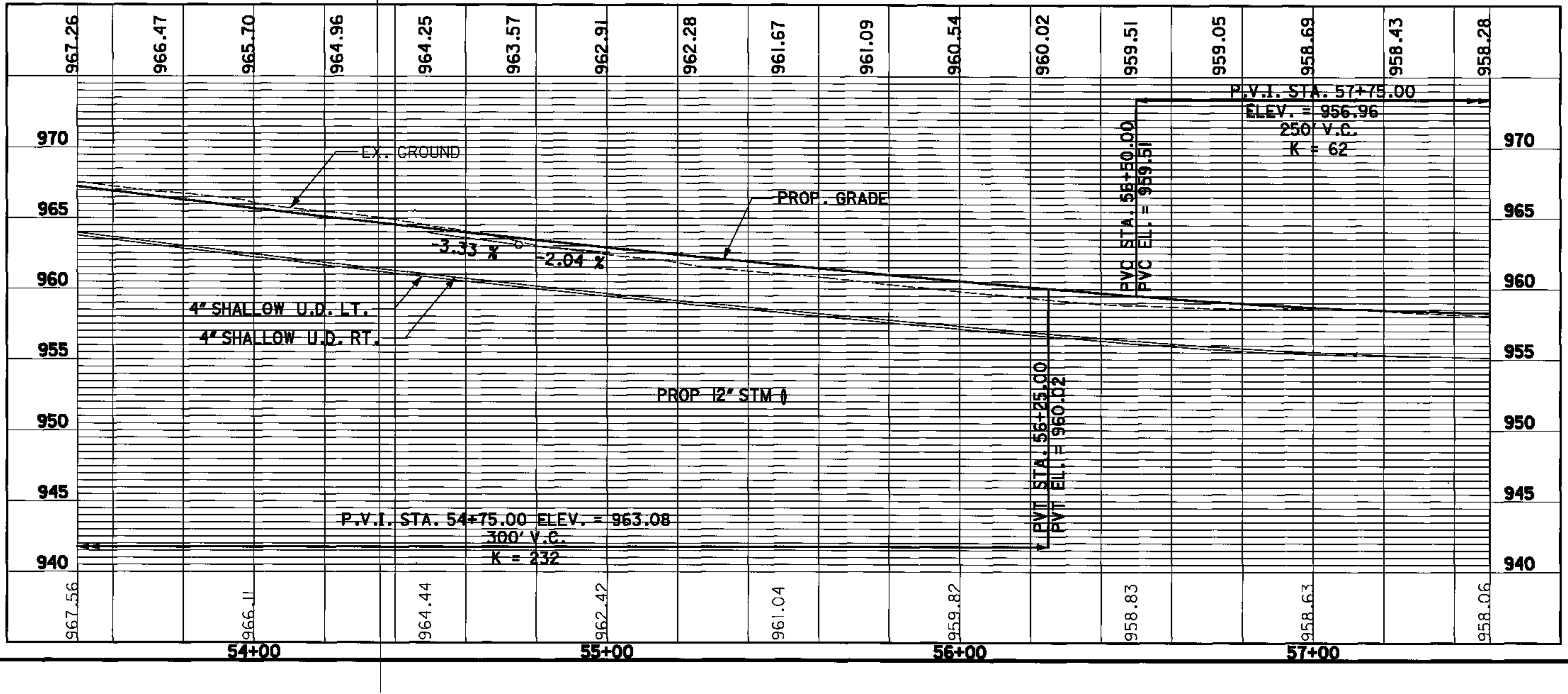


SHEET NO.	DESCRIPTION
369	DRAINAGE DETAILS
129	PAVEMENT SUMMARY
122	GUARDRAIL SUMMARY
120	DRAINAGE SUMMARY
117	UNDERDRAIN SUMMARY
365	DRIVEWAY DETAILS
121	ROADWAY SUMMARY

Table title: CROSS REFERENCES

(1) DO NOT DISTURB
(3) RELOCATED BY OTHERS
(6) TYPE T ANCHOR ASSEMBLY

LEGEND
- ⊕ MONITORING WELL
- ⤷ GAS PUMP ISLANDS
- ▫ TRAFFIC SIGNAL BOX
- ▫ EXTRACTION WELL
- ◇ EX. LOOP DETECTOR
- ▨ FEATHERING



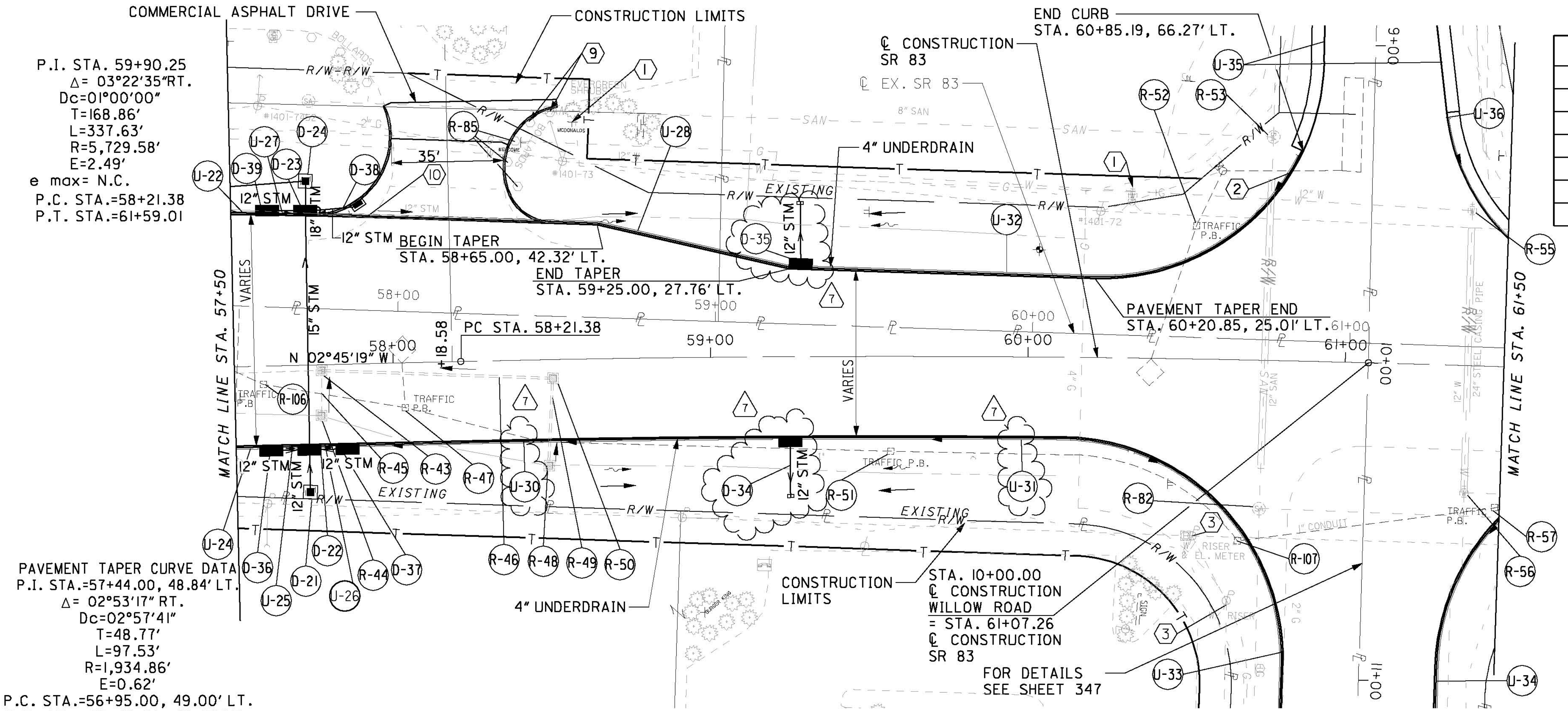
0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED KSG
CHECKED BBB

PLAN AND PROFILE - S.R. 83
STA. 53+50.00 TO STA. 57+50.00

WAY/MED-71-7.04/0.00

309A
785



CROSS REFERENCES

SHEET NO.	DESCRIPTION
369	DRAINAGE DETAILS
129	PAVEMENT SUMMARY
121,122	ROADWAY SUMMARY
120	DRAINAGE SUMMARY
117	UNDERDRAIN SUMMARY
365	DRIVEWAY DETAILS

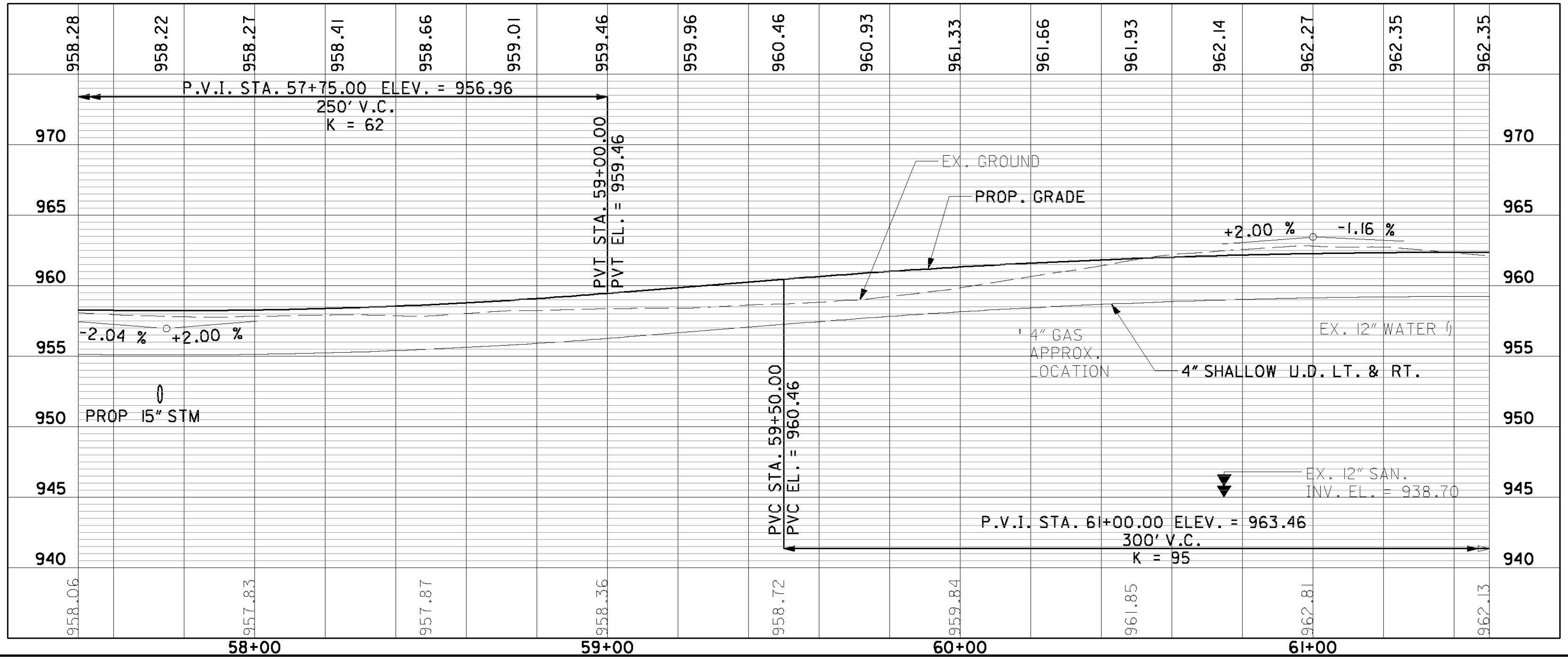
HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED KSG
CHECKED BBB

① DO NOT DISTURB
② TAPER CURB HEIGHT FROM 0" TO 6" IN 10'
③ RELOCATED BY OTHERS
⑨ BOLLARDS TO REMAIN
⑩ P.T. PAVEMENT TAPER STA. 57+92.70, 46.15' LT.

LEGEND

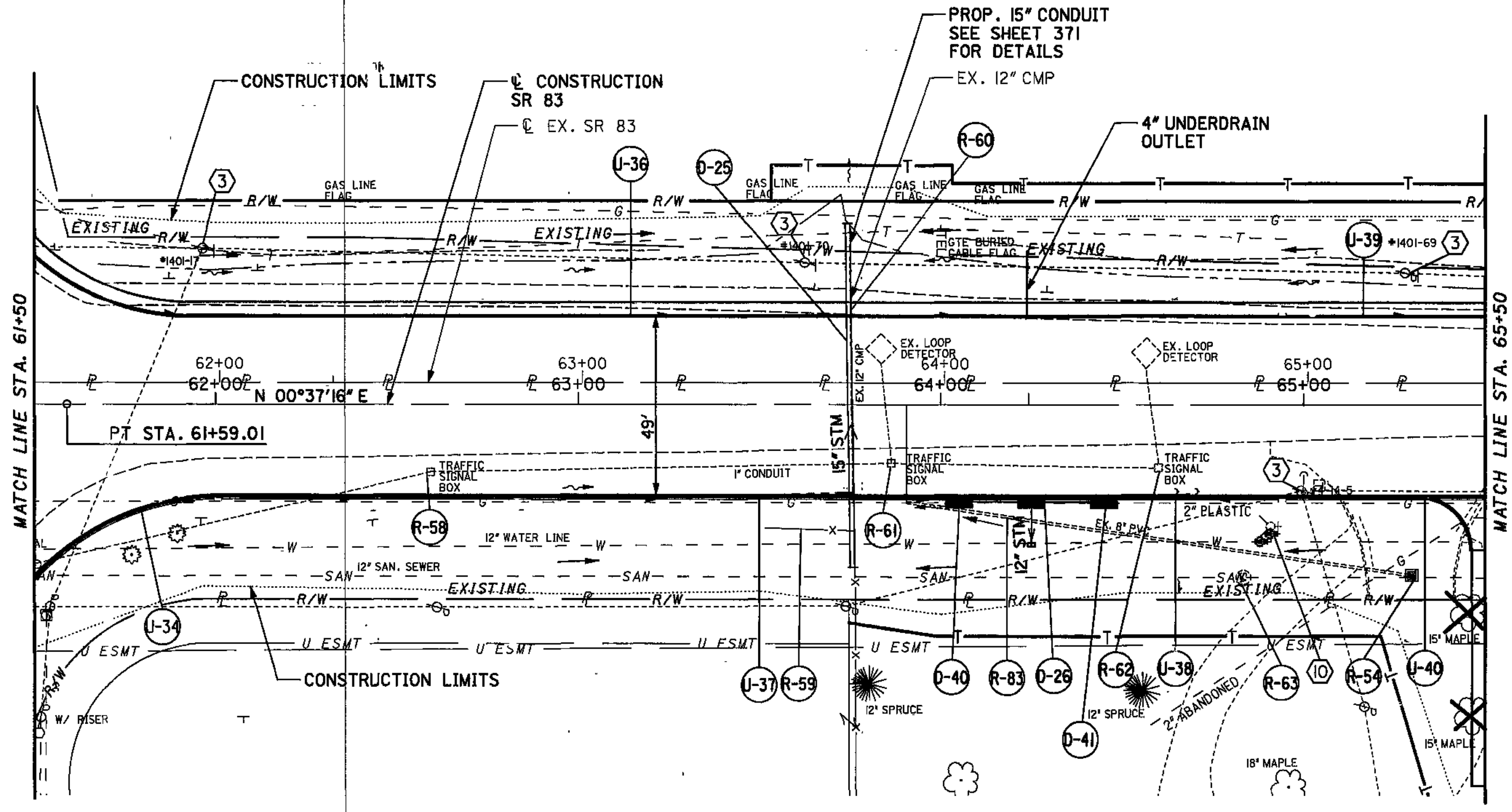
⊛	MONITORING WELL
⌒	GAS PUMP ISLANDS
▫	TRAFFIC SIGNAL BOX
□	EXTRACTION WELL
◇	EX. LOOP DETECTOR
▨	FEATHERING

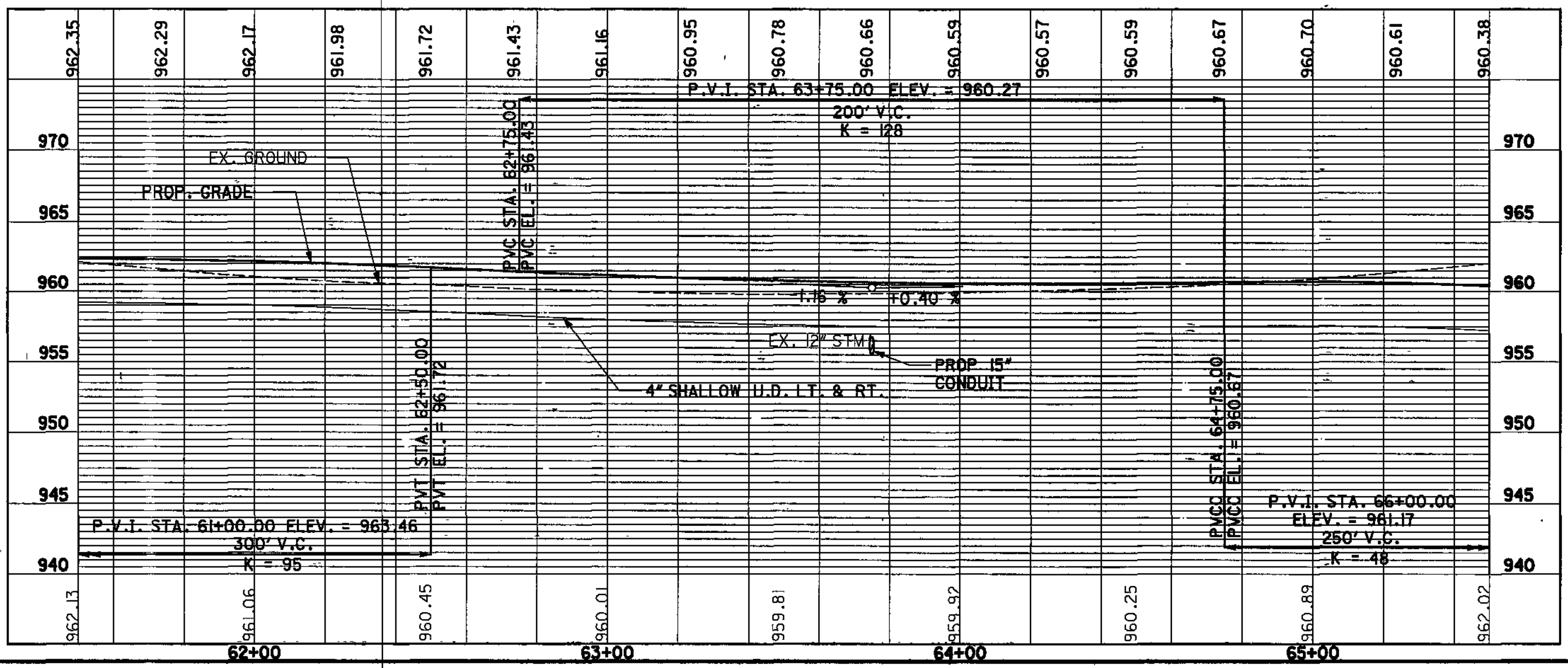


△7 REVISED 02-10-06
△5 REVISED 11-05-04
△4 REVISED 10-11-04
△2 = REVISED 07-30-04

PLAN AND PROFILE - S.R. 83
STA. 57+50.00 TO STA. 61+50.00

WAY/MED-71-7.04/0.00





CROSS REFERENCES	
SHEET NO.	DESCRIPTION
369,371	DRAINAGE DETAILS
129	PAVEMENT SUMMARY
122	ROADWAY SUMMARY
120	DRAINAGE SUMMARY
117	UNDERDRAIN SUMMARY

③ RELOCATED BY OTHERS

⑩ HYDRANT ADJUSTED TO GRADE BY OTHERS

LEGEND

- MONITORING WELL
- GAS PUMP ISLANDS
- □ TRAFFIC SIGNAL BOX
- □ EXTRACTION WELL
- ◇ EX. LOOP DETECTOR
- ▨ FEATHERING

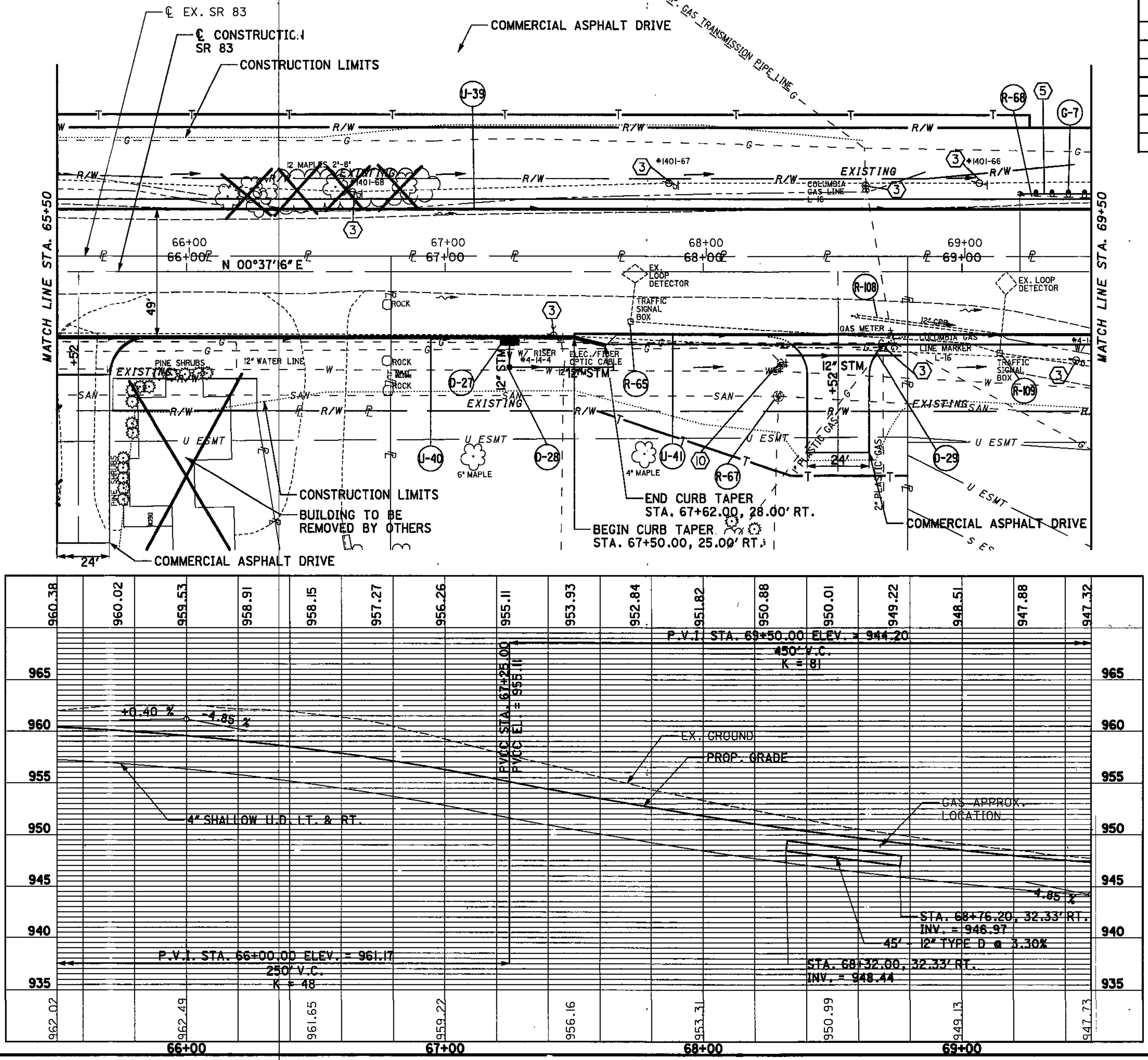
N

0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED KSG
CHECKED BBB

PLAN AND PROFILE - S.R. 83
STA. 61+50.00 TO STA. 65+50.00

WAY/MED-71-7.04/0.00



CROSS REFERENCES

SHEET NO.	DESCRIPTION
369	DRAINAGE DETAILS
129	PAVEMENT SUMMARY
121	ROADWAY SUMMARY
120	DRAINAGE SUMMARY
117	UNDERDRAIN SUMMARY
366	DRIVEWAY DETAILS

③ RELOCATED BY OTHERS
⑤ TYPE E ANCHOR ASSEMBLY
⑩ HYDRANT ADJUSTED TO GRADE BY OTHERS

LEGEND

- ⊕ MONITORING WELL
- GAS PUMP ISLANDS
- □ TRAFFIC SIGNAL BOX
- □ EXTRACTION WELL
- ◇ EX. LOOP DETECTOR
- ▨ FEATHERING

N

0 10 20 40
HORIZONTAL SCALE IN FEET

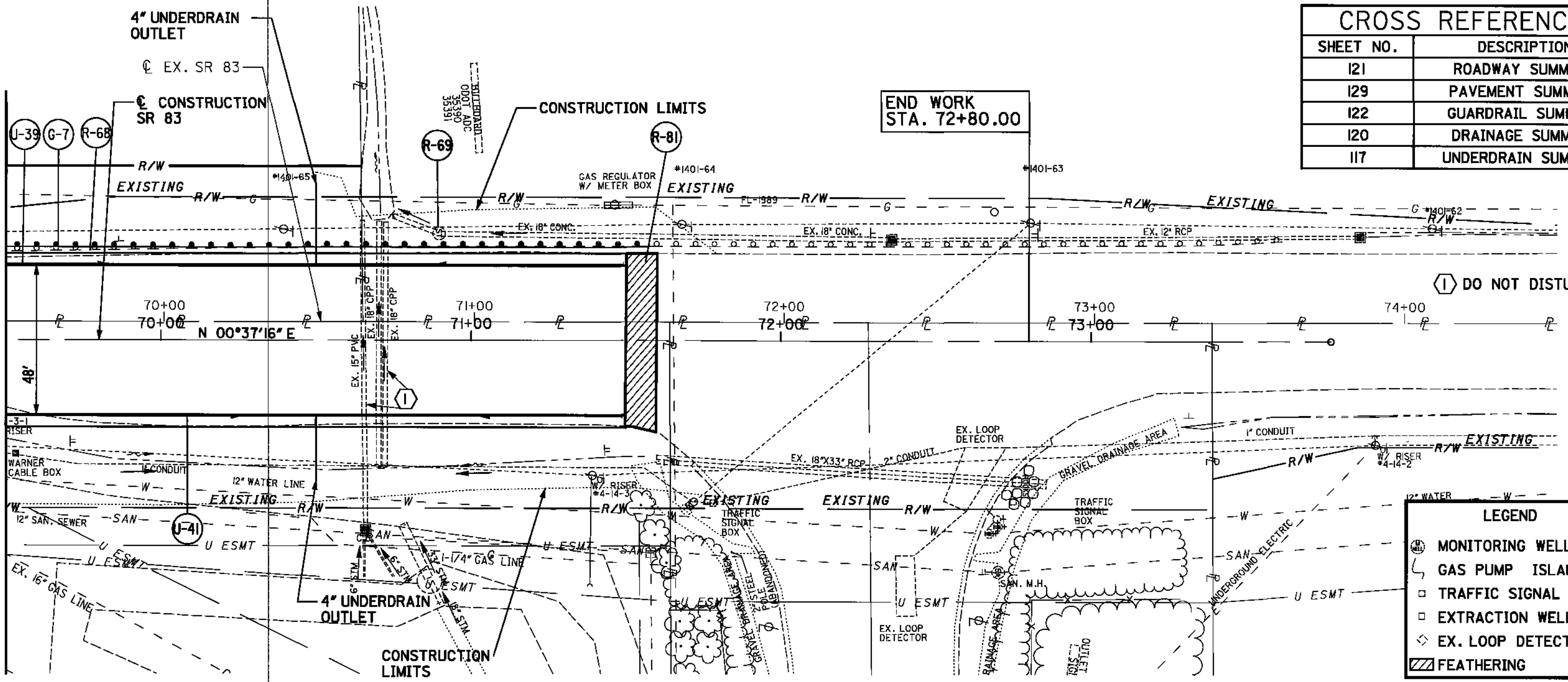
CALCULATED KSG
CHECKED BBB

PLAN AND PROFILE - S.R. 83
STA. 65+50.00 TO STA. 69+50.00

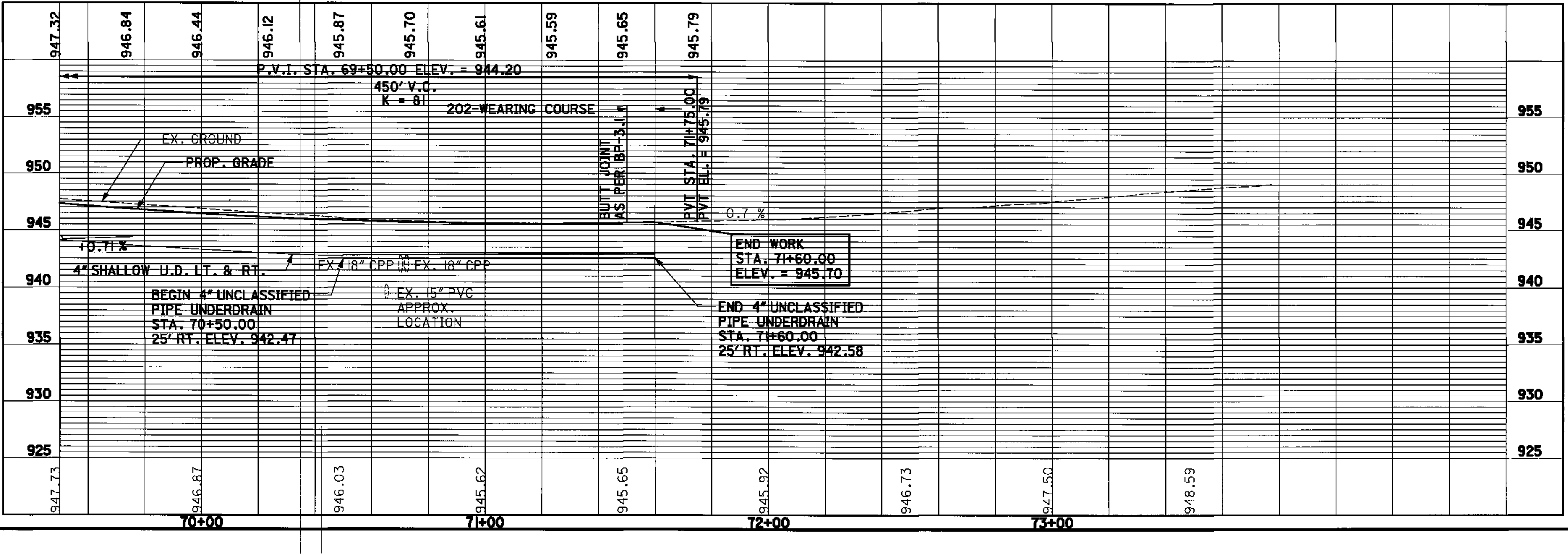
WAY/MED-71-7.04/0.00

309D
785

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
121	ROADWAY SUMMARY
129	PAVEMENT SUMMARY
122	GUARDRAIL SUMMARY
120	DRAINAGE SUMMARY
117	UNDERDRAIN SUMMARY



LEGEND
- Ⓜ MONITORING WELL
- GAS PUMP ISLANDS
- ▫ TRAFFIC SIGNAL BOX
- ▫ EXTRACTION WELL
- ◇ EX. LOOP DETECTOR
- ▨ FEATHERING



947.32
946.84
946.44
946.12
945.87
945.70
945.61
945.59
945.65
945.79
P.V.I. STA. 69+50.00 ELEV. = 944.20
450' V.C.
K = 81
202-WEARING COURSE
BUTT JOINT (AS PER BP-3.1)
PVT STA. 71+75.00
PVT EL. = 945.79
EX. GROUND
PROP. GRADE
0.7 %
+0.71 %
END WORK STA. 71+60.00 ELEV. = 945.70
4" SHALLOW U.D. LT. & RT.
EX. 18" CPP
EX. 18" CPP
EX. 15" PVC APPROX. LOCATION
BEGIN 4" UNCLASSIFIED PIPE UNDERDRAIN STA. 70+50.00 25' RT. ELEV. 942.47
END 4" UNCLASSIFIED PIPE UNDERDRAIN STA. 71+60.00 25' RT. ELEV. 942.58
955
950
945
940
935
930
925
947.73
946.87
946.03
945.62
945.65
945.92
946.73
947.50
948.59
70+00
71+00
72+00
73+00

0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED KSG
CHECKED BBB

PLAN AND PROFILE - S.R. 83
STA. 69+50.00 TO STA. 71+60.00

WAY/MED-71-7.04/0.00

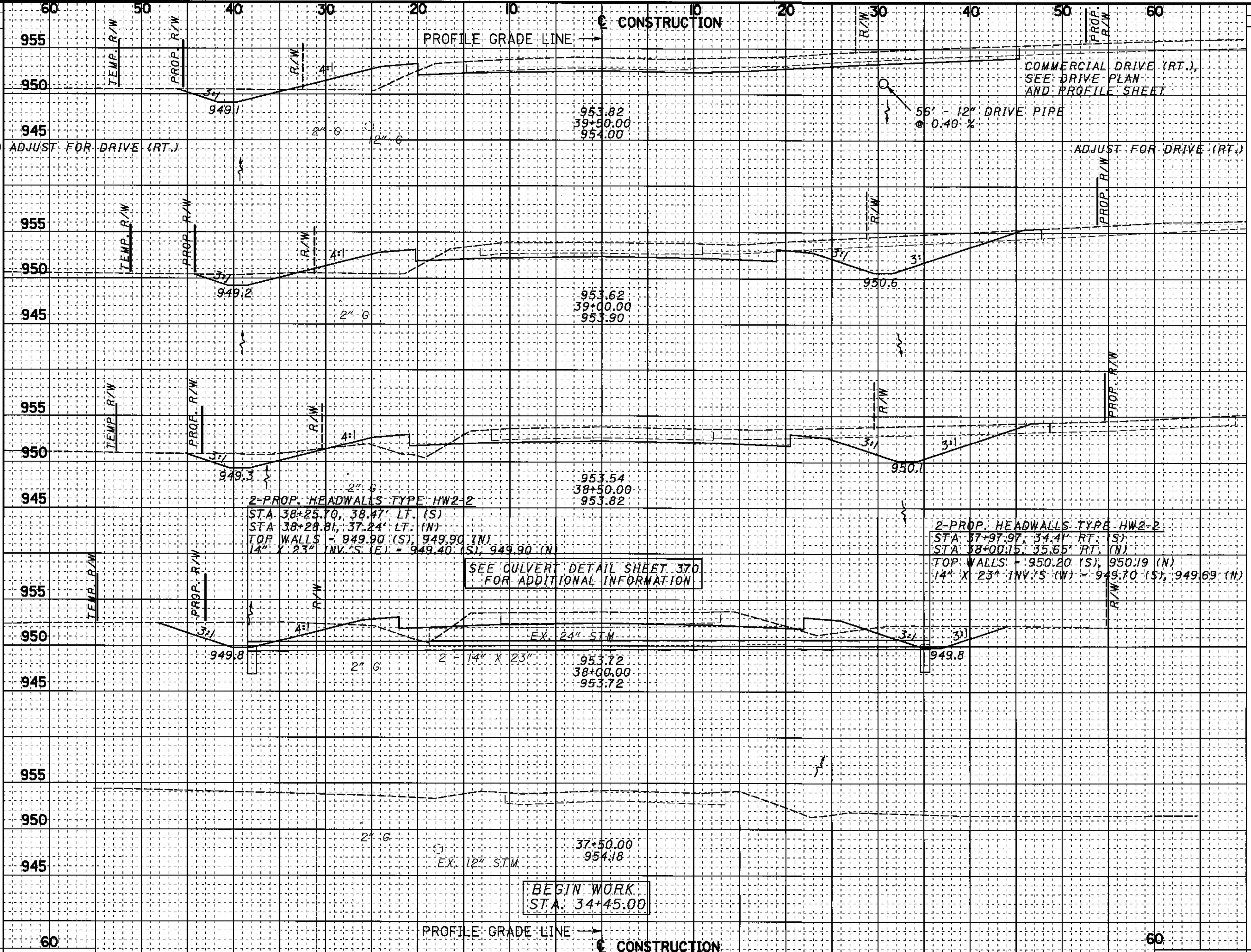
309E
785

CROSS SECTIONS - S.R. 83

STA. 37+50.00 TO STA. 39+50.00

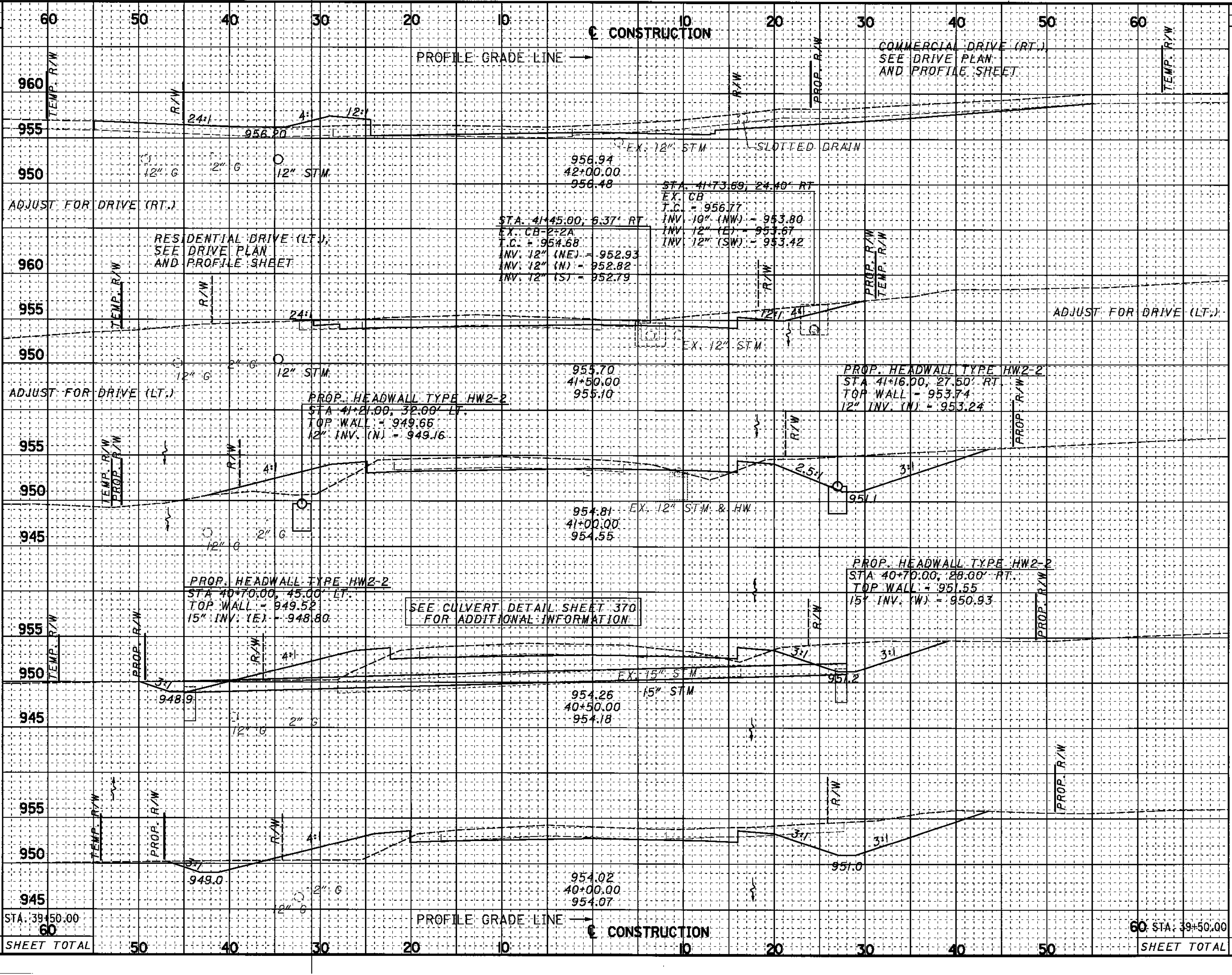
WAY/MED-71-7.04/0.00

CALCULATED ESP CHECKED BBB



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
59		102	19		
	(100) 322			(13) 213	40
57		128	24		
	314			234	36
56		125	15		
	306			205	31
54		96	19		
	150			89	18
0		0	0		
SHEET TOTAL	992	SHEET TOTAL		728	125

SEEDING END WIDTH	SEEDING SQ. YDS.
22	
	(58) 136
27	
	(27) 217
51	
	300
57	
	325
60	
	331
59	
	1224

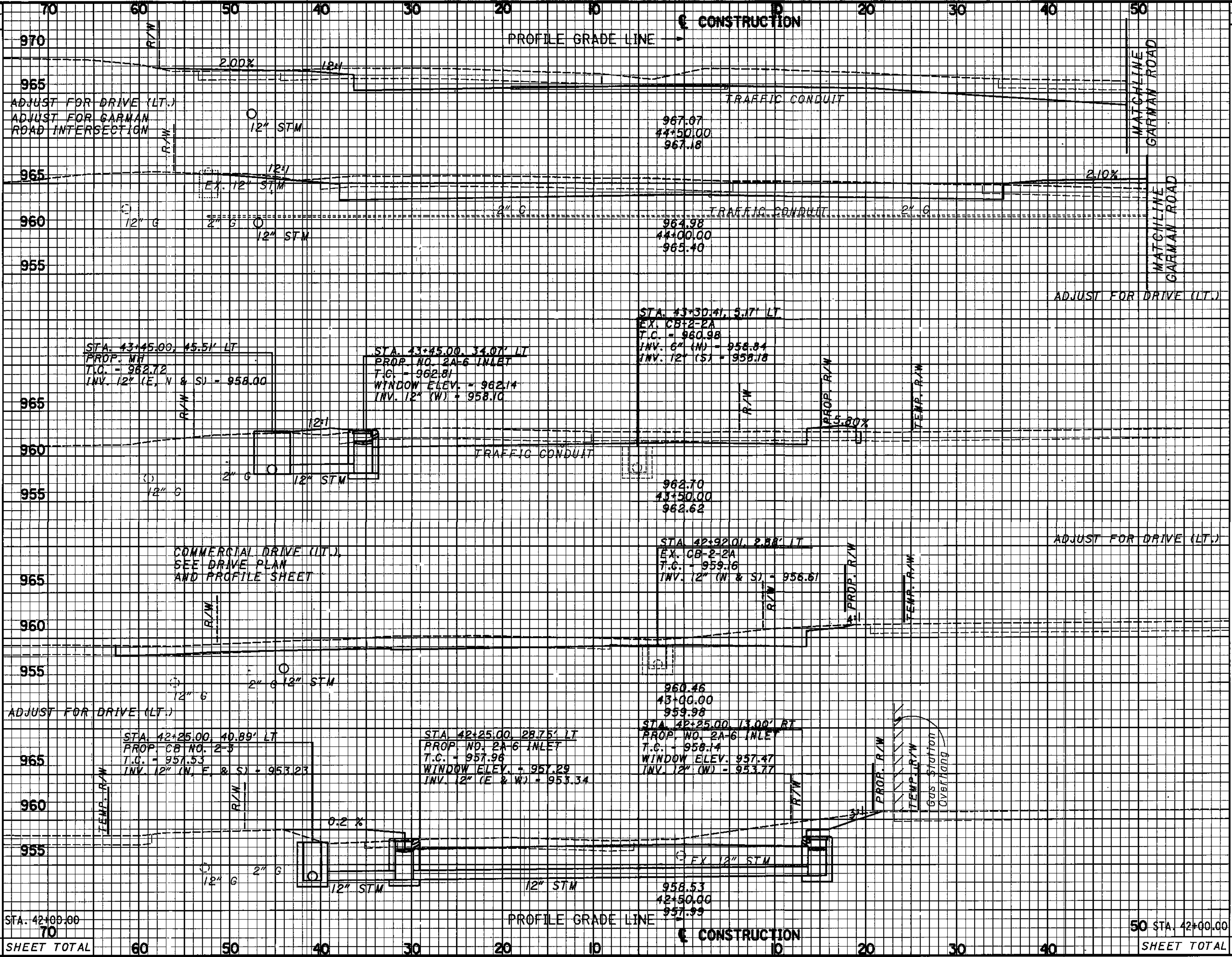


END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
99	44		
		152	47
65	7		
		6	
		146	35
93	31		
		161	56
81	30		
		178	50
111	24		
		197	40
102	19		
		840	228

CALCULATED ESP
CHECKED BBB

CROSS SECTIONS - S.R. 83
STA. 40+00.00 TO STA. 42+00.00

WAY/MED-71-7.04/0.00



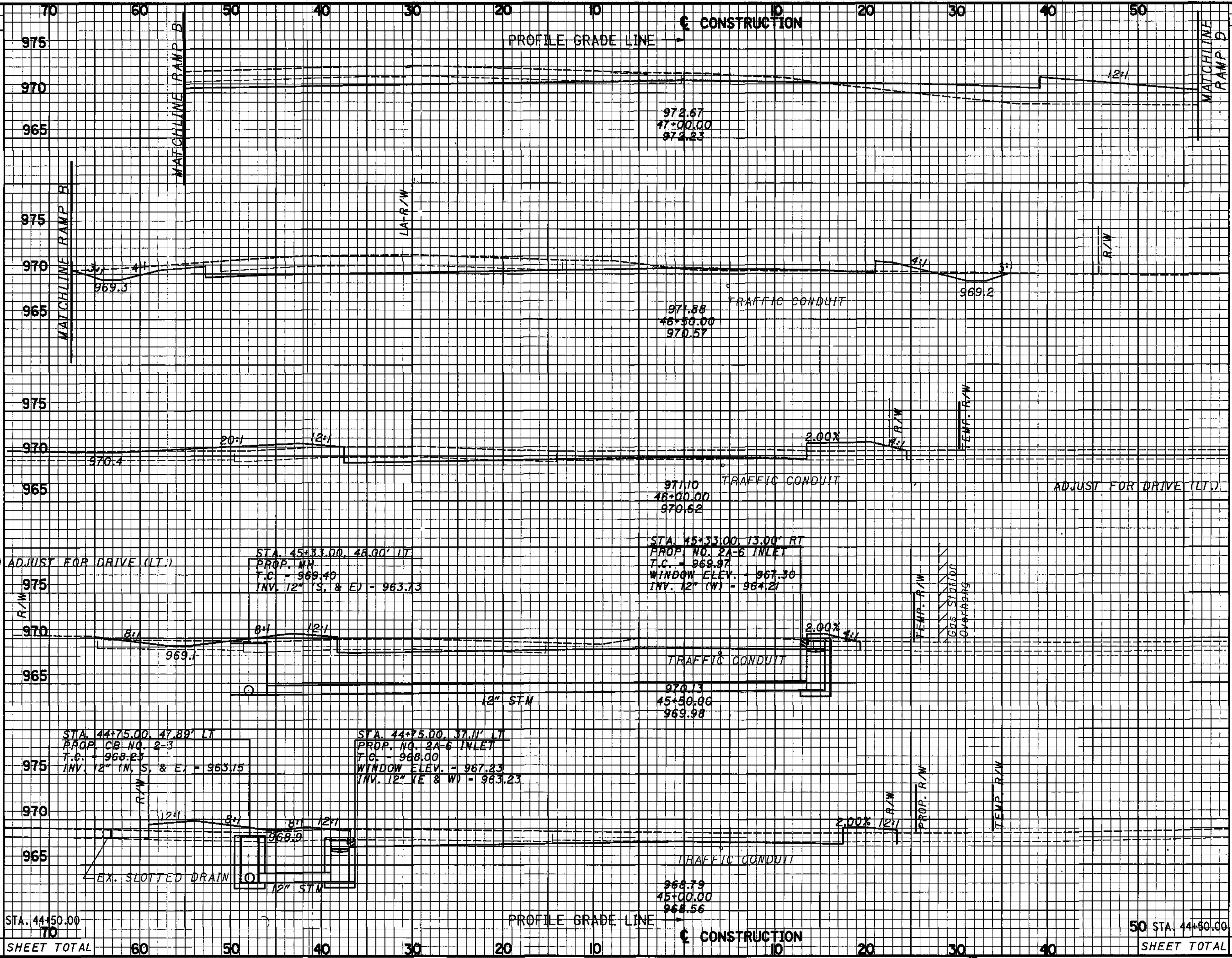
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
24					
	(64)				
	(73)				
		184	18		
	156				
				323	45
32		164	30		
				40	
	142			231	44
19		86	17		
	114			163 (11)	18
22		90	2		
	(41) 133			144	24
26		66	24		
	133			153	63
22		99	44		
	500			1043	194

CALCULATED ESP CHECKED BBB

CROSS SECTIONS - S.R. 83
STA. 42+50.00 TO STA. 44+50.00

WAY/MED-71-7.04/0.00

SEEDING END WIDTH	SEEDING SQ. YDS.
20	
	150
34	
	272
64	
	281 (124)
37	
	189
31	
	153
24	
	921



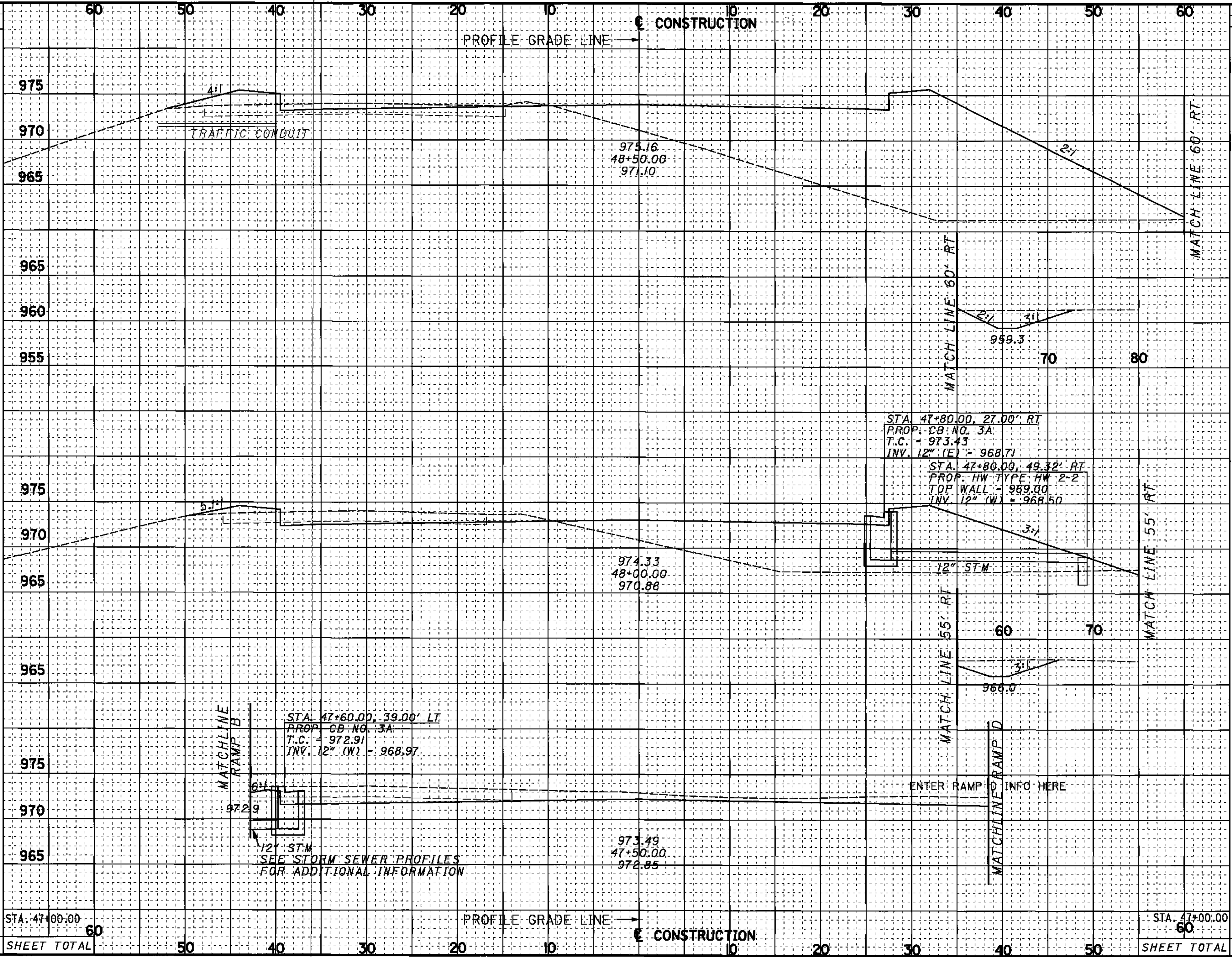
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
106	70		
		187	70
96	6		
		201	72
121	71		
		(22)	
		201	108
96	45		
		191	85
110	46		
		273	60
184	18		
		1031	395

CALCULATED ESP
CHECKED BBB

CROSS SECTIONS - S.R. 83
STA. 45+00.00 TO STA. 47+00.00

WAY/MED-71-7.04/0.00

313
785

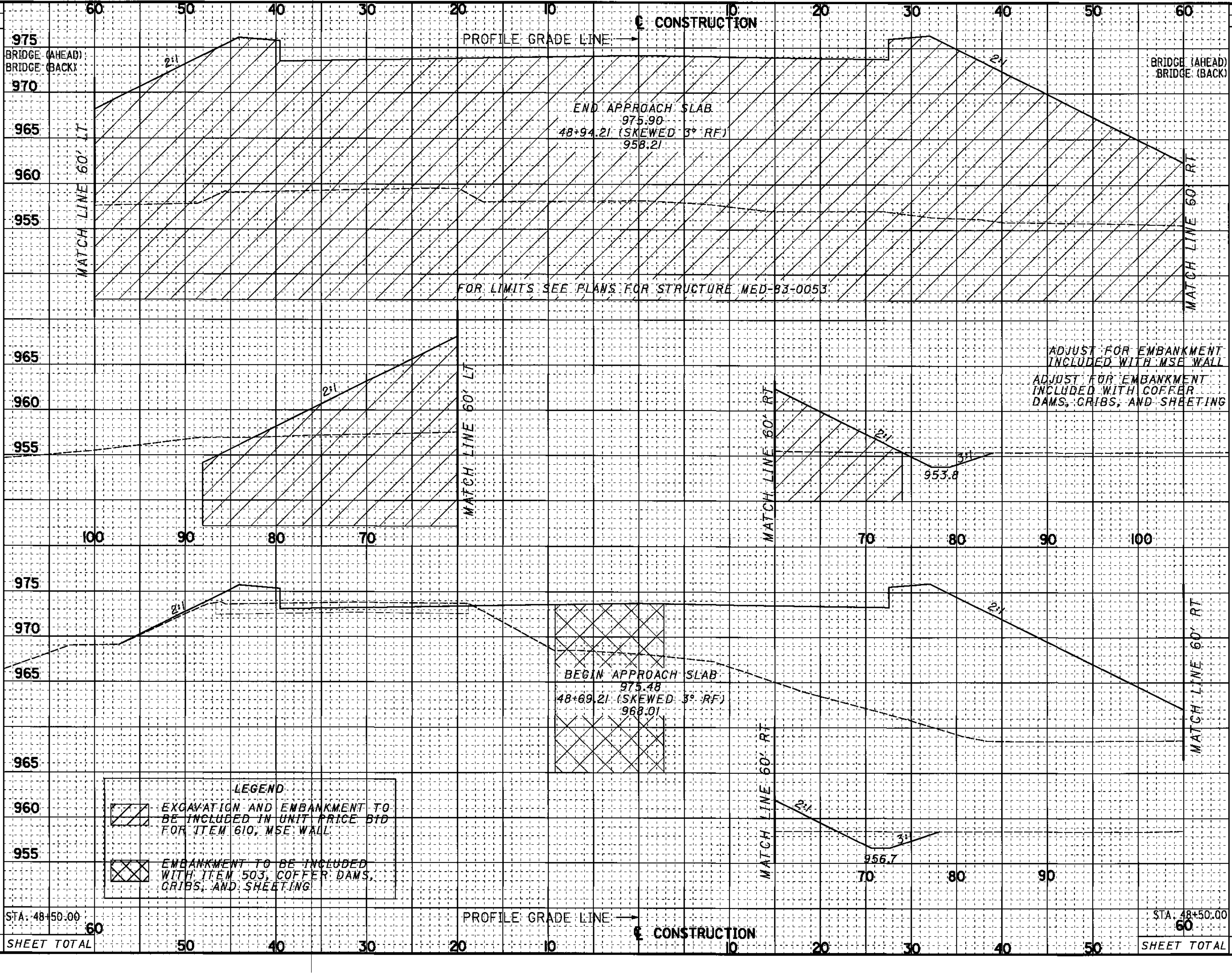


SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
66		55	499		
	336			102	700
55		55	257		
	164			118	241
4		72	3		
	67			165	68
20		106	70		
SHEET TOTAL	567		SHEET TOTAL	385	1009

CALCULATED ESP
CHECKED BBB

CROSS SECTIONS - S.R. 83
STA. 47+50.00 TO STA. 48+50.00

WAY/MED-71-7.04/0.00



LEGEND

▨ EXCAVATION AND EMBANKMENT TO BE INCLUDED IN UNIT PRICE BID FOR ITEM 610, MSE WALL

☒ EMBANKMENT TO BE INCLUDED WITH ITEM 503, COFFER DAMS, CRIBS, AND SHEETING

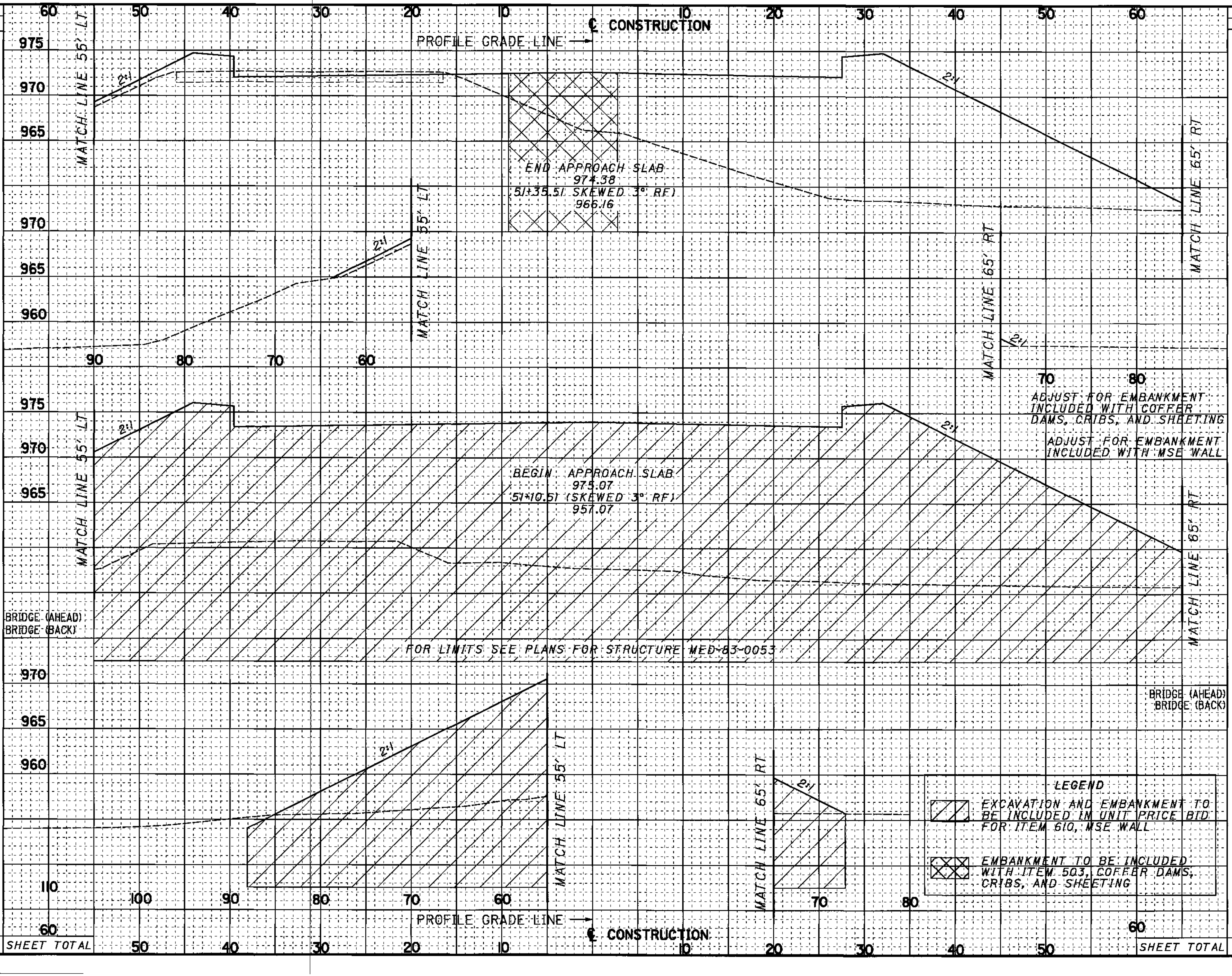
SEEDING END WIDTH	SEEDING SQ. YDS.		END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0		BRIDGE (AHEAD)	0	0		
103		BRIDGE (BACK)	0	1981		
		ADJUST FOR EMBANKMENT INCLUDED WITH MSE WALL				(842)
	236	ADJUST FOR EMBANKMENT INCLUDED WITH COFFER DAMS, CRIBS, AND SHEETING				(213)
					15	1243
67			33	703		
	142				31	428
66		STA. 48+50.00	55	499		
	378	SHEET TOTAL			46	616

CALCULATED ESP
CHECKED BBB

CROSS SECTIONS - S.R. 83
STA. 48+69.21 TO STA. 48+94.21

WAY/MED-71-7.04/0.00

SEEDING	
END WIDTH	SQ. YDS.
74	
	249
105 0	
	249



℄ CONSTRUCTION
PROFILE GRADE LINE
MATCH LINE 55' LT
MATCH LINE 65' RT
2:1
975
970
965
960
END APPROACH SLAB
974.38
51+35.51 (SKEWED 3° RF)
966.16
90
80
70
60
ADJUST FOR EMBANKMENT INCLUDED WITH COFFER DAMS, CRIBS, AND SHEETING
ADJUST FOR EMBANKMENT INCLUDED WITH MSE WALL
BEGIN APPROACH SLAB
975.07
51+10.51 (SKEWED 3° RF)
957.07
BRIDGE (AHEAD)
BRIDGE (BACK)
FOR LIMITS SEE PLANS FOR STRUCTURE MED-83-0053
110
100
LEGEND
EXCAVATION AND EMBANKMENT TO BE INCLUDED IN UNIT PRICE BID FOR ITEM 610, MSE WALL
EMBANKMENT TO BE INCLUDED WITH ITEM 503, COFFER DAMS, CRIBS, AND SHEETING
60
50
40
30
20
10
SHEET TOTAL

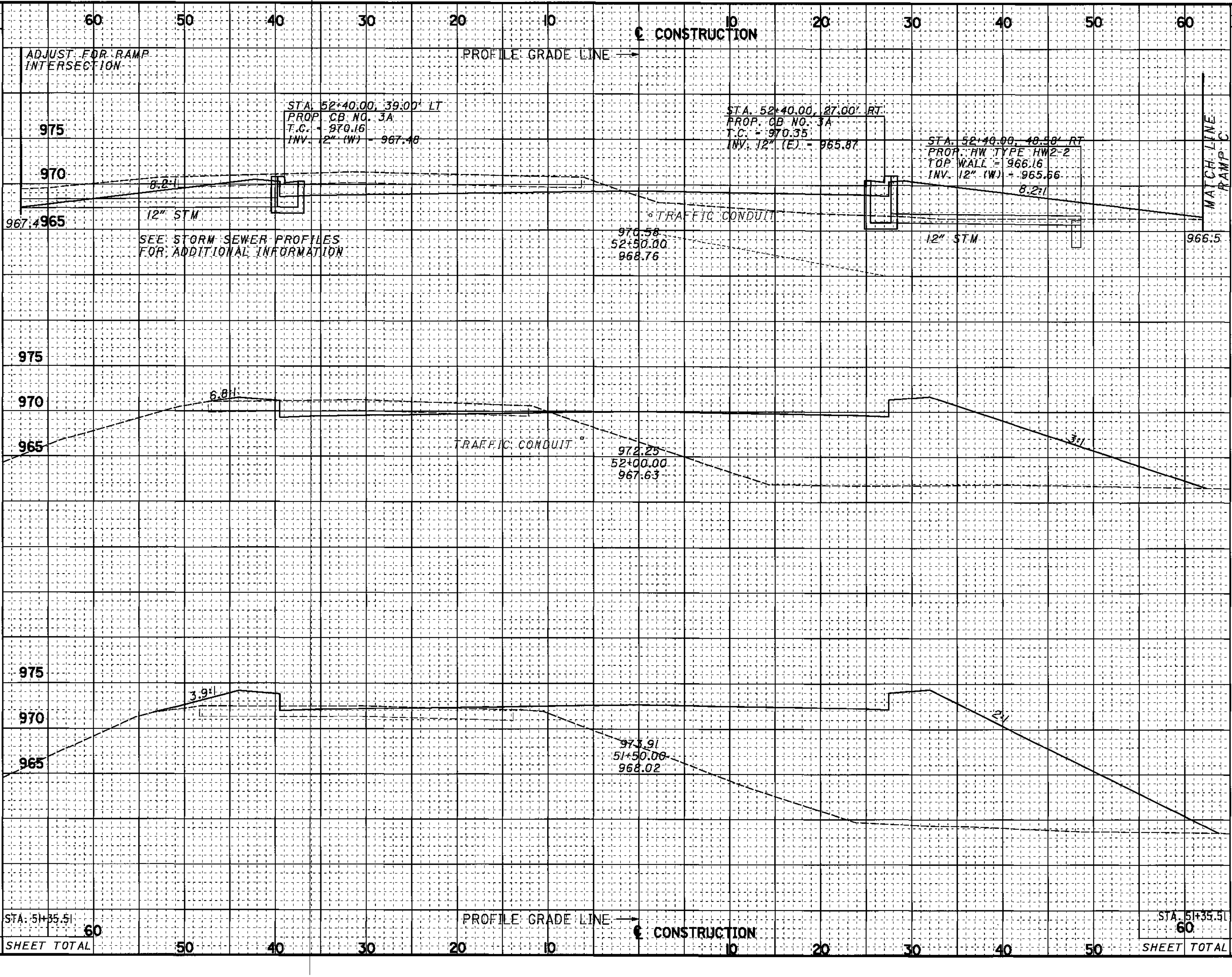
END AREA		VOLUME	
CUT	FILL	CUT	FILL
35	729		
		16	1238 (832) (187)
0 0	1945 0		
		16	219

CALCULATED ESP
CHECKED BBB

CROSS SECTIONS - S.R. 83
STA. 51+10.51 TO STA. 51+35.51

WAY/MED-71-7.04/0.00

SEEDING END WIDTH	SEEDING SQ. YDS.
	(132)
68	
	322
48	
	294
58	
	106
74	
	590

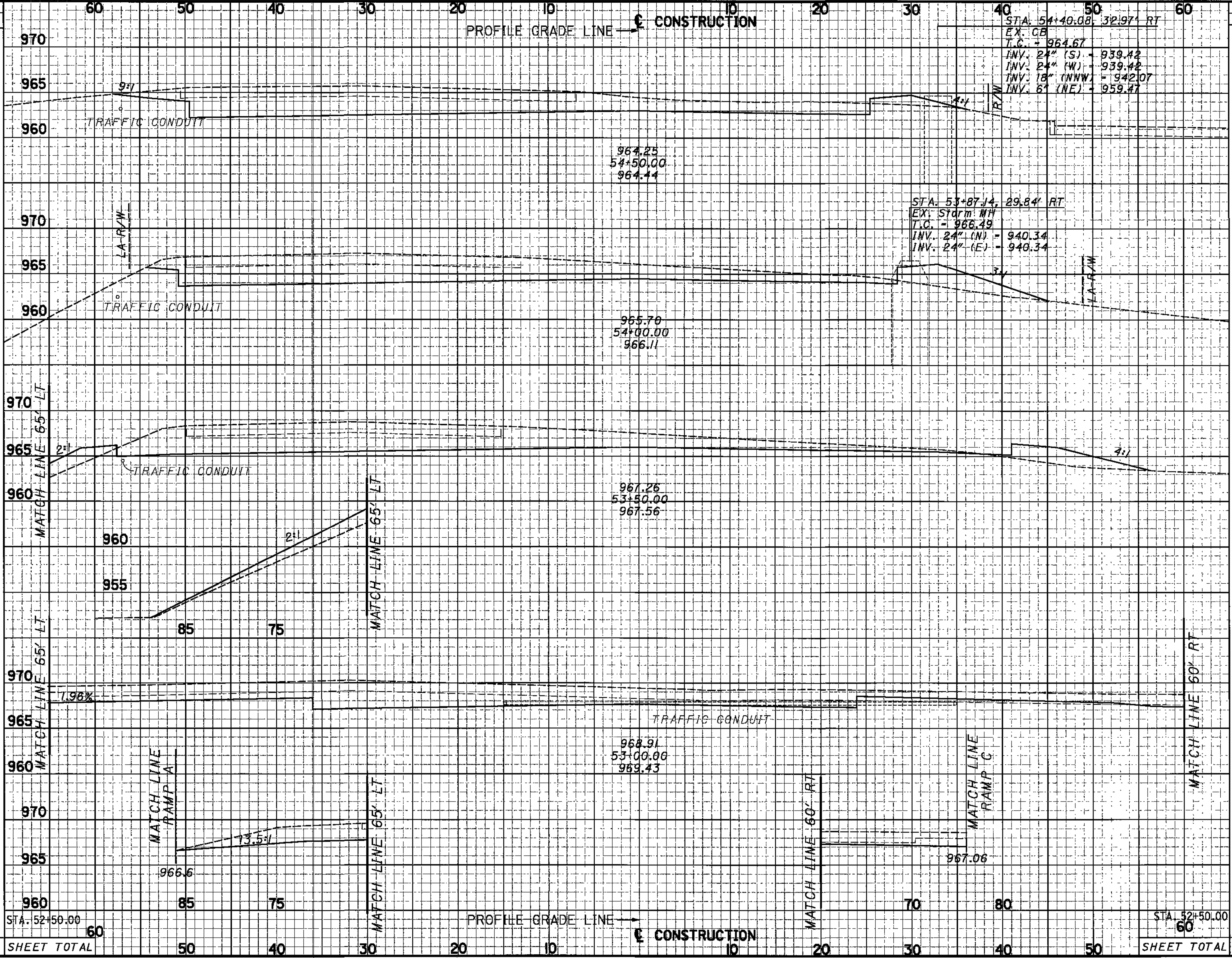


END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
118	130		
		156	490
50	399		
		84	962
41	640		
		20	367
35	729		
		260	1819

CALCULATED ESP
CHECKED BBB

CROSS SECTIONS - S.R. 83
STA. 51+50.00 TO STA. 52+00.00

WAY/MED-71-7.04/0.00



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
24		184	11		
	136			337	31
25		180	23		
	219			337	65
54		184	47		
	150			296	44
0		135	0		
	189			234	120
68		118	130		
	694 SHEET TOTAL			1204	260

SHEET TOTAL

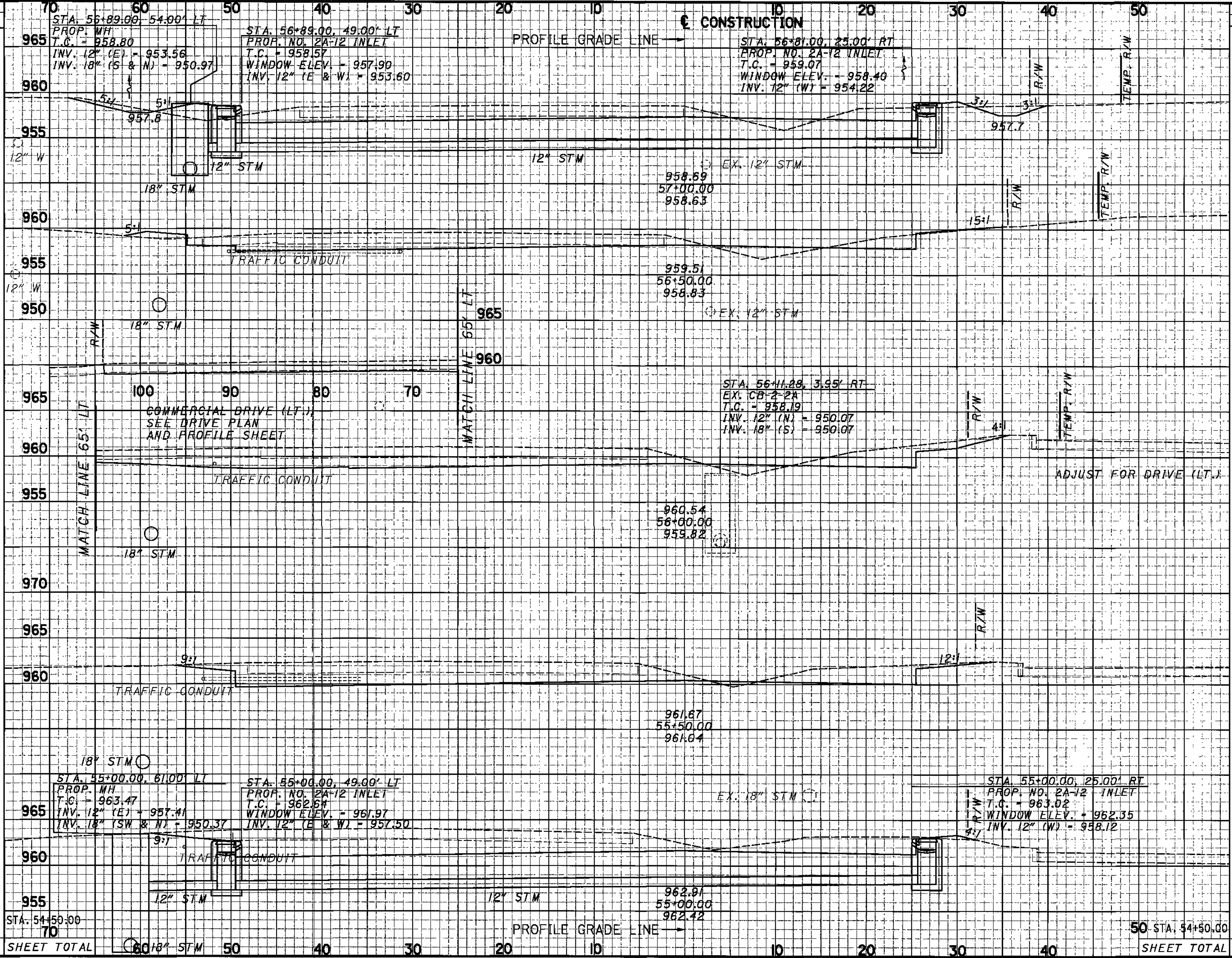
CALCULATED ESP
CHECKED BBB

CROSS SECTIONS - S.R. 83
STA. 52+50.00 TO STA. 54+50.00

WAY/MED-71-7.04/0.00

318
785

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
37		101	27		
	158			171	45
20		84	22		
	86			260	25
11		197	5	(-56)	
	86			323	13
20		152	9		
	111			301	17
20		173	9		
	122			331	19
24		184	11		
	563			1330	139

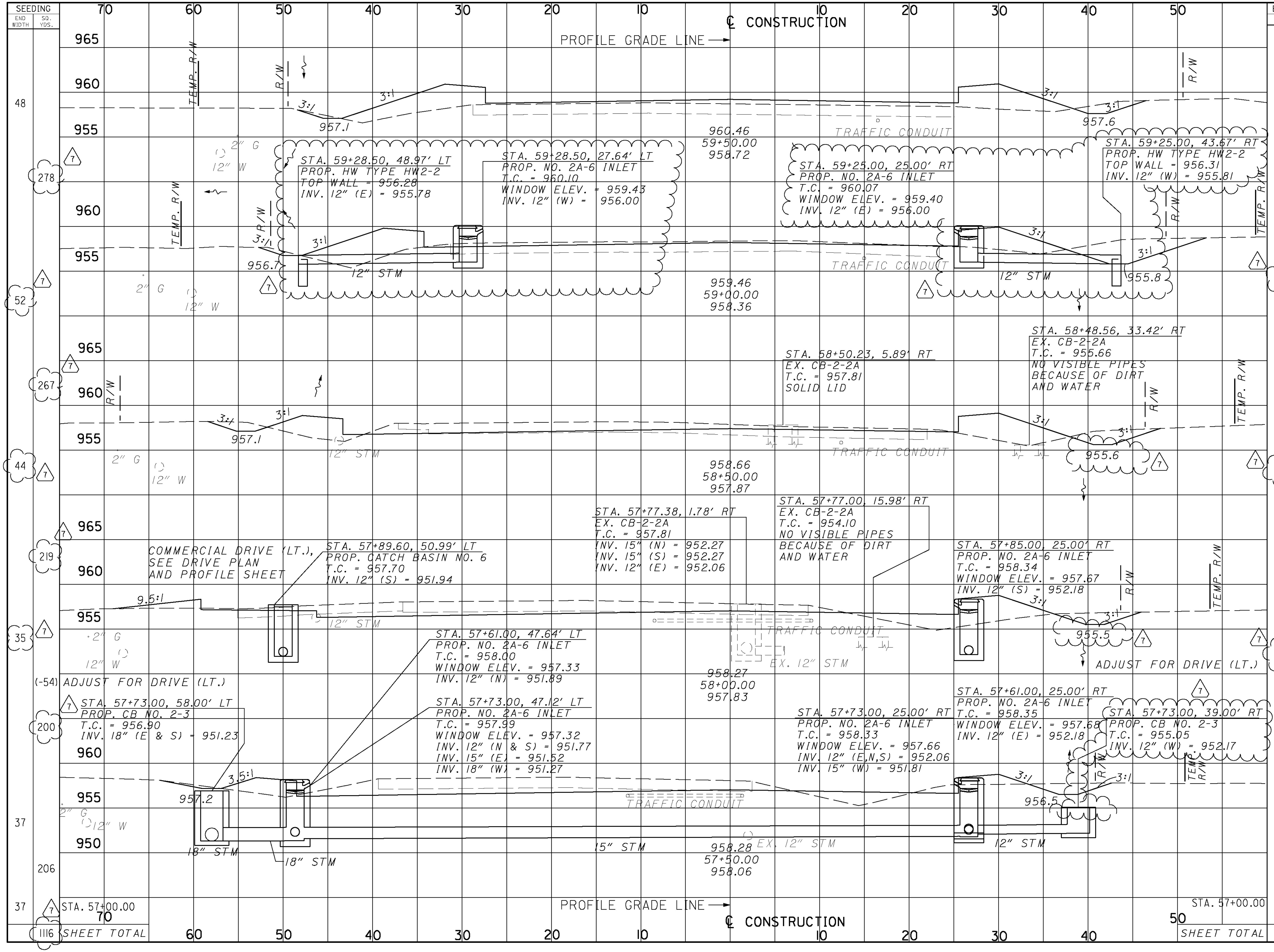


CALCULATED ESP
CHECKED BBB

CROSS SECTIONS - S.R. 83
STA. 55+00.00 TO STA. 57+00.00

WAY/MED-71-7.04/0.00

319/785



CALCULATED ESP
CHECKED BBB

4 REVISED 10-11-04
7 REVISED 02-10-06

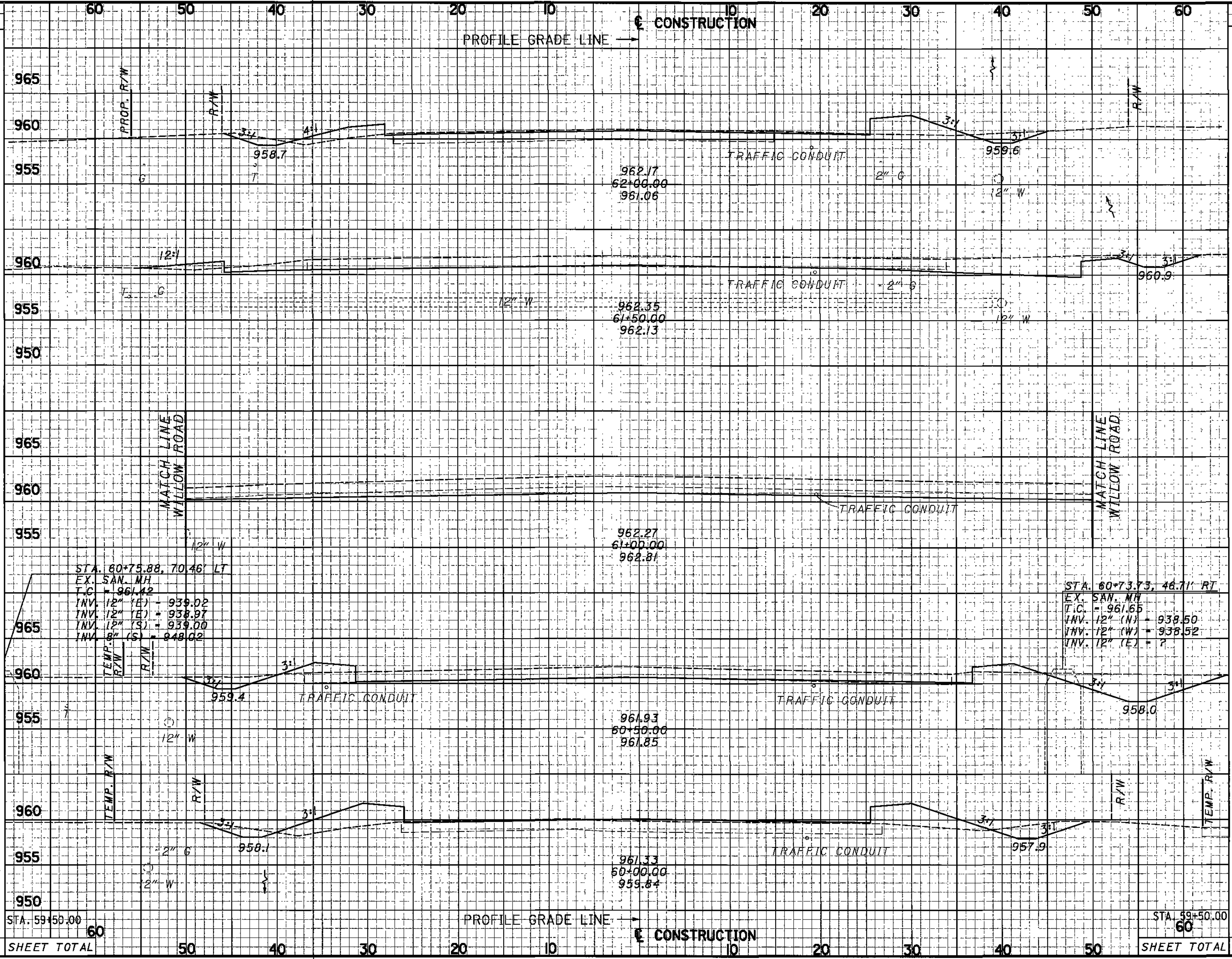
CROSS SECTIONS - S.R. 83
STA. 57+50.00 TO STA. 59+50.00

3 = REVISED 08-31-04
2 = REVISED 07-30-04

WAY/MED-71-7.04/0.00

320
785

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
43		61	67		
	197			162	69
28		114	7		
	78			489	17
0		414	11		
	131			479	35
47		103	27		
	267			158	142
52		68	126		
	278			122	257
48		64	152		
	951			1410	520



CALCULATED ESP
CHECKED BBB

CROSS SECTIONS - S.R. 83
STA. 60+00.00 TO STA. 62+00.00

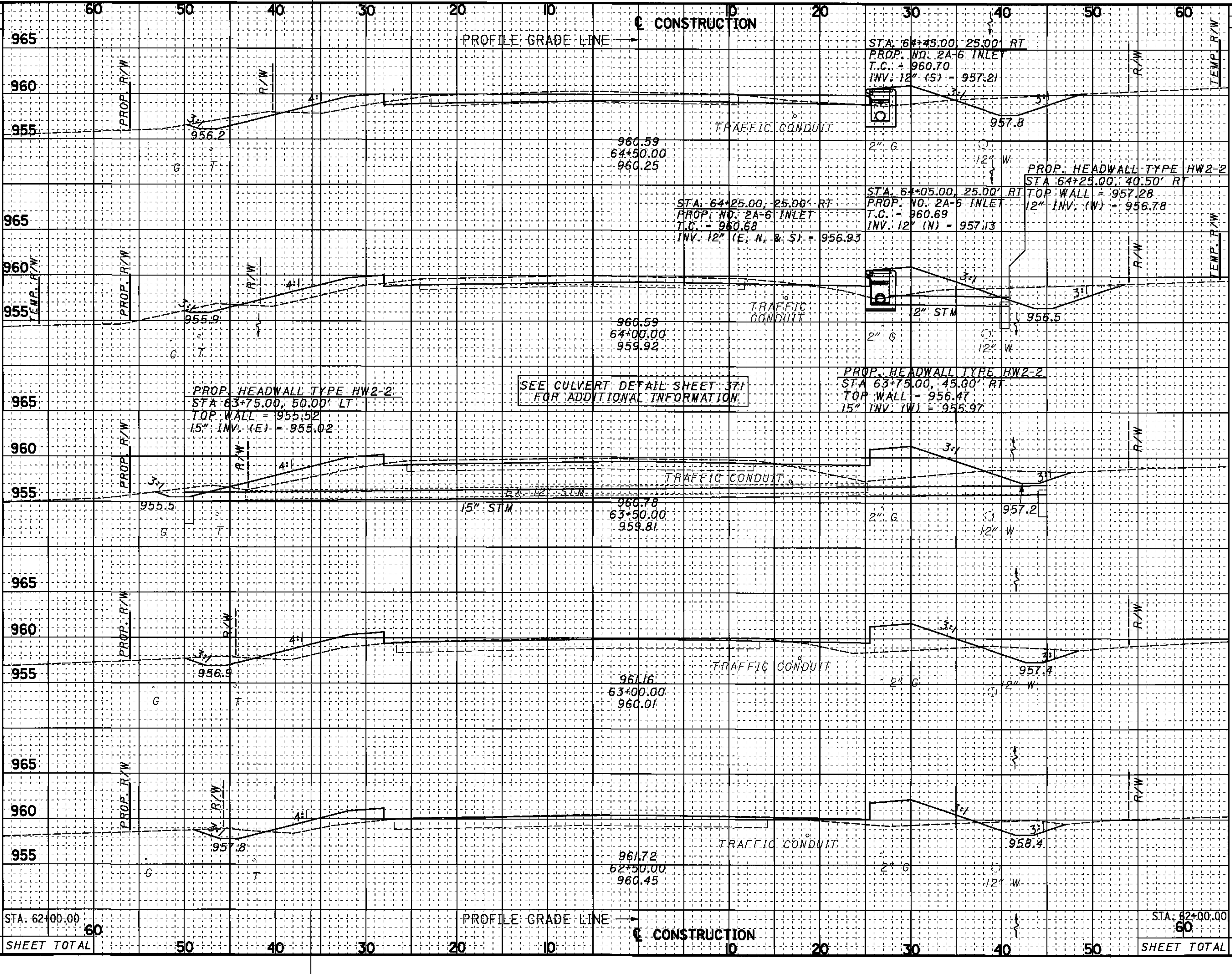
WAY/MED-71-7.04/0.00

CROSS SECTIONS - S.R. 83

STA. 62+50.00 TO STA. 64+50.00

WAY/MED-71-7.04/0.00

CALCULATED ESP CHECKED BBB

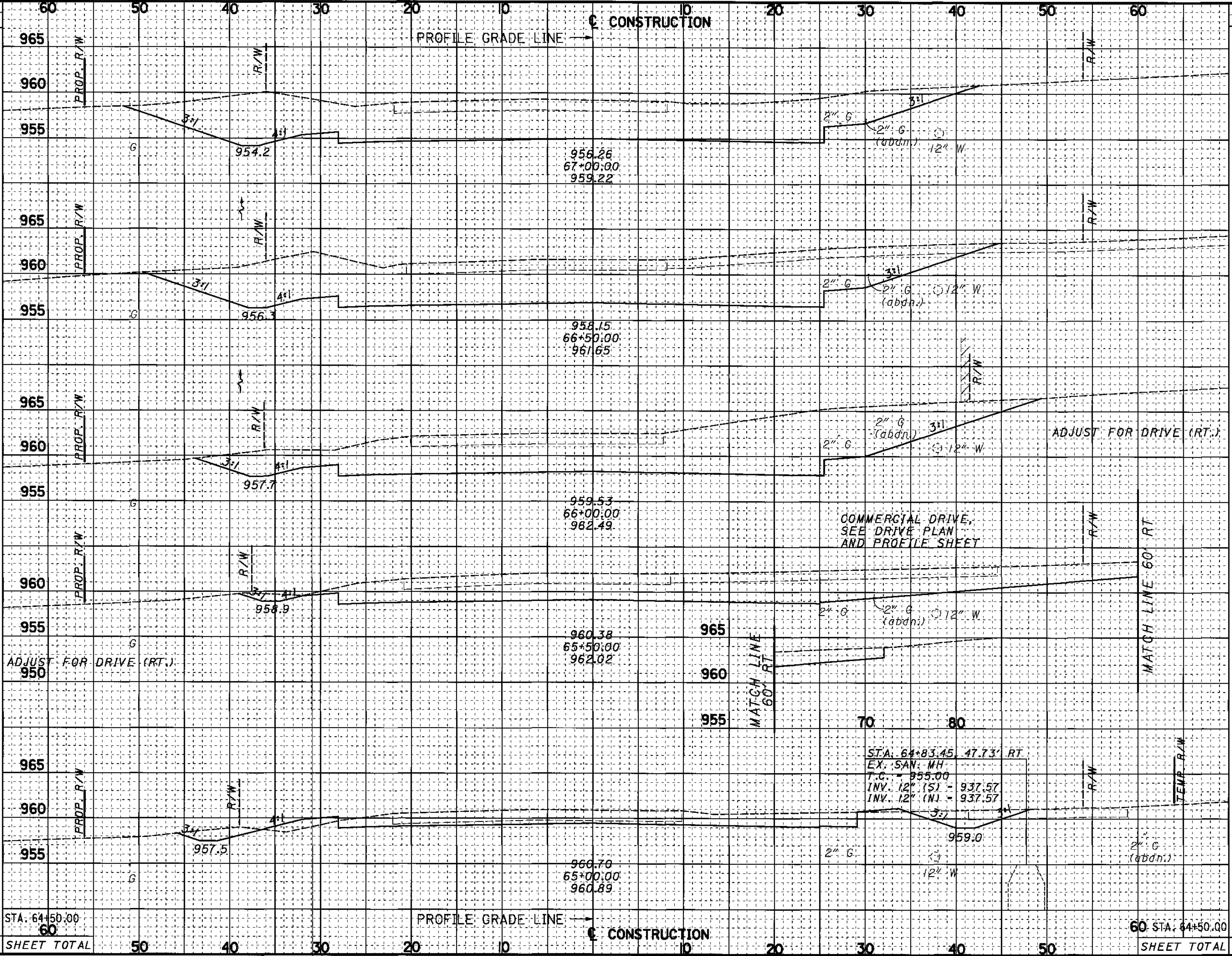


SEEDING END WIDTH	SEEDING SQ. YDS.
50	
	294
56	
	303
53	
	286
50	
	272
48	
	253
43	
SHEET TOTAL	1408

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
69	31		
		129	85
70	61		
		117	136
56	86		
		107	159
59	86		
		113	159
63	86		
		115	142
61	67		
SHEET TOTAL		581	681

CROSS SECTIONS - S.R. 83
STA. 65+00.00 TO STA. 67+00.00

CALCULATED ESP
CHECKED BBB

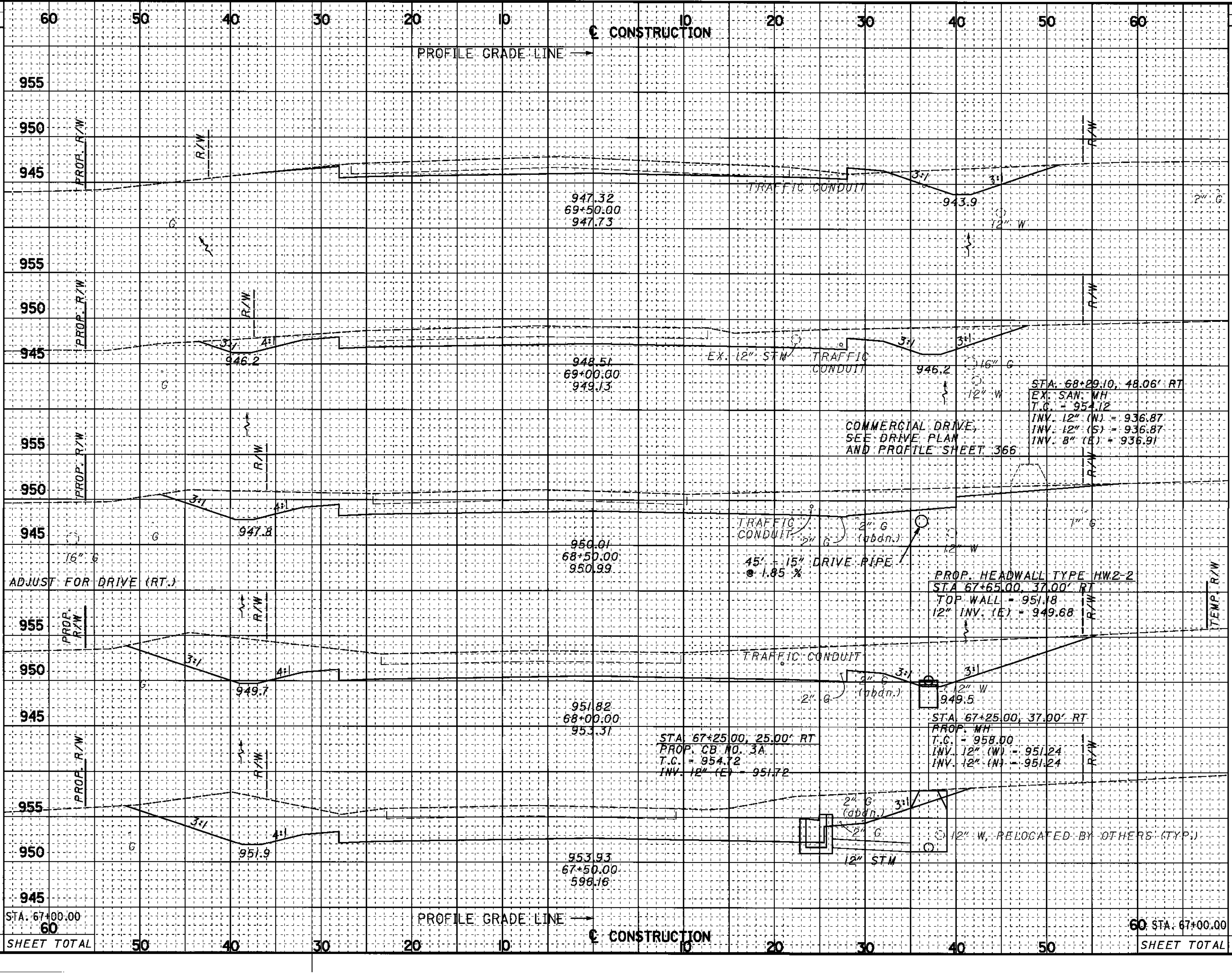


SEEDING END WIDTH	SEEDING SQ. YDS.
46	
	256
46	
	253
45	
	231
38	
	(67) ADJUST FOR DRIVE (RT.)
	222
42	
	256
50	
	1151 SHEET TOTAL

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
351	0		
		693	0
397	0		
		706	4
365	4		
		(27)	
		583	4
265	0		
		346	10
109	11		
		165	39
69	31		
SHEET TOTAL		2466	57

WAY/MED-71-7.04/0.00

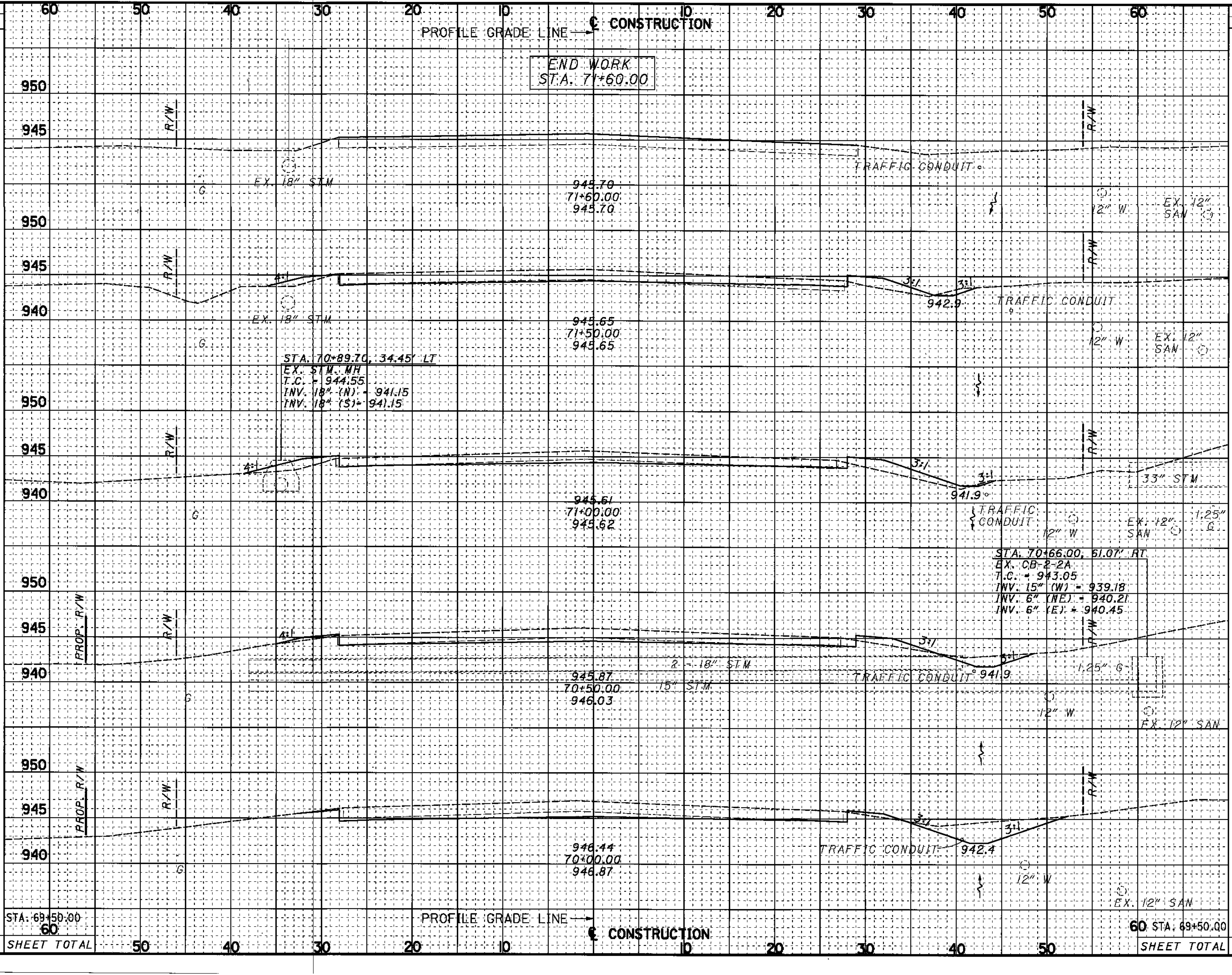
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
37		112	2		
	217			247	2
41		155	0		
	233			340	0
43		212	0		
	278 (2)			500	0
57		328	0		
	283			594	0
45		313	0		
	253			615	0
46		351	0		
	1262 SHEET TOTAL			2296	2



CALCULATED ESP
CHECKED BBB

CROSS SECTIONS - S.R. 83
STA. 67+50.00 TO STA. 69+50.00

WAY/MED-71-7.04/0.00



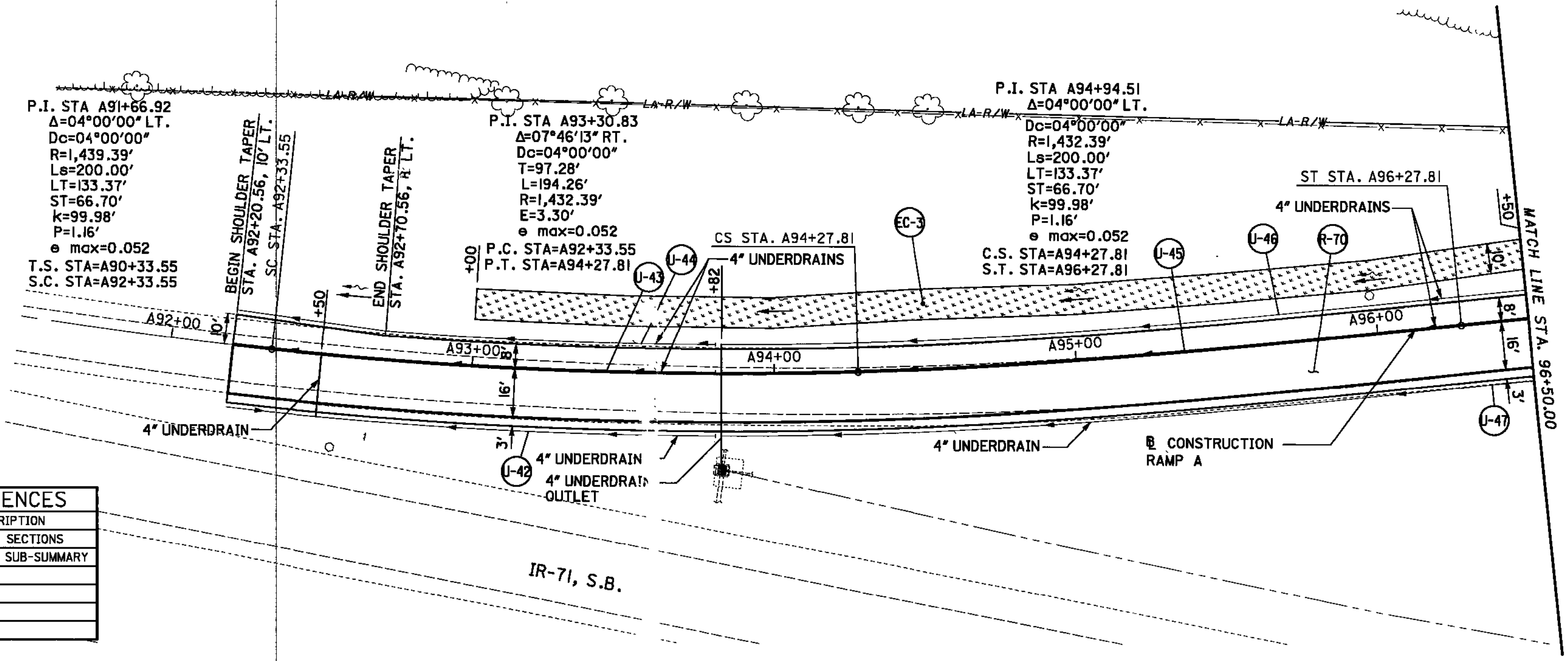
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0		0	0		
	15			13	3
27		69	18		
	164			119	33
32		60	18		
	175			125	23
31		75	7		
	181			166	8
34		104	2		
	197			200	4
37		112	2		
	732			623	71

CALCULATED ESP
CHECKED BBB

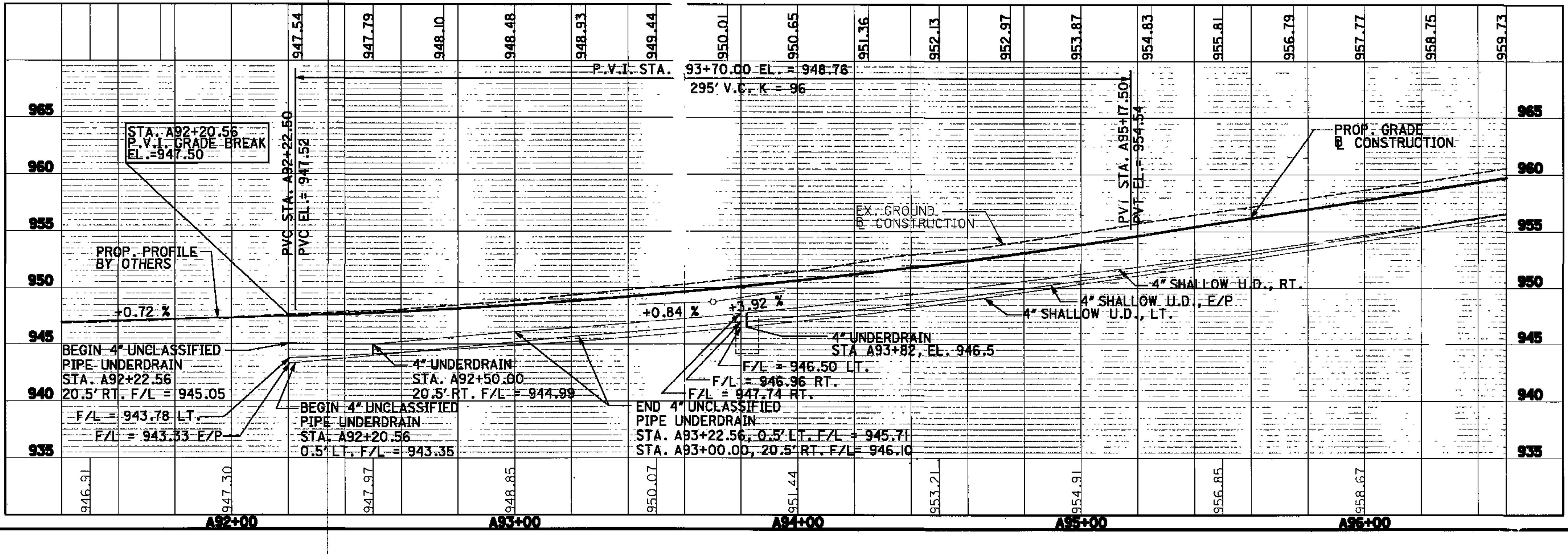
CROSS SECTIONS - S.R. 83
STA. 70+00.00 TO STA. 71+60.00

WAY/MED-71-7.04/0.00

325
785



CROSS REFERENCES	
SHEET NO.	DESCRIPTION
20	TYPICAL SECTIONS
117	UNDERDRAIN SUB-SUMMARY



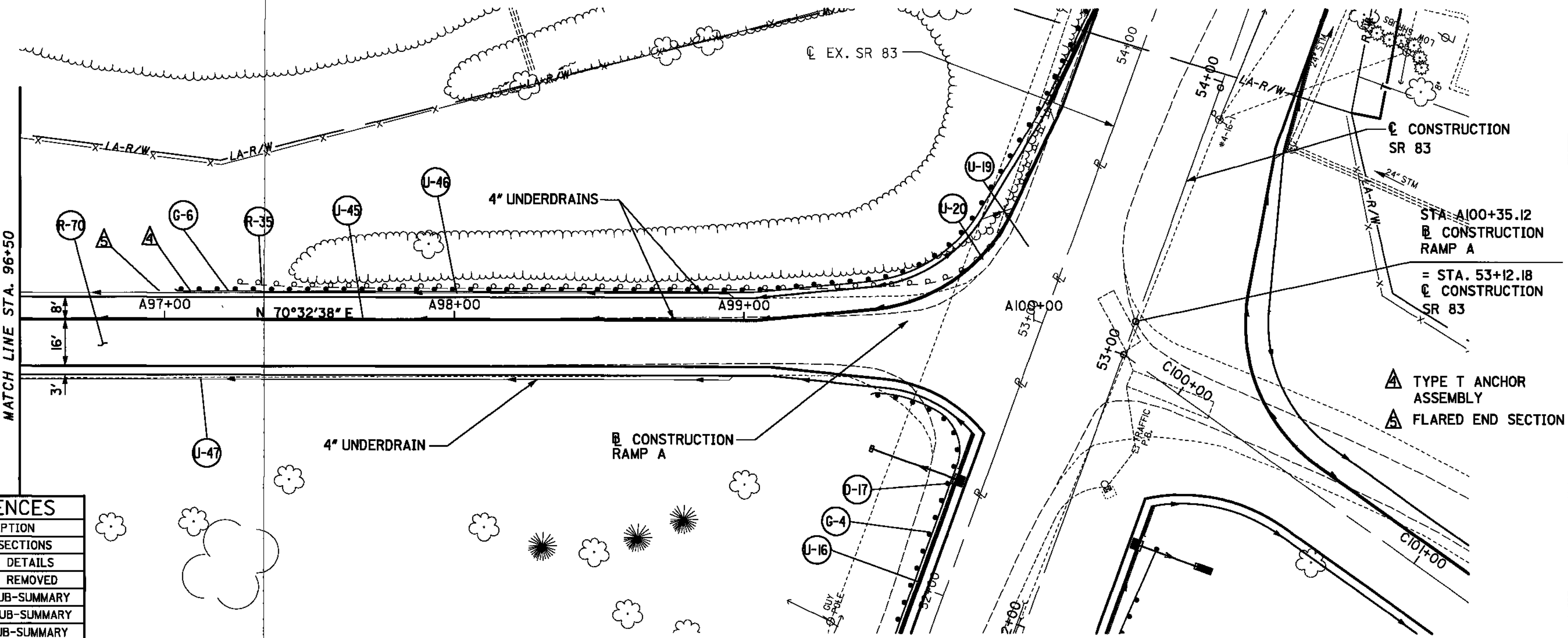
DATE: $DATE$ $TIME$
FILENAME: $FILE$

0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED ESP
CHECKED BBB

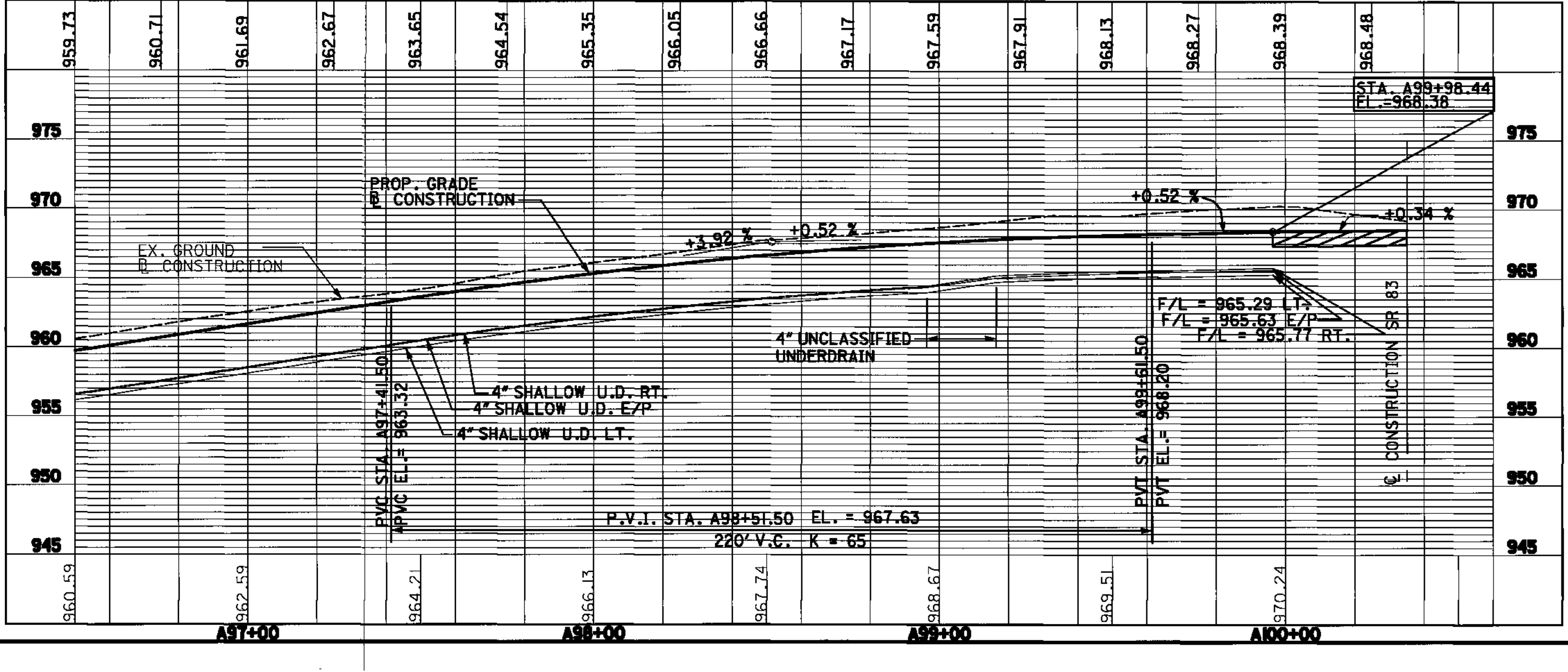
PLAN AND PROFILE - RAMP A
STA. A92+20.56 TO STA. A96+50.00

WAY/MED-71-7.04/0.00



CROSS REFERENCES

SHEET NO.	DESCRIPTION
20	TYPICAL SECTIONS
356,360	PAVEMENT DETAILS
121	GUARDRAIL REMOVED
129	PAVEMENT SUB-SUMMARY
122	GUARDRAIL SUB-SUMMARY
120	DRAINAGE SUB-SUMMARY
117	UNDERDRAIN SUB-SUMMARY



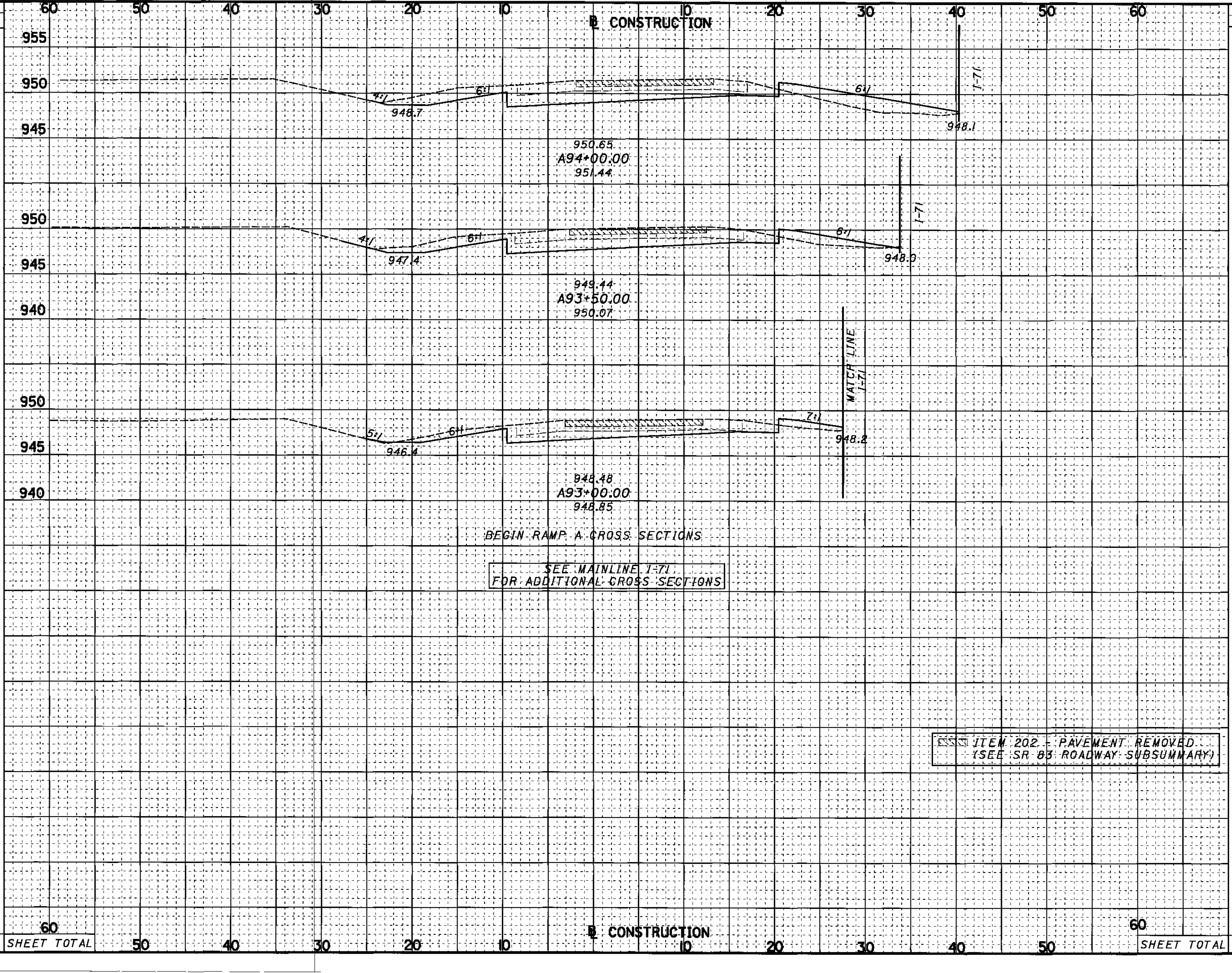
0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED ESP
CHECKED BBB

PLAN AND PROFILE - RAMP A
STA. A96+50.00 TO STA. A99+98.44

WAY/MED-71-7.04/0.00

SEEDING END WIDTH	SEEDING SQ. YDS.
39	
	197
32	
	164
27	
	361 SHEET TOTAL



BEGIN RAMP A CROSS SECTIONS

SEE MAINLINE I-71
FOR ADDITIONAL CROSS SECTIONS

▨ ITEM 202 - PAVEMENT REMOVED
(SEE SR 83 ROADWAY SUBSUMMARY)

SHEET TOTAL

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
67	22		
		118	29
60	9		
		95	13
43	5		
SHEET TOTAL		213	42

CALCULATED ESP
CHECKED BBB

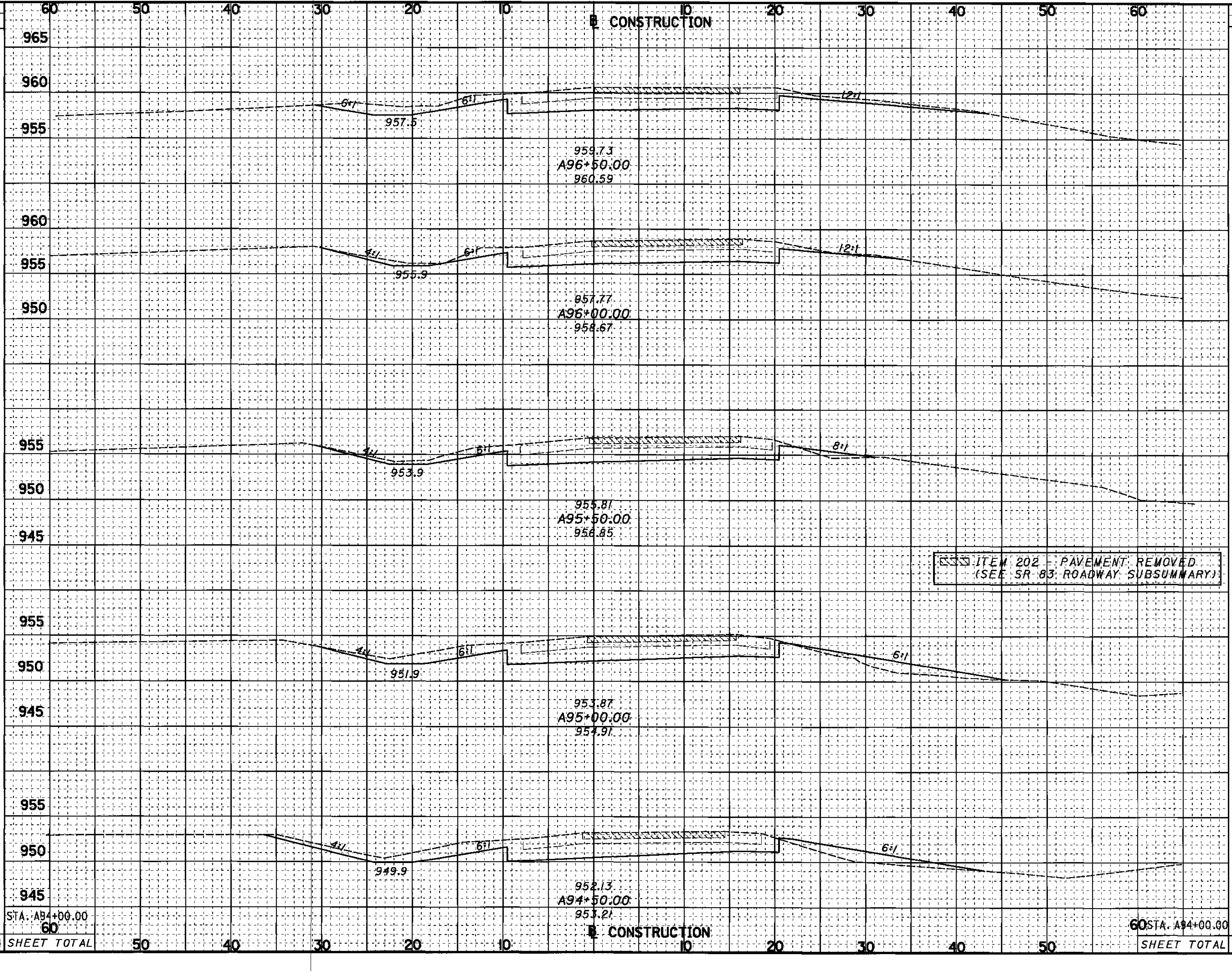
CROSS SECTIONS - RAMP A
STA. A93+00.00 TO STA. A94+00.00

WAY/MED-71-7.04/0.00

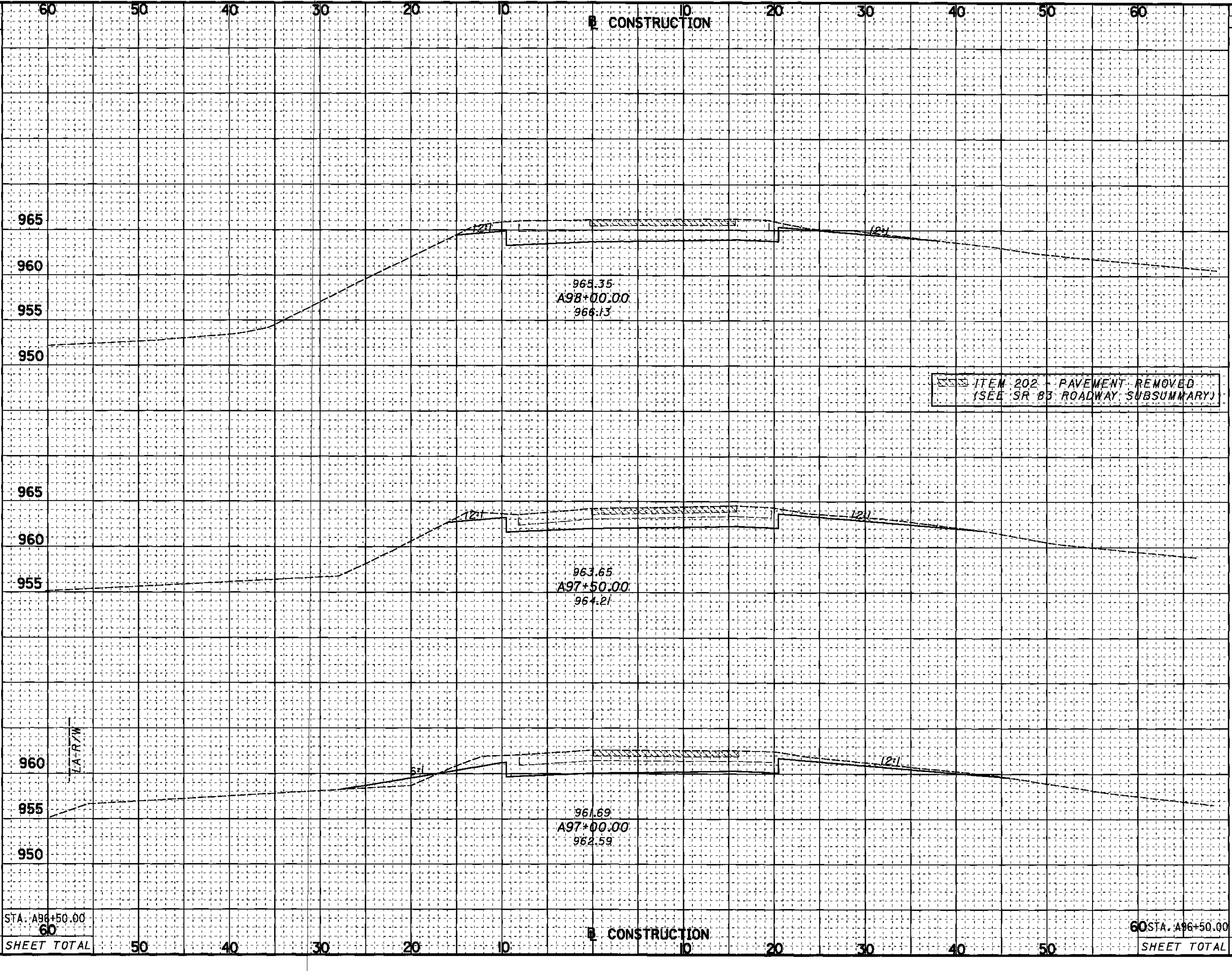
CROSS SECTIONS - RAMP A
STA. A94+50.00 TO STA. A96+50.00

WAY/MED-71-7.04/0.00

CALCULATED ESP
CHECKED BBB



Station	Seeding End Width	Seeding Sq. Yds.	End Area Cut	End Area Fill	Volume Cut	Volume Fill
A96+50.00	49		84	0		
		244			157	0
A96+00.00	39		73	0		
		208			136	3
A95+50.00	36		74	3		
		242			142	17
A95+00.00	51		79	15		
		292			149	29
A94+50.00	54		82	16		
		258			138	35
STA. A94+00.00	39		67	22		
SHEET TOTAL		1244			722	84

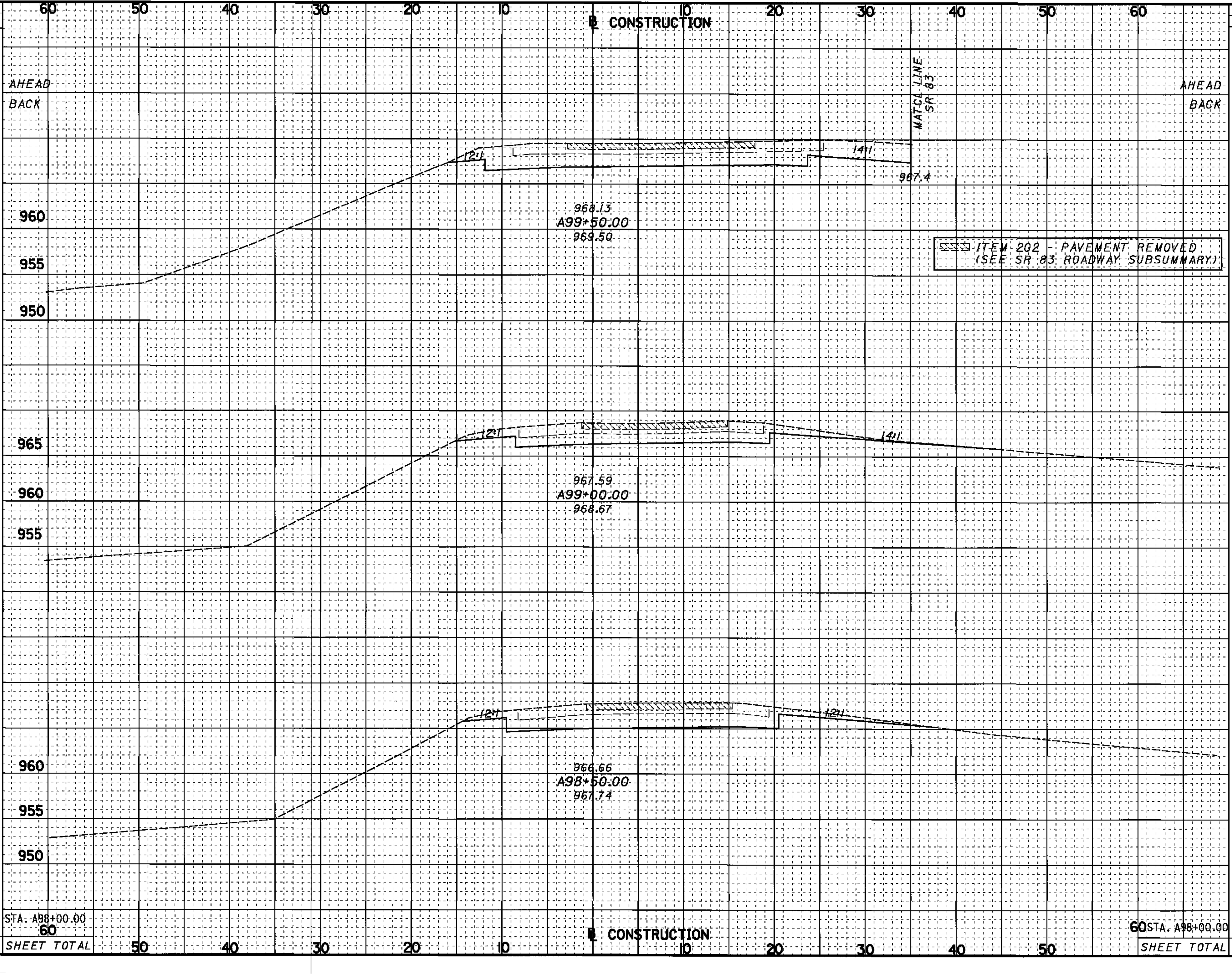


SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
29		69	0		
	178			124	0
35		65	0		
	231			129	5
48		74	5		
	269			146	5
49		84	0		
	678 SHEET TOTAL		SHEET TOTAL	399	10

CALCULATED ESP
CHECKED BBB

CROSS SECTIONS - RAMP A
STA. A97+00.00 TO STA. A98+00.00

WAY/MED-71-7.04/0.00



SEEDING END WIDTH	SEEDING SQ. YDS.		END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0		AHEAD	0	0		
21		BACK	105	0		
	161				158	0
37			66	0		
	181				132	0
28			77	0		
	158				135	0
29		STA. A98+00.00	69	0		
	500	SHEET TOTAL			425	0

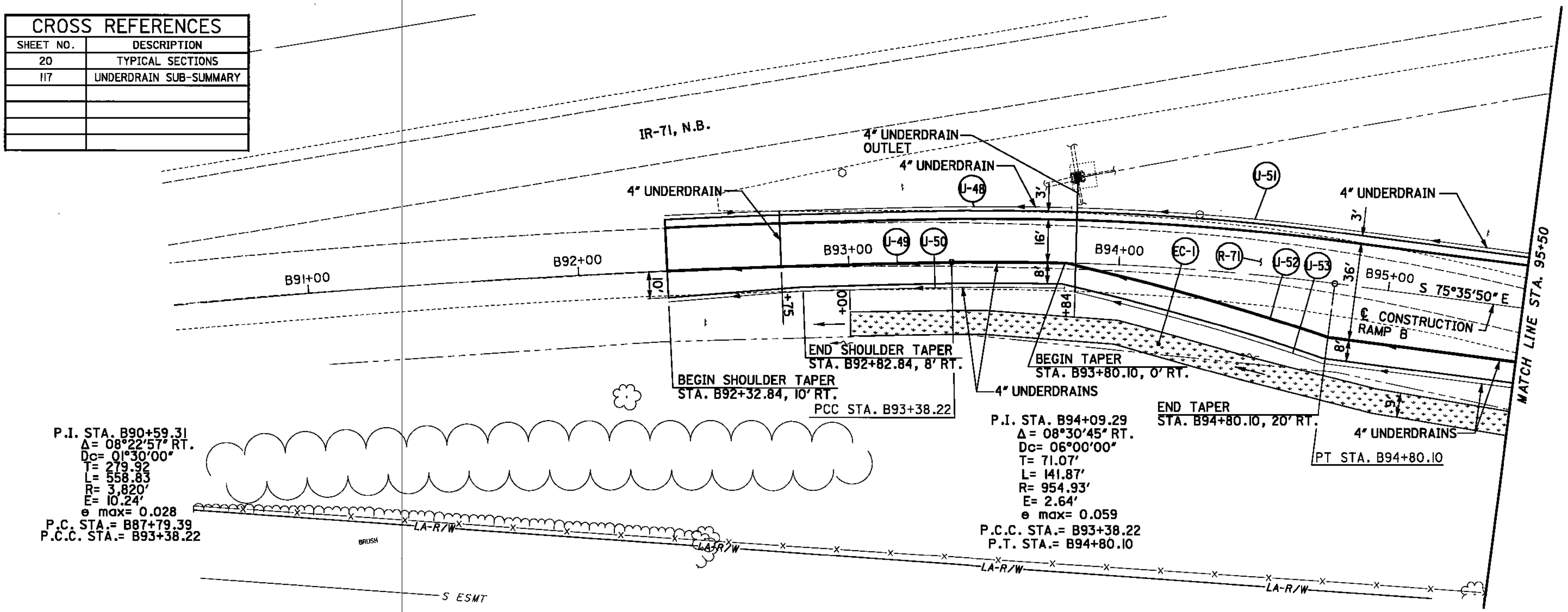
CALCULATED ESP
CHECKED BBB

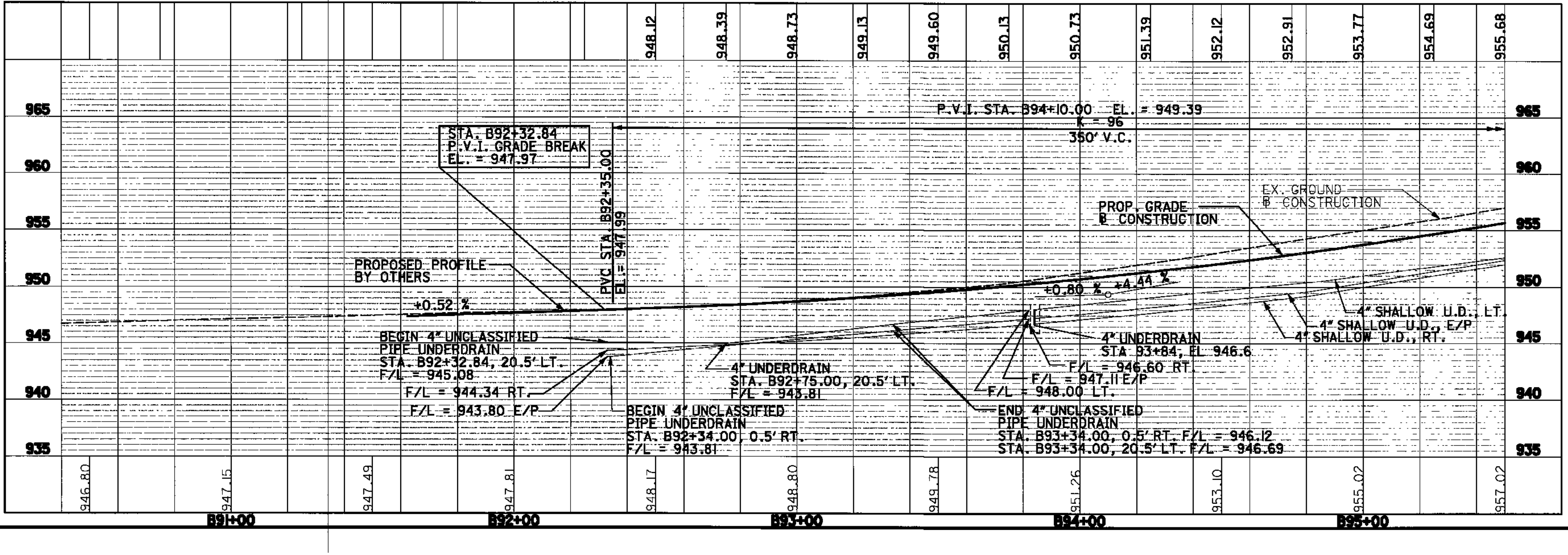
CROSS SECTIONS - RAMP A
STA. A98+50.00 TO STA. A99+50.00

WAY/MED-71-7.04/0.00

330
785

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
20	TYPICAL SECTIONS
117	UNDERDRAIN SUB-SUMMARY





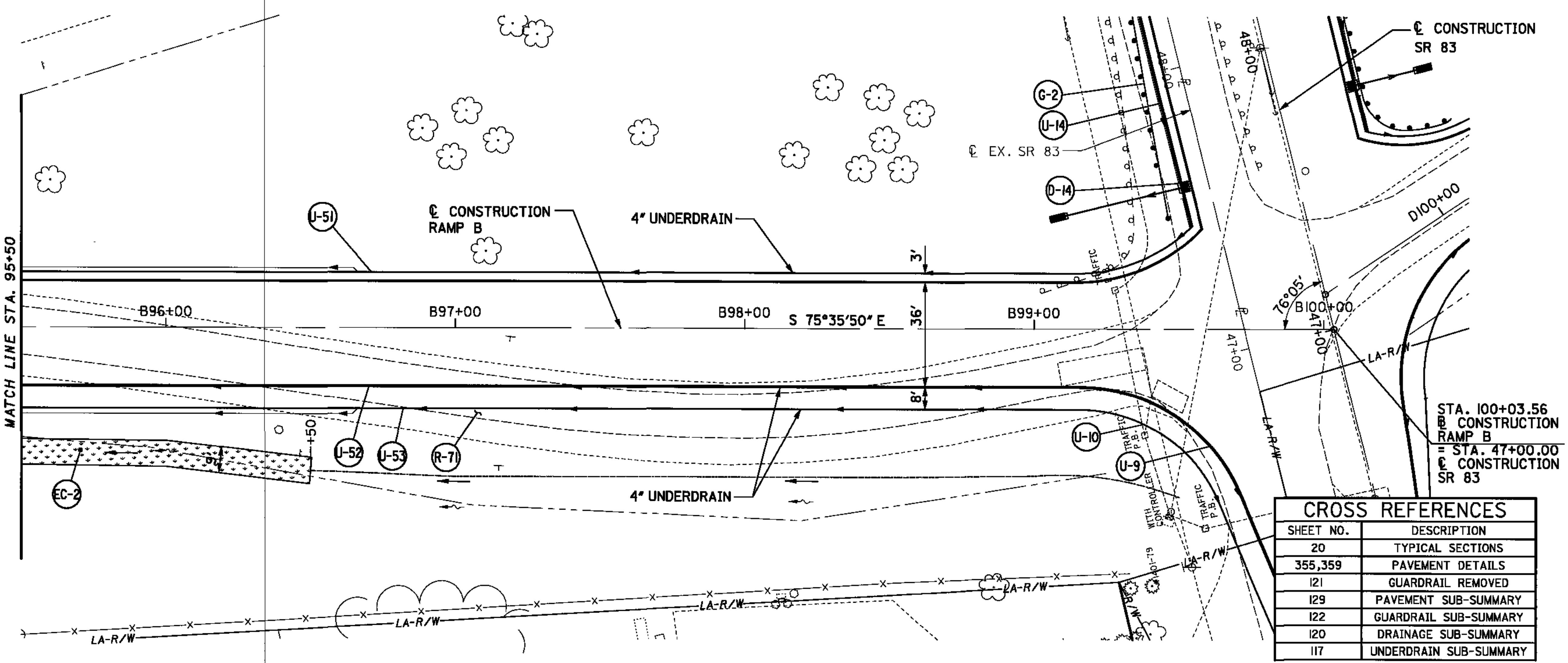
0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED ESP
CHECKED BBB

PLAN AND PROFILE - RAMP B
STA. B92+32.84 TO STA. B95+50.00

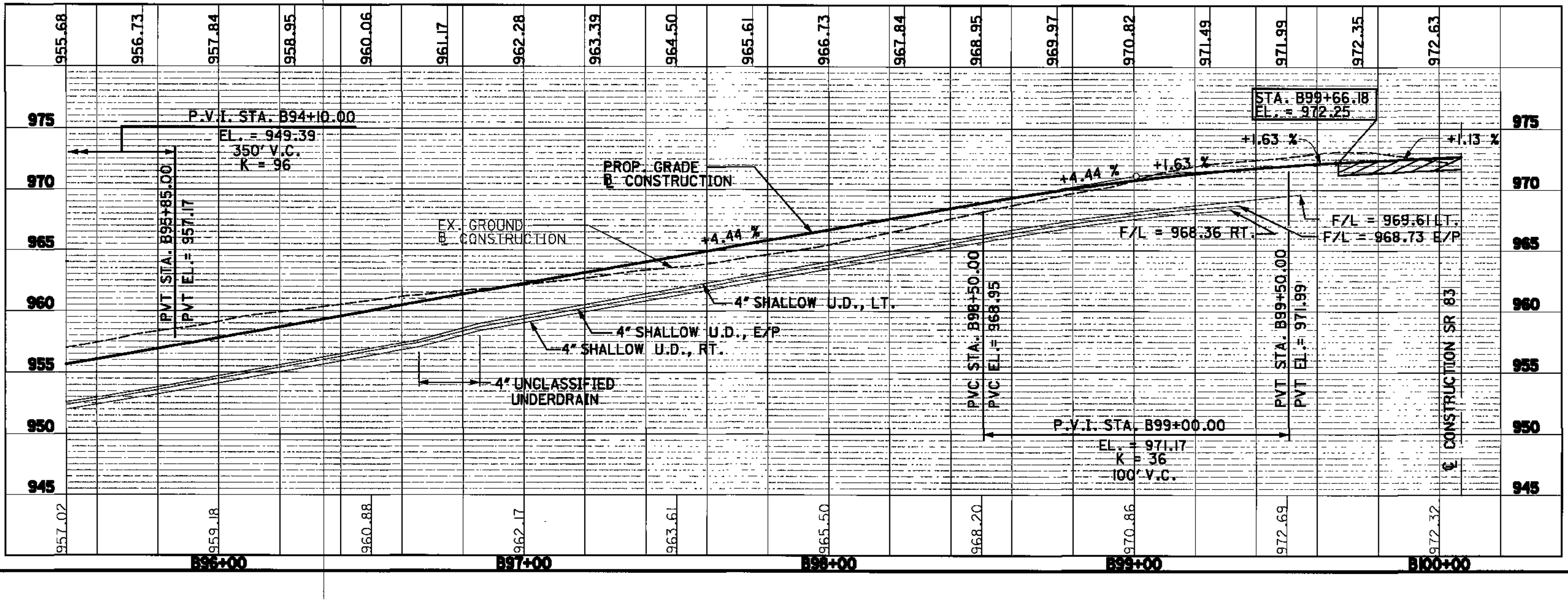
WAY/MED-71-7.04/0.00

DATE: $DATE$ $TIME$
FILENAME: $FILE$



CROSS REFERENCES

SHEET NO.	DESCRIPTION
20	TYPICAL SECTIONS
355,359	PAVEMENT DETAILS
121	GUARDRAIL REMOVED
129	PAVEMENT SUB-SUMMARY
122	GUARDRAIL SUB-SUMMARY
120	DRAINAGE SUB-SUMMARY
117	UNDERDRAIN SUB-SUMMARY



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED ESP
CHECKED BBB

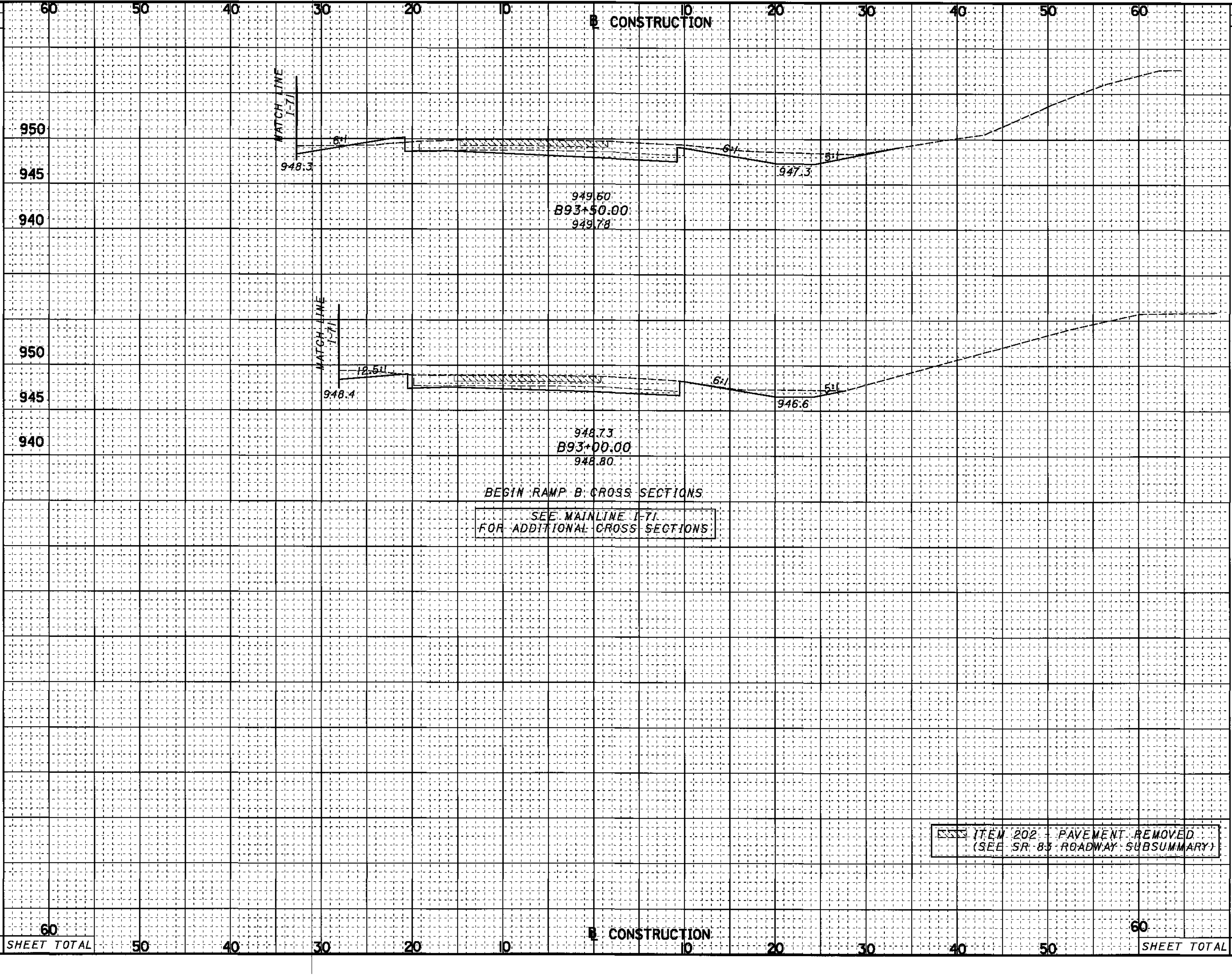
PLAN AND PROFILE - RAMP B
STA. B95+50.00 TO STA. B99+66.18

WAY/MED-71-7.04/0.00

331A
785

DATE: $DATE$ $TIME$
FILENAME: $FILE$

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
41		57	3		
	197			93	3
30		43	0		
	197 SHEET TOTAL			93	3



BEGIN RAMP B CROSS SECTIONS

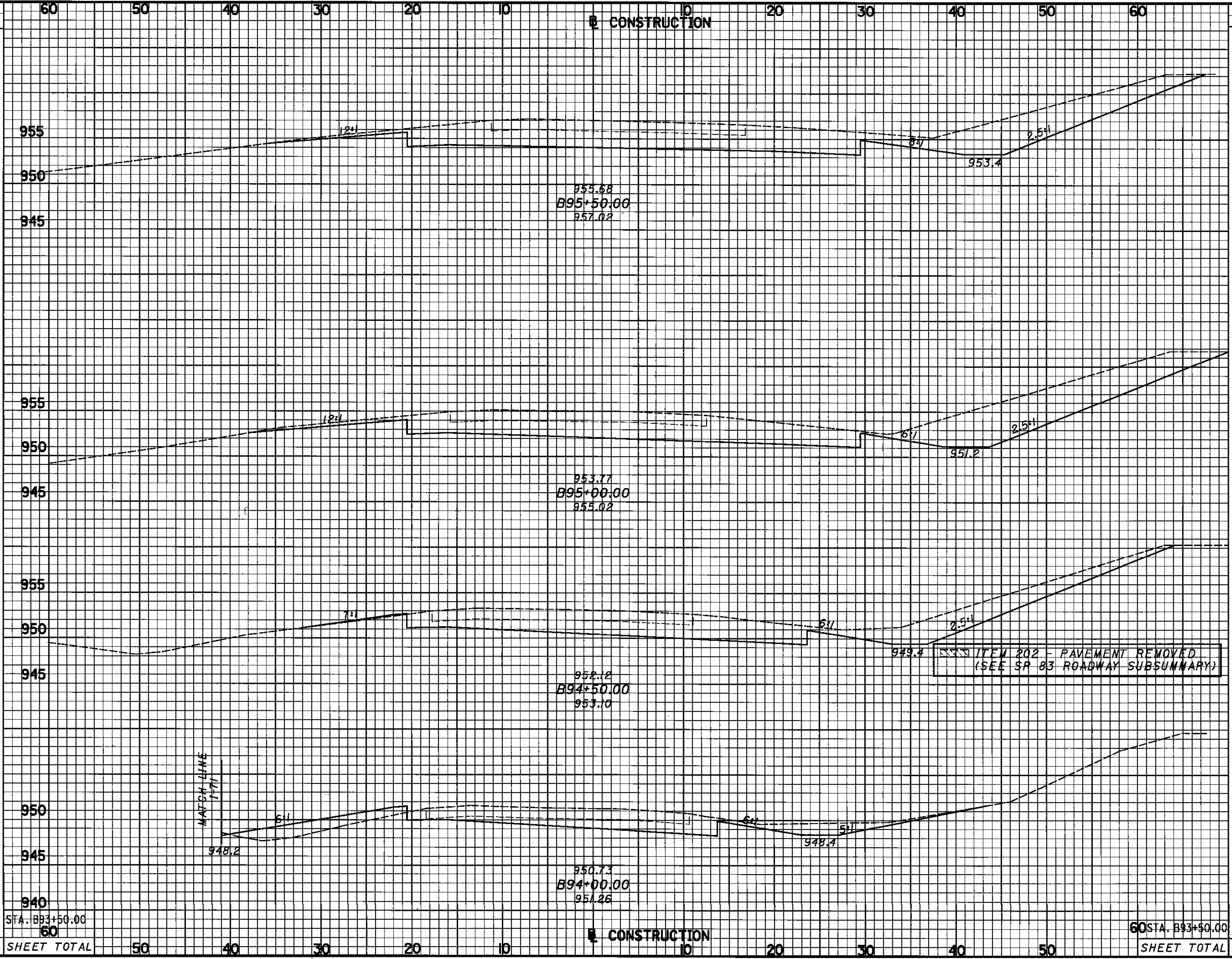
SEE MAINLINE I-71
FOR ADDITIONAL CROSS SECTIONS

▨ ITEM 202 - PAVEMENT REMOVED
(SEE SR 83 ROADWAY SUBSUMMARY)

CALCULATED ESP
CHECKED BBB

CROSS SECTIONS - RAMP B
STA. B93+00.00 TO STA. B93+50.00

WAY/MED-71-7.04/0.00



▧ ITEM 202 - PAVEMENT REMOVED
(SEE SP 83 ROADWAY SUBSUMMARY)

SEEDING END WIDTH	SEEDING SQ. YDS.
46	
	286
57	
	303
52	
	283
50	
	253
41	
	1125 SHEET TOTAL

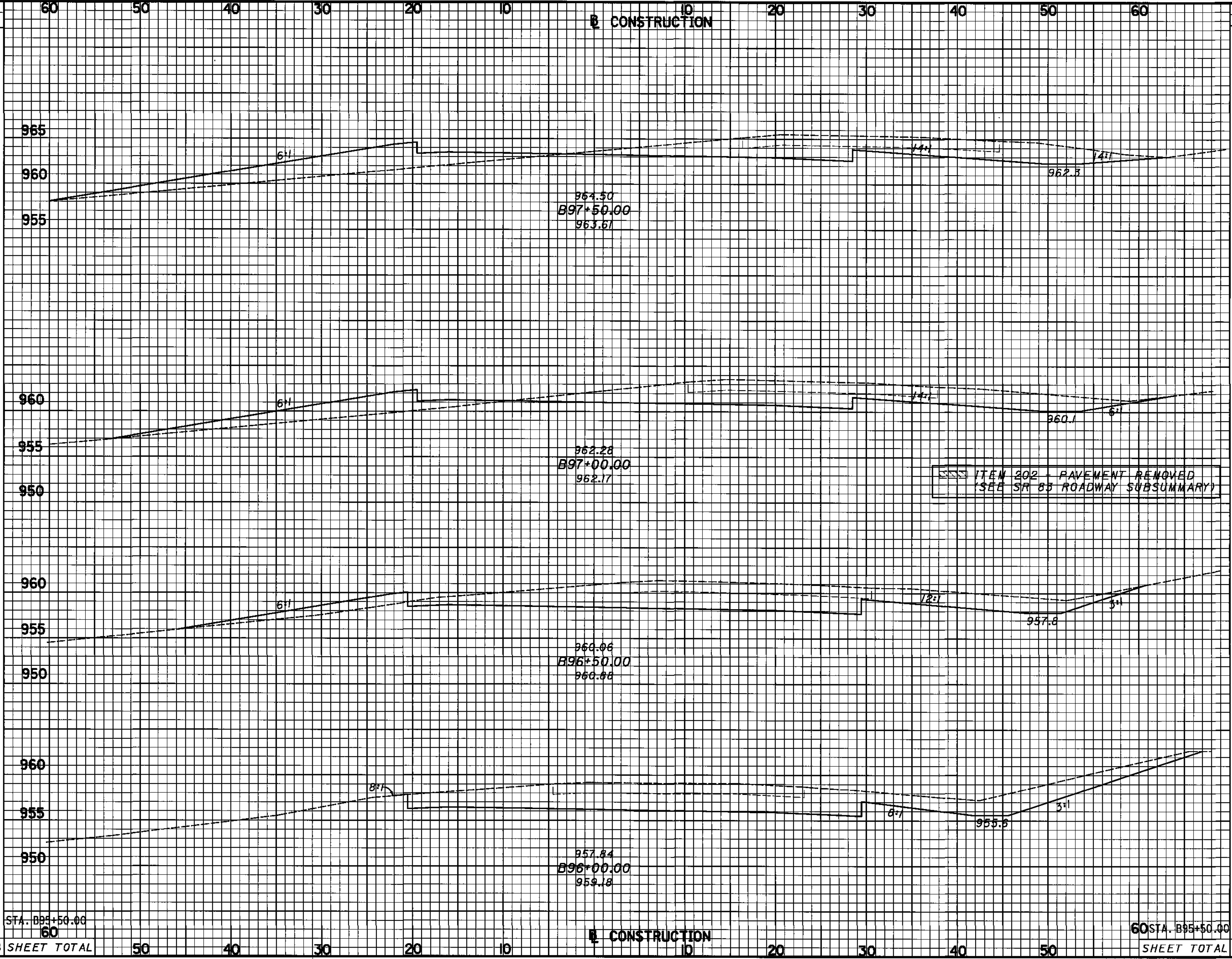
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
215	0		
		417	0
235	0		
		362	1
156	1		
		212	21
73	22		
		120	23
57	3		
SHEET TOTAL		1111	45

CALCULATED ESP
CHECKED BBB

CROSS SECTIONS - RAMP B
STA. B94+00.00 TO STA. B95+50.00

WAY/MED-71-7.04/0.00

333
785

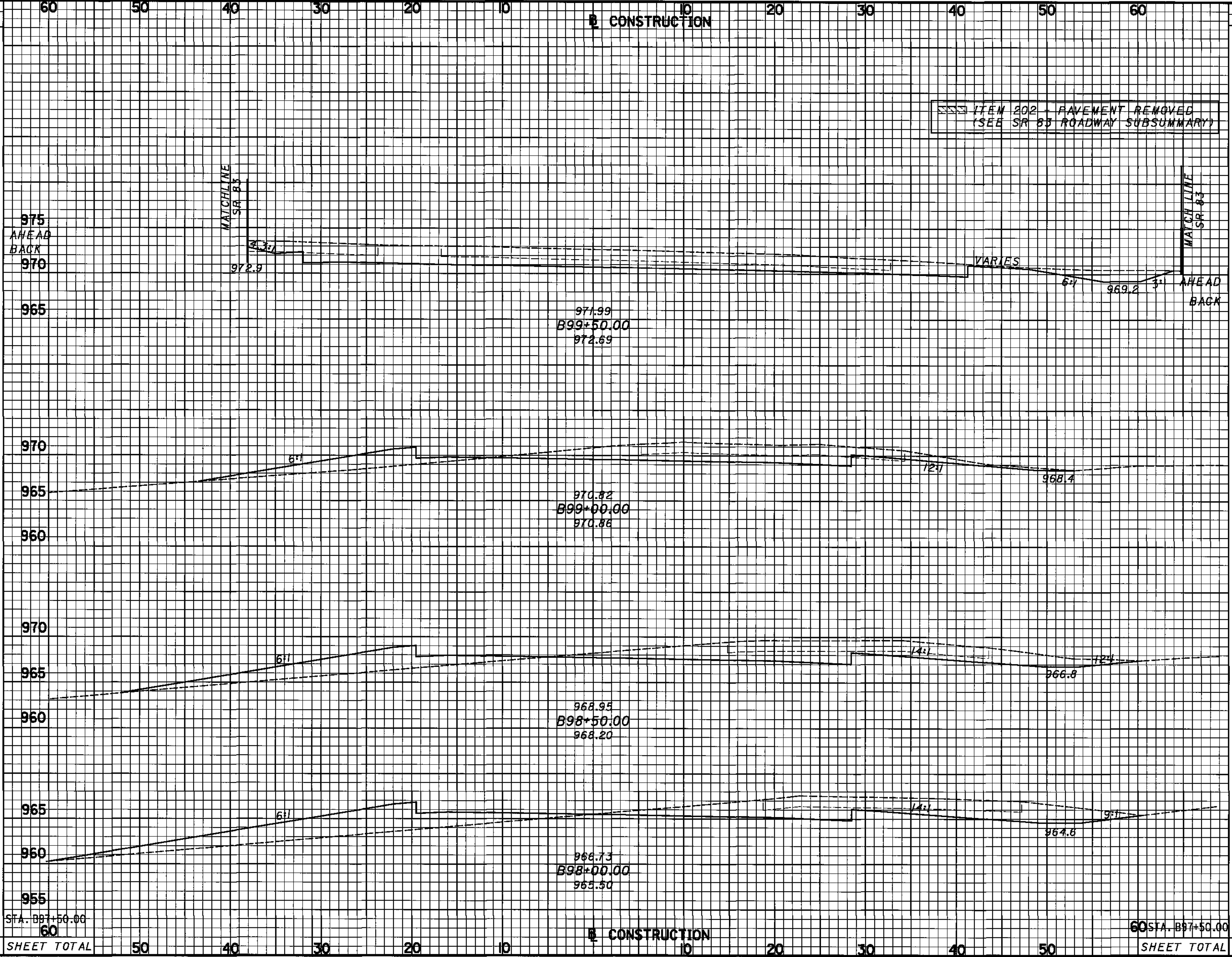


Station	Seeding End Width	Seeding Sq. Yds.	End Area Cut	End Area Fill	Volume Cut	Volume Fill
B97+50.00	74		99	75		
		397			197	113
B97+00.00	69		114	47		
		347			243	61
B96+50.00	56		148	19		
		261			303	18
B96+00.00	38		179	0		
		233			365	0
B95+50.00	46		215	0		
SHEET TOTAL		1238			1108	192

CALCULATED ESP
CHECKED BBB

CROSS SECTIONS - RAMP B
STA. B96+00.00 TO STA. B97+50.00

WAY/MED-71-7.04/0.00



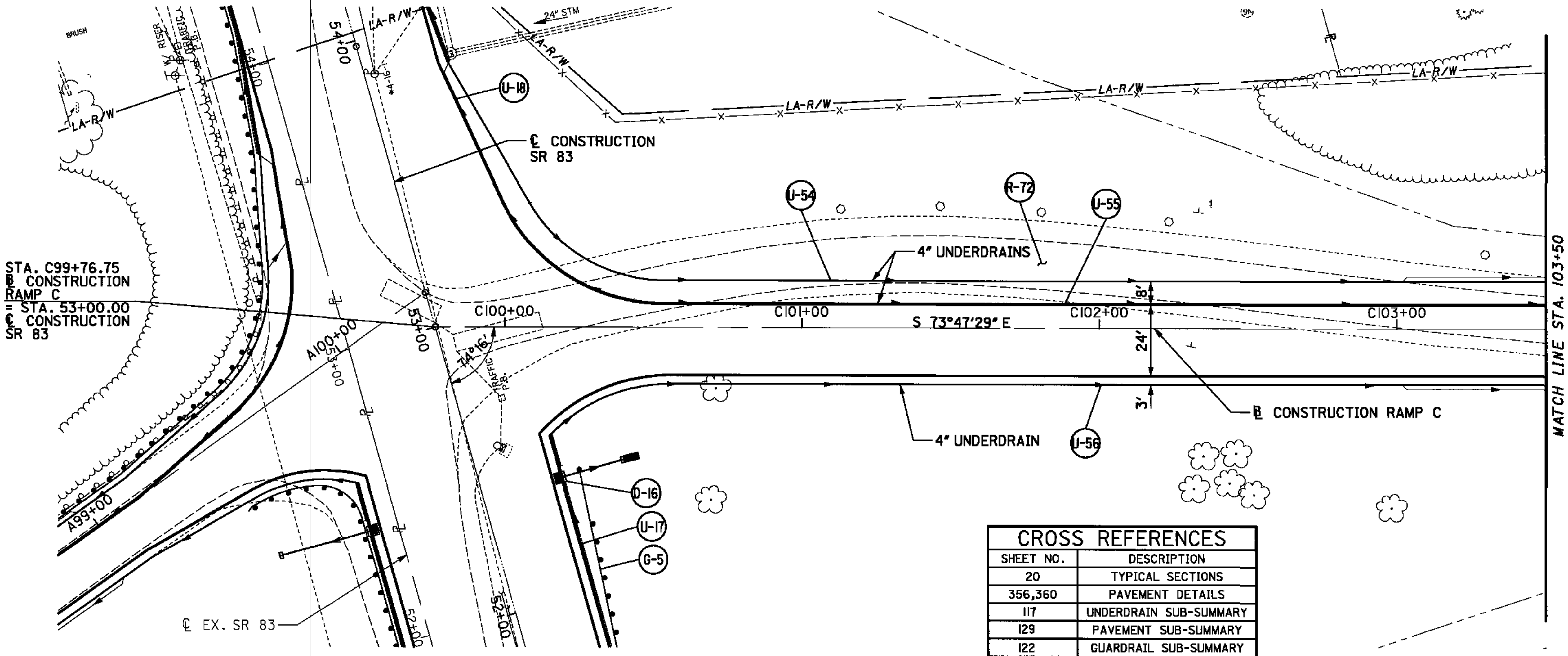
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0		0	0		
29		127	0		
	214			179	27
48		66	29		
	314			137	76
65		82	53		
	381			155	127
72		85	84		
	406			170	147
74		99	75		
	1315 SHEET TOTAL	SHEET TOTAL		641	377

CALCULATED ESP
CHECKED BBB

CROSS SECTIONS - RAMP B
STA. B98+00.00 TO STA. B99+50.00

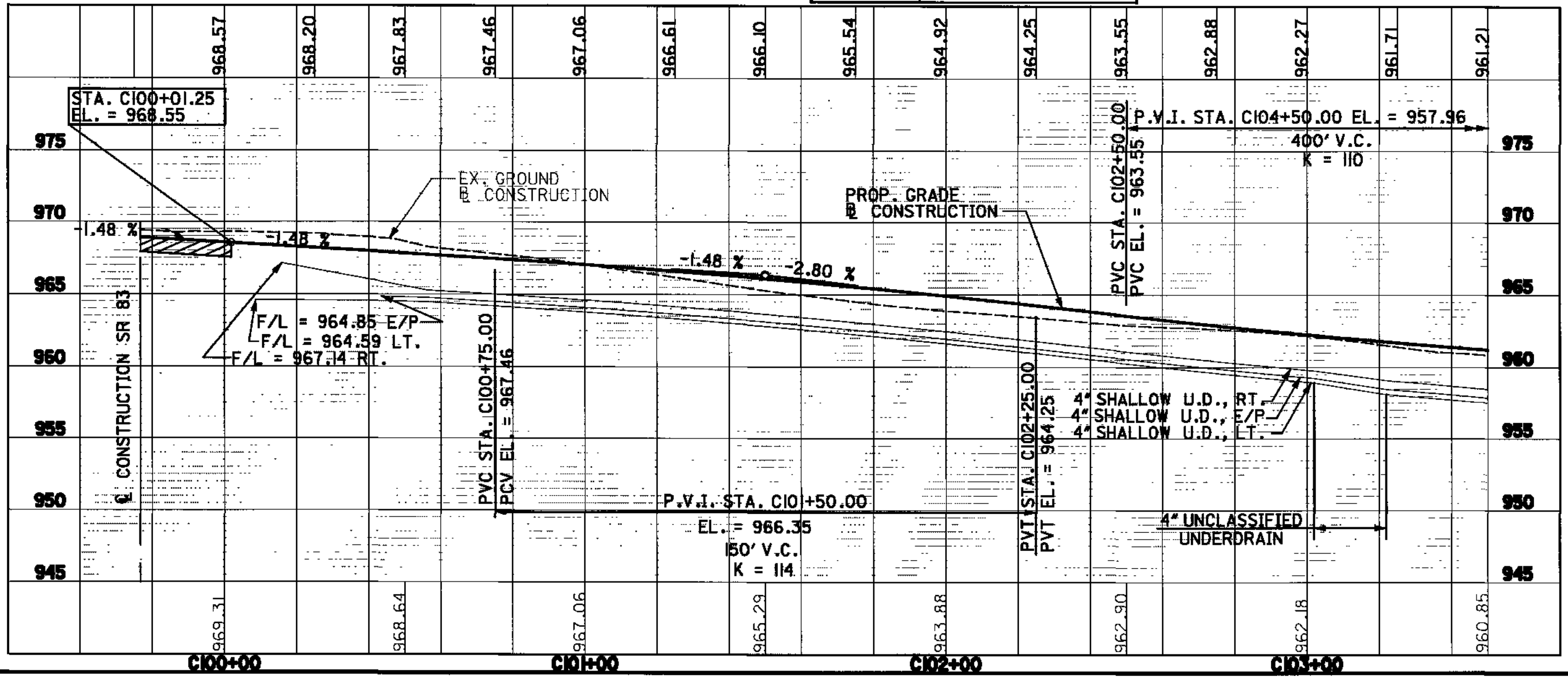
WAY/MED-71-7.04/0.00

335
785



CROSS REFERENCES

SHEET NO.	DESCRIPTION
20	TYPICAL SECTIONS
356,360	PAVEMENT DETAILS
117	UNDERDRAIN SUB-SUMMARY
129	PAVEMENT SUB-SUMMARY
122	GUARDRAIL SUB-SUMMARY
120	DRAINAGE SUB-SUMMARY

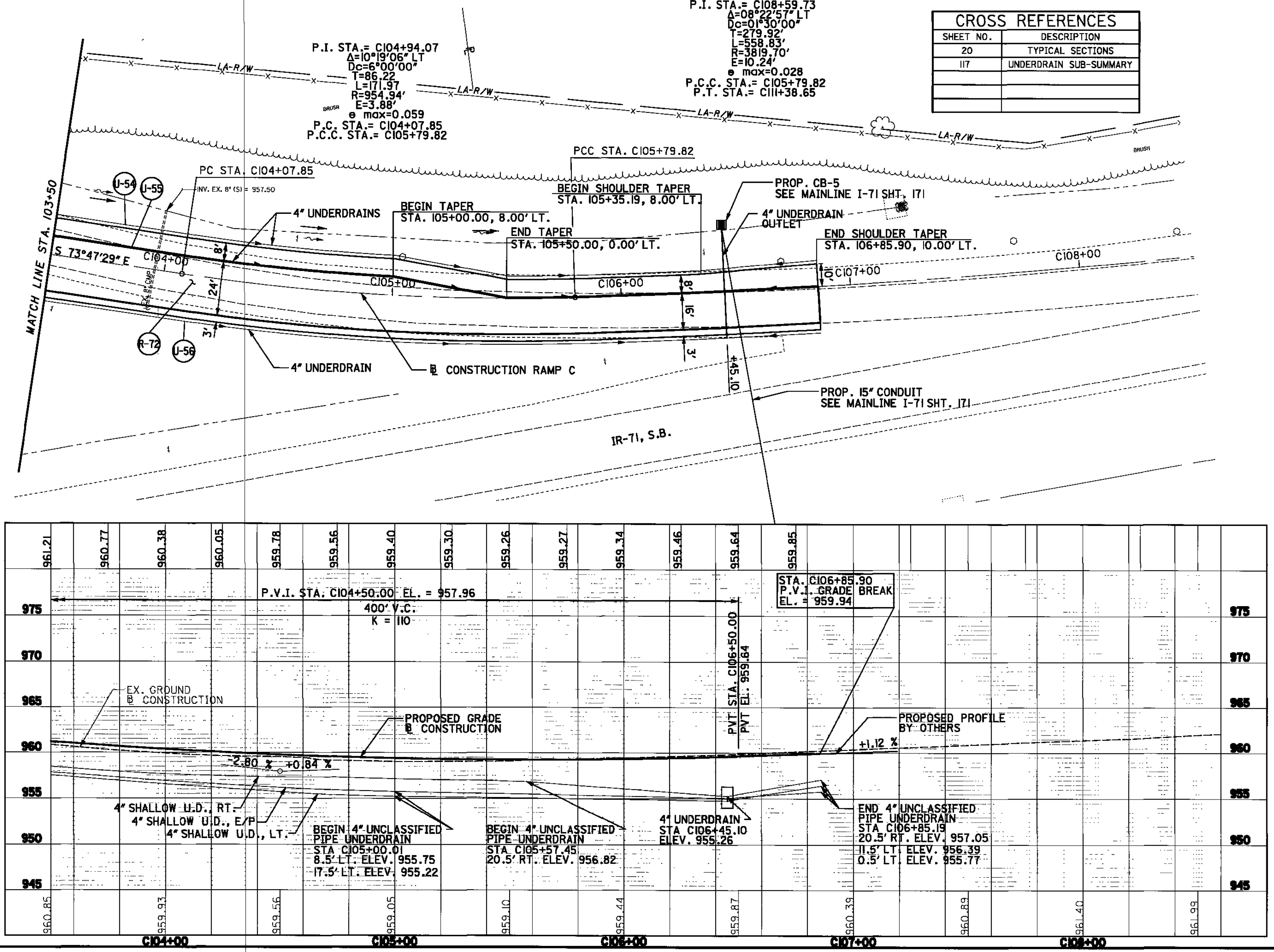


0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED ESP
CHECKED BBB

PLAN AND PROFILE - RAMP C
STA. C100+01.99 TO STA. C103+50.00

WAY/MED-71-7.04/0.00



CROSS REFERENCES

SHEET NO.	DESCRIPTION
20	TYPICAL SECTIONS
117	UNDERDRAIN SUB-SUMMARY

0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED ESP
CHECKED BBB

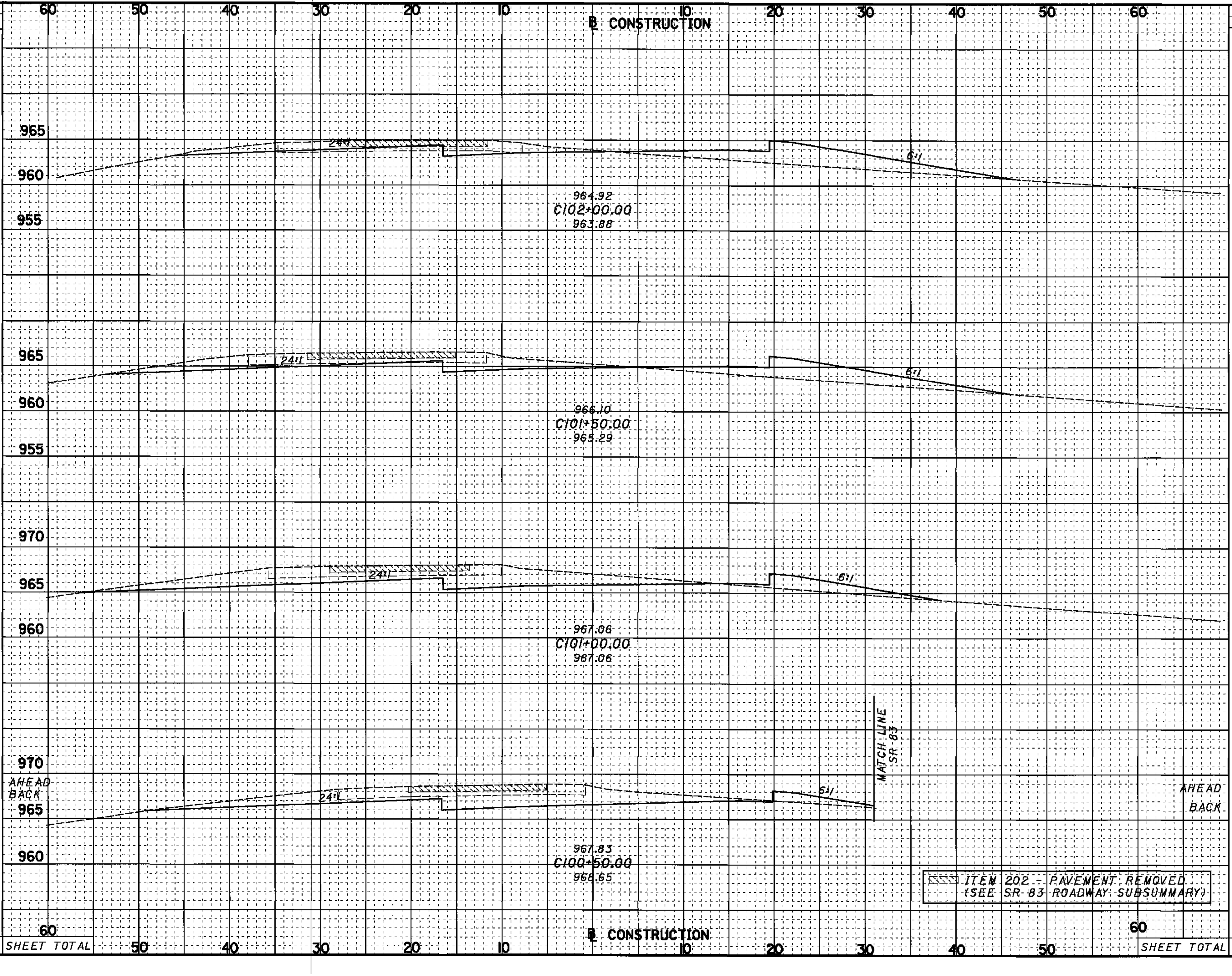
PLAN AND PROFILE - RAMP C
STA. C103+50.00 TO STA. C106+85.19

WAY/MED-71-7.04/0.00

336A
785

SEEDING	
END WIDTH	SQ. YDS.
61	
	358
68	
	364
63	
	308
48 0	
	1030

SHEET TOTAL



▨ ITEM 202 - PAVEMENT REMOVED (SEE SR 83 ROADWAY SUBSUMMARY)

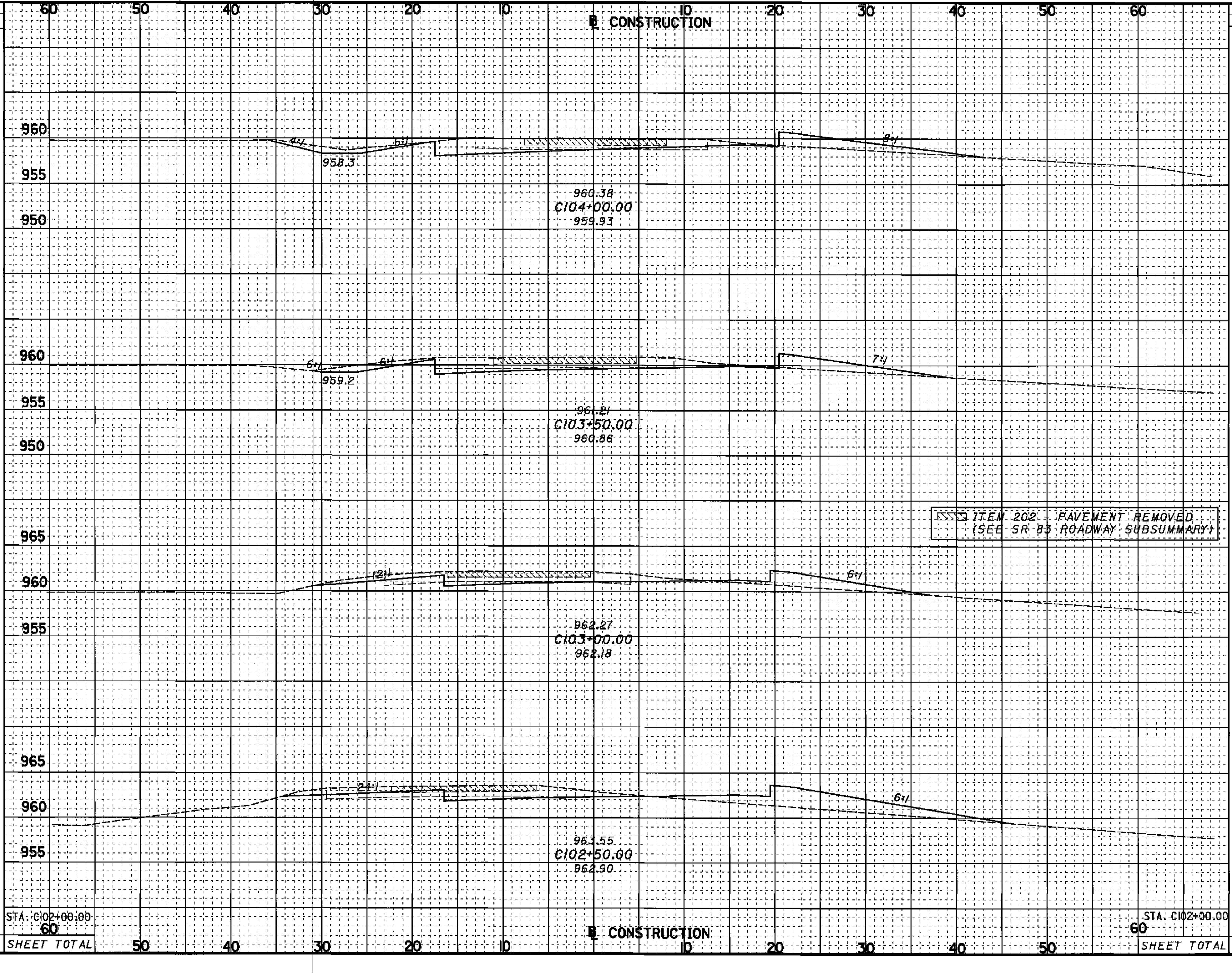
END AREA		VOLUME	
CUT	FILL	CUT	FILL
35	55		
		82	91
54	43		
		129	56
85	17		
		156	23
83 0	8 0		
		367	170

SHEET TOTAL

CALCULATED ESP
CHECKED BBB

CROSS SECTIONS - RAMP C
STA. C100+50.00 TO STA. C102+00.00

WAY/MED-71-7.04/0.00



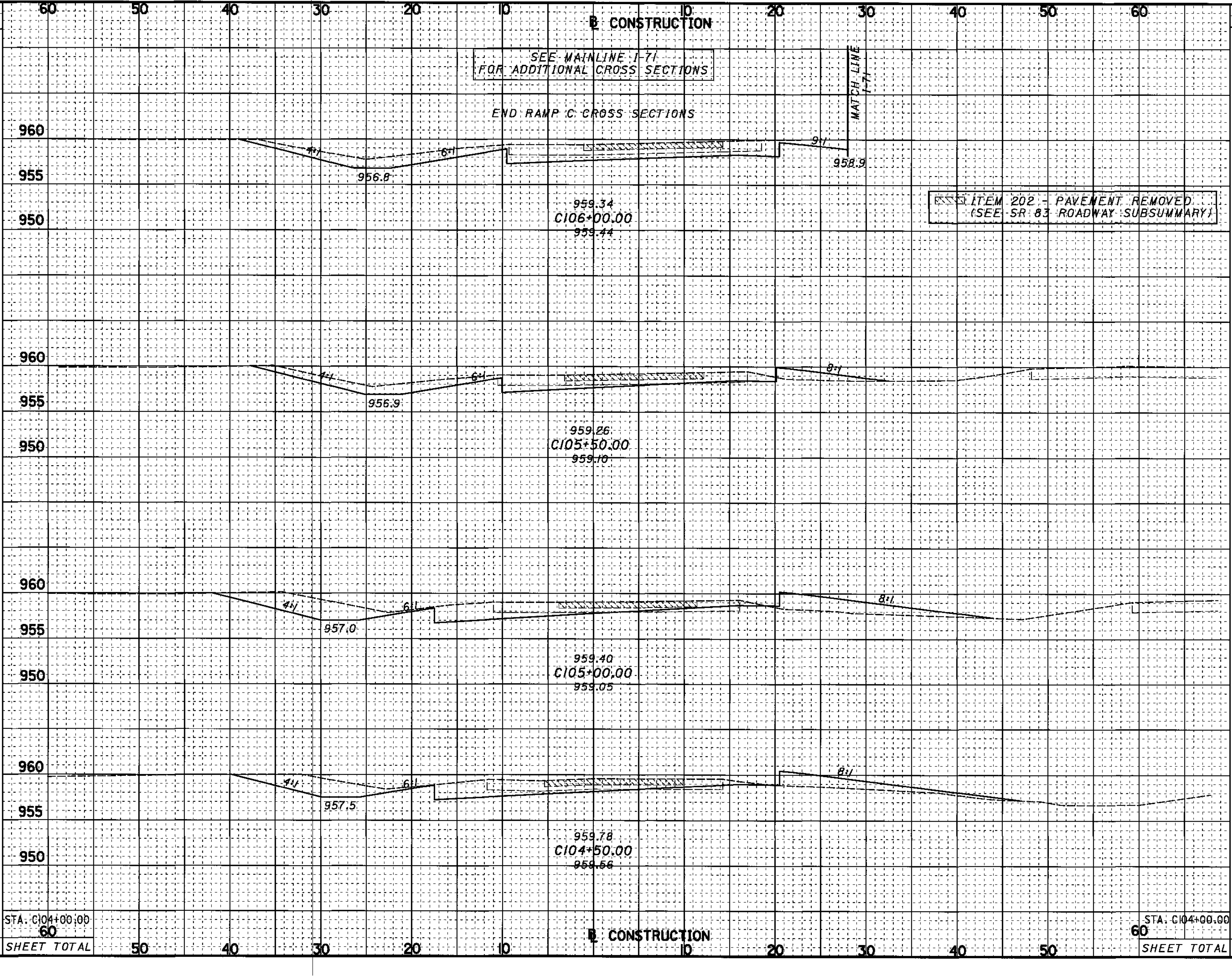
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
46		41	20		
	228			72	33
36		37	16		
	200			62	35
36		30	22		
	236			56	65
49		30	48		
	306			60	95
61		35	55		
	970 SHEET TOTAL		SHEET TOTAL	250	228

CALCULATED ESP
CHECKED BBB

CROSS SECTIONS - RAMP C
STA. C102+50.00 TO STA. C104+00.00

WAY/MED-71-7.04/0.00

SEEDING	
END WIDTH	SQ. YDS.
42	
	242
45	
	272
53	
	297
54	
	278
46	
	1089 SHEET TOTAL



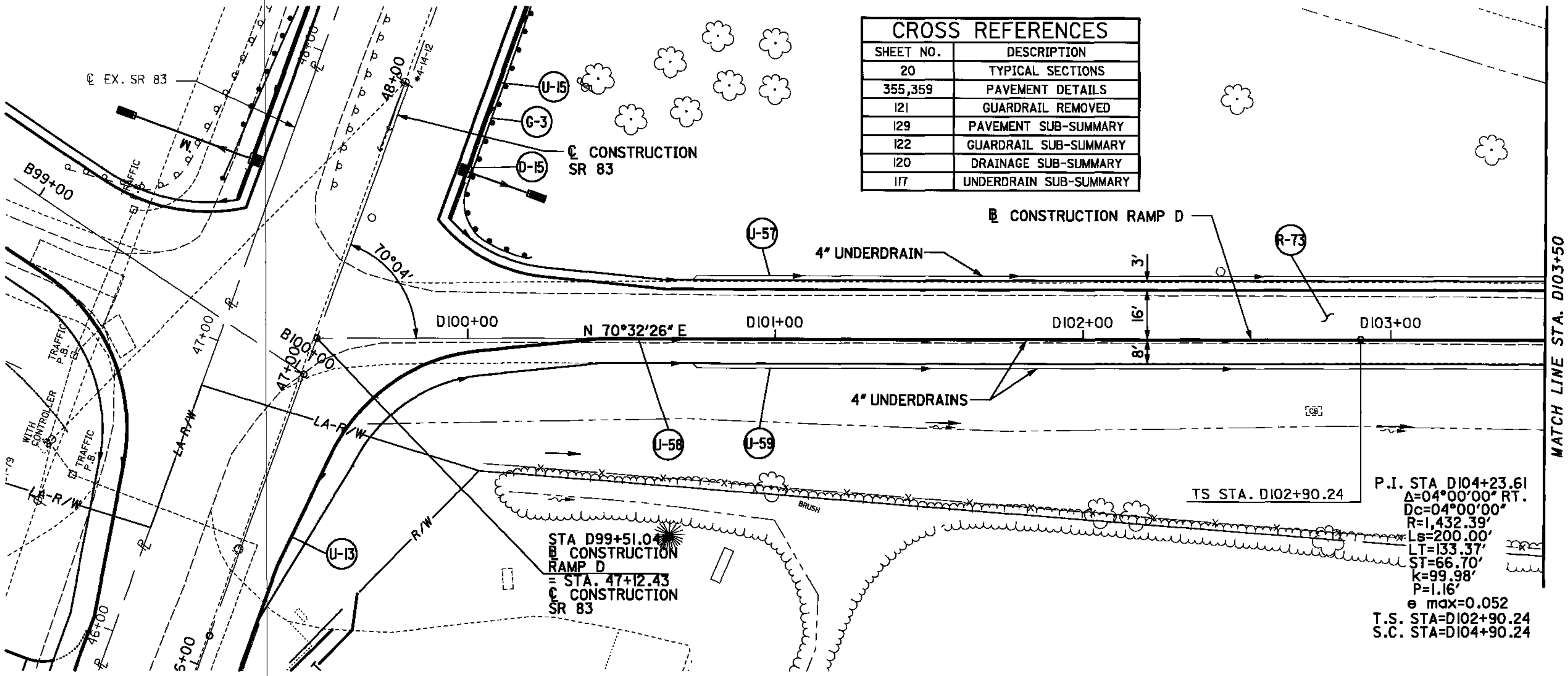
END AREA		VOLUME	
CUT	FILL	CUT	FILL
68	0		
		112	9
53	10		
		112	35
68	28		
		119	44
61	20		
		94	37
41	20		
		437	125

CALCULATED ESP
CHECKED BBB

CROSS SECTIONS - RAMP C
STA. C104+50.00 TO STA. C106+00.00

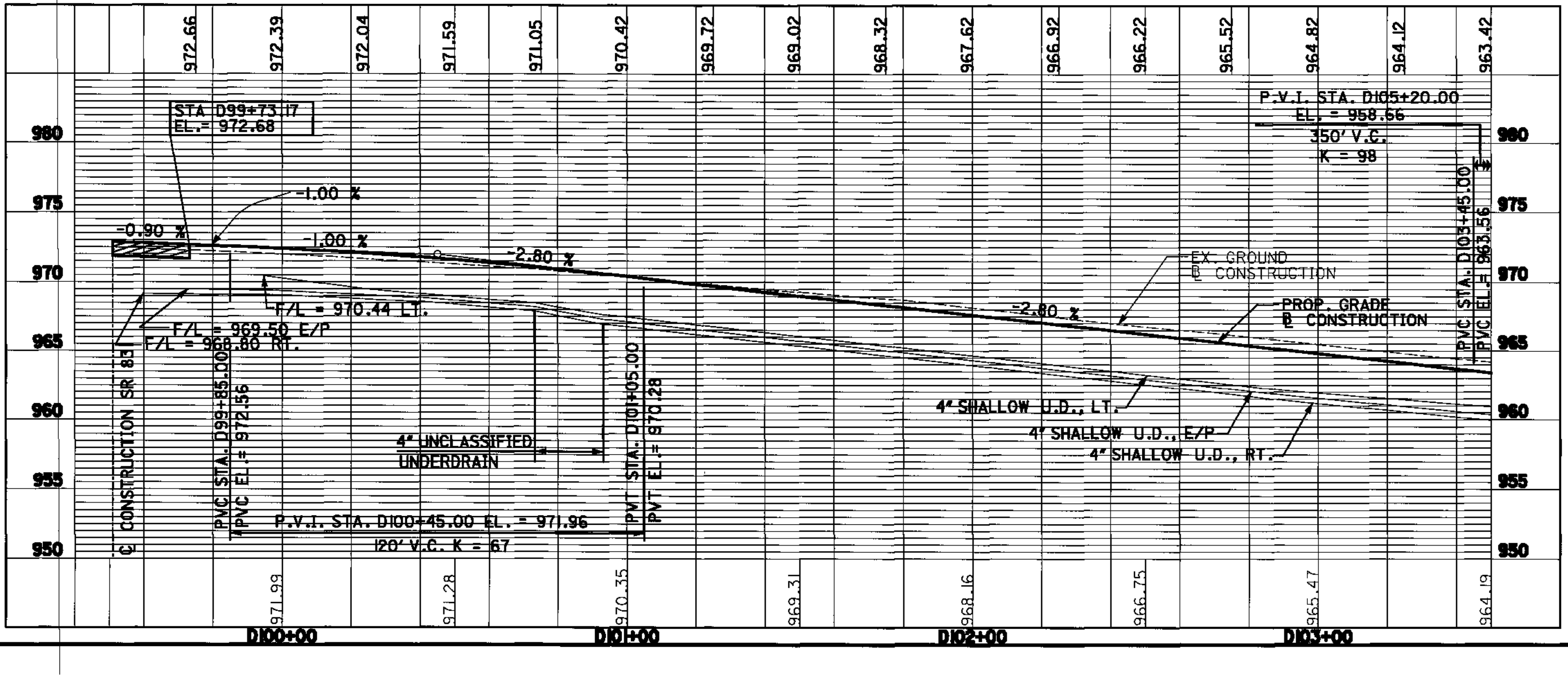
WAY/MED-71-7.04/0.00

339
785



CROSS REFERENCES

SHEET NO.	DESCRIPTION
20	TYPICAL SECTIONS
355,359	PAVEMENT DETAILS
121	GUARDRAIL REMOVED
129	PAVEMENT SUB-SUMMARY
122	GUARDRAIL SUB-SUMMARY
120	DRAINAGE SUB-SUMMARY
117	UNDERDRAIN SUB-SUMMARY

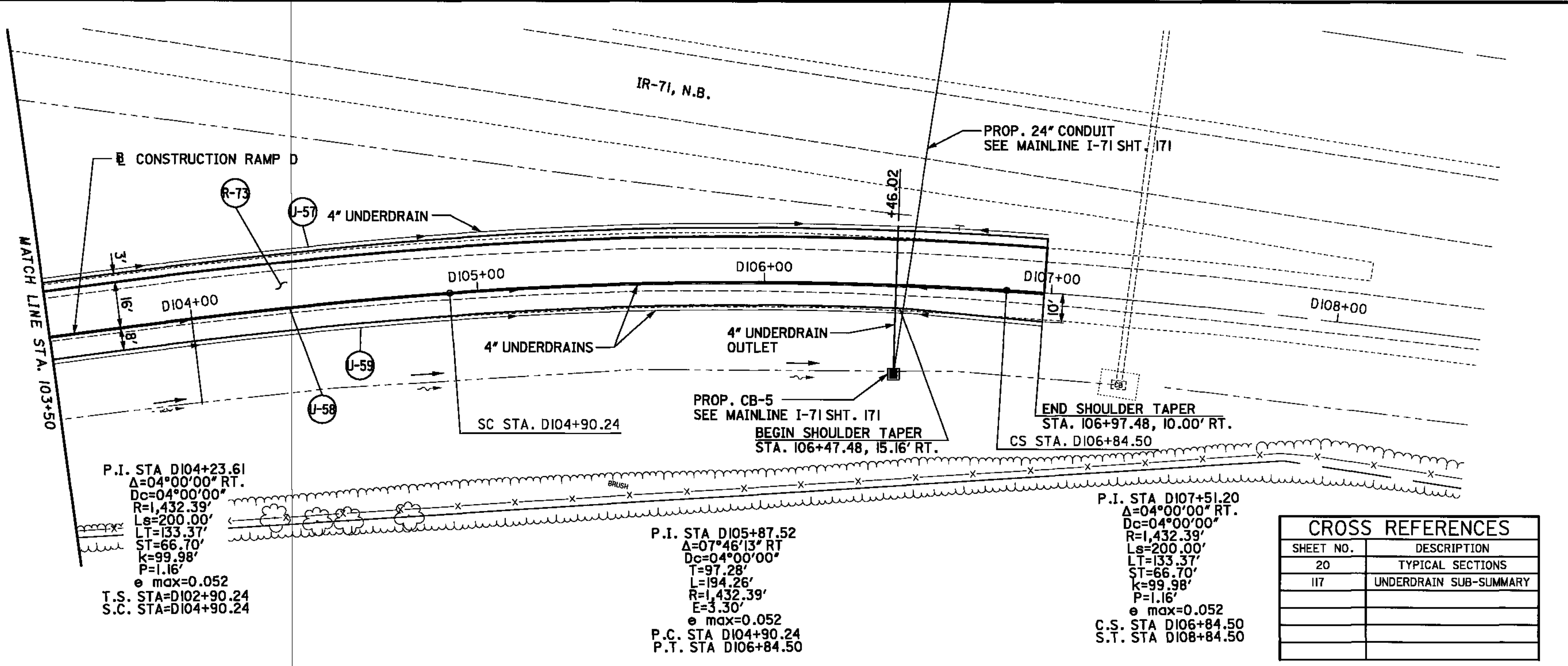


0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED ESP
CHECKED BBB

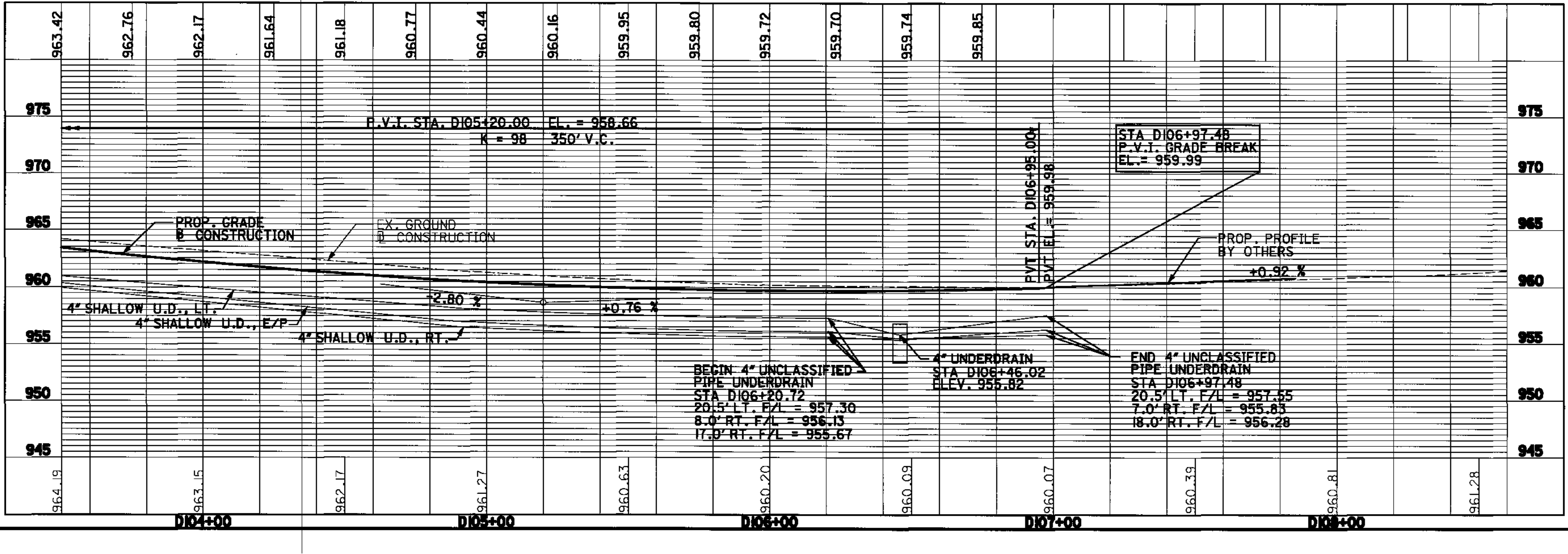
PLAN AND PROFILE - RAMP D
STA. D99+73.17 TO STA. D103+50.00

WAY/MED-71-7.04/0.00



CROSS REFERENCES

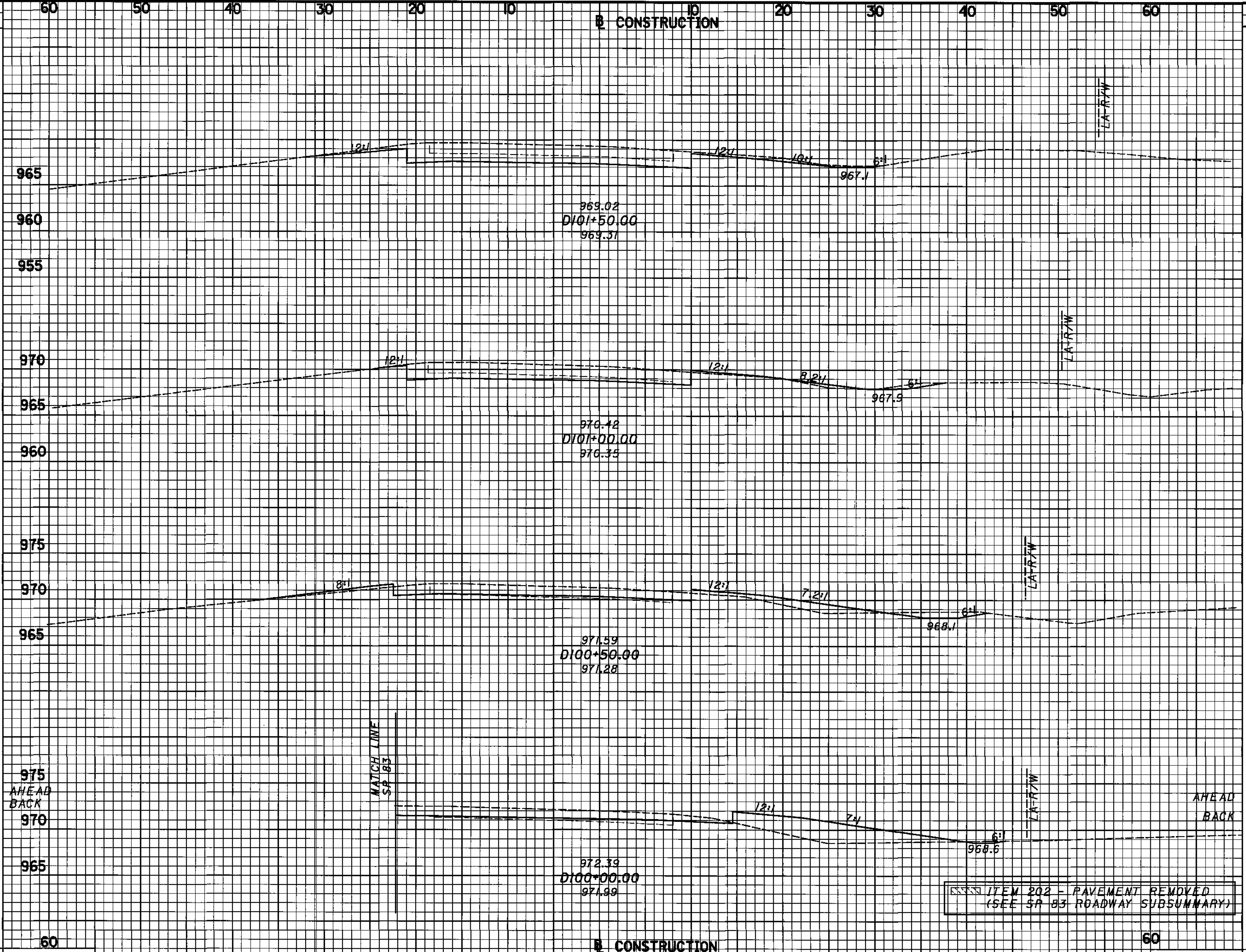
SHEET NO.	DESCRIPTION
20	TYPICAL SECTIONS
117	UNDERDRAIN SUB-SUMMARY



CALCULATED ESP
CHECKED BBB

PLAN AND PROFILE - RAMP D
STA. D103+50.00 TO STA. D106+97.48

WAY/MED-71-7.04/0.00



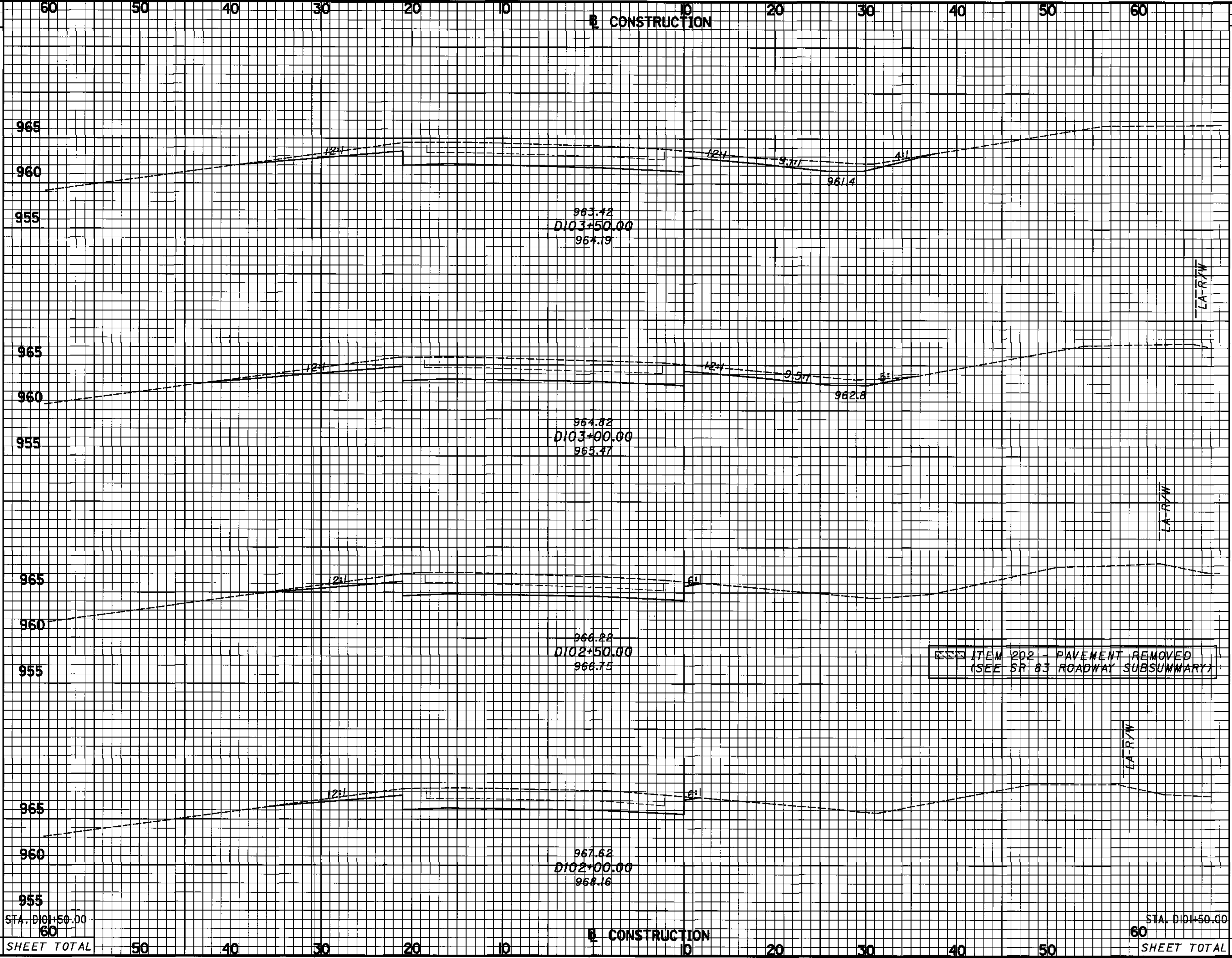
ITEM 202 - PAVEMENT REMOVED
(SEE SP 83 ROADWAY SUBSUMMARY)

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
36		58	0		
	200			92	3
36		41	3		
	233			61	19
48		25	18		
	219			47	49
31		AHEAD 26	35		
0		BACK 0	0		
	652 SHEET TOTAL	SHEET TOTAL		200	71

CALCULATED ESP
CHECKED BBB

CROSS SECTIONS - RAMP D
STA. D100+00.00 TO STA. D101+50.00

WAY/MED-71-7.04/0.00

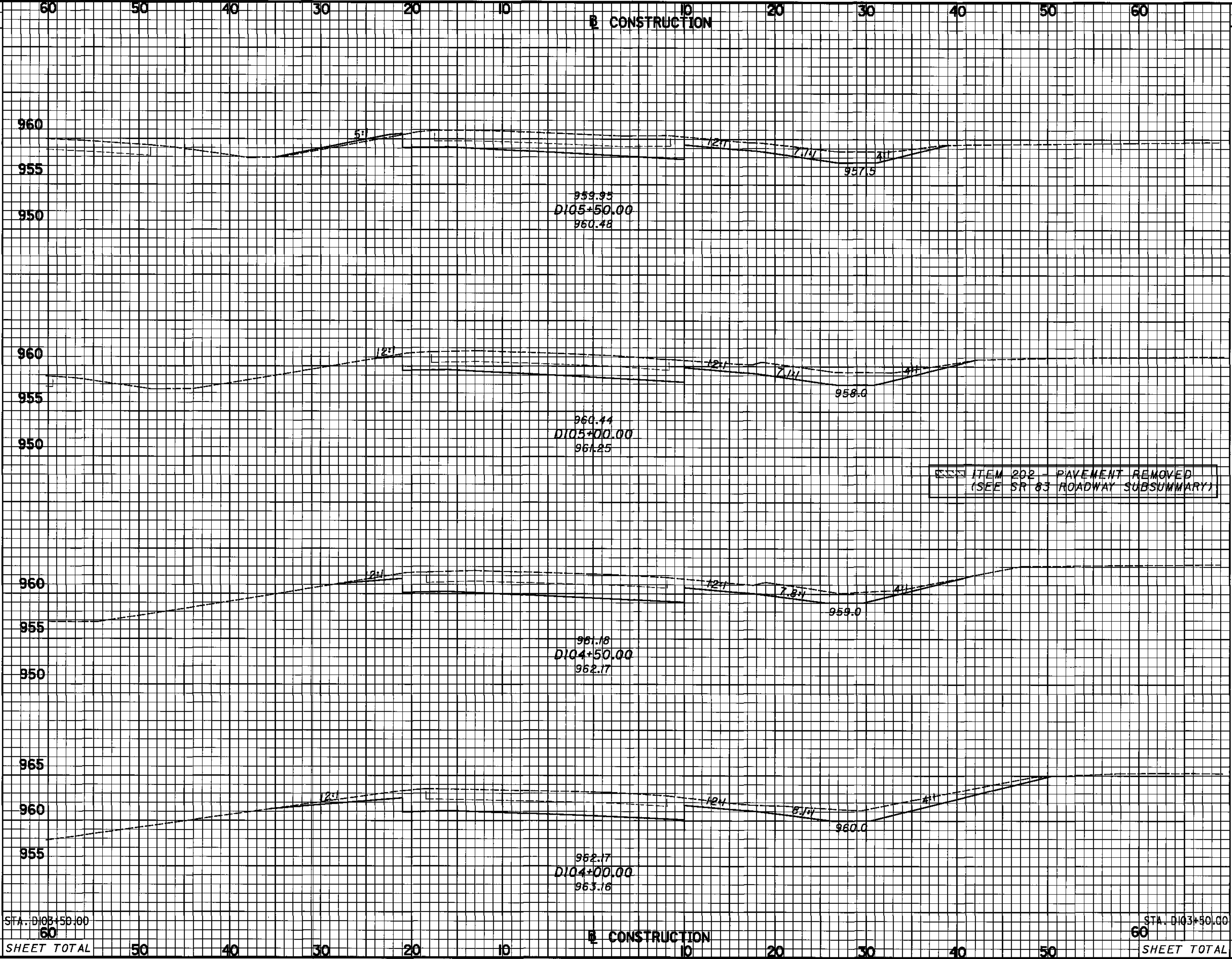


SEEDING END WIDTH	SEEDING SQ. YDS.	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
51		D103+50.00	92	0		
	286				170	0
52		D103+00.00	92	0		
	206				147	0
22		D102+50.00	67	0		
	122				119	0
22		D102+00.00	62	0		
	161				111	0
36		STA. D101+50.00	58	0		
	775	SHEET TOTAL			547	0

CALCULATED ESP
CHECKED BBB

CROSS SECTIONS - RAMP D
STA. D102+00.00 TO STA. D103+50.00

WAY/MED-71-7.04/0.00



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
47		80	1		
	242			159	1
40		92	0		
	233			174	0
44		96	0		
	292			190	0
61		109	0		
	311			186	0
51		92	0		
	1078 SHEET TOTAL			709	1

SHEET TOTAL

CALCULATED ESP
CHECKED BBB

CROSS SECTIONS - RAMP D
STA. D104+00.00 TO STA. D105+50.00

WAY/MED-71-7.04/0.00

CROSS SECTIONS - RAMP D
STA. D106+00.00

WAY/MED-71-7.04/0.00

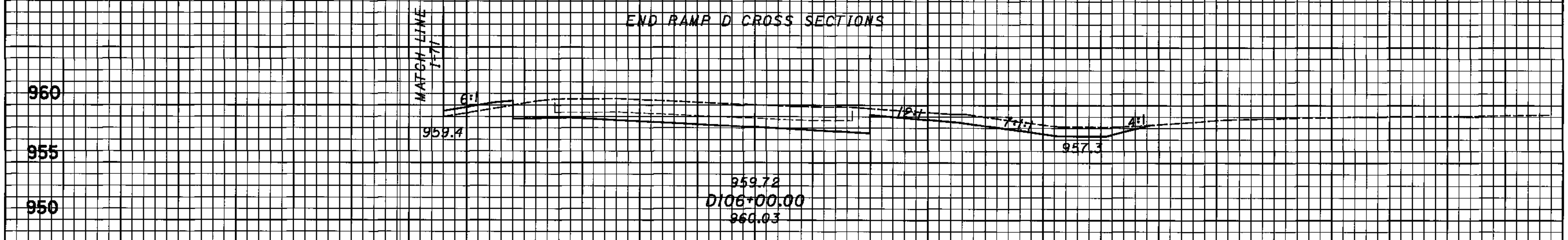
CALCULATED ESP
CHECKED BBB

℄ CONSTRUCTION

▧ ITEM 202 - PAVEMENT REMOVED
(SEE SR 83 ROADWAY SUBSUMMARY)

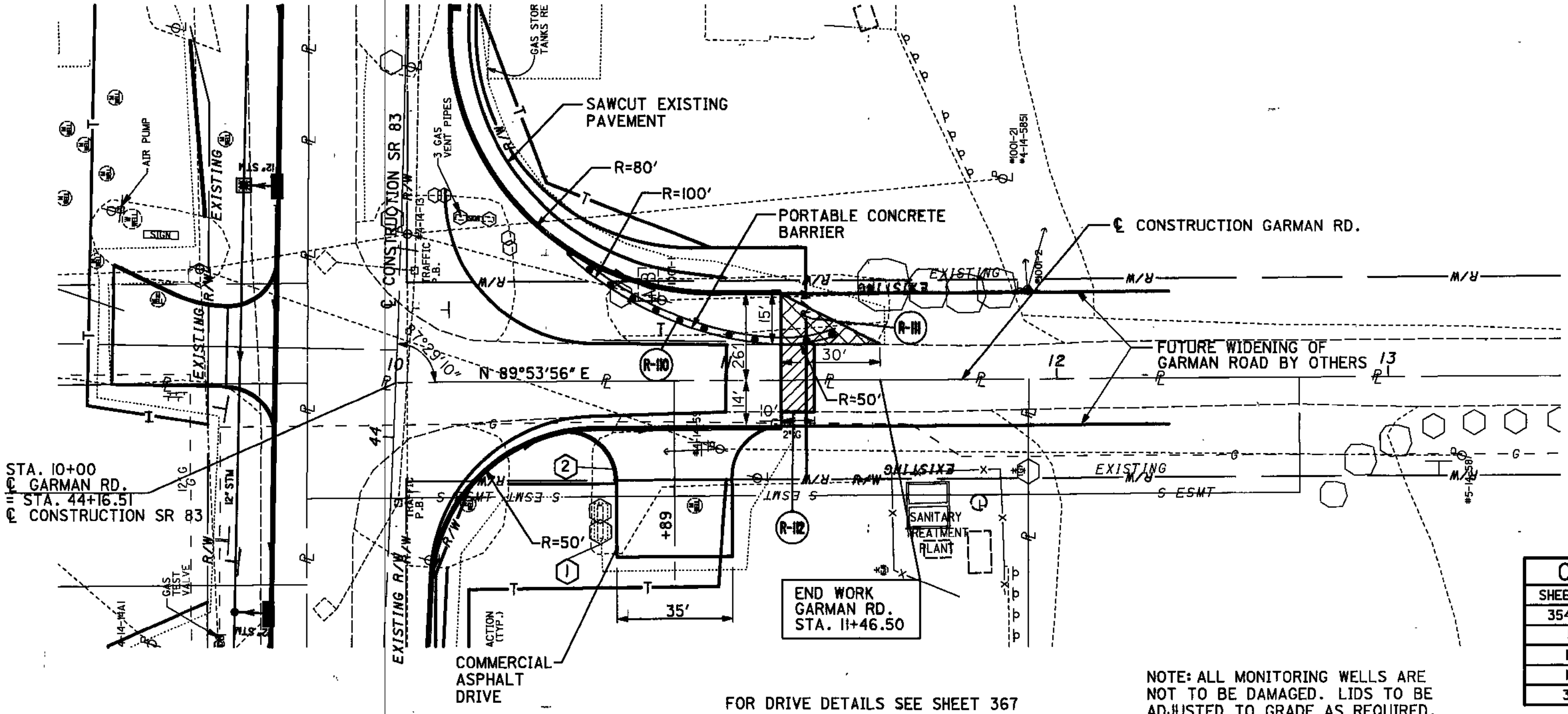
SEE MAINLINE I-71
FOR ADDITIONAL CROSS SECTIONS

END RAMP D CROSS SECTIONS



	SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	33		59	3		
		222			128	4
STA. D105+50.00	47		80	1		
SHEET TOTAL		222			128	4

60 50 40 30 20 10 ℄ CONSTRUCTION 10 20 30 40 50 60



FOR DRIVE DETAILS SEE SHEET 367

NOTE: ALL MONITORING WELLS ARE NOT TO BE DAMAGED. LIDS TO BE ADJUSTED TO GRADE AS REQUIRED.

① DO NOT DISTURB

② TAPER CURB HEIGHT FROM 0" TO 6" IN 10'

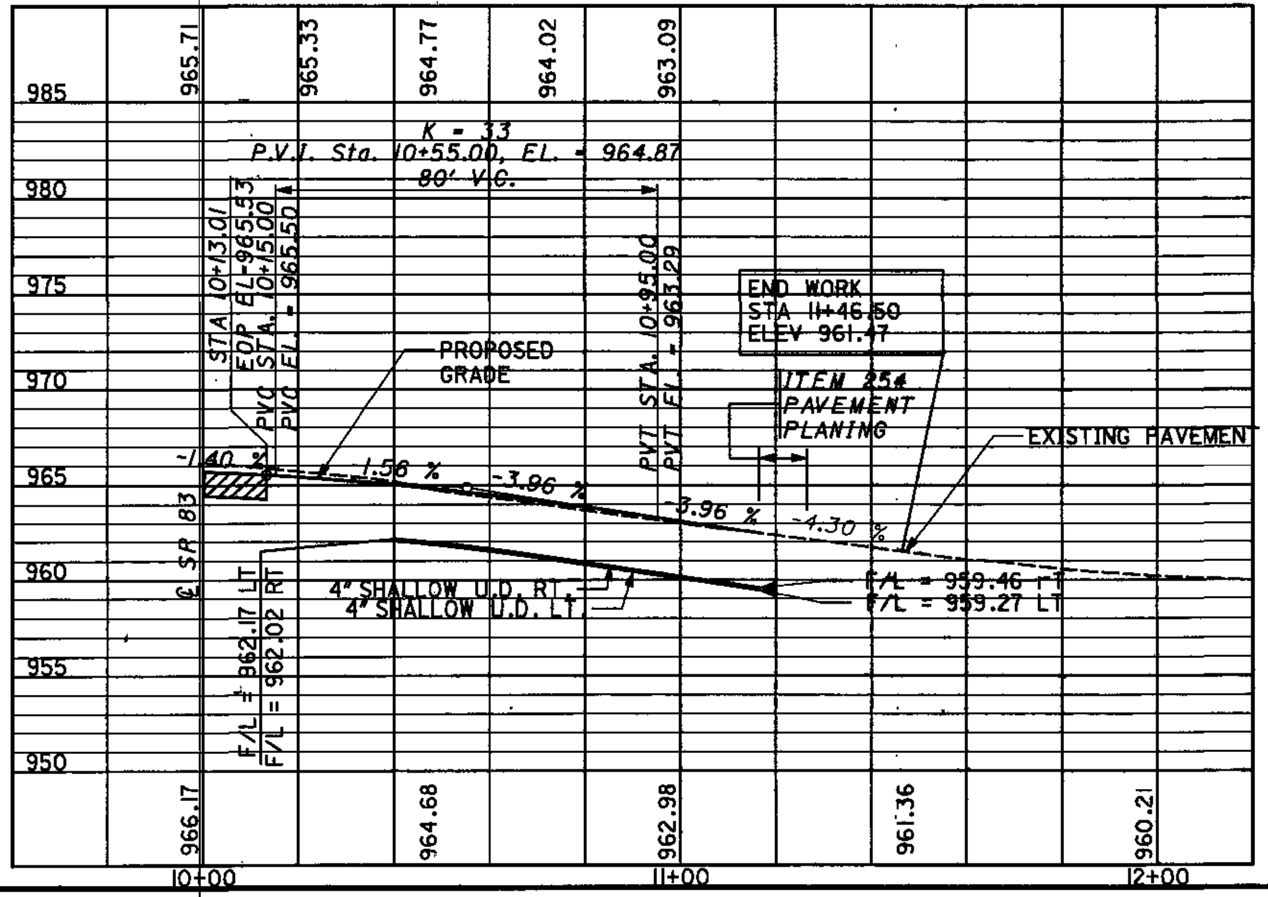
LEGEND

▩ TEMPORARY PAVEMENT

▨ FEATHERING

CROSS REFERENCES

SHEET NO.	DESCRIPTION
354,358	PAVEMENT DETAILS
117	UNDERDRAIN SUMMARY
129	PAVEMENT SUMMARY
120	DRAINAGE SUMMARY
367	DRIVEWAY DETAILS

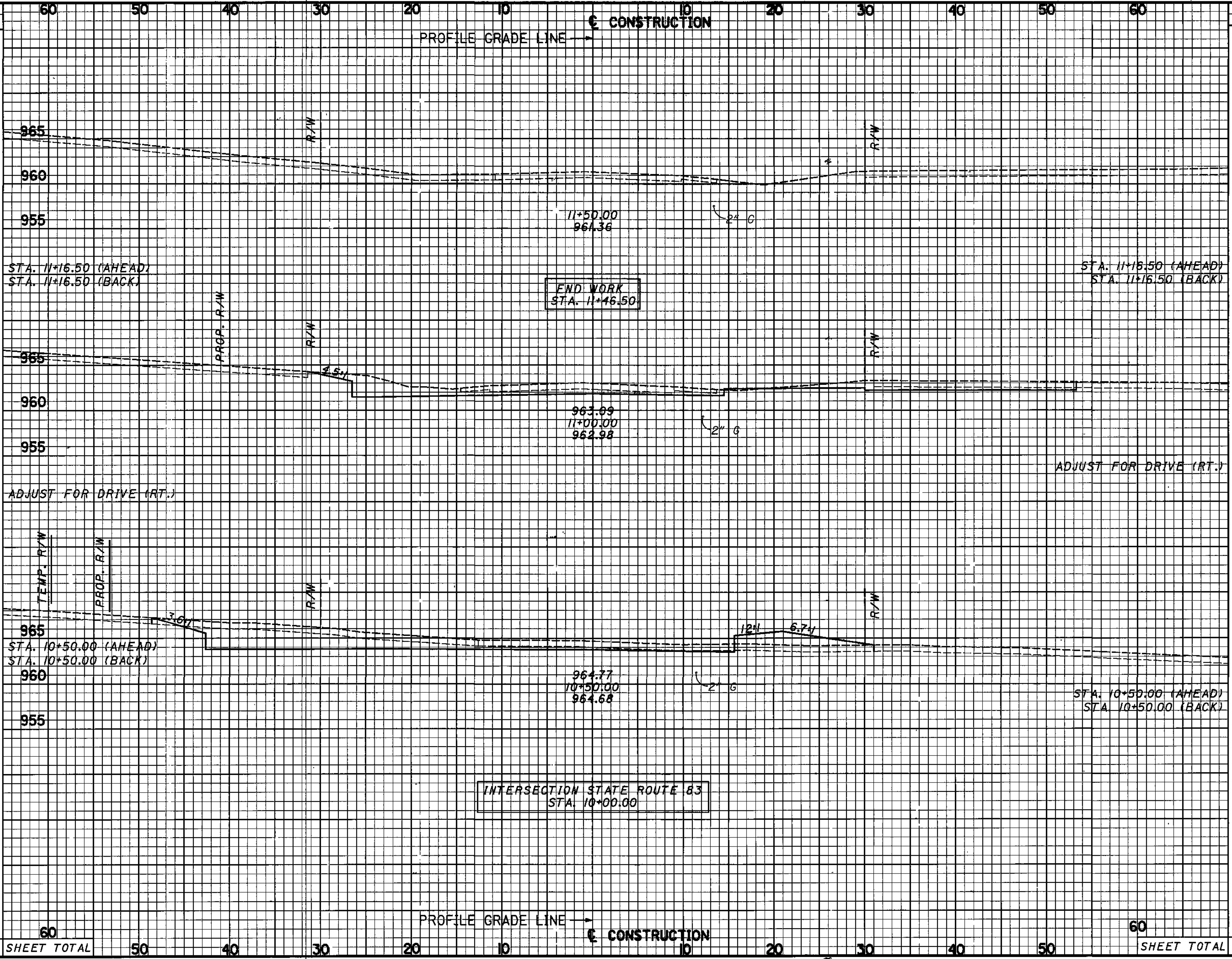


HORIZONTAL SCALE IN FEET 0 10 20 40

KSG
CHECKED TJH

PLAN AND PROFILE - GARMAN ROAD
STA. 10+13 TO STA. 11+00

WAY/MED-71-7.04/0.00

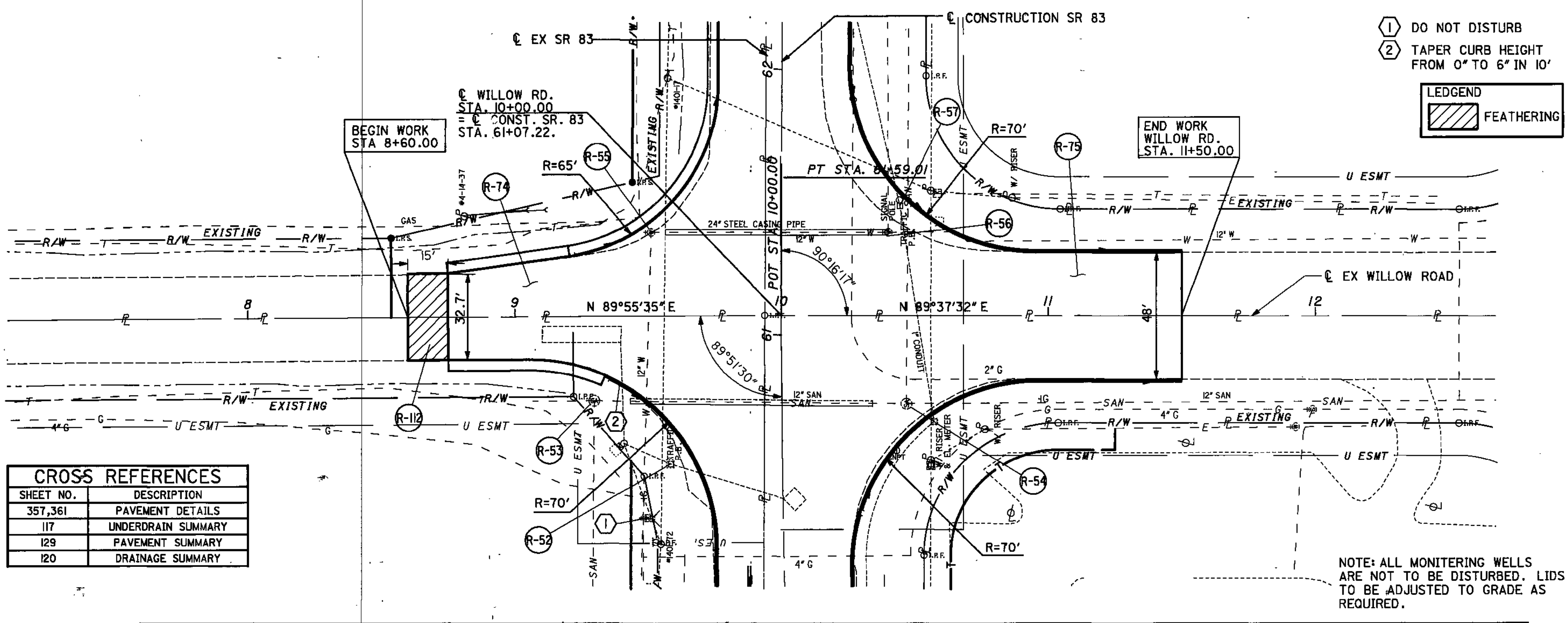


	SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
STA. 11+16.50 (AHEAD)	0		0	0		
STA. 11+16.50 (BACK)	9		76	1		
		17			47	1
	9		76	1		
ADJUST FOR DRIVE (RT.)		(62)			50	(35)
		92			267	38
STA. 10+50.00 (AHEAD)	24		212	40		
STA. 10+50.00 (BACK)	0		0	0		
SHEET TOTAL		47			364	4

CALCULATED CRG
CHECKED BBB

CROSS SECTIONS - GARMAN ROAD
STA. 10+50.00 TO STA. 11+50.00

WAY/MED-71-7.04/0.00

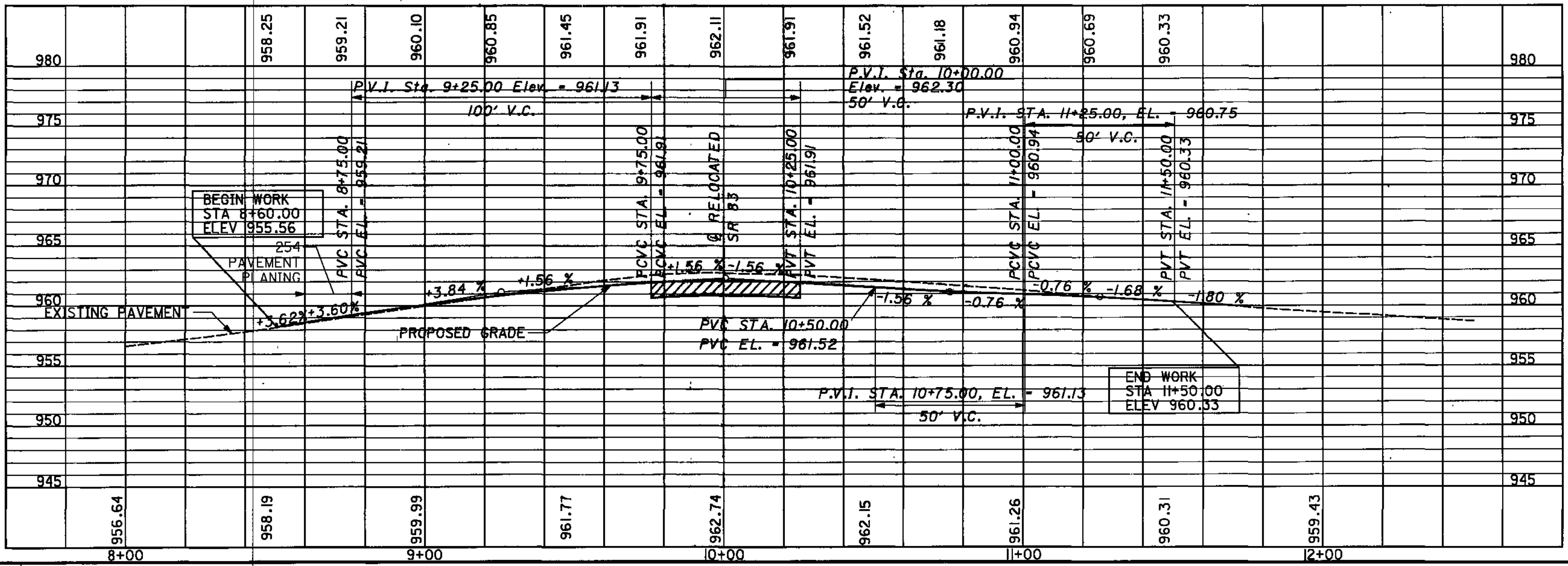


① DO NOT DISTURB
② TAPER CURB HEIGHT FROM 0" TO 6" IN 10'

LEDGEND	
▨	FEATHERING

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
357,361	PAVEMENT DETAILS
117	UNDERDRAIN SUMMARY
129	PAVEMENT SUMMARY
120	DRAINAGE SUMMARY

NOTE: ALL MONITERING WELLS ARE NOT TO BE DISTURBED. LIDS TO BE ADJUSTED TO GRADE AS REQUIRED.



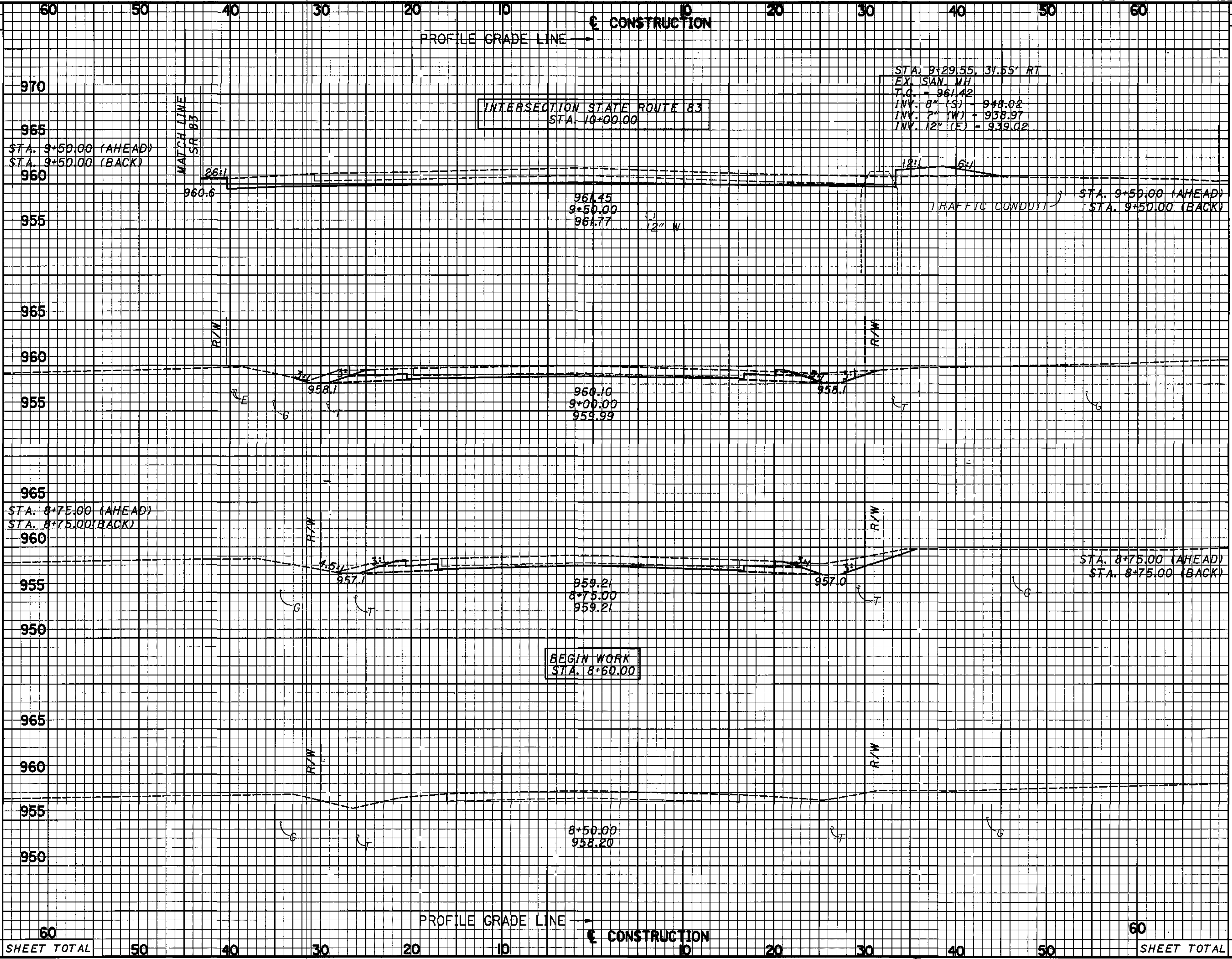
HORIZONTAL SCALE IN FEET
0 10 20 40

KSG
CHECKED TJH

PLAN AND PROFILE - WILLOW ROAD
STA. 8+75 TO STA. 11+50

WAY/MED-71-7.04/0.00

CROSS SECTIONS - WILLOW ROAD
STA. 8+50.00 TO STA. 9+50.00

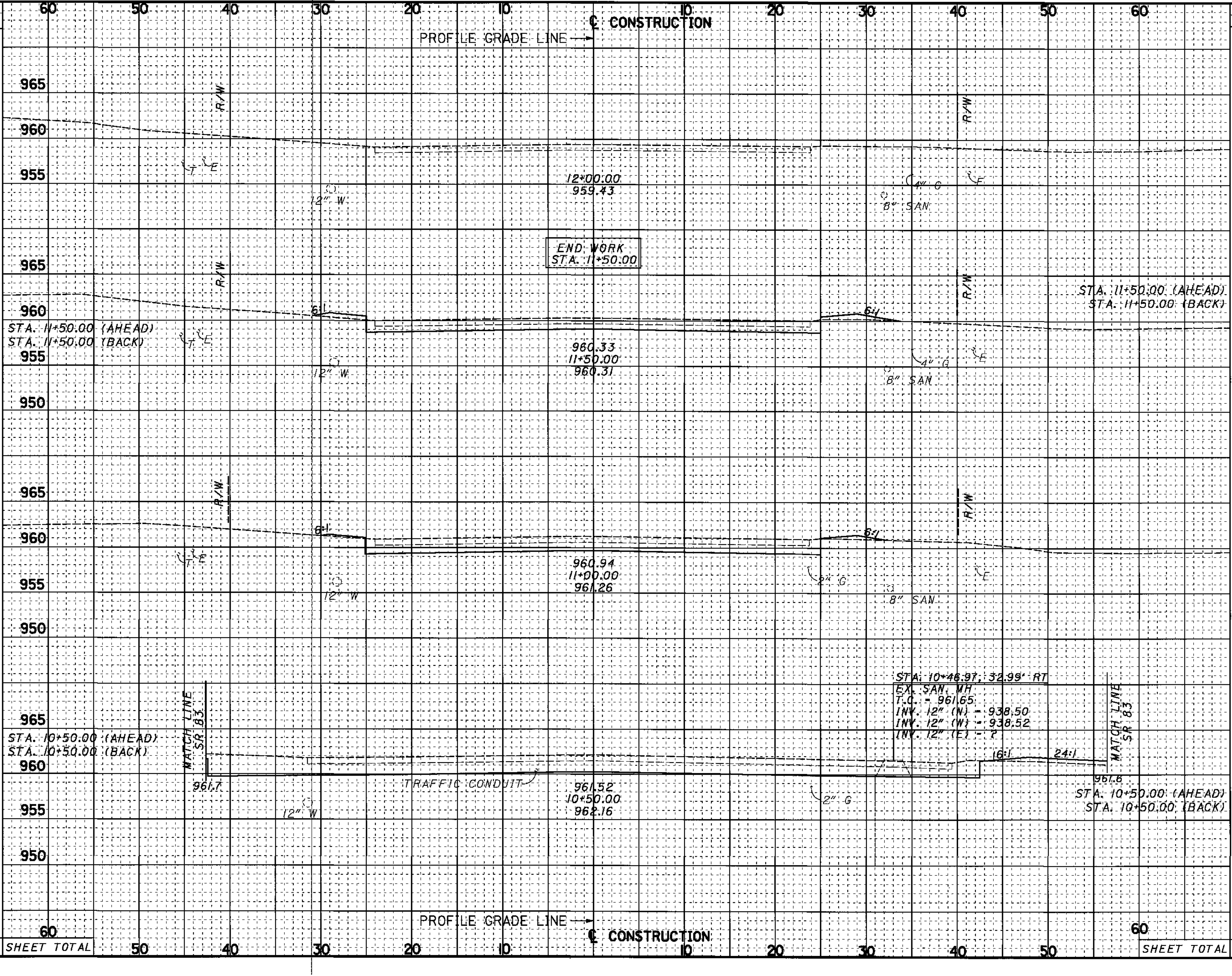


SEEDING	
END WIDTH	SQ. YDS.
0 19	
	125
26	
	75
28 0	
	200 SHEET TOTAL

END AREA		VOLUME	
CUT	FILL	CUT	FILL
0 101	0 9		
		145	9
56	0		
		53	0
58 0	0 0		
SHEET TOTAL		198	9

CALCULATED CRG
CHECKED BBB

WAY/MED-71-7.04/0.00

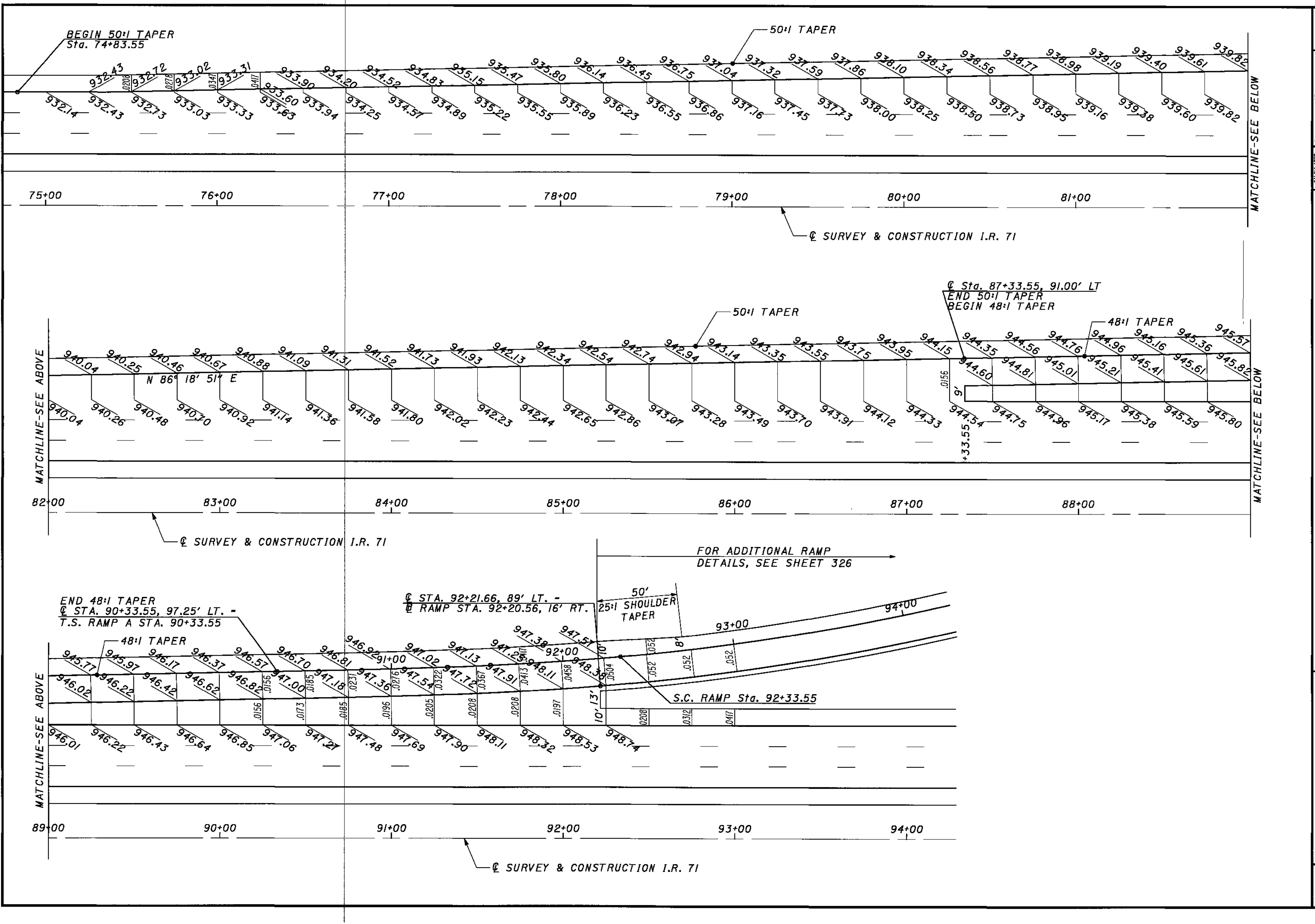


	SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
STA. 11+50.00 (AHEAD)	0		0	0		
STA. 11+50.00 (BACK)	19		65	6		
		97			135	7
11+00.00	16		81	2		
		94			225	7
STA. 10+50.00 (AHEAD)	18		162	5		
STA. 10+50.00 (BACK)	0		0	0		
SHEET TOTAL		191			360	14

CALCULATED CRG
CHECKED BBB

CROSS SECTIONS - WILLOW ROAD
STA. 10+50.00 TO STA. 12+00.00

WAY/MED-71-7.04/0.00



P:/PR30895/CADD/14017GAA.DGN

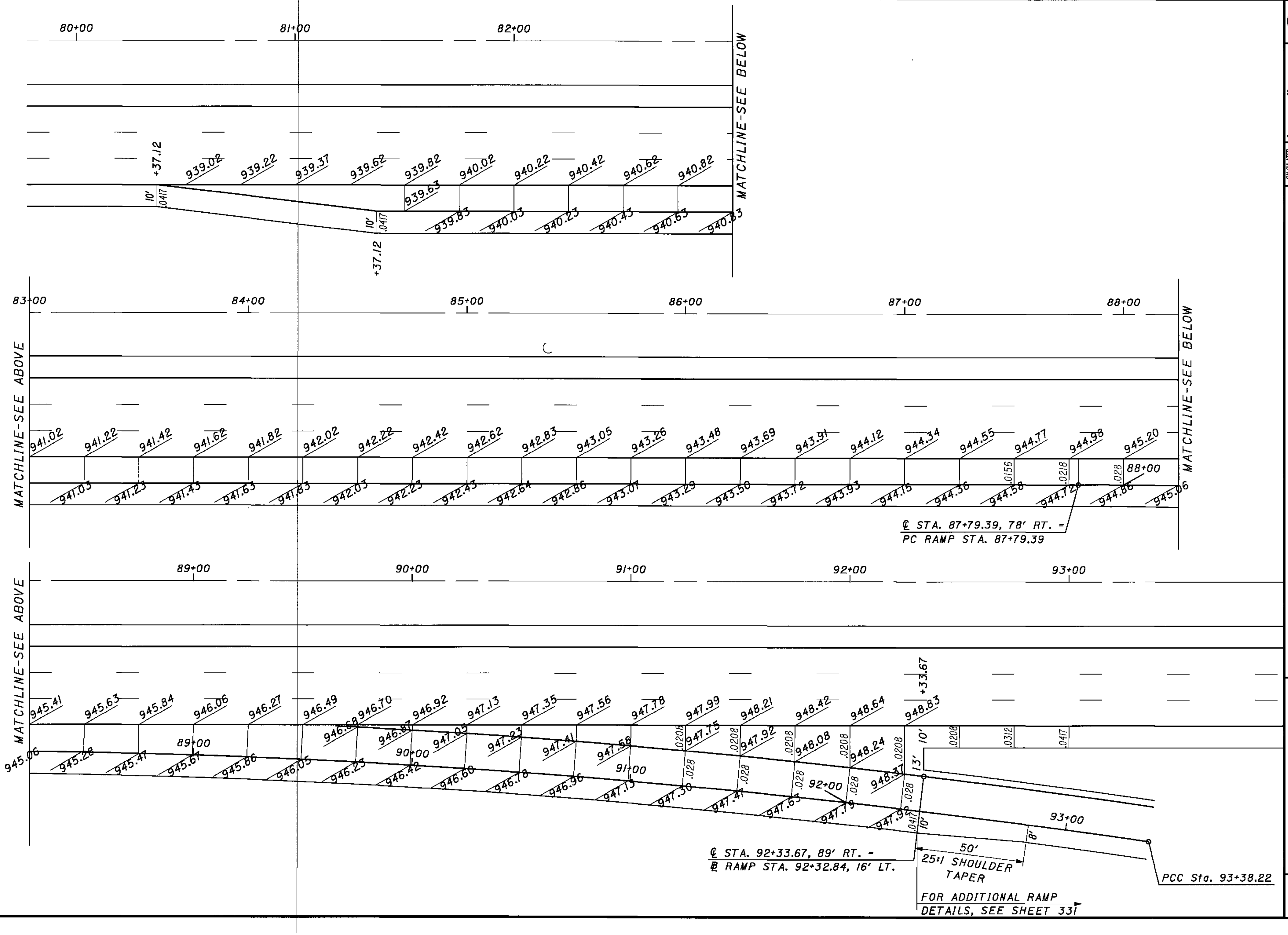
N

0 25 50
HORIZONTAL SCALE IN FEET

CALCULATED BKM
CHECKED

IR 71/ SR 83 INTERCHANGE
RAMP A PAVEMENT DETAILS

WAY/MED-71-7.04/0.00



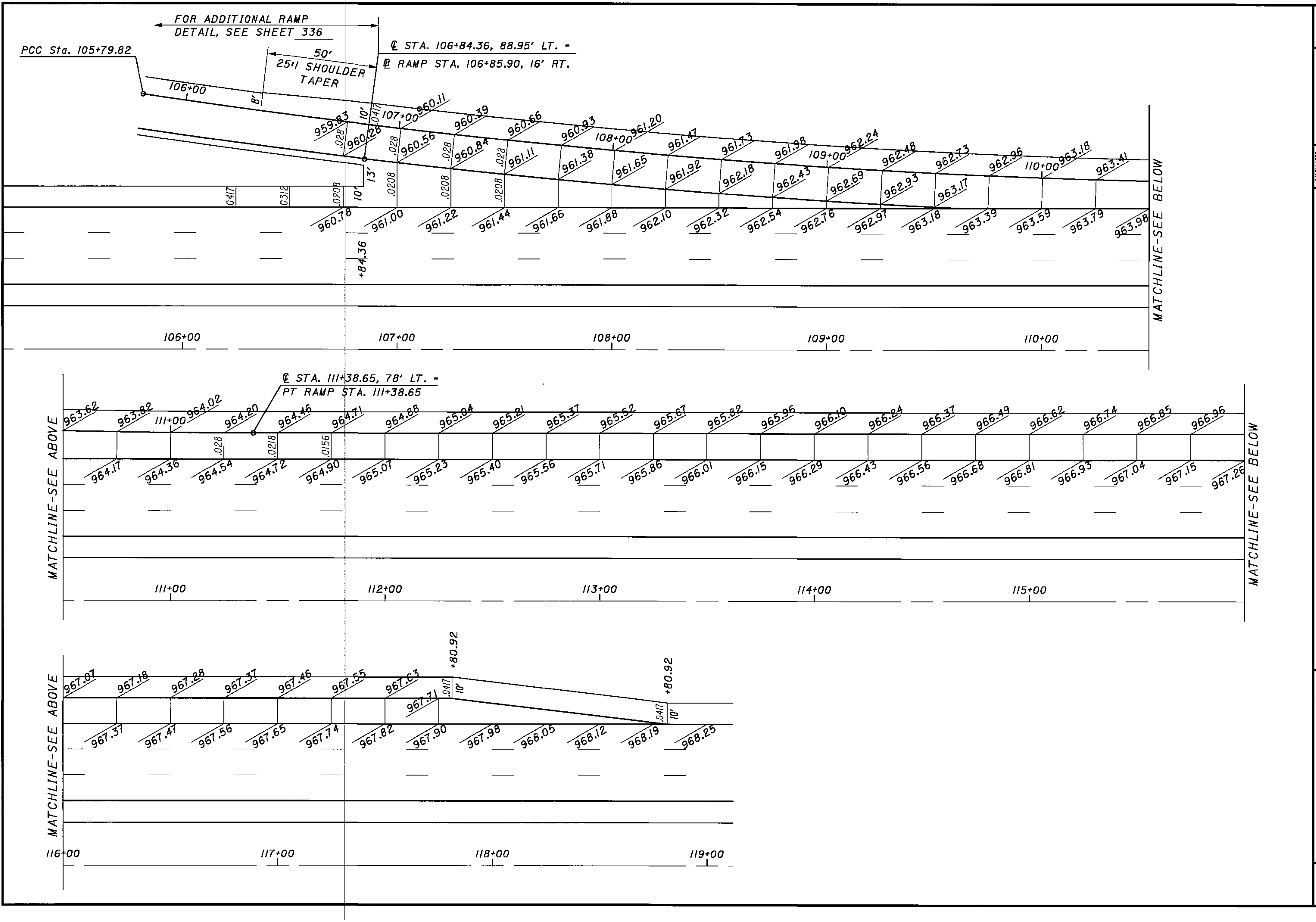
0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED BKM
CHECKED

IR 71/ SR 83 INTERCHANGE
RAMP B PAVEMENT DETAILS

WAY/MED-71-7.04/0.00

P:/PR30895/CADD/I407GAB.DGN

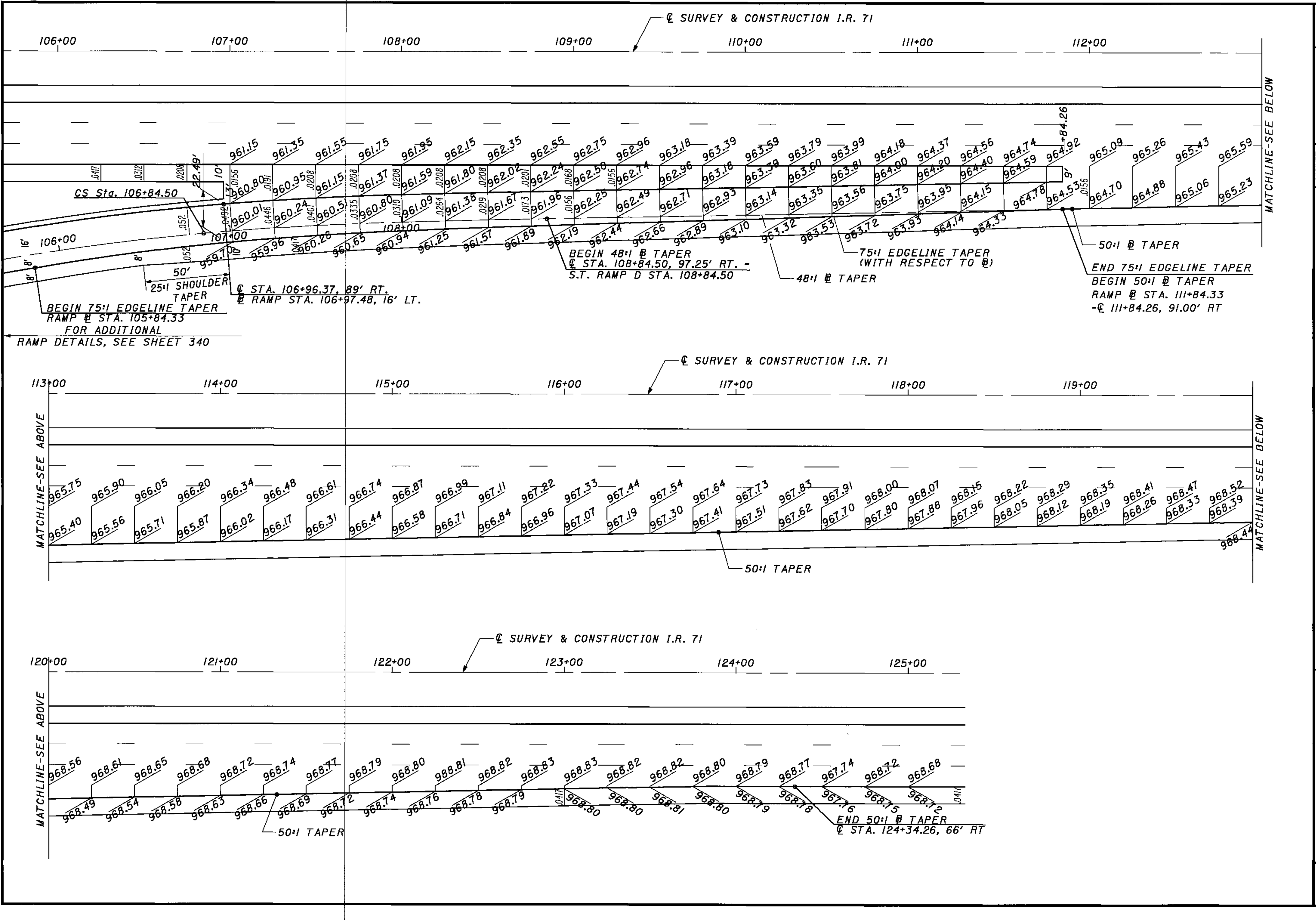


CALCULATED BKM
CHECKED

IR 71/ SR 83 INTERCHANGE
RAMP C PAVEMENT DETAILS

WAY/MED-71-7.04/0.00

P:/PR30895/CADD/14017GAC.DGN



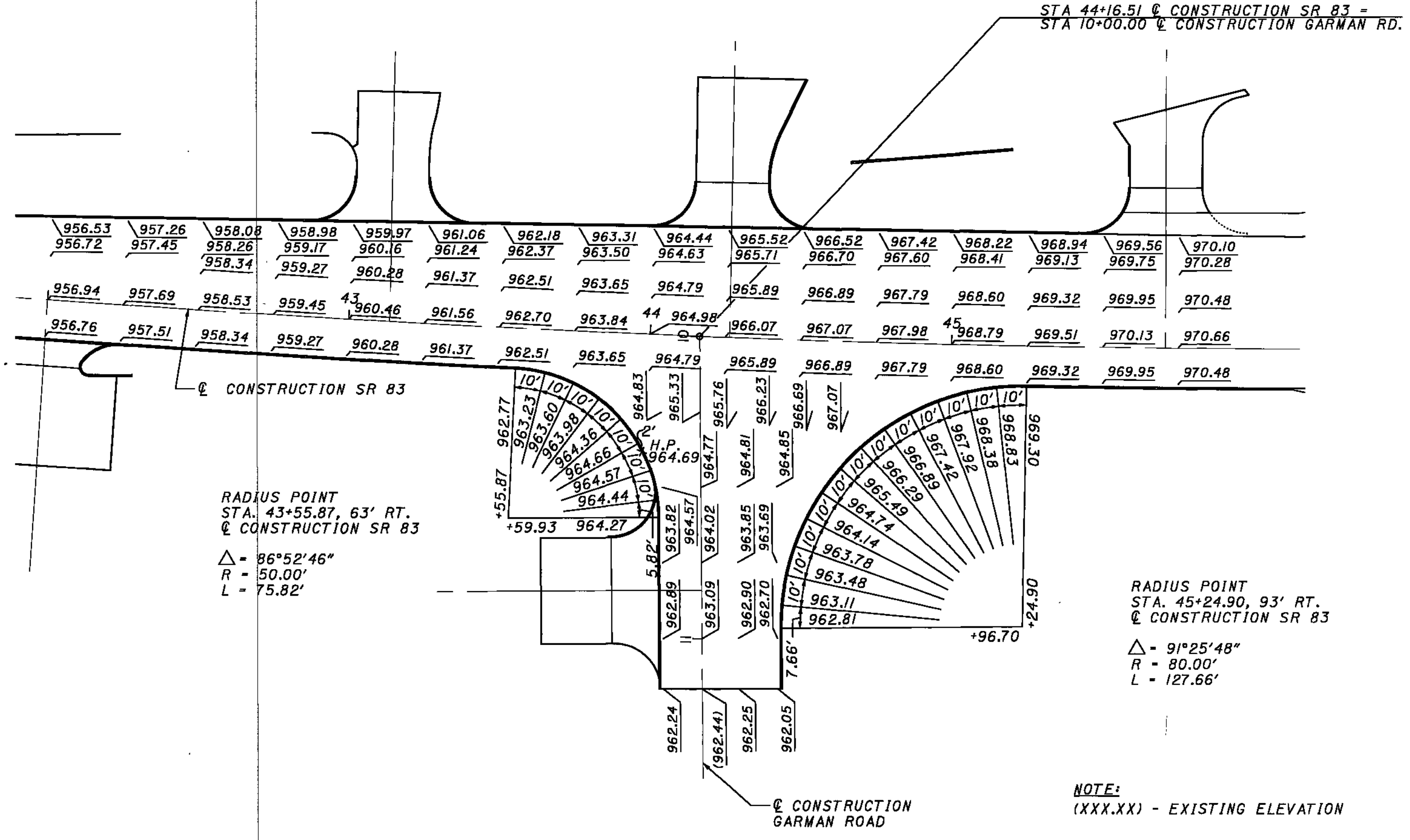
CALCULATED BKM
CHECKED

IR 71/ SR 83 INTERCHANGE
RAMP D PAVEMENT DETAILS

WAY/MED-71-7.04/0.00

353
785

P:/PR30895/CADD/14017GAD.DGN



NOTE:
(XXX.XX) - EXISTING ELEVATION

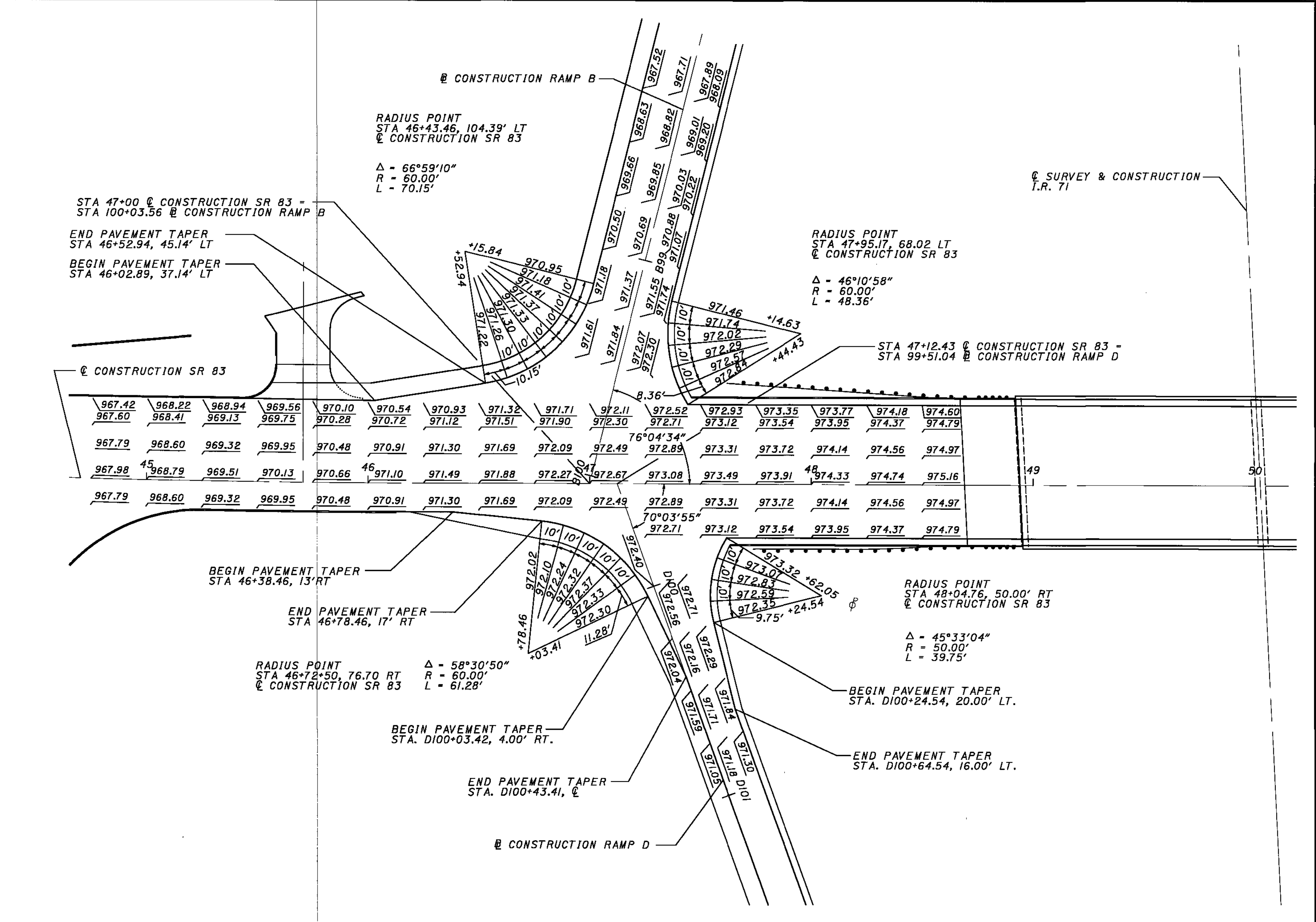
N

0 10 20 40
HORIZONTAL
SCALE IN FEET

CALCULATED ESP
CHECKED BBB

INTERSECTION DETAIL
SR 83 AND GARMAN ROAD

WAY/MED-71-7.04/0.00



CALCULATED ESP

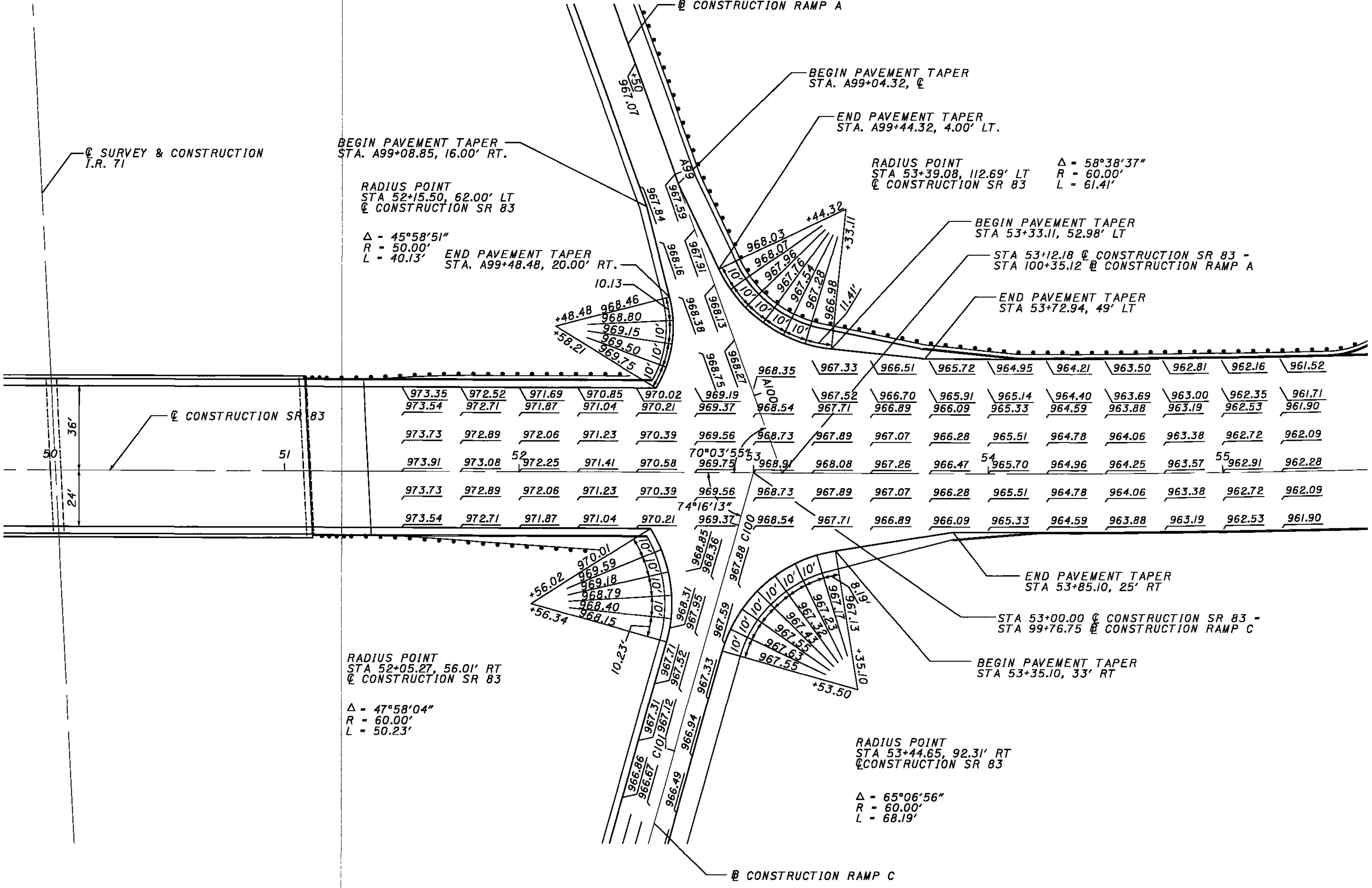
CHECKED BBB

0 10 20 40

HORIZONTAL SCALE IN FEET

INTERSECTION DETAIL
SR 83 AT RAMP B / RAMP D

WAY/MED-71-7.04/0.00



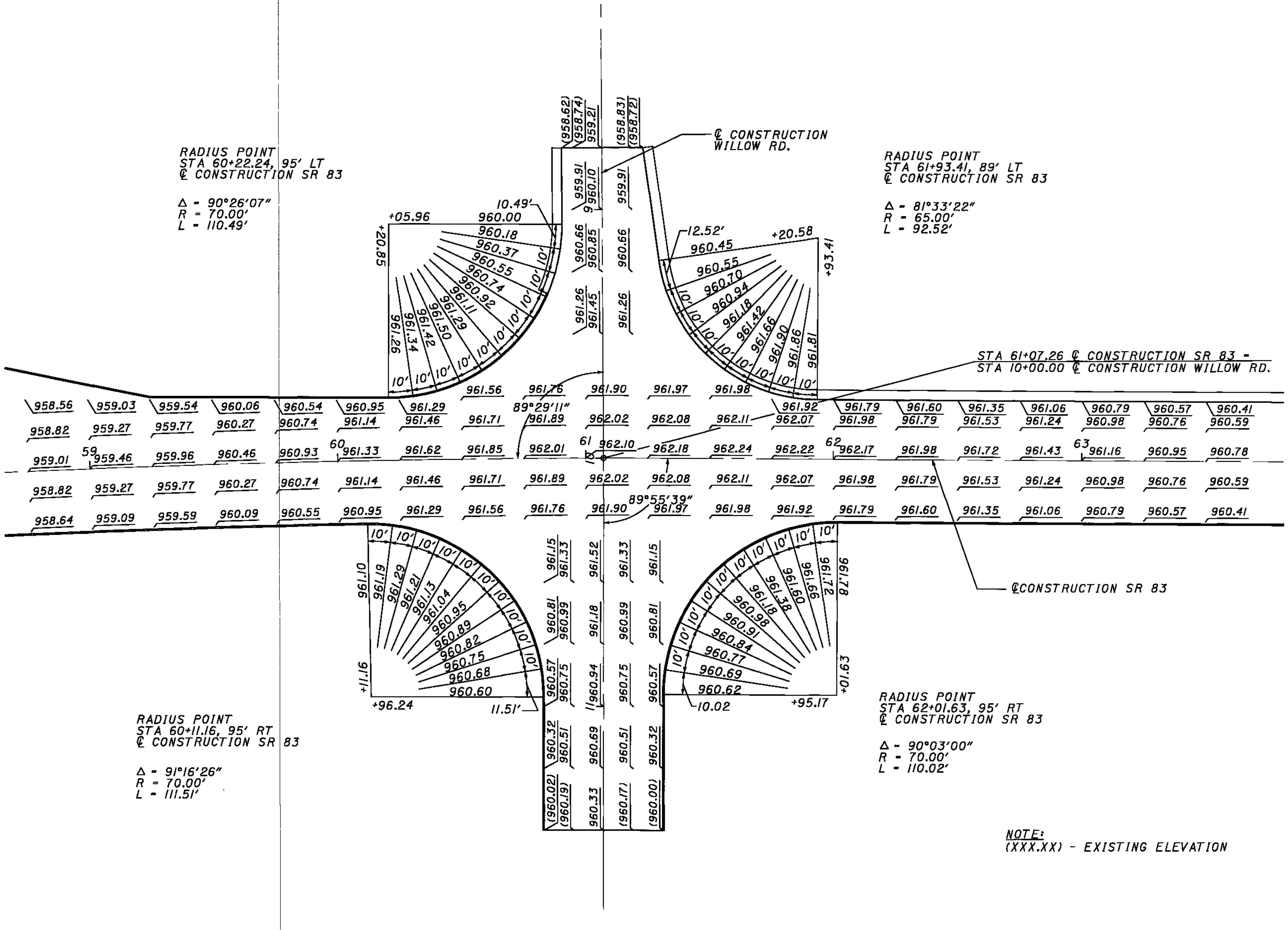
N

0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED ESP
CHECKED BBB

INTERSECTION DETAIL
SR 83 AT RAMP A / RAMP C

WAY/MED-71-7.04/0.00



CALCULATED ESP
CHECKED BBB

0 10 20 40
HORIZONTAL SCALE IN FEET

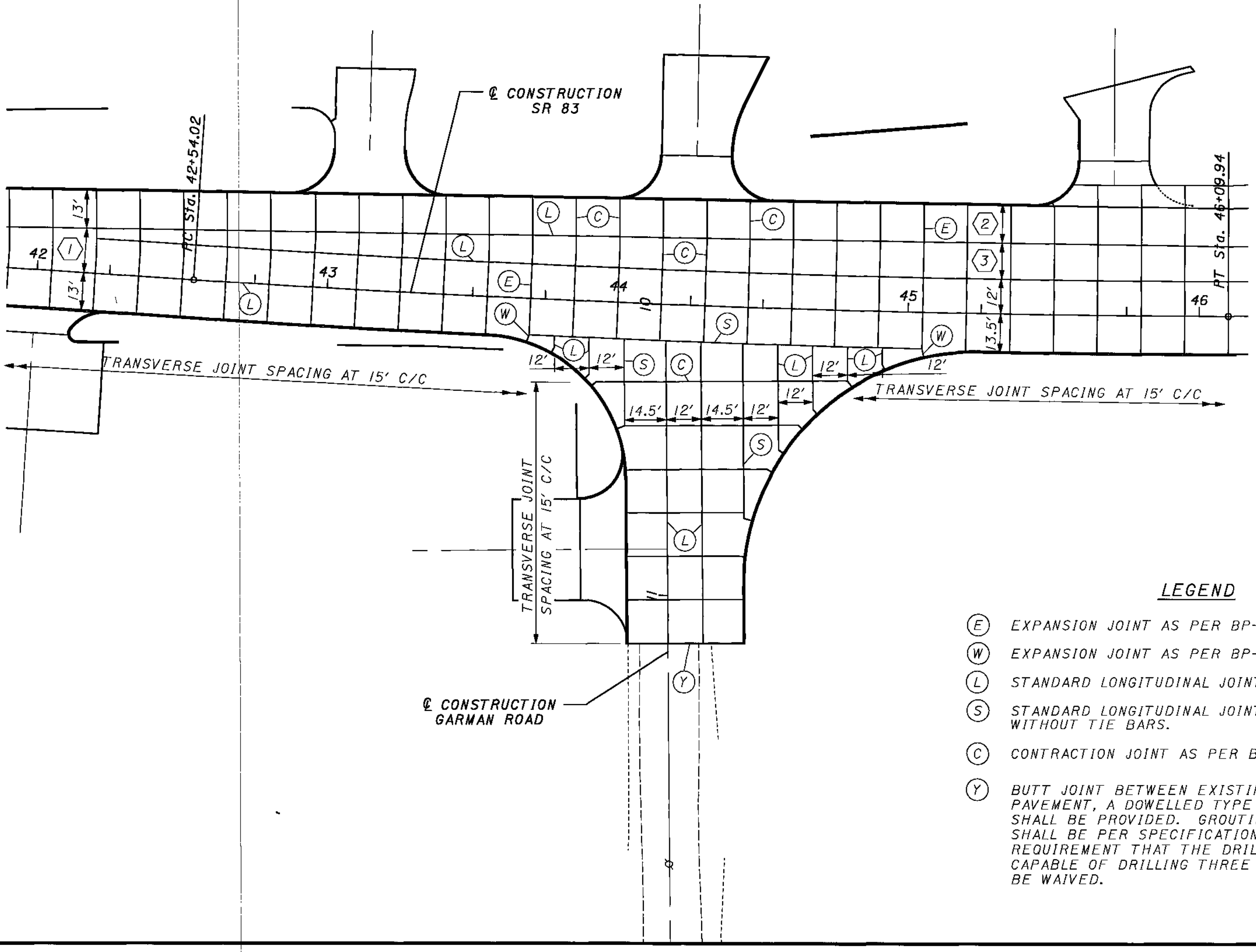
INTERSECTION DETAIL
SR 83 AND WILLOW ROAD

WAY/MED-71-7.04/0.00

⟨1⟩ WIDTH VARIES FROM 3.94′ TO 15.47′

⟨2⟩ WIDTH VARIES FROM 13.50′ TO 15.94′

⟨3⟩ WIDTH VARIES FROM 3.47′ TO 12.45′



℄ CONSTRUCTION SR 83
PC Sta. 42+54.02
PT Sta. 46+09.94
42
43
44
45
46
10
11
13′
13′
12′
13.5′
⟨1⟩
⟨2⟩
⟨3⟩
(L)
(C)
(E)
(W)
(S)
(Y)
12′
14.5′
TRANSVERSE JOINT SPACING AT 15′ C/C
TRANSVERSE JOINT SPACING AT 15′ C/C
TRANSVERSE JOINT SPACING AT 15′ C/C
℄ CONSTRUCTION GARMAN ROAD

LEGEND

(E) EXPANSION JOINT AS PER BP-2.2.

(W) EXPANSION JOINT AS PER BP-2.1, WITHOUT DOWEL BARS.

(L) STANDARD LONGITUDINAL JOINT AS PER BP-2.1.

(S) STANDARD LONGITUDINAL JOINT AS PER BP-2.1, WITHOUT TIE BARS.

(C) CONTRACTION JOINT AS PER BP-2.1.

(Y) BUTT JOINT BETWEEN EXISTING PAVEMENT AND PROPOSED PAVEMENT, A DOWELLED TYPE Y JOINT AS PER BP-2.5 SHALL BE PROVIDED. GROUTING AND DRILLING REQUIREMENTS SHALL BE PER SPECIFICATION 255 AND BP-2.5 EXCEPT THE REQUIREMENT THAT THE DRILLING DEVICE SHALL BE CAPABLE OF DRILLING THREE HOLES AT ONE TIME SHALL BE WAIVED.

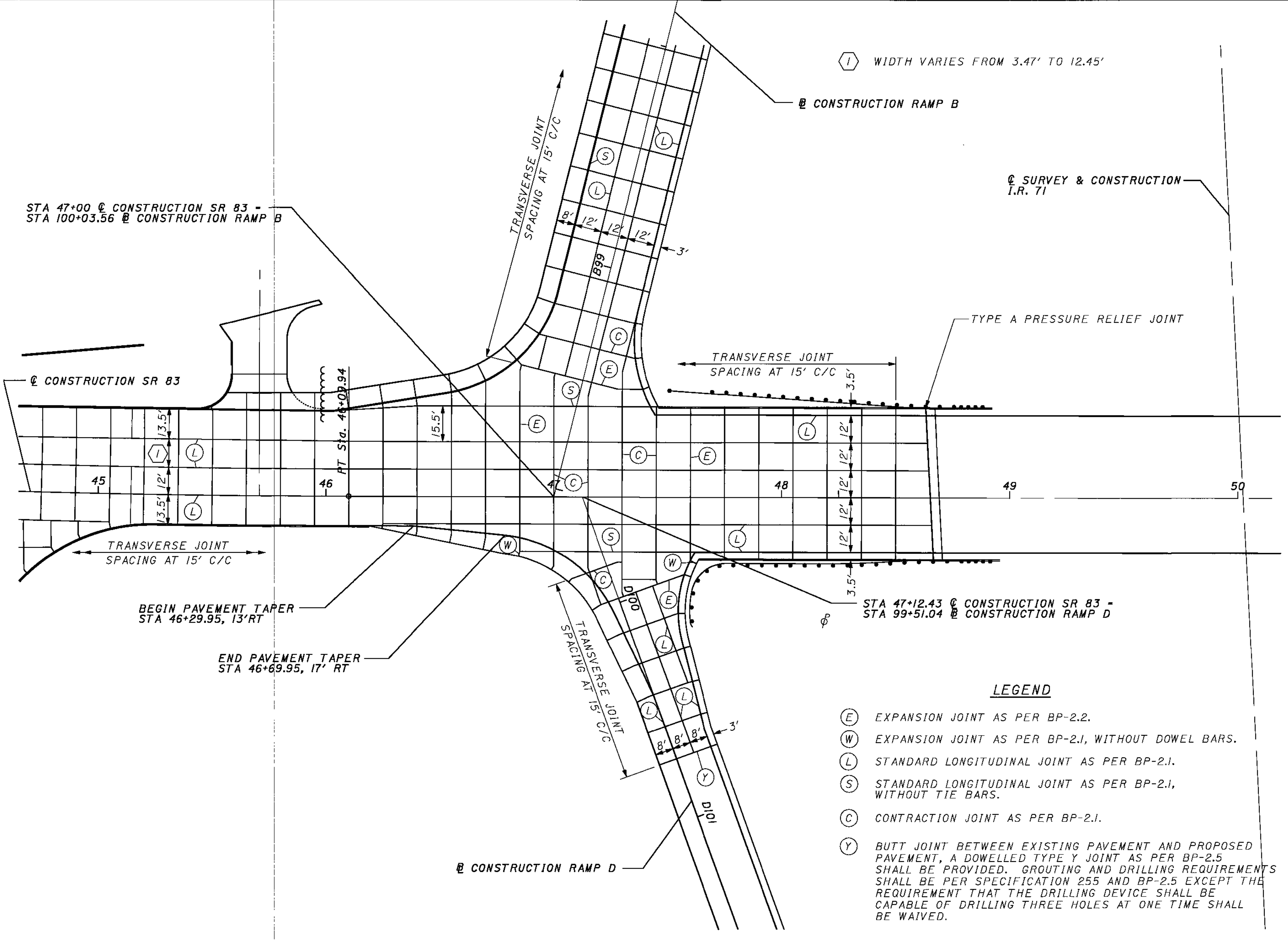
N

0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED ESP
CHECKED BBB

PAVEMENT JOINT DETAIL
SR 83 AND GARMAN ROAD

WAY/MED-71-7.04/0.00


⟨I⟩ WIDTH VARIES FROM 3.47′ TO 12.45′
℄ CONSTRUCTION RAMP B
℄ SURVEY & CONSTRUCTION I.R. 71
STA 47+00 ℄ CONSTRUCTION SR 83 - STA 100+03.56 ℄ CONSTRUCTION RAMP B
TRANSVERSE JOINT SPACING AT 15′ C/C
8′ 12′ 12′ 12′ 3′
B99
TYPE A PRESSURE RELIEF JOINT
TRANSVERSE JOINT SPACING AT 15′ C/C
3.5′
℄ CONSTRUCTION SR 83
13.5′ 12′ 13.5′
15.5′
PT Sta. 46+09.94
45
46
47
48
49
50
12′ 12′ 12′ 12′ 12′
3.5′
TRANSVERSE JOINT SPACING AT 15′ C/C
BEGIN PAVEMENT TAPER STA 46+29.95, 13′RT
END PAVEMENT TAPER STA 46+69.95, 17′ RT
STA 47+12.43 ℄ CONSTRUCTION SR 83 - STA 99+51.04 ℄ CONSTRUCTION RAMP D
D100
TRANSVERSE JOINT SPACING AT 15′ C/C
8′ 8′ 8′ 3′
D101
℄ CONSTRUCTION RAMP D
E
W
L
S
C
Y

LEGEND

- Ⓔ EXPANSION JOINT AS PER BP-2.2.
- Ⓦ EXPANSION JOINT AS PER BP-2.1, WITHOUT DOWEL BARS.
- Ⓛ STANDARD LONGITUDINAL JOINT AS PER BP-2.1.
- Ⓢ STANDARD LONGITUDINAL JOINT AS PER BP-2.1, WITHOUT TIE BARS.
- Ⓒ CONTRACTION JOINT AS PER BP-2.1.
- Ⓨ BUTT JOINT BETWEEN EXISTING PAVEMENT AND PROPOSED PAVEMENT, A DOWELLED TYPE Y JOINT AS PER BP-2.5 SHALL BE PROVIDED. GROUTING AND DRILLING REQUIREMENTS SHALL BE PER SPECIFICATION 255 AND BP-2.5 EXCEPT THE REQUIREMENT THAT THE DRILLING DEVICE SHALL BE CAPABLE OF DRILLING THREE HOLES AT ONE TIME SHALL BE WAIVED.

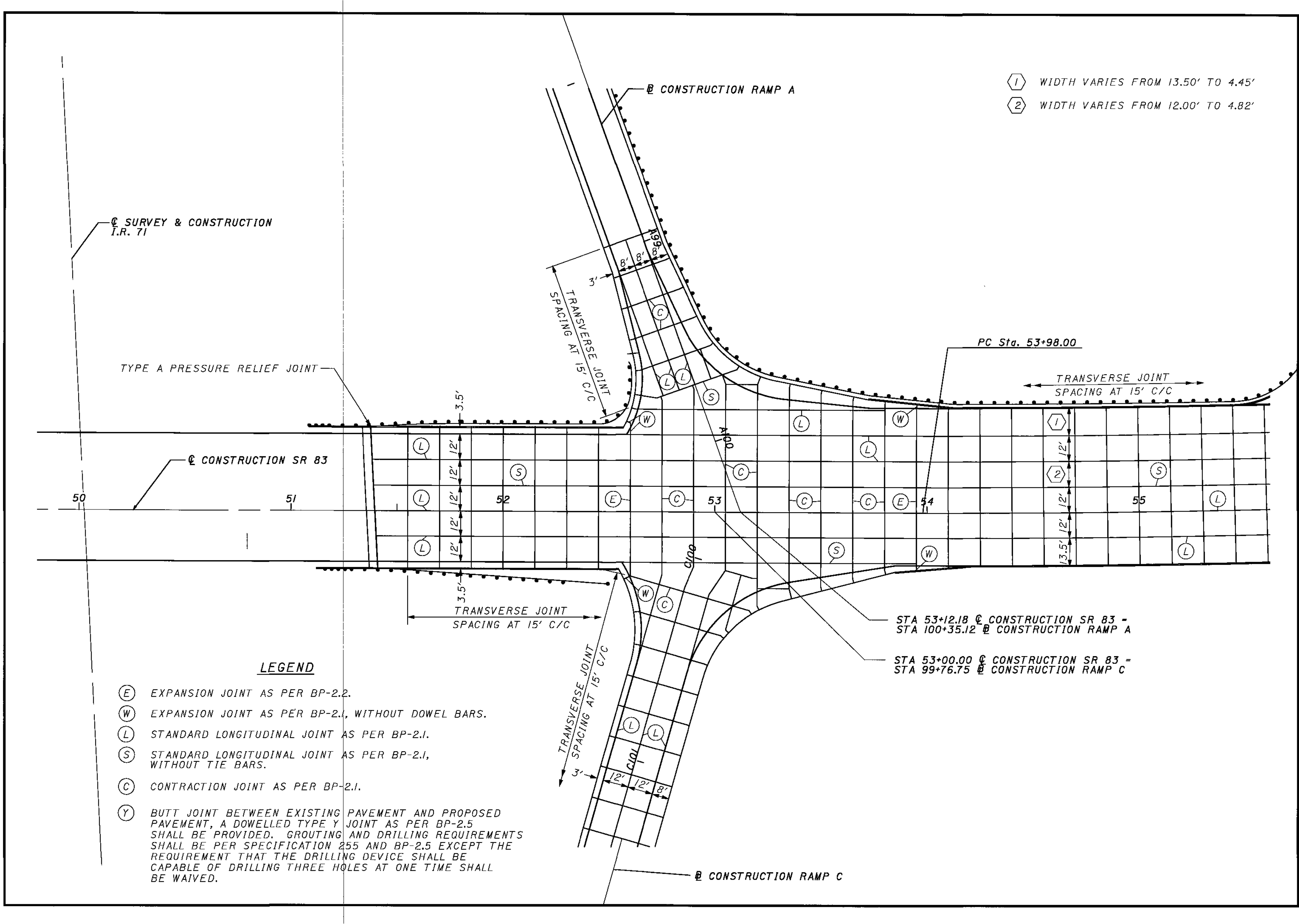
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED ESP
CHECKED BBB

PAVEMENT JOINT DETAIL
SR 83 AT RAMP B / RAMP D

WAY/MED-71-7.04/0.00

PAVEMENT JOINT DETAIL
SR 83 AT RAMP A / RAMP C



℄ SURVEY & CONSTRUCTION I.R. 71
℄ CONSTRUCTION SR 83
℄ CONSTRUCTION RAMP A
℄ CONSTRUCTION RAMP C
TYPE A PRESSURE RELIEF JOINT
TRANSVERSE JOINT SPACING AT 15' C/C
PC Sta. 53+98.00
50
51
52
53
54
55
A100
C100
C101
A99
3.5'
12'
13.5'
8'
3'
E
W
L
S
C
1
2
STA 53+12.18 ℄ CONSTRUCTION SR 83 = STA 100+35.12 ℄ CONSTRUCTION RAMP A
STA 53+00.00 ℄ CONSTRUCTION SR 83 = STA 99+76.75 ℄ CONSTRUCTION RAMP C

⟨1⟩ WIDTH VARIES FROM 13.50' TO 4.45'

⟨2⟩ WIDTH VARIES FROM 12.00' TO 4.82'

LEGEND

- Ⓔ EXPANSION JOINT AS PER BP-2.2.
- Ⓦ EXPANSION JOINT AS PER BP-2.1, WITHOUT DOWEL BARS.
- Ⓛ STANDARD LONGITUDINAL JOINT AS PER BP-2.1.
- Ⓢ STANDARD LONGITUDINAL JOINT AS PER BP-2.1, WITHOUT TIE BARS.
- Ⓒ CONTRACTION JOINT AS PER BP-2.1.
- Ⓨ BUTT JOINT BETWEEN EXISTING PAVEMENT AND PROPOSED PAVEMENT, A DOWELLED TYPE Y JOINT AS PER BP-2.5 SHALL BE PROVIDED. GROUTING AND DRILLING REQUIREMENTS SHALL BE PER SPECIFICATION 255 AND BP-2.5 EXCEPT THE REQUIREMENT THAT THE DRILLING DEVICE SHALL BE CAPABLE OF DRILLING THREE HOLES AT ONE TIME SHALL BE WAIVED.

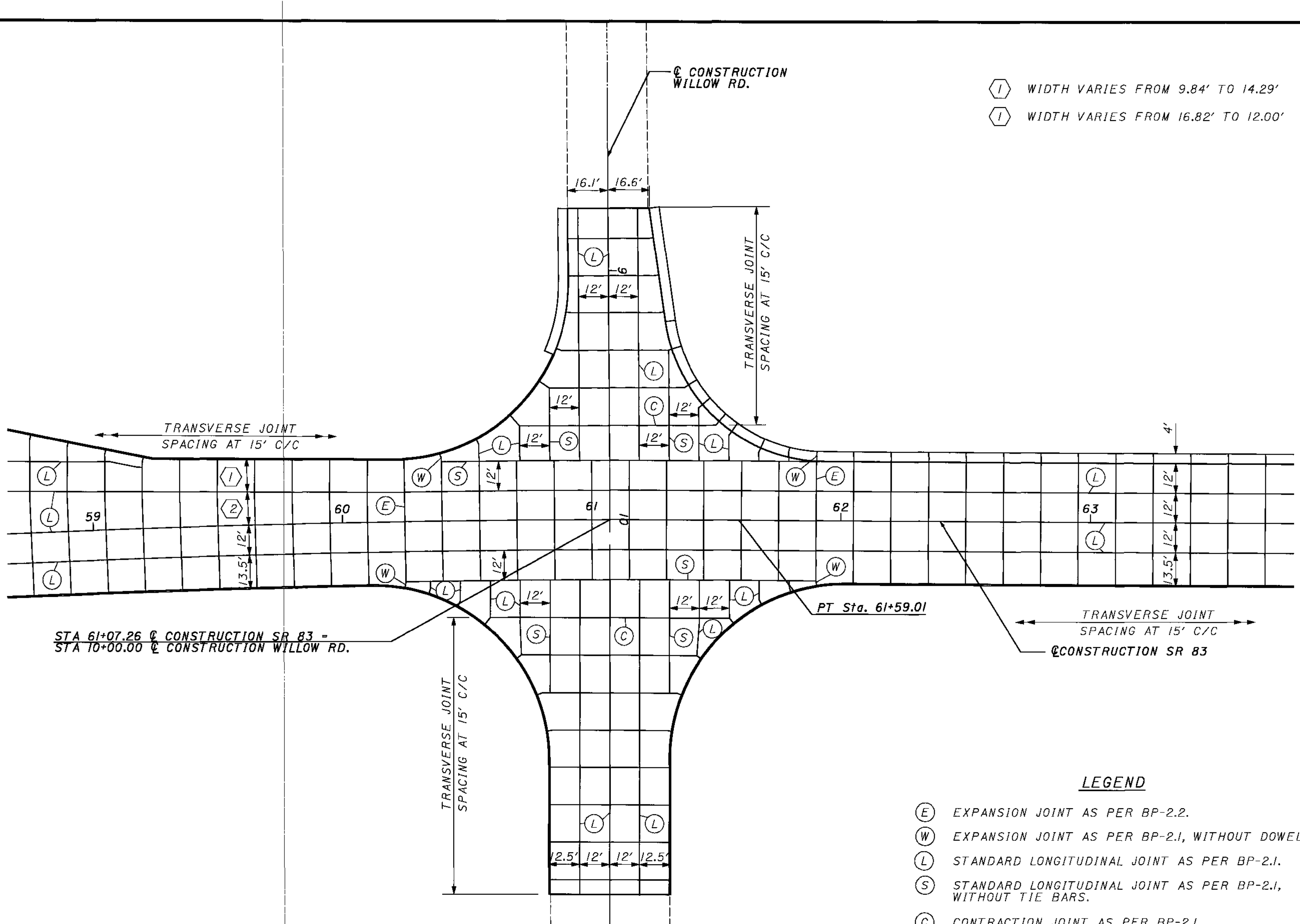
HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED ESP
CHECKED BBB

WAY/MED-71-7.04/0.00

⟨1⟩ WIDTH VARIES FROM 9.84′ TO 14.29′

⟨1⟩ WIDTH VARIES FROM 16.82′ TO 12.00′


℄ CONSTRUCTION WILLOW RD.
16.1′
16.6′
TRANSVERSE JOINT SPACING AT 15′ C/C
L
9
12′
12′
L
C
12′
12′
12′
S
12′
S
L
L
TRANSVERSE JOINT SPACING AT 15′ C/C
4′
L
1
2
W
S
12′
W
E
L
L
59
60
E
61
10
62
63
L
12′
12′
12′
13.5′
12′
13.5′
L
W
12′
S
W
L
L
12′
12′
12′
L
L
PT Sta. 61+59.01
S
C
S
L
STA 61+07.26 ℄ CONSTRUCTION SR 83 =
STA 10+00.00 ℄ CONSTRUCTION WILLOW RD.
TRANSVERSE JOINT SPACING AT 15′ C/C
℄CONSTRUCTION SR 83
TRANSVERSE JOINT SPACING AT 15′ C/C
L
L
12.5′
12′
12′
12.5′

LEGEND

Ⓔ EXPANSION JOINT AS PER BP-2.2.

Ⓦ EXPANSION JOINT AS PER BP-2.1, WITHOUT DOWEL BARS.

Ⓛ STANDARD LONGITUDINAL JOINT AS PER BP-2.1.

Ⓢ STANDARD LONGITUDINAL JOINT AS PER BP-2.1, WITHOUT TIE BARS.

Ⓒ CONTRACTION JOINT AS PER BP-2.1.

Ⓨ BUTT JOINT BETWEEN EXISTING PAVEMENT AND PROPOSED PAVEMENT, A DOWELLED TYPE Y JOINT AS PER BP-2.5 SHALL BE PROVIDED. GROUTING AND DRILLING REQUIREMENTS SHALL BE PER SPECIFICATION 255 AND BP-2.5 EXCEPT THE REQUIREMENT THAT THE DRILLING DEVICE SHALL BE CAPABLE OF DRILLING THREE HOLES AT ONE TIME SHALL BE WAIVED.

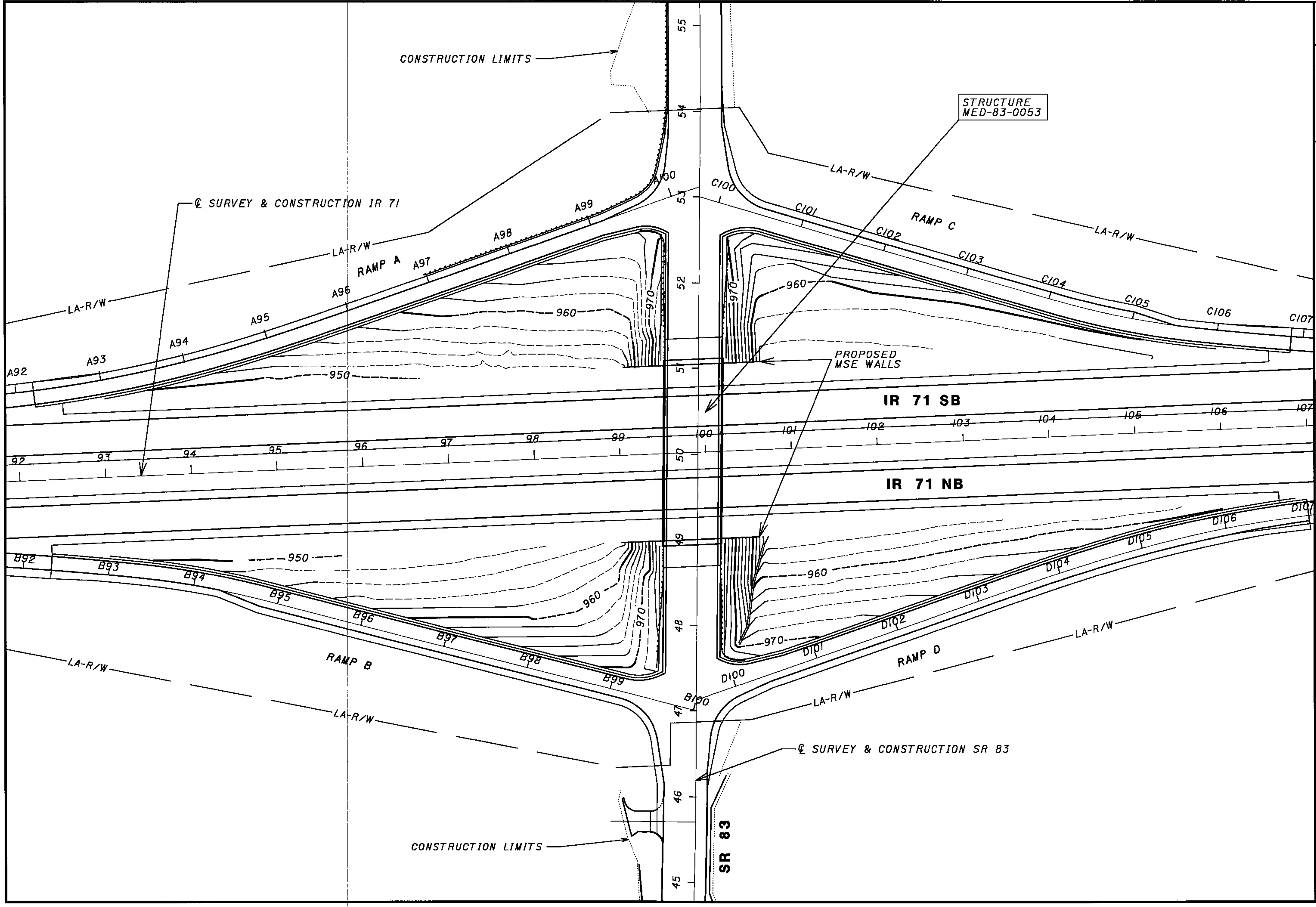
N

0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED ESP
CHECKED BBB

PAVEMENT JOINT DETAIL
SR 83 AND WILLOW ROAD

WAY/MED-71-7.04/0.00

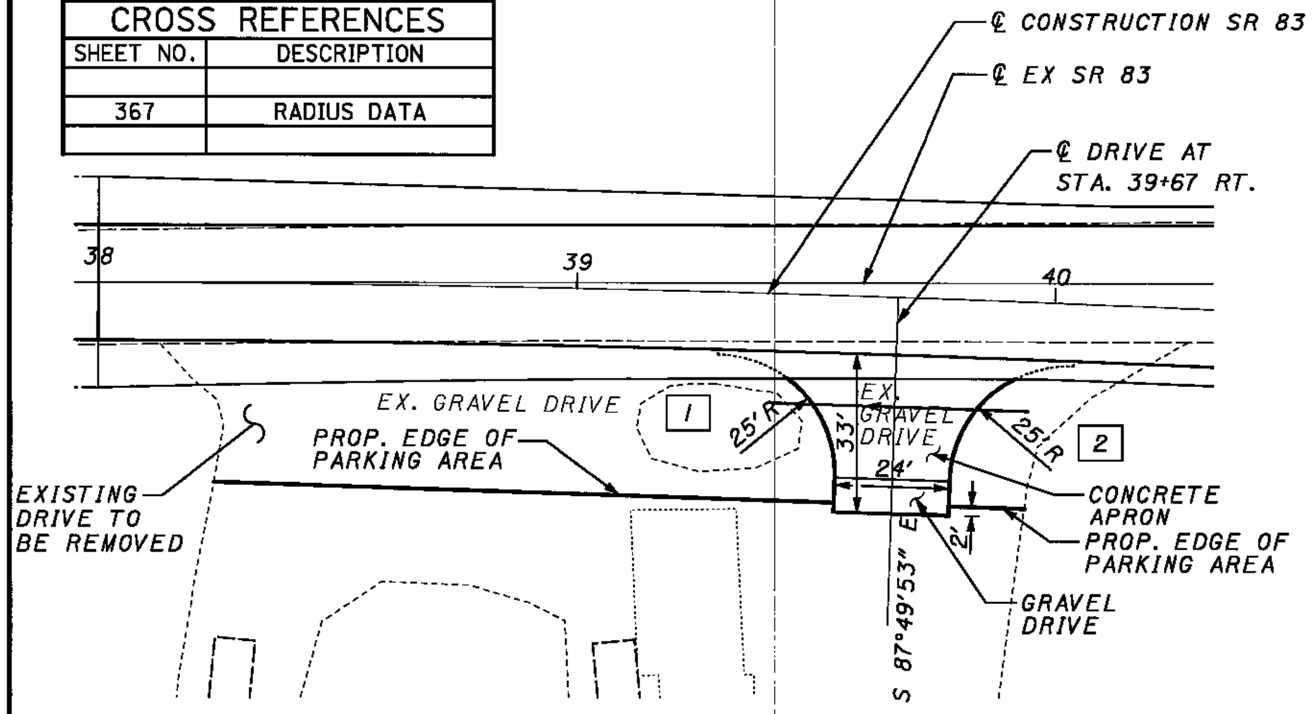


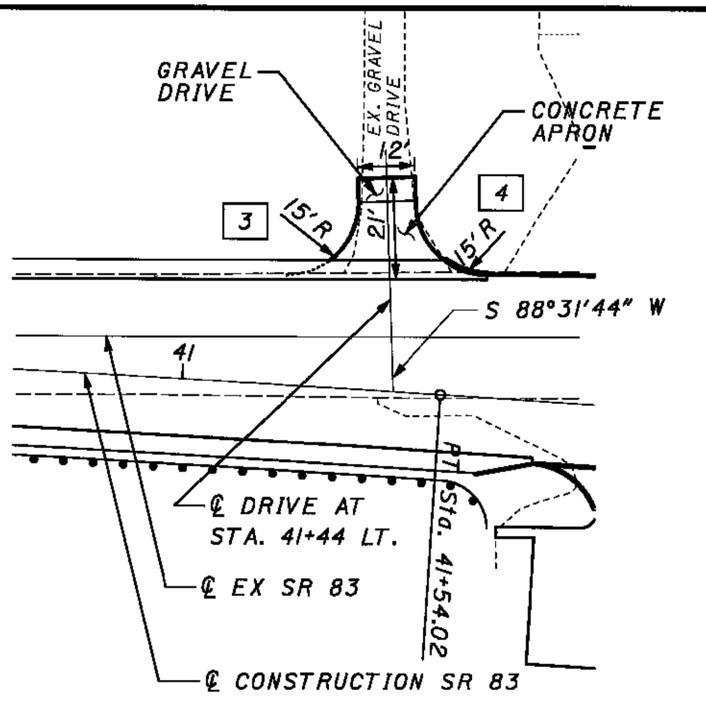
GRADING PLAN
SR 83/IR 71 INTERCHANGE

WAY/MED-71-7.04/0.00

CROSS REFERENCES

SHEET NO.	DESCRIPTION
367	RADIUS DATA





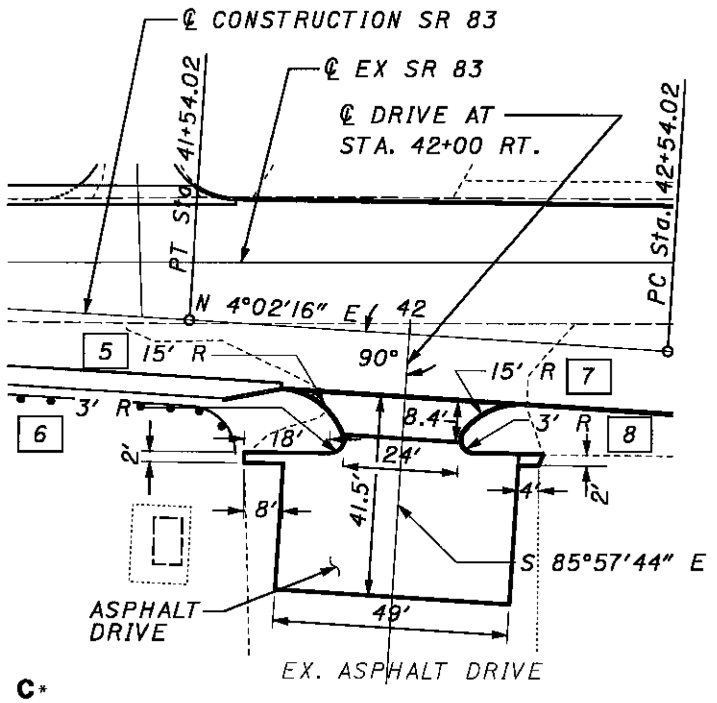


TABLE A*

ITEM	TOTAL	UNIT	DESCRIPTION
304	5.4	CU. YD.	10" AGGREGATE BASE
452	72	SQ. YD.	8" PLAIN PORTLAND CEMENT CONCRETE

TABLE B*

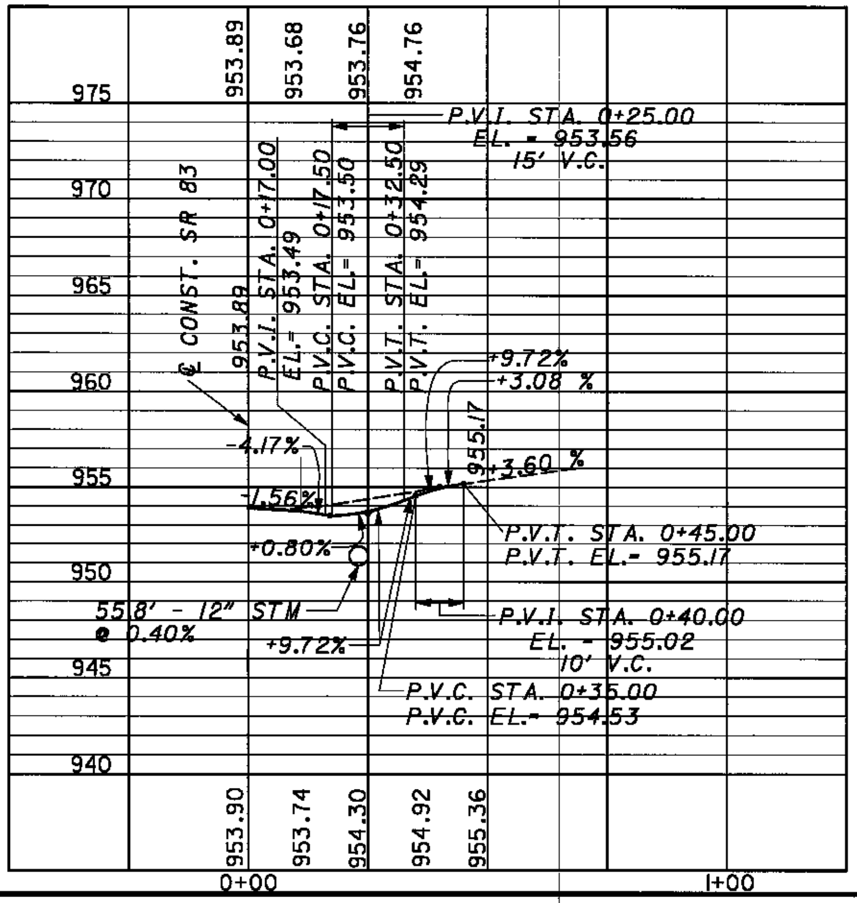
*TOTALS CARRIED TO SHEET 366

ITEM	TOTAL	UNIT	DESCRIPTION
304	1.5	CU. YD.	10" AGGREGATE BASE
452	21	SQ. YD.	8" PLAIN PORTLAND CEMENT CONCRETE
609	9.2	LIN. FT	CURB, TYPE 2-A

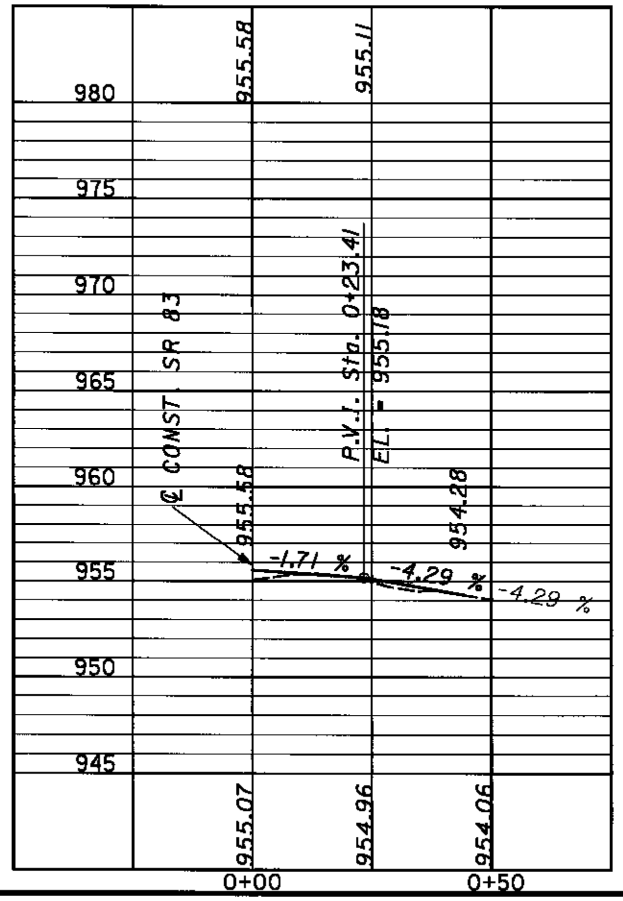
TABLE C*

ITEM	TOTAL	UNIT	DESCRIPTION
448	6.1	CU. YD.	1-1/4" ASPHALT CONCRETE
448	8.5	CU. YD.	1-3/4" ASPHALT CONCRETE
408	70	GAL.	PRIME COAT
304	38.9	CU. YD.	8" AGGREGATE BASE
452	33	SQ. YD.	8" PLAIN PORTLAND CEMENT CONCRETE
609	34.0	LIN. FT	CURB, TYPE 2-A
609	18.5	LIN. FT	CURB, TYPE 6

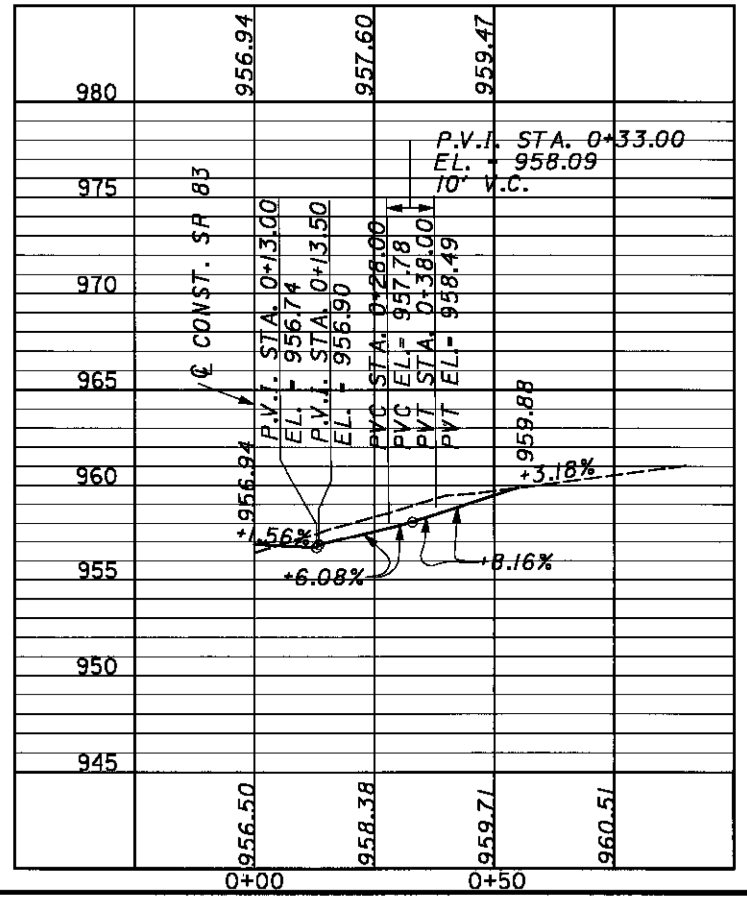
DRIVE AT STA. 39+67 RT.



DRIVE AT STA. 41+44 LT.



DRIVE AT STA. 42+00 RT.



N

0 10 20 40
HORIZONTAL SCALE IN FEET

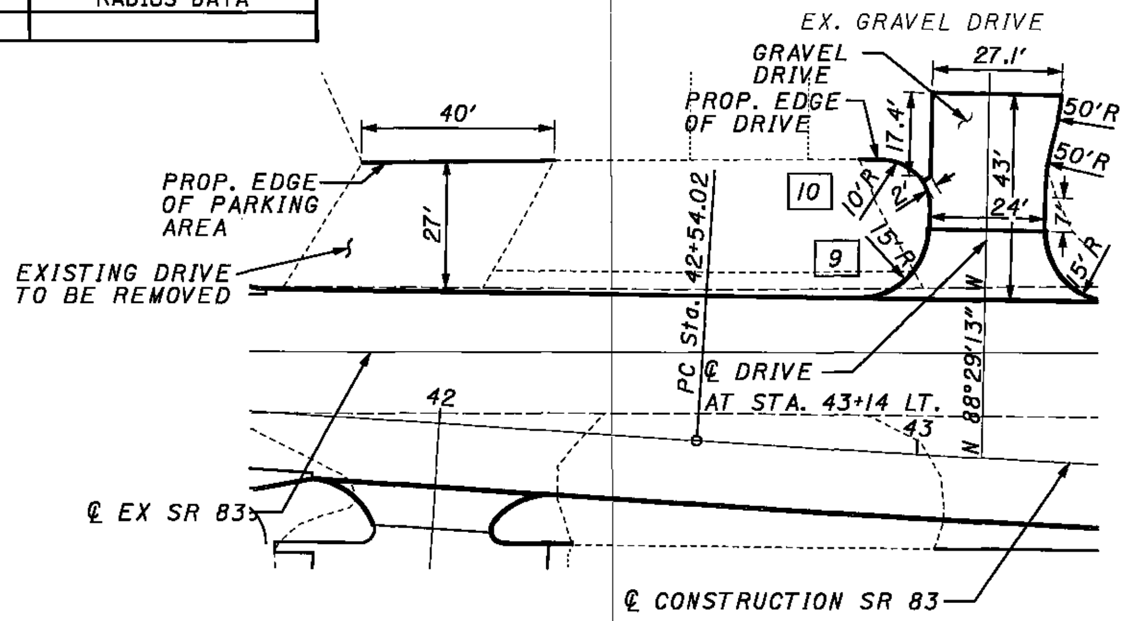
CALCULATED KSG
CHECKED TJH

PLAN AND PROFILE - DRIVES AT
STA. 39+00 RT, STA. 41+44 LT, & STA. 42+00 RT

WAY/MED-71-7.04/0.00

CROSS REFERENCES

SHEET NO.	DESCRIPTION
367	RADIUS DATA



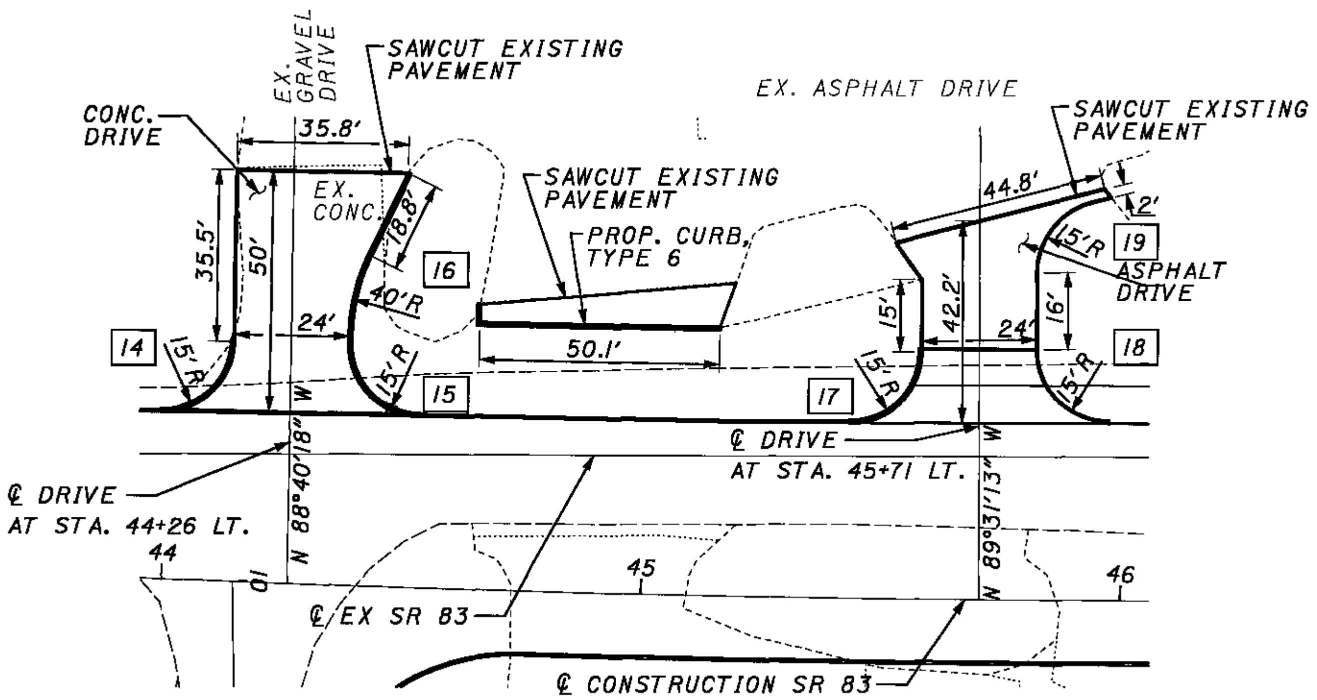


TABLE D*

ITEM	TOTAL	UNIT	DESCRIPTION
304	21.7	CU. YD.	10" AGGREGATE BASE
452	54	SQ. YD.	8" PLAIN PORTLAND CEMENT CONCRETE
609	43.5	LIN. FT.	CURB, TYPE 2-A

TABLE E*

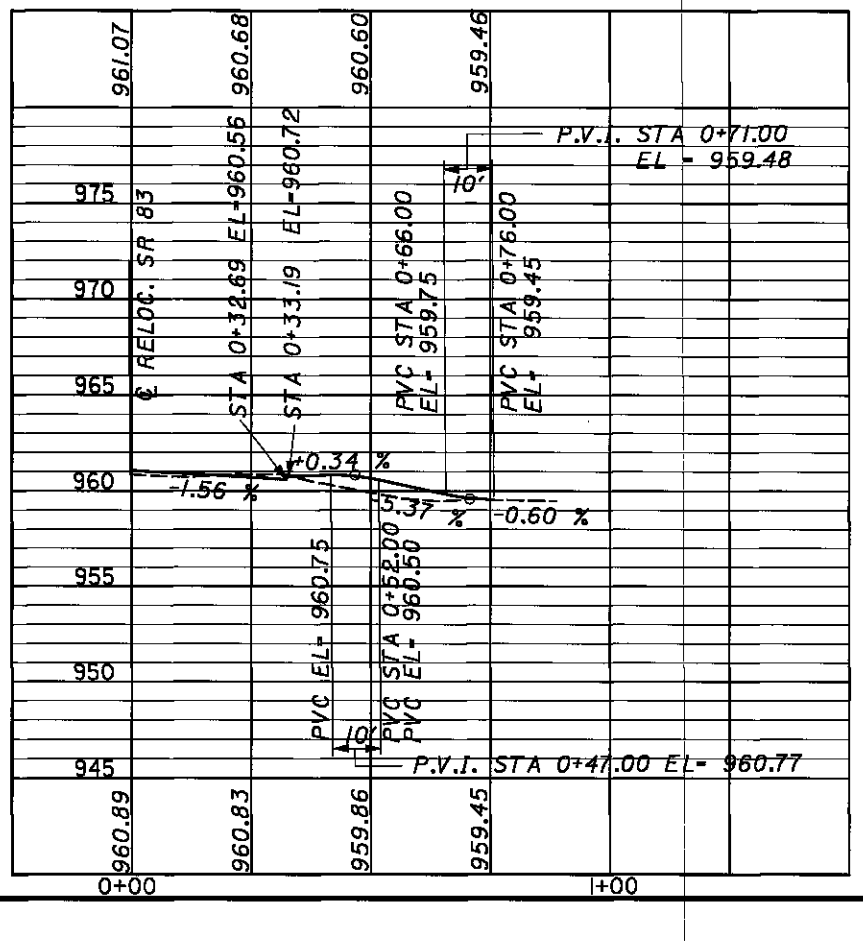
ITEM	TOTAL	UNIT	DESCRIPTION
452	165	SQ. YD.	8" PLAIN PORTLAND CEMENT CONCRETE
609	81.1	LIN. FT.	CURB, TYPE 2-A
609	53.8	LIN. FT.	CURB, TYPE 6

TABLE F*

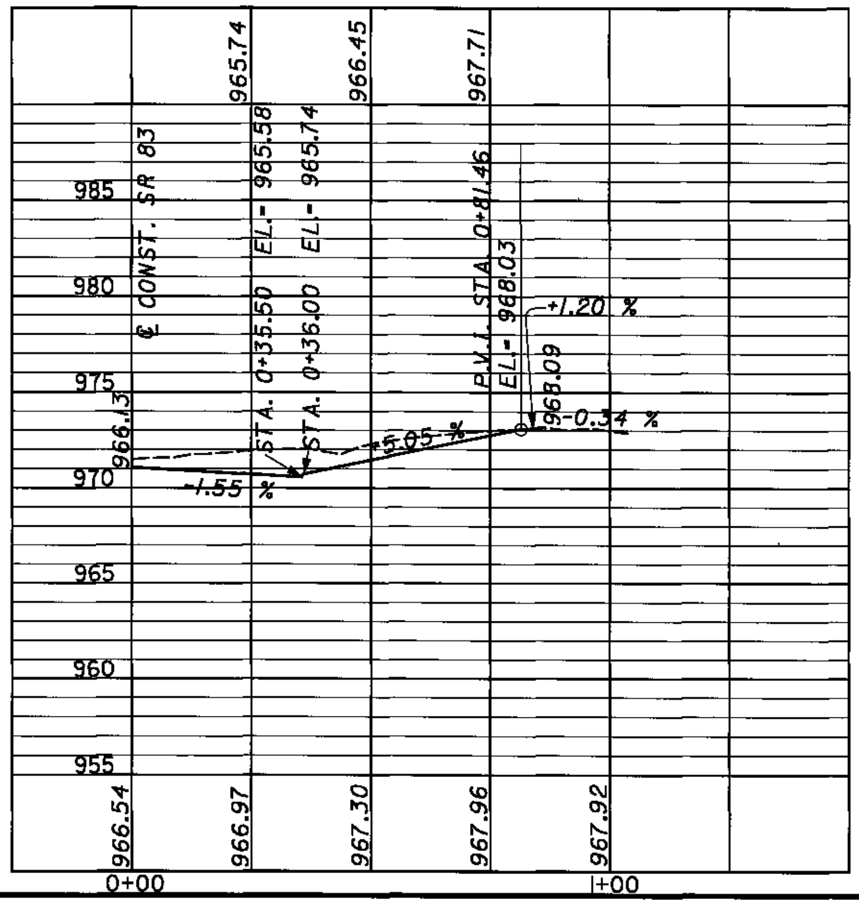
*TOTALS CARRIED TO SHEET 366

ITEM	TOTAL	UNIT	DESCRIPTION
448	2.7	CU. YD.	1-1/4" ASPHALT CONCRETE
448	3.8	CU. YD.	1-3/4" ASPHALT CONCRETE
408	31.6	GAL.	PRIME COAT
304	17.5	CU. YD.	8" AGGREGATE BASE
452	24	SQ. YD.	8" PLAIN PORTLAND CEMENT CONCRETE
609	23.6	LIN. FT.	CURB, TYPE 2-A

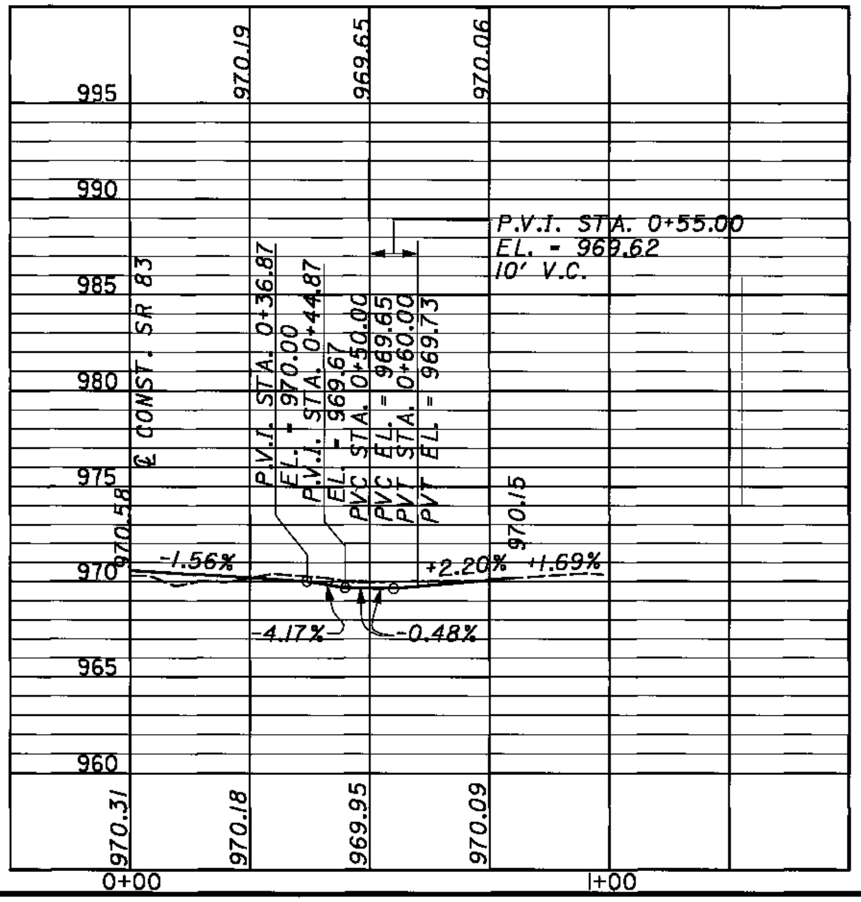
DRIVE AT STA. 43+14 LT.



DRIVE AT STA. 44+26 LT.



DRIVE AT STA. 45+71 LT.



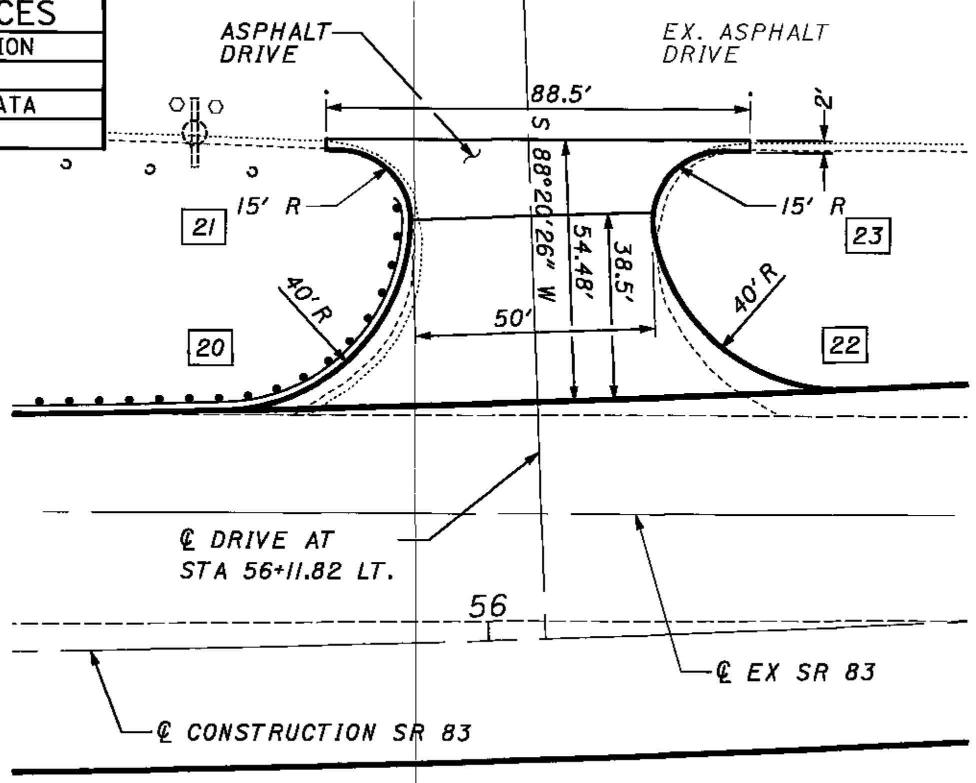
HORIZONTAL SCALE IN FEET 0 20 40

CALCULATED KSG
CHECKED TJH

PLAN AND PROFILE - DRIVES AT
STA. 43+14 LT, STA. 44+26 & STA. 45+71 LT

WAY/MED-71-7.04/0.00

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
367	RADIUS DATA



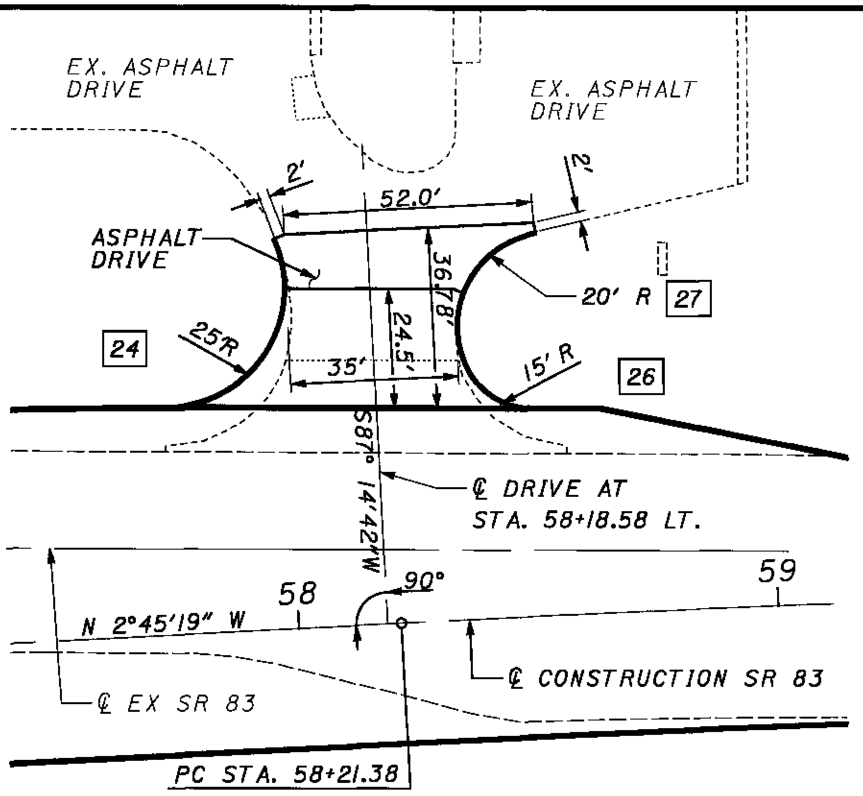


TABLE G*

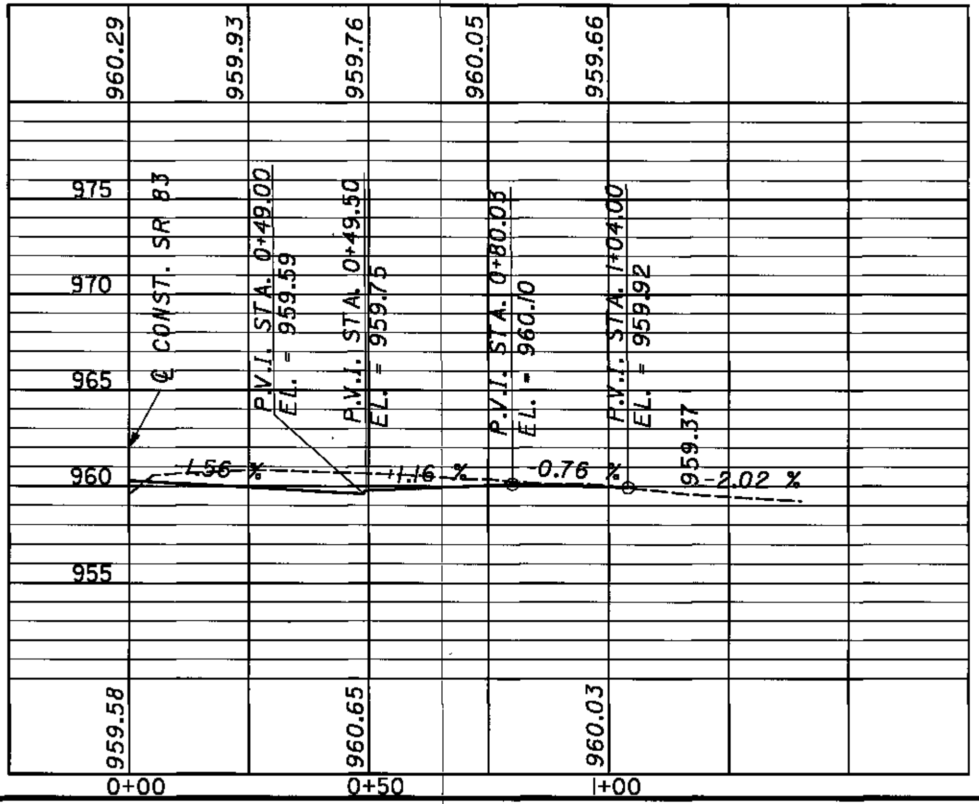
ITEM	TOTAL	UNIT	DESCRIPTION
448	3.8	CU. YD.	1-1/4" ASPHALT CONCRETE
448	5.3	CU. YD.	1-3/4" ASPHALT CONCRETE
408	43.3	GAL.	PRIME COAT
304	24.1	CU. YD.	8" AGGREGATE BASE
452	293	SQ. YD.	8" PLAIN PORTLAND CEMENT CONCRETE
609	111	LIN. FT	CURB, TYPE 2-A
609	54	LIN. FT	CURB, TYPE 6

*TOTALS CARRIED TO SHEET 366

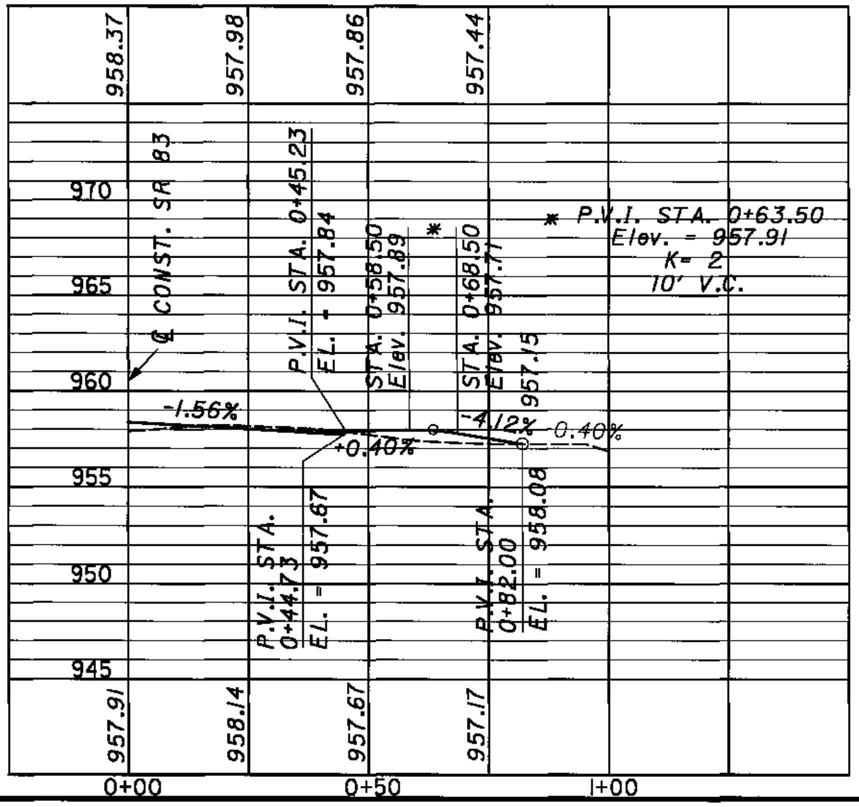
TABLE H*

ITEM	TOTAL	UNIT	DESCRIPTION
448	2.1	CU. YD.	1-1/4" ASPHALT CONCRETE
448	2.9	CU. YD.	1-3/4" ASPHALT CONCRETE
408	23.7	GAL.	PRIME COAT
304	13.2	CU. YD.	8" AGGREGATE BASE
452	119.8	SQ. YD.	8" PLAIN PORTLAND CEMENT CONCRETE
609	64	LIN. FT	CURB, TYPE 2-A
609	32	LIN. FT	CURB, TYPE 6

DRIVE AT STA. 56+11.82 LT.



DRIVE AT STA. 58+18.58 LT.

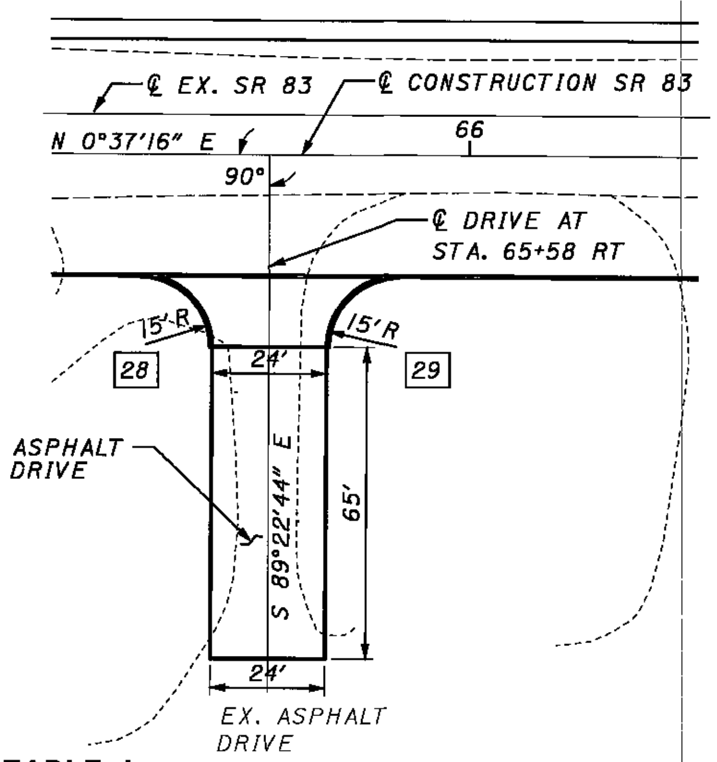


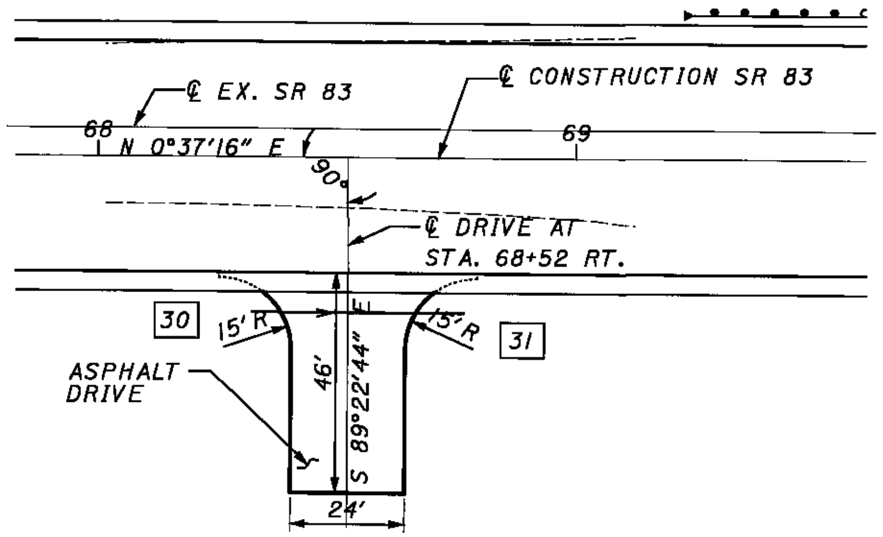
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED KSG
CHECKED TJH

PLAN AND PROFILE - DRIVES AT
STA. 56+12 LT & STA. 58+29 LT

WAY/MED-71-7.04/0.00





CROSS REFERENCES	
SHEET NO.	DESCRIPTION
367	RADIUS DATA

TABLE I*

ITEM	TOTAL	UNIT	DESCRIPTION
448	6.0	CU. YD.	1-1/4" ASPHALT CONCRETE
448	8.4	CU. YD.	1-3/4" ASPHALT CONCRETE
408	69.3	GAL.	PRIME COAT
304	38.5	CU. YD.	8" AGGREGATE BASE
452	53	CU. YD.	8" PLAIN PORTLAND CEMENT CONCRETE
609	39.4	LIN. FT.	CURB, TYPE 2-A

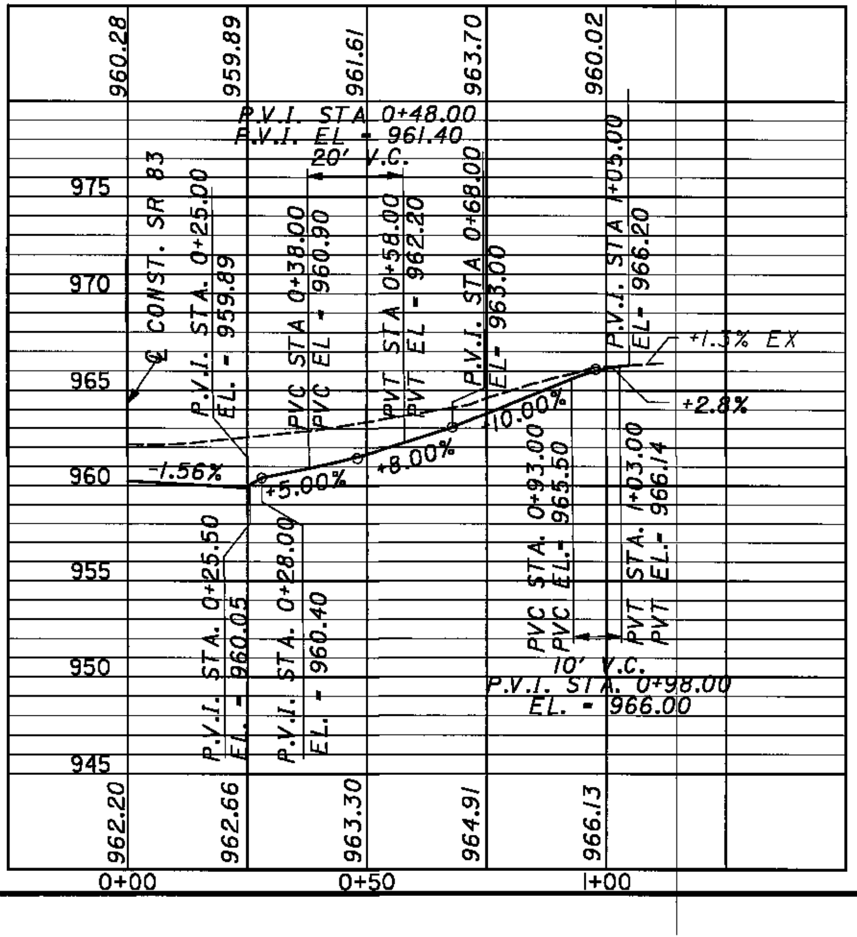
*TOTALS CARRIED TO TABLE ON THIS SHEET

TABLE J*

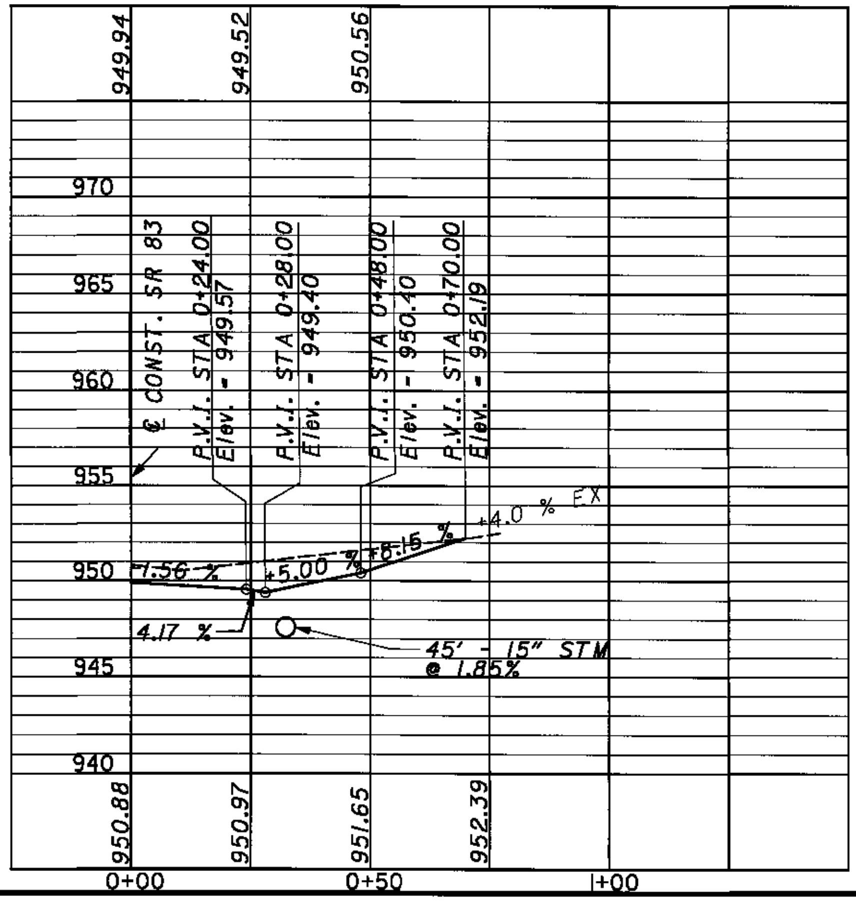
ITEM	TOTAL	UNIT	DESCRIPTION
448	2.8	CU. YD.	1-1/4" ASPHALT CONCRETE
448	3.9	CU. YD.	1-3/4" ASPHALT CONCRETE
408	32.0	GAL.	PRIME COAT
304	17.8	CU. YD.	8" AGGREGATE BASE
452	37	SQ. YD.	8" PLAIN PORTLAND CEMENT CONCRETE

*TOTALS CARRIED TO TABLE ON THIS SHEET

DRIVE AT STA. 65+58 RT.



DRIVE AT STA. 68+52 RT.



SHEET NO.	FROM TABLE	304 8" AGGREGATE BASE CU. YD.	408 PRIME COAT GAL.	448 ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, PG64-22 CU. YD.	448 ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 1, PG64-22 CU. YD.	452 8" NON-REINFORCED PORTLAND CEMENT CONCRETE SQ. YD.	609 CURB, TYPE 2-A LIN. FT.	609 CURB, TYPE 6 LIN. FT.
363	TOTALS - TABLE A	5.4				72		
363	TOTALS - TABLE B	1.5				21	9.2	
363	TOTALS - TABLE C	38.9	70.0	6.1	8.5	33	34.0	18.5
364	TOTALS - TABLE D	21.7				54	43.5	
364	TOTALS - TABLE E					165	81.1	53.8
364	TOTALS - TABLE F	17.5	31.6	2.7	3.8	24	23.6	
365	TOTALS - TABLE G	24.1	43.3	3.8	5.3	293.0	111.0	54.0
365	TOTALS - TABLE H	13.2	23.7	2.1	2.9	119.8	64.0	32.0
366	TOTALS - TABLE I	38.5	69.3	6.0	8.4	53	39.4	
366	TOTALS - TABLE J	17.8	32.0	2.8	3.9	37		
367	TOTALS - TABLE K	20.1	36.2	3.1	4.4	72.3	27.0	1.0
	TOTALS CARRIED TO GENERAL SUMMARY	198.7	306.1	26.6	37.2	944.1	432.8	159.3

0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED KSG
CHECKED TJH

PLAN AND PROFILE - DRIVES AT STA. 65+58 RT. & STA. 68+22 RT.

WAY/MED-71-7.04/0.00

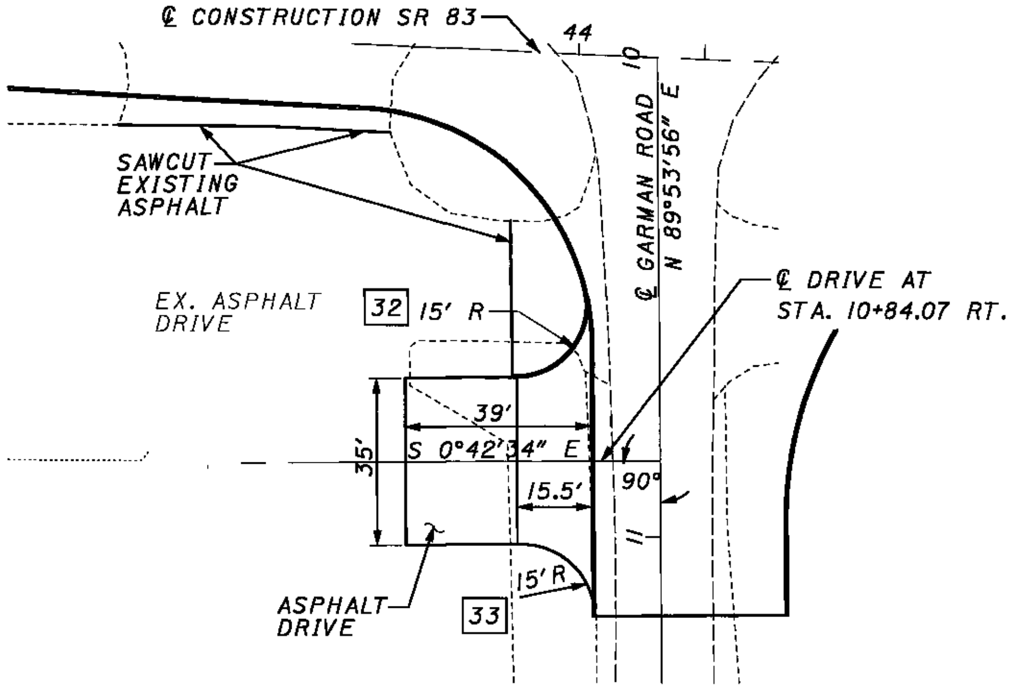
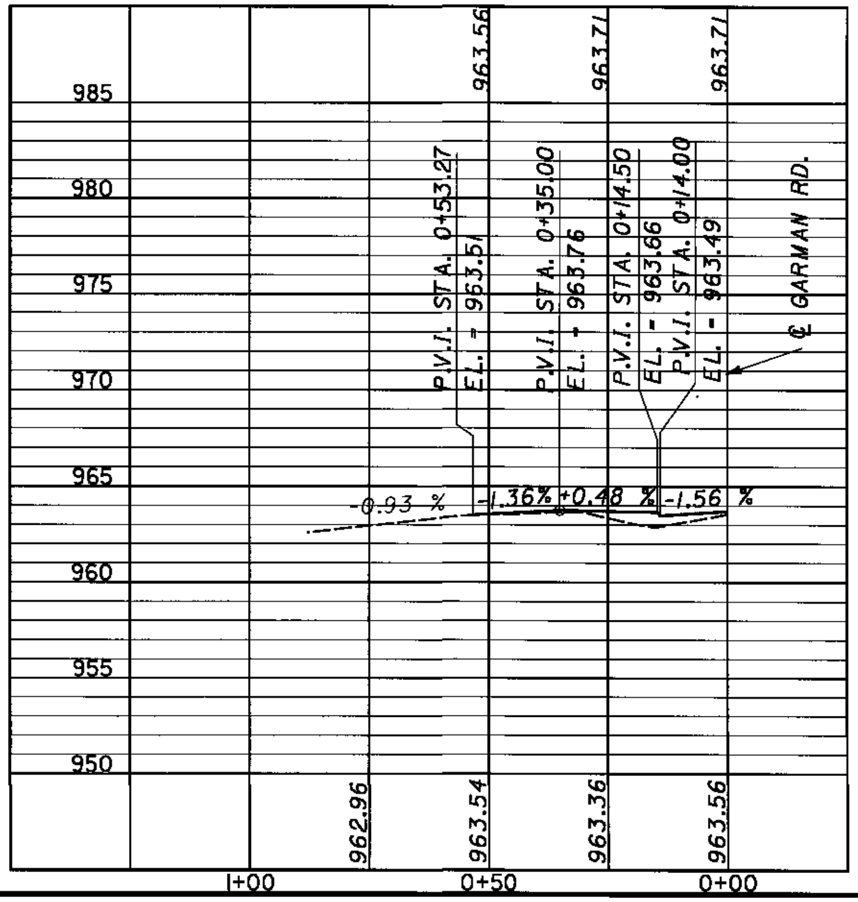


TABLE K*

ITEM	TOTAL	UNIT	DESCRIPTION
448	3.1	CU. YD.	1-1/4" ASPHALT CONCRETE
448	4.4	CU. YD.	1-3/4" ASPHALT CONCRETE
408	36.2	GAL.	PRIME COAT
304	20.1	CU. YD.	8" AGGREGATE BASE
452	72.3	SQ. YD.	8" PLAIN PORTLAND CEMENT CONCRETE
609	27	LIN. FT.	CURB, TYPE 2-A
609	1	LIN. FT.	CURB, TYPE 6

*TOTALS CARRIED TO SHEET 366

DRIVE AT STA. 10+84.07 RT.



RADIUS DATA							
NO.	℄	STATION	SIDE	OFFSET	RAD.	Δ	LENGTH
1	SR83	39+29.85	RT.	38.00'	25'	90°22'22"	39.43'
2	SR83	40+04.34	RT.	38.00'	25'	90°22'15"	39.43'
3	SR83	41+19.63	LT.	37.97'	15'	90°00'00"	23.56'
4	SR83	41+61.31	LT.	40.56'	15'	88°06'41"	23.07'
5	SR83	41+74.14	RT.	28.01'	15'	64°52'21"	16.98'
6	SR83	41+85.00	RT.	22.90'	3'	111°46'31"	5.85'
7	SR83	42+24.91	RT.	28.00'	15'	55°35'22"	14.55'
8	SR83	42+15.00	RT.	21.23'	3'	127°46'37"	6.69'
9	SR83	42+84.80	LT.	46.70'	15'	89°38'17"	23.47'
10	SR83	42+89.67	LT.	51.15'	10'	90°00'00"	15.71'
11	SR83	43+39.21	LT.	48.87'	15'	90°21'46"	23.66'
12	SR83	43+74.34	LT.	56.40'	50'	14°43'58"	12.86'
13	SR83	42+75.71	LT.	78.76'	50'	10°05'10"	8.80'
14	SR83	43+98.30	LT.	50.65'	15'	89°49'22"	23.52'
15	SR83	44+52.77	LT.	51.75'	15'	90°10'41"	23.61'
16	SR83	44+78.00	LT.	52.67'	40'	25°11'40"	17.59'
17	SR83	45+43.14	LT.	52.45'	15'	90°40'20"	23.74'
18	SR83	45+97.64	LT.	53.19'	15'	89°19'41"	23.39'
19	SR83	45+97.61	LT.	68.53'	15'	75°39'32"	19.81'
20	SR83	55+45.79	LT.	89.00'	40'	86°47'13"	60.59'
21	SR83	55+71.20	LT.	88.18'	15'	92°11'25"	24.14'
22	SR83	56+77.54	LT.	89.00'	40'	81°47'13"	57.10'
23	SR83	56+52.43	LT.	85.37'	15'	101°06'28"	26.47'
24	SR83	57+76.08	LT.	72.02'	25'	114°21'15"	49.90'
25	NOT USED						
26	SR83	58+51.24	LT.	58.02'	15'	62°06'52"	16.26'
27	SR83	58+55.72	LT.	60.13'	20'	104°24'42"	36.45'
28	SR83	65+31.25	RT.	40.00'	15'	90°00'00"	23.56'
29	SR83	65+85.25	RT.	40.00'	15'	90°00'00"	23.56'
30	SR83	68+25.22	RT.	40.00'	15'	90°00'00"	23.56'
31	SR83	68+79.22	RT.	40.00'	15'	90°00'00"	23.56'
32	GARMAN	10+51.57	RT.	30.01'	15'	103°48'38"	27.18'
33	GARMAN	11+16.57	RT.	29.00'	15'	89°44'00"	23.49'

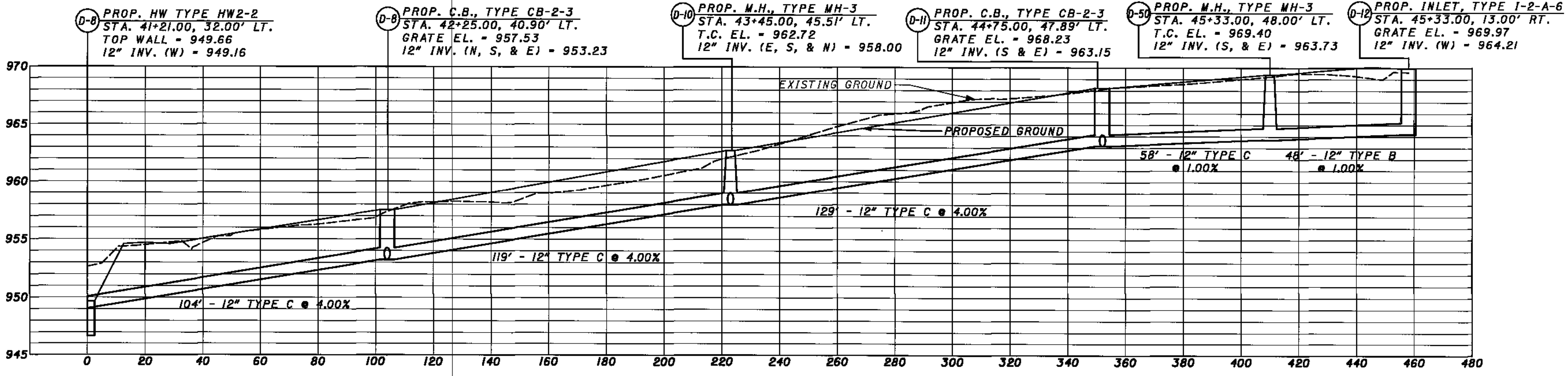
N

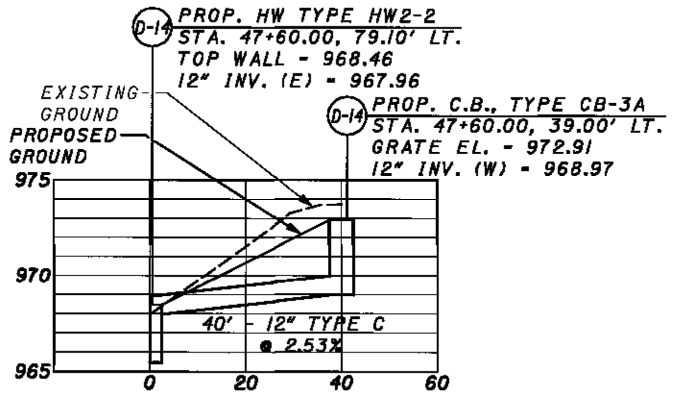
0 10 20 40
HORIZONTAL SCALE IN FEET

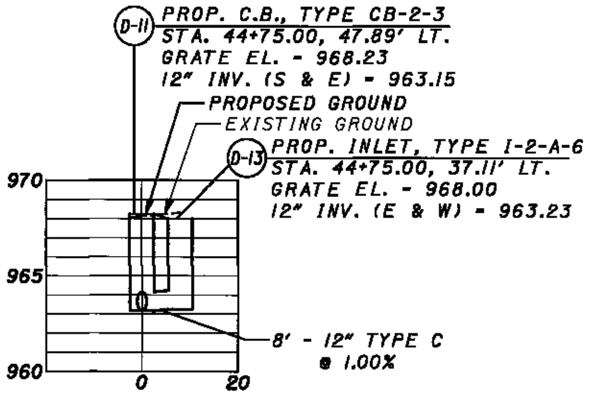
CALCULATED KSG
CHECKED TJH

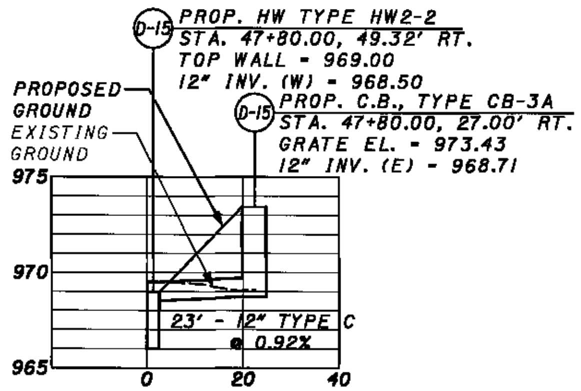
PLAN AND PROFILE - DRIVES AT
STA. 10+69 RT & STA. 10+74 LT (GARMAN ROAD)

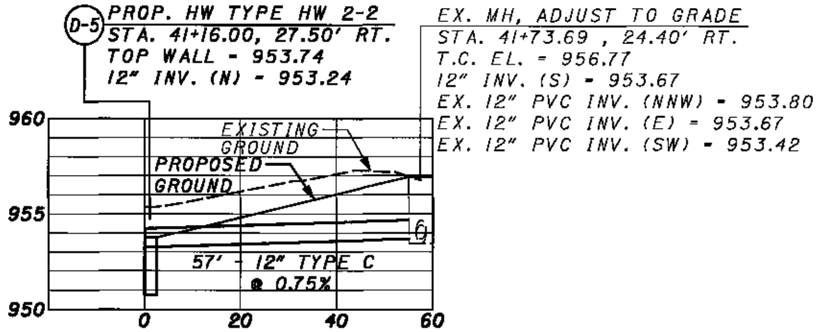
WAY/MED-71-7.04/0.00

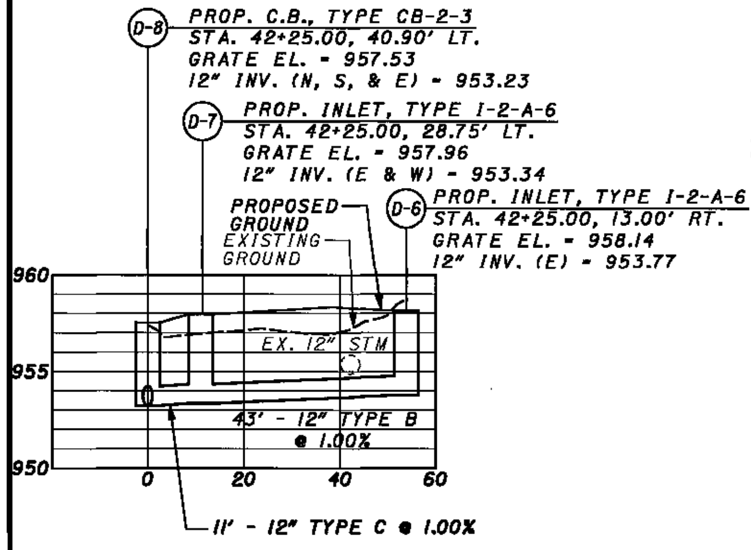


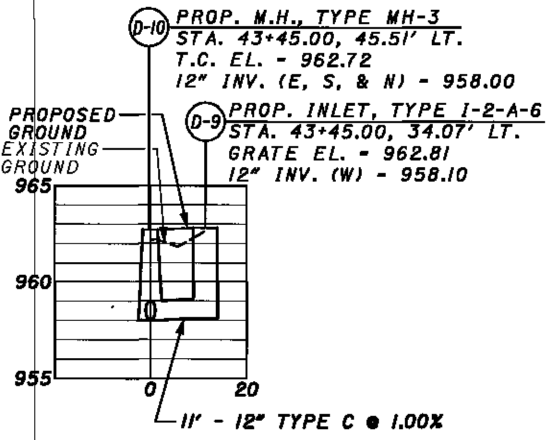


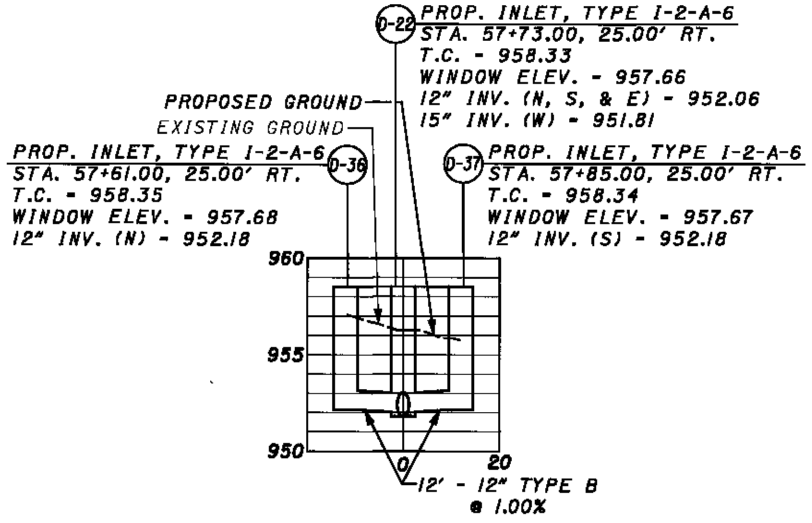


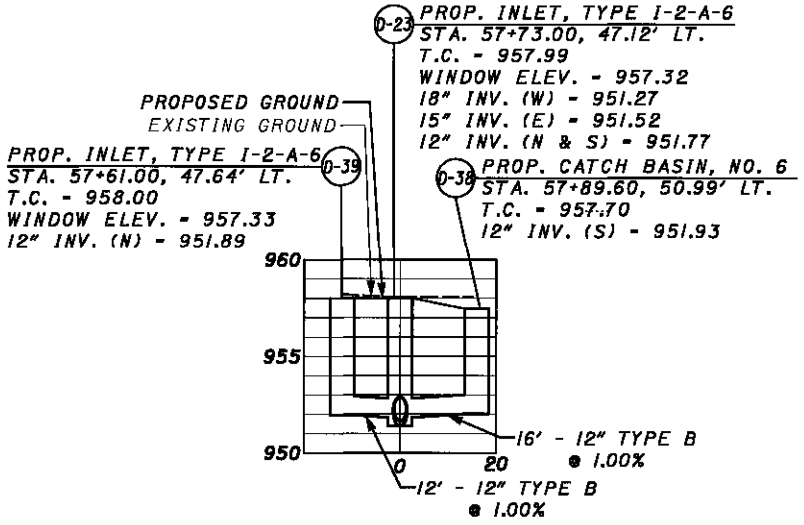








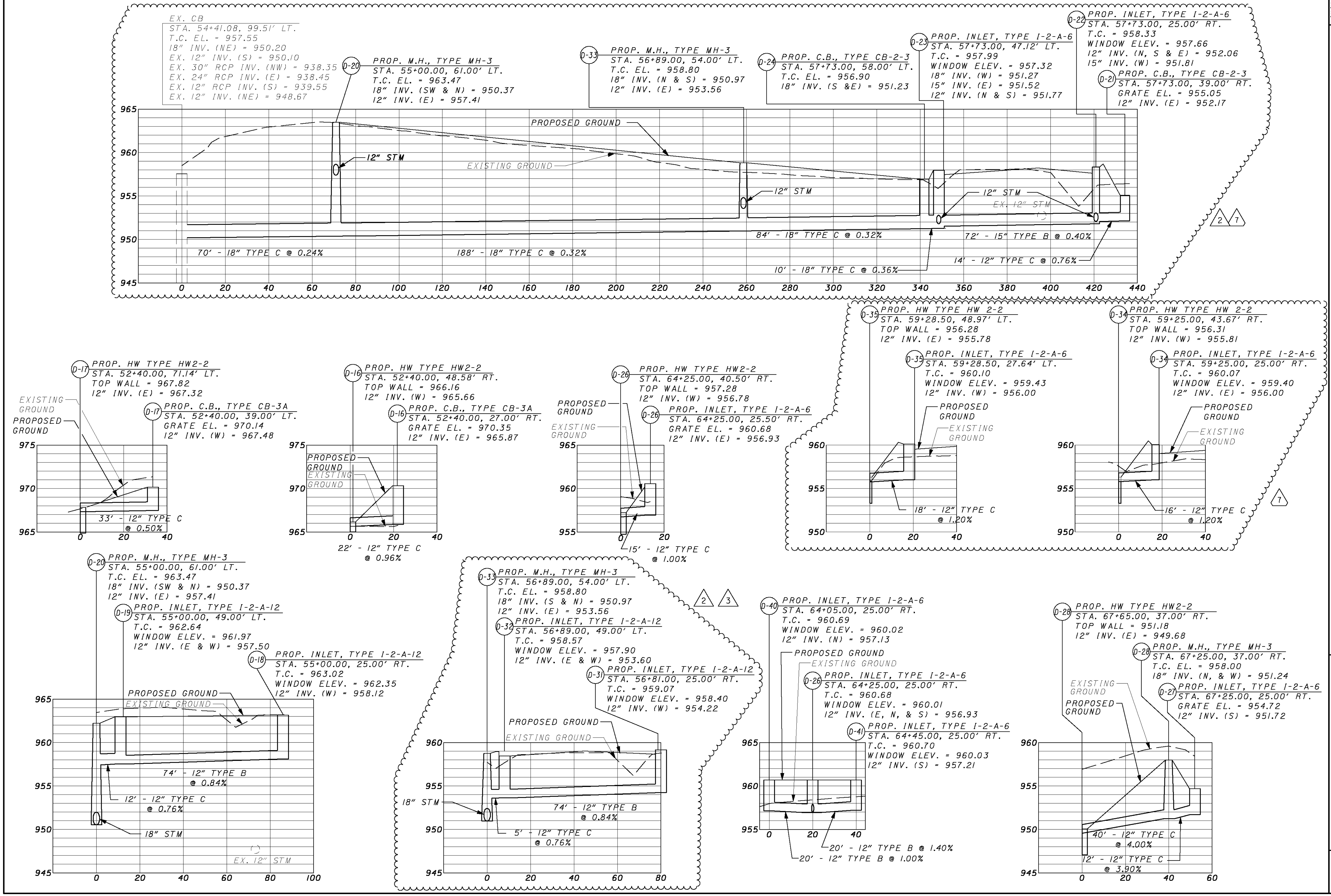




CALCULATED KSG
CHECKED BBB

STORM SEWER PROFILES

WAY/MED-71-7.04/0.00



CALCULATED KSG
CHECKED BBB

4 REVISED 10-11-04

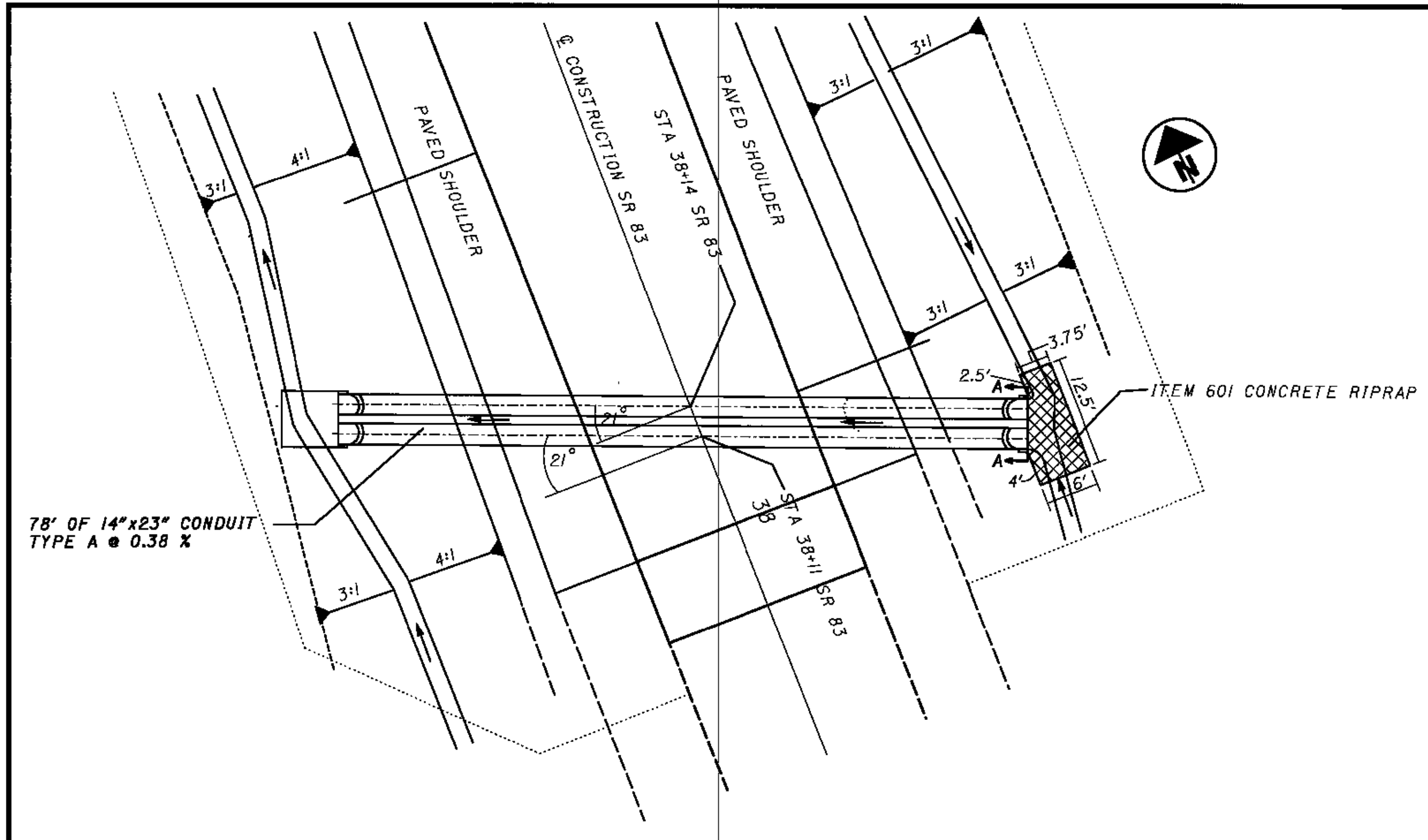
7 REVISED 02-10-06

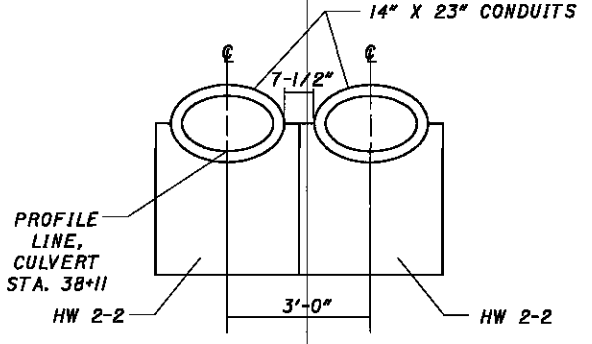
STORM SEWER PROFILES

3 = REVISED 08-31-04

2 = REVISED 07-30-04

WAY/MED-71-7.04/0.00

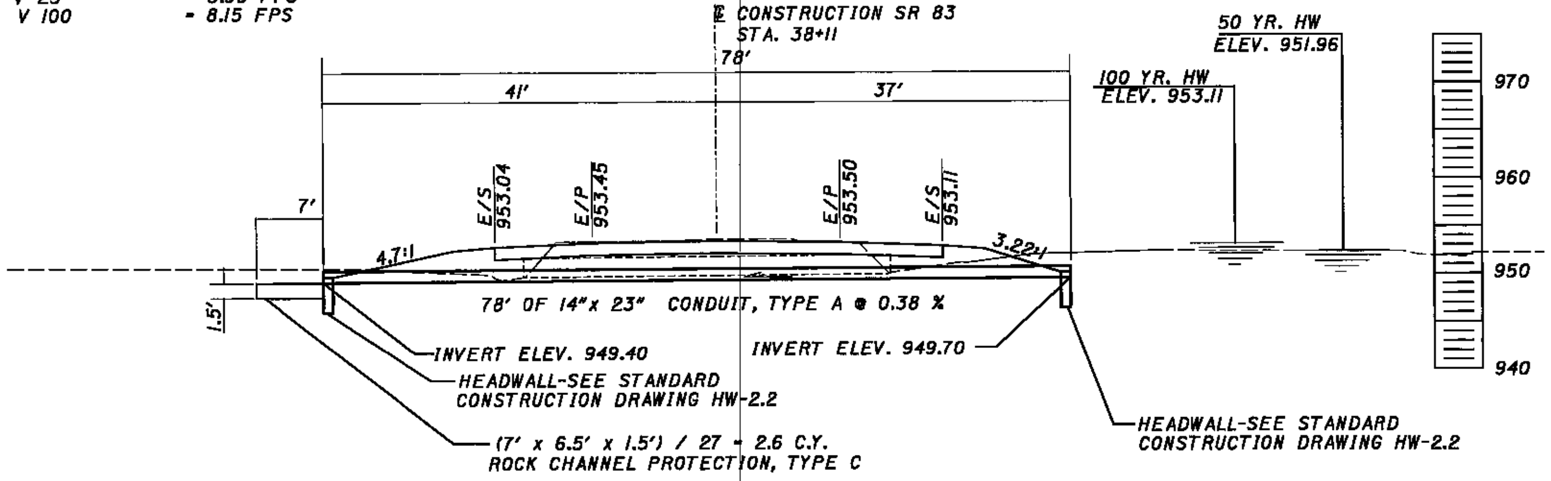


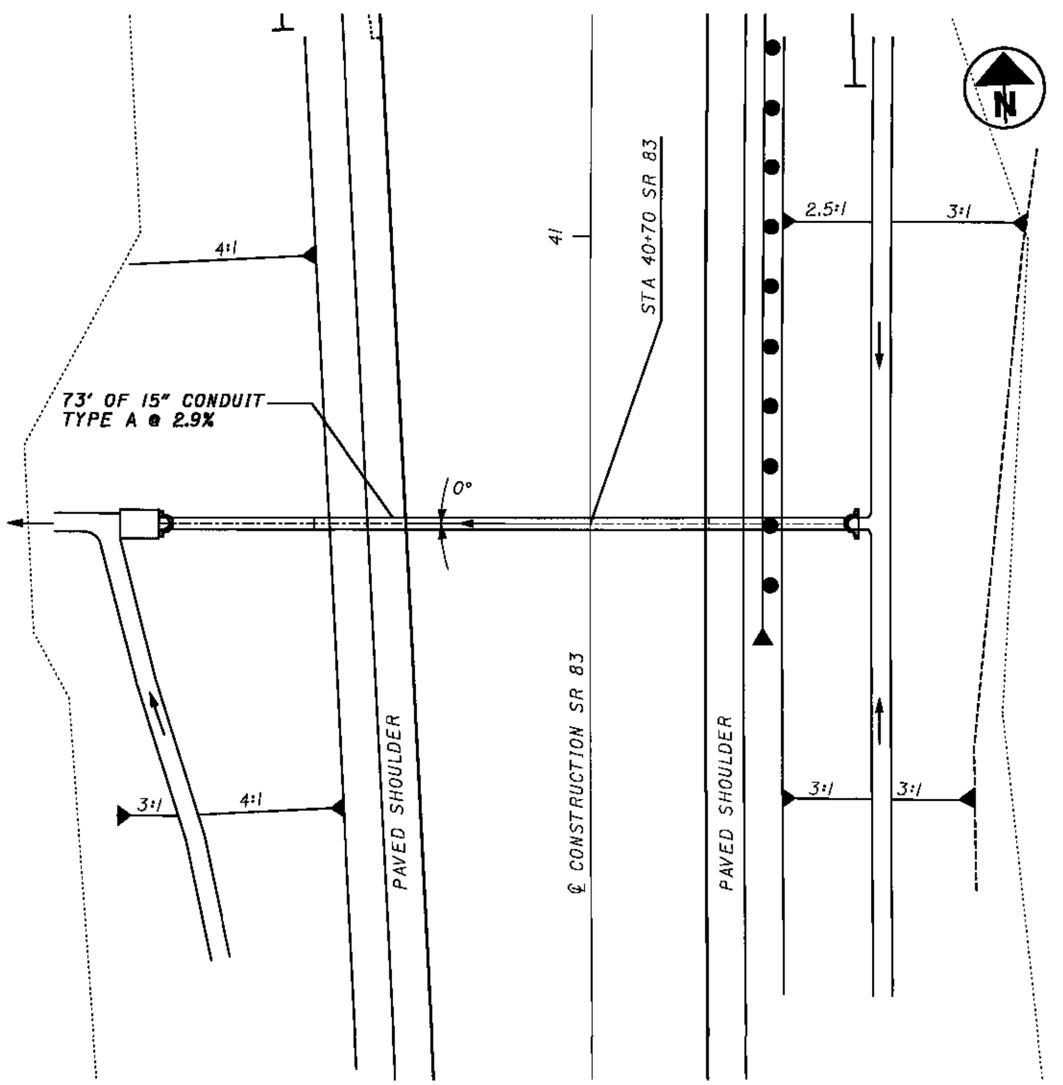


HEADWALL DETAIL A-A

HYDRAULIC DESIGN DATA, STA. 38+11

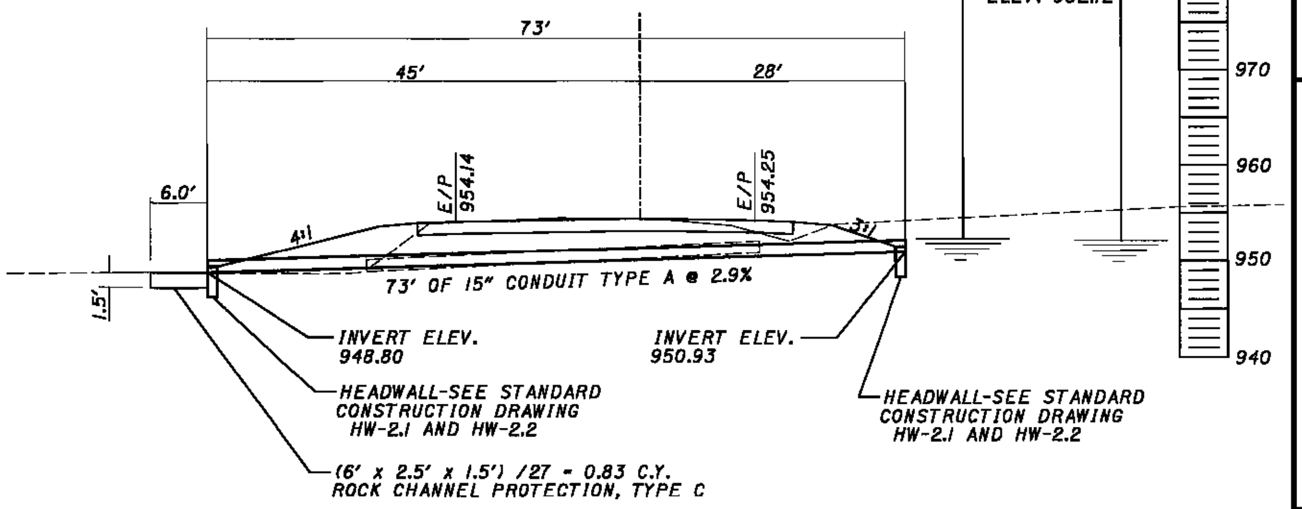
DRAINAGE AREA - 18 ACRES
Q 25 - 22 CFS
Q 100 - 30 CFS
HW 50 - 951.96
HW 100 - 953.11
V 25 - 5.98 FPS
V 100 - 8.15 FPS


℄ CONSTRUCTION SR 83
STA. 38+11
78'
41'
37'
50 YR. HW
ELEV. 951.96
100 YR. HW
ELEV. 953.11
E/S 953.04
E/P 953.45
E/P 953.50
E/S 953.11
7'
4.7:1
3.22:1
1.5'
78' OF 14" x 23" CONDUIT, TYPE A @ 0.38 %
INVERT ELEV. 949.40
INVERT ELEV. 949.70
HEADWALL-SEE STANDARD CONSTRUCTION DRAWING HW-2.2
(7' x 6.5' x 1.5') / 27 = 2.6 C.Y. ROCK CHANNEL PROTECTION, TYPE C
HEADWALL-SEE STANDARD CONSTRUCTION DRAWING HW-2.2
970
960
950
940



HYDRAULIC DESIGN DATA, STA. 40+70

DRAINAGE AREA - 2.1 ACRES
Q 25 - 4.3 CFS
Q 100 - 5.1 CFS
HW 50 - 952.12
HW 100 - 952.32
V 25 - 8.45 FPS
V 100 - 9.08 FPS

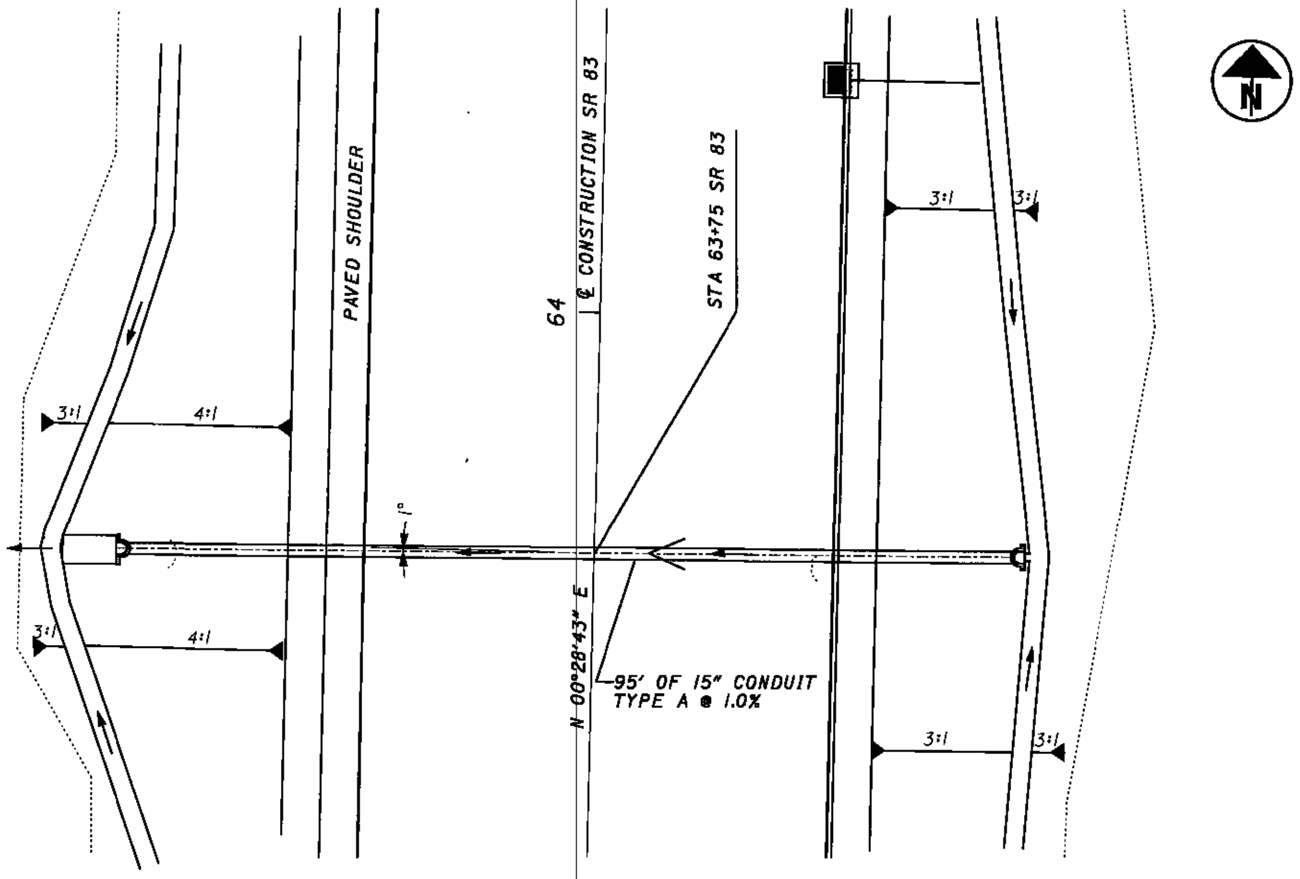

100 YR. HW
ELEV. 952.32
℄ CONSTRUCTION SR 83
50 YR. HW
ELEV. 952.12
73'
45'
28'
6.0'
E/P 954.14
E/P 954.25
4:1
3:1
1.5'
73' OF 15" CONDUIT TYPE A @ 2.9%
INVERT ELEV. 948.80
INVERT ELEV. 950.93
HEADWALL-SEE STANDARD CONSTRUCTION DRAWING HW-2.1 AND HW-2.2
(6' x 2.5' x 1.5') /27 = 0.83 C.Y. ROCK CHANNEL PROTECTION, TYPE C
HEADWALL-SEE STANDARD CONSTRUCTION DRAWING HW-2.1 AND HW-2.2
980
970
960
950
940

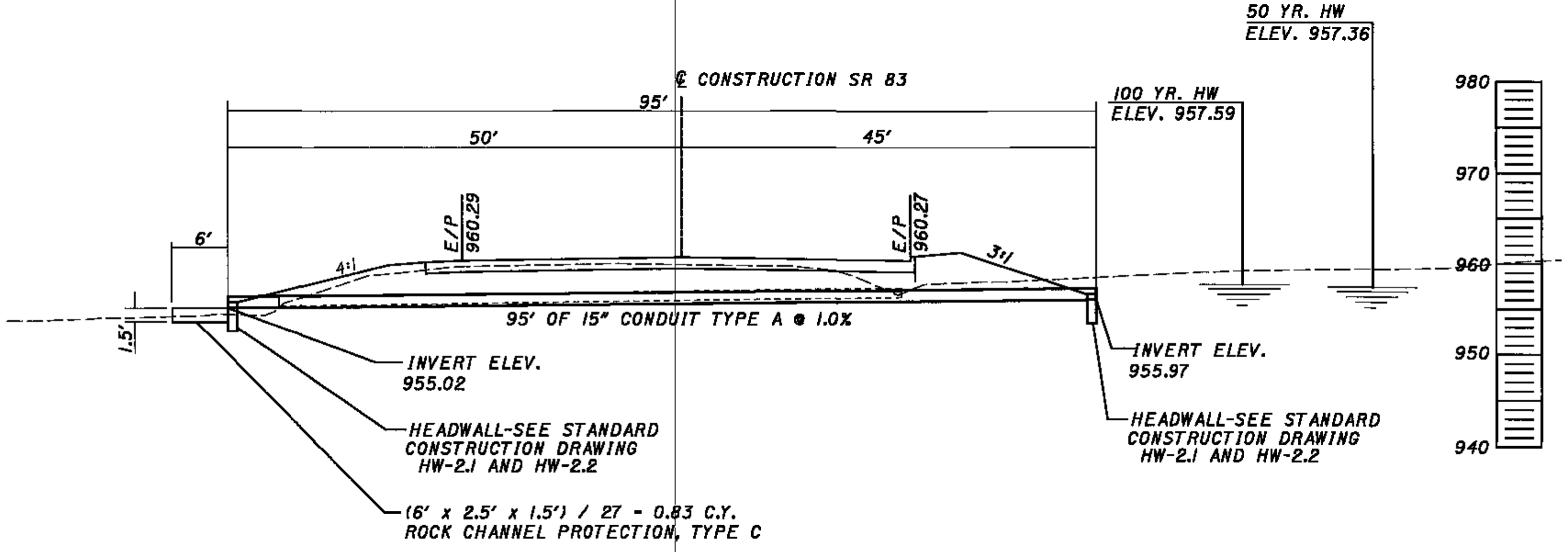
0 5 10 20
HORIZ. & VERT. SCALE IN FEET

CALCULATED ESP
CHECKED BBB

CULVERT DETAIL - SR 83
STA 38+11, STA 38+14, AND STA 40+70

WAY/MED-71-7.04/0.00





HYDRAULIC DESIGN DATA, STA. 63+75

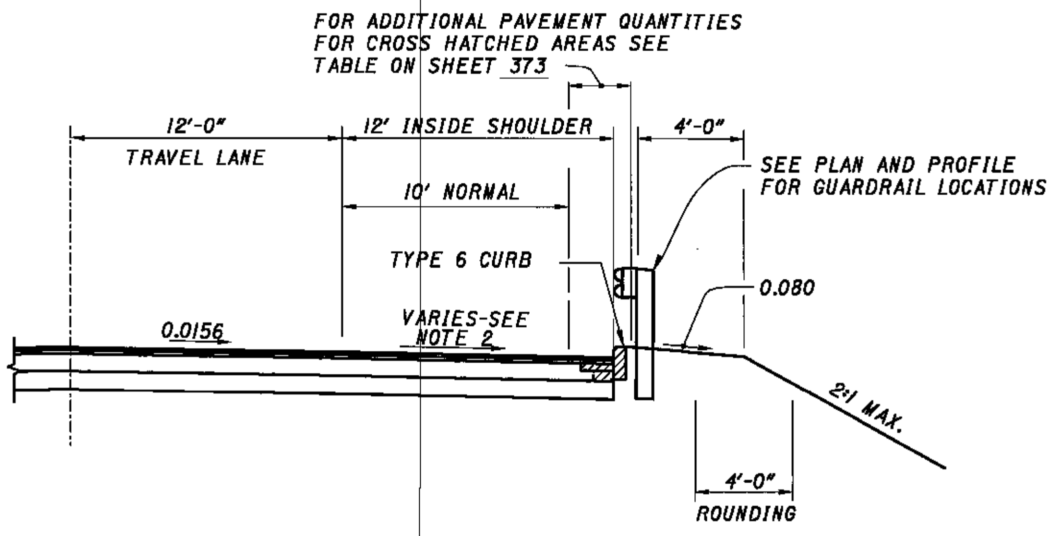
DRAINAGE AREA = 2.6 ACRES
Q 25 = 5.0 CFS
Q 100 = 6.0 CFS
HW 50 = 957.36
HW 100 = 957.59
V 25 = 6.14 FPS
V 100 = 6.34 FPS

0 5 10 20
HORIZ. & VERT.
SCALE IN FEET

CALCULATED ESP
CHECKED BBB

CULVERT DETAIL - SR 83
STA 63+75

WAY/MED-71-7.04/0.00

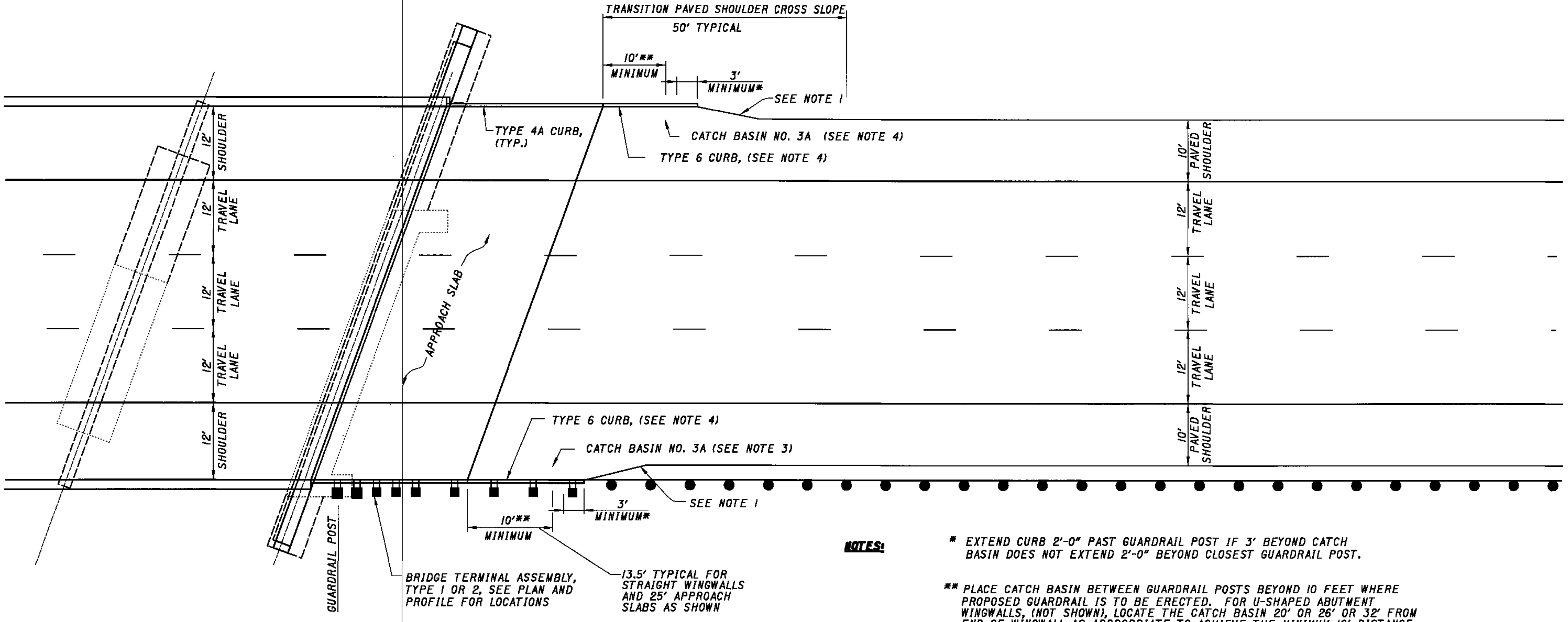


SHOULDER DETAIL - LOW PROFILE GRADE END OF STRUCTURE

(NOT TO SCALE)

NOTES:

1. TAPER ASPHALT PAVED SHOULDER WIDTH FROM 12' TO 10' IN 10' FROM THE END OF CURB
2. TRANSITION CROSS SLOPE FROM 0.0156 TO 0.0417 IN 50' TYP.
3. SEE DRAINAGE SUBSUMMARY FOR APPLICABLE CATCH BASIN TYPE. SEE PLAN AND PROFILE SHEETS FOR OUTLET PIPING ARRANGEMENT.
4. FOR LOCATIONS WITHOUT CATCH BASIN (AS PER THE PLAN AND PROFILE SHEETS) PROVIDE REINFORCED SODDING FLUME (DM-4.1) AT THE END OF THE APPROACH SLAB CURB AND OMIT TYPE 6 CURB SHOWN.



DRAINAGE DETAIL - LOW PROFILE GRADE END OF STRUCTURE

NOTES:

* EXTEND CURB 2'-0" PAST GUARDRAIL POST IF 3' BEYOND CATCH BASIN DOES NOT EXTEND 2'-0" BEYOND CLOSEST GUARDRAIL POST.

** PLACE CATCH BASIN BETWEEN GUARDRAIL POSTS BEYOND 10 FEET WHERE PROPOSED GUARDRAIL IS TO BE ERECTED. FOR U-SHAPED ABUTMENT WINGWALLS, (NOT SHOWN), LOCATE THE CATCH BASIN 20' OR 26' OR 32' FROM END OF WINGWALL AS APPROPRIATE TO ACHIEVE THE MINIMUM 10' DISTANCE BEYOND THE APPROACH SLAB AND BE CENTERED BETWEEN POSTS.

CALCULATED
CHECKED

DRAINAGE DETAILS

WAY/MED-71-7.04/0.00

DDX.DGN

DIR.	STATION	STATION	INSIDE OR OUTSIDE SHOULDER	204	302	304	407	446		609	660
				SUBGRADE COMPACTION	ASPHALT CONCRETE BASE PG 64-22	AGGREGATE BASE	TACK COAT FOR INTERMEDIATE COURSE	ASPHALT CONCRETE SURFACE COURSE TYPE 1H	ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 2, PG64-28	CURB, TYPE 6	SODDING, REINF.
				SQ. YARD	CU. YARD	CU. YARD	GAL.	CU. YARD	CU. YARD	LIN. FT.	SQ. YARD
NB	15+84.35	15+94.35	OUTSIDE	1.1	0.17	0.46	0.04	0.04	0.05		
NB	15+85.07	15+95.07	INSIDE	1.1	0.17	0.46	0.04	0.04	0.05		
SB	16+02.17	17+73.87	INSIDE	1.1	4.28	2.96	1.48	1.54	1.80		
SB	17+64.85	17+74.85	OUTSIDE	1.1	0.17	0.46	0.04	0.04	0.05		
NB	20+97.05	22+48.75	INSIDE	1.1	3.78	2.36	1.30	1.35	1.58		12
NB	20+98.76	21+26.76	OUTSIDE	5.1	0.62	0.73	0.20	0.20	0.25	18	
SB	22+72.85	22+82.85	OUTSIDE	1.1	0.17	0.46	0.04	0.04	0.05		41
SB	22+73.13	23+02.13	INSIDE	5.3	0.65	0.75	0.21	0.21	0.26	19	
NB	31+46.59	31+56.59	OUTSIDE	1.1	0.17	0.46	0.04	0.04	0.05		
NB	31+58.74	31+68.74	INSIDE	1.1	0.17	0.46	0.04	0.04	0.05		
SB	31+65.95	31+75.95	INSIDE	1.1	0.17	0.46	0.04	0.04	0.05		
SB	31+78.05	31+88.05	OUTSIDE	1.1	0.17	0.46	0.04	0.04	0.05		
NB	33+16.48	33+45.48	OUTSIDE	5.3	0.65	0.75	0.21	0.21	0.26	19	
NB	33+28.06	33+38.06	INSIDE	1.1	0.17	0.46	0.04	0.04	0.05		
SB	33+34.86	33+44.86	INSIDE	1.1	0.17	0.46	0.04	0.04	0.05		20
SB	33+45.62	33+74.62	OUTSIDE	5.3	0.65	0.75	0.21	0.21	0.26	19	
SB	179+40.53	179+59.43	OUTSIDE	5.3	0.65	0.75	0.21	0.21	0.26	19	
SB	179+78.50	179+89.50	INSIDE	1.1	0.17	0.46	0.04	0.04	0.05		21
NB	179+96.00	180+07.00	INSIDE	1.1	0.17	0.46	0.04	0.04	0.05		12
NB	180+21.15	180+34.15	OUTSIDE	4.0	0.50	0.66	0.16	0.16	0.19	13	
SB	181+80.45	181+90.45	OUTSIDE	1.1	0.17	0.46	0.04	0.04	0.05		
SB	182+08.06	182+18.06	INSIDE	1.1	0.17	0.46	0.04	0.04	0.05		
NB	182+25.90	182+35.90	INSIDE	1.1	0.17	0.46	0.04	0.04	0.05		
NB	182+53.87	182+63.87	OUTSIDE	1.1	0.17	0.46	0.04	0.04	0.05		
SB	229+63.26	229+91.26	OUTSIDE	5.1	0.62	0.73	0.20	0.20	0.25	18	
SB	230+13.02	230+23.02	INSIDE	1.1	0.17	0.46	0.04	0.04	0.05		17
NB	230+32.45	230+42.45	INSIDE	1.1	0.17	0.46	0.04	0.04	0.05		17
NB	230+56.51	230+74.51	OUTSIDE	5.1	0.62	0.73	0.20	0.20	0.25	18	
SB	232+24.92	232+34.92	OUTSIDE	1.1	0.17	0.46	0.04	0.04	0.05		
SB	232+56.86	232+66.86	INSIDE	1.1	0.17	0.46	0.04	0.04	0.05		
NB	232+76.18	232+86.18	INSIDE	1.1	0.17	0.46	0.04	0.04	0.05		
NB	233+08.24	233+18.24	OUTSIDE	1.1	0.17	0.46	0.04	0.04	0.05		
SB	283+88.77	284+17.77	OUTSIDE	5.3	0.65	0.75	0.21	0.21	0.26	19	
SB	284+22.73	284+32.73	INSIDE	1.1	0.17	0.46	0.04	0.04	0.05		13
NB	284+31.70	284+41.70	INSIDE	1.1	0.17	0.46	0.04	0.04	0.05		20
NB	284+27.66	284+56.66	OUTSIDE	5.3	0.65	0.75	0.21	0.21	0.26	19	
SB	285+76.83	285+86.83	OUTSIDE	1.1	0.17	0.46	0.04	0.04	0.05		
SB	285+92.09	286+02.09	INSIDE	1.1	0.17	0.46	0.04	0.04	0.05		
NB	286+00.77	286+10.77	INSIDE	1.1	0.17	0.46	0.04	0.04	0.05		
NB	286+15.73	286+25.73	OUTSIDE	1.1	0.17	0.46	0.04	0.04	0.05		
TOTALS				84.1	* 19.08	25.55	* 5.92	* 6.03	* 7.28	181.0	173.0

* - QUANTITIES CARRIED TO ITEM 880 SUMMARY TABLE ON SHEET 128

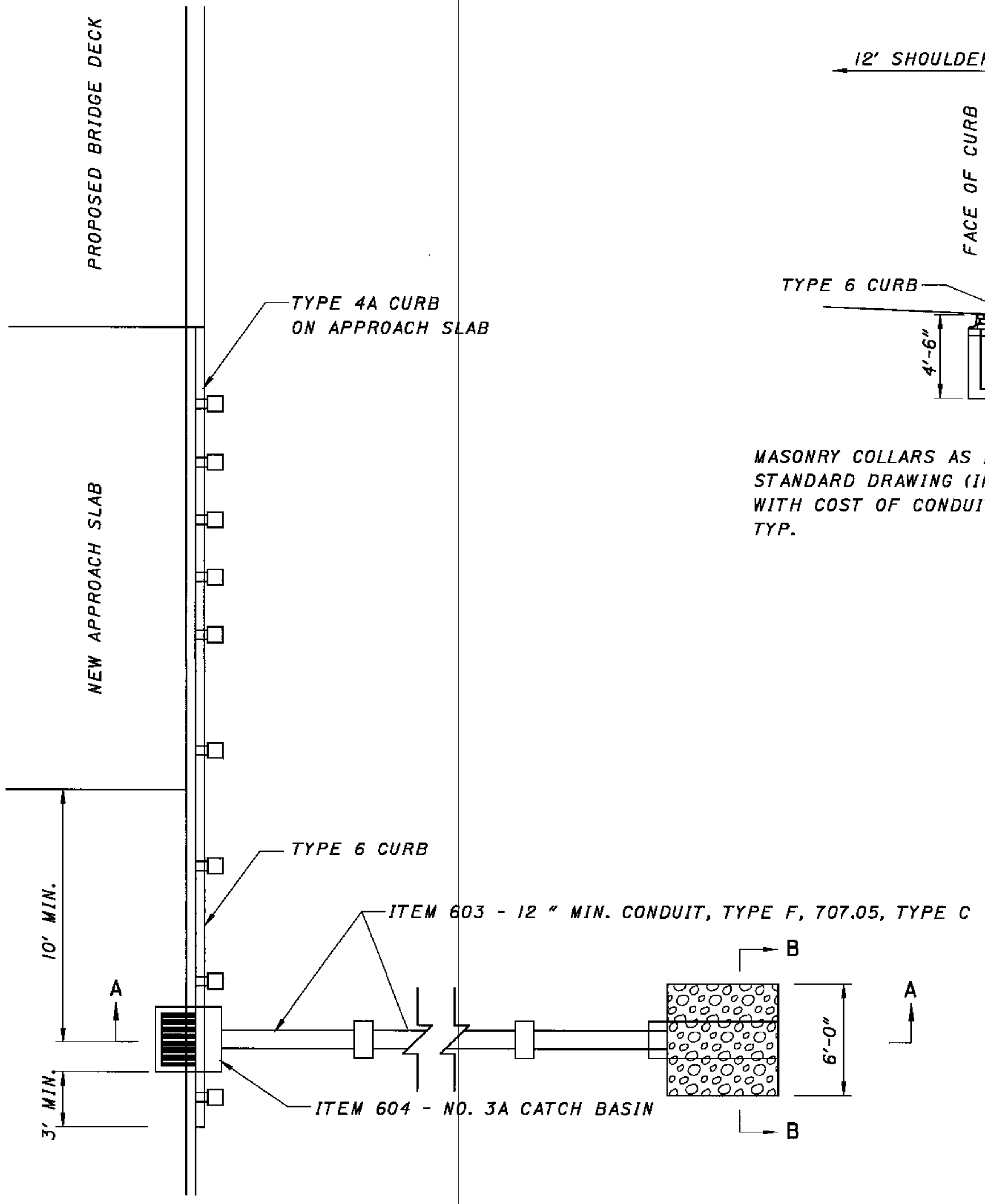
0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED DCF
CHECKED ENF

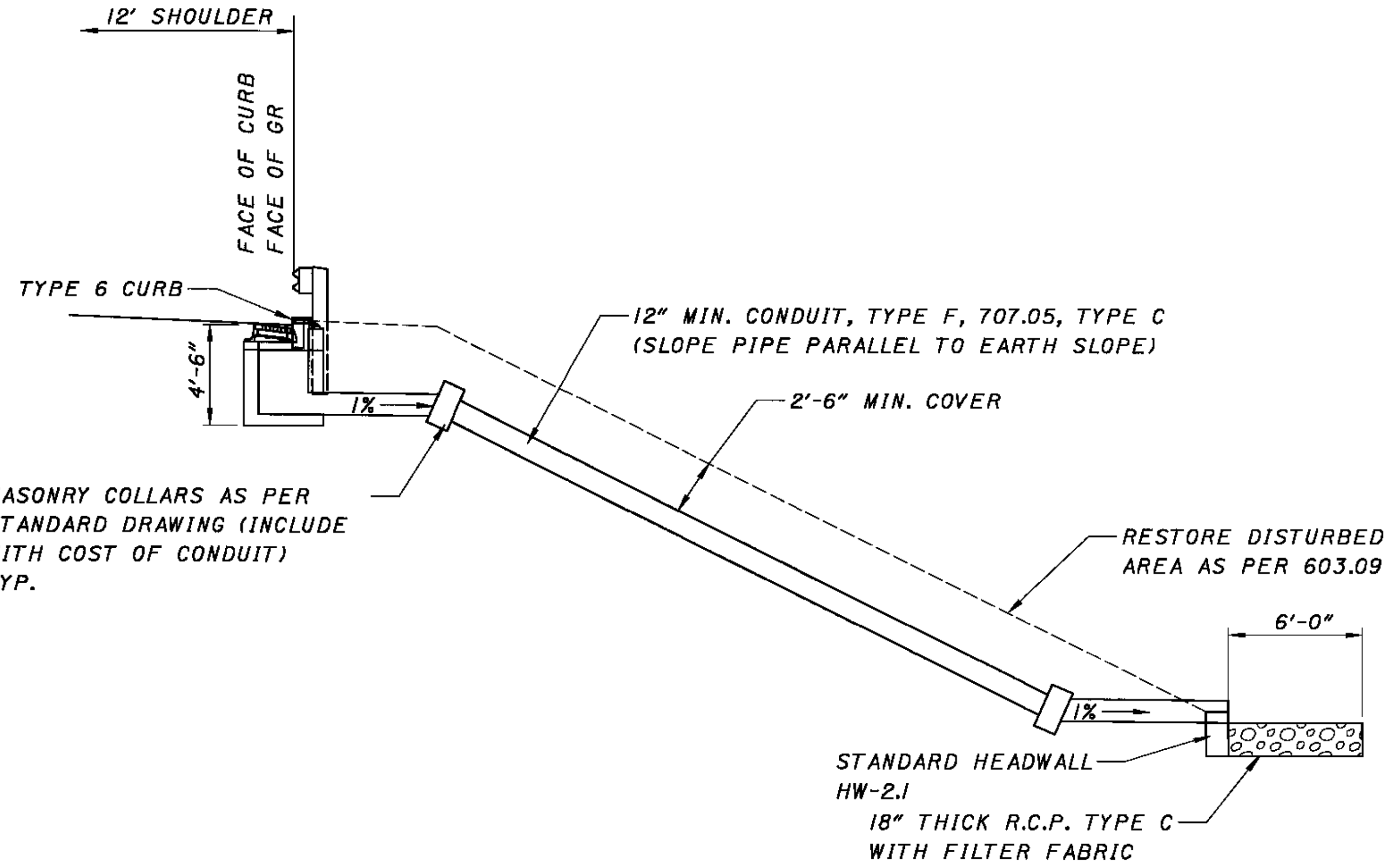
CURB/PAV'T QUANTITIES

WAY/MED-71-7.04/0.00

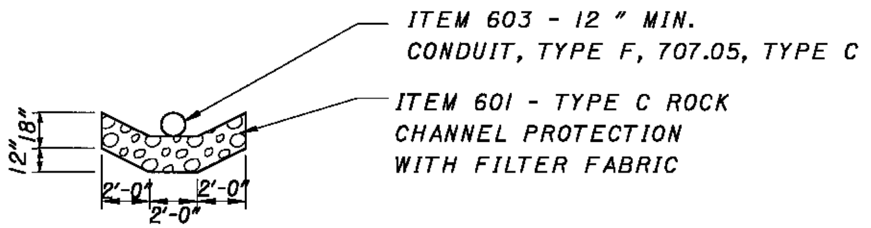
DDX.DGN



CATCH BASIN DETAIL



SECTION A-A



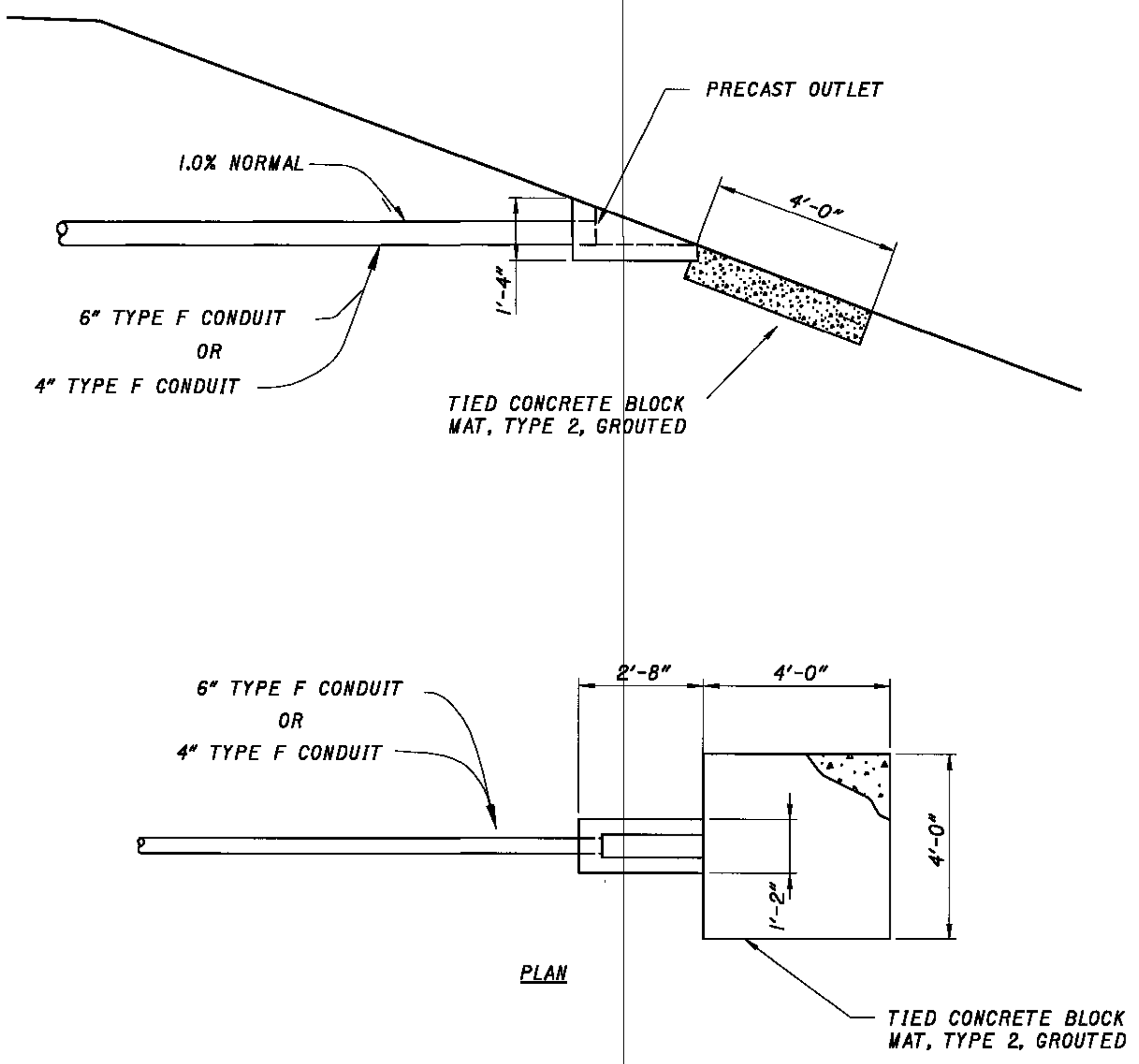
SECTION B-B

CALCULATED
CHECKED

CATCH BASIN OUTLETTED TO DITCH

WAY/MED-71-7.04/0.00

...\14017DDP.dgn

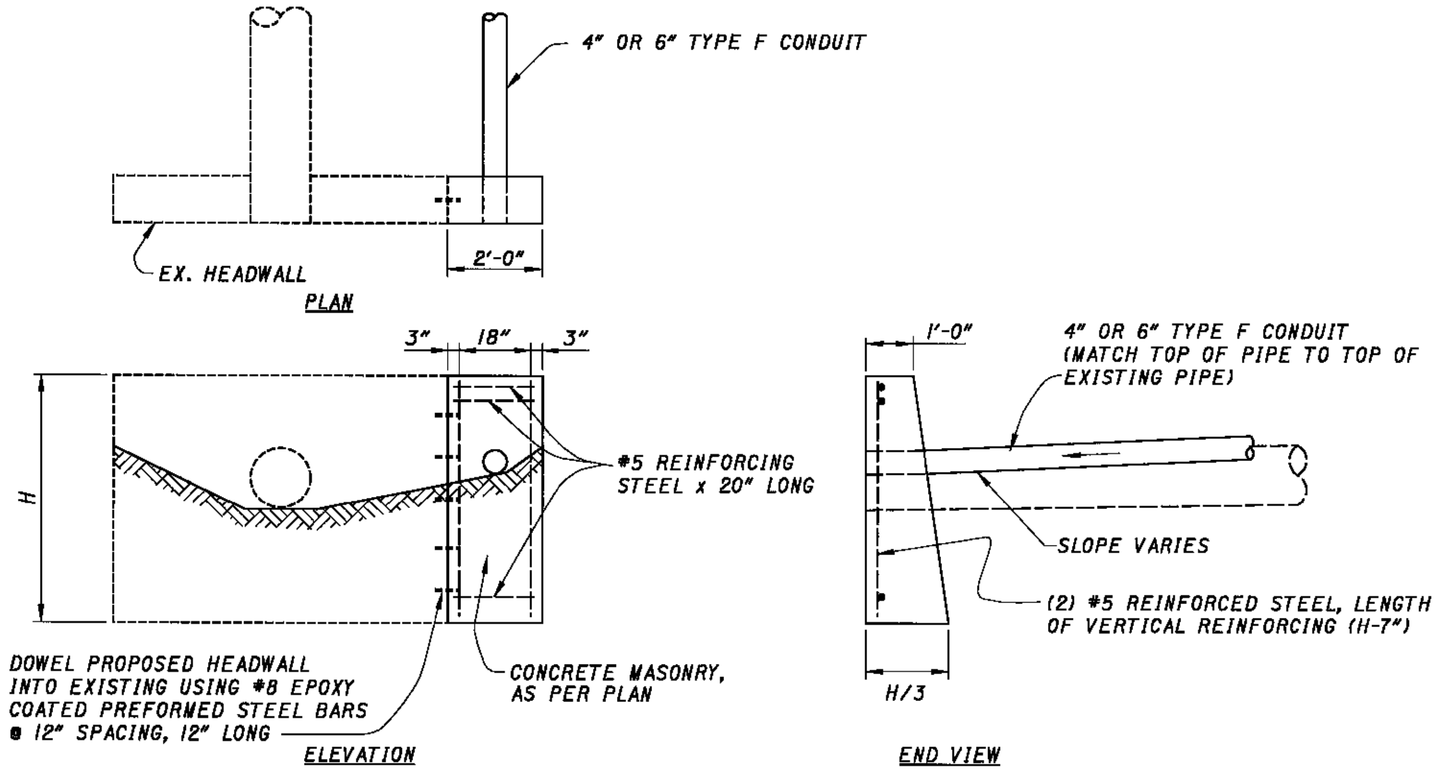


PRECAST REINFORCED CONCRETE OUTLET

TO BE PROVIDED AND INSTALLED AS PER DM-1.1

NOTES:

1. TOP OF CONCRETE BLOCK MAT IS TO BE PLACED FLUSH WITH SURFACE OF SLOPE.
2. PAYMENT FOR ITEM 604 - PRECAST REINFORCED CONCRETE OUTLET SHALL INCLUDE: THE MORTAR: TIED CONCRETE BLOCK MAT, TYPE 2, GROUTED: WIRE MESH: AND PRECAST OUTLET.

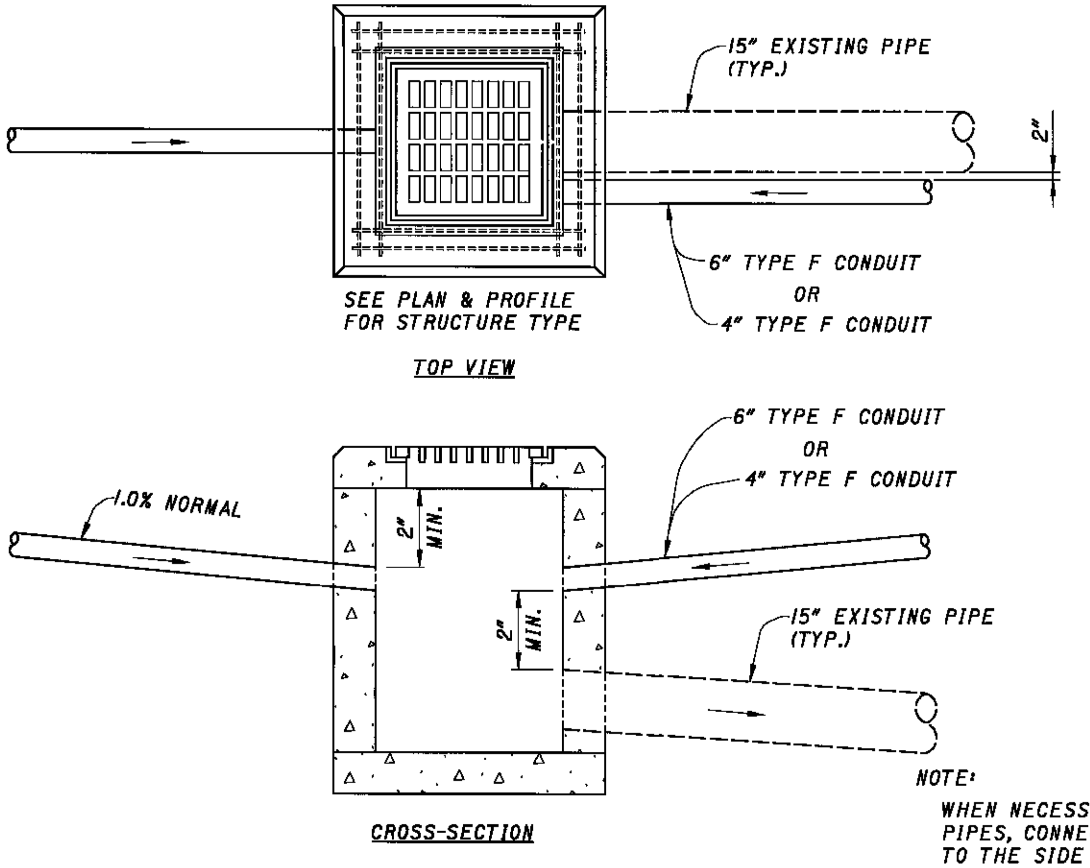


4" OR 6" TYPE F CONDUIT
EX. HEADWALL
2'-0"
PLAN
3"
18"
3"
H
#5 REINFORCING STEEL x 20" LONG
DOWEL PROPOSED HEADWALL INTO EXISTING USING #8 EPOXY COATED PREFORMED STEEL BARS @ 12" SPACING, 12" LONG
CONCRETE MASONRY, AS PER PLAN
ELEVATION
1'-0"
4" OR 6" TYPE F CONDUIT (MATCH TOP OF PIPE TO TOP OF EXISTING PIPE)
SLOPE VARIES
(2) #5 REINFORCED STEEL, LENGTH OF VERTICAL REINFORCING (H-7")
H/3
END VIEW

WHEN TYING INTO HEADWALL OF EXISTING 15" CONDUIT, H = 5'-2"
FOR 18" CONDUIT, H = 5'-5"

SEE HW-2.1 FOR MORE INFORMATION

OUTLET DETAIL TO HEADWALL



NOTE:

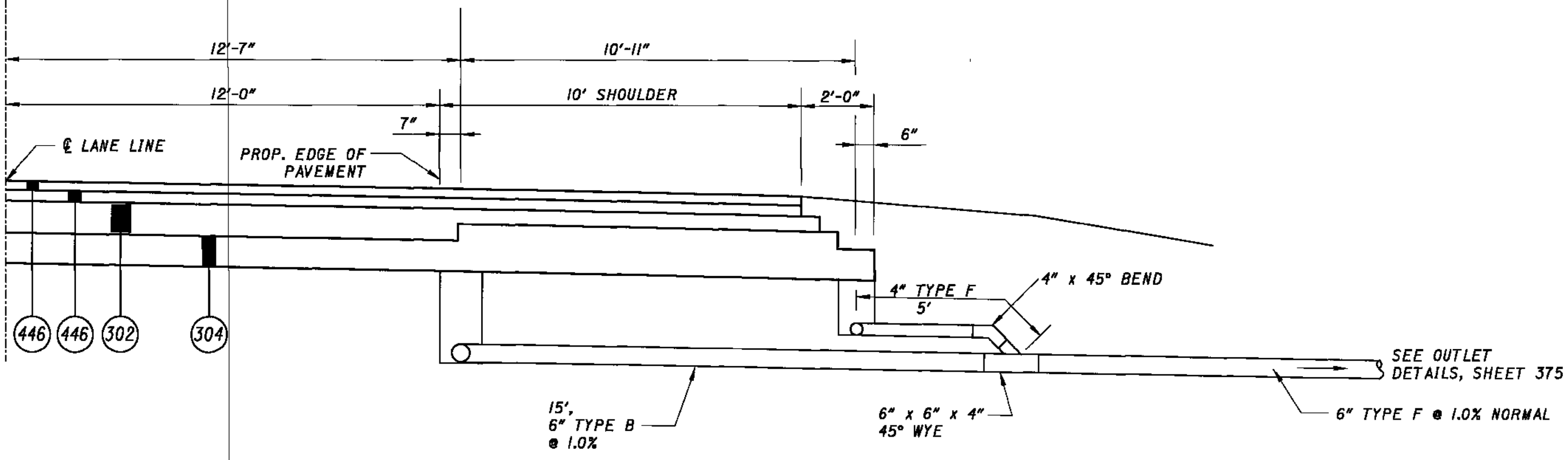
WHEN NECESSARY TO AVOID EXISTING PIPES, CONNECT THE TYPE F CONDUIT TO THE SIDE OF THE CATCH BASIN OR MANHOLE WITH APPROPRIATE BEND

OUTLET DETAIL TO CATCH BASIN OR MANHOLE

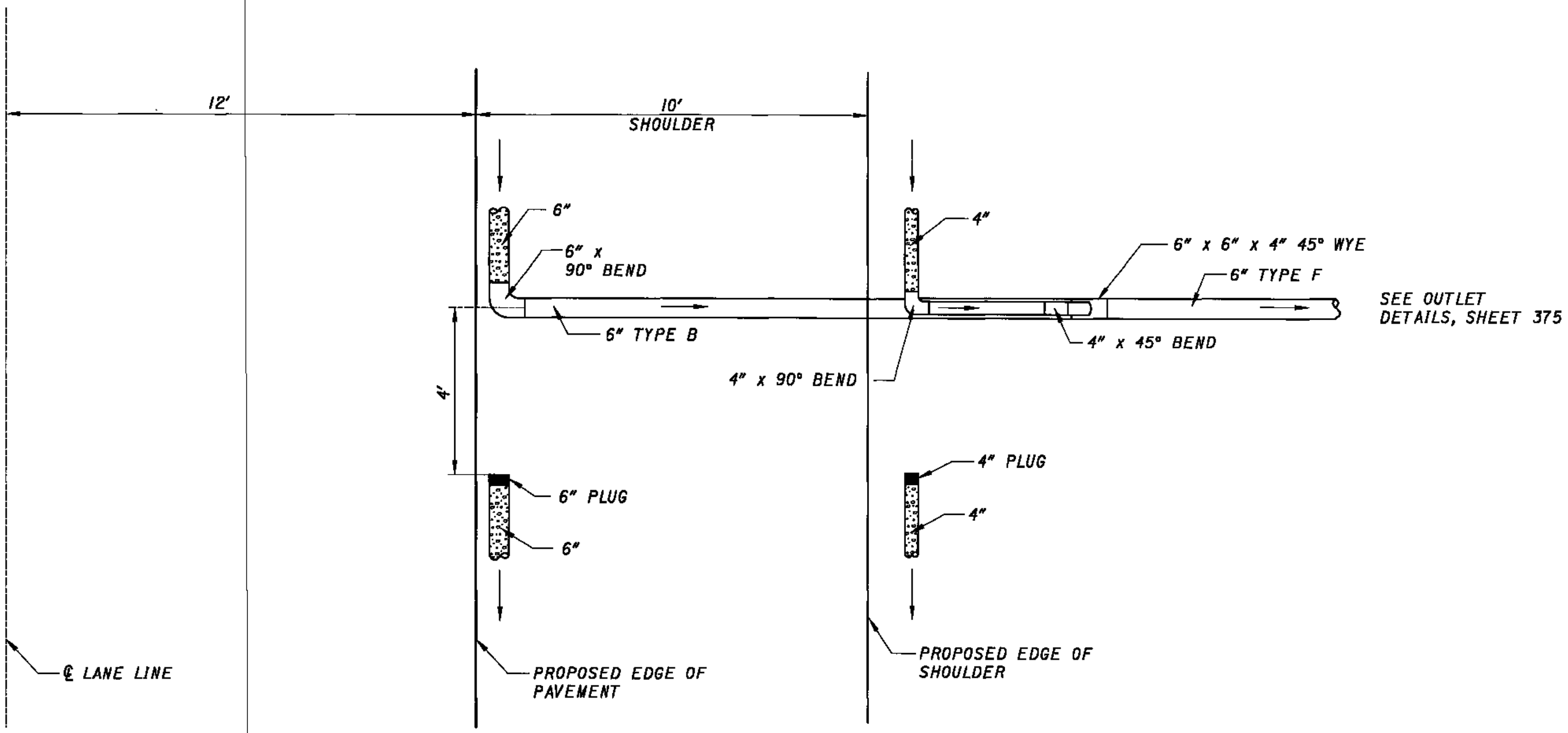
CALCULATED

CHECKED

UNDERDRAIN DETAILS



SECTION



PLAN

UNDERDRAIN DETAILS

NORMAL OUTLET

LEGEND

▨ 4" BY TYPE PIPE UNDERDRAIN
707.31 OR 707.41 (18" NORMAL DEPTH), OR

6" BY TYPE PIPE UNDERDRAIN
707.31 OR 707.41 (30" NORMAL DEPTH)

▭ OUTLET PIPE

CALCULATED
CHECKED

UNDERDRAIN DETAILS

CALCULATED

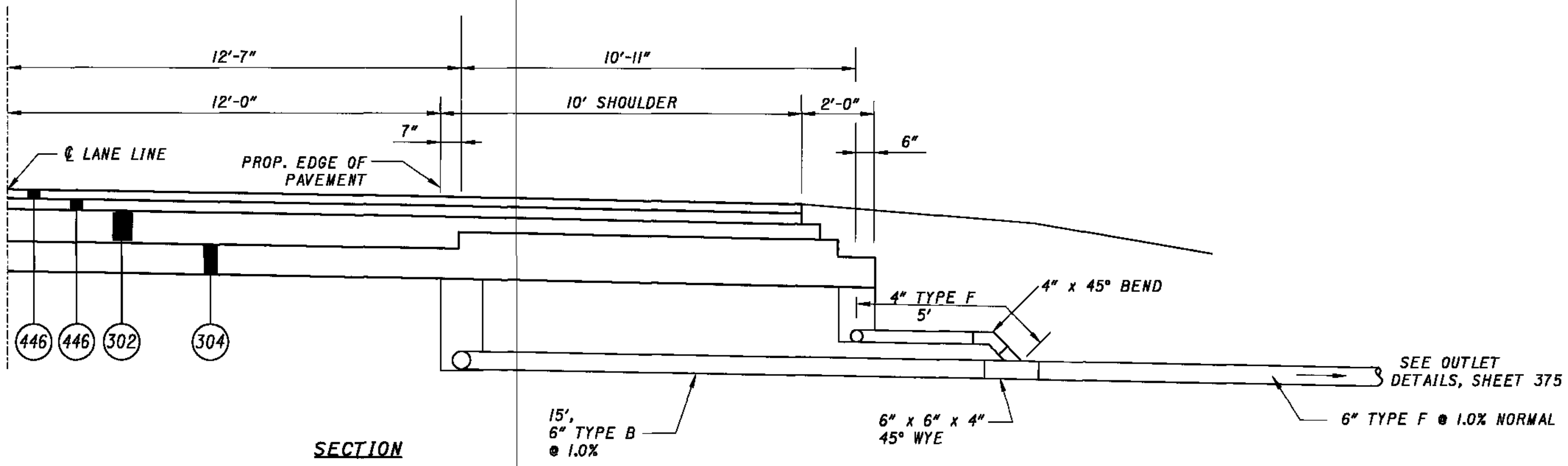
CHECKED

LEGEND

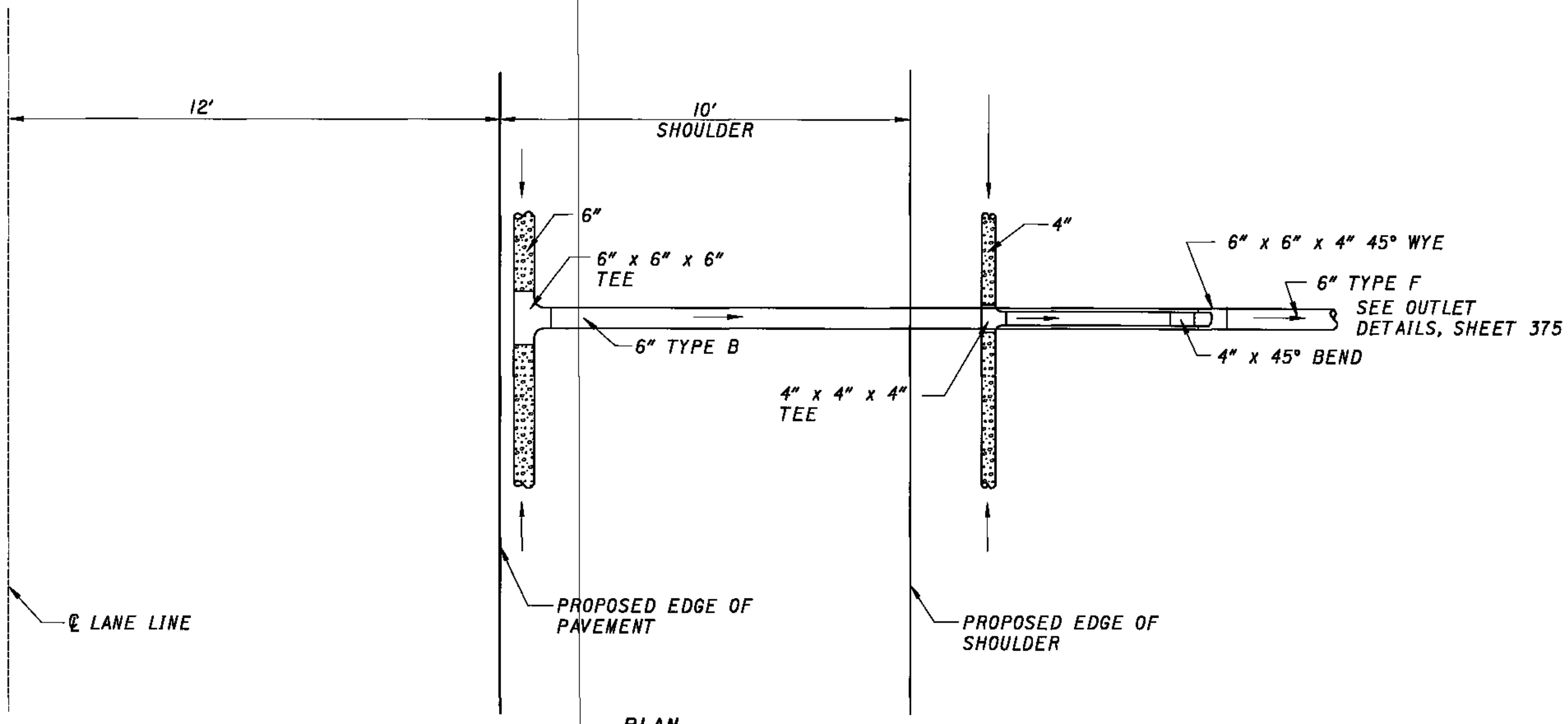
▨ 4" BY TYPE PIPE UNDERDRAIN
707.31 OR 707.41 (18" NORMAL DEPTH), OR

6" BY TYPE PIPE UNDERDRAIN
707.31 OR 707.41 (30" NORMAL DEPTH)

▭ OUTLET PIPE



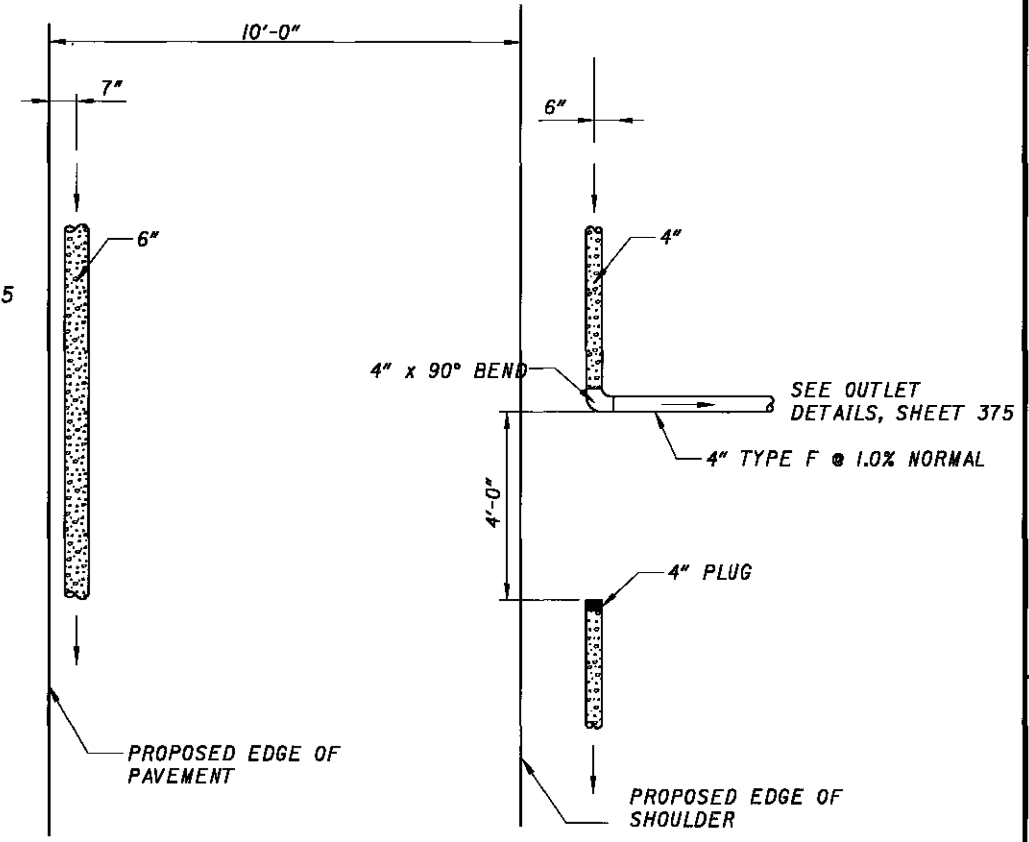
SECTION



PLAN

UNDERDRAIN DETAILS

OUTLET IN SAG

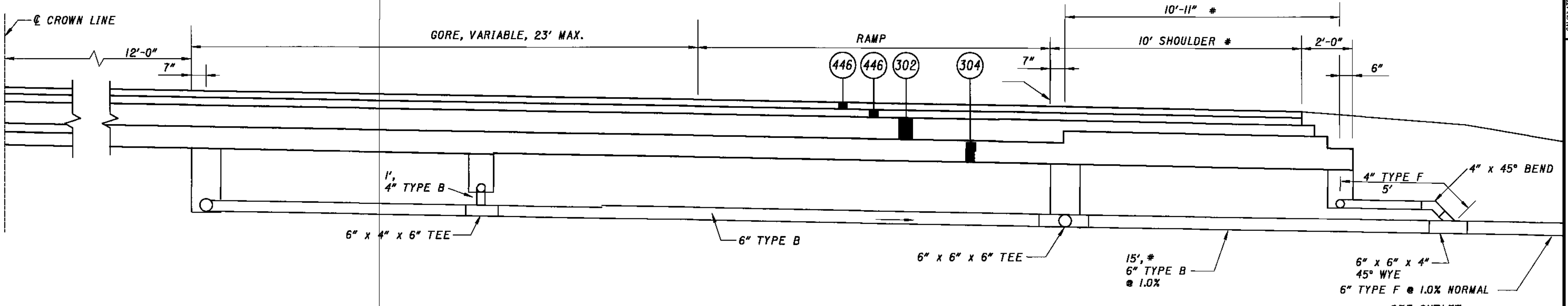

10'-0"
7"
6"
6"
4"
4" x 90° BEND
SEE OUTLET DETAILS, SHEET 375
4" TYPE F @ 1.0% NORMAL
4'-0"
4" PLUG
PROPOSED EDGE OF PAVEMENT
PROPOSED EDGE OF SHOULDER

OUTLET 4" UNDERDRAIN ONLY

NOTE:
THIS DETAIL IS TYPICALLY USED ON THE HIGH SIDE OF A SUPERELEVATED SECTION, WHERE THE 6" UNDERDRAIN IS NOT PRESENT.

UNDERDRAIN DETAILS

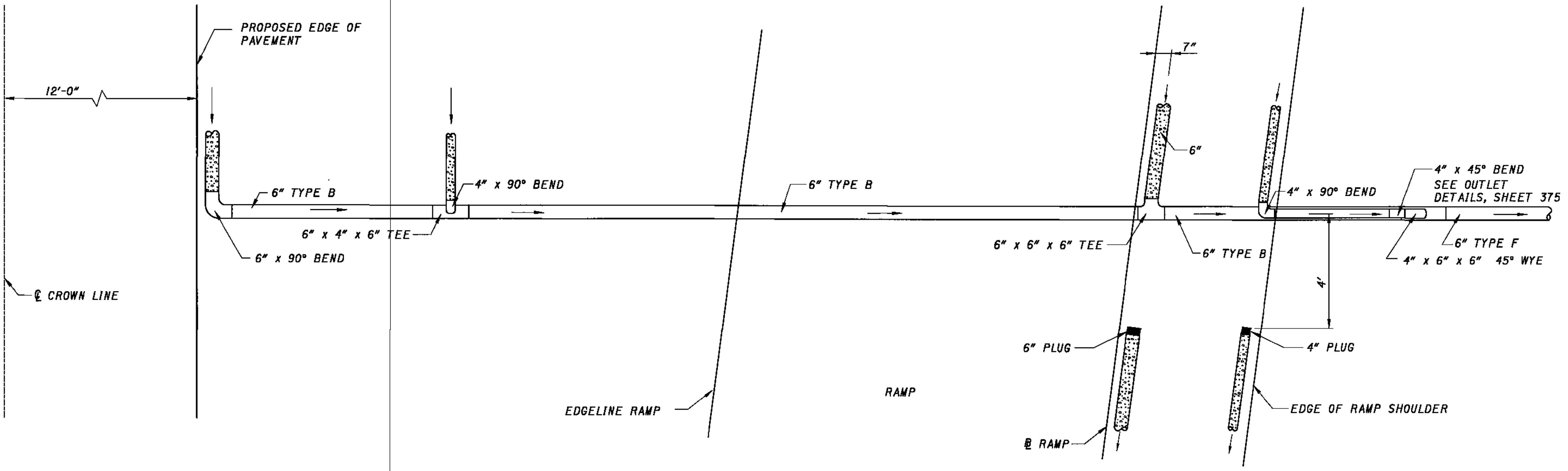
DDE.DGN



SEE OUTLET DETAILS, SHEET 375

- REDUCE BY 2' FOR 8' SHOULDER

CROSS SECTION



PLAN

CONNECTION DETAIL FOR UNDERDRAIN DETAIL

MAINLINE DRAINING TOWARDS GORE

LEGEND

▨ 4" BY TYPE PIPE UNDERDRAIN
707.31 OR 707.41 (18" NORMAL DEPTH), OR

6" BY TYPE PIPE UNDERDRAIN
707.31 OR 707.41 (30" NORMAL DEPTH)

▭ OUTLET PIPE

UNDERDRAIN DETAILS

CALCULATED
CHECKED

DDG.DGN

UNDERDRAIN DETAILS

CALCULATED

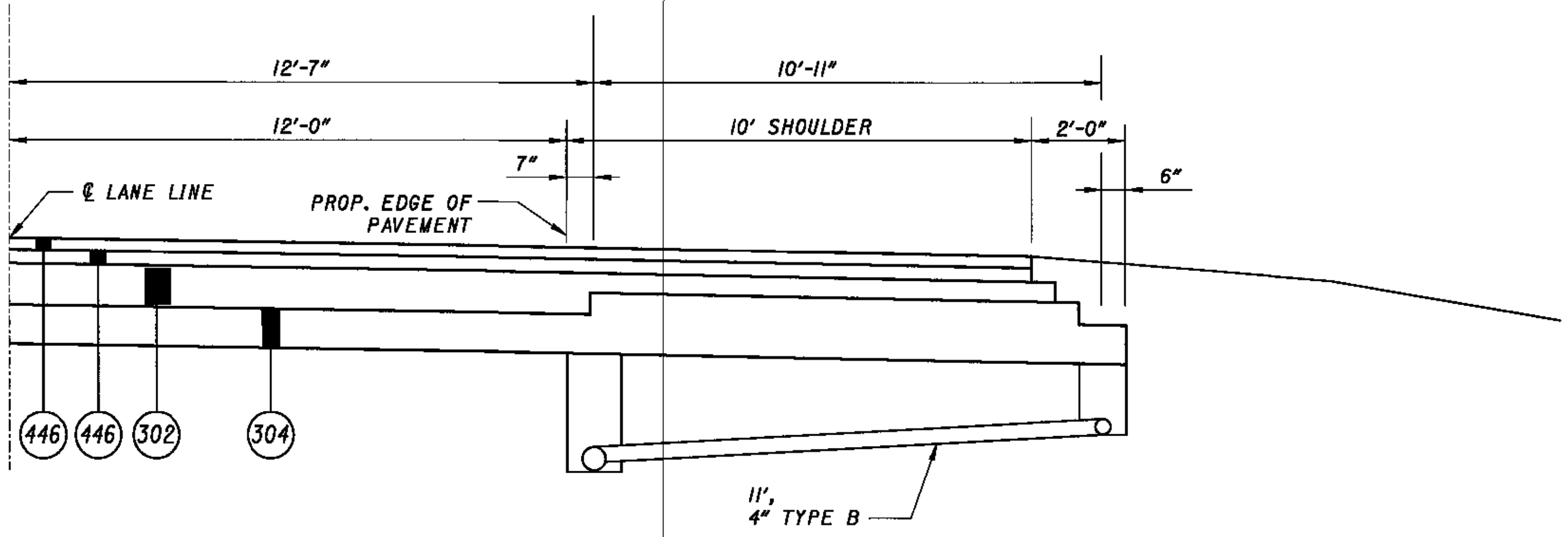
CHECKED

LEGEND

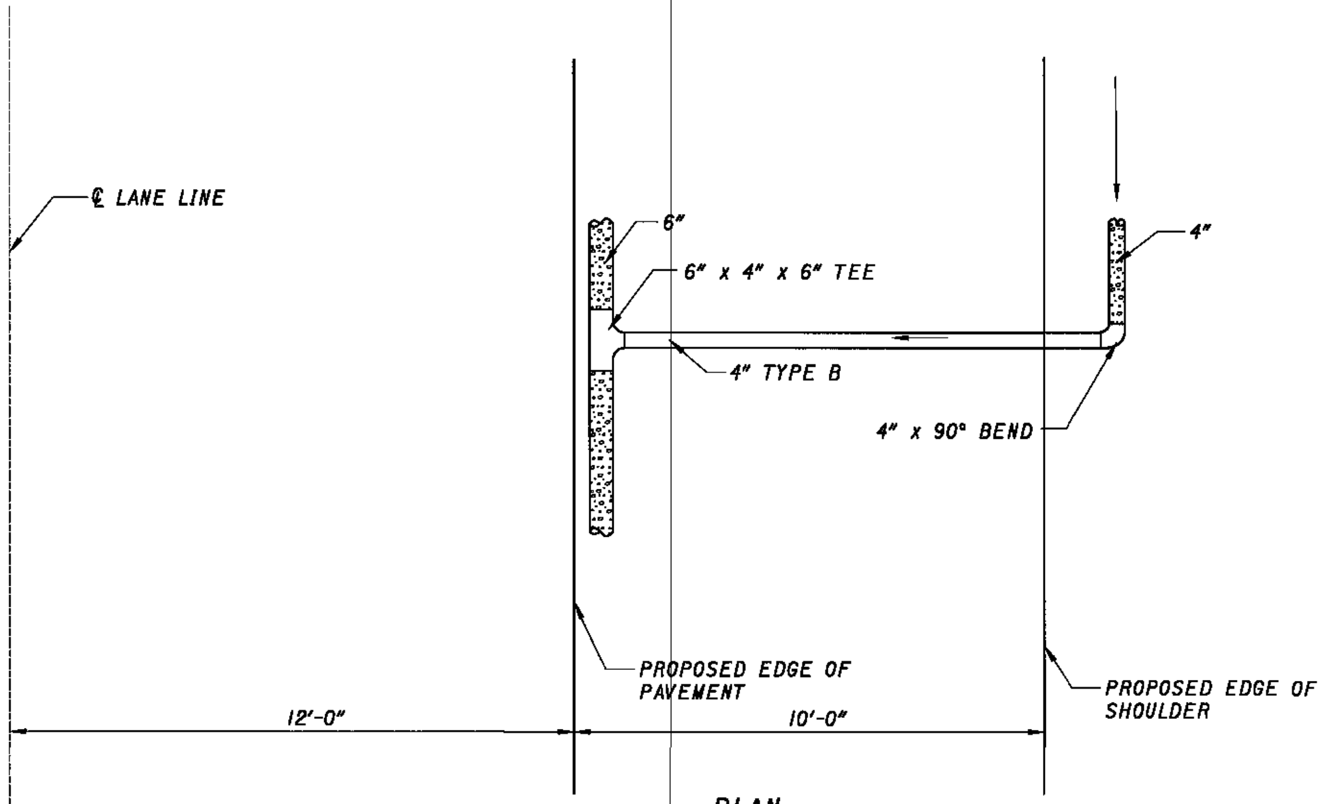
▨ 4" BY TYPE PIPE UNDERDRAIN 707.31 OR 707.41 (18" NORMAL DEPTH), OR

6" BY TYPE PIPE UNDERDRAIN 707.31 OR 707.41 (30" NORMAL DEPTH)

▭ OUTLET PIPE



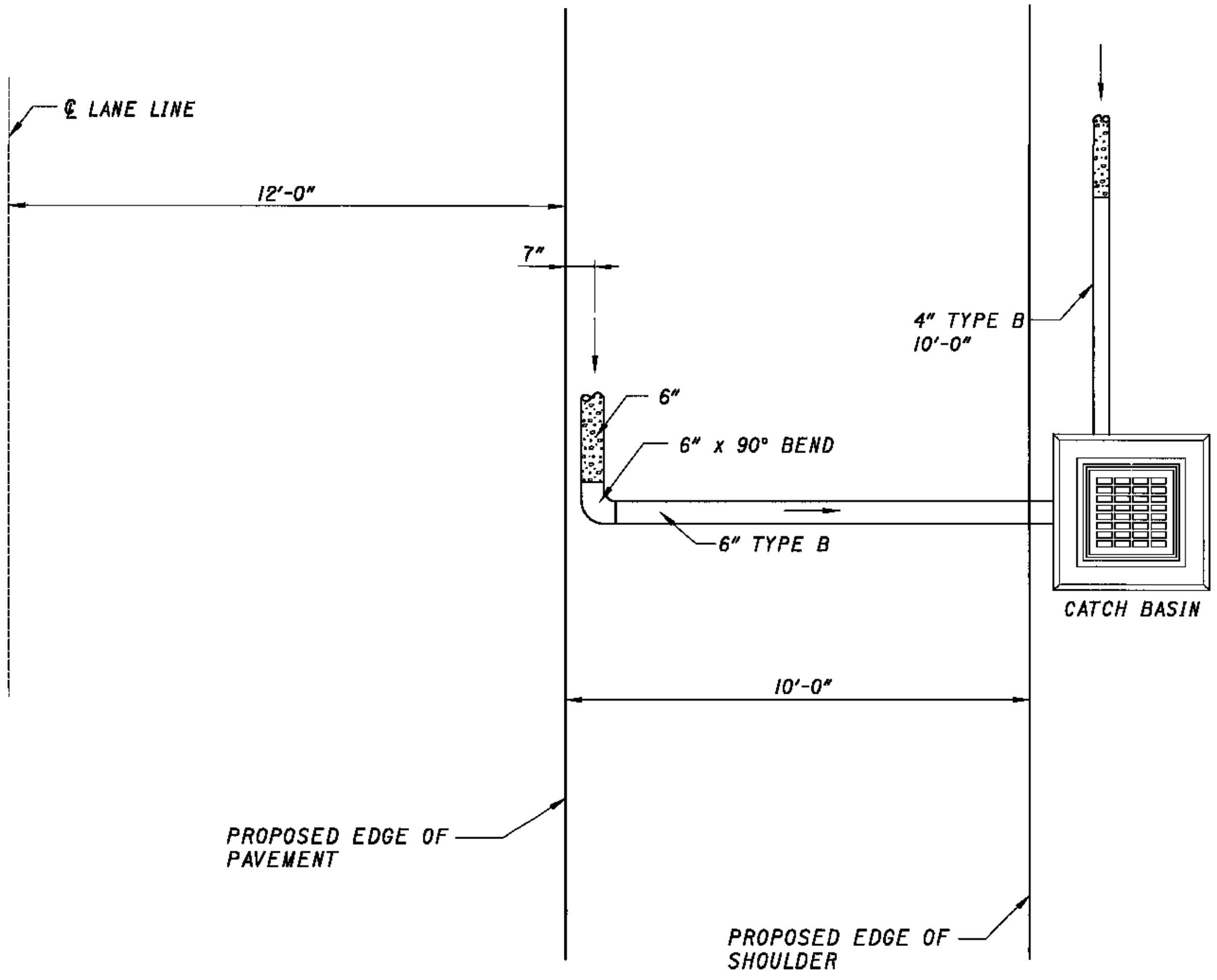
CROSS SECTION



PLAN

UNDERDRAIN DETAIL

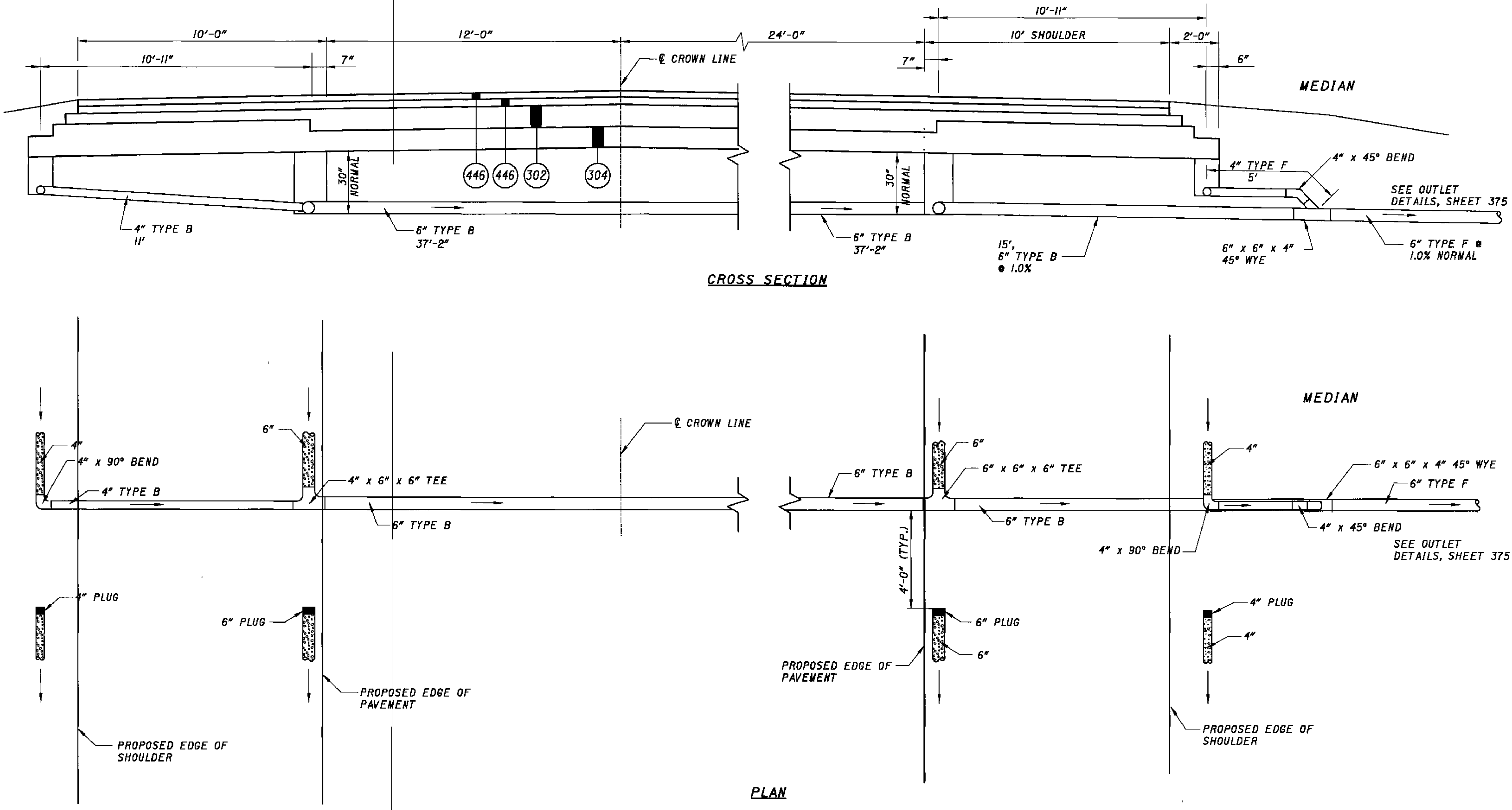
4" TO 6" CONNECTION



UNDERDRAIN DETAIL

DIRECT UD CONNECTIONS TO CB

DDH.DGN



UNDERDRAIN DETAILS

OUTSIDE U.D.'S TO MEDIAN U.D. CONNECTION

LEGEND

▨ 4" BY TYPE PIPE UNDERDRAIN 707.31 OR 707.41 (18" NORMAL DEPTH), OR

6" BY TYPE PIPE UNDERDRAIN 707.31 OR 707.41 (30" NORMAL DEPTH)

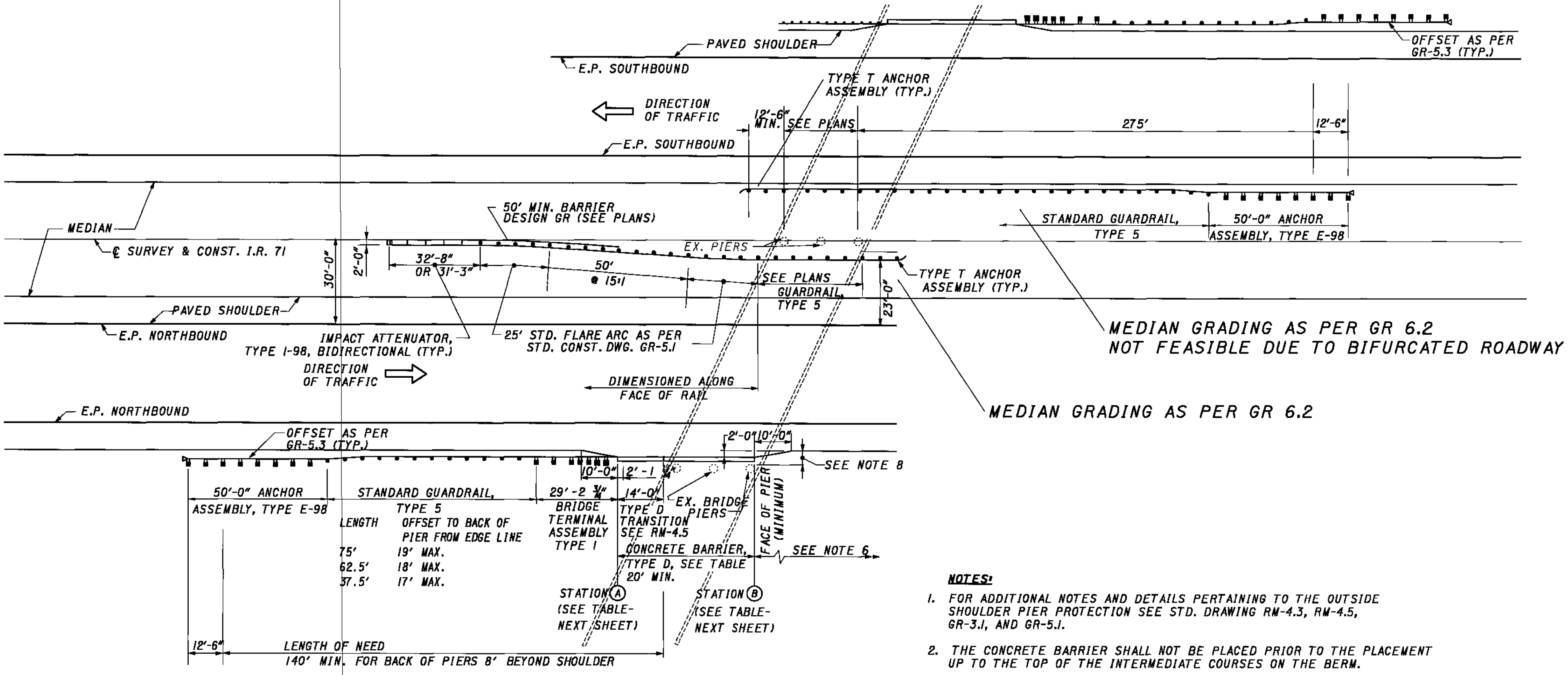
▭ OUTLET PIPE

CALCULATED

CHECKED

UNDERDRAIN DETAILS

DDF.DGN


PAVED SHOULDER
E.P. SOUTHBOUND
OFFSET AS PER GR-5.3 (TYP.)
TYPE T ANCHOR ASSEMBLY (TYP.)
DIRECTION OF TRAFFIC
12'-6" MIN.
SEE PLANS
275'
12'-6"
E.P. SOUTHBOUND
MEDIAN
℄ SURVEY & CONST. I.R. 71
50' MIN. BARRIER DESIGN GR (SEE PLANS)
30'-0"
2'-0"
32'-8" OR 31'-3"
50' @ 15:1
EX. PIERS
SEE PLANS
GUARDRAIL TYPE 5
23'-0"
TYPE T ANCHOR ASSEMBLY (TYP.)
STANDARD GUARDRAIL, TYPE 5
50'-0" ANCHOR ASSEMBLY, TYPE E-98
PAVED SHOULDER
E.P. NORTHBOUND
IMPACT ATTENUATOR, TYPE I-98, BIDIRECTIONAL (TYP.)
25' STD. FLARE ARC AS PER STD. CONST. DWG. GR-5.I
DIRECTION OF TRAFFIC
DIMENSIONED ALONG FACE OF RAIL
MEDIAN GRADING AS PER GR 6.2 NOT FEASIBLE DUE TO BIFURCATED ROADWAY
MEDIAN GRADING AS PER GR 6.2
E.P. NORTHBOUND
OFFSET AS PER GR-5.3 (TYP.)
2'-0"
10'-0"
SEE NOTE 8
10'-0"
2'-1 ¾"
50'-0" ANCHOR ASSEMBLY, TYPE E-98
STANDARD GUARDRAIL, TYPE 5
29'-2 ¾" BRIDGE TERMINAL ASSEMBLY TYPE I
14'-0" TYPE D TRANSITION SEE RM-4.5
EX. BRIDGE PIERS
FACE OF PIER (MINIMUM)
CONCRETE BARRIER, TYPE D, SEE TABLE 20' MIN.
SEE NOTE 6
STATION Ⓐ (SEE TABLE-NEXT SHEET)
STATION Ⓑ (SEE TABLE-NEXT SHEET)
12'-6"
LENGTH OF NEED
140' MIN. FOR BACK OF PIERS 8' BEYOND SHOULDER

LENGTH	OFFSET TO BACK OF PIER FROM EDGE LINE
75'	19' MAX.
62.5'	18' MAX.
37.5'	17' MAX.

TYPICAL OUTSIDE SHOULDER PIER PROTECTION

NOTES:

1. FOR ADDITIONAL NOTES AND DETAILS PERTAINING TO THE OUTSIDE SHOULDER PIER PROTECTION SEE STD. DRAWING RM-4.3, RM-4.5, GR-3.I, AND GR-5.I.
2. THE CONCRETE BARRIER SHALL NOT BE PLACED PRIOR TO THE PLACEMENT UP TO THE TOP OF THE INTERMEDIATE COURSES ON THE BERM.
3. THROUGH BOLTS SHALL BE PROVIDED IN THE END OF THE BARRIER FOR CONNECTING THE TYPE I&2 BRIDGE TERMINAL ASSEMBLY AS PER STD. DRAWING GR-3.I AND GR-3.2.
4. FOR INCORPORATED CONCRETE BARRIER, TYPE D, SEE STD. CONSTRUCTION DWG. RM-4.5.
5. SEE STD. DRAWING GR-3.I, FOR BRIDGE TERMINAL ASSEMBLY, TYPE I, AND GR-3.2, FOR BRIDGE TERMINAL ASSEMBLY, TYPE 2.
6. WHERE PLANS INDICATED A TRAILING GUARDRAIL RUN AN ADDITIONAL TYPE D, CONCRETE BARRIER TRANSITION AS PER STD. DRAWING RM-4.5 SHALL BE INSTALLED AT THE END OF THE BRIDGE PIER PROTECTION AND CONNECTION OF THE TRAILING GUARDRAIL SHALL BE MADE USING A BRIDGE TERMINAL ASSEMBLY, TYPE 2, PER STD. DRAWING GR-3.2.
7. FOR ADDITIONAL NOTES AND DETAILS PERTAINING TO THE MEDIAN GUARDRAIL AT THE PIERS SEE STANDARD CONSTRUCTION DRAWING GR-I.I, GR-I.2, GR-2.I, GR-4.2, GR-5.I AND GR-6.2.
8. WHERE THE DISTANCE BETWEEN THE EDGE OF THE PAVED SHOULDER AND THE FACE OF THE EXISTING PIER IS LESS THAN 4'-0" AN INCORPORATED CONCRETE BARRIER, TYPE D WILL BE REQUIRED. SEE RM-4.5 FOR DETAILS.

GRA.DGN

0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED
CHECKED

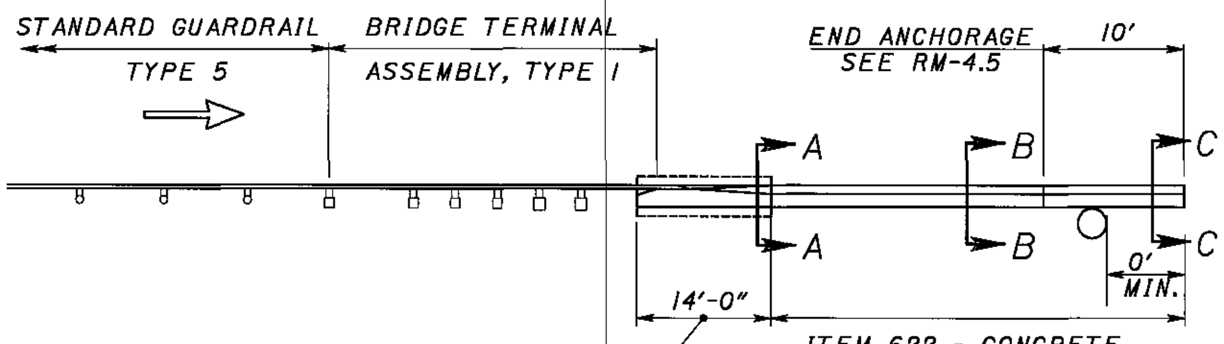
OVERPASS PIER PROTECTION DETAIL

WAY/MED-71-7.04/0.00

REF.	LOCATION	CONCRETE BARRIER STATION		REMARKS	204	302	304	407	446		
					SUBGRADE COMPACTION	BITUMINOUS AGGREGATE BASE PG 64-22	AGGREGATE BASE	TACK COAT FOR INTERMEDIATE COURSE	ASPHALT CONCRETE SURFACE COURSE TYPE 1H	ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 2, PG64-28	
		A	B		SQ. YARD	CU. YARD	CU. YARD	GAL.	CU. YARD	CU. YARD	
GR12	N.B.	73+30	73+90	L(A-A) = 14' L(B-B)=36' L(C-C)=10'	28.1	3.4	11.7	0.6	0.6	1.1	
GR15	S.B.	73+60	74+20	L(A-A) = 14' L(B-B)=36' L(C-C)=10'	28.1	3.4	11.7	0.6	0.6	1.1	
GR29	N.B.	198+95	199+55	L(A-A) = 14' L(B-B)=36' L(C-C)=10'	28.1	3.4	11.7	0.6	0.6	1.1	
GR31	S.B.	199+20	199+80	L(A-A) = 14' L(B-B)=36' L(C-C)=10'	28.1	3.4	11.7	0.6	0.6	1.1	
GR40	N.B.	262+10	262+70	L(A-A) = 14' L(B-B)=36' L(C-C)=10'	28.1	3.4	11.7	0.6	0.6	1.1	
GR42	S.B.	263+15	263+75	L(A-A) = 14' L(B-B)=36' L(C-C)=10'	28.1	3.4	11.7	0.6	0.6	1.1	
GR50	N.B.	296+80	297+40	L(A-A) = 14' L(B-B)=36' L(C-C)=10'	28.1	3.4	11.7	0.6	0.6	1.1	
GR52	S.B.	297+80	298+40	L(A-A) = 14' L(B-B)=36' L(C-C)=10'	28.1	3.4	11.7	0.6	0.6	1.1	
SUBTOTAL OF PAVEMENT QUANTITIES CARRIED TO SUMMARIES					224.8	27.2 *	93.6	4.8 *	4.8 *	8.8 *	

* - QUANTITIES CARRIED TO ITEM 880 SUMMARY TABLE ON SHEET 128

OUTSIDE SHOULDER BRIDGE PIER PROTECTION TABLE

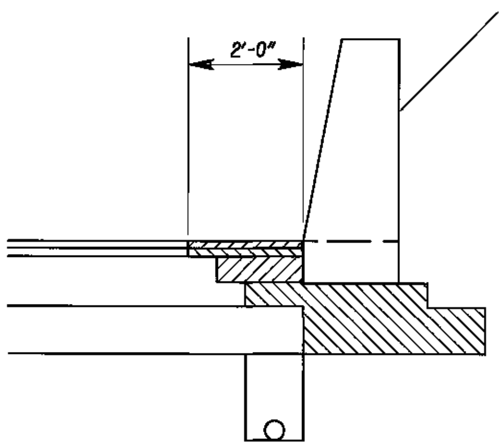


ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D

TYPE D, END SECTION, SEE RM-4.6

DIRECTIONAL TRAVEL WHERE NO TRAILING GUARDRAIL IS USED

TYPICAL OUTSIDE SHOULDER PIER PROTECTION

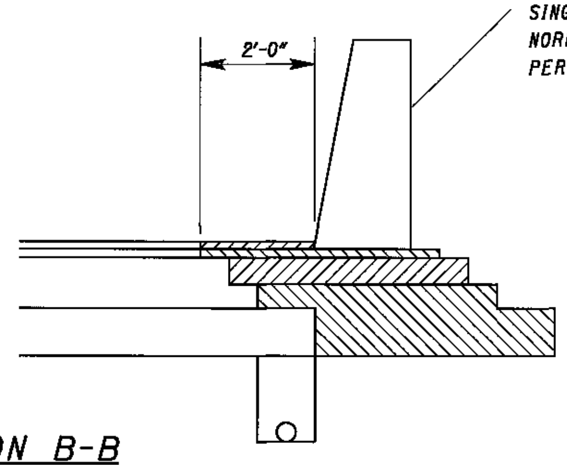


SINGLE SLOPE BARRIER, END ANCHORAGE AS PER RM-4.5

SECTION C-C

ADDITIONAL PAVING WIDTHS

2'-0" 446 SURFACE
2'-0" 407 TACK COAT
2'-0" 446 INTERMEDIATE
1'-6" 302 ASPH. BASE
3'-2" 304 AGGRE. BASE
3'-2" 204 SUB. COMP.

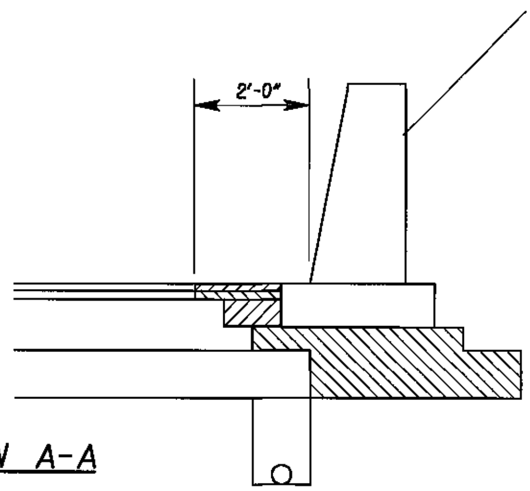


SINGLE SLOPE BARRIER, NORMAL SECTION AS PER RM-4.5

SECTION B-B

ADDITIONAL PAVING WIDTHS

2'-0" 446 SURFACE
2'-0" 407 TACK COAT
4'-2" 446 INTERMEDIATE
4'-2" 302 ASPH. BASE
4'-2" 304 AGGRE. BASE
4'-2" 204 SUB. COMP.



SINGLE SLOPE BARRIER, TYPE D END SECTION AS PER RM-4.6

SECTION A-A

ADDITIONAL PAVING WIDTHS

1'-6" 446 SURFACE
1'-6" 407 TACK COAT
1'-6" 446 INTERMEDIATE
1'-0" 302 ASPH. BASE
3'-8" 304 AGGRE. BASE
3'-8" 204 SUB. COMP.

0 10 20 40
HORIZONTAL SCALE IN FEET

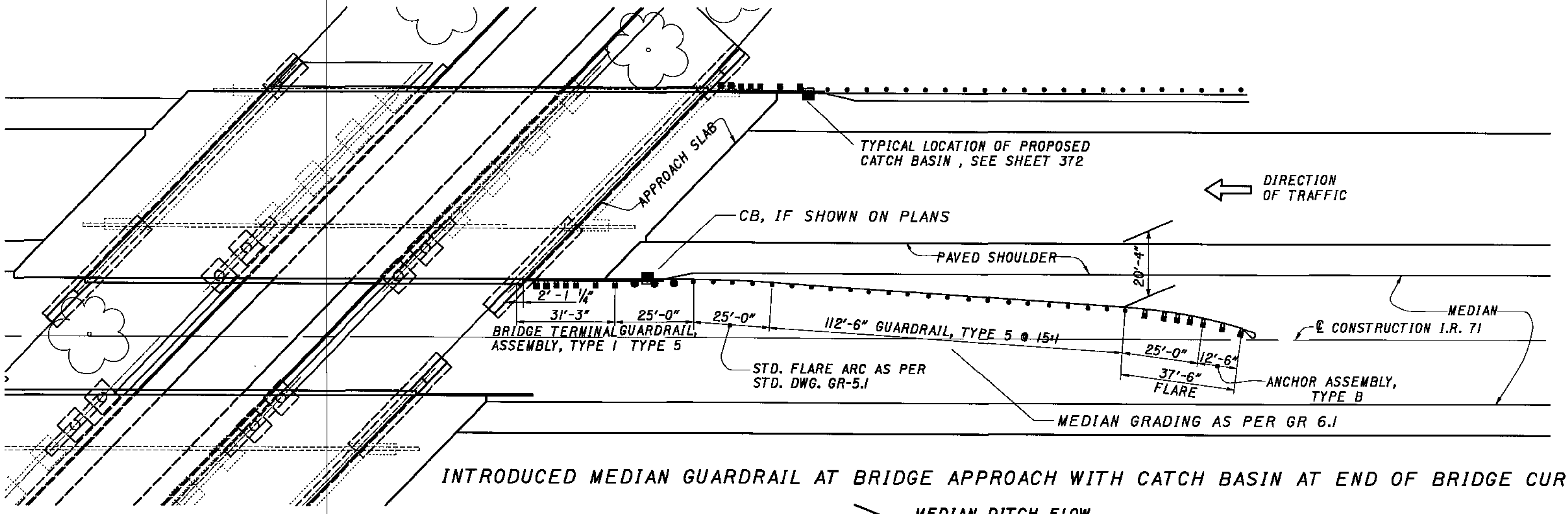
CALCULATED
CHECKED

OVERPASS PIER PROTECTION DETAIL

WAY/MED-71-7.04/0.00

382
785

CRA.DGN

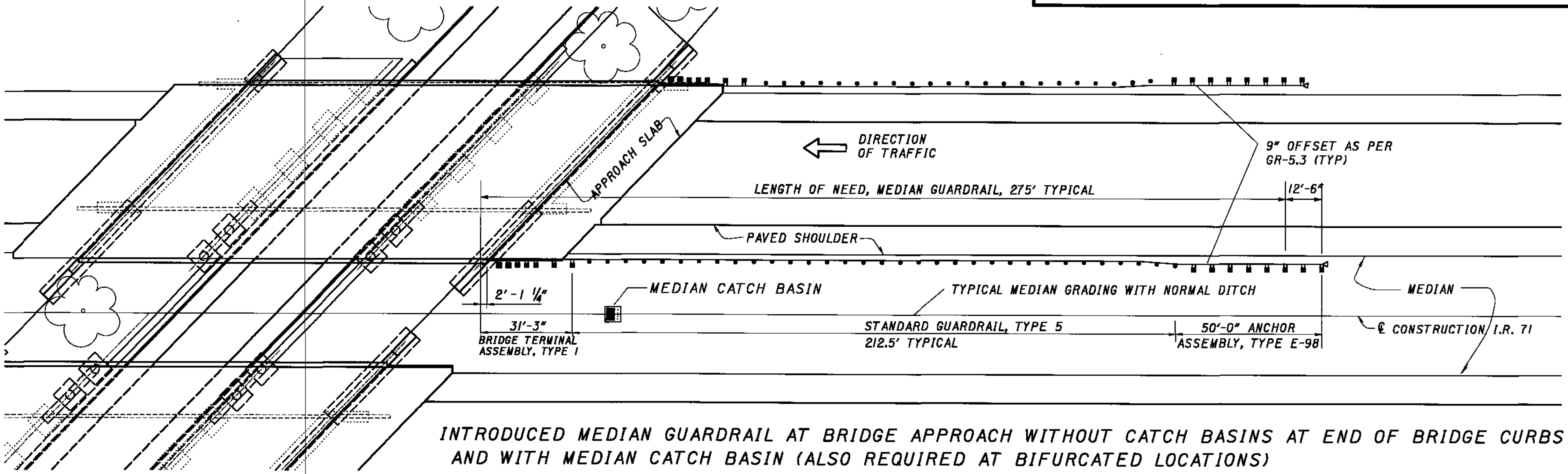


INTRODUCED MEDIAN GUARDRAIL AT BRIDGE APPROACH WITH CATCH BASIN AT END OF BRIDGE CURB

→ MEDIAN DITCH FLOW

NOTES:

1. FOR ADDITIONAL NOTES AND DETAILS SEE STANDARD CONSTRUCTION DRAWING GR-1.1, GR-1.2, GR-1.3, GR-3.1, GR-4.3, GR-4.4 AND GR-5.1.
2. SEE THE I.R. 71 PLAN AND PROFILE SHEETS FOR LOCATIONS AND REFERENCE NUMBERS. SEE THE ROADWAY SUBSUMMARY FOR QUANTITIES.


DIRECTION OF TRAFFIC
APPROACH SLAB
9" OFFSET AS PER GR-5.3 (TYP)
LENGTH OF NEED, MEDIAN GUARDRAIL, 275' TYPICAL
12'-6"
PAVED SHOULDER
MEDIAN
2'-1 1/4"
MEDIAN CATCH BASIN
TYPICAL MEDIAN GRADING WITH NORMAL DITCH
31'-3"
BRIDGE TERMINAL ASSEMBLY, TYPE 1
STANDARD GUARDRAIL, TYPE 5
212.5' TYPICAL
50'-0" ANCHOR ASSEMBLY, TYPE E-98
℄ CONSTRUCTION I.R. 71

INTRODUCED MEDIAN GUARDRAIL AT BRIDGE APPROACH WITHOUT CATCH BASINS AT END OF BRIDGE CURBS AND WITH MEDIAN CATCH BASIN (ALSO REQUIRED AT BIFURCATED LOCATIONS)

← MEDIAN DITCH FLOW

GRB.DGN

0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED
CHECKED

MEDIAN GUARDRAIL AT BRIDGE DETAIL

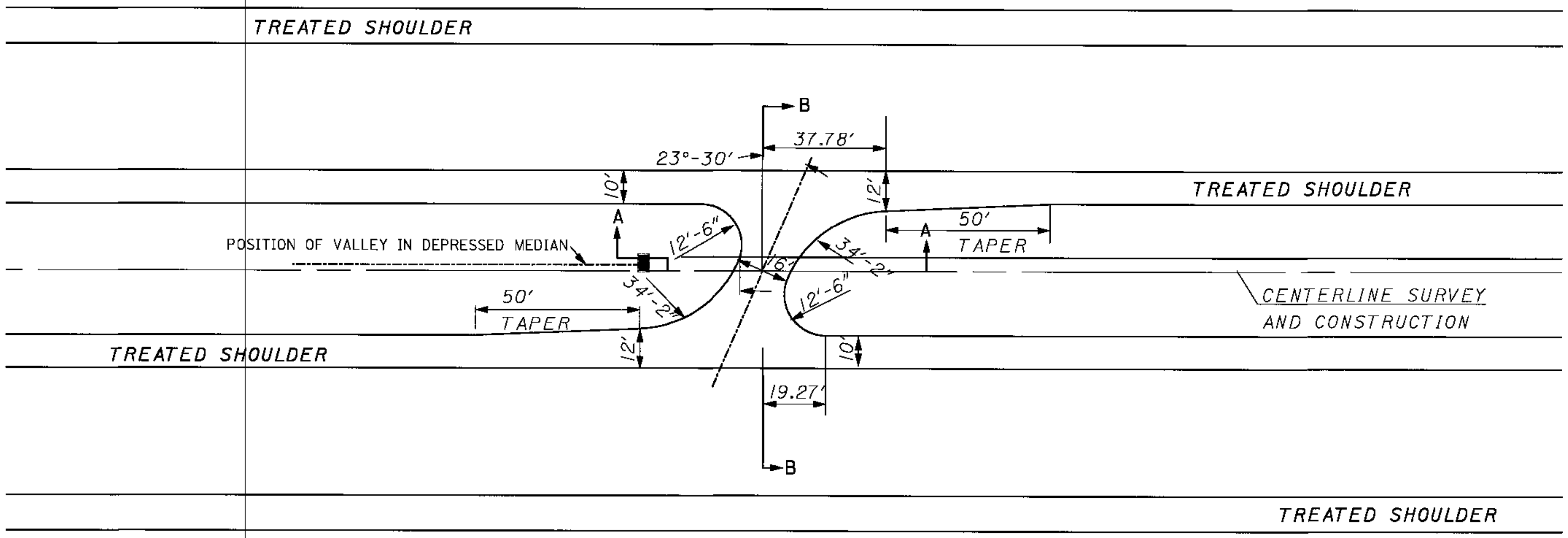
WAY/MED-71-7.04/0.00

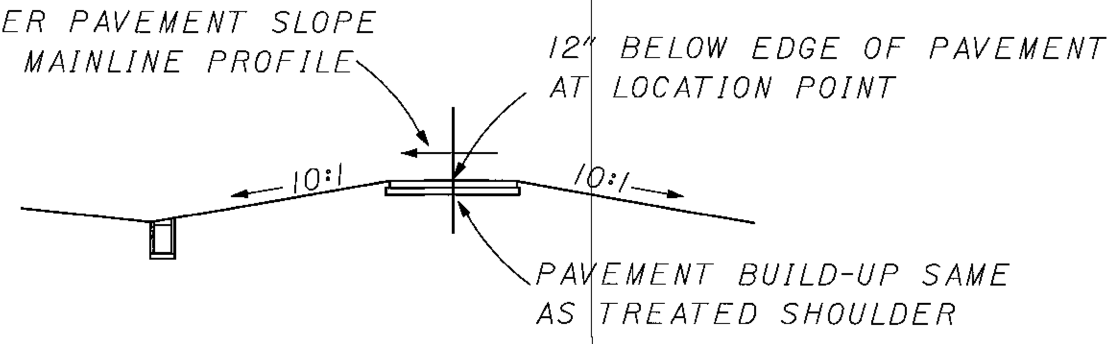
LOCATION	204 SUBGRADE COMPACTION SQ. YARD	302 BITUMINOUS AGGREGATE BASE PG 64-22 CU. YARD	304 AGGREGATE BASE CU. YARD	407 TACK COAT FOR INTERMEDIATE COURSE GAL.	446 ASPHALT CONCRETE SURFACE COURSE TYPE 1H CU. YARD	446 ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 2, PG64-28 CU. YARD	
STA. 64+13	136	39.8	37.9	5.4	5.7	6.6	
STA. 137+25	136	39.8	37.9	5.4	5.7	6.6	
STA. 253+02	136	39.8	37.9	5.4	5.7	6.6	
SUBTOTAL OF PAVEMENT QUANTITIES CARRIED TO SUMMARIES	408	120 *	114	16 *	17.1 *	19.8 *	

*** - QUANTITIES CARRIED TO ITEM 880 SUMMARY TABLE ON SHEET 128**

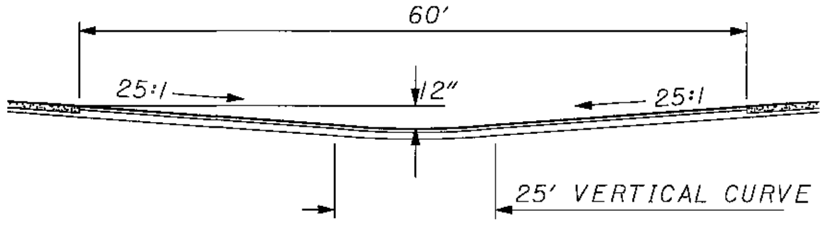
U-TURN MEDIAN OPENING LOCATIONS

STA. 64+13
STA. 137+25
STA. 253+02




CROSSOVER PAVEMENT SLOPE SAME AS MAINLINE PROFILE
12" BELOW EDGE OF PAVEMENT AT LOCATION POINT
10:1
10:1
PAVEMENT BUILD-UP SAME AS TREATED SHOULDER

SECTION A-A



SECTION B-B

0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED
CHECKED

PAVEMENT DETAIL
STANDARD U-TURN MEDIAN OPENING

WAY/MED-71-7.04/0.00

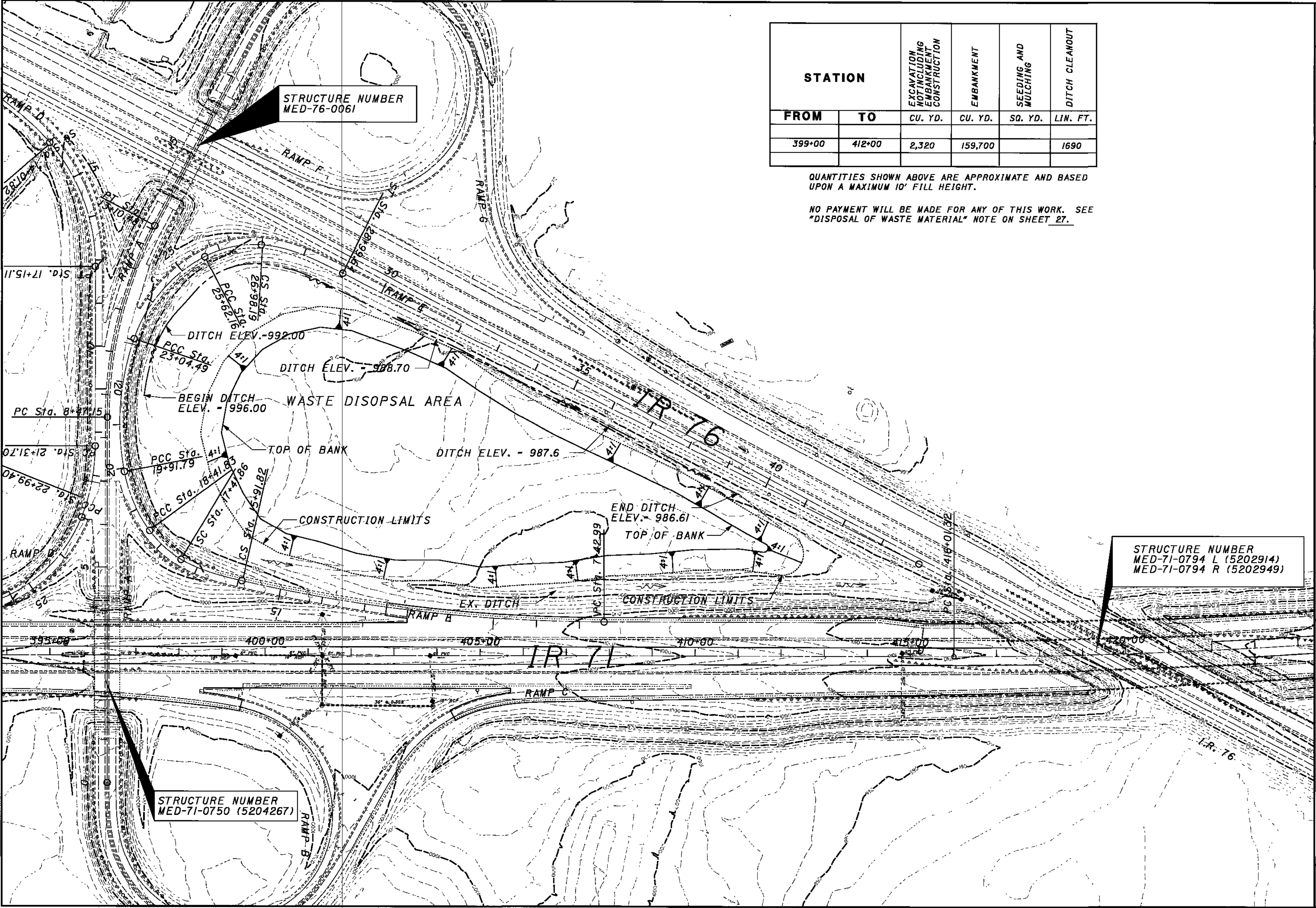
384
785

14017td3.dgn

STATION FROM	STATION TO	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION CU. YD.	EMBANKMENT CU. YD.	SEEDING AND MULCHING SQ. YD.	DITCH CLEANOUT LIN. FT.
399+00	412+00	2,320	159,700		1690

QUANTITIES SHOWN ABOVE ARE APPROXIMATE AND BASED UPON A MAXIMUM 10' FILL HEIGHT.

NO PAYMENT WILL BE MADE FOR ANY OF THIS WORK. SEE "DISPOSAL OF WASTE MATERIAL" NOTE ON SHEET 27.



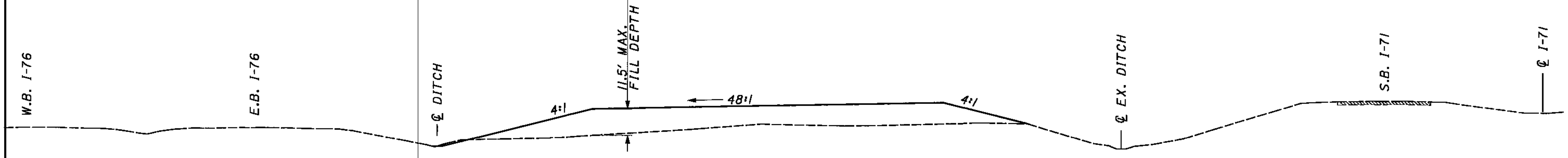
0 50 100 200
HORIZONTAL SCALE IN FEET

CALCULATED
CHECKED

WASTE DISPOSAL PLAN

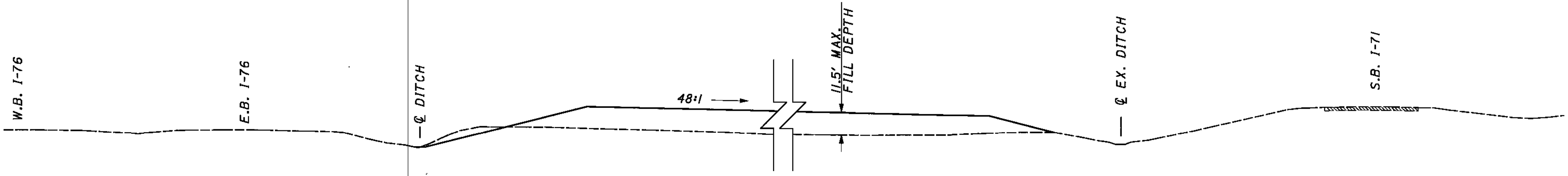
WAY/MED-71-7.04/0.00

...\4017PP01.dgn



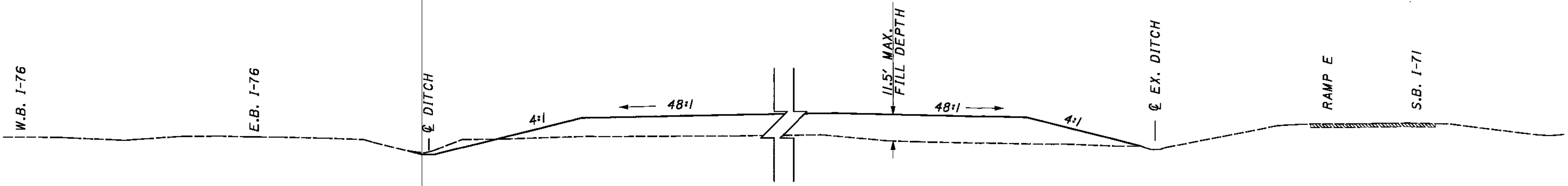
FILL TYPICAL SECTION

MAINLINE STA. 399+00 TO STA. 404+00
MAINLINE STA. 410+00 TO STA. 412+00



FILL TYPICAL SECTION

MAINLINE STA. 406+00 TO STA. 409+00



FILL TYPICAL SECTION

MAINLINE STA. 405+00

WASTE DISPOSAL AREA DETAILS

WAY/MED-71-7.04/0.00

386
785

...\14017PP01.dgn

TRAFFIC CONTROL GENERAL NOTES

MILE MARKER LOCATION

THE LOCATION OF MILE MARKERS ON THE PLANS ARE APPROXIMATE AND A MORE PRECISE LOCATION WILL BE PROVIDED BY THE DEPARTMENT. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST 30 DAYS IN ADVANCE ON THE PLANNED DATE OF MARKER INSTALLATION. THE ENGINEER WILL CONTACT THE OFFICE OF TECHNICAL SERVICES WHICH WILL LOCATE THE LONGITUDINAL POSITION OF MILE MARKERS BY MEANS OF A PAINT MARK ON THE PAVEMENT EDGE. ALTERNATE MARKS WILL NOT BE PROVIDED ON DIVIDED HIGHWAYS AND THE CONTRACTOR SHALL SET MARKERS FOR THE OPPOSITE ROADWAY ACROSS FROM THE PROVIDED MARK. DELINEATORS WHOSE NORMAL POSITION FALLS WITHIN 50 FEET OF A MILE MARKER SHALL BE OMITTED.

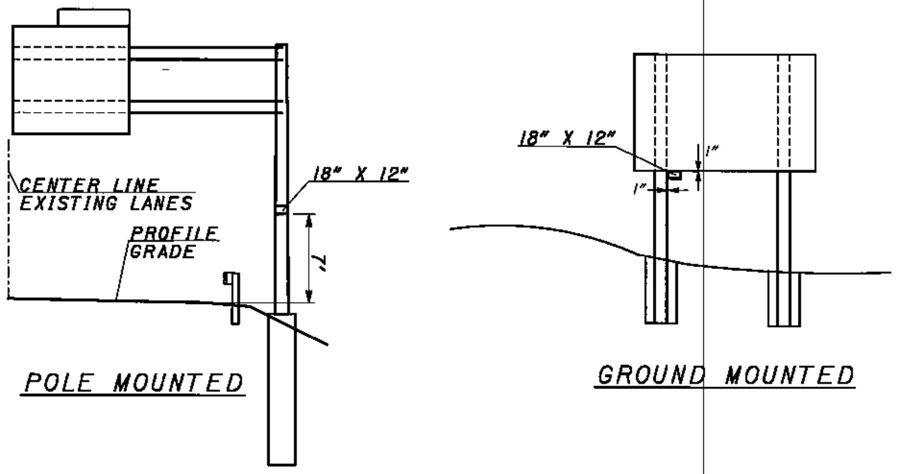
FREEWAY LOCATION IDENTIFICATION SYSTEM SIGNS

THESE SIGNS CONSIST OF A MAINLINE MARKER (N-44B) OR A RAMP MARKER (N-43B), ATTACHED TO GUIDE AND DESTINATION SIGNS WITH AN ITEM 630 - SIGN BACKING ASSEMBLY IF ATTACHED TO A GROUND-MOUNTED SIGN OR AN ITEM 630 - SIGN SUPPORT ASSEMBLY, POLE MOUNTED IF ATTACHED TO THE VERTICAL MEMBER OF AN OVERHEAD SIGN STRUCTURE.

THE CONTRACTOR SHALL DETERMINE THE CORRECT STRAIGHT LINE MILEAGE, IN HUNDREDTH'S OF A MILE, FOR EACH SIGN BASED ON THE FINAL LOCATION OF THE SIGN. THE CORRECT MILEAGE SHALL BE DETERMINED ONLY AFTER THE MILE MARKERS HAVE BEEN LOCATED BY THE DEPARTMENT. THE PLAN SHOWS THE ROUTE NUMBER, ROUTE DIRECTION AND RAMP CODES (WHERE APPLICABLE). SEE THIS SHEET FOR DETAILS. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A RECORD OF THE STRAIGHT LINE MILEAGE FOR EACH FREEWAY LOCATION IDENTIFICATION SYSTEM SIGN.

PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID PER SQUARE FOOT FOR ITEM 630 - SIGN, FLAT SHEET, TYPE G. THE REQUIRED ITEM 630 - SIGN BACKING ASSEMBLY OR ITEM 630 - SIGN SUPPORT ASSEMBLY, POLE MOUNTED ARE PAID SEPARATELY AS INDICATED.

FREEWAY LOCATION IDENTIFICATION SYSTEM SIGN DETAIL



POLE MOUNTED

GROUND MOUNTED

CERTIFIED DRAWINGS

THE CONTRACTOR SHALL CERTIFY THAT ALL TRAFFIC CONTROL ITEMS FURNISHED ON THIS PROJECT SHALL BE IN CONFORMANCE TO THE CONTRACT REQUIREMENTS PER CMS 625.04. CERTIFIED SHOP DRAWINGS AND CATALOG CUTS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO INSTALLATION OF THE TRAFFIC CONTROL ITEMS. IN ADDITION TO THE REQUIREMENTS OF 625.04, ALL DESIGN QUESTIONS OR COMMENTS ORIGINATING FROM THE CONTRACTOR OR MANUFACTURER REGARDING THE SHOP DRAWINGS AND CATALOG CUTS SHALL BE FORWARDED TO THE ENGINEER FOR REVIEW PRIOR TO CERTIFICATION BY THE CONTRACTOR. THE ENGINEER RESERVES THE RIGHT TO ACCEPT THE CONTRACTORS' CERTIFIED DRAWINGS OR REQUEST FURTHER REVIEW BY THE DISTRICT 3 PRODUCTION DEPARTMENT PRIOR TO INSTALLATION OF THE TRAFFIC CONTROL ITEMS.

RETURN OF NON-PERFORMED RAISED PAVEMENT MARKER MATERIALS SUPPLIED BY THE DEPARTMENT

RAISED PAVEMENT MARKER MATERIALS SUPPLIED BY THE DEPARTMENT, THAT ARE NON-PERFORMED SHALL BE CAREFULLY REPACKED OR PACKED IN BOXES IN THE SAME STYLE AND QUANTITY AS ORIGINALLY RECEIVED FROM THE DEPARTMENT. CASTING STYLES SHALL NOT BE MIXED WITHIN ANY ONE CONTAINER. THE CONTRACTOR SHALL CLEARLY MARK ON THE OUTSIDE OF EACH CONTAINER THE COLOR OF THE PRISMATIC RETRO-REFLECTOR AND THE STYLE OF CASTING. BOXES SHALL BE PLACED ON SKIDS OR PALLETS IN THE SAME STYLE (LOW PROFILE OR CONVENTIONAL, REFLECTORIZED OR NON-REFLECTORIZED) AND NO MORE THAT 420 RPM'S (OR 21 BOXES) ON ONE SKID.

ONLY USE THE BOXES SUPPLIED BY THE RAISED PAVEMENT MARKER RECYCLER. BOXES MUST BE MARKED WITH THE RECYCLER'S PART OR CATALOG NUMBER AND THE PROJECT NUMBER. THE RECYCLER'S CATALOG NUMBERS MAY BE OBTAINED FROM THE OFFICE OF TRAFFIC ENGINEERING IN COLUMBUS, OHIO OR FROM THE RECYCLER. BOXES NOT MARKED WITH THE PROPER RECYCLER'S CATALOG OR PART NUMBER, AND THE DEPARTMENT'S PROJECT NUMBER WILL NOT BE ACCEPTED AT THE RECYLER'S WAREHOUSE.

NON-PERFORMED MATERIAL WILL BE RETURNED TO THE LOCATION AS SPECIFIED BY THE DISTRICT CONSTRUCTION ENGINEER WITHIN 30 DAYS OF THE COMPLETION OF THE PROJECT.

THE WORK ABOVE INCLUDING ALL LABOR, EQUIPMENT AND MATERIAL NEEDED TO PERFORM THE WORK SHALL BE CONSIDERED INCIDENTAL TO THE RESPECTIVE PAY ITEM.

IF THE DEPARTMENT HAS TO REPACKAGE THE RPM'S CORRECTLY, THE CONTRACTOR WILL BE ASSESSED THE ACTUAL COST FOR REPACKAGING THE MATERIALS BY THE DEPARTMENT FORCES.

SERVICE SIGN

ALL SERVICE TYPE SIGNS, WHICH ARE BLUE SIGNS IDENTIFYING RESTAURANTS, LODGING, AND GAS STATIONS, ARE ADMINISTERED BY "OHIO LOGOS INCORPORATED". THESE SIGNS SHALL REMAIN IN PLACE AND FUNCTIONAL AS LONG AS POSSIBLE. IF THE CONTRACTOR DETERMINES THAT THESE SIGNS WILL BE AFFECTED BY CONSTRUCTION, THE CONTRACTOR SHALL CONTACT OHIO LOGOS, INC. (1-800-860-5646) IN WRITING A MINIMUM OF THIRTY (30) DAYS PRIOR TO THE PROJECT BEGINNING DATE. THIS INFORMATION SHALL BE SENT TO:

OHIO LOGOS, INC.
4384 TULLER RD.
DUBLIN, OH 43017
ATTN: ROGER ROSE, GENERAL MANAGER

OHIO LOGOS, INC. IS RESPONSIBLE FOR REMOVAL AND REERECTION OF THE LOGO SIGNS. THE CONTRACTOR SHALL NOT ALTER, REMOVE, RELOCATE, OR TAKE THESE SIGNS DOWN. THE CONTRACTOR, AT THE COMPLETION OF THIS PROJECT, SHALL NOTIFY OHIO LOGOS, INC. THAT THEY CAN REERECT THE SIGNS THAT HAD BEEN PREVIOUSLY REMOVED. THIS "DOWN TIME" SHALL BE LIMITED TO A MAXIMUM TWO (2) WEEK PERIOD.

ITEM SPECIAL - AIR SPEED ZONE MARKING

EXISTING AIR SPEED ZONE MARKINGS ARE LOCATED AT:

SLM 206 NORTHBOUND

A REGISTERED SURVEYOR SHALL RECORD THE EXISTING AIR SPEED ZONE MARKING LOCATIONS. AT THE TIME THE CONTRACTOR PLACES THE FINAL PAVEMENT MARKINGS IN THESE LOCATIONS, THE AIR SPEED ZONES SHALL BE RE-ESTABLISHED. THE MARKINGS SHALL BE LAID OUT BY A REGISTERED SURVEYOR AND SHALL BE INSTALLED IN ACCORDANCE WITH THE STANDARDS CONTAINED IN THE OMUTCD.

PAYMENT FOR THE WORK ABOVE SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM SPECIAL, AIR SPEED ZONE MARKING, EACH AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THE ITEM.

"LEFT LANE ENDS" SERIES SIGNS

THE "LEFT LANE ENDS - 1 MILE", "LEFT LANE ENDS - ½MILE", AND "LEFT LANE ENDS - MERGE RIGHT" SIGNS WILL ALREADY BE IN PLACE (NB) FROM THE WAY-71-0.28 PROJECT. THESE SIGNS ARE TO BE RE-USED FOR THIS PROJECT. THE CONTRACTOR SHALL REMOVE THESE SIGNS AT THE BEGINNING OF STAGE 1, PHASE 2 CONSTRUCTION AND STORE THEM ON THE PROJECT SITE. THESE SIGNS SHALL THEN BE RE-ERECTED ON NEW SUPPORTS AT THE LOCATIONS SHOWN IN THE PLANS AT THE COMPLETION OF STAGE 1 CONSTRUCTION PRIOR TO OPENING THE THREE LANES TO TRAFFIC. THE SIGNS SHALL ALSO BE REMOVED AND STORED IN THE ABOVE MANNER FOR STAGE 2 CONSTURCTION. SEE SHEETS 393 AND 394 FOR LOCATIONS. ALL PROVISIONS OF ITEM 630 SHALL APPLY.

ITEM 630 - SIGN, OVERHEAD EXTRUSHEET, AS PER PLAN

THE BACKGROUNDS OF ALL PERMANENT TRAFFIC CONTROL SIGNS SHALL BE REFLECTORIZED WITH TYPE G REFLECTIVE SHEETING. REFLECTORIZED LEGENDS, SHIELDS AND SYMBOLS (E.G. ROUTE SHIELDS, HAZARDOUS CARGO PLAQUE, AIRPORT SYMBOL, ARROWS, BORDERS) USED ON GROUND MOUNTED PERMANENT TRAFFIC CONTROL SIGNS SHALL BE OF TYPE G REFLECTIVE SHEETING. REFLECTORIZED LEGENDS, SHIELDS AND SYMBOLS USED ON OVERHEAD MOUNTED PERMANENT TRAFFIC CONTROL SIGNS SHALL BE OF TYPE H OR TYPE J REFLECTIVE SHEETING. ALL REFLECTIVE SHEETING MATERIALS SHALL BE CONTAINED ON THE ODOT LIST OF PREQUALIFIED REFLECTIVE SIGN SHEETING MATERIALS.

ITEM 630 - SIGNING, MISC.: SIGN DATA COLLECTION

THIS ITEM OF WORK SHALL CONSIST OF COLLECTING AND RECORDING INFORMATION FOR ANY WORK INVOLVING PERMANENT SIGNING INCLUDING REMOVAL, SIGN RELOCATION OR NEW SIGN INSTALLATION ON THIS PROJECT. DISTRICT THREE HAS A SIGN INVENTORY SYSTEM IN OPERATION. WORK PERFORMED ON EXISTING SIGNS AND INSTALLATION OF NEW SIGNS WILL AFFECT THE ACCURACY OF THE INVENTORY. ALL EXISTING SIGNS HAVE A BAR CODE STICKER. THE BAR CODE STICKER NUMBER FOR ANY SIGNS REMOVED ON THE PROJECT SHALL BE RECORDED COMPLETELY AND ACCURATELY SO THEY CAN BE REMOVED FROM THE INVENTORY. THE BAR CODE STICKER NUMBER FOR ANY SIGNS THAT ARE NEW OR RELOCATED SHALL ALSO BE RECORDED COMPLETELY AND ACCURATELY. NEW SIGNS REQUIRE NEW BAR CODE STICKERS WHICH WILL BE SUPPLIED TO THE CONTRACTOR AT THE PRECONSTRUCTION MEETING. ANY STICKERS NOT USED ARE TO BE RETURNED TO ODOT D03 TRAFFIC DEPARTMENT.

THE INFORMATION SHALL BE COLLECTED FROM ALL SIGNS REMOVED, RELOCATED OR INSTALLED ON THE PROJECT AND RECORDED COMPLETELY AND ACCURATELY BY A PERSON FAMILIAR WITH SIGNING TERMINOLOGY. THE INFORMATION REQUIRED APPEARS ON A FORM WHICH WILL BE SUPPLIED TO THE CONTRACTOR AT THE PRECONSTRUCTION MEETING. ALL SECTIONS OF THE FORM SHALL BE COMPLETED FROM THE INFORMATION COLLECTED FOR EACH SIGN. NOTE THAT THE STRAIGHT LINE MILEAGE LOG POINT OF THE SIGN REMOVAL, RELOCATION OR INSTALLATION IS TO BE PROVIDED. PROJECT STATIONING IS NOT ACCEPTABLE. AFTER THE FORM IS COMPLETED, IT SHALL BE RETURNED TO ODOT DISTRICT 03 TRAFFIC DEPARTMENT. A COPY OF THIS FORM IS AVAILABLE UPON REQUEST FOR THE CONTRACTOR TO REVIEW FOR BIDDING PURPOSES. FOR A COPY OF THIS FORM PLEASE CALL 1-800-276-4188, EXTENSION 227 - ROADWAY SERVICES MANAGER. ALL COMPLETED FORMS FOR THE PROJECT ARE TO BE PROVIDED TO THE ENGINEER NOT LATER THAN 30 CALENDAR DAYS AFTER COMPLETION OF SIGNING WORK ITEMS.

PAYMENT FOR THE LABOR, MATERIALS AND EQUIPMENT NECESSARY TO PERFORM THE ABOVE WORK WHICH INCLUDES COLLECTION OF INFORMATION, COMPLETION OF THE FORMS SUPPLIED TO THE CONTRACTOR, INSTALLATION OF BAR CODE STICKERS, MEASURING OF THE SIGNS AND ANY OTHER WORK IN ORDER TO COMPLETE THE FORM SHALL BE INCLUDED IN THE COST OF ITEM 630 - SIGNING, MISC.: SIGN DATA COLLECTION PER EACH.

ITEM 621 RAISED PAVEMENT MARKERS

THE RAISED PAVEMENT MARKERS USED ON THIS PROJECT SHALL BE RECYCLED MARKERS SUPPLIED BY THE DEPARTMENT. THE MARKERS SHALL BE OBTAINED PER SUPPLEMENT 1082. THE COSTS FOR OBTAINING THE MARKERS SHALL BE CONSIDERED INCIDENTAL TO THE RESPECTIVE 621 ITEMS IN THIS PLAN.

CALCULATED EMW
CHECKED SLT

TRAFFIC CONTROL GENERAL NOTES

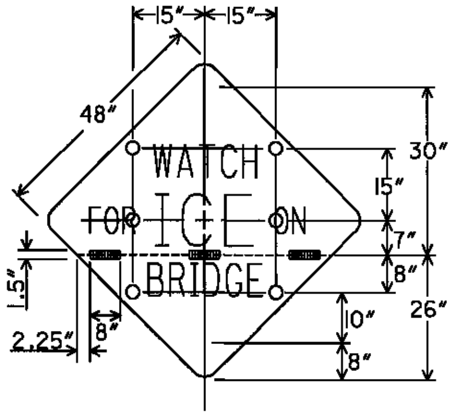
WAY/MED-71-7.04/0.00

1401TTN1.dgn

TRAFFIC CONTROL GENERAL NOTES

ITEM 630 - SIGN, FLAT SHEET, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 630, THIS ITEM SHALL HAVE THE FOLLOWING REQUIREMENTS AND FEATURES:

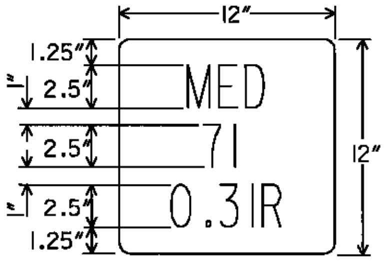


1. *HOLES DRILLED AS PER TC-52.10.*
2. *THE SIGN SHALL BE JOINED WITH AN 8" LONG BY 1-1/2" WIDE HINGE WHICH IS RIVETED TO EACH SECTION OF THE SIGN AND THEN COVERED WITH YELLOW REFLECTIVE SHEETING (TYPE F-730.18) TO MATCH THE BACKGROUND OF THE SIGN.*
3. *TO FOLD THE SIGN DOWN, REMOVE THE TOP FOUR BOLTS, FOLD THE UPPER PART OF THE SIGN DOWN AND INSERT A BOLT THROUGH THE LOWEST HOLE IN THE SIGN AND INTO THE POST. FASTEN THE BOLT TO PREVENT THE SIGN FROM FLOPPING IN THE WIND AND SUSTAINING DAMAGE.*
4. *MOUNT ON TWO NO. 4 SIGN SUPPORTS.*

PAYMENT FOR THE WORK ABOVE SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 630 - SIGN, FLAT SHEET, AS PER PLAN, SQ. FT. AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THIS ITEM.

ITEM SPECIAL - BRIDGE LOCATION MARKER

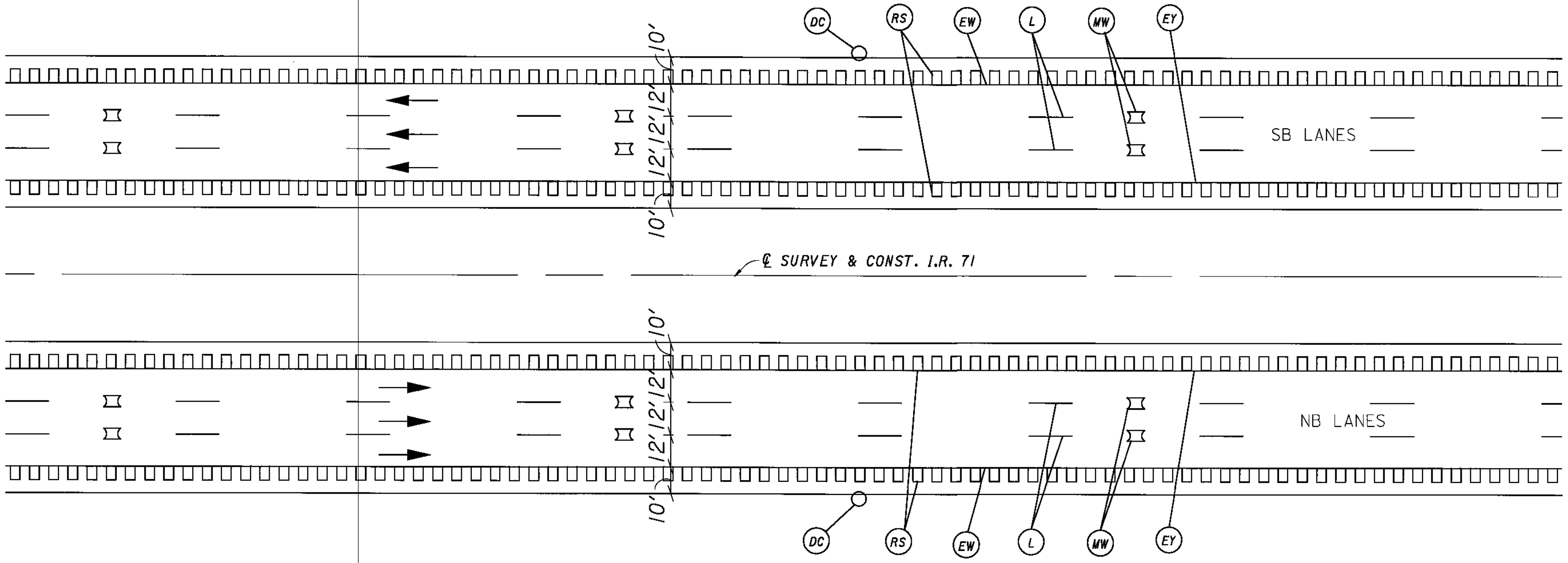
A BRIDGE LOCATION MARKER SHALL BE LOCATED AT EACH BRIDGE ON THIS PROJECT AND CONSIST OF THE COUNTY ABBREVIATION, ROUTE, AND STRAIGHT LINE MILAGE WITH OFFSET SIDE ON A SIGN WITH THE DIMENSIONS BELOW.



CALCULATED EMW
CHECKED SLT

TRAFFIC CONTROL GENERAL NOTES

WAY/MED-71-7.04/0.00



TRAFFIC CONTROL LEGEND

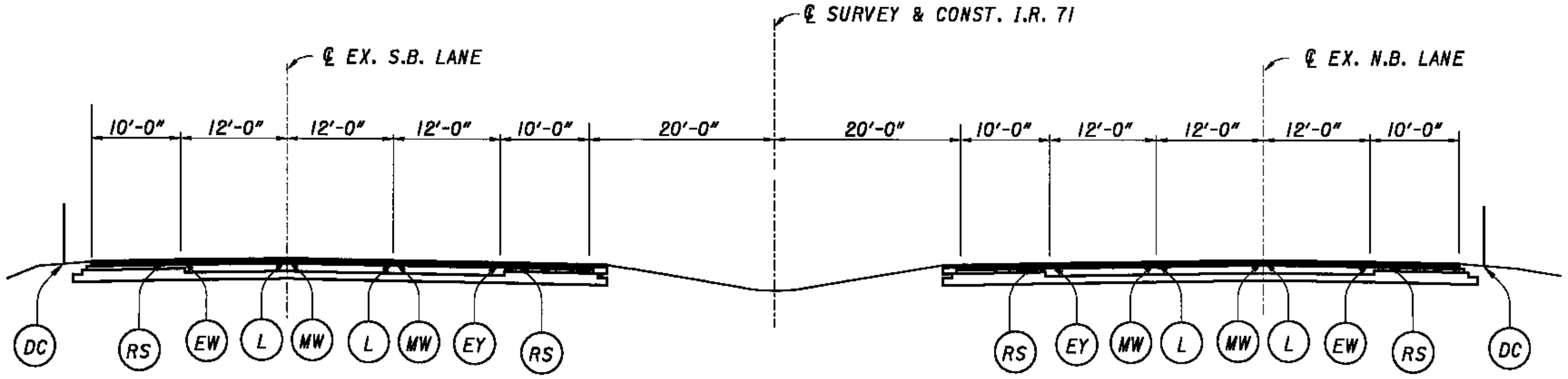
(EW)	EDGE LINE, WHITE
(EY)	EDGE LINE, YELLOW
(L)	LANE LINE
(C)	CHANNELIZING LINE
(T)	24" TRANSVERSE LINE, WHITE
◀—	TRAFFIC DIRECTION
(DC)	TYPE C DELINEATOR (WHITE) @ 400' C/C (DO NOT PLACE ON BRIDGE DECKS)
(MW)	1 WAY (WHITE) RAISED PAVEMENT MARKER @ 120' C/C (DO NOT PLACE ON BRIDGE DECKS)
(RS)	RUMBLE STRIPS, TYPE 2 (ASPHALT)

NOTES: SEE STANDARD CONSTRUCTION DRAWINGS TC-61.10, TC-65.10, TC-65.11, TC-72.20, AND BP-9.1 FOR ADDITIONAL DETAILS.

ALL STRIPING TO BE ITEM 644 UNLESS OTHERWISE NOTED ON SHEETS.

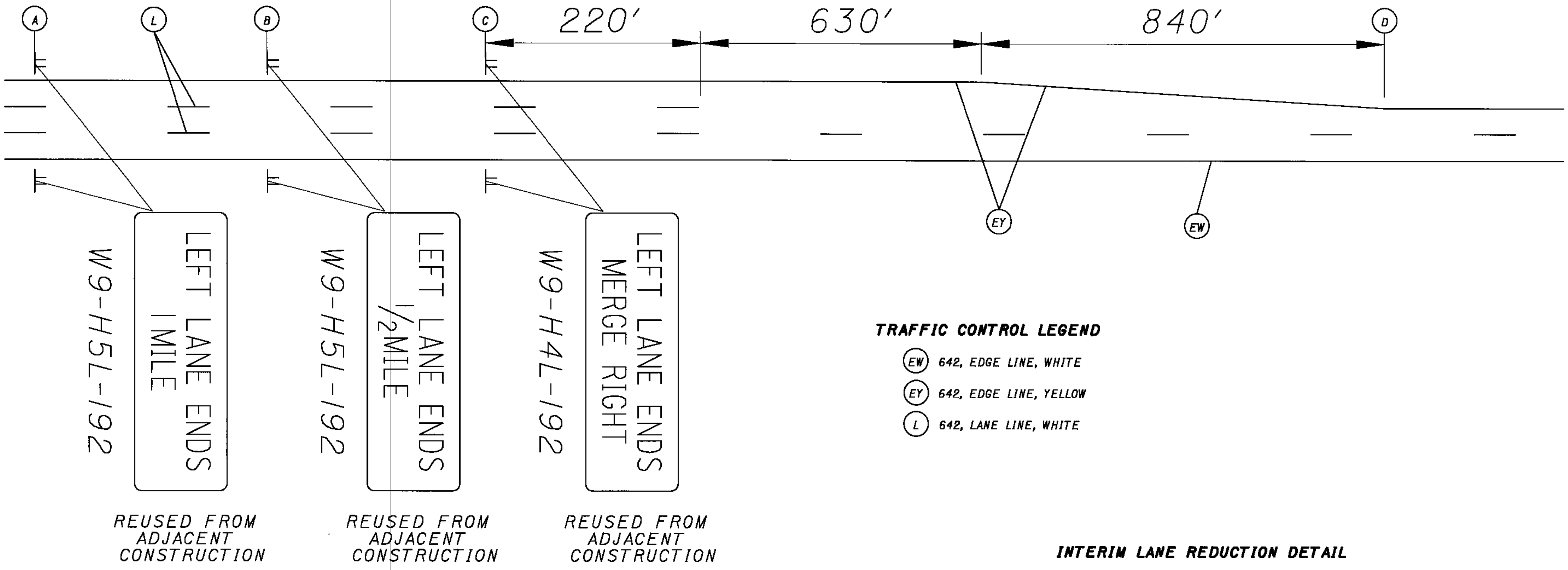
SEE SHEET 390 FOR MEDIAN CROSSOVER DETAILS.

SEE SHEETS 400-402 FOR PAVEMENT MARKING QUANTITIES.



TYPICAL LAYOUT

NOTE:
THIS DETAIL REPRESENTS THE REQUIRED LANE REDUCTION FOR NB TRAFFIC BETWEEN STAGE 1 AND STAGE 2 CONSTRUCTION, AND AFTER THE COMPLETION OF STAGE 2 CONSTRUCTION.


A
L
B
C
220′
630′
840′
D
EY
EW
LEFT LANE ENDS 1 MILE
W9-H5L-192
LEFT LANE ENDS 1/2 MILE
W9-H5L-192
LEFT LANE ENDS MERGE RIGHT
W9-H4L-192
REUSED FROM ADJACENT CONSTRUCTION
REUSED FROM ADJACENT CONSTRUCTION
REUSED FROM ADJACENT CONSTRUCTION

TRAFFIC CONTROL LEGEND

EW	642, EDGE LINE, WHITE
EY	642, EDGE LINE, YELLOW
L	642, LANE LINE, WHITE

INTERIM LANE REDUCTION DETAIL

STAGE	A	B	C	D
1	STA. 125+00	STA. 135+00	STA. 158+00	STA. 175+00
2	STA. 257+00	STA. 280+00	STA. 303+00	STA. 320+00

CALCULATED EMW
CHECKED SLT

INTERIM LANE REDUCTION DETAIL

WAY/MED-71-7.04/0.00

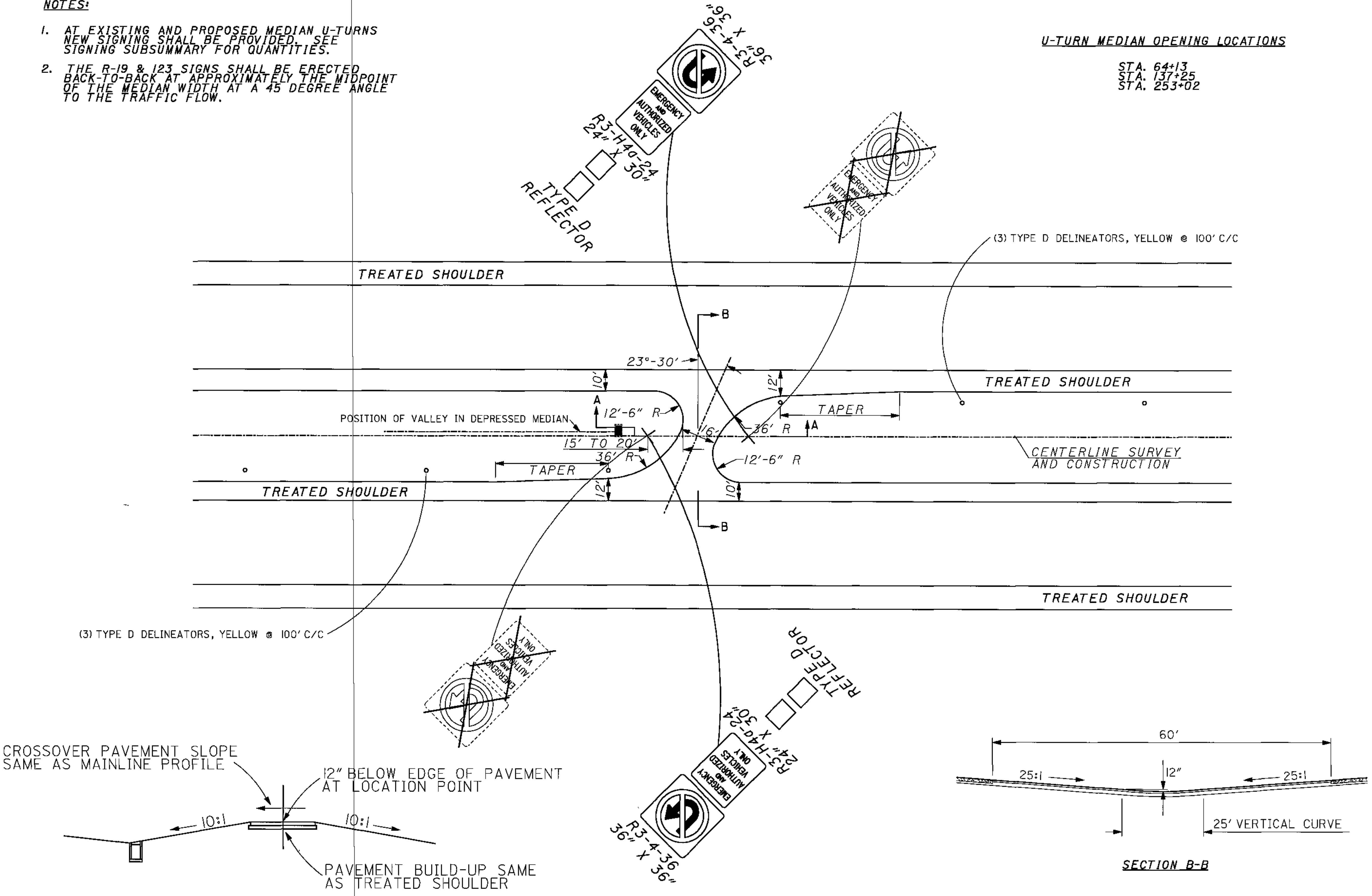
14017+d2.dgn

NOTES:

1. AT EXISTING AND PROPOSED MEDIAN U-TURNS NEW SIGNING SHALL BE PROVIDED. SEE SIGNING SUBSUMMARY FOR QUANTITIES.
2. THE R-19 & 123 SIGNS SHALL BE ERECTED BACK-TO-BACK AT APPROXIMATELY THE MIDPOINT OF THE MEDIAN WIDTH AT A 45 DEGREE ANGLE TO THE TRAFFIC FLOW.

U-TURN MEDIAN OPENING LOCATIONS

STA. 64+13
STA. 137+25
STA. 253+02

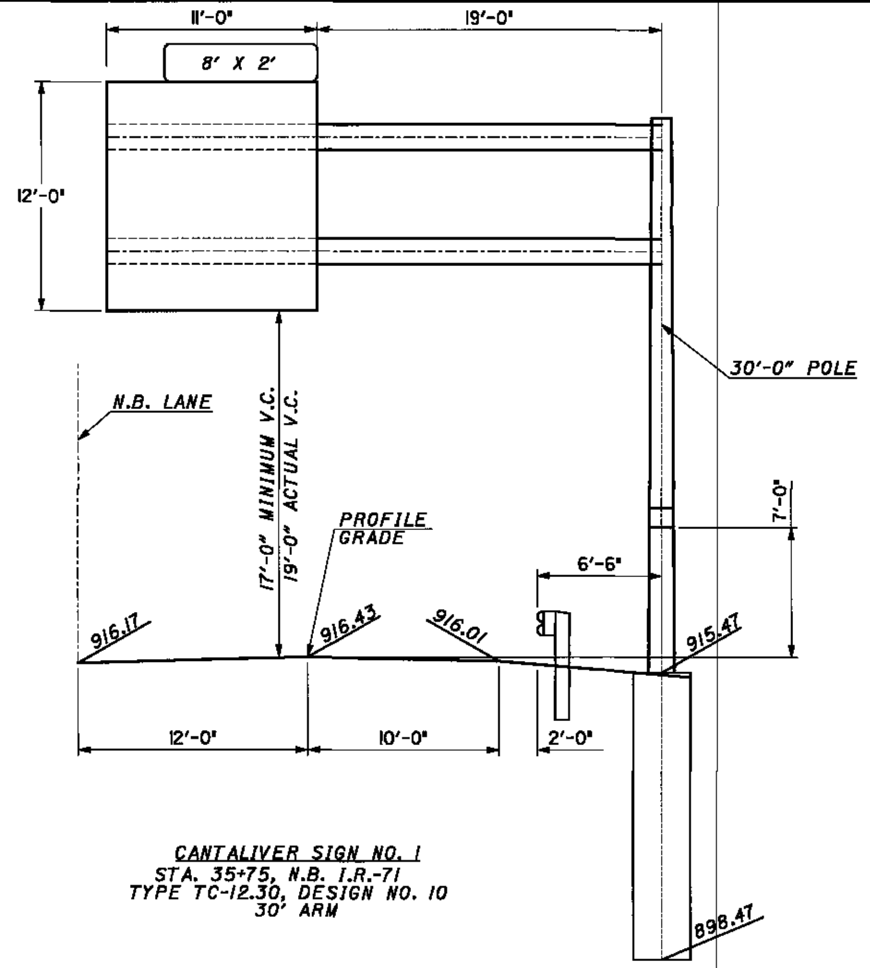

36" X 36"
R3-4-36
EMERGENCY AND AUTHORIZED VEHICLES ONLY
R3-H4d-24
24" X 30"
TYPE D REFLECTOR
(3) TYPE D DELINEATORS, YELLOW @ 100' C/C
TREATED SHOULDER
B
23°-30'
10'
12'
A
12'-6" R
POSITION OF VALLEY IN DEPRESSED MEDIAN
15' TO 20'
36' R
TAPER
16'
CENTERLINE SURVEY AND CONSTRUCTION
CROSSOVER PAVEMENT SLOPE SAME AS MAINLINE PROFILE
12" BELOW EDGE OF PAVEMENT AT LOCATION POINT
10:1
PAVEMENT BUILD-UP SAME AS TREATED SHOULDER
SECTION A-A
60'
25:1
12"
25' VERTICAL CURVE
SECTION B-B

0 25 50 100
HORIZONTAL SCALE IN FEET

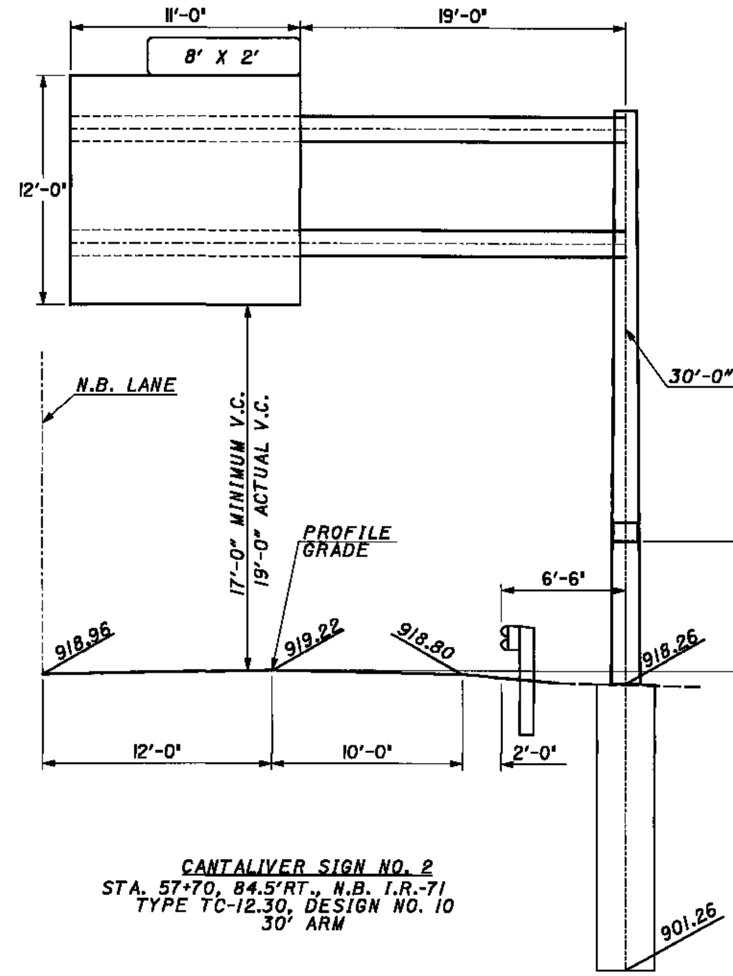
CALCULATED EMW
CHECKED SLT

SIGNING PLAN AND PAVEMENT DETAIL
STANDARD U-TURN MEDIAN OPENING

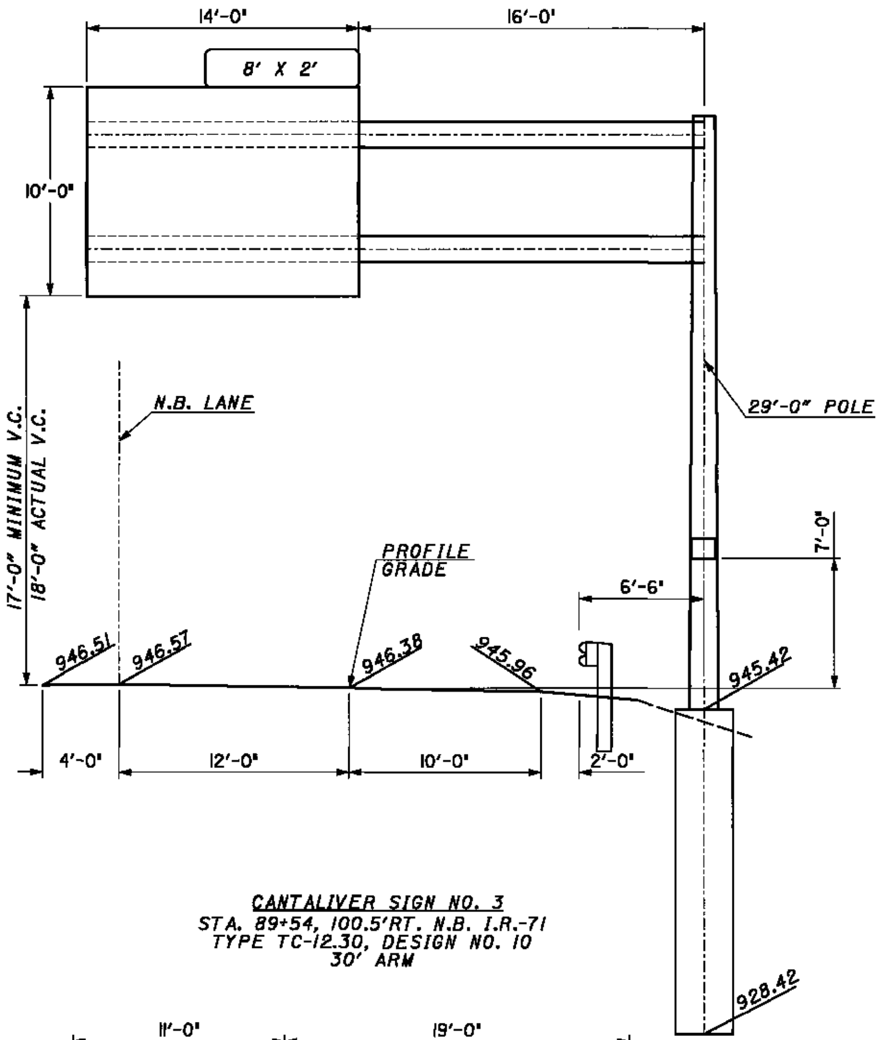
WAY/MED-71-7.04/0.00



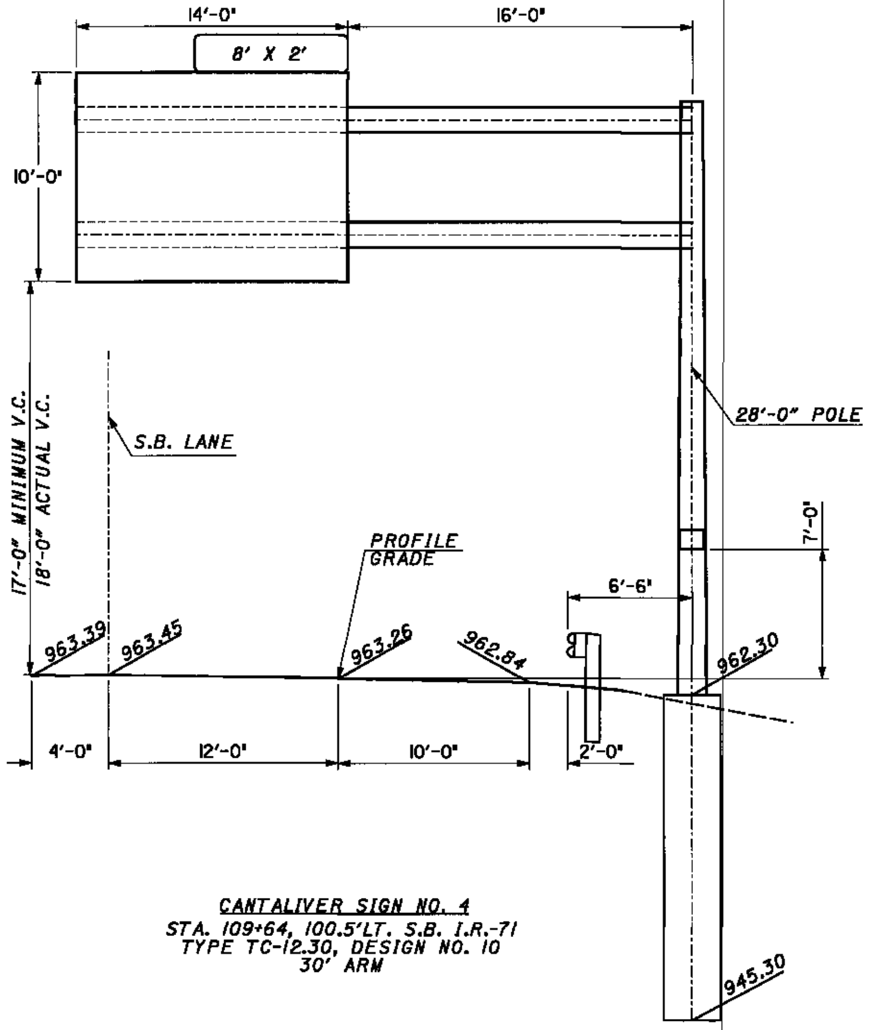
CANTALIVER SIGN NO. 1
STA. 35+75, N.B. I.R.-71
TYPE TC-12.30, DESIGN NO. 10
30' ARM



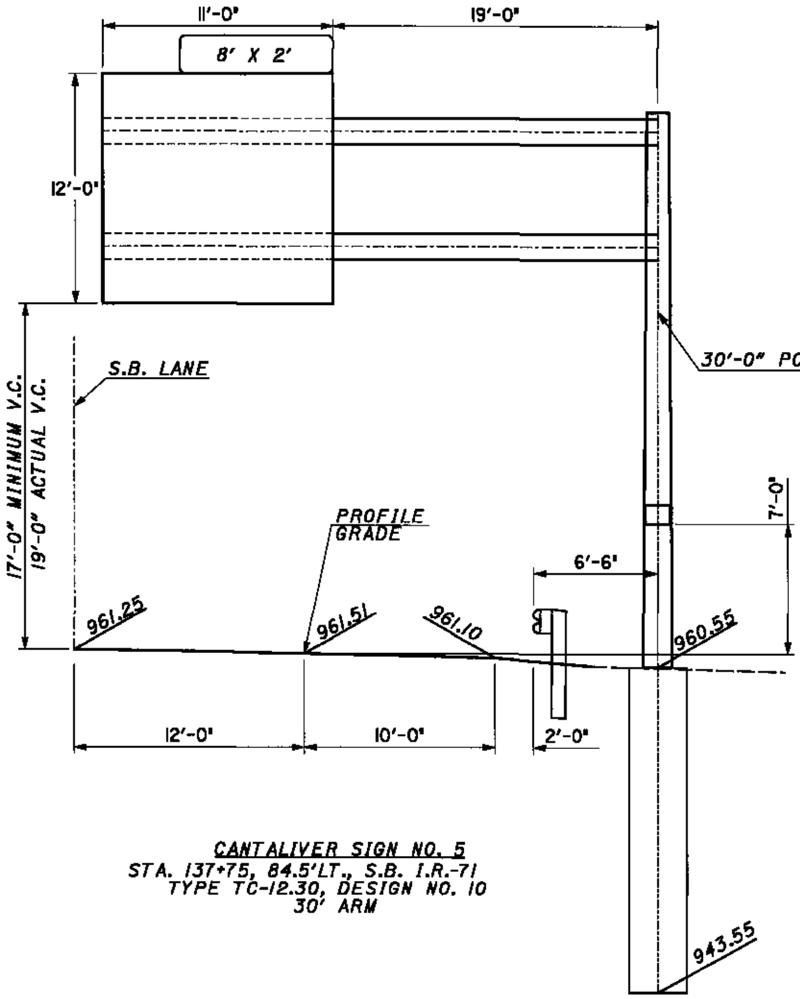
CANTALIVER SIGN NO. 2
STA. 57+70, 84.5'RT., N.B. I.R.-71
TYPE TC-12.30, DESIGN NO. 10
30' ARM



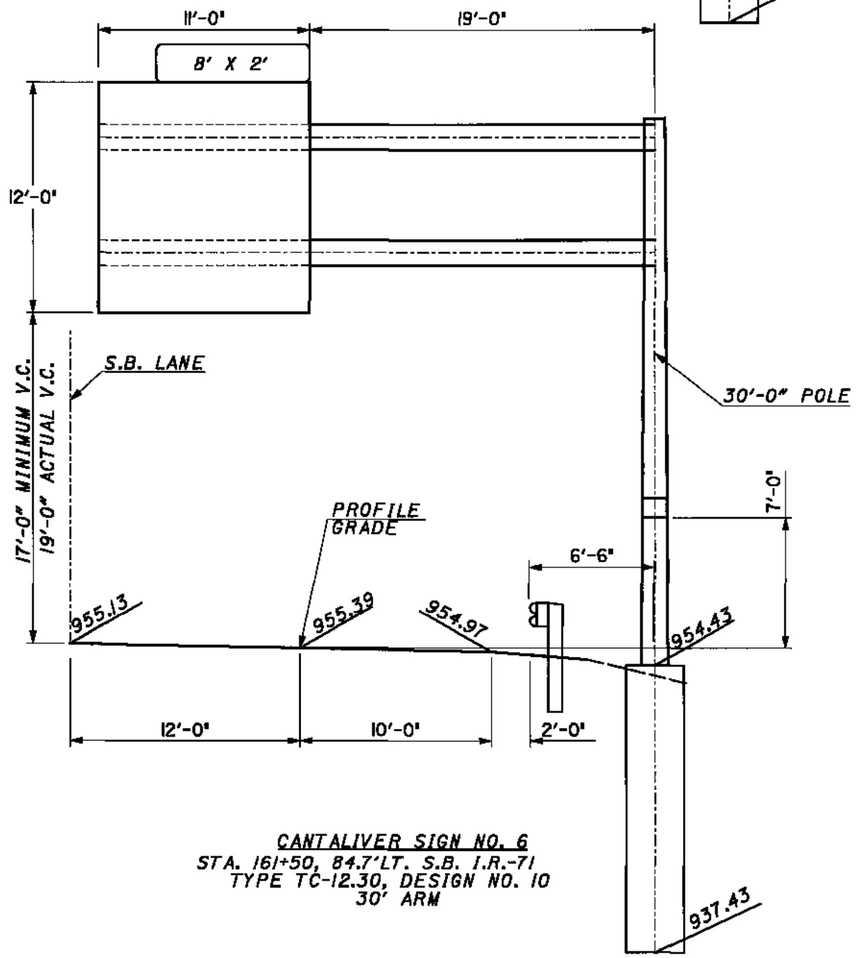
CANTALIVER SIGN NO. 3
STA. 89+54, 100.5'RT. N.B. I.R.-71
TYPE TC-12.30, DESIGN NO. 10
30' ARM



CANTALIVER SIGN NO. 4
STA. 109+64, 100.5'LT. S.B. I.R.-71
TYPE TC-12.30, DESIGN NO. 10
30' ARM



CANTALIVER SIGN NO. 5
STA. 137+75, 84.5'LT., S.B. I.R.-71
TYPE TC-12.30, DESIGN NO. 10
30' ARM



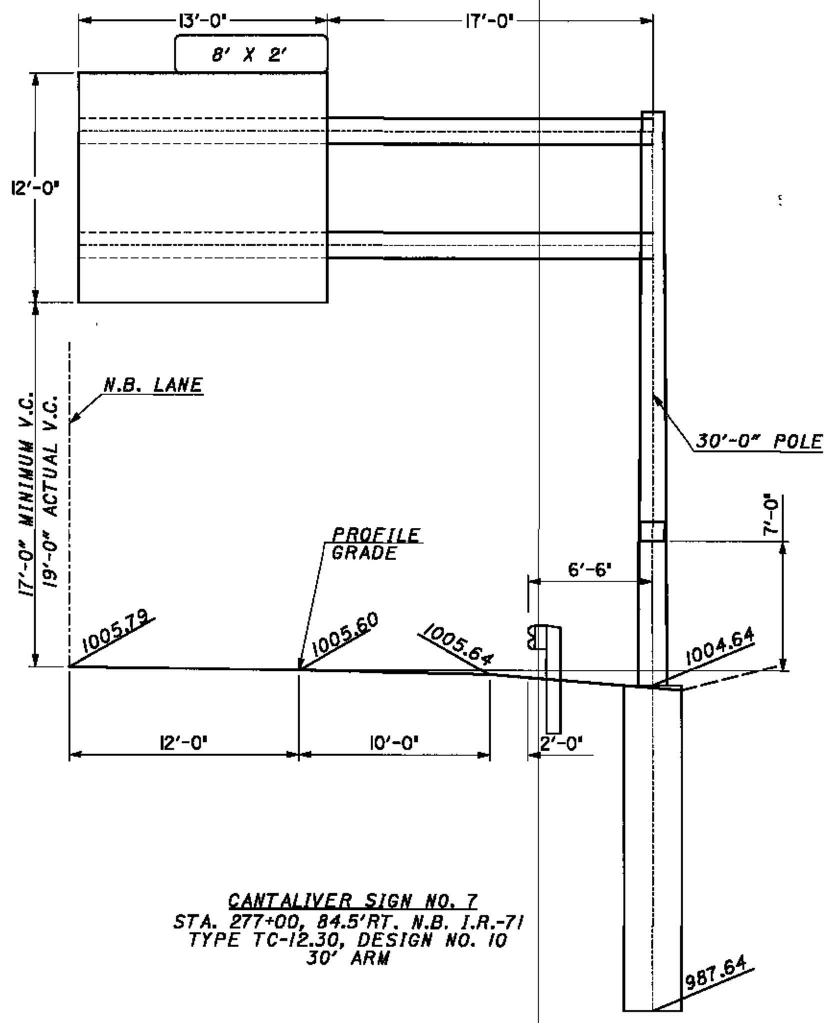
CANTALIVER SIGN NO. 6
STA. 161+50, 84.7'LT. S.B. I.R.-71
TYPE TC-12.30, DESIGN NO. 10
30' ARM

CALCULATED EMW
CHECKED SLT

CANTILEVER SIGN ELEVATION DETAILS

WAY/MED-71-7.04/0.00

14017TE1.dgn



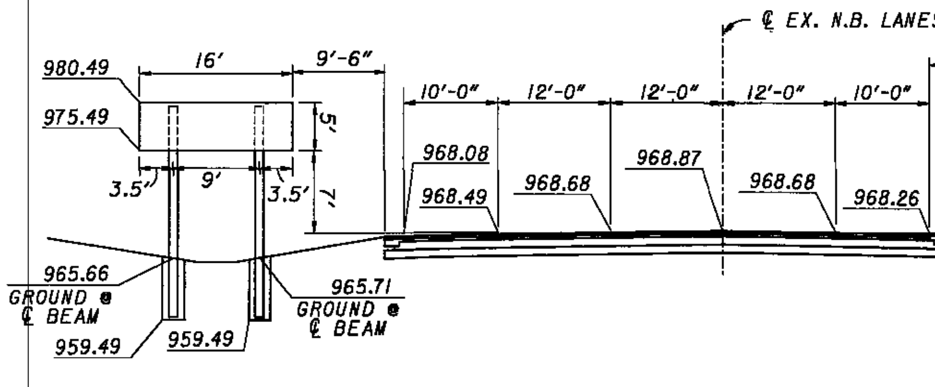
CANTALIVER SIGN NO. 7
STA. 277+00, 84.5'RT. N.B. I.R.-71
TYPE TC-12.30, DESIGN NO. 10
30' ARM

14017TE2.dgn

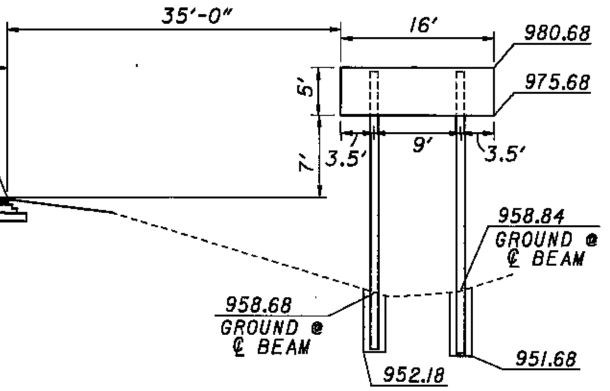
CALCULATED EMW
CHECKED SLT

CANTILEVER SIGN ELEVATION DETAILS

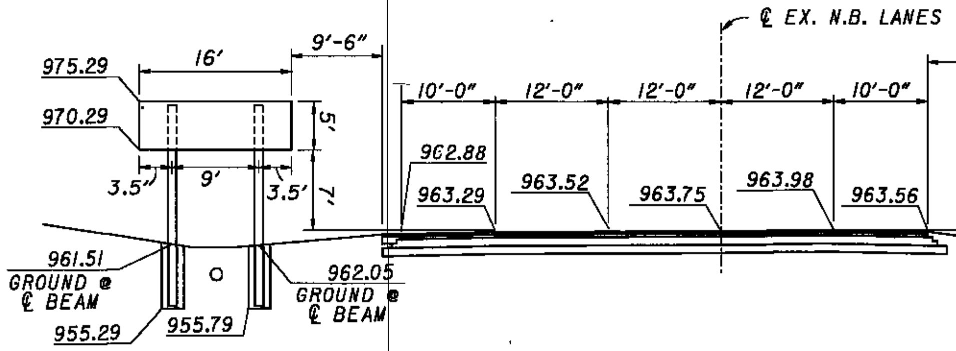
WAY/MED-71-7.04/0.00



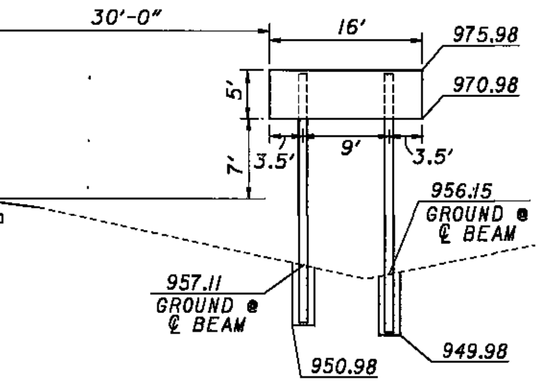
STA. 125+00 N.B., 00' RT.
W-54B-192
2-W10X12 BEAMS 21.0'/21.0' LONG
WITH BI-DIRECTIONAL BREAKAWAY CONNECTIONS



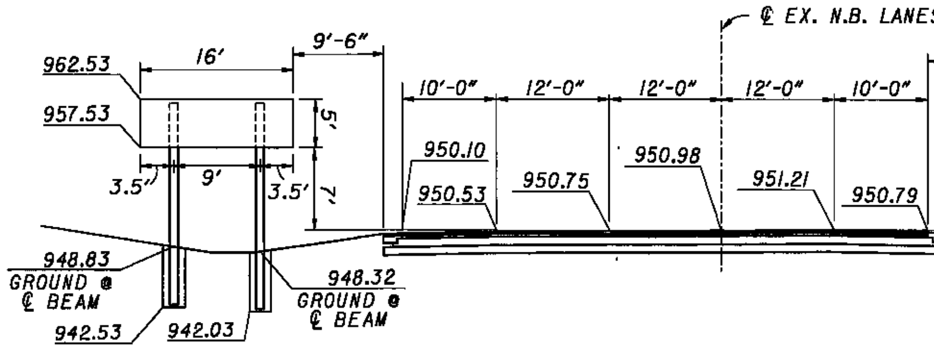
STA. 125+00 N.B., 114' RT.
W-54B-192
2-W10X12 BEAMS 28.5'/29.0' LONG
WITH BREAKAWAY CONNECTIONS



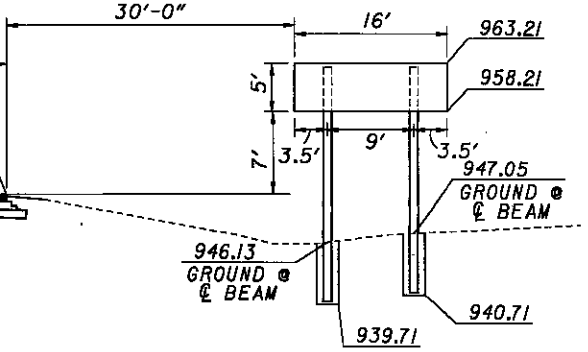
STA. 135+00 N.B., 00' RT.
W-54B-192
2-W10X12 BEAMS 20.0'/19.5' LONG
WITH BI-DIRECTIONAL BREAKAWAY CONNECTIONS



STA. 135+00 N.B., 114' RT.
W-54B-192
2-W10X12 BEAMS 25.0'/26.0' LONG
WITH BREAKAWAY CONNECTIONS



STA. 158+00 N.B., 00' RT.
W-54B-192
2-W10X12 BEAMS 20.0'/20.5' LONG
WITH BI-DIRECTIONAL BREAKAWAY CONNECTIONS



STA. 158+00 N.B., 114' RT.
W-54B-192
2-W10X12 BEAMS 23.5'/22.5' LONG
WITH BREAKAWAY CONNECTIONS

NOTE: ALL DETAILS SHOWN IN THE DIRECTION TRAFFIC IS TRAVELING.

SEE SHEETS 415-417 FOR PLAN VIEW.
SEE SHEET 404 FOR SIGNING QUANTITIES.

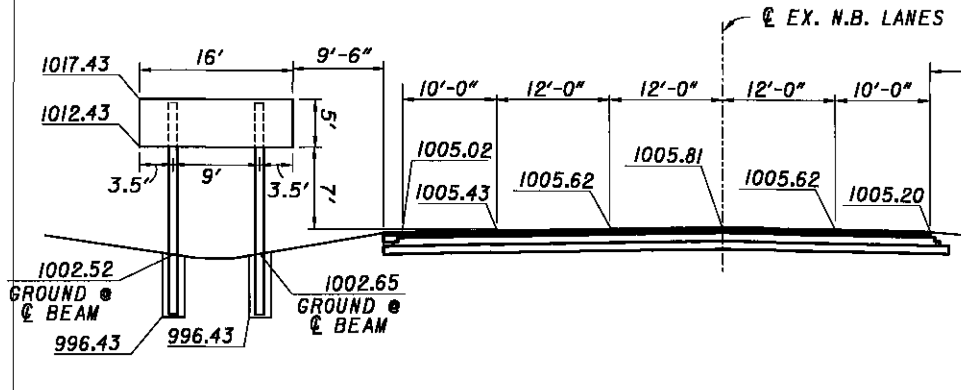
SEE STANDARD CONSTRUCTION DRAWING TC-41.10 FOR ADDITIONAL DETAILS.

CALCULATED EMW
CHECKED SLT

GROUND MOUNTED BEAM SUPPORT SIGN DETAILS

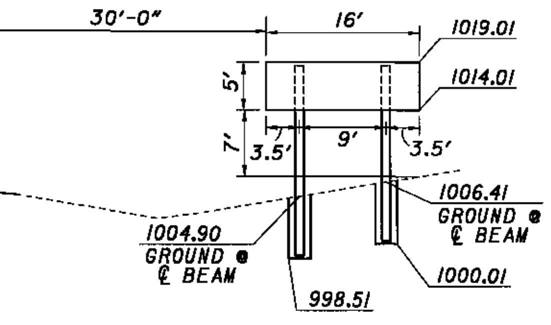
WAY/MED-71-7.04/0.00

14017TE3.dgn



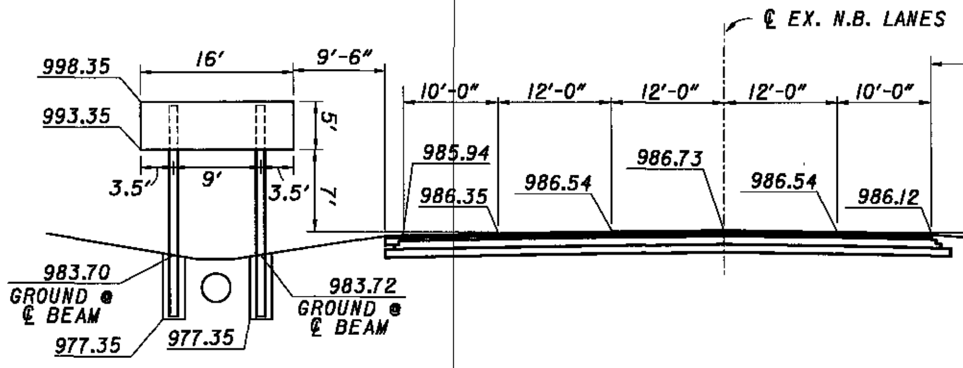
STA. 257+00 N.B., 00' RT.

W-54B-192
2-W10X12 BEAMS 21.0'/21.0' LONG
WITH BI-DIRECTIONAL BREAKAWAY CONNECTIONS



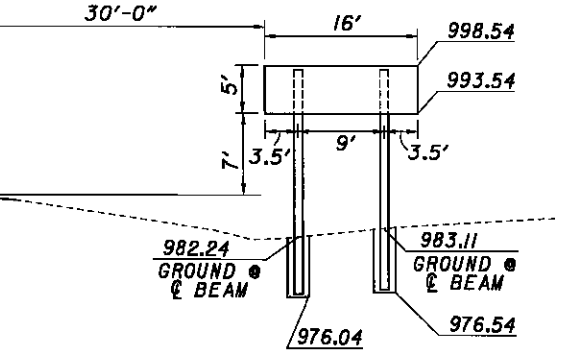
STA. 257+00 N.B., 114' RT.

W-54B-192
2-W10X12 BEAMS 20.5'/19.0' LONG
WITH BREAKAWAY CONNECTIONS



STA. 280+00 N.B., 00' RT.

W-54B-192
2-W10X12 BEAMS 21.0'/21.0' LONG
WITH BI-DIRECTIONAL BREAKAWAY CONNECTIONS



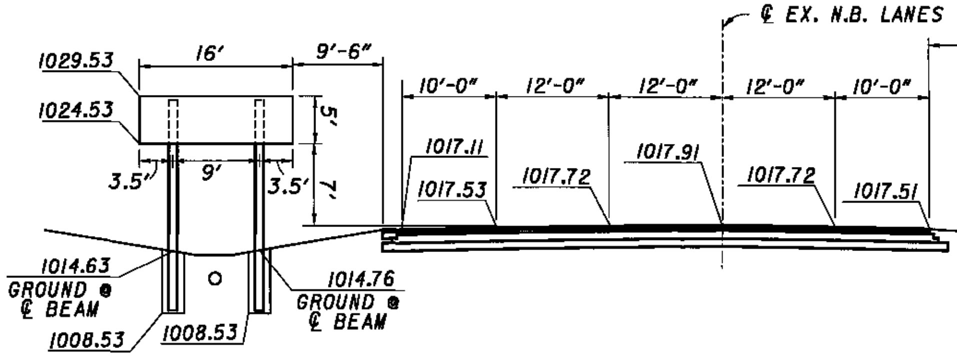
STA. 280+00 N.B., 114' RT.

W-54B-192
2-W10X12 BEAMS 22.5'/22.0' LONG
WITH BREAKAWAY CONNECTIONS

NOTE: ALL DETAILS SHOWN IN THE DIRECTION TRAFFIC IS TRAVELING.

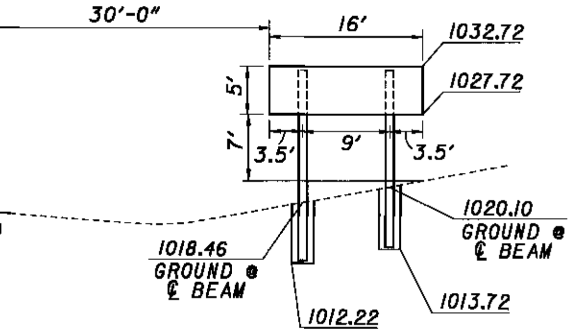
SEE SHEETS 420-422 FOR PLAN VIEW.
SEE SHEET 405 FOR SIGNING QUANTITIES.

SEE STANDARD CONSTRUCTION DRAWING TC-41.10 FOR ADDITIONAL DETAILS.



STA. 303+00 N.B., 00' RT.

W-54B-192
2-W10X12 BEAMS 21.0'/21.0' LONG
WITH BI-DIRECTIONAL BREAKAWAY CONNECTIONS

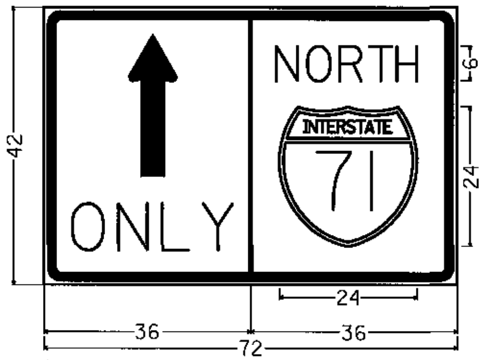


STA. 303+00 N.B., 114' RT.

W-54B-192
2-W10X12 BEAMS 20.5'/19.0' LONG
WITH BREAKAWAY CONNECTIONS

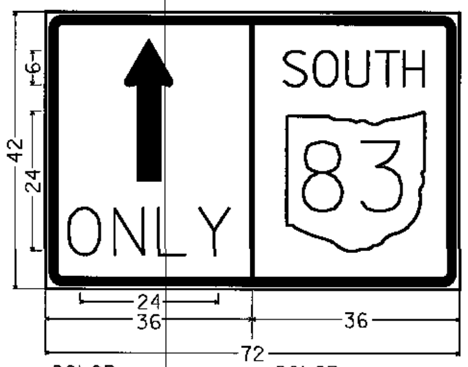
GROUND MOUNTED BEAM SUPPORT SIGN DETAILS

WAY/MED-71-7.04/0.00



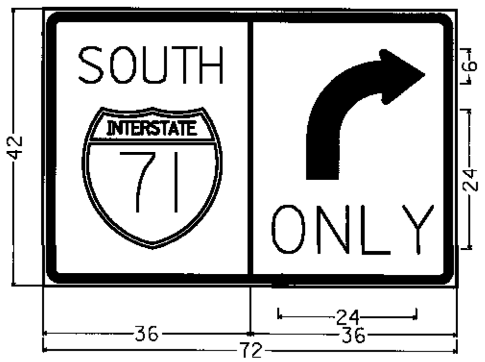
COLOR:
BLACK ON WHITE
SIGN LAYOUT:
R3-5a-36

COLOR:
WHITE ON GREEN
SIGN LAYOUT:
SPECIAL



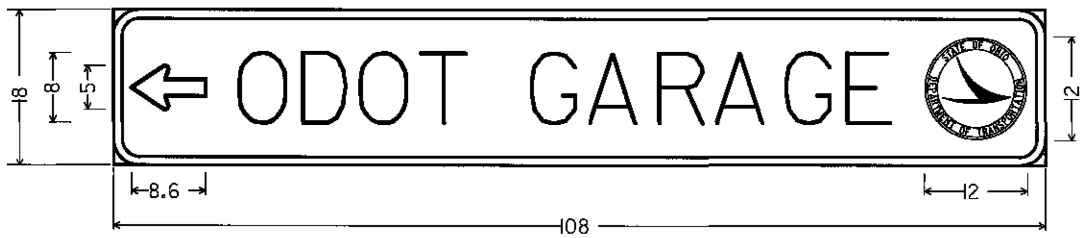
COLOR:
BLACK ON WHITE
SIGN LAYOUT:
R3-5a-36

COLOR:
WHITE ON GREEN
SIGN LAYOUT:
SPECIAL

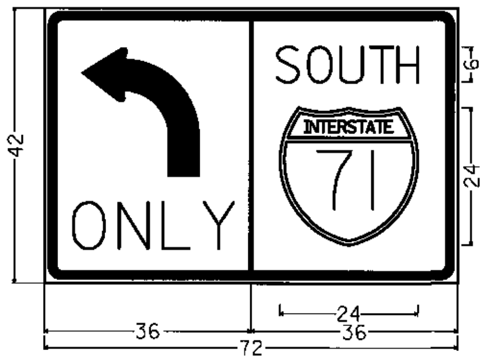


COLOR:
WHITE ON GREEN
SIGN LAYOUT:
SPECIAL

COLOR:
BLACK ON WHITE
SIGN LAYOUT:
R3-5R-36

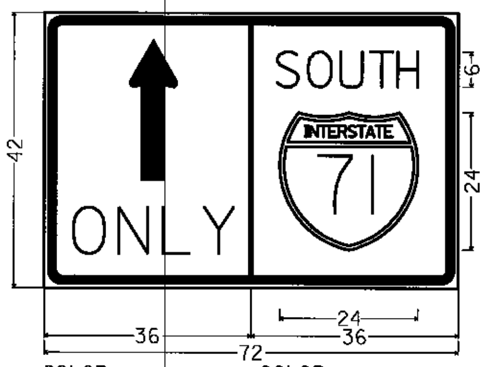


COLOR: WHITE ON GREEN



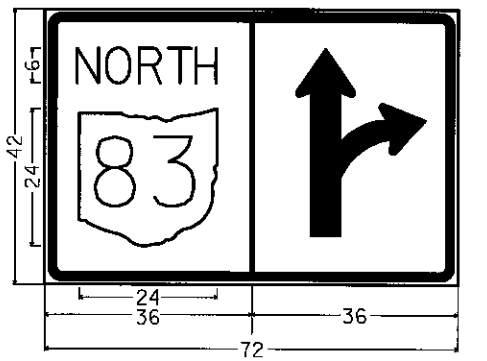
COLOR:
BLACK ON WHITE
SIGN LAYOUT:
R3-5L-36

COLOR:
WHITE ON GREEN
SIGN LAYOUT:
SPECIAL



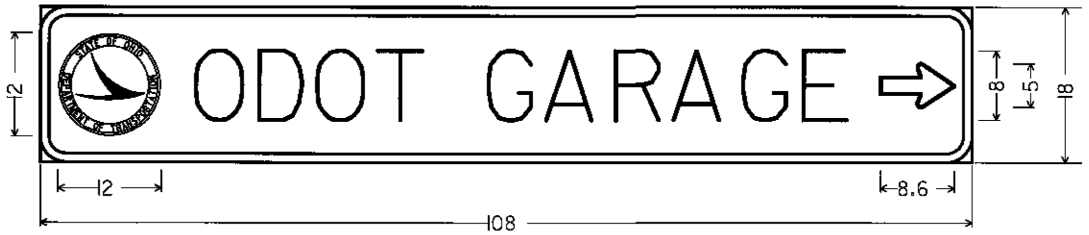
COLOR:
BLACK ON WHITE
SIGN LAYOUT:
R3-5a-36

COLOR:
WHITE ON GREEN
SIGN LAYOUT:
SPECIAL

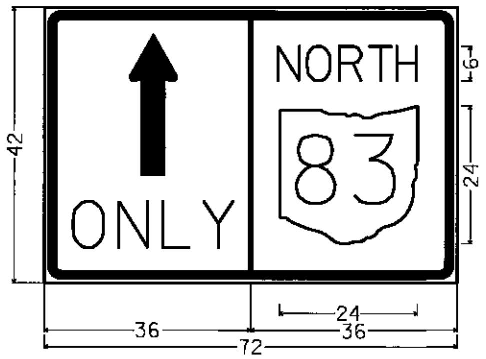


COLOR:
WHITE ON GREEN
SIGN LAYOUT:
SPECIAL

COLOR:
BLACK ON WHITE
SIGN LAYOUT:
R3-6R-36

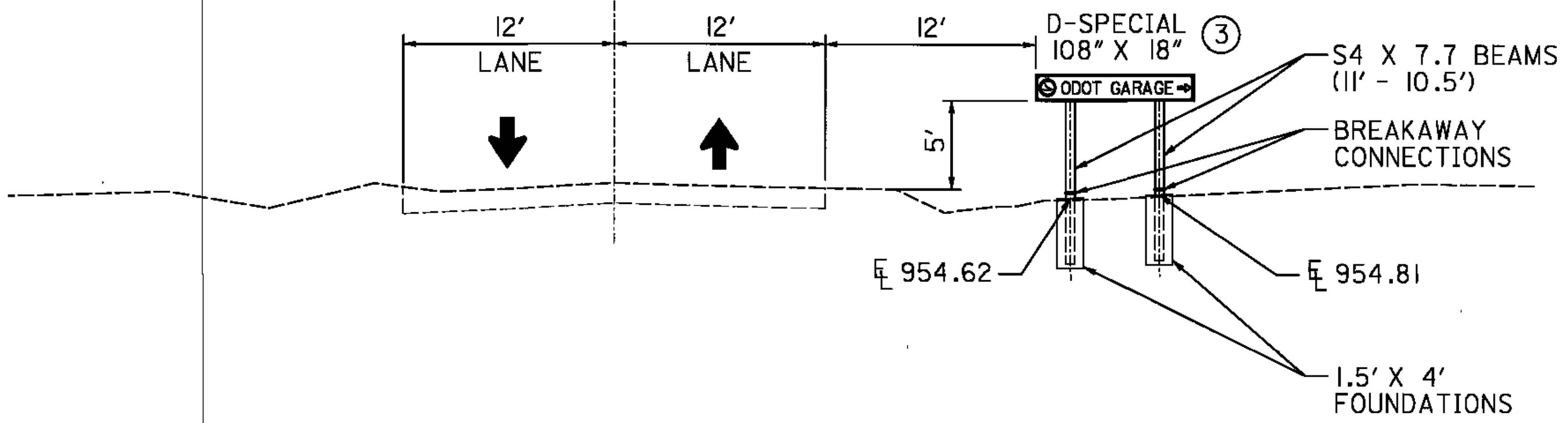


COLOR: WHITE ON GREEN



COLOR:
BLACK ON WHITE
SIGN LAYOUT:
R3-5a-36

COLOR:
WHITE ON GREEN
SIGN LAYOUT:
SPECIAL



SR-83
STA. 36+51 LT.
(LOOKING SOUTH)

SCALE IN FEET
0 5 10

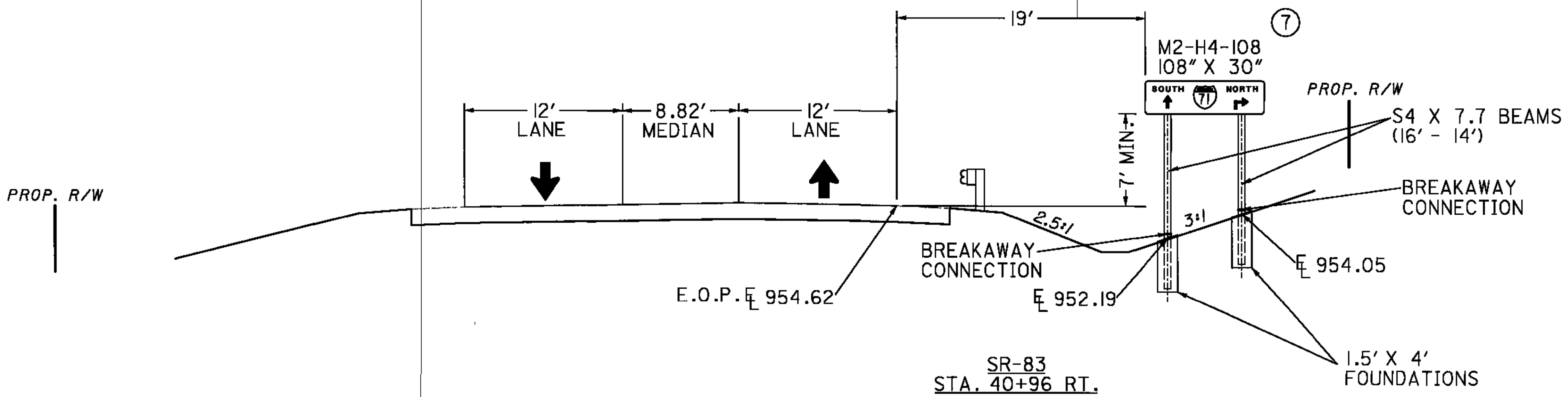
CALCULATED
-
CHECKED
-

SIGN DETAILS AND SIGN ELEVATION ③

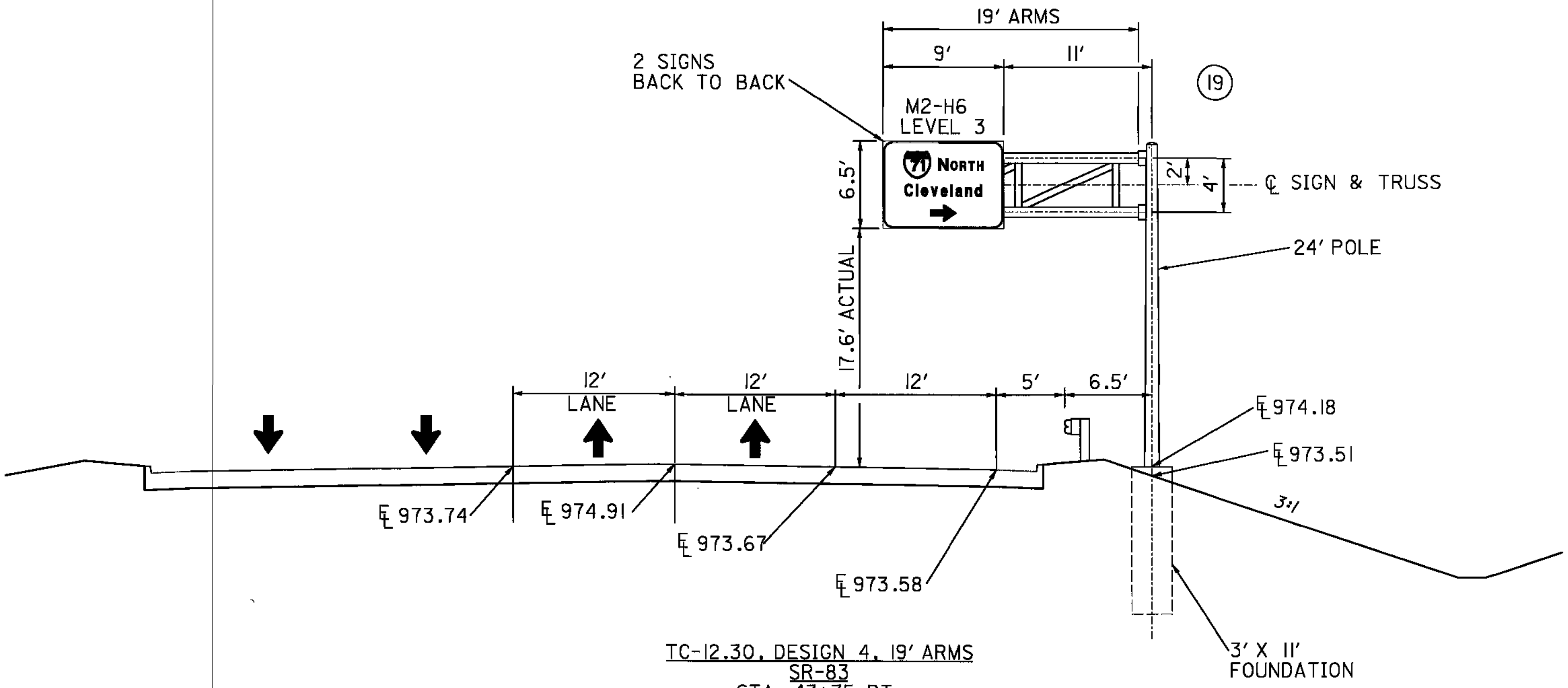
WAY/MED-71-7.04/0.00

395
785

DATE: $DATE$ $TIME$
FILENAME: $FILE$



SR-83
STA. 40+96 RT.



TC-12.30, DESIGN 4, 19' ARMS
SR-83
STA. 47+75 RT.

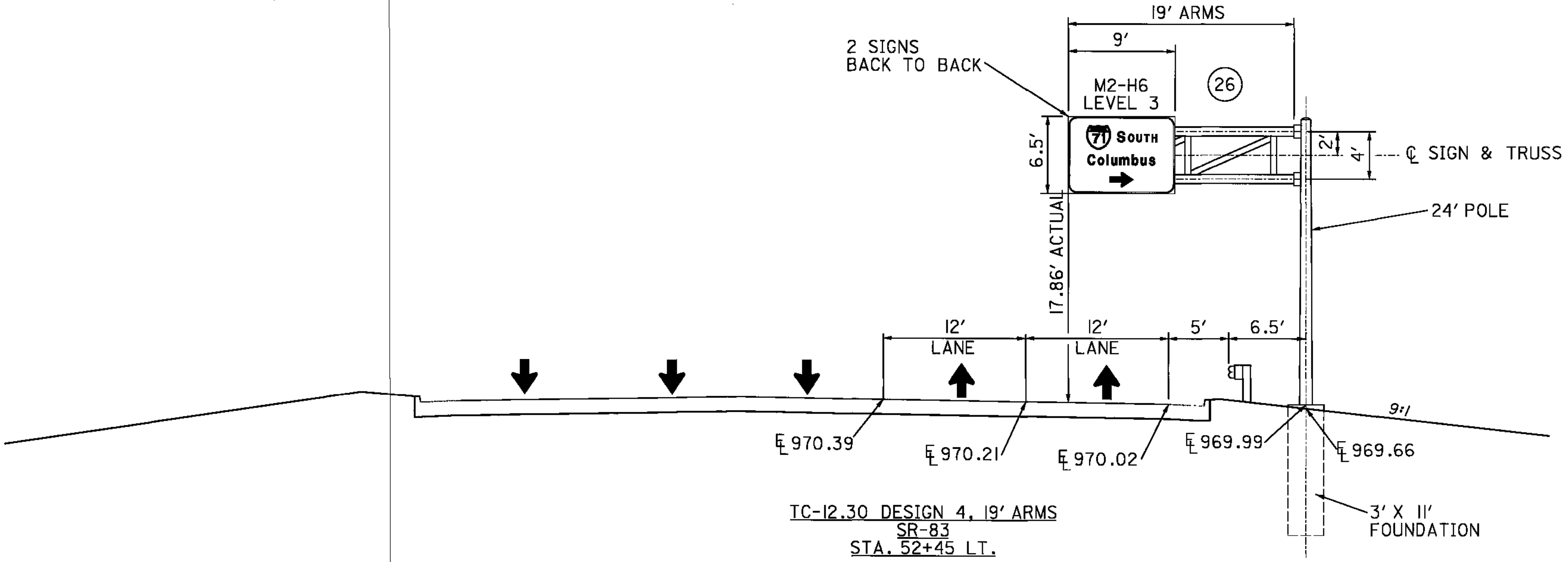
SCALE IN FEET
0 5 10

CALCULATED
CHECKED

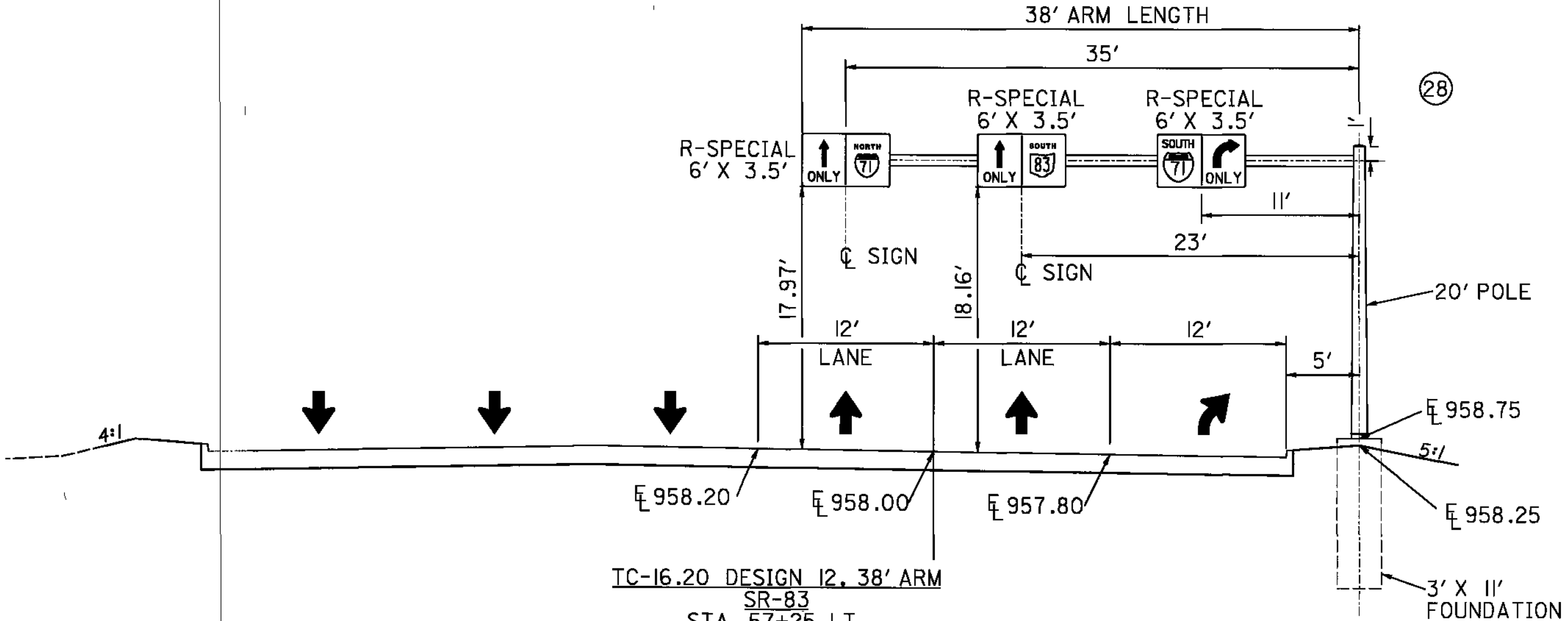
SIGN ELEVATIONS ⑦, ⑲

WAY/MED-71-7.04/0.00

DATE: $DATE$ $TIME$
FILENAME: $FILE$



TC-12.30 DESIGN 4, 19' ARMS
SR-83
STA. 52+45 LT.
(LOOKING SOUTH)



TC-16.20 DESIGN 12, 38' ARM
SR-83
STA. 57+25 LT.
(LOOKING SOUTH)

DATE: $DATE$ $TIME$
FILENAME: $FILE$

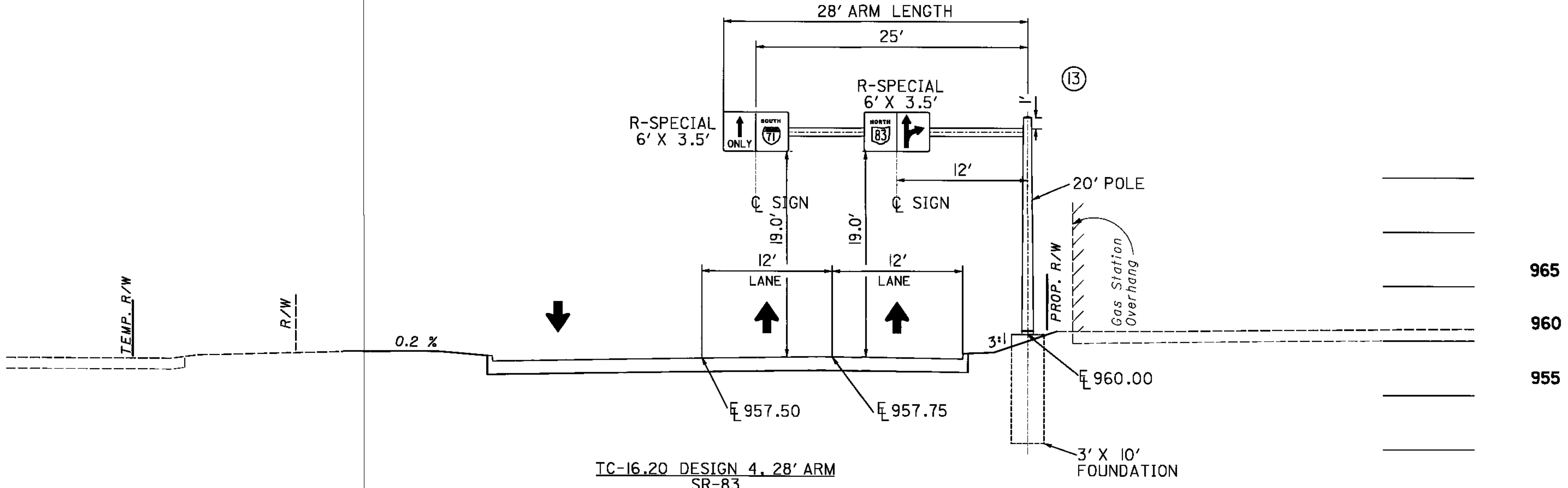
0 5 10
SCALE IN FEET

CALCULATED
GSC
5/03
CHECKED

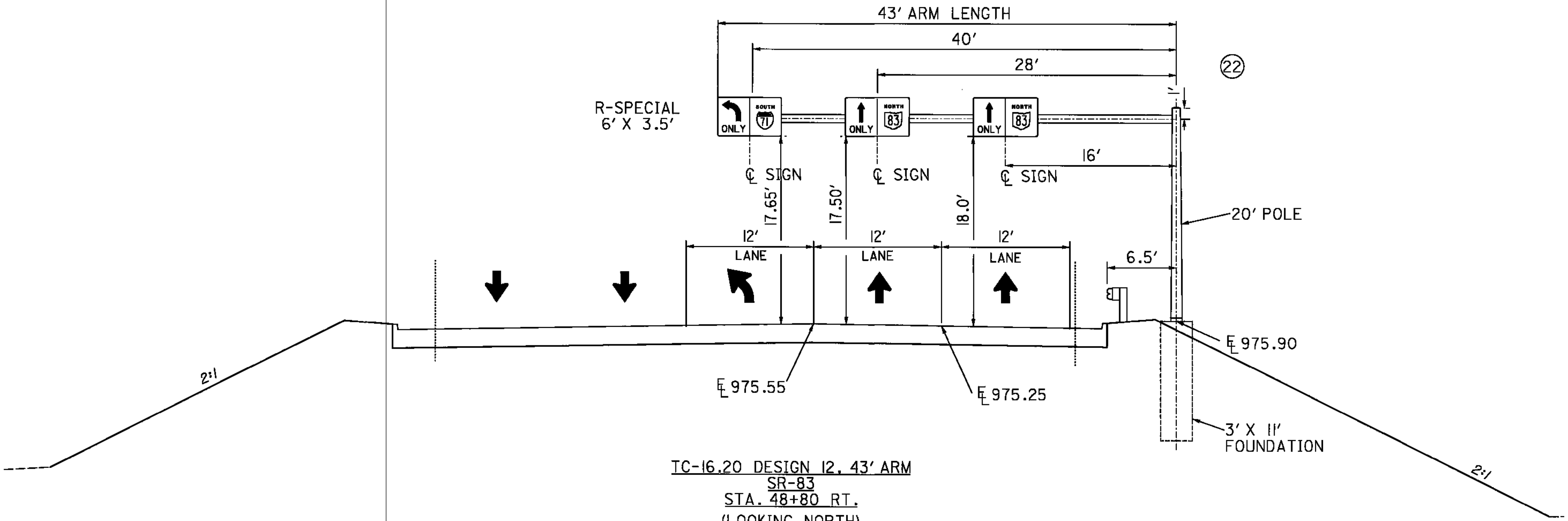
SIGN ELEVATIONS ㉖, ㉘

WAY/MED-71-7.04/0.00

397
785



TC-16.20 DESIGN 4, 28' ARM
SR-83
STA. 42+50 RT.
(LOOKING NORTH)



TC-16.20 DESIGN 12, 43' ARM
SR-83
STA. 48+80 RT.
(LOOKING NORTH)

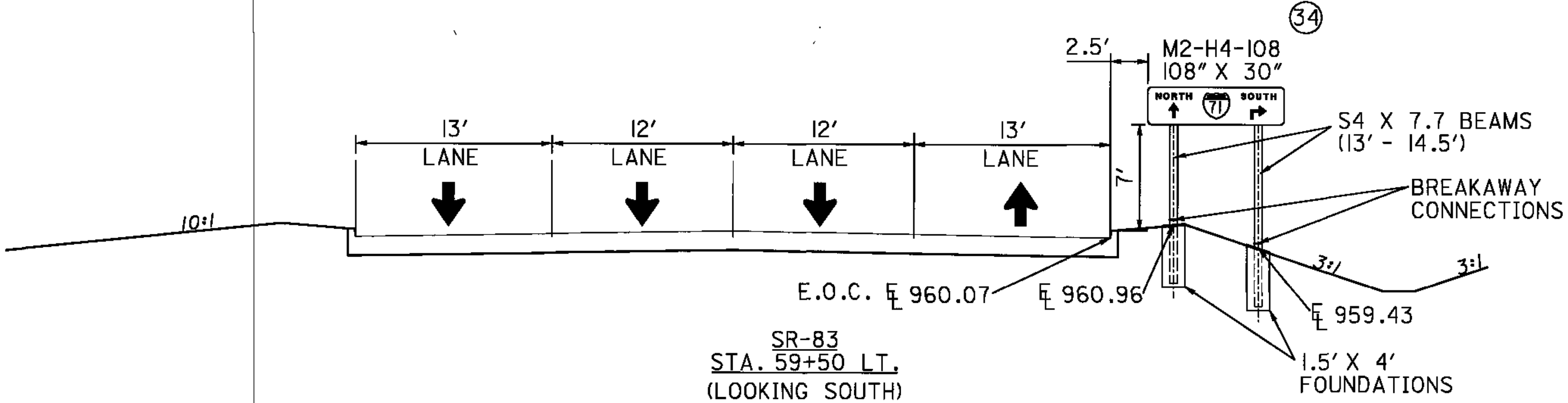
DATE: $DATE$ $TIME$
FILENAME: $FILE$

SCALE IN FEET
0 5 10

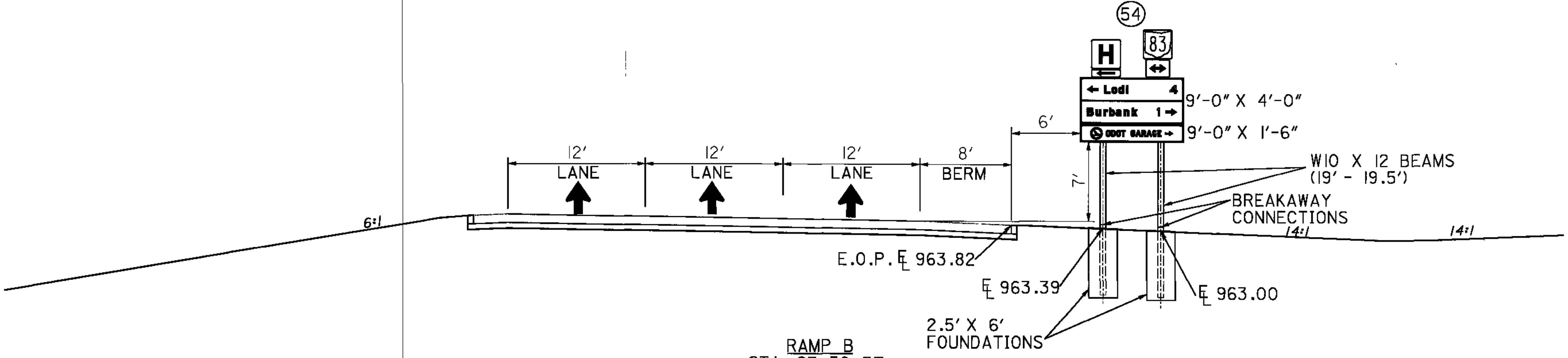
CALCULATED GSC 9/03
CHECKED

SIGN ELEVATIONS ⑬, ㉒

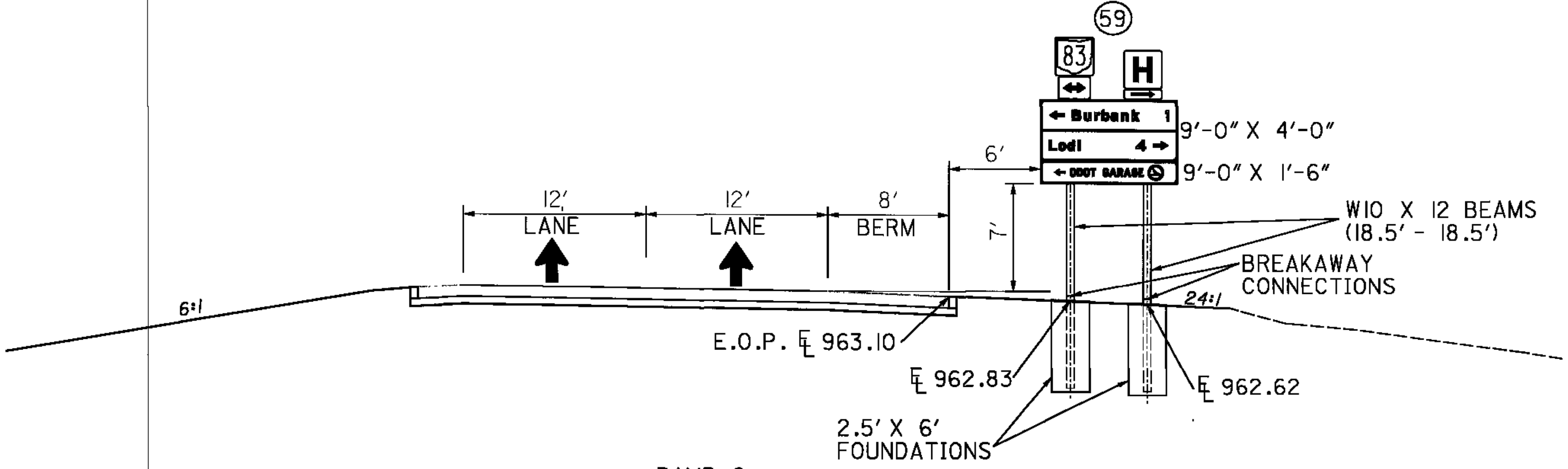
WAY/MED-71-7.04/0.00



SR-83
STA. 59+50 LT.
(LOOKING SOUTH)



RAMP B
STA. 97+50 RT.



RAMP C
STA. 102+60 LT.

DATE: $DATE$ $TIME$
FILENAME: $FILE$

0 5 10
SCALE IN FEET

CALCULATED
GSC
9/03

CHECKED
DRB
9/03

SIGN ELEVATIONS (34), (54), (59)

WAY/MED-71-7.04/0.00

SHEET NUMBER											ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
123	124	387	400	401	402	405	407	408		100% STATE						
17	5		170		17						620	10300	209	EACH	DELINEATOR, TYPE C, POST MOUNTED	
10	2		18								620	15300	30	EACH	DELINEATOR, TYPE D, POST MOUNTED	
						12					620	40300	12	EACH	REFLECTOR, TYPE D	
					66						621	10000	66	EACH	RAISED PAVEMENT MARKER, LOW PROFILE YELLOW-YELLOW	
			1562		43						621	10010	1605	EACH	RAISED PAVEMENT MARKER, LOW PROFILE WHITE	
			32		175						621	10020	207	EACH	RAISED PAVEMENT MARKER, LOW PROFILE WHITE-RED	
			10		44						621	10030	54	EACH	RAISED PAVEMENT MARKER, LOW PROFILE YELLOW-RED	
						7		5			625	32000	12	EACH	GROUND ROD	
342	56										626	00100	398	EACH	BARRIER REFLECTOR, TYPE A	
4	83										626	00200	87	EACH	BARRIER REFLECTOR, TYPE B	
						360.5	605				630	02100	966	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
							172.5				630	03100	173	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
						147					630	04100	147	FT	GROUND MOUNTED SUPPORT, NO. 4 POST	
						83		79			630	06400	162	FT	GROUND MOUNTED SUPPORT, S4X7.7 BEAM	
						562		77			630	07600	639	FT	GROUND MOUNTED SUPPORT, W10X12 BEAM	
							98				630	08002	98	FT	ONE WAY SUPPORT, NO. 2 POST	
						28		10			630	09000	38	EACH	BREAKAWAY BEAM CONNECTION	
								1			630	10400	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-16.20, DESIGN 4	
								2			630	11200	2	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-16.20, DESIGN 12	
								2			630	20400	2	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 4	
						7					630	21000	7	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 10	
							5				630	79000	5	EACH	SIGN HANGER ASSEMBLY, SPAN WIRE	
						7	1				630	79500	8	EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	
						209.5	432.6	34.4			630	80100	677	SQ FT	SIGN, FLAT SHEET	
						32					630	80101	32	SQ FT	SIGN, FLAT SHEET, AS PER PLAN	387A
						213		157.5			630	80200	371	SQ FT	SIGN, GROUND MOUNTED EXTRUSHEET	
						112					630	80224	112	SQ FT	SIGN, OVERHEAD EXTRUSHEET	
						944		402			630	80225	1346	SQ FT	SIGN, OVERHEAD EXTRUSHEET, AS PER PLAN	387
						8					630	82000	8	EACH	SIGN BACKING ASSEMBLY	
						24		10			630	84500	34	EACH	GROUND MOUNTED BEAM SUPPORT FOUNDATION	
						7		5			630	84510	12	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	
						65	63				630	84900	128	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
						11		4			630	85400	15	EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	
						12					630	85600	12	EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND REERECTION	
						48	52				630	86002	100	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
						46		8			630	86102	54	EACH	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL	
											630	97700	316	EACH	SIGNING, MISC.: SIGN DATA COLLECTION	387
			5.21								642	00102	5.21	MILE	EDGE LINE, TYPE 2	
			4.74								642	00190	4.74	MILE	LANE LINE	
		1									SPECIAL	64240000	1	EACH	AIR SPEED ZONE MARKING	387
			25.19								644	00100	25.19	MILE	EDGE LINE	
			25.07								644	00200	25.07	MILE	LANE LINE	
			1405								644	00400	1405	FT	CHANNELIZING LINE	
			0.97	1.99							646	10000	2.96	MILE	EDGE LINE	
			0.97	0.48							646	10100	1.45	MILE	LANE LINE	
				0.88							646	10200	0.88	MILE	CENTER LINE	
				5359							646	10300	5359	FT	CHANNELIZING LINE	
				479							646	10400	479	FT	STOP LINE	
				839							646	10600	839	FT	TRANSVERSE LINE	
				132							646	10800	132	SQ FT	ISLAND MARKING	
				46							646	20300	46	EACH	LANE ARROW	
				230							646	20500	230	FT	DOTTED LINE	

CALCULATED EMW
CHECKED SLT

TRAFFIC CONTROL GENERAL SUMMARY

WAY/MED-71-7.04/0.00

1401TQ1.dgn

SHEET NO.	STATION TO STATION	LOCATION	618		620		621			642			644				646		
			RUMBLE STRIPS, TYPE 2 (ASPHALT)		DELINEATOR, TYPE C, POST MOUNTED (WHITE)	DELINEATOR, TYPE D, POST MOUNTED (YELLOW)	RAISED PAVEMENT MARKER, LOW PROFILE WHITE	RAISED PAVEMENT MARKER, LOW PROFILE WHITE-RED	RAISED PAVEMENT MARKER, LOW PROFILE, YELLOW-RED	EDGE LINE, TYPE 2 (WHITE)	EDGE LINE, TYPE 2 (YELLOW)	LANE LINE	EDGE LINE (WHITE)	EDGE LINE (YELLOW)	LANE LINE	CHANNELIZING LINE (WHITE)	EDGE LINE (WHITE)	EDGE LINE (YELLOW)	LANE LINE
			MEDIAN	SHOULDER															
			LIN. FT.		EACH	EACH	EACH	EACH	EACH	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.
409	343+00 TO 351+50	LT./RT.	1700	1700	4		44						1700	1700	3400				
409	351+50 TO 364+50	LT./RT.	2600	2600	6		64						2600	2600	5200				
410	364+50 TO 3+00	LT./RT.	2620.5	2620.5	6		64						2620.5	2620.5	5241				
410	3+00 TO 16+00	LT./RT.	2600	2600	6		64						2600	2600	5200				
411	16+00 TO 29+00	LT./RT.	2600	2600	4		40						1600	1600	3200		1000	1000	2000
411	29+00 TO 42+00	LT./RT.	2600	2600	6		56						2280	2280	4560		320	320	640
412	42+00 TO 55+00	LT./RT.	2600	2600	6		64						2600	2600	5200				
412	55+00 TO 68+00	LT./RT.	2600	2600	6	6	64						2600	2600	5200				
413	68+00 TO 81+00	LT./RT.	2600	2600	7		64						2600	2600	5200				
413	81+00 TO 94+00	LT./RT.	2600	2600	10		64	16	6				3250	3106	5997	702			
414	94+00 TO 106+00	LT./RT.	2400	2400	6		60						2400	2400	4800				
415	106+00 TO 119+00	LT./RT.	2600	2600	11		64	16	4				3139	2994	5896	703			
415	119+00 TO 132+00	LT./RT.	2600	2600	6		64						2600	2600	5200				
416	132+00 TO 145+00	LT./RT.	2600	2600	6	6	64			82	82	164	2600	2600	5200				
416	145+00 TO 158+00	LT./RT.	2600	2600	6		64			2343	2343	4686	2600	2600	5200				
417	158+00 TO 171+00	LT./RT.	2600	2600	6		64			2600	2600	5200	2600	2600	5200				
417	171+00 TO 184+00	LT./RT.	2600	2600	6		56			800	800	1600	2160	2160	4320		440	440	880
418	184+00 TO 197+00	LT./RT.	2600	2600	6		64						2600	2600	5200				
418	197+00 TO 210+00	LT./RT.	2600	2600	6		64						2600	2600	5200				
419	210+00 TO 223+00	LT./RT.	2600	2600	6		64						2600	2600	5200				
419	223+00 TO 236+00	LT./RT.	2600	2600	6		56						2130	2130	4260		470	470	940
420	236+00 TO 249+00	LT./RT.	2600	2600	6		64						2600	2600	5200				
420	249+00 TO 262+00	LT./RT.	2600	2600	6	6	64						2600	2600	5200				
421	262+00 TO 275+00	LT./RT.	2600	2600	6		64						2600	2600	5200				
421	275+00 TO 288+00	LT./RT.	2600	2600	6		56						2280	2280	4560		320	320	640
422	288+00 TO 301+00	LT./RT.	2600	2600	6		64						2600	2600	5200				
422	301+00 TO 314+00	LT./RT.	1475	1475	6		38			1125	1125	1368	1475	1475	2950				
423	314+00 TO 327+00	LT./RT.			1					2600	2600	5200							
423	327+00 TO 340+00	LT./RT.			1					2600	2600	5200							
424	340+00 TO 353+00	LT./RT.								1596	1596	1596							
SUBTOTAL			67995.5	67995.5	170	18	1562	32	10	13746	13746	25014	66634.5	66345.5	132384	1405	2550	2550	5100
TOTAL			135991		170	18	1562	32	10	27492		25014	132980		132384	1405	5100		5100
TOTAL CARRIED TO ROADWAY GENERAL SUMMARY			25.76 MI.																
TOTAL CARRIED TO TRAFFIC CONTROL GENERAL SUMMARY					170	18	1562	32	10	5.21 MI.		4.74 MI.	25.19 MI.		25.07 MI.	1405	0.97 MI.		0.97 MI.

CALCULATED EMW
CHECKED SLT

PAVEMENT MARKING SUB-SUMMARY

WAY/MED-71-7.04/0.00

400
785

14017TSI.DGN

SHEET NO.	STATION FROM	STATION TO	SIDE	646 (WE) EDGE LINE, WHITE FT.	646 (YE) EDGE LINE, YELLOW FT.	646 (LL) LANE LINE FT.	646 (DY) CENTERLINE, SOLID DOUBLE FT.	646 (CH) CHANNELIZING LINE FT.	646 (SL) STOP LINE FT.	646 (YT) TRANVERSE LINE, YELLOW FT.	646 (A) LANE ARROW EA.	646 (YI) ISLAND MARKING, YELLOW SQ.FT.	646 (WD) DOTTED LINE, WHITE FT.		
	SR 83														
425	34+80	38+45					365								
425	34+80	41+58	LT	678											
425	34+80	41+74	RT	694											
425	38+45	43+69	LT/CL				1050			290					
426	42+13	47+75	RT			562									
426	44+50	46+72	LT/RT				332			76					
426	44+50	45+55	LT					105							
426	44+80		LT								1				
426	45+65	46+72	LT							93					
427	46+72	47+77	℄										105		
427	46+72		RT						29						
427	46+72		LT									66			
427	47+44	54+12	LT	668											
427	47+62	54+21	RT	677											
427	47+75	63+00	LT/RT			1525									
427	47+77	52+35	LT/℄					916							
427	47+77		LT						25						
427	47+77	52+35	LT				731								
427	48+07		LT								1				
427	48+23										1				
427	49+47										1				
427	49+50		LT								1				
427	50+80										1				
427	50+90		LT								1				
428	51+97		LT								1				
428	52+05		LT								1				
428	52+35		LT/RT						36						
428	53+29		LT						40			66			
428	53+29	57+75	LT			446									
428	53+29	54+80	LT/RT				302			140					
428	53+29	58+43	LT					514							
428	53+59		LT								1				
428	54+47		LT								1				
428	54+80	60+15	LT				535								
428	54+90	60+15	℄					525							
428	55+05		LT								1				
428	55+35		LT								1				
428	56+12	PILOT DR.	LT				55	55	40		2				
428	56+23		LT								1				
428	56+65		LT								1				
429	57+11		LT								1				
429	57+98	60+15	LT							60					
429	58+25		LT								1				
429	59+85		LT								1				
429	60+15		LT/RT						36						
429	61+80	71+60	LT/℄	980											
429	61+80	69+20	LT					740							
429	61+80	69+50	℄				770								
429	61+80		LT						24						
429	62+00		RT								1				
429	62+10		LT								1				
430	63+00	71+59	RT					859							
	TOTAL COLUMN A			3697		2533	4140	3714	230	659	22	132	105		

SHEET NO.	STATION FROM	STATION TO	SIDE	646 (WE) EDGE LINE, WHITE FT.	646 (YE) EDGE LINE, YELLOW FT.	646 (LL) LANE LINE FT.	646 (DY) CENTERLINE, SOLID DOUBLE FT.	646 (CH) CHANNELIZING LINE FT.	646 (SL) STOP LINE FT.	646 (YT) TRANVERSE LINE, YELLOW FT.	646 (A) LANE ARROW EA.	646 (YI) ISLAND MARKING, YELLOW SQ.FT.	646 (WD) DOTTED LINE, WHITE FT.		
	SR 83														
430	63+78		LT								1				
430	64+42		RT								1				
430	65+54		LT								1				
430	66+18		RT								1				
430	67+30		LT								1				
430	67+50	71+60	RT	410											
430	67+94		RT								1				
431	68+90		LT								1				
431	69+50	71+63	LT/℄					218		180					
431	69+70		RT								1				
431	71+30		RT								1				
431	71+59		RT						33						
	CR 91														
426	10+42		LT						42						
426	10+42	11+17	℄	75			75								
	RAMP B														
	92+33	99+45	RT	712											
432	92+33	99+66	LT		733										
432	95+10	99+41	LT/RT					862							
432	95+40		LT/RT								3				
432	97+00		LT/RT								3				
427	99+10		LT/RT								3				
427	99+41		LT/RT						52						
427	99+41	47+77 (SR 83)	LT										125		
	RAMP D														
434	99+54	108+10	RT/℄	856											
	99+90	108+10	LT		820										
434	99+94	108+10	RT												
	RAMP A														
433	92+21	100+04	LT	788											
433	92+21	99+84	RT		765										
	RAMP C														
428	100+15		LT/RT						46						
432	100+15	104+82	RT					467							
432	100+21	106+85	LT	644											
432	100+23	106+85	RT		662										
428	100+90		℄								1				
432	102+50		℄								2				
432	104+10		℄								2				
	CR 90														
429	8+00	9+75	LT	175											
429	8+00	9+52	RT	152											
429	8+00	11+50	℄				350								
429	9+52		RT						34						
429	10+52	11+50	LT/℄				98	98							
429	10+52		LT						42						
429	10+82		LT								1				
	TOTAL COLUMN B			3812	2980		523	1645	249	180	24		125		
	TOTAL COLUMN A			3697		2533	4140	3714	230	659	22	132	105		
	TOTAL THIS SHEET			7509	2980	2533	4663	5359	479	839	46	132	230		
	TOTAL (FT)			10489		2533	4663	5359	479	839	46	132	230		
	TOTAL (MI)			1.99		0.48	0.88								
	TOTALS CARRIED TO GENERAL SUMMARY			1.99		0.48	0.88	5359	479	839	46	132	230		

CALCULATED

CHECKED KES 7/04

PAVEMENT MARKING SUBSUMMARY

WAY/MED-71-7.04/0.00

DATE: $DATE$ $TIME$
FILENAME: $FILE$

ITEM 621 RPM SUBSUMMARY

ROADWAY	SHEET NO.	STATION	TO STATION	SIDE	INTERVAL	1-WAY WHITE	2-WAY YEL/YEL	2-WAY WHITE/RED	2-WAY YELLOW/RED	
SR83	425	38+21	43+69	L/CL	80		15			
	426	44+50	45+31	L	40			3		
	426	44+50	46+72	L/CL	80		9			
	426	42+13	46+72	R	80			6		
	427	47+77	51+87	L	40	11				
	427	47+77	51+87	L	40			11		
	427	47+77	52+35	L/CL	80		10			
	427	47+96	63+96	R	80			17		
	427	48+35	52+35	R	40	11				
	427	51+13	52+35	CL	40			4		
	428	53+58	57+59	L	80			6		
	428	53+29	58+43	L	40			14		
	428	53+29	60+15	L/CL	80		14			
	428	54+96	60+15	CL	40			14		
	429	61+80	65+80	L	40	11				
	429	61+80	69+00	L	40			19		
	429	61+80	71+59	L/CL	80		18			
	430	63+09	71+59	R	40			22		
	430	67+57	71+15	R	40	10				
RAMP D	427	99+98	107+98	L	80				11	
RAMP C	428	100+15	103+80	R	40			11		
	428	100+15	104+62	R	40			12		
	428	100+23	103+80	R	80				9	
	432	105+02	106+62	L	40				3	
RAMP B	432	93+02	99+40	L	80				9	
	432	93+02	94+80	R	80			3		
	432	95+02	99+41	R	40			11		
	432	95+42	99+40	L	40			11		
RAMP A	433	92+63	99+80	R	80				10	
TOTAL						43	66	175	44	
TOTAL CARRIED TO GENERAL SUMMARY						43	66	175	44	

ITEM 620 DELINEATOR SUB-SUMMARY

ROADWAY	SHEET NO.	STATION	TO STATION	SIDE	INTERVAL	TYPE C POST			
RAMP B	432	93+00	97+00	R	200	3			
	427	99+00		R	200	1			
RAMP D	427	100+00		R	200	1			
	434	102+00	108+00	R	200	4			
RAMP A	433	93+25	97+25	L	200	3			
	428	99+25		L	200	1			
RAMP C	428	100+75		L	200	1			
	432	102+75	106+75	L	200	3			
TOTAL						17			
TOTAL CARRIED TO GEN. SUMMARY						17			

CALCULATED
CHECKED

RAISED PAVEMENT MARKERS & DELINEATORS SUB-SUMMARY

WAY/MED-71-7.04/0.00

DATE: $DATE$ $TIME$
FILENAME: $FILE$

SHEET NO.	LOCATION	SIDE	CODE	SIZE (INCHES)	620	625	630																			
					REFLECTOR, TYPE D	GROUND ROD	GROUND MOUNTED SUPPORT, NO. 2 POST	GROUND MOUNTED SUPPORT, NO. 4 POST	GROUND MOUNTED SUPPORT, S4X7.7 BEAM	GROUND MOUNTED SUPPORT, W10x12 BEAM	BREAKAWAY BEAM CONNECTION	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 10	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	SIGN, FLAT SHEET, TYPE G	SIGN, FLAT SHEET, AS PER PLAN	SIGN, GROUND MOUNTED EXTRUSHEET	SIGN, OVERHEAD EXTRUSHEET	SIGN, OVERHEAD EXTRUSHEET, AS PER PLAN	SIGN BACKING ASSEMBLY	GROUND MOUNTED BEAM SUPPORT FOUNDATION	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND REERECTION	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL
					EACH	EACH	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	EACH	EACH	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH
409	318+70	RT																						1		2
409	318+70	CL																						1		2
409	344+00	RT																						1		2
409	344+00	CL																						1		2
410	371+50	RT																						1		2
410	371+50	CL																						1		2
411	15+98	RT	OM-3	12X36			10.5							3								1			1	
411	16+06	RT	OM-3	12X36			11.5							3								2			1	
			SPECIAL	12X12										1												
411	22+63	LT	OM-3	12X36			11.5							3								2			1	
			SPECIAL	12X12										1												
411	22+75	LT	OM-3	12X36			10.5							3								1			1	
411	31+61	RT	OM-3	12X36			11.5							3								2			1	
			SPECIAL	12X12										1												
411	31+63	RT																				1			1	
411	31+70	RT	OM-3	12X36			10.5							3								1			1	
411	33+33	LT	OM-3	12X36			10.5							3								1			1	
411	33+38	LT																				3			2	
411	33+39	LT	OM-3	12X36			11.5							3												
			SPECIAL	12X12										1												
411	35+75	RT	E1-1	132X144								1						132			1					
			E1-5-96	96X24		1											16		1							
			N-44B	18X12									1	1.5												
411	40+44	RT																					1			2
412	52+44	LT	E7	180X60						18/18						75							1			2
412	57+66	RT																					1			2
412	57+70	RT	E1-1	132X144								1						132								
			E1-5-96	96X24		1											16		1		1					
			N-44B	18X12									1	1.5												
412	62+42	LT	R-9	84X72					14.5/14.5							42							1			2
412	63+88	CL	R3-4	36X36										9								1			1	
			R3-H4a	24X30	2			15.5						5								1				
412	64+38	CL	R3-4	36X36										9								1			1	
			R3-H4a	24X30	2			15.5						5								1				
413	73+35	RT	SPECIAL	12X12			8.5							1								1			1	
413	73+48	RT																				1			1	
413	80+12	RT																					1			2
413	89+54	RT	E1-1	156X120								1						130								
			E1-5-96	96X24		1											16		1		1					
			N-43B	18X12									1	1.5												
413	92+69	LT	W4-1	48X48			16/16							16								1			2	
413	93+23	RT	E5-1a	96X60					13.5/13.5		2					40							1			2
414	95+75	RT																				2			1	
414	99+31	RT	SPECIAL	12X12			8.5							1								1			1	
414	100+31	LT	SPECIAL	12X12			8.5							1								1			1	
414	103+95	LT																				2			1	
414	105+73	RT	W4-1	48X48			16/16							16								1			1	
414	105+90	LT	E5-1a	96X60					13.5/13.5		2					40							1			2
SUBTOTAL THIS SHEET					4	3	177.5	31	83	36	4	3	3	95.5	-	197	48	394	3	-	3	28	7	6	21	26

CALCULATED EMW
CHECKED SLT

SIGNING SUB-SUMMARY

WAY/MED-71-7.04/0.00

14017TS2.dgn

					620	625	630																			
SHEET NO.	LOCATION	SIDE	CODE	SIZE (INCHES)	REFLECTOR, TYPE D	GROUND ROD	GROUND MOUNTED SUPPORT, NO. 2 POST	GROUND MOUNTED SUPPORT, NO. 4 POST	GROUND MOUNTED SUPPORT, S4X7.7 BEAM	GROUND MOUNTED SUPPORT, W10x12 BEAM	BREAKAWAY BEAM CONNECTION	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 10	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	SIGN, FLAT SHEET, TYPE G	SIGN, FLAT SHEET, AS PER PLAN	SIGN, GROUND MOUNTED EXTRUSHEET	SIGN, OVERHEAD EXTRUSHEET	SIGN, OVERHEAD EXTRUSHEET, AS PER PLAN	SIGN BACKING ASSEMBLY	GROUND MOUNTED BEAM SUPPORT FOUNDATION	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND REERECTION	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL
					EACH	EACH	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	EACH	EACH	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH
415	106+61	RT	D10-3	12X48			11.5							4								1			1	
415	109+64	LT	E1-1	156X120								1						130			1					
			E1-5-96	96X24		1											16		1							
			N-43B	18X12									1	1.5												
415	118+71	LT																					1			2
415	125+00	RT	W9-H5L	192X60						28.5'/29'	2									2				1		2
415	125+00	CL	W9-H5L	192X60						21'/21'	2									2				1		2
416	133+60	CL																				2			1	
416	134+10	CL																				2			1	
416	135+00	RT	W9-H5L	192X60						25'/26'	2									2				1		2
416	135+00	CL	W9-H5L	192X60						20'/19.5'	2									2				1		2
416	137+02	CL	R3-4	36X36										9												
			R3-H4a	24X30	2			15.5						5												
416	137+50	CL	R3-4	36X36										9												
			R3-H4a	24X30	2			15.5						5												
416	137+68	LT																					1			2
416	137+75	LT	E1-1	132X144								1						132			1					
			E1-5-96	96X24		1											16		1							
			N-44B	18X12									1	1.5												
417	132+10	LT	E1-5-96	96X24												16			1							
417	158+00	RT	W9-H4L	192X60						23.5'/22.5'	2									2				1		2
417	158+00	CL	W9-H4L	192X60						20'/20.5'	2									2				1		2
417	158+50	LT																					1			2
417	161+50	LT	E1-1	132X144								1						132			1					
			E1-5-96	96X24		1											16		1							
			N-44B	18X12									1	1.5												
417	180+15	RT	OM-3	12X36			10.5							3								1			1	
417	180+45	RT	OM-3	12X36			11.5							3								2			1	
			SPECIAL	12X12										1												
417	181+76	LT	OM-3	12X36			11.5							3								2			1	
			SPECIAL	12X12										1												
417	181+95	LT	OM-3	12X36			10.5							3								1			1	
418	199+10	RT	SPECIAL	12X12			8.5							1								1			1	
418	199+18	RT																				1			1	
418	199+60	LT	SPECIAL	12X12			8.5							1								1			1	
419	219+30	CL	W-68	48X48				27							16											
419	230+58	RT	OM-3	12X36			10.5							3								1			1	
419	230+82	RT																				1			1	
419	230+85	RT	OM-3	12X36			11.5							3								2			1	
			SPECIAL	12X12										1												
419	232+13	LT	OM-3	12X36			11.5							3								2			1	
			SPECIAL	12X12										1												
419	232+45	LT	OM-3	12X36			10.5							3								1			1	
SUBTOTAL THIS SHEET					4	3	105	58	-	276.5	12	3	3	66.5	16	16	48	394	4	12	3	21	3	6	15	18

CALCULATED EMW
CHECKED SLT

SIGNING SUB-SUMMARY

WAY/MED-71-7.04/0.00

1401TS3.dgn

SHEET NO.	LOCATION	SIDE	CODE	SIZE (INCHES)	620	620	630																			
					REFLECTOR, TYPE D	GROUND ROD	GROUND MOUNTED SUPPORT, NO. 2 POST	GROUND MOUNTED SUPPORT, NO. 4 POST	GROUND MOUNTED SUPPORT, S4X7.7 BEAM	GROUND MOUNTED SUPPORT, W10x12 BEAM	BREAKAWAY BEAM CONNECTION	OVERHEAD SIGN SUPPORT,TYPE TC-12.30, DESIGN 10	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	SIGN, FLAT SHEET, TYPE G	SIGN, FLAT SHEET, AS PER PLAN	SIGN, GROUND MOUNTED EXTRUSHEET	SIGN, OVERHEAD EXTRUSHEET	SIGN, OVERHEAD EXTRUSHEET, AS PER PLAN	SIGN BACKING ASSEMBLY	GROUND MOUNTED BEAM SUPPORT FOUNDATION	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND REERECTION	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL
					EACH	EACH	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	EACH	EACH	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH
420	242+19	CL	W-68	48X48				27							16											
420	252+76	CL	R3-4	36X36										9								1			1	
			R3-H4a	24X30	2			15.5						5								1				
420	253+29	CL	R3-4	36X36										9								1			1	
			R3-H4a	24X30	2			15.5						5								1				
420	257+00	RT	W9-H5L	192X60						20.5′/19′	2									2						
420	257+00	CL	W9-H5L	192X60						21′/21′	2									2						
421	262+31	RT	SPECIAL	12X12			8.5							1								1			1	
421	263+54	LT	SPECIAL	12X12			8.5							1								1			1	
421	277+00	RT	E1-1	156X144								1						156			1					
			E1-5-96	96X24		1											16		1							
			N-44B	18X12									1	1.5												
421	280+00	RT	W-54B	192X60						22.5′/22′	2									2						
421	280+00	CL	W-54B	192X60						21′/21′	2									2						
421	284+52	RT	OM-3	12X36			10.5							3								1			1	
421	284+68	RT	OM-3	12X36			11.5							3								2			1	
			SPECIAL	12X12										1												
421	285+67	LT																				1			1	
421	285+69	LT	OM-3	12X36			11.5							3								2			1	
			SPECIAL	12X12										1												
421	285+83	LT	OM-3	12X36			10.5							3								1			1	
422	296+69	RT																					1			2
422	296+95	RT	SPECIAL	12X12			8.5							1								1			1	
422	297+01	RT																				1			1	
422	298+20	LT	SPECIAL	12X12			8.5							1								1			1	
422	303+00	RT	W9-H4L	192X60						20.5′/19′	2									2						
422	303+00	CL	W9-H4L	192X60						21′/21′	2									2						
SUBTOTAL THIS SHEET					4	1	78	58	-	249.5	12	1	1	47.5	16	-	16	156	1	12	1	16	1	-	12	2
SUBTOTAL SHEET 403					4	3	177.5	31	83	36	4	3	3	95.5	-	197	48	394	3	-	3	28	7	6	21	26
SUBTOTAL SHEET 404					4	3	105	58	-	276.5	12	3	3	66.5	16	16	48	394	4	12	3	21	3	6	15	18
TOTAL					12	7	360.5	147	83	562	28	7	7	209.5	32	213	112	944	8	24	7	65	11	12	48	46
TOTAL CARRIED TO TRAFFIC CONTROL GENERAL SUMMARY					12	7	360.5	147	83	562	28	7	7	209.5	32	213	112	944	8	24	7	65	11	12	48	46

CALCULATED EMW
CHECKED SLT

SIGNING SUB-SUMMARY

WAY/MED-71-7.04/0.00

405
785

14017TS4.dgn

DESIGN NOTE:
THE POST LENGTHS REFLECT 5' VERTICAL CLEAR FOR UNCURBED SECTIONS AND 7' VERTICAL CLEAR FOR CURBED SECTIONS PER TC-42.20.

LOCATION

SIGNING QUANTITIES

STATION	SHT. NO.	SIDE	REF. NO.	M1-1-24-2 24" X 24"	M1-5-24-2 24" X 24"	M2-1-21 21" X 15"	M3-1-24 24" X 12"	M3-3-24 24" X 12"	R1-1-36 36" X 36"	R2-1-24 24" X 30"	R3-7R-30 30" X 30"	R3-8a-48 48" X 30"	R3-H8bb-30 30" X 30"	R3-H8bh-36 36" X 30"	R3-H8bj-36 36" X 30"	R3-H8ca-48 48" X 30"	R3-H8cb-48 48" X 30"	R3-H8ba-36 36" X 36"	R3-H8cg-48 48" X 30"	R5-H10d-36 36" X 36"	R5-1-36 36" X 36"	R5-1a-36 36" X 24"	R6-1L-48 48" X 18"	R6-1R-48 48" X 18"	R7-1-12 12" X 18"	R10-12-24 24" X 30"	R10-H5b-24 24" X 30"	W3-3-36 36" X 36"	630 GROUND MOUNTED SUPPORT NO. 2 POST	630 GROUND MOUNTED SUPPORT NO. 3 POST	630 ONE WAY SUPPORT NO. 2 POST	630 SIGN SUPPORT ASSEMBLY, POLE MOUNTED	630 SIGN, FLAT SHEET	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	630 SIGN HANGER ASSEMBLY SPAN WIRE, TYPE I
																													FT	FT	FT	EACH	SQ FT	EACH	EACH	EACH
SR 83																																				
35+85	425	RT	1A			1																								15			2.19			
35+85	425	RT	1B	1																													4			
34+50	425	LT	2							1																			12				5			
36+65	425	LT	4						1																					12.5			9			
37+83	425	LT	5																						1				11				1.5			
37+95	425	RT	6																									1		15.5			9			
42+57	426	RT	8																						1				12				1.5			
43+56	426	LT	9																						1				12				1.5			
43+97	426	LT	10							1																			13				5			
45+40	426	LT	11															1											12/12				9			
46+10	427	LT	14A					1																					11.5				2			
46+10	427	LT	14B		1																												4			
46+34	427	RT	15																						1				11				1.5			
46+55	427	LT	16																						1				10				1.5			
46+82	427	LT	12																							1							5			1
46+82	427	LT	17A																		1										11.5/13		9			
46+82	427	LT	17B																					1									6			
46+82	427	LT	17C																				1										6			
46+82	427	LT	17D									1																					10			
47+43	427	LT	18A																		1										11.5/13		9			
47+43	427	LT	18B																					1									6			
47+43	427	LT	18C																				1										6			
47+43	427	LT	18D									1																					10			
47+77	427	LT	20															1											12/12				9			
51+15	427	LT	21															1											12/12				9			
52+26	428	RT	25													1													11/11				10			
52+55	428	RT	27A																		1										11.5/13		9			
52+55	428	RT	27B																					1									6			
52+55	428	RT	27C																				1										6			
52+55	428	RT	27D												1																		7.5			
53+20	428	LT	23																							1							5			1
53+44	428	LT	24																													1	10			
54+80	428	RT	29																1										13/13				10			
55+94	428	RT	30A		1																								13.5				4			
55+94	428	RT	30B				1																										2			
58+00	429	RT	33							1																			13				5			
60+06	429	RT	35																1										13/13				10			
61+10	429	LT	32																							1							5			1
61+40	429	LT	31																							1							5			1
61+88	429	RT	36A		1																								13.5				4			
61+88	429	RT	36B				1																										2			
61+90	429	LT	37											1															13/13				7.5			
62+88	430	RT	38										1																	13			6.25			
62+90	430	LT	39							1																			13				5			
63+88	430	RT	40							1																			13				5			
63+90	430	LT	41											1															13/13				7.5			
64+90	430	LT	42A			1																								14			2.19			
64+90	430	LT	42B	1																													4			
66+25	430	RT	43								1																			13			6.25			
TOTAL THIS SHEET				2	3	2	2	1	1	5	1	2	1	2	1	1		2	2		3		3	3	5	4		1	356.5	83.0	73.5	1	285.88			4

CALCULATED
CHECKED

SIGNING SUBSUMMARY

WAY/MED-71-7.04/0.00

DATE: $DATE$ FILENAME: $FILE$ $TIME$

DESIGN NOTE:
THE POST LENGTHS REFLECT 5' VERTICAL CLEAR FOR UNCURBED SECTIONS AND 7' VERTICAL CLEAR FOR CURBED SECTIONS PER TC-42.20.

LOCATION

SIGNING QUANTITIES

STATION	SHT. NO.	SIDE	REF. NO.	M1-1-24-2 24" X 24"	M1-5-24-2 24" X 24"	M2-1-21 21" X 15"	M3-1-24 24" X 12"	M3-3-24 24" X 12"	R1-1-36 36" X 36"	R2-1-24 24" X 30"	R3-7R-30 30" X 30"	R3-8a-48 48" X 30"	R3-H8bb-30 30" X 30"	R3-H8bh-36 36" X 30"	R3-H8bj-36 36" X 30"	R3-H8ca-48 48" X 30"	R3-H8cb-48 48" X 30"	R3-H8ba-36 36" X 36"	R3-H8cg-48 48" X 30"	R5-H10d-36 36" X 36"	R5-1-36 36" X 36"	R5-1a-36 36" X 24"	R6-1L-48 48" X 18"	R6-1R-48 48" X 18"	R7-1-12 12" X 18"	R10-12-24 24" X 30"	R10-H5b-24 24" X 30"	W3-3-36 36" X 36"	630 GROUND MOUNTED SUPPORT NO. 2 POST FT	630 GROUND MOUNTED SUPPORT NO. 3 POST FT	630 ONE WAY SUPPORT NO. 2 POST FT	630 SIGN SUPPORT ASSEMBLY, POLE MOUNTED EACH	630 SIGN, FLAT SHEET SQ FT	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	630 SIGN HANGER ASSEMBLY SPAN WIRE, TYPE I EACH
SR 83																																				
69+50	431	LT	44											1															13/13				7.5			
67+55	431	LT	45A		1																								13.5				4			
67+55	431	LT	45B					1																						14			2			
71+40	431	RT	46										1																	13			6.25			
72+57	431	RT	63																								1						5			1
CR 91																																				
10+63	426	RT	47						1																					13.5			9			
RAMP D																																				
100+25	427	RT	48																	1										11.5			9			
RAMP B																																				
95+10	432	RT	50									1																	11.5/12				10			
95+10	432	LT	51									1																	12/11.5				10			
97+50	432	RT	52																			1							11/11				6			
97+50	432	LT	53																			1							11/11				6			
RAMP A																																				
99+15	428	LT	55																	1										11.5			9			
RAMP C																																				
100+40	428	LT	56A																		1										11.5/13		9			
100+40	428	LT	56B																					1									6			
100+40	428	LT	56C																				1										6			
100+40	428	LT	56D												1																		7.5			
102+60	432	LT	57																			1							11/11				6			
102+60	432	RT	58																			1							11/11				6			
104+90	432	LT	60												1														12/12				7.5			
104+90	432	RT	61												1														12/12				7.5			
CR 90																																				
10+62	429	LT	62											1															13/13				7.5			
REMOVALS																																				
	425-434																																	63	52	
TOTAL THIS SHEET					1			1	1			2	1	2	3					2	1	4	1	1			1		248.5	89.5	24.5		146.75	63	52	1
TOTAL SHEET 406				2	3	2	2	1	1	5	1	2	1	2	1	1		2	2		3		3	3	5	4		1	356.5	83.0	73.5	1	285.88	-	-	4
GRAND TOTAL				2	4	2	2	2	2	5	1	4	2	4	4	1		2	2	2	4	4	4	4	5	4	1	1	605.0	172.5	98.0	1	432.63	63	52	5
TOTAL CARRIED TO GENERAL SUMMARY																													605.0	172.5	98.0	1	432.63	63	52	5

DATE: $DATE$ FILENAME: $FILE$ $TIME$

CALCULATED

CHECKED

SIGNING SUBSUMMARY

WAY/MED-71-7.04/0.00

LOCATION					108" X 48"	108" X 18"	30" X 30"	24" X 18"	108" X 30"	30" X 8"	30" X 30"	108" X 78"	72" X 42"	72" X 42"		SIGNING QUANTITIES														
																625	630	630	630	630	630	630	630	630	630	630	630	630	630	630
STATION	SHEET NO. PLAN	SHEET NO. ELEV.	SIDE	REF. NO.	D1-H6a	D-SPECIAL	M1-5-30-2	M6-4-24	M2-H4-108	I-H12-30	D9-2-30	M2-H6 (LEVEL 3)	R-SPECIAL A	R-SPECIAL B		GROUND ROD	SIGN, FLAT SHEET	SIGN, GROUND MOUNTED EXTRUSHEET	SIGN, OVERHEAD EXTRUSHEET, AS PER PLAN	GROUND MOUNTED SUPPORT, S4 X 7.7 BEAM	GROUND MOUNTED SUPPORT, W10 X 12 BEAM	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 4, 19' ARM	OVERHEAD SIGN SUPPORT, TYPE TC-16.20, DESIGN 4, 28' ARM	OVERHEAD SIGN SUPPORT, TYPE TC-16.20, DESIGN 12, 38' ARM	OVERHEAD SIGN SUPPORT, TYPE TC-16.20, DESIGN 12, 43' ARM	BREAKAWAY BEAM CONNECTION	GROUND MOUNTED BEAM SUPPORT FOUNDATION	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL
																EA	SQ FT	SQ FT	SQ FT	FT	FT	EA	EA	EA	EA	EA	EA	EA	EA	EA
SR 83																														
36+51	425	395	RT	3		1												13.5		11/10.5						2	2			
40+96	426	396	RT	7					1									22.5		16/14						2	2			
42+50	426	397A	RT	13A									1			1			21.0				1					1		
42+50	426	397A	RT	13B										1					21.0											
47+75	427	396	RT	19A								1				1			58.5			1						1		
47+75	427	396	RT	19B								1							58.5											
48+80	427	397A	RT	22A									1			1			21.0						1			1		
48+80	427	397A	RT	22B										1					21.0											
48+80	427	397A	RT	22C										1					21.0											
52+45	428	397	LT	26A								1				1			58.5			1						1		
52+45	428	397	LT	26B								1							58.5											
57+25	429	397	LT	28A									1			1			21.0					1				1		
57+25	429	397	LT	28B										1					21.0											
57+25	429	397	LT	28C										1					21.0											
59+50	429	398	LT	34					1									22.5		13/14.5						2	2			
RAMP B																														
97+50	432	398	RT	54A		1												13.5			19/19.5					2	2			
97+50	432	398	RT	54B	1													36												
97+50	432	398	RT	54C				1									3													
97+50	432	398	RT	54D			1										6.25													
97+50	432	398	RT	54E						1							1.67													
97+50	432	398	RT	54F							1						6.25													
RAMP C																														
102+60	432	398	LT	59A		1												13.5			19/19					2	2			
102+60	432	398	LT	59B	1													36												
102+60	432	398	LT	59C						1							1.67													
102+60	432	398	LT	59D							1						6.25													
102+60	432	398	LT	59E				1									3													
102+60	432	398	LT	59F			1										6.25													
REMOVALS	425-434																												4	8
TOTAL THIS SHEET					2	3	2	2	2	2	2	4	3	5		5	34.34	157.5	402.0	79.0	76.5	2	1	1	1	10	10	5	4	8
TOTAL CARRIED TO GENERAL SUMMARY																5	34.4	157.5	402.0	79.0	76.5	2	1	2		10	10	5	4	8

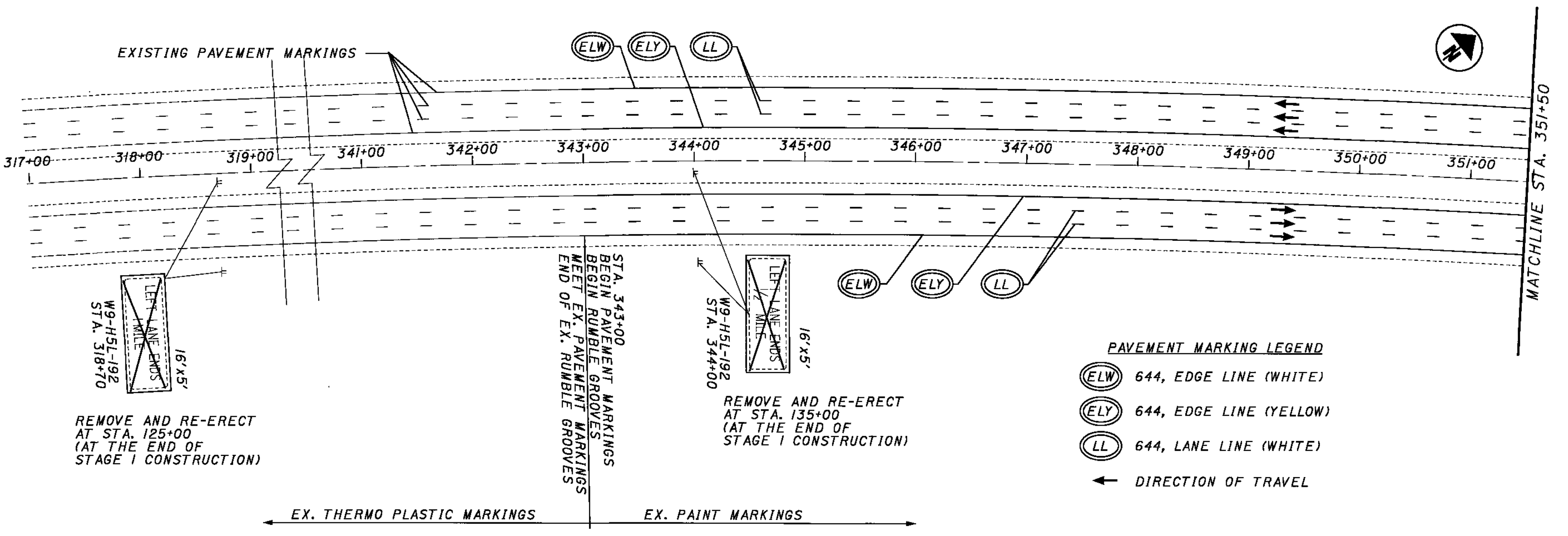
CALCULATED

CHECKED KES 7/04

MAJOR SIGNING SUBSUMMARY

WAY/MED-71-7.04/0.00

DATE: $DATE$ $TIME$
FILENAME: $FILE$



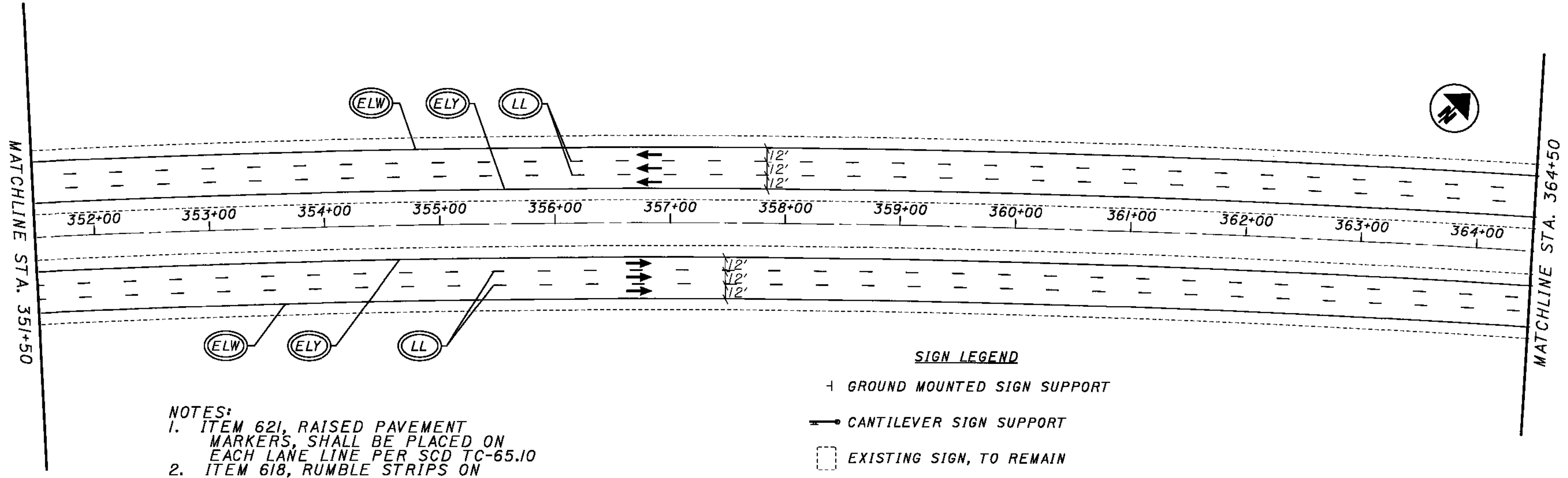
PAVEMENT MARKING LEGEND

ELW 644, EDGE LINE (WHITE)

ELY 644, EDGE LINE (YELLOW)

LL 644, LANE LINE (WHITE)

← DIRECTION OF TRAVEL



NOTES:
1. ITEM 621, RAISED PAVEMENT MARKERS, SHALL BE PLACED ON EACH LANE LINE PER SCD TC-65.10
2. ITEM 618, RUMBLE STRIPS ON SHOULDERS, SHALL BE PLACED ADJACENT TO ALL EDGE LINES
3. ITEM 620, DELINEATORS, SHALL BE PLACED PER SCD TC-61.10
4. SEE SHEET 388 FOR TYPICAL PAVEMENT MARKINGS

SIGN LEGEND

┤ GROUND MOUNTED SIGN SUPPORT

—● CANTILEVER SIGN SUPPORT

☐ EXISTING SIGN, TO REMAIN

☒ EXISTING SIGN, TO BE REMOVED

☐ PROPOSED SIGN

☒ EXISTING SIGN, REMOVED FOR RE-USE

0 25 50 100
HORIZONTAL
SCALE IN FEET

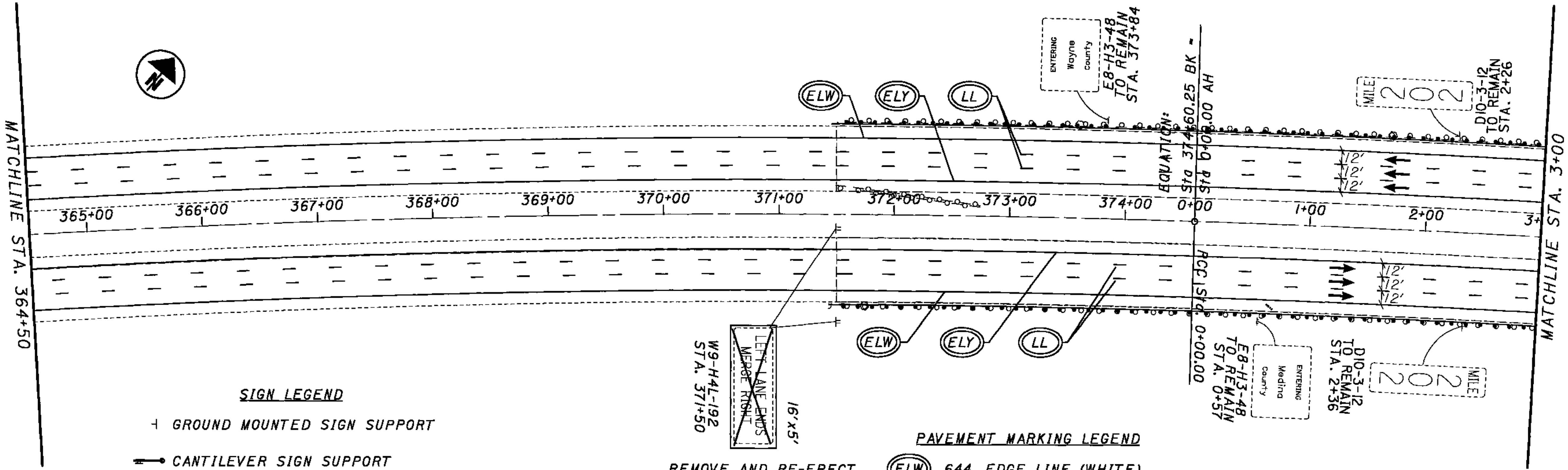
CALCULATED EMW
CHECKED SLT

PAVEMENT MARKING & SIGNING PLAN
STA. 317+00 TO STA. 364+50

WAY/MED-71-7.04/0.00

409
785

14017tp0.dgn



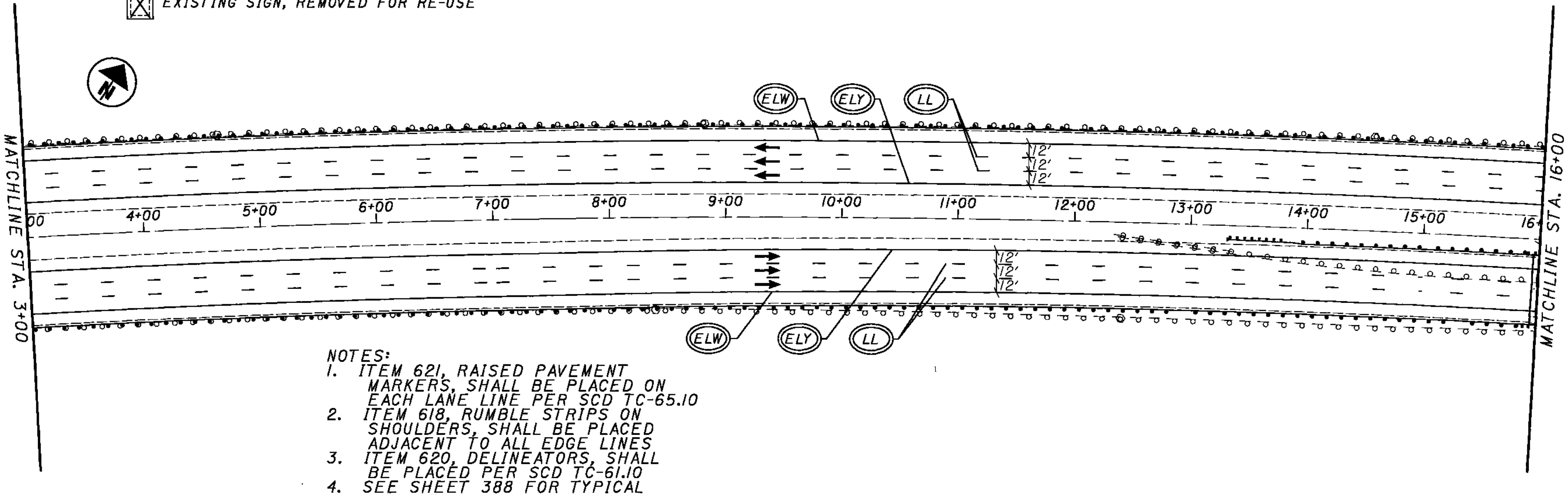
REMOVE AND RE-ERECT
AT STA. 158+00
(AT THE END OF
STAGE I CONSTRUCTION)

SIGN LEGEND

⊣ GROUND MOUNTED SIGN SUPPORT
—● CANTILEVER SIGN SUPPORT
☐ EXISTING SIGN, TO REMAIN
☒ EXISTING SIGN, TO BE REMOVED
☐ PROPOSED SIGN
☒ EXISTING SIGN, REMOVED FOR RE-USE

PAVEMENT MARKING LEGEND

ELW 644, EDGE LINE (WHITE)
ELY 644, EDGE LINE (YELLOW)
LL 644, LANE LINE (WHITE)
← DIRECTION OF TRAVEL



NOTES:
1. ITEM 621, RAISED PAVEMENT MARKERS, SHALL BE PLACED ON EACH LANE LINE PER SCD TC-65.10
2. ITEM 618, RUMBLE STRIPS ON SHOULDERS, SHALL BE PLACED ADJACENT TO ALL EDGE LINES
3. ITEM 620, DELINEATORS, SHALL BE PLACED PER SCD TC-61.10
4. SEE SHEET 388 FOR TYPICAL PAVEMENT MARKINGS

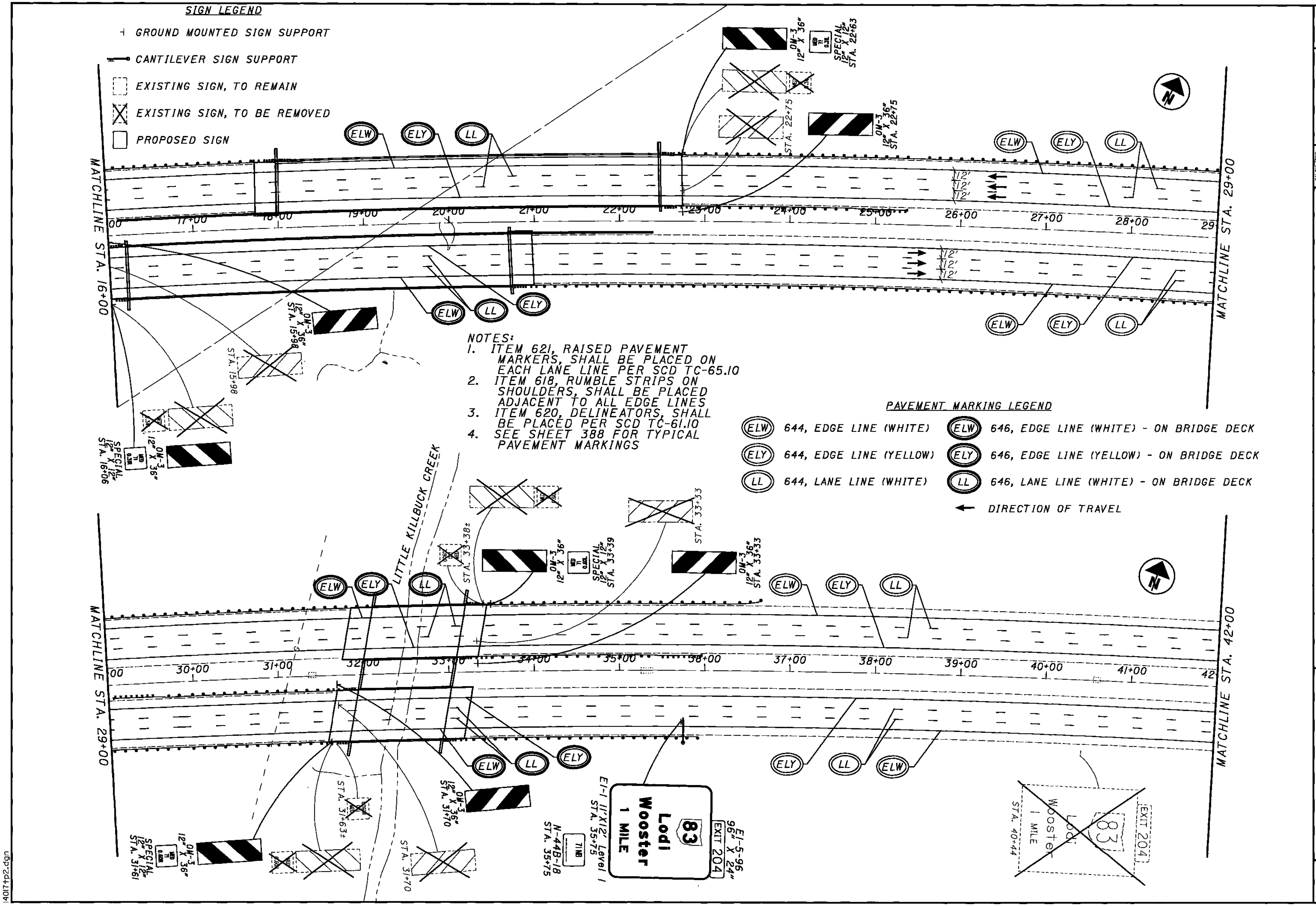
0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED EMW
CHECKED SLT

PAVEMENT MARKING & SIGNING PLAN STA. 364+50 TO STA. 16+00

WAY/MED-71-7.04/0.00

14017+pl.dgn



SIGN LEGEND

- GROUND MOUNTED SIGN SUPPORT
- CANTILEVER SIGN SUPPORT
- EXISTING SIGN, TO REMAIN
- EXISTING SIGN, TO BE REMOVED
- PROPOSED SIGN

NOTES:

1. ITEM 621, RAISED PAVEMENT MARKERS, SHALL BE PLACED ON EACH LANE LINE PER SCD TC-65.10
2. ITEM 618, RUMBLE STRIPS ON SHOULDERS, SHALL BE PLACED ADJACENT TO ALL EDGE LINES
3. ITEM 620, DELINEATORS, SHALL BE PLACED PER SCD TC-61.10
4. SEE SHEET 388 FOR TYPICAL PAVEMENT MARKINGS

PAVEMENT MARKING LEGEND

ELW	644, EDGE LINE (WHITE)	ELW	646, EDGE LINE (WHITE) - ON BRIDGE DECK
ELY	644, EDGE LINE (YELLOW)	ELY	646, EDGE LINE (YELLOW) - ON BRIDGE DECK
LL	644, LANE LINE (WHITE)	LL	646, LANE LINE (WHITE) - ON BRIDGE DECK

← DIRECTION OF TRAVEL

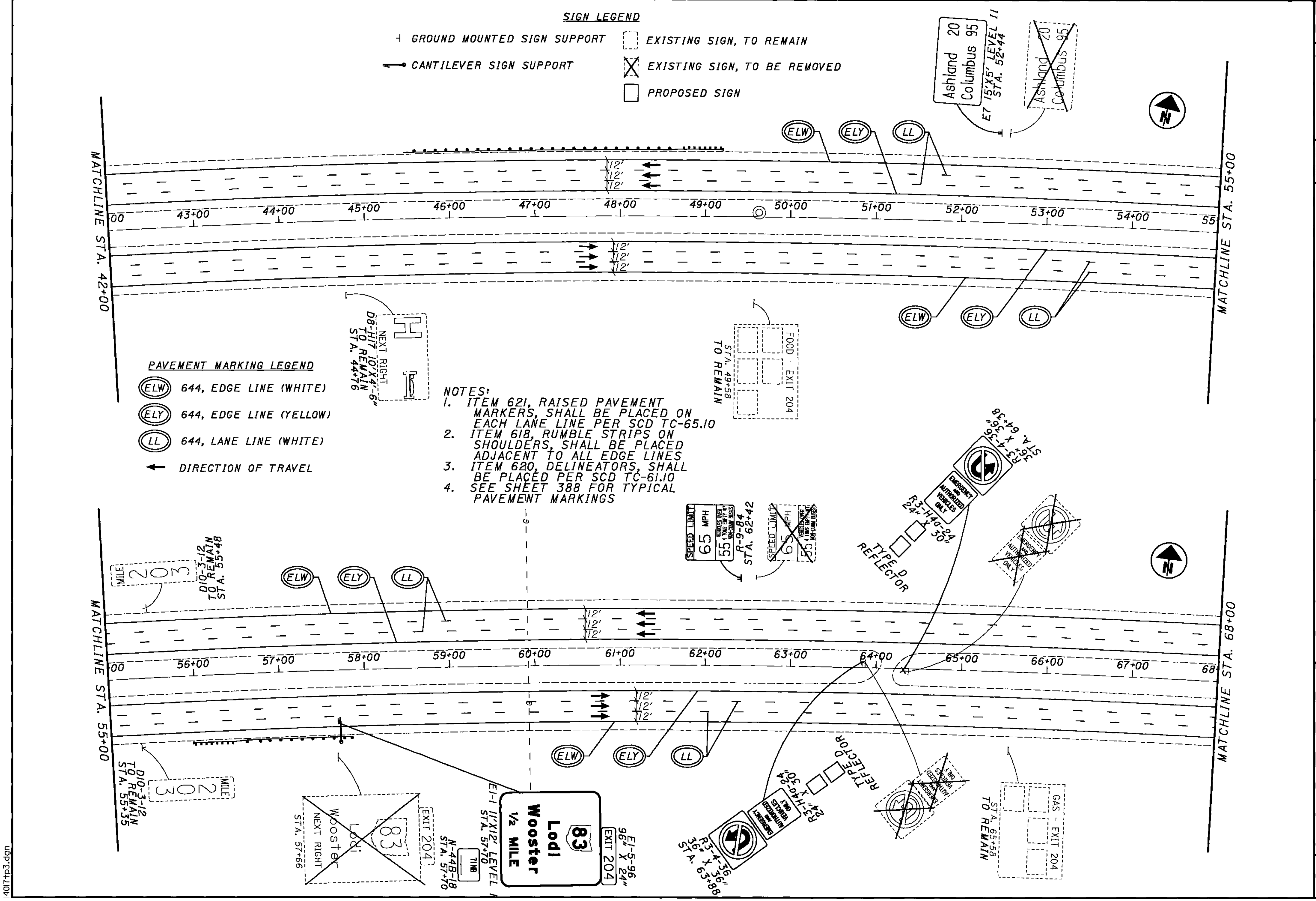
0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED EMW
CHECKED SLT

PAVEMENT MARKING & SIGNING PLAN STA. 16+00 TO STA. 42+00

WAY/MED-71-7.04/0.00

14017+p2.dgn



SIGN LEGEND

- ⊣ GROUND MOUNTED SIGN SUPPORT
- ━● CANTILEVER SIGN SUPPORT
- ☐ EXISTING SIGN, TO REMAIN
- ☒ EXISTING SIGN, TO BE REMOVED
- ☐ PROPOSED SIGN

PAVEMENT MARKING LEGEND

- (ELW) 644, EDGE LINE (WHITE)
- (ELY) 644, EDGE LINE (YELLOW)
- (LL) 644, LANE LINE (WHITE)
- ← DIRECTION OF TRAVEL

NOTES:

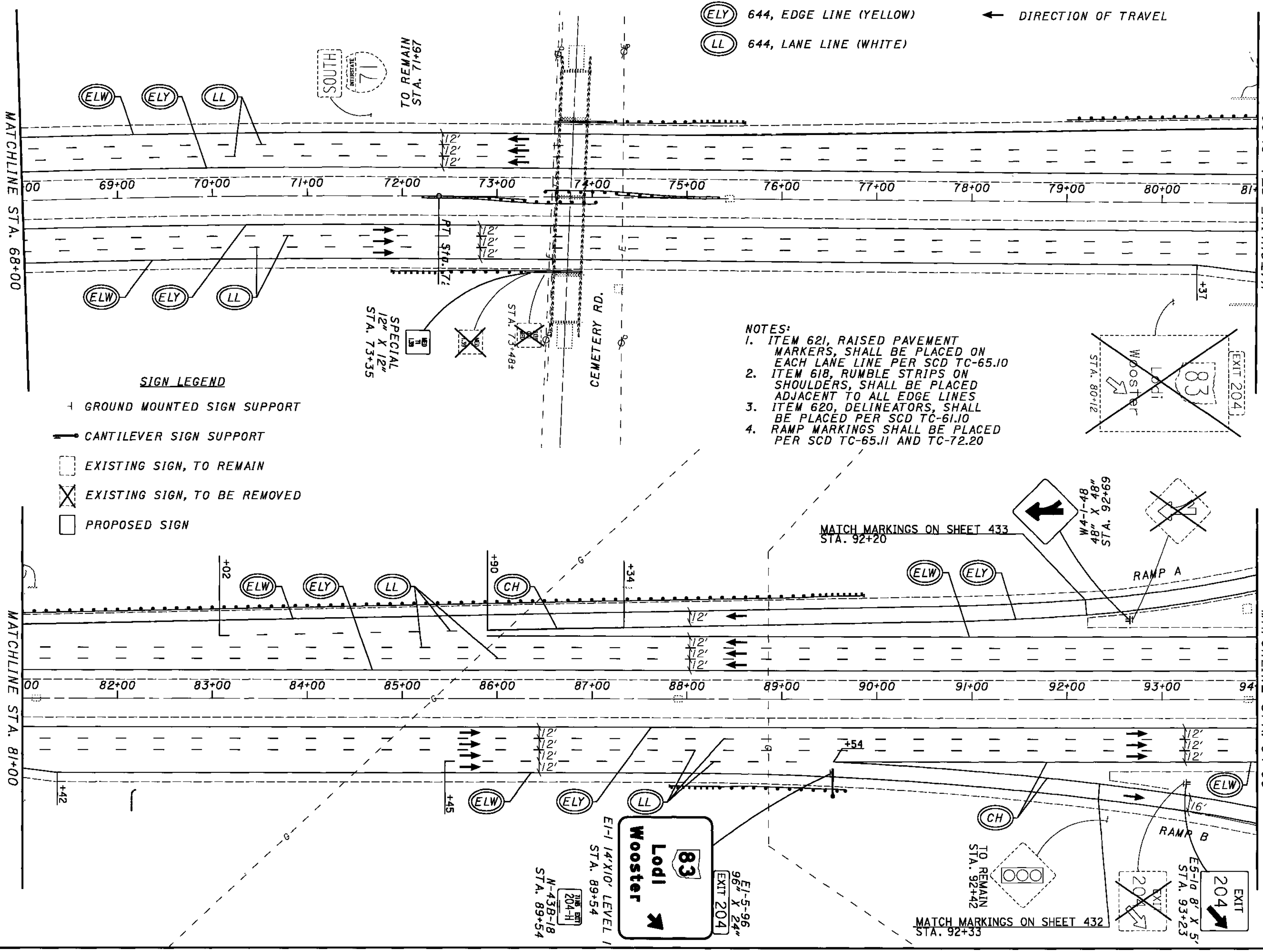
1. ITEM 621, RAISED PAVEMENT MARKERS, SHALL BE PLACED ON EACH LANE LINE PER SCD TC-65.10
2. ITEM 618, RUMBLE STRIPS ON SHOULDERS, SHALL BE PLACED ADJACENT TO ALL EDGE LINES
3. ITEM 620, DELINEATORS, SHALL BE PLACED PER SCD TC-61.10
4. SEE SHEET 388 FOR TYPICAL PAVEMENT MARKINGS

0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED EMW
CHECKED SLT

PAVEMENT MARKING & SIGNING PLAN STA. 42+00 TO STA. 68+00

WAY/MED-71-7.04/0.00



PAVEMENT MARKING LEGEND

ELW	644, EDGE LINE (WHITE)
ELY	644, EDGE LINE (YELLOW)
LL	644, LANE LINE (WHITE)
CH	644, CHANNELIZING LINE (WHITE)
←	DIRECTION OF TRAVEL

SIGN LEGEND

⊣	GROUND MOUNTED SIGN SUPPORT
—•	CANTILEVER SIGN SUPPORT
⬚	EXISTING SIGN, TO REMAIN
☒	EXISTING SIGN, TO BE REMOVED
☐	PROPOSED SIGN

NOTES:
1. ITEM 621, RAISED PAVEMENT MARKERS, SHALL BE PLACED ON EACH LANE LINE PER SCD TC-65.10
2. ITEM 618, RUMBLE STRIPS ON SHOULDERS, SHALL BE PLACED ADJACENT TO ALL EDGE LINES
3. ITEM 620, DELINEATORS, SHALL BE PLACED PER SCD TC-61.10
4. RAMP MARKINGS SHALL BE PLACED PER SCD TC-65.11 AND TC-72.20

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED EMW
CHECKED SLT

PAVEMENT MARKING & SIGNING PLAN STA. 68+00 TO STA. 94+00

WAY/MED-71-7.04/0.00

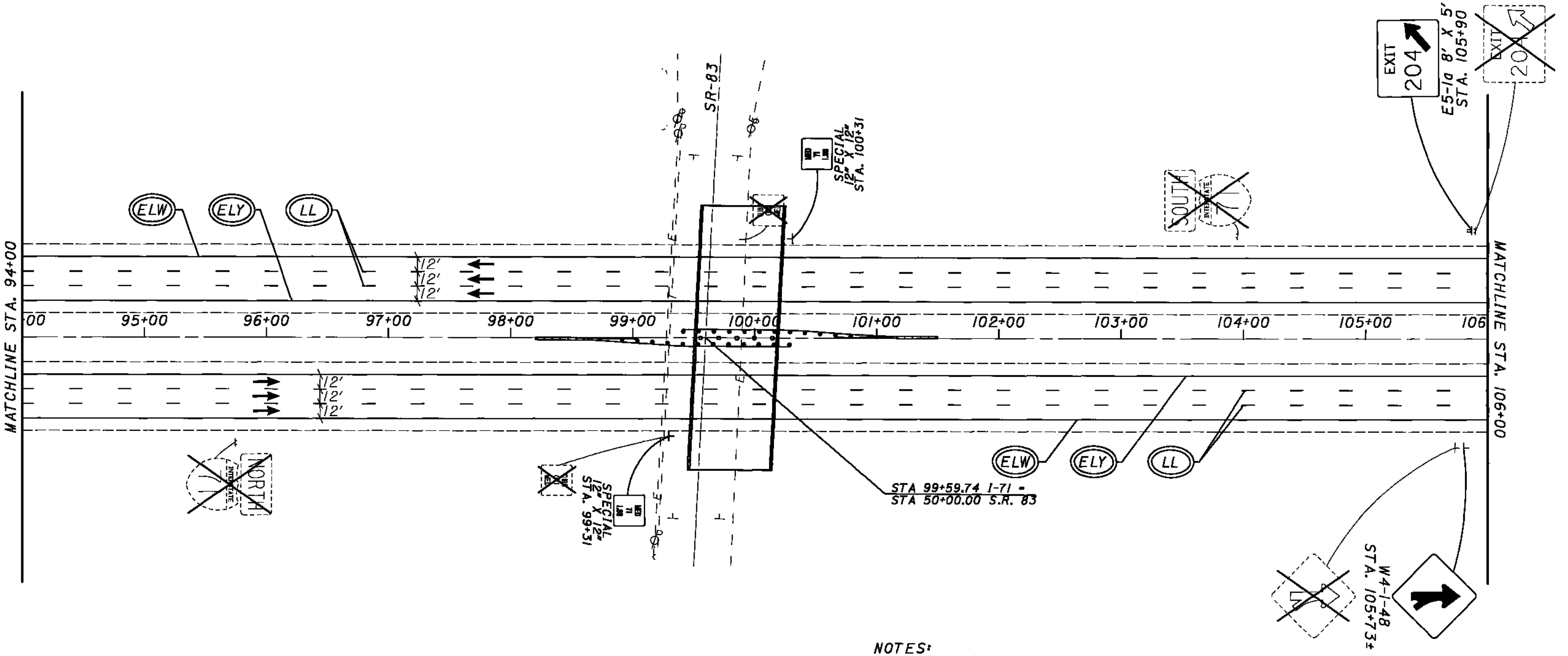
14017tp4.dgn

PAVEMENT MARKING LEGEND

- *(ELW) 644, EDGE LINE (WHITE)*
- *(ELY) 644, EDGE LINE (YELLOW)*
- *(LL) 644, LANE LINE (WHITE)*
- *(STOP) 644, STOP LINE (WHITE)*
- *← DIRECTION OF TRAVEL*

SIGN LEGEND

- *⊣ GROUND MOUNTED SIGN SUPPORT*
- *—● CANTILEVER SIGN SUPPORT*
- *⬚ EXISTING SIGN, TO REMAIN*
- *☒ EXISTING SIGN, TO BE REMOVED*
- *☐ PROPOSED SIGN*



NOTES:
1. *SEE SHEETS 425-434 FOR SR83 RAMPS AND MAINLINE MARKING AND SIGNING*
2. *ITEM 621, RAISED PAVEMENT MARKERS, SHALL BE PLACED ON EACH EDGE LINE PER SCD TC-65.10*
3. *ITEM 618, RUMBLE STRIPS ON SHOULDERS, SHALL BE PLACED ADJACENT TO ALL LANE LINES*
4. *ITEM 620, DELINEATORS, SHALL BE PLACED PER SCD TC-61.10*
5. *RAMP MARKINGS SHALL BE PLACED PER SCD TC-65.11 AND TC-72.20*
6. *SEE SHEET 388 FOR TYPICAL PAVEMENT MARKINGS*

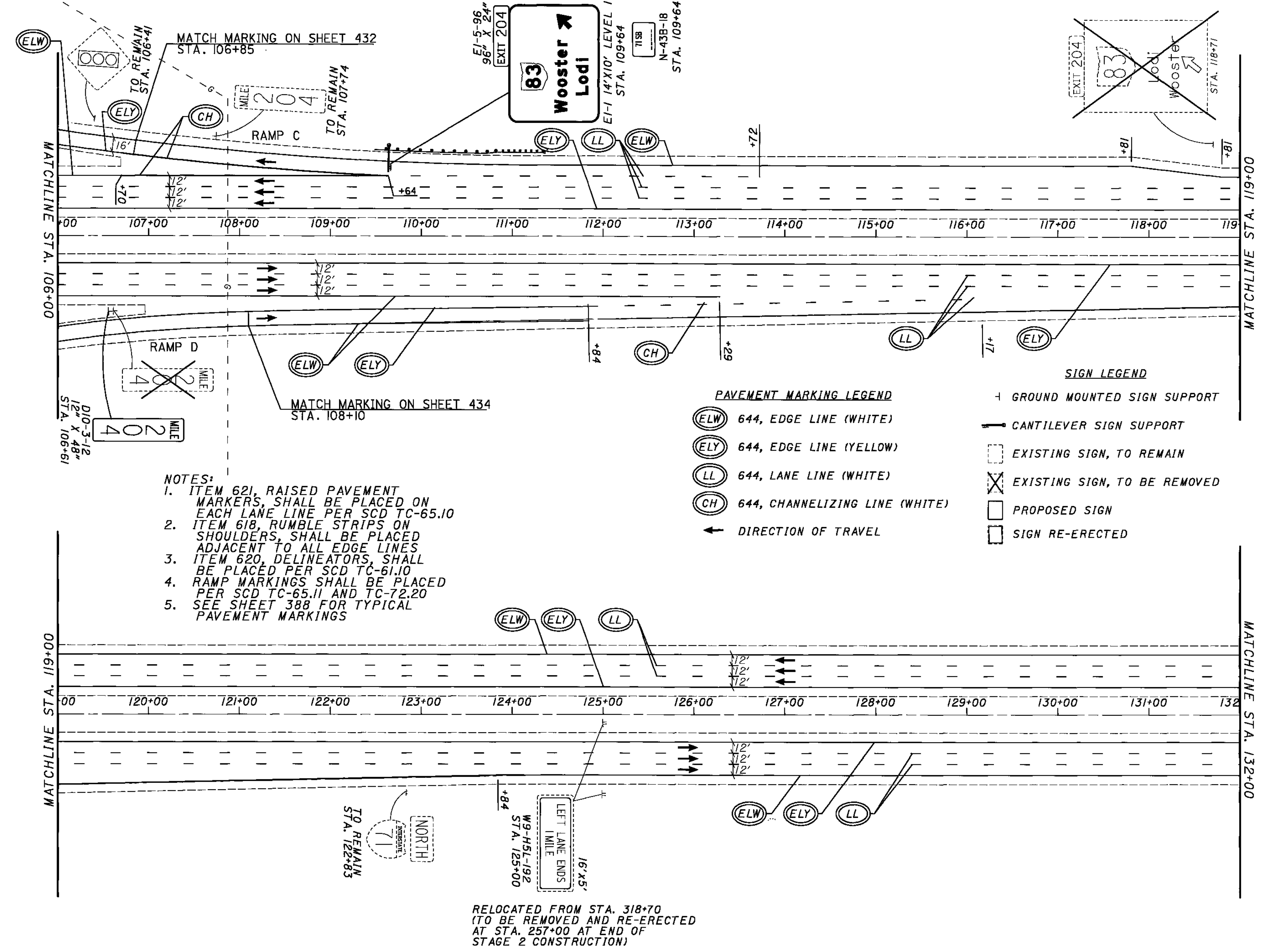
0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED EMW
CHECKED SLT

PAVEMENT MARKING & SIGNING PLAN STA. 94+00 TO STA. 106+00

WAY/MED-71-7.04/0.00

14017tp5.dgn



NOTES:
1. ITEM 621, RAISED PAVEMENT MARKERS, SHALL BE PLACED ON EACH LANE LINE PER SCD TC-65.10
2. ITEM 618, RUMBLE STRIPS ON SHOULDERS, SHALL BE PLACED ADJACENT TO ALL EDGE LINES
3. ITEM 620, DELINEATORS, SHALL BE PLACED PER SCD TC-61.10
4. RAMP MARKINGS SHALL BE PLACED PER SCD TC-65.11 AND TC-72.20
5. SEE SHEET 388 FOR TYPICAL PAVEMENT MARKINGS

PAVEMENT MARKING LEGEND

ELW	644, EDGE LINE (WHITE)
ELY	644, EDGE LINE (YELLOW)
LL	644, LANE LINE (WHITE)
CH	644, CHANNELIZING LINE (WHITE)
←	DIRECTION OF TRAVEL

SIGN LEGEND

⊣	GROUND MOUNTED SIGN SUPPORT
━●	CANTILEVER SIGN SUPPORT
⬚	EXISTING SIGN, TO REMAIN
☒	EXISTING SIGN, TO BE REMOVED
☐	PROPOSED SIGN
☐	SIGN RE-ERECTED

RELOCATED FROM STA. 318+70
(TO BE REMOVED AND RE-ERECTED
AT STA. 257+00 AT END OF
STAGE 2 CONSTRUCTION)

PAVEMENT MARKING & SIGNING PLAN
STA. 106+00 TO STA. 132+00

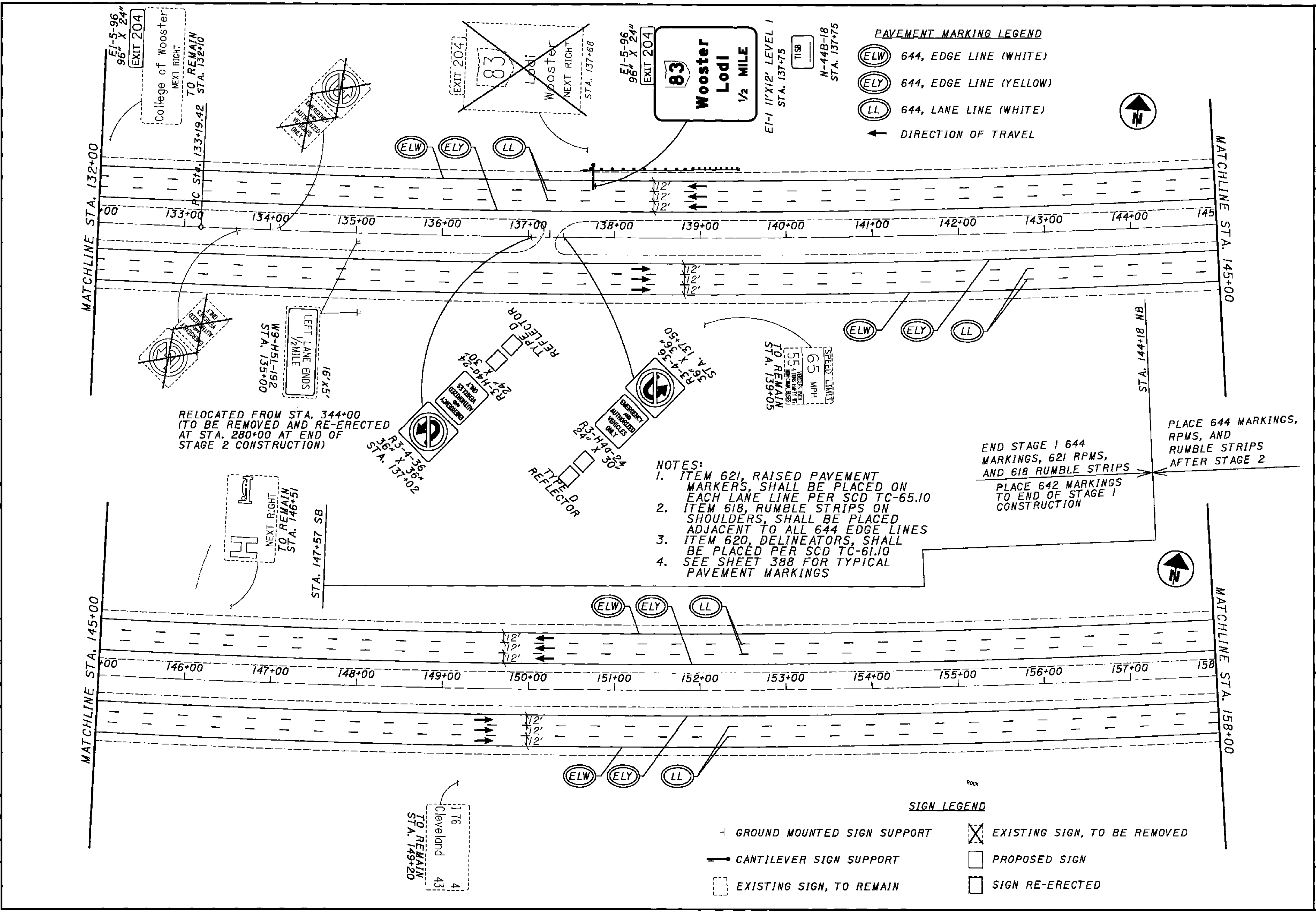
N

0 25 50 100
HORIZONTAL
SCALE IN FEET

CALCULATED EMW
CHECKED SLT

WAY/MED-71-7.04/0.00

14017tp6.dgn



PAVEMENT MARKING LEGEND

ELW 644, EDGE LINE (WHITE)
ELY 644, EDGE LINE (YELLOW)
LL 644, LANE LINE (WHITE)
← DIRECTION OF TRAVEL

PLACE 644 MARKINGS, RPMS, AND RUMBLE STRIPS AFTER STAGE 2

END STAGE 1 644 MARKINGS, 621 RPMS, AND 618 RUMBLE STRIPS

PLACE 642 MARKINGS TO END OF STAGE 1 CONSTRUCTION

NOTES:

1. ITEM 621, RAISED PAVEMENT MARKERS, SHALL BE PLACED ON EACH LANE LINE PER SCD TC-65.10
2. ITEM 618, RUMBLE STRIPS ON SHOULDERS, SHALL BE PLACED ADJACENT TO ALL 644 EDGE LINES
3. ITEM 620, DELINEATORS, SHALL BE PLACED PER SCD TC-61.10
4. SEE SHEET 388 FOR TYPICAL PAVEMENT MARKINGS

SIGN LEGEND

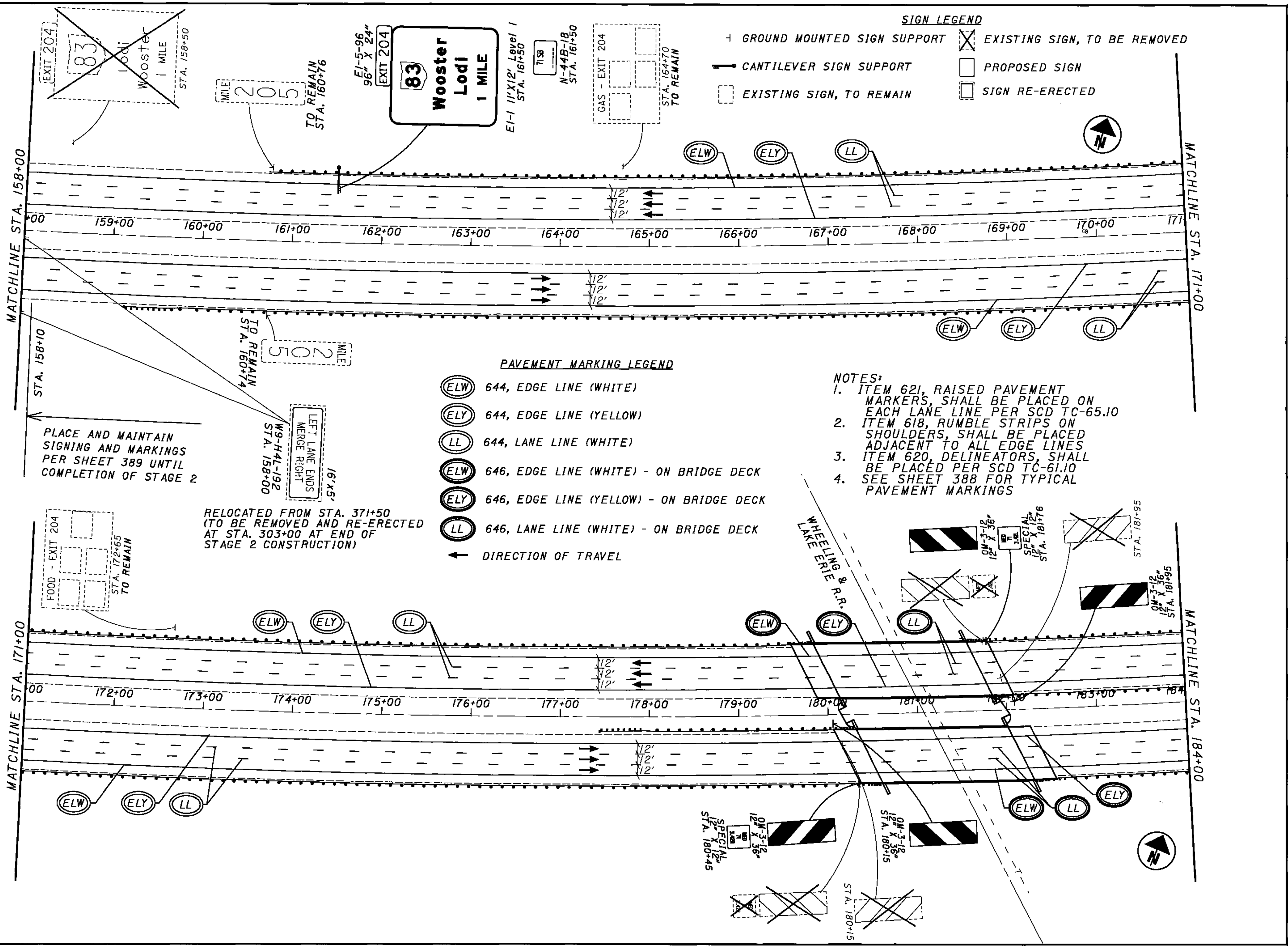
⊣ GROUND MOUNTED SIGN SUPPORT
━● CANTILEVER SIGN SUPPORT
⬚ EXISTING SIGN, TO REMAIN
☒ EXISTING SIGN, TO BE REMOVED
☐ PROPOSED SIGN
▯ SIGN RE-ERECTED

CALCULATED EMW
CHECKED SLT

PAVEMENT MARKING & SIGNING PLAN STA. 132+00 TO STA. 158+00

WAY/MED-71-7.04/0.00

14017tp7.dgn



PLACE AND MAINTAIN SIGNING AND MARKINGS PER SHEET 389 UNTIL COMPLETION OF STAGE 2

RELOCATED FROM STA. 371+50
(TO BE REMOVED AND RE-ERECTED AT STA. 303+00 AT END OF STAGE 2 CONSTRUCTION)

SIGN LEGEND

⊣	GROUND MOUNTED SIGN SUPPORT	☒	EXISTING SIGN, TO BE REMOVED
━●	CANTILEVER SIGN SUPPORT	☐	PROPOSED SIGN
⬚	EXISTING SIGN, TO REMAIN	⬚	SIGN RE-ERECTED

PAVEMENT MARKING LEGEND

ELW	644, EDGE LINE (WHITE)
ELY	644, EDGE LINE (YELLOW)
LL	644, LANE LINE (WHITE)
ELW	646, EDGE LINE (WHITE) - ON BRIDGE DECK
ELY	646, EDGE LINE (YELLOW) - ON BRIDGE DECK
LL	646, LANE LINE (WHITE) - ON BRIDGE DECK
←	DIRECTION OF TRAVEL

NOTES:

1. ITEM 621, RAISED PAVEMENT MARKERS, SHALL BE PLACED ON EACH LANE LINE PER SCD TC-65.10
2. ITEM 618, RUMBLE STRIPS ON SHOULDERS, SHALL BE PLACED ADJACENT TO ALL EDGE LINES
3. ITEM 620, DELINEATORS, SHALL BE PLACED PER SCD TC-61.10
4. SEE SHEET 388 FOR TYPICAL PAVEMENT MARKINGS

0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED EMW
CHECKED SLT

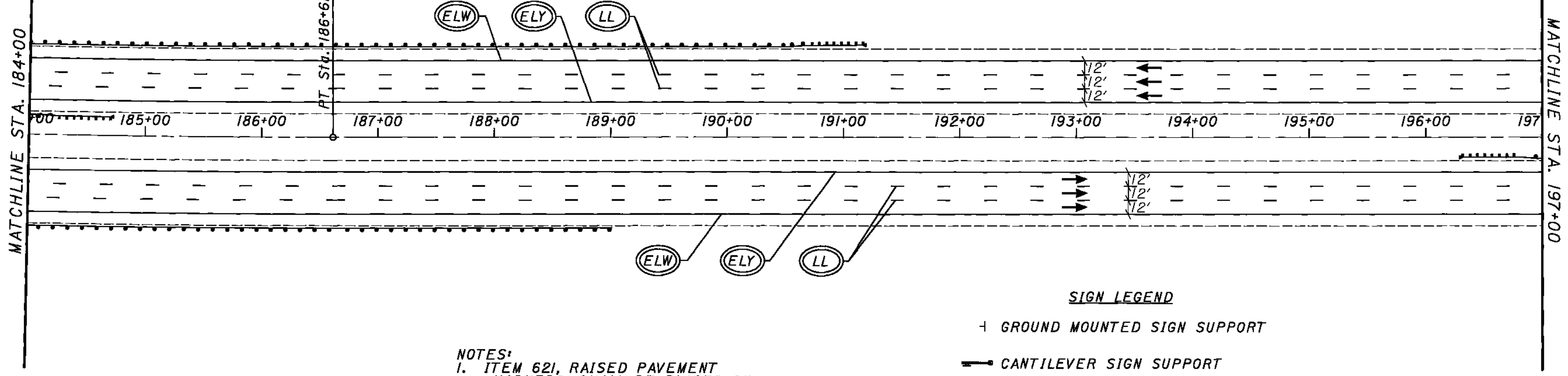
PAVEMENT MARKING & SIGNING PLAN
STA. 158+00 TO STA. 184+00

WAY/MED-71-7.04/0.00

14017tp8.dgn

PAVEMENT MARKING LEGEND

ELW	644, EDGE LINE (WHITE)
ELY	644, EDGE LINE (YELLOW)
LL	644, LANE LINE (WHITE)
←	DIRECTION OF TRAVEL

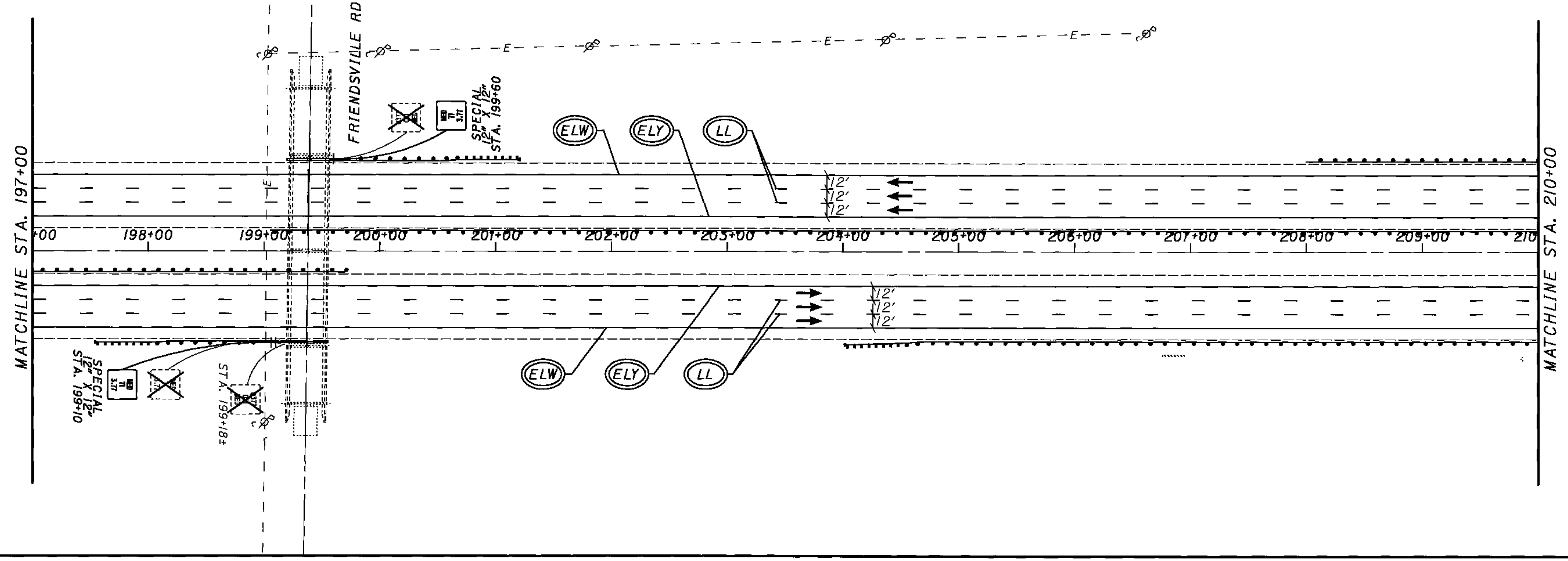


SIGN LEGEND

⊣	GROUND MOUNTED SIGN SUPPORT
━●	CANTILEVER SIGN SUPPORT
☐	EXISTING SIGN, TO REMAIN
☒	EXISTING SIGN, TO BE REMOVED
☐	PROPOSED SIGN

NOTES:

1. ITEM 621, RAISED PAVEMENT MARKERS, SHALL BE PLACED ON EACH LANE LINE PER SCD TC-65.10
2. ITEM 618, RUMBLE STRIPS ON SHOULDERS, SHALL BE PLACED ADJACENT TO ALL EDGE LINES
3. ITEM 620, DELINEATORS, SHALL BE PLACED PER SCD TC-61.10
4. SEE SHEET 388 FOR TYPICAL PAVEMENT MARKINGS



N

0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED EMW
CHECKED SLT

PAVEMENT MARKING & SIGNING PLAN STA. 184+00 TO STA. 210+00

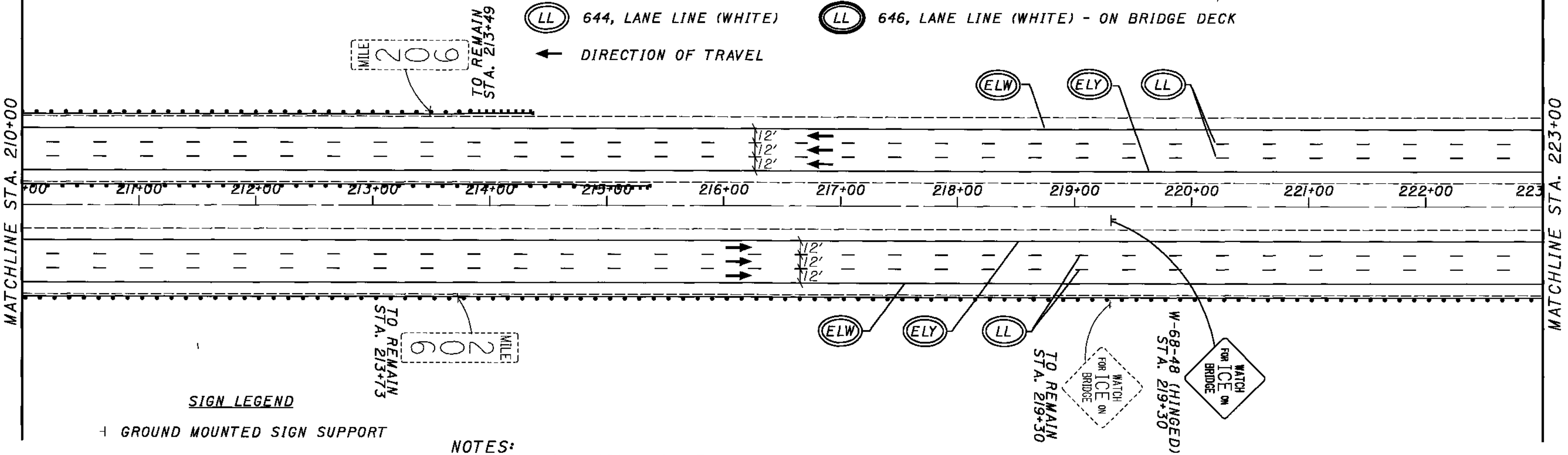
WAY/MED-71-7.04/0.00

418
785

14017tp9.dgn

PAVEMENT MARKING LEGEND

ELW 644, EDGE LINE (WHITE)
ELY 644, EDGE LINE (YELLOW)
LL 644, LANE LINE (WHITE)
← DIRECTION OF TRAVEL
ELW 646, EDGE LINE (WHITE) - ON BRIDGE DECK
ELY 646, EDGE LINE (YELLOW) - ON BRIDGE DECK
LL 646, LANE LINE (WHITE) - ON BRIDGE DECK

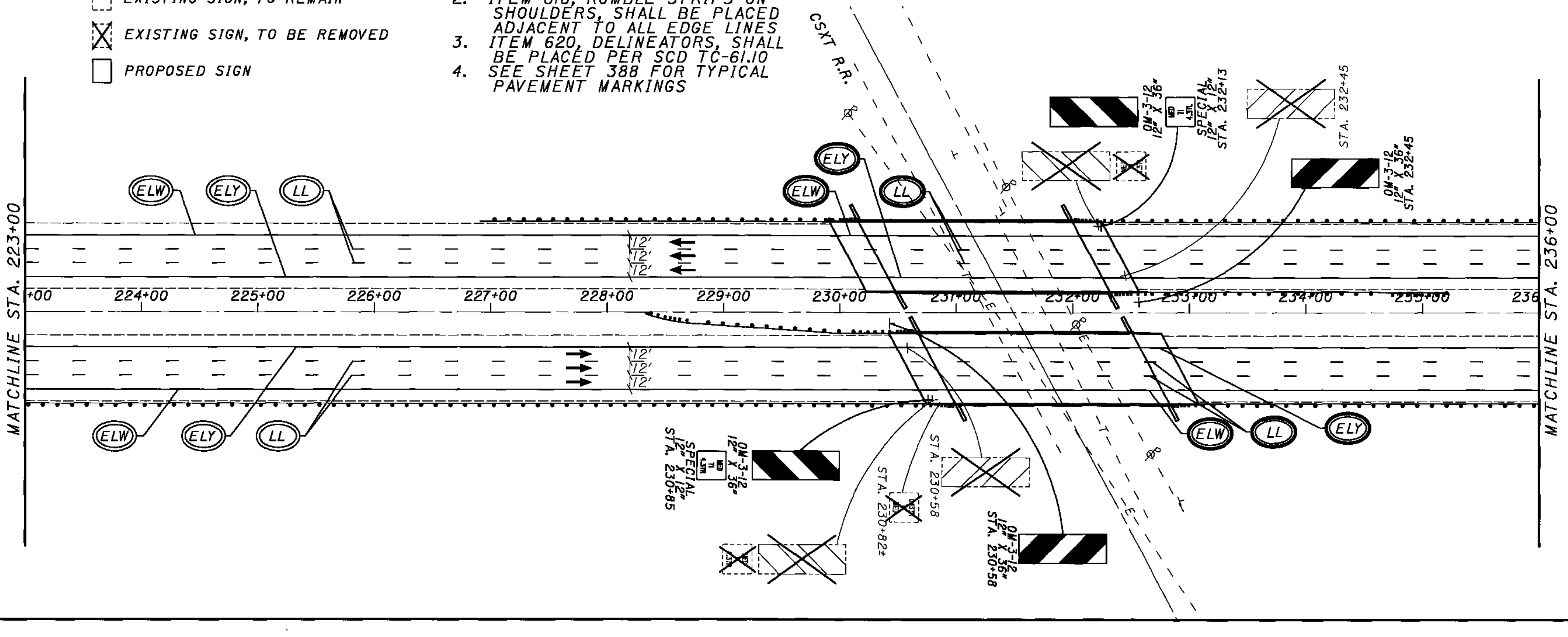


SIGN LEGEND

⊣ GROUND MOUNTED SIGN SUPPORT
CANTILEVER SIGN SUPPORT
EXISTING SIGN, TO REMAIN
EXISTING SIGN, TO BE REMOVED
PROPOSED SIGN

NOTES:

1. ITEM 621, RAISED PAVEMENT MARKERS, SHALL BE PLACED ON EACH LANE LINE PER SCD TC-65.10
2. ITEM 618, RUMBLE STRIPS ON SHOULDERS, SHALL BE PLACED ADJACENT TO ALL EDGE LINES
3. ITEM 620, DELINEATORS, SHALL BE PLACED PER SCD TC-61.10
4. SEE SHEET 388 FOR TYPICAL PAVEMENT MARKINGS



PAVEMENT MARKING & SIGNING PLAN
STA. 210+00 TO STA. 236+00

HORIZONTAL SCALE IN FEET
0 25 50 100

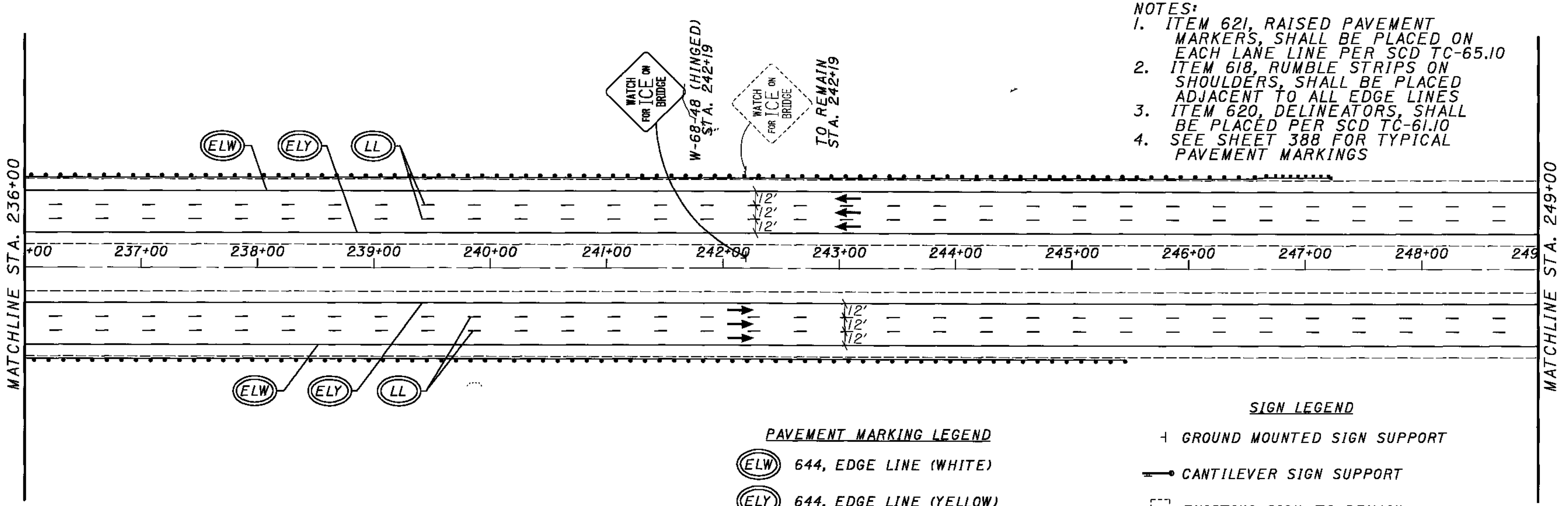
CALCULATED EMW
CHECKED SLT

WAY/MED-71-7.04/0.00

419
785

14017+p10.dgn

NOTES:
1. ITEM 621, RAISED PAVEMENT MARKERS, SHALL BE PLACED ON EACH LANE LINE PER SCD TC-65.10
2. ITEM 618, RUMBLE STRIPS ON SHOULDERS, SHALL BE PLACED ADJACENT TO ALL EDGE LINES
3. ITEM 620, DELINEATORS, SHALL BE PLACED PER SCD TC-61.10
4. SEE SHEET 388 FOR TYPICAL PAVEMENT MARKINGS



PAVEMENT MARKING LEGEND

ELW 644, EDGE LINE (WHITE)

ELY 644, EDGE LINE (YELLOW)

LL 644, LANE LINE (WHITE)

← DIRECTION OF TRAVEL

SIGN LEGEND

┤ GROUND MOUNTED SIGN SUPPORT

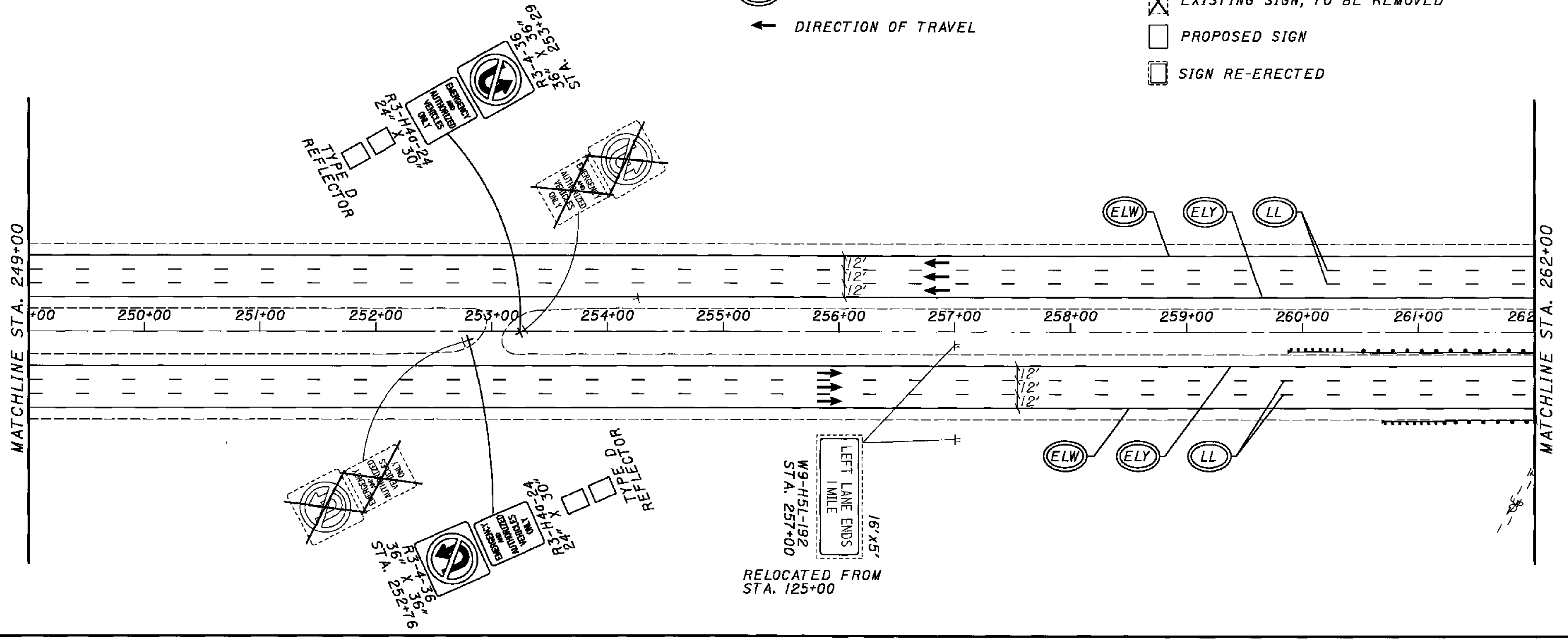
—● CANTILEVER SIGN SUPPORT

⬚ EXISTING SIGN, TO REMAIN

☒ EXISTING SIGN, TO BE REMOVED

☐ PROPOSED SIGN

⬚ SIGN RE-ERECTED



HORIZONTAL SCALE IN FEET
0 25 50 100

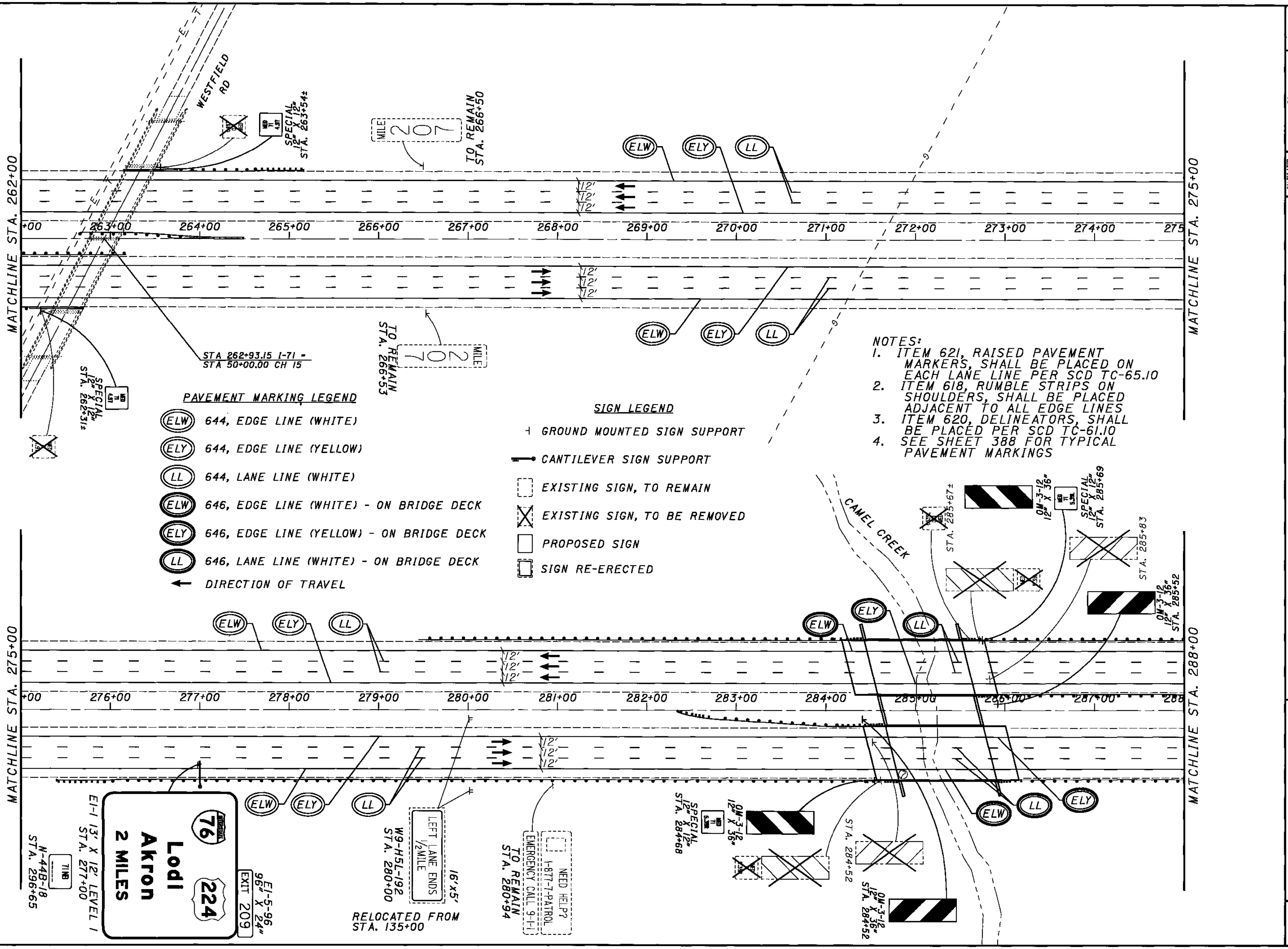
CALCULATED EMW
CHECKED SLT

PAVEMENT MARKING & SIGNING PLAN
STA. 236+00 TO STA. 262+00

WAY/MED-71-7.04/0.00

420
785

14017+pll.dgn



PAVEMENT MARKING LEGEND

ELW	644, EDGE LINE (WHITE)
ELY	644, EDGE LINE (YELLOW)
LL	644, LANE LINE (WHITE)
ELW	646, EDGE LINE (WHITE) - ON BRIDGE DECK
ELY	646, EDGE LINE (YELLOW) - ON BRIDGE DECK
LL	646, LANE LINE (WHITE) - ON BRIDGE DECK
←	DIRECTION OF TRAVEL

SIGN LEGEND

┤	GROUND MOUNTED SIGN SUPPORT
━●	CANTILEVER SIGN SUPPORT
⬚	EXISTING SIGN, TO REMAIN
☒	EXISTING SIGN, TO BE REMOVED
☐	PROPOSED SIGN
⬚	SIGN RE-ERECTED

NOTES:
1. ITEM 621, RAISED PAVEMENT MARKERS, SHALL BE PLACED ON EACH LANE LINE PER SCD TC-65.10
2. ITEM 618, RUMBLE STRIPS ON SHOULDERS, SHALL BE PLACED ADJACENT TO ALL EDGE LINES
3. ITEM 620, DELINEATORS, SHALL BE PLACED PER SCD TC-61.10
4. SEE SHEET 388 FOR TYPICAL PAVEMENT MARKINGS

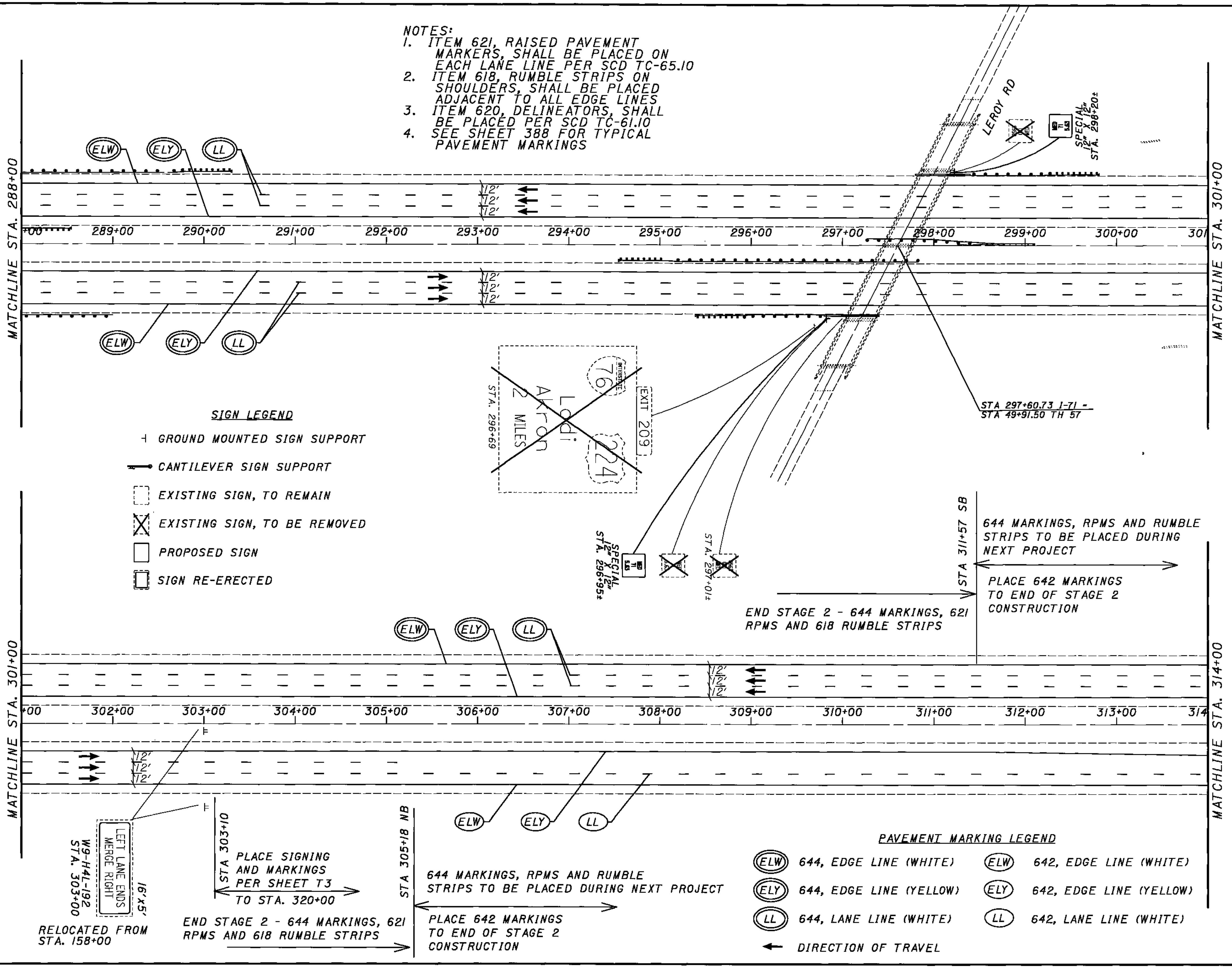
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED EMW
CHECKED SLT

PAVEMENT MARKING & SIGNING PLAN STA. 262+00 TO STA. 288+00

WAY/MED-71-7.04/0.00

NOTES:
1. ITEM 621, RAISED PAVEMENT MARKERS, SHALL BE PLACED ON EACH LANE LINE PER SCD TC-65.10
2. ITEM 618, RUMBLE STRIPS ON SHOULDERS, SHALL BE PLACED ADJACENT TO ALL EDGE LINES
3. ITEM 620, DELINEATORS, SHALL BE PLACED PER SCD TC-61.10
4. SEE SHEET 388 FOR TYPICAL PAVEMENT MARKINGS


LEROY RD
SPECIAL 12" X 12" STA. 298+20±
ELW
ELY
LL
12'
12'
12'
MATCHLINE STA. 288+00
MATCHLINE STA. 301+00
289+00
290+00
291+00
292+00
293+00
294+00
295+00
296+00
297+00
298+00
299+00
300+00
STA 297+60.73 I-71 - STA 49+91.50 TH 57
EXIT 209
INTERSTATE 76
224
Lodi
Akron
2 MILES
STA. 296+69
SPECIAL 12" X 12" STA. 296+95±
STA. 297+01±
STA 311+57 SB
644 MARKINGS, RPMS AND RUMBLE STRIPS TO BE PLACED DURING NEXT PROJECT
PLACE 642 MARKINGS TO END OF STAGE 2 CONSTRUCTION
END STAGE 2 - 644 MARKINGS, 621 RPMS AND 618 RUMBLE STRIPS
MATCHLINE STA. 301+00
MATCHLINE STA. 314+00
302+00
303+00
304+00
305+00
306+00
307+00
308+00
309+00
310+00
311+00
312+00
313+00
LEFT LANE ENDS MERGE RIGHT
16'x5'
W9-H4L-192
STA. 303+00
RELOCATED FROM STA. 158+00
STA 303+10
PLACE SIGNING AND MARKINGS PER SHEET T3
TO STA. 320+00
END STAGE 2 - 644 MARKINGS, 621 RPMS AND 618 RUMBLE STRIPS
STA 305+18 NB
644 MARKINGS, RPMS AND RUMBLE STRIPS TO BE PLACED DURING NEXT PROJECT
PLACE 642 MARKINGS TO END OF STAGE 2 CONSTRUCTION

SIGN LEGEND

- ⊣ GROUND MOUNTED SIGN SUPPORT
- ⊢● CANTILEVER SIGN SUPPORT
- ⬚ EXISTING SIGN, TO REMAIN
- ☒ EXISTING SIGN, TO BE REMOVED
- ☐ PROPOSED SIGN
- ▣ SIGN RE-ERECTED

PAVEMENT MARKING LEGEND

ELW	644, EDGE LINE (WHITE)	ELW	642, EDGE LINE (WHITE)
ELY	644, EDGE LINE (YELLOW)	ELY	642, EDGE LINE (YELLOW)
LL	644, LANE LINE (WHITE)	LL	642, LANE LINE (WHITE)
←	DIRECTION OF TRAVEL		

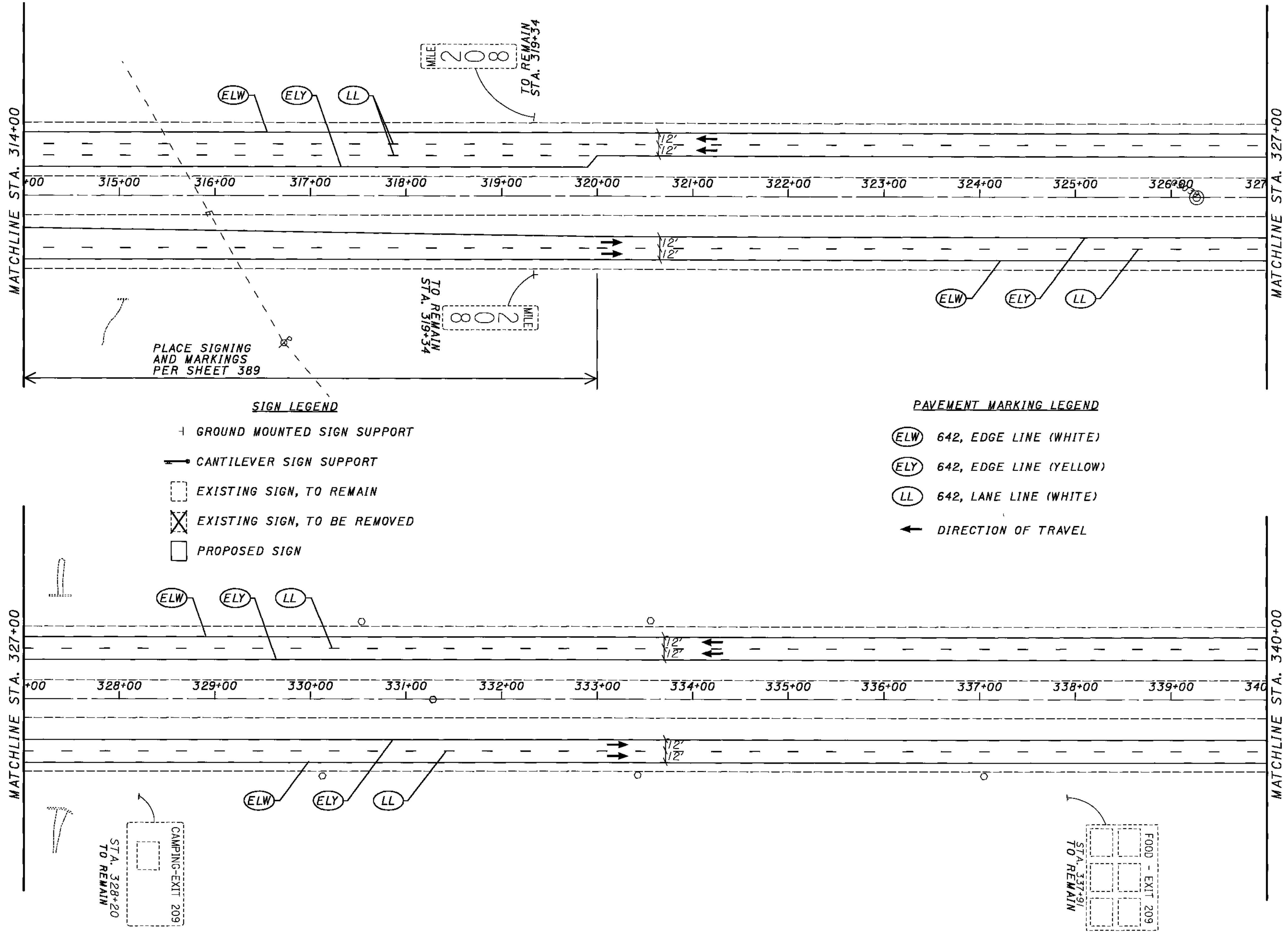
0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED EMW
CHECKED SLT

PAVEMENT MARKING & SIGNING PLAN STA. 288+00 TO STA. 314+00

WAY/MED-71-7.04/0.00

14017+pl3.dgn



SIGN LEGEND

┤ GROUND MOUNTED SIGN SUPPORT

━● CANTILEVER SIGN SUPPORT

⬚ EXISTING SIGN, TO REMAIN

☒ EXISTING SIGN, TO BE REMOVED

☐ PROPOSED SIGN

PAVEMENT MARKING LEGEND

ELW	642, EDGE LINE (WHITE)
ELY	642, EDGE LINE (YELLOW)
LL	642, LANE LINE (WHITE)
←	DIRECTION OF TRAVEL

PAVEMENT MARKING & SIGNING PLAN STA. 314+00 TO STA. 340+00

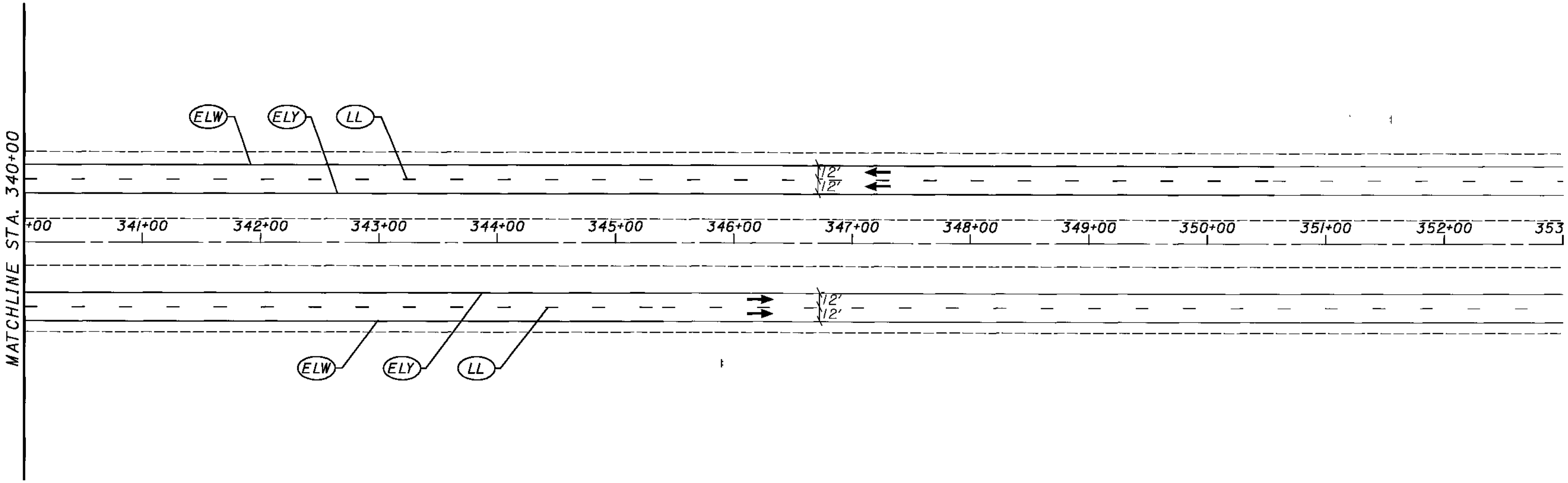
WAY/MED-71-7.04/0.00

0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED EMW
CHECKED SLT

423
785

14017tpl4.dgn



PAVEMENT MARKING LEGEND

ELW 642, EDGE LINE (WHITE)

ELY 642, EDGE LINE (YELLOW)

LL 642, LANE LINE (WHITE)

← DIRECTION OF TRAVEL

SIGN LEGEND

┤ GROUND MOUNTED SIGN SUPPORT

CANTILEVER SIGN SUPPORT

⬚ EXISTING SIGN, TO REMAIN

☒ EXISTING SIGN, TO BE REMOVED

☐ PROPOSED SIGN

N

0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED EMW
CHECKED SLT

PAVEMENT MARKING & SIGNING PLAN
STA. 340+00 TO STA. 353+00

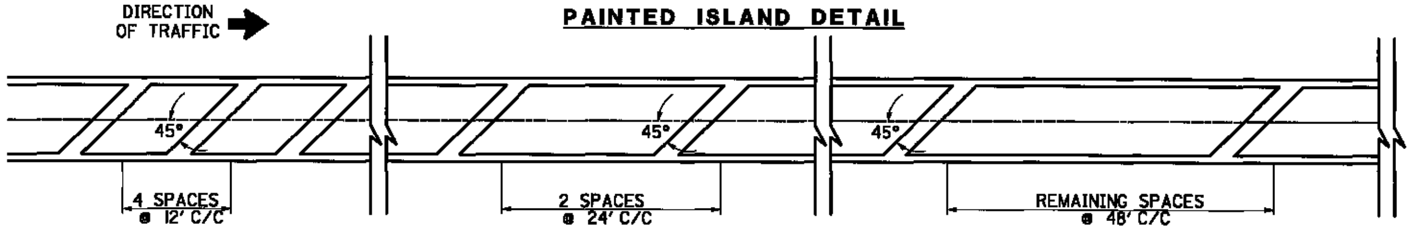
WAY/MED-71-7.04/0.00

424
785

14017+pl5A.dgn

ONE-WAY TRAFFIC

PAINTED ISLAND DETAIL



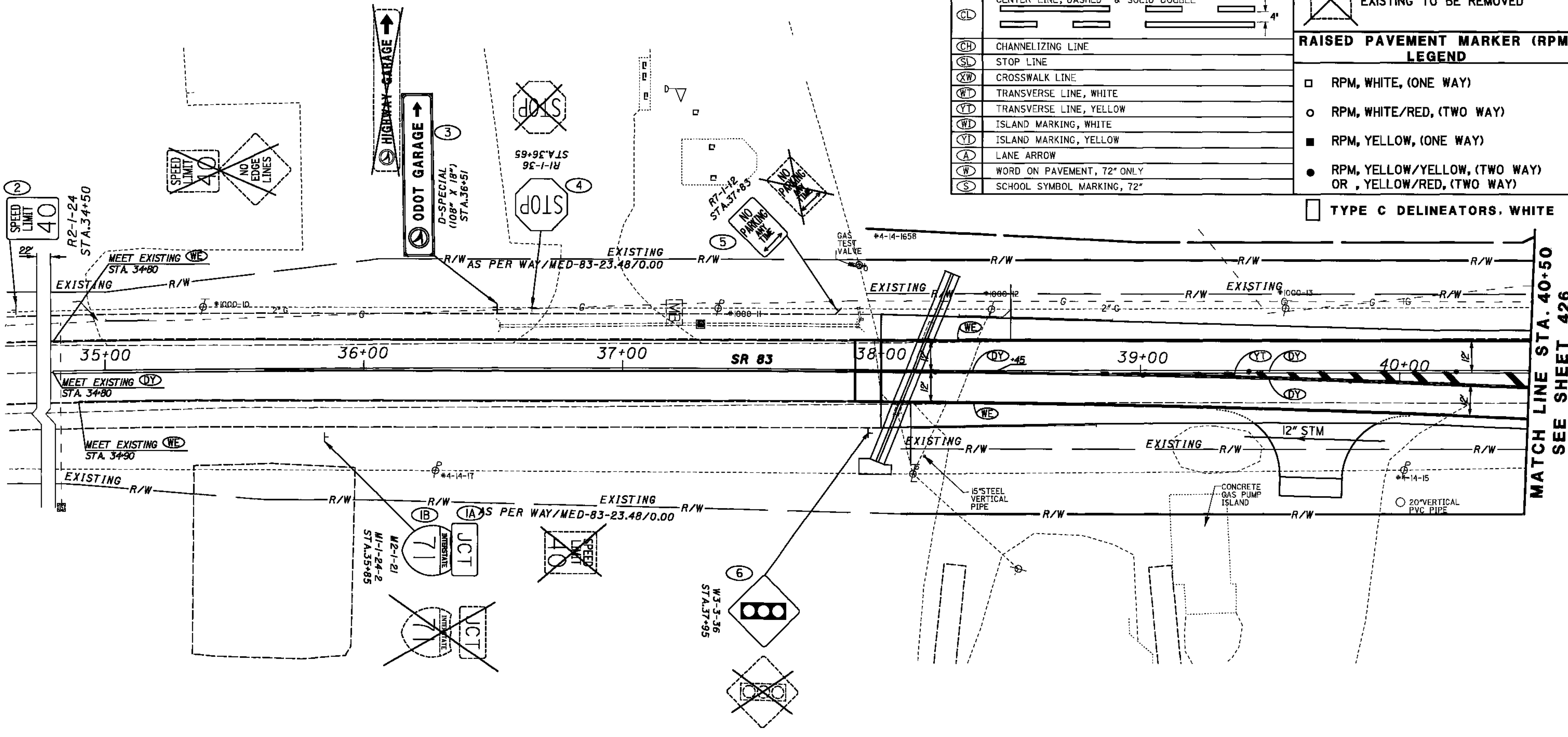
ITEM 646	ODOT LINE SPECIFICATIONS
WE	EDGE LINE, WHITE
YE	EDGE LINE, YELLOW
LL	LANE LINE
WD	DOTTED LINE, 8" WHITE
YD	DOTTED LINE, 4" YELLOW
DY	CENTER LINE, SOLID DOUBLE (4")
BC	CENTER LINE, DASHED SINGLE
CL	CENTER LINE, DASHED & SOLID DOUBLE (4")
CH	CHANNELIZING LINE
SL	STOP LINE
XW	CROSSWALK LINE
WT	TRANSVERSE LINE, WHITE
YT	TRANSVERSE LINE, YELLOW
WI	ISLAND MARKING, WHITE
YI	ISLAND MARKING, YELLOW
A	LANE ARROW
W	WORD ON PAVEMENT, 72" ONLY
S	SCHOOL SYMBOL MARKING, 72"

SIGN LEGEND

☐	PROPOSED
⬚	EXISTING TO REMAIN
☒	EXISTING TO BE REMOVED

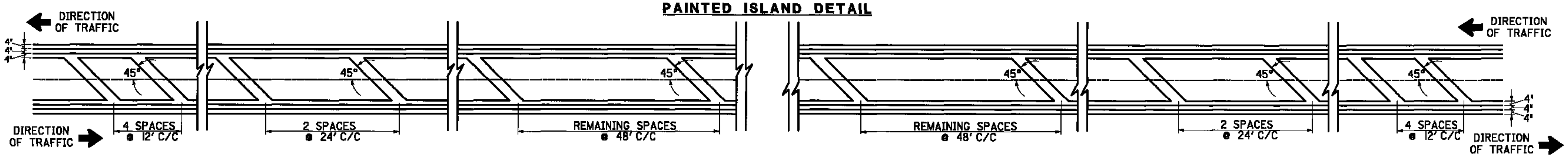
RAISED PAVEMENT MARKER (RPM) LEGEND

□	RPM, WHITE, (ONE WAY)
○	RPM, WHITE/RED, (TWO WAY)
■	RPM, YELLOW, (ONE WAY)
●	RPM, YELLOW/YELLOW, (TWO WAY) OR , YELLOW/RED, (TWO WAY)
▯	TYPE C DELINEATORS, WHITE



TWO-WAY TRAFFIC

PAINTED ISLAND DETAIL



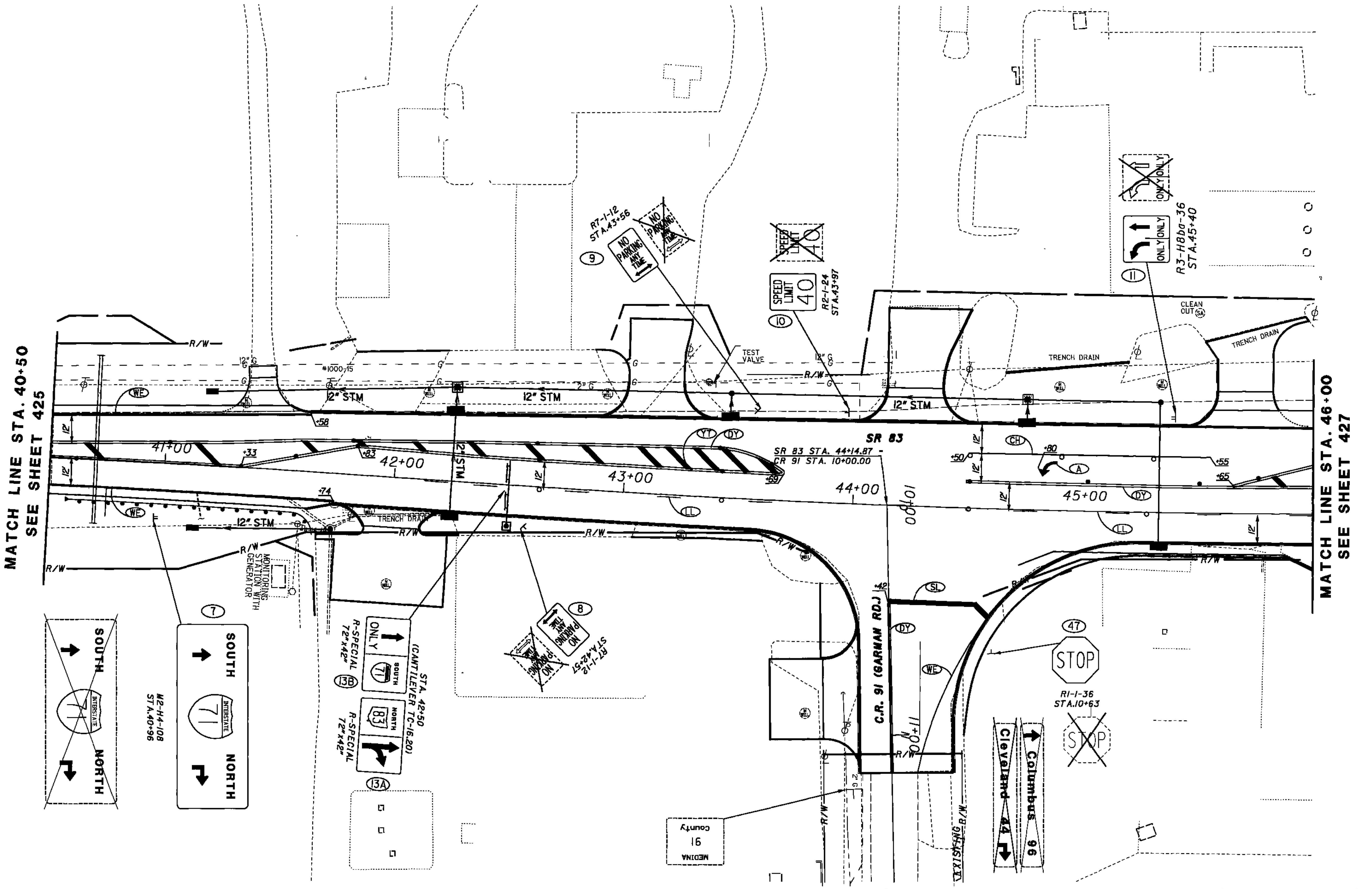
SCALE IN FEET 0 20 40

CALCULATED CHECKED

SIGNING AND PAVEMENT MARKING PLAN
SR 83 STA. 34+50 TO STA. 40+50

WAY/MED-71-7.04/0.00

DATE: $DATE$ $TIME$ FILENAME: $FILE$



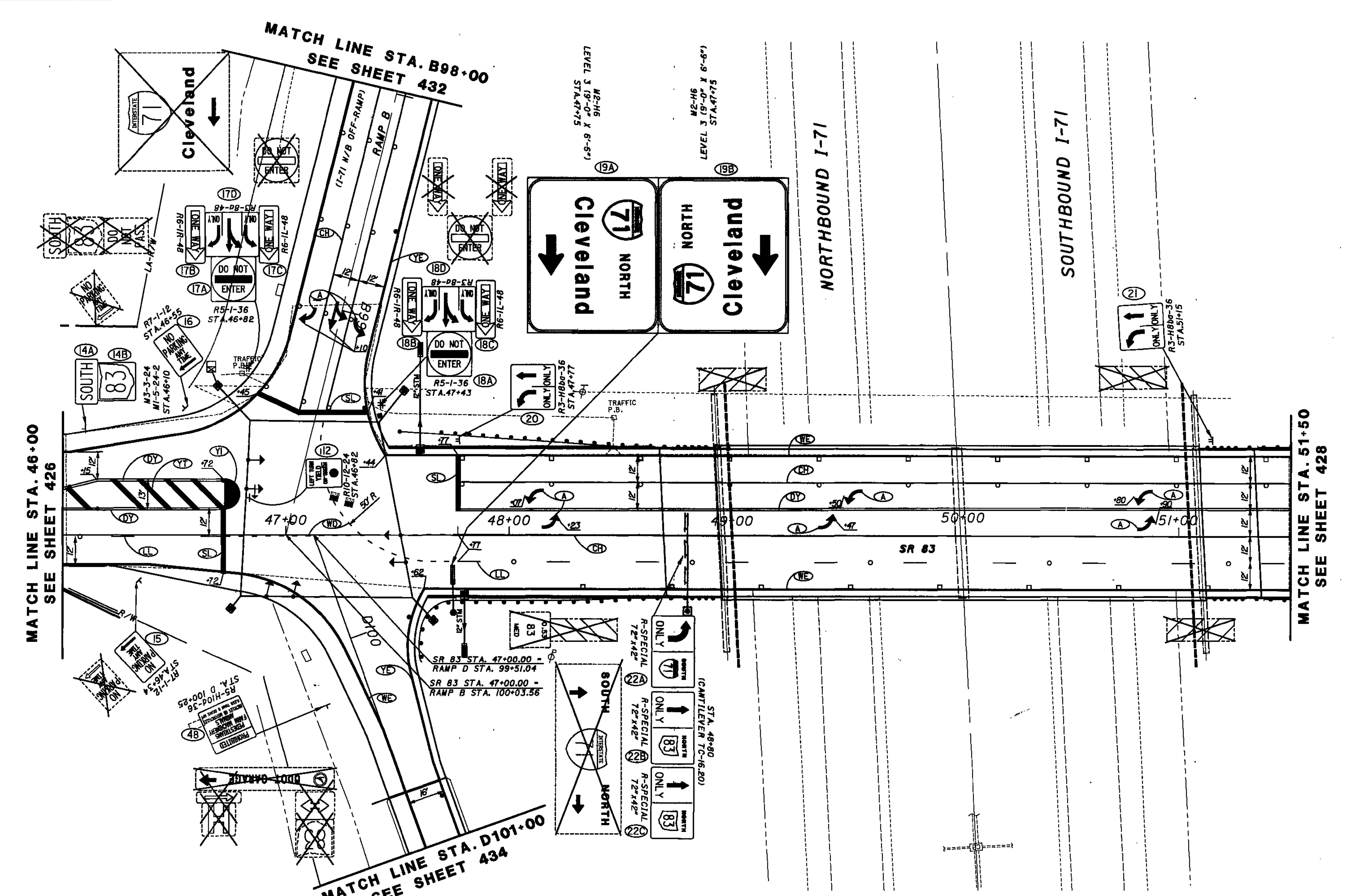
FOR PAVEMENT MARKING LEGEND SEE SHEET 425

SCALE IN FEET
0 20 40

CALCULATED
CHECKED

SIGNING AND PAVEMENT MARKING PLAN
SR 83 STA. 40+50 TO STA. 46+00

WAY/MED-71-7.04/0.00

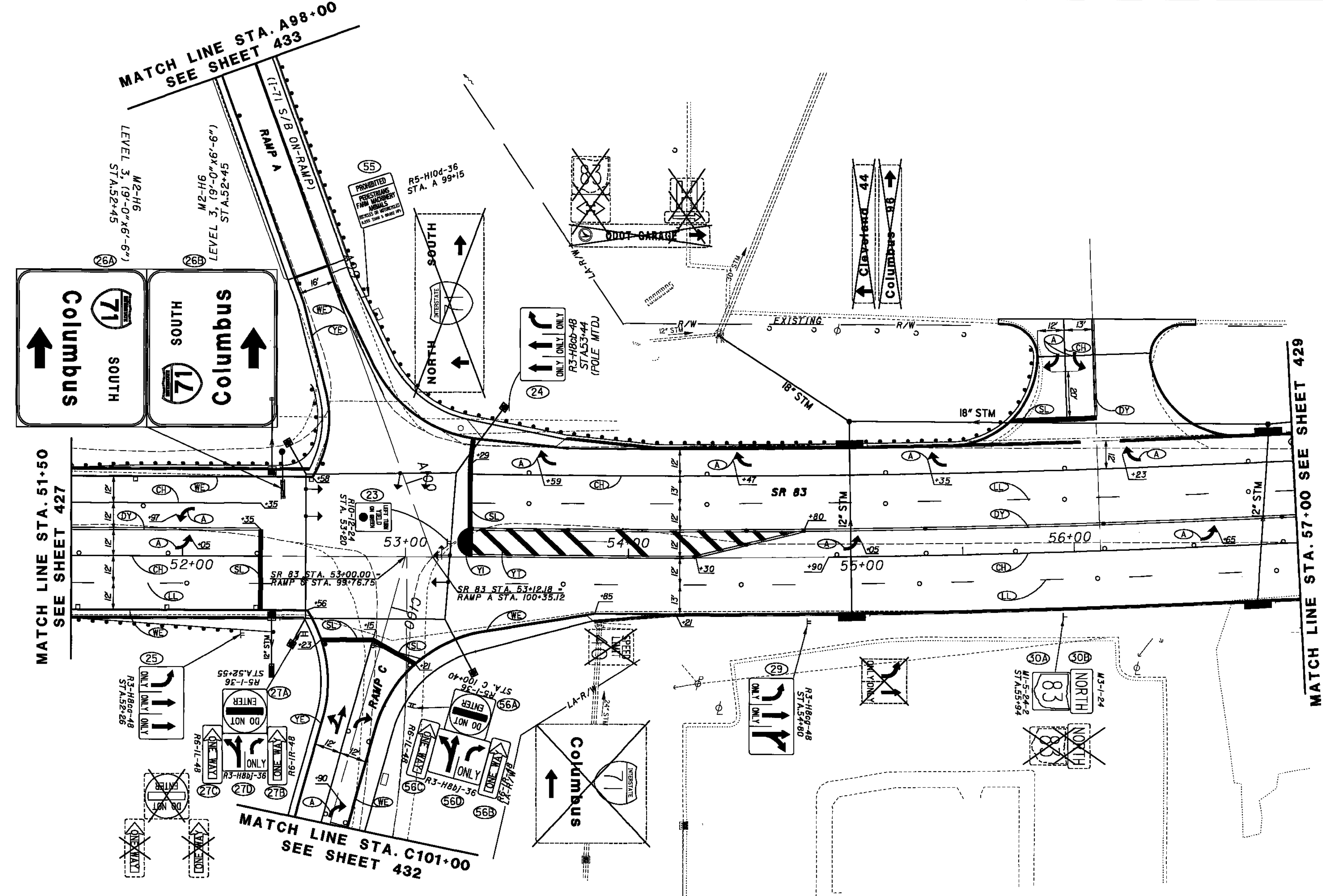


FOR PAVEMENT MARKING LEGEND SEE SHEET 425
FOR TRAFFIC SIGNAL PLAN, SEE SHEET 449

SIGNING AND PAVEMENT MARKING PLAN
SR 83 STA. 46+00 TO STA. 51+50

CALCULATED
CHECKED

WAY/MED-71-7.04/0.00



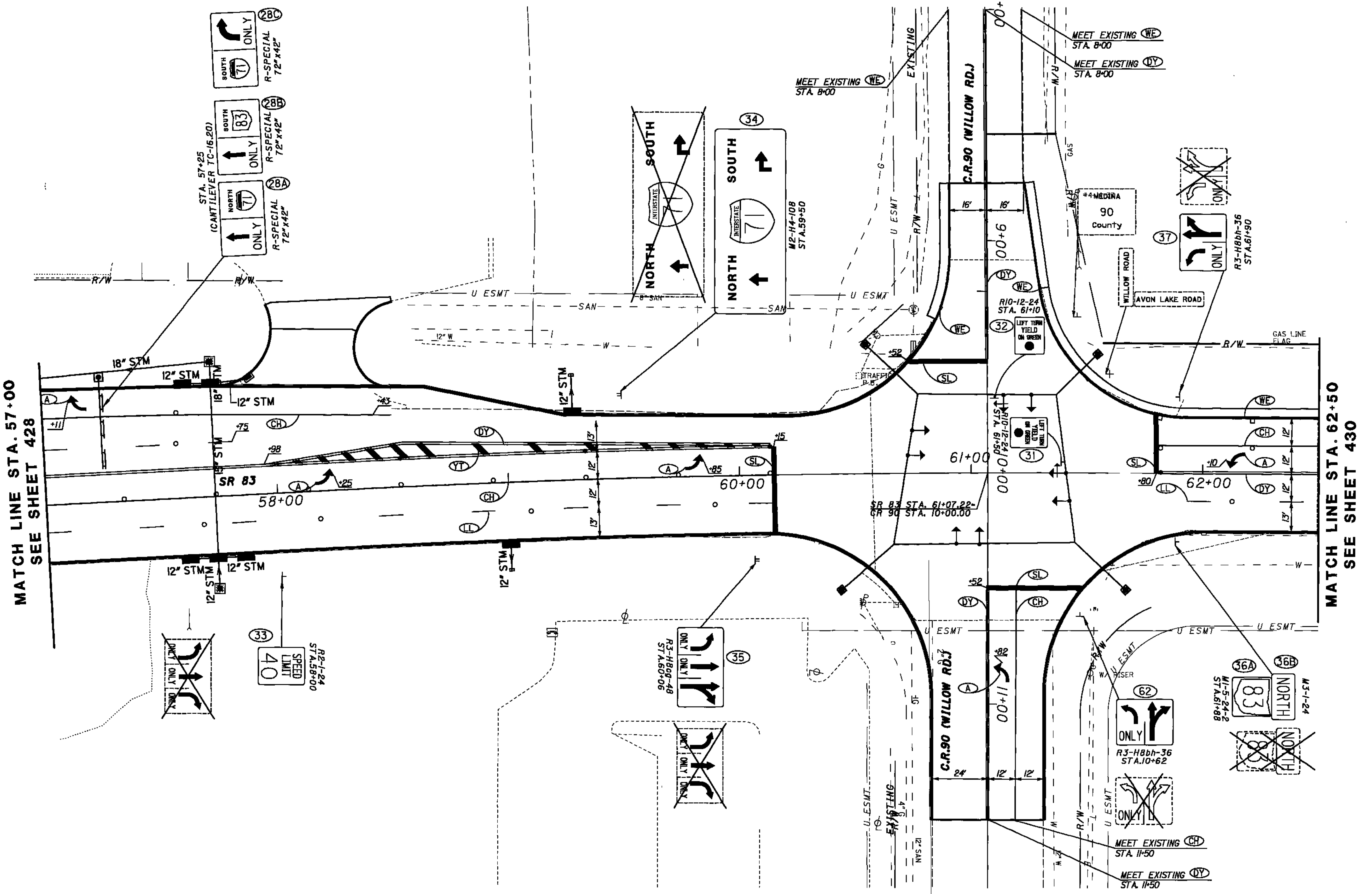
FOR PAVEMENT MARKING LEGEND SEE SHEET 425
FOR TRAFFIC SIGNAL PLAN, SEE SHEET 451

SCALE IN FEET 0 20 40

CALCULATED
CHECKED

SIGNING AND PAVEMENT MARKING PLAN
SR 83 STA. 51+50 TO STA. 57+00

WAY/MED-71-7.04/0.00



FOR PAVEMENT MARKING LEGEND SEE SHEET 425
FOR TRAFFIC SIGNAL PLAN, SEE SHEET 454

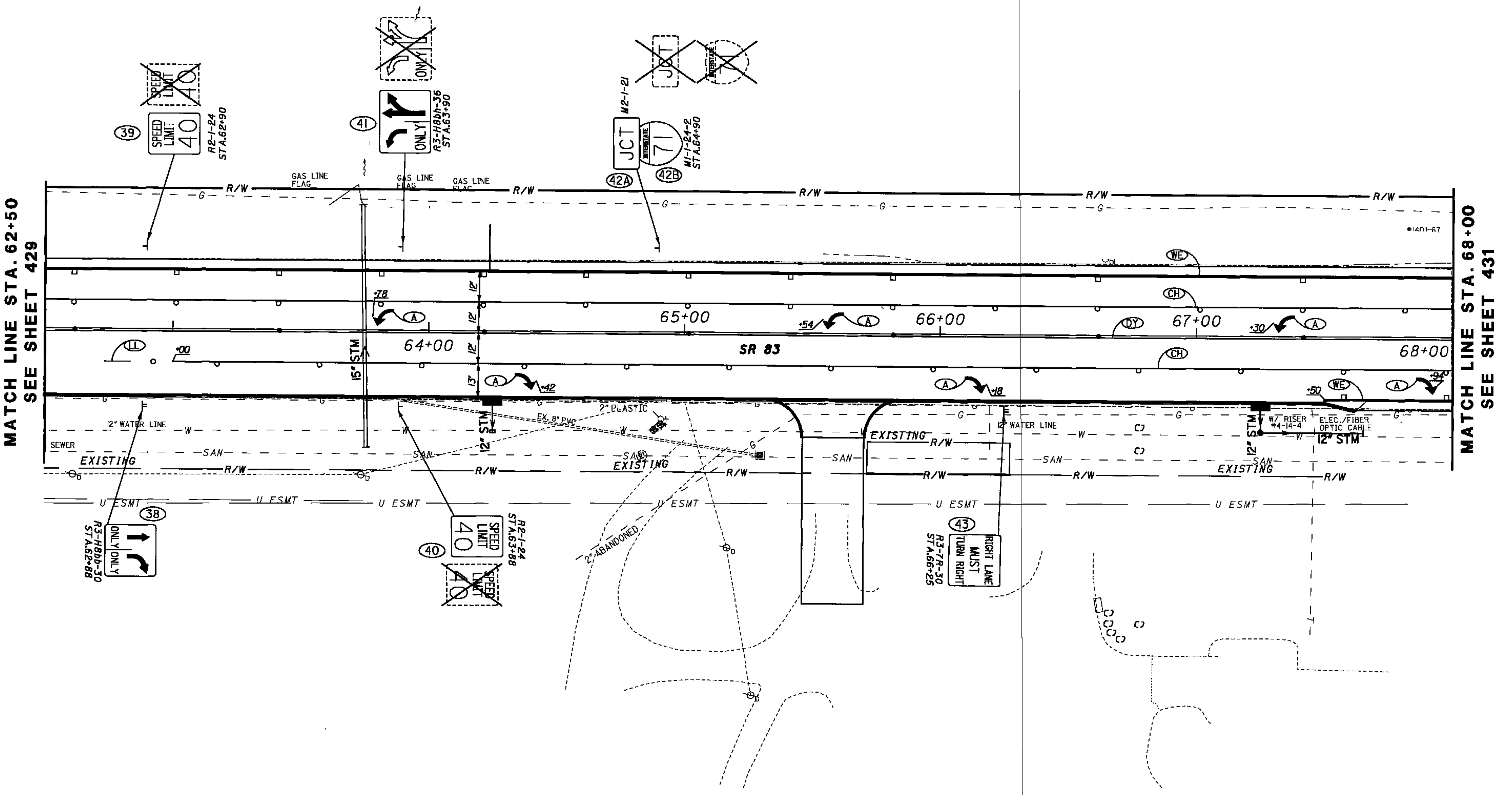
N

0 20 40
SCALE IN FEET

CALCULATED
CHECKED

SIGNING AND PAVEMENT MARKING PLAN
SR 83 STA. 57+00 TO STA. 62+50

WAY/MED-71-7.04/0.00



FOR PAVEMENT MARKING LEGEND SEE SHEET 425

SCALE IN FEET
0 20 40

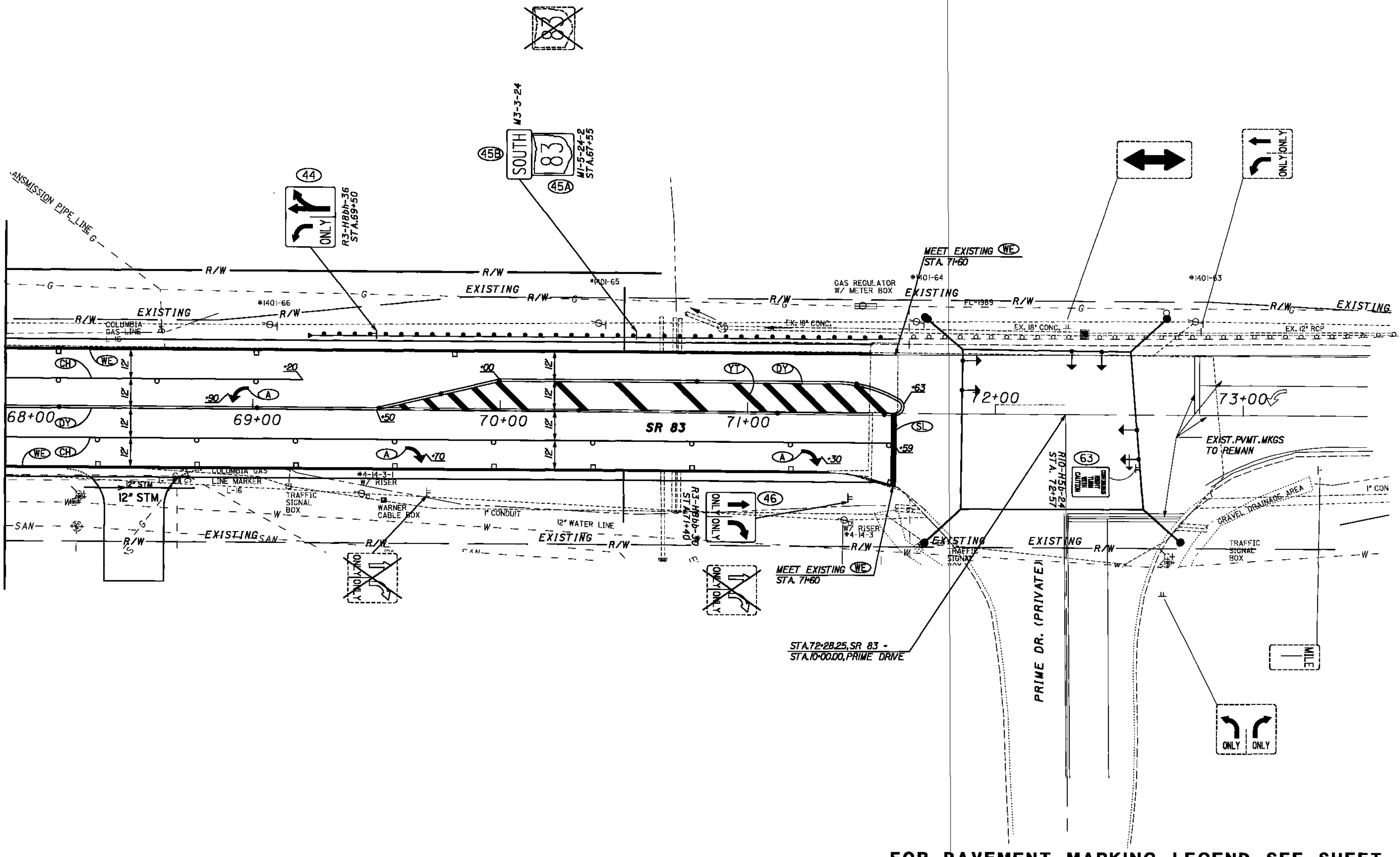
CALCULATED
CHECKED

SIGNING AND PAVEMENT MARKING PLAN
SR 83 STA. 62+50 TO STA. 68+00

WAY/MED-71-7.04/0.00

DATE: $DATE$ $TIME$
FILENAME: $FILE$

MATCH LINE STA. 68+00
SEE SHEET 430



FOR PAVEMENT MARKING LEGEND SEE SHEET 425
FOR TRAFFIC SIGNAL PLAN, SEE SHEET 457

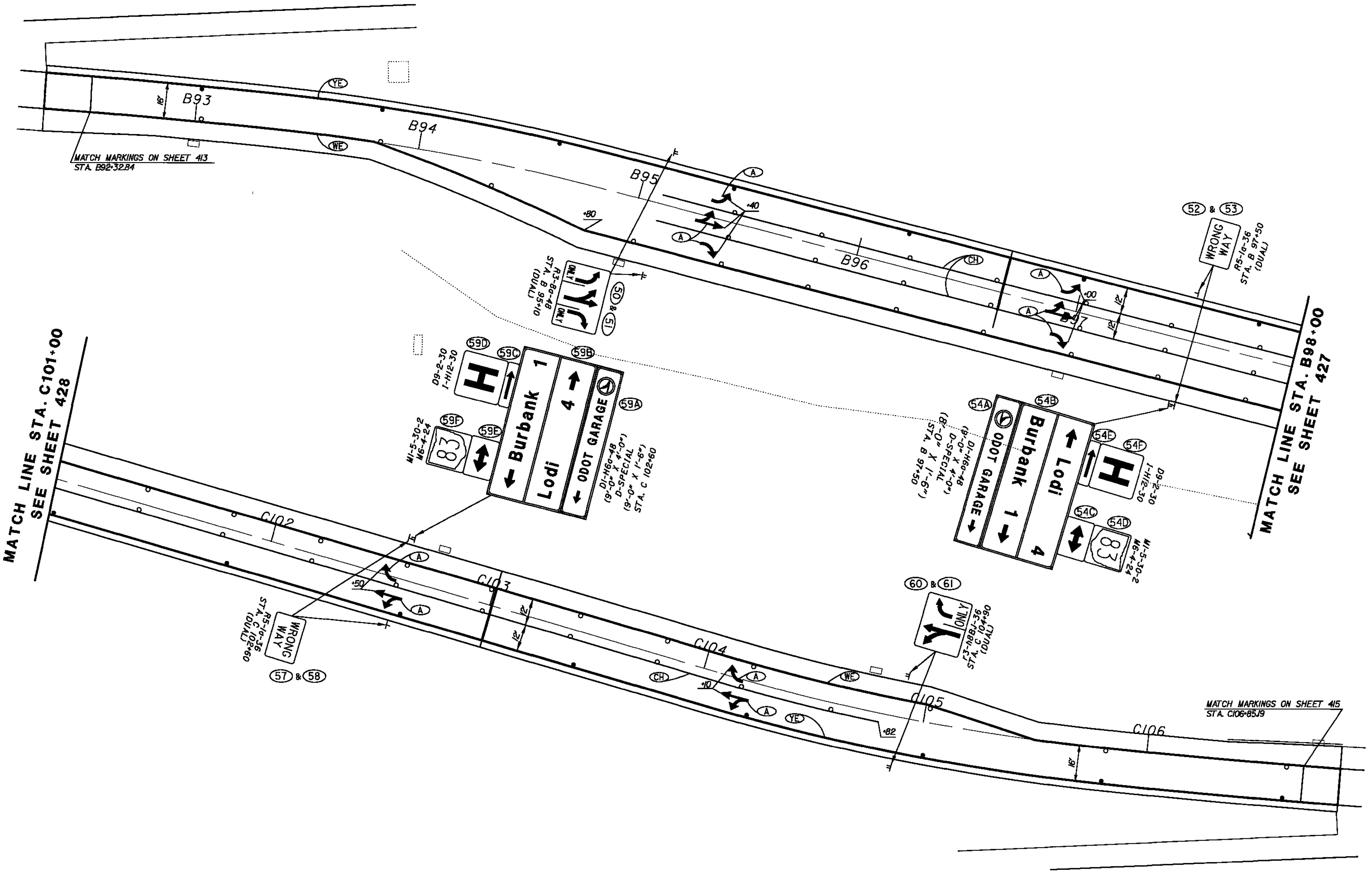
SCALE IN FEET
0 20 40

CALCULATED
CHECKED

SIGNING AND PAVEMENT MARKING PLAN
SR 83 STA. 68+00 TO STA. 73+50

WAY/MED-71-7.04/0.00

DATE: $DATE$ $TIME$
FILENAME: $FILE$



FOR PAVEMENT MARKING LEGEND SEE SHEET 425

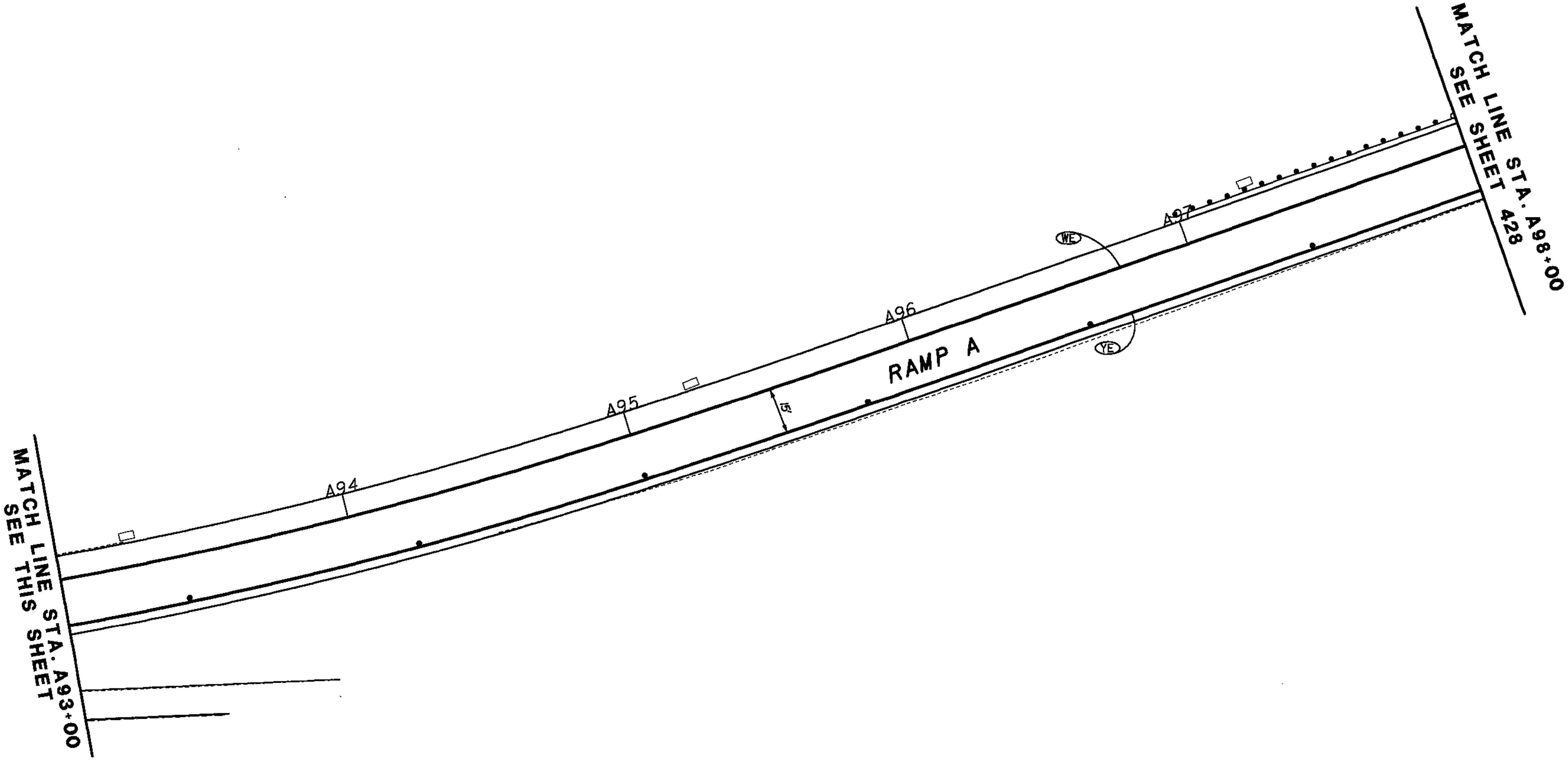
N

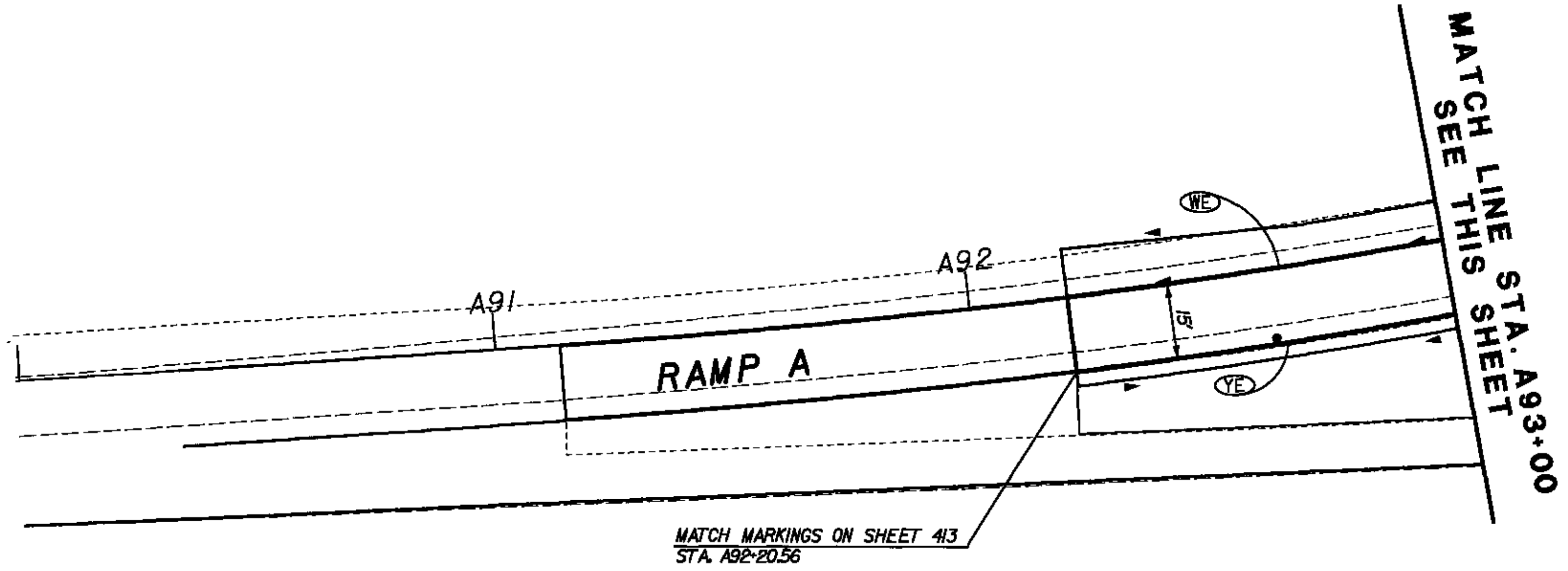
0 20 40
SCALE IN FEET

CALCULATED
CHECKED

SIGNING AND PAVEMENT MARKING PLAN
RAMP B, STA. B98+00 TO B92+32.84
RAMP C, STA. C101+00 TO C106+85.19

WAY/MED-71-7.04/0.00





FOR PAVEMENT MARKING LEGEND SEE SHEET 425

N

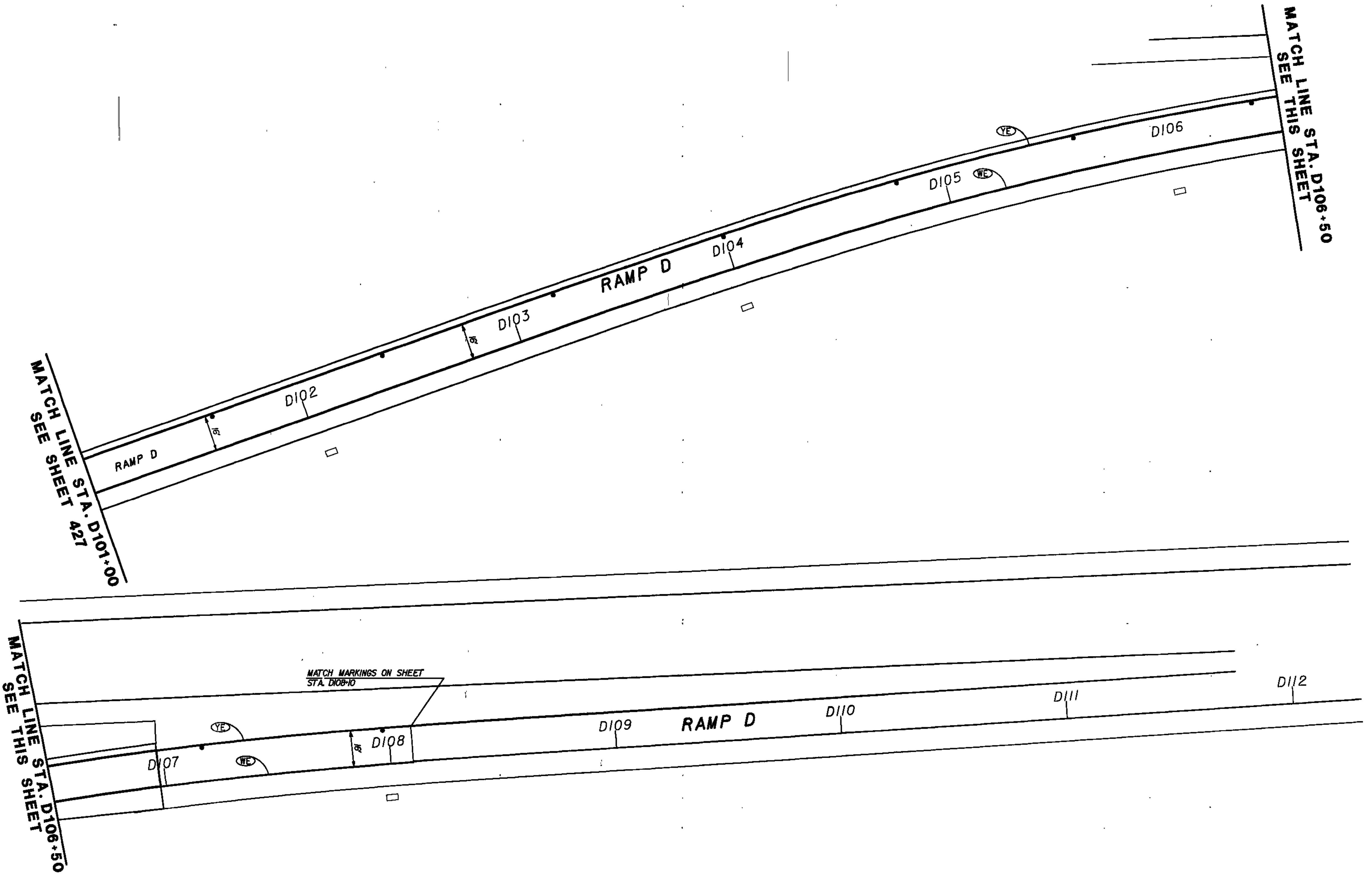
0 20 40
SCALE IN FEET

CALCULATED
CHECKED

SIGNING AND PAVEMENT MARKING PLAN
RAMP A
STA. A92+20.56 TO A98+00

WAY/MED-71-7.04/0.00

DATE: $DATE$ $TIME$
FILENAME: $FILE$



FOR PAVEMENT MARKING LEGEND SEE SHEET 425

SCALE IN FEET
0 20 40

CALCULATED
CHECKED

SIGNING AND PAVEMENT MARKING PLAN
RAMP D
STA. D101+00 TO STA. D108+10

WAY/MED-71-7.04/0.00

TRAFFIC SIGNALS

PERSONNEL

THE CONTRACTOR SHALL ASSIGN A FULL-TIME SUPERVISOR FOR THIS PROJECT WHO SHALL COMPLY AT ALL TIMES TO THE PLAN REQUIREMENTS AND SPECIFICATIONS AS INTERPRETED AND INSTRUCTED BY THE ENGINEER. THE CONTRACTOR SHALL NOT CHANGE A SUPERVISOR ASSIGNED TO THE PROJECT WITHOUT WRITTEN NOTICE. IT IS UNDERSTOOD THAT THE CONTRACTOR IS RESPONSIBLE TO THE DEPARTMENT OF TRANSPORTATION FOR THE MANNER OF PERFORMING THE WORK.

ALL CONTROLLER WORK AS DEFINED BELOW IN ITEMS 1 THRU 4 SHALL BE PERFORMED BY AN IMSA LEVEL TWO CERTIFIED TECHNICIAN.

1) BACK PANEL WIRING TERMINATIONS
2) PROGRAMMING
3) TURN ON
4) TROUBLESHOOTING

THE COMPLEMENT OF THE CONTRACTOR'S CREW SHALL BE ONE (1) APPRENTICE FOR EVERY THREE OR MORE JOURNEYMAN ELECTRICIANS, WIREMEN, OR LINEMEN UNLESS APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE CERTIFICATION BY THE STATE DEPARTMENT OF INDUSTRIAL RELATIONS THAT EACH JOURNEYMAN WIREMEN HAS SUCCESSFULLY COMPLETED HIS/HER APPRENTICE TRAINING.

THE CONTRACTOR SHALL ALSO HAVE A FORMAN ASSIGNED TO EACH CREW PERFORMING WORK FOR THIS PROJECT. A FOREMAN SHALL BE PRESENT AT ALL TIMES WHEN WORK IS PERFORMED BT THE CREW. EACH FOREMAN SHALL BE AN IMSA LEVEL ONE CERTIFIED TECHNICIAN. PRIOR VERBAL NOTICE SHALL BE PROVIDED TO THE ENGINEER BY THE CONTRACTOR IN ORDER TO REPLACE A CREW FOREMAN.

IN ADDITION, CRAFTS PEOPLE PERFORMING WORK AS DEFINED BELOW IN ITEMS 1 THRU 7 SHALL BE PERFORMED BY AN IMSA LEVEL ONE CERTIFIED TECHNICIAN.

1) CABLE SPLICES
2) SIGNAL HEAD INSTALLATIONS
3) CABLE AND WIRE INSTALLATIONS
4) POWER SERVICE INSTALLATIONS
5) GROUND ROD TESTING
6) CABLE INSULATION TESTING
7) FIELD WIRING TERMINATIONS

THE CONTRACTOR SHALL PRESENT TO THE ENGINEER, PRIOR TO THE COMMENCEMENT OF WORK, THE IMSA LEVEL ONE AND TWO CERTIFICATION PAPERS FOR ALL SIGNAL TECHNICIANS WORKING ON THIS PROJECT.

THE CONTRACTOR SHALL AT ALL TIMES PROVIDE SUFFICIENT WORK FORCE OF PERSONNEL, QUALIFIED IN THE OPINION OF THE ENGINEER, TO PERFORM THE WORK REQUIRED UNDER THIS CONTRACT. THIS REQUIREMENT IS IN ADDITION TO SATISFYING THE REQUIREMENTS OF SECTION 108.05 OF THE CMS MANUAL.

THE FOREMAN'S UTILITY WORK TRUCK SHALL BE EQUIPPED WITH A CELLULAR PHONE. THE CELLULAR PHONE NUMBER SHALL BE PROVIDED TO THE PROJECT INSPECTOR AND THE DISTRICT 3 TRAFFIC DEPARTMENT.

UNDERDRAINS FOR PULLBOXES

REFERENCE IS MADE TO STANDARD DRAWINGS FOR DETAILS OF DRAINING PULLBOXES. UNDERDRAINS FOR PULLBOXES SHALL BE USED AS DIRECTED BY THE ENGINEER AND SHALL BE PROVIDED WHERE THE LENGTH REQUIRED FOR A SATISFACTORY OUTLET DOES NOT EXCEED APPROXIMATELY 20 FEET.

ITEM 625 - TRENCH, AS PER PLAN

THIS WORK SHALL CONSIST OF EXCAVATING THE TRENCH TO A DEPTH OF THIRTY INCHES (30"), BACKFILLING, AND RESTORING THE AREA.

IDENTIFYING TAPE SHALL BE USED TO IDENTIFY WHERE UNDERGROUND CABLE HAS BEEN INSTALLED. THE IDENTIFYING TAPE SHALL BE AN INERT MATERIAL MEASURING APPROXIMATELY SIX INCHES (6") IN WIDTH. THE TAPE SHALL BE COMPOSED OF A POLYETHYLENE PLASTIC HIGHLY RESISTANT TO ALKALIS, ACID OR OTHER COMPOUNDS LIKELY TO BE ENCOUNTERED IN SOILS. THE TAPE SHALL BE SUPPLIED IN CONTINUOUS ROLLS WITH THE IDENTIFYING LETTERS REPEATED CONTINUOUSLY THE FULL LENGTH OF THE TAPE. THE TAPE SHALL BE ALLEN SYSTEMS, TERRA TAPE, TECTA TAPE, OR EQUAL APPROVED BY THE ENGINEER.

THIS TAPE SHALL BE BURIED IN THE TRENCH WITH ONE STRIP PLACED NO LESS THAN TWO INCHES (2") OR MORE THAN TWELVE INCHES (12") BELOW THE FINAL FINISHED GRADE OF THE TRENCH. THE TAPE SHALL BE PLACED WITH THE PRINTED SIDE UP AND SHALL BE ESSENTIALLY PARALLEL WITH THE FINAL GRADE.

PAYMENT FOR THIS ITEM SHALL BE MADE AT THE CONTRACT UNIT PRICE PER LINEAR FOOT.

MAINTENANCE OF TRAFFIC SIGNAL INSTALLATION

BEFORE ANY WORK IS STARTED REPRESENTATIVES OF THE STATE, THE MAINTAINING AGENCY, AND THE CONTRACTOR SHALL MAKE A VISUAL INSPECTION OF THE EXISTING SIGNAL/FLASHER INSTALLATIONS TO BE MAINTAINED. DURING THIS INSPECTION A WRITTEN RECORD OF THE CONDITION OF THE EXISTING SIGNAL/FLASHER SHALL BE MADE BY THE STATE'S REPRESENTATIVE. THIS WRITTEN REPORT SHALL NOTE INDIVIDUAL ITEMS WHICH ARE NOT IN WORKING ORDER. THE COMPLETED REPORT SHALL BE SIGNED BY THE REPRESENTATIVES OF THE STATE, THE MAINTAINING AGENCY, AND THE CONTRACTOR.

AFTER THE REPORT HAS BEEN SIGNED BY ALL PARTIES, THE SIGNAL INSTALLATION SHALL BE TURNED OVER TO THE CONTRACTOR, WHO SHALL THEN BE REQUIRED TO MAINTAIN THE TRAFFIC SIGNAL INSTALLATIONS WITHIN THE PROJECT UNDER THE FOLLOWING CONDITIONS:

A) EXISTING SIGNAL/FLASHER INSTALLATIONS WHICH THE PLANS REQUIRE THE CONTRACTOR TO ADJUST, MODIFY, ADD ONTO OR REMOVE, OR WHICH THE CONTRACTOR ACTUALLY ADJUSTS, MODIFIES, OR OTHERWISE DISTURBS INCLUDING DAMAGE DUE TO UTILITY RELOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE INSTALLATION AT AN INTERSECTION FROM THE TIME THE INSTALLATION IS FIRST DISTURBED, WHETHER FROM UTILITY WORK OR FROM CONTRACTORS.

B) NEW OR REUSED SIGNAL/FLASHER INSTALLATIONS OR DEVICES, INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF THESE FROM THE TIME OF INSTALLATION UNTIL THE WORK IS ACCEPTED.

THE CONTRACTOR SHALL CORRECT AS QUICKLY AS POSSIBLE ALL OUTAGES OR MALFUNCTIONS. THE CONTRACTOR SHALL PROVIDE THE STATE AND THE PROJECT ENGINEER SUCH ADDRESSES AND PHONE NUMBERS WHERE HIS MAINTENANCE FORCES CAN BE CONTACTED. THE CONTRACTOR SHALL PROVIDE ONE OR MORE PERSONS TO RECEIVE ALL CALLS AND DISPATCH THE NECESSARY MAINTENANCE FORCES TO CORRECT OUTAGES. SUCH A PERSON OR PERSONS MAY BE USED TO PERFORM OTHER DUTIES AS LONG AS PROMPT ATTENTION IS GIVEN TO THESE CALLS AND A PERSON IS READILY AVAILABLE CONTINUOUSLY 24 HOURS A DAY, 7 DAYS A WEEK. THE CONTRACTOR SHALL HAVE THE MALFUNCTION CORRECTED AND/OR REPAIRED TO THE SATISFACTION OF THE ENGINEER WITHIN EIGHT HOURS OF THE NOTIFICATION OR LIQUIDATED DAMAGES OF $500 PER HOUR SHALL BE ASSESSED THE CONTRACTOR.

ALL LAMP OUTAGES, ELECTRICAL FAILURES, EQUIPMENT MALFUNCTIONS AND MISALIGNED SIGNAL HEADS SHALL BE CORRECTED TO THE SATISFACTION OF THE PROJECT ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN EIGHT HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE OUTAGES.

IN THE EVENT NEW SIGNALS ARE DAMAGED PRIOR TO ACCEPTANCE ALL DAMAGED EQUIPMENT EXCEPT POLES AND CONTROL EQUIPMENT SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE PROJECT ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN EIGHT HOURS AFTER THE CONTRACTOR IS NOTIFIED OF THE OUTAGE.

IF POLES AND/OR CONTROL EQUIPMENT ARE DAMAGED AND MUST BE REPLACED, THE CONTRACTOR SHALL MAKE TEMPORARY REPAIRS AS NECESSARY TO BRING THE SIGNAL BACK INTO FULL OPERATION WITHIN THE ALLOWED EIGHT HOUR PERIOD, AND SHALL MAKE PERMANENT REPAIRS OR REPLACEMENT AS SOON AS POSSIBLE.

NONE OF THE ABOVE SHALL BE CONSTRUED AS COLLECTIVE OR CONSECUTIVE OUTAGE TIME PERIODS AT ANY ONE LOCATION, WHERE MORE THAN ONE OUTAGE OCCURS AT ANY ONE LOCATION, THEN THE ALLOTTED TIME LIMIT SHALL BE FOR THE WORST SINGLE OUTAGE.

WHERE OUTAGES ARE THE DIRECT RESULT OF A VEHICLE ACCIDENT THE RESPONSE OF THE CONTRACTOR SHALL BE AS OUTLINED ABOVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTION OF ANY DAMAGES FOR THIS WORK FROM THOSE PARTIES RESPONSIBLE FOR THE DAMAGES AS PER 107.16.

WHERE THE CONTRACTOR HAS FAILED TO OR CANNOT RESPOND TO AN OUTAGE OR SIGNAL EQUIPMENT MALFUNCTION, AT THESE LOCATIONS WITHIN HIS RESPONSIBILITY, WITHIN PERIODS AS SPECIFIED ABOVE, THE PROJECT ENGINEER MAY INVOKE THE PROVISIONS OF SECTION 105.15 AND ANY SUBSEQUENT BILLINGS TO THE STATE FOR POLICE SERVICES AND MAINTENANCE SERVICES BY THE STATE FORCES SHALL BE DEDUCTED FROM THE MONEYS DUE TO BECOME DUE THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 105.15. IN ADDITION TO THESE BILLINGS, THE CONTRACTOR SHALL BE AS ASSESSED LIQUIDATED DAMAGES OF $500/HOUR FOR EACH HOUR BEYOND THE ALLOWED EIGHT HOUR PERIOD THAT THE SIGNAL IS INOPERATIVE.

THE CONTRACTOR SHALL PROVIDE THE MAINTENANCE SERVICES ENTIRELY WITH HIS FORCES OR HE MAY CHOOSE TO ENTER INTO A MUTUALLY ACCEPTABLE AGREEMENT WITH THE LOCAL MAINTAINING AGENCY TO PROVIDE THE MAINTENANCE.

THE CONTRACTOR SHALL INFORM THE PROJECT ENGINEER, IN WRITING, OF THE MAINTENANCE METHOD SELECTED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE DUE TO ANY TRAFFIC SIGNAL COMPONENTS REQUIRED TO BE HANDELED DURING THE RELOCATION OF POLES AND REVISIONS TO THE SIGNAL SYSTEM.

WHEN A TRAFFIC SIGNAL MUST BE TAKEN OUT OF SERVICE BY THE CONTRACTOR, DUE TO CONSTRUCTION PROCEDURES, THIS OUTAGE SHALL NOT EXCEED FOUR HOURS AND SHALL NOT INCLUDE THE HOURS OF 6:00AM TO 8:00AM AND 4:00PM TO 6:00PM. ANY SIGNALIZED INTERSECTION, WHERE THE SIGNAL IS OUT OF SERVICE DUE TO CONSTRUCTION PROCEDURES, OR DUE TO AN OUTAGE OR MALFUNCTION OF EQUIPMENT AS DESCRIBED ABOVE, SHALL BE PROTECTED, BY THE CONTRACTOR, BY THE INSTALLATION OF TEMPORARY "STOP" SIGNS, EXCEPT FOR THE FOLLOWING INTERSECTIONS WHICH SHALL BE PROTECTED BY LAW ENFORCEMENT OFFICERS, HIRED BY THE CONTRACTOR.

1. SR 83 & IR 71 NB RAMPS
2. SR 83 & IR 71 SB RAMPS
3. SR 83 & WILLOW RD.

ANY VEHICULAR TRAFFIC SIGNAL HEAD, EITHER NEW OR EXISTING WHICH WILL BE OUT OF OPERATION SHALL BE COVERED, AS DESCRIBED IN 632.21.

THE CONTRACTOR SHALL MAINTAIN COMPLETE RECORDS OF MALFUNCTIONS INCLUDING:
1. TIME OF NOTIFICATION OF MALFUNCTION; 2. TIME OF WORK CREWS ARRIVAL TO CORRECT THE MALFUNCTION; 3. ACTIONS TAKEN TO CORRECT THE MALFUNCTION, INCLUDING A LIST OF PARTS REPAIRED OR REPLACED; 4. A DIAGNOSIS OF REASON FOR THE MALFUNCTION AND PROBABILITY OF REOCCURRENCE; AND 5. TIME OF COMPLETION OF REPAIR AND SYSTEM RESTORED TO FULL SERVICE. A COPY OF THESE RECORDS SHALL BE PROVIDED TO THE ENGINEER WITHIN THREE (3) WORKING DAYS FOLLOWING COMPLETION OF EACH REPAIR.

ALL COSTS RESULTING FROM THE ABOVE REQUIREMENTS SHALL BE CONSIDERED TO BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 - MAINTAINING TRAFFIC.

ITEM 632 - VEHICULAR SIGNAL HEAD (BY TYPE), AS PER PLAN

VEHICULAR SIGNAL HEADS USED ON THIS PROJECT SHALL BE ALUMINUM WITH LIGHT EMITTING DIODE (LED) LAMPS. SIGNAL HEAD HANGERS SHALL BE TRI-STUD DESIGN WITH SERRATED RINGS IN ORDER TO ACHIEVE POSITIVE LOCKING. THE HANGER SHALL BE AS MANUFACTURED BY PELCO PRODUCTS, INC. (PART NO. SE-0523 AND SE-0531) OR EQUAL. THREADED PIPE STYLE HANGERS SHALL NOT BE PERMITTED.

THE LED TRAFFIC SIGNAL LAMPS PROVIDED SHALL BE GELCORE, DIALIGHT OR APPROVED EQUAL. ALL LED LAMPS SHALL BE THE LATEST MODEL CURRENTLY IN PRODUCTION AND NEW. EQUIPMENT NO LONGER BEING MANUFACTURED SHALL NOT BE ACCEPTED EVEN IF IT MEETS THE FOLLOWING SPECIFICATIONS.

ALL LED SIGNAL LAMPS USED ON THIS PROJECT SHALL CONFORM TO THE FOLLOWING SECTIONS OF THE LATEST OHIO DEPARTMENT OF TRANSPORTATION SPECIAL SPECIFICATIONS FOR LED SIGNAL LAMP UNITS:

1) DESCRIPTION
2) PREQUALIFICATION
3) MATERIAL REQUIREMENTS
4) DOCUMENTATION REQUIREMENTS
5) EVALUATION
6) WARRANTY
7) METHOD OF MEASUREMENT
8) BASIS OF PAYMENT

ADJUSTABLE SIGNAL HANGERS WITH TRI-STUD ATTACHMENT WILL BE PERMITTED AS NEEDED TO PROVIDE PROPER SIGNAL HEAD CLEARANCE. DROP PIPES WITH THREADED ENDS SHALL NOT BE USED ON THIS PROJECT.

SPREADER BARS USED AT THE BOTTOM OF 2-WAY SIGNAL HEADS SHALL BE PER PELCO PART NO. SE-5060, "TWO-WAY SINGLE STUD LOWER ARM ASSEMBLY" OR APPROVED EQUAL.

SIGNAL HEAD SPAN WIRE CLAMPS SHALL BE MADE OF STEEL OR OF ALUMINUM WITH STAINLESS STEEL BUSHINGS.

ITEM 632 - SIGNALIZATION, MISC.: METER BASE, 100 AMP WITH BYPASS

THE CONTRACTOR SHALL SUPPLY A METER BASE SOCKET FOR ELECTRICAL INSTALLATION. THE METER BASE SOCKET SHALL BE 100 AMP MINIMUM AND INCLUDE A LEVER TYPE BYPASS SWITCH AND 1-1/2" HUB AT THE TOP OF THE METER BASE. THE METER BASE SOCKET SHALL BE U.L. LISTED AND LABELED AND THE METER SOCKET JAWS SHALL BE TIN PLATED COPPER. THE SOCKET SHALL HAVE AN APPROPRIATE LATCH SYSTEM THAT WILL PREVENT UNAUTHORIZED ACCESS AND ACCEPT A UTILITY PADLOCK OR WIRE STYLE SEAL. THE METER BASE SOCKET SHALL MEET ALL REQUIREMENTS OF THE LOCAL POWER SUPPLY COMPANY.

PAYMENT FOR THIS ITEM SHALL BE MADE AT THE CONTRACT UNIT PRICE PER EACH, ITEM 632, SIGNALIZATION MISC., METER BASE, 100 AMP WITH BYPASS.

CALCULATED
ESC
CHECKED

TRAFFIC SIGNAL GENERAL NOTES

WAY/MED-71-7.04/0.00

DATE: $DATE$ $TIME$
FILENAME: $FILE$

ITEM 632 - MESSENGER WIRE, 7-STRAND, 1/4" DIAMETER WITH ACCESSORIES, AS PER PLAN

THIS ITEM CONSISTS OF INSTALLING A 1/4" MESSENGER WIRE FOR THE PURPOSE OF TETHERING THE VEHICULAR SIGNAL HEADS AS SHOWN IN THE SIGNAL ELEVATION DETAIL ON SHEET NO. 459. HARDWARE USED TO CONNECT THE SIGNAL HEADS TO THE TETHER WIRE SHALL BE BREAKAWAY DESIGN. SPREADER BARS USED AT THE BOTTOM OF 2-WAY SIGNAL HEADS SHALL BE PER PELCO PART NO. SE-5060, "TWO-WAY SINGLE STUD LOWER ARM ASSEMBLY" OR APPROVED EQUAL. THE TETHER WIRE SHALL BE ATTACHED TO THE STRAIN POLE BY USE OF A POLE CLAMP OR BY WRAPPING AS PER SCD TC-84.20.

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, TOOLS, EQUIPMENT, AND OTHER INCIDENTALS NECESSARY FOR THE INSTALLATION OF THE TETHER WIRE. PAYMENT FOR THIS ITEM WILL BE MADE AT THE CONTRACT UNIT PRICE PER FOOT.

ITEM 632 - COVERING OF VEHICULAR SIGNAL HEAD, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 632.24, EACH VEHICULAR SIGNAL HEADS SHALL BE COVERED IMMEDIATELY FOLLOWING INSTALLATION AND REMAIN COVERED UNTIL ENERGIZED. THE COVERING MATERIAL SHALL BE LARGE ENOUGH TO COVER THE FRONT AND BOTH SIDES OF THE VEHICULAR SIGNAL HEAD.

ITEM 632 - POWER SERVICE, AS PER PLAN

POWER SERVICE SHALL BE AS PER SPECIFICATION 632 AND STANDARD CONSTRUCTION DRAWING TC-83.10.

DISCONNECT SWITCH ENCLOSURES FURNISHED IN ACCORDANCE WITH ITEM 632, POWER SERVICE, AS PER PLAN, SHALL INCLUDE A PADLOCK EQUAL TO WILSON BOHANNON 660, WITH LOCK BODY AND SHACKLE OF BRONZE OR BRASS AND KEYING SHALL BE TO THE STATE MASTER. ALL CONDUIT AND FITTINGS SHALL BE GALVANIZED STEEL AS PER 725.04. CONDUIT RISERS SHALL BE 1-1/2" MINIMUM DIAMETER.

THE CONTRACTOR SHALL NOTIFY KEVIN CAPIZZI, DISTRICT 3 TRAFFIC DEPARTMENT, FOURTEEN (14) DAYS IN ADVANCE OF POWER HOOKUP, PHONE 419-281-0513, EXT. 512. THE CONTRACTOR WILL BE RESPONSIBLE FOR APPLICATION OF ELECTRICAL SERVICE INSPECTION WITH THE LOCAL COUNTY OR CITY BUILDING INSPECTOR AND ALSO FOR SCHEDULING THE INSPECTOR. UPON APPROVAL OF THE POWER SERVICE INSTALLATION BY THE LOCAL INSPECTOR, THE CONTRACTOR WILL BE RESPONSIBLE FOR SCHEDULING THE POWER SERVICE HOOKUP WITH THE POWER COMPANY. ALL COSTS FOR THE ABOVE SHALL BE INCLUDED WITH THIS PAY ITEM.

PAYMENT FOR THIS ITEM SHALL BE AT THE UNIT PRICE BID PER EACH FOR ITEM 632, POWER SERVICE, AS PER PLAN, AND SHALL INCLUDE ALL LABOR, EQUIPMENT, HARDWARE AND MATERIALS NECESSARY TO PERFORM THE WORK.

ITEM 633 - CONTROLLER UNIT, TYPE TS2/A2, WITH CABINET, TYPE TS1, AS PER PLAN

THE CONTROLLER SHALL BE TS-2 TYPE 2 WITH DOWNWARD COMPATIBILITY WITH NEMA TS-1. THE CONTROLLER AND CABINET SHALL HAVE THE CAPABILITY OF OPERATING WITH A MINIMUM OF 8 ACTUATED PHASES. THE OVERLAP PROGRAMMING SHALL BE BY USE OF AN INTERCHANGEABLE PLUG-IN PRINTED CIRCUIT BOARD ASSEMBLY AS DIRECTED IN TS-1-1989. IF THE CONTROLLER DOES NOT HAVE A SOCKET FOR THE INTERCHANGEABLE PLUG-IN PRINTED CIRCUIT BOARD ASSEMBLY, THE BOARD SHALL STILL BE PROVIDED SEPARATELY. THE CABINET SHALL BE WIRED SO THAT CONTROLLER IN CONNECTIONS ASSOCIATED WITH A GIVEN PHASE NUMBER SHALL MATCH THE PHASE NUMBER ASSIGNED TO THE SPECIFIED TRAFFIC MOVEMENT AS SHOWN ON THE PLANS. THE CONTROLLER CABINET SHALL BE KEYED TO THE STATE MASTER.

CONTROLLER CABINET SIZE SHALL COMPLY TO THE REQUIREMENTS OF NEMA TS-1 SECTION 14 BUT SHALL BE A MINIMUM SIZE OF 57" HIGH X 30" WIDE X 17" DEEP, SM DESIGNATION. THE CONTROLLER CABINET DOOR HANDLE, DOOR HINGE AND HINGE BOLTS SHALL BE STAINLESS STEEL. THE CABINET SHALL INCLUDE A GENERATOR POWER PANEL AS SHOWN IN THE PLAN INSERT SHEET NO. 444. GROUND MOUNTED CONTROLLER CABINETS SHALL INCLUDE A 12" CABINET EXTENSION.

THE CONTROLLER SHALL HAVE INTERNAL TIME BASE COORDINATION AND PROVIDE DATA UPLOAD AND DOWNLOAD CAPABILITY. ALL CONTROLLER MEMORIES SHALL BE INVOLITILE AND SHALL NOT REQUIRE BATTERIES OR OTHER SOURCES OF ENERGY TO RETAIN DATA WHILE POWER IS REMOVED FROM THE CONTROLLER.

PRINTED BOARD BACK PANELS OF THE CONTROLLER CABINET SHALL NOT BE ACCEPTABLE. SOLDERED CONNECTIONS WILL BE PERMITTED FOR WIRING ON THE BACKSIDE OF THE BACK PANEL. THE CONTROLLER CABINET SHALL HAVE DETECTOR CALL BUTTONS FOR ALL PHASES INCLUDING PED MOVEMENTS, CABINET LIGHT WITH SWITCH AND AUTO FLASH SWITCH ON THE INSIDE CABINET DOOR.

THE CONFLICT MONITOR SHALL BE CAPABLE OF 12-CHANNEL OPERATION AND EXTENDED MONITORING (IN ACCORDANCE WITH 733.03 SECTION A "TYPE TS-1" PART 2C) IN ADDITION TO NEMA REQUIREMENTS. THE MONITOR SHALL HAVE THE CAPABILITY OF MONITORING EACH LOAD SWITCH SEPARATELY, AS SHOWN IN THE LOAD SWITCH HOOKUP DIAGRAM IN THE PLANS. THE DESIGN OF THE MONITOR SHALL USE MICROPROCESSOR ARCHITECTURE AND LIQUID CRYSTAL DISPLAYS. THE MONITOR SHALL INDICATE THE EXACT LOAD SWITCH CHANNEL IN WHICH THE FAILURE OCCURRED. THE CONFLICT MONITOR SHALL HAVE AN EVENT LOGGING MEMORY AND SHALL BE CAPABLE OF UPLOADING REPORTS OF EVENTS OR USER SETTINGS VIA CLOSED LOOP HOST CONTROLLER. A MINIMUM OF 9 EVENTS SHALL BE LOGGED. EXAMPLE OF EVENTS INCLUDE: POWER OUTAGES, CONFLICTS, CONTROLLER VOLTAGE MONITOR, ETC. EVENTS SHALL BE DISPLAYED ON THE CONFLICT MONITOR'S LIQUID CRYSTAL DISPLAY WHEN INTERROGATED.

THE LOAD SWITCHES SHALL PROVIDE INPUT AND OUTPUT INDICATIONS.

PAYMENT FOR THIS ITEM 633, CONTROLLER UNIT, TYPE TS2/A2, WITH CABINET, TYPE TS1, AS PER PLAN, WILL BE AT THE CONTRACT PRICE BID PER EACH COMPLETE AND IN PLACE INCLUDING ALL CONNECTIONS TESTED AND ACCEPTED.

LOOP DETECTOR UNIT, DELAY AND EXTENSION TYPE

IN ADDITION TO THE REQUIREMENTS OF 632, 732.07 AND 732.08, LOOP DETECTOR UNITS SHALL HAVE THE FOLLOWING FEATURES:

1) THE OUTPUT DEVICE SHALL BE AN ELECTROMECHANICAL RELAY AND ALL CONTACTS SHALL BE INCLUDED IN THE WIRING HARNESS.
2) THE UNIT SHALL BE SINGLE CHANNEL AND SELF-TUNING.
3) THE UNIT'S ELECTRICAL CONNECTION PLUGS OR WIRING HARNESS SHALL ALLOW READY REPLACEMENT WITH SINGLE CHANNEL AMPLIFIERS AS DESCRIBED IN THE FINAL PARAGRAPH OF 732.07.

IN ADDITION TO THE REQUIREMENTS LISTED ABOVE, THE DETECTOR UNIT SHALL HAVE EASILY ADJUSTABLE TIMERS INCORPORATED IN THE UNIT THAT ARE CAPABLE OF BOTH EXTEND CALL AND DELAY CALL OUTPUTS. THESE ADJUSTMENTS SHALL BE SEPARATE AND CONTROLLABLE BY CALIBRATED SWITCHES OR KNOBS ON THE OUTSIDE OF THE DETECTOR UNIT. THE EXTEND CALL TIMER SHALL BE CAPABLE OF HOLDING THE CALL OF A VEHICLE FOR A PERIOD OF TIME BEGINNING AT THE INSTANT THE VEHICLE LEAVES THE DETECTION AREA. THE DELAY CALL TIMER SHALL BE SUCH THAT IT DOES NOT ISSUE AN OUTPUT UNTIL THE DETECTION ZONE HAS BEEN OCCUPIED FOR A PERIOD OF TIME THAT HAS BEEN SET ON THE ADJUSTABLE TIMER. WHEN TIMES ARE SET ON BOTH EXTEND AND DELAY TIMERS, THE UNIT SHALL BE DESIGNED TO INHIBIT THE EXTEND FUNCTION UNTIL THE DELAY TIME HAS BEEN MET. WHEN THE LOOP BECOMES UNOCCUPIED, THE DELAY OUTPUT IS REMOVED. WHEN THE VEHICLE GAP EXCEEDS THE EXTEND TIME, THE ENTIRE DELAY-EXTEND OPERATION BECOMES EFFECTIVELY RESET FOR THE NEXT CYCLE - DELAY TO TIME OUT, ETC.

LOOP DETECTOR UNIT, DELAY AND EXTENSION TYPE, WILL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIALS. PAYMENT FOR THIS ITEM SHALL BE INCLUDED WITH AND CONSIDERED INCIDENTAL TO THE COST OF ITEM 633, CONTROLLER UNIT, TYPE TS2/A2, WITH CABINET, TYPE TS1, AS PER PLAN.

ITEM 632 - SIGNALIZATION MISC.: VIDEO DETECTION UNIT

THE SENSOR SHALL COMBINE AN INTEGRATED HIGH-SPEED, COLOR IMAGING CCD ARRAY WITH ZOOM LENS OPTICS, IMAGE-PROCESSING HARDWARE AND A GENERAL PURPOSE CPU BUNDLED INTO A SEALED ENCLOSURE. THE SENSOR SHALL BE EQUIPPED WITH A SUNSHIELD TO REFLECT SOLAR HEAT AND TO SHIELD THE CCD ARRAY AND FACEPLATE FROM DIRECT EXPOSURE TO THE SUN. THE SENSOR SHALL ALSO BE EQUIPPED WITH A FACEPLATE HEATER TO MELT ACCUMULATED ICE, SNOW, OR CONDENSATION FROM OBSCURING THE VIEW OF THE CAMERA.

TO ACHIEVE OPTIMAL TRAFFIC DETECTION, THE GENERAL PURPOSE CPU SHALL DIRECTLY CONTROL THE OPTICS AND CAMERA ELECTRONICS.

THE LENS SHALL BE PRE-FOCUSED AT THE FACTORY AND SHALL NOT REQUIRE FIELD ADJUSTMENT. THE ZOOM OPTICS SHALL MAINTAIN FOCUS THROUGHOUT THE OPERATING RANGE FROM 7 TO 74 DEGREES HORIZONTAL FIELD OF VIEW (5 TO 58 DEGREES VERTICAL FIELD OF VIEW). AT AN OPERATOR'S REQUEST, THE SENSOR SHALL TEMPORARILY SWITCH TO SURVEILLANCE MODE OPERATION WHICH SHALL SUSPEND DETECTION PROCESSING, ALLOWING THE OPERATOR TO ZOOM THE LENS.

THE SENSOR SHALL PROVIDE COLOR ANALOG VIDEO OUTPUT AT 30 FRAMES PER SECOND WHEN CONFIGURED FOR NTSC AND 25 FRAMES PER SECOND FOR PAL AND SHALL PROCESS A MINIMUM OF TWENTY (20) DETECTOR ZONES PLACED ANYWHERE IN THE FIELD OF VIEW OF THE SENSOR. THE ANALOG VIDEO OUTPUT SHALL PROVIDE GRAPHICS OVERLAY THAT INDICATES THE CURRENT REAL-TIME DETECTION STATE.

THE EXTERNAL INTERFACES TO THE SENSOR SHALL INCLUDE: A NETWORK COMMUNICATIONS PORT FOR SETUP, CONFIGURATION, AND COMMUNICATIONS: A DETECTOR PORT SPECIFICALLY TO EXCHANGE REAL TIME DETECTOR STATE DATA WITH AN OPTIONAL DETECTOR INTERFACE CARD: DIFFERENTIAL COLOR VIDEO OUT: AND 24 VAC/DC POWER TO OPERATE THE SENSOR.

THERE SHALL BE A FIELD NETWORK COMMUNICATIONS PORT TO CONFIGURE AND PROVIDE GENERAL COMMUNICATIONS AND DATA RETRIEVAL. THE SENSOR SHALL USE A FULL OR HALF DUPLEX, RS-485, 4-WIRE ELECTRICAL NETWORK TO FACILITATE COMMUNICATIONS TO A LOCAL WINDOWS COMPUTER RUNNING THE COMMUNICATIONS SERVER. THIS PORT SHALL BE USED TO UPDATE THE EMBEDDED SOFTWARE WITH A NEW SOFTWARE RELEASE AND TO INTERACT WITH APPLICATIONS SOFTWARE FOR ALL THE VARIOUS DETECTION REQUESTS SUPPORTED BY THE SENSOR. EACH SENSOR SHALL BE IP ADDRESSABLE USING THE UDP/IP MESSAGE PACKET AND ROUTING STANDARD.

THE SENSOR DETECTOR PORT SHALL USE A DEDICATED, RS-485, 2-WIRE, HALF-DUPLEX INTERFACE BETWEEN THE SENSOR AND AN OPTIONAL DETECTOR INTERFACE CARD ALSO KNOWN AS A DETECTOR PORT MASTER (DPM). THE REAL-TIME STATE OF TRAFFIC CONTROLLER PHASE INPUTS SHALL BE TRANSMITTED TO THE SENSOR. THE DETECTOR PORT MASTER INTERFACE CARD SHALL SUBSEQUENTLY TRANSLATE THE DETECTION STATES, IN AN ELECTRICALLY COMPATIBLE MANNER, TO A TRAFFIC SIGNAL CONTROLLER.

THE SENSOR SHALL OUTPUT FULL MOTION, DIFFERENTIAL ANALOG VIDEO SUPPORTING EITHER THE NTSC OR PAL VIDEO FORMAT. THE DIFFERENTAL ANALOG VIDEO SHALL BE TRANSMITTED OVER A SINGLE, TWISTED PAIR.

THE SENSOR SHALL OPERATE ON 24 VAC AT 50/60 HZ OR 24 VDC. THE CAMERA AND PROCESSOR ELECTRONICS AND POWER SUPPLY SHALL CONSUME A MAXIMUM OF 10 WATTS. THE INTEGRATED FACEPLATE HEATER SHALL CONSUME A MAXIMUM OF 5 WATTS. THE TOTAL POWER CONSUMPTION SHALL BE LESS THAN 15 WATTS.

THE SENSOR SHALL MAINTAIN A NON-VOLATILE OPERATIONS LOG, WHICH MINIMALLY CONTAINS: REVISION NUMBERS FOR THE CURRENT SENSOR HARDWARE AND SOFTWARE COMPONENTS; TITLE AND COMMENTS FOR THE DETECTOR CONFIGURATION; DATE AND TIME LAST DETECTOR CONFIGURATION WAS DOWNLOADED TO THE SENSOR; DATE AND TIME THE OPERATIONS LOG WAS LAST CLEARED; DATE AND TIME COMMUNICATIONS WERE OPENED OR CLOSED WITH THE SENSOR; DATE AND TIME OF LAST POWER-UP; AND TIME-STAMPED, SELF-DIAGNOSED HARDWARE AND SOFTWARE ERRORS THAT SHALL AID IN SYSTEM MAINTENANCE AND TROUBLESHOOTING.

THE REAL-TIME, DETECTION PERFORMANCE OF THE SENSOR SHALL BE OPTIMIZED TO MEET THE REQUIREMENTS FOR THE TRAFFIC APPLICATION TO PERFORM. THESE SHALL DETERMINE THE SENSOR MOUNTING LOCATION; THE NUMBER OF TRAFFIC LANES TO MONITOR; SIZING, PLACEMENT, AND ORIENTATION OF VEHICLE DETECTORS; WHETHER TRAFFIC IS APPROACHING OR RECEDING FROM THE SENSOR'S FIELD OF VIEW; AND HOW TO MINIMIZE THE EFFECTS OF LANE-CHANGING MANEUVERS.

THE SENSOR SHALL BE ABLE TO BE PROGRAMMED WITH A VARIETY OF DETECTOR TYPES THAT PERFORM SPECIAL FUNCTIONS. THE GENERAL FUNCTIONS PERFORMED BY THE DETECTORS SHALL:

INCLUDE PRESENCE/PASSAGE DETECTION OF MOVING AND STOPPED VECICLES.

ENABLE DETECTION BASED ON THE DIRECTION OF TRAVEL OR BASED ON WHEN A MOVING VEHICLE STOPS

WHILE NOT STRICTLY A DETECTOR, AN OPERATOR-DEFINED LABEL SHALL BE ABLE TO SHOW A LABEL IDENTIFYING LOCATION OF THE CAMERA FIELD OF VIEW, VARIOUS OPERATIONAL SYSTEM PARAMETERS SUCH AS TIME OF DAY, DATE, IP ADDRESS, BAUD RATE, PROCESSING LOAD INDEX, THE STATE OF ANY DETECTOR OUTPUT, AND THE STATE OF ANY DETECTOR INTERFACE CARD OUTPUT (IF ONE IS USED).

THE SENSOR, REAL-TIME DETECTION OPERATION SHALL BE VERIFIABLE THROUGH THE FOLLOWING MEANS:

VIEW THE VIDEO OUTPUT OF THE SENSOR WITH ANY STANDARD VIDEO DISPLAY DEVICE (MONITOR).

ELECTRICALLY MONITOR ASSIGNED CONTACT-CLOSURE PINOUTS FROM AN OPTIONAL DETECTOR INTERFACE CARD.

VIEW THE ASSOCIATED OUTPUT LED STATE ON THE DETECTOR INTERFACE CARD (DETECTOR PORT MASTER). AN LED SHALL BE ON WHEN ITS ASSIGNED DETECTOR OUTPUT OR SIGNAL CONTROLLER PHASE INPUT IS ON. AN LED SHALL BE OFF WHEN ITS ASSIGNED DETECTOR OR SIGNAL CONTROLLER INPUT IS OFF.

THE VIDEO DETECTION SYSTEM SHALL PROVIDE OPTIMAL DETECTION OF VEHICLE PASSAGE AND PRESENCE WHEN THE SENSOR IS MOUNTED 30 FEET OR HIGHER ABOVE THE ROADWAY, THE IMAGE SENSOR IS ADJACENT TO THE DESIRED COVERAGE AREA, AND THE DISTANCE TO THE FARTHEST DETECTION ZONE LOCATIONS IS NOT GREATER THAN 10 TIMES THE MOUNTING HEIGHT OF THE SENSOR.

THE RECOMMENDED DEPLOYMENT GEOMETRY FOR OPTIMAL DETECTION REQUIRES THAT THERE BE AN UNOBSTRUCTED VIEW OF EACH TRAVELED LANE WHERE DETECTION IS REQUIRED. ALTHOUGH OPTIMAL DETECTION MAY BE OBTAINED WHEN THE SENSOR IS MOUNTED DIRECTLY ABOVE THE TRAVELED LANES, THE SENSOR SHALL NOT BE REQUIRED TO BE DIRECTLY OVER THE ROADWAY.

CALCULATED
CSC
CHECKED

TRAFFIC SIGNAL GENERAL NOTES

TRAFFIC SIGNAL GENERAL NOTES

WAY/MED-71-7.04/0.00

THE SENSOR SHALL BE ABLE TO VIEW EITHER APPROACHING OR RECEDING TRAFFIC OR BOTH THE SAME FIELD OF VIEW. THE PREFERRED ORIENTATION FOR OPTIMAL DETECTION SHALL BE TO VIEW APPROACHING TRAFFIC SINCE THERE ARE MORE HIGH-CONTRAST FEATURES ON VEHICLES THAT ARE VIEWED FROM THE FRONT RATHER FROM THE REAR.

THE SENSOR, WHEN PLACED AT A MOUNTING HEIGHT THAT MINIMIZES VEHICLE IMAGE OCCLUSION AND THE ZOOM LENS ADJUSTED TO MATCH THE WIDTH OF THE ROAD, SHALL BE ABLE TO MONITOR A MAXIMUM OF 6 TO 8 TRAFFIC LANES SIMULTANEOUSLY.

THE HEIGHT AND HORIZONTAL AND VERTICAL ANGLES OF THE SENSOR SHALL BE ADJUSTED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER TO ACHIEVE OPTIMAL DETECTION.

USING A SENSOR INSTALLED THAT MEETS THE OPTIMAL VIEWING SPECIFICATIONS DESCRIBED ABOVE FOR COUNT STATION TRAFFIC APPLICATIONS; THE SYSTEM SHALL BE ABLE TO ACCURATELY COUNT VEHICLES WITH AT LEAST 96% ACCURACY UNDER NORMAL OPERATING CONDITIONS (DAY AND NIGHT), AND AT LEAST 93% ACCURACY UNDER ARTIFACT CONDITIONS.

ARTIFACT CONDITIONS ARE COMBINATIONS OF WEATHER AND LIGHTING CONDITIONS THAT RESULT FROM SHADOWS, FOG, RAIN, SNOW, ETC. THE VOLUME COUNT SHALL BE ACCUMULATED FOR THE ENTIRE ROADWAY (ALL TRAVELED LANES, AND ACCUMULATED OVER TIME INTERVALS THAT CONTAIN A MINIMUM OF ONE HUNDRED (100) VEHICLES TO ENSURE STATISTICAL SIGNIFICANCE.

USING A SENSOR INSTALLED THAT MEETS THE OPTIMAL VIEWING SPECIFICATIONS DESCRIBED ABOVE FOR INTERSECTION CONTROL TRAFFIC APPLICATIONS; THE SYSTEM SHALL BE ABLE TO ACCURATELY PROVIDE DEMAND PRESENCE DETECTION.

THE DEMAND PRESENCE ACCURACY SHALL BE BASED ON THE ABILITY TO ENABLE A PROTECTED TURNING MOVEMENT ON AN INTERSECTION STOP LINE, WHEN A DEMAND EXISTS. THE PROBABILITY OF NOT DETECTING A VEHICLE FOR DEMAND PRESENCE SHALL BE LESS THAN 1-PERCENT ERROR UNDER ALL OPERATING CONDITIONS. IN THE PRESENCE OF ARTIFACT CONDITIONS, THE PRESENCE OF SENSOR SHALL MINIMIZE EXTRANEOUS (FALSE) PROTECTED MOVEMENT CALLS TO LESS THAN 7%.

TO ENSURE STATISTICAL SIGNIFICANCE, THE DEMAND PRESENCE ACCURACY AND ERROR SHALL BE CALCULATED OVER TIME INTERVALS THAT CONTAIN A MINIMUM OF ONE HUNDRED PROTECTED TURNING MOVEMENTS.

THESE PERFORMANCE SPECIFICATIONS SHALL BE ACHIEVED WITH A MINIMUM OF 2 PRESENCE DETECTORS COUPLED WITH A SINGLE DETECTOR FUNCTION (TYPE 9) TO PROVIDE ADEQUATE ROAD COVERAGE TO SAMPLE THE RANDOM ARRIVAL PATTERNS OF VEHICLES AT THE STOP LINE.

THE CALCULATION OF THE DEMAND PRESENCE ERROR SHALL NOT INCLUDE TURNING MOVEMENTS WHERE VEHICLES DO NOT PASS THROUGH THE PRESENCE DETECTORS, OR WHERE THEY STOP SHORT OR STOP BEYOND THE COMBINED DETECTION ZONES.

THE SENSOR SHALL ACCURATELY MEASURE AVERAGE (ARITHMETIC MEAN) SPEED OF MULTIPLE VEHICLES WITH MORE THAN 98% ACCURACY UNDER ALL OPERATING CONDITIONS FOR APPROACHING AND RECEDING TRAFFIC.

THE AVERAGE SPEED MEASUREMENT SHALL INCLUDE MORE THAN 10 VEHICLES IN THE SAMPLE TO ENSURE STATISTICAL SIGNIFICANCE. OPTIMAL SPEED DETECTION PERFORMANCE REQUIRES THE SENSOR LOCATION TO FOLLOW THE SPECIFICATIONS DESCRIBED ABOVE FOR COUNT STATION TRAFFIC APPLICATIONS WITH THE EXCEPTION THAT THE SENSOR MUST BE HIGHER THAN 40 FEET.

THE SENSOR SHALL ACCURATELY MEASURE INDIVIDUAL VEHICLE SPEEDS WITH MORE THAN 95% ACCURACY UNDER ALL OPERATING CONDITIONS FOR VEHICLES APPROACHING THE SENSOR (VIEWING THE FRONT END OF THE VEHICLES), AND 90% ACCURACY FOR VEHICLES RECEDING FROM THE SENSOR (VIEWING THE REAR END OF VEHICLES).

THESE SPECIFICATIONS SHALL APPLY TO VEHICLES THAT TRAVEL THROUGH BOTH THE COUNT AND SPEED DETECTOR PAIR AND SHALL NOT INCLUDE PARTIAL DETECTION SITUATIONS CREATED BY LANE-CHANGING MANEUVERS.

THE SENSOR VIDEO CAMERA SHALL USE A 1/3-INCH, 380K/440K, PIXEL SUPER HAD CCD THAT OUTPUTS NTSC OR PAL COLOR VIDEO. THE RESOLUTION FOR NTSC SHALL BE MORE THAN 460 TV LINES (HORIZONTAL) AND 350 TV LINES (VERTICAL). THE RESOLUTION FOR PAL SHALL BE MORE THAN 450 TV LINES (HORIZONTAL) AND 400 TV LINES (VERTICAL).

THE SENSOR VIDEO CAMERA SHALL PROVIDE: DIRECT, REAL-TIME IRIS, SHUTTER SPEED, AND VIDEO GAIN (AGC) CONTROL; A VIDEO SURVEILLANCE MODE WHERE THE VIDEO OUTPUT IS OPTIMIZED FOR HUMAN SURVEILLANCE; AND AN OPTICAL FILTER AND APPROPRIATE ELECTRONIC CIRCUITRY TO SUPPRESS BLOOMING AND STREAKING EFFECTS AT NIGHT.

THE SENSOR VIDEO CAMERA SHALL PROVIDE USEABLE VIDEO AND RESOLVABLE FEATURES IN THE VIDEO IMAGE WHEN THOSE FEATURES HAVE LUMINANCE LEVELS AS LOW AS 0.1 LUX AT NIGHT AT 50 IRE. THE CAMERA SHALL ALSO PROVIDE USEABLE VIDEO AND RESOLVABLE FEATURES IN THE VIDEO IMAGE WHEN THOSE FEATURES HAVE LUMINANCE LEVELS AS HIGH AS 10,000 LUX DURING THE DAY. IT SHALL FURTHER PROVIDE USEABLE VIDEO AND RESOLVABLE FEATURES IN THE VIDEO IMAGE WHEN THE RATIO OF THE LUMINANCE OF THE RESOLVED FEATURES IN ANY SINGLE VIDEO FRAME IS 300:1.

THE SENSOR SHALL BE EQUIPPED WITH AN INTEGRATED ZOOM LENS WITH ZOOM AND FOCUS CAPABILITIES THAT CAN BE CONTROLLED USING EITHER APPLICATIONS SOFTWARE OR A HAND-HELD CONTROLLER. THE ZOOM LENS SHALL PROVIDE TRUE 12X OPTICAL ZOOM OVER THE RANGE 7 TO 73 DEGREES HORIZONTAL AND 5 TO 58 DEGREES VERTICAL. THE FOCUS SHALL BE SET IN THE FACTORY WITH NO FIELD ADJUSTMENT NECESSARY.

THE SENSOR AND LENS ASSEMBLY SHALL BE HOUSED IN AN ENVIRONMENTAL ENCLOSURE THAT PROVIDES THE FOLLOWING CAPABILITIES:

THE ENCLOSURE SHALL BE WATERPROOF AND DUST-TIGHT TO NEMA-4 SPECIFICATIONS, AND SHALL HAVE THE OPTION TO BE PRESSURIZED WITH DRY NITROGEN TO 5+/-1 PSI.

THE ENCLOSURE SHALL ALLOW THE SENSOR TO OPERATE SATISFACTORILY OVER AN AMBIENT TEMPERATURE RANGE FROM -34 DEGREES C WHILE EXPOSED TO PRECIPITATION AS WELL AS DIRECT SUNLIGHT.

THE ENCLOSURE SHALL ALLOW THE IMAGE SENSOR HORIZON TO BE ROTATED DURING FIELD INSTALLATION.

THE ENCLOSURE SHALL INCLUDE A PROVISION AT THE REAR OF THE ENCLOSURE FOR CONNECTION OF THE FACTORY-FABRICATED POWER, COMMUTATIONS, AND VIDEO SIGNAL CABLE. INPUT POWER TO THE ENVIRONMENTAL ENCLOSURE SHALL BE 24 VAC/DC AND WITHER 50 OR 60 HZ.

A FACEPLATE HEATER SHALL BE DIRECTLY APPLIED TO THE INSIDE OF THE FACEPLATE FOR OPTIMAL TRANSFER OF HEAT TO PREVENT THE FORMATION OF ICE AND CONDENSATION IN COLD WEATHER. THE HEATER SHALL NOT INTERFERE WITH THE OPERATION OF THE IMAGE SENSOR ELECTRONICS, AND IT SHALL NOT CAUSE INTERFERENCE WITH THE VIDEO SIGNAL.

THE ENCLOSURE SHALL BE LIGHT-COLORED AND SHALL INCLUDE A SUNSHIELD TO MINIMIZE SOLAR HEATING AND GLARE. THE FRONT EDGE OF THE SUNSHIELD SHALL PROTRUDE BEYOND THE FRONT EDGE OF THE ENVIRONMENTAL ENCLOSURE AND SHALL INCLUDE PROVISION TO DIVERT WATER FLOW TO THE SIDES OF THE SUNSHIELD. THE AMOUNT OF OVERHANG OF THE SUNSHIELD SHALL BE ADJUSTABLE TO PREVENT DIRECT SUNLIGHT FROM ENTERING THE LENS OR HITTING THE FACEPLATE.

THE TOTAL WEIGHT OF THE IMAGE SENSOR IN THE ENVIRONMENTAL ENCLOSURE WITH SUNSHIELD SHALL BE LESS THAN 2.7 KG (6 POUNDS).

WHEN OPERATING IN THE ENVIRONMENTAL ENCLOSURE WITH THE POWER, COMMUNICATIONS AND VIDEO SIGNAL CABLE CONNECTED, THE IMAGE SENSOR SHALL MEET FCC CLASS B AND CE REQUIREMENTS FOR ELECTROMAGNETIC INTERFERENCE EMISSIONS.

THE VIDEO OUTPUT OR THE SENSOR SHALL BE ISOLATED FROM EARTH GROUND. ALL VIDEO CONNECTIONS FROM THE SENSOR TO THE INTERFACE PANEL SHALL BE ISOLATED FROM EARTH GROUND. THE VIDEO OUTPUT, COMMUNICATION, AND POWER STAGES OF THE SENSOR SHALL INCLUDE TRANSIENT PROTECTION TO PREVENT DAMAGE TO THE SENSOR DUE TO VOLTAGE TRANSIENTS OCCURRING ON THE CABLE LEADING FROM THE SENSOR TO OTHER FIELD TERMINATIONS. CONNECTIONS FOR VIDEO, COMMUNICATIONS, AND POWER SHALL BE MADE TO THE IMAGE SENSOR USING A SINGLE, 18-PIN CIRCULAR METAL SHELL CONNECTOR (BENDIX PT07C-14-18P OR EQUIVALENT). THE MATING CABLE SHALL USE A RIGHT-ANGLE SHELL. THE SENSOR SHALL MEET CE, FCC, AND UL REQUIREMENTS FOR SAFETY AND EMI.

A COMMUNICATIONS INTERFACE PANEL SHALL BE PROVIDED WITH EACH SENSOR FOR INSTALLATION. THE COMMUNICATIONS INTERFACE PANEL SHALL PROVIDE A TERMINAL FOR TWO, TWISTED-PAIR WIRES FOR NETWORK COMMUNICATIONS TO THE SENSOR. THE PANEL SHALL ALSO PROVIDE TERMINATIONS FOR ONE, TWISTED-PAIR WIRE FOR DETECTOR PORT COMMUNICATIONS FROM THE SENSOR. THERE SHALL ALSO BE TWO SETS OF TERMINATIONS FOR TWO, TWISTED-PAIR WIRES FOR A POINT-TO-POINT FIELD NETWORK, ONE UPSTREAM TOWARD THE CENTRAL SYSTEM AND ONE DOWNSTREAM TOWARDS MORE FIELD EQUIPMENT. THE COMMUNICATIONS INTERFACE PANEL SHALL ALSO PROVIDE TRANSIENT PROTECTION FROM ALL COMMUNICATION AND VIDEO TERMINATIONS, A DB9 CONNECTOR FOR NETWORK COMMUNICATIONS WITH THE SENSOR, AND A DB9 CONNECTOR FOR AN OPTIONAL TRAFFIC SIGNAL CONTROLLER INTERFACE CARD/DETECTOR PORT MASTER.

THE SENSOR COMMUNICATIONS INTERFACE PANEL SHALL PROVIDE 24 VAC POWER, AT LESS THAN 25 WATTS, 50/60 HZ.

THE SYSTEM SHALL USE A DEFINED COMMUNICATION PROTOCOL (DETECTOR PORT PROTOCOL) BETWEEN THE SENSORS AND THE MINI-HUB, OR TS2 MINI-HUB. THE PROTOCOL SHALL BE USED TO COMMUNICATE TS1 INPUT PINS, TS1 OUTPUT PINS, TS1 DETECTOR STATES, AND TS2 PHASE STATES.

THE DETECTOR INTERFACE CARD SHALL BE THE MASTER OF THE DETECTOR PORT (DPM) AND THE SENSORS SHALL BE THE SLAVES. THE DPM SHALL USE A COMMAND FOR A SINGLE OR UP TO EIGHT (8) SENSORS TO RESPOND. THE DPM SHALL POLL FOR THE CURRENT STATE OF DETECTORS OR FOR CHANGES TO THESE DETECTORS SINCE THE PAST POLL. EACH POLL REQUEST SENT BY THE DPM SHALL CONTAIN THE STATE OF THE INPUTS. DEPENDING ON THE TYPE OF INFORMATION REQUESTED BY THE DPM, THE SENSOR SHALL SEND EITHER THE CURRENT STATE OF ALL DETECTORS OR ANY TIME-STAMPED CHANGES THAT HAVE OCCURRED IN ANY OF THE DETECTORS SINCE THE LAST POLL.

THE DPM SHALL EXCHANGE INPUT AND OUTPUT STATE DATE WITH THE SENSOR EVERY 100 MS. THE DPM INTERFACE CARD SHALL SUBSEQUENTLY TRANSLATE THE DETECTION STATES IN AN ELECTRICALLY COMPATIBLE MANNER TO A TRAFFIC SIGNAL CONTROLLER. THE INTERFACE CARD IMMEDIATELY UPON RECEIPT OF THE STATE CHANGE SHALL APPLY SINGLE PIN STATE OUTPUTS. EACH ON OR OFF PULSE SHALL BE GUARANTEED A MINIMUM PULSE WIDTH OF 100 MS. SPEED OUTPUTS FROM TWO (2) SUCCESSIVE OUTPUT PINS SHALL REFLECT THE TRUE OUTPUT OF THE DELAY PROPORTIONAL TO MEASURED SPEED WITHIN +/-1 MS. EACH INPUT OR OUTPUT PIN OF AN INTERFACE CARD SHALL HAVE ONE ASSOCIATED LED OUTPUT TO REFLECT ITS INPUT OR OUTPUT STATE.

THE VIDEO DETECTION SYSTEM SHALL BE WARRANTED BY ITS SUPPLIER FOR A MINIMUM OF TWO YEARS.

PAYMENT FOR ITEM 632 - SIGNALIZATION MISC.: VIDEO DETECTION UNIT WILL WILL BE AT THE CONTRACT UNIT PRICE FOR EACH CAMERA COMPLETE AND IN PLACE INCLUDING ALL MOUNTING HARDWARE, CABLE AND CONNECTIONS TESTED AND ACCEPTED, UNLESS PAID FOR SEPERATELY ELSEWHERE IN THE PLAN.

CALCULATED
CHECKED

ITEM 632 - SIGNALIZATION MISC.: VIDEO DETECTION SOFTWARE AND TRAINING

A TOTAL OF THREE COPIES OF SOFTWARE SHALL BE INSTALLED ON THE FOLLOWING:

THE REMOTE MONITORING STATION PROVIDED IN THESE PLANS. SEE ITEM 633 - REMOTE MONITORING STATION, AS PER PLAN.

AN ADDITIONAL PERSONAL COMPUTER THAT IS TO BE PROVIDED BY ODOT.

A LAPTOP COMPUTER THAT IS TO BE PROVIDED BY ODOT.

THE SYSTEM SOFTWARE SHALL RUN ON A PERSONAL COMPUTER WITH A PENTIUM(R) III PROCESSOR (800 MHZ OR FASTER), MICROSOFT(R) WINDOWS 2000 OR NT(R) 4.0 WITH LATEST MICROSOFT SERVICE PACK AND MICROSOFT(R) 98(R) OR WINDOWS ME(R).

THE SOFTWARE APPLICATION(S) SHALL PROVIDE THE FOLLOWING FUNCTIONS:

A TOP-LEVEL, USER INTERFACE TO ALL CLIENT APPLICATIONS. THE INTERFACE SHALL LEARN AND DISPLAY A VIEW OF THE NETWORK TO SERVERS, CHANNELS, SENSORS, ALLOWING THE USER TO SELECT SENSORS TO CONFIGURE OR TO MONITOR.

SAVE OR OPEN DETECTOR CONFIGURATION FILES; CREATE, EDIT, OR DOWNLOAD A DETECTOR CONFIGURATION TO A SENSOR; UPLOAD EXISTING DETECTOR CONFIGURATION FILES; GET, SAVE, OR RESTORE STILL IMAGES (VIDEO SNAPSHOTS); AND CALIBRATE THE FIELD OF VIEW OF THE SENSOR TO REAL-WORLD COORDINATES:

INSTALL A NEW VERSION OF THE RUN-TIME EMBEDDED SOFTWARE ON THE SPECIFIED SENSORS.

RETRIEVE LOGS OF SIGNIFICANT EVENTS SUCH AS INFORMATION MESSAGES, WARNINGS, AND ERRORS, FROM SENSORS. THE USER SHALL BE ABLE TO SAVE THE LOG MESSAGES AND THEN VIEW OR PRINT THEM.

RETRIEVE TRAFFIC DATA FROM A SENSOR FOR LATER STUDY.

RETRIEVE STATUS INFORMATION FOR THE SELECTED COMMUNICATIONS SERVICES.

RETRIEVE REAL-TIME DATA FROM THE ONE OR MORE SPECIFIED SENSORS.

VIEW AND CHANGE THE CONFIGURATION OF A SPECIFIED SENSOR, EXCLUSIVE OF DETECTOR CONFIGURATIONS.

RETRIEVE STATUS DATE FROM A SPECIFIED SENSOR AND DISPLAY IT TO THE USER, UPDATED AT A SELECTABLE INTERVAL.

DISPLAY REAL-TIME STREAMING VIDEO.

EACH OF THE ABOVE APPLICATIONS SHALL HAVE ONLINE HELP THAT PROVIDES EXTENSIVE, CONTEXT-SENSITIVE, INFORMATION ABOUT USING THE SOFTWARE APPLICATIONS.

AN ASSOCIATED SOFTWARE DEVELOPER'S KIT (SDK) SHALL BE PROVIDED TO FACILITATE PROGRAMMING AND INTEGRATION OF TRAFFIC DATA INTO TRAFFIC MANAGEMENT APPLICATIONS.

ONGOING SOFTWARE SUPPORT BY THE SUPPLIER SHALL INCLUDE UPDATES OF APPLICATION SOFTWARE. THESE UPDATES SHALL BE PROVIDED FREE OF CHARGE DURING THE WARRANTY PERIOD OF TWO YEARS.

ONGOING SOFTWARE SUPPORT BY THE SUPPLIER SHALL INCLUDE UPDATES OF THE SENSOR SOFTWARE. THESE UPDATES SHALL BE PROVIDED FREE OF CHARGE DURING THE WARRANTY PERIOD.

THE SUPPLIER SHALL MAINTAIN A PROGRAM FOR TECHNICAL SUPPORT AND SOFTWARE UPDATES FOLLOWING THE EXPIRATION OF THE WARRANTY PERIOD. THIS PROGRAM SHALL BE MADE AVAILABLE TO THE CONTRACTING AGENCY IN THE FORM OF A SEPARATE AGREEMENT FOR CONTINUING SUPPORT.

THE SUPPLIER SHALL PROVIDE A MINIMUM OF 40 HOURS OF TRAINING TIME TO ODOT MAINTENANCE PERSONNEL. TRAINING SHALL INCLUDE MAINTENANCE AND OPERATION PROCEDURES FOR THE VIDEO DETECTION UNITS AND SYSTEM COMPUTERS.

PAYMENT FOR ITEM 632 - SIGNALIZATION MISC.: VIDEO DETECTION SYSTEM SOFTWARE AND TRAINING WILL BE MADE AS A LUMP SUM.

ITEM 633 - REMOTE MONITORING STATION, AS PER PLAN

THE REMOTE MONITORING STATION SHALL INCLUDE ONE DESKTOP PERSONAL COMPUTER, ONE NOTEBOOK COMPUTER, ONE COLOR LASER PRINTER, AND ALL NECESSARY INTERFACE CABLES NEEDED TO MAKE THE SYSTEM OPERATIONAL. IN ADDITION TO THE REQUIREMENTS OF CMS 633 AND 733, THE FOLLOWING SPECIFICATIONS SHALL APPLY:

1) NEW DESKTOP PERSONAL COMPUTER

   a) PENTIUM 4 - 2.4 GHZ MINIMUM CPU WITH 512 MB RAM
   b) 19" FLAT SCREEN COLOR SVGA MONITOR AND COLOR VIDEO ADAPTER BOTH SUPPORTING 1280X1024 MINIMUM RESOLUTION
   c) 60 GB MINIMUM HARD DRIVE
   d) 3.5" 1.44 MB FLOPPY DISK
   e) CD ROM DRIVE AND DVDRW DRIVE
   f) 56K INTERNAL MODEM
   g) ETHERNET CARD
   h) MINIMUM TWO USB PORTS, ONE SERIAL PORT, AND ONE PARALLEL PORT
   i) KEYBOARD AND 2-BUTTON OPTICAL MOUSE
   j) MICROSOFT WINDOWS XP PROFESSIONAL
   k) LATEST VERSION OF MICROSOFT OFFICE XP
   l) LATEST VERSION OF SYNCHRO

2) NEW NOTEBOOK COMPUTER

   a) DURABLE DESIGN RESISTANT TO DUST, SPILLS, SHOCK AND VIBRATION.
   b) MOBILE PENTIUM III LOW VOLTAGE CPU-M MINIMUM 800 MHZ
   c) MINIMUM 512 MB SDRAM
   d) 12.1" (OR LARGER) XGA ANTI-GLARE ACTIVE MATRIX COLOR DISPLAY AND COLOR VIDEO ADAPTER BOTH SUPPORTING 1024X768 MINIMUM RESOLUTION.
   e) 30 GB MINIMUM HARD DRIVE
   f) 3.5" 1.44 MB FLOPPY DISK
   g) CDRW DRIVE
   h) 56K INTERNAL MODEM
   i) ETHERNET CARD
   j) MINIMUM ONE USB PORT, ONE SERIAL PORT, AND ONE PARALLEL PORT
   k) EXTERNAL VIDEO SUPPORT
   l) BUILT IN KEYBOARD AND TOUCHPAD POINTING DEVICE
   m) EXTERNAL 2-BUTTON OPTICAL MOUSE
   n) SAME SOFTWARE AS DESCRIBED FOR DESKTOP PC

3) NEW COLOR LASER PRINTER

   a) MINIMUM 600X600 RESOLUTION
   b) 128 MB MEMORY (EXPANDABLE TO 256MB) OR GREATER
   c) 300 MHZ PROCESSOR OR FASTER
   d) NETWORK READY WITH USB CONNECTIVITY

ITEM 633 REMOTE MONITORING STATION, AS PER PLAN 1 EACH

PAYMENT FOR THIS ITEM 633, REMOTE MONITORING STATION, AS PER PLAN, WILL BE AT THE CONTRACT PRICE BID PER EACH COMPLETE AND IN PLACE.

ITEM 632 - SIGNALIZATION MISC.: VIDEO DETECTION TRANSMISSION SUBSYSTEM

THIS ITEM SUPPLIES THE INSTALLATION AND THE HARDWARE NECESSARY TO ALLOW THE VIDEO FROM EACH IMAGE SENSOR TO BE TRANSFERRED BACK TO THE FIELD MASTER UTILIZING A MODEM AND TWO STRANDS OF THE FIBER OPTIC INTERCONNECT SYSTEM. THE DETAIL ON SHEET 443 ILLUSTRATES THIS VIDEO TRANSFER. THIS SYSTEM WILL ALSO BE USED TRANSMIT COMMAND INFORMATION TO THE LOCAL SENSORS.

THE VIDEO DETECTION FIELD MASTER SHALL, IN TURN, COMMUNICATE WITH THE REMOTE MONITORING STATIONS AT THE ODOT DISTRICT 3 OFFICE VIA A DIAL-UP TELEPHONE MODEM OR LOCALLY TO A LAPTOP. THIS COMMUNICATION SHALL BE CAPABLE OF HANDLING ALL THE FUNCTIONALITY OF THE VIDEO DETECTION SYSTEM SOFTWARE DESCRIBED ABOVE UNDER ITEM 632 - SIGNALIZATION MISC.: VIDEO DETECTION SYSTEM SOFTWARE AND TRAINING. PAYMENT FOR THIS ITEM 632 SIGNALIZATION MISC.: VIDEO DETECTION TRANSMISSION SUBSYSTEM SHALL INCLUDE ALL LABOR, EQUIPMENT AND MATERIALS TO IMPLEMENT THIS COMMUNICATION AT A SINGLE INTERSECTION.

ITEM 633- SYSTEM ANALYSIS, AS PER PLAN

THIS WORK SHALL BE AS PER 633.17, EXCEPT AS MODIFIED BELOW:

1. THE WEEKDAY AND WEEKEND INBOUND CONDITIONS AND THE WEEKDAY AND WEEKEND OUTBOUND CONDITIONS SHALL BE CONSIDERED TWO PERIODS: ONE RELATING TO TRAVEL TO AND FROM EMPLOYMENT FROM ABOUT 7:00 AM TO 9:00 AM AND FROM ABOUT 4:00 PM TO 6:00 PM, AND THE SECOND RELATING TO TRAVEL TO AND FROM THE DISCOUNT SHOPPING MALL IN THE LATE MORNING AND DURING THE EVENING. THE ANALYSIS SHALL IDENTIFY SHOPPING PEAKS AND WORK TRAVEL PEAKS AND DEVELOP SEPARATE PROGRAMS TO EFFICIENTLY CONTROL TRAFFIC IN THESE PERIODS.

2. SPECIAL PROGRAMS SHALL BE DEVELOPED TO DEAL WITH HOLIDAY SHOPPING PEAKS, BOTH INBOUND TO THE MALL AND OUTBOUND.

3. A SPECIAL PROGRAM SHALL BE DEVELOPED TO REACT TO BACKUPS DETECTED ON THE SOUTHBOUND OFF-RAMP, WHICH HAVE, OR THREATEN TO, EXTEND BACK INTO THE DECELERATION LANE OR ONTO THE FREEWAY. THIS PATTERN SHALL BE INITIATED BASED ON DATA FROM DETECTOR SL1 AS SHOWN ON SHEET 451 WHICH SHALL MEASURE OCCUPANCY ON THE RAMP. ALGORITHMS SHALL BE PROVIDED BY THE CONTRACTOR TO ANALYZE DATA FROM THIS DETECTOR AND THEREBY DETERMINE WHEN CRITICAL BACKUP IS IMMINENT. THE MASTER CONTROL SOFTWARE SHALL INCLUDE THIS CAPABILITY.

4. TRAFFIC SIGNAL SYSTEM CONTROL PROGRAMS SHALL BE DEVELOPED AND LOADED FOR THE CONDITIONS ANALYZED IN ITEMS 1 - 3, ABOVE.

5. IT IS INTENDED THAT THE TRAFFIC SIGNAL SYSTEM SHALL BE INSTALLED AND FUNCTIONING DURING THE FIRST PHASE OF CONSTRUCTION, IN ORDER THAT IT SHALL BE AVAILABLE TO CONTROL TRAFFIC DURING LATER CONSTRUCTION PHASES ON SR 83. IN THIS REGARD, TRAFFIC SIGNAL TIMING PATTERNS SHALL BE DEVELOPED AND LOADED (UNDER THE APPROVAL OF THE ENGINEER) TO CONTROL TRAFFIC DURING LATER CONSTRUCTION PHASES.

ITEM 633 - SYSTEM ANALYSIS, AS PER PLAN LUMP SUM

FIBER OPTIC SPECIFICATIONS

GENERAL REQUIREMENTS

THE FOLLOWING PROVIDES THE MINIMUM STANDARDS AND QUALIFICATIONS NECESSARY TO PROVIDE A FIBER OPTIC COMMUNICATION LINK BETWEEN INTERSECTIONS IN AN INTERCONNECTED TRAFFIC SIGNAL SYSTEM.

MATERIALS AND EQUIPMENT SHALL BE THE STANDARD PRODUCTS OF A MANUFACTURER REGULARLY ENGAGED IN THE MANUFACTURING OF PRODUCTS USED FOR OUTDOOR FIBER OPTIC SYSTEM INSTALLATIONS. ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW, OF FIRST QUALITY, OF LATEST DESIGN AND BE COMPLETELY FREE FROM DEFECTS IN MATERIAL AND POOR WORKMANSHIP. ALL LIKE PIECES OF EQUIPMENT SHALL BE OF THE SAME TYPE AND MANUFACTURER TO ASSURE UNIFORMITY, INTERCHANGEABILITY OF COMPONENTS, SINGLE RESPONSIBILITY, AND MOST SATISFACTORY SERVICE.

EACH MAJOR COMPONENT OF EQUIPMENT SHALL HAVE THE MANUFACTURER'S NAME, ADDRESS, TYPE OR STYLE, MODEL OR SERIAL NUMBER AND CATALOG NUMBER ON A PLATE SECURED TO THE EQUIPMENT.

THE FIBER OPTIC INSTALLATION SHALL BE IN ACCORDANCE WITH OR EXCEED ALL MINIMAL REQUIREMENTS OF STATE CODES, NATIONAL CODES AND MANUFACTURER CODES AS APPLICABLE. CONSTRUCTION TECHNIQUES SHALL CONFORM TO THE FOLLOWING IN ORDER OF PRECEDENCE. (1) THESE STANDARDS AND SPECIFICATIONS; (2) CABLE MANUFACTURER; (3) ACCEPTED INDUSTRY PRACTICES.

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY MISCELLANEOUS EQUIPMENT TO MAKE A COMPLETE AND OPERATING SYSTEM. THE COST FOR ALL MATERIALS AND LABOR NOT SPECIFICALLY ITEMIZED SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS ITEMS OF WORK.

APPLICABLE STANDARDS

MATERIALS AND EQUIPMENT SUPPLIED AS PART OF THE FIBER OPTIC SYSTEM SHALL COMPLY WITH THE LATEST ISSUE OF THE FOLLOWING DOCUMENTS:

RUS RURAL UTILITY SERVICE MATERIAL ACCEPTANCE LIST

REA SPECIFICATIONS FOR FILLED FIBER OPTIC CABLES

EIA-STD-RS-455 STANDARD TEST PROCEDURES FOR FIBER OPTIC FIBERS, CABLES, TRANSDUCERS, CONNECTING AND TERMINATING DEVICES

MIL-STD-202 TEST METHODS FOR ELECTRONIC AND ELECTRICAL COMPONENT PARTS

MIL-STD-454 STANDARD GENERAL REQUIREMENTS FOR ELECTRONIC EQUIPMENT

MIL-STD-810 ENVIRONMENTAL TEST METHODS AND ENGINEERING GUIDELINES

EIA/TIA-598 TUBE AND FIBER COLOR CODE

EIA-568-A FIBER OPTIC CABLE TESTING PROCEDURES

NFPA-70-1993 NATIONAL ELECTRICAL CODE ARTICLE 770, OPTICAL FIBER CABLE

FIBER OPTIC CONTRACTOR QUALIFICATIONS

ANY PROJECT REQUIRING THE OPENING OF THE FIBER OPTIC CABLE JACKET, INSTALLATION OF FIBER OPTIC CONNECTORS, SPLICING FIBERS, OR THE TESTING OF ANY FIBER OPTIC CABLE, DROP CABLE, OR PATCH CORDS SHALL HAVE AT LEAST ONE SUPERVISING FIBER OPTIC TECHNICIAN (SFOT) ASSIGNED TO IT. SUPERVISING FIBER OPTIC TECHNICIANS SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS.

(1) SUPERVISING FIBER OPTIC TECHNICIANS (SFOT) SHALL HAVE ATTENDED AND SUCCESSFULLY COMPLETED AT LEAST ONE COMPREHENSIVE "INSTALLATION OF FIBER OPTIC PRODUCTS SCHOOL". THIS SCHOOL WILL BE CONDUCTED BY A MAJOR MANUFACTURER OF FIBER OPTIC PRODUCTS OR AN APPROVED INDEPENDENT SCHOOL THAT ENCOMPASSES ALL ASPECTS OF FIBER OPTIC TECHNICIAN CERTIFICATION.

(2) SFOT'S SHALL BE ABLE TO DOCUMENT A MINIMUM OF ONE YEAR OF WORK EXPERIENCE WHERE THE SPLICING, TERMINATION, AND TESTING OF FIBER OPTIC CABLE WITH AN OPTICAL TIME DOMAIN REFLECTOMETER (OTDR) AND POWER METER WAS A PRIMARY JOB RESPONSIBILITY.

THE SFOT SHALL BE ON THE JOB SITE SUPERVISING OTHER TECHNICIANS AT LEAST THE FIRST THREE DAYS OF EACH OF THE FOLLOWING ACTIVITIES: CABLE PULLING; REMOVAL OF CABLE JACKETS; CABLE SPLICING; INSTALLATION OF FAN-OUT KITS AND CONNECTORS. THE SFOT SHALL SUPERVISE A MINIMUM OF THE FIRST THREE DAYS ACTIVITIES OF EACH OF THE ABOVE LISTED ACTIVITIES TO MAKE SURE THE OTHER TECHNICIANS ARE PERFORMING THEIR WORK ASSIGNMENTS CORRECTLY.

THE SFOT SHALL ALSO BE PRESENT TO REVIEW THE ENTIRE INSTALLATION BEFORE COMPLETION.

(4) TECHNICIANS, OTHER THAN THE SFOT, PERFORMING FIBER OPTIC WORK SUCH AS CABLE CLEANING, SPLICING, CONNECTORIZING AND TERMINATIONS SHALL HAVE SUCCESSFULLY COMPLETED A MINIMUM OF ONE 16 HOUR FIBER OPTIC CABLE INSTALLATION COURSE FROM A MAJOR CABLE MANUFACTURER OR APPROVED INDEPENDENT SCHOOL.
(5) ALL FIBER OPTIC TECHNICIANS SHALL CARRY EVIDENCE OF THEIR QUALIFICATIONS ON THEIR PERSON AT ALL TIMES WHEN WORKING ON THE PROJECT.

GENERAL SYSTEM CONSTRUCTION

ENTRY INTO CONTROLLER CABINETS FROM THE TRUNK CABLE SHALL BE MADE VIA THE SPECIFIED DROP CABLE. THE DROP CABLE WILL BE SPLICED TO THE TRUNK CABLE IN A SPECIFIED SPLICE ENCLOSURE. THE DROP CABLE INSIDE OF THE CABINET SHALL BE FITTED WITH A FAN-OUT KIT AND THE FAN-OUT KIT SHALL BE CONNECTORIZED AND TERMINATED IN THE SPECIFIED TERMINATION PANEL. A FOUR (4) FIBER PATCH CORD SHALL CONNECT THE DROP CABLE FIBERS IN THE TERMINATION PANEL TO THE FIBER OPTIC TRANSCEIVER. SEE "TYPICAL SYSTEM CONSTRUCTION" DETAILS.

CABLE INSTALLATION

1. BOTH AERIAL AND CONDUIT INSTALLATIONS SHALL COMPLY WITH NO LOAD AND APPLIED LOAD BEND RADII SPECIFIED BELOW

MINIMUM BEND RADIUS

10 X CABLE DIAMETER UNDER NO LOAD (0-180LBS) (0-82KGS)

20 X CABLE DIAMETER UNDER APPLIED LOAD (181 LBS - 400 LBS)(83KGS-182KGS)

MINIMUM BEND DIAMETER IS 2 X MINIMUM BEND RADIUS

2. NO FIBER OPTIC CABLE SHALL BE INSTALLED PRIOR TO THE ENGINEER ACKNOWLEDGING THE CABLE DELIVERED TO THE PROJECT IS ACCEPTABLE BASED UPON THE CONTRACTOR COMPLETING THE PRE-INSTALLATION TESTING GIVEN IN THESE SPECIFICATIONS.
3. FIBER OPTIC CABLE INSTALLED IN CONDUIT SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
   A. NO MORE THAN TWO 90 DEGREE CHANGES IN DIRECTION PER CABLE PULL.
   B. CIRCUITOUS PULLS AND PULLS EXCEEDING 1000 FEET (300 METER) SHALL BE MADE BY BACK FEEDING OR CENTER FEEDING OF CABLE.
   C. AFTER INSTALLATION THERE SHALL BE NO TENSION EXCEPT DUE TO CABLE WEIGHT.
   D. TENSION OF CABLE SHALL BE MONITORED WITH A TENSIOMETER DURING INSTALLATION.
   E. THE APPLIED TENSION SHALL NOT EXCEED 400 POUNDS (182KGS).
   F. THE CENTRAL STRENGTH MEMBER AND THE ARAMID YARN SHALL BE DIRECTLY ATTACHED TO THE PULLING EYE. "BASKET GRIP" OR "CHINESE FINGER" TYPE ATTACHMENTS TO THE OUTER JACKET OF THE CABLE WILL NOT BE PERMITTED. A BREAKAWAY SWIVEL SHALL BE USED ON ALL PULLS.

4. FIBER OPTIC CABLE INSTALLED AERIALLY SHALL BE PROVIDED WITH A SAG OF 3% - 5% UNLESS EXISTING CABLES WILL BE SHARING THE POLE IN WHICH CASE A SAG MATCHING THE EXISTING CABLES SHALL BE PROVIDED.

5. SPLICING REELS OF CABLE - THE METHOD OF JOINING TWO REELS OF FIBER OPTIC CABLE SHALL BE FUSION SPLICING ALL OF THE TRUNK CABLE FIBERS OF ONE REEL TO THE CORRESPONDING FIBERS IN THE SECOND REEL. ALL SPLICES FOR JOINING TWO FIBER REELS OF TRUNK CABLE TOGETHER SHALL BE MADE IN THE SPLICE ENCLOSURE AT THE LAST INTERSECTION THE INTERCONNECT CABLE PASSED THROUGH. IN OTHER WORDS, WHEN A REEL RUNS OUT OF CABLE, ANY EXCESS BEYOND THE LAST TRAFFIC SIGNAL INTERSECTION SPLICE POINT SHALL BE CUT OFF AND DISPOSED OF BY THE CONTRACTOR. THE SPLICE JOINING THE TWO CABLE REELS TOGETHER SHALL BE MADE IN THE INTERSECTION SPLICE ENCLOSURE THAT CONTAINS THE DROP CABLE TO TRUNK CABLE SPLICE. COST FOR THE QUANTITY OF CUT OFF FIBER OPTIC CABLE AND FOR THE ADDITIONAL 16 SPLICES BEYOND THE FOUR SPLICES REQUIRED TO INSTALL THE DROP CABLE SHALL BE INCIDENTAL TO THE COST OF THE FIBER OPTIC CABLE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CALCULATE HIS COST TO JOIN FIBER OPTIC REELS ON THE PROJECT BASED UPON THE REEL LENGTHS THAT HE ORDERS. WHERE INTERCONNECT SYSTEM LENGTH PERMITS, THE CONTRACTOR CAN AVOID THE COST OF JOINING CABLE REELS TOGETHER BY ORDERING A SINGLE REEL OF SUFFICIENT LENGTH TO EXTEND FROM ONE END OF PROJECT TO THE OTHER.

THE ONLY PLACE WHERE FIBERS THAT ARE NOT USED FOR INTERCONNECTION CAN BE CUT IS WHERE IT IS NECESSARY TO SPLICE TWO REELS OF CABLE TOGETHER. THIS PRACTICE OF CUTTING UNUSED FIBERS SHALL BE KEPT TO A MINIMUM AND SHALL NOT OCCUR MORE THAN ONCE PER EVERY MILE (1600 METERS).

CABLE CLEANING

LOOSE TUBE CABLE WILL REQUIRE THE CONTRACTOR TO USE A DE-GEL SOLVENT TO REMOVE WATER BLOCKING GEL FROM EXPOSED FIBERS AND/OR BUFFER TUBES PRIOR TO PLACEMENT OF FAN-OUT KITS, SPLICING OR TERMINATION OF EACH FIBER. THE SOLVENT CHOSEN FOR THIS TASK SHALL DISSOLVE THE GEL AND ALLOW FOR A COMPLETE REMOVAL OF ALL SOLVENT RESIDUE. THE SOLVENT SHALL NOT REMOVE ANY OF THE COLOR FROM INDIVIDUAL FIBER OR BUFFER TUBES AND SHALL NOT PROVE HARMFUL TO THE OUTER PE JACKET OF THE CABLE ITSELF. 3M'S PART NUMBER 4414 "FILLED CABLE CLEANING KIT" OR APPROVED EQUAL SHALL BE UTILIZED AT EVERY OPENING OF THE CABLE. COST FOR DE-GEL SOLVENT AND CLEANING OF FIBERS SHALL BE INCIDENTAL TO THE COST OF THE CABLE.

ITEM 632 INTERCONNECT MISC.: 12 FIBER, LOOSE TUBE, MULTIMODE

1. THE FIBER OPTIC CABLE SUPPLIED SHALL BE A 12 FIBER MULTIMODE (MM). MULTI-MODE CABLE SHALL HAVE A 62.5 M NOMINAL CORE DIAMETER.
2. ALL FIBER OPTIC CABLE SUPPLIED SHALL BE AN ACCEPTED CABLE WITH THE RURAL UTILITY SERVICE (RUS). A LIST OF ACCEPTABLE CABLE CAN BE FOUND ON THE RUS WEB SITE: (WWW.USDA.GOV/RUS/TELEPHONE/LSTMAT/SEC-1.HTM)

3. ALL FIBER OPTIC CABLE GLASS SHALL BE SUPPLIED BY THE SAME MANUFACTURER AND SHALL BE PART OF A FIBER OPTIC CABLE UTILIZING LOOSE TUBE CONSTRUCTION WITH THE FOLLOWING PROPERTIES:

MULTI-MODE SINGLE MODE
CLADDING DIA. 125+/-1.0 M 125+/-1.0 M
COATING DIA. 245+/-10 M 245+/-10 M
NUMERICAL APERTURE 0.275+/-0.015 N/A
MAX. ATTENUATION 3.5/1.0 DB/KM@850/1300NM 0.4/0.3 DB/KM@1310/1550NM
MIN. BANDWIDTH 160/500 MHZ-KM@850/1300NM N/A
PROOF TENSILE TEST 0.7 GPA 0.7 GPA

4. WHERE ARMORED CABLE IS SPECIFIED IT SHALL BE ON THE RUS ACCEPTABLE MATERIAL LIST.
5. WHERE SELF SUPPORTING CABLE IS SPECIFIED THE MESSENGER CABLE SHALL 0.25 INCH (6 MM) AND SHALL BE ON THE RUS ACCEPTABLE MATERIAL LIST.

6. DOCUMENTATION SHALL BE PROVIDED SHOWING RUS ACCEPTANCE.

7. CABLES SHALL BE PACKAGED WOUND ON NON-RETURNABLE WOOD SPOOLS OR REELS. THE DIAMETER OF THE DRUM SHALL BE A MINIMUM OF 20 TIMES THE DIAMETER OF THE CABLE. EACH REEL SHALL CONTAIN ONLY ONE CONTINUOUS LENGTH OF CABLE. LABELS SHALL BE ATTACHED TO THE REEL SHOWING LENGTH, CABLE IDENTIFICATION NAME AND NUMBER, AND DATE OF MANUFACTURE.

THE OUTER ENDS OF THE CABLE SHALL BE SECURELY FASTENED TO THE REEL HEAD SO AS TO PREVENT THE CABLE FROM BECOMING LOOSE DURING TRANSIT. BOTH ENDS OF THE CABLE SHALL EXTEND A MINIMUM OF 10 FEET (3M) INTO THE INSIDE OF THE CABLE REEL TO PROVIDE ACCESS FOR TESTING. TEST TAILS SHALL BE SECURED TO THE INSIDE OF THE REEL IN SUCH A MANNER THAT THEY WILL NOT BECOME LOOSE DURING TRANSPORTATION. END SEALS SHALL BE APPLIED TO EACH END OF THE CABLE TO PREVENT THE INTRUSION OF MOISTURE INTO THE CABLE.

8. DOCUMENTATION SHALL ACCOMPANY EACH REEL DOCUMENTING THE ATTENUATION OF EACH CABLE FIBER IN DB/KM.

ALL FIBER OPTIC CABLE TO BE USED AS PART OF THE TRAFFIC SIGNAL SYSTEM SHALL BE RATED FOR OUTDOOR USE UNLESS SPECIFICALLY NOTED IN THE PLANS.

9. FIBER OPTIC CABLE RIP CORDS SHALL BE PROVIDED AND MADE FROM EITHER STANDARD TELCO NYLON MATERIAL OR FROM BRAIDED KEVLAR. NO UN-BRAIDED KEVLAR WILL BE ACCEPTED.

CABLE JACKETING SHALL BE PERMANENTLY LABELED APPROXIMATELY EVERY TWO FEET WITH THE CABLE MANUFACTURER'S NAME, CABLE TYPE, FIBER COUNT, MANUFACTURING DATE, AND INCREMENTAL CABLE LENGTH. CABLE LENGTH SHALL REFER TO THE CABLE SHEATH LENGTH.

ALL COSTS TO INSTALL FIBER OPTIC CABLE, EITHER AERIALLY OR UNDERGROUND, SHALL INCLUDE THE COSTS FOR EQUIPMENT, LABOR, AND MISCELLANEOUS MATERIALS IN THE BID ITEM PRICE PER FOOT OF ITEM 632 INTERCONNECT MISC.: 12 FIBER, LOOSE TUBE, BY TYPE UNLESS ITEMIZED SEPARATELY.

CALCULATED
GSC
CHECKED

TRAFFIC SIGNAL GENERAL NOTES

WAY/MED-71-7.04/0.00

DATE: $DATE$ $TIME$
FILENAME: $FILE$

632 INTERCONNECT, MISC.: FAN-OUT KIT, 6 FIBER

FAN-OUT KITS SHALL BE PROVIDED FOR LOOSE TUBE CABLE TERMINAL ENDS THAT NEED TO BE FITTED WITH CONNECTORS. THE FAN-OUT KIT CAN BE AN INDIVIDUAL BUFFER TUBE KIT, MULTIPLE BUFFER TUBE KIT OR SPIDER DESIGN KIT. ALL FAN-OUT KITS SHALL HAVE A MINIMUM OF 24" (610 MM) OF TUBING COVERING EACH FIBER WHEN INSTALLATION IS COMPLETE. PRIOR TO ANY WORK THE CONTRACTOR SHALL SUBMIT FOR APPROVAL; CATALOG CUT SHEETS, GENERAL SPECIFICATIONS, AND STANDARD OPERATING PROCEDURES FOR THE KIT THAT IS TO BE UTILIZED ON THE PROJECT. ONLY ONE TYPE OF FAN-OUT KIT MAY BE USED THROUGHOUT THE PROJECT. FAN-OUT KITS SHALL BE RATED FOR OUTDOOR USE (-40C TO 70 C). 6 OF THE FIBERS OF EACH CABLE SHALL BE INSERTED IN THE FAN-OUT KIT PROVIDED FOR THAT CABLE, CONNECTORIZED AND TERMINATED IN THE TERMINATION PANEL FOR CURRENT OR FUTURE USE. 2 OF THESE FROM EACH CABLE SHALL BE USED FOR DAISY CHAIN COMMUNICATION FOR THE SIGNAL SYSTEM. THE REMAINING 6 FIBERS IN EACH CABLE SHALL NOT BE CUT SHORT, BUT RATHER THEY SHALL BE LEFT IN THEIR TUBE AND PLACED IN A PROTECTED COIL OF ADEQUATE DIAMETER TO SAFEGUARD THE FIBERS FOR FUTURE USE. COST FOR THE CONNECTORS USED WITH THE FAN-OUT KIT WILL BE ITEMIZED SEPARATELY. COST FOR LOOSE TUBE FAN-OUT KITS SHALL BE PAID AT THE BID ITEM PRICE FOR EACH ITEM 632 INTERCONNECT, MISC.: FAN-OUT KIT, 6 FIBER AND SHALL INCLUDE ALL COSTS FOR MATERIAL, EQUIPMENT, TOOLS AND LABOR TO PROVIDE AND INSTALL THE FAN-OUT KIT.

ITEM 632 INTERCONNECT, MISC.: FIBER OPTIC PATCH CORD, 4 FIBER

A FOUR FIBER PATCH CORD SHALL BE PROVIDED BETWEEN EACH FIBER OPTIC TRANSCEIVER AND EACH TERMINATION PANEL. THE FIBERS SHALL BE EITHER MULTI-MODE OR SINGLE MODE AS REQUIRED TO MATCH THE TRUNK CABLE AND TRANSCEIVER. PATCH CORDS SHALL BE FITTED WITH SC/PC TYPE CONNECTORS UNLESS THE PROPOSED/EXISTING EQUIPMENT REQUIRES A DIFFERENT CONNECTOR. CONNECTORS SHALL BE ATTACHED TO THE PATCH CORDS USING AN EPOXY CRIMPED METHODOLOGY WHERE THE KEVLAR IS CRIMPED TO THE CONNECTOR. COST FOR SUPPLYING AND INSTALLING CONNECTORS ON ALL ENDS OF THE PATCH CORD SHALL BE INCIDENTAL TO THE BID ITEM PRICE OF THE PATCH CORD. THE CONTRACTOR AT HIS OPTION MAY SUPPLY FOUR SEPARATE ONE FIBER PATCH CORDS, HOWEVER, ONLY ONE 4 FIBER PATCH CORD QUANTITY WILL BE PROVIDED AT EACH CONTROLLER. COST FOR THE PATCH CORD SHALL BE AT THE BID ITEM PRICE FOR EACH ITEM 632 INTERCONNECT, MISC.: FIBER OPTIC PATCH CORD, 4 FIBER.

632 INTERCONNECT, MISC.: TERMINATION PANEL

TERMINATION PANELS USED IN NEMA CABINETS SHALL BE A MODEL WCH-02P AS MANUFACTURED BY SIECOR OR APPROVED EQUAL. THE NEMA CABINET TERMINATION PANEL SHALL BE ATTACHED TO THE SIDE OF THE CABINET IN A PLACE THAT PROVIDES MOST ROOM FOR MAKING CONNECTIONS. AFTER ATTACHING THE TERMINATION PANEL ON THE WALL OF THE CABINET OR SUPPORT MEMBER, NO SHARP OBJECTS SUCH AS SCREWS SHALL PROTRUDE OUTSIDE OF THE CABINET THAT MIGHT CAUSE INJURY TO PEDESTRIANS. TERMINATION PANELS USED IN 170/ITS CABINETS SHALL BE MOUNTED WITHIN THE 19" (483 MM) CAGE AND SHALL BE MODEL CCH02U AS MANUFACTURED BY SIECOR OR APPROVED EQUAL. ALL COSTS INCLUDING MATERIALS, TOOLS AND LABOR TO PROVIDE AND INSTALL TERMINATION PANEL SHALL BE INCLUDED IN THE BID ITEM PRICE FOR EACH ITEM 632 INTERCONNECT, MISC.: TERMINATION PANEL.

ITEM 625 PULL BOX MISC.: PULLBOX, 725.07, 24" X 35" X 26"

PULL BOXES SHALL HAVE NOMINAL OPENING DIMENSIONS OF 24 INCHES X 35 INCHES AS MANUFACTURED BY CARSON MODEL 2436 (BOX) AND MODEL 2436-2R (COVER); ASSOCIATED PLASTICS MODEL FCB243624C02 (BOX) AND MODEL PCC243600A02 (COVER); PENCELL PLASTICS MODEL PEM-2436 (BOX) WITH A STEEL LID. THE WORD "TRAFFIC " SHALL BE INTEGRALLY CAST AS PART OF THE COVER OR SECURELY FASTENED WITH CORROSION RESISTANT HARDWARE. THE SUPPLIED PULL BOXES SHALL BE ABLE TO SUPPORT A 10,000 LB. MINIMUM VERTICAL LOADING WITHOUT PERMANENT DAMAGE OR DEFLECTION TO THE UNIT. THIS ITEM SHALL INCLUDE BUT IS NOT LIMITED TO THE DISPOSAL OF SURPLUS MATERIAL AND THE RESTORATION OF DISTURBED FACILITIES AND SURFACES.

THE LARGEST BEND RADIUS POSSIBLE SHALL BE MAINTAINED FOR THE FIBER OPTIC CABLE AS SPECIFIED BY THIS SPECIFICATION. ALL COSTS RESULTING FROM THE ABOVE REQUIREMENT SHALL BE INCLUDED IN THE UNIT PRICE BID PER EACH OF ITEM 625 PULL BOX, 725.07, 24" X 35" X 26"

ITEM 632 INTERCONNECT, MISC.:, FIBER OPTIC CONNECTOR

UNLESS A DIFFERENT CONNECTOR IS REQUIRED FOR COMPATIBILITY WITH EXISTING OR PROPOSED ACTIVE COMPONENTS, FIBER OPTIC CONNECTORS SHALL BE FIELD INSTALLABLE SC/PC COMPATIBLE, CERAMIC FERRULE, WITH THE FIBER PERMANENTLY SECURED WITHIN THE FERRULE BY EPOXY (HEAT SET), CHEMICALLY CURED OR A HOT MELT ADHESIVE IN ACCORDANCE WITH THE CONNECTOR AND/OR THE EPOXY MANUFACTURER. WHEN CONNECTORS ARE INSTALLED OUTSIDE OF A CONTROLLED ENVIRONMENTAL LOCATION, THE CONNECTOR CONNECTOR OPERATING TEMPERATURE SHALL BE MINIMUM -40 33/64 C TO +70 33/64 C. FOR THOSE APPLICATIONS WITHIN A CONTROLLED ENVIRONMENTAL LOCATION, THE OPERATING TEMPERATURE SHALL BE MINIMUM -20 33/64 C TO +60 33/64 C.

THE PROCEDURE FOR THE TERMINATION OF CONNECTORS USED ON THIS PROJECT SHALL MEET THAT PROCESS SET OUT IN THE CONNECTOR MANUFACTURER'S STANDARD OPERATING PROCEDURE (SOP) FOR FIELD INSTALLATION. THIS SOP SHALL BE SUBMITTED FOR APPROVAL TO THE ENGINEER. UNLESS RECOMMENDED OTHERWISE BY THE CONNECTOR MANUFACTURER, EACH FIBER SHALL BE CLEAVED, CLEANED AND RECEIVE MULTIPLE POLISHINGS WITH INCREASINGLY FINE GRIT POLISHING PADS. THE APPROVED SOP WILL BE THE BASIS FOR INSPECTION.

THE AVERAGE LOSS FOR MATED PAIRS OF CONNECTORS SHALL NOT EXCEED 0.4 DB FOR BOTH SINGLE AND MULTI-MODE FIBERS.

PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH OF ITEM 632, INTERCONNECT, MISC.: FIBER OPTIC CONNECTOR.

ITEM 632 INTERCONNECT, MISC.: CLEAVE TOOL

CLEAVE TOOLS ARE USED DURING SPLICING TO CUT THE INDIVIDUAL SM OR MM FIBERS AS CLOSE TO A PERFECT 90 DEGREE ANGLE AS POSSIBLE, THUS ALLOWING THE HIGHEST CORE TO CORE ALIGNMENT AND THEREFORE THE LOWEST DB SPLICE LOSS. THE MANUFACTURERS OF CLEAVE TOOLS HAVE ESTABLISHED "END ANGLE" CLEAVE AVERAGES THAT ARE BASED ON A MINIMUM OF 150 CUTS UTILIZING A MINIMUM OF 10 CUTTERS. BASED ON THESE TEST RESULTS CLEAVE TOOLS SHALL HAVE MINIMUM END ANGLE AVERAGES AS FOLLOWS: <0.70 DEGREE AVERAGE WITH NO CUT OF THE 150 CLEAVES EXCEEDING 1.5 DEGREE WILL BE ALLOWED. PRIOR TO THE SPLICING OF ANY FIBER CABLE, THE CONTRACTOR SHALL SUBMIT THE PART NUMBER AND MANUFACTURER OF THE CLEAVE TOOL ALONG WITH AN "END ANGLE" DISTRIBUTION CHART WHICH DEMONSTRATES THE ACTUAL 150 CUT END ANGLES, SUCH AS SIECOR PART NUMBER FBC-005 OR ALCOA FUJIKURA C012 OR EQUAL. THE CONTRACTOR SHALL PURCHASE A CLEAVE TOOL THAT MEETS THIS SPECIFICATION TO BE LEFT IN GOOD WORKING CONDITION WITH THE MAINTAINING AGENCY FOR MAINTENANCE OF THE FIBER SYSTEM.

ITEM 632 INTERCONNECT, MISC.: CLEAVE TOOL 1 EACH

PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH OF ITEM 632, INTERCONNECT, MISC.: CLEAVE TOOL.

ITEM 632 INTERCONNECT, MISC.: MECHANICAL SPLICE TOOL KIT

A MECHANICAL SPLICE TOOL KIT SHALL INCLUDE ALL THE TOOLS NECESSARY FOR THE ASSEMBLY OF A MECHANICAL SPLICE. THE TOOLS SHALL ALLOW FOR EASY COMPLETION OF CABLE PREPARATION, REMOVAL OF FIBER COATING, CLEANING AND CLEAVING, PRIOR TO COMPLETING THE SPLICE. MECHANICAL SPLICE KITS TYPICALLY INCLUDE A CONNECTOR ASSEMBLY TOOL, CLEAVE TOOL, NO-NIK FIBER STRIPPER, MICRO-STRIP PRECISION STRIPPER, CABLE STRIPPER, TELECOMMUNICATION SNIPS, 20X MAGNIFIER, LINT-FREE CLOTH, PROTECTIVE CARRYING CASE AND MANUAL.

A CLEAVE TOOL SHALL BE INCLUDED IN THE MECHANICAL SPLICE KIT IN ADDITION TO THE ONE WHICH WILL BE PURCHASED SEPARATELY. THE CONTRACTOR SHALL PURCHASE A PRE-ASSEMBLED MECHANICAL SPLICE KIT THAT MEETS THIS SPECIFICATION, SIMILAR TO 3M 2530 FIBER SPLICE PREPARATION KIT, SIECOR TKT-100-02 OR APPROVED EQUAL, TO BE LEFT IN GOOD WORKING CONDITION WITH THE MAINTAINING AGENCY FOR MAINTENANCE OF THE FIBER SYSTEM.

ITEM 632 INTERCONNECT, MISC.: MECHANICAL SPLICE TOOL KIT 1 EACH

PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH OF ITEM 632, INTERCONNECT, MISC.: MECHANICAL SPLICE TOOL KIT.

ITEM 632 INTERCONNECT, MISC.: FIBER OPTIC TERMINATION TOOL KIT

A TERMINATION TOOL KIT SHALL INCLUDE ALL TOOLS AND MATERIALS LISTED BELOW NECESSARY TO TERMINATE THE CONNECTORS USED AS PART OF THIS PROJECT. TERMINATION KITS SHALL INCLUDE A HOT MELT OVEN, CRIMP TOOL, ONE-STEP LAP FILM, POLISHING JIG, POLISHING PAD, COOLING STAND, CONNECTOR HOLDER, STRIPPING COLLAR, SCRIBE CARBIDE, BOTTLE OF 99% ISOPROPYL ALCOHOL, SNIPS, CABLE STRIPPER, NO-NIK STRIPPER, VIEW SCOPE, LINT-FREE CLOTH AND PIPE CLEANERS, JEWELERS LOUPE, POCKET RULER AND INSTRUCTION MANUALS. THE CONTRACTOR SHALL PURCHASE A PRE-ASSEMBLED TERMINATION TOOL KIT THAT MEETS THIS SPECIFICATION, SIMILAR TO 3M 6150-A TERMINATION KIT, SIECOR TKT-025 OR APPROVED EQUAL, TO BE LEFT IN GOOD WORKING CONDITION WITH THE MAINTAINING AGENCY FOR MAINTENANCE OF THE FIBER SYSTEM. THE ENTIRE KIT SHALL COME IN A HARD SIDE CARRYING CASE.

ITEM 632 INTERCONNECT, MISC.: FIBER OPTIC TERMINATION TOOL KIT 1 EACH

PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH OF ITEM 632, INTERCONNECT, MISC.: FIBER OPTIC TERMINATION TOOL KIT SC/PC.

ITEM 632 - INTERCONNECT, MISC.: OPTICAL TIME DOMAIN REFLECTOMETER (OTDR)

THE CONTRACTOR SHALL PURCHASE AN OPTICAL TIME DOMAIN REFLECTOR (OTDR) THAT MEETS THE FOLLOWING REQUIREMENTS AND TURN IT OVER TO THE MAINTAINING AGENCY FOR THEIR USE AT THE CONCLUSION OF THE PROJECT.
THE OTDR SHALL BE SUPPLIED WITH THE FOLLOWING FEATURES AS A MINIMUM:

1. FIELD INTERCHANGEABLE SOURCE MODULES FOR SINGLE MODE AND MULTI-MODE FIBER ANALYSIS OF OPTICAL LINKS FROM 300 FEET (100 M) TO 15,000 FEET (5 KM) IN LENGTH.
2. MINIMUM OF 3 USER SELECTABLE PULSE WIDTHS PER WAVELENGTH
3. AUTO MODE BUTTON FOR ONE BUTTON TESTING
4. AUTO MODE OR SIMPLIFIED MODE FOR TRACE NAMING AND STORING
5. DUAL TRACE ANALYSIS MODE
6. EVENT TABLE DISPLAY
7. INTERNAL HARD DRIVE FOR TRACE STORAGE
8. 3.5" FLOPPY DISK DRIVE (1.44 MEG)
9. PERIPHERAL SUPPORT FOR KEYBOARD, MOUSE, VGA MONITOR AND PRINTER
10. INDIVIDUAL AND BATCH PRINTING MODES
11. PC BASED EMULATION SOFTWARE FOR WINDOWS 95 OR DOS (TO BE INCLUDED WITH OTDR)
12. SYSTEM SHALL BE SOFTWARE UPGRADEABLE
13. INTERNAL BATTERY IWTH AC ADAPTER/BATTER CHARGER
14. INTERNAL OR EXTERNAL PRINTER
15. BI-DIRECTIONAL ANALYSIS THROUGH EMULATION SOFTWARE OR INTERNAL TO OTDR

PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH OF ITEM 632, INTERCONNECT, MISC.: OPTICAL TIME DOMAIN REFLECTOMETER (OTDR).

ITEM 632 - INTERCONNECT, MISC.: OPTICAL TIME DOMAIN REFLECTOMETER (OTDR) 1 EACH

ITEM 632 - INTERCONNECT, MISC.: FIBER OPTIC CABLE TESTING GENERAL

OTDR'S USED AS PART OF THESE TESTING SPECIFICATIONS SHALL BE CALIBRATED TO SHEATH (JACKET) LENGTH, NOT OPTICAL LENGTH BY ADJUSTING THE UNIT'S INDEX OF REFRACTION.

ALL OTDR TRACES SHALL MAXIMIZE BOTH THE VERTICAL AND HORIZONTAL SCALES TO THE GREATEST EXTENT POSSIBLE AND STILL FIT THE ENTIRE TRACE ON THE SCREEN.

TESTING SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS. FAILURE OF A LINK AT ANY PART OF THE TESTING SHALL RESULT IN THE CONTRACTOR HAVING TO REPAIR THE PROBLEM AND RETEST THE INSTALLATION. COST FOR ANY REQUIRED REPAIRS AND RETESTING SHALL BE BOURNE SOLELY BY THE CONTRACTOR.

ITEM 632 - INTERCONNECT, MISC.: FIBER OPTIC CABLE TESTING GENERAL 1 EACH

PRE-INSTALLATION CABLE ACCEPTANCE (TESTED WITH OTDR IN ONE DIRECTION)

THE CONTRACTOR SHALL UTILIZE BARE FIBER ADAPTORS OR OTHER APPROVED MEANS TO TEST ALL FIBERS FOR ATTENUATION LOSS USING AND OTDR SET TO 2-POINT LOSS MEASUREMENT PARAMETERS PRIOR TO INSTALLATION (ON THE REEL). MARKER POINTS SHALL BE PLACED AT THE BEGINNING AND END OF EACH BACKSCATTER SIGNATURE RECORDED BY THE OTDR. THE MANUFACTURER INSTRUCTIONAL GUIDE CAN DETERMINE PROPER PLACEMENT OF THESE MARKERS. THE OTDR DISPLAY SHALL BE RECORDED ON COMPUTER DISKETTES WITH IDENTIFICATION AND NUMBERING SEQUENCES TO BE PRE-APPROVED BY THE ENGINEER. EACH TRACE MUST CONTAIN AS A MINIMUM: CABLE/SHEATH LENGTH (NOT OPTICAL FIBER LENGTH), 2-POINT DB LOSS, ATTENUATION IN DB/FEET (DB/KM), FIBER TYPE, WAVELENGTH USED, PULSE WIDTH SELECTION, AND FIBER/CABLE IDENTIFICATION. THE STORED TRACE SHALL ALLOW FULL MANIPULATION OF THE TRACE WHEN VIEWED WITH THE PC EMULATION SOFTWARE.

WORST CASE WAVELENGTH TESTING WILL BE APPLIED TO ALL FIBERS. PROPER PULSE WIDTH SELECTION IS REQUIRED TO MINIMIZE ATTENUATION DEAD ZONE EFFECT (10NS PULSE : MM DEAD ZONE=23 FEET (7 M), SM DEAD ZONE = 33 FEET (10 M))

FIBER LENGTHS IN EXCESS OF 3280 FEET (1000 M) WORST CASE WAVELENGTH IS: MM=850NM/SM=1550NM

FIBER LENGTHS LESS THAN 3280 FEET (1000 M) WORST CASE WAVELENGTH IS: MM=850NM/SM=1310NM

THERE SHALL BE NO ATTENUATED ANOMALIES IN THE BACKSCATTER TRACE AS VIEWED BY THE OTDR. ANY ATTENUATED ANOMALY SHALL BE CONSIDERED A FIBER DEFECT AND WILL BE GROUNDS FOR REJECTING THE CABLES USE ON THE PROJECT.

PRE-INSTALLATION MAXIMUM ACCEPTABLE ATTENUATION LOSS: MM @ 850NM = 5.6 DB/MILE (3.5 DB/KM)
SM @ 1310NM = 0.64 DB/MILE (0.4 DB/KM)
SM @ 1550NM = 0.48 DB/MILE (0.3 DB/KM)

LINK TESTING WITH OLTS (POWER METER) AND OTDR (AFTER SPLICING AND TERMINATING)

OLTS (POWER METER)
ALL LINKS SHALL BE TESTED WITH THE OLTS AFTER SPLICING AND TERMINATION WORK IS COMPLETED. LINK TESTING WILL BE BI-DIRECTIONAL FOR ATTENUATION LOSS WITH WORST CASE WAVELENGTHS. TEST PROCEDURE SHALL COMPLY WITH EIA-568-A REQUIREMENTS.

WORST CASE WAVELENGTHS ARE DEFINED AS: MM = 850 NM
SM = 1310 NM (LINK LENGTH LESS THAN 3280 FT (1 KM))
SM = 1550 NM (LINK LENGTH GREATER THAN 3280 FT(1KM))
MAXIMUM ACCEPTABLE LINK ATTENUATION SHALL BE CALCULATED SHALL BE CALCULATED AS FOLLOWS:
MAXIMUM ACCEPTABLE LINK ATTENUATION = SPLICE LOSS + CONNECTOR LOSS + CABLE ATTENUATION
MAXIMUM ACCEPTABLE LINK ATTENUATION = 0.2 DB + 0.2 DB + (LINK LENGTH X ATTENUATION*)
* ATTENUATION FOR SM AND MM ARE:
ATTENUATION: MM @ 850NM = 5.6 DB/MILE (3.5 DB/KM)
SM @ 1310NM = 0.64 DB/MILE (0.4 DB/KM)
SM @ 1550NM = 0.48 DB/MILE (0.3 DB/KM)

OPTICAL FIBER TEST RESULTS SUBMITTED SHALL SHOW THE LOSS MEASURED ON EACH INDIVIDUAL FIBER AS COMPARED TO THE REFERENCE LAUNCH POWER. THE LINK ATTENUATION AS CALCULATED ABOVE IS A NOT TO EXCEED VALUE. LINK MEASUREMENTS, WHICH EXCEED THIS BUDGET WILL NOT BE ACCEPTED AND SHALL BE BROUGHT TO WITHIN ACCEPTED MAXIMUM VALUES AT THE CONTRACTORS EXPENSE. THIS MAY REQUIRE THE CONTRACTOR TO REPLACE CONNECTORS, SPLICES OR THE ENTIRE LINK.

OTDR

ALL LINKS SHALL BE TESTED WITH AN OTDR THAT ARE 1000 FEET (300 M) OR LONGER FOR THE 850NM AND 1310NM WAVELENGTHS. LINKS WHICH ARE IN EXCESS OF 3280 FEET (1 KM) SHALL INCLUDE 1550NM TESTING ON SM FIBERS. OTDR TESTING SHALL BE IN ONE DIRECTION FOLLOWING WORST CASE WAVELENGTH SELECTION WHEN THERE ARE NO SPLICE POINTS OR INTERCONNECT POINTS IN THE LINK.

ANY LINK, WHICH IS LONGER THAN 1000 FEET (300 M) AND HAS SPLICE POINTS OR INTERCONNECT POINTS IN SAID LINK, SHALL BE TESTED BI-DIRECTIONALLY USING WORST CASE WAVELENGTHS. LINKS THAT ARE LONGER THAN 3280 FEET (1 KM) SHALL INCLUDE TESTING AT THE 1550NM WAVELENGTH FOR SM FIBERS.

ALL FIBER SHALL BE TESTED FOR ATTENUATION LOSS USING AN OTDR SET TO 2-POINT LOSS MEASUREMENT PARAMETERS. MARKER POINTS SHALL BE PLACED AT THE BEGINNING AND END OF EACH BACKSCATTER SIGNATURE RECORDED BY THE OTDR. THE MANUFACTURER'S INSTRUCTIONAL GUIDE CAN BE USED TO DETERMINE PROPER PLACEMENT OF THESE MARKERS. THE OTDR DISPLAY SHALL BE RECORDED ON COMPUTER DISKETTES WITH IDENTIFICATION AND NUMBERING, SEQUENCES TO BE PRE-APPROVED BY THE ENGINEER. EACH TRACE MUST CONTAIN AS A MINIMUM: CABLE/SHEATH LENGTH (NOT OPTICAL FIBER LENGTH), 2-POINT DB LOSS, ATTENUATION IN DB/MILE (DB/KM), FIBER TYPE, WAVELENGTH USED, PULSE WIDTH SELECTION, AND FIBER/CABLE IDENTIFICATION. THE STORED FIBER TRACE SHALL ALLOW FULL MANIPULATION OF THE TRACE WHEN VIEWED WITH THE PC EMULATION SOFTWARE. BOTH A HARD COPY PRINT OUT AND DISKETTE COPY OF EACH TRACE SHALL BE SUBMITTED TO THE ENGINEER FOR HIS APPROVAL.

LINKS THAT CONTAIN SPLICE POINTS OR INTERCONNECT POINTS SHALL ALSO CONTAIN AN ADDITIONAL "EVENTS DISPLAY TABLE" TO ACCOMPANY THE OTDR TRACE. THIS DISPLAY SHALL SHOW THE DISTANCE TO THE EVENTS, DISTANCE BETWEEN MULTIPLE EVENTS, EACH EVENTS LOSS IN DB, AND A DESCRIPTION OF THE EVENT (REFLECTIVE EVENT, NON-REFLECTIVE EVENT, GAINS AND CABLE END). ALL ATTENUATION EVENT LOSS READINGS SHALL BE IN THE LSA (LEAST SQUARE AVERAGE) MODE OF THE OTDR. 2-POINT ATTENUATION MEASUREMENTS AT EVENTS ARE NOT ACCEPTABLE. PROPER PULSE WIDTH SELECTION IS REQUIRED TO MINIMIZE ATTENUATION DEAD ZONE EFFECT (10NS PULSE : MM DEAD ZONE=23 FEET (7 M), SM DEAD ZONE = 33 FEET (10 M)).

ALL COSTS TO PERFORM THE ABOVE TESTING SHALL BE INCLUDED IN THE BID LUMP SUM PRICE FOR ITEM 632 INTERCONNECT MISC.: FIBER OPTIC CABLE TESTING GENERAL. ANY LINK THAT FAILS THE ABOVE TESTS SHALL BE REPLACED AND RETESTED AT THE CONTRACTOR'S EXPENSE.

ITEM 633 - CONTROLLER ITEM, MISC.: FIBER OPTIC TRANSCEIVER MULTIMODE

COMMUNICATIONS ON THE FIBER OPTIC CABLE SHALL REQUIRE FIBER OPTIC TRANSCEIVERS. THE CONTROLLERS ARE TO BE EQUIPPED WITH TRANSCEIVERS CAPABLE OF COMMUNICATIONS WITH THE SIGNAL SYSTEM CONTROLLERS. IT IS THE CONTRACTORS RESPONSIBILITY TO INSTALL AND ACTIVATE EACH OF THESE MODEMS IN THE CONTROLLER HOUSING AND CONTACT THE MANUFACTURER FOR REPLACEMENT PANELS IF NECESSARY. PRICE FOR THE CONTROLLERS IS ITEMIZED SEPARATELY.

PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH OF ITEM 633, CONTROLLER ITEM, MISC.: FIBER OPTIC TRANSCEIVER MULTIMODE

CALCULATED
CHECKED

TRAFFIC SIGNAL GENERAL NOTES

WAY/MED-71-7.04/0.00

DATE: $DATE$ $TIME$
FILENAME: $FILE$

CALCULATED
GSC
CHECKED

ITEM 632 INTERCONNECT MISC.: FIBER OPTIC TRAINING PLAN

THE CONTRACTOR SHALL SUBMIT A COMPREHENSIVE FIBER OPTIC TRAINING PLAN FOR APPROVAL WITHIN 15 DAYS OF NOTICE OF SIGNED CONTRACT. THE TRAINING COURSE SHALL TAKE PLACE PRIOR TO INSTALLATION AND MAY BE ATTENDED BY PERSONNEL FROM THE MAINTAINING AGENCY OR THEIR DESIGNEES. THIS TRAINING SHALL BE FOR UP TO TWELVE (12) PERSONNEL TO BE DETERMINED BY THE ENGINEER.

THE TRAINING SHALL BE CONDUCTED BY AN APPROVED INSTRUCTOR WHO CAN DEMONSTRATE A MINIMUM OF 2 YEARS EXPERIENCE IN FIBER OPTICS AND FIBER OPTIC TRAINING. THE INSTRUCTOR(S) SHALL BE FAMILIAR WITH THE CABLE TYPES AND EQUIPMENT BEING INSTALLED ON THIS PROJECT. THE PLAN SHALL BE FOR A MINIMUM THREE (3) DAY FIBER OPTIC TRAINING COURSE, INCLUDING LECTURE, CLASSROOM "HANDS-ON", AND PROJECT FIELD TRAINING. ONE HALF OF THE TOTAL TRAINING COURSE SHALL BE DEDICATED TO VARIOUS CABLE SPLICING AND TESTING EQUIPMENT WORKSHOPS.

THE COURSE SHALL TEACH PERSONNEL FROM THE MAINTAINING AGENCY THE PROCESSES, FINE TUNE TECHNIQUES AND VERIFY A CRAFTSMAN'S ABILITIES TO INSTALL AND INSPECT CABLE , FAN-OUT, TERMINATE, SPLICE (BOTH MECHANICAL & FUSION), AND TEST (HAND HELD, MINI-OTDR AND FULL SIZE OTDR) FIBER OPTIC CABLE. SPECIFIC FOCUS WILL BE ON THE TRAFFIC INTERCONNECT SYSTEMS, WITH EMPHASIS ON "DROP AND INSERT" (CLOSED LOOP) INSTALLATIONS. THE FOLLOWING SUBJECTS SHALL BE COVERED AT MINIMUM. COURSE CONTENT IS NOT LIMITED TO THIS LIST.

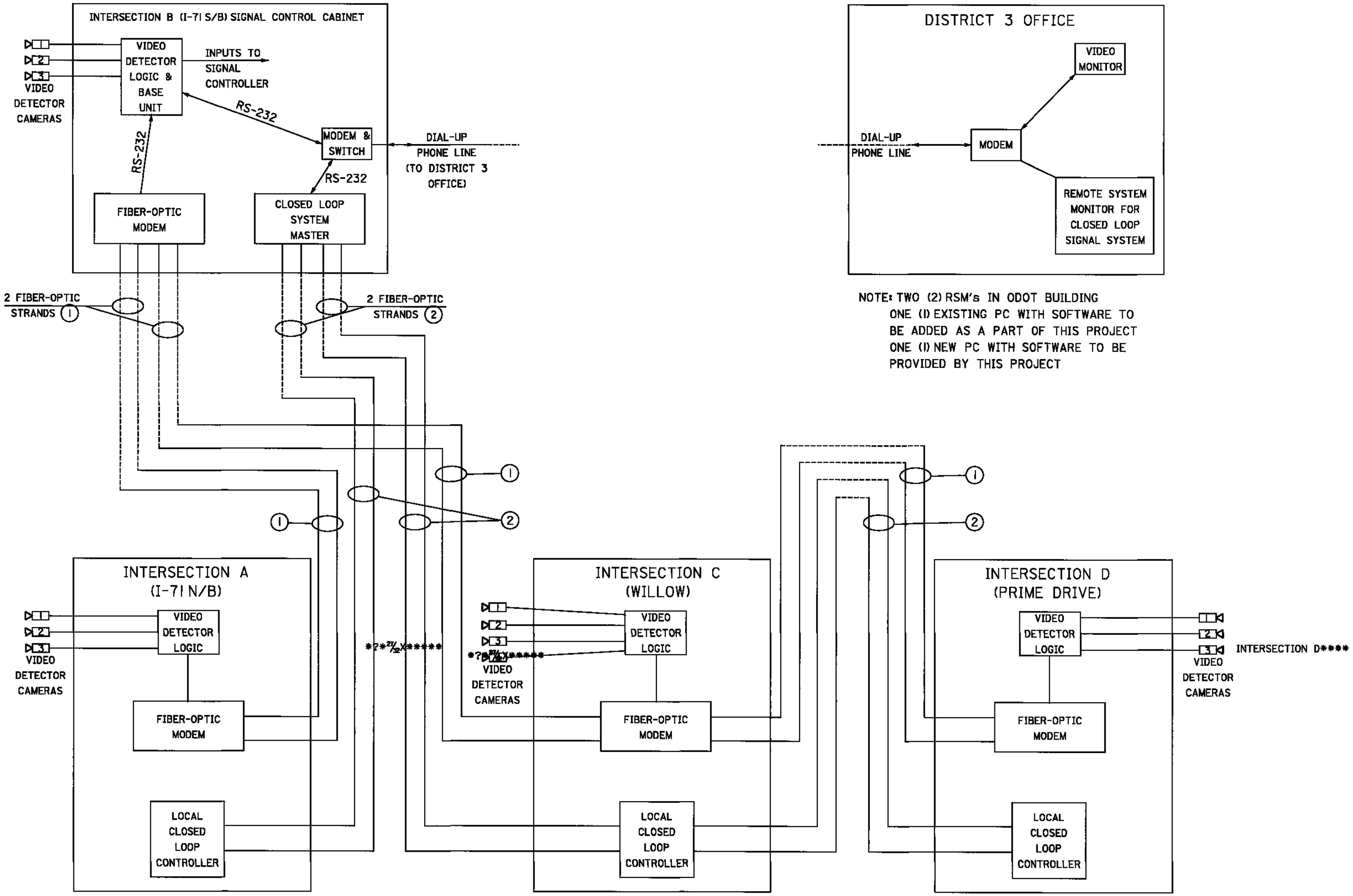
SAFETY
FIBER OPTIC THEORY
CABLE TYPES & APPLICATIONS, CABLE MANUFACTURERS OVERVIEW
CABLE PLACEMENT
SHEATH REMOVAL
ARMOR GROUNDING METHODS
DUCT PULLING OPTIONS
AERIAL PULLING OPTIONS
TESTING PROCESSES OVERVIEW (HAND HELD PROCESS, MINI-OTDR, OTDR)
CABLE SPLICING (MECHANICAL & FUSION, SPLICE ENCLOSURE)
SPLICE ENCLOSURE INSTALLATION & SPLICING DISCUSSION AND WORKSHOP
CABLE FAN-OUT W/KITS
CABLE PLACEMENT (DISTRIBUTION BOX)
TERMINATION (FIELD) DISCUSSION AND WORKSHOP
TESTING THE SYSTEM
CLOSURE & SLACK MANAGEMENT
TROUBLE SHOOTING
SYSTEM RESTORATION

THE TRAINING SITE SHALL BE PROVIDED BY THE CONTRACTOR AT A MUTUALLY AGREED UPON LOCATION WITH THE MAINTAINING AGENCY. ALL COSTS ASSOCIATED FOR PROVIDING THE ABOVE TRAINING SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 632 INTERCONNECT MISC.: FIBER OPTIC TRAINING PLAN

ITEM 632 INTERCONNECT MISC.: FIBER OPTIC TRAINING PLAN LUMP SUM

TRAFFIC SIGNAL GENERAL NOTES

DATE: $DATE$
FILENAME: $FILE$
$TIME$



NOTE: TWO (2) RSM's IN ODOT BUILDING
ONE (1) EXISTING PC WITH SOFTWARE TO BE ADDED AS A PART OF THIS PROJECT
ONE (1) NEW PC WITH SOFTWARE TO BE PROVIDED BY THIS PROJECT

① FIBER OPTIC STRANDS DEDICATED TO VIDEO LOCAL TRANSMISSION (BLUE & ORANGE)

② FIBER OPTIC STRANDS DEDICATED TO CLOSED LOOP OPERATION (SLATE & WHITE)

DESIGNED GSC CHECKED

SCHEMATIC DIAGRAM OF VIDEO SURVEILLANCE AND REMOTE VIDEO MONITORING

WAY/MED-71-7.04/0.00

DATE: $DATE$ $TIME$
FILENAME: $FILE$

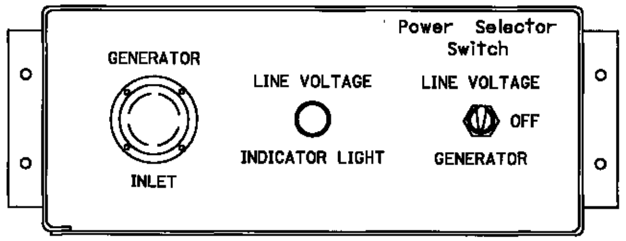
MATERIAL SPECIFICATIONS FOR GENERATOR POWER PANEL EQUIPMENT

GENERATOR INLET --- The inlet shall be 30 amp, 125/250V, locking, four (4) wire grounding and meet the NEMA configuration number L14-30-P 30A 125/250V specification. The inlet shall be a Hubbell catalog #2715.

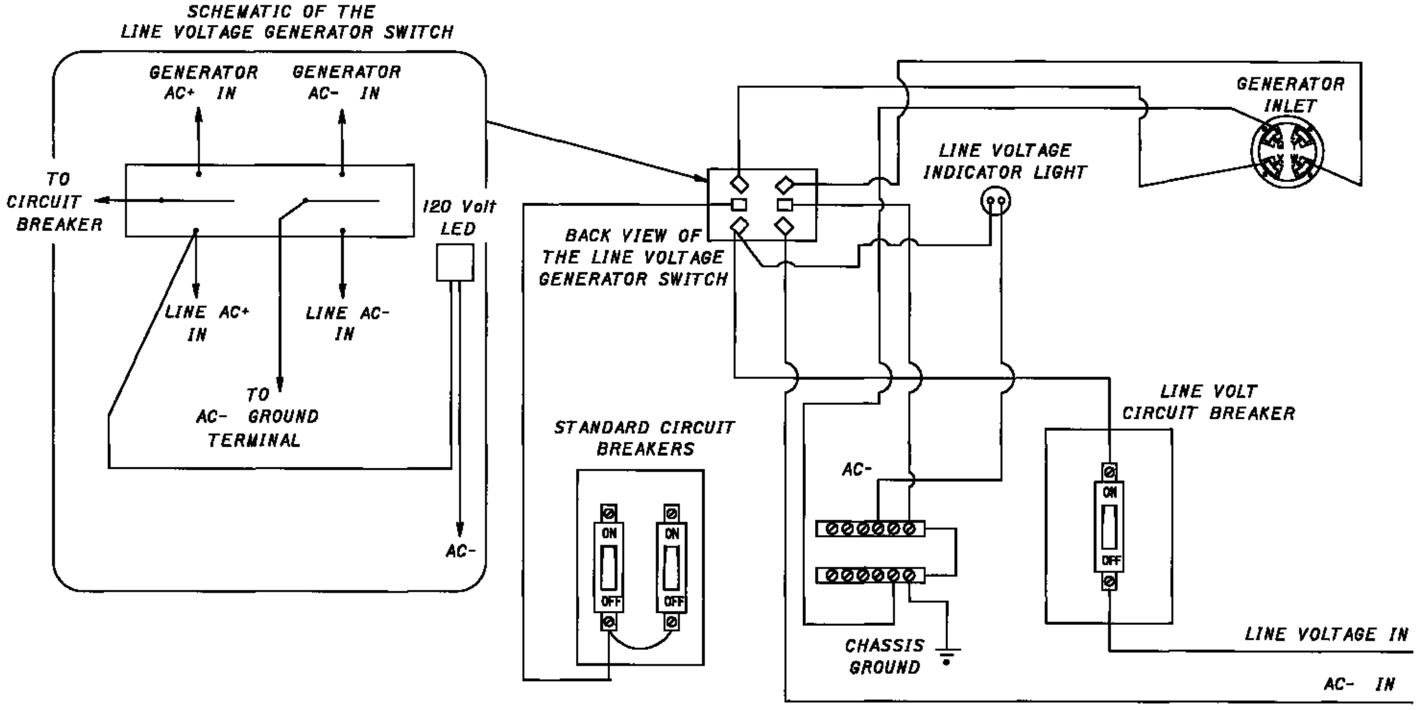
LINE VOLTAGE GENERATOR SWITCH --- The switch shall be 30 amp, 125/250V AC, two (2) pole, three (3) position (On, Off, On).

LINE VOLTAGE INDICATOR LIGHT --- The indicator light shall be a 125V AC light emitting diode with a red lens.

LINE VOLTAGE CIRCUIT BREAKER --- The circuit breaker shall be single pole single throw and a minimum of 30 amps. The amperage shall be increased to accomodate greater loads, if necessary. The gauge of the power cable shall be of proper size per the N.E.C.



FRONT VIEW OF GENERATOR POWER PANEL

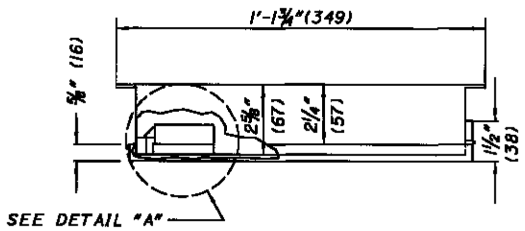


ELECTRICAL HOOKUP DETAIL FOR THE GENERATOR POWER PANEL

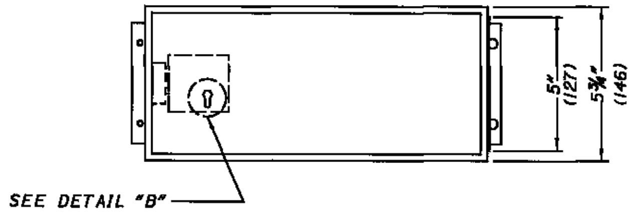
GENERATOR POWER PANEL ENCLOSURE

NOTES:

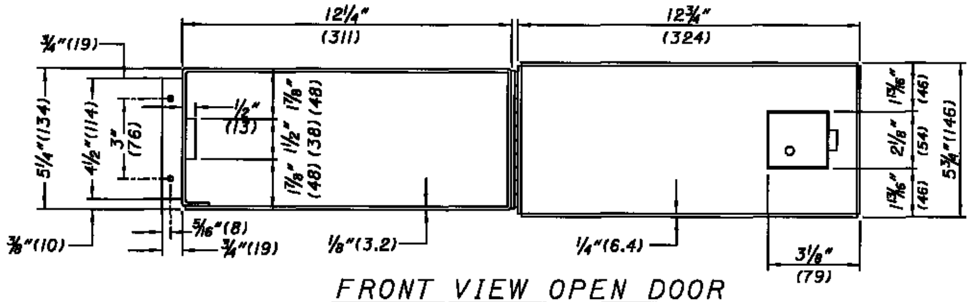
1. The enclosure shall be constructed Of 1/8"(3.2) thick aluminum.
2. The lock shall be the standard police door type, keyed with the standard flasher door skeleton key.
3. The door shall be sealed with a foam rubber gasket to prevent moisture from entering the enclosure.
4. The enclosure shall be mounted onto the outside of the controller cabinet with non-accessible bolts and sealed with a high quality silicon caulk at all surfaces touching the cabinet.
5. The hinge shall be of stainless steel or equivalent corrosive-resistant material.
6. All metric dimensions in parentheses are in millimeters unless otherwise noted.



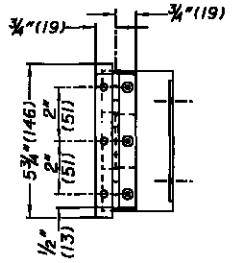
TOP VIEW



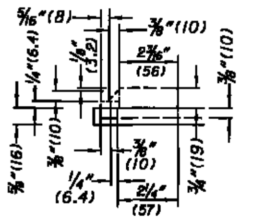
FRONT VIEW CLOSED DOOR



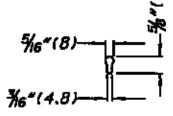
FRONT VIEW OPEN DOOR



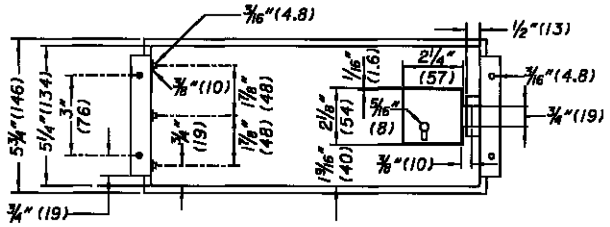
RIGHT SIDE VIEW CLOSED DOOR



DETAIL "A"



DETAIL "B"



BACK VIEW CLOSED DOOR

CALCULATED
CHECKED

GENERATOR POWER PANEL

WAY/MED-71-7.04/0.00

444
785

DATE: $DATE$ FILENAME: $FILE$ $TIME$

TOTAL FROM SHEET NO.									ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
438	440	441	442	447	450	453	456	458						
													TRAFFIC SIGNALS	
				260		80			603	00400	340	FEET	4" CONDUIT, TYPE E	
					3	1	3	2	625	18200	9	EACH	BRACKET ARM, 15'	
						1		1	625	18500	2	EACH	BRACKET ARM, 25'	
						1	1		625	18510	2	EACH	BRACKET ARM, 30'	
				2252	14	618	6	24	625	25400	2914	FEET	CONDUIT, 2", 725.04	
				424	7	6	6	24	625	25500	467	FEET	CONDUIT, 3", 725.04	
				2456	7	618	6	24	625	29001	3111	FEET	TRENCH, AS PER PLAN	435
						4			625	30700	4	EACH	PULL BOX, 725.08, 18"	
				13					625	31600	13	EACH	PULL BOX, MISC.: PULL BOX, 725.07, 24" X 35" X 26"	440
					5	5	5	5	625	32000	20	EACH	GROUND ROD	
					5	5	6	5	632	05001	21	EACH	VEHICULAR SIGNAL HEAD WITH LED LAMP UNITS, 3-SECTION, 12" LENS, 1-WAY, AS PER PLAN	435
								1	632	05061	1	EACH	VEHICULAR SIGNAL HEAD WITH LED LAMP UNITS, 4-SECTION, 12" LENS, 1-WAY, AS PER PLAN	435
					1	1	2		632	05081	4	EACH	VEHICULAR SIGNAL HEAD WITH LED LAMP UNITS, 5-SECTION, 12" LENS, 1-WAY, AS PER PLAN	435
					6	6	8	6	632	25001	26	EACH	COVERING OF VEHICULAR SIGNAL HEAD, AS PER PLAN	436
						1			632	26500	1	EACH	DETECTOR LOOP	
					353	350	383	350	632	29901	1436	FEET	MESSENGER WIRE, 7 STRAND, 1/4" DIA. W/ACCESSORIES, AS PER PLAN	436
					353	350	383	350	632	30200	1436	FEET	MESSENGER WIRE, 7 STRAND, 3/8" DIAMETER WITH ACCESSORIES	
					503	481	634	572	632	40700	2190	FEET	SIGNAL CABLE, 7-CONDUCTOR, NO. 14 AWG	
				2931					632	62810	2931	FEET	INTERCONNECT, MISC.: 12 FIBER, LOOSE TUBE, MULTIMODE	439
					1	2	2	1	632	62820	6	EACH	INTERCONNECT, MISC.: FAN-OUT KIT, 6 FIBER	440
					2	2	2	2	632	62820	8	EACH	INTERCONNECT, MISC.: FIBER OPTIC PATCH CORD, 4 FIBER	440
					1	1	1	1	632	62820	4	EACH	INTERCONNECT, MISC.: TERMINATION PANEL	440
					6	12	12	6	632	62820	36	EACH	INTERCONNECT, MISC.: FIBER OPTIC CONNECTOR	440
	1								632	62820	1	EACH	INTERCONNECT, MISC.: CLEAVE TOOL	440
	1								632	62820	1	EACH	INTERCONNECT, MISC.: MECHANICAL SPLICE TOOL KIT	440
			LUMP						632	62830	LUMP		INTERCONNECT, MISC.: FIBEROPTIC TRAINING PLAN	442
	1								632	62820	1	EACH	INTERCONNECT, MISC.: FIBER OPTIC TERMINATION TOOL KIT	440
		1							632	62820	1	EACH	INTERCONNECT, MISC.: OPTICAL TIME DOMAIN REFLECTOMETER (OTDR)	441
		1							632	62820	1	EACH	INTERCONNECT, MISC.: FIBER OPTIC CABLE TESTING GENERAL	441
						1			632	63000	1	EACH	PHONE DROP	
					4	4	4	4	632	64000	16	EACH	STRAIN POLE FOUNDATION	
						639			632	65200	639	FEET	LOOP DETECTOR LEAD-IN CABLE	
					25	24	24	45	632	68200	118	FEET	POWER CABLE, 2-CONDUCTOR, NO. 6 AWG	
					33	33	33	33	632	68300	132	FEET	POWER CABLE, 3-CONDUCTOR, NO. 6 AWG	
					1	1	1	1	632	70001	4	EACH	POWER SERVICE, AS PER PLAN	436

(CONTINUED ON NEXT SHEET)

CALCULATED GSC
CHECKED DRB 10/05

TRAFFIC SIGNAL GENERAL SUMMARY
STATE ROUTE 83 INTERSECTIONS

WAY/MED-71-7.04/0.00

DATE: $DATE$ $TIME$
FILENAME: $FILE$

TOTAL FROM SHEET NO.															ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
438	440	441	442	447	450	453	456	458												
																			TRAFFIC SIGNALS CONTINUED	
					1	1		1							632	83000	3	EACH	STRAIN POLE, TYPE TC-81.10, DESIGN 10	
					3	3	4	3							632	85000	13	EACH	COMBINATION STRAIN POLE, TYPE TC-81.10, DESIGN 10	
					1	1	1	1							632	90100	4	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION	
					3	3	4	3							632	90400	13	EACH	SIGNALIZATION, MISC.: VIDEO DETECTION UNIT	436
					1	1	1	1							632	90400	4	EACH	SIGNALIZATION, MISC.: VIDEO DETECTION TRANSMISSION SUBSYSTEM	438
LUMP															632	90300	LUMP		SIGNALIZATION, MISC.: VIDEO DETECTION SOFTWARE AND TRAINING	438
					1	1	1	1							632	90400	4	EACH	SIGNALIZATION, MISC.: METER BASE, 100 AMP WITH BYPASS	435
					1	1	1	1							633	01581	4	EACH	CONTROLLER UNIT, TYPE TS2/A2 WITH CABINET, TYPE TS1, AS PER PLAN	436
						1									633	39000	1	EACH	CONTROLLER, MASTER, TRAFFIC RESPONSIVE	
					1	1	1	1							633	67100	4	EACH	CABINET FOUNDATION	
					1	1	1	1							633	67200	4	EACH	CONTROLLER WORK PAD	
					1	1	1	1							633	99000	4	EACH	CONTROLLER ITEM, MISC.: FIBER OPTIC TRANSCEIVER, MULTIMODE	441
1															633	68001	1	EACH	REMOTE MONITORING STATION, AS PER PLAN	438
LUMP															633	72501	LUMP		SYSTEM ANALYSIS, AS PER PLAN	438

CALCULATED
CHECKED

TRAFFIC SIGNAL GENERAL SUMMARY
STATE ROUTE 83 INTERSECTIONS

WAY/MED-71-7.04/0.00

DATE: $DATE$ $TIME$
FILENAME: $FILE$

			625		625	625	632		625		603	
SHEET NUMBER	SIDE	STATION	TRENCH, AS PER PLAN		CONDUIT, 2", 725.04	CONDUIT, 3", 725.04	INTERCONNECT MISC.: 12 FIBER, LOOSE TUBE, MULTIMODE		PULL BOX MISC.: PULL BOX, 725.07, 24" X 35' X 26"		4" CONDUIT, TYPE E	COMMENTS
			FT		FT	FT	FT		EA		FT	
449	LT	46+66										CONTROL CABINET
↓	LT	46+77	12		12		34*		1		20	
↓	LT	47+42	67			67	72		1		20	
↓	LT	48+80	138		138		143		1		20	
451	LT	51+20	20		240		245		1		20	
↓	LT	52+46	126		126		131		1		20	
↓	RT	52+46	88			88	103*					CONTROL CABINET
↓	LT	52+46					103*					
↓	LT	53+45	105			105	110		1		20	
↓	LT	57+01	350		350		356		1		20	
452	LT	60+60	363		363		368		1		20	
↓	LT	60+61	10		10		25*					CONTROL CABINET
454	LT	60+60					25*					
↓	LT	61+65	107			107	112		1		20	
455	LT	64+90	327		327		332		1		20	
↓	LT	68+27	337		337		342		1		20	
457	LT	71+48	322		322		327		1		20	
↓	RT	71+48	67			67	72		1		20	
↓	RT	71+48	16		16		31*					CONTROL CABINET
TOTAL CARRIED TO GENERAL SUMMARY			2455		2241	434	2931		13		260	

*INTERCONNECT RUNS ADJACENT TO CONTROLLER CABINET HAVE 15' OF INTERCONNECT SLACK.

CALCULATED
JEG
1/2003

CHECKED
KES
5/2003

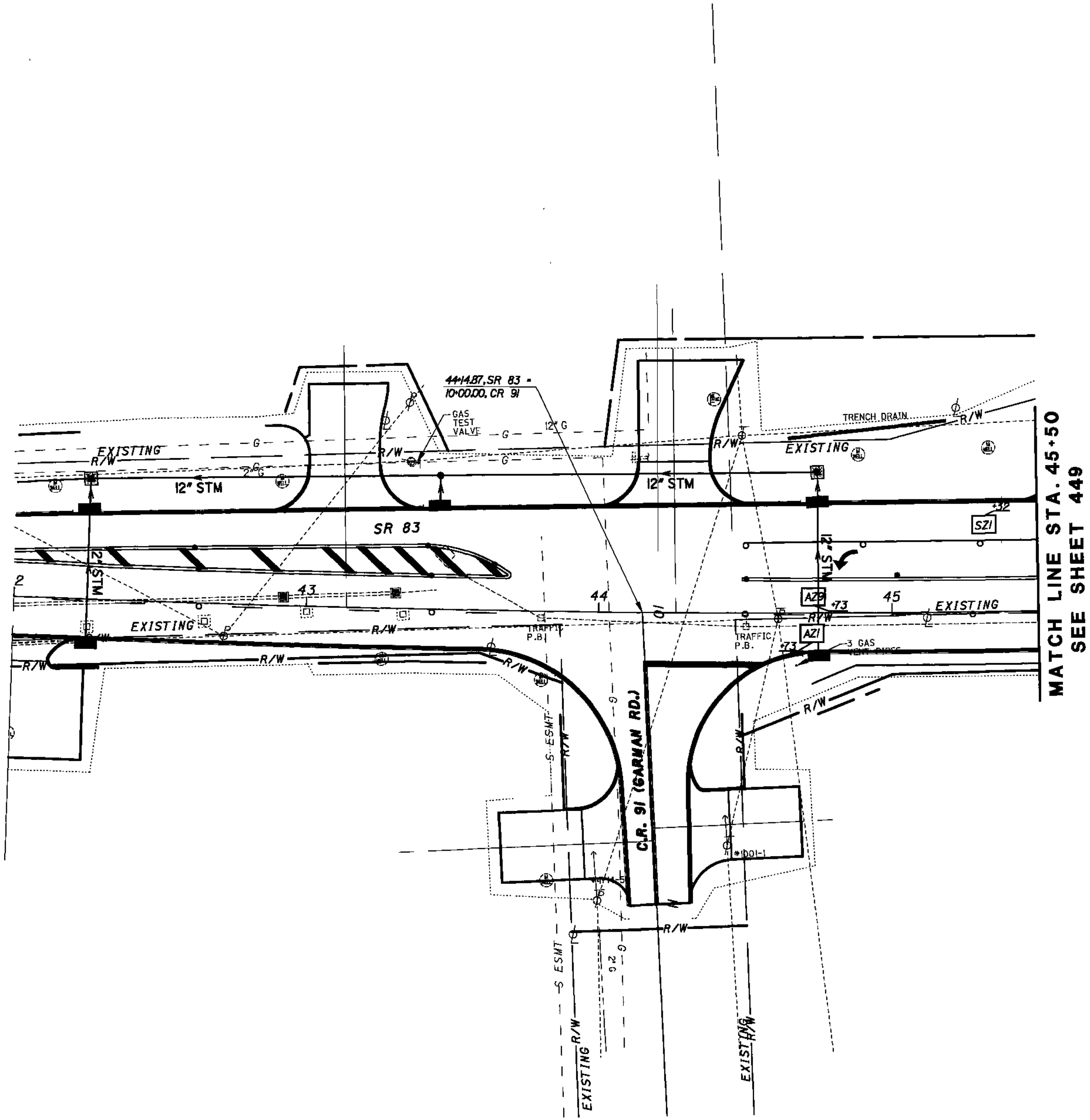
INTERCONNECT SUBSUMMARY

WAY/MED-71-7.04/0.00

DATE: $DATE$ $TIME$
FILENAME: $FILE$

LEGEND

SZI	SYSTEM VIDEO DETECTION ZONE
AZI	VIDEO DETECTION ZONE



SCALE IN FEET
0 20 40

CALCULATED
CHECKED KES 9/03

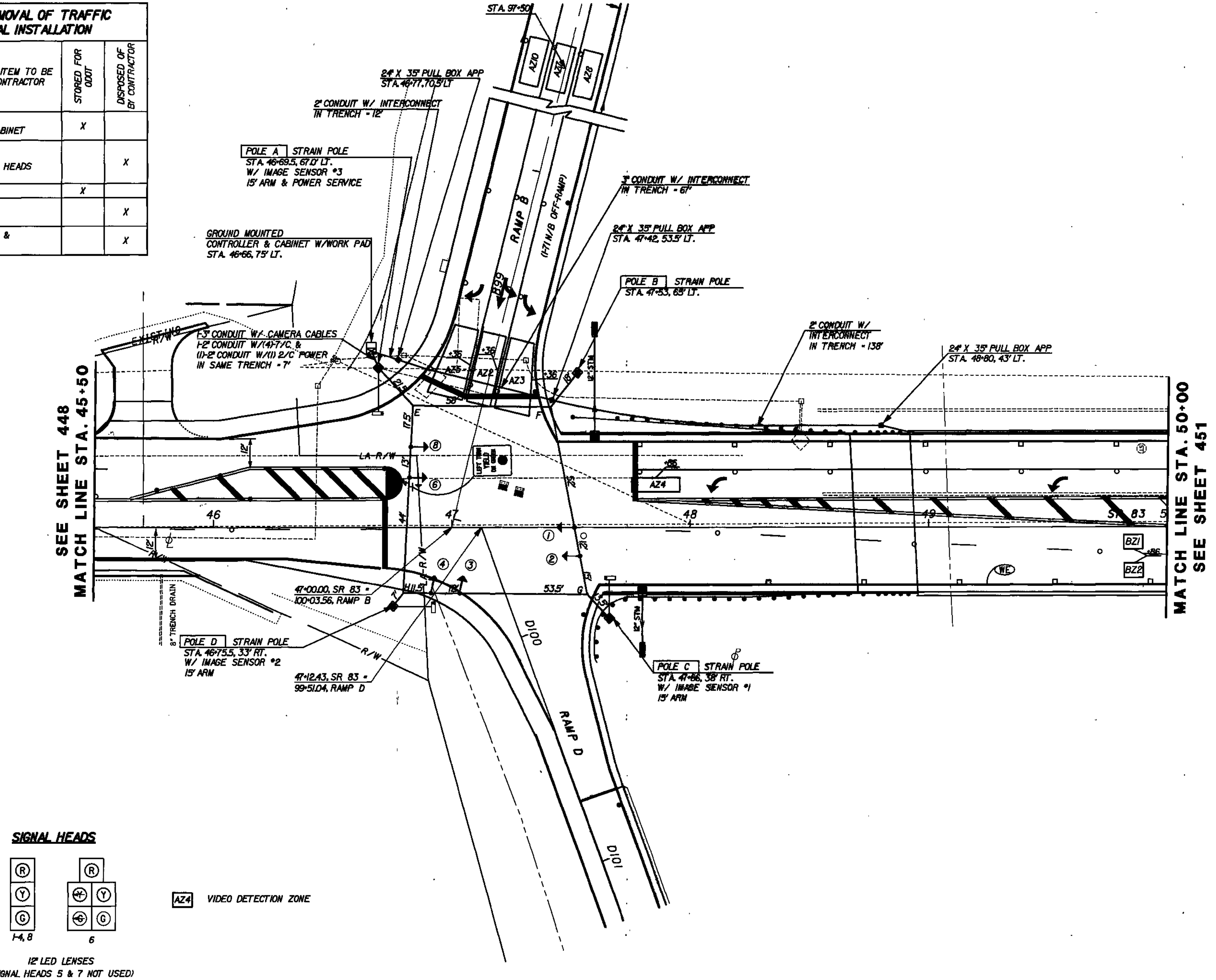
TRAFFIC SIGNAL AND INTERCONNECT PLAN
SR-83 STA. 42+00 TO STA. 45+50

WAY/MED-71-7.04/0.00

DATE: $DATE$ $TIME$
FILENAME: $FILE$

632 REMOVAL OF TRAFFIC SIGNAL INSTALLATION

DESCRIPTION OF ITEM TO BE REMOVED BY CONTRACTOR	STORED FOR ODOT	DISPOSED OF BY CONTRACTOR
(1) POLE MOUNTED CONTROLLER & CABINET	X	
(6) 3 SEC., 1 WAY VEHICULAR SIGNAL HEADS		X
(2) STRAIN POLES	X	
(2) ANCHOR BASE FOUNDATIONS		X
MESSENGER WIRE & SIGNAL CABLE		X



12" LED LENSES
(SIGNAL HEADS 5 & 7 NOT USED)

SPAN LENGTH

SPAN	LENGTH (FT.)
AE	21.5'
EF	58'
BF	18'
FG	79'
CG	13.5'
GH	77'
DH	7'
HE	78.5'

SPAN DIMENSIONS ARE APPROXIMATE

N

0 20 40
SCALE IN FEET

CALCULATED
CHECKED KES 7/04

TRAFFIC SIGNAL & INTERCONNECT PLAN
INTERSECTION OF IR-71 NB RAMPS & SR-83 (SIGNAL 'A')
SR-83 STA. 45+50 TO STA. 50+00

WAY/MED-71-7.04/0.00

DATE: $DATE$ $TIME$
FILENAME: $FILE$

SIGNAL DISPLAYS

PHASE	SIGNAL NUMBER 1	2	3	4	5	6	7	8		DESCRIPTION OF INTERVAL
ϕ1 + ϕ6	R	R	R	R	NOT USED	←G/G	NOT USED	G		GREEN
	R	R	R	R		←Y/G		G		YELLOW CLEAR
	R	R	R	R		G		G		RED CLEAR
ϕ2 + ϕ6	G	G	R	R		G		G		GREEN
	Y	Y	R	R		Y		Y		YELLOW CLEAR
	R	R	R	R		R		R		RED CLEAR
ϕ4	R	R	G	G		R		R		GREEN
	R	R	Y	Y		R		R		YELLOW CLEAR
	R	R	R	R		R		R		RED CLEAR
FLASH	Y	Y	R	R		Y		Y		FLASH

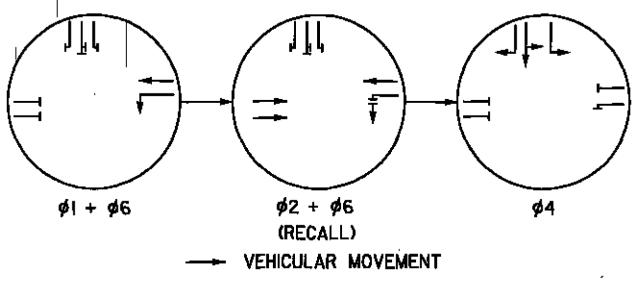
VIDEO DETECTION ZONES

ZONE	SIZE (LXW)	ASSOC. PHASE	TYPE	CAMERA NO.	EXT. (SEC.)	DELAY (SEC.)	DELAY INHIBITED DURING	LABEL
SZ-1	6′ x 8′	SYS	PULSE	C1				SB SYS EXIT
AZ-1	6′ x 8′	ϕ2	PULSE	C1				NB EXT THRU
AZ-2	(10′&15′)x30′	ϕ4	PRESENCE	C2				EB THRU LT
AZ-3	(10′&15′)x30′	ϕ4	PRESENCE	C2				EB LT
AZ-4	8′ x 20′	ϕ1	PRESENCE	C3				SB LT
AZ-5	(10′&15′)x30′	ϕ4	PRESENCE	C2		15	ϕ4	EB RT
AZ-6	6′ x 8′	ϕ6	PULSE	C3				SB EXT THRU
AZ-7	8′ x 20′	ϕ4	PRESENCE	C2	1.5			EB THRU LT
AZ-8	8′ x 20′	ϕ4	PRESENCE	C2	1.5			EB LT
AZ-9	6′ x 8′	ϕ2	PULSE	C1				NB EXT THRU
AZ-10	8′ x 20′	ϕ4	PRESENCE	C2	1.5			EB RT

SIGNAL TIMING IN SECONDS

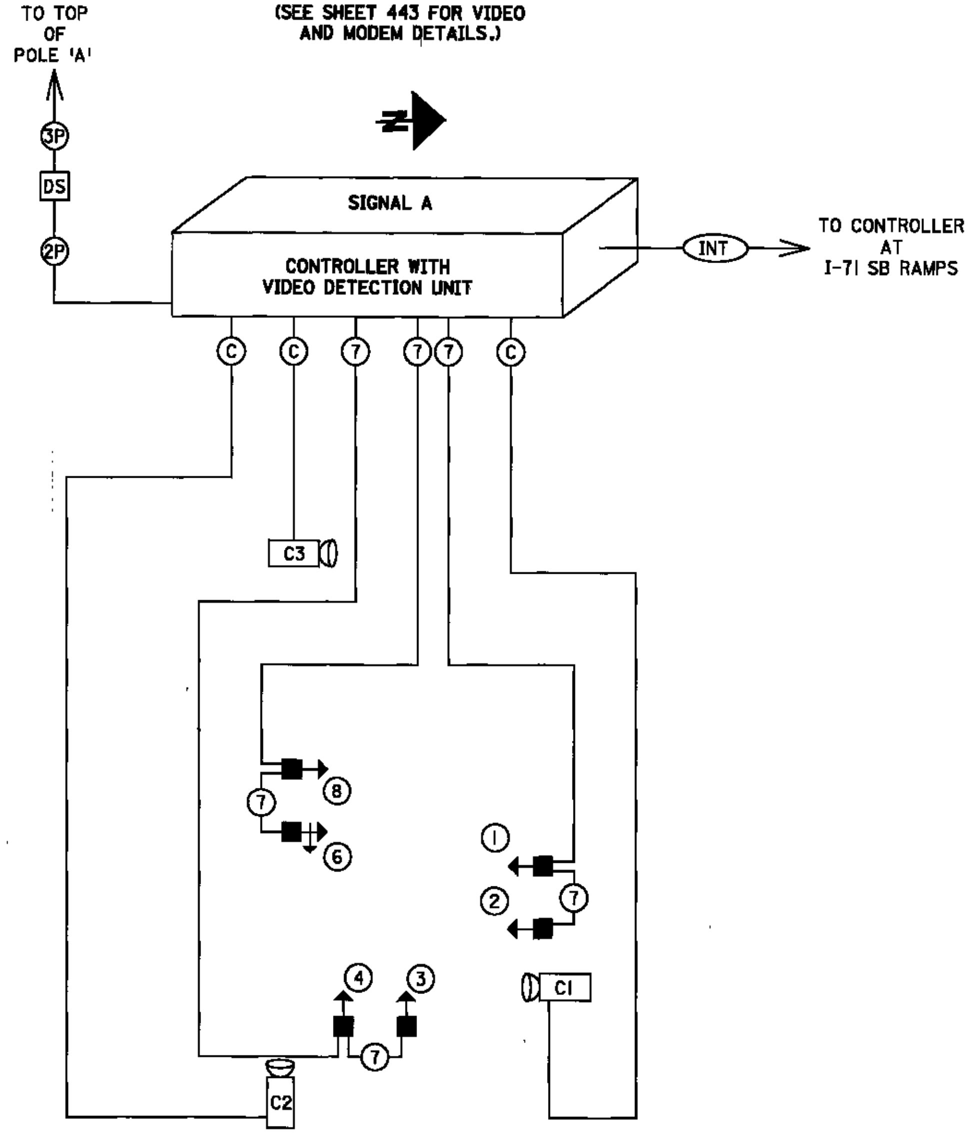
TIMING INTERVAL	SB-LT	NB	-	EB (RMP.)	-	SB	-
	ϕ1	ϕ2	ϕ3	ϕ4	ϕ5	ϕ6	ϕ8
MIN. GREEN	15	25		20		25	
PED. WALK							
PED. CLEAR							
VEH. EXTENSION	3	4.3		4		4.3	
MAX. GREEN I							
MAX. GREEN II							
YELLOW CLEAR	3.5	4		4		4	
RED CLEAR	2	2		2		2	
RECALL	OFF	ON		OFF		ON	
PED RECALL							
LOCK/NON-LOCK				NON-LOCK			

SIGNAL PHASING



→ VEHICULAR MOVEMENT

(SEE SHEET 443 FOR VIDEO AND MODEM DETAILS.)



SEE SHEET 449 FOR INTERSECTION SIGNAL PLAN

LEGEND

- -(L-1)- VEHICLE LOOP DETECTOR
- ■→ VEHICULAR SIGNAL HEAD
- -(2P)- 2/C #6 AWG (POWER)
- -(3P)- 3/C #6 AWG. (POWER)
- -(2)- 2/C #14 AWG (LEAD-IN CABLE)
- -(3)- 3/C #14 AWG
- -(5)- 5/C #14 AWG.
- -(7)- 7/C #14 AWG.
- (INT) FIBER OPTIC INTERCONNECT CABLE/VIDEO
- -[DS]- DISCONNECT SWITCH
- (B) PEDESTRIAN PUSHBUTTON
- ▭ IMAGE SENSOR
- -(C)- CAMERA CABLE

SUB-SUMMARY OF TRAFFIC SIGNAL ITEMS

ITEM	QUANTITY	UNIT	ITEM DESCRIPTION	REFERENCE
625	3	EA	BRACKET ARM, 15′	A,C,D
625	14	FT	CONDUIT, 2", 725.04	
625	7	FT	CONDUIT, 3", 725.04	
625	7	FT	TRENCH, AS PER PLAN	
625	5	EA	GROUND ROD	
632	6	EA	COVERING OF VEHICULAR SIGNAL HEAD, AS PER PLAN	
632	503	FT	SIGNAL CABLE 7-CONDUCTOR, NO. 14 AWG	
632	1	EA	INTERCONNECT, MISC.: FAN-OUT KIT, 6 FIBER	
632	2	EA	INTERCONNECT, MISC.: FIBER OPTIC PATCH CORD, 4 FIBER	CAB.
632	1	EA	INTERCONNECT, MISC.: TERMINATION PANEL	CAB.
				CAB.
632	6	EA	INTERCONNECT, MISC.: FIBER OPTIC CONNECTOR	CAB.
632	353	FT	MESSENGER WIRE, 7 STRAND, 1/4" DIA. W/ACCESSORIES,	
			AS PER PLAN	
632	353	FT	MESSENGER WIRE, 7 STRAND, 3/8" DIA. W/ACCESSORIES	
632	4	EA	STRAIN POLE FOUNDATION	
632	33	FT	POWER CABLE, 3 CONDUCTOR NO. 6 AWG	
632	25	FT	POWER CABLE, 2 CONDUCTOR NO. 6 AWG	
632	1	EA	POWER SERVICE, AS PER PLAN	
632	2	EA	COMBINATION STRAIN POLE TYPE TC-81.10,	A,C
			DESIGN 10, 40′	
632	1	EA	COMBINATION STRAIN POLE TYPE TC-81.10,	D
			DESIGN 10, 34′	
632	1	EA	STRAIN POLE TYPE TC-81.10, DESIGN 10, 32′	B
632	1	EA	REMOVAL OF TRAFFIC SIGNAL INSTALLATION	
632	5	EA	VEHICULAR SIGNAL HEAD WITH LED LAMP UNITS,	
			3-SECTION, 12" LENS, 1-WAY, AS PER PLAN	
632	1	EA	VEHICULAR SIGNAL HEAD WITH LED LAMP UNITS,	
			5-SECTION, 12" LENS, 1-WAY, AS PER PLAN	
632	1	EA	SIGNALIZATION, MISC.: METER BASE, 100 AMP WITH BYPASS	
632	3	EA	SIGNALIZATION, MISC.: VIDEO DETECTION UNIT	CAB.
632	1	EA	SIGNALIZATION, MISC.: VIDEO DETECTION	
			TRANSMISSION SUBSYSTEM	
633	1	EA	CABINET FOUNDATION	
633	1	EA	CONTROLLER WORK PAD	
633	1	EA	CONTROLLER UNIT, TYPE TS2/A2 WITH CABINET,	
			TYPE TS1, AS PER PLAN	
633	1	EA	CONTROLLER MISC.: FIBER OPTIC TRANSCEIVER,	CAB.
			MULTIMODE	

CALCULATED JEG
CHECKED KES 7/04

TRAFFIC SIGNAL DETAILS & SUBSUMMARY
INTERSECTION OF IR-71 NB RAMPS & SR-83 (SIGNAL 'A')

WAY/MED-71-7.04/0.00

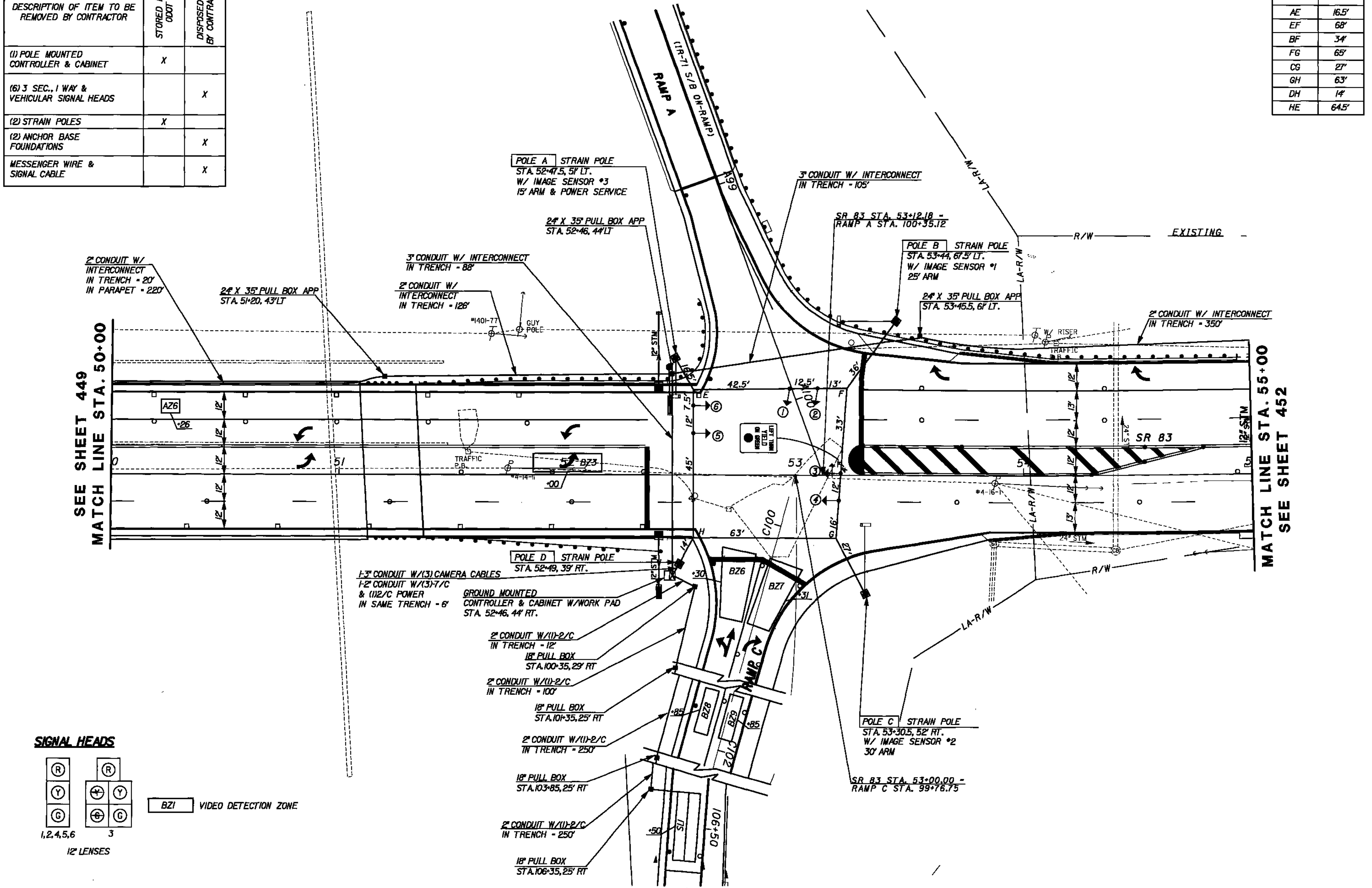
DATE: $DATE$ $TIME$
FILENAME: $FILE$

632 REMOVAL OF TRAFFIC SIGNAL INSTALLATION

DESCRIPTION OF ITEM TO BE REMOVED BY CONTRACTOR	STORED FOR ODOT	DISPOSED OF BY CONTRACTOR
(1) POLE MOUNTED CONTROLLER & CABINET	X	
(6) 3 SEC., 1 WAY & VEHICULAR SIGNAL HEADS		X
(2) STRAIN POLES	X	
(2) ANCHOR BASE FOUNDATIONS		X
MESSENGER WIRE & SIGNAL CABLE		X

SPAN LENGTH

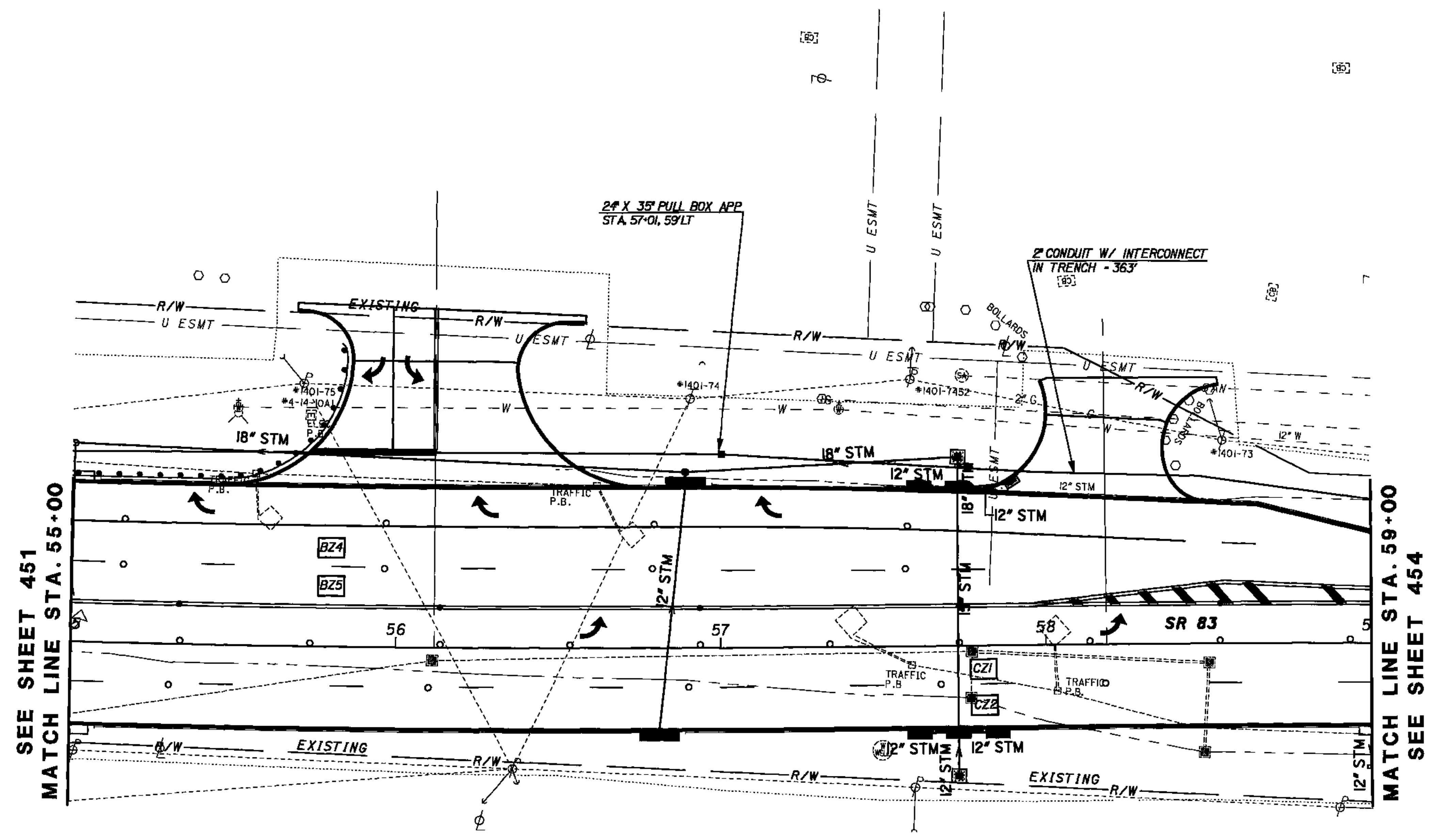
SPAN	LENGTH (FT.)
AE	16.5'
EF	68'
BF	34'
FG	65'
CG	27'
GH	63'
DH	14'
HE	64.5'


SEE SHEET 449
MATCH LINE STA. 50+00
MATCH LINE STA. 55+00
SEE SHEET 452
2" CONDUIT W/ INTERCONNECT IN TRENCH - 20' IN PARAPET - 220'
24" X 35" PULL BOX APP STA. 51+20, 43' LT
3" CONDUIT W/ INTERCONNECT IN TRENCH - 88'
2" CONDUIT W/ INTERCONNECT IN TRENCH - 126'
#1401-77
GUY POLE
POLE A STRAIN POLE STA. 52+47.5, 51' LT. W/ IMAGE SENSOR #3 15' ARM & POWER SERVICE
24" X 35" PULL BOX APP STA. 52+46, 44' LT
RAMP A
(IR-71 S/B ON-RAMP)
A99
3" CONDUIT W/ INTERCONNECT IN TRENCH - 105'
SR 83 STA. 53+12.18 - RAMP A STA. 100+35.12
POLE B STRAIN POLE STA. 53+44, 67.5' LT. W/ IMAGE SENSOR #1 25' ARM
24" X 35" PULL BOX APP STA. 53+45.5, 61' LT.
LA-R/W
R/W
EXISTING
W/ RISER
TRAFFIC P.B.
2" CONDUIT W/ INTERCONNECT IN TRENCH - 350'
12" STM
16.5'
42.5'
12.5'
13'
36'
E
F
A100
7.5'
12'
45'
33'
12'
16'
①
②
③
④
⑤
⑥
LEFT TURN YIELD ON GREEN
AZ6
+26
12'
51
52
53
54
55
BZ3
+00
TRAFFIC P.B.
#4-14-11
#4-16-1
SR 83
12'
13'
24" STM
CB
H
63'
G
27'
14'
C100
POLE D STRAIN POLE STA. 52+49, 39' RT.
1-3" CONDUIT W/(3) CAMERA CABLES 1-2" CONDUIT W/(3)-7/C & (1)2/C POWER IN SAME TRENCH - 6'
GROUND MOUNTED CONTROLLER & CABINET W/WORK PAD STA. 52+46, 44' RT.
+30
BZ6
BZ7
+31
RAMP C
2" CONDUIT W/(1)-2/C IN TRENCH - 12'
18" PULL BOX STA. 100+35, 29' RT
2" CONDUIT W/(1)-2/C IN TRENCH - 100'
18" PULL BOX STA. 101+35, 25' RT
+85
BZ8
BZ9
+85
C102
2" CONDUIT W/(1)-2/C IN TRENCH - 250'
18" PULL BOX STA. 103+85, 25' RT
2" CONDUIT W/(1)-2/C IN TRENCH - 250'
18" PULL BOX STA. 106+35, 25' RT
+50
SI1
106+50
POLE C STRAIN POLE STA. 53+30.5, 52' RT. W/ IMAGE SENSOR #2 30' ARM
SR 83 STA. 53+00.00 - RAMP C STA. 99+76.75
SIGNAL HEADS
R
Y
G
1,2,4,5,6
3
12" LENSES
BZ1 VIDEO DETECTION ZONE
0
20
40
SCALE IN FEET
N

CALCULATED
CHECKED

TRAFFIC SIGNAL AND INTERCONNECT PLAN
INTERSECTION OF IR-71 S/B RAMPS & SR-83 (SIGNAL B)
SR-83 STA. 50+00 TO STA. 55+00

WAY/MED-71-7.04/0.00



N

0 20 40
SCALE IN FEET

CALCULATED
CHECKED

TRAFFIC SIGNAL AND INTERCONNECT PLAN
SR 83 STA. 55+00 TO STA. 59+00

WAY/MED-71-7.04/0.00

SIGNAL DISPLAYS

PHASE	SIGNAL NUMBER 1	2	3	4	5	6				DESCRIPTION OF INTERVAL
φ2 + φ5	R	R	←G	G	R	R				GREEN
	R	R	←YG	G	R	R				YELLOW CLEAR
	R	R	G	G	R	R				RED CLEAR
φ2 + φ6	R	R	G	G	G	G				GREEN
	R	R	Y	Y	Y	Y				YELLOW CLEAR
	R	R	R	R	R	R				RED CLEAR
φ8	G	G	R	R	R	R				GREEN
	Y	Y	R	R	R	R				YELLOW CLEAR
	R	R	R	R	R	R				RED CLEAR
FLASH	R	R	Y	Y	Y	Y				FLASH

VIDEO DETECTION ZONES/LOOP

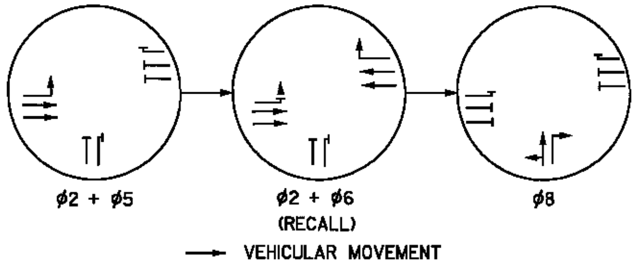
LOOP	SIZE (WXL)	ASSOC. PHASE	TYPE	CAMERA NO.	EXT. (SEC.)	DELAY (SEC.)	DELAY INHIBITED DURING	LABEL
BZ-1	6′ x 8′	φ2	PULSE	C2				NB EXT THRU
BZ-2	6′ x 8′	φ2	PULSE	C2				NB EXT THRU
BZ-3	8′ x 30′	φ5	PRESENCE	C2		5	φ5	NB LT
BZ-4	6′ x 8′	φ6	PULSE	C3				SB EXT THRU
BZ-5	6′ x 8′	φ6	PULSE	C3				SB EXT THRU
BZ-6	(10′&15′)x30′	φ8	PRESENCE	C1				WB LT
BZ-7	(10′&15′)x30′	φ8	PRESENCE	C1		15	φ8	WB RT
BZ-8	8′ x 20′	φ8	PRESENCE	C1	1.5			WB LT
BZ-9	8′ x 20′	φ8	PRESENCE	C1	1.5			WB RT
SL*	10′ x 30′	–	PRESENCE	–				RAMP BACK-UP

* LOOP SL - DETECTOR UNIT IS INCIDENTAL TO CONTROLLER & CABINET

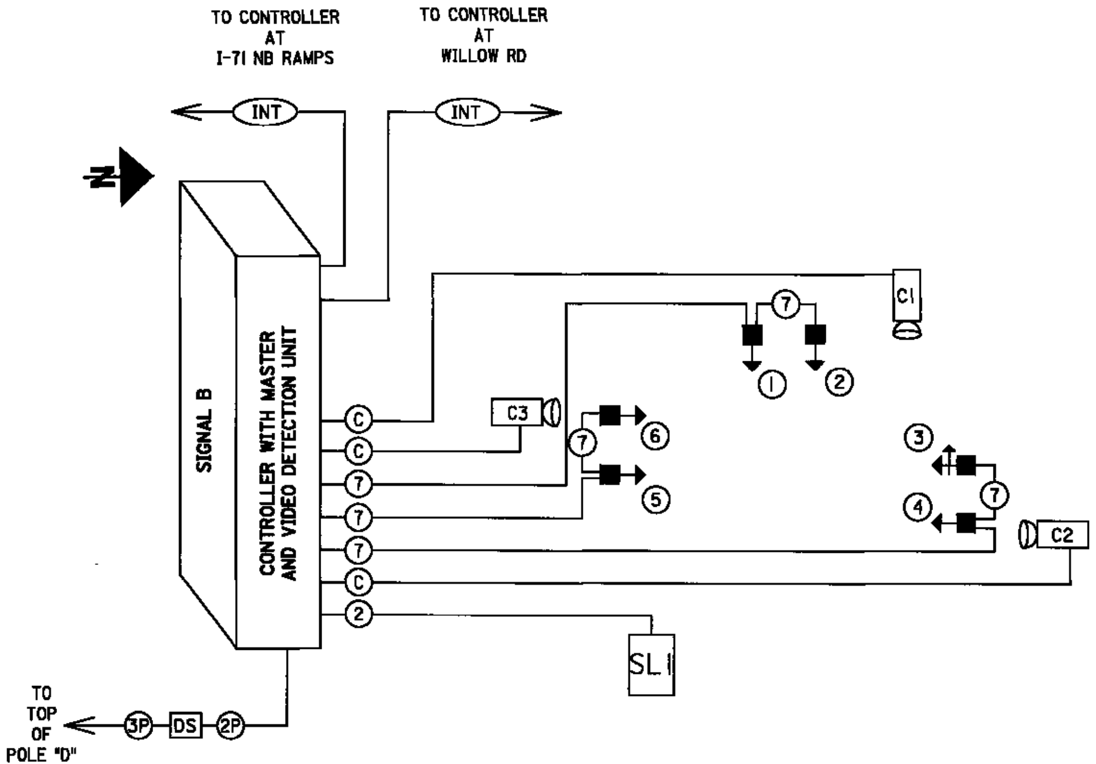
SIGNAL TIMING IN SECONDS

TIMING INTERVAL		NB	WBLT		NBLT	SB		WB(RAMP)
	φ1	φ2		φ4	φ5	φ6	φ7	φ8
MIN. GREEN								
PED. WALK		25			15	25		20
PED. CLEAR								
VEH. EXTENSION		4.3			3	4.3		4
MAX. GREEN I								
MAX. GREEN II								
YELLOW CLEAR		4			3.5	4		4
RED CLEAR		2			2	2		2
RECALL		ON			OFF	ON		OFF
PED RECALL								
LOCK/NON-LOCK					NON-LOCK			NON-LOCK

SIGNAL PHASING



(SEE SHEET 443 FOR VIDEO AND MODEM DETAILS.)


TO CONTROLLER AT I-71 NB RAMPS
TO CONTROLLER AT WILLOW RD
INT
INT
N
SIGNAL B
CONTROLLER WITH MASTER AND VIDEO DETECTION UNIT
C
C
7
7
7
C
2
C1
C2
C3
SL1
1
2
3
4
5
6
TO TOP OF POLE "D"
3P
DS
2P

SEE SHEET 451 FOR INTERSECTION SIGNAL PLAN

LEGEND

(L-1)	VEHICLE LOOP DETECTOR	SL1	RAMP BACK-UP SYSTEM LOOP
■→	VEHICULAR SIGNAL HEAD	(INT)	FIBER OPTIC INTERCONNECT/VIDEO
(2P)	2/C #6 AWG (POWER)	(MB)	METER BASE
(3P)	3/C #6 AWG. (POWER)	DS	DISCONNECT SWITCH
(2)	2/C #14 AWG (LEAD-IN CABLE)	(B)	PEDESTRIAN PUSHBUTTON
(3)	3/C #14 AWG	▭	IMAGE SENSOR
(5)	5/C #14 AWG.	(C)	CAMERA CABLE
(7)	7/C #14 AWG.		

SUB-SUMMARY OF TRAFFIC SIGNAL ITEMS

ITEM	QUANTITY	UNIT	ITEM DESCRIPTION	REFERENCE
603	80	FT	CONDUIT, 4", TYPE E	
625	1	EA	BRACKET ARM, 15′	A
625	1	EA	BRACKET ARM, 20′	B
625	1	EA	BRACKET ARM, 30′	C
625	618	FT	CONDUIT, 2", 725.04	
625	6	FT	CONDUIT, 3", 725.04	
625	618	FT	TRENCH, AS PER PLAN	
625	5	EA	GROUND ROD	
625	4	EA	PULL BOX, 725.08, 18"	
632	6	EA	COVERING OF VEHICULAR SIGNAL HEAD, AS PER PLAN	
632	1	EA	DETECTOR LOOP	
632	481	FT	SIGNAL CABLE, 7-CONDUCTOR, No. 14 AWG	
632	2	EA	INTERCONNECT, MISC.: FAN-OUT KIT, 6 FIBER	CAB.
632	2	EA	INTERCONNECT, MISC.: FIBER OPTIC PATCH CORD,	CAB.
			4 FIBER	
632	1	EA	INTERCONNECT, MISC.: TERMINATION PANEL	CAB.
632	12	EA	INTERCONNECT, MISC.: FIBER OPTIC CONNECTOR	CAB.
632	350	FT	MESSENGER WIRE, 7 STRAND, 1/4" DIA. W/ACCESSORIES, A.P.P.	
632	350	FT	MESSENGER WIRE, 7 STRAND, 3/8" DIA. W/ACCESSORIES	
632	4	EA	STRAIN POLE FOUNDATION	
632	639	FT	LOOP DETECTOR LEAD-IN CABLE	
632	33	FT	POWER CABLE, 3-CONDUCTOR, No. 6 AWG	
632	24	FT	POWER CABLE, 2-CONDUCTOR, No. 6 AWG	
632	1	EA	POWER SERVICE, AS PER PLAN	
632	1	EA	COMBINATION STRAIN POLE, TYPE TC-81.10,	A
			DESIGN 10, 34′	
632	2	EA	COMBINATION STRAIN POLE, TYPE TC-81.10,	B,C
			DESIGN 10, 41′	
632	1	EA	STRAIN POLE, TYPE TC-81.10, DESIGN 10, 34′	D
632	1	EA	REMOVAL OF TRAFFIC SIGNAL INSTALLATION	
632	1	EA	PHONE DROP	CAB.
632	5	EA	VEHICULAR SIGNAL HEAD WITH LED LAMP UNITS,	
			3-SECTION, 12" LENS, 1-WAY, AS PER PLAN	
632	1	EA	VEHICULAR SIGNAL HEAD WITH LED LAMP UNITS,	
			5-SECTION, 12" LENS, 1-WAY, AS PER PLAN	
632	1	EA	SIGNALIZATION, MISC.: METER BASE, 100 AMP WITH BYPASS	
632	3	EA	SIGNALIZATION, MISC.: VIDEO DETECTION UNIT	CAB.
632	1	EA	SIGNALIZATION, MISC.: VIDEO DETECTION	CAB.
			TRANSMISSION SUBSYSTEM	
633	1	EA	CONTROLLER UNIT, TYPE TS2/A2 WITH CABINET,	
			TYPE TS1, AS PER PLAN	
633	1	EA	CONTROLLER, MASTER, TRAFFIC RESPONSIVE	
633	1	EA	CABINET FOUNDATION	
633	1	EA	CONTROLLER WORK PAD	
633	1	EA	CONTROLLER MISC.: FIBER OPTIC TRANSCEIVER,	CAB.
			MULTIMODE	

CALCULATED JEG
CHECKED DWB 9/03

TRAFFIC SIGNAL DETAILS & SUBSUMMARY
INTERSECTION OF IR-71 SB RAMPS & SR-83 (SIGNAL B)

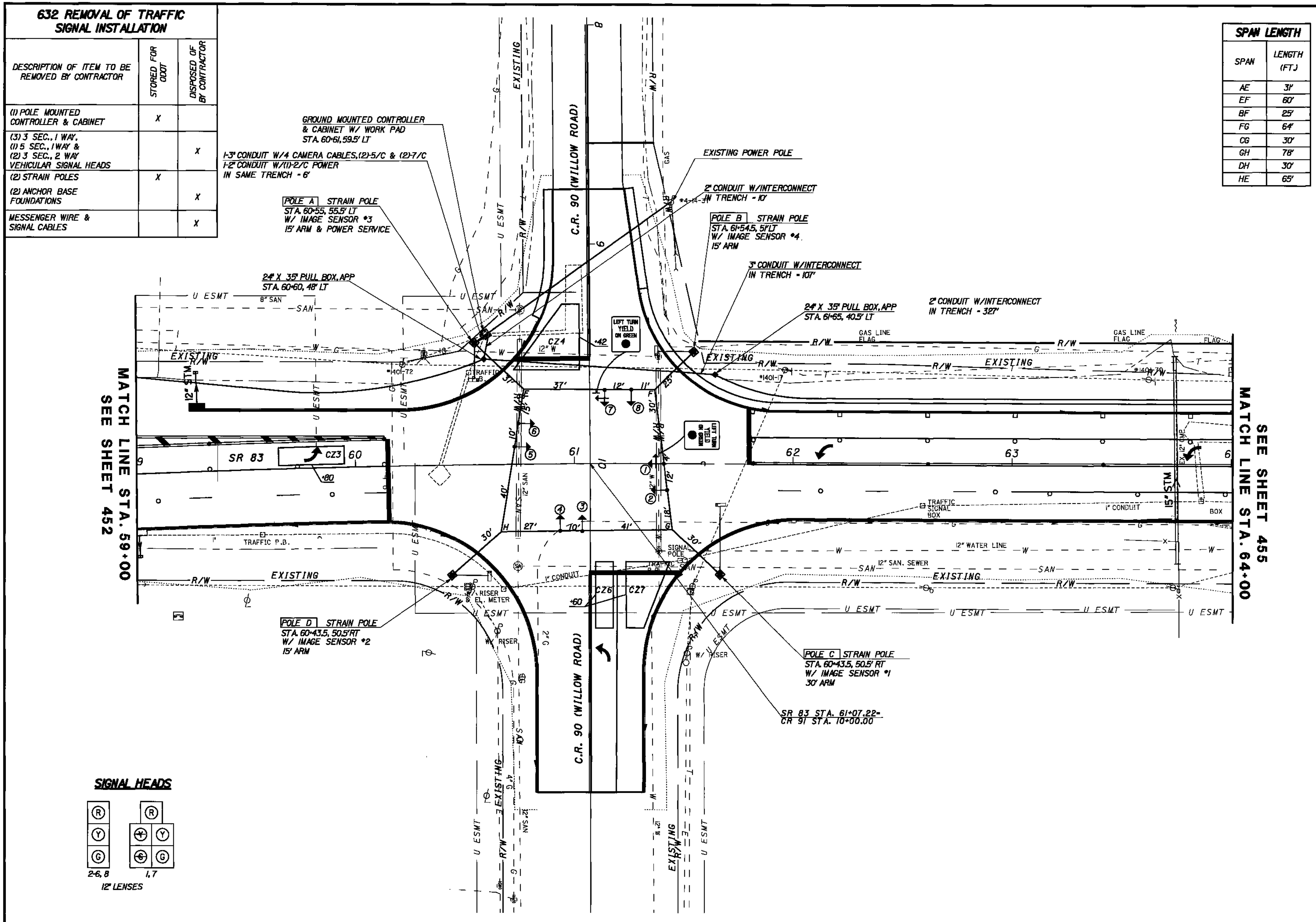
WAY/MED-71-7.04/0.00

632 REMOVAL OF TRAFFIC SIGNAL INSTALLATION

DESCRIPTION OF ITEM TO BE REMOVED BY CONTRACTOR	STORED FOR ODOT	DISPOSED OF BY CONTRACTOR
(1) POLE MOUNTED CONTROLLER & CABINET	X	
(3) 3 SEC., 1 WAY, (1) 5 SEC., 1 WAY & (2) 3 SEC., 2 WAY VEHICULAR SIGNAL HEADS		X
(2) STRAIN POLES	X	
(2) ANCHOR BASE FOUNDATIONS		X
MESSENGER WIRE & SIGNAL CABLES		X

SPAN LENGTH

SPAN	LENGTH (FT.)
AE	31'
EF	60'
BF	25'
FG	64'
CG	30'
GH	78'
DH	30'
HE	65'


GROUND MOUNTED CONTROLLER & CABINET W/ WORK PAD STA. 60+61, 59.5' LT
1-3" CONDUIT W/4 CAMERA CABLES, (2)-5/C & (2)-7/C
1-2" CONDUIT W/(1)-2/C POWER IN SAME TRENCH - 6'
POLE A STRAIN POLE STA. 60+55, 55.5' LT W/ IMAGE SENSOR #3 15' ARM & POWER SERVICE
24" X 35" PULL BOX, APP STA. 60+60, 48' LT
EXISTING POWER POLE
2" CONDUIT W/INTERCONNECT IN TRENCH - 10'
POLE B STRAIN POLE STA. 61+54.5, 51' LT W/ IMAGE SENSOR #4 15' ARM
3" CONDUIT W/INTERCONNECT IN TRENCH - 107'
24" X 35" PULL BOX, APP STA. 61+65, 40.5' LT
2" CONDUIT W/INTERCONNECT IN TRENCH - 327'
POLE D STRAIN POLE STA. 60+43.5, 50.5' RT W/ IMAGE SENSOR #2 15' ARM
POLE C STRAIN POLE STA. 60+43.5, 50.5' RT W/ IMAGE SENSOR #1 30' ARM
SR 83 STA. 61+07.22= CR 91 STA. 10+00.00
C.R. 90 (WILLOW ROAD)
SR 83
MATCH LINE STA. 59+00 SEE SHEET 452
SEE SHEET 455 MATCH LINE STA. 64+00
LEFT TURN YIELD ON GREEN
CZ3
CZ4
CZ6
CZ7
EXISTING
R/W
U ESMT
8" SAN
SAN
GAS LINE FLAG
12" WATER LINE
12" SAN. SEWER
TRAFFIC SIGNAL BOX
TRAFFIC P.B.
SIGNAL POLE
1" CONDUIT
W/ RISER & EL. METER
W/ RISER
12" STM
15" STM
GAS
60
61
62
63
37'
12'
11'
25'
30'
15'
10'
40'
27'
10'
41'
18'
12'
30'
H
G
F
SIGNAL HEADS
R
Y
G
2-6, 8
1, 7
12" LENSES

TRAFFIC SIGNAL AND INTERCONNECT PLAN
INTERSECTION OF SR-83 & WILLOW RD. (SIGNAL C)

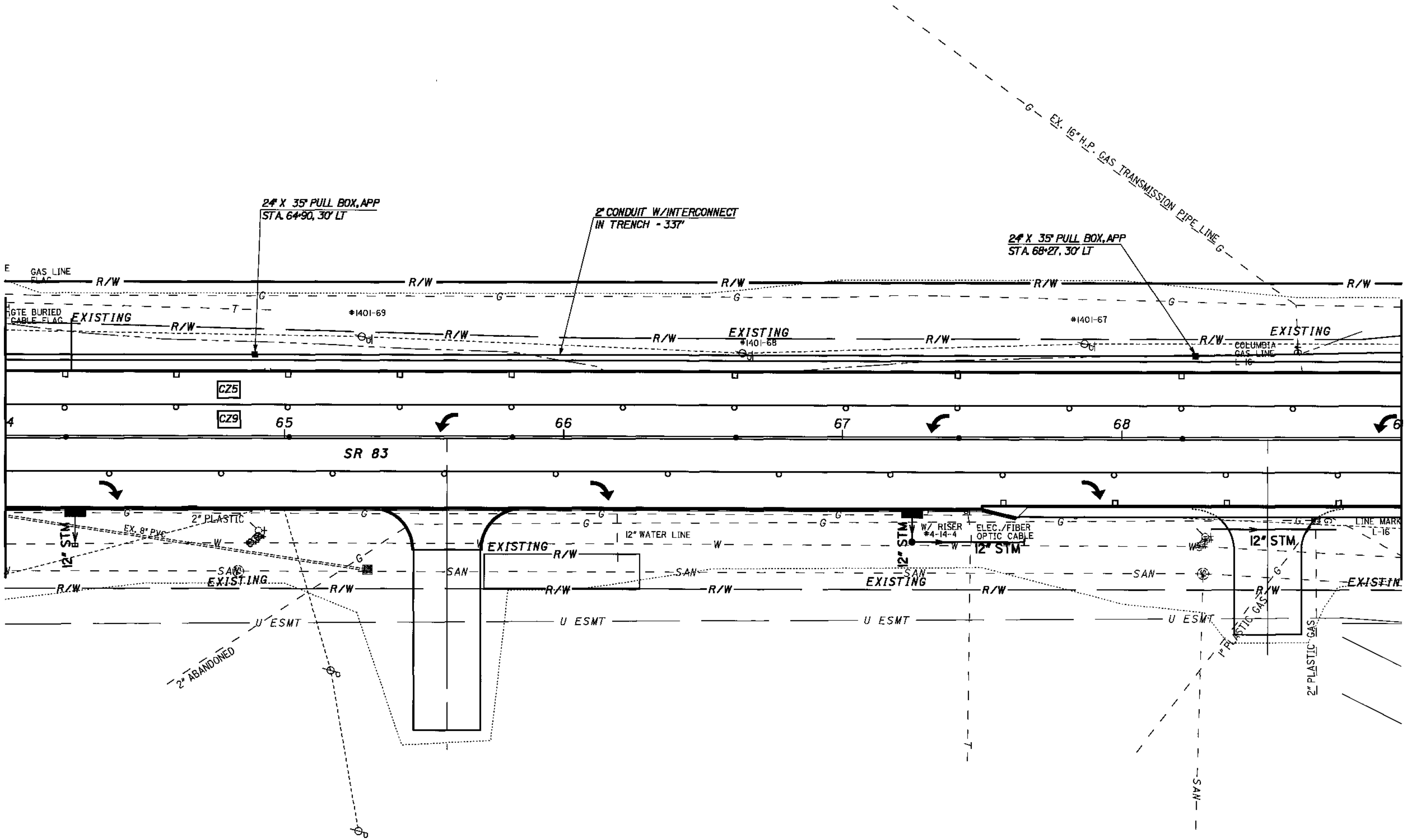
WAY/MED-71-7.04/0.00

SCALE IN FEET 0 20 40

CALCULATED

CHECKED

MATCH LINE STA. 64+00
SEE SHEET 454



MATCH LINE STA. 69+00
SEE SHEET 457

SCALE IN FEET
0 20 40

CALCULATED
CHECKED

TRAFFIC SIGNAL AND INTERCONNECT PLAN
SR-83 STA. 64+00 TO STA. 69+00

WAY/MED-71-7.04/0.00

455
785

DATE: $DATE$ $TIME$
FILENAME: $FILE$

SIGNAL DISPLAYS

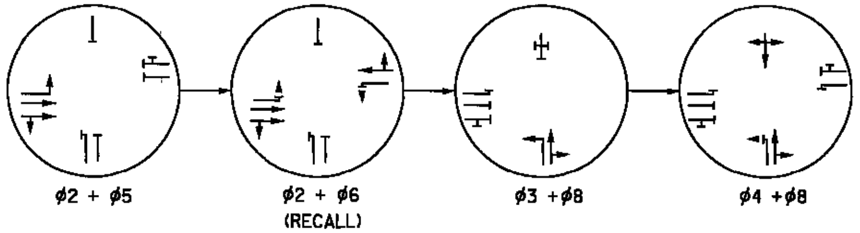
PHASE	SIGNAL NUMBER									DESCRIPTION OF INTERVAL
	1	2	3	4	5	6	7	8		
ϕ2 + ϕ5	←GG	G	R	R	R	R	R	R		GREEN
	←YG	G	R	R	R	R	R	R		YELLOW CLEAR TO ϕ2 + ϕ6
	G	G	R	R	R	R	R	R		RED CLEAR TO ϕ2 + ϕ6
ϕ2 + ϕ6	G	G	R	R	G	G	R	R		GREEN
	Y	Y	R	R	Y	Y	R	R		YELLOW CLEAR
	R	R	R	R	R	R	R	R		RED CLEAR
ϕ3 + ϕ8	R	R	R	R	R	R	←GG	G		GREEN
	R	R	R	R	R	R	←YG	G		YELLOW CLEAR TO ϕ4 + ϕ8
	R	R	R	R	R	R	G	G		RED CLEAR TO ϕ4 + ϕ8
ϕ4 + ϕ8	R	R	G	G	R	R	G	G		GREEN
	R	R	Y	Y	R	R	Y	Y		YELLOW CLEAR
	R	R	R	R	R	R	R	R		RED CLEAR
FLASH	Y	Y	R	R	Y	Y	R	R		FLASH

SIGNAL TIMING IN SECONDS

TIMING INTERVAL		NB	WBLT*	EB	NBLT	SB		WB
	ϕ1	ϕ2	ϕ3	ϕ4	ϕ5	ϕ6	ϕ7	ϕ8
MIN. GREEN		25	15	20	15	25		20
PED. WALK								
PED. CLEAR								
VEH. EXTENSION	-	4.3	3	3	3	4.3		3
MAX. GREEN I								
MAX. GREEN II								
YELLOW CLEAR		4	3.5	4	3.5	4		4
RED CLEAR		2	2	2	2	2		2
RECALL		ON	OFF	OFF	OFF	ON		OFF
PED RECALL								
LOCK/NON-LOCK			NON-LOCK	NON-LOCK	NON-LOCK			NON-LOCK

* WBLT PHASE SHALL ONLY BE FUNCTIONAL DURING SEASONAL PEAK, AS DETERMINED BY ODOT DISTRICT 4 PERSONNEL.

SIGNAL PHASING


ϕ2 + ϕ5

ϕ2 + ϕ6
(RECALL)

ϕ3 +ϕ8

ϕ4 +ϕ8

—► VEHICULAR MOVEMENT

NOTE: INSTALL JUMPERS ON BACKPANEL AS FOLLOWS:
PHASE 6 ON TO PHASE 5 OMIT
THE JUMPERS SHALL BE INSTALLED ON THE FRONT OF THE
PANEL AND SHALL BE EASILY REMOVED IF NEEDED.

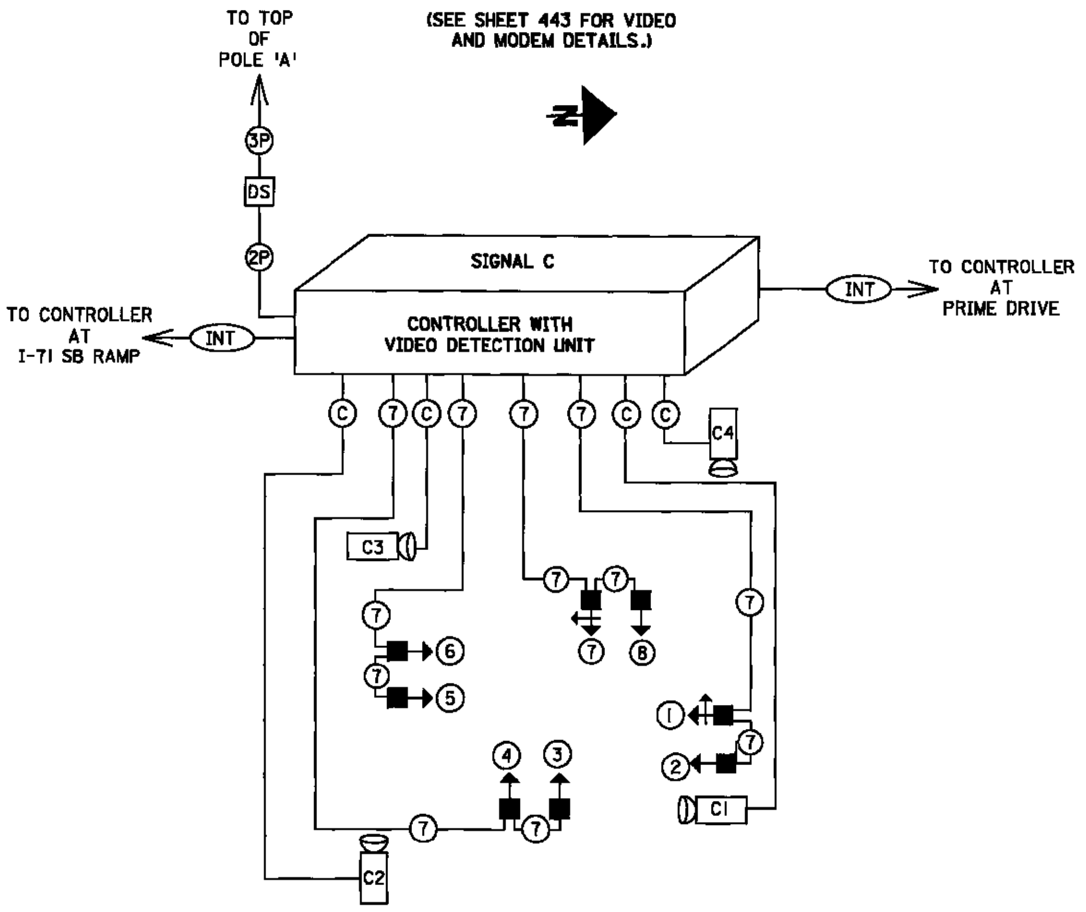
LEGEND

- ■→ VEHICULAR SIGNAL HEAD
- ■→↓ VEHICULAR SIGNAL HEAD W/ TURN ARROW
- —②P— 2/C #6 AWG (POWER)
- —③P— 3/C #6 AWG. (POWER)
- —⑤— 5/C #14 AWG.
- —⑦— 7/C #14 AWG.
- (INT) FIBER OPTIC INTERCONNECT/VIDEO
- (MB) METER BASE
- —[DS]— DISCONNECT SWITCH
- ▭ IMAGE SENSOR
- —ⓒ— CAMERA CABLE

VIDEO DETECTION ZONES

LOOP	SIZE (LXW)	ASSOC. PHASE	TYPE	CAMERA NO.	EXT. (SEC.)	DELAY (SEC.)	DELAY INHIBITED DURING	LABEL
CZ-1	6′ x 8′	ϕ2	PRESENCE	C1				NB EXT THRU
CZ-2	6′ x 8′	ϕ2	PRESENCE	C1				NB EXT THRU
CZ-3	8′ x 30′	ϕ5	PRESENCE	C1				NB LT
CZ-4	AS SHOWN	ϕ4	PRESENCE	C2		10	ϕ4	EB
CZ-5	6′ x 8′	ϕ6	PRESENCE	C3				SB EXT THRU
CZ-6	8′ x 30′	ϕ3	PRESENCE	C4		2	ϕ3	WB LT
CZ-7	AS SHOWN	ϕ8	PRESENCE	C4		10	ϕ8	WB THRU

(SEE SHEET 443 FOR VIDEO AND MODEM DETAILS.)



SEE SHEET 454 FOR INTERSECTION SIGNAL PLAN

SUB-SUMMARY OF TRAFFIC SIGNAL ITEMS

ITEM	QUANTITY	UNIT	ITEM DESCRIPTION	REFERENCE
625	3	EA	BRACKET ARM, 15′	A,B,D
625	1	EA	BRACKET ARM, 30′	C
625	6	FT	CONDUIT, 2", 725.04	
625	6	FT	CONDUIT, 3", 725.04	
625	6	FT	TRENCH, AS PER PLAN	
625	5	EA	GROUND ROD	
632	8	EA	COVERING OF VEHICULAR SIGNAL HEAD, AS PER PLAN	
632	634	FT	SIGNAL CABLE, 7-CONDUCTOR, No. 14 AWG	
632	383	FT	MESSENGER WIRE, 7 STRAND, 1/4" DIA. W/ACCESSORIES, A.P.P.	
632	383	FT	MESSENGER WIRE, 7 STRAND, 3/8" DIA. W/ACCESSORIES	
632	4	EA	STRAIN POLE FOUNDATION	
632	24	FT	POWER CABLE, 2-CONDUCTOR, No. 6 AWG	
632	33	FT	POWER CABLE, 3-CONDUCTOR, No. 6 AWG	
632	1	EA	POWER SERVICE, AS PER PLAN	A
632	4	EA	COMBINATION STRAIN POLE, TYPE TC-81.10,	
			DESIGN 10, 34′	
632	1	EA	REMOVAL OF TRAFFIC SIGNAL INSTALLATION	
632	6	EA	VEHICULAR SIGNAL HEAD WITH LED LAMP UNITS,	
			3-SECTION, 12" LENS, 1-WAY, AS PER PLAN	
632	2	EA	VEHICULAR SIGNAL HEAD WITH LED LAMP UNITS,	
			5-SECTION, 12" LENS, 1-WAY, AS PER PLAN	
632	1	EA	SIGNALIZATION, MISC.: METER BASE, 100 AMP WITH BYPASS	
632	4	EA	SIGNALIZATION, MISC.: VIDEO DETECTION UNIT	CAB.
632	1	EA	SIGNALIZATION, MISC.: VIDEO DETECTION	CAB.
			TRANSMISSION SUBSYSTEM	
632	2	EA	INTERCONNECT, MISC.: FAN-OUT KIT, 6 FIBER	CAB.
632	2	EA	INTERCONNECT, MISC.: FIBER OPTIC PATCH CORD,	CAB.
			4 FIBER	
632	1	EA	INTERCONNECT, MISC.: TERMINATION PANEL	CAB.
632	12	EA	INTERCONNECT MISC.: FIBER OPTIC CONNECTOR	CAB.
633	1	EA	CONTROLLER ITEM MISC.: FIBER OPTIC TRANSCEIVER,	CAB.
			MULTIMODE	
633	1	EA	CONTROLLER UNIT, TYPE TS2/A2 WITH CABINET,	
			TYPE TS1, AS PER PLAN	
633	1	EA	CABINET FOUNDATION	
633	1	EA	CONTROLLER WORK PAD	

CALCULATED
JEG

CHECKED
DRB
9/05

TRAFFIC SIGNAL DETAILS & SUBSUMMARY
INTERSECTION OF SR-83 & WILLOW RD. (SIGNAL C)

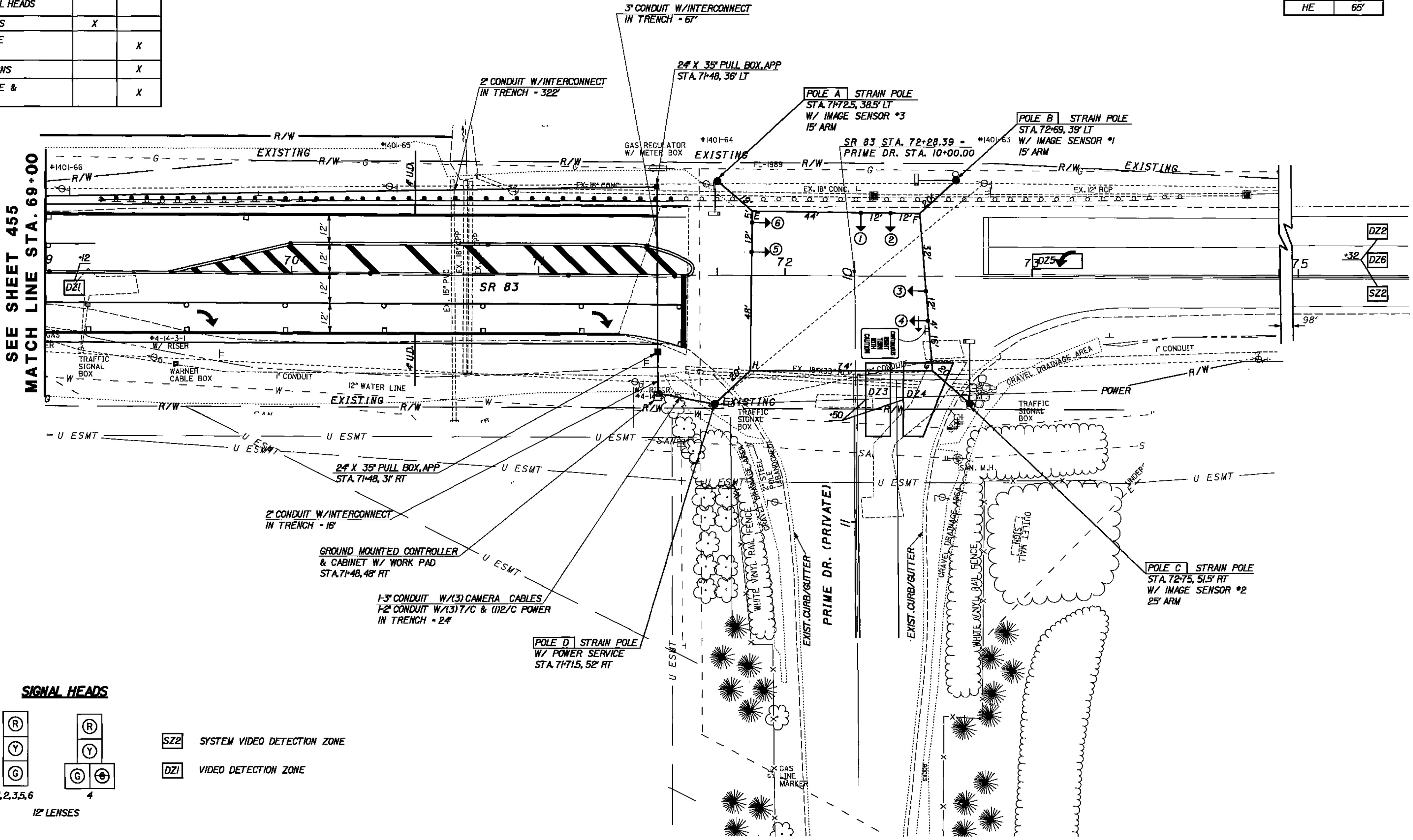
WAY/MED-71-7.04/0.00

632 REMOVAL OF TRAFFIC SIGNAL INSTALLATION

DESCRIPTION OF ITEM TO BE REMOVED BY CONTRACTOR	STORED FOR ODOT	DISPOSED OF BY CONTRACTOR
(1) POLE MOUNTED CONTROLLER & CABINET	X	
(1) 3 SEC., 1 WAY, (2) 3 SEC., 2 WAY, & (1) 4 SEC., 1 WAY VEHICULAR SIGNAL HEADS		X
(2) STRAIN POLES	X	
(2) ANCHOR BASE FOUNDATIONS		X
2 SPAN MTD. SIGNS		X
MESSENGER WIRE & SIGNAL CABLES		X

SPAN LENGTH

SPAN	LENGTH (FT.)
AE	19'
EF	68'
BF	20'
FG	64'
CG	20'
GH	74'
DH	20'
HE	65'



SCALE IN FEET
0 20 40

CALCULATED

CHECKED

TRAFFIC SIGNAL AND INTERCONNECT PLAN
INTERSECTION OF SR-83 & PRIME DRIVE (SIGNAL D)
SR-83 STA. 69+00 TO STA. 75+40

WAY/MED-71-7.04/0.00

DATE: $DATE$ $TIME$
FILENAME: $FILE$

SIGNAL DISPLAYS

PHASE	SIGNAL NUMBER									DESCRIPTION OF INTERVAL
	1	2	3	4	5	6				
φ2 + φ6	R	R	G	G G→	G	G				GREEN
	R	R	Y	Y G→	Y	Y				YELLOW CLEAR
	R	R	R	R G→	R	R				RED CLEAR
φ8	G	G	R	R ⊖→	R	R				GREEN
	Y	Y	R	R ⊖→	R	R				YELLOW CLEAR
	R	R	R	R ⊖→	R	R				RED CLEAR
FLASH	R	R	Y	Y	Y	Y				FLASH

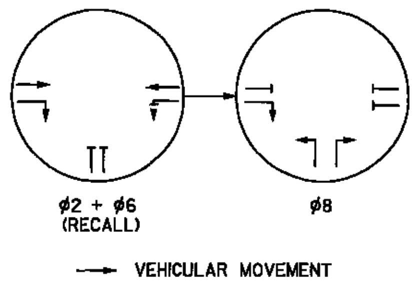
VIDEO DETECTION ZONES

ZONE	SIZE (WXL)	ASSOC. PHASE	TYPE	CAMERA NO.	EXT. (SEC.)	DELAY (SEC.)	DELAY INHIBITED DURING	LABEL
DZ-1	6′ x 8′	φ2	PULSE	C2				NB EXT THRU
DZ-2	6′ x 8′	φ6	PULSE	C3				SB EXT THRU
SZ-2	6′ x 8′	-	PULSE	C3				SYSTEM
DZ-3	10′ x 30′	φ8	PRESENCE	C1		5	φ8	WB LT
DZ-4	AS SHOWN	φ8	PRESENCE	C1		10	φ8	WB RT
DZ-5	8′ x 30′	φ6	PRESENCE	C3				SB LT
DZ-6	6′ x 8′	φ6	PULSE	C3				SB LT EXT

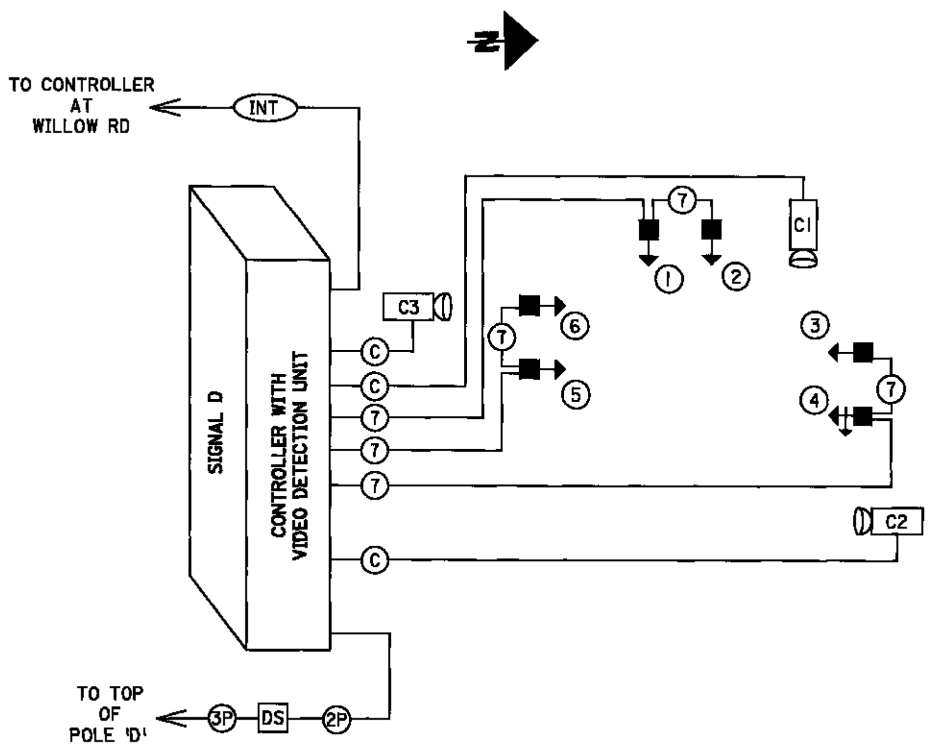
SIGNAL TIMING IN SECONDS

TIMING INTERVAL		NB				SB		WB
	φ1	φ2	φ3	φ4	φ5	φ6	φ7	φ8
MIN. GREEN		25				25		20
PED. WALK								
PED. CLEAR								
VEH. EXTENSION		4.3				4.3		4
MAX. GREEN I								
MAX. GREEN II								
YELLOW CLEAR		4				4		4
RED CLEAR		2				2		2
RECALL		ON				ON		OFF
PED RECALL								
LOCK/NON-LOCK								NON-LOCK

SIGNAL PHASING



(SEE SHEET 443 FOR VIDEO AND MODEM DETAILS.)


TO CONTROLLER AT WILLOW RD
INT
SIGNAL D
CONTROLLER WITH VIDEO DETECTION UNIT
C3
C
C
7
7
7
C
C1
C2
1
2
3
4
5
6
7
7
7
TO TOP OF POLE 'D'
3P
DS
2P

SEE SHEET 457 FOR INTERSECTION SIGNAL PLAN

LEGEND

L-1	VEHICLE LOOP DETECTOR
■→	VEHICULAR SIGNAL HEAD
2P	2/C #6 AWG (POWER)
3P	3/C #6 AWG. (POWER)
2	2/C #14 AWG (LEAD-IN CABLE)
3	3/C #14 AWG
5	5/C #14 AWG.
7	7/C #14 AWG.
INT	FIBER OPTIC INTERCONNECT CABLE/VIDEO
MB	METER BASE
DS	DISCONNECT SWITCH
B	PEDESTRIAN PUSHBUTTON
▭	IMAGE SENSOR
C	CAMERA CABLE

SUB-SUMMARY OF TRAFFIC SIGNAL ITEMS

ITEM	QUANTITY	UNIT	ITEM DESCRIPTION	REFERENCE
625	2	EA	BRACKET ARM, 15′	A,B
625	1	EA	BRACKET ARM, 25′	C
625	24	FT	CONDUIT, 2", 725.04	
625	24	FT	CONDUIT, 3", 725.04	
625	24	FT	TRENCH, AS PER PLAN	
625	5	EA	GROUND ROD	
632	6	EA	COVERING OF VEHICULAR SIGNAL HEAD, AS PER PLAN	
632	572	FT	SIGNAL CABLE, 7-CONDUCTOR, No. 14 AWG	
632	350	FT	MESSENGER WIRE, 7 STRAND, 1/4" DIA. W/ACCESSORIES, A.P.P.	
632	350	FT	MESSENGER WIRE, 7 STRAND, 3/8" DIA. W/ACCESSORIES	
632	4	EA	STRAIN POLE FOUNDATION	
632	45	FT	POWER CABLE, 2-CONDUCTOR, No. 6 AWG	
632	33	FT	POWER CABLE, 3-CONDUCTOR, No. 6 AWG	
632	1	EA	POWER SERVICE, AS PER PLAN	D
632	3	EA	COMBINATION STRAIN POLE, TYPE TC-81.10,	A,B,C
			DESIGN 10, 34′	
632	1	EA	STRAIN POLE, TYPE TC-81.10, DESIGN 10, 34′	D
632	1	EA	REMOVAL OF TRAFFIC SIGNAL INSTALLATION	
632	5	EA	VEHICULAR SIGNAL HEAD WITH LED LAMP UNITS,	
			3-SECTION, 12" LENS, 1-WAY, AS PER PLAN	
632	1	EA	VEHICULAR SIGNAL HEAD WITH LED LAMP UNITS,	
			4-SECTION, 12" LENS, 1-WAY, AS PER PLAN	
632	1	EA	SIGNALIZATION, MISC.: METER BASE, 100 AMP WITH BYPASS	
632	3	EA	SIGNALIZATION, MISC.: VIDEO DETECTION UNIT	CAB.
632	1	EA	SIGNALIZATION, MISC.: VIDEO DETECTION	CAB.
			TRANSMISSION SUBSYSTEM	
632	1	EA	INTERCONNECT, MISC.: FAN-OUT KIT, 6 FIBER	CAB.
632	2	EA	INTERCONNECT, MISC.: FIBER OPTIC PATCH CORD,	CAB.
			4 FIBER	
632	1	EA	INTERCONNECT, MISC.: TERMINATION PANEL	CAB.
632	6	EA	INTERCONNECT, MISC.: FIBER OPTIC CONNECTOR	CAB.
633	1	EA	CONTROLLER ITEM MISC.: FIBER OPTIC TRANSCEIVER,	CAB.
			MULTIMODE	
633	1	EA	CONTROLLER UNIT, TYPE TS2/A2 WITH CABINET,	
			TYPE TS1, AS PER PLAN	
633	1	EA	CABINET FOUNDATION	
633	1	EA	CONTROLLER WORK PAD	

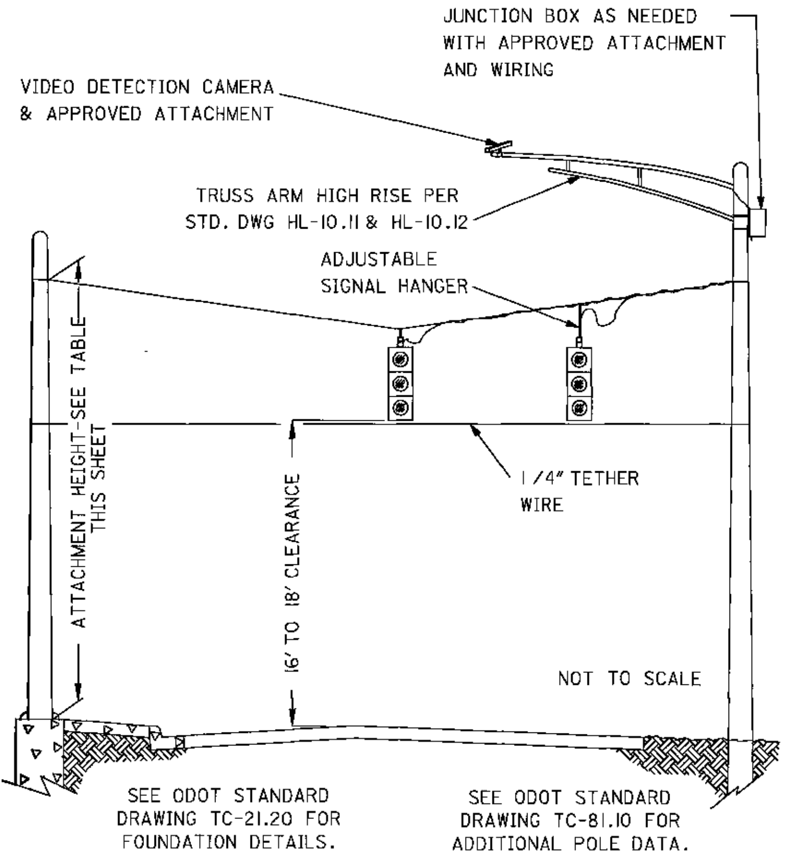
CALCULATED JED
CHECKED DRB 10/03

TRAFFIC SIGNAL DETAILS & SUBSUMMARY
INTERSECTION OF SR-83 & PRIME DR. (SIGNAL D)

WAY/MED-71-7.04/0.00

DATE: $DATE$ $TIME$
FILENAME: $FILE$

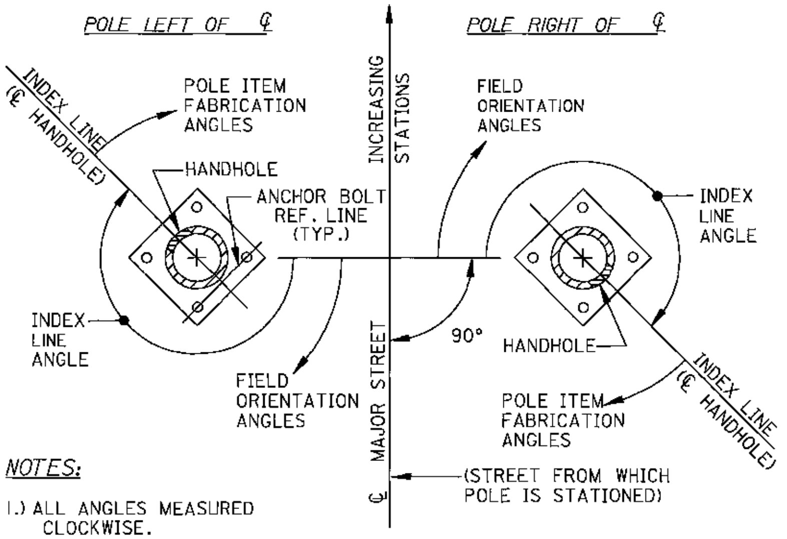
SIGNAL SPANS AND PERCENT SAG				POLE SIZES & SPAN ATTACHMENT HEIGHT					POLE FABRICATION ACCESSORY LOCATIONS - CLOCKWISE FROM HANDHOLE AT 0 DEGREES										FIELD ORIENTATION		
INTERSECTION	SHT. NO.	SPAN DESIGNATION	PERCENT SAG	POLE OR BULLRING DESIGNATION	TC-81.10 POLE DESIGN NO.	POLE HT. (FT.)	ATTACHMENT HT.(FT.) AT 4% SAG		ANCHOR BOLT REF. LINE	CABLE ENTRANCES					PED. SIGNALS	PED.PUSH BUTTON	DISC. SW.	VIDEO DET. BRACKET ARM	INDEX LINE ANGLE (HANDHOLE)	ANCHOR BOLT REF. LINE	UNUSED FOUNDN CONDUIT ELL 2" DIA
							SPAN @ HT.	SPAN @ HT.		1 ANGLE-HT DEG.-FT.	2 ANGLE-HT DEG.-FT.	3 ANGLE-HT DEG.-IN.	4 ANGLE-HT. DEG.-FT.								
	449	AE	4% NET	A	10	35	AE-30′		90°	135°-31′	225°-31′	315°-27″	45°-30′				45°	225°	135°	45°	
SR83																					
		BF	4% NET	B	10	32	BF-29′		90°	180°-30′									225°	45°	
&																					
		CG	4% NET	C	10	35	CG-31′		90°	180°-32′			45°-31′					225°	135°	45°	
I-71 NB RAMPS																					
		DH	4% NET	D	10	34	DH-29′		90°	180°-30′			45°-29′					225°	225°	45°	
	451	AE	4% NET	A	10	34	AE-22′		90°	135°-25′			45°-29′					225°	135°	45°	
SR83																					
		BF	4% NET	B	10	41	BF-31′		90°	180°-34′			45°-36′					225°	225°	45°	
&																					
		CG	4% NET	C	10	41	CG-25′		90°	180°-28′			45°-29′					225°	135°	45°	
I-71 SB RAMPS																					
		DH	4% NET	D	10	34	DH-23′		90°	180°-26′	225°-26′	315°-24″					45°		225°	45°	
	454	AE	4% NET	A	10	34	DH-27′		90°	135°-30′	225°-30′	315°-27″	45°-29′				45°	225°	135°	45°	
SR83																					
		BF	4% NET	B	10	34	AE-26′		90°	180°-29′			45°-29′					225°	225°	45°	
&																					
		CG	4% NET	C	10	34	BF-27′		90°	180°-30′			45°-29′					225°	135°	45°	
WILLOW ROAD																					
		DH	4% NET	D	10	34	CG-28′		90°	180°-31′			45°-29′					225°	225°	45°	
	457	AE	4% NET	A	10	34	AE-27′		90°	180°-30′			45°-29′					225°	135°	45°	
SR83																					
		BF	4% NET	B	10	34	BF-27′		90°	180°-30′			45°-29′					225°	225°	45°	
&																					
		CG	4% NET	C	10	34	CG-26′		90°	180°-29′			45°-29′					225°	135°	45°	
PRIME DRIVE																					
		DH	4% NET	D	10	34	DH-25′		90°	135°-28′	225°-28′	315°-27″					45°		225°	45°	


JUNCTION BOX AS NEEDED WITH APPROVED ATTACHMENT AND WIRING
VIDEO DETECTION CAMERA & APPROVED ATTACHMENT
TRUSS ARM HIGH RISE PER STD. DWG HL-10.11 & HL-10.12
ADJUSTABLE SIGNAL HANGER
ATTACHMENT HEIGHT-SEE TABLE THIS SHEET
16′ TO 18′ CLEARANCE
1/4″ TETHER WIRE
NOT TO SCALE

SEE ODOT STANDARD DRAWING TC-21.20 FOR FOUNDATION DETAILS.

SEE ODOT STANDARD DRAWING TC-81.10 FOR ADDITIONAL POLE DATA.

TYPICAL SIGNAL ELEVATION



NOTES:

1.) ALL ANGLES MEASURED CLOCKWISE.
2.) INDEX LINE GOES THROUGH THE CENTER OF THE HANDHOLE.

SIGNAL STRAIN POLE ORIENTATION DETAIL

NOTES:

(1.) CABLE ENTRANCES ARE GIVEN FOR NEW STEEL POLES ONLY, EXISTING WOOD POLES WILL USE WEATHERHEADS & CONDUIT RISERS TO BE ORIENTED AS REQUIRED. NO. 1 & 2 ARE 2 IN. ENTRANCES FOR SIGNAL CABLES, ENTRANCE NO. 3 IS A $1\frac{1}{2}$ IN. ENTRANCE FOR ELECTRICAL SERVICE. UNUSED B.H.C. SHALL HAVE GALVANIZED PLUG. NO. 4 IS A 2 INCH ENTRANCE FOR JUNCTION BOX.

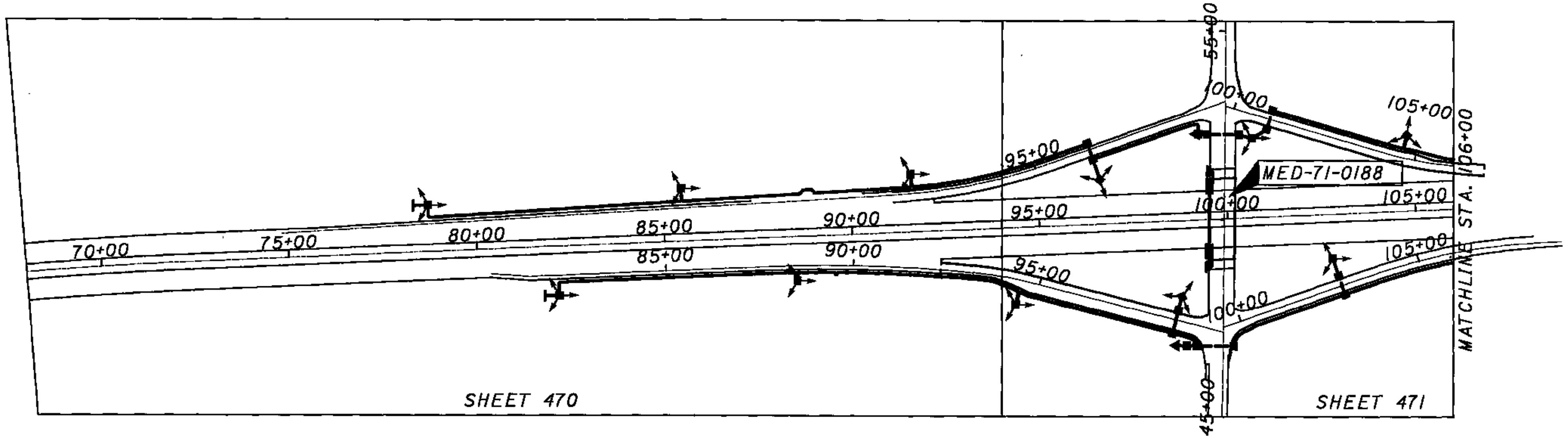
(2.) $1\frac{1}{2}$ IN. B.H.C. LOCATED 27 IN. ABOVE BASE OF POLE.

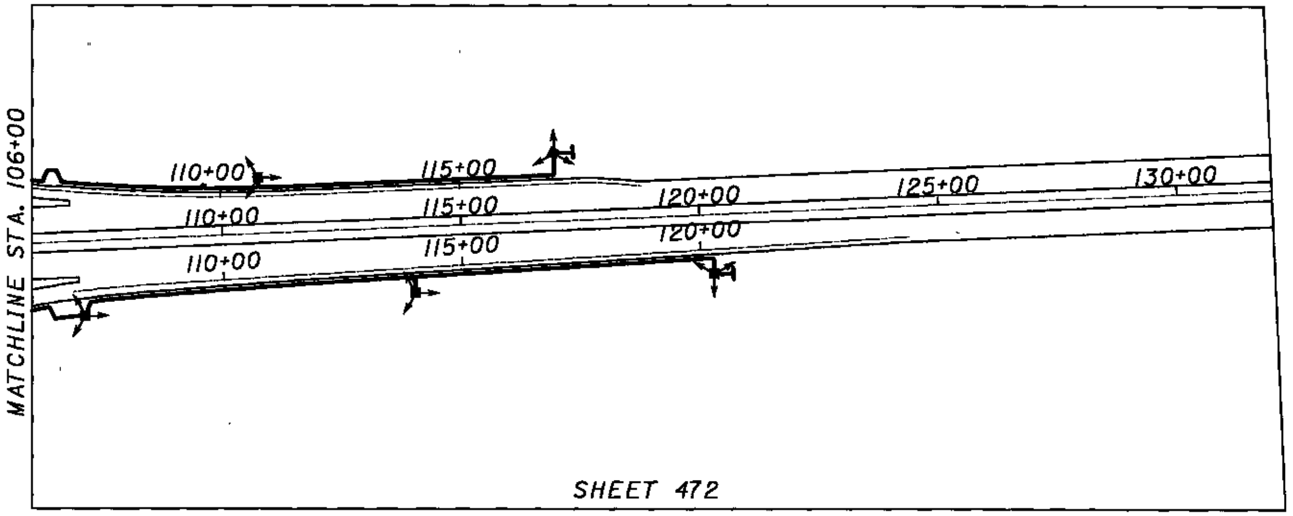
CALCULATED JES
CHECKED GSC

POLE ORIENTATION DATA

WAY/MED-71-7.04/0.00

DATE: $DATE$ $TIME$
FILENAME: $FILE$





0 200 400
HORIZONTAL SCALE IN FEET

CALCULATED MTY
CHECKED JGA

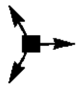
LIGHTING SCHEMATIC PLAN

WAY/MED-71-7.04/0.00

464
785

P:\PR30895\CADD\14017LMA.DGN

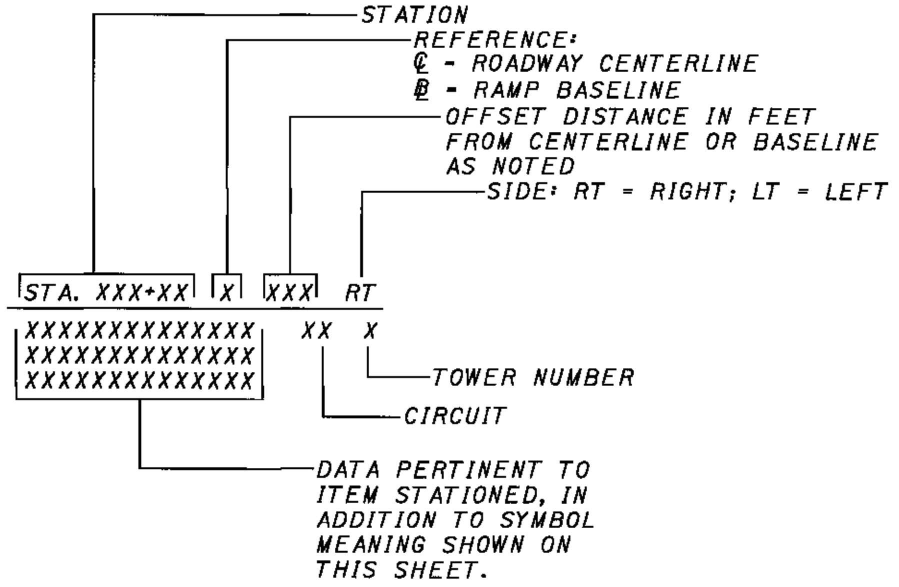
SYMBOLS

	PROPOSED 6-400W HPS SYMMETRIC HIGH MAST LUMINAIRE LIGHT TOWER.
▲	PROPOSED POWER SERVICE AND CONTROL CENTER.
■	PROPOSED 18" SQ. CONC. PULL BOX, 725.08.
———	PROPOSED CIRCUIT. 3-#4 AWG 5000V DUCT CABLE, EXCEPT AS OTHERWISE NOTED.
- - - - -	PROPOSED CIRCUIT. 3" CONDUIT, 725.04, JACKED OR DRILLED, WITH 3-#4 AWG 5000V DISTRIBUTION CABLE.
⊢——	CONDUIT STUBBED OUT 5'-0", OR AS NOTED ON THE PLANS, AND CAPPED 24" BFG FOR FUTURE.
——E——	EXISTING OVERHEAD ELECTRIC UTILITY LINE BY LMRE.
——T——	EXISTING OVERHEAD COMMUNICATION UTILITIES (TELEPHONE/CATV).
	PROPOSED OVERHEAD SIGN SUPPORT WITH OVERHEAD SIGN.
Ⓧ	ITEM NUMBER. REFERS TO SUBSUMMARY SHEET ENTRIES.
⬡X	CODED NOTE REFERENCE.

ABBREVIATIONS

BFG	BELOW FINISHED GRADE
CONC	CONCRETE
C	CONDUIT
EX	EXISTING
GRD	GROUND
HPS	HIGH PRESSURE SODIUM
KV	KILOVOLT
LMRE	LORAIN-MEDINA RURAL ELECTRIC COOPERATIVE, INC.
NB	NORTH BOUND
SB	SOUTH BOUND
SQ	SQUARE
SYM	SYMMETRIC
TYP	TYPICAL
V	VOLT
W	WATT

TYPICAL STATIONING INFORMATION


STATION
REFERENCE:
℄ - ROADWAY CENTERLINE
ß - RAMP BASELINE
OFFSET DISTANCE IN FEET FROM CENTERLINE OR BASELINE AS NOTED
SIDE: RT = RIGHT; LT = LEFT
STA. XXX+XX X XXX RT
XXXXXXXXXXXXXX
XXXXXXXXXXXXXX
XXXXXXXXXXXXXX
XX X
TOWER NUMBER
CIRCUIT
DATA PERTINENT TO ITEM STATIONED, IN ADDITION TO SYMBOL MEANING SHOWN ON THIS SHEET.

CALCULATED MTY
CHECKED JGA

LIGHTING ABBREVIATIONS AND SYMBOLS

WAY/MED-71-7.04/0.00

SPECIFICATIONS

LIGHTING GENERAL NOTES ARE SUPPLEMENTAL TO ITEMS 202, 603, 625 AND 725 OF THE OHIO DEPARTMENT OF TRANSPORTATION (ODOT) CONSTRUCTION AND MATERIAL SPECIFICATIONS, DATED JANUARY 1, 2002, WHICH SHALL GOVERN ALL WORK OF THIS PROJECT EXCEPT AS HEREINAFTER MODIFIED.

REFERENCE SHALL BE MADE TO STANDARD CONSTRUCTION DRAWINGS LISTED ON THE TITLE SHEET OF THESE PLANS.

UNDERDRAINS FOR PULL BOXES

REFERENCE IS MADE TO STANDARD DRAWING HL-30.11 FOR DETAILS OF DRAINING PULL BOXES. UNDERDRAINS FOR PULL BOXES SHALL BE USED AS DIRECTED BY THE ENGINEER AND SHALL BE PROVIDED WHERE THE LENGTH REQUIRED FOR A SATISFACTORY OUTLET DOES NOT EXCEED 20 FEET. A QUANTITY OF ITEM 603 - "4" CONDUIT, TYPE E" IS INCLUDED IN THE LIGHTING GENERAL SUMMARY FOR THIS PURPOSE.

ITEM 625 - LIGHT TOWER FOUNDATIONS

IN LIEU OF THE SETTING SHOWN IN HL-20.21, THE TOPS OF THE LIGHT TOWER FOUNDATIONS SHALL BE SET, WITH OR WITHOUT MAINTENANCE PLATFORMS, TO PROJECT 6" TO 12" ABOVE FINISHED GRADE OR MAINTENANCE PLATFORM FLOOR ON THE HIGHER ELEVATION SIDE OF THE FOUNDATION. THIS PROJECTION SHALL BE INCLUDED IN THE TOTAL DEPTH OF THE FOUNDATION.

725.11 HIGH PRESSURE SODIUM LAMPS

HIGH PRESSURE SODIUM LAMPS SHALL BE GENERAL ELECTRIC "LUCALOX," PHILIPS "CERAMALUX," OSRAM/SYLVANIA "LUMALUX" OR EQUAL APPROVED BY THE ENGINEER.

LUMINAIRES

IN ADDITION TO THE REQUIREMENTS OF THE ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS, LUMINAIRES SHALL BE AS FOLLOWS:

HIGH MAST, SYMMETRIC, 400 WATT HIGH PRESSURE SODIUM, 480 VOLT: COOPER HMX, TEST #766061; GENERAL ELECTRIC HMAA, TEST #6312; HOLOPHANE HMST, TEST #36383 OR EQUAL APPROVED BY THE ENGINEER.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID FOR EACH ITEM 625 - "LUMINAIRE, HIGH MAST, SYMMETRIC, 400 WATT HPS, 480 VOLT," WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS REQUIRED FOR SATISFACTORY PERFORMANCE OF THIS WORK.

ITEM 625 - PORTABLE POWER UNIT

THE CONTRACTOR SHALL SUPPLY A PORTABLE POWER UNIT AS SPECIFIED IN THE ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS. A QUANTITY OF ITEM 625 - "PORTABLE POWER UNIT" IS INCLUDED IN THE GENERAL SUMMARY FOR THIS PURPOSE.

ITEM SPECIAL - PLASTIC CAUTION TAPE

THE LOCATION OF UNDERGROUND CONDUIT AND BURIED ELECTRICAL CABLES SHALL BE MARKED BY THE USE OF A CONTINUOUS IDENTIFYING TAPE BURIED IN THE TRENCH ABOVE THE LINE. THE IDENTIFYING TAPE SHALL BE AN INERT MATERIAL, APPROXIMATELY 6" WIDE, COMPOSED OF POLYETHYLENE PLASTIC, HIGHLY RESISTANT TO ALKALIS, ACID OR OTHER CHEMICAL COMPONENTS LIKELY TO BE ENCOUNTERED IN SOILS. THE TAPE SHALL BE BRIGHT RED WITH IDENTIFYING PRINTING "ELECTRIC" IN BLACK LETTERS, ONE SIDE ONLY. TAPES SHALL BE SUPPLIED IN CONTINUOUS ROLLS WITH THE IDENTIFYING LETTERING REPEATED CONTINUOUSLY THE FULL LENGTH OF THE TAPE. IDENTIFYING TAPE SHALL BE BURIED ON THE ELECTRIC LINE TRENCH WITH ONE STRIP APPROXIMATELY 6" TO 10" BELOW THE FINAL FINISHED GRADE. THE TAPE SHALL BE PLACED IN THE TRENCH WITH PRINTED SIDE UP AND SHALL BE ESSENTIALLY PARALLEL WITH THE FINISHED SURFACE. THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO ENSURE THAT THE TAPE IS NOT PULLED, DISTORTED, OR OTHERWISE MISPLACED IN COMPLETING THE TRENCH BACKFILL.

THE TAPE SHALL BE PAID FOR PER LINEAR FOOT OF ITEM SPECIAL - "PLASTIC CAUTION TAPE," COMPLETE AND IN PLACE.

PADLOCKS AND KEYS

PADLOCKS FURNISHED SHALL BE EITHER BRASS OR BRONZE, EQUAL TO MASTER NO. 4BKA OR WILSON BOHANNAN 660A, AND SHALL BE KEYED IN ACCORDANCE WITH THE REQUIREMENTS OF THE MAINTAINING AGENCY. PAYMENT SHALL BE INCLUDED IN THE BID FOR THE ITEMS BEING LOCKED.

ITEM 625 - POWER SERVICE, AS PER PLAN

THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS

LORAIN-MEDINA RURAL ELECTRIC COOPERATIVE, INC.
22898 WEST RD.
P. O. BOX 158
WELLINGTON, OH 44090
ATTN: MR. KEVIN CONLEY
PHONE: (440) 647-2133

ELECTRICAL SERVICE IS 240/480 VOLTS, SINGLE PHASE, 3-WIRE, GROUNDED NEUTRAL, METERED.

THIS ITEM OF WORK SHALL INCLUDE THE COST OF ELECTRICAL ENERGY FOR THE OPERATION OF THE LIGHTING SYSTEM DURING CONSTRUCTION AND TESTING. AFTER ACCEPTANCE, THE POWER SERVICE ELECTRICAL ENERGY ACCOUNT SHALL BE TRANSFERRED TO THE MAINTAINING AGENCY NOTED IN THE PLANS.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID FOR EACH ITEM 625 - "POWER SERVICE, AS PER PLAN," WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS REQUIRED FOR SATISFACTORY PERFORMANCE OF THIS WORK.

HIGH VOLTAGE TEST

A HIGH VOLTAGE DIRECT CURRENT TEST SHALL BE PERFORMED ON THE NEW CIRCUIT CABLES IN ACCORDANCE WITH THE ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS.

A PAYMENT ITEM HAS BEEN INCLUDED IN THE LIGHTING GENERAL SUMMARY FOR THIS TEST.

CALCULATED MTY
CHECKED JGA

LIGHTING GENERAL NOTES

SHEET NUMBER											ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
								468	469							
								-	-		603	00400	280	FT	4″ CONDUIT, TYPE E	
								24	18		625	01500	42	EACH	CABLE SPLICING KIT	
								1	-		625	13304	1	EACH	LIGHT TOWER BBBBBB90	
								6	5		625	13400	11	EACH	LIGHT TOWER BBBBBB100	
								3	1		625	13404	4	EACH	LIGHT TOWER BBBBBB110	
								10	6		625	15100	16	EACH	LIGHT TOWER FOUNDATION, 36″ X 20′ DEEP	
								-	-		625	20000	1	EACH	PORTABLE POWER UNIT	
								723	672		625	23200	1395	FT	NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE	
								6565	2264		625	24320	8824	FT	1-1/2″ DUCT CABLE WITH THREE NO. 4 AWG 5000 VOLT CABLES	
								-	295		625	25400	295	FT	CONDUIT, 2″, 725.04	
								20	30		625	25402	50	FT	CONDUIT, 2″, 725.05	
								201	174		625	25900	375	FT	CONDUIT, JACKED OR DRILLED UNDER PAVEMENT, 3″, 725.04	
								60	36		625	26260	96	EACH	LUMINAIRE, HIGH MAST, SYMMETRIC, 400 WATT HPS, 480 VOLT	
								6565	2294		625	29002	8859	FT	TRENCH, 24″ DEEP	
								-	2		625	29920	2	EACH	STRUCTURE JUNCTION BOX	
								8	6		625	30700	14	EACH	PULL BOX, 725.08, 18″	
								20	14		625	32000	34	EACH	GROUND ROD	
								-	2		625	34001	2	EACH	POWER SERVICE, AS PER PLAN	466
								6565	2284		SPECIAL	62536000	8859	FT	PLASTIC CAUTION TAPE	466
								-	-		625	38000	1	LUMP	HIGH VOLTAGE TEST	466

CALCULATED TEB
CHECKED MTY

LIGHTING GENERAL SUMMARY

WAY/MED-71-7.04/0.00

P:\PR30895\CADD\4017LGA.DGN

CALCULATED TEB
CHECKED MTY

LIGHTING SUBSUMMARY

REFERENCE NO.	SHEET NO.	SIDE	ROADWAY	STATION TO STATION	ITEM 625 CABLE SPLICING KIT EACH	LIGHT TOWER BBBBBB90 EACH	LIGHT TOWER BBBBBB100 EACH	LIGHT TOWER BBBBBB110 EACH	LIGHT TOWER FOUNDATION, 36" X 20' DEEP EACH	NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE FT	1½" DUCT CABLE WITH THREE NO. 4 AWG 5000 VOLT CABLES FT	CONDUIT, 2", 725.04 FT	CONDUIT, 2", 725.05 FT	CONDUIT, JACKED OR DRILLED UNDER PAVEMENT, 3", 725.04 FT	LUMINAIRE, HIGH MAST, SYMMETRIC, 400 WATT HPS, 480 VOLT EACH	TRENCH, 24" DEEP FT	STRUCTURE JUNCTION BOX EACH	PULL BOX, 725.08, 18" EACH	GROUND ROD EACH	POWER SERVICE, AS PER PLAN EACH	PLASTIC CAUTION TAPE FT
1	470	LT	I-71	STA. 78+65 - STA. 78+75									10			10					10
2	470	LT	I-71	STA. 78+75			1		1						6				2		
3	470	LT	I-71	STA. 78+75 - STA. 85+50							749					749					749
4	470	RT	I-71	STA. 82+05 - STA. 82+15									10			10					10
5	470	RT	I-71	STA. 82+15				1	1						6				2		
6	470	RT	I-71	STA. 82+15 - STA. 88+50							707					707					707
7	470	LT	I-71	STA. 85+50				1	1						6				2		
8	470	LT/LT	I-71/RAMP A	STA. 85+50 - STA. 91+65							732					732					732
9	470	RT	I-71	STA. 88+50			1		1						6				2		
10	470	RT/RT	I-71/RAMP B	STA. 88+50 - STA. 94+50							667					657					657
11	470	LT	RAMP A	STA. 91+65			1		1						6				2		
12	470	LT	RAMP A	STA. 91+65 - STA. 96+52							522					522					522
13	471	LT	RAMP A	STA. 96+52	3													1			
14	471	LT/RT	RAMP A	STA. 96+52 - STA. 96+52						162				44							
15	471	RT	RAMP A	STA. 96+52	3													1			
16	471	RT/LT	RAMP A/SR-83	STA. 96+52 - STA. 52+25							317					317					317
17	471	RT	RAMP A	STA. 96+52 - STA. 96+52							57					57					57
18	471	RT	RAMP A	STA. 96+52				1	1						6				2		
19	471	RT	RAMP B	STA. 94+50		1			1						6				2		
20	471	RT	RAMP B	STA. 94+50 - STA. 98+74							469					469					469
21	471	RT	RAMP B	STA. 98+74	3													1			
22	471	RT/LT	RAMP B/SR-83	STA. 98+74 - STA. 46+62							85					85					85
23	471	RT/LT	RAMP B	STA. 98+74 - STA. 98+74						186				52							
24	471	LT	RAMP B	STA. 98+74	3													1			
25	471	LT	RAMP B	STA. 98+74 - STA. 98+74							35					35					35
26	471	LT	RAMP B	STA. 98+74			1		1						6				2		
27	471	RT	RAMP C	STA. 101+00	3													1			
28	471	RT/RT	RAMP C/SR-83	STA. 101+00 - STA. 52+16							67					67					67
29	471	RT/LT	RAMP C	STA. 101+00 - STA. 101+00						189				53							
30	471	LT	RAMP C	STA. 101+00	3													1			
31	471	LT	RAMP C	STA. 101+00 - STA. 104+65							399					399					399
32	471	LT	RAMP C	STA. 104+65			1		1						6				2		
33	471	LT/LT	RAMP C/I-71	STA. 104+65 - STA. 110+80							913					913					913
34	471	RT	RAMP D	STA. 102+87	3													1			
35	471	RT/RT	RAMP D/SR-83	STA. 102+87 - STA. 46+62							360					360					360
36	471	RT	RAMP D	STA. 102+87 - STA. 107+02							443					443					443
37	471	RT/LT	RAMP D	STA. 102+87 - STA. 102+87						186				52							
38	471	LT	RAMP D	STA. 102+87	3													1			
39	471	LT	RAMP D	STA. 102+87 - STA. 102+87							49					49					49
40	471	LT	RAMP D	STA. 102+87			1		1						6				2		
TOTALS CARRIED TO GENERAL SUMMARY					24	1	6	3	10	723	6565	-	20	201	60	6565	-	8	20	-	6565

WAY/MED-71-7.04/0.00

P:\PR30895\CADD\14017LSA.DGN

REFERENCE NO.	SHEET NO.	SIDE	ROADWAY	STATION TO STATION	ITEM 625 CABLE SPLICING KIT	LIGHT TOWER BBBBBB90	LIGHT TOWER BBBBBB100	LIGHT TOWER BBBBBB110	LIGHT TOWER FOUNDATION, 36" X 20' DEEP		NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE	1½" DUCT CABLE WITH THREE NO. 4 AWG 5000 VOLT CABLES	CONDUIT, 2", 725.04	CONDUIT, 2", 725.05	CONDUIT, JACKED OR DRILLED UNDER PAVEMENT, 3", 725.04		LUMINAIRE, HIGH MAST, SYMMETRIC, 400 WATT HPS, 480 VOLT	TRENCH, 24" DEEP	STRUCTURE JUNCTION BOX	PULL BOX, 725.08, 18"	GROUND ROD		POWER SERVICE, AS PER PLAN	PLASTIC CAUTION TAPE
					EACH	EACH	EACH	EACH	EACH		FT	FT	FT	FT	FT		EACH	FT	EACH	EACH	EACH		EACH	FT
41	471	LT	SR-83	STA. 46+62																	1		1	
42	471	LT	SR-83	STA. 46+62 - STA. 46+62							90			10				5						5
43	471	LT	SR-83	STA. 46+62	3															1				
44	471	LT	SR-83	STA. 46+62 - STA. 46+62								28						28						28
45	471	LT	SR-83	STA. 46+62	3															1				
46	471	LT/RT	SR-83	STA. 46+62 - STA. 46+62							300				90									
47	471	RT	SR-83	STA. 46+62	3															1				
48	471	LT	SR-83	STA. 48+74 - STA. 49+15									61					5						
49	471	LT	SR-83	STA. 49+15															1					
50	471	LT	SR-83	STA. 49+15 - STA. 50+89									174											
51				NOT USED																				
52	471	LT	SR-83	STA. 50+89															1					
53	471	LT	SR-83	STA. 50+89 - STA. 51+29									60					5						
54	471	RT	SR-83	STA. 52+16			1		1								6				2			
55	471	RT	SR-83	STA. 52+16 - STA. 52+25								43						43						43
56	471	LT	SR-83	STA. 52+25																	1		1	
57	471	LT	SR-83	STA. 52+25 - STA. 52+25							90			10				5						5
58	471	LT	SR-83	STA. 52+25	3															1				
59	471	LT	SR-83	STA. 52+25 - STA. 52+25								24						24						24
60	471	LT	SR-83	STA. 52+25	3															1				
61	471	LT/RT	SR-83	STA. 52+25 - STA. 52+25							282				84									
62	471	RT	SR-83	STA. 52+25	3															1				
63	472	LT	I-71	STA. 110+80			1		1								6				2			
64	472	LT	I-71	STA. 110+80 - STA. 117+00								703						703						703
65	472	RT	I-71	STA. 114+00			1		1								6				2			
66	472	RT/RT	I-71/RAMP D	STA. 114+00 - STA. 107+02								747						747						747
67	472	RT	I-71	STA. 114+00 - STA. 120+26								709						709						709
68	472	LT	I-71	STA. 117+00				1	1								6				2			
69	472	LT	I-71	STA. 117+00 - STA. 117+10										10				10						10
70	472	RT	I-71	STA. 120+26			1		1								6				2			
71	472	RT	I-71	STA. 120+26 - STA. 120+36										10				10						10
72	472	RT	RAMP D	STA. 107+02			1		1								6				2			
TOTALS CARRIED TO GENERAL SUMMARY					18	-	5	1	6		672	2264	295	30	174		36	2294	2	6	14		2	2284

P:\PR30895\CADD\14017LSB.DGN

CALCULATED TEB
CHECKED MTY

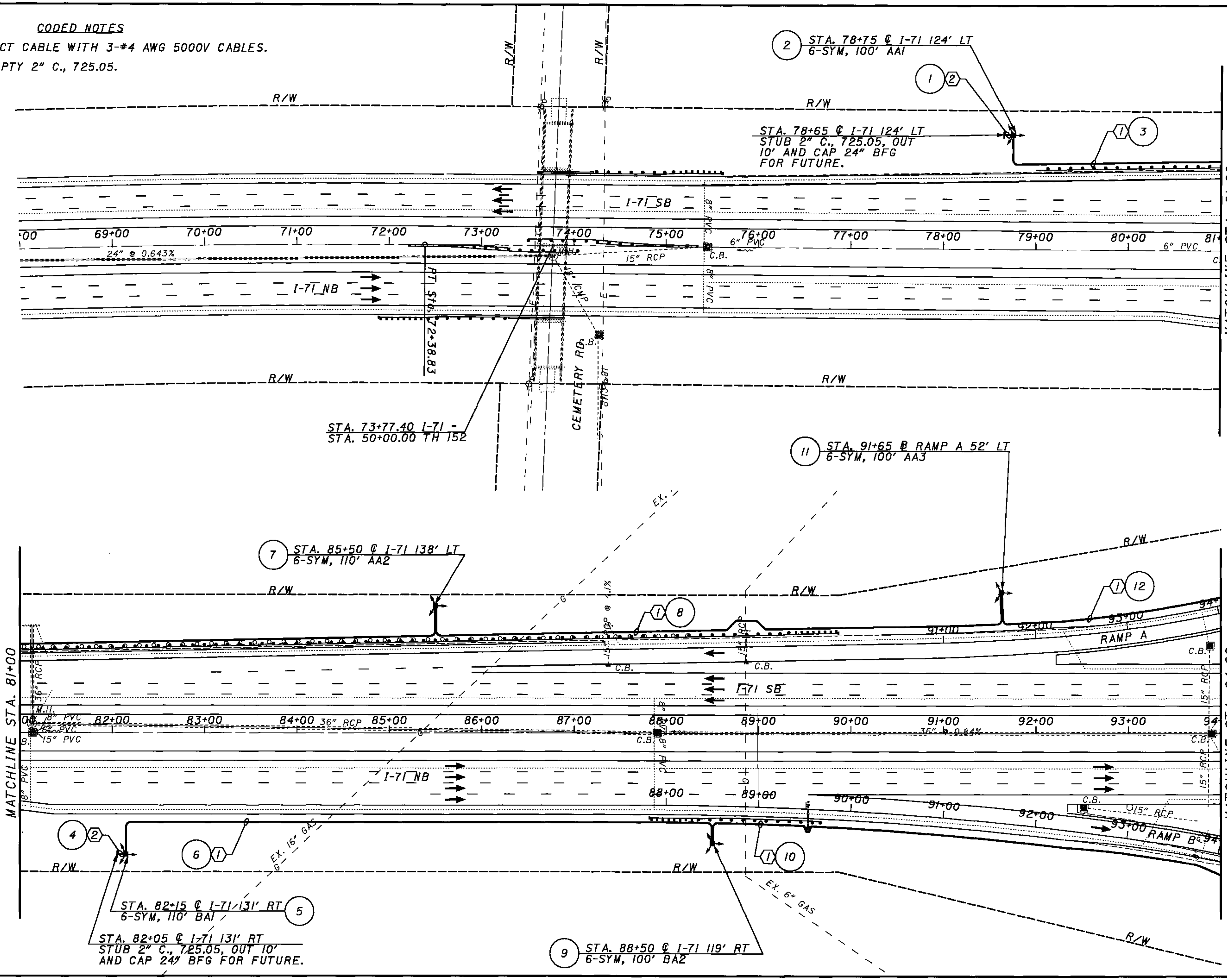
LIGHTING SUBSUMMARY

WAY/MED-71-7.04/0.00

CODED NOTES

⟨1⟩ DUCT CABLE WITH 3-#4 AWG 5000V CABLES.

⟨2⟩ EMPTY 2" C., 725.05.



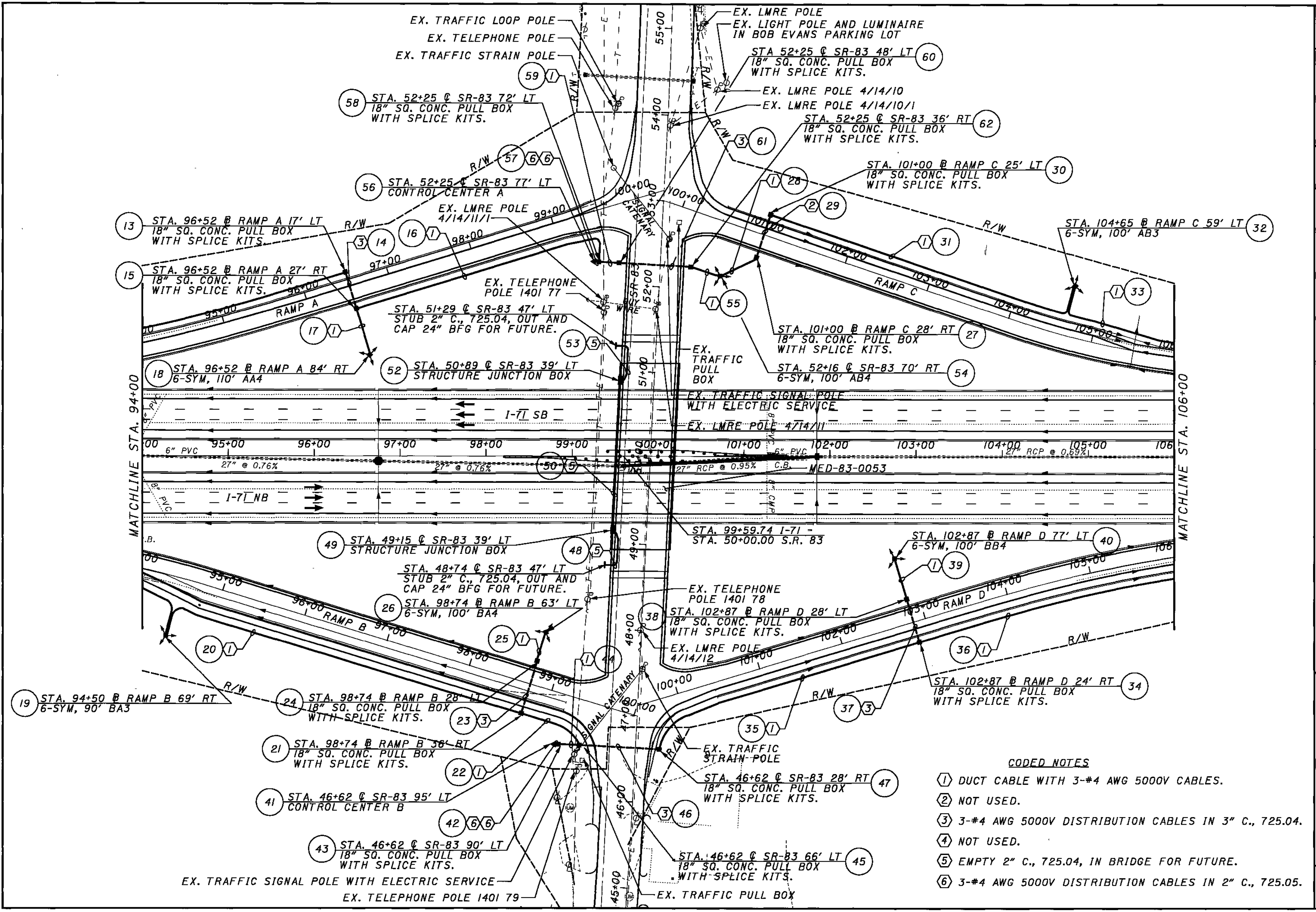
CALCULATED MTY
CHECKED JGA

LIGHTING PLAN

WAY/MED-71-7.04/0.00

470
785

P:\PR30895\CADD\4017LPA.DGN


EX. TRAFFIC LOOP POLE
EX. TELEPHONE POLE
EX. TRAFFIC STRAIN POLE
EX. LMRE POLE
EX. LIGHT POLE AND LUMINAIRE IN BOB EVANS PARKING LOT
60 STA. 52+25 ℄ SR-83 48' LT 18" SQ. CONC. PULL BOX WITH SPLICE KITS.
EX. LMRE POLE 4/14/10
EX. LMRE POLE 4/14/10/1
62 STA. 52+25 ℄ SR-83 36' RT 18" SQ. CONC. PULL BOX WITH SPLICE KITS.
59 1
58 STA. 52+25 ℄ SR-83 72' LT 18" SQ. CONC. PULL BOX WITH SPLICE KITS.
57 6 6
3 61
56 STA. 52+25 ℄ SR-83 77' LT CONTROL CENTER A
1 28
2 29
30 STA. 101+00 Ⓑ RAMP C 25' LT 18" SQ. CONC. PULL BOX WITH SPLICE KITS.
EX. LMRE POLE 4/14/11/1
13 STA. 96+52 Ⓑ RAMP A 17' LT 18" SQ. CONC. PULL BOX WITH SPLICE KITS.
3 14
16 1
1 31
32 STA. 104+65 Ⓑ RAMP C 59' LT 6-SYM, 100' AB3
15 STA. 96+52 Ⓑ RAMP A 27' RT 18" SQ. CONC. PULL BOX WITH SPLICE KITS.
EX. TELEPHONE POLE 1401 77
1 55
1 33
STA. 51+29 ℄ SR-83 47' LT STUB 2" C., 725.04, OUT AND CAP 24" BFG FOR FUTURE.
17 1
53 5
EX. TRAFFIC PULL BOX
27 STA. 101+00 Ⓑ RAMP C 28' RT 18" SQ. CONC. PULL BOX WITH SPLICE KITS.
18 STA. 96+52 Ⓑ RAMP A 84' RT 6-SYM, 110' AA4
52 STA. 50+89 ℄ SR-83 39' LT STRUCTURE JUNCTION BOX
54 STA. 52+16 ℄ SR-83 70' RT 6-SYM, 100' AB4
EX. TRAFFIC SIGNAL POLE WITH ELECTRIC SERVICE
EX. LMRE POLE 4/14/11
I-71 SB
I-71 NB
RAMP A
RAMP B
RAMP C
RAMP D
SR-83
SIGNAL CATENARY
GUY WIRE
R/W
MATCHLINE STA. 94+00
MATCHLINE STA. 106+00
95+00 96+00 97+00 98+00 99+00 100+00 101+00 102+00 103+00 104+00 105+00
6" PVC
27" @ 0.76%
27" RCP @ 0.95%
27" RCP @ 0.69%
C.B.
MED-83-0053
50 5
STA. 99+59.74 I-71 = STA. 50+00.00 S.R. 83
49 STA. 49+15 ℄ SR-83 39' LT STRUCTURE JUNCTION BOX
48 5
STA. 48+74 ℄ SR-83 47' LT STUB 2" C., 725.04, OUT AND CAP 24" BFG FOR FUTURE.
40 STA. 102+87 Ⓑ RAMP D 77' LT 6-SYM, 100' BB4
1 39
26 STA. 98+74 Ⓑ RAMP B 63' LT 6-SYM, 100' BA4
EX. TELEPHONE POLE 1401 78
38 STA. 102+87 Ⓑ RAMP D 28' LT 18" SQ. CONC. PULL BOX WITH SPLICE KITS.
EX. LMRE POLE 4/14/12
25 1
20 1
1 44
36 1
34 STA. 102+87 Ⓑ RAMP D 24' RT 18" SQ. CONC. PULL BOX WITH SPLICE KITS.
19 STA. 94+50 Ⓑ RAMP B 69' RT 6-SYM, 90' BA3
24 STA. 98+74 Ⓑ RAMP B 28' LT 18" SQ. CONC. PULL BOX WITH SPLICE KITS.
23 3
37 3
35 1
21 STA. 98+74 Ⓑ RAMP B 36' RT 18" SQ. CONC. PULL BOX WITH SPLICE KITS.
22 1
EX. TRAFFIC STRAIN POLE
47 STA. 46+62 ℄ SR-83 28' RT 18" SQ. CONC. PULL BOX WITH SPLICE KITS.
41 STA. 46+62 ℄ SR-83 95' LT CONTROL CENTER B
42 6 6
3 46
43 STA. 46+62 ℄ SR-83 90' LT 18" SQ. CONC. PULL BOX WITH SPLICE KITS.
45 STA. 46+62 ℄ SR-83 66' LT 18" SQ. CONC. PULL BOX WITH SPLICE KITS.
EX. TRAFFIC SIGNAL POLE WITH ELECTRIC SERVICE
EX. TELEPHONE POLE 1401 79
EX. TRAFFIC PULL BOX
45+00 46+00 47+00 48+00 49+00 51+00 52+00 53+00 54+00 55+00
0 25 50 100
HORIZONTAL SCALE IN FEET

CODED NOTES

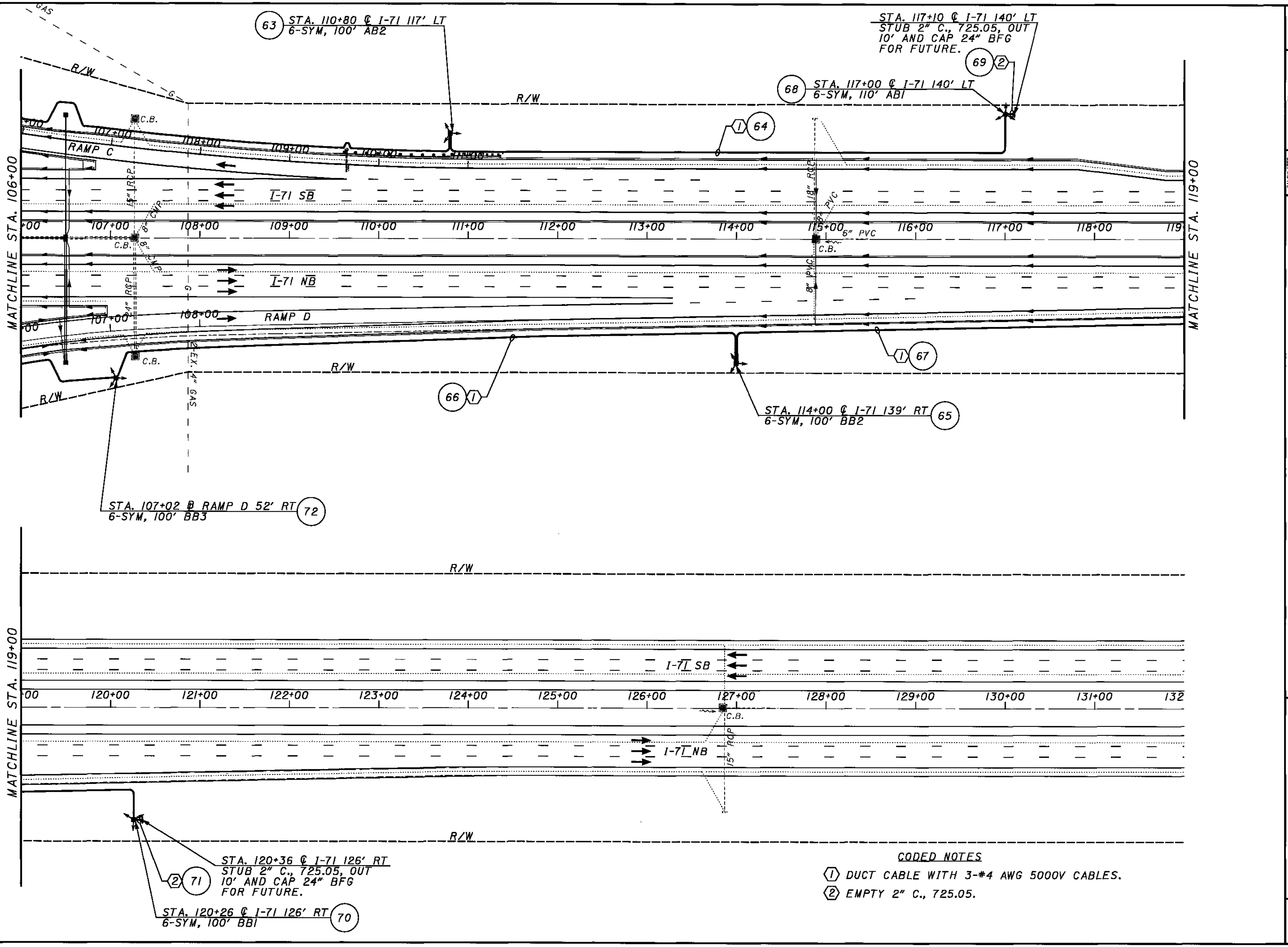
① DUCT CABLE WITH 3-#4 AWG 5000V CABLES.
② NOT USED.
③ 3-#4 AWG 5000V DISTRIBUTION CABLES IN 3" C., 725.04.
④ NOT USED.
⑤ EMPTY 2" C., 725.04, IN BRIDGE FOR FUTURE.
⑥ 3-#4 AWG 5000V DISTRIBUTION CABLES IN 2" C., 725.05.

CALCULATED MTY
CHECKED JGA

LIGHTING PLAN

WAY/MED-71-7.04/0.00

P:\PR30895\CADD\1407LPB.DGN



CODED NOTES

① DUCT CABLE WITH 3-#4 AWG 5000V CABLES.

② EMPTY 2" C., 725.05.

CALCULATED MTY
CHECKED JGA

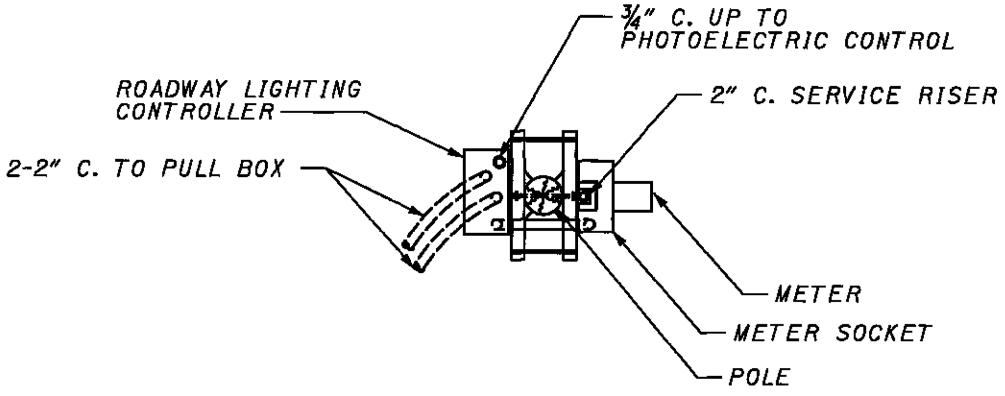
LIGHTING PLAN

WAY/MED-71-7.04/0.00

472
785

P:\PR30895\CADD\14017LPC.DGN

CONTROL CENTER DATA							
CONTROL CENTER	POWER SERVICE	CONNECTED LOAD - KVA	SERVICE ENTRANCE CONDUCTOR SIZE	CIRCUIT NUMBER	CIRCUIT AMPS	CIRCUIT FUSE SIZE - AMPS	MAINTAINING AGENCY
A	240/480V, SINGLE PHASE, 3-WIRE, GROUNDED NEUTRAL	25.34	NO. 4 AWG	AA	26.4	40	OHIO DEPARTMENT OF TRANSPORTATION
				AB	26.4	40	
B	240/480V, SINGLE PHASE, 3-WIRE, GROUNDED NEUTRAL	25.34	NO. 4 AWG	BA	26.4	40	OHIO DEPARTMENT OF TRANSPORTATION
				BB	26.4	40	



¾" C. UP TO PHOTOELECTRIC CONTROL
ROADWAY LIGHTING CONTROLLER
2" C. SERVICE RISER
2-2" C. TO PULL BOX
METER
METER SOCKET
POLE

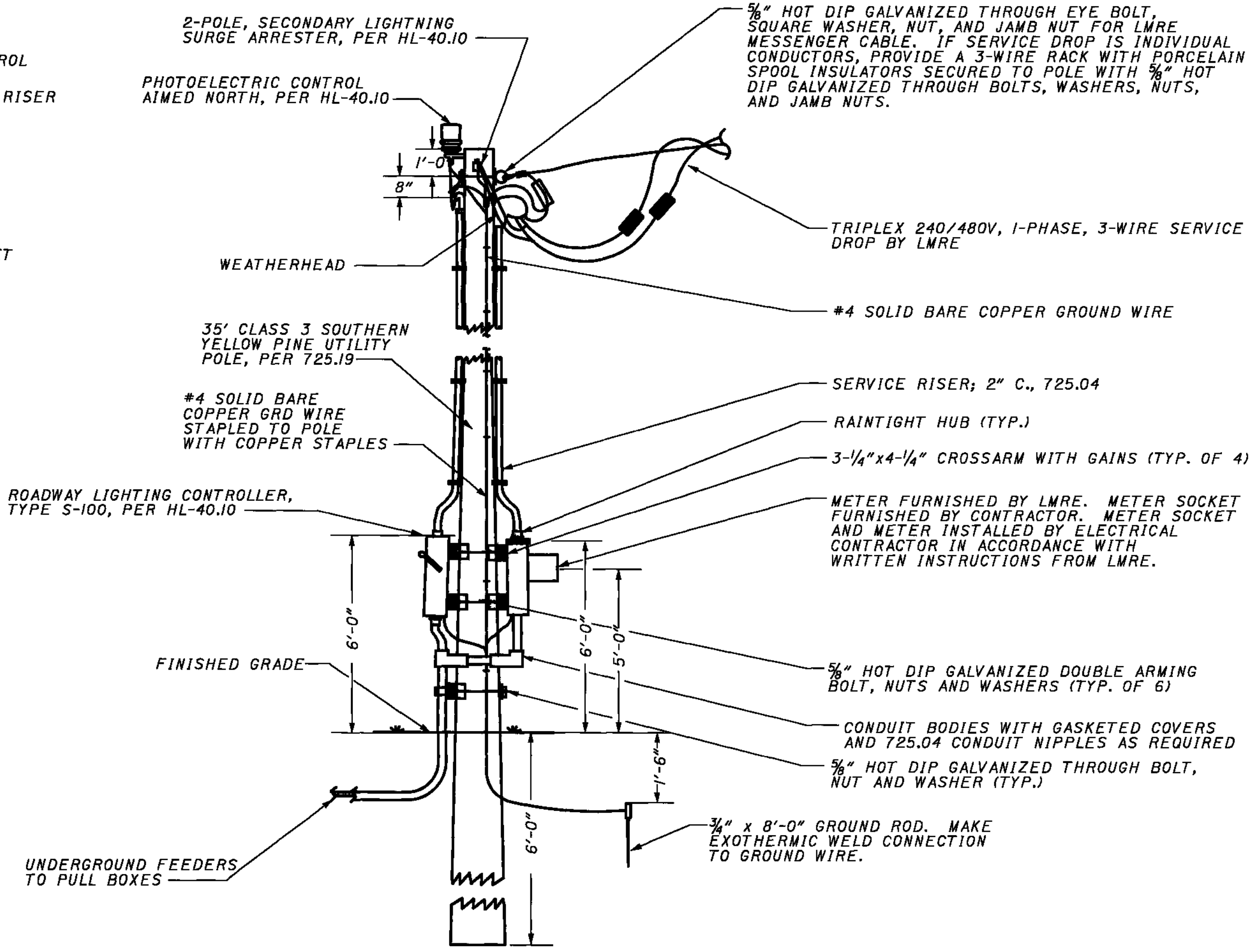
POWER SERVICE, AS PER PLAN
PLAN VIEW
NOT TO SCALE

GENERAL NOTES

1. REFER TO LIGHTING GENERAL NOTES ON SHEET 466 AND LIGHTING ABBREVIATIONS ON SHEET 465.

2. VERIFY REQUIREMENTS FOR SERVICE POLE AND METERING ARRANGEMENTS WITH LMRE PRIOR TO PURCHASING COMPONENTS OR ROUGHING-IN. MAKE MINOR ADJUSTMENTS AS NECESSARY TO COMPLY WITH THE REQUIREMENTS OF LMRE AT NO CHANGE IN CONTRACT PRICE.

3. WORK SHOWN ON THIS DRAWING WILL BE PAID FOR UNDER "ITEM 625 - POWER SERVICE, AS PER PLAN."



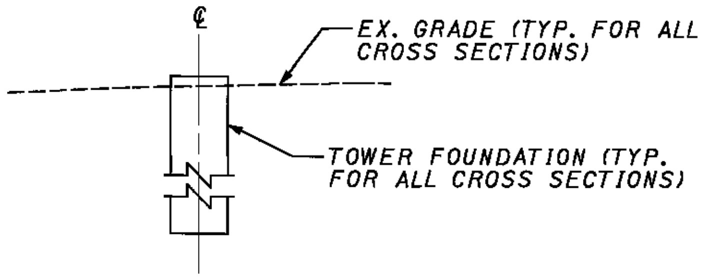
2-POLE, SECONDARY LIGHTNING SURGE ARRESTER, PER HL-40.10
⅝" HOT DIP GALVANIZED THROUGH EYE BOLT, SQUARE WASHER, NUT, AND JAMB NUT FOR LMRE MESSENGER CABLE. IF SERVICE DROP IS INDIVIDUAL CONDUCTORS, PROVIDE A 3-WIRE RACK WITH PORCELAIN SPOOL INSULATORS SECURED TO POLE WITH ⅝" HOT DIP GALVANIZED THROUGH BOLTS, WASHERS, NUTS, AND JAMB NUTS.
PHOTOELECTRIC CONTROL AIMED NORTH, PER HL-40.10
1'-0"
8"
TRIPLEX 240/480V, 1-PHASE, 3-WIRE SERVICE DROP BY LMRE
WEATHERHEAD
#4 SOLID BARE COPPER GROUND WIRE
35' CLASS 3 SOUTHERN YELLOW PINE UTILITY POLE, PER 725.19
SERVICE RISER; 2" C., 725.04
#4 SOLID BARE COPPER GRD WIRE STAPLED TO POLE WITH COPPER STAPLES
RAINTIGHT HUB (TYP.)
3-¼"x4-¼" CROSSARM WITH GAINS (TYP. OF 4)
ROADWAY LIGHTING CONTROLLER, TYPE S-100, PER HL-40.10
METER FURNISHED BY LMRE. METER SOCKET FURNISHED BY CONTRACTOR. METER SOCKET AND METER INSTALLED BY ELECTRICAL CONTRACTOR IN ACCORDANCE WITH WRITTEN INSTRUCTIONS FROM LMRE.
6'-0"
6'-0"
5'-0"
⅝" HOT DIP GALVANIZED DOUBLE ARMING BOLT, NUTS AND WASHERS (TYP. OF 6)
FINISHED GRADE
CONDUIT BODIES WITH GASKETED COVERS AND 725.04 CONDUIT NIPPLES AS REQUIRED
⅝" HOT DIP GALVANIZED THROUGH BOLT, NUT AND WASHER (TYP.)
1'-6"
6'-0"
¾" x 8'-0" GROUND ROD. MAKE EXOTHERMIC WELD CONNECTION TO GROUND WIRE.
UNDERGROUND FEEDERS TO PULL BOXES

POWER SERVICE, AS PER PLAN
ELEVATION VIEW
NOT TO SCALE

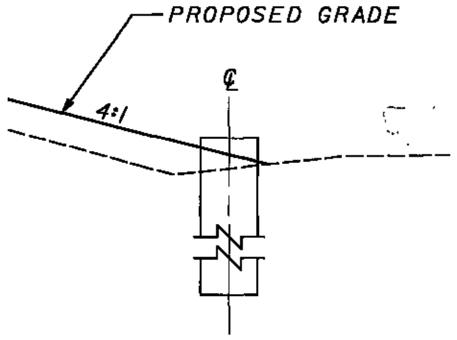
CALCULATED MTY
CHECKED JGA

LIGHTING DETAILS

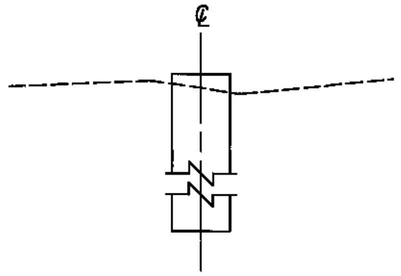
WAY/MED-71-7.04/0.00


℄
EX. GRADE (TYP. FOR ALL CROSS SECTIONS)
TOWER FOUNDATION (TYP. FOR ALL CROSS SECTIONS)

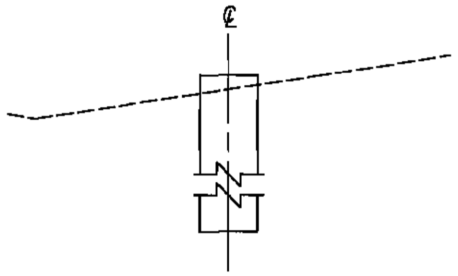
CROSS SECTION FOR TOWER AA1
STA. 78+75 ℄ I-71 124' LT



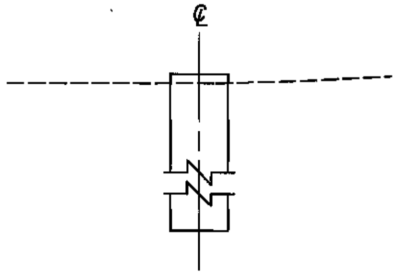
CROSS SECTION FOR TOWER BA1
STA. 82+15 ℄ I-71 131' RT



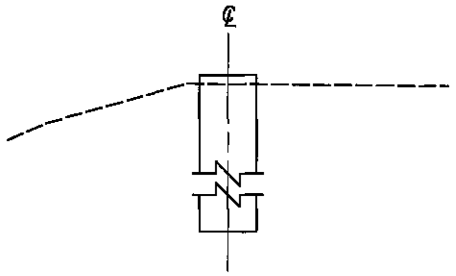
CROSS SECTION FOR TOWER AA2
STA. 85+50 ℄ I-71 138' LT



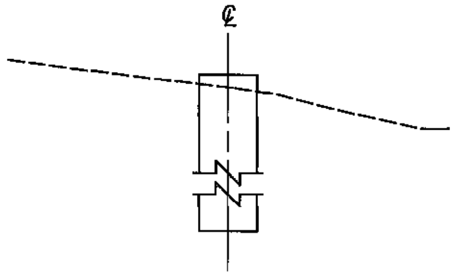
CROSS SECTION FOR TOWER BA2
STA. 88+50 ℄ I-71 119' RT



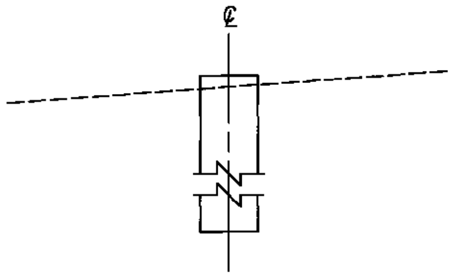
CROSS SECTION FOR TOWER AA3
STA. 91+65 Ƀ RAMP A 52' LT



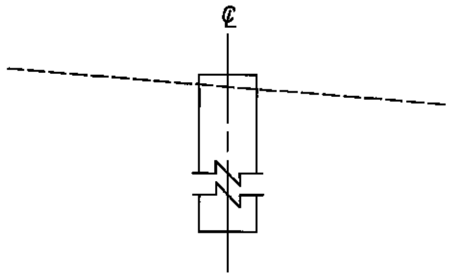
CROSS SECTION FOR TOWER BA3
STA. 94+50 Ƀ RAMP B 69' RT



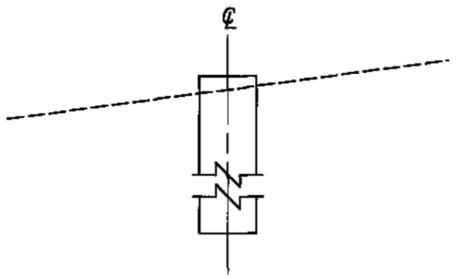
CROSS SECTION FOR TOWER AA4
STA. 96+52 Ƀ RAMP A 84' RT



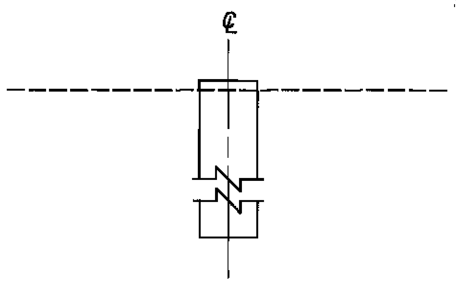
CROSS SECTION FOR TOWER BA4
STA. 98+74 Ƀ RAMP B 63' LT



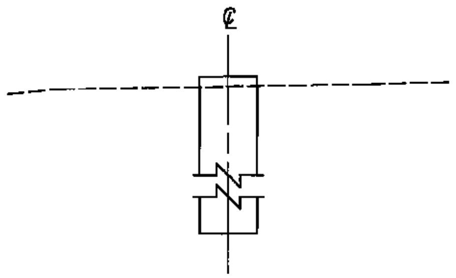
CROSS SECTION FOR TOWER AB4
STA. 52+16 ℄ SR-83 70' RT



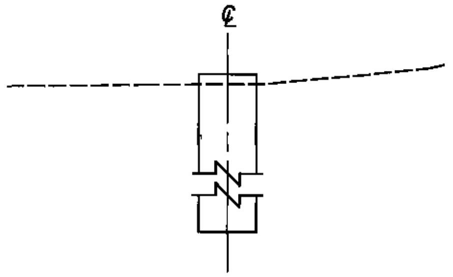
CROSS SECTION FOR TOWER BB4
STA. 102+87 Ƀ RAMP D 77' LT



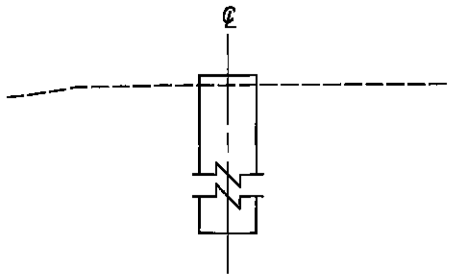
CROSS SECTION FOR TOWER AB3
STA. 104+65 Ƀ RAMP C 59' LT



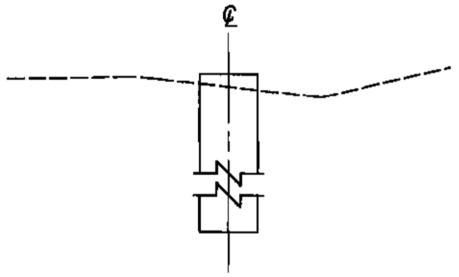
CROSS SECTION FOR TOWER BB3
STA. 107+02 Ƀ RAMP D 52' RT



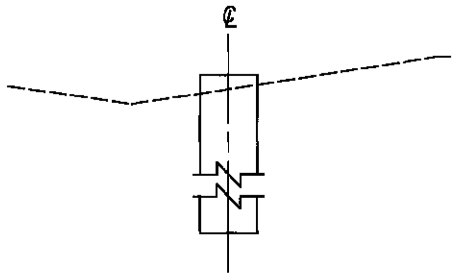
CROSS SECTION FOR TOWER AB2
STA. 110+80 ℄ I-71 117' LT



CROSS SECTION FOR TOWER BB2
STA. 114+00 ℄ I-71 139' RT



CROSS SECTION FOR TOWER AB1
STA. 117+00 ℄ I-71 140' LT



CROSS SECTION FOR TOWER BB1
STA. 120+26 ℄ I-71 126' RT

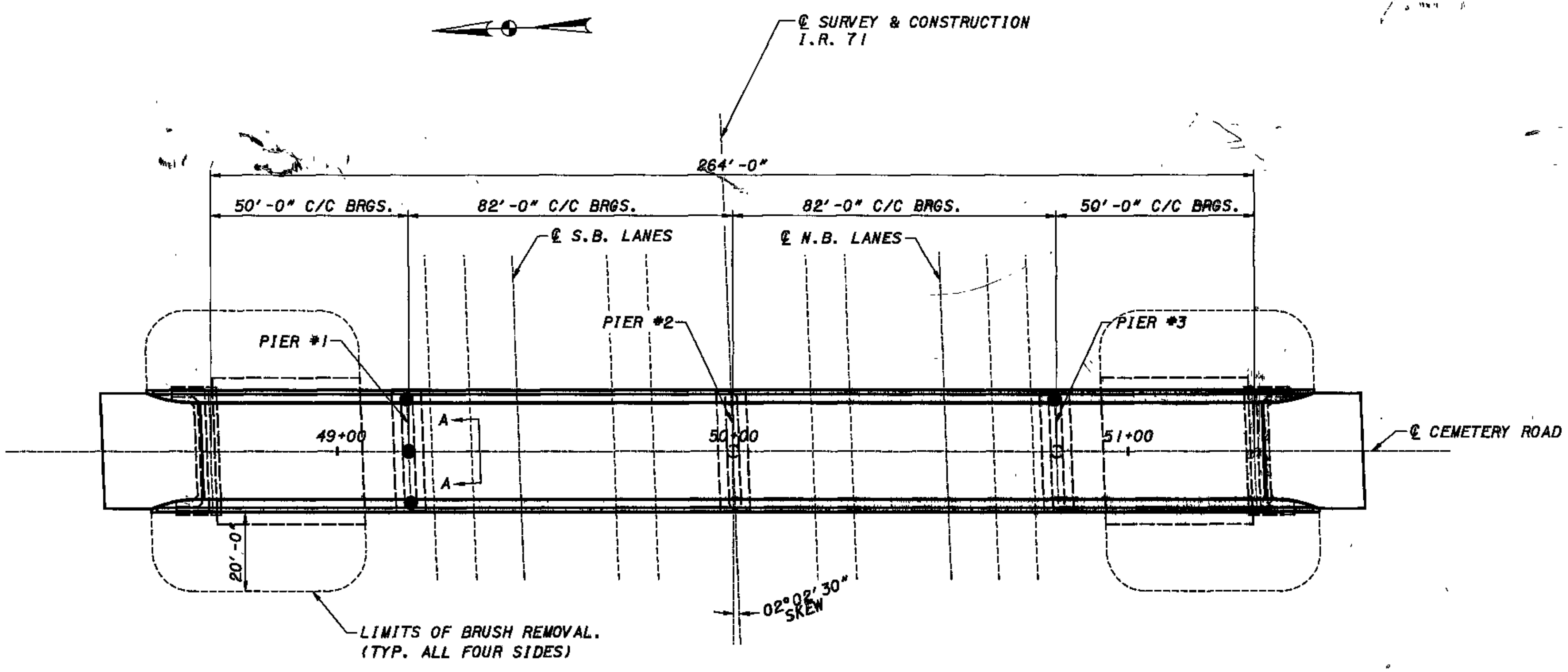
CALCULATED MTY
CHECKED JGA

HORIZONTAL SCALE IN FEET
0 5 10

LIGHTING DETAILS

WAY/MED-71-7.04/0.00

P:\PR30895\CADD\14017LDB.DGN



PLAN

MED-71-0139
UNDER CEMETERY ROAD

● - DENOTES PROPOSED PIER ENCASEMENT

NOTE:

FOR VIEW A-A, SEE SHEET $\boxed{6/8}$.

PROPOSED WORK

1. ENCASE PIERS SHOWN IN PLAN WITH 6 INCHES OF CONCRETE. SOUND AND PATCH PRIOR TO ADDING ENCASEMENT. SEE SHEET $\boxed{6/8}$ FOR DETAILS.
2. REMOVE BRUSH UNDER AND 20 FEET ON EACH SIDE OF STRUCTURE.
3. REMOVE ALL GRAFFITI.
4. SEAL CONCRETE SURFACES. SEE SHEET $\boxed{7/8}$ FOR DETAILS.
5. ADD AND RESHAPE CRUSHED AGGREGATE SLOPE PROTECTION. SEE SHEET $\boxed{8/8}$ FOR DETAILS.

MOODY/NOLAN INC.

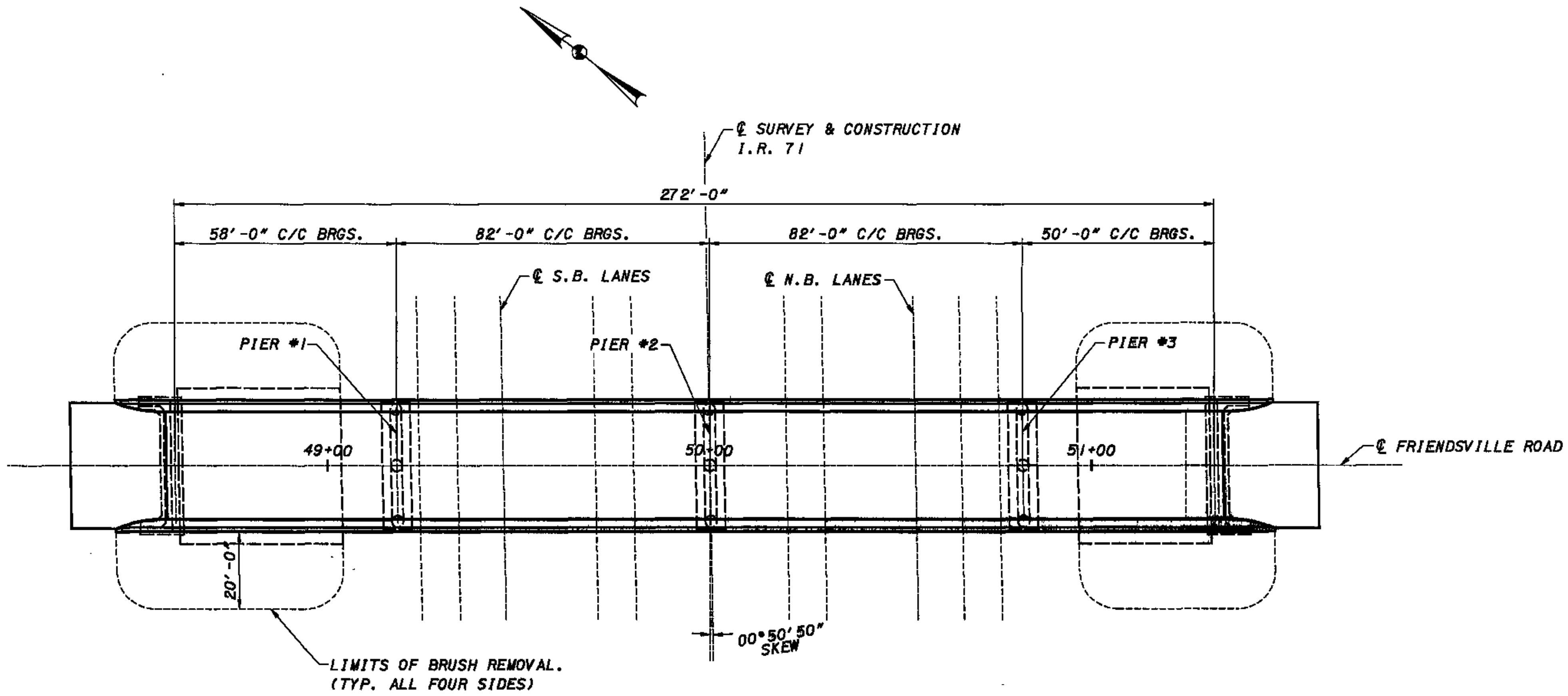
DESIGNED	DRAWN	REVIEWED	DATE
AME	MHR	MRG	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
GT		5202434	

GENERAL PLAN
BRIDGE NO. MED-71-0139
UNDER CEMETERY ROAD

WAY/MED-71-7.04/0.00

1/8

475/785



PLAN

MED-71-0377
UNDER FRIENDSVILLE ROAD

PROPOSED WORK

1. REMOVE BRUSH UNDER AND 20 FEET ON EACH SIDE OF STRUCTURE.
2. REMOVE ALL GRAFFITI.
3. SEAL CONCRETE SURFACES. SEE SHEET 7/8 FOR DETAILS.
4. ADD AND RESHAPE CRUSHED AGGREGATE SLOPE PROTECTION. SEE SHEET 8/8 FOR DETAILS.

MOODY NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Columbus, Ohio 43215

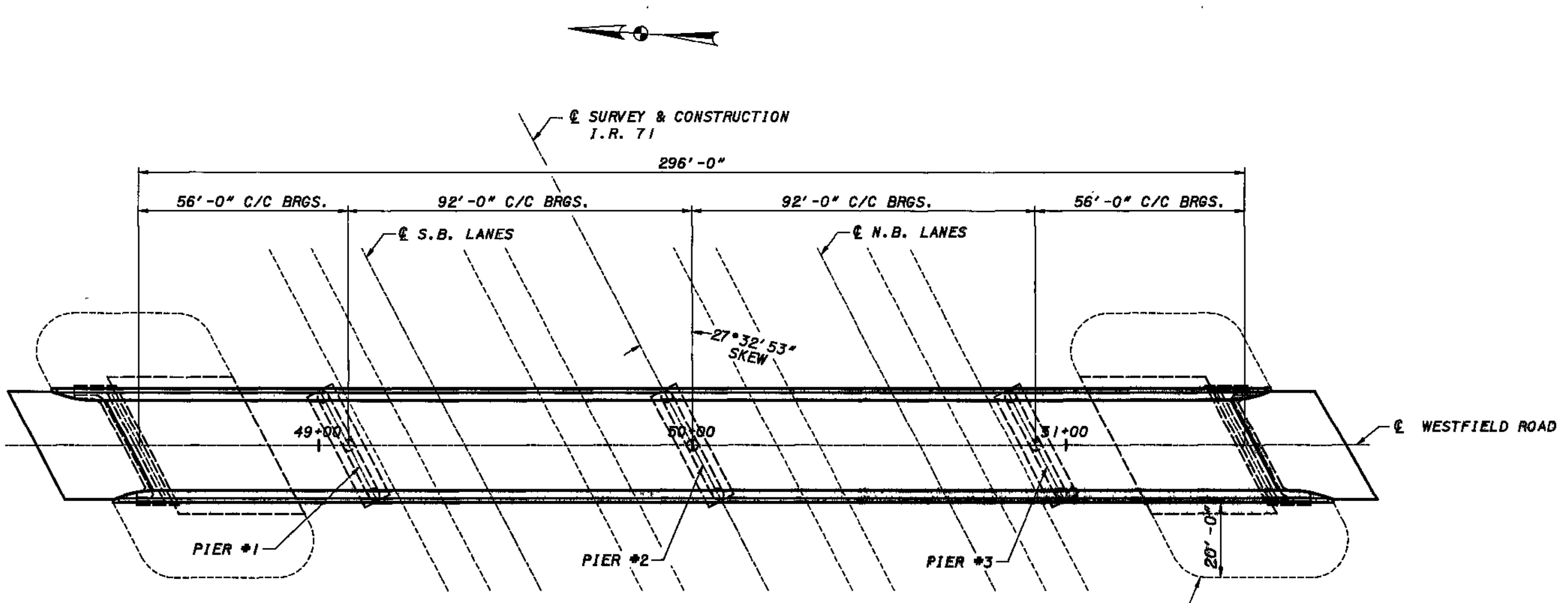
DESIGNED	DRAWN	REVIEWED	DATE
AME	MHR	MRG	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
GT		5202558	

GENERAL PLAN
BRIDGE NO. MED-71-0377
UNDER FRIENDSVILLE ROAD

WAY/MED-71-7.04/0.00

2/8

476/785



LIMITS OF BRUSH REMOVAL
(TYP. ALL FOUR SIDES)

PLAN
MED-71-0497
UNDER WESTFIELD ROAD

PROPOSED WORK

1. REMOVE BRUSH UNDER AND 20 FEET ON EACH SIDE OF STRUCTURE.

2. REMOVE ALL GRAFFITI.

3. SEAL CONCRETE SURFACES. SEE SHEET $\boxed{7/8}$ FOR DETAILS.

4. ADD AND RESHAPE CRUSHED AGGREGATE SLOPE PROTECTION. SEE SHEET $\boxed{8/8}$ FOR DETAILS.

MOODY NOLAN INC
300 Spruce Street, Columbus, Ohio 43215

DESIGNED	DRAWN	REVIEWED	DATE
AME	MHR	MRG	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
GT		5202647	

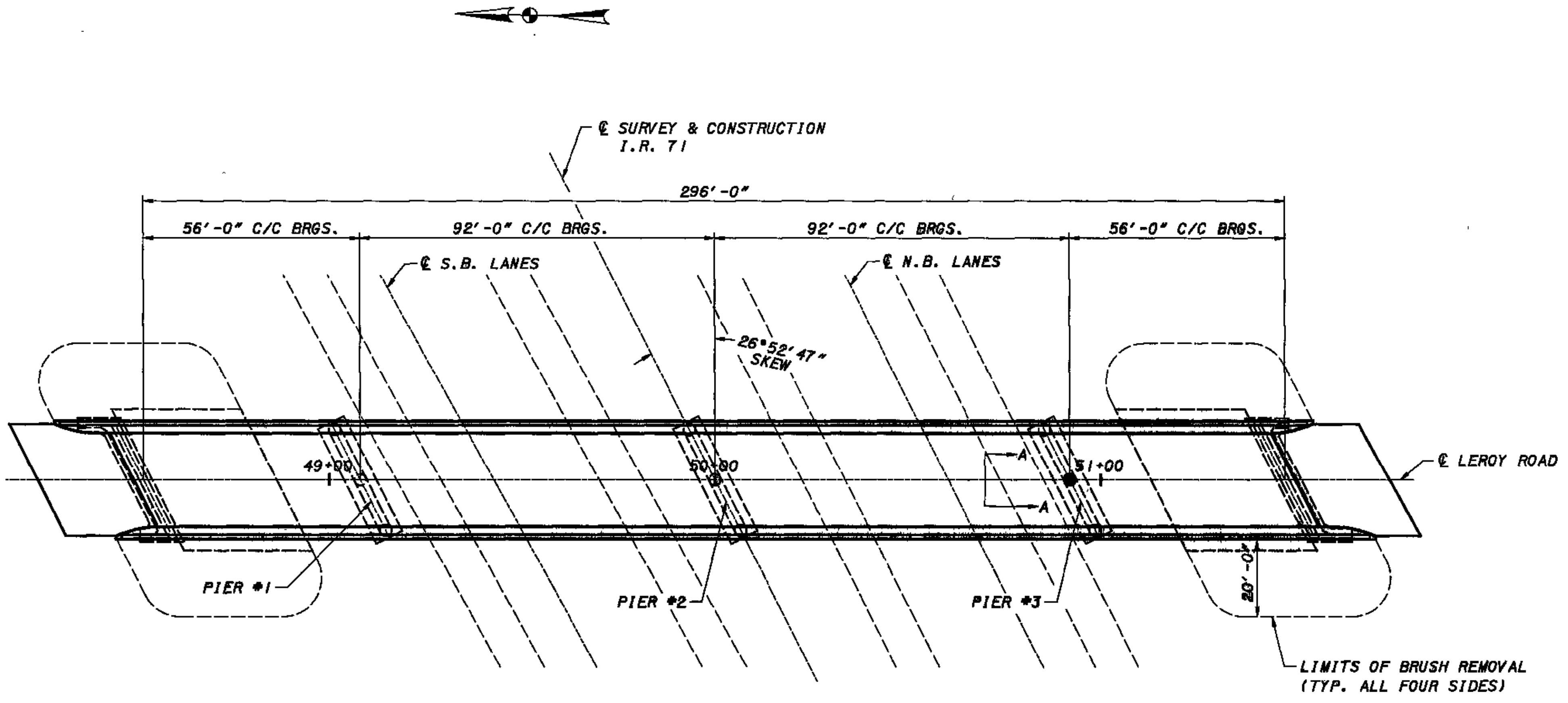
GENERAL PLAN
BRIDGE NO. MED-71-0497
UNDER WESTFIELD ROAD

WAY/MED-71-7.04/0.00

3/8

477/785

P:/0202WAY- MED/BRIDGE/OVERHEAD BRIDGES/MED-71-0497/MED0498SPL.DGN



PLAN
MED-71-0563
UNDER LEROY ROAD

● - DENOTES PROPOSED PIER ENCASEMENT

NOTES:
FOR VIEW A-A, SEE SHEET 6/8.

PROPOSED WORK

1. ENCASE PIERS SHOWN IN PLAN WITH 6 INCHES OF CONCRETE. SOUND AND PATCH PRIOR TO ADDING ENCASEMENT. SEE SHEET 6/8 FOR DETAILS.

2. REMOVE BRUSH UNDER AND 20 FEET ON EACH SIDE OF STRUCTURE.

3. REMOVE ALL GRAFFITI.

3. SEAL CONCRETE SURFACES. SEE SHEET 7/8 FOR DETAILS.

4. ADD AND RESHAPE CRUSHED AGGREGATE SLOPE PROTECTION. SEE SHEET 8/8 FOR DETAILS.

MOODY NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Columbus, Ohio 43215
Phone (614) 461-4664 Fax (614) 280-8881

DESIGNED AME	DRAWN MHR	REVIEWED MRG	DATE 6/03
CHECKED GT	REVISED	STRUCTURE FILE NUMBER 5202736	

GENERAL PLAN
BRIDGE NO. MED-71-0563
UNDER LEROY ROAD

WAY/MED-71-7.04/0.00

4/8

478
785

DESIGN SPECIFICATION:
THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION FOR STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002.

SUPPLEMENTAL SPECIFICATIONS:
REFERENCE SHALL BE MADE TO SUPPLEMENTAL SPECIFICATIONS:

843 4-18-03 PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR
864 7-11-00 SEALING OF CONCRETE SURFACES

DESIGN DATA:
CONCRETE CLASS S -COMPRESSIVE STRENGTH 4500 P.S.I.
REINFORCING STEEL- ASTM A615 OR A996
GRADE 60, MINIMUM YIELD STRENGTH 60,000 P.S.I.

EXISTING STRUCTURE VERIFICATION:
DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO THE CONSTRUCTION MATERIAL SPECIFICATION (CMS SECTIONS 102.05, 105.02 AND 513.04).

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.

EXISTING BRIDGE PLANS MAY BE INSPECTED IN THE OFFICE OF STRUCTURAL ENGINEERING IN COLUMBUS, OHIO OR AT THE ODOT DISTRICT OFFICE IN ASHLAND, OHIO.

TRAFFIC MAINTENANCE:
SEE ROADWAY PLANS FOR ADDITIONAL TRAFFIC NOTES AND DETAILS.

REPLACEMENT OF EXISTING REINFORCING STEEL:
ANY EXISTING REINFORCING BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND WHICH ARE MADE UNUSABLE BY THE CONTRACTOR'S CONCRETE REMOVAL OPERATIONS SHALL BE REPLACED WITH NEW STEEL AT THE CONTRACTOR'S EXPENSE.

ITEM 511, CLASS S CONCRETE, MISCELLANEOUS, PIER ENCASEMENT

THIS ITEM SHALL BE USED AS PER DETAILS IN THESE PLANS.

SURFACE PREPARATION: THE PIER CONCRETE COLUMNS SHALL BE SOUNDED AND PATCHED. WHERE THE REPAIR DEPTH IS 3 INCHES OR GREATER, PATCHING SHALL BE PER ITEM 519. WHERE THE REPAIR DEPTH IS LESS THAN 3 INCHES IN DEPTH, PATCHING SHALL CONFORM TO SUPPLEMENTAL SPECIFICATION 843, PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR.

UP TO 10% OF THE SURFACE AREA SHALL BE ASSUMED TO BE PATCHED. THIS QUANTITY IS BASED ON THE TOTAL AREA OF ALL THE PIERS, NOT FOR AN INDIVIDUAL PIER COLUMN.

CONCRETE FOR ENCASEMENT SHALL BE AS FOLLOWS:

IN LIEU OF THE PROPORTIONING SPECIFIED IN 499.03 AND 511.02, THE FOLLOWING TABLE SHALL BE USED TO ESTABLISH THE QUANTITIES PER CUBIC YARD FOR CONCRETE. THE COURSE AGGREGATE SHALL BE NO. 8 LIMESTONE. CEMENT USED SHALL BE EXPANSIVE HYDRAULIC CEMENT CONFORMING TO ASTM C845, TYPE K AS PER 701.08.

QUANTITIES PER CUBIC YARD

FINES (LB)	AGGREGATE COURSE (LB)	TOTAL (LB)	CEMENT CONTENT (LB)	WATER/ CEMENT RATIO
1300	1275	2575	715	0.50

AIR CONTENT - 8% PLUS OR MINUS 2%

TYPE D CHEMICAL ADMIXTURE SHALL BE USED.

THE SLUMP AT THE TIME OF CONCRETE PLACEMENT SHALL BE BETWEEN 5 AND 7 INCHES.

CURING SHALL BE IN ACCORDANCE WITH 511.14 TYPE A WATER CURING.

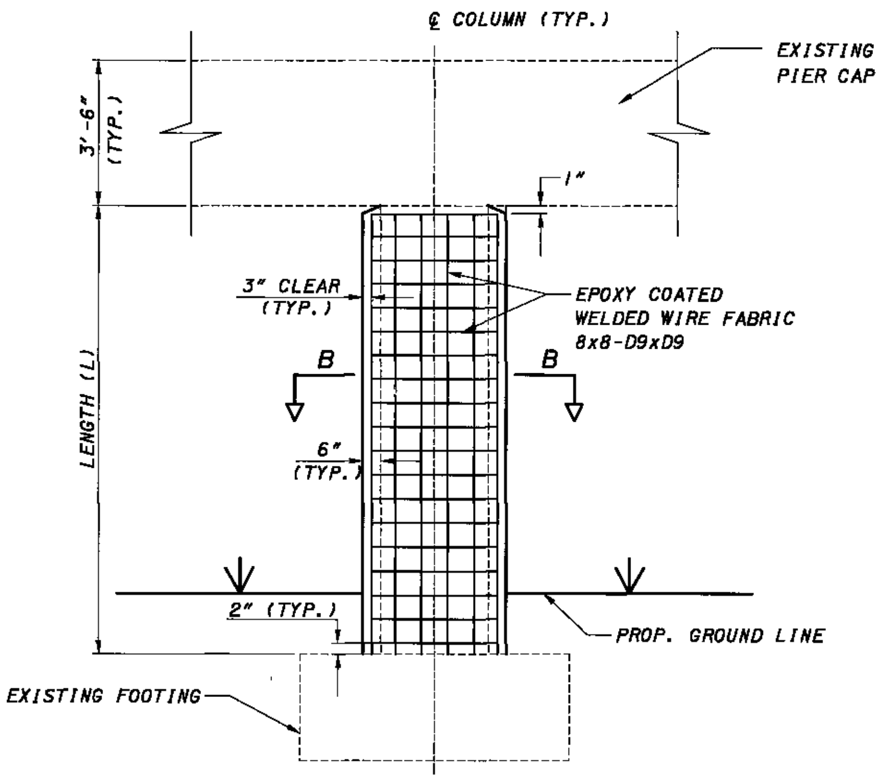
A CEMENT COMPANY REPRESENTATIVE SHALL BE ON HAND DURING THE MIXING AND PLACING OPERATION DURING THE FIRST POUR, IF THE REDI-MIX PRODUCER HAS NOT HAD PREVIOUS EXPERIENCE WITH TYPE K CEMENT.

REDI-MIX PRODUCERS WHO HAVE HAD PREVIOUS EXPERIENCE SHALL HAVE ON HAND A PERSON WHO HAS BEEN FACTORY TRAINED IN THE USE OF TYPE K CEMENT.

ALL OTHER PROVISIONS OF ITEM 511 SHALL REMAIN IN EFFECT.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER CUBIC YARD FOR ITEM 511, CLASS S CONCRETE, MISCELLANEOUS, PIER ENCASEMENT, WHICH SHALL INCLUDE ALL EXCAVATION, LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS, NECESSARY TO COMPLETE THE ABOVE WORK.

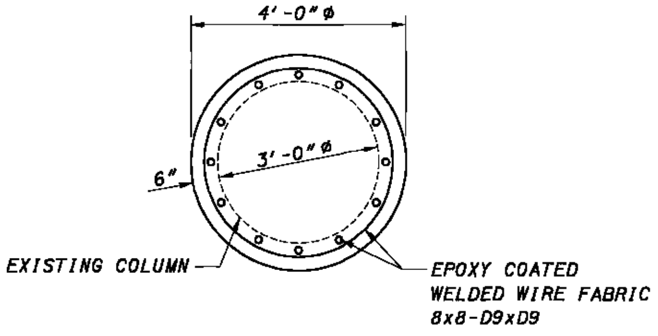
MED-71-0139	MED-71-0377	MED-71-0497	MED-71-0563						ESTIMATED QUANTITIES	SHEET NO.
QUANTITY					ITEM	EXT	TOTAL	UNIT	DESCRIPTION	
1122			266		509	10000	1388	POUND	EPOXY COATED REINFORCING STEEL	
10			3		511	34450	13	CU YD	CLASS S CONCRETE, MISC.: PIER ENCASEMENT	
91	102	106	106		601	21150	405	CU YD	SLOPE PROTECTION, MISC.: CRUSHED AGGREGATE SLOPE PROTECTION	
554	572	579	579		864	10100	2284	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	



VIEW A-A

PROPOSED PIER COLUMN ENCASEMENT

SEE SHEETS 1/8 THROUGH 4/8 FOR LOCATIONS OF PIER ENCASEMENTS



SECTION B-B

BRIDGE	PIER COLUMNS ENCASEMENT LENGTH* (L)		
	PIER 1	PIER 2	PIER 3
MED-71-0139	12'-8¼"	-	12'-7"
MED-71-0563	-	-	11'-11⅜"

*DIMENSIONS GIVEN ARE FROM EXISTING PLANS

SHEET No. 5/8 NOT USED

SHEET No. 479 NOT USED

MOODY/NOLAN LTD. INC.
Architecture Engineering Planning Interior Design
300 Spruce Street, Columbus, Ohio 43215
Phone (614) 461-4664 Fax (614) 280-8881

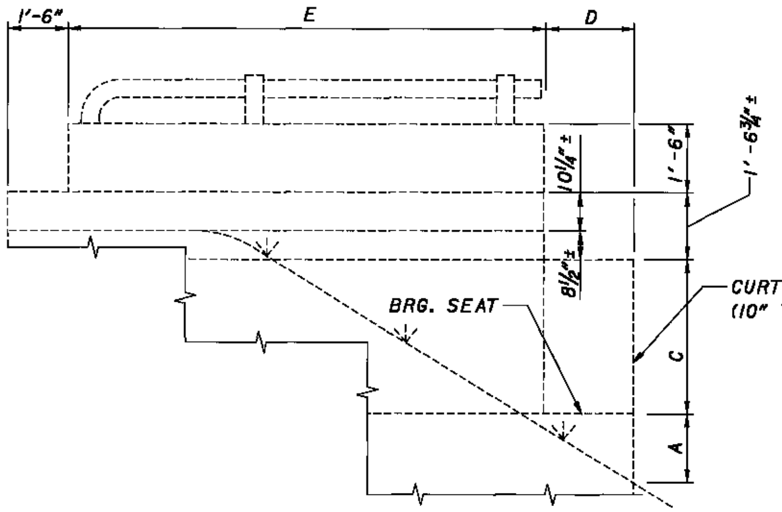
DESIGNED	DRAWN	REVIEWED	DATE
AME	AME	MRG	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
GT			

NOTES, QUANTITIES & ENCASEMENT DETAILS
BRIDGE NOS. MED-71-0139, MED-71-0377, MED-71-0497, MED-71-0563

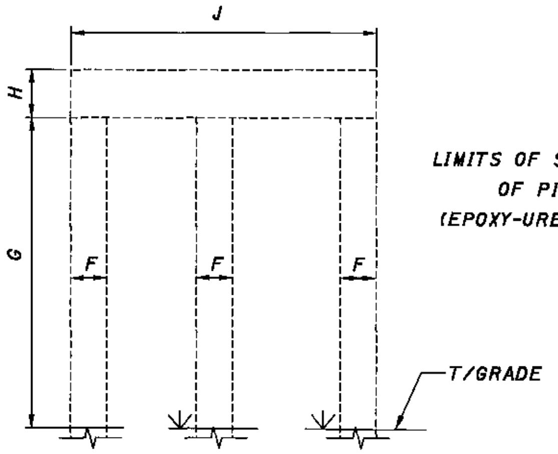
WAY/MED-71-7.04/0.00

6/8

480/785

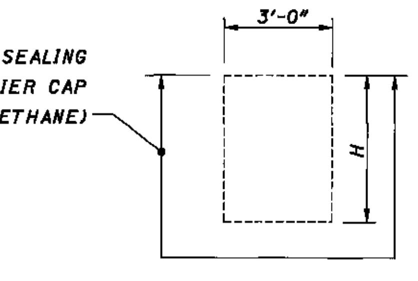


TYPICAL WINGWALL ELEVATION



TYPICAL PIER ELEVATION

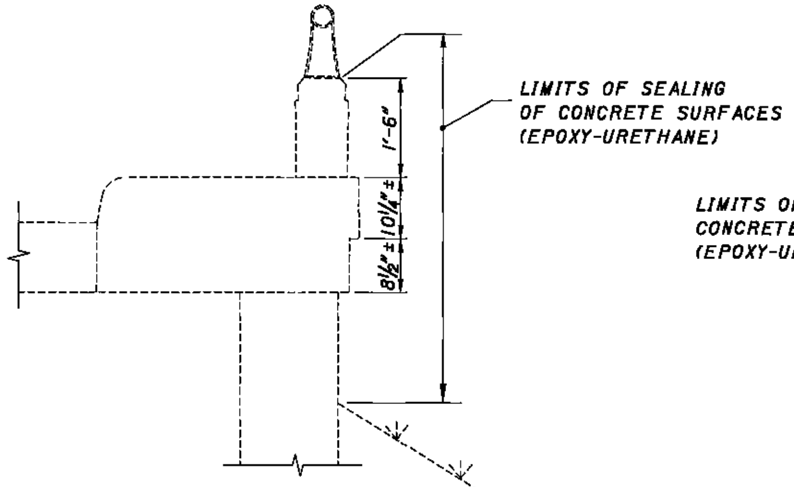
(F = AVG. COLUMN DIAMETER)



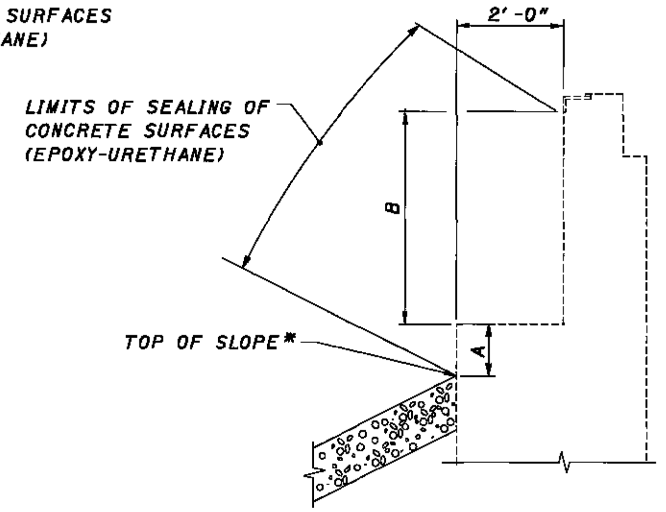
PIER CAP SECTION

DIMENSION TABLE FOR SEALING ABUTMENT CONCRETE SURFACES				
BRIDGE NO.	LOCATION	ABUTMENT LENGTH (L-FT.)	AVG. DIMENSIONS	
			(A-FT.)*	(B-FT.)
MED-71-0139 UNDER CEMETERY ROAD T.R. 152	RA	30.0	1.0	4.3
	FA	30.0	1.0	4.3
MED-71-0377 UNDER FRIENDSVILLE ROAD C.R. 35	RA	34.0	1.0	4.4
	FA	34.0	1.0	4.3
MED-71-0497 UNDER WESTFIELD ROAD C.R. 15	RA	33.8	1.0	4.3
	FA	33.8	1.0	4.5
MED-71-0563 UNDER LEROY ROAD C.R. 57	RA	33.6	1.0	4.4
	FA	33.6	1.0	4.6

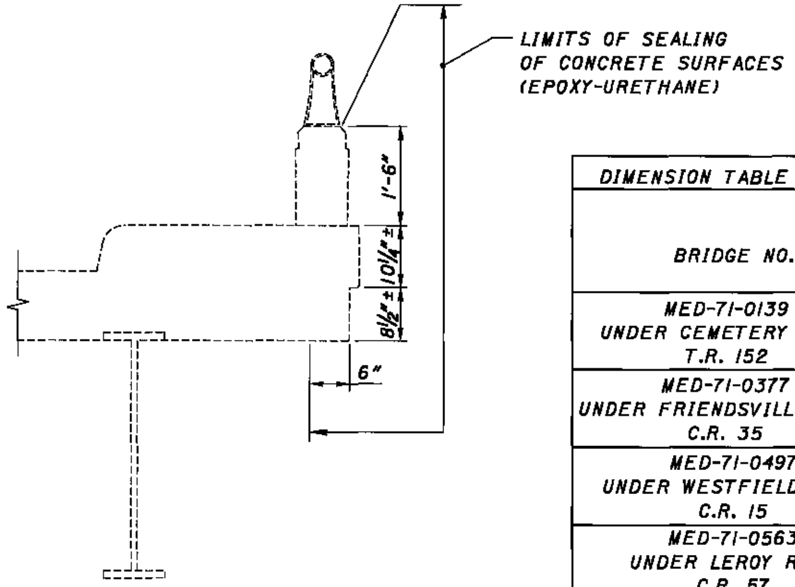
RA - REAR ABUTMENT
FA - FORWARD ABUTMENT



TYPICAL WINGWALL SECTION



TYPICAL ABUTMENT SECTION



TYPICAL SUPERSTRUCTURE SECTION

DIMENSION TABLE FOR SEALING WINGWALL CONCRETE SURFACES					
BRIDGE NO.	LOCATION	AVG. DIMENSIONS (FT.) (OF 2)			
		A*	C	D	E
MED-71-0139 UNDER CEMETERY ROAD T.R. 152	RA	1.0	3.7	2.0	13.0
	FA	1.0	3.7	2.0	13.0
MED-71-0377 UNDER FRIENDSVILLE ROAD C.R. 35	RA	1.0	3.6	2.0	13.8
	FA	1.0	3.6	2.0	13.8
MED-71-0497 UNDER WESTFIELD ROAD C.R. 15	RA	1.0	3.6	2.0	13.5
	FA	1.0	3.6	2.0	13.5
MED-71-0563 UNDER LEROY ROAD C.R. 57	RA	1.0	3.7	2.0	13.6
	FA	1.0	3.7	2.0	13.6

* - SEE SHEET $\boxed{8/8}$ FOR TOP OF SLOPE ELEVATIONS

ITEM 864-SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN

AREAS OF CONCRETE SURFACES TO BE SEALED ARE CALCULATED BY USING FIELD MEASURED DIMENSIONS. THE EFFECT OF LOWERING THE I-71 GRADE TO EXPOSE ADDITIONAL AREAS OF PIER COLUMNS ARE CONSIDERED. AVERAGE DIAMETER OF PIER COLUMN TAKES INTO ACCOUNT THE ENCASING OF SOME OF THE PIER COLUMNS.

PRIOR TO SEALING, ALL GRAFFITI SHALL BE REMOVED AND ALL CONCRETE SURFACES SHALL BE SOUNDED AND PATCHED AS PART OF THIS WORK. WHERE THE REPAIR DEPTH IS 3 INCHES OR GREATER, PATCHING SHALL BE PER ITEM 519. WHERE REPAIR DEPTH IS LESS THAN 3 INCHES IN DEPTH, PATCHING SHALL CONFORM TO SUPPLEMENTAL SPECIFICATION 843, PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR.

THE COLOR SHALL BE LIGHT NEUTRAL MEETING FEDERAL COLOR SPECIFICATION STANDARD NO. 17778.

THE CONCRETE SURFACES SHALL BE SEALED AS FOLLOWS:

ABUTMENT: ENTIRE LENGTH - FRONT FACE OF BACKWALL, BEARING SEAT AND EXPOSED FRONT FACE OF BREASTWALL

WINGWALLS: ALL OUTSIDE EXPOSED SURFACES

PIERS: ALL EXPOSED SURFACES EXCEPT TOP OF PIER CAP

SUPERSTRUCTURE: OUTSIDE PARAPET AND DECK SURFACES AND 6" UNDER DECK OVERHANG

DIMENSION TABLE FOR SEALING OF SUPERSTRUCTURE	
BRIDGE NO.	LENGTH OF SUPERSTRUCTURE (FT.)
MED-71-0139 UNDER CEMETERY ROAD T.R. 152	264
MED-71-0377 UNDER FRIENDSVILLE ROAD C.R. 35	272
MED-71-0497 UNDER WESTFIELD ROAD C.R. 15	296
MED-71-0563 UNDER LEROY ROAD C.R. 57	296

DIMENSION TABLE FOR SEALING OF PIER CONCRETE SURFACES						
BRIDGE NO.	No. OF PIERS	No. OF COLUMNS PER PIER	AVG. DIMENSIONS (FT.)			
			F	G	H	J
MED-71-0139 UNDER CEMETERY ROAD T.R. 152	3	3	3.7	12.7	3.6	29.0
MED-71-0377 UNDER FRIENDSVILLE ROAD C.R. 35	3	3	3.0	14.5	3.6	32.3
MED-71-0497 UNDER WESTFIELD ROAD C.R. 15	3	3	3.1	12.1	3.8	32.3
MED-71-0563 UNDER LEROY ROAD C.R. 57	3	3	3.1	12.3	3.7	32.2

MOODY NOLAN INC.
Architecture Engineering Planning Interior Design
300 Spruce Street, Columbus, Ohio 43215
Phone (614) 461-4664 Fax (614) 280-8881

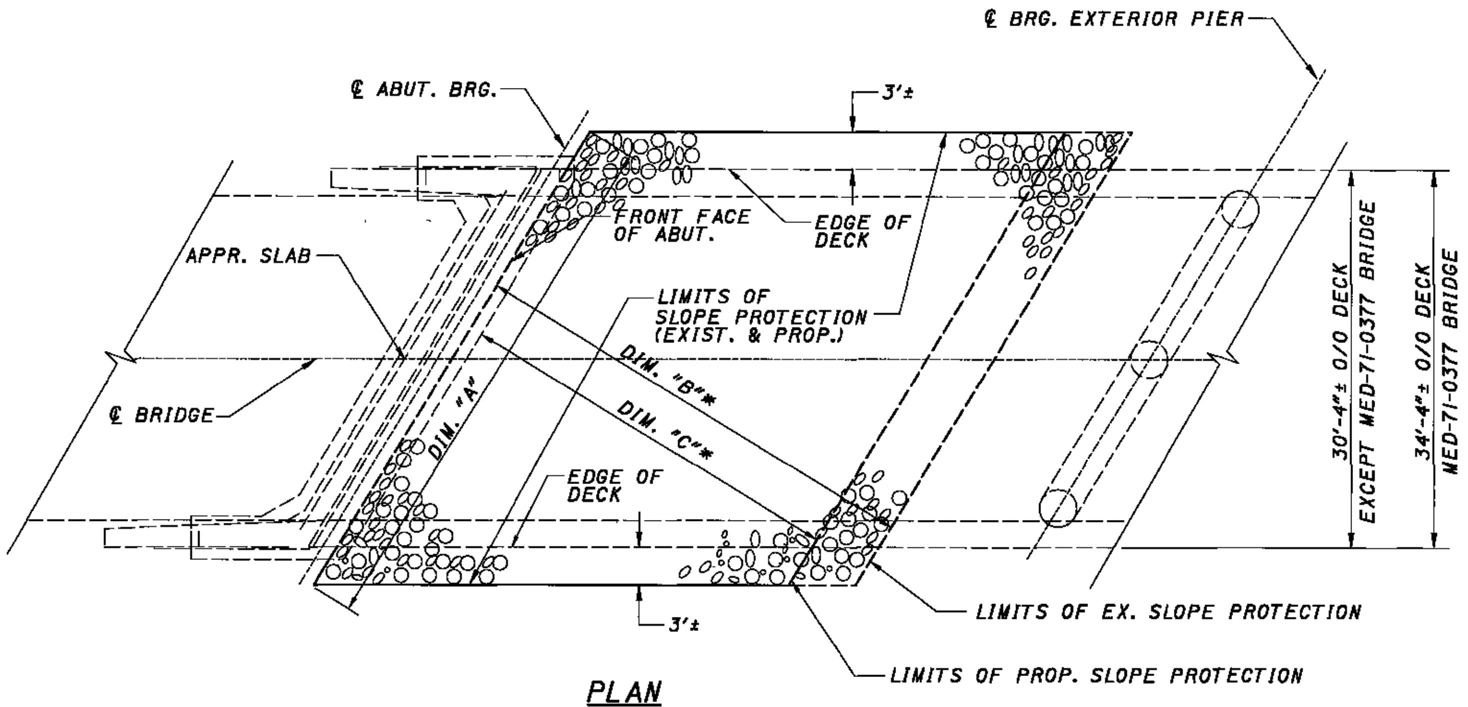
DESIGNED AME
DRAWN AME
REVIEWED MRG
DATE 6/03
CHECKED GT
REVISED
STRUCTURE FILE NUMBER

SEALING OF CONCRETE SURFACES DETAILS AND NOTES

BRIDGE NOS. MED-71-0139, MED-71-0377, MED-71-0497, & MED-71-0563

WAY/MED-71-7.04/0.00

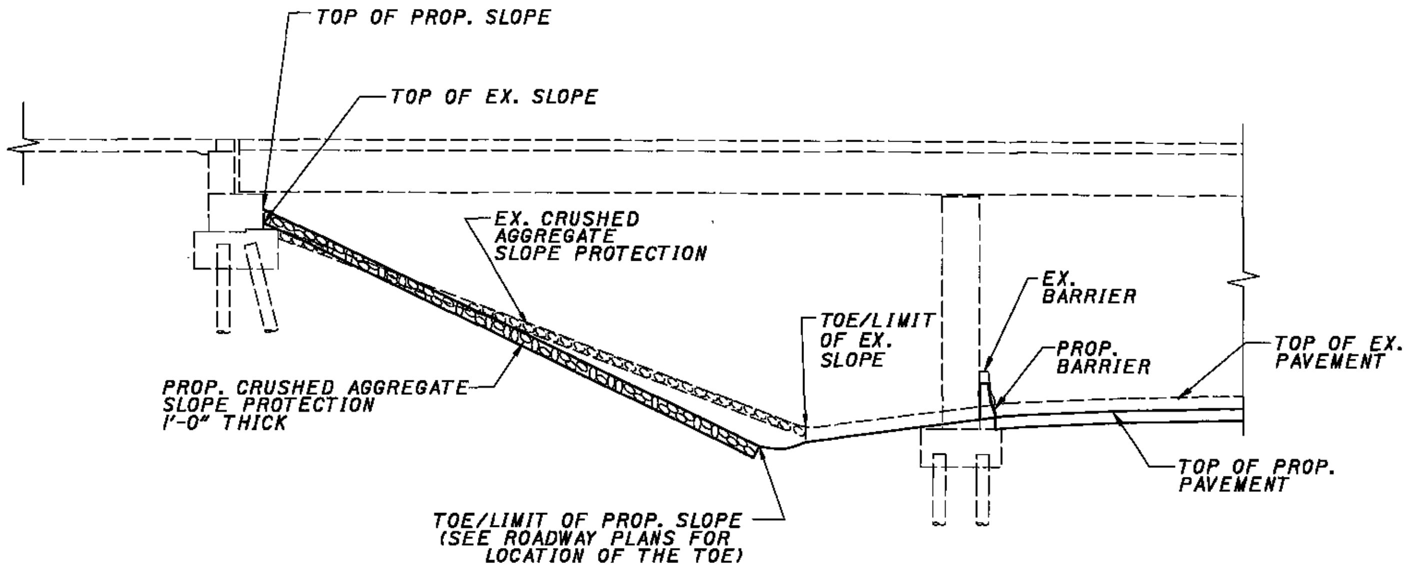
GENERIC PLAN AND ELEVATION
SHOWING CRUSHED AGGREGATE ABUTMENT SLOPE PROTECTION LIMITS FOR MED-71-0139, MED-71-0377, MED-71-0497, MED-71-0563 STRUCTURES
(FOR ADDITIONAL DETAILS, REFER TO EXISTING PLANS)



℄ BRG. EXTERIOR PIER
℄ ABUT. BRG.
3'±
APPR. SLAB
FRONT FACE OF ABUT.
EDGE OF DECK
LIMITS OF SLOPE PROTECTION (EXIST. & PROP.)
DIM. "B"*
DIM. "C"*
DIM. "A"
℄ BRIDGE
EDGE OF DECK
30'-4"± O/O DECK EXCEPT MED-71-0377 BRIDGE
34'-4"± O/O DECK MED-71-0377 BRIDGE
3'±
LIMITS OF EX. SLOPE PROTECTION
LIMITS OF PROP. SLOPE PROTECTION

PLAN

(NOT ALL DETAILS SHOWN)



TOP OF PROP. SLOPE
TOP OF EX. SLOPE
EX. CRUSHED AGGREGATE SLOPE PROTECTION
EX. BARRIER
TOE/LIMIT OF EX. SLOPE
PROP. BARRIER
TOP OF EX. PAVEMENT
PROP. CRUSHED AGGREGATE SLOPE PROTECTION 1'-0" THICK
TOP OF PROP. PAVEMENT
TOE/LIMIT OF PROP. SLOPE (SEE ROADWAY PLANS FOR LOCATION OF THE TOE)

ELEVATION

NOTES:

ITEM 601 - SLOPE PROTECTION MISC., CRUSHED AGGREGATE SLOPE PROTECTION

PRIOR TO PLACING CRUSHED AGGREGATE SLOPE PROTECTION, ALL BRUSH UNDER AND FROM 20 FEET ON EACH SIDE OF STRUCTURE SHALL BE REMOVED.

EXISTING CRUSHED AGGREGATE FROM ABUTMENT SLOPES SHALL BE SCRAPED AND SAVED. THE AREA WITHIN THE LIMITS OF THE PROPOSED SLOPE PROTECTION SHALL THEN BE REGRADED TO AN ELEVATION 1' BELOW THE FINAL PROPOSED SLOPE PROTECTION ELEVATION. USING THE CRUSHED AGGREGATE RECOVERED FROM THE EXISTING SLOPES AND BY BRINGING IN ADDITIONAL QUANTITY AS NEEDED, THE PROPOSED SLOPE PROTECTION OF 1' UNIFORM THICKNESS SHALL BE PLACED.

FOR QUANTITY CALCULATION PURPOSES, IT HAS BEEN ASSUMED THAT ONLY 20% OF THE EXISTING CRUSHED AGGREGATE VOLUME (I.E. EXISTING SLOPE PROTECTION AREA * 0.2' THICKNESS) IS RECOVERED. THE ADDITIONAL QUANTITY NEEDED WILL BE EQUAL TO (PROPOSED SLOPE PROTECTION AREA)*(1' THICKNESS)-(CRUSHED AGGREGATE RECOVERED FROM THE EXISTING SLOPES). THE CONTRACTOR SHALL HOWEVER BE PAID FOR THE ACTUAL QUANTITY USED ON THE UNIT COST BASIS.

ALL LABOR, MATERIAL, AND INCIDENTAL COST ASSOCIATED WITH PLACING THE PROPOSED SLOPE PROTECTION SHALL BE INCLUDED WITH THIS ITEM.

TABLE OF DIMENSIONS FOR CRUSHED AGGREGATE SLOPE PROTECTION

BRIDGE NO.	LOCATION	DIMENSIONS (FT)			APPROX. EXISTING TOP OF SLOPE EL.	APPROX. PROP. TOP OF SLOPE EL.**
		A	B*	C*		
MED-71-0139 UNDER CEMETERY ROAD T.R. 152	RA	36.7	37.6	40.6	943.5	945.3
	FA	36.7	37.0	41.1	943.4	945.1
MED-71-0377 UNDER FRIENDSVILLE ROAD C.R. 35	RA	40.7	42.1	44.1	998.6	999.5
	FA	40.7	43.1	40.9	987.4	988.3
MED-71-0497 UNDER WESTFIELD ROAD C.R. 15	RA	41.4	42.2	41.5	1012.2	1014.0
	FA	41.4	46.5	45.3	1011.7	1012.7
MED-71-0563 UNDER LEROY ROAD C.R. 57	RA	41.0	46.3	43.0	1020.9	1022.7
	FA	41.0	46.4	45.1	1015.1	1016.4

* - DIMENSION MEASURED ALONG THE SLOPE
** - THE PROPOSED TOP OF SLOPE SHALL BE LOCATED APPROXIMATELY 1'-0" BELOW THE LOWEST BEAM SEAT ELEVATION.

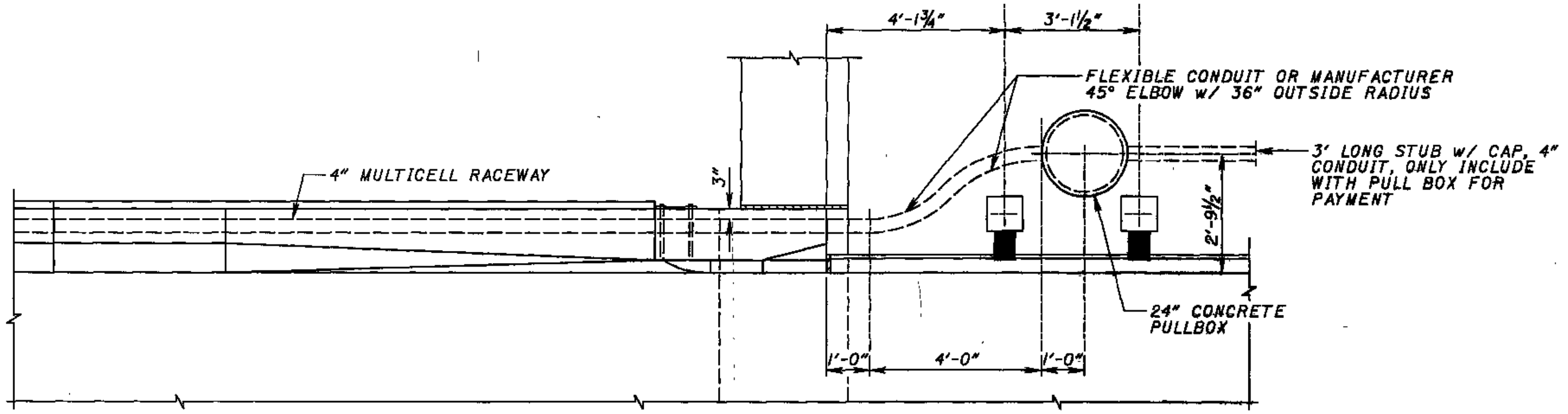
MOODY NOLAN INC.
Architecture Engineering Planning Interior Design
300 Spruce Street, Columbus, Ohio 43215
Phone (614) 461-4664 Fax (614) 280-8881

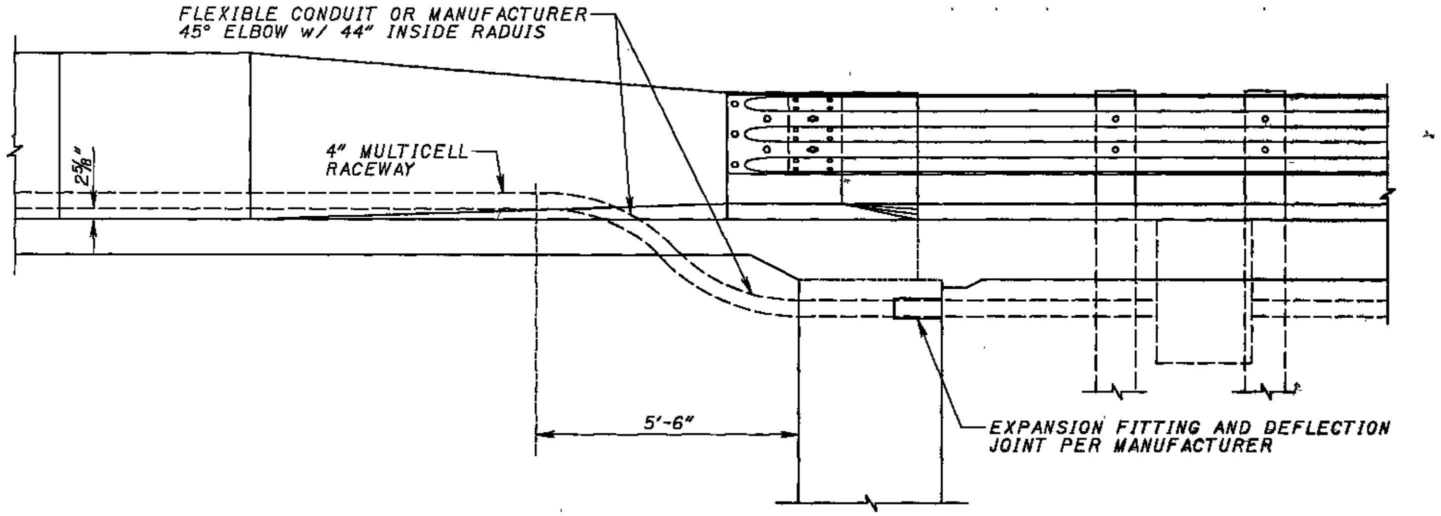
DESIGNED	DRAWN	REVIEWED	DATE
AME	AME	MRG	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
GT			

ABUTMENT SLOPE PROTECTION DETAILS AND NOTES
BRIDGE NOS. MED-71-0139, MED-71-0377, MED-71-0497, & MED-71-0563

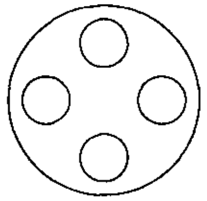
WAY/MED-71-7.04/0.00

8 / 8


4'-1¾"
3'-1½"
FLEXIBLE CONDUIT OR MANUFACTURER 45° ELBOW w/ 36" OUTSIDE RADIUS
4" MULTICELL RACEWAY
3"
3' LONG STUB w/ CAP, 4" CONDUIT, ONLY INCLUDE WITH PULL BOX FOR PAYMENT
2'-9½"
24" CONCRETE PULLBOX
1'-0"
4'-0"
1'-0"


FLEXIBLE CONDUIT OR MANUFACTURER 45° ELBOW w/ 44" INSIDE RADUIS
4" MULTICELL RACEWAY
2⅝"
5'-6"
EXPANSION FITTING AND DEFLECTION JOINT PER MANUFACTURER

CONDUIT DETAILS FOR SEMI-INTEGRAL OR INTEGRAL BRIDGE WITH STRAIGHT WINGWALLS



CROSS-SECTION 4" MULTICELL RACEWAY

(4 INNERDUCTS)

NOTES:

ITEM 625, CONDUIT, MISC.: 4" MULTICELL RACEWAY:

THE RACEWAY SHALL CONSIST OF A FACTORY ASSEMBLED SYSTEM OF (4) INNERDUCTS WITHIN A PROTECTIVE OUTERDUCT. IN GENERAL THE OUTERDUCT SHALL BE PVC CAPABLE OF BURIAL OR CONCRETE ENCASEMENT.

THE ELBOWS, BENDS, OR FITTINGS REQUIRED FOR THE CONSTRUCTION SHALL BE STANDARD UNITS MADE BY THE RACEWAY MANUFACTURER.

THE INNERDUCTS SHALL BE NOMINAL 1", SCHEDULE 40 PVC PER 713.07 WITH A BELL INSERTION DEPTH OF 2" MINIMUM.

THE COUPLING SHALL BE DESIGNED IN A MANNER TO PERMIT EASY FIELD ASSEMBLY. THE COUPLING SHALL BE MARKED OR KEYED IN A MANNER TO ENSURE THE INNERDUCTS ARE PROPERLY ALIGNED, ANY COLOR CODES ARE CONTINUED AND THE ADJOINING SECTION IS INSERTED TO THE PROPER DEPTH IN THE BELL. ALL KEYS AND/OR MARKINGS SHALL BE VISIBLE AFTER ASSEMBLY BEFORE BURIAL. THE SEALING SYSTEM SHALL BE DESIGNED TO ASSURE AIR INTEGRITY OF EACH INDIVIDUAL INNERDUCT AND WATER INTEGRITY OF THE ENTIRE SYSTEM.

WHERE MULTICELL DUCT IS TO REMAIN EMPTY, A ¼" NYLON ROPE SHALL BE INSTALLED IN EACH EMPTY DUCT. THE ROPE WILL REMAIN TO BE USED FOR A FUTURE CABLE INSTALLATION.

THE CONDUIT SHALL BE PLACED IN THE OUTSIDE SHOULDER PARAPET FOR BOTH THE SOUTHBOUND AND NORTHBOUND STRUCTURES. FINAL INSTALLATION DETAILS WILL BE BASED ON COORDINATION WITH CONTRACTOR AND CONDUIT MANUFACTURER AND APPROVED BY THE PROJECT ENGINEER.

THE RACEWAY WILL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM 625-CONDUIT MISC.: 4" MULTICELL RACEWAY. THIS PRICE SHALL INCLUDE THE INCIDENTAL COST OF THE FITTINGS AND ALL OTHER ITEMS NECESSARY TO PROVIDE A COMPLETE AND FUNCTIONAL SYSTEM. AS RECOMMENDED BY THE MANUFACTURER AND APPROVED BY THE PROJECT ENGINEER.

P:/PR30489/CADD/MED-71-0031/ME071md1.DGN

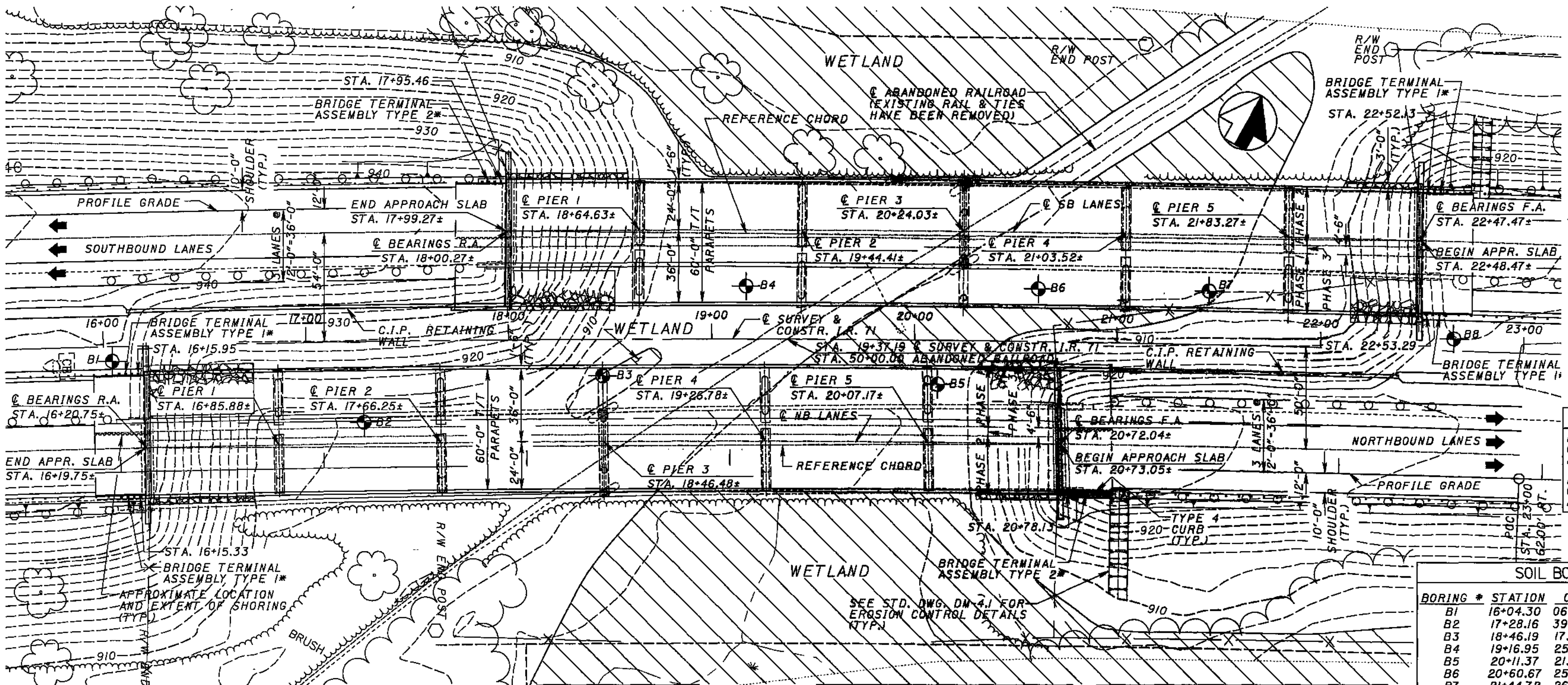
BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
WTL	CRC	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TTK		5202493-LEFT 5202523-RIGHT	

CONDUIT DETAILS

WAY/MED-71-7.04/0.00

482A
785



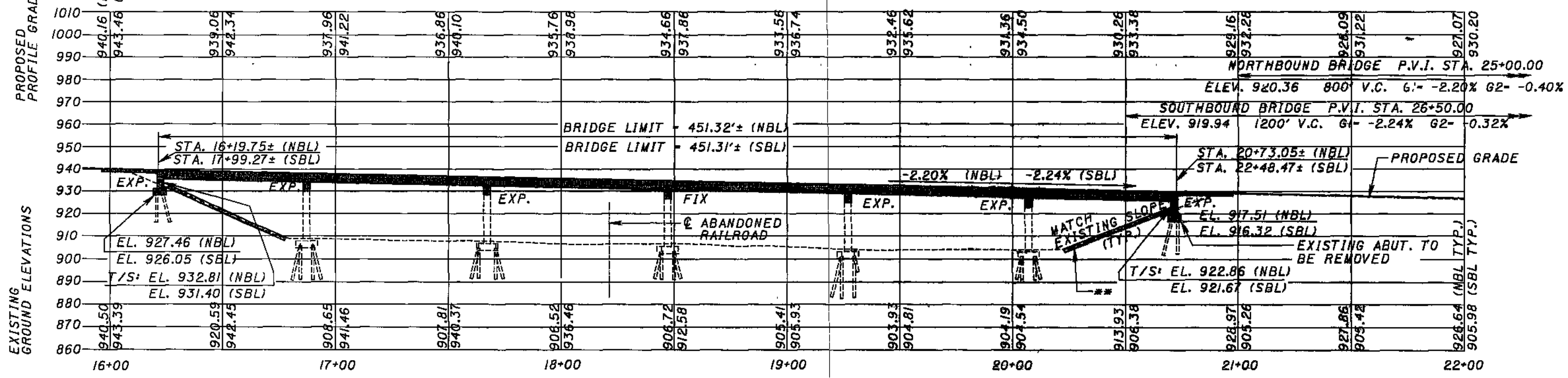
ORIGINAL CLEARANCES
22.07' SBL
22.20' NBL

PLAN

PILE LENGTHS		
LOCATION	NBL	SBL
R.A.	35'	35'
PIER 1	40'	40'
PIER 2	40'	40'
PIER 3	40'	50'
PIER 4	50'	50'
PIER 5	50'	50'
F.A.	45'	45'

SKEW ANGLES		
LOCATION	NBL	SBL
R.A.	00°33'55"±	00°08'51"±
PIER 1	00°37'21"±	00°04'19"±
PIER 2	00°35'42"±	00°04'07"±
PIER 3	00°36'37"±	00°00'45"±
PIER 4	00°31'30"±	00°00'47"±
PIER 5	00°32'32"±	-00°01'21"±
F.A.	00°46'56"±	-00°02'03"±

CURVE DATA	
℄ I.R.71 CURVE DATA	℄ N.B. OUTSIDE EOP (*SEE SHEET RD1)
P.I. Sta. = 37+44.62	
Δ= 36° 10' 16" (RT)	Δ= 3° 59' 51" (RT)
Dc = 0° 29' 59"	Dc = 0° 30' 09"
R = 11,466.42'	R = 11,404.42'
T = 3,744.62'	T = 398.00'
L = 7,238.83'	L = 795.67'
E = 595.96'	E = 6.94'



** = CRUSHED AGGREGATE SLOPE PROTECTION IN WIDENING PORTIONS AND AS NEEDED TO RE-ESTABLISH SLOPE IN EXISTING AREAS. (TYP.)

PROFILE

NOTES:

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS-SECTIONS.
2. REFERENCE CHORDS ARE MEASURED FROM THE INTERSECTION OF THE CENTERLINES OF LANES AND THE CENTERLINES OF ABUTMENT BEARINGS.
3. SPAN LENGTHS ARE MEASURED ALONG REFERENCE CHORDS.
4. BRIDGE LIMITS ARE MEASURED ALONG THE ℄ PROPOSED LANES, NOT ℄ I.R. 71.

LEGEND:

B1 ⊕ = CURRENT FOUNDATION INVESTIGATION BORING
R.A. = REAR ABUTMENT
F.A. = FORWARD ABUTMENT
NBL = NORTHBOUND LANES
SBL = SOUTHBOUND LANES
* SEE ROADWAY PLANS FOR DETAILS AND PAYMENT

BENCHMARK INFORMATION

BM#3002: STA. 13+62.27, 0.43' LT., C/L MONUMENT 483,459.24 N 2,099,478.48 E, ELEV. 942.88

BM#3003: STA. 23+62.64, 0.72' LT., C/L MONUMENT 483,949.61 N 2,100,349.65 E, ELEV. 922.11

SOIL BORING INFORMATION				
BORING #	STATION	OFFSET	ELEVATION	APPROX. TOP OF ROCK
B1	16+04.30	06.86' (RT)	939.70	NONE
B2	17+28.16	39.24' (RT)	907.38	NONE
B3	18+46.19	17.72' (RT)	906.05	NONE
B4	19+16.95	25.97' (LT)	905.17	NONE
B5	20+11.37	21.37' (RT)	903.97	NONE
B6	20+60.67	25.75' (LT)	904.62	NONE
B7	21+44.72	26.22' (LT)	906.06	NONE
B8	22+65.49	06.03' (LT)	926.12	NONE

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK & SUBSTRUCTURE
SPANS: 64'-0", 5@80'-0", 64'-0"± c/c BEARINGS
STRUCTURE FILE NO.: 5202256 & 5202280
ROADWAY: 42'-0"± f/f PARAPETS
ORIGINAL DESIGN LOADING: CF 2000, ADEQUATE FOR AASHTO ALTERNATE LOADING
WEARING SURFACE: 1" MONOLITHIC
ALIGNMENT: 00°30'00"± CURVE RIGHT
SUPERELEVATION: 3/16" PER FT
APPROACH SLABS: 25'-0"± LONG
DATE BUILT: 1959
SKEW: VARIES

PROPOSED STRUCTURE

TYPE: PRESTRESSED CONCRETE I-BEAM WITH COMPOSITE REINFORCED CONCRETE DECK ON SEMI-INTEGRAL ABUTMENTS.
SPAN: NBL: 64'-10 1/8"±, 80'-0 5/16"±, 79'-10 5/8"±, 79'-11 1/4"±, 80'-0 3/8"±, 64'-6 13/16"
SBL: 64'-7 15/16"±, 80'-1 3/4"±, 79'-11 15/16"±, 79'-10 3/8"±, 80'-1 3/8"±, 64'-6"±
(MEASURED ON REFERENCE CHORD)
ROADWAY: 60'-0" T/T PARAPETS (RADIAL)
SKEW: SEE SKEW ANGLE TABLE (MEASURED WITH RESPECT TO REFERENCE CHORD)
ALIGNMENT: 00°29'59" CURVE RIGHT
WEARING SURFACE: 1" MONOLITHIC CONCRETE
DESIGN LOADING: HS25 AND THE ALTERNATE MILITARY LOADING
FWS LOADING: 60 PSF
APPROACH SLABS: AS-1-81 (25'-0" LONG)
SUPERELEVATION: 0.019 FT/FT
ADT (2006): 44690 ADTT (2006): 15200
ADT (2026): 61590 ADTT (2026): 20940
LATITUDE: N 40°59'36"
LONGITUDE: W 82°01'29"

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
WTL	CRC	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TTK		5202256-LEFT 5202280-RIGHT	

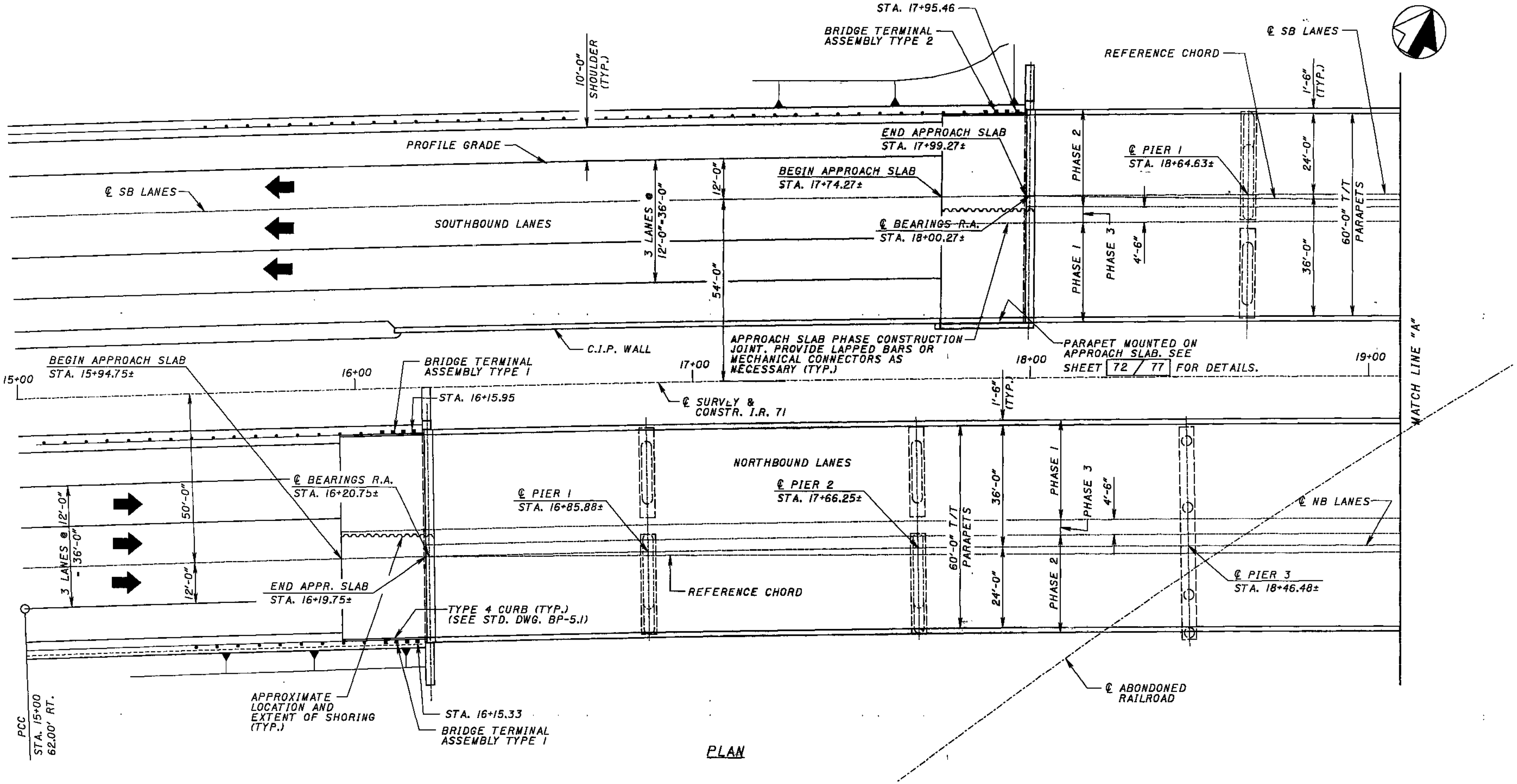
MEDINA COUNTY
STA. 16+19.75
STA. 22+48.47

SITE PLAN
BRIDGE NO. MED-71-0031 L/R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

1/77

P:/PR30489/CADD/MED-71-0031/ME071spl.DGN


STA. 17+95.46
BRIDGE TERMINAL ASSEMBLY TYPE 2
10'-0" SHOULDER (TYP.)
Ⓒ SB LANES
REFERENCE CHORD
1'-6" (TYP.)
PROFILE GRADE
END APPROACH SLAB STA. 17+99.27±
BEGIN APPROACH SLAB STA. 17+74.27±
Ⓒ SB LANES
SOUTHBOUND LANES
3 LANES @ 12'-0"=36'-0"
12'-0"
54'-0"
Ⓒ BEARINGS R.A. STA. 18+00.27±
PHASE 2
PHASE 1
PHASE 3
4'-6"
Ⓒ PIER 1 STA. 18+64.63±
24'-0"
36'-0"
60'-0" T/T PARAPETS
C.I.P. WALL
APPROACH SLAB PHASE CONSTRUCTION JOINT. PROVIDE LAPPED BARS OR MECHANICAL CONNECTORS AS NECESSARY (TYP.)
PARAPET MOUNTED ON APPROACH SLAB. SEE SHEET 72 / 77 FOR DETAILS.
BEGIN APPROACH SLAB STA. 15+94.75±
15+00
16+00
17+00
18+00
19+00
BRIDGE TERMINAL ASSEMBLY TYPE 1
STA. 16+15.95
Ⓒ SURVEY & CONSTR. I.R. 71
1'-6" (TYP.)
MATCH LINE "A"
NORTHBOUND LANES
50'-0"
3 LANES @ 12'-0" = 36'-0"
12'-0"
Ⓒ BEARINGS R.A. STA. 16+20.75±
Ⓒ PIER 1 STA. 16+85.88±
Ⓒ PIER 2 STA. 17+66.25±
60'-0" T/T PARAPETS
36'-0"
24'-0"
PHASE 1
PHASE 3
4'-6"
PHASE 2
Ⓒ NB LANES
Ⓒ PIER 3 STA. 18+46.48±
END APPR. SLAB STA. 16+19.75±
REFERENCE CHORD
TYPE 4 CURB (TYP.) (SEE STD. DWG. BP-5.1)
APPROXIMATE LOCATION AND EXTENT OF SHORING (TYP.)
STA. 16+15.33
BRIDGE TERMINAL ASSEMBLY TYPE 1
PCC STA. 15+00 62.00' RT.
Ⓒ ABONDONED RAILROAD

PLAN

NOTES:

1. SEE STD. DWG. AS-1-81 FOR APPROACH SLAB DETAILS NOT SHOWN.

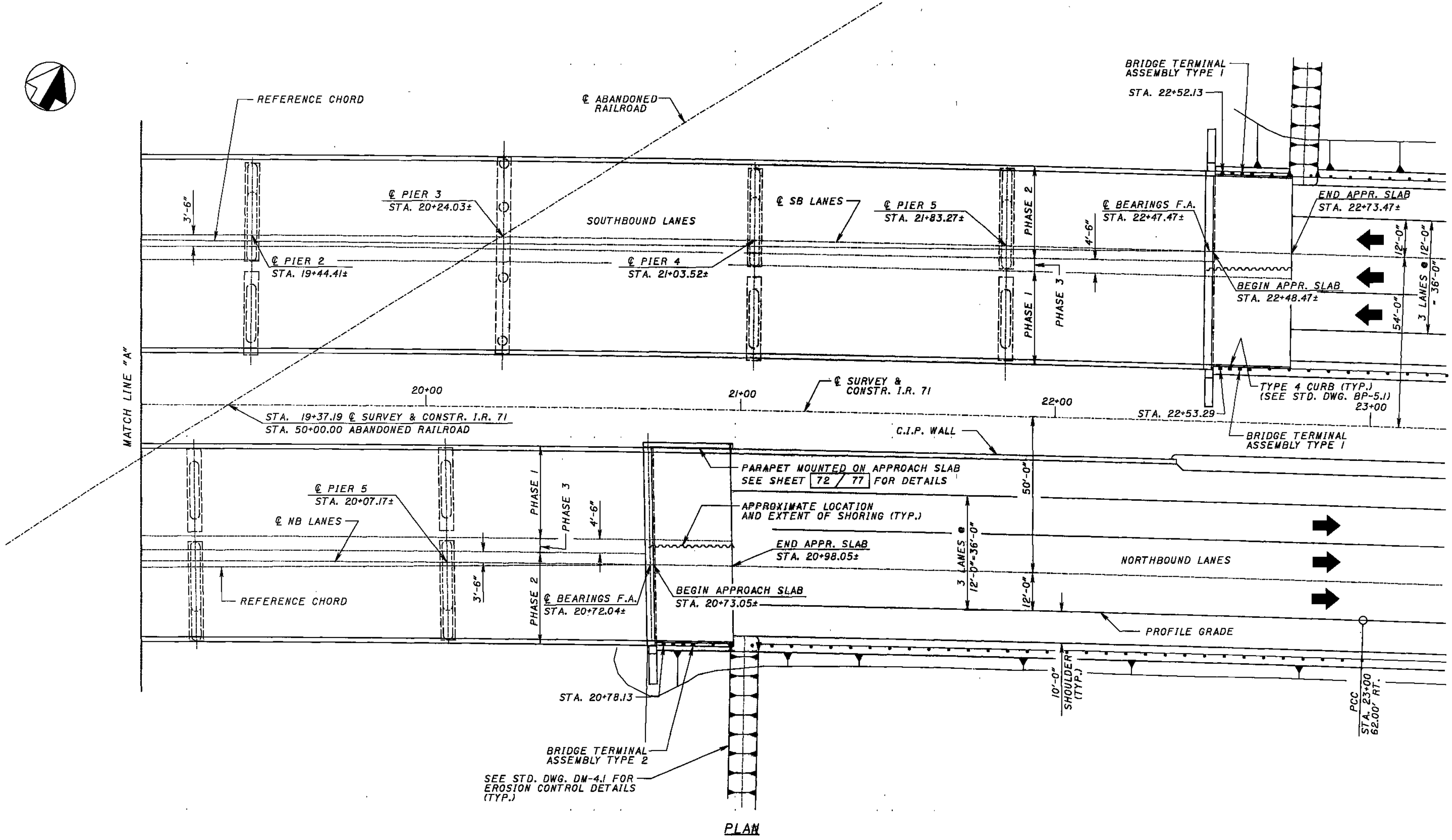
BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
WTL.	CRC	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TTK		5202256-LEFT 5202280-RIGHT	

GENERAL PLAN - 1
BRIDGE NO. MED-71-0031 L/R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

P:/PR30489/CADD/MED-71-0031/ME07gp1.DGN



PLAN

NOTES:

1. SEE STD. DWG. AS-1-81 FOR APPROACH SLAB DETAILS NOT SHOWN.

P:/PR30489/CADD/MED-71-0031/ME071gp2.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
WTL	CRC	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TTK		5202256-LEFT 5202280-RIGHT	

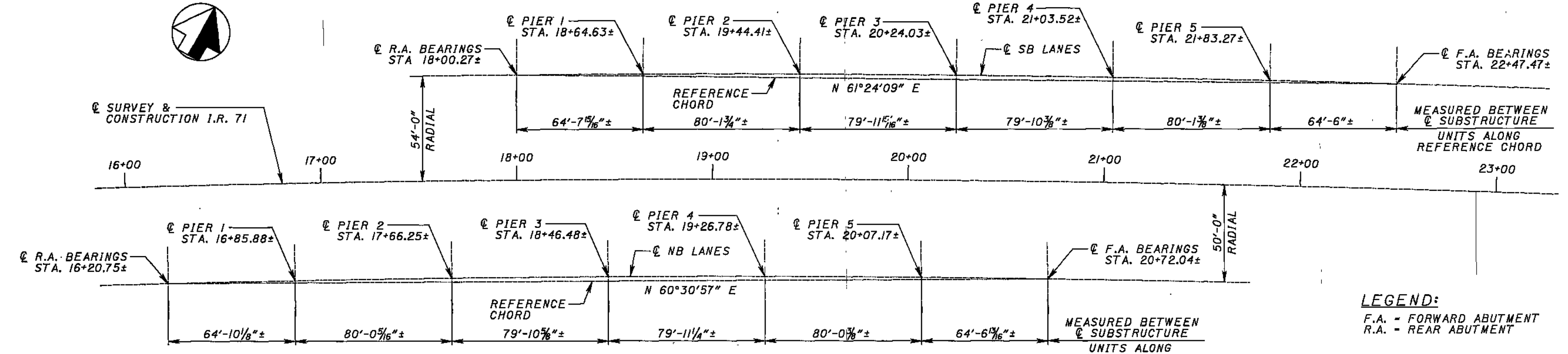
GENERAL PLAN - 2
BRIDGE NO. MED-71-0031 L/R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

3 / 77

485 / 785

		MED-71-0031 L	MED-71-0031 R		ESTIMATED QUANTITIES	MED-71-0031 L						MED-71-0031 R					
ITEM	ITEM EXT.	TOTAL	TOTAL	UNIT	DESCRIPTION	RET. WALLS	ABUTS.	PIERS	SUPER.	GENERAL	SHT. REF.	RET. WALLS	ABUTS.	PIERS	SUPER.	GENERAL	SHT. REF.
202	11203	LUMP	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					LUMP	5/77					LUMP	5/77
202	98000	LUMP	LUMP		REMOVAL, MISC.: PHASE I T-TYPE PIER SUPPORT			LUMP						LUMP			
202	98000	LUMP	LUMP		REMOVAL, MISC.: PHASE I PIER 3 SUPPORT			LUMP						LUMP			
503	11101	LUMP	LUMP		COFFERDAMS, CRIBS AND SHEETING, AS PER PLAN					LUMP	6/77					LUMP	6/77
503	21301	LUMP	LUMP		UNCLASSIFIED EXCAVATION, AS PER PLAN	LUMP	LUMP	LUMP			5/77	LUMP	LUMP	LUMP			5/77
505	11100	LUMP	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION					LUMP						LUMP	
507	00600	10305	10330	FT	14" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN	2080	2025	6200				2300	2120	5910			
507	00650	11495	11490	FT	14" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED	2340	2280	6875				2530	2380	6580			
509	10000	408862	415145	POUND	EPOXY COATED REINFORCING STEEL	30999	12582	66278	299003			30600	17658	67890	298997		
510	10000	300	296	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT			300						296			
511	42000	522	537	CU YD	CLASS C CONCRETE, PIER ABOVE FOOTING			522						537			
511	43500	227	250	CU YD	CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING		227						250				
511	46200	228	237	CU YD	CLASS C CONCRETE	228						237					
511	46501	237	236	CU YD	CLASS C CONCRETE, FOOTING, AS PER PLAN			237			19/77			236			22/77
511	52000	LUMP	LUMP	LUMP	CLASS HP CONCRETE, TEST SLAB				LUMP						LUMP		
512	33000	31	30	SQ YD	TYPE 2 WATERPROOFING	22	9					21	9				
515	14020	36	36	EACH	STRAIGHT STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 2, TYPE 4				36						36		
515	20000	30	30	EACH	INTERMEDIATE DIAPHRAGMS				30						30		
516	13600	25	28	SQ FT	1" PREFORMED EXPANSION JOINT FILLER	20			5			23			5		
516	13900	153	175	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	56	97					77	98				
516	14021	150	150	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN		150				5/77		150				5/77
516	44200	12	12	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), (1'-3½" x 1'-1" x 3½")		12						12				
516	44300	60	60	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), (1'-4" x 1'-1" x 4")			60						60			
518	21200	223	247	CU YD	POROUS BACKFILL WITH FILTER FABRIC	107	116					114	133				
518	40000	361	348	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	169	192					150	198				
518	40010	76	65	FT	6" NON-PERFORATED CORRGATED PLASTIC PIPE, INCLUDING SPECIALS	39	37					30	35				
523	20000	3		EACH	DYNAMIC LOAD TESTING	1	1	1									
526	25000	342	342	SQ YD	REINFORCED CONCRETE APPROACH SLABS (T=15")					342						342	
SPECIAL	53000200	LUMP	LUMP		STRUCTURE, MISC.: ESTABLISH SUBSTRUCTURE CENTERLINES					LUMP						LUMP	
601	20000	458	487	SQ YD	CRUSHED AGGREGATE SLOPE PROTECTION					458						487	
625	25920	471	471	FT	CONDUIT MISC.: 4" MULTICELL RACEWAY					471						471	
625	30707	2	2	EACH	PULL BOX, 725.08, 24", AS PER PLAN					2						2	
											482A/785						482A/785
864	10100	2370	2365	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	293			2077			289			2076		
894	10001	1190	1187	CU YD	HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY, AS PER PLAN	27	75	112	976		6/77	24	75	112	976		6/77



REFERENCE CHORD SCHEMATIC

(SEE "STRUCTURE, MISC.: ESTABLISH SUBSTRUCTURE CENTERLINES" NOTE ON SHEET 6 / 77)

LEGEND:

F.A. - FORWARD ABUTMENT
R.A. - REAR ABUTMENT

P:/PR30489/CADD/MED-71-0031/ME071eql.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DATE 6/03
REVIEWED CAS
DRAWN CRC
DESIGNED TTK
CHECKED JMK/WTL
REVISED
STRUCTURE FILE NUMBER
5202256-LEFT
5202280-RIGHT

ESTIMATED QUANTITIES
BRIDGE NO. MED-71-0031 L/R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-81 DATED (REVISED) 7-19-02
DM-4.1 DATED 7-19-02
PCB-91 DATED (REVISED) 7-19-02
PSID-1-99 DATED (REVISED) 7-18-03
SBR-1-99 DATED (REVISED) 7-19-02
SICD-1-99 DATED (REVISED) 7-19-02

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:
846 DATED 4-19-02
864 DATED 7-11-00
894 DATED 10-18-02
954 DATED 9-9-97
1079 DATED 10-18-02

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF THE STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002 AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING: HS25 AND THE ALTERNATE MILITARY LOADING.
FUTURE WEARING SURFACE (FWS) OF 60 PSF.

DESIGN DATA:

CONCRETE CLASS HP - COMPRESSIVE STRENGTH 4,500 PSI (SUPERSTRUCTURE)

CONCRETE CLASS C - COMPRESSIVE STRENGTH 4,000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996 GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI

CONCRETE FOR PRESTRESSED BEAMS
COMPRESSIVE STRENGTH (FINAL) - 7,000 PSI
COMPRESSIVE STRENGTH (RELEASE) - 5,000 PSI

PRESTRESSING STRAND
AREA - 0.167 In^2
ULTIMATE STRENGTH - 270 ksi
INITIAL STRESS - 202.5 ksi (LOW RELAXATION STRANDS)

DECK PROTECTION METHOD:
EPOXY COATED REINFORCING STEEL
2½" CONCRETE COVER
CLASS HP CONCRETE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT, SPAN AS PER PLAN: THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER.

T-TYPE PIER CAP REMOVAL: FOR REMOVAL OF THE T-TYPE PIER CAPS, THE CONTRACTOR HAS THE OPTION OF USING A FULL DEPTH SAW CUT WITH SUBSEQUENT DOWEL INSTALLATION OR REMOVAL USING PNEUMATIC HAMMERS AND SALVAGING EXISTING RESTEEL. IF PNEUMATIC HAMMERS ARE USED, THE REQUIREMENTS UNDER "SUBSTRUCTURE CONCRETE REMOVAL", BELOW, SHALL BE FOLLOWED.

SUBSTRUCTURE CONCRETE REMOVAL: REMOVE CONCRETE BY MEANS OF APPROVED PNEMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. THE USE OF EXPLOSIVES, HEADACHE BALLS OR HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMERS SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUIT STRUCTURE.

SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISITNG REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISITNG EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISITNG CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

SUPERSTRUCTURE CONCRETE REMOVAL: FULL DEPTH SAWCUT THROUGH THE DECK IS REQUIRED.

PROTECTION OF TRAFFIC: PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, SUBMIT PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR, PEDESTRIAN, BOAT, ETC.) ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE DIRECTOR AT LEAST 30 DAYS BEFORE CONSTRUCTION BEGINS. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. MAINTAIN THE TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE DIRECTOR. ALL COSTS ASSOCIATED WITH THIS TRAFFIC PROTECTION WILL BE INCLUDED WITH ITEM 202 FOR PAYMENT.

ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN: THE BACKFILL MATERIAL BEHIND THE ABUTMENTS SHALL BE TYPE B GRANULAR MATERIAL, 703.16.C, PLACED AND COMPACTED IN 6 INCH LIFTS.

PILE DESIGN LOADS (ULTIMATE BEARING VALUE): THE ULTIMATE BEARING VALUE IS 55 TONS PER PILE FOR THE 14" DIAMETER CAST-IN-PLACE REINFORCED CONCRETE FORWARD AND REAR ABUTMENT PILES (SOUTHBOUND LANES) AND REAR ABUTMENT PILES (NORTHBOUND LANES). THE ULTIMATE BEARING VALUE IS 81 TONS PER PILE FOR THE 14" DIAMETER CAST-IN-PLACE REINFORCED CONCRETE FORWARD ABUTMENT PILES (NORTHBOUND LANES). THE ULTIMATE BEARING VALUE IS 90 TONS PER PILE FOR THE 14" DIAMETER CAST-IN-PLACE REINFORCED CONCRETE PIER PILES. THE ULTIMATE BEARING VALUE IS 81 TONS PER PILE FOR THE 14" DIAMETER CAST-IN-PLACE REINFORCED CONCRETE RETAINING WALL PILES.

REAR ABUTMENT PILES (SOUTHBOUND LANES):
27 PILES 40 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEM

PIERS 1 & 2 PILES (SOUTHBOUND LANES):
55 PILES 45 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEM

PIERS 3, 4 & 5 PILES (SOUTHBOUND LANES):
80 PILES 55 FEET LONG, ORDER LENGTH
NO ADDITIONAL DYNAMIC LOAD TESTING ITEM

FORWARD ABUTMENT PILES (SOUTHBOUND LANES):
24 PILES 50 FEET LONG, ORDER LENGTH
NO ADDITIONAL DYNAMIC LOAD TESTING ITEM

RETAINING WALL PILES (SOUTHBOUND LANES):
52 PILES 45 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEM

REAR ABUTMENT PILES (NORTHBOUND LANES):
22 PILES 40 FEET LONG, ORDER LENGTH
NO ADDITIONAL DYNAMIC LOAD TESTING ITEM

PIERS 1, 2 & 3 PILES (NORTHBOUND LANES):
79 PILES 45 FEET LONG, ORDER LENGTH
NO ADDITIONAL DYNAMIC LOAD TESTING ITEM

PIERS 4 & 5 PILES (NORTHBOUND LANES):
55 PILES 55 FEET LONG, ORDER LENGTH
NO ADDITIONAL DYNAMIC LOAD TESTING ITEM

FORWARD ABUTMENT PILES (NORTHBOUND LANES):
30 PILES 50 FEET LONG, ORDER LENGTH
NO ADDITIONAL DYNAMIC LOAD TESTING ITEM

RETAINING WALL PILES (NORTHBOUND LANES):
46 PILES 55 FEET LONG, ORDER LENGTH
NO ADDITIONAL DYNAMIC LOAD TESTING ITEM

BATTERED PILES: THE BLOW COUNT FOR BATTERED PILES SHALL BE THE BLOW COUNT DETERMINED FOR VERTICAL PILES OF THE SAME ULTIMATE BEARING VALUE DIVIDED BY AN EFFICIENCY FACTOR (D). COMPUTE THE EFFICIENCY FACTOR (D) AS FOLLOWS:

$$D=\frac{1-UG}{\sqrt{(1+G^2)}}$$

U= COEFFICIENT OF FRICTION, WHICH IS ESTIMATED AT 0.05 FOR DOUBLE-ACTING AIR OPERATED OR DIESEL HAMMERS; 0.1 FOR SINGLE-ACTING AIR OPERATED OR DIESEL HAMMERS; AND 0.2 FOR DROP HAMMERS.

G= RATE OF BATTER (1/3, 1/4, ETC.)

EXISTING STRUCTURE VERIFICATION: DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05 AND 105.02.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.

EXISTING STRUCTURE PLANS: PLANS MAY BE EXAMINED BY PROSPECTIVE BIDDERS AT THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 3 OFFICES, 906 NORTH CLARK ST., ASHLAND, OHIO 44805 (PHONE 800-276-4188).

ITEM 516 SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN: INSTALL A 3 FOOT WIDE NEOPRENE SHEET AT LOCATIONS SHOWN IN THE PLANS. SECURE THE NEOPRENE SHEETING TO THE CONCRETE WITH 1¼" x #10 GAGE (LENGTH x SHANK DIAMETER) GALVANIZED BUTTON HEAD SPIKES THROUGH A 1 INCH OUTSIDE DIAMETER, #10 GAGE GALVANIZED WASHER. MAXIMUM FASTENER SPACING IS 9 INCHES. USE OF OTHER SIMILAR GALVANIZED DEVICES, WHICH WILL NOT DAMAGE EITHER THE NEOPRENE OR THE CONCRETE WILL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

CENTER THE NEOPRENE STRIPS ON ALL JOINTS. FOR HORIZONTAL JOINTS, SECURE THE HORIZONTAL NEOPRENE STRIP BY USING A SINGLE LINE OF FASTENERS, STARTING AT 6 INCHES, ±, FROM THE TOP OF THE NEOPRENE STRIP. FOR THE VERTICAL JOINTS SECURE THE VERTICAL NEOPRENE STRIP BY USING A SINGLE VERTICAL LINE OF FASTENERS, STARTING AT 6 INCHES, ±, FROM THE VERTICAL EDGE OF THE NEOPRENE STRIP NEAREST TO THE CENTERLINE OF ROADWAY. FOR VERTICAL JOINTS, INSTALL 2 ADDITIONAL FASTENERS AT 6 INCHES, CENTER TO CENTER, ACROSS THE TOP OF THE NEOPRENE STRIP ON THE SAME SIDE OF THE VERTICAL JOINT AS THE SINGLE VERTICAL ROW OF FASTENERS IS LOCATED.

THE VERTICAL NEOPRENE STRIPS SHALL COMPLETELY OVERLAP THE HORIZONTAL STRIPS. LAP LENGTHS OF THE HORIZONTAL STRIPS THAT ARE NOT VULCANIZED OR ADHESIVE BONDED, SHALL BE AT LEAST 1 FOOT IN LENGTH, OR 6 INCHES IN LENGTH IF THE LAP IS VULCANIZED OR ADHESIVE BONDED. NO LAPS ARE ACCEPTABLE IN VERTICALLY INSTALLED NEOPRENE STRIPS.

THE NEOPRENE SHEETING SHALL BE 3⁄32" THICK GENERAL PURPOSE, HEAVY DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT. THE SHEETING SHALL BE "FAIRPRENE NUMBER NN-0003", BY E.I. DUPONT DE NEMOURS AND COMPANY, INC., "WINGPRENE" BY THE GOODYEAR TIRE AND RUBBER COMPANY, OR AN APPROVED ALTERNATE. THE NEOPRENE SHEETING SHALL CONFORM TO THE FOLLOWING:

DESCRIPTION OF TEST	ASTM METHOD	REQUIREMENT
THICKNESS, INCHES	D751	0.094 ±0.01
BREAKING STRENGTH, GRAB, LBS, MINIMUM (LONG. x TRANS.)	D751	700 x 700
ADHESIVE STRIP, 1" WIDE x 2" LONG, LBS MINIMUM	D751	9
BURST STRENGTH, PSI MINIMUM	D751	1400
HEAT AGING, 70 HR, 212°F, 180° BEND WITHOUT CRACKING	D2136	NO CRACKING OF COATING
LOW TEMP. BRITTLENESS, 1 HR, -40°F, BEND AROUND ¼" MANDREL	D2136	NO CRACKING OF COATING

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE TOTAL LENGTH OF JOINT TO BE SEALED BY THE NUMBER OF FEET.

BASIS OF PAYMENT: THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN.

MECHANICAL CONNECTORS: AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING BARS SHALL BE PROVIDED. INSTALLATION OF CONNECTORS SHALL CONFORM WITH MANUFACTURER'S RECOMMENDED PROCEDURES. IF A DOWEL BAR SPLICE TYPE OF CONNECTOR IS FURNISHED, THE MINIMUM DOWEL LENGTH TO BE FURNISHED WITH THE CONNECTOR SHALL BE THE MINIMUM LAP LENGTH FOR THAT BAR AS SHOWN ON THE PLANS.

CONNECTORS AND DOWEL BARS USED WITH EPOXY COATED BARS SHALL BE EPOXY COATED. COATING FOR BOTH CONNECTORS AND BARS SHALL CONFORM TO THE SAME SPECIFICATIONS. COATINGS WHICH HAVE BEEN DAMAGED OR WHICH OTHERWISE DO NOT MEET SPECIFICATIONS WITH RESPECT TO COLOR, CONTINUITY AND UNIFORMITY MAY BE REPAIRED AS DIRECTED BY THE ENGINEER OR THEY SHALL BE REPLACED WITH MATERIAL THAT MEETS THE SPECIFICATIONS.

CONNECTORS AND DOWEL BARS SHALL CONFORM WITH ITEM 509 AND BE INCLUDED IN THE BID PRICE PER CUBIC YARD FOR THE CONCRETE ITEMS.

SEALING WITH HMWM RESIN: AFTER THE APPLICATION OF THE MEMBRANE CURE, AND THE DECK HAS THOROUGHLY DRIED, VERTICAL CONSTRUCTION JOINTS (TRANSVERSE & LONGITUDINAL) IN THE DECK SLAB, HORIZONTAL JOINTS (AT THE BASE OF PARAPETS) AND CRACKS IN THE ROADWAY SURFACE THAT ARE VISIBLE TO THE UNAIDED EYE, SHALL BE SEALED WITH A HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM) RESIN AS DESCRIBED IN SUPPLEMENTAL SPECIFICATIONS 846 & 954. SEALANT SHALL BE APPLIED BY BRUSH, SPRAY OR OTHER SUITABLE APPLICATOR ALONG THE SURFACE OF JOINTS AND CRACKS. IF NECESSARY, MULTIPLE APPLICATIONS SHALL BE MADE UNTIL COMPLETE PENETRATION HAS BEEN ACHIEVED. AFTER SEALANT HAS BEEN CURED, IT SHALL BE SANDED AS SPECIFIED TO ROUGHEN THE SEALANT SURFACE AND RESTORE ITS SUITABILITY FOR VEHICULAR TRAFFIC. FOR OVERCOATING WITH A CONCRETE SURFACE SEALANT, TREATED SURFACES SHALL BE ROUGHENED BY ABRASIVE BLASTING AND OTHERWISE CLEANED AS SPECIFIED FOR THE SUBSEQUENT APPLICATION. SEALING CONSTRUCTION JOINTS AND CRACKS, AS DESCRIBED ABOVE, SHALL BE INCLUDED WITH THE DECK SLAB CONCRETE FOR PAYMENT.

PHASE CONSTRUCTION AND MAINTENANCE OF TRAFFIC: THE PROPOSED WORK (INCLUDING THE APPROACH SLABS) SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:

1. PLACE PORTABLE CONCRETE BARRIERS ON NORTHBOUND & SOUTHBOUND LANES AND DIVERT TRAFFIC TO OUTER LANES.
2. INSTALL PHASE 1 PIER 3 SUPPORTS AT PIER 3 AND T-TYPE PIER SUPPORTS AT ALL OTHER PIERS.
3. REMOVE PORTIONS OF THE EXISTING STRUCTURES AS SHOWN ON THESE PLANS OR IN ABSENCE OF PLAN DETAILS OR NOTES, AS NEEDED TO PERMIT PHASE 1 CONSTRUCTION.
4. CONSTRUCT SUBSTRUCTURE FOR PHASE 1 INCLUDING C.I.P. RETAINING WALLS (PHASE 1 ONLY).
5. COMPLETE PHASE 1 CONSTRUCTION.
6. PLACE PORTABLE CONCRETE BARRIERS ON PHASE1 CONSTRUTION AND DIVERT BOTH NORTHBOUND AND SOUTHBOUND TRAFFIC TO PHASE 2 TRAFFIC LANES.
7. REPEAT STEPS 3-5 FOR PHASE 2 REMOVALS AND CONSTRUCTION.
8. COMPLETE REMAINING WORK ITEMS, INCLUDING PHASE 3 CONSTRUCTION.
9. REMOVE PORTABLE CONCRETE BARRIERS AND OPEN STRUCTURE TO TRAFFIC.

P:/PR30489/CADD/MED-71-0031/MED71gnl.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED TTK
DRAWN CRC
REVIEWED CAS
DATE 6/03
CHECKED WTL
REVISED
STRUCTURE FILE NUMBER
5202256-LEFT
5202280-RIGHT

GENERAL NOTES 1
BRIDGE NO. MED-71-0031 L/R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

ITEM 530, SPECIAL - STRUCTURE, MISC.: ESTABLISH SUBSTRUCTURE CENTERLINES:
PRIOR TO THE START OF ANY WORK, THE CONTRACTOR SHALL ESTABLISH THE PROPOSED ABUTMENT CENTERLINE OF BEARINGS AND PIER CENTERLINES. A REGISTERED PROFESSIONAL SURVEYOR SHALL PERFORM THIS WORK. CENTERLINE OF BEARINGS AT THE ABUTMENTS SHALL BE BASED ON LOCATING THE CENTERLINE OF EXISTING BRIDGE SEAT (1'-0" FROM FRONT FACE OF BREASTWALL) AND OFFSETTING THIS LINE BY 9" TOWARDS THE APPROACH SLAB. THIS OFFSET LINE SHALL BECOME THE PROPOSED CENTERLINE BEARINGS OF EACH ABUTMENT.

CENTERLINE OF PIERS SHALL BE BASED ON LOCATING THE CENTERLINE OF THE EXISTING PIER CAPS. THIS LINE SHALL BECOME THE PROPOSED CENTERLINE OF EACH PIER.

IF THE ANGLE BETWEEN THE INTERSECTION OF CENTERLINE OF BEARINGS AT THE ABUTMENTS OR CENTERLINE OF PIERS AT THE PIERS AND THE REFERENCE CHORD OR THE DIMENSIONS BETWEEN THE CENTERLINES ALONG THE REFERENCE CHORD DIFFER FROM INFORMATION SHOWN ON THE PLANS, BEAM LENGTH ADJUSTMENT MAY BE REQUIRED TO COMPENSATE FOR THIS DIFFERENCE.

SURVEY RESULTS (INCLUDING PROPOSED SPAN LENGTHS MEASURED ALONG THE REFERENCE CHORD) SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO THE START OF CONSTRUCTION. ALL COSTS ASSOCIATED WITH PERFORMING THIS ITEM SHALL BE INCLUDED IN THE LUMP SUM PAY ITEM "SPECIAL-STRUCTURE, MISC.: ESTABLISH SUBSTRUCTURE CENTERLINES."

ITEM 503 - COFFERDAMS, CRIBS, AND SHEETING, AS PER PLAN:
AT THE OPTION OF THE CONTRACTOR, AN ALTERNATE METHOD OF TEMPORARY SHORING FOR PART-WIDTH CONSTRUCTION MAY BE USED. PLANS FOR SUCH SHORING SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER AND CONFORM WITH 501.05. FOR APPROVAL, FIVE COPIES OF THE DRAWINGS SHALL BE SUBMITTED TO THE DIRECTOR AND CONCURRENTLY, ONE COPY TO THE OFFICE OF STRUCTURAL ENGINEERING. CONSTRUCTION OF THE SHORING SHALL NOT BEGIN UNTIL AFTER WRITTEN APPROVAL HAS BEEN RECEIVED FROM THE DIRECTOR. PORTIONS OF THE TEMPORARY SHORING COMPOSED OF STEEL OR CONCRETE MAY BE LEFT IN PLACE AT THE DISCRETION OF THE ENGINEER. PORTIONS COMPOSED OF OTHER MATERIALS SHALL BE REMOVED PRIOR TO COMPLETION OF THE WORK.

ITEM 894 HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY, AS PER PLAN:

GENERAL REQUIREMENTS:
THE PROVISIONS OF ITEM 894 SHALL APPLY EXCEPT AS NOTED BELOW.

MIX OPTIONS:
ALL SUPERSTRUCTURE CONCRETE SHALL BE THIS MIX (HP4, AS PER PLAN). ALL OTHER STRUCTURE CONCRETE SHALL BE THIS MIX OR MIX 2 CONCRETE.

THE FOLLOWING PROPORTIONS WILL BE USED AS A STARTING MIX DESIGN.

CONCRETE TABLE
QUANTITIES PER CUBIC YARD
AGGREGATES (SSD)

HP4, AS PER PLAN (GGBF SLAG + MICROSILICA)

AGGREGATE TYPE	FINE AGGRE. (LB)	**8 COARSE AGGRE. (LB)	**57 COARSE AGGRE. (LB)	TOTAL (LB)	CEMENT CONTENT (LB)	GGBF SLAG (LB)	MICRO-SILICA (LB)	WATER TO CEMENTITIOUS RATIO ± .02	AIR CONTENT ± 2%
GRAVEL	1245	360	1315	2920	400	170	30	0.42	7
LIMESTONE	1245	360	1335	2940	400	170	30	0.42	7
SLAG	1245	315	1155	2715	400	170	30	0.42	7

* ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED PER ASTM C127. THE WEIGHTS SPECIFIED IN THE CONCRETE TABLE FOR MATERIALS OF THE FOLLOWING BULK SPECIFIED GRAVITIES (SSD): NATURAL SAND AND GRAVEL 2.62, LIMESTONE SAND 2.68, LIMESTONE 2.65, SLAG 2.30, FLY ASH 2.65, GGBF SLAG 2.90, MICROSILICA SOLIDS 2.20, AND PORTLAND CEMENT 3.15. FOR AGGREGATES OF SPECIFIC GRAVITIES DIFFERING MORE THAN PLUS OR MINUS 0.02 FROM THESE, THE WEIGHTS IN THE TABLE WILL BE CORRECTED.

PARAPET CONSTRUCTION (FORMED AND POURED):

FORMS SHALL NOT BE REMOVED UNTIL AT LEAST 2 HOURS AFTER THE FINAL SET. DETERMINATION OF THE FINAL SET SHALL BE AS PER ASTM C266 (GILLMORE NEEDLE). TESTING SHALL BE PREFORMED BY THE CONTRACTOR AT NO COST TO THE STATE.

THE MINIMUM CONCRETE SLUMP DURING PLACEMENT OF FORMED CONCRETE PARAPETS SHALL BE 6 INCHES, WITH A MAXIMUM SLUMP OF 8 INCHES.

ANCHOR BOLTS FOR FENCE POSTS SHALL BE CAST IN PLACE.

PARAPET CONSTRUCTION (SLIP FORMED):

SLIP FORMING SHALL NOT BE PERFORMED DIRECTLY OVER AREAS WHERE THERE IS OR WILL BE VEHICULAR OR PEDESTRIAN TRAFFIC (WHICH INCLUDES RAILROADS AND WATER CRAFTS). AT THESE LOCATIONS, THE PARAPETS SHALL BE FORMED AND POURED.

THE CONTRACTOR IS ONLY ALLOWED THE OPTION OF SLIP FORMING BRIDGE PARAPETS OVER NON TRAVELED WAYS, AND ONLY AFTER THE SUCCESSFUL COMPLETION OF A TEST SECTION TWENTY FEET LONG. A MINIMUM OF 3 DAYS AFTER PLACING THE TEST SECTION, THE CONTRACTOR SHALL CORE THE TEST SECTION (A MINIMUM OF 3 CORES) AT LOCATIONS AS DIRECTED BY THE ENGINEER. APPROVAL TO SLIP FORM SHALL NOT BE GRANTED UNTIL AFTER THE CORING AND AFTER A SUCCESSFUL SLIP FORMING RESULT IS OBTAINED.

IN ADDITION TO THE REQUIREMENTS OF THE LAST PARAGRAPH OF 511.11 THE ENGINEER WILL INSPECT THE SLIP FORMED SURFACE FOR HORIZONTAL CRACKING 6 MONTHS AFTER COMPLETION OF THE SLIP FORMING OPERATION. ANY ADDITIONAL CRACKS FOUND SHALL BE REPAIRED AS PER THE SPECIFICATIONS AT NO ADDITIONAL COST TO THE STATE.

ALL ANCHOR BOLTS FOR FENCE POSTS SHALL BE CAST IN PLACE.

THE MINIMUM CONCRETE SLUMP DURING PLACEMENT OF SLIP FORMED CONCRETE PARAPETS SHALL BE 1 INCH WITH A MAXIMUM SLUMP OF 1½ INCHES.

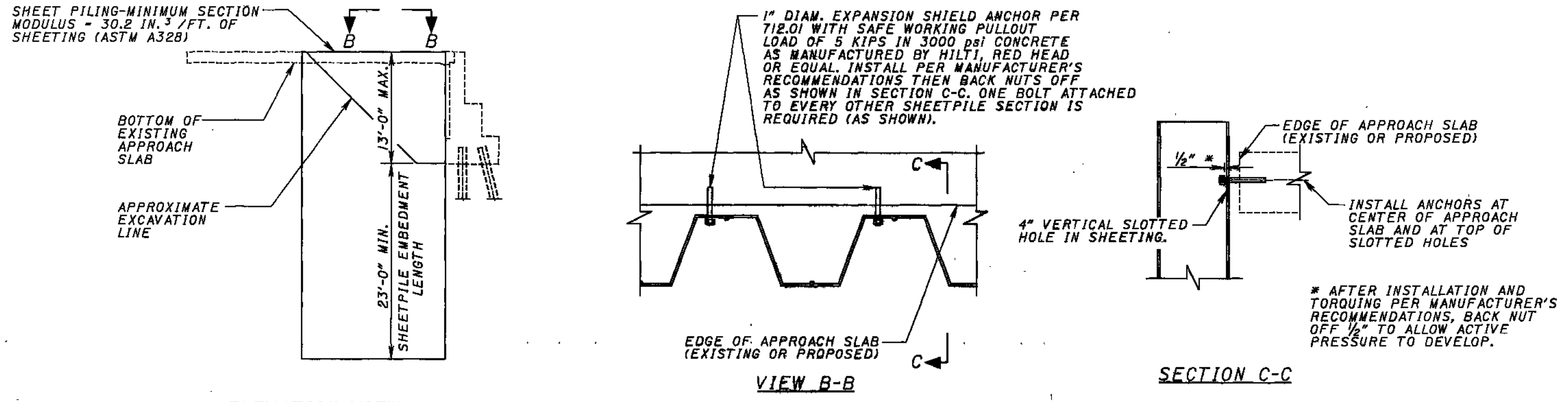
THE WATER CEMENT RATIO FOR SLIP FORMED PARAPETS SHALL NOT BE LESS THAN THE WATER CEMENT RATIO USED FOR THE DECK CONCRETE. REDUCE SLUMP BY LIMITING THE USE OF SUPERPLASTICIZERS.

CRACK CONTROL JOINTS:

FOR BOTH SLIP FORMED AND FORMED AND POURED PARAPETS, THE CONTRACTOR SHALL CONSTRUCT 1½" DEEP AND ¼" WIDE CRACK CONTROL JOINTS SPACED AT A MINIMUM OF 6 FT AND A MAXIMUM OF 8 FT ON CENTER. THE CRACK CONTROL JOINTS SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE PARAPET, STARTING AND ENDING AT THE ELEVATION OF THE TOP OF THE CONCRETE DECK. THE CONTRACTOR MAY EITHER FORM THE CRACK CONTROL JOINTS IN WITH FORM LINERS, OR, WITHIN 24 HOURS OF PLACEMENT, SAW CUT THE CRACK CONTROL JOINTS IN WITH THE USE OF AN EDGE GUIDE, FENCE, OR JIG WHICH IS REQUIRED TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET. THE ENTIRE LENGTH OF EACH CONTROL JOINT SHALL BE SEALED TO A MINIMUM DEPTH OF 1½" WITH A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION, TT-S-00227E.

BASIS OF PAYMENT:
PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT BID PRICE FOR:

ITEM	UNITS	DESCRIPTION
511E52000	LUMP SUM	CLASS HP CONCRETE, TEST SLAB
894E10001	CUBIC YARD	HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY, AS PER PLAN


SHEET PILING-MINIMUM SECTION MODULUS = 30.2 IN.³ /FT. OF SHEETING (ASTM A328)
B
B
BOTTOM OF EXISTING APPROACH SLAB
APPROXIMATE EXCAVATION LINE
13'-0" MAX.
23'-0" MIN.
SHEETPILE EMBEDMENT LENGTH
1" DIAM. EXPANSION SHIELD ANCHOR PER 712.01 WITH SAFE WORKING PULLOUT LOAD OF 5 KIPS IN 3000 psi CONCRETE AS MANUFACTURED BY HILTI, RED HEAD OR EQUAL. INSTALL PER MANUFACTURER'S RECOMMENDATIONS THEN BACK NUTS OFF AS SHOWN IN SECTION C-C. ONE BOLT ATTACHED TO EVERY OTHER SHEETPILE SECTION IS REQUIRED (AS SHOWN).
C
C
EDGE OF APPROACH SLAB (EXISTING OR PROPOSED)
EDGE OF APPROACH SLAB (EXISTING OR PROPOSED)
½" *
4" VERTICAL SLOTTED HOLE IN SHEETING.
INSTALL ANCHORS AT CENTER OF APPROACH SLAB AND AT TOP OF SLOTTED HOLES
* AFTER INSTALLATION AND TORQUING PER MANUFACTURER'S RECOMMENDATIONS, BACK NUT OFF ½" TO ALLOW ACTIVE PRESSURE TO DEVELOP.

ELEVATION VIEW

VIEW B-B

SECTION C-C

SHORING DETAILS

(TO BE PAID FOR WITH ITEM 503 - COFFERDAMS, CRIBS, AND SHEETING, AS PER PLAN)

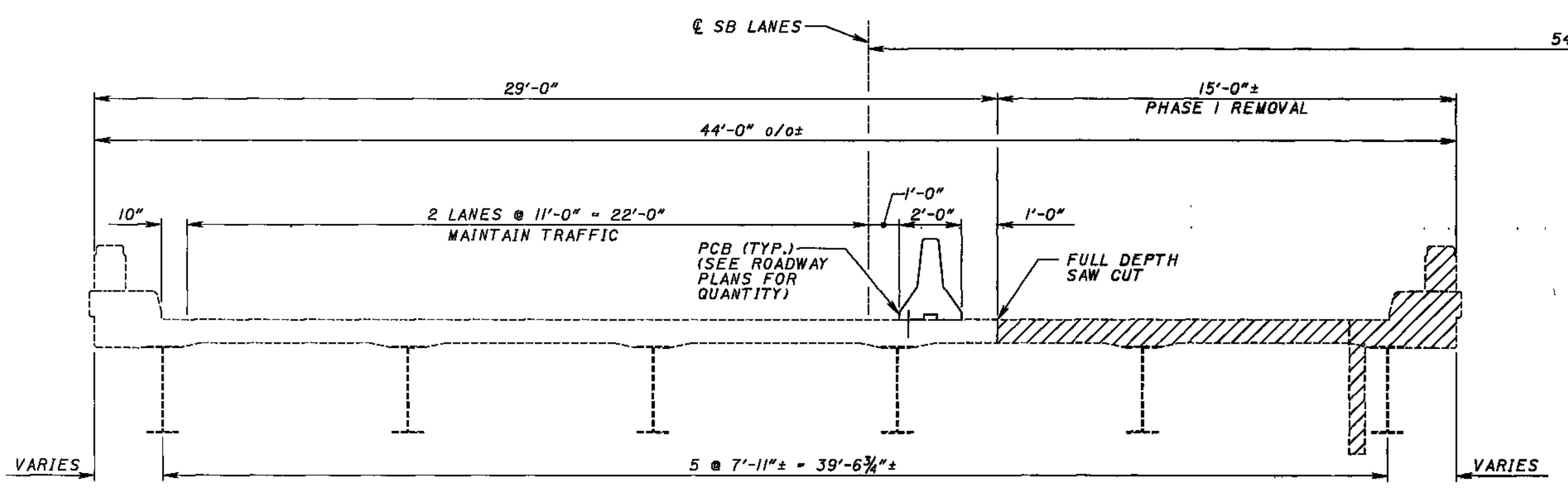
BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK/VEA	CRC	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202256-LEFT 5202280-RIGHT	

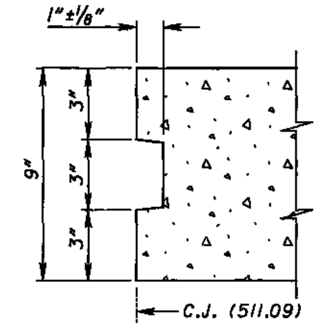
GENERAL NOTES 2
BRIDGE NO. MED-71-0031 L/R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

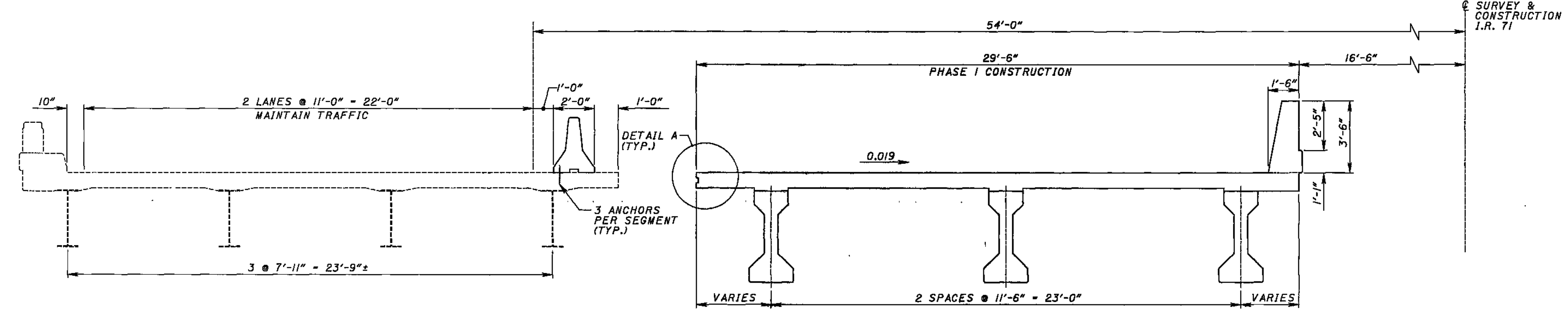
P:/PR30489/CADD/MED-71-0031/ME071gn2.DGN



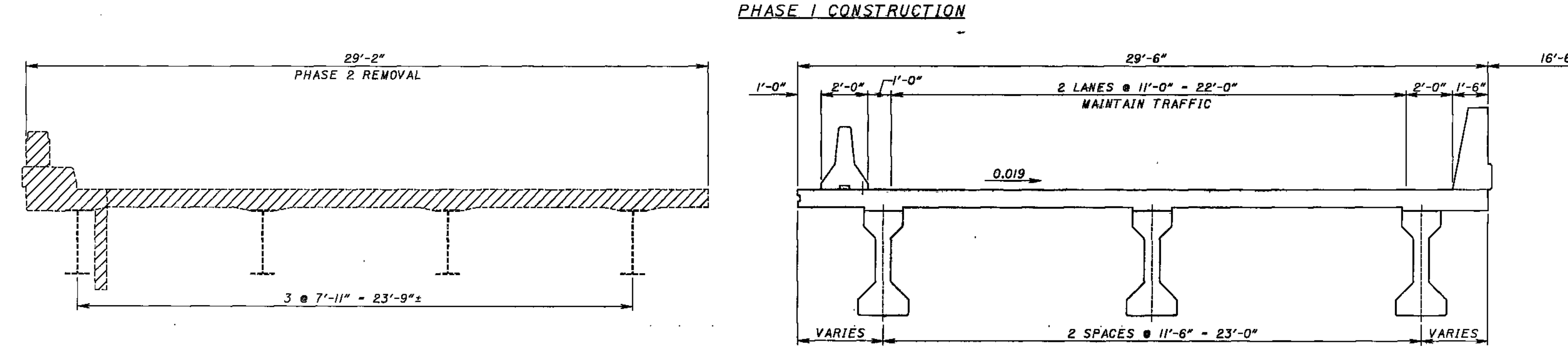
PHASE 1 REMOVAL



DETAIL A



PHASE 1 CONSTRUCTION



PHASE 2 REMOVAL

LEGEND:

▨ - REMOVALS

PCB - PORTABLE CONCRETE BARRIER

C.J. - CONSTRUCTION JOINT

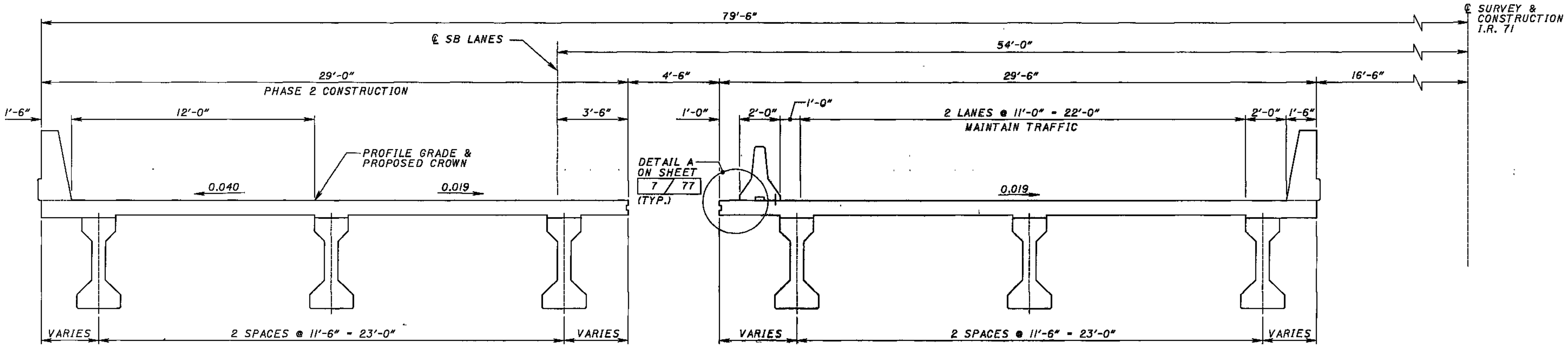
P:/PR30489/CADD/MED-71-0031/ME07lpc1.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
MPB	AAA	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202256-LEFT 5202280-RIGHT	

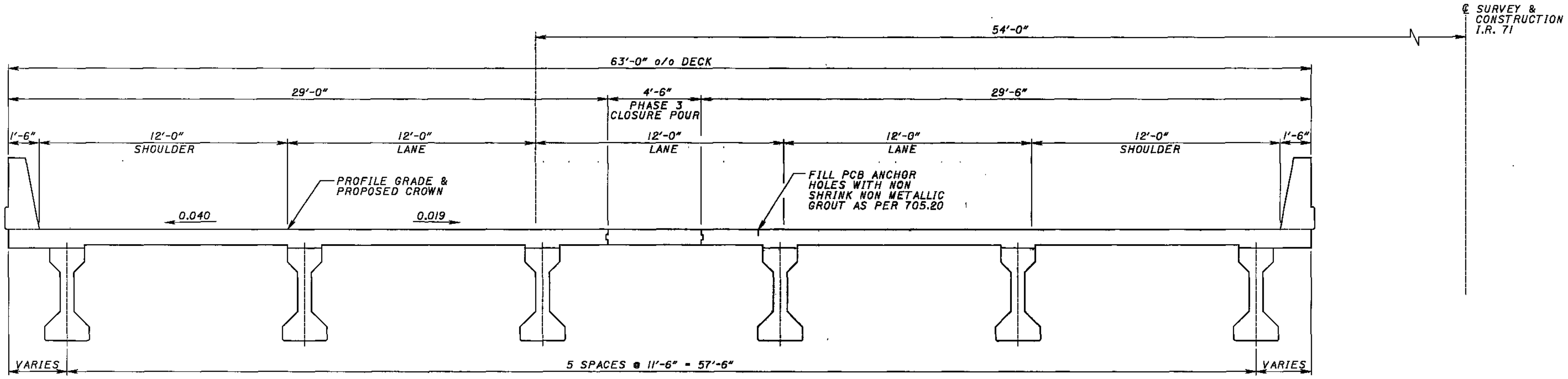
PHASE CONSTRUCTION DETAILS I - SOUTHBOUND
BRIDGE NO. MED-71-0031 L
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00



79'-6"
℄ SURVEY & CONSTRUCTION I.R. 71
℄ SB LANES
54'-0"
29'-0"
PHASE 2 CONSTRUCTION
4'-6"
29'-6"
16'-6"
1'-6"
12'-0"
3'-6"
1'-0"
2'-0"
1'-0"
2 LANES @ 11'-0" = 22'-0"
MAINTAIN TRAFFIC
2'-0"
1'-6"
PROFILE GRADE & PROPOSED CROWN
DETAIL A ON SHEET 7 / 77 (TYP.)
0.040
0.019
0.019
VARIES
2 SPACES @ 11'-6" = 23'-0"
VARIES
VARIES
2 SPACES @ 11'-6" = 23'-0"
VARIES

PHASE 2 CONSTRUCTION



℄ SURVEY & CONSTRUCTION I.R. 71
54'-0"
63'-0" o/o DECK
29'-0"
4'-6"
PHASE 3 CLOSURE POUR
29'-6"
1'-6"
12'-0"
SHOULDER
12'-0"
LANE
12'-0"
LANE
12'-0"
LANE
12'-0"
SHOULDER
1'-6"
PROFILE GRADE & PROPOSED CROWN
FILL PCB ANCHOR HOLES WITH NON SHRINK NON METALLIC GROUT AS PER 705.20
0.040
0.019
VARIES
5 SPACES @ 11'-6" = 57'-6"
VARIES

CLOSURE POUR CONSTRUCTION

STAGE CONSTRUCTION NOTES:

ANCHOR TEMPORARY BARRIERS TO EXISTING AND PROPOSED BRIDGE DECKS. THREE ANCHORS PER BARRIER SEGMENT ARE REQUIRED. THE ANCHOR BOLT PATTERN SHALL BE SYMMETRICAL ABOUT THE CENTER OF EACH SEGMENT. SEE STANDARD DRAWING PCB-91 FOR ADDITIONAL DETAILS.

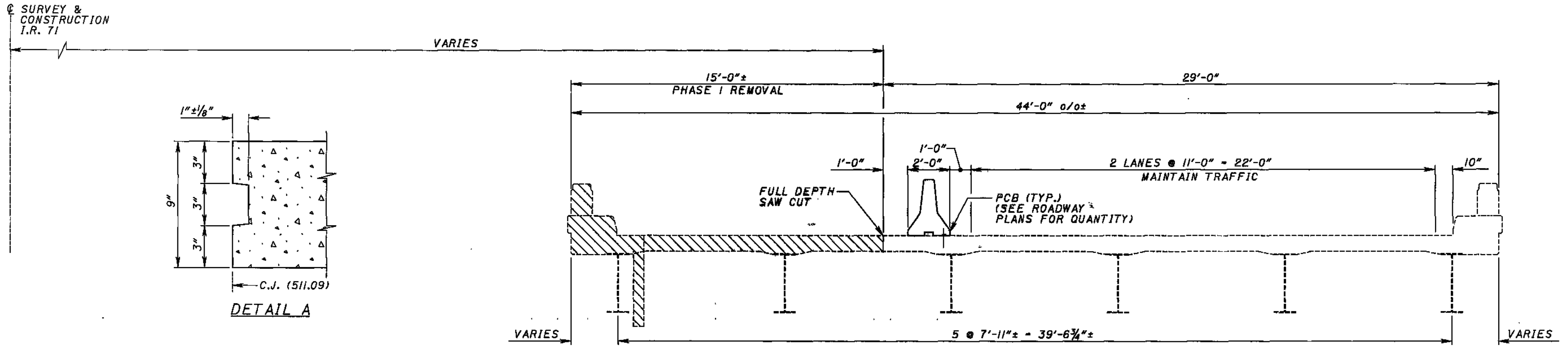
P:/PR30489/CADD/MED-71-0031/ME071pc2.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
MPB	AAA	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202256-LEFT 5202280-RIGHT	

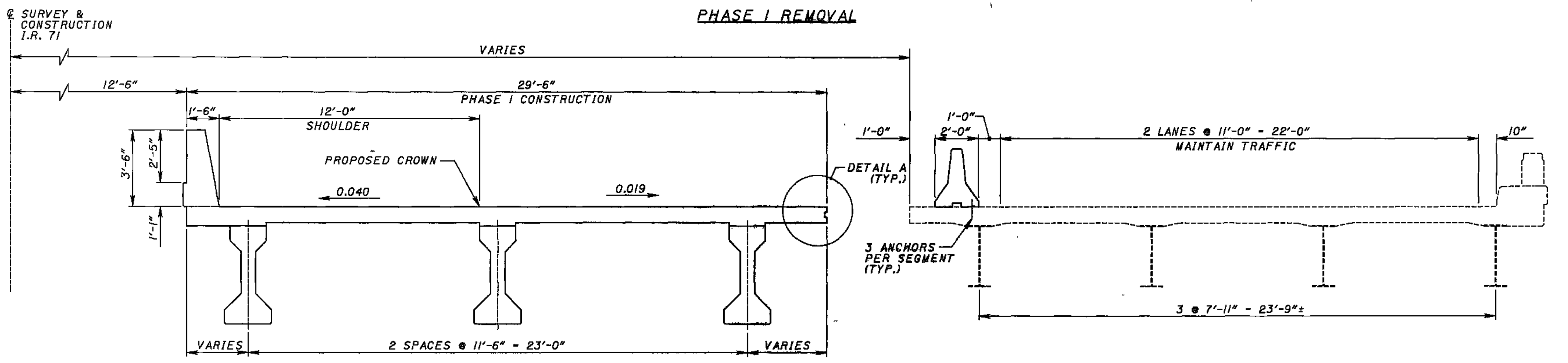
PHASE CONSTRUCTION DETAILS 2 - SOUTHBOUND
BRIDGE NO. MED-71-0031 L
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

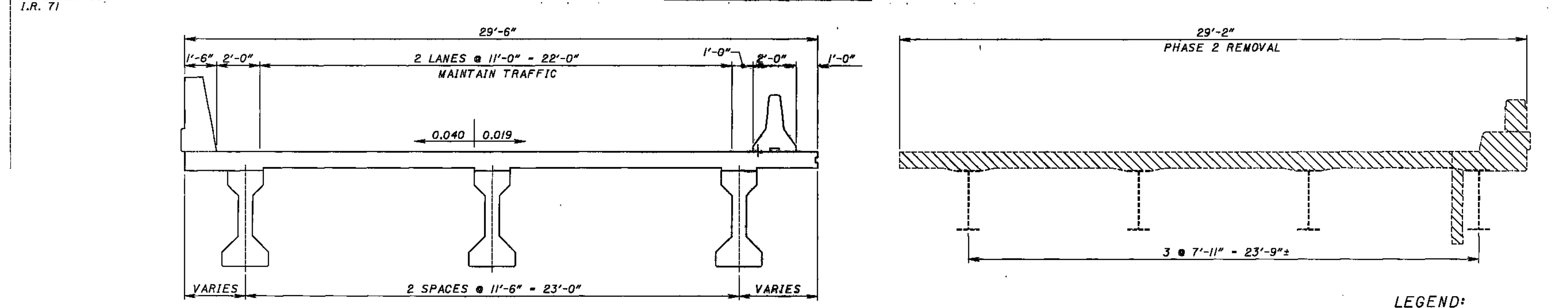


DETAIL A

PHASE 1 REMOVAL



PHASE 1 CONSTRUCTION



PHASE 2 REMOVAL

LEGEND:

▨ = REMOVALS

PCB = PORTABLE CONCRETE BARRIER

C.J. = CONSTRUCTION JOINT

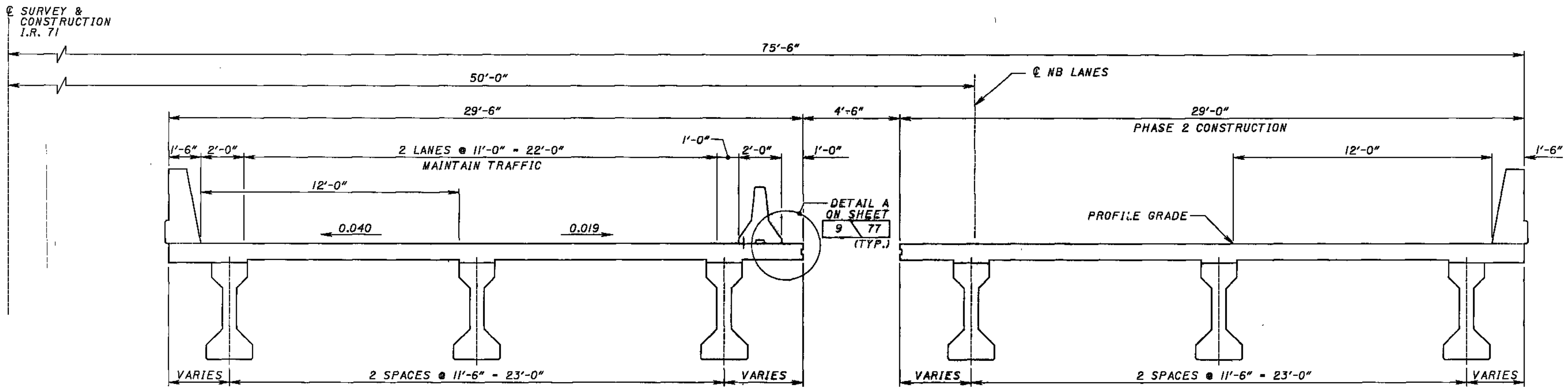
P:/PR30489/CADD/MED-71-0031/ME071pc3.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

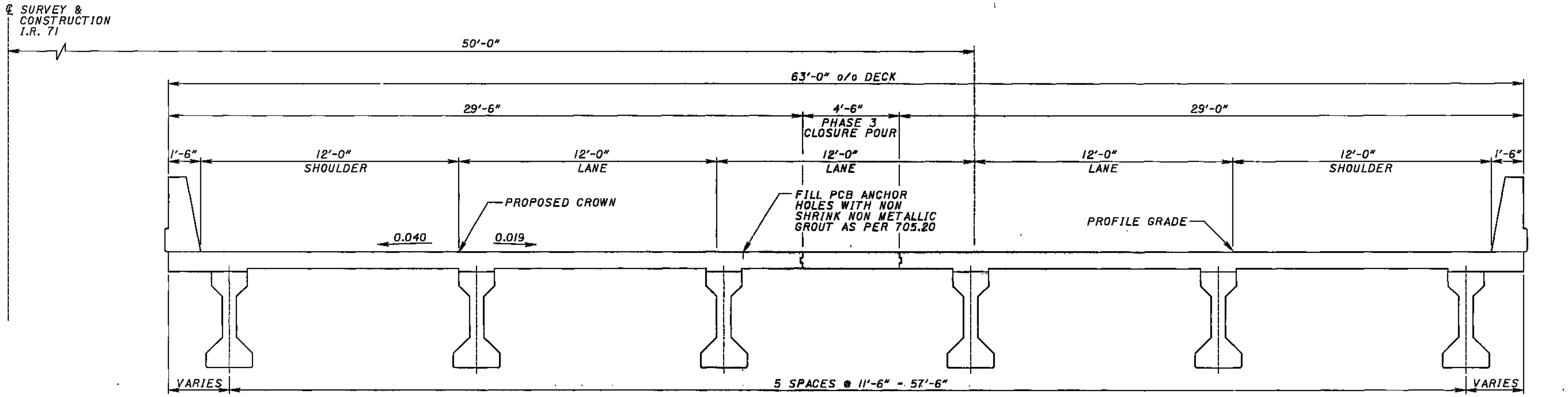
DESIGNED	DRAWN	REVIEWED	DATE
MPB	AAA	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202256-LEFT 5202280-RIGHT	

PHASE CONSTRUCTION DETAILS I - NORTHBOUND
BRIDGE NO. MED-71-0031 R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00



PHASE 2 CONSTRUCTION



CLOSURE POUR CONSTRUCTION

STAGE CONSTRUCTION NOTES:

ANCHOR TEMPORARY BARRIERS TO EXISTING AND PROPOSED BRIDGE DECKS. THREE ANCHORS PER BARRIER SEGMENT ARE REQUIRED. THE ANCHOR BOLT PATTERN SHALL BE SYMMETRICAL ABOUT THE CENTER OF EACH SEGMENT. SEE STANDARD DRAWING PCB-91 FOR ADDITIONAL DETAILS.

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED MPB
CHECKED WTL
DRAWN AAA
REVISED
REVIEWED CAS
DATE 6/03
STRUCTURE FILE NUMBER
5202256-LEFT
5202280-RIGHT

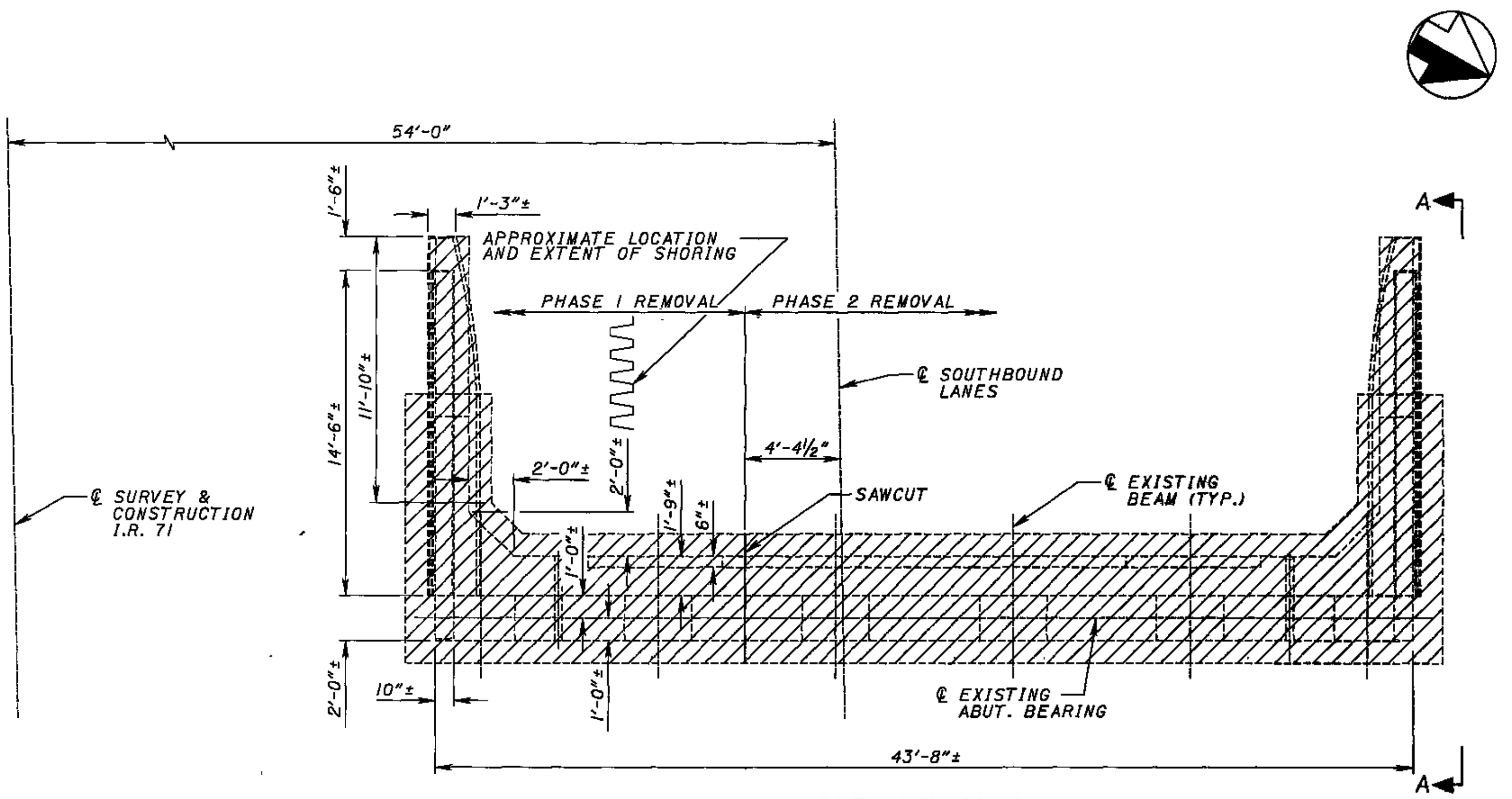
PHASE CONSTRUCTION DETAILS 2 - NORTHBOUND
BRIDGE NO. MED-71-0031 R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

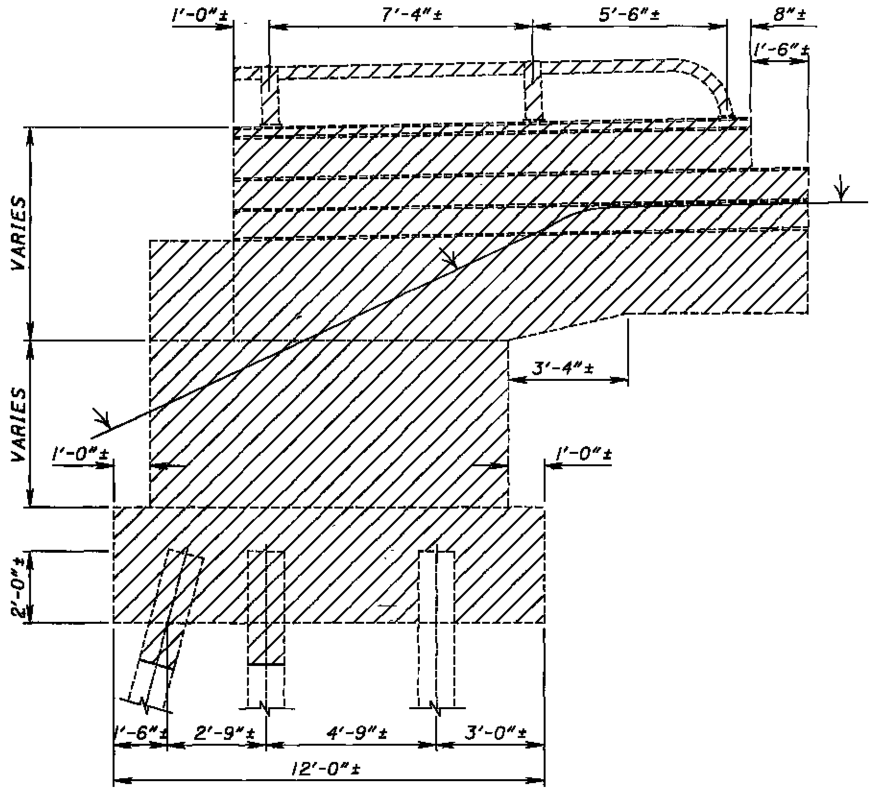
10/77

492/785

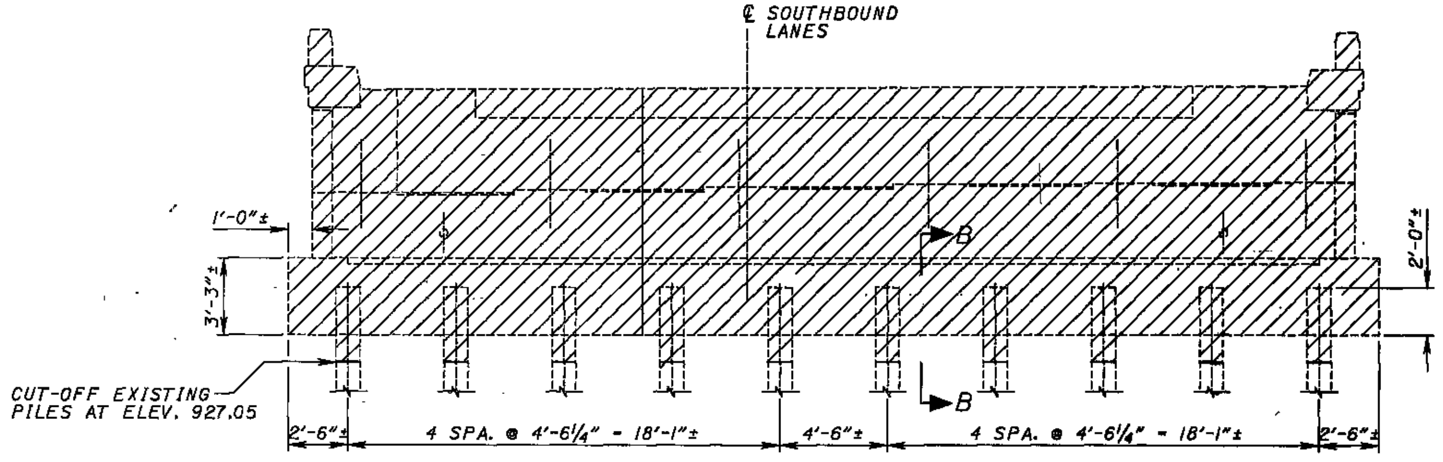
P:/PR30489/CADD/MED-71-0031/ME071pc4.DGN



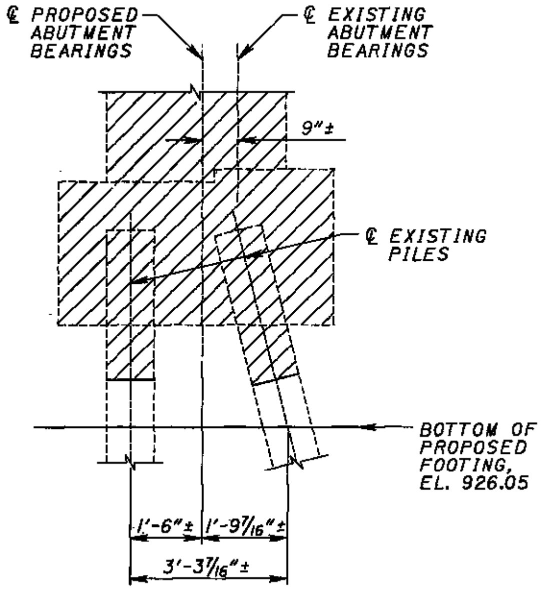
ABUTMENT PLAN



VIEW A-A


℄ SOUTHBOUND LANES
1'-0"±
2'-0"±
3'-3"±
B
B
CUT-OFF EXISTING PILES AT ELEV. 927.05
2'-6"±
4 SPA. @ 4'-6¼" = 18'-1"±
4'-6"±
4 SPA. @ 4'-6¼" = 18'-1"±
2'-6"±

ABUTMENT ELEVATION


℄ PROPOSED ABUTMENT BEARINGS
℄ EXISTING ABUTMENT BEARINGS
9"±
℄ EXISTING PILES
BOTTOM OF PROPOSED FOOTING, EL. 926.05
1'-6"±
1'-9⁷⁄₁₆"±
3'-3⁷⁄₁₆"±

SECTION B-B

LEGEND:

▨ - REMOVALS

P:/PR30489/CADD/MED-71-0031/ME071pc5.DGN

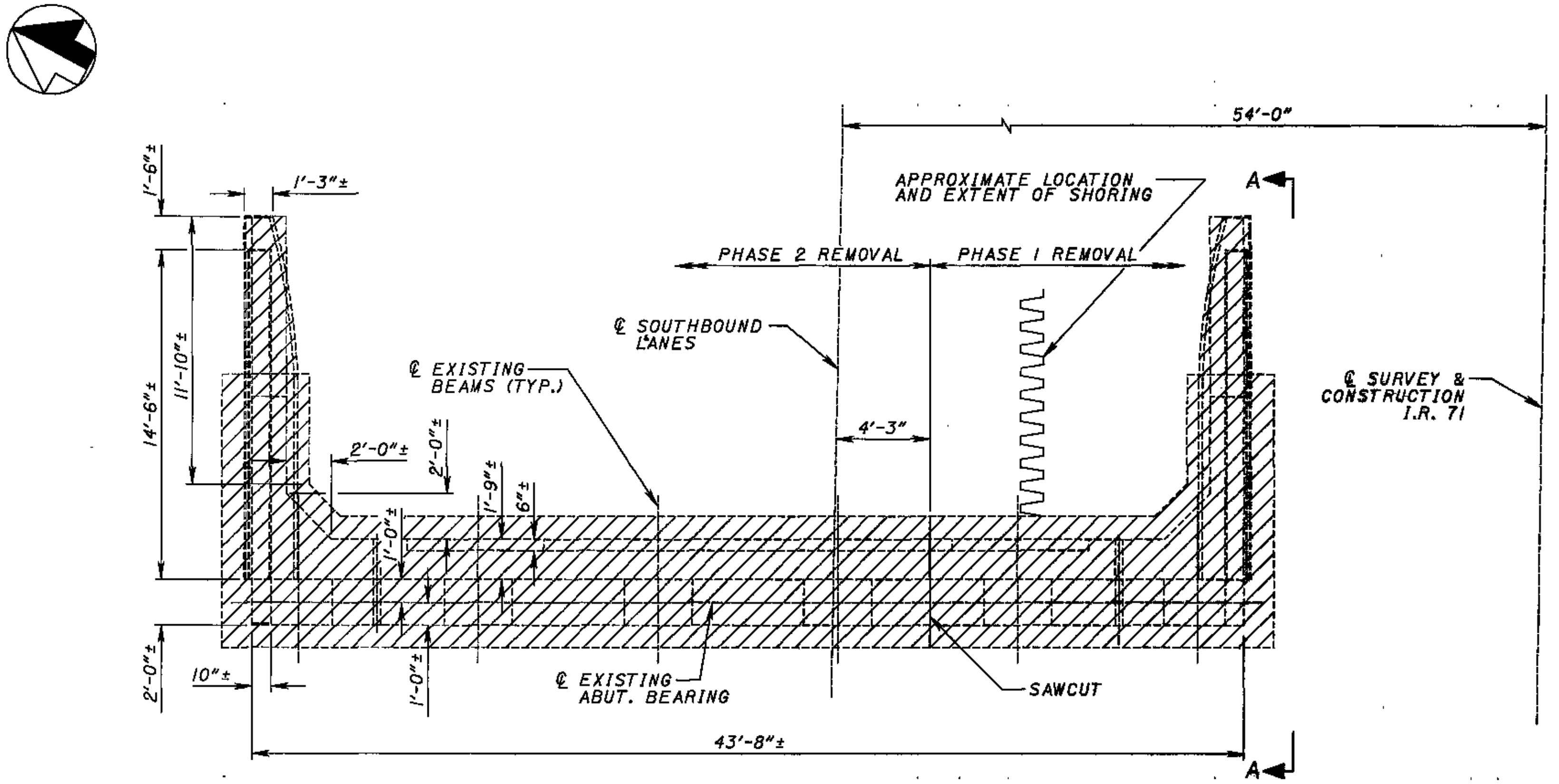
BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE
TTK	WTL	AAA		CAS	6/03

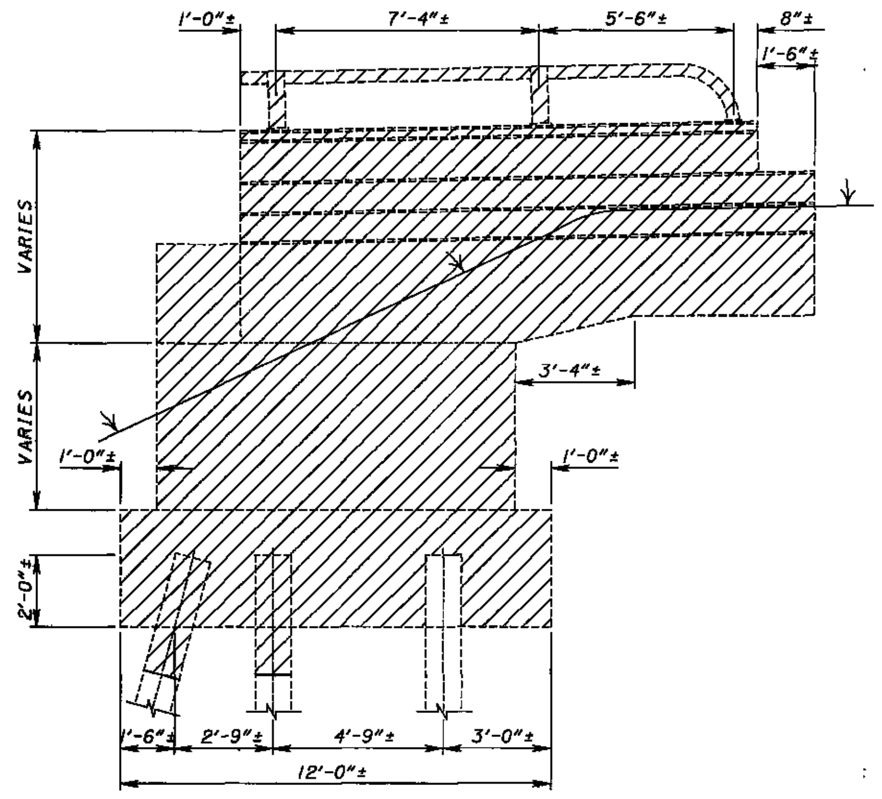
STRUCTURE FILE NUMBER
5202256-LEFT
5202280-RIGHT

REAR ABUTMENT REMOVAL DETAILS - SOUTHBOUND
BRIDGE NO. MED-71-0031 L
OVER ABANDONED RAILROAD

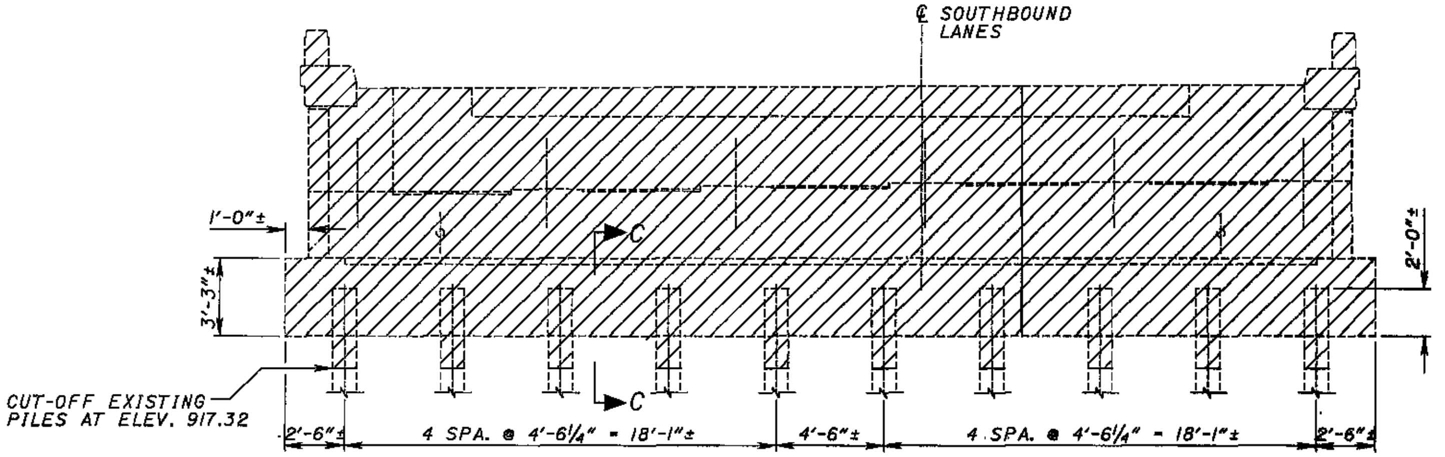
WAY/MED-71-7.04/0.00



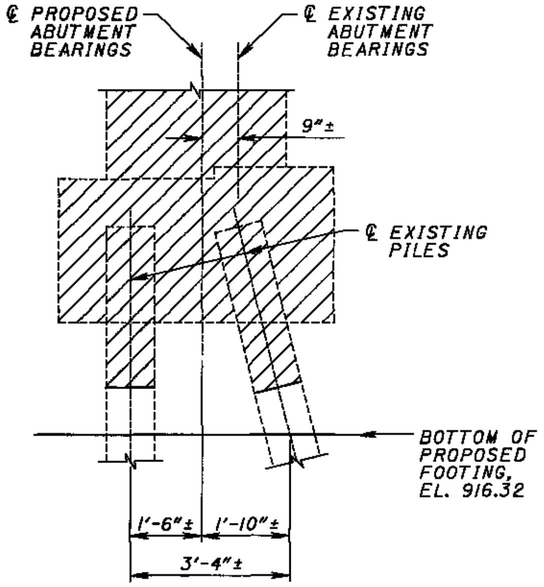
ABUTMENT PLAN



VIEW A-A


℄ SOUTHBOUND LANES
1'-0"±
C
3'-3"±
2'-0"±
CUT-OFF EXISTING PILES AT ELEV. 917.32
C
2'-6"±
4 SPA. @ 4'-6¼" = 18'-1"±
4'-6"±
4 SPA. @ 4'-6¼" = 18'-1"±
2'-6"±

ABUTMENT ELEVATION


℄ PROPOSED ABUTMENT BEARINGS
℄ EXISTING ABUTMENT BEARINGS
9"±
℄ EXISTING PILES
BOTTOM OF PROPOSED FOOTING, EL. 916.32
1'-6"±
1'-10"±
3'-4"±

SECTION C-C

LEGEND:

▨ - REMOVALS

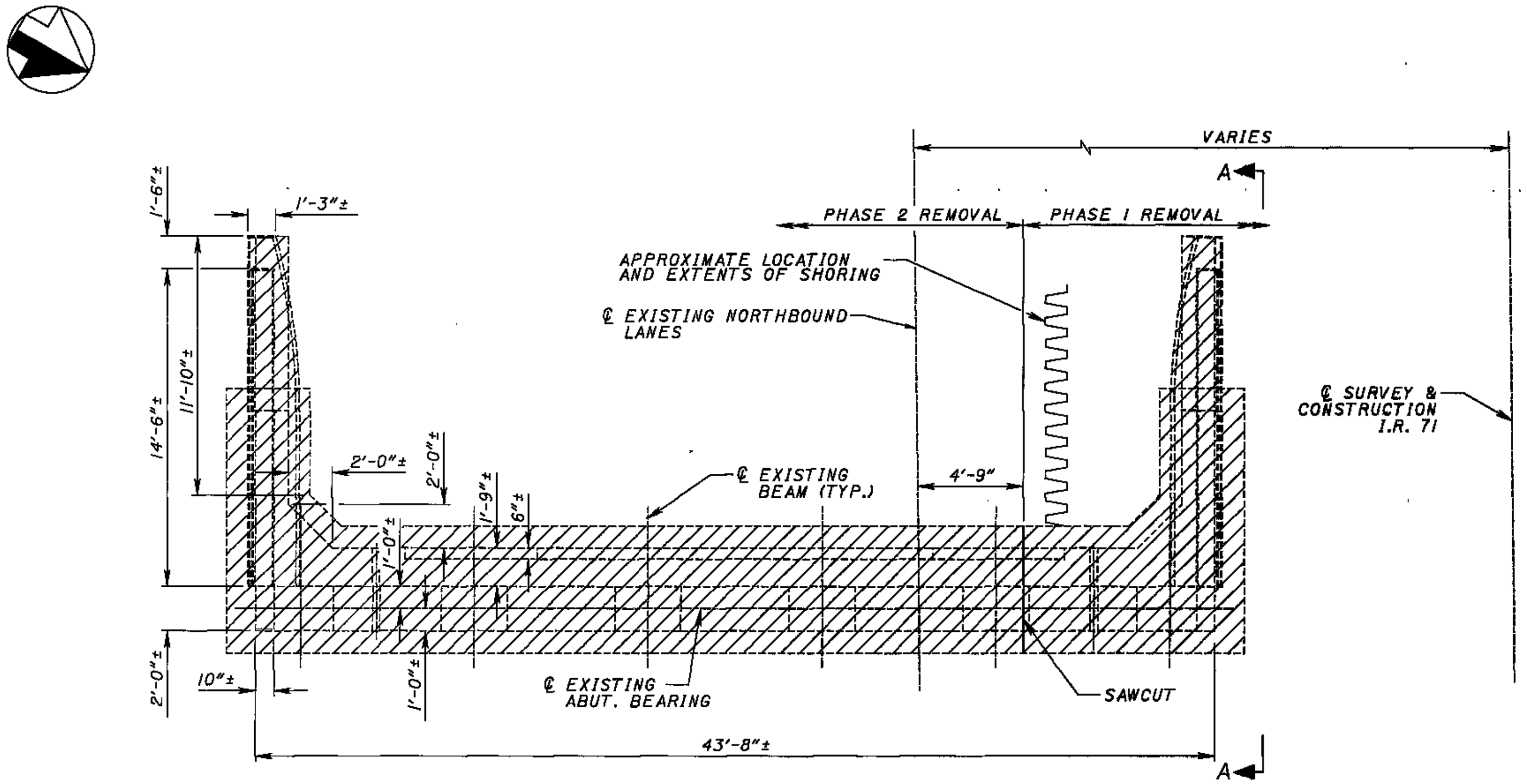
5085 Reed Road
Columbus, Ohio 43220
BURGESS & NIPLE

DESIGNED TTK
DRAWN AAA
REVIEWED CAS
DATE 6/03
CHECKED WTL
REVISED
STRUCTURE FILE NUMBER 5202256-LEFT 5202280-RIGHT

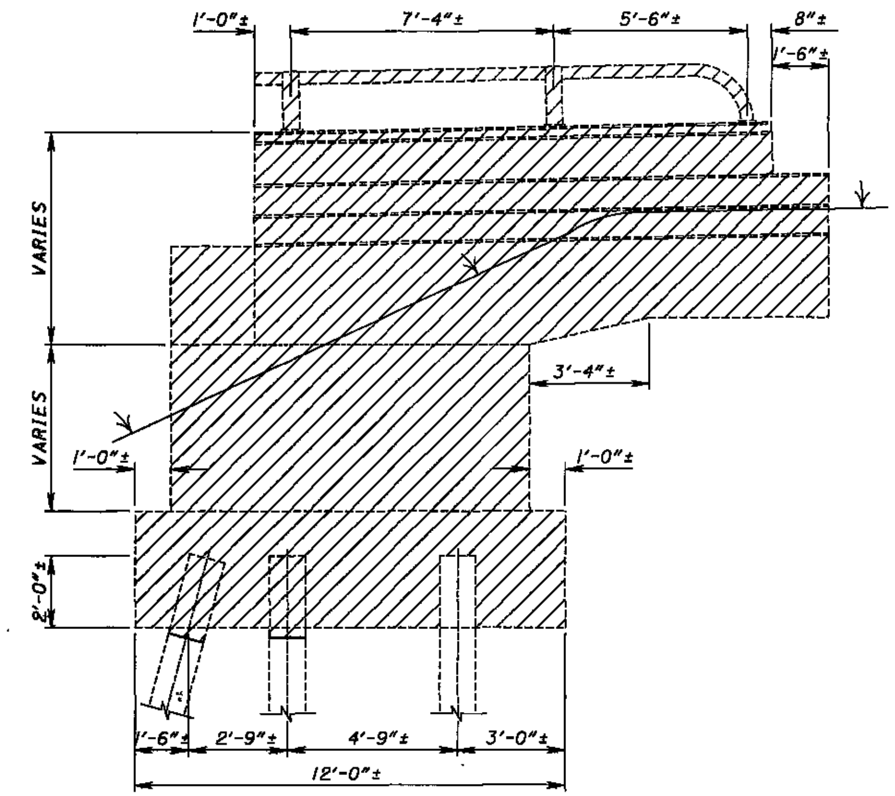
FORWARD ABUTMENT REMOVAL DETAILS - SOUTHBOUND
BRIDGE NO. MED-71-0031 L
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

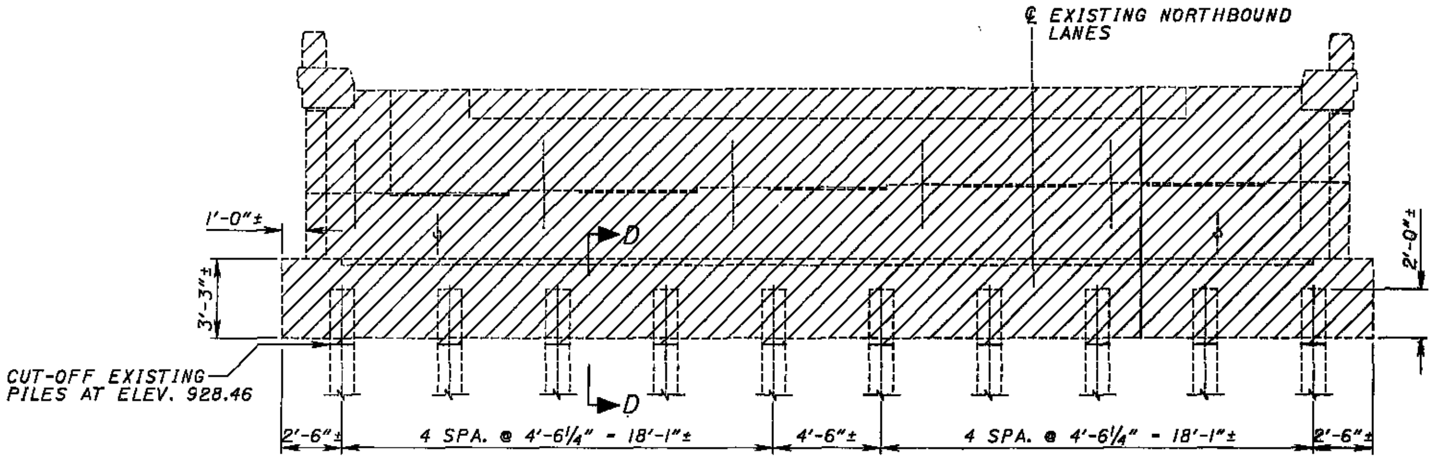
P:/PR30489/CADD/MED-71-0031/ME071pc6.DGN



ABUTMENT PLAN

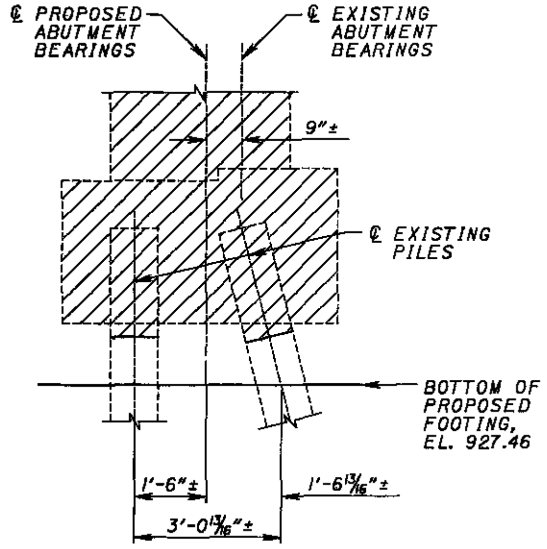


VIEW A-A



℄ EXISTING NORTHBOUND LANES
D
D
1'-0"±
3'-3"±
2'-0"±
CUT-OFF EXISTING PILES AT ELEV. 928.46
2'-6"±
4 SPA. @ 4'-6¼" = 18'-1"±
4'-6"±
4 SPA. @ 4'-6¼" = 18'-1"±
2'-6"±

ABUTMENT ELEVATION



℄ PROPOSED ABUTMENT BEARINGS
℄ EXISTING ABUTMENT BEARINGS
9"±
℄ EXISTING PILES
BOTTOM OF PROPOSED FOOTING, EL. 927.46
1'-6"±
1'-6¹³⁄₁₆"±
3'-0¹³⁄₁₆"±

SECTION D-D

LEGEND:

▨ = REMOVALS

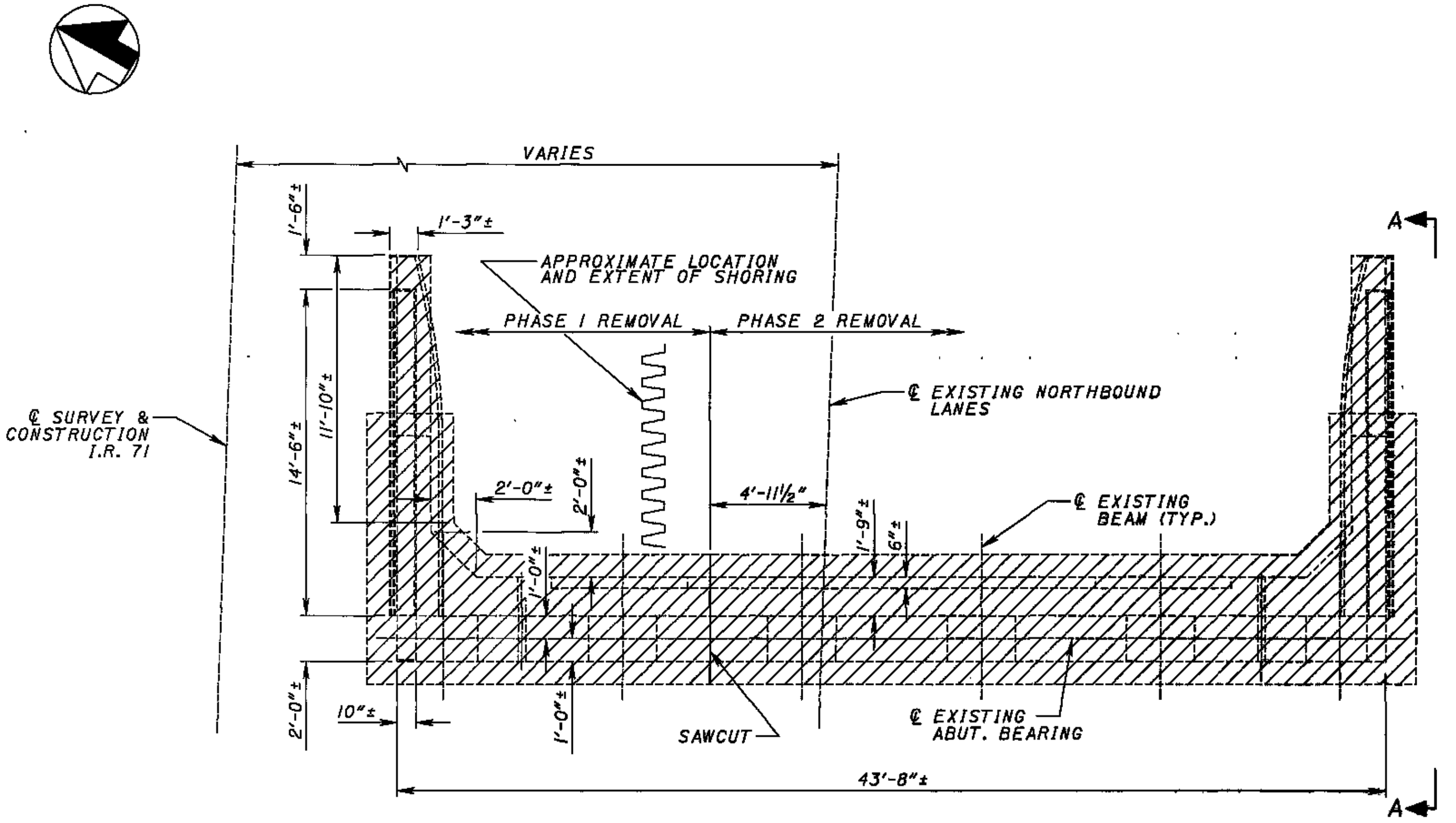
BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	AAA	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202256-LEFT 5202280-RIGHT	

REAR ABUTMENT REMOVAL DETAILS - NORTHBOUND
BRIDGE NO. MED-71-0031 R
OVER ABANDONED RAILROAD

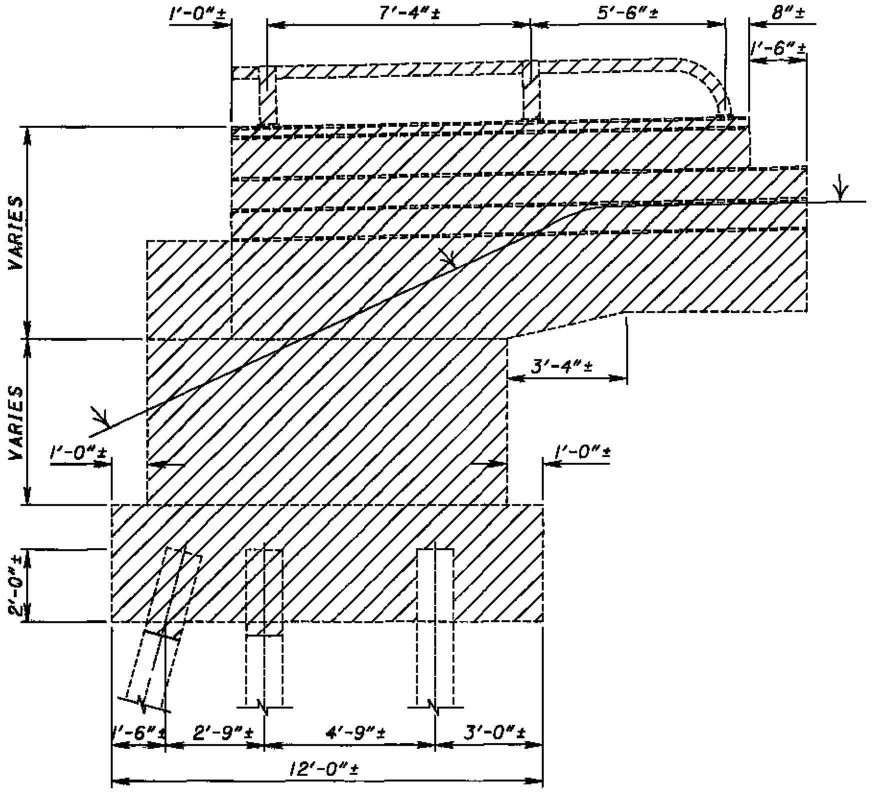
WAY/MED-71-7.04/0.00

P:/PR30489/CADD/MED-71-0031/ME071pa7.DGN

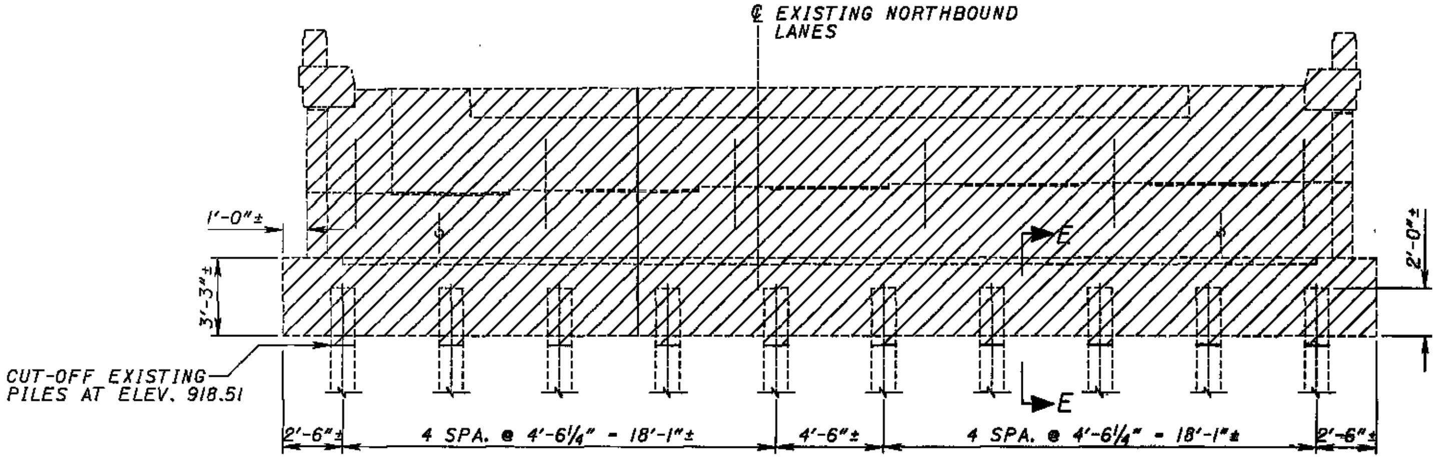


ABUTMENT PLAN

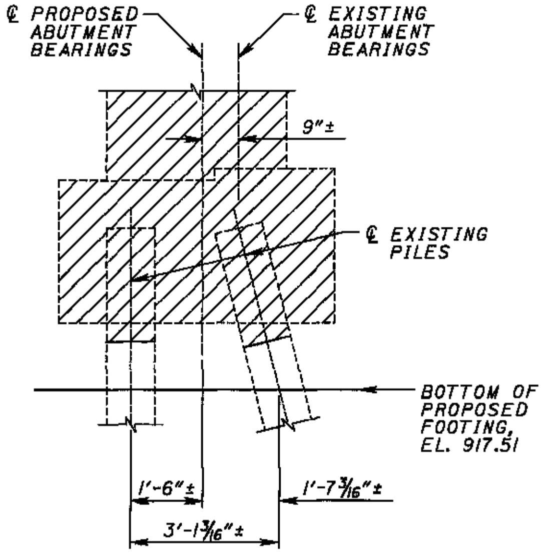
(FOWARD ABUTMENT - NORTHBOUND)



VIEW A-A


℄ EXISTING NORTHBOUND LANES
1'-0"±
3'-3"±
2'-0"±
E
E
CUT-OFF EXISTING PILES AT ELEV. 918.51
2'-6"±
4 SPA. @ 4'-6¼" = 18'-1"±
4'-6"±
4 SPA. @ 4'-6¼" = 18'-1"±
2'-6"±

ABUTMENT ELEVATION


℄ PROPOSED ABUTMENT BEARINGS
℄ EXISTING ABUTMENT BEARINGS
9"±
℄ EXISTING PILES
BOTTOM OF PROPOSED FOOTING, EL. 917.51
1'-6"±
1'-7¾6"±
3'-1¾6"±

SECTION E-E

LEGEND:

▨ - REMOVALS

DESIGNED	DRAWN	REVIEWED	DATE
TTK	AAA	CAS	6/03
CHECKED WTL	REVISED	STRUCTURE FILE NUMBER 5202256-LEFT 5202280-RIGHT	

5085 Reed Road
Columbus, Ohio 43220
BURGESS & NIPLE

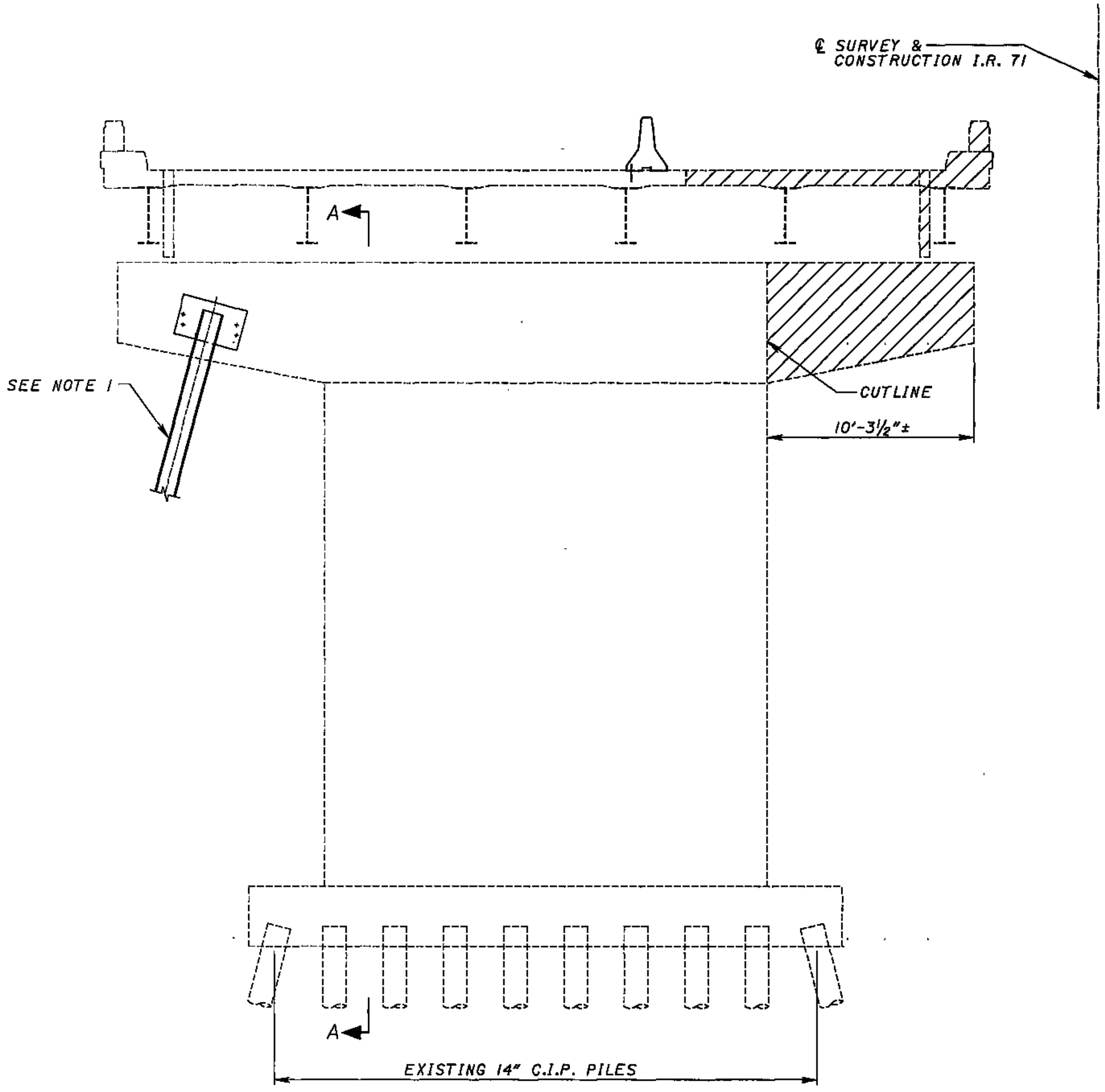
FORWARD ABUTMENT REMOVAL DETAILS - NORTHBOUND
BRIDGE NO. MED-71-0031 R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

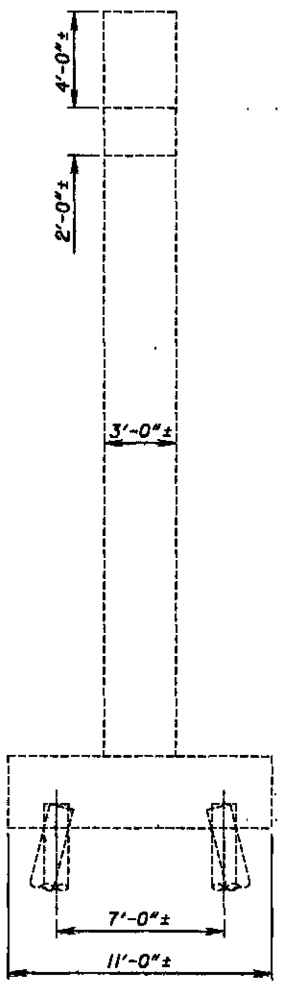
14/77

496/785

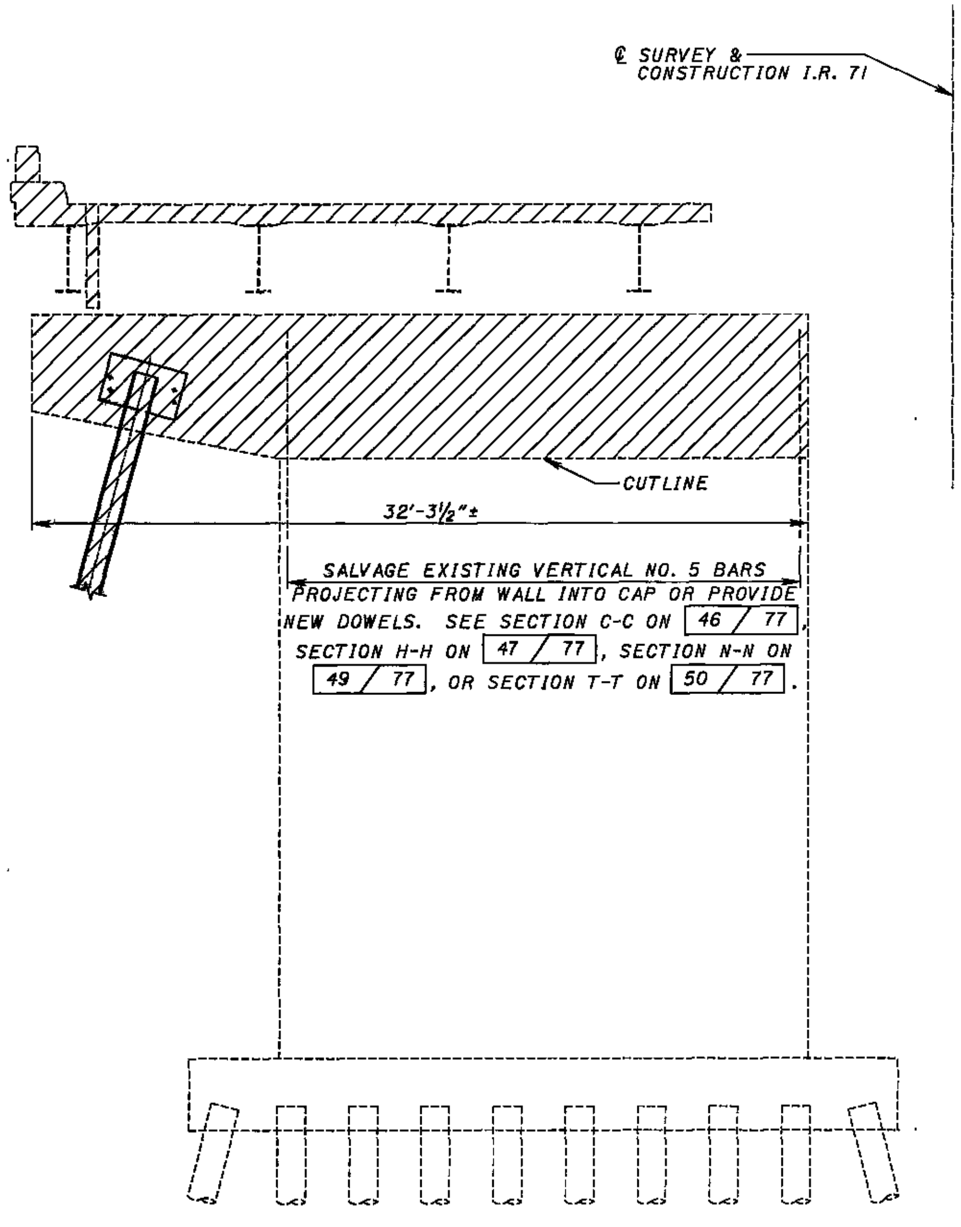
P:/PR30489/CADD/MED-71-0031/ME071pc8.DGN



PHASE 1 PIER REMOVAL
(SOUTHBOUND SHOWN, NORTHBOUND OPPOSITE HAND)



SECTION A-A



SALVAGE EXISTING VERTICAL NO. 5 BARS PROJECTING FROM WALL INTO CAP OR PROVIDE NEW DOWELS. SEE SECTION C-C ON 46 / 77, SECTION H-H ON 47 / 77, SECTION N-N ON 49 / 77, OR SECTION T-T ON 50 / 77.

PHASE 2 PIER REMOVAL
(SOUTHBOUND SHOWN, NORTHBOUND OPPOSITE HAND)

NOTE:

1. SEE SHEET 17 / 77 FOR TEMPORARY SUPPORT DEATILS.

LEGEND:

▨ - REMOVALS

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED WTL
DRAWN AAA
REVIEWED CAS
DATE 6/03
CHECKED EMC
REVISED
STRUCTURE FILE NUMBER 5202256-LEFT 5202280-RIGHT

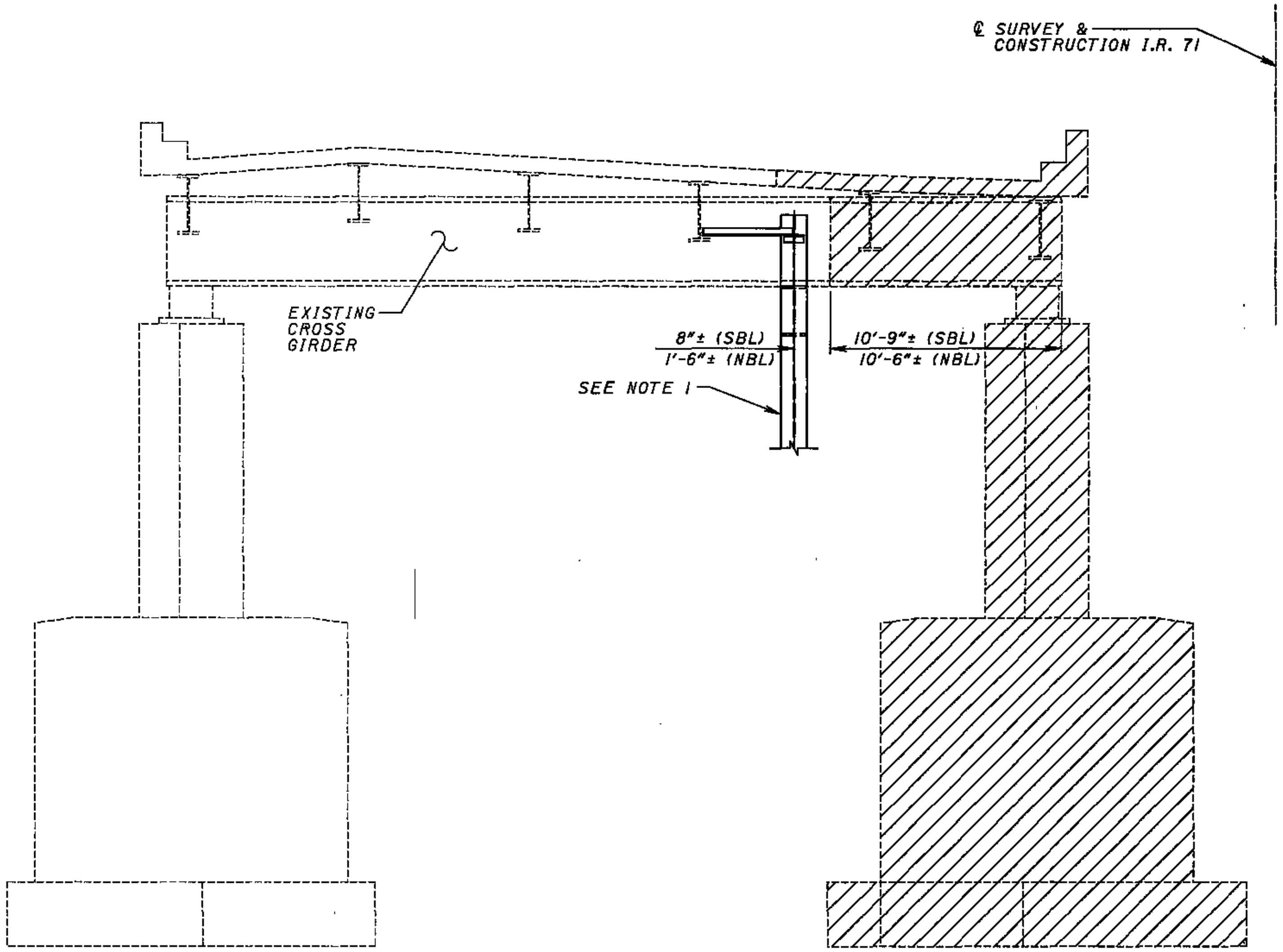
PIERS 1, 2, 4 & 5 REMOVAL DETAILS
BRIDGE NO. MED-71-0031 L/R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

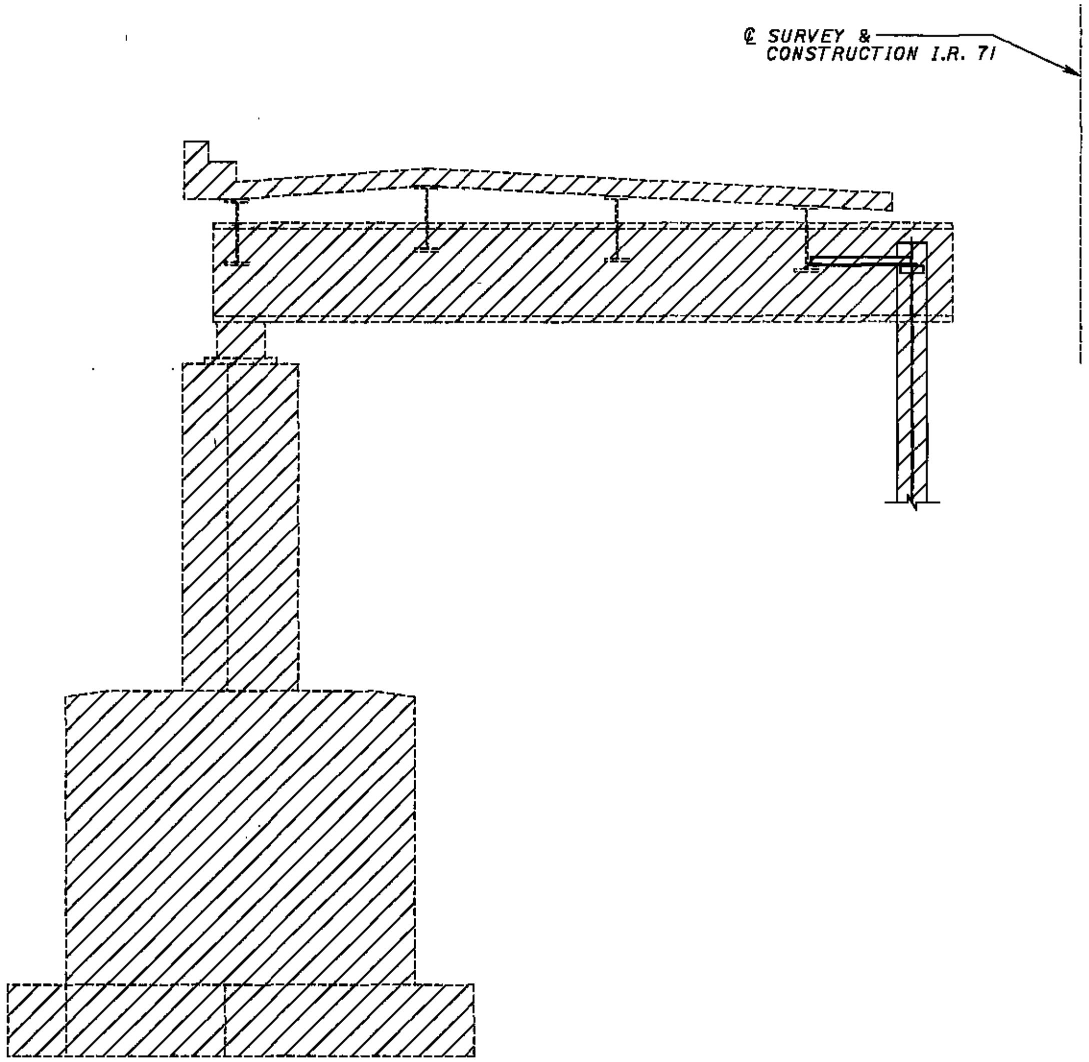
15/77

497/785

P:/PR30489/CADD/MED-71-0031/ME071pc9.DGN



PHASE 1 PIER REMOVAL
(SOUTHBOUND SHOWN, NORTHBOUND OPPOSITE HAND)
(EXISTING PILES NOT SHOWN FOR CLARITY)



PHASE 2 PIER REMOVAL
(SOUTHBOUND SHOWN, NORTHBOUND OPPOSITE HAND)
(EXISTING PILES NOT SHOWN FOR CLARITY)

NOTE:

1. SEE SHEET 18 / 77 FOR TEMPORARY SUPPORT DEATILS.

LEGEND:

▨ - REMOVALS

NBL - NORTHBOUND LANES
SBL - SOUTHBOUND LANES

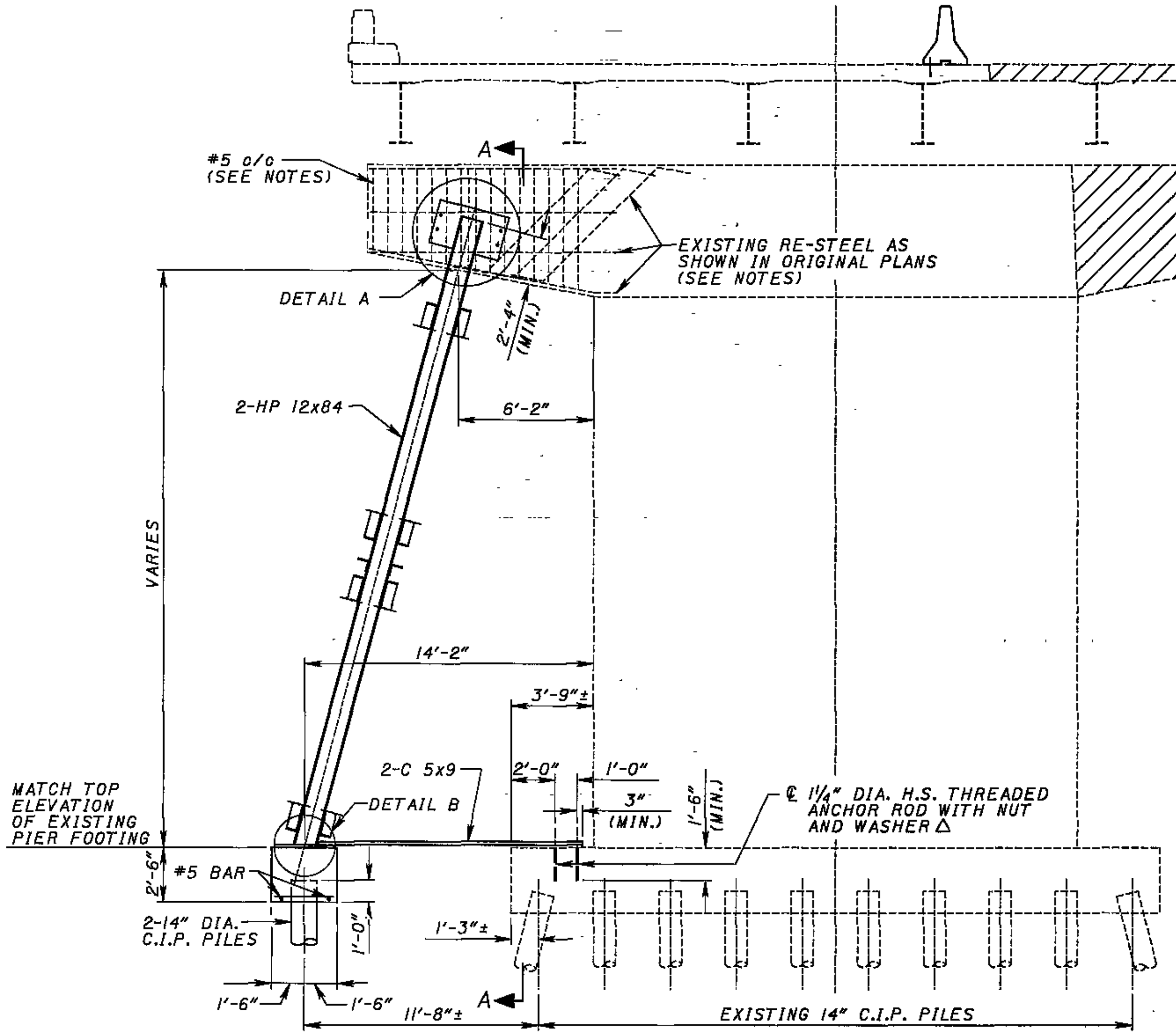
BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED WTL	DRAWN AAA	REVIEWED CAS
CHECKED EMC	REVISED	DATE 6/03
		STRUCTURE FILE NUMBER 5202256-LEFT 5202280-RIGHT

PIER 3 REMOVAL DETAILS
BRIDGE NO. MED-71-0031 L/R
OVER ABANDONED RAILROAD

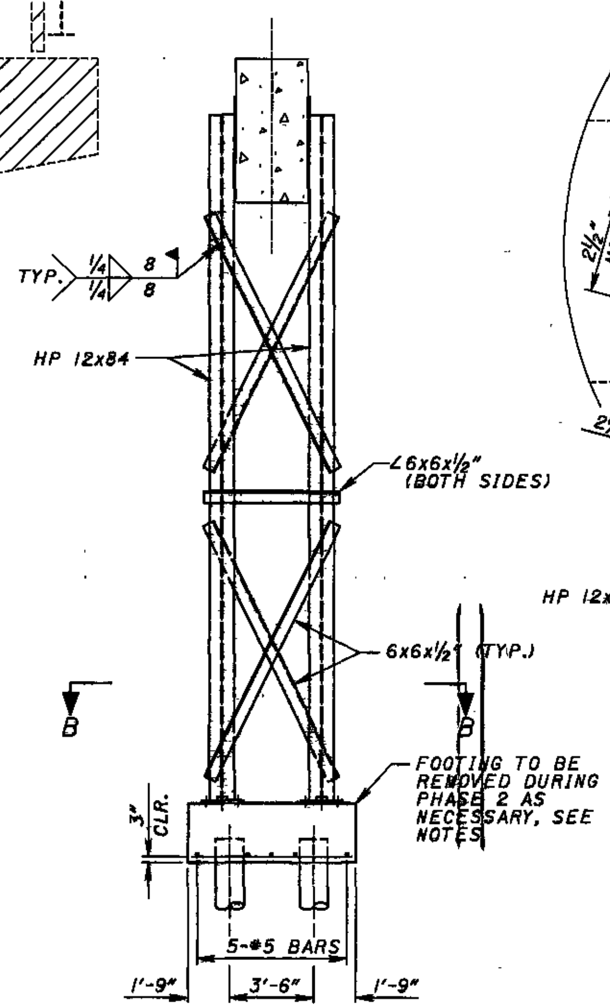
WAY/MED-71-7.04/0.00

P:/PR30489/CADD/MED-71-0031/ME071pcd.DGN

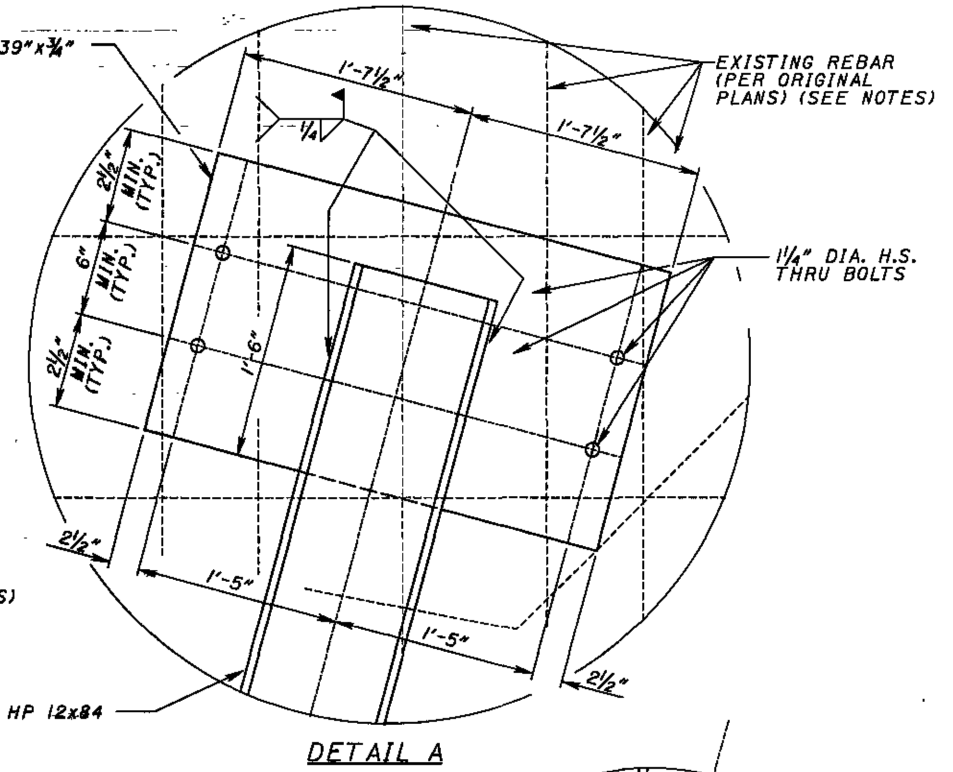

A
#5 c/c (SEE NOTES)
EXISTING RE-STEEL AS SHOWN IN ORIGINAL PLANS (SEE NOTES)
DETAIL A
2'-4" (MIN.)
6'-2"
2-HP 12x84
VARIES
14'-2"
3'-9"±
2-C 5x9
2'-0"
1'-0"
3"
(MIN.)
1'-6" (MIN.)
℄ 1¼" DIA. H.S. THREADED ANCHOR ROD WITH NUT AND WASHER △
MATCH TOP ELEVATION OF EXISTING PIER FOOTING
DETAIL B
2'-6"
#5 BAR
2-14" DIA. C.I.P. PILES
1'-0"
1'-3"±
1'-6"
1'-6"
11'-8"±
A
EXISTING 14" C.I.P. PILES

PHASE I T-TYPE PIER REMOVAL & SUPPORTS

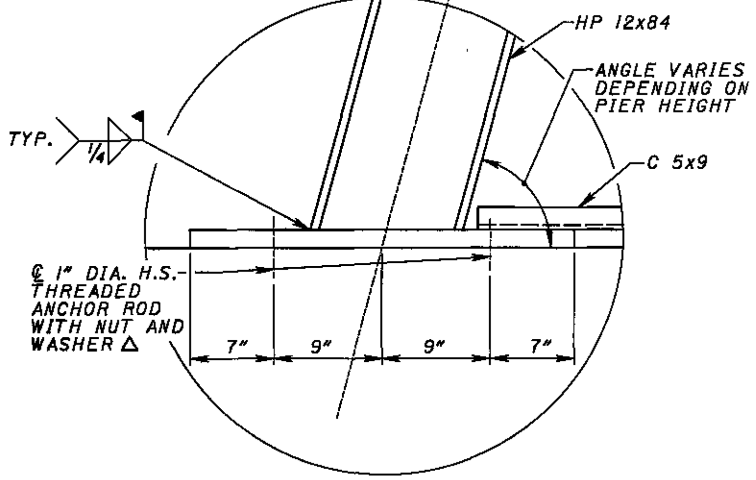
(SOUTHBOUND SHOWN, NORTHBOUND OPPOSITE HAND)



SECTION A-A



DETAIL A


HP 12x84
ANGLE VARIES DEPENDING ON PIER HEIGHT
TYP.
¼
C 5x9
℄ 1" DIA. H.S. THREADED ANCHOR ROD WITH NUT AND WASHER △
7"
9"
9"
7"

DETAIL B

LEGEND:

△- INSTALL PER 510 USING NONSHRINK, NONMETALLIC GROUT. INCLIDE DRILLING, GROUTING AND HARDWARE WITH PIER SUPPORTS FOR PAYMENT.

NOTES:

MATERIALS:
STEEL SHALL BE ASTM A36 OR BETTER. USED STRUCTURAL STEEL IN GOOD CONDITION MAY BE PROVIDED. HIGH STRENGTH BOLTS AND ANCHOR RODS SHALL BE NEW 1" DIA. AND 1¼" DIA. ASTM A325. WELDING ELECTRODES SHALL HAVE A MINIMUM TENSILE STRENGTH OF 70 KSI.

EXISTING RE-STEEL:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING THE EXISTING REINFORCING STEEL AND ADJUSTING THE LOCATION OF THE BOLTS OR ANY OTHER DIMENSIONS NECESSARY TO AVOID INTERFERENCE.

OPTIONAL DESIGN:
IN LIEU OF THE TEMPORARY SUPPORT DESIGN SPECIFIED BY THESE PLANS, THE CONTRACTOR HAS THE OPTION OF PROVIDING ANOTHER SYSTEM, PROVIDED THAT SUCH SYSTEM IS DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER AND IS APPROVED BY THE DIRECTOR PRIOR TO ITS FABRICATION AND INSTALLATION. THE TOTAL SERVICE LOAD REACTION TO BOTH COLUMNS IS AS FOLLOWS:

VERTICAL
DL = 80 KIPS
LL = 26 KIPS
HORIZONTAL
DL = 19 KIPS
LL = 7 KIPS
MOMENT AT TOP OF COLUMNS (TOTAL TO BOTH)
DL = 23 FT. KIPS
LL = 9 FT. KIPS

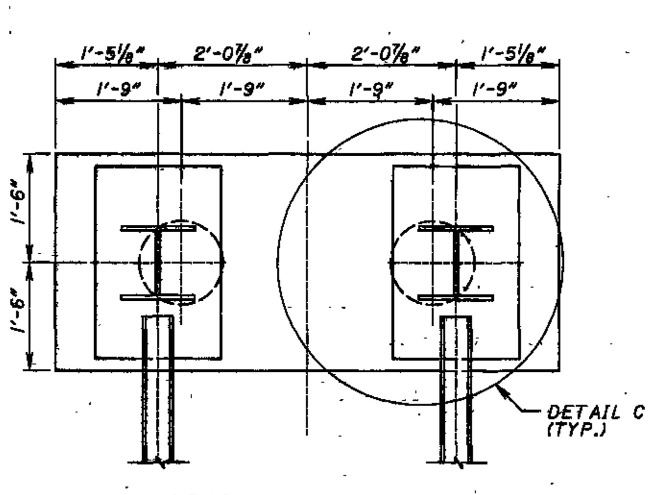
CONSTRUCTION SEQUENCE:
REMOVE THE CROSSHATCHED AREA AFTER THE PIER SUPPOERTS HAVE BEEN PLACED

REMOVAL OF PHASE I T-TYPE PIER SUPPORTS:
AFTER PHASE 2 REMOVAL OF SUPERSTRUCTURE IS COMPLETE, REMOVE ALL PORTIONS OF PIER SUPPORTS ABOVE THE TOP OF THE FOOTING. ALSO REMOVE PIER SUPPORT FOOTINGS WHERE THEY INTERFERE WITH PROPOSED PERMANENT FOOTINGS. REMOVE PILES TO 1'-0" BELOW BOTTOM OF PROPOSED PERMANEMT FOOTINGS WHERE THEY INTERFERE.

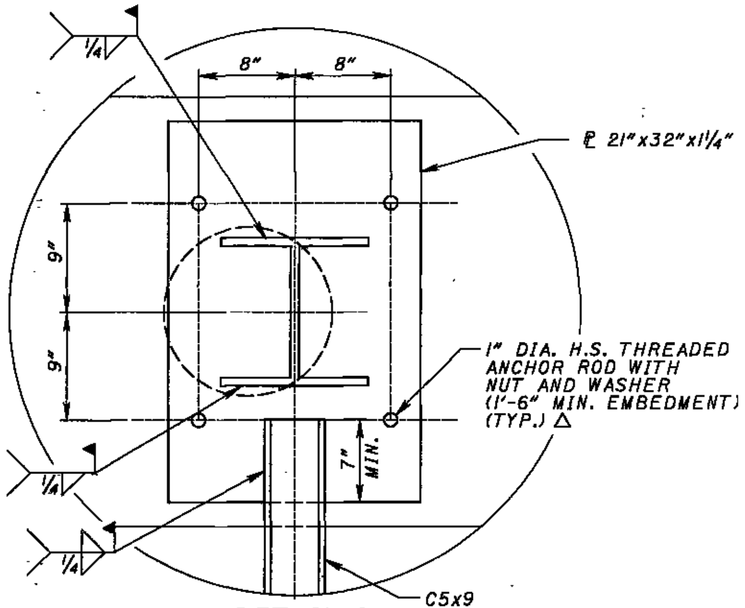
WELDING:
CONTRACTOR MAY CHOOSE WHICH, IF ANY, WELDS ARE PERFORMED IN THE SHOP.

PILING:
THE PILING IN THIS SCHEME ARE 14" DIA. C.I.P. PILES. THESE PILING ARE INCLUDED WITH PIER SUPPORTS FOR PAYMENT. THE ULTIMATE BEARING VALUE IS 70 TONS PER PILE.

PAYMENT:
INCLUDE PAYMENT FOR THE TEMPORARY SUPPORTS WITH THE LUMP SUM PAY ITEM FOR "REMOVAL, MISC: PHASE I T-TYPE PIER SUPPORT". INCLUDE THE COSTS FOR ALL STRUCTURAL STEEL, NUTS, BOLTS, WASHERS, PLATES WELDING, CONCRETE, REINFORCING STEEL, PILES AND ANY OTHER LABOR OR MATERIALS NECESSARY TO COMPLETE THE INSTALLATION AND REMOVAL OF THE TEMPORARY SUPPORTS.



SECTION B-B


¼
8"
8"
℘ 21"x32"x1¼"
9"
9"
1" DIA. H.S. THREADED ANCHOR ROD WITH NUT AND WASHER (1'-6" MIN. EMBEDMENT) (TYP.) △
7" MIN.
¼
¼
C5x9

DETAIL C

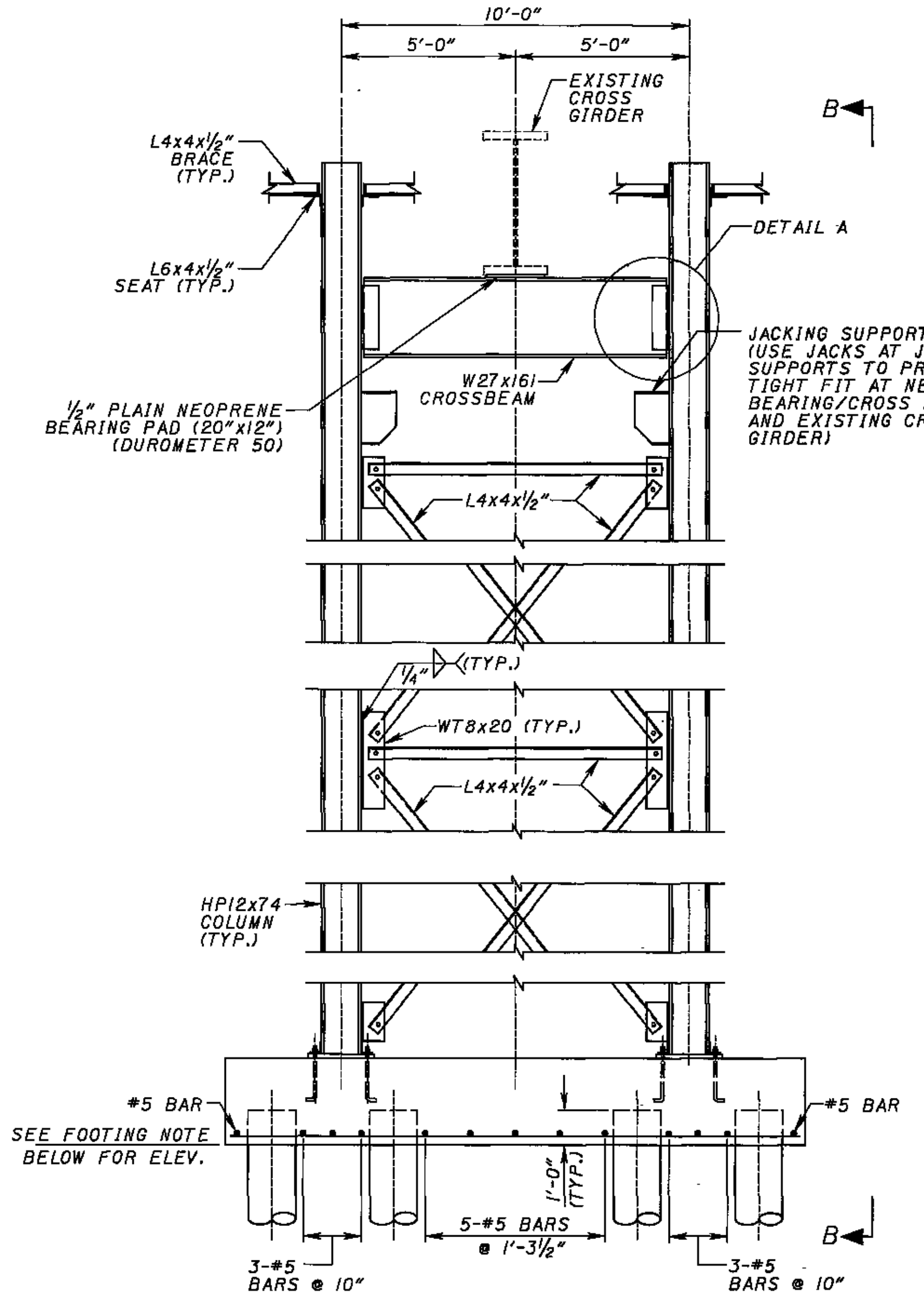
P:/PR30489/CADD/MED-71-0031/ME07lpi1.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

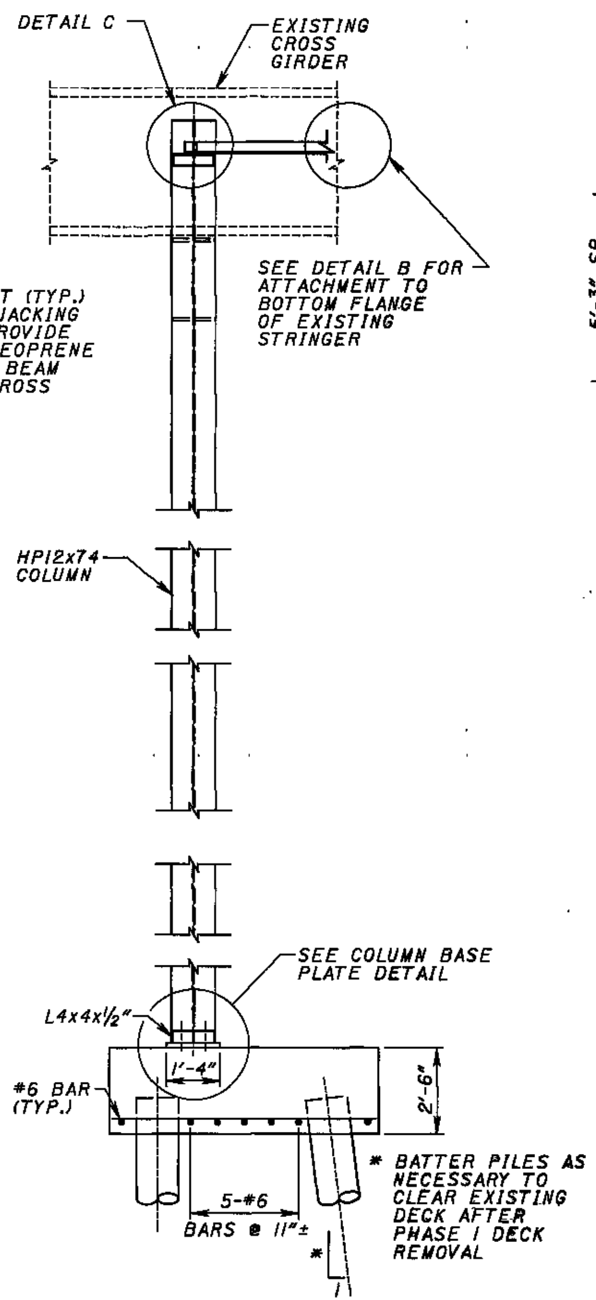
DESIGNED	DRAWN	REVIEWED	DATE
WTL	WTL/AAA	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		5202256-LEFT 5202280-RIGHT	

PHASE I T-TYPE PIER SUPPORTS
BRIDGE NO. MED-71-0031 L/R
OVER ABANDONED RAILROAD

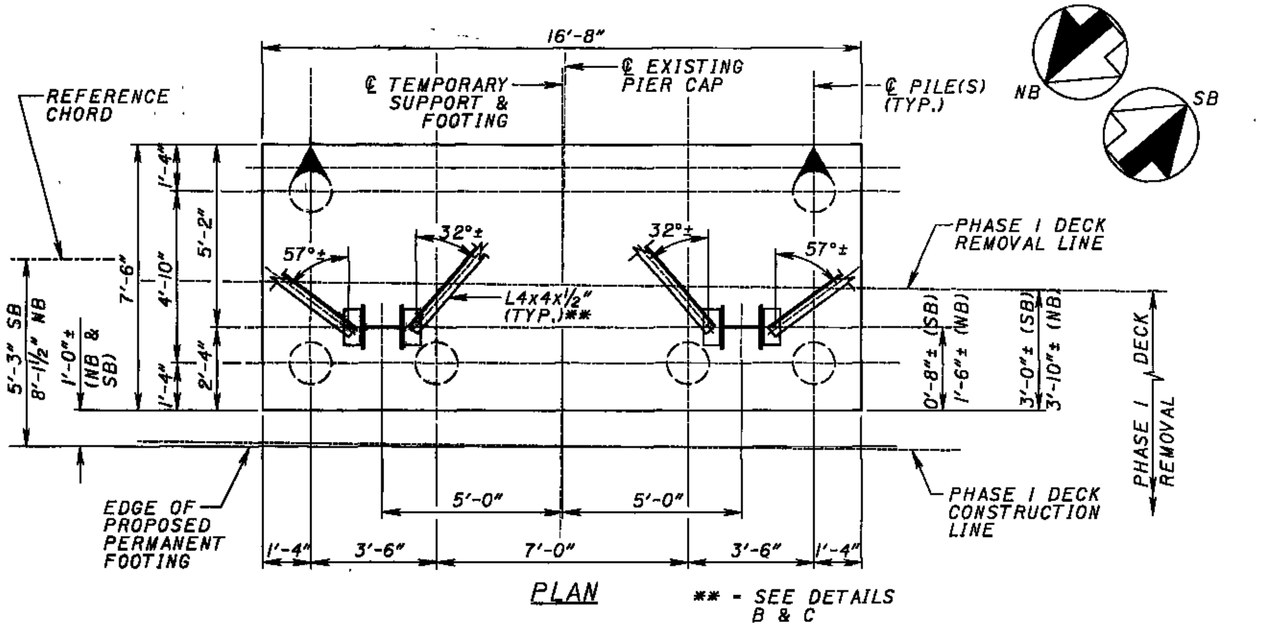
WAY/MED-71-7.04/0.00



ELEVATION

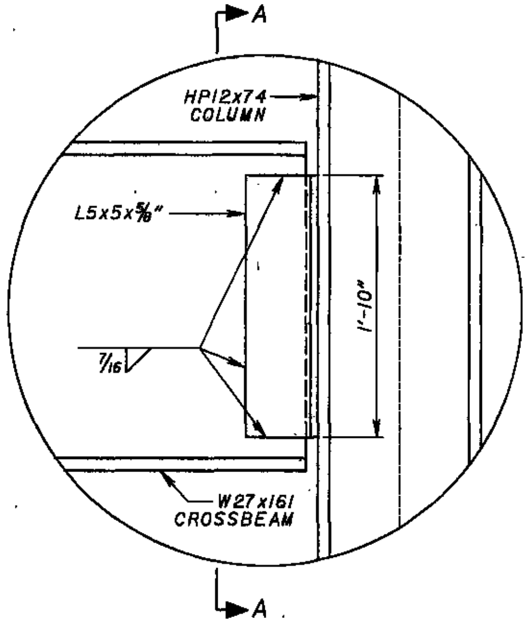

DETAIL C
EXISTING CROSS GIRDER
SEE DETAIL B FOR ATTACHMENT TO BOTTOM FLANGE OF EXISTING STRINGER
HP12x74 COLUMN
SEE COLUMN BASE PLATE DETAIL
L4x4x½"
1'-4"
#6 BAR (TYP.)
2'-6"
5-#6 BARS @ 11"±
* BATTER PILES AS NECESSARY TO CLEAR EXISTING DECK AFTER PHASE I DECK REMOVAL
*

VIEW B-B

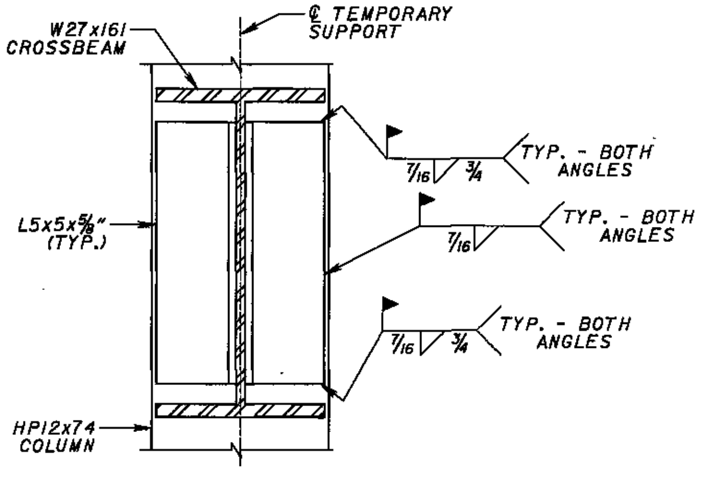


PLAN

** - SEE DETAILS B & C



DETAIL A



SECTION A-A

NOTES:

MATERIALS:
STEEL SHALL BE ASTM A36 OR BETTER. USED STRUCTURAL STEEL IN GOOD CONDITION MAY BE PROVIDED. HIGH STRENGTH BOLTS SHALL BE NEW 1" DIAMETER ASTM A325. ERECTION BOLTS SHALL BE ASTM A307. WELDING ELECTRODES SHALL HAVE A MINIMUM TENSILE STRENGTH OF 70 KSI.

OPTIONAL DESIGN:
IN LIEU OF THE TEMPORARY CROSS GIRDER SUPPORT DESIGN SPECIFIED BY THESE PLANS, THE CONTRACTOR HAS THE OPTION OF PROVIDING ANOTHER SYSTEM, PROVIDED THAT SUCH SYSTEM IS DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER AND IS APPROVED BY THE DIRECTOR PRIOR TO ITS FABRICATION AND INSTALLATION. THE TOTAL SERVICE LOAD REACTION TO PROPOSED CROSSBEAM IS AS FOLLOWS:

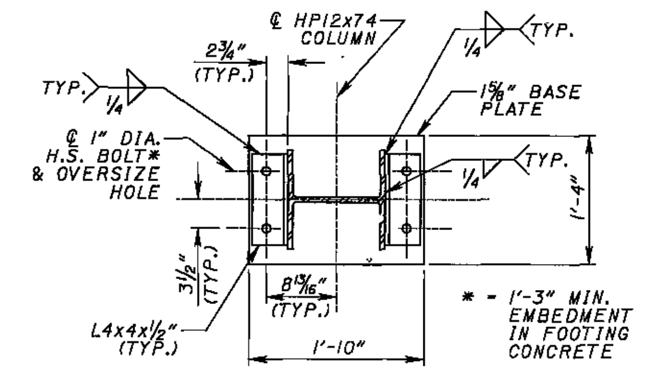
VERTICAL
DL = 478 KIPS
LL+IMPACT = 129 KIPS

HORIZONTAL DL FORCE = 9 KIPS

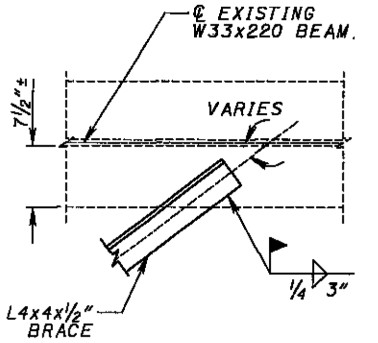
PAYMENT:
THE COST OF PROVIDING, MAINTAINING, AND REMOVING TEMPORARY SUPPORTS, FOOTINGS AND PILES SHALL BE INCLUDED IN THE LUMP SUM ITEM, "REMOVAL, MISC.: PHASE I PIER 3 SUPPORT", FOR PAYMENT.

PILING:
PILES SHALL BE 14" DIA. CIP PILES & SHALL BE DRIVEN TO 40-TON CAPACITY. DYNAMIC TESTING SHALL BE PERFORMED AS PER CMS 507 OR USE DATA FROM PERMANENT PILES DRIVEN AT OTHER SUBSTRUCTURE UNITS ON THIS BRIDGE TO DETERMINE DRIVING LENGTHS.

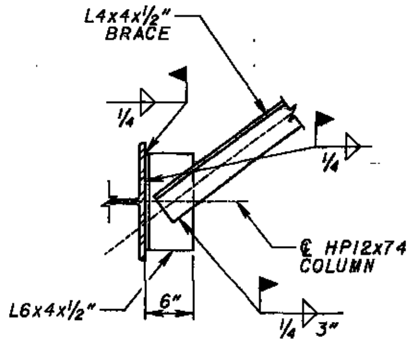
FOOTING:
CONTRACTOR SHALL DETERMINE FOOTING ELEVATIONS BASED ON EXISTING GROUNDLINE. THE TEMPORARY SUPPORT WAS DESIGNED FOR A MAXIMUM HEIGHT OF 28'-6" FROM BOTTOM OF EXISTING CROSS GIRDER TO TOP OF TEMPORARY FOOTING. IF THIS HEIGHT IS EXCEEDED CONTRACTOR SHALL CHECK ADEQUACY OF SUPPORT SYSTEM. DURING PHASE 2 REMOVAL, REMOVE FOOTING AND PILES TO 1 FOOT BELOW PROPOSED GROUND SURFACE.



COLUMN BASE PLATE DETAIL



DETAIL B
LOOKING DOWN, BRACE-TO-EXISTING-STRINGER CONNECTION



DETAIL C
LOOKING DOWN, BRACE-TO-COLUMN CONNECTION

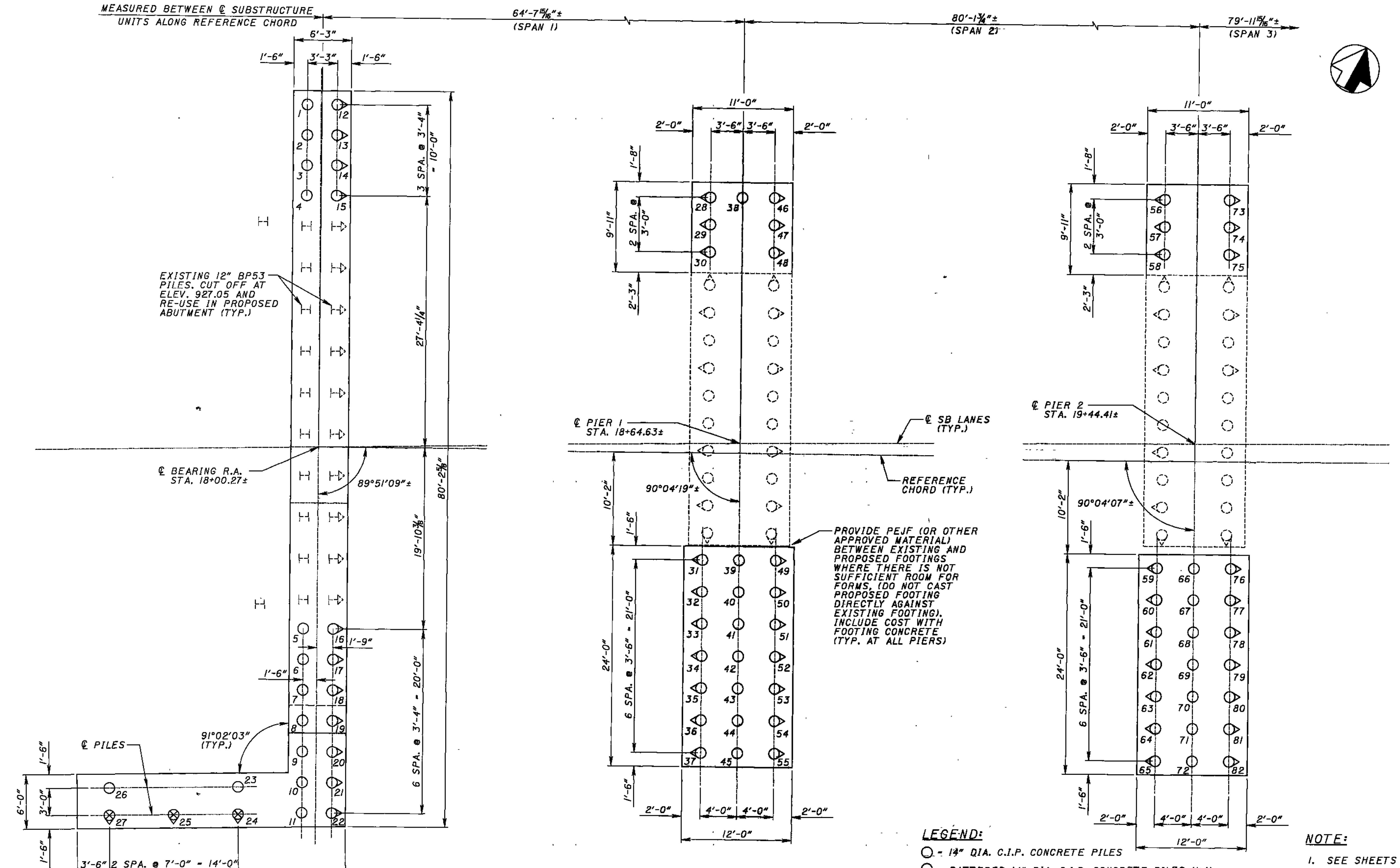
P:/PR30489/CADD/MED-71-0031/WE071pf.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
WTL	WTL	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EMC		5202256-LEFT 5202280-RIGHT	

PHASE I PIER 3 SUPPORT
BRIDGE NO. MED-71-0031 L/R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00



FOUNDATION PLAN
(OUTSIDE PERIMETER ONLY OF FOOTING SHOWN)

LEGEND:

- ○ - 14" DIA. C.I.P. CONCRETE PILES
- ○ - BATTERED 14" DIA. C.I.P. CONCRETE PILES (1:4)
- ⊗ - BATTERED 14" DIA. C.I.P. CONCRETE PILES (1:3)
- H - EXISTING 12" BP53 PILES
- H - EXISTING BATTERED 12" BP53 PILES
- ○ - EXISTING 14" C.I.P. CONCRETE PILES
- ○ - EXISTING BATTERED 14" C.I.P. CONCRETE PILES

XX - PILE NUMBER
C.I.P. - CAST-IN-PLACE
DIA. - DIAMETER
R.A. - REAR ABUTMENT

NOTE:

1. SEE SHEETS 33 / 77 THROUGH 35 / 77 FOR ADDITIONAL PILES AT RETAINING WALLS.

P:/PR30489/CADD/MED-71-0031/MED71fpl.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

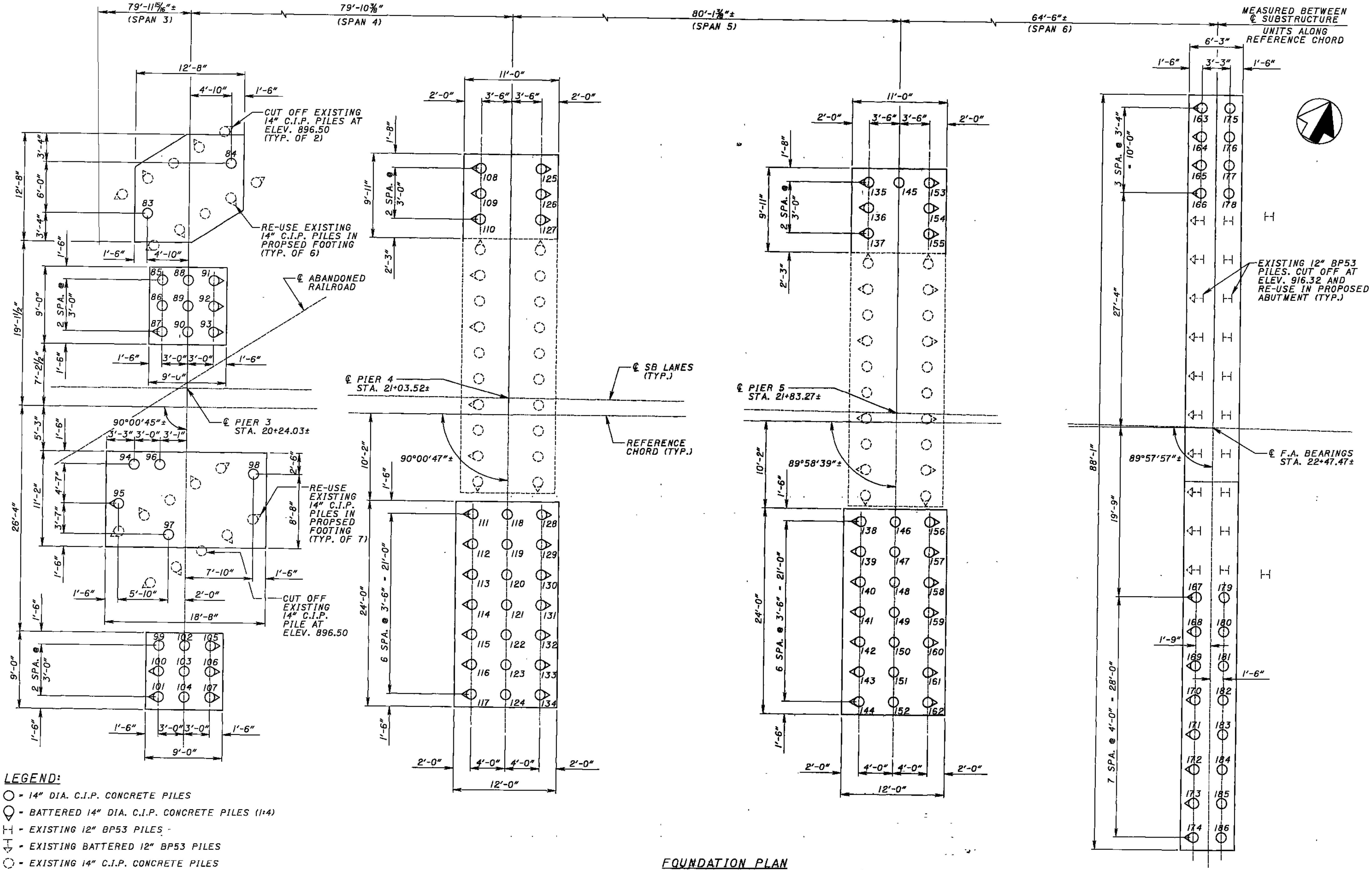
DESIGNED	DRAWN	REVIEWED	DATE
TTK	CRC	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL/BES		5202256-LEFT 5202280-RIGHT	

FOUNDATION PLAN 1 - SOUTHBOUND
BRIDGE NO. MED-71-0031 L
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

19 / 77

501 / 785



FOUNDATION PLAN
(OUTSIDE PERIMETER ONLY OF FOOTING SHOWN)

LEGEND:

- ○ = 14" DIA. C.I.P. CONCRETE PILES
- ○ = BATTERED 14" DIA. C.I.P. CONCRETE PILES (1:4)
- H = EXISTING 12" BP53 PILES
- H = EXISTING BATTERED 12" BP53 PILES
- ○ = EXISTING 14" C.I.P. CONCRETE PILES
- ○ = EXISTING BATTERED 14" C.I.P. CONCRETE PILES

XX = PILE NUMBER
C.I.P. = CAST-IN-PLACE
DIA. = DIAMETER
F.A. = FORWARD ABUTMENT

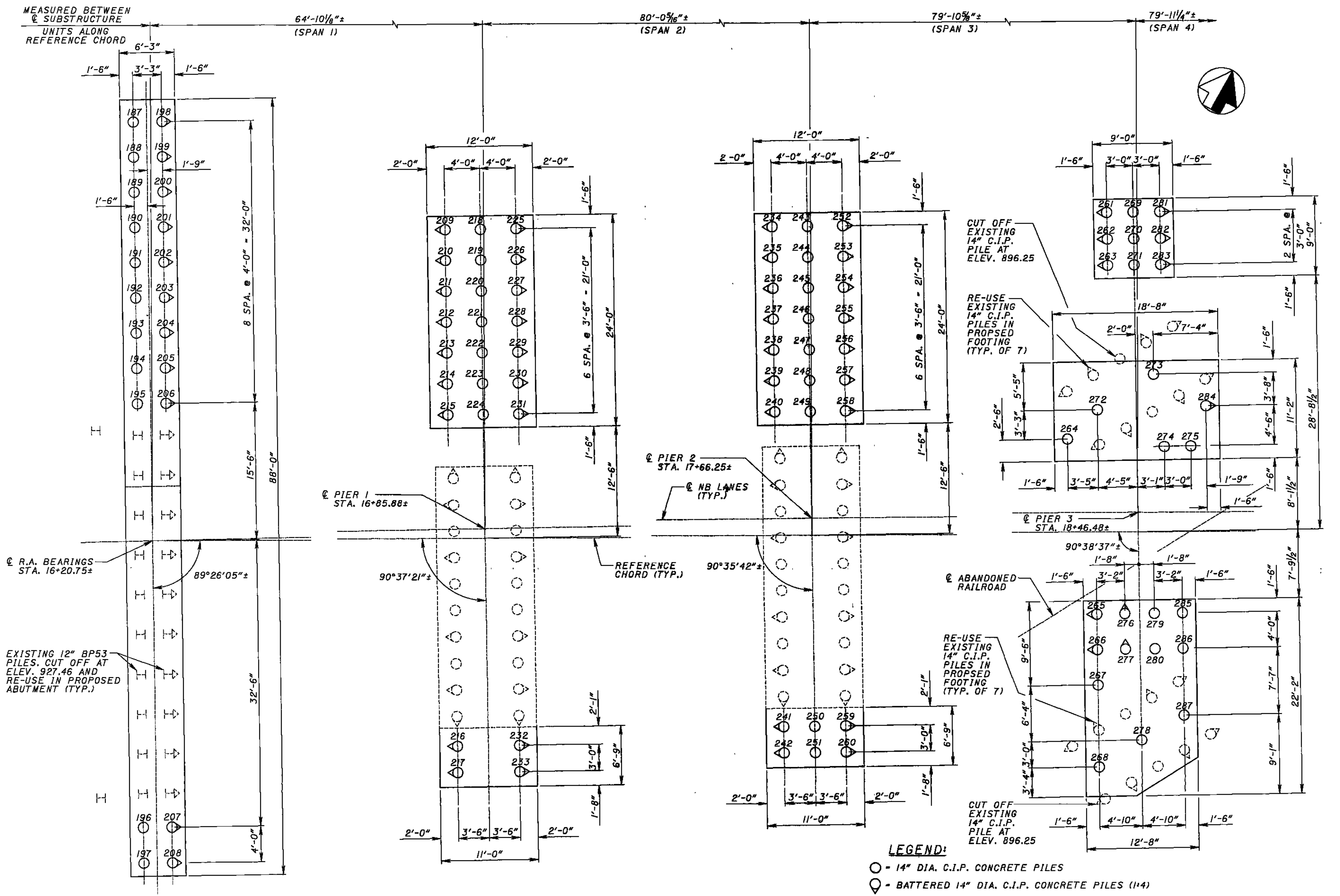
P:/PR30489/CADD/MED-71-0031/ME071fp2.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED TTK | CHECKED WTL/BES | DRAWN CRC | REVISED | REVIEWED CAS | DATE 6/03
STRUCTURE FILE NUMBER
5202256-LEFT
5202280-RIGHT

FOUNDATION PLAN 2 - SOUTHBOUND
BRIDGE NO. MED-71-0031 L
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00



FOUNDATION PLAN

(OUTSIDE PERIMETER ONLY OF FOOTING SHOWN)

LEGEND:

- ○ - 14" DIA. C.I.P. CONCRETE PILES
- ♁ - BATTERED 14" DIA. C.I.P. CONCRETE PILES (1:4)
- ⊢⊣ - EXISTING 12" BP53 PILES
- ⊢⊣ - EXISTING BATTERED 12" BP53 PILES
- ◌ - EXISTING 14" C.I.P. CONCRETE PILES
- ◌ - EXISTING BATTERED 14" C.I.P. CONCRETE PILES

XX - PILE NUMBER
C.I.P. - CAST-IN-PLACE
DIA. - DIAMETER
R.A. - REAR ABUTMENT

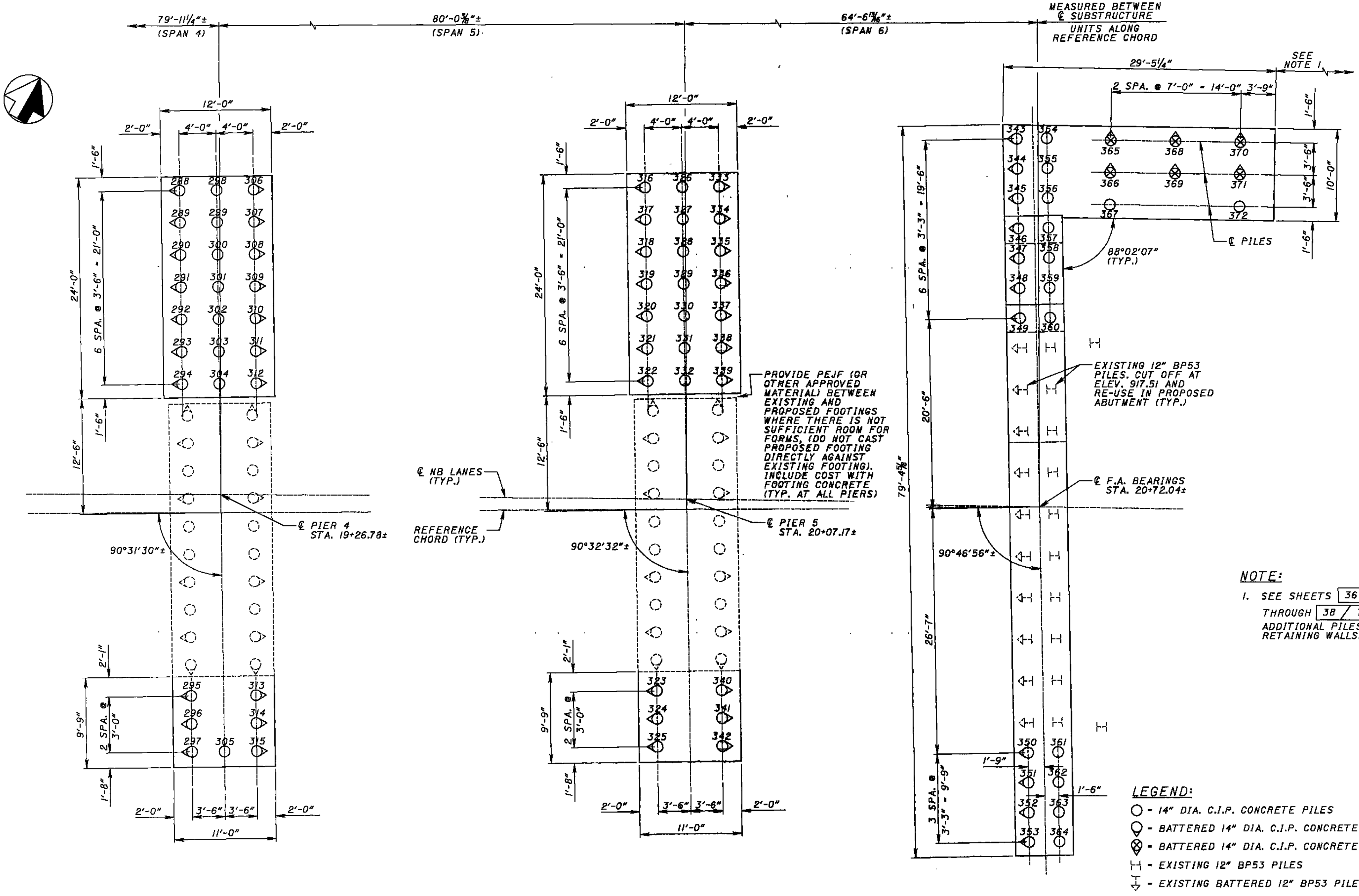
DESIGNED	DRAWN	REVIEWED	DATE
TTK	CRC	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL/BES		5202256-LEFT 5202280-RIGHT	

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

FOUNDATION PLAN 1 - NORTHBOUND
BRIDGE NO. MED-71-0031 R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

P:/PR30489/CADD/MED-71-0031/ME071fp3.DGN



FOUNDATION PLAN

(OUTSIDE PERIMETER ONLY OF FOOTING SHOWN)

NOTE:

1. SEE SHEETS 36/77 THROUGH 38/77 FOR ADDITIONAL PILES AT RETAINING WALLS.

LEGEND:

- ○ - 14" DIA. C.I.P. CONCRETE PILES
- ⚲ - BATTERED 14" DIA. C.I.P. CONCRETE PILES (1:4)
- ⊗ - BATTERED 14" DIA. C.I.P. CONCRETE PILES (1:3)
- ⊢⊣ - EXISTING 12" BP53 PILES
- ⊥ - EXISTING BATTERED 12" BP53 PILES
- ◌ - EXISTING 14" C.I.P. CONCRETE PILES
- ◌ - EXISTING BATTERED 14" C.I.P. CONCRETE PILES

XX - PILE NUMBER
C.I.P. - CAST-IN-PLACE
DIA. - DIAMETER
F.A. - FORWARD ABUTMENT

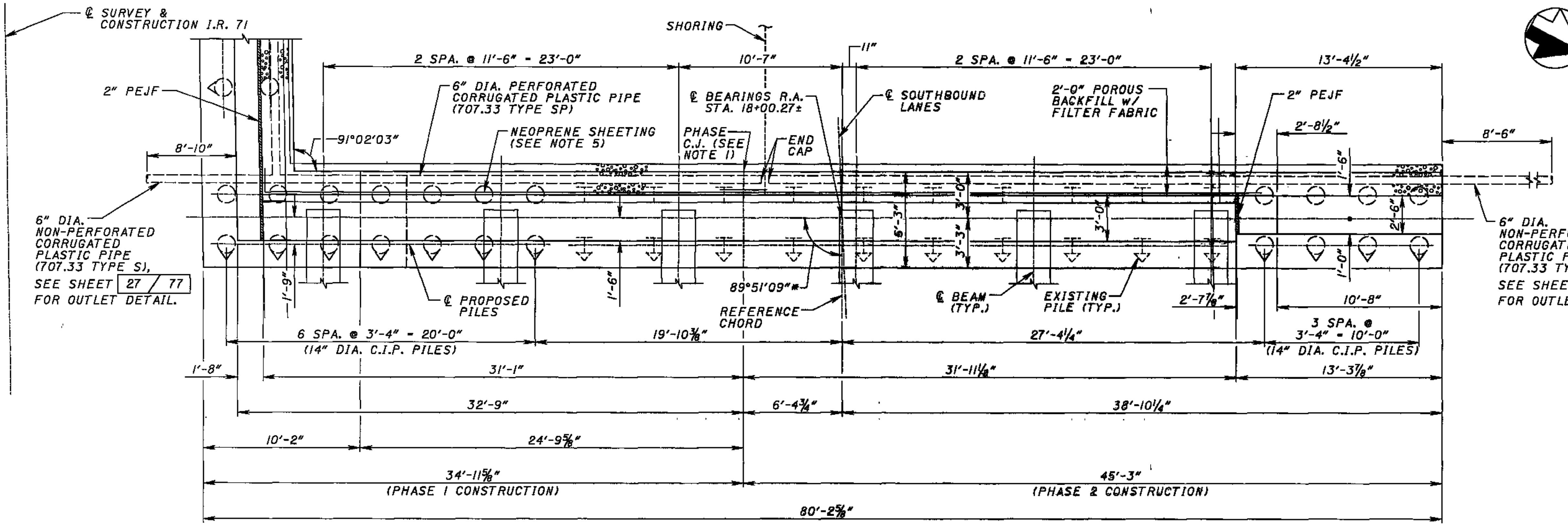
P:/PR30489/CADD/MED-71-0031/MED71fp4.DGN

FOUNDATION PLAN 2 - NORTHBOUND
BRIDGE NO. MED-71-0031 R
OVER ABANDONED RAILROAD

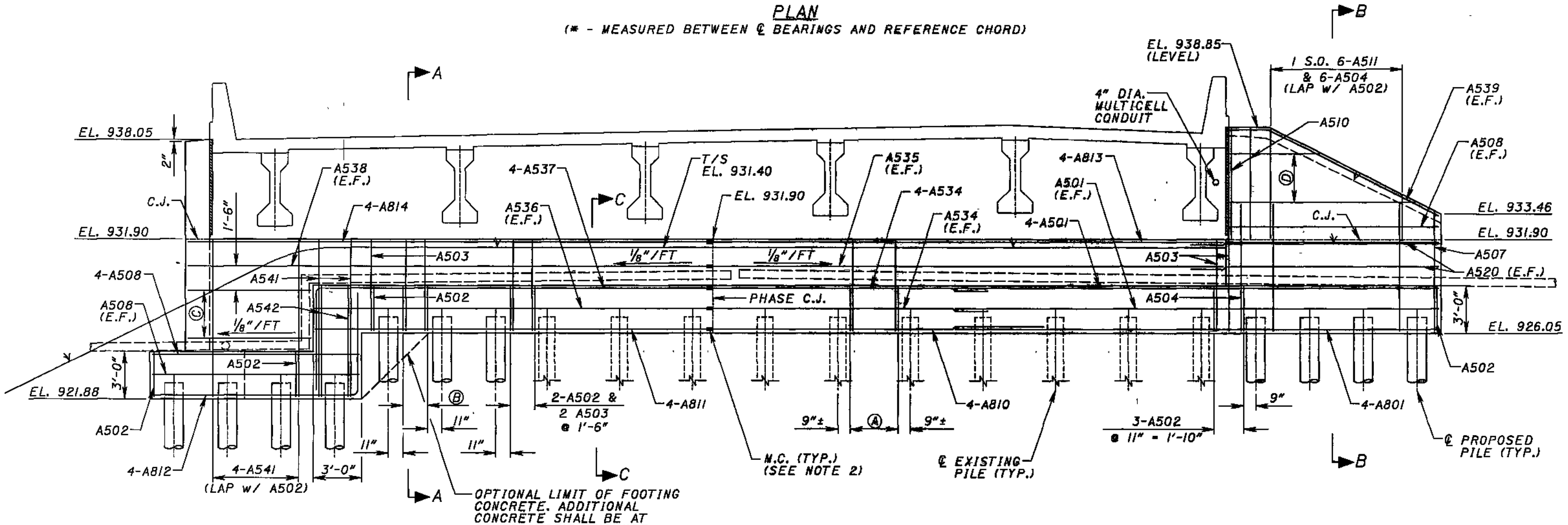
DESIGNED	DRAWN	REVIEWED	DATE
TTK	CRC	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL/BES		5202256-LEFT 5202280-RIGHT	

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

WAY/MED-71-7.04/0.00



PLAN
(* - MEASURED BETWEEN ℄ BEARINGS AND REFERENCE CHORD)



ELEVATION

Ⓐ - 3-A502 & 3-A503 @ 1'-6" = 3'-0" (TYP. BETWEEN EXISTING PILES)

Ⓑ - 2-A502 & 2-A503 @ 1'-6" (TYP. BETWEEN PROPOSED PILES, U.N.O.)

Ⓒ - 3-A540 (E.F.) @ 1'-6" = 3'-0"

Ⓓ - 1 S.O. 3-A509 (E.F.) @ 1'-6" = 3'-0"

NOTES:

1. PLACE TYPE 2 WATERPROOFING, 3' WIDE, CENTERED ON JOINT, FROM TOP OF FOOTING TO SEAT ELEVATION.
2. SEE MECHANICAL CONNECTOR NOTE, SHEET 5 / 77 .
3. SEE SHEET 27 / 77 FOR SECTIONS A-A, B-B & C-C.
4. MINIMUM STEEL LAP LENGTHS:
   #5 BAR = 2'-0"
   #8 BAR = 5'-6"
5. SEE STD. DWG. SICD-1-96 AND SECTIONS A-A, B-B & C-C FOR NEOPRENE SHEETING LIMITS AND DETAILS.
6. SEE SHEET 31 / 77 FOR WINGWALL DETAILS.
7. SEE SHEET 19 / 77 FOR FOUNDATION PLAN.

LEGEND:

C.I.P. = CAST-IN-PLACE
C.J. = CONSTRUCTION JOINT
DIA. = DIAMETER
E.F. = EACH FACE
M.C. = MECHANICAL CONNECTOR
PEJF = PREFORMED EXPANSION JOINT FILLER
R.A. = REAR ABUTMENT
S.O. = SERIES OF
T/S = TOP OF SLOPE
U.N.O. = UNLESS NOTED OTHERWISE

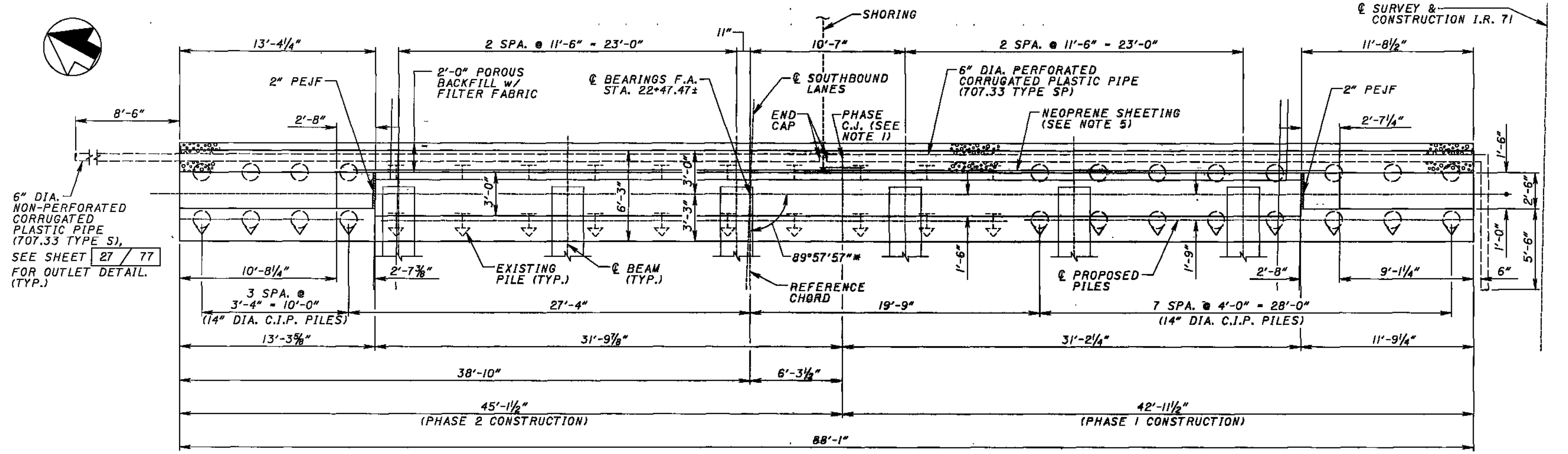
BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202256-LEFT 5202280-RIGHT	

REAR ABUTMENT PLAN & ELEVATION - SOUTHBOUND
BRIDGE NO. MED-71-0031 L
OVER ABANDONED RAILROAD

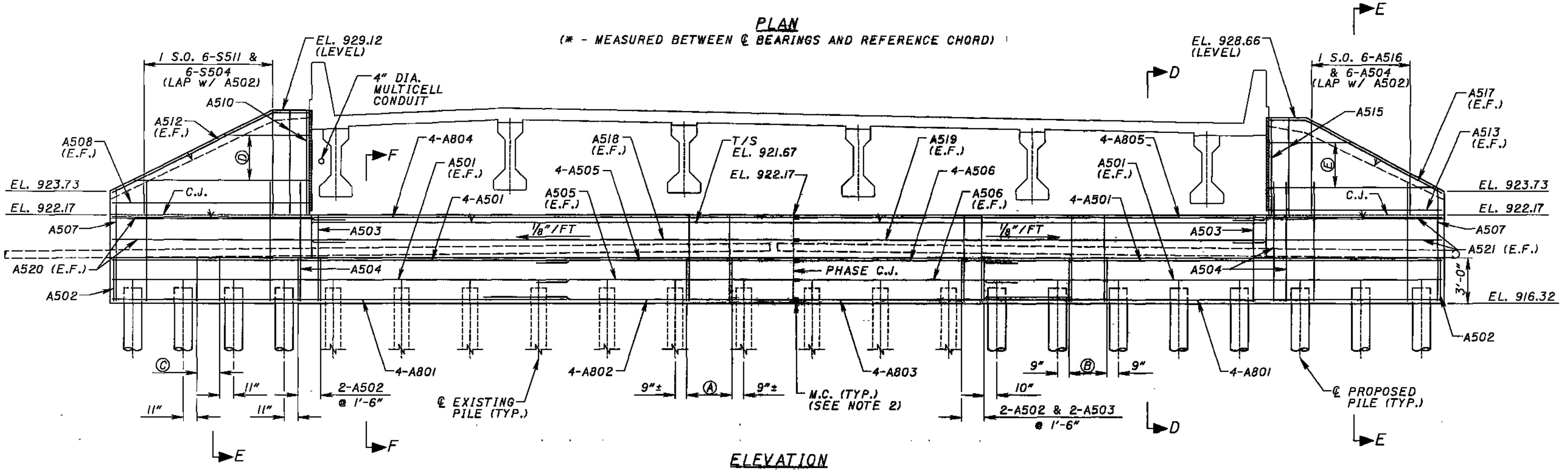
WAY/MED-71-7.04/0.00

P:/PR30489/CADD/MED-71-0031/ME071ra1.DGN



PLAN

(* - MEASURED BETWEEN ℄ BEARINGS AND REFERENCE CHORD)



ELEVATION

Ⓐ - 3-A502 & 3-A503
@ 1'-6" = 3'-0"
(TYP. BETWEEN
EXISTING PILES)

Ⓑ - 3-A502 & 3-A503
@ 1'-3" = 2'-6"
(TYP. BETWEEN 4'-0"
SPACED PILES, U.N.O.)

Ⓒ - 2-A502 @ 1'-6"
(TYP. BETWEEN 3'-4"
SPACED PILES)

Ⓓ - 1 S.O. 3-A509 (E.F.)
@ 1'-6" - 3'-0"

Ⓔ - 1 S.O. 3-A514 (E.F.)
@ 1'-6" - 3'-0"

LEGEND:

C.I.P. - CAST-IN-PLACE
C.J. - CONSTRUCTION JOINT
DIA. - DIAMETER
E.F. - EACH FACE
F.A. - FORWARD ABUTMENT
M.C. - MECHANICAL CONNECTOR
PEJF - PREFORMED EXPANSION JOINT FILLER
S.O. - SERIES OF
T/S - TOP OF SLOPE
U.N.O. - UNLESS NOTED OTHERWISE

NOTES:

1. PLACE TYPE 2 WATERPROOFING, 3' WIDE, CENTERED ON JOINT, FROM TOP OF FOOTING TO SEAT ELEVATION.
2. SEE MECHANICAL CONNECTOR NOTE, SHEET 5 / 77 .
3. SEE SHEET 28 / 77 FOR SECTIONS D-D, E-E & F-F.
4. MINIMUM STEEL LAP LENGTHS:

   #5 BAR - 2'-0"
   #8 BAR - 5'-6"
5. SEE STD. DWG. SICD-1-96 AND SECTIONS D-D, E-E & F-F FOR NEOPRENE SHEETING LIMITS AND DETAILS.
6. SEE SHEET 20 / 77 FOR FOUNDATION PLAN.

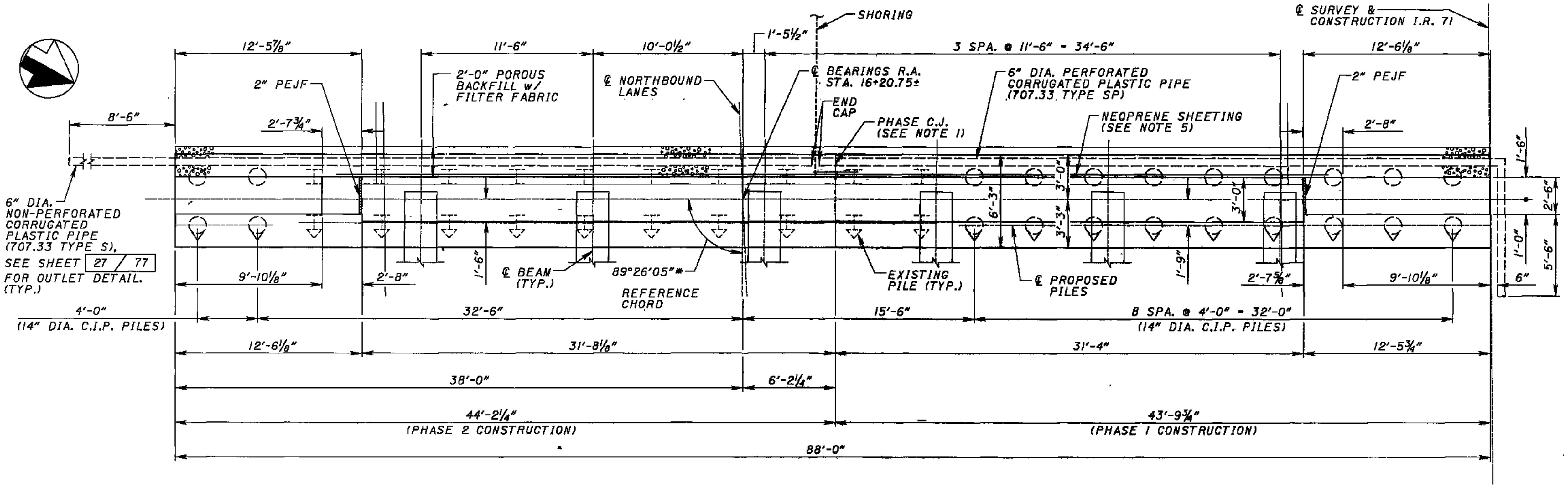
P:/PR30489/CADD/MED-71-0031/ME071fal.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202256-LEFT 5202280-RIGHT	

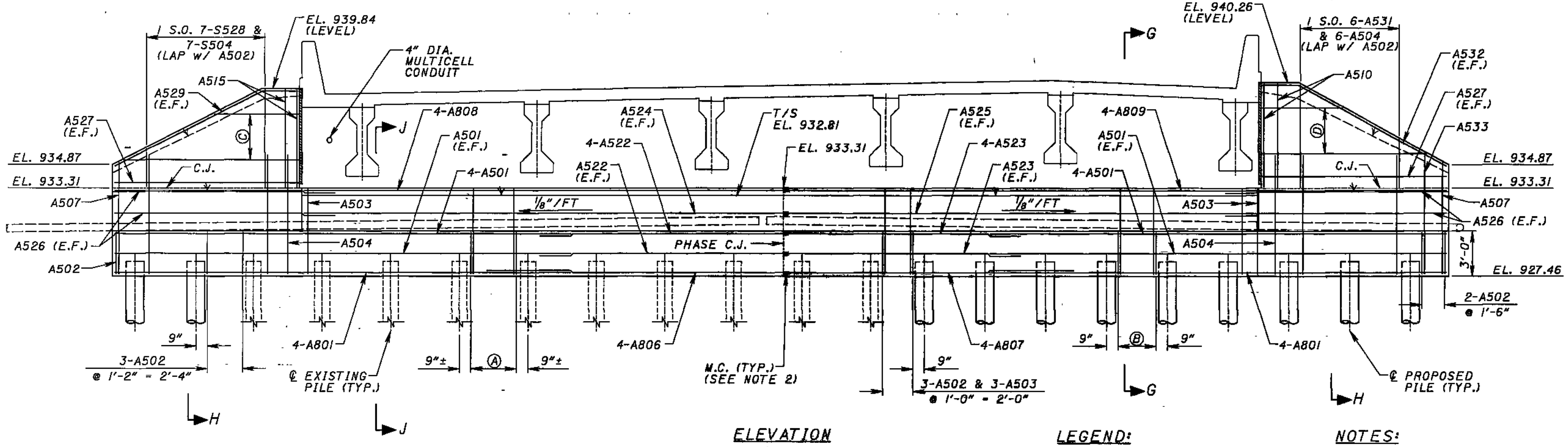
FORWARD ABUTMENT PLAN & ELEVATION - SOUTHBOUND
BRIDGE NO. MED-71-0031 L
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00



PLAN

(* - MEASURED BETWEEN ℄ BEARINGS AND REFERENCE CHORD)



ELEVATION

Ⓐ - 3-A502 & 3-A503 @ 1'-6" = 3'-0" (TYP. BETWEEN EXISTING PILES, U.N.O.)

Ⓑ - 3-A502 & 3-A503 @ 1'-3" = 2'-6" (TYP. BETWEEN 4'-0" SPACED PILES, U.N.O.)

Ⓒ - 1 S.O. 3-A509 (E.F.) @ 1'-6" = 3'-0"

Ⓓ - 1 S.O. 3-A530 (E.F.) @ 1'-6" = 3'-0"

LEGEND:

C.I.P. = CAST-IN-PLACE
C.J. = CONSTRUCTION JOINT
DIA. = DIAMETER
E.F. = EACH FACE
M.C. = MECHANICAL CONNECTOR
PEJF = PREFORMED EXPANSION JOINT FILLER
R.A. = REAR ABUTMENT
S.O. = SERIES OF
T/S = TOP OF SLOPE
U.N.O. = UNLESS NOTED OTHERWISE

NOTES:

1. PLACE TYPE 2 WATERPROOFING, 3' WIDE, CENTERED ON JOINT, FROM TOP OF FOOTING TO SEAT ELEVATION.
2. SEE MECHANICAL CONNECTOR NOTE, SHEET 5 / 77 .
3. SEE SHEET 29 / 77 FOR SECTIONS G-G, H-H & J-J.
4. MINIMUM STEEL LAP LENGTHS:

   #5 BAR = 2'-0"
   #8 BAR = 5'-6"
5. SEE STD. DWG. SICD-1-96 AND SECTIONS G-G, H-H & J-J FOR NEOPRENE SHEETING LIMITS AND DETAILS.
6. SEE SHEET 21 / 77 FOR FOUNDATION PLAN.

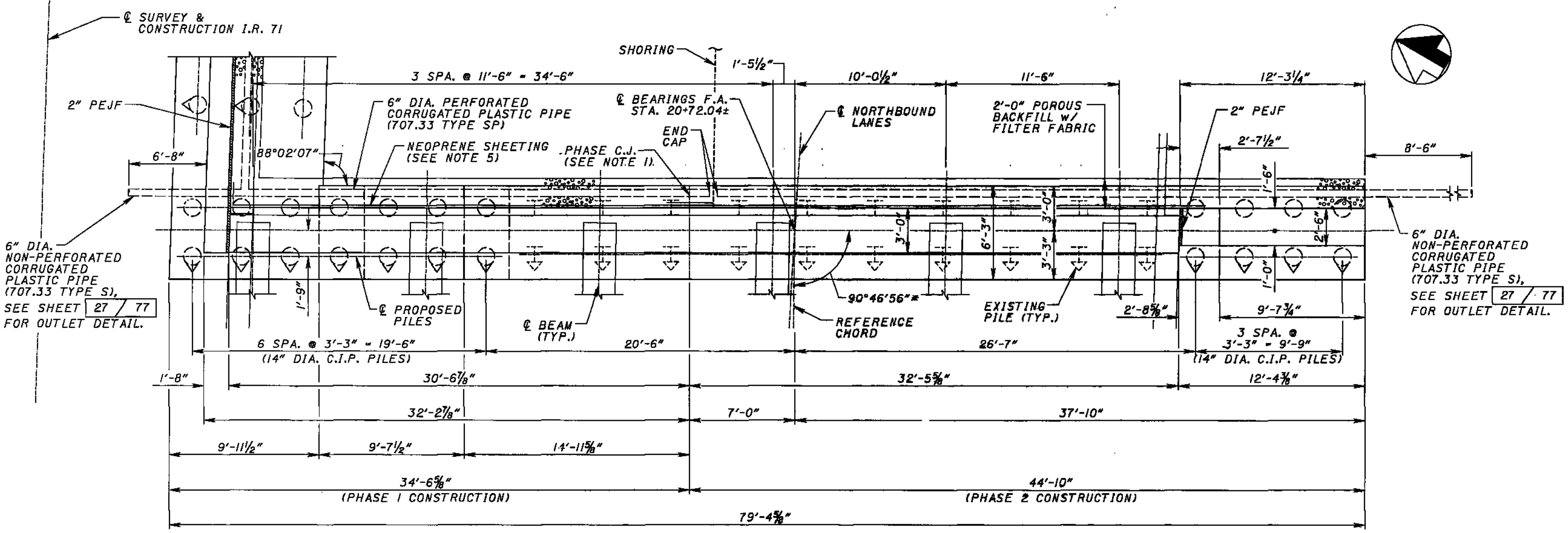
P:/PR30489/CADD/MED-71-0031/ME071ra2.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED TTK	DRAWN TTK	REVIEWED CAS	DATE 6/03
CHECKED WTL	REVISED	STRUCTURE FILE NUMBER 5202256-LEFT 5202280-RIGHT	

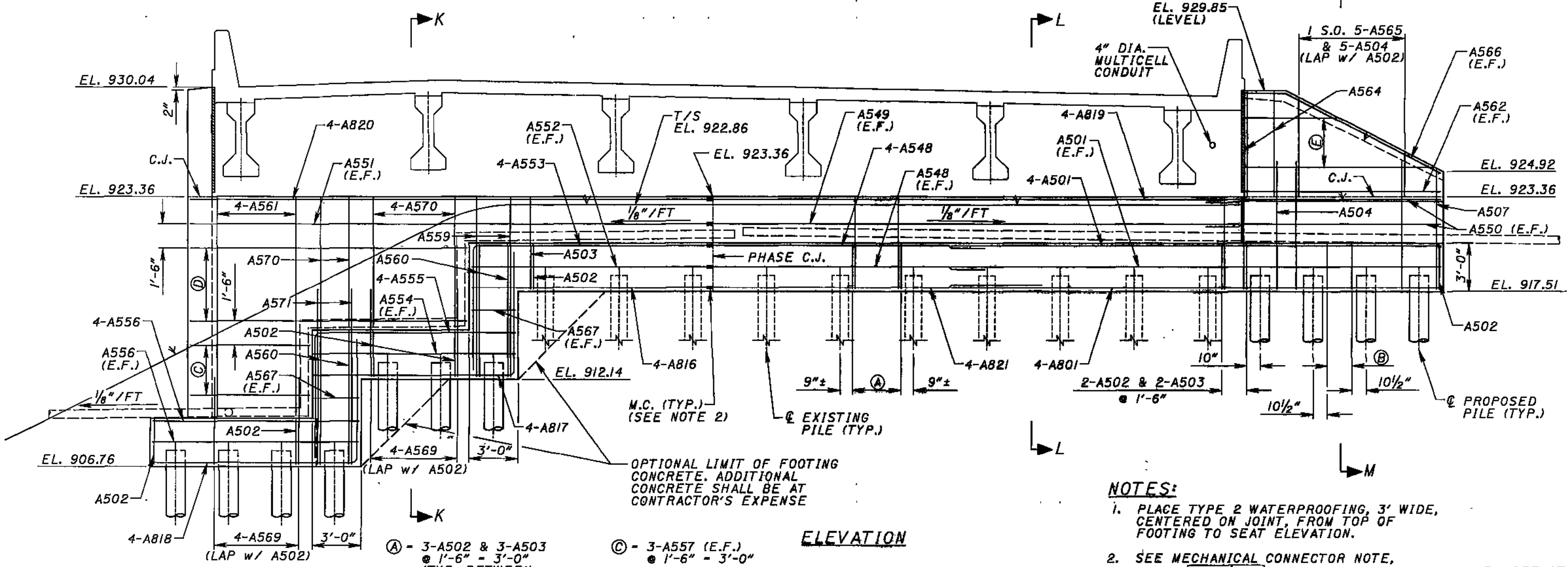
REAR ABUTMENT PLAN & ELEVATION - NORTHBOUND
BRIDGE NO. MED-71-0031 R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00



PLAN

(* - MEASURED BETWEEN ℄ BEARINGS AND REFERENCE CHORD)



ELEVATION

Ⓐ - 3-A502 & 3-A503
@ 1'-6" - 3'-0"
(TYP. BETWEEN
EXISTING PILES)

Ⓑ - 2-A502 @ 1'-6"
(TYP. BETWEEN
PROPOSED PILES, U.N.O.)

Ⓒ - 3-A557 (E.F.)
@ 1'-6" - 3'-0"

Ⓓ - 4-A558 (E.F.)
@ 1'-6" - 4'-6"

Ⓔ - 1 S.O. 3-A563 (E.F.)
@ 1'-6" - 3'-0"

NOTES:

1. PLACE TYPE 2 WATERPROOFING, 3' WIDE, CENTERED ON JOINT, FROM TOP OF FOOTING TO SEAT ELEVATION.
2. SEE MECHANICAL CONNECTOR NOTE, SHEET 5 / 77.
3. SEE SHEET 30 / 77 FOR SECTIONS K-K, L-L & M-M.
4. MINIMUM STEEL LAP LENGTHS:
   #5 BAR = 2'-0"
   #8 BAR = 5'-6"
5. SEE STD. DWG. SICD-1-96 AND SECTIONS K-K, L-L & M-M FOR NEOPRENE SHEETING LIMITS AND DETAILS.
6. SEE SHEET 32 / 77 FOR WINGWALL DETAILS.
7. SEE SHEET 22 / 77 FOR FOUNDATION PLAN.

LEGEND:

C.I.P. = CAST-IN-PLACE
C.J. = CONSTRUCTION JOINT
DIA. = DIAMETER
E.F. = EACH FACE
F.A. = FORWARD ABUTMENT
M.C. = MECHANICAL CONNECTOR
PEJF = PREFORMED EXPANSION
JOINT FILLER
S.O. = SERIES OF
T/S = TOP OF SLOPE
U.N.O. = UNLESS NOTED OTHERWISE

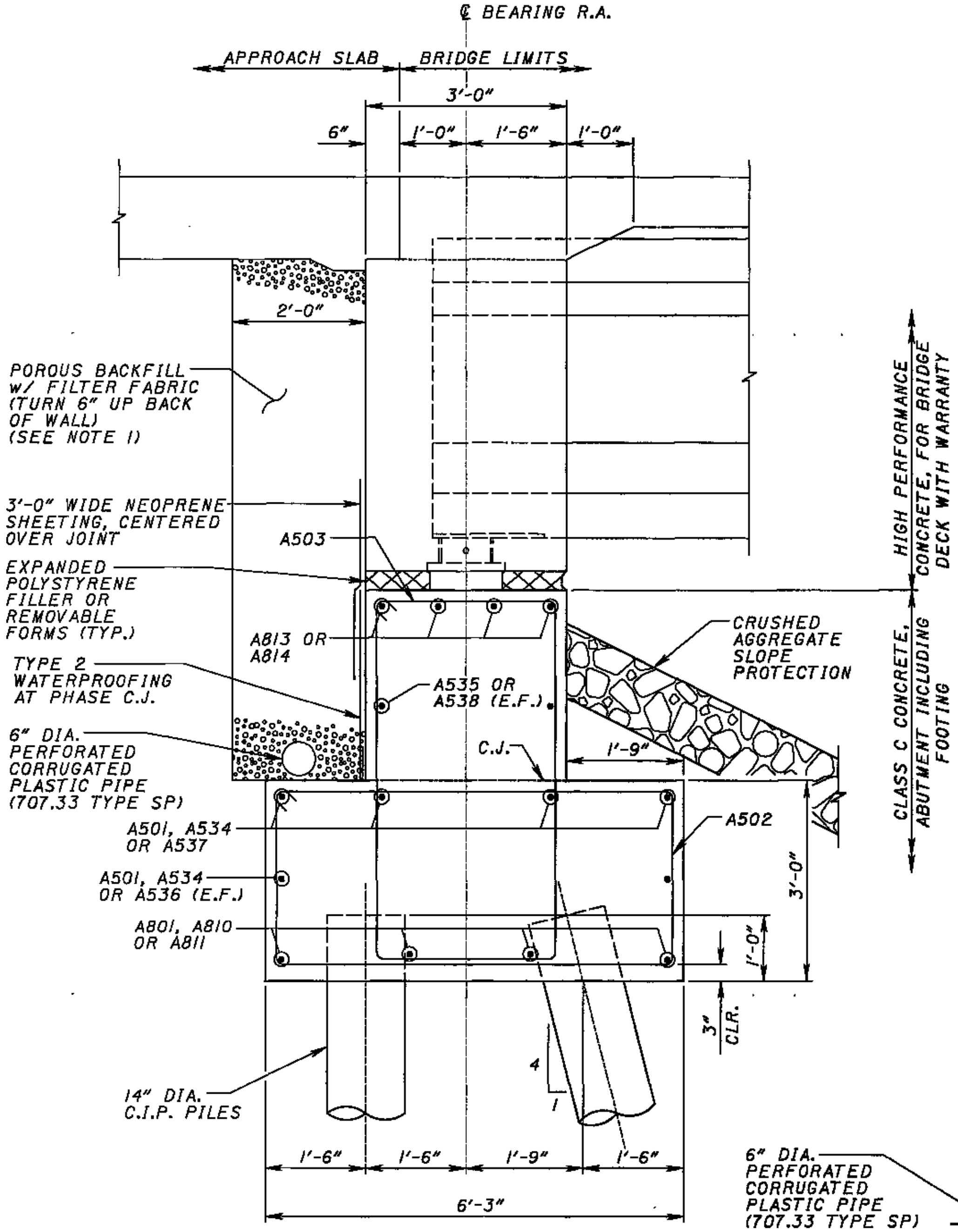
BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202256-LEFT 5202280-RIGHT	

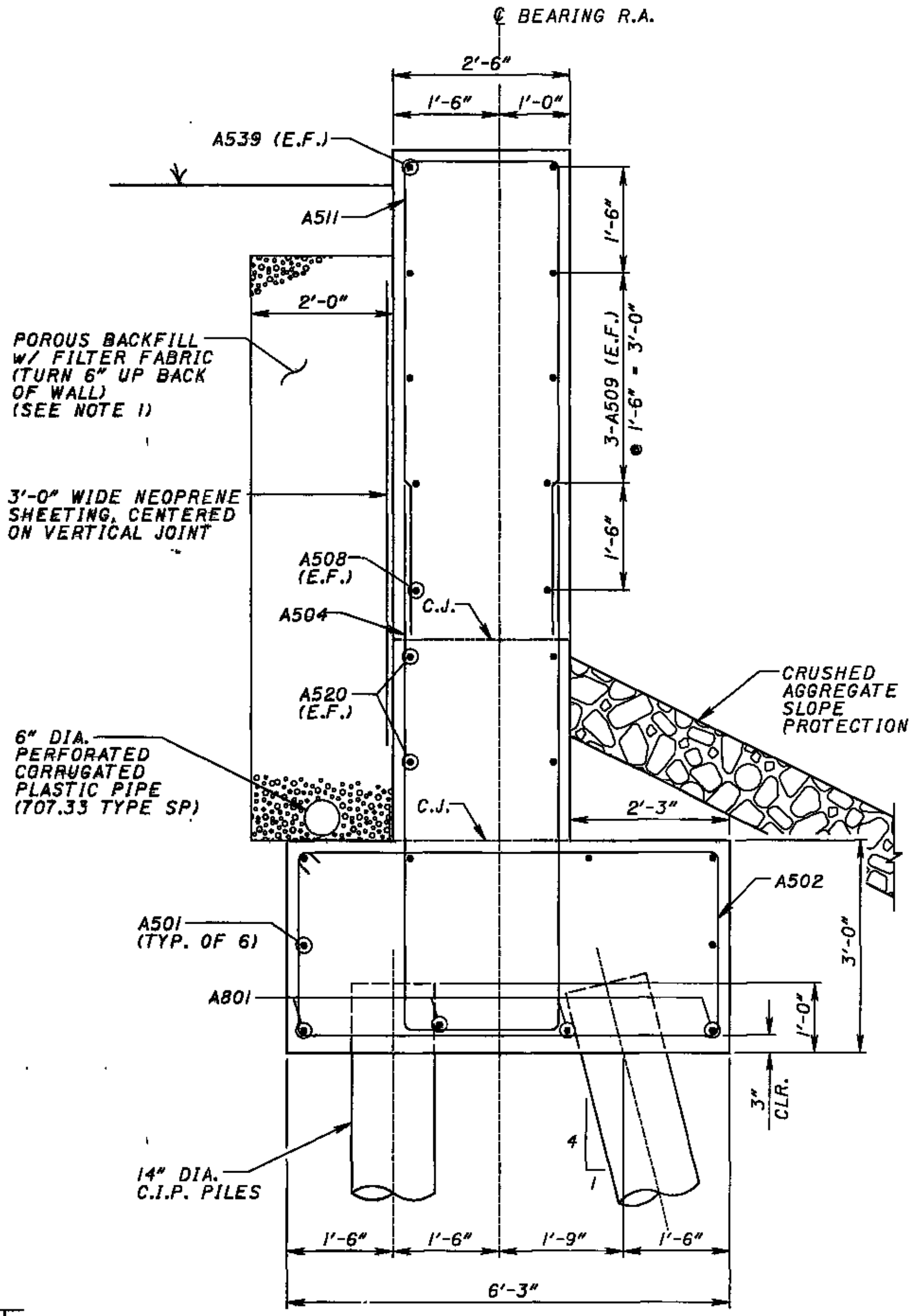
FORWARD ABUTMENT PLAN & ELEVATION - NORTHBOUND
BRIDGE NO. MED-71-0031 R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

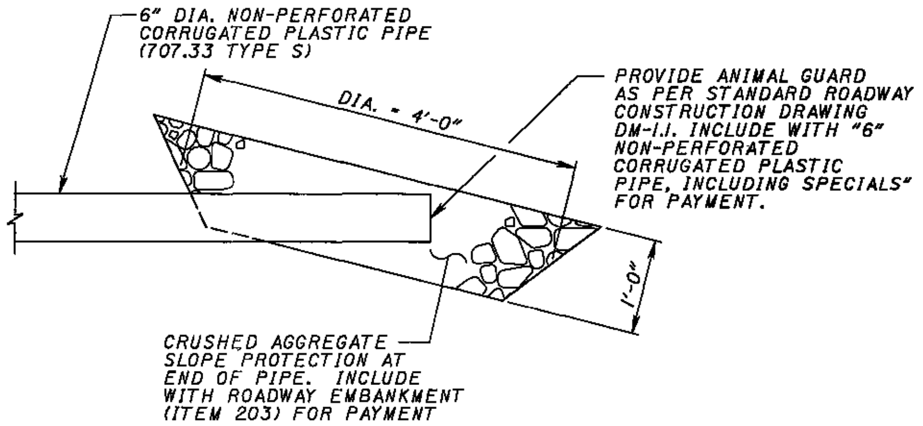
P:/PR30489/CADD/MED-71-0031/ME071fa2.DGN


℄ BEARING R.A.
APPROACH SLAB
BRIDGE LIMITS
3'-0"
6"
1'-0"
1'-6"
1'-0"
2'-0"
POROUS BACKFILL w/ FILTER FABRIC (TURN 6" UP BACK OF WALL) (SEE NOTE 1)
3'-0" WIDE NEOPRENE SHEETING, CENTERED OVER JOINT
A503
EXPANDED POLYSTYRENE FILLER OR REMOVABLE FORMS (TYP.)
A813 OR A814
TYPE 2 WATERPROOFING AT PHASE C.J.
A535 OR A538 (E.F.)
6" DIA. PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE SP)
C.J.
1'-9"
CRUSHED AGGREGATE SLOPE PROTECTION
HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY
CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING
A501, A534 OR A537
A501, A534 OR A536 (E.F.)
A801, A810 OR A811
A502
3'-0"
1'-0"
3" CLR.
4
1
14" DIA. C.I.P. PILES
1'-6"
1'-6"
1'-9"
1'-6"
6'-3"

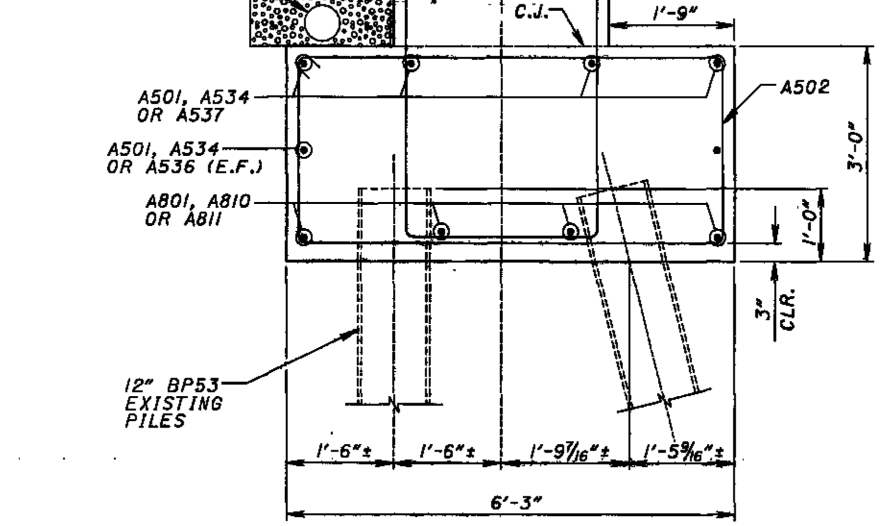
SECTION A-A


℄ BEARING R.A.
2'-6"
1'-6"
1'-0"
A539 (E.F.)
A511
1'-6"
3-A509 (E.F.) @ 1'-6" = 3'-0"
1'-6"
2'-0"
POROUS BACKFILL w/ FILTER FABRIC (TURN 6" UP BACK OF WALL) (SEE NOTE 1)
3'-0" WIDE NEOPRENE SHEETING, CENTERED ON VERTICAL JOINT
A508 (E.F.)
C.J.
A504
A520 (E.F.)
6" DIA. PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE SP)
C.J.
2'-3"
CRUSHED AGGREGATE SLOPE PROTECTION
A502
A501 (TYP. OF 6)
A801
3'-0"
1'-0"
3" CLR.
4
1
14" DIA. C.I.P. PILES
1'-6"
1'-6"
1'-9"
1'-6"
6'-3"

SECTION B-B


6" DIA. NON-PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE S)
DIA. = 4'-0"
PROVIDE ANIMAL GUARD AS PER STANDARD ROADWAY CONSTRUCTION DRAWING DM-1.1. INCLUDE WITH "6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS" FOR PAYMENT.
1'-0"
CRUSHED AGGREGATE SLOPE PROTECTION AT END OF PIPE. INCLUDE WITH ROADWAY EMBANKMENT (ITEM 203) FOR PAYMENT

OUTLET DETAIL



SECTION C-C

LEGEND:

C.I.P. = CAST-IN-PLACE
C.J. = CONSTRUCTION JOINT
CLR. = CLEAR
DIA. = DIAMETER
E.F. = EACH FACE
R.A. = REAR ABUTMENT

NOTES:

1. EXTEND POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK, UP TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.
2. SEE STD. DWG. SICD-1-96 FOR DETAILS NOT SHOWN.

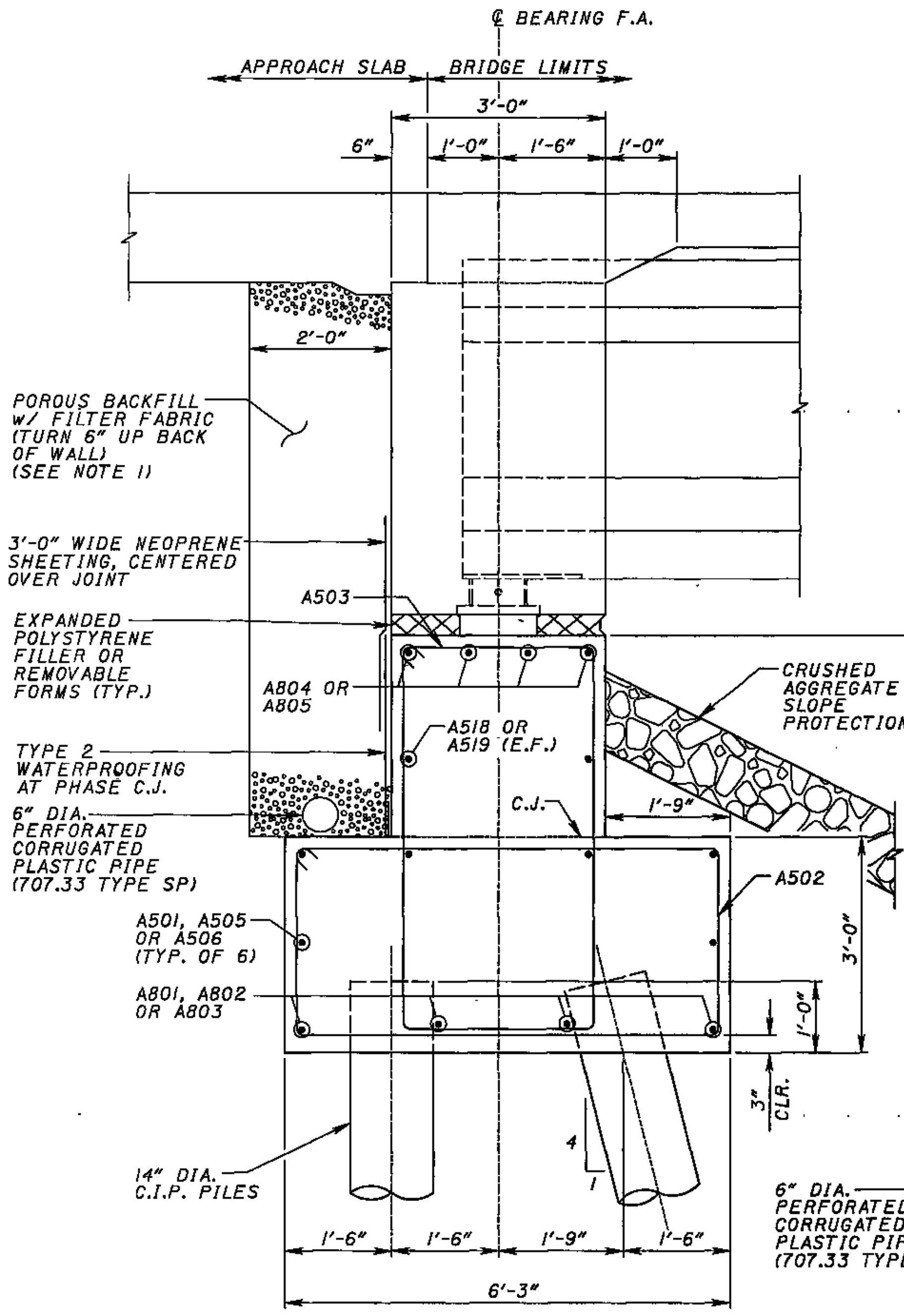
P:/PR30489/CADD/MED-71-0031/ME071ra3.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202256-LEFT 5202280-RIGHT	

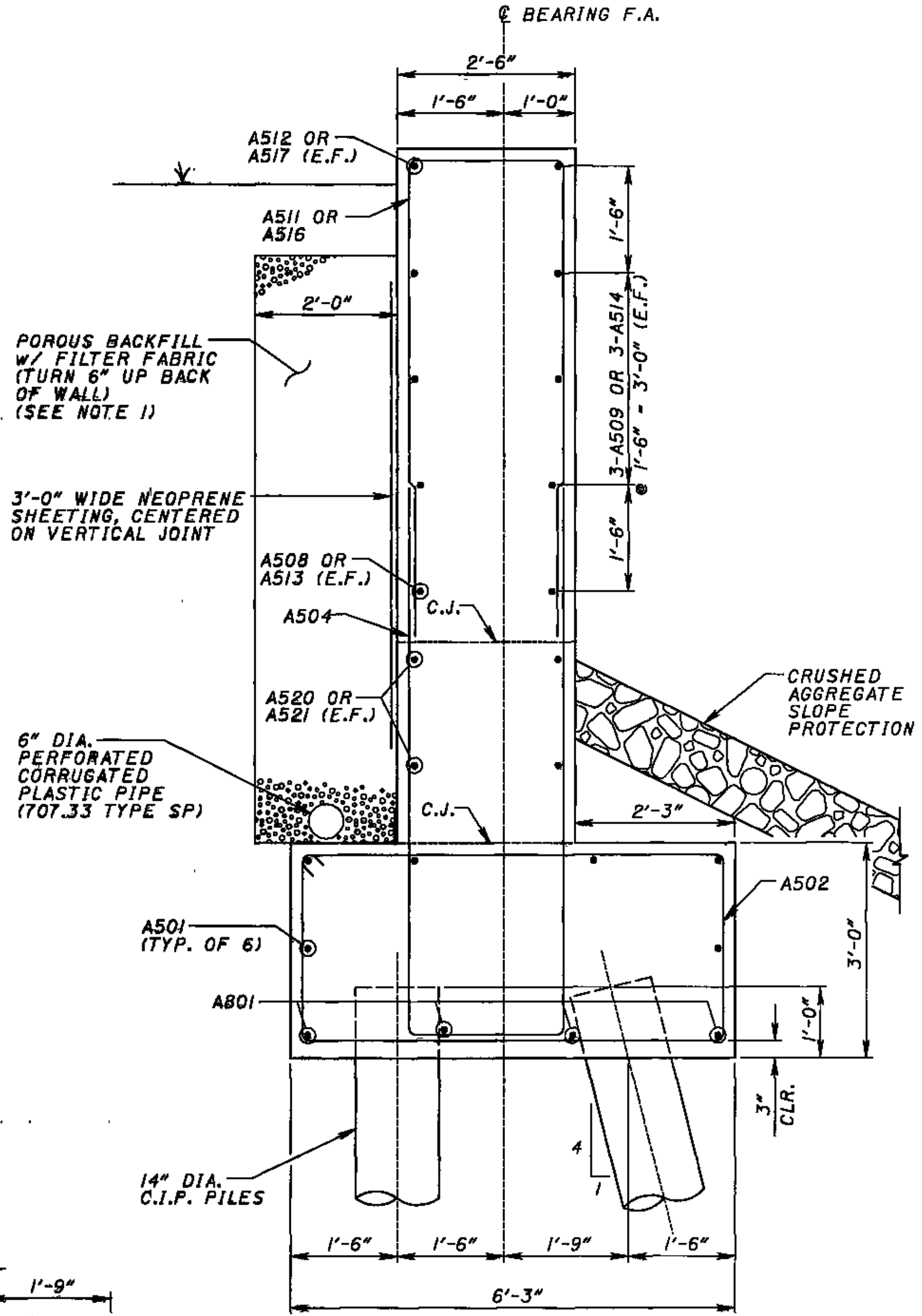
REAR ABUTMENT DETAILS - SOUTHBOUND
BRIDGE NO. MED-71-0031 L
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00



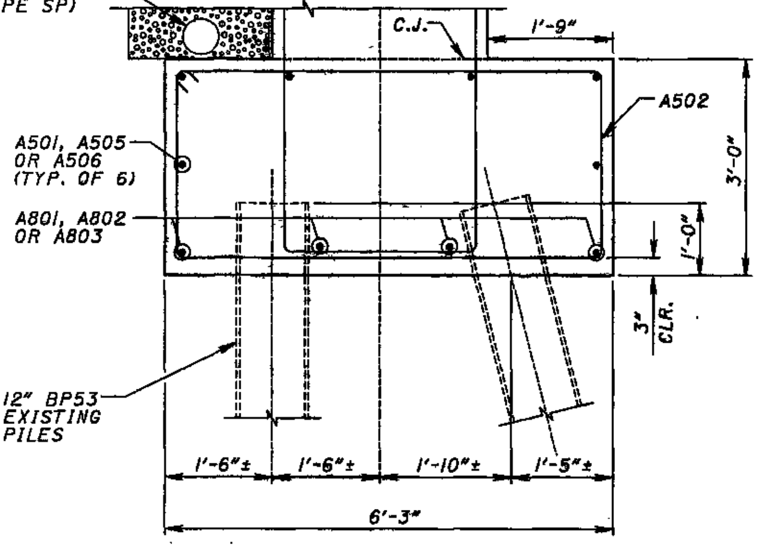
℄ BEARING F.A.
APPROACH SLAB
BRIDGE LIMITS
3'-0"
6"
1'-0"
1'-6"
1'-0"
2'-0"
POROUS BACKFILL w/ FILTER FABRIC (TURN 6" UP BACK OF WALL) (SEE NOTE 1)
3'-0" WIDE NEOPRENE SHEETING, CENTERED OVER JOINT
A503
EXPANDED POLYSTYRENE FILLER OR REMOVABLE FORMS (TYP.)
A804 OR A805
A518 OR A519 (E.F.)
TYPE 2 WATERPROOFING AT PHASE C.J.
6" DIA. PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE SP)
C.J.
1'-9"
CRUSHED AGGREGATE SLOPE PROTECTION
HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY
CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING
A502
A501, A505 OR A506 (TYP. OF 6)
A801, A802 OR A803
3'-0"
1'-0"
3" CLR.
4
1
14" DIA. C.I.P. PILES
1'-6"
1'-6"
1'-9"
1'-6"
6'-3"

SECTION D-D



℄ BEARING F.A.
2'-6"
1'-6"
1'-0"
A512 OR A517 (E.F.)
A511 OR A516
2'-0"
1'-6"
3-A509 OR 3-A514 @ 1'-6" - 3'-0" (E.F.)
1'-6"
POROUS BACKFILL w/ FILTER FABRIC (TURN 6" UP BACK OF WALL) (SEE NOTE 1)
3'-0" WIDE NEOPRENE SHEETING, CENTERED ON VERTICAL JOINT
A508 OR A513 (E.F.)
A504
C.J.
A520 OR A521 (E.F.)
6" DIA. PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE SP)
C.J.
2'-3"
CRUSHED AGGREGATE SLOPE PROTECTION
A502
A501 (TYP. OF 6)
A801
3'-0"
1'-0"
3" CLR.
4
1
14" DIA. C.I.P. PILES
1'-6"
1'-6"
1'-9"
1'-6"
6'-3"

SECTION E-E



SECTION F-F

LEGEND:

C.I.P. = CAST-IN-PLACE
C.J. - CONSTRUCTION JOINT
CLR. - CLEAR
DIA. - DIAMETER
E.F. - EACH FACE
F.A. - FORWARD ABUTMENT

NOTES:

1. EXTEND POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK, UP TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.
2. SEE STD. DWG. SICD-1-96 FOR DETAILS NOT SHOWN.

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED TTK
DRAWN TTK
REVIEWED CAS
DATE 6/03
CHECKED WTL
REVISED
STRUCTURE FILE NUMBER 5202256-LEFT 5202280-RIGHT

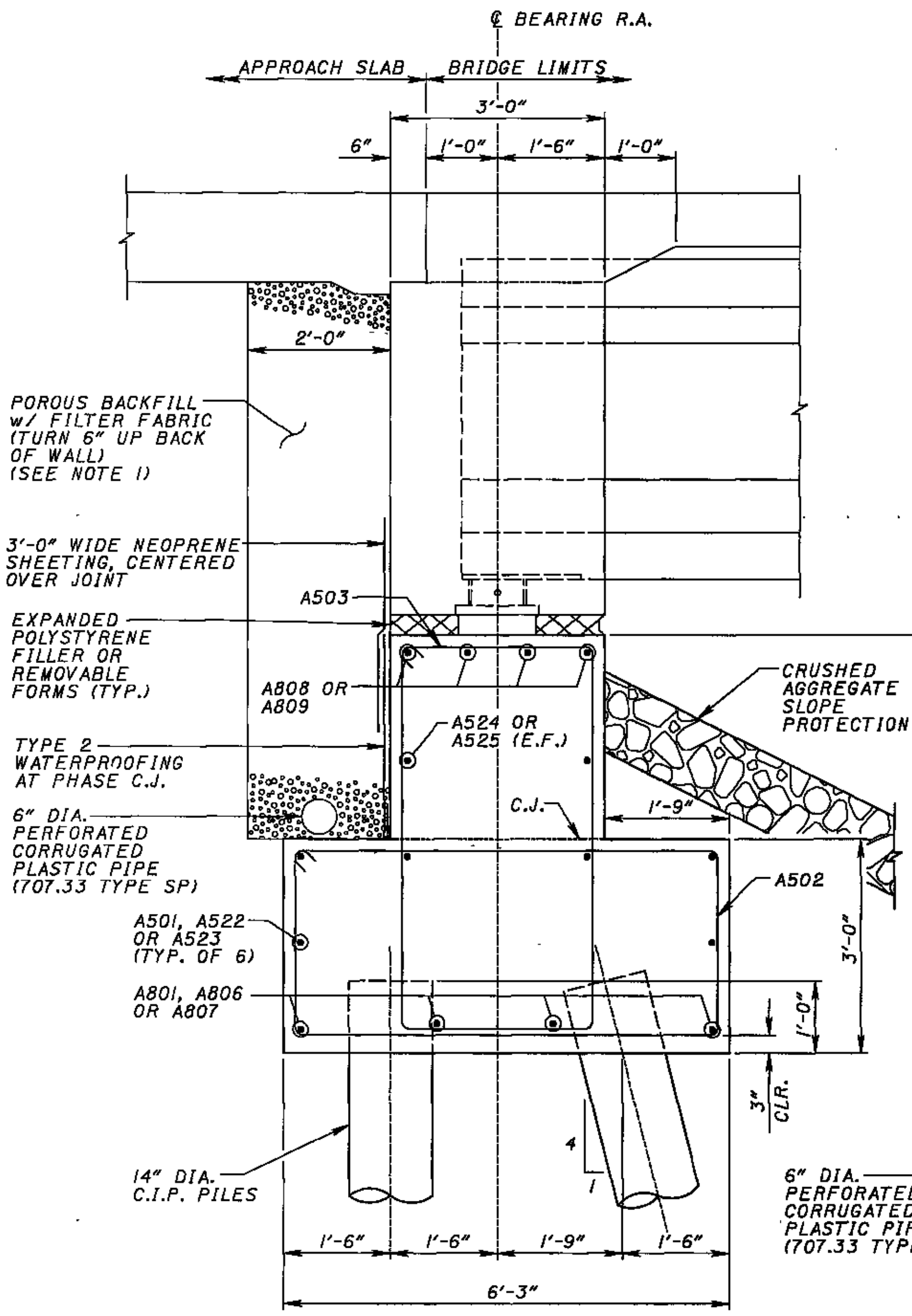
FORWARD ABUTMENT DETAILS - SOUTHBOUND
BRIDGE NO. MED-71-0031 L
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

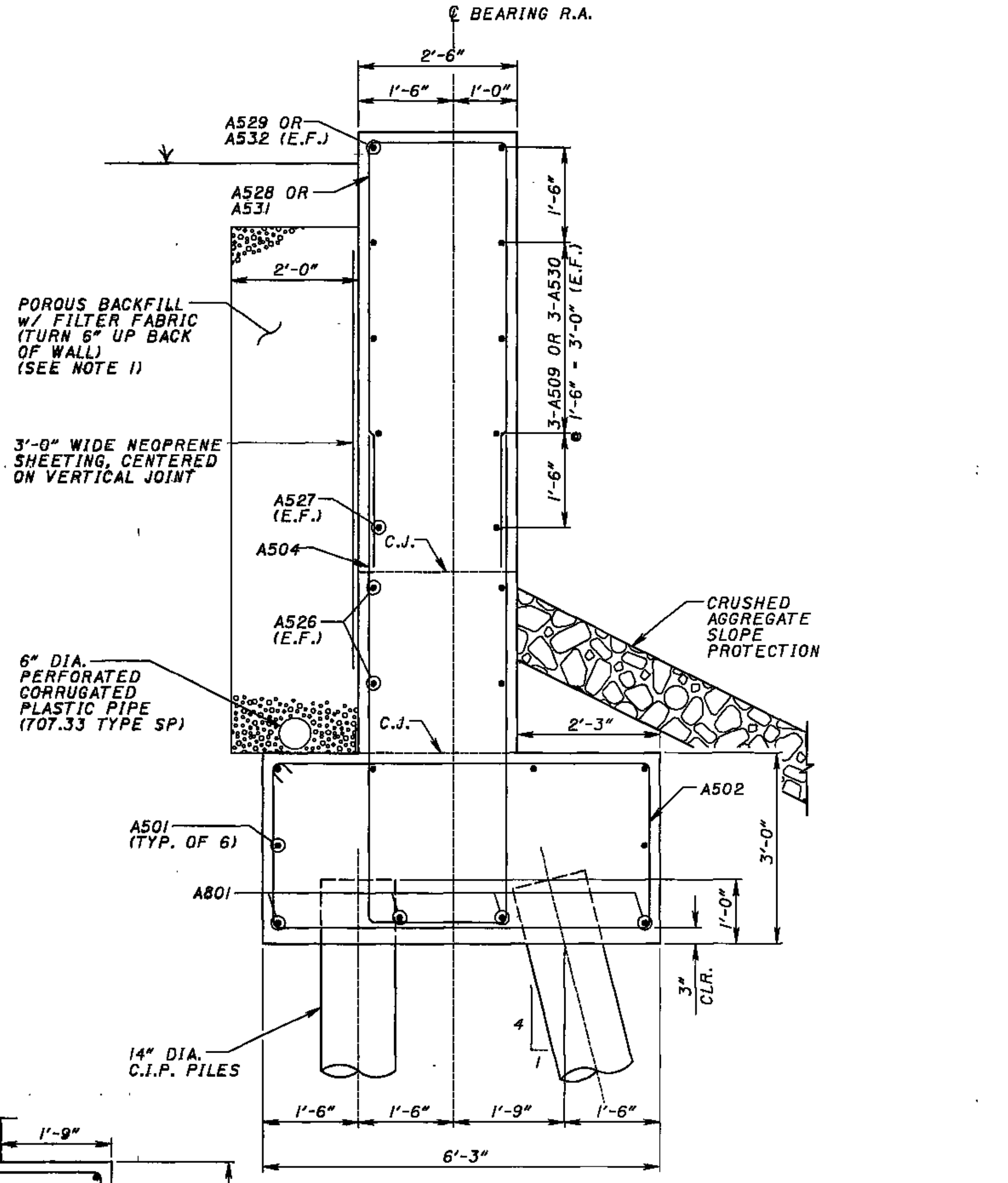
28/77

510/785

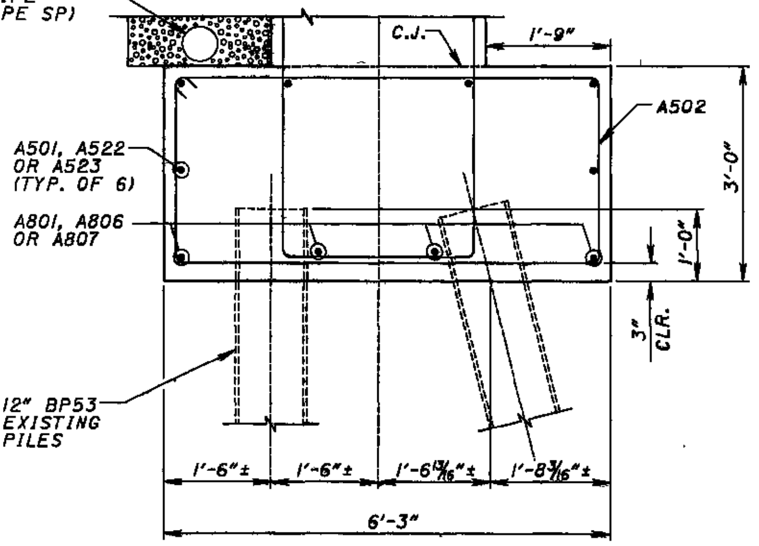
P:/PR30489/CADD/MED-71-0031/ME071fa3.DGN


℄ BEARING R.A.
APPROACH SLAB
BRIDGE LIMITS
3'-0"
6"
1'-0"
1'-6"
1'-0"
2'-0"
POROUS BACKFILL w/ FILTER FABRIC (TURN 6" UP BACK OF WALL) (SEE NOTE 1)
3'-0" WIDE NEOPRENE SHEETING, CENTERED OVER JOINT
A503
EXPANDED POLYSTYRENE FILLER OR REMOVABLE FORMS (TYP.)
A808 OR A809
A524 OR A525 (E.F.)
TYPE 2 WATERPROOFING AT PHASE C.J.
6" DIA. PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE SP)
C.J.
1'-9"
CRUSHED AGGREGATE SLOPE PROTECTION
HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY
CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING
A502
A501, A522 OR A523 (TYP. OF 6)
A801, A806 OR A807
3'-0"
1'-0"
3" CLR.
4
1
14" DIA. C.I.P. PILES
1'-6"
1'-6"
1'-9"
1'-6"
6'-3"

SECTION G-G


℄ BEARING R.A.
2'-6"
1'-6"
1'-0"
A529 OR A532 (E.F.)
A528 OR A531
2'-0"
1'-6"
3-A509 OR 3-A530 @ 1'-6" - 3'-0" (E.F.)
1'-6"
POROUS BACKFILL w/ FILTER FABRIC (TURN 6" UP BACK OF WALL) (SEE NOTE 1)
3'-0" WIDE NEOPRENE SHEETING, CENTERED ON VERTICAL JOINT
A527 (E.F.)
C.J.
A504
A526 (E.F.)
CRUSHED AGGREGATE SLOPE PROTECTION
6" DIA. PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE SP)
C.J.
2'-3"
A502
A501 (TYP. OF 6)
A801
3'-0"
1'-0"
3" CLR.
4
1
14" DIA. C.I.P. PILES
1'-6"
1'-6"
1'-9"
1'-6"
6'-3"

SECTION H-H



SECTION J-J

LEGEND:

C.I.P. - CAST-IN-PLACE
C.J. - CONSTRUCTION JOINT
CLR. - CLEAR
DIA. - DIAMETER
E.F. - EACH FACE
R.A. - REAR ABUTMENT

NOTES:

1. EXTEND POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK, UP TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.
2. SEE STD. DWG. SICD-1-96 FOR DETAILS NOT SHOWN.

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

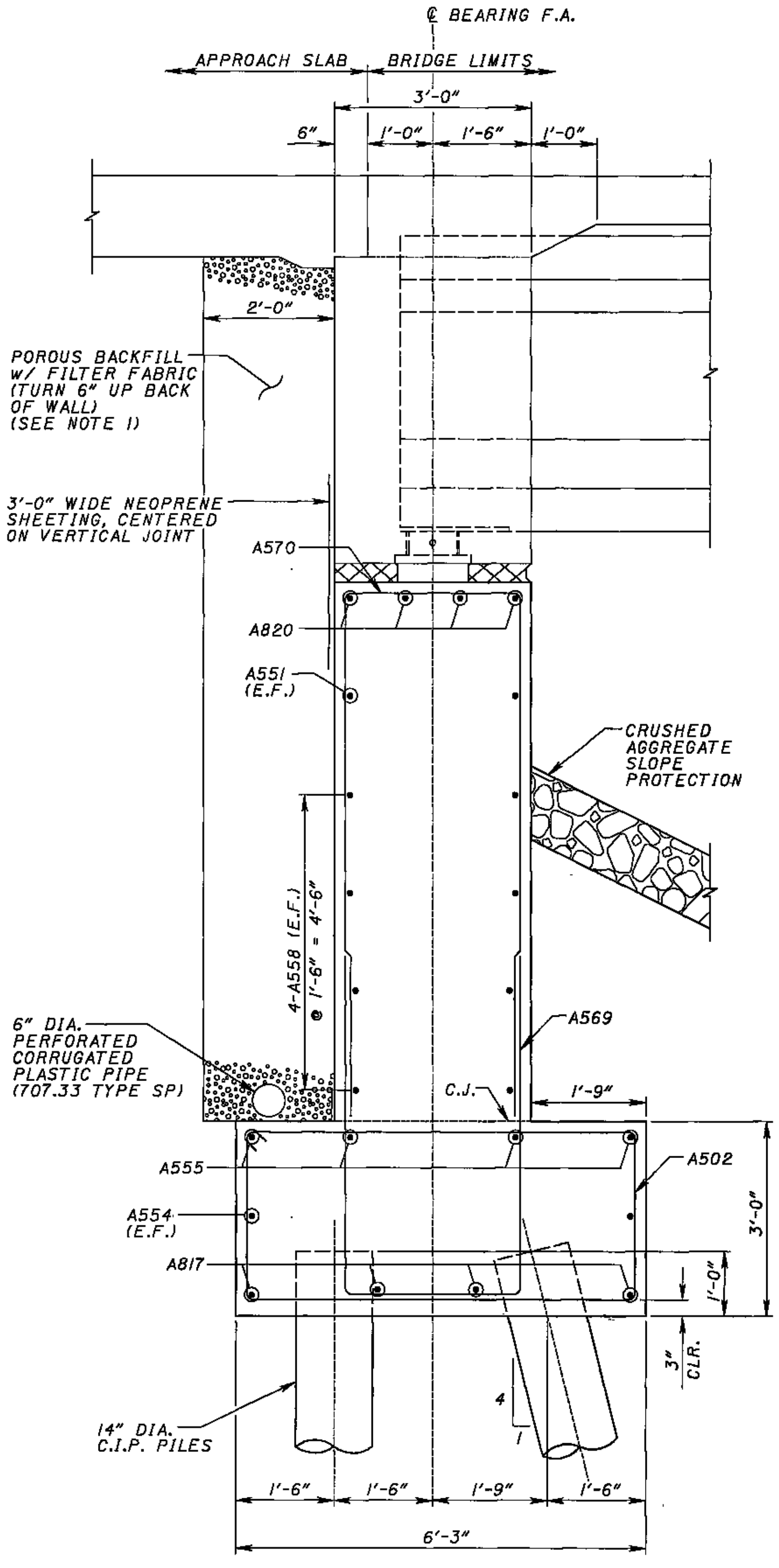
DESIGNED TTK
DRAWN TTK
REVIEWED CAS
DATE 6/03
CHECKED WTL
REVISED
STRUCTURE FILE NUMBER 5202256-LEFT, 5202280-RIGHT

REAR ABUTMENT DETAILS - NORTHBOUND
BRIDGE NO. MED-71-0031 R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

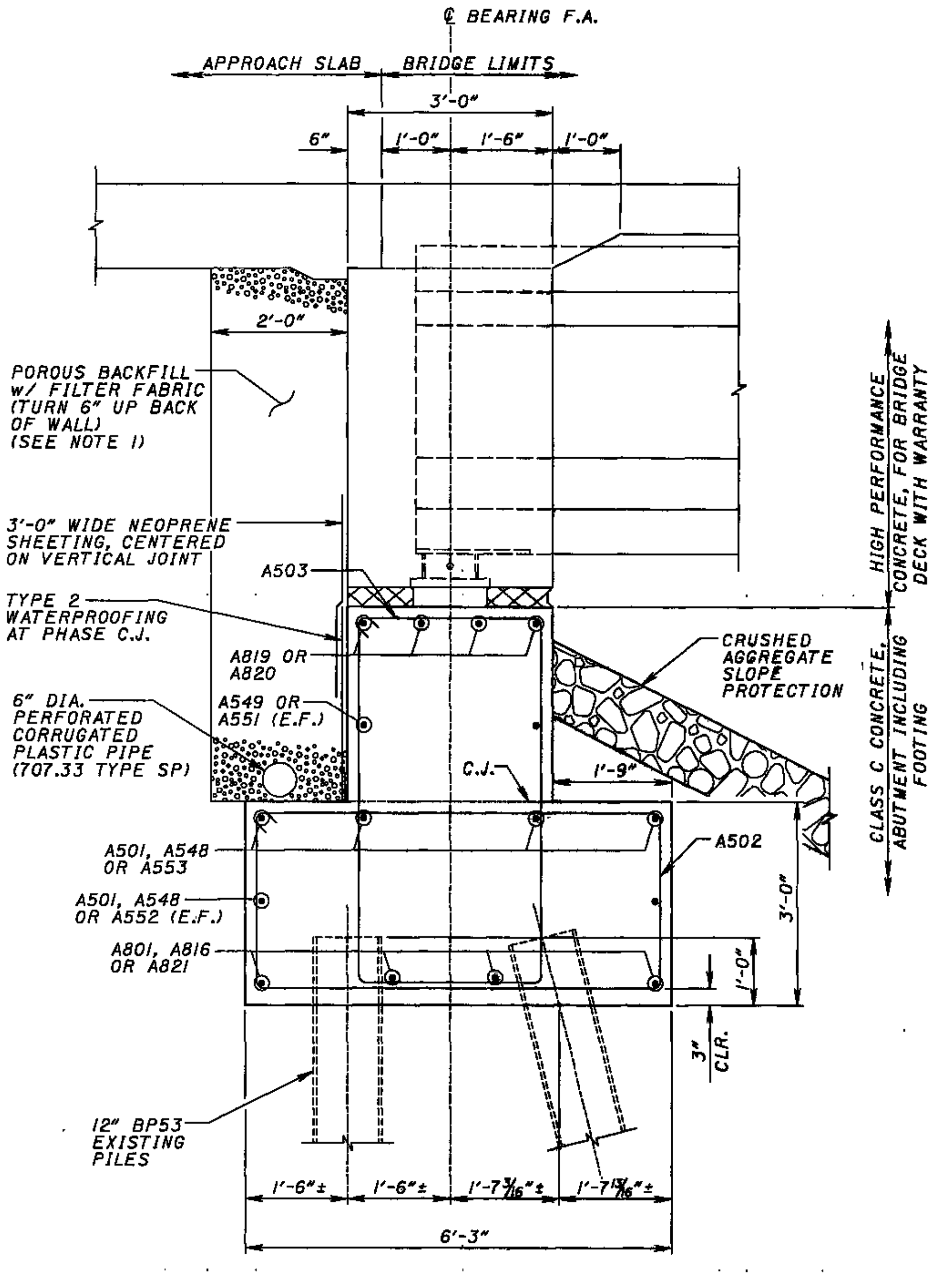
29/77

511/785



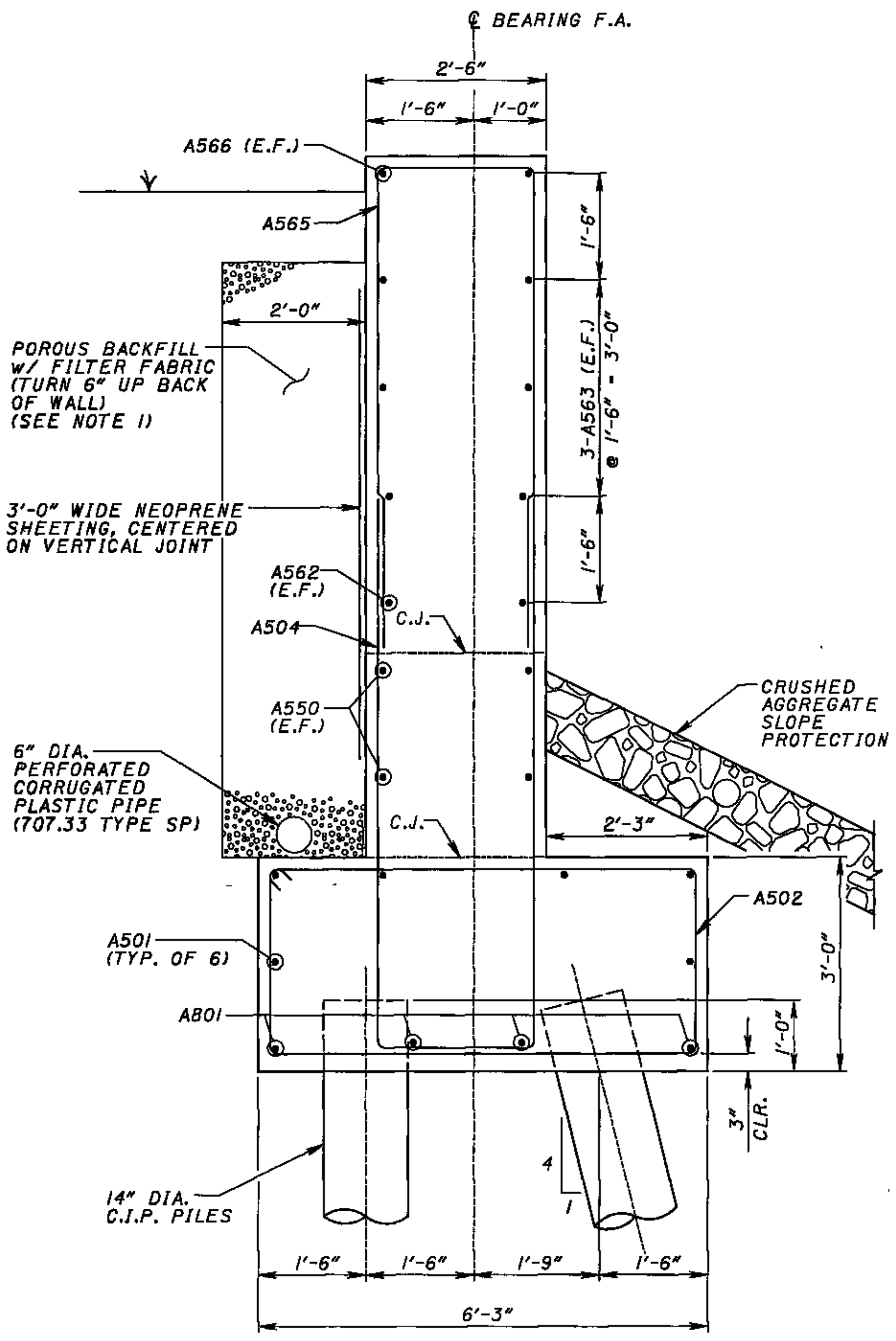
℄ BEARING F.A.
APPROACH SLAB
BRIDGE LIMITS
3'-0"
6"
1'-0"
1'-6"
1'-0"
2'-0"
POROUS BACKFILL w/ FILTER FABRIC (TURN 6" UP BACK OF WALL) (SEE NOTE 1)
3'-0" WIDE NEOPRENE SHEETING, CENTERED ON VERTICAL JOINT
A570
A820
A551 (E.F.)
CRUSHED AGGREGATE SLOPE PROTECTION
4-A558 (E.F.) @ 1'-6" = 4'-6"
A569
6" DIA. PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE SP)
C.J.
1'-9"
A555
A502
A554 (E.F.)
3'-0"
A817
1'-0"
3" CLR.
4
1
14" DIA. C.I.P. PILES
1'-6"
1'-6"
1'-9"
1'-6"
6'-3"

SECTION K-K



℄ BEARING F.A.
APPROACH SLAB
BRIDGE LIMITS
3'-0"
6"
1'-0"
1'-6"
1'-0"
2'-0"
POROUS BACKFILL w/ FILTER FABRIC (TURN 6" UP BACK OF WALL) (SEE NOTE 1)
3'-0" WIDE NEOPRENE SHEETING, CENTERED ON VERTICAL JOINT
A503
TYPE 2 WATERPROOFING AT PHASE C.J.
HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY
CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING
CRUSHED AGGREGATE SLOPE PROTECTION
6" DIA. PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE SP)
A819 OR A820
A549 OR A551 (E.F.)
C.J.
1'-9"
A501, A548 OR A553
A502
A501, A548 OR A552 (E.F.)
3'-0"
A801, A816 OR A821
1'-0"
3" CLR.
12" BP53 EXISTING PILES
1'-6"±
1'-6"±
1'-7 3/16"±
1'-7 13/16"±
6'-3"

SECTION L-L



℄ BEARING F.A.
2'-6"
1'-6"
1'-0"
A566 (E.F.)
A565
1'-6"
3-A563 (E.F.) @ 1'-6" = 3'-0"
1'-6"
2'-0"
POROUS BACKFILL w/ FILTER FABRIC (TURN 6" UP BACK OF WALL) (SEE NOTE 1)
3'-0" WIDE NEOPRENE SHEETING, CENTERED ON VERTICAL JOINT
A562 (E.F.)
C.J.
A504
A550 (E.F.)
CRUSHED AGGREGATE SLOPE PROTECTION
6" DIA. PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE SP)
C.J.
2'-3"
A502
A501 (TYP. OF 6)
3'-0"
A801
1'-0"
3" CLR.
4
1
14" DIA. C.I.P. PILES
1'-6"
1'-6"
1'-9"
1'-6"
6'-3"

SECTION M-M

LEGEND:

C.I.P. - CAST-IN-PLACE
C.J. - CONSTRUCTION JOINT
CLR. - CLEAR
DIA. - DIAMETER
E.F. - EACH FACE
F.A. - REAR ABUTMENT

NOTES:

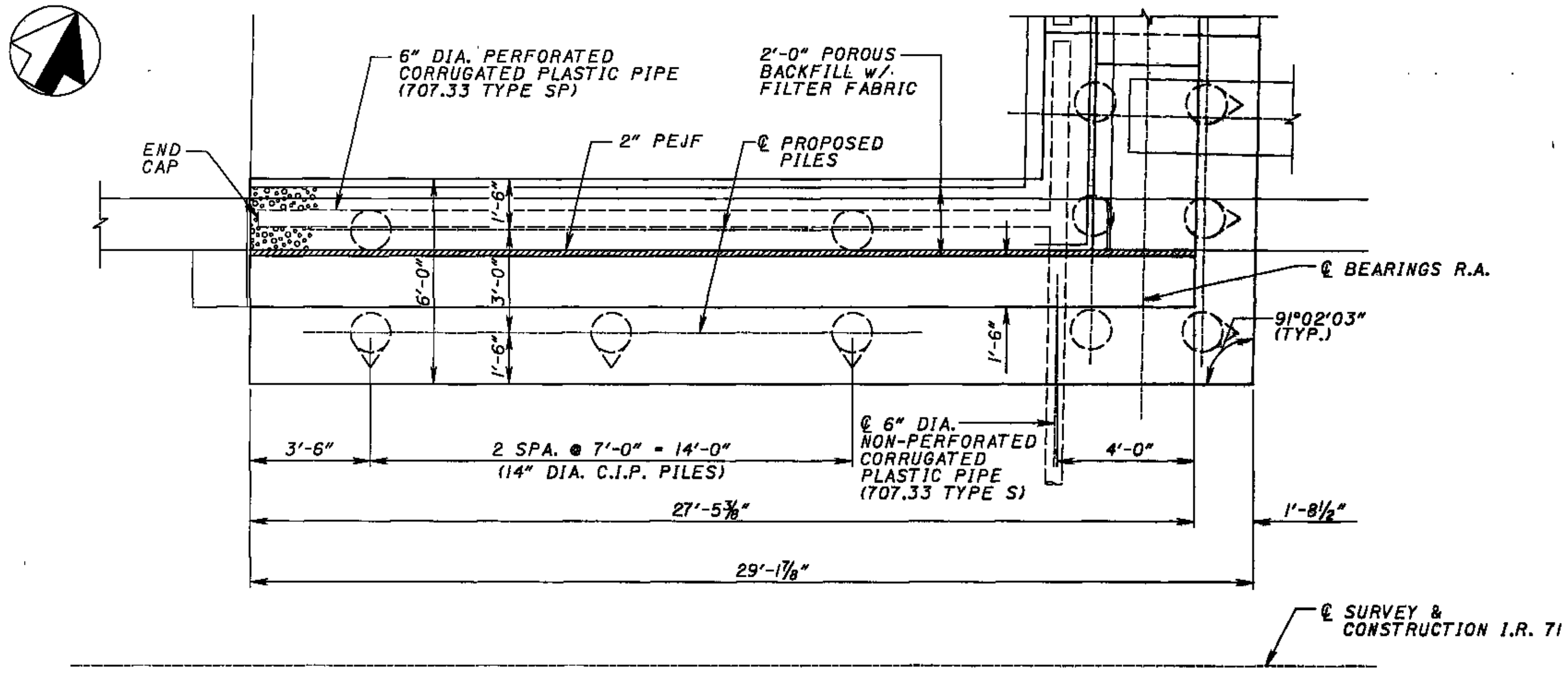
1. EXTEND POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK, UP TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.
2. SEE STD. DWG. SICD-1-96 FOR DETAILS NOT SHOWN.

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

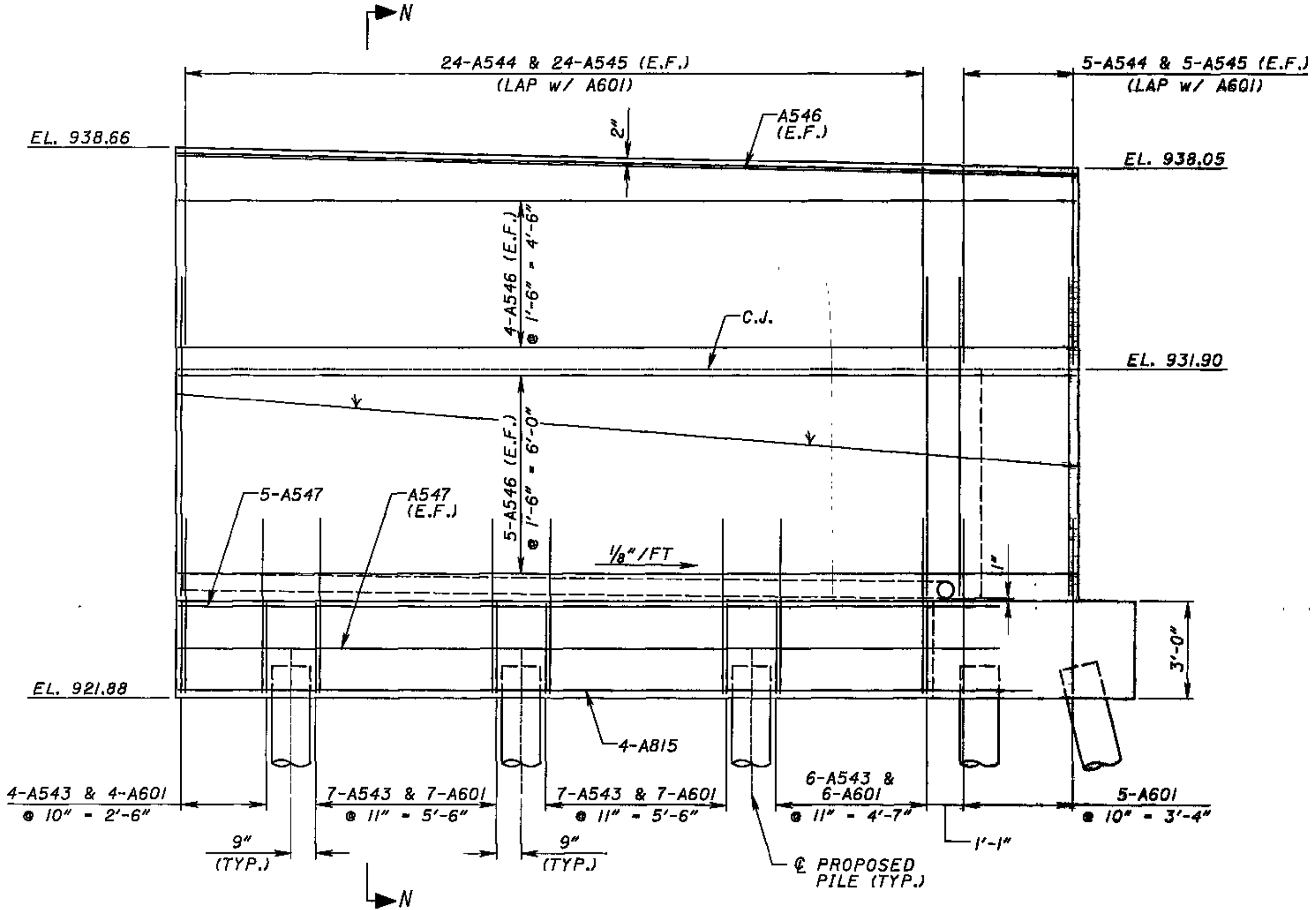
DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202256-LEFT 5202280-RIGHT	

FORWARD ABUTMENT DETAILS - NORTHBOUND
BRIDGE NO. MED-71-0031 R
OVER ABANDONED RAILROAD

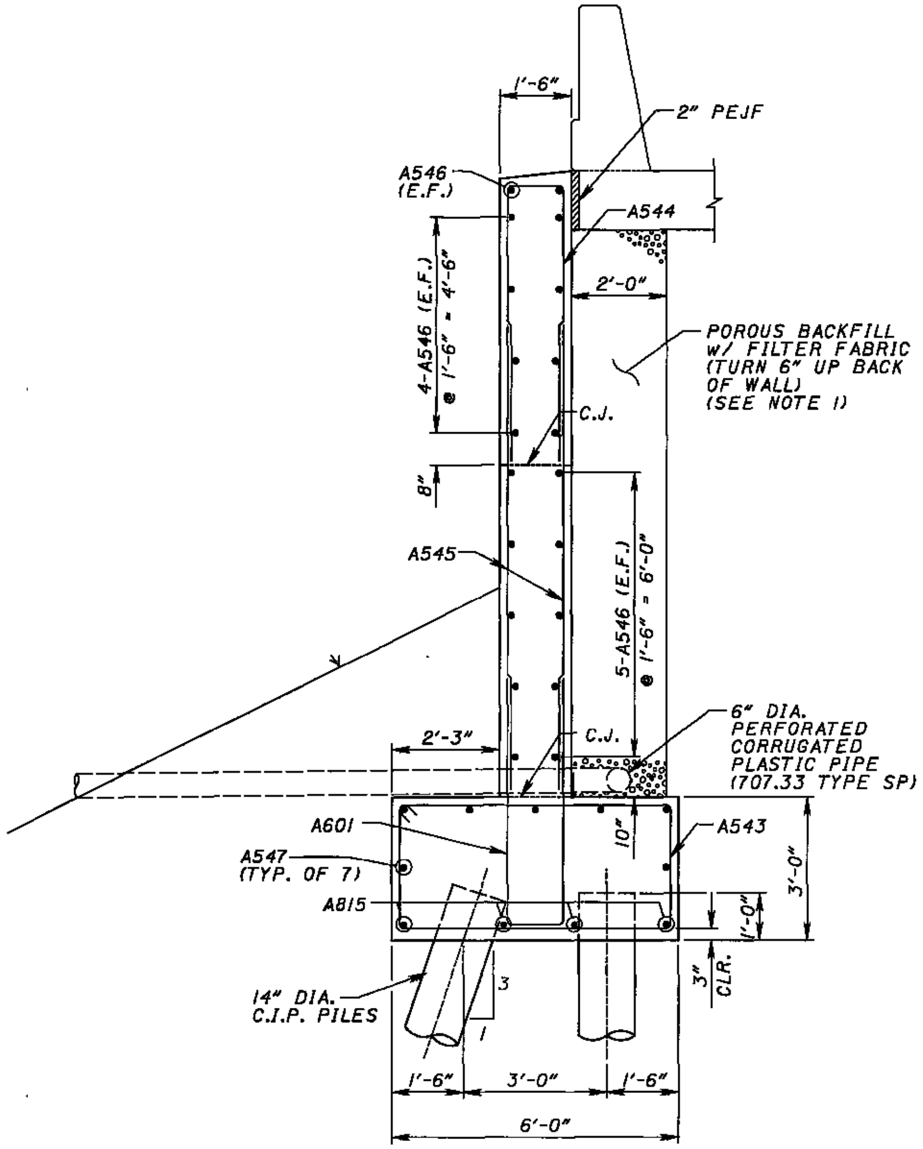
WAY/MED-71-7.04/0.00


6" DIA. PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE SP)
2'-0" POROUS BACKFILL w/ FILTER FABRIC
END CAP
2" PEJF
℄ PROPOSED PILES
℄ BEARINGS R.A.
91°02'03" (TYP.)
1'-6"
6'-0"
3'-0"
1'-6"
1'-6"
3'-6"
2 SPA. @ 7'-0" = 14'-0" (14" DIA. C.I.P. PILES)
℄ 6" DIA. NON-PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE S)
4'-0"
27'-5⅜"
1'-8½"
29'-1⅞"
℄ SURVEY & CONSTRUCTION I.R. 71

PLAN


N
24-A544 & 24-A545 (E.F.) (LAP w/ A601)
5-A544 & 5-A545 (E.F.) (LAP w/ A601)
EL. 938.66
2"
A546 (E.F.)
EL. 938.05
4-A546 (E.F.) @ 1'-6" = 4'-6"
C.J.
EL. 931.90
5-A546 (E.F.) @ 1'-6" = 6'-0"
5-A547
A547 (E.F.)
⅛"/FT
1"
3'-0"
EL. 921.88
4-A815
4-A543 & 4-A601 @ 10" = 2'-6"
7-A543 & 7-A601 @ 11" = 5'-6"
7-A543 & 7-A601 @ 11" = 5'-6"
6-A543 & 6-A601 @ 11" = 4'-7"
5-A601 @ 10" = 3'-4"
1'-1"
9" (TYP.)
9" (TYP.)
℄ PROPOSED PILE (TYP.)
N

ELEVATION


1'-6"
2" PEJF
A546 (E.F.)
A544
4-A546 (E.F.) @ 1'-6" = 4'-6"
2'-0"
POROUS BACKFILL w/ FILTER FABRIC (TURN 6" UP BACK OF WALL) (SEE NOTE 1)
C.J.
8"
A545
5-A546 (E.F.) @ 1'-6" = 6'-0"
2'-3"
C.J.
6" DIA. PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE SP)
A601
A547 (TYP. OF 7)
A815
A543
10"
3'-0"
1'-0"
3" CLR.
3
1
14" DIA. C.I.P. PILES
1'-6"
3'-0"
1'-6"
6'-0"

SECTION N-N

(ABUTMENT NOT SHOWN FOR CLARITY)

LEGEND:

C.I.P. - CAST-IN-PLACE
C.J. - CONSTRUCTION JOINT
CLR. - CLEAR
DIA. - DIAMETER
E.F. - EACH FACE
PEJF - PREFORMED EXPANSION JOINT FILLER
R.A. - REAR ABUTMENT

NOTES:

1. EXTEND POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK, UP TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.
2. SEE STD. DWG. SICD-1-96 FOR DETAILS NOT SHOWN.
3. SEE SHEET $\boxed{33 / 77}$ FOR RETAINING WALL DETAILS.
4. MINIMUM STEEL LAP LENGTHS:

#5 BAR = 2'-0"
#6 BAR = 2'-6"

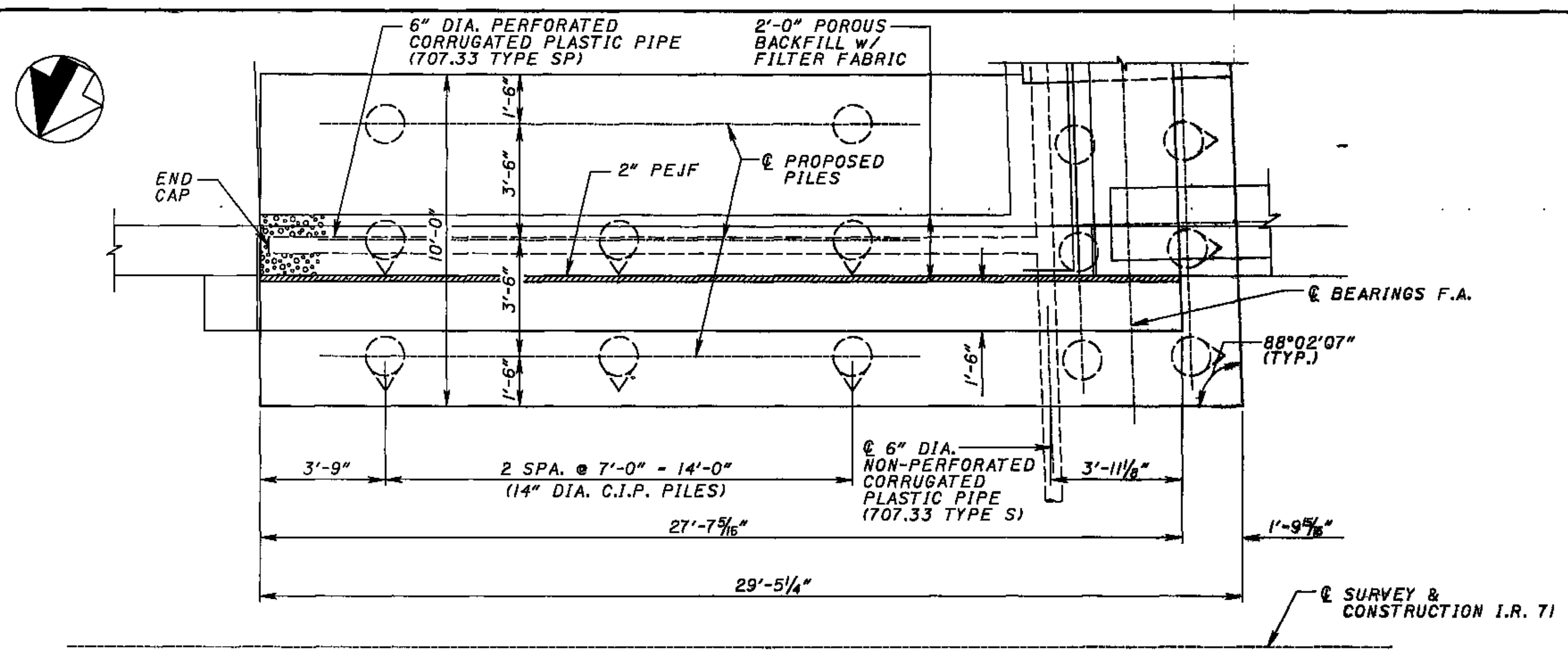
BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202256-LEFT 5202280-RIGHT	

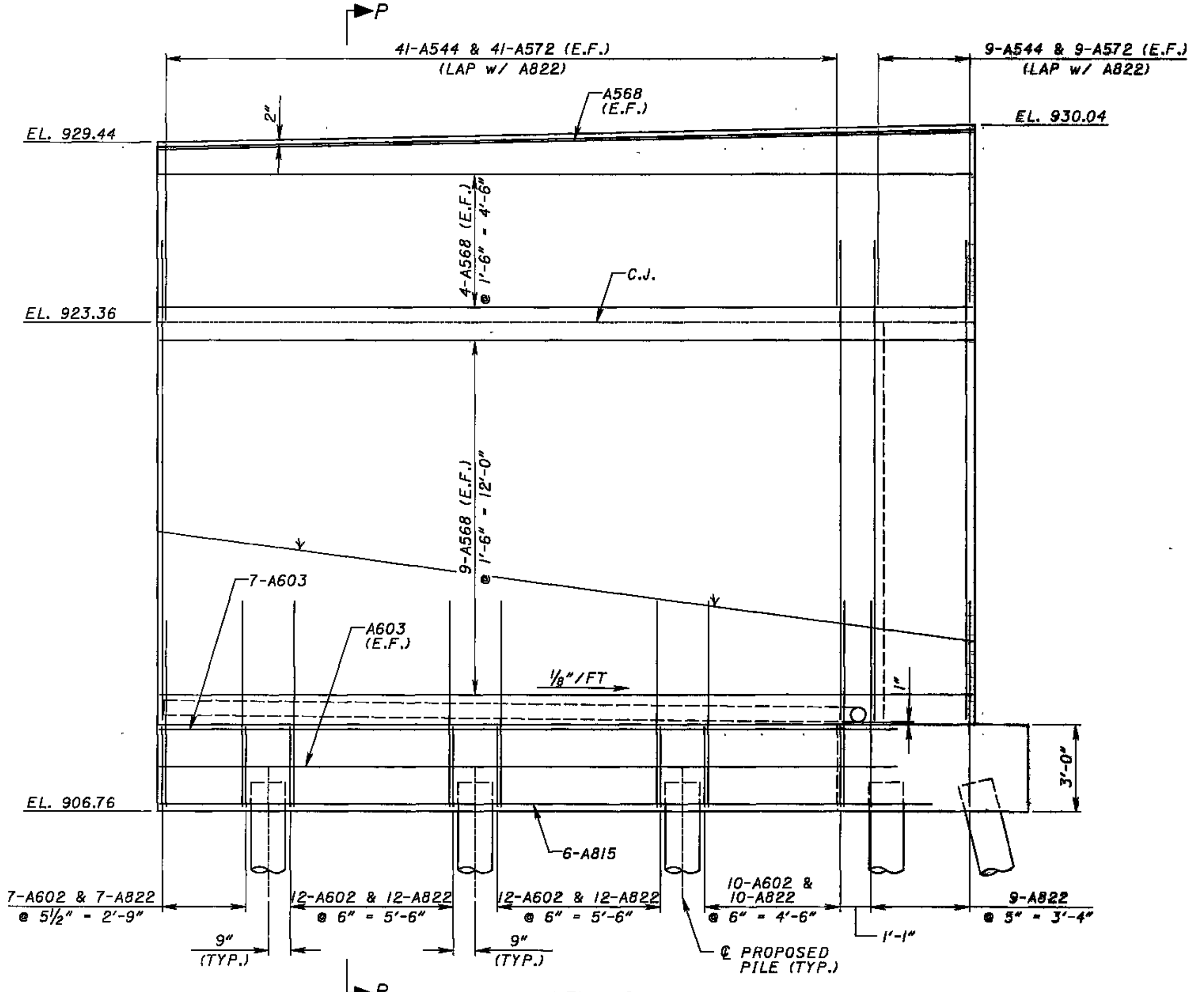
REAR ABUTMENT WINGWALL DETAILS - SOUTHBOUND
BRIDGE NO. MED-71-0031 L
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

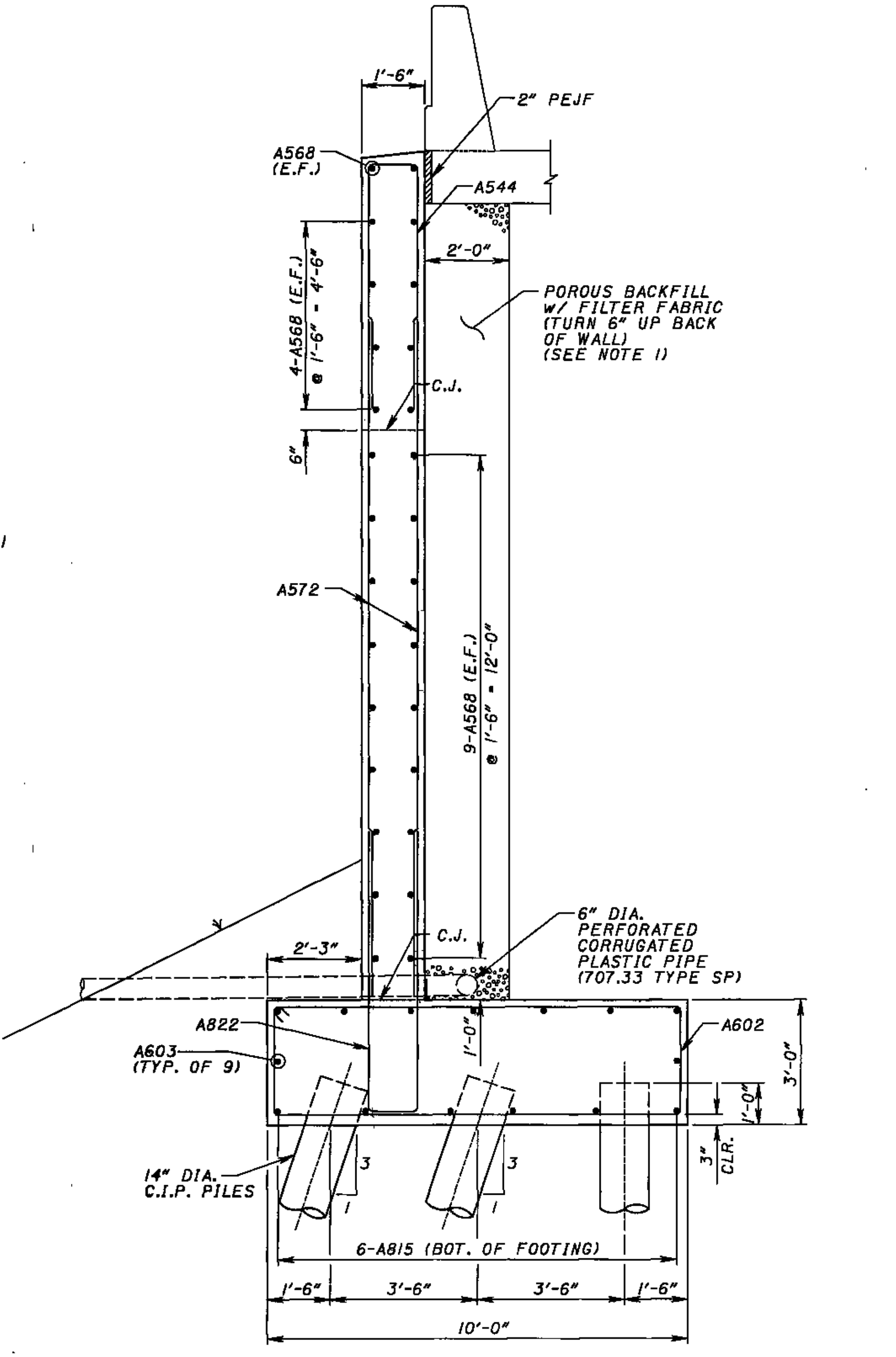
P:/PR30489/CADD/MED-71-0031/ME071ra5.DGN


6" DIA. PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE SP)
2'-0" POROUS BACKFILL w/ FILTER FABRIC
END CAP
2" PEJF
℄ PROPOSED PILES
1'-6"
3'-6"
10'-0"
3'-6"
1'-6"
1'-6"
℄ BEARINGS F.A.
88°02'07" (TYP.)
3'-9"
2 SPA. @ 7'-0" = 14'-0"
(14" DIA. C.I.P. PILES)
℄ 6" DIA. NON-PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE S)
3'-11⅛"
27'-7⁵⁄₁₆"
1'-9⁵⁄₁₆"
29'-5¼"
℄ SURVEY & CONSTRUCTION I.R. 71

PLAN


P
41-A544 & 41-A572 (E.F.) (LAP w/ A822)
9-A544 & 9-A572 (E.F.) (LAP w/ A822)
A568 (E.F.)
2"
EL. 929.44
EL. 930.04
4-A568 (E.F.) @ 1'-6" = 4'-6"
C.J.
EL. 923.36
9-A568 (E.F.) @ 1'-6" = 12'-0"
7-A603
A603 (E.F.)
⅛"/FT
1"
3'-0"
EL. 906.76
6-A815
7-A602 & 7-A822 @ 5½" = 2'-9"
12-A602 & 12-A822 @ 6" = 5'-6"
12-A602 & 12-A822 @ 6" = 5'-6"
10-A602 & 10-A822 @ 6" = 4'-6"
9-A822 @ 5" = 3'-4"
9" (TYP.)
9" (TYP.)
℄ PROPOSED PILE (TYP.)
1'-1"
P

ELEVATION


1'-6"
2" PEJF
A568 (E.F.)
A544
2'-0"
POROUS BACKFILL w/ FILTER FABRIC (TURN 6" UP BACK OF WALL) (SEE NOTE 1)
4-A568 (E.F.) @ 1'-6" = 4'-6"
C.J.
6"
A572
9-A568 (E.F.) @ 1'-6" = 12'-0"
2'-3"
C.J.
6" DIA. PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE SP)
A822
A603 (TYP. OF 9)
A602
1'-0"
3'-0"
1'-0"
3" CLR.
14" DIA. C.I.P. PILES
3
1
3
1
6-A815 (BOT. OF FOOTING)
1'-6"
3'-6"
3'-6"
1'-6"
10'-0"

SECTION P-P

(ABUTMENT NOT SHOWN FOR CLARITY)

LEGEND:

BOT. - BOTTOM
C.I.P. - CAST-IN-PLACE
C.J. - CONSTRUCTION JOINT
CLR. - CLEAR
DIA. - DIAMETER
E.F. - EACH FACE
F.A. - FORWARD ABUTMENT
PEJF - PREFORMED EXPANSION JOINT FILLER

NOTES:

1. EXTEND POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK, UP TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.
2. SEE STD. DWG. SICD-1-96 FOR DETAILS NOT SHOWN.
3. SEE SHEET 36 / 77 FOR RETAINING WALL DETAILS.
4. MINIMUM STEEL LAP LENGTHS:

   #5 BAR = 2'-0"
   #8 BAR = 4'-0"

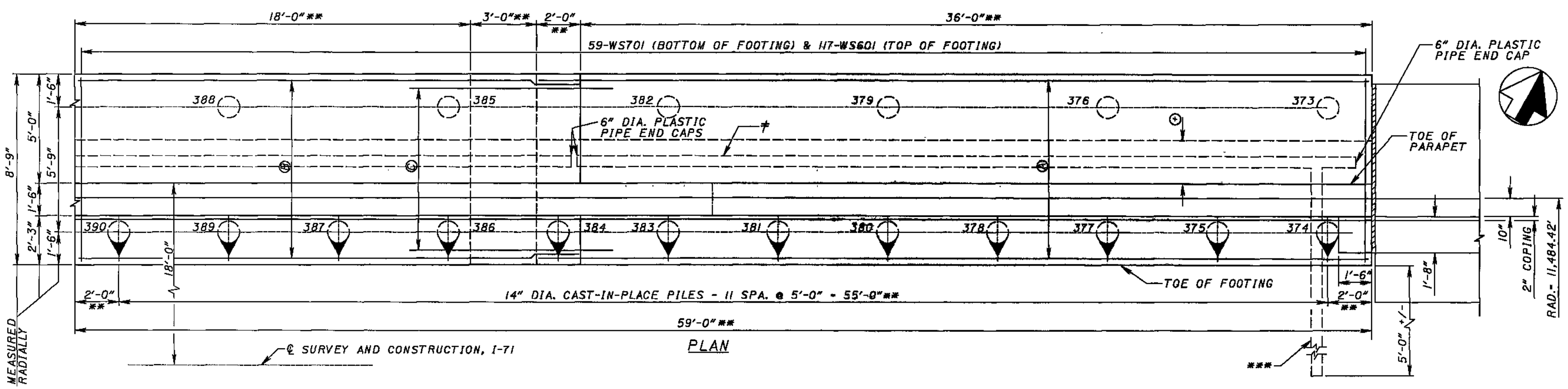
P:/PR30489/CADD/MED-71-0031/ME071fa5.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

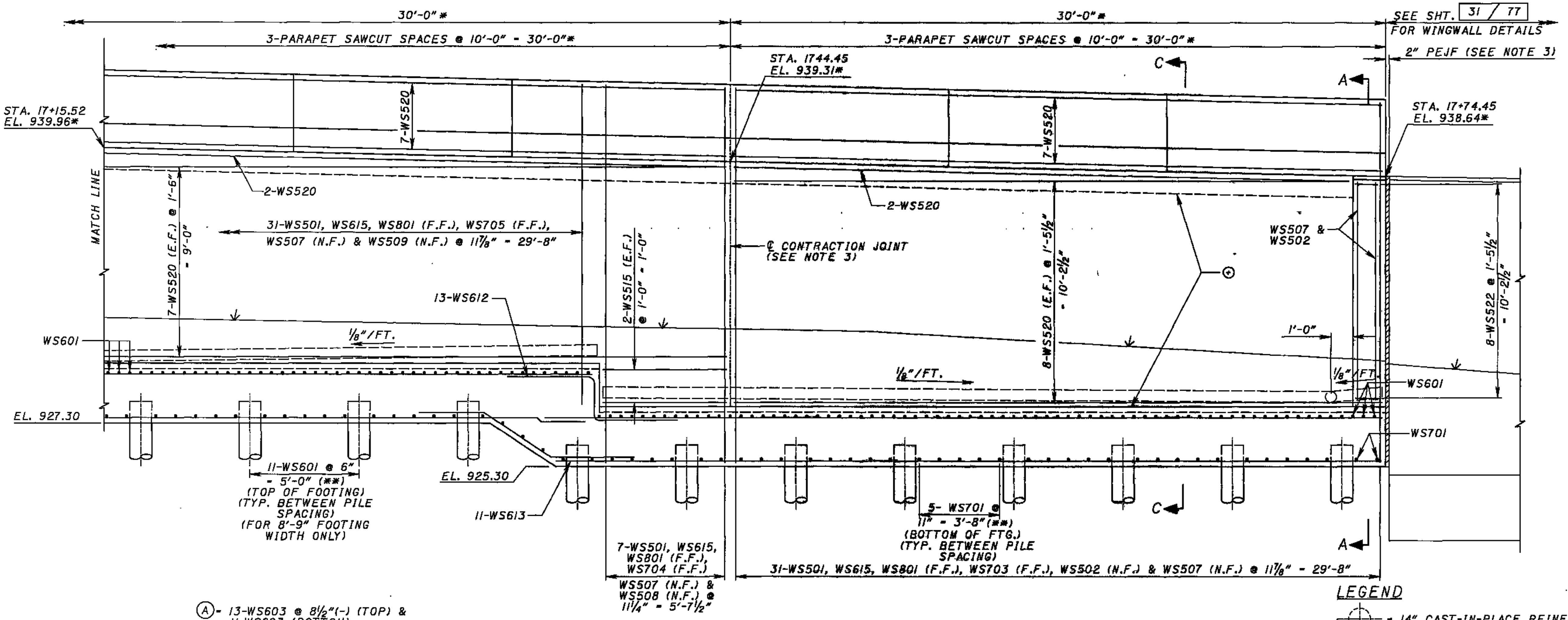
DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202256-LEFT 5202280-RIGHT	

FORWARD ABUTMENT WINGWALL DETAILS - NORTHBOUND
BRIDGE NO. MED-71-0031 R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00



PLAN


30'-0"*
3-PARAPET SAWCUT SPACES @ 10'-0" = 30'-0"*
SEE SHT. 31 / 77 FOR WINGWALL DETAILS
2" PEJF (SEE NOTE 3)
STA. 17+15.52
EL. 939.96*
STA. 1744.45
EL. 939.31*
STA. 17+74.45
EL. 938.64*
C
A
7-WS520
2-WS520
MATCH LINE
7-WS520 (E.F.) @ 1'-6" = 9'-0"
31-WS501, WS615, WS801 (F.F.), WS705 (F.F.), WS507 (N.F.) & WS509 (N.F.) @ 11 7/8" = 29'-8"
2-WS515 (E.F.) @ 1'-0" = 1'-0"
℄ CONTRACTION JOINT (SEE NOTE 3)
8-WS520 (E.F.) @ 1'-5 1/2" = 10'-2 1/2"
WS507 & WS502
8-WS522 @ 1'-5 1/2" = 10'-2 1/2"
13-WS612
1/8"/FT.
1'-0"
WS601
WS701
EL. 927.30
EL. 925.30
11-WS601 @ 6" = 5'-0" (**) (TOP OF FOOTING) (TYP. BETWEEN PILE SPACING) (FOR 8'-9" FOOTING WIDTH ONLY)
11-WS613
5- WS701 @ 11" = 3'-8" (**) (BOTTOM OF FTG.) (TYP. BETWEEN PILE SPACING)
7-WS501, WS615, WS801 (F.F.), WS704 (F.F.) WS507 (N.F.) & WS508 (N.F.) @ 11 1/4" = 5'-7 1/2"
31-WS501, WS615, WS801 (F.F.), WS703 (F.F.), WS502 (N.F.) & WS507 (N.F.) @ 11 7/8" = 29'-8"

Ⓐ - 13-WS603 @ 8 1/2"(-) (TOP) & 11-WS603 (BOTTOM)

Ⓑ - 13-WS604 @ 8 1/2"(-) (TOP) & 11-WS604 (BOTTOM)

Ⓒ - 13-WS612 @ 8 1/2"(-) (TOP) & 11-WS613 (BOTTOM)

DEVELOPED ELEVATION

NOTES:

1. RETAINING WALL DETAILED ALONG A CURVE THAT IS CONCENTRIC TO THE CURVATURE OF THE ROADWAY. DUE TO THE DEGREE OF CURVATURE, THE CONTRACTOR IS GIVEN THE OPTION OF CONSTRUCTING THE WALL ALONG STRAIGHT CHORDS CONNECTING THE JOINTS AT EACH 30'-0"
2. SEE SHEET 39 / 77 FOR SECTION CUTS AND JOINT DETAILS.
3. PLACE TYPE 2 WATERPROOFING 3' WIDE, CENTERED ON JOINT FROM TOP OF FOOTING TO TOP OF WALL
4. SEE SHEET 27 / 77 FOR DRAINAGE OUTLET DETAILS

LEGEND

- 14" CAST-IN-PLACE REINFORCED CONCRETE PILE (W/ A 3:1 BATTER)
○ - 14" CAST-IN-PLACE REINFORCED CONCRETE PILE (VERTICAL)
* - MEASURED ALONG THE TOE OF PARAPET
** - MEASURED ALONG THE TOE OF FOOTING
PEJF - PREFORMED EXPANSION JOINT FILLER
*** - 6" NON-PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE S)
ǂ - 6" PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE SP)
⊙ - LIMITS OF POROUS BACKFILL
N.F. - NEAR FACE
F.F. - FAR FACE

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
WTL/MAK	WTL/MAK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAK/WTL		5202256-LEFT 5202280-RIGHT	

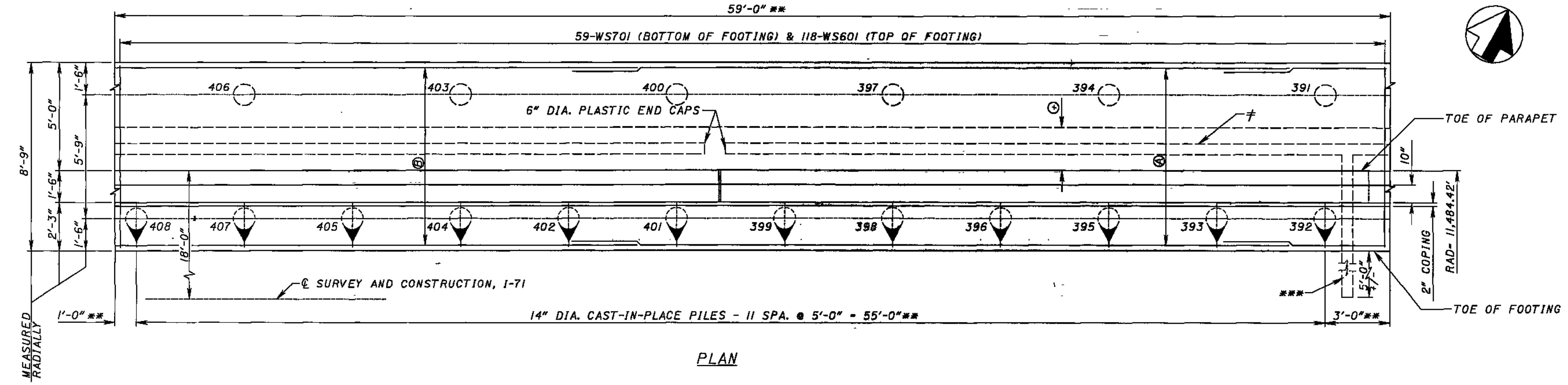
RETAINING WALL PLAN & ELEVATION 1 - SOUTHBOUND
BRIDGE NO. MED-71-0031 L
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

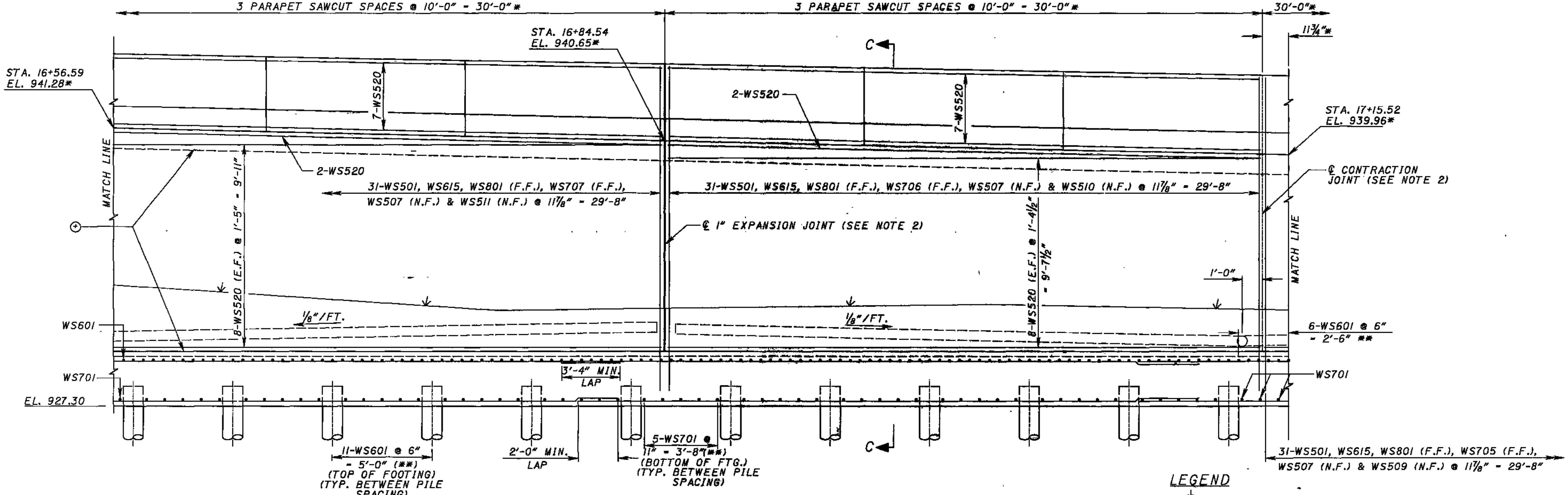
33 / 77

515 / 785

P:/PR30489/CADD/MED-71-0031/ME071raa.DGN



PLAN


3 PARAPET SAWCUT SPACES @ 10'-0" = 30'-0"*
3 PARAPET SAWCUT SPACES @ 10'-0" = 30'-0"*
30'-0"*
11¾"*
STA. 16+84.54
EL. 940.65*
C
STA. 16+56.59
EL. 941.28*
7-WS520
2-WS520
7-WS520
STA. 17+15.52
EL. 939.96*
MATCH LINE
2-WS520
31-WS501, WS615, WS801 (F.F.), WS707 (F.F.),
WS507 (N.F.) & WS511 (N.F.) @ 11⅞" = 29'-8"
31-WS501, WS615, WS801 (F.F.), WS706 (F.F.), WS507 (N.F.) & WS510 (N.F.) @ 11⅞" = 29'-8"
℄ CONTRACTION JOINT (SEE NOTE 2)
8-WS520 (E.F.) @ 1'-5" = 9'-11"
℄ 1" EXPANSION JOINT (SEE NOTE 2)
8-WS520 (E.F.) @ 1'-4½" = 9'-7½"
MATCH LINE
1'-0"
⊕
⅛"/FT.
⅛"/FT.
WS601
6-WS601 @ 6" = 2'-6" **
3'-4" MIN. LAP
WS701
WS701
EL. 927.30
C
11-WS601 @ 6" = 5'-0" (**)
(TOP OF FOOTING)
(TYP. BETWEEN PILE SPACING)
(TYP. FOR 8'-9" FOOTING WIDTH ONLY)
2'-0" MIN. LAP
5-WS701 @ 11" = 3'-8"(**)
(BOTTOM OF FTG.)
(TYP. BETWEEN PILE SPACING)
31-WS501, WS615, WS801 (F.F.), WS705 (F.F.),
WS507 (N.F.) & WS509 (N.F.) @ 11⅞" = 29'-8"

Ⓐ = 13-WS604 @ 8½"(-) (TOP) &
11-WS604 (BOTTOM)

Ⓑ = 13-WS607 @ 8½"(-) (TOP) &
11-WS608 (BOTTOM)

DEVELOPED ELEVATION

NOTES:

1. SEE SHEET 39 / 77 FOR SECTION CUTS AND JOINT DETAILS.
2. PLACE TYPE 2 WATERPROOFING 3' WIDE, CENTERED ON JOINT FROM TOP OF FOOTING TO TOP OF WALL
3. SEE SHEET 27 / 77 FOR DRAINAGE OUTLET DETAILS

LEGEND

⊕ - 14" CAST-IN-PLACE REINFORCED CONCRETE PILE (w/ A 3:1 BATTER)
○ - 14" CAST-IN-PLACE REINFORCED CONCRETE PILE (VERTICAL)
* - MEASURED ALONG THE TOE OF PARAPET
** - MEASURED ALONG THE TOE OF FOOTING
PEJF - PREFORMED EXPANSION JOINT FILLER
*** - 6" NON-PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE S)
ǂ - 6" PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE SP)
⊕ - LIMITS OF POROUS BACKFILL
N.F. - NEAR FACE
F.F. - FAR FACE

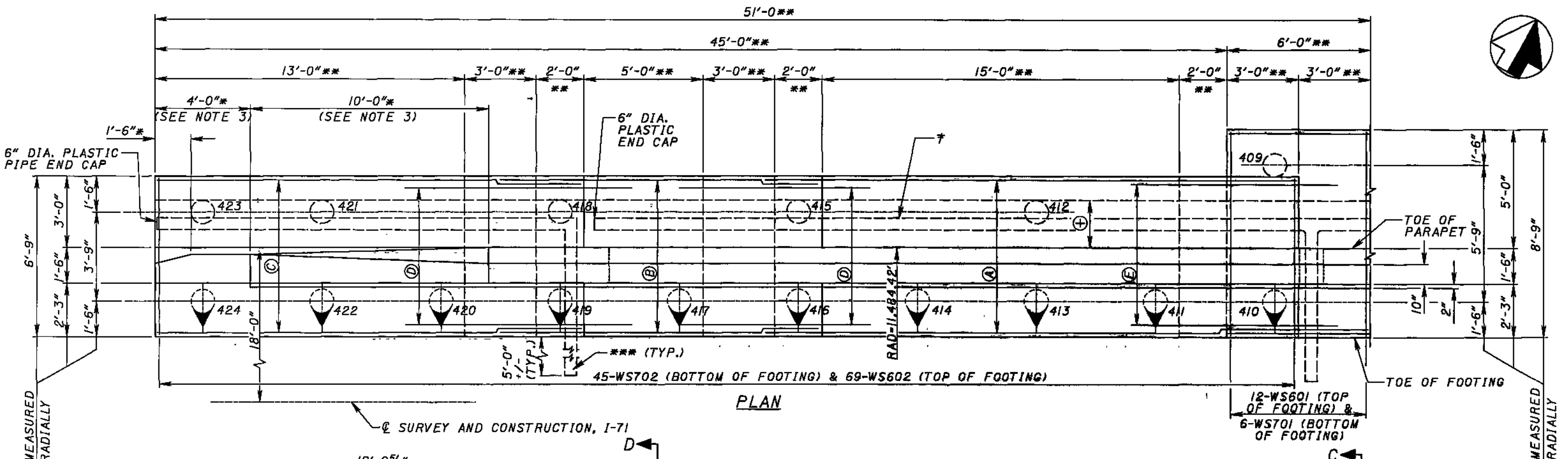
P:/PR30489/CADD/MED-71-0031/ME071rd9.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

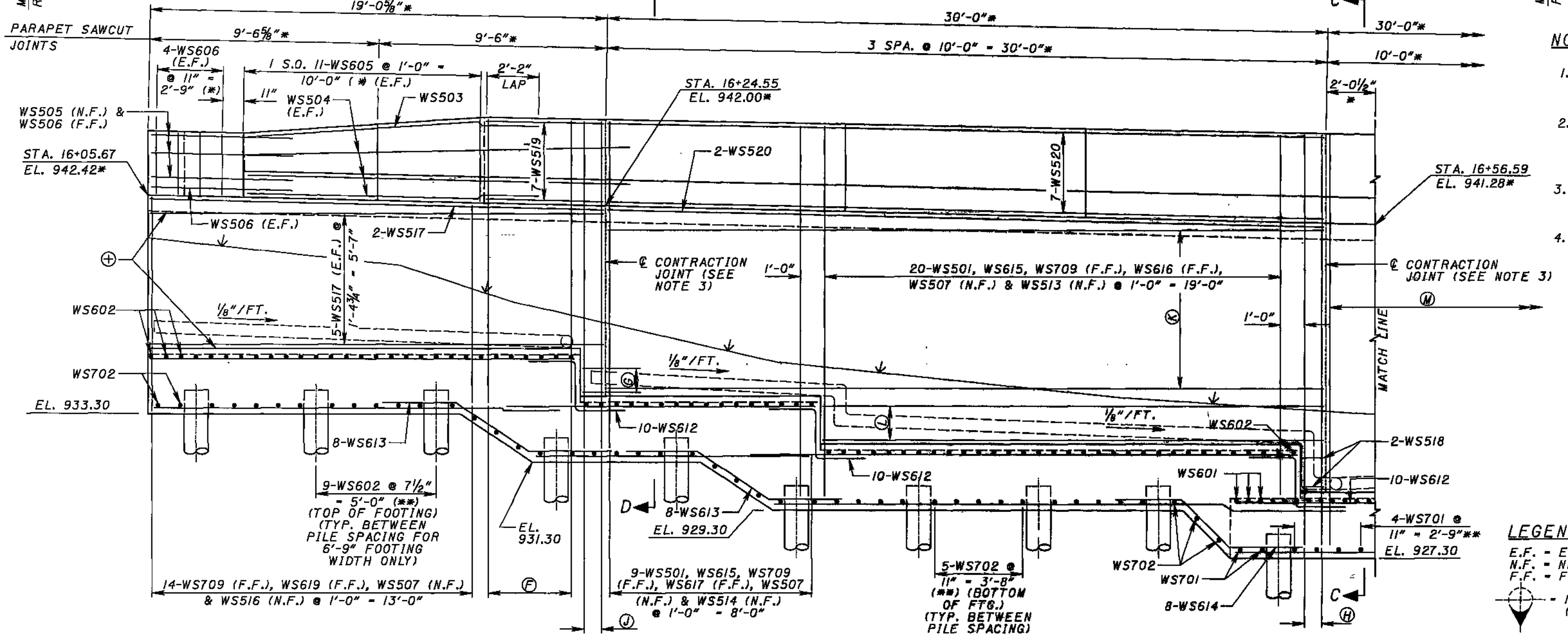
DESIGNED	DRAWN	REVIEWED	DATE
WTL/MAK	WTL/MAK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAK/WTL		5202256-LEFT 5202280-RIGHT	

RETAINING WALL PLAN & ELEVATION 2 - SOUTHBOUND
BRIDGE NO. MED-71-0031 L
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00



PLAN


19'-0⅝"*
30'-0"*
30'-0"*
PARAPET SAWCUT JOINTS
9'-6⅝"*
9'-6"*
3 SPA. @ 10'-0" = 30'-0"*
10'-0"*
4-WS606 (E.F.) @ 11" = 2'-9" (*)
1 S.O. 11-WS605 @ 1'-0" = 10'-0" (*) (E.F.)
2'-2" LAP
2'-0½"*
11"
WS504 (E.F.)
WS503
WS505 (N.F.) & WS506 (F.F.)
STA. 16+05.67 EL. 942.42*
STA. 16+24.55 EL. 942.00*
STA. 16+56.59 EL. 941.28*
7-WS519
2-WS520
7-WS520
WS506 (E.F.)
2-WS517
5-WS517 (E.F.) @ 1'-4¾" = 5'-7"
⊕
℄ CONTRACTION JOINT (SEE NOTE 3)
℄ CONTRACTION JOINT (SEE NOTE 3)
1'-0"
20-WS501, WS615, WS709 (F.F.), WS616 (F.F.), WS507 (N.F.) & WS513 (N.F.) @ 1'-0" = 19'-0"
Ⓚ
1'-0"
Ⓜ
MATCH LINE
WS602
1/8"/FT.
1/8"/FT.
1/8"/FT.
Ⓖ
Ⓛ
WS702
EL. 933.30
8-WS613
10-WS612
10-WS612
10-WS612
2-WS518
WS602
WS601
9-WS602 @ 7½" = 5'-0" (**) (TOP OF FOOTING) (TYP. BETWEEN PILE SPACING FOR 6'-9" FOOTING WIDTH ONLY)
EL. 931.30
D
8-WS613
EL. 929.30
5-WS702 @ 11" = 3'-8" (**) (BOTTOM OF FTG.) (TYP. BETWEEN PILE SPACING)
WS702
WS701
8-WS614
4-WS701 @ 11" = 2'-9"**
EL. 927.30
C
Ⓗ
14-WS709 (F.F.), WS619 (F.F.), WS507 (N.F.) & WS516 (N.F.) @ 1'-0" = 13'-0"
Ⓕ
9-WS501, WS615, WS709 (F.F.), WS617 (F.F.), WS507 (N.F.) & WS514 (N.F.) @ 1'-0" = 8'-0"
Ⓙ

Ⓐ = 10-WS609 @ 8½"(+) (TOP) & 8-WS609 (BOTTOM)

Ⓑ = 10-WS610 @ 8½"(+) (TOP) & 8-WS610 (BOTTOM)

Ⓒ = 10-WS611 @ 8½"(+) (TOP) & 8-WS611 (BOTTOM)

Ⓓ = 10-WS612 @ 8½"(+) (TOP) & 8-WS613 (BOTTOM)

Ⓔ = 10-WS612 @ 8½"(+) (TOP) & 8-WS614 (BOTTOM)

Ⓕ = 4-WS501, WS615, WS709 (F.F), WS618 (F.F.), WS507 (N.F.) & WS515 (N.F.) @ 1'-0" = 3'-0"

Ⓖ = 2-WS518 (E.F.) @ 1'-0" = 1'-0"

Ⓗ = 2-WS501, WS615, WS801 (F.F.), WS708 (F.F.), WS507 (N.F.) & WS512 (N.F.) @ 8½" = 8½"

Ⓙ = 2-WS501, WS615, WS709 (F.F.), WS617 (F.F.), WS507 (N.F.) & WS514 (N.F.) @ 8½" = 8½"

Ⓚ = 5-WS520 (E.F.) @ 1'-6" = 6'-0"

Ⓛ = 2-WS521 (E.F.) @ 1'-0" = 1'-0"

Ⓜ = 31-WS501, WS615, WS801 (F.F.), WS707 (F.F.), WS507 (N.F.) & WS511 (N.F.) @ 11⅞" = 29'-8"

DEVELOPED ELEVATION

NOTES:

1. SEE SHEET 39 / 77 FOR SECTION CUTS AND JOINT DETAILS.
2. REFER TO SHEET 72 / 77 FOR 14'-0" PARAPET TRANSITION SECTIONS & DIMENSIONS (SUBSTITUTE "WS" BAR DESIGNATIONS FOR "R" DESIGNATIONS)
3. PLACE TYPE 2 WATERPROOFING 3' WIDE, CENTERED ON JOINT FROM TOP OF FOOTING TO TOP OF WALL
4. SEE SHEET 27 / 77 FOR DRAINAGE OUTLET DETAILS

LEGEND:

E.F. - EACH FACE
N.F. - NEAR FACE
F.F. - FAR FACE
⊕ - 14" CAST-IN-PLACE REINFORCED CONCRETE PILE (W/ A 3:1 BATTER)
○ - 14" CAST-IN-PLACE REINFORCED CONCRETE PILE (VERTICAL)
* - MEASURED AT THE TOE OF PARAPET
** - MEASURED AT THE TOE OF FOOTING
*** - 6" NON-PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE S)
PEJF - PREFORMED EXPANSION JOINT FILLER
† - 6" PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE SP)
⊕ - LIMITS OF POROUS BACKFILL

P:/PR30489/CADD/MED-71-0031/ME071ra8.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

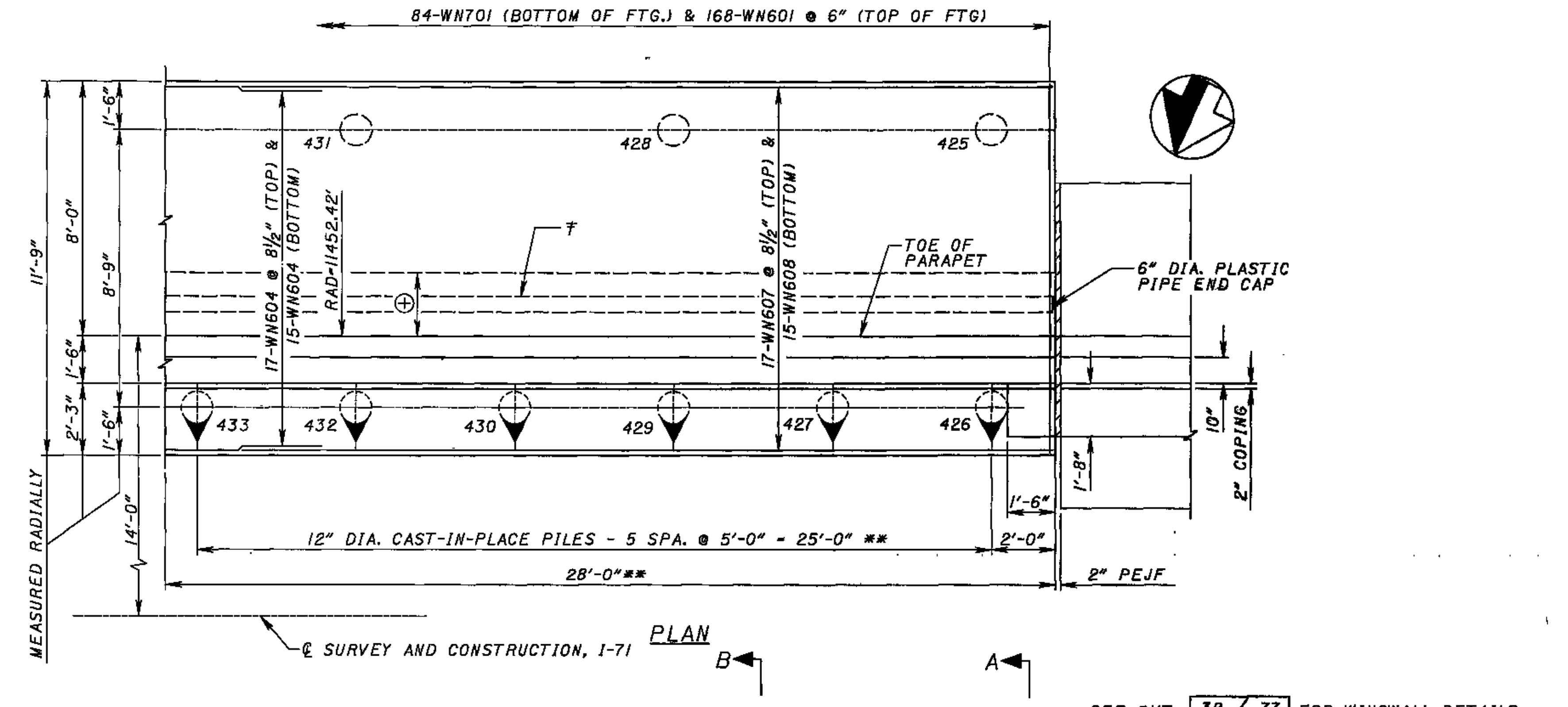
DESIGNED	DRAWN	REVIEWED	DATE
WTL/MAK	WTL/MAK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAK/WTL		5202256-LEFT 5202280-RIGHT	

RETAINING WALL PLAN & ELEVATION 3 - SOUTHBOUND
BRIDGE NO. MED-71-0031 L
OVER ABANDONED RAILROAD

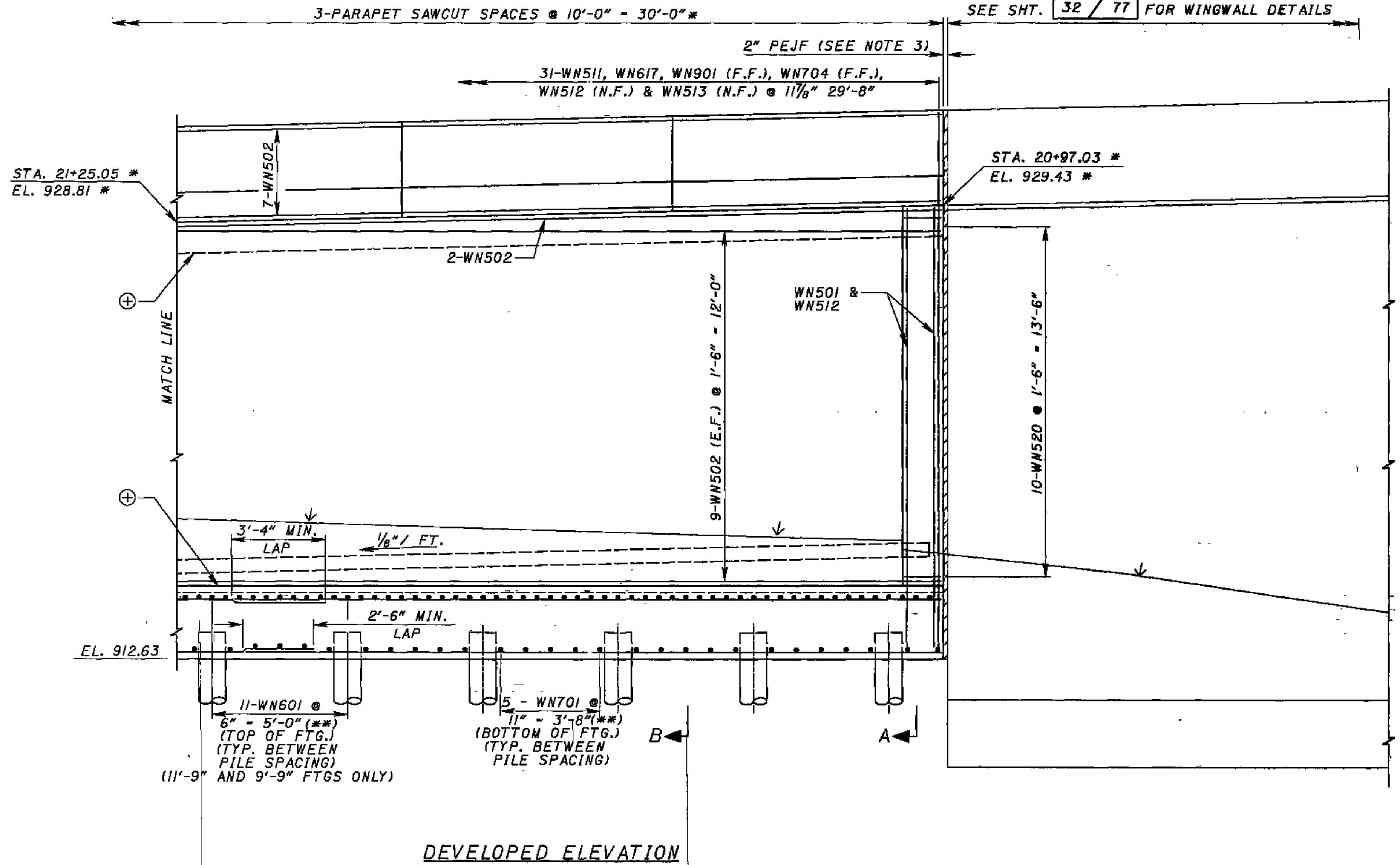
WAY/MED-71-7.04/0.00

35/77

517/785



PLAN



DEVELOPED ELEVATION

NOTES:

1. RETAINING WALL DETAILED ALONG A CURVE THAT IS CONCENTRIC TO THE CURVATURE OF THE ROADWAY. DUE TO THE DEGREE OF CURVATURE, THE CONTRACTOR IS GIVEN THE OPTION OF CONSTRUCTING THE WALL ALONG STRAIGHT CHORDS CONNECTING THE JOINTS AT EACH 30'-0"
2. SEE SHEET 39 / 77 FOR SECTION CUTS AND JOINT DETAILS.
3. PLACE TYPE 2 WATERPROOFING 3' WIDE, CENTERED ON JOINT FROM TOP OF FOOTING TO TOP OF WALL
4. SEE SHEET 27 / 77 FOR DRAINAGE OUTLET DETAILS

LEGEND:

⊕▼ = 14" CAST-IN-PLACE REINFORCED CONCRETE PILE (w/ A 3:1 BATTER)

○ = 14" CAST-IN-PLACE REINFORCED CONCRETE PILE (VERTICAL)

* = MEASURED ALONG THE TOE OF PARAPET

** = MEASURED ALONG THE TOE OF FOOTING

*** = 6" DIA. NON-PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE S)

PEJF = PREFORMED EXPANSION JOINT FILLER

Ŧ = 6" DIA. PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE SP)

⊕ = LIMITS OF POROUS BACKFILL

E.F. - EACH FACE

N.F. - NEAR FACE

F.F. - FAR FACE

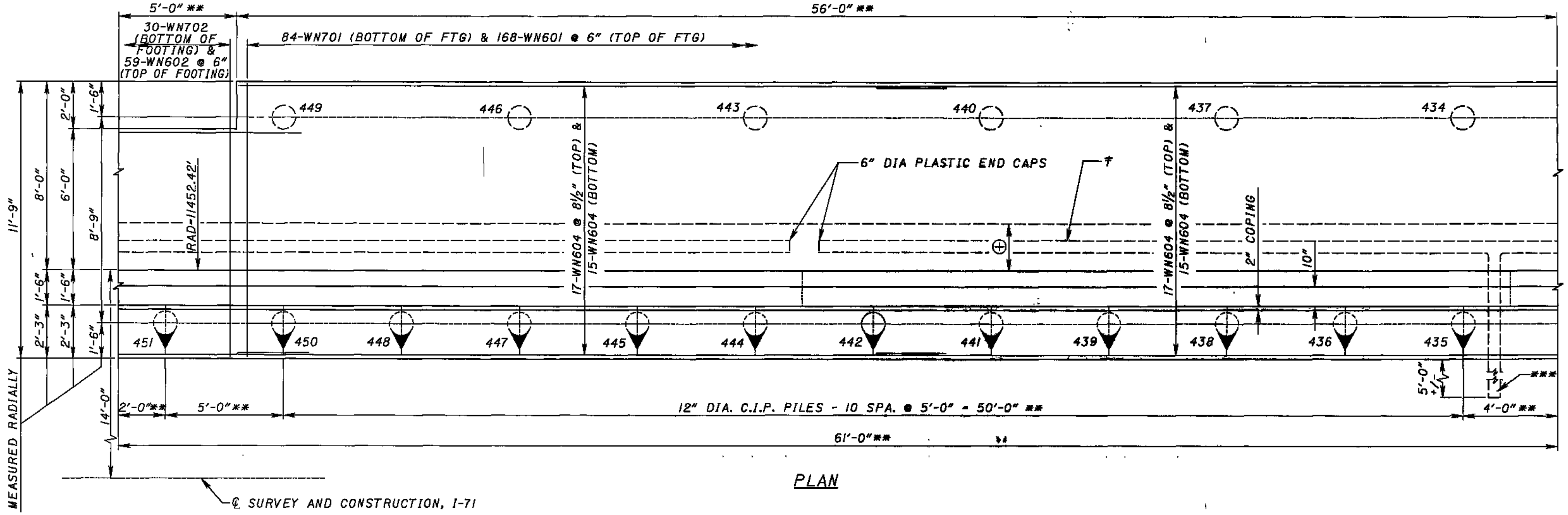
P:/PR30489/CADD/MED-71-0031/ME071faa.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

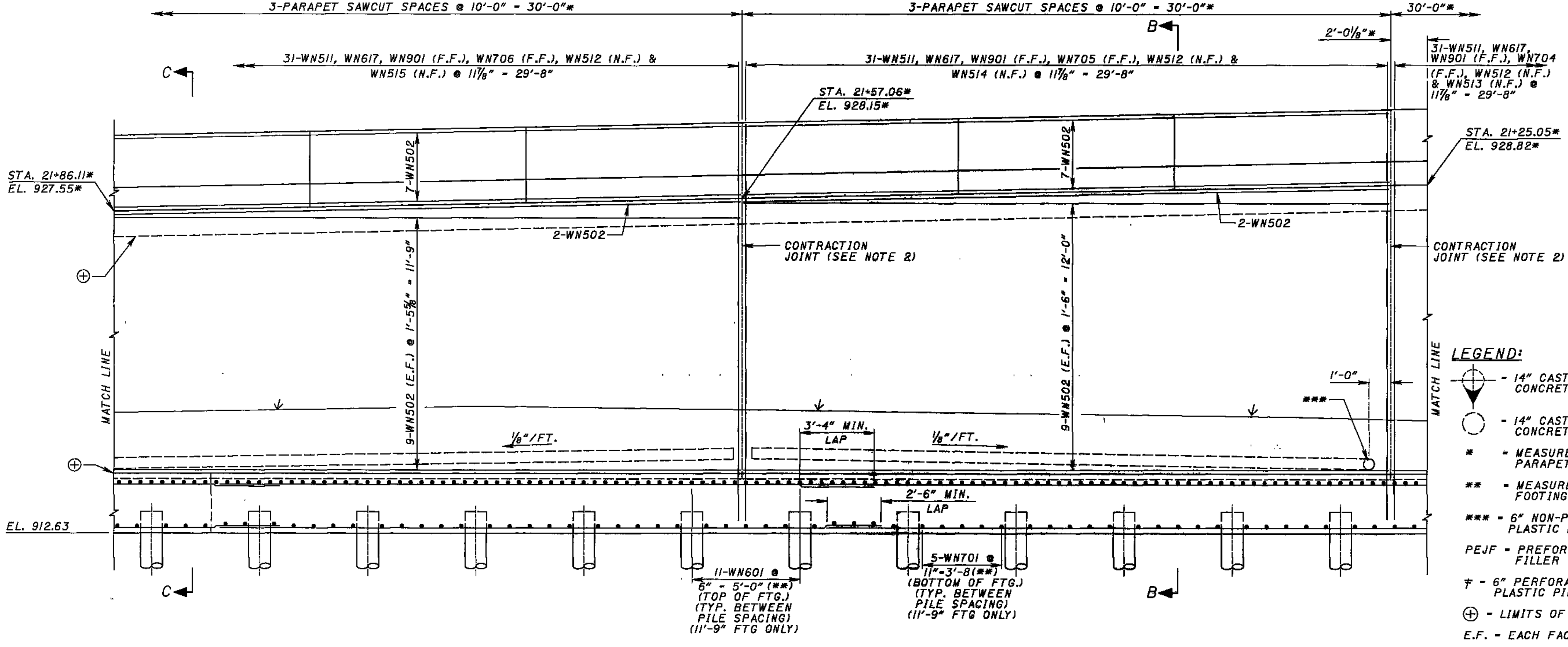
DESIGNED	DRAWN	REVIEWED	DATE
WTL/MAK	WTL/MAK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAK/WTL		5202256-LEFT 5202280-RIGHT	

RETAINING WALL PLAN & ELAVATION I - NORTHBOUND
BRIDGE NO. MED-71-0031 R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00



PLAN


3-PARAPET SAWCUT SPACES @ 10'-0" = 30'-0"*
3-PARAPET SAWCUT SPACES @ 10'-0" = 30'-0"*
30'-0"*
B
2'-0⅛"*
31-WN511, WN617, WN901 (F.F.), WN706 (F.F.), WN512 (N.F.) & WN515 (N.F.) @ 11⅞" = 29'-8"
31-WN511, WN617, WN901 (F.F.), WN705 (F.F.), WN512 (N.F.) & WN514 (N.F.) @ 11⅞" = 29'-8"
31-WN511, WN617, WN901 (F.F.), WN704 (F.F.), WN512 (N.F.) & WN513 (N.F.) @ 11⅞" = 29'-8"
C
STA. 21+57.06*
EL. 928.15*
STA. 21+25.05*
EL. 928.82*
STA. 21+86.11*
EL. 927.55*
7-WN502
7-WN502
2-WN502
2-WN502
CONTRACTION JOINT (SEE NOTE 2)
CONTRACTION JOINT (SEE NOTE 2)
9-WN502 (E.F.) @ 1'-5⅝" = 11'-9"
9-WN502 (E.F.) @ 1'-6" = 12'-0"
MATCH LINE
MATCH LINE
1'-0"
***
⅛"/FT.
⅛"/FT.
3'-4" MIN. LAP
2'-6" MIN. LAP
EL. 912.63
11-WN601 @ 6" = 5'-0" (**) (TOP OF FTG.) (TYP. BETWEEN PILE SPACING) (11'-9" FTG ONLY)
5-WN701 @ 11"=3'-8(**) (BOTTOM OF FTG.) (TYP. BETWEEN PILE SPACING) (11'-9" FTG ONLY)
C
B

DEVELOPED ELEVATION

P:/PR30489/CADD/MED-71-0031/ME071fd9.DGN

NOTES:

1.) SEE SHEET 39 / 77 FOR SECTION CUTS AND JOINT DETAILS.

2.) PLACE TYPE 2 WATERPROOFING 3' WIDE, CENTERED ON JOINT FROM TOP OF FOOTING TO TOP OF WALL

3.) SEE SHEET 27 / 77 FOR DRAINAGE OUTLET DETAILS

LEGEND:

- 14" CAST-IN-PLACE REINFORCED CONCRETE PILE (w/ A 3:1 BATTER)
○ - 14" CAST-IN-PLACE REINFORCED CONCRETE PILE (VERTICAL)
* - MEASURED AT THE TOE OF PARAPET
** - MEASURED AT THE TOE OF FOOTING
*** - 6" NON-PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE S)
PEJF - PREFORMED EXPANSION JOINT FILLER
Ŧ - 6" PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE SP)
⊕ - LIMITS OF POROUS BACKFILL
E.F. - EACH FACE
N.F. - NEAR FACE
F.F. - FAR FACE

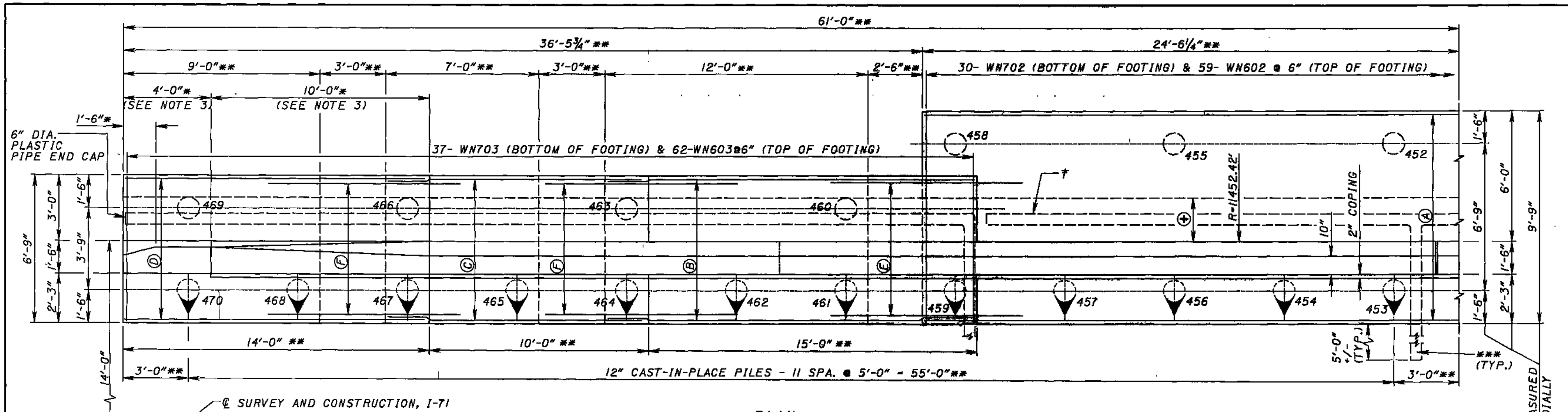
BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
WTL/MAK	WTL/MAK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAK/WTL		5202256-LEFT 5202280-RIGHT	

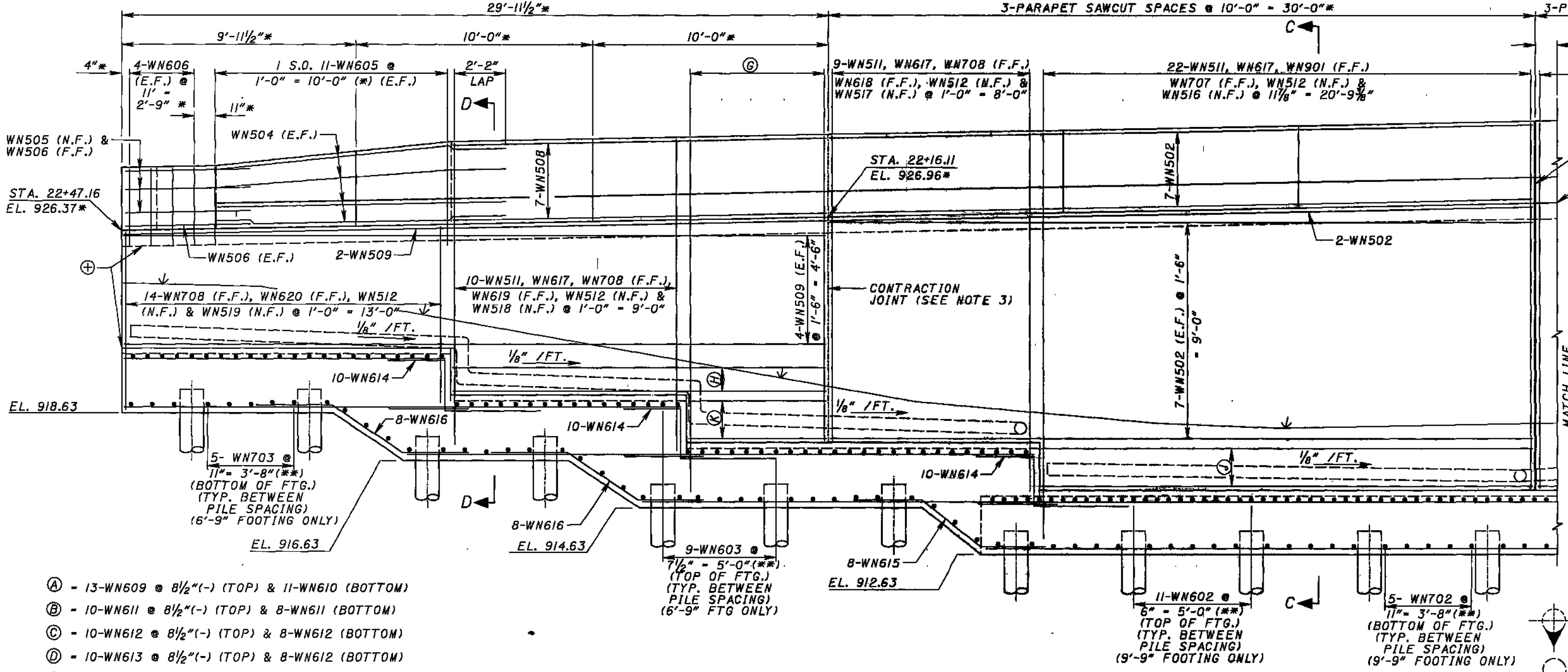
RETAINING WALL PLAN & ELEVATION 2 - NORTHBOUND
BRIDGE NO. MED-71-0031 R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

37/77



PLAN



29'-11½"*
3-PARAPET SAWCUT SPACES @ 10'-0" - 30'-0"*
3-PARAPET SAWCUT SPACES @ 10'-0" - 30'-0"*
C
9'-11½"*
10'-0"*
10'-0"*
1'-0⅜"*
4"*
4-WN606 (E.F.) @ 11" = 2'-9" *
1 S.O. 11-WN605 @ 1'-0" = 10'-0" (*) (E.F.)
2'-2" LAP
G
9-WN511, WN617, WN708 (F.F.), WN618 (F.F.), WN512 (N.F.) & WN517 (N.F.) @ 1'-0" - 8'-0"
22-WN511, WN617, WN901 (F.F.) WN707 (F.F.), WN512 (N.F.) & WN516 (N.F.) @ 11⅞" - 20'-9⅜"
31-WN511, WN617, WN901 (F.F.) WN706 (F.F.), WN512 (N.F.) & WN515 (N.F.) @ 11⅞" - 29'-8"
11"*
D
WN505 (N.F.) & WN506 (F.F.)
WN504 (E.F.)
7-WN508
7-WN502
1" EXPANSION JOINT (SEE NOTE 3)
STA. 22+16.11
EL. 926.96*
STA. 21+86.11
EL. 927.55*
STA. 22+47.16
EL. 926.37*
WN506 (E.F.)
2-WN509
2-WN502
4-WN509 (E.F.) @ 1'-6" = 4'-6"
CONTRACTION JOINT (SEE NOTE 3)
7-WN502 (E.F.) @ 1'-6" - 9'-0"
MATCH LINE
10-WN511, WN617, WN708 (F.F.), WN619 (F.F.), WN512 (N.F.) & WN518 (N.F.) @ 1'-0" - 9'-0"
14-WN708 (F.F.), WN620 (F.F.), WN512 (N.F.) & WN519 (N.F.) @ 1'-0" - 13'-0"
⅛" /FT.
⅛" /FT.
⅛" /FT.
⅛" /FT.
10-WN614
H
J
K
EL. 918.63
8-WN616
10-WN614
10-WN614
5- WN703 @ 11"= 3'-8"(**) (BOTTOM OF FTG.) (TYP. BETWEEN PILE SPACING) (6'-9" FOOTING ONLY)
EL. 916.63
D
8-WN616
EL. 914.63
9-WN603 @ 7½" - 5'-0"(**) (TOP OF FTG.) (TYP. BETWEEN PILE SPACING) (6'-9" FTG ONLY)
8-WN615
EL. 912.63
11-WN602 @ 6" - 5'-0" (**) (TOP OF FTG.) (TYP. BETWEEN PILE SPACING) (9'-9" FOOTING ONLY)
C
5- WN702 @ 11"- 3'-8"(**) (BOTTOM OF FTG.) (TYP. BETWEEN PILE SPACING) (9'-9" FOOTING ONLY)

Ⓐ - 13-WN609 @ 8½"(-) (TOP) & 11-WN610 (BOTTOM)
Ⓑ - 10-WN611 @ 8½"(-) (TOP) & 8-WN611 (BOTTOM)
Ⓒ - 10-WN612 @ 8½"(-) (TOP) & 8-WN612 (BOTTOM)
Ⓓ - 10-WN613 @ 8½"(-) (TOP) & 8-WN612 (BOTTOM)
Ⓔ - 10-WN614 @ 8½"(-) (TOP) & 8-WN615 (BOTTOM)
Ⓕ - 10-WN614 @ 8½"(-) (TOP) & 8-WN616 (BOTTOM)
Ⓖ - 6-WN511, WN617, WN708 (F.F.), WN618 (F.F.), WN512 (N.F.) & WN517 (N.F.) @ 1'-0" - 5'-0"
Ⓗ - 2-WN508 (E.F.) @ 1'-0" - 1'-0"
Ⓙ - 2-WN507 (E.F.) @ 1'-0" - 1'-0"
Ⓚ - 2-WN510 (E.F.) @ 1'-0" - 1'-0"

DEVELOPED ELEVATION

NOTES:

1. SEE SHEET 39 / 77 FOR SECTION CUTS AND JOINT DETAILS.
2. REFER TO SHEET 72 / 77 FOR 14'-0" PARAPET TRANSITION SECTIONS & DIMENSIONS (SUBSTITUTE "WN" BAR DESIGNATIONS FOR "R" DESIGNATIONS)
3. PLACE TYPE 2 WATERPROOFING 3' WIDE, CENTERED ON JOINT FROM TOP OF FOOTING TO TOP OF WALL
4. SEE SHEET 27 / 77 FOR DRAINAGE OUTLET DETAILS

LEGEND:

E.F. - EACH FACE
N.F. - NEAR FACE
F.F. - FAR FACE
⊕▼ - 14" CAST-IN-PLACE REINFORCED CONCRETE PILE (w/ A 3:1 BATTER)
○ - 14" CAST-IN-PLACE REINFORCED CONCRETE PILE (VERTICAL)
* - MEASURED AT THE TOE OF PARAPET
** - MEASURED AT THE TOE OF FOOTING
*** - 6" NON-PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE S)
PEJF - PREFORMED EXPANSION JOINT FILLER
† - 6" PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE SP)
⊕ - LIMITS OF POROUS BACKFILL

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

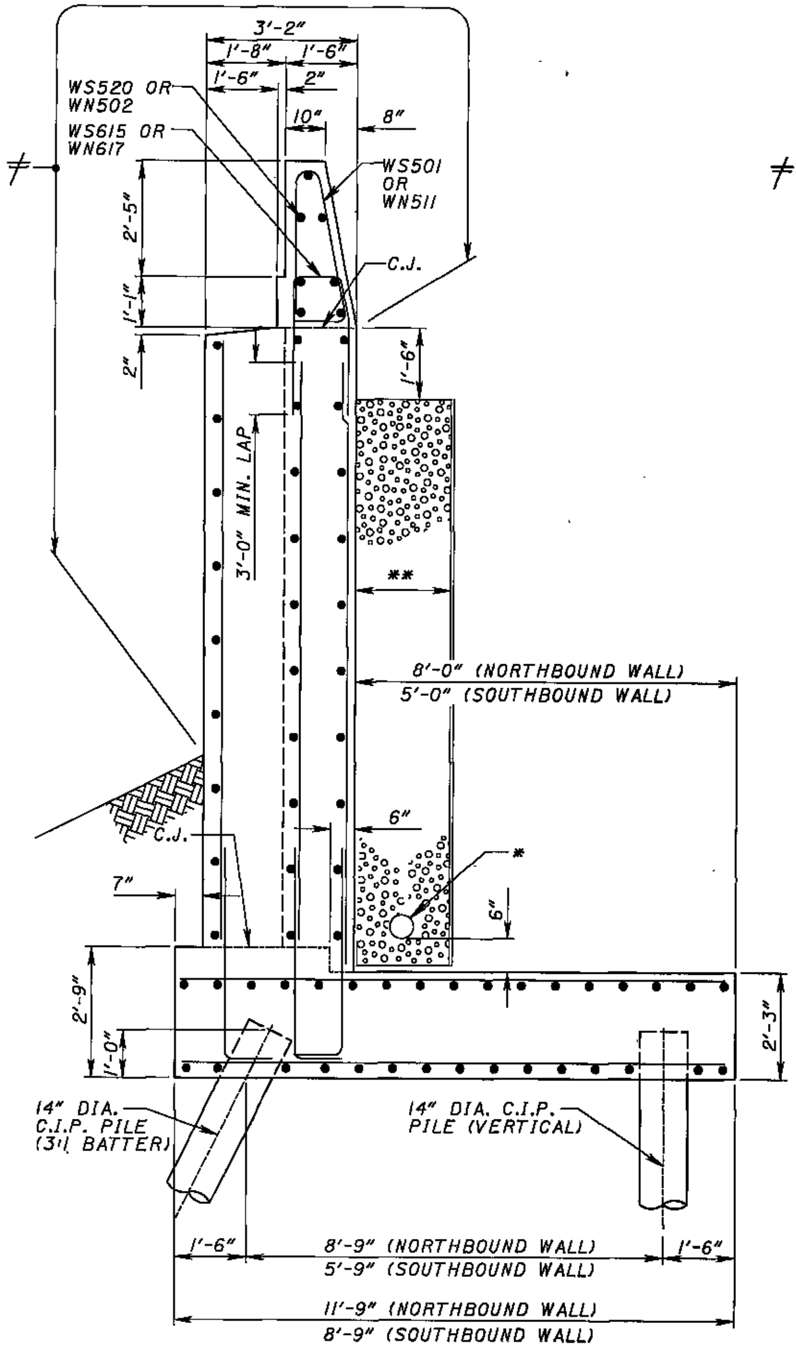
DESIGNED	DRAWN	REVIEWED	DATE
WTL/MAK	WTL/MAK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAK/WTL		5202256-LEFT 5202280-RIGHT	

RETAINING WALL PLAN & ELEVATION 3 - NORTHBOUND
BRIDGE NO. MED-71-0031 R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

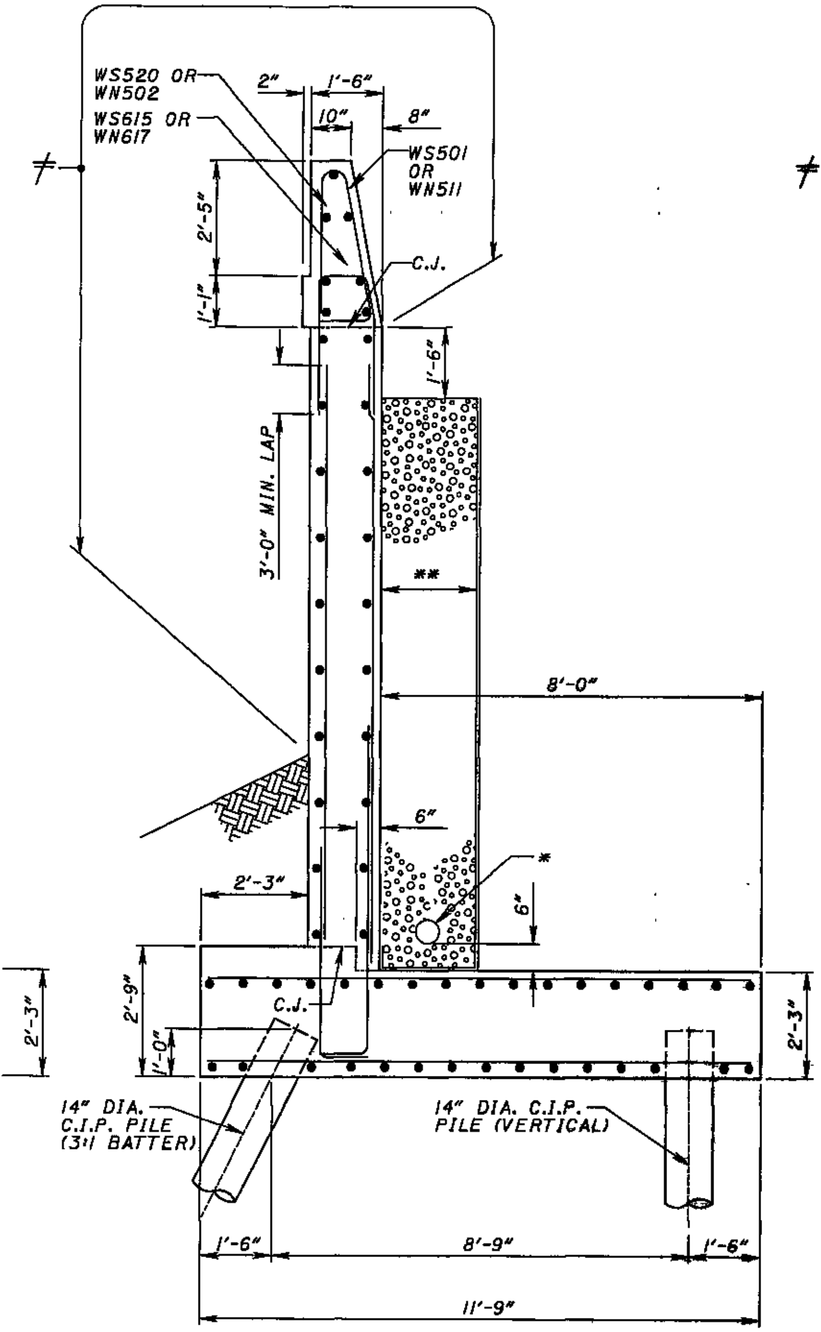
P:/PR30489/CADD/MED-71-0031/ME071fa8.DGN

cadd\MED_71_0031\me071fa8.dgn 10/18/2003 08:50:50 AM

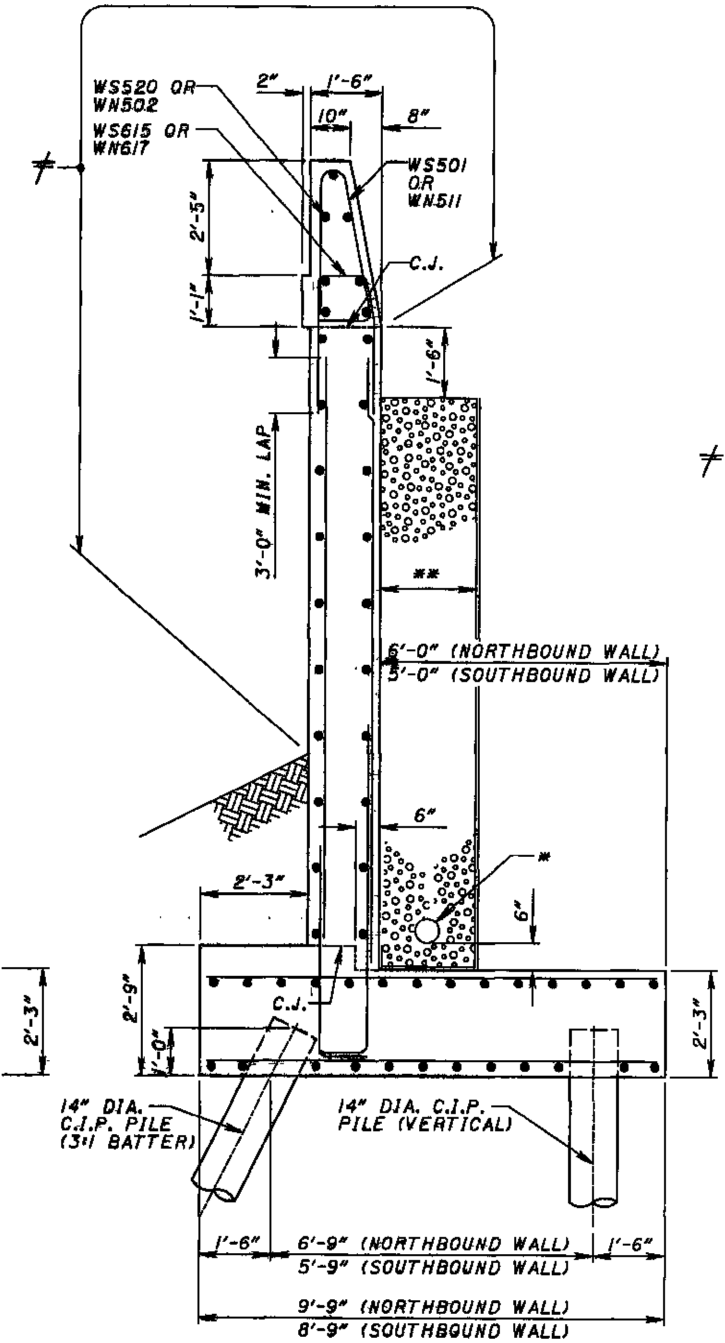


SECTION A-A

(NORTHBOUND WALL SHOWN, SOUTHBOUND WALL SIMILAR)

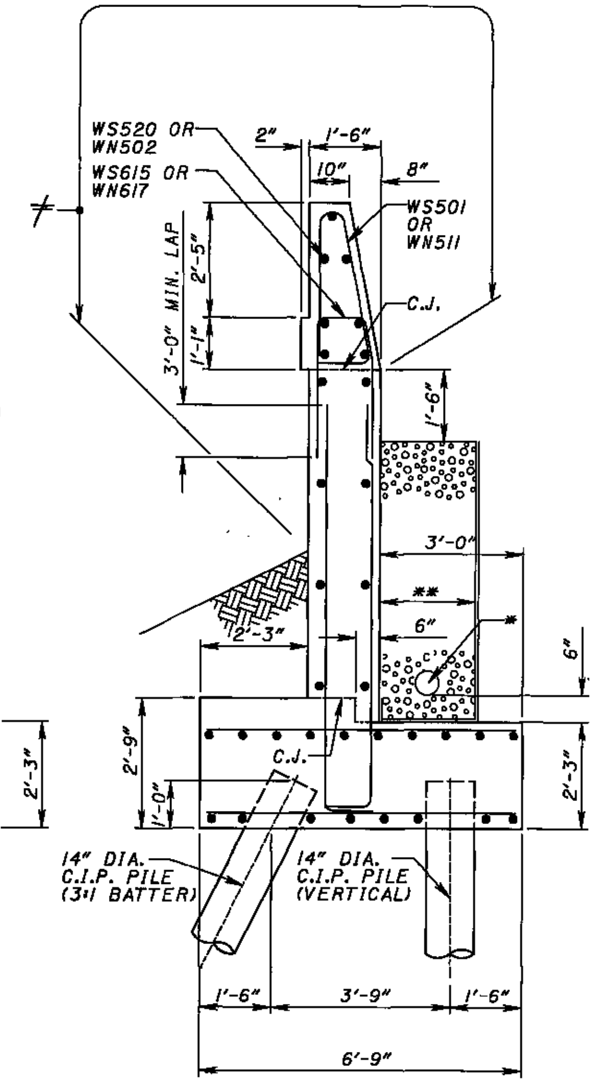


SECTION B-B

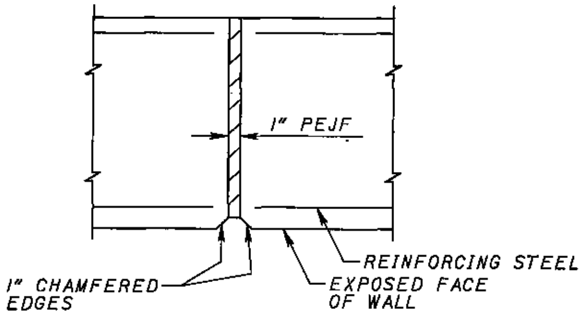


SECTION C-C

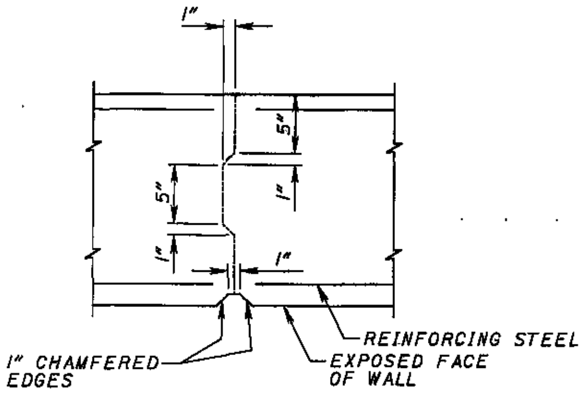
(NORTHBOUND WALL SHOWN SOUTHBOUND WALL SIMILAR)



SECTION D-D



EXPANSION JOINT DETAIL



CONTRACTION JOINT DETAIL

LEGEND:

E.F. - EACH FACE
N.F. - NEAR FACE
F.F. - FAR FACE
C.J. - CONSTRUCTION JOINT
PEJF - PREFORMED EXPANSION JOINT FILLER
* - 6" DIA. PERFORATED PLASTIC PIPE (707.33 TYPE SP) (SEE SHEET 27 / 77 FOR OUTLET DETAILS)
** - 2'-0" POROUS BACKFILL W/ FILTER FABRIC (WRAP FABRIC AROUND BACKFILL AND TURN UP 6" AT FACE OF WALL)
ǂ - LIMITS OF SEALING OF CONCRETE SURFACES

NOTES:

1.) SEE PLAN AND ELEVATION VIEWS ON SHEETS 33 / 77 THRU 38 / 77 FOR SPACING, AND SPECIFIC BAR CALLOUTS.
2.) REFER TO STANDARD DRAWING SBR-1-99 FOR ADDITIONAL PARAPET DETAILS NOT SHOWN.

P:/PR30489/CADD/MED-71-0031/MED71fab.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

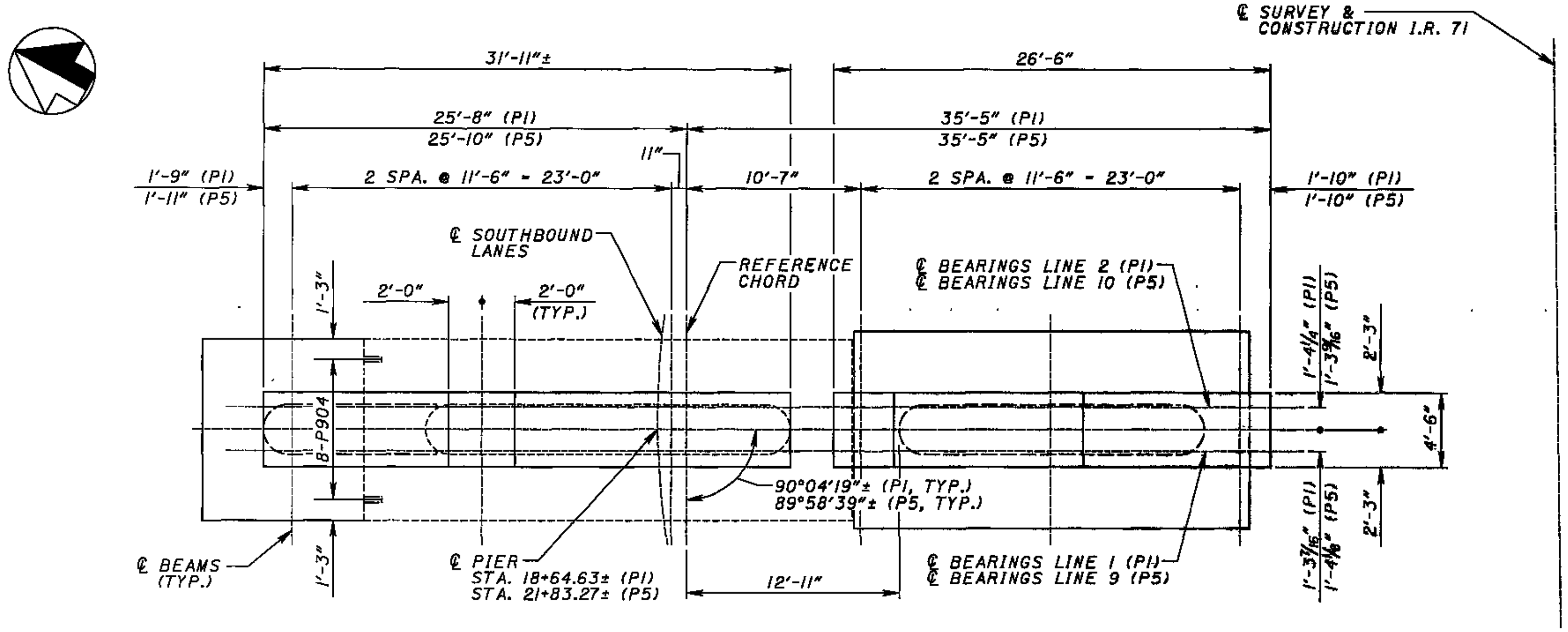
DESIGNED	DRAWN	REVIEWED	DATE
WTL/MAK	CRC/MAK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAK/WTL		5202256-LEFT 5202280-RIGHT	

RETAINING WALL DETAILS
BRIDGE NO. MED-71-0031 L/R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

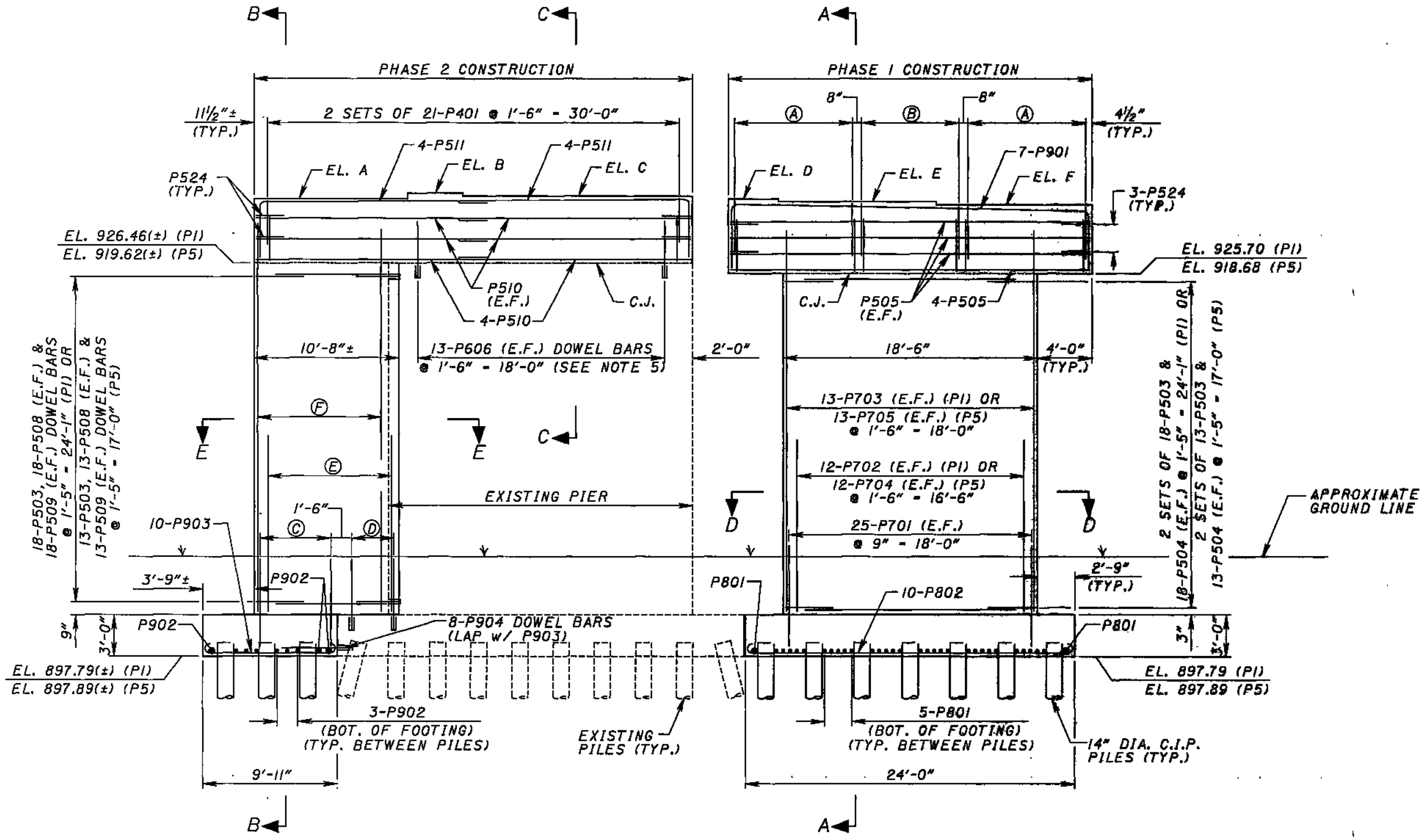
39/77

521/785



PLAN

ELEVATION	PIER 1	PIER 5
A	931.14	924.15
B	931.56	924.56
C	931.35	924.34
D	931.13	924.12
E	930.92	923.90
F	930.70	923.68



ELEVATION

(LATERAL TIES NOT SHOWN FOR CLARITY, SEE SHEET 46 / 77)

Ⓐ = 2 SETS OF 14-P601 @ 8" = 8'-8"

Ⓑ = 2 SETS OF 6-P601 @ 1'-5" = 7'-1"

Ⓒ = 8-P602 (E.F.) @ 9" = 5'-3"

Ⓓ = 5-P605 (E.F.) DOWEL BARS @ 9" = 3'-0"

Ⓔ = 7-P603 (E.F.) (P1) OR 7-P607 (E.F.) (P5) @ 1'-6" = 9'-0"

Ⓕ = 7-P604 (E.F.) (P1) OR 7-P608 (E.F.) (P5) @ 1'-6" = 9'-0"

NOTES:

1. EMBED ALL DOWEL BARS 1'-0" INTO EXISTING STRUCTURE.
2. SEE SHEET 46 / 77 FOR SECTIONS A-A, B-B, C-C, D-D & E-E.
3. SEE SHEET 19 / 77 AND 20 / 77 FOR PILING LAYOUT DETAILS AND FOUNDATION PLAN.
4. MINIMUM STEEL LAP LENGTHS:

   #4 BAR = 1'-7"
   #5 BAR = 2'-0"
   #6 BAR = 2'-4"

5. SEE SHEET 46 / 77 FOR ADDITIONAL NOTES CONCERNING VERTICAL DOWEL BARS.

LEGEND:

BOT. = BOTTOM
C.I.P. = CAST-IN-PLACE
C.J. = CONSTRUCTION JOINT
DIA. = DIAMETER
E.F. = EACH FACE
P1 = PIER 1
P5 = PIER 5
PEJF = PREFORMED EXPANSION JOINT FILLER

P:/PR30489/CADD/MED-71-0031/ME07p11.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

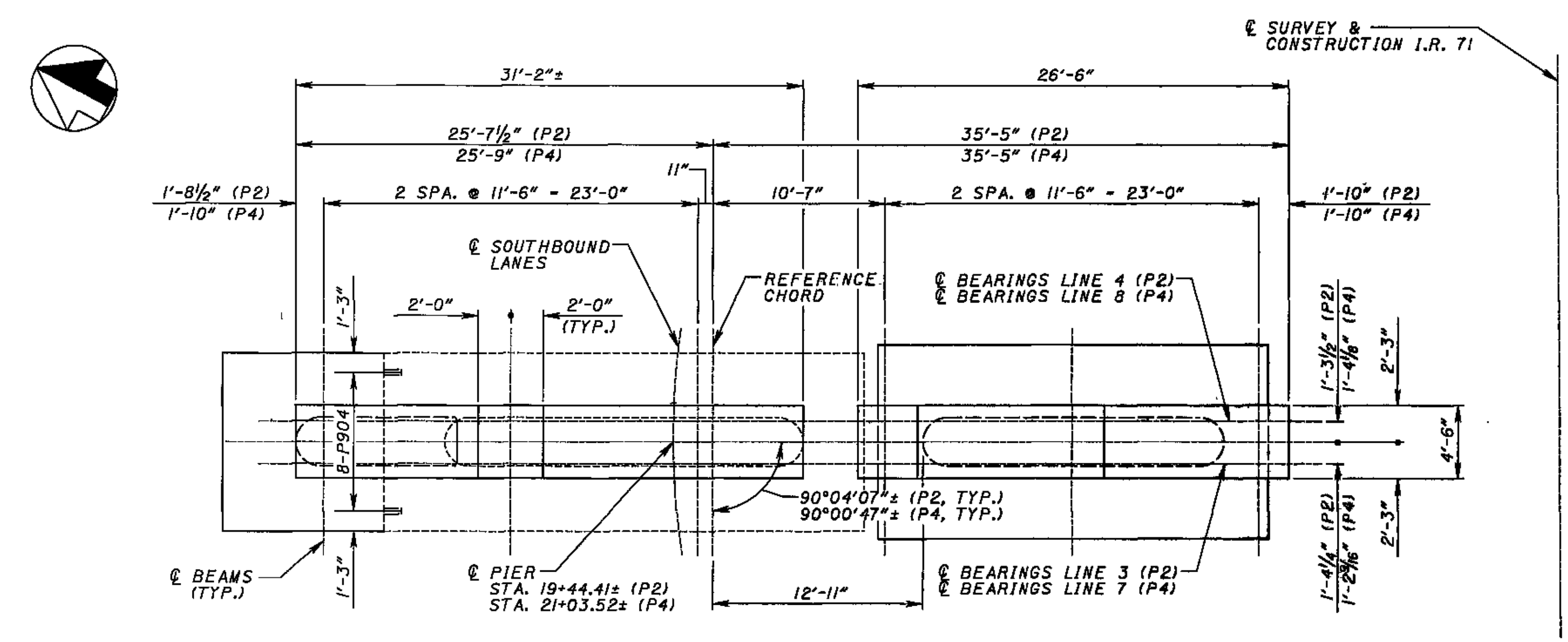
DESIGNED TTK | DRAWN TTK | REVIEWED CAS | DATE 6/03
CHECKED BES | REVISED | STRUCTURE FILE NUMBER 5202256-LEFT 5202280-RIGHT

PIERS 1 & 5 PLAN & ELEVATION - SOUTHBOUND
BRIDGE NO. MED-71-0031 L
OVER ABANDONED RAILROAD

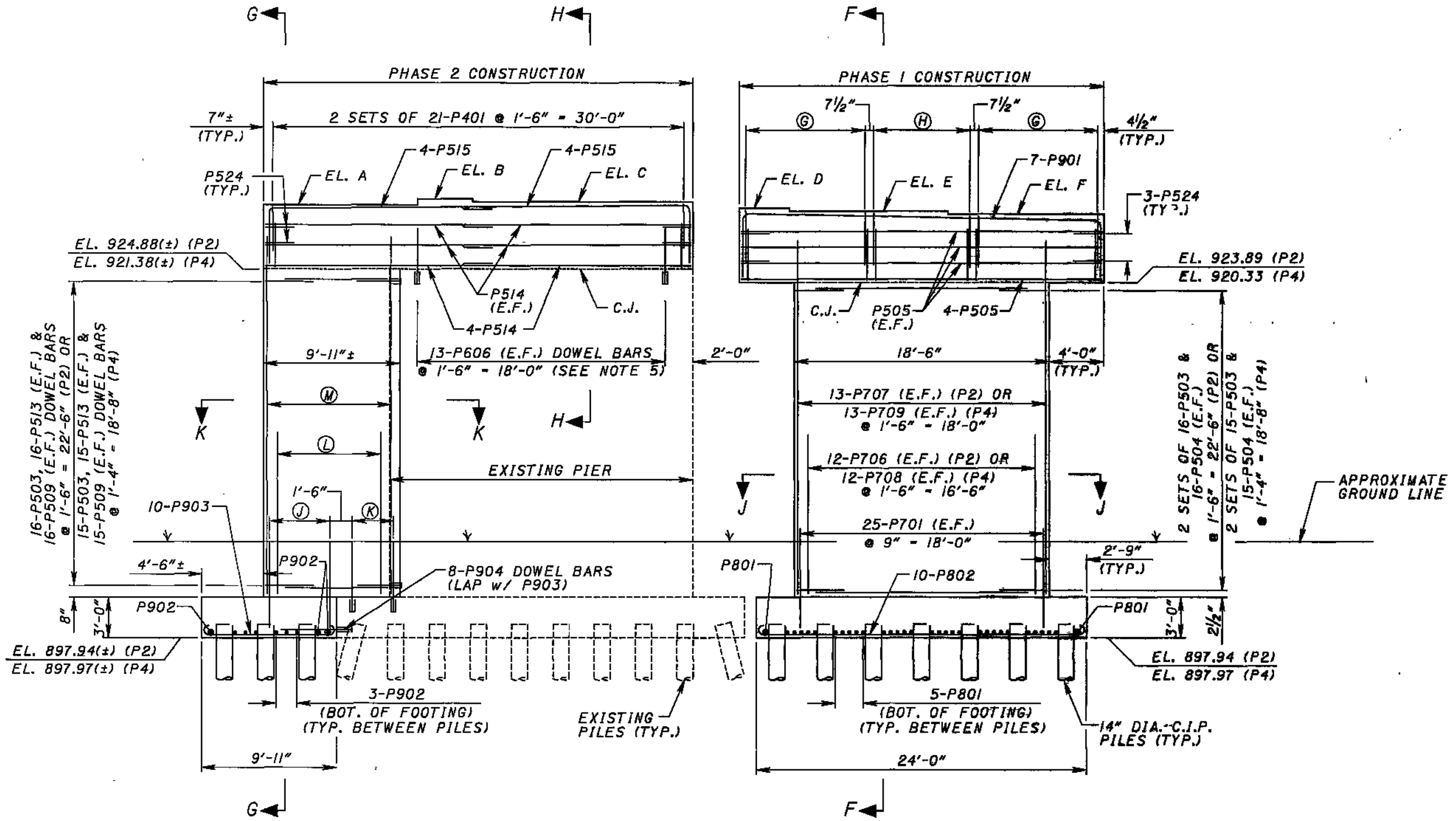
WAY/MED-71-7.04/0.00

40/77

522/785



PLAN



G
H
F
PHASE 2 CONSTRUCTION
PHASE 1 CONSTRUCTION
7"± (TYP.)
2 SETS OF 21-P401 @ 1'-6" = 30'-0"
7½"
7½"
Ⓖ
Ⓗ
Ⓖ
4½" (TYP.)
4-P515
EL. B
4-P515
EL. C
P524 (TYP.)
EL. A
EL. D
EL. E
7-P901
EL. F
3-P524 (TYP.)
EL. 924.88(±) (P2)
EL. 921.38(±) (P4)
EL. 923.89 (P2)
EL. 920.33 (P4)
P514 (E.F.)
4-P514
C.J.
C.J.
P505 (E.F.)
4-P505
16-P503, 16-P513 (E.F.) & 16-P509 (E.F.) DOWEL BARS @ 1'-6" = 22'-6" (P2) OR 15-P503, 15-P513 (E.F.) & 15-P509 (E.F.) DOWEL BARS @ 1'-4" = 18'-8" (P4)
9'-11"±
13-P606 (E.F.) DOWEL BARS @ 1'-6" = 18'-0" (SEE NOTE 5)
2'-0"
18'-6"
4'-0" (TYP.)
Ⓜ
K
K
H
13-P707 (E.F.) (P2) OR 13-P709 (E.F.) (P4) @ 1'-6" = 18'-0"
Ⓛ
EXISTING PIER
12-P706 (E.F.) (P2) OR 12-P708 (E.F.) (P4) @ 1'-6" = 16'-6"
J
J
1'-6"
10-P903
Ⓙ
Ⓚ
25-P701 (E.F.) @ 9" = 18'-0"
2 SETS OF 16-P503 & 16-P504 (E.F.) @ 1'-6" = 22'-6" (P2) OR 2 SETS OF 15-P503 & 15-P504 (E.F.) @ 1'-4" = 18'-8" (P4)
APPROXIMATE GROUND LINE
4'-6"±
P902
8-P904 DOWEL BARS (LAP w/ P903)
P801
10-P802
2'-9" (TYP.)
8"
3'-0"
P902
P801
3'-0"
2½"
EL. 897.94(±) (P2)
EL. 897.97(±) (P4)
EL. 897.94 (P2)
EL. 897.97 (P4)
3-P902 (BOT. OF FOOTING) (TYP. BETWEEN PILES)
EXISTING PILES (TYP.)
5-P801 (BOT. OF FOOTING) (TYP. BETWEEN PILES)
14" DIA. C.I.P. PILES (TYP.)
9'-11"
24'-0"
G
F

ELEVATION
(LATERAL TIES NOT SHOWN FOR CLARITY, SEE SHEET 47 / 77)

ELEVATION	PIER 2	PIER 4
A	929.39	925.84
B	929.76	926.21
C	929.55	925.99
D	929.33	925.77
E	929.11	925.55
F	928.89	925.33

Ⓖ - 2 SETS OF 15-P601 @ 7½" - 8'-9"

Ⓗ - 2 SETS OF 7-P601 @ 1'-2" - 7'-0"

Ⓙ - 7-P602 (E.F.) @ 9" - 4'-6"

Ⓚ - 5-P605 (E.F.) DOWEL BARS @ 9" - 3'-0"

Ⓛ - 6-P609 (E.F.) (P2) OR 6-P611 (E.F.) (P4) @ 1'-6" - 7'-6"

Ⓜ - 7-P610 (E.F.) (P2) OR 7-P612 (E.F.) (P4) @ 1'-6" - 9'-0"

NOTES:

1. EMBED ALL DOWEL BARS 1'-0" INTO EXISTING STRUCTURE.
2. SEE SHEET 47 / 77 FOR SECTIONS F-F, G-G, H-H, J-J & K-K.
3. SEE SHEET 19 / 77 AND 20 / 77 FOR PILING LAYOUT DETAILS AND FOUNDATION PLAN.
4. MINIMUM STEEL LAP LENGTHS:
   #4 BAR - 1'-7"
   #5 BAR - 2'-0"
   #6 BAR - 2'-4"
5. SEE SHEET 47 / 77 FOR ADDITIONAL NOTES CONCERNING VERTICAL DOWEL BARS.

LEGEND:

BOT. - BOTTOM
C.I.P. - CAST-IN-PLACE
C.J. - CONSTRUCTION JOINT
DIA. - DIAMETER
E.F. - EACH FACE
P2 - PIER 2
P4 - PIER 4

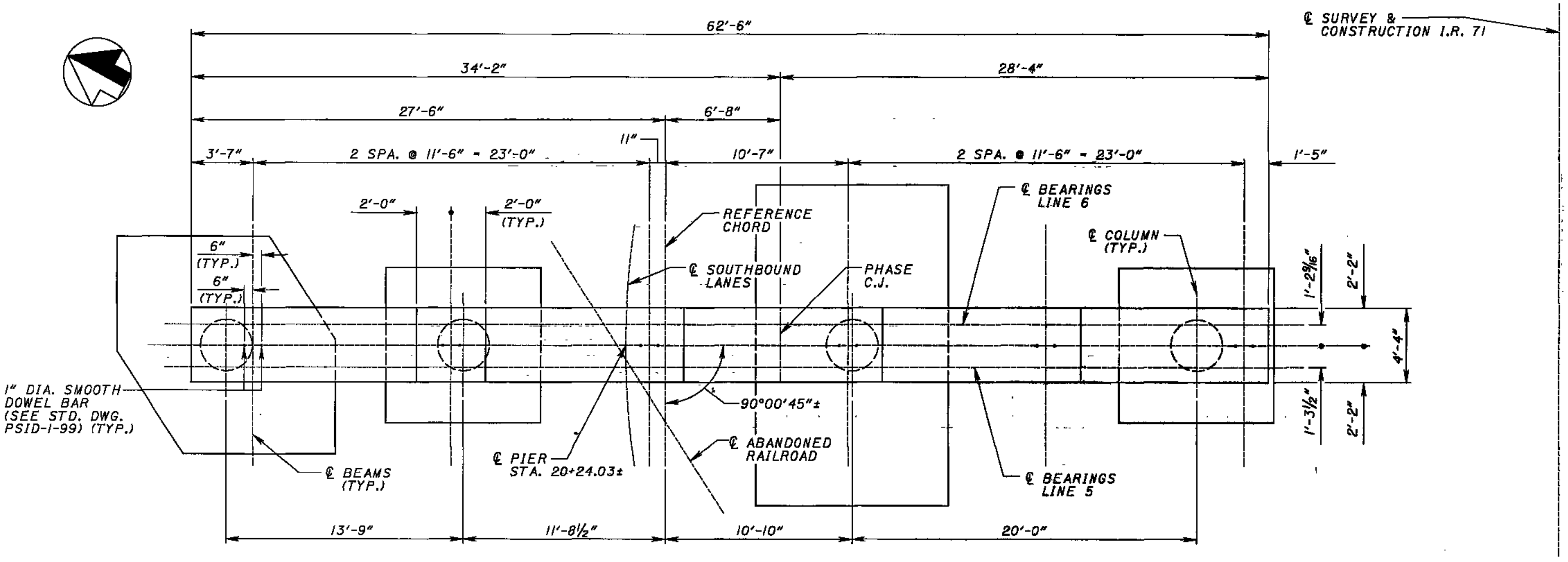
BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		5202256-LEFT 5202280-RIGHT	

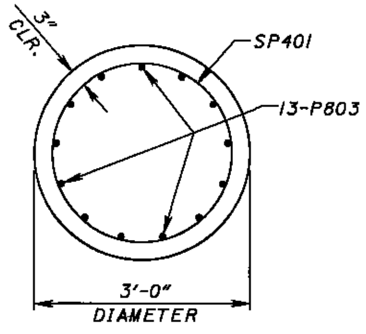
PIERS 2 & 4 PLAN & ELEVATION - SOUTHBOUND
BRIDGE NO. MED-71-0031 L
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

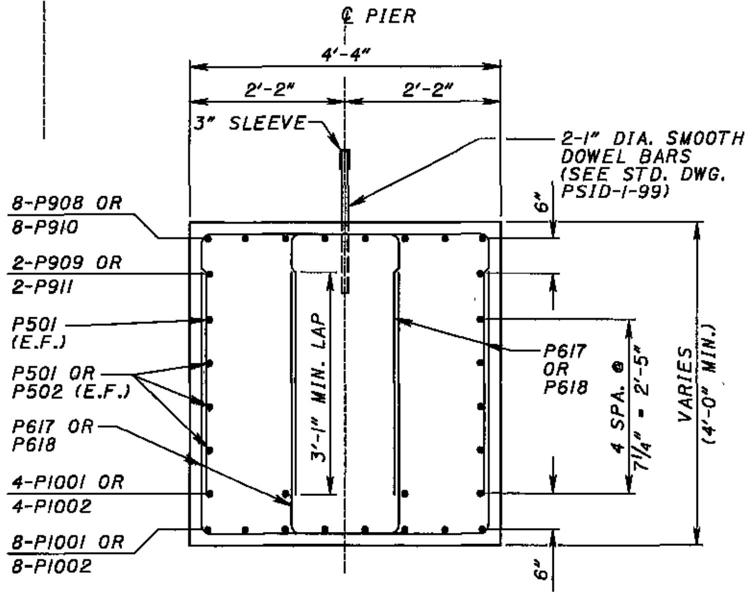
P:/PR30489/CADD/MED-71-0031/ME071p12.DGN



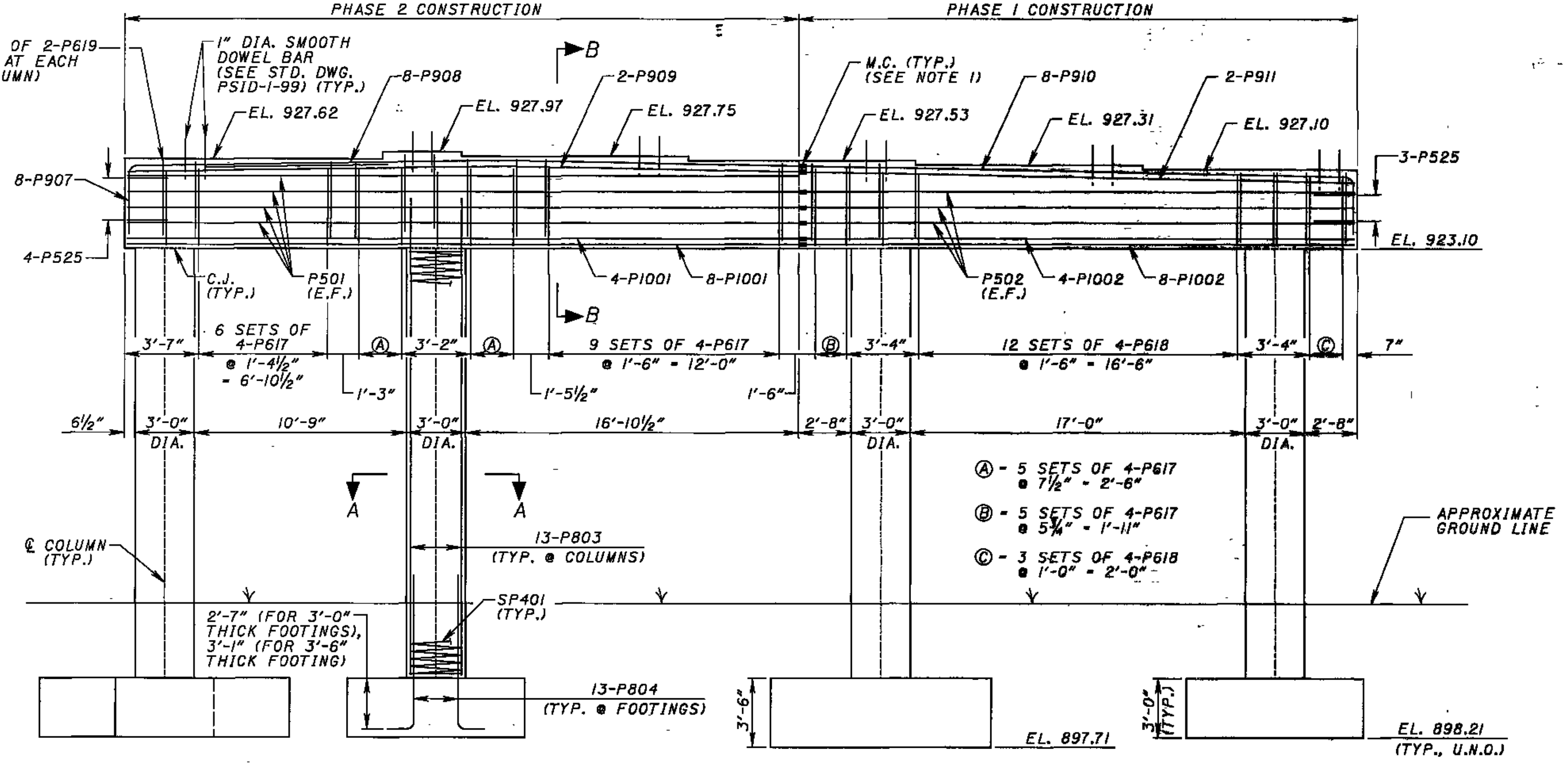
PLAN



SECTION A-A



SECTION B-B



ELEVATION

(FOOTING REINFORCING NOT SHOWN FOR CLARITY, SEE NOTE 2)
(PILES NOT SHOWN FOR CLARITY, SEE NOTE 3)

NOTES:

1. SEE MECHANICAL CONNECTOR NOTE, SHEET 5 / 77 .
2. SEE SHEET 48 / 77 FOR FOOTING DIMENSIONS AND REINFORCING DETAILS.
3. SEE SHEET 20 / 77 FOR PILING LAYOUT DETAILS AND FOUNDATION PLAN.
4. MINIMUM STEEL LAP LENGTHS:

   #5 BAR - 2'-0"
   #6 BAR - 3'-1"
   #8 BAR - 5'-1"
   #9 BAR - 9'-2"
   #10 BAR - 10'-3"

LEGEND:

C.J. - CONSTRUCTION JOINT
CLR. - CLEAR
DIA. - DIAMETER
E.F. - EACH FACE
M.C. - MECHANICAL CONNECTOR
U.N.O. - UNLESS NOTED OTHERWISE

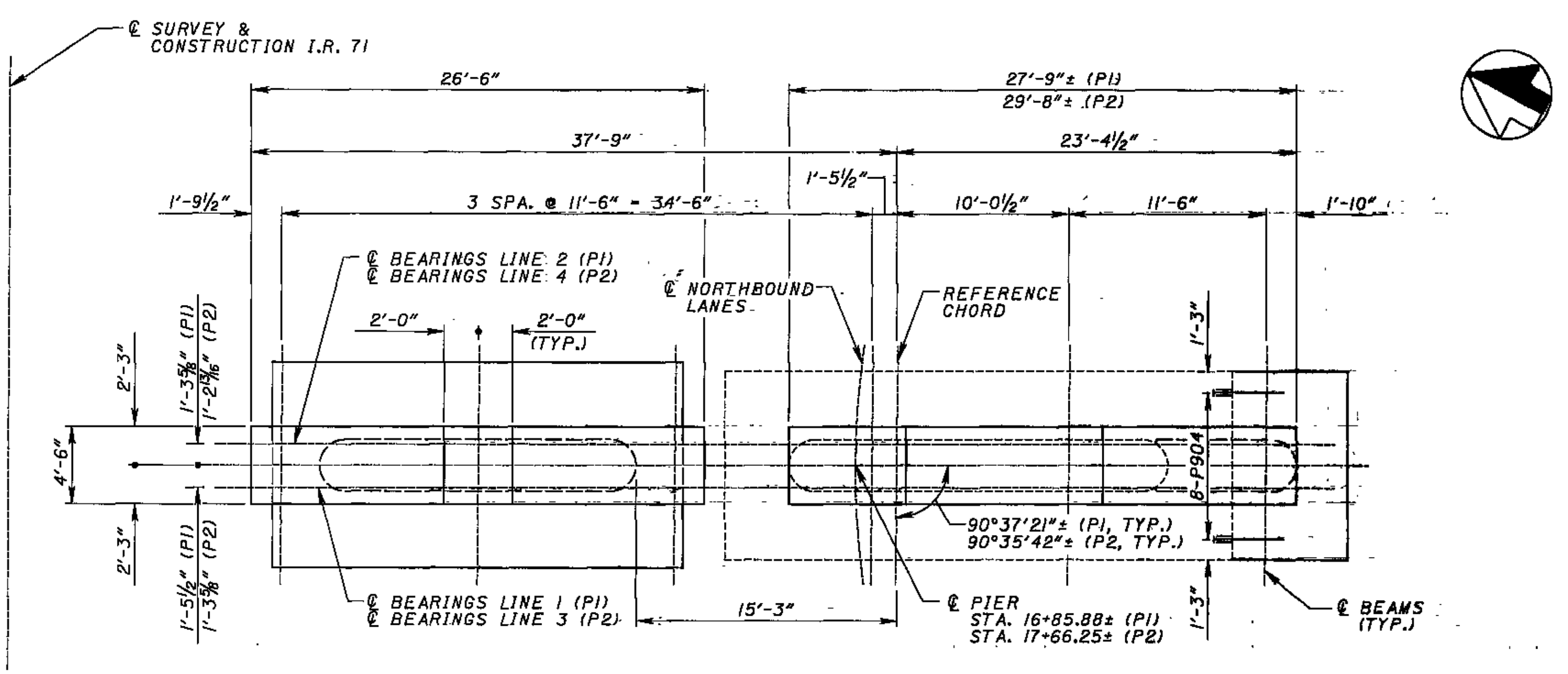
BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		5202256-LEFT 5202280-RIGHT	

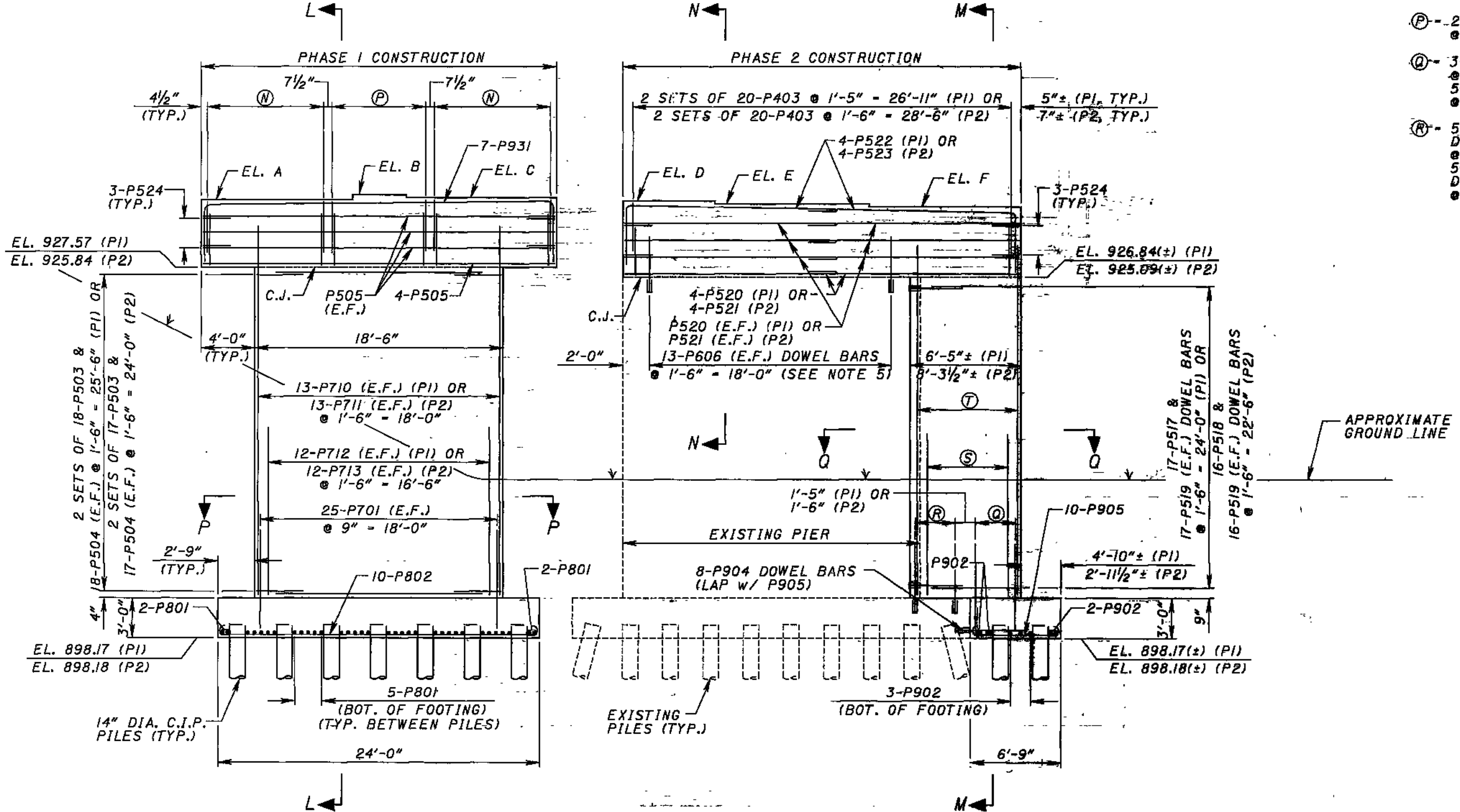
PIER 3 PLAN & ELEVATION - SOUTHBOUND
BRIDGE NO. MED-71-0031 L
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

P:/PR30489/CADD/MED-71-0031/MED71pib.DGN



PLAN



ELEVATION

(LATERAL TIES NOT SHOWN FOR CLARITY, SEE SHEET 49 / 77)

ELEVATION	PIER 1	PIER 2
A	932.57	930.84
B	932.99	931.21
C	932.77	930.99
D	932.55	930.77
E	932.34	930.55
F	932.12	930.33

Ⓝ - 2 SETS OF 15-P601 @ 7½" = 8'-9"

Ⓟ - 2 SETS OF 7-P601 @ 1'-2" = 7'-0"

Ⓠ - 3-P602 (E.F.) (P1) @ 8½" = 1'-5" OR 5-P602 (E.F.) (P2) @ 9" = 3'-0"

Ⓡ - 5-P605 (E.F.) (P1) DOWEL BARS @ 8½" = 2'-10" OR 5-P605 (E.F.) (P2) DOWEL BARS @ 9" = 3'-0"

Ⓢ - 4-P603 (E.F.) (P1) @ 1'-5" = 4'-3" OR 5-P609 (E.F.) (P2) @ 1'-6" = 6'-0"

Ⓣ - 5-P604 (E.F.) (P1) @ 1'-5" = 5'-8" OR 6-P610 (E.F.) (P2) @ 1'-6" = 7'-6"

NOTES:

1. EMBED ALL DOWEL BARS 1'-0" INTO EXISTING STRUCTURE.
2. SEE SHEET 49 / 77 FOR SECTIONS L-L, M-M, N-N, P-P & Q-Q.
3. SEE SHEET 21 / 77 FOR PILING LAYOUT DETAILS AND FOUNDATION PLAN.
4. MINIMUM STEEL LAP LENGTHS:
   - #4 BAR = 1'-7"
   - #5 BAR = 2'-0"
   - #6 BAR = 2'-4"
5. SEE SHEET 49 / 77 FOR ADDITIONAL NOTES CONCERNING VERTICAL DOWEL BARS.

LEGEND:

BOT. = BOTTOM
C.I.P. = CAST-IN-PLACE
C.J. = CONSTRUCTION JOINT
DIA. = DIAMETER
E.F. = EACH FACE
P1 = PIER 1
P2 = PIER 2

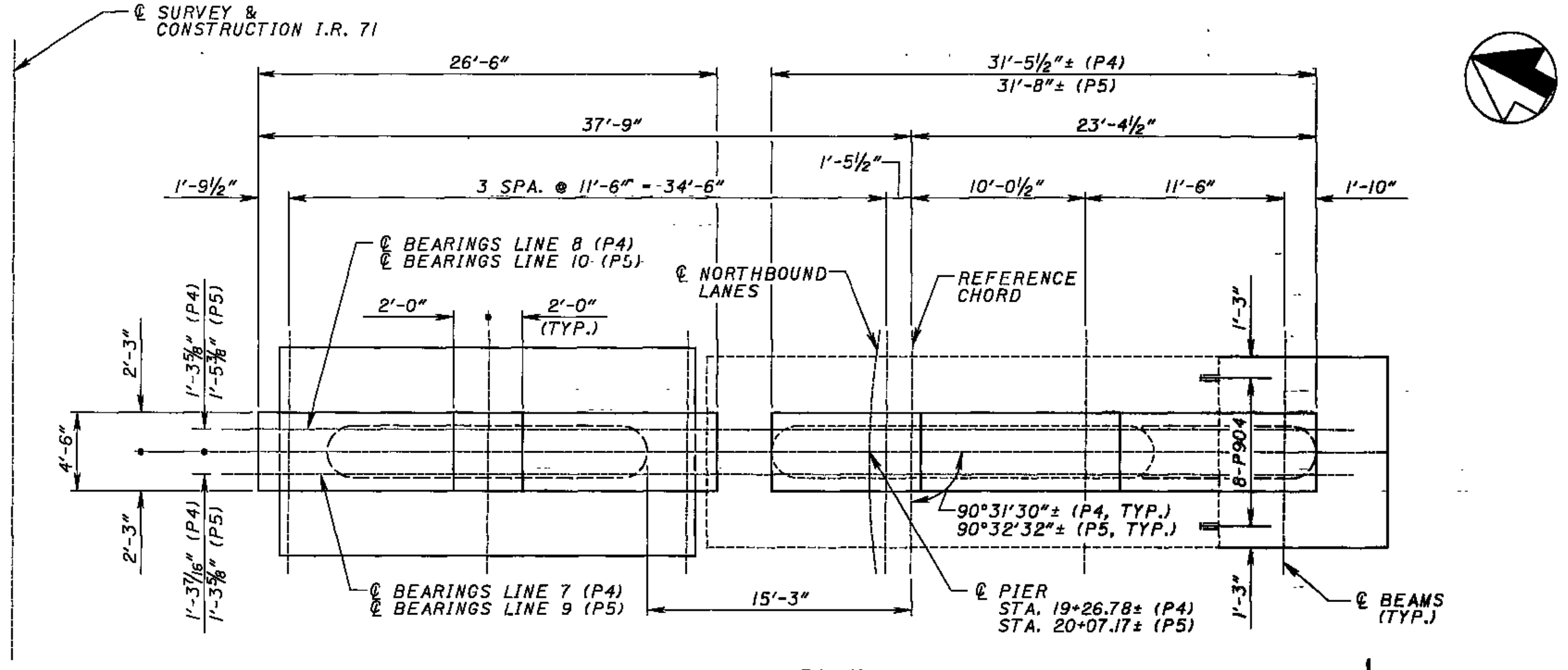
P:/PR30489/CADD/MED-71-0031/ME07pi5.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED TTK
DRAWN TTK
REVIEWED CAS
DATE 6/03
CHECKED BES
REVISED
STRUCTURE FILE NUMBER
5202256-LEFT
5202280-RIGHT

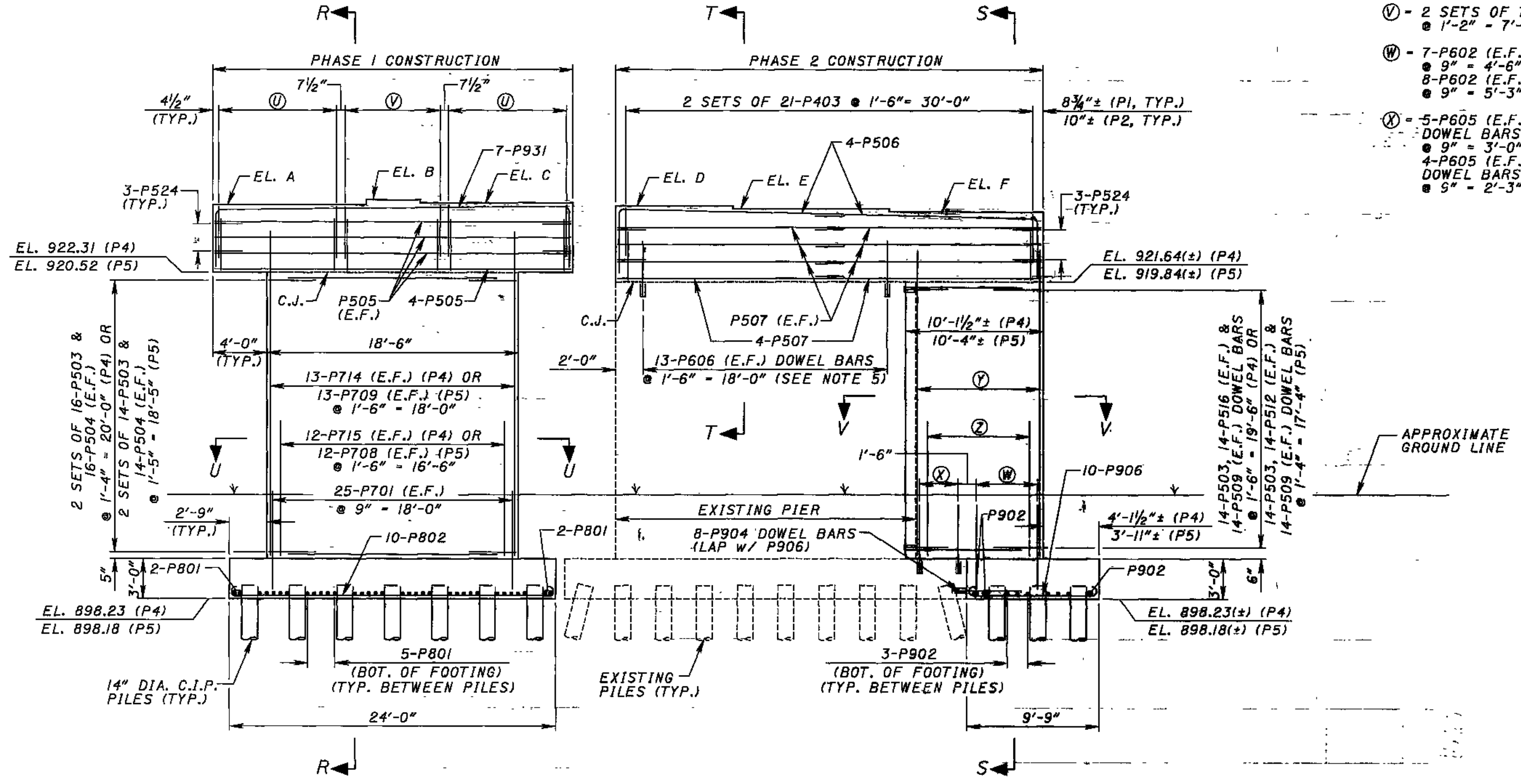
PIERS 1 & 2 PLAN & ELEVATION - NORTHBOUND
BRIDGE NO. MED-71-0031 R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00



PLAN

ELEVATION	PIER 4	PIER 5
A	927.31	925.52
B	927.68	925.93
C	927.46	925.71
D	927.24	925.48
E	927.01	925.26
F	926.79	925.03



ELEVATION
(LATERAL TIES NOT SHOWN FOR CLARITY, SEE SHEET 50 / 77)

Ⓤ - 2 SETS OF 15-P601
@ 7½" - 8'-9"

Ⓥ - 2 SETS OF 7-P601
@ 1'-2" - 7'-0"

Ⓦ - 7-P602 (E.F.) (P4)
@ 9" = 4'-6" OR
8-P602 (E.F.) (P5)
@ 9" = 5'-3"

Ⓧ = 5-P605 (E.F.) (P4)
DOWEL BARS
@ 9" = 3'-0" OR
4-P605 (E.F.) (P5)
DOWEL BARS
@ 9" = 2'-3"

Ⓨ - 7-P613 (E.F.) (P4) OR
7-P614 (E.F.) (P5)
@ 1'-6" - 9'-0"

Ⓩ - 6-P615 (E.F.) (P4) OR
6-P616 (E.F.) (P5)
@ 1'-6" - 7'-6"

NOTES:

1. EMBED ALL DOWEL BARS 1'-0" INTO EXISTING STRUCTURE.
2. SEE SHEET 50 / 77 FOR SECTIONS R-R, S-S, T-T, U-U & V-V.
3. SEE SHEET 22 / 77 FOR PILING LAYOUT DETAILS AND FOUNDATION PLAN.
4. MINIMUM STEEL LAP LENGTHS:
   #4 BAR = 1'-7"
   #5 BAR = 2'-0"
   #6 BAR = 2'-4"
5. SEE SHEET 49 / 77 FOR ADDITIONAL NOTES CONCERNING VERTICAL DOWEL BARS.

LEGEND:

BOT. - BOTTOM
C.I.P. - CAST-IN-PLACE
C.J. - CONSTRUCTION JOINT
DIA. - DIAMETER
E.F. - EACH FACE
P4 - PIER 4
P5 - PIER 5

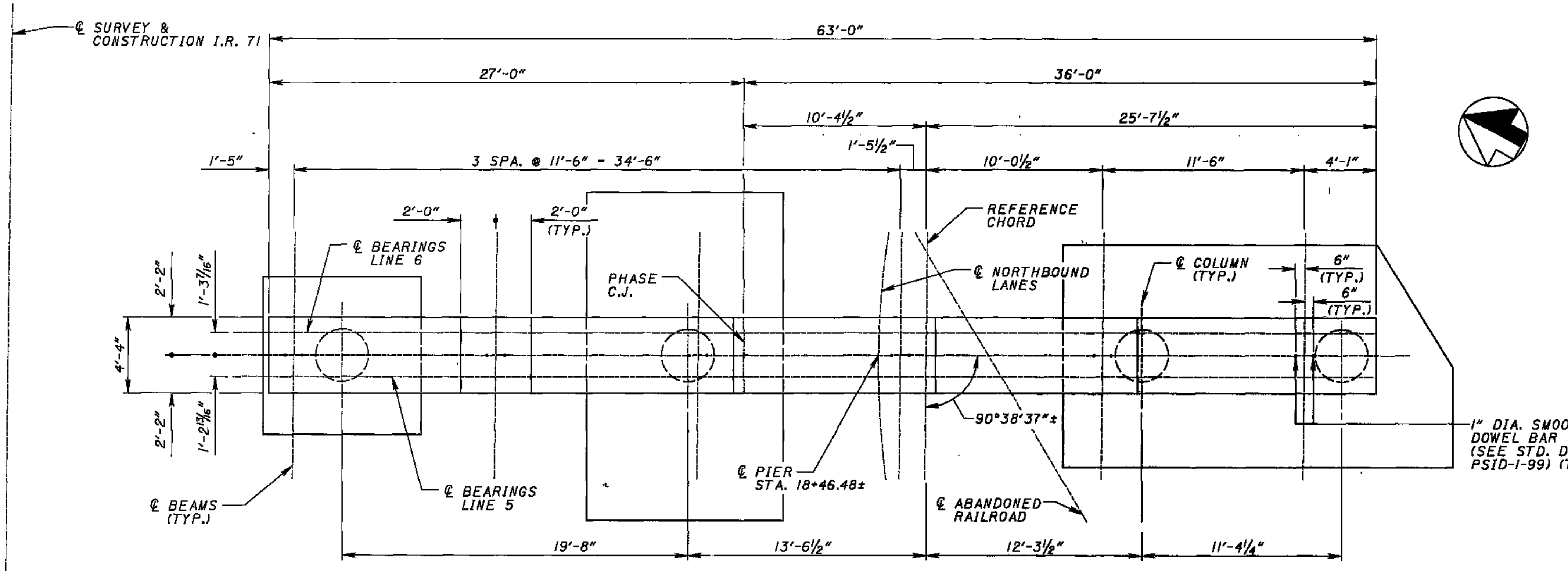
P:/PR30489/CADD/MED-71-0031/ME071p16.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

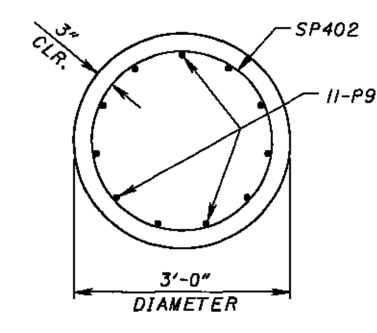
DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		5202256-LEFT 5202280-RIGHT	

PIERS 4 & 5 PLAN & ELEVATION - NORTHBOUND
BRIDGE NO. MED-71-0031 R
OVER ABANDONED RAILROAD

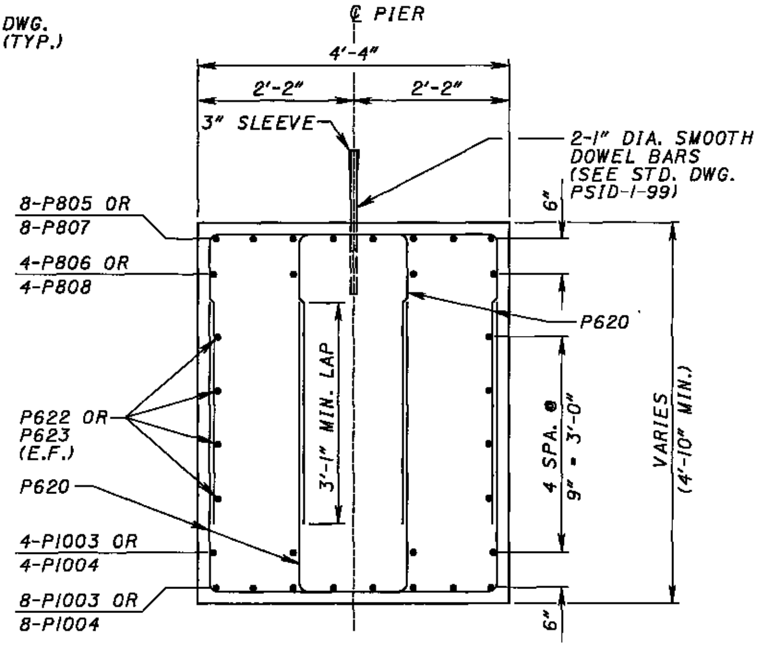
WAY/MED-71-7.04/0.00



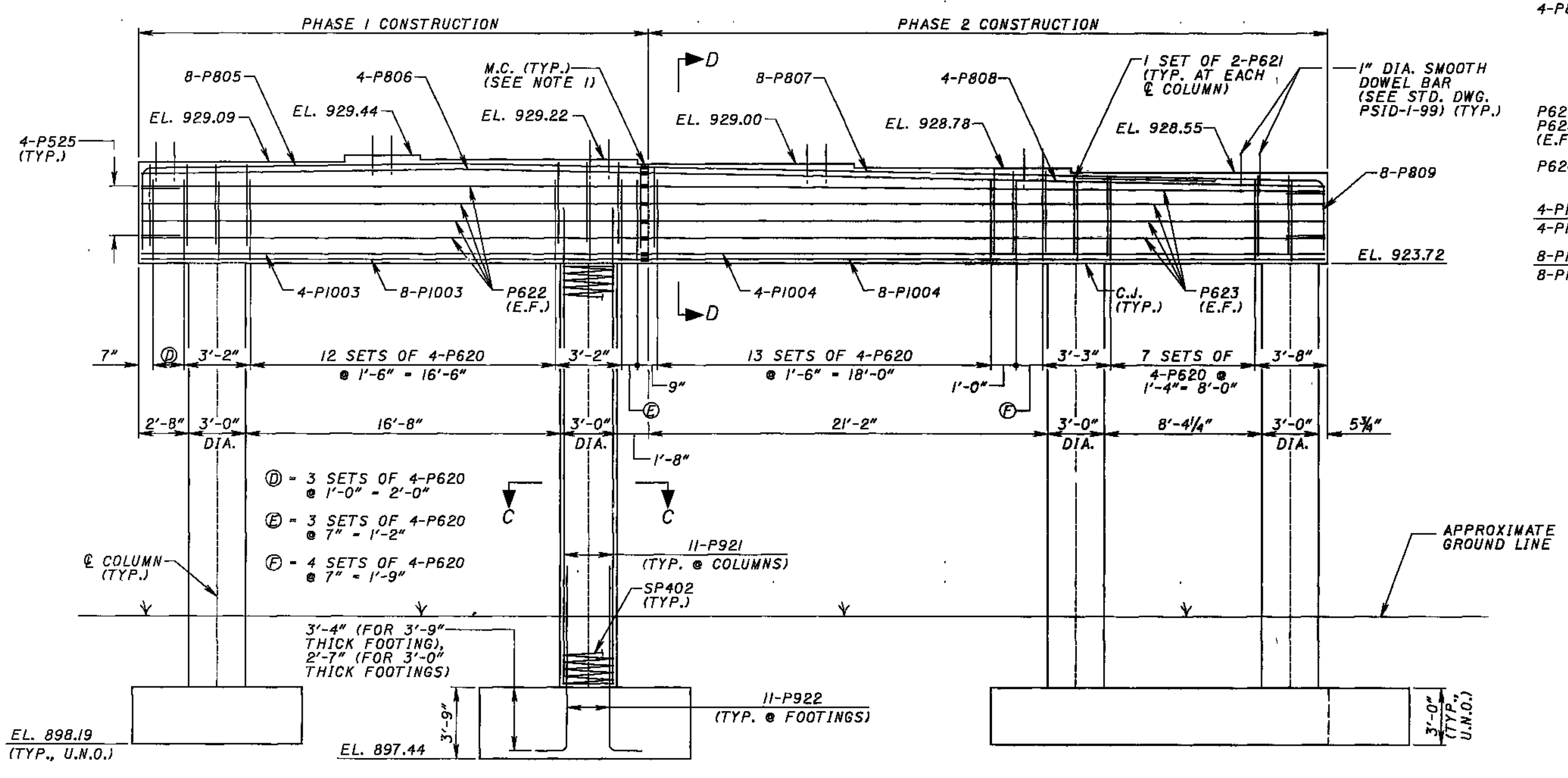
PLAN



SECTION C-C



SECTION D-D



ELEVATION

(FOOTING REINFORCING NOT SHOWN FOR CLARITY, SEE NOTE 2)
(PILES NOT SHOWN FOR CLARITY, SEE NOTE 3)

NOTES:

1. SEE MECHANICAL CONNECTOR NOTE, SHEET 5 / 77 .
2. SEE SHEET 51 / 77 FOR FOOTING DIMENSIONS AND REINFORCING DETAILS.
3. SEE SHEET 21 / 77 FOR PILING LAYOUT DETAILS AND FOUNDATION PLAN.
4. MINIMUM STEEL LAP LENGTHS:

#5 BAR = 2'-0"
#6 BAR = 3'-1"
#8 BAR = 7'-3"
#9 BAR = 6'-6"
#10 BAR = 10'-3"

LEGEND:

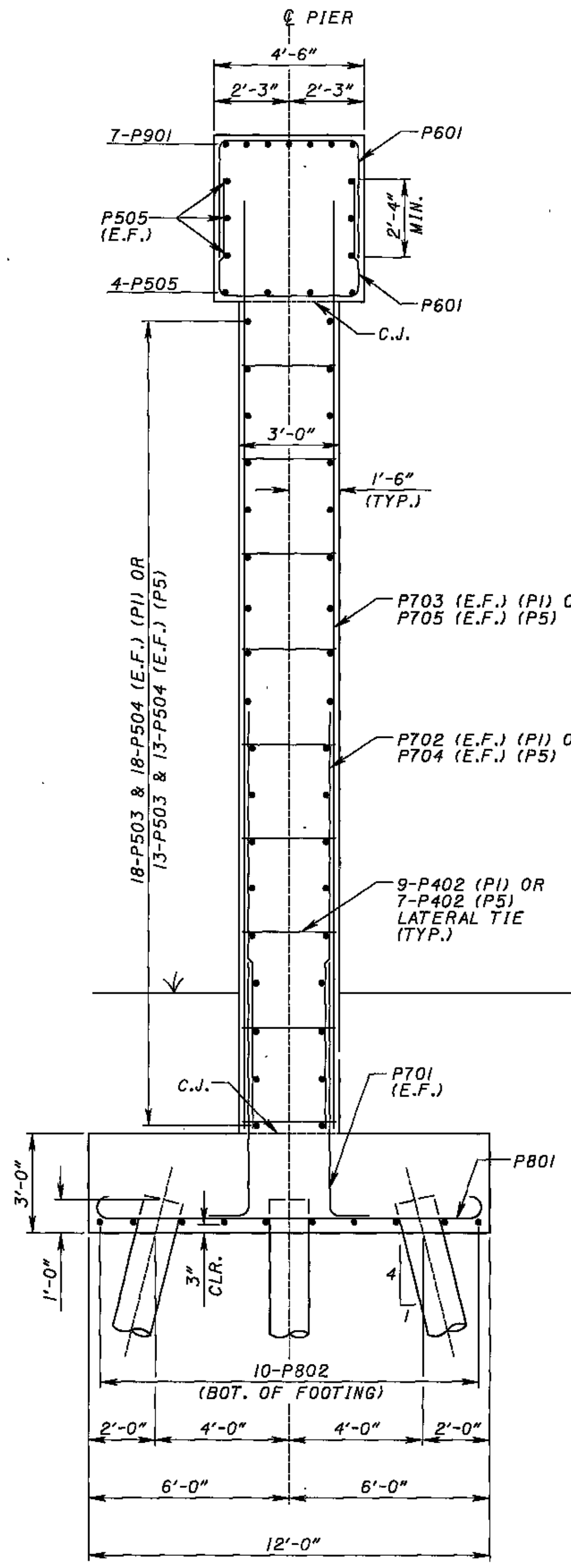
C.J. = CONSTRUCTION JOINT
CLR. = CLEAR
DIA. = DIAMETER
E.F. = EACH FACE
M.C. = MECHANICAL CONNECTOR
U.N.O. = UNLESS NOTED OTHERWISE

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

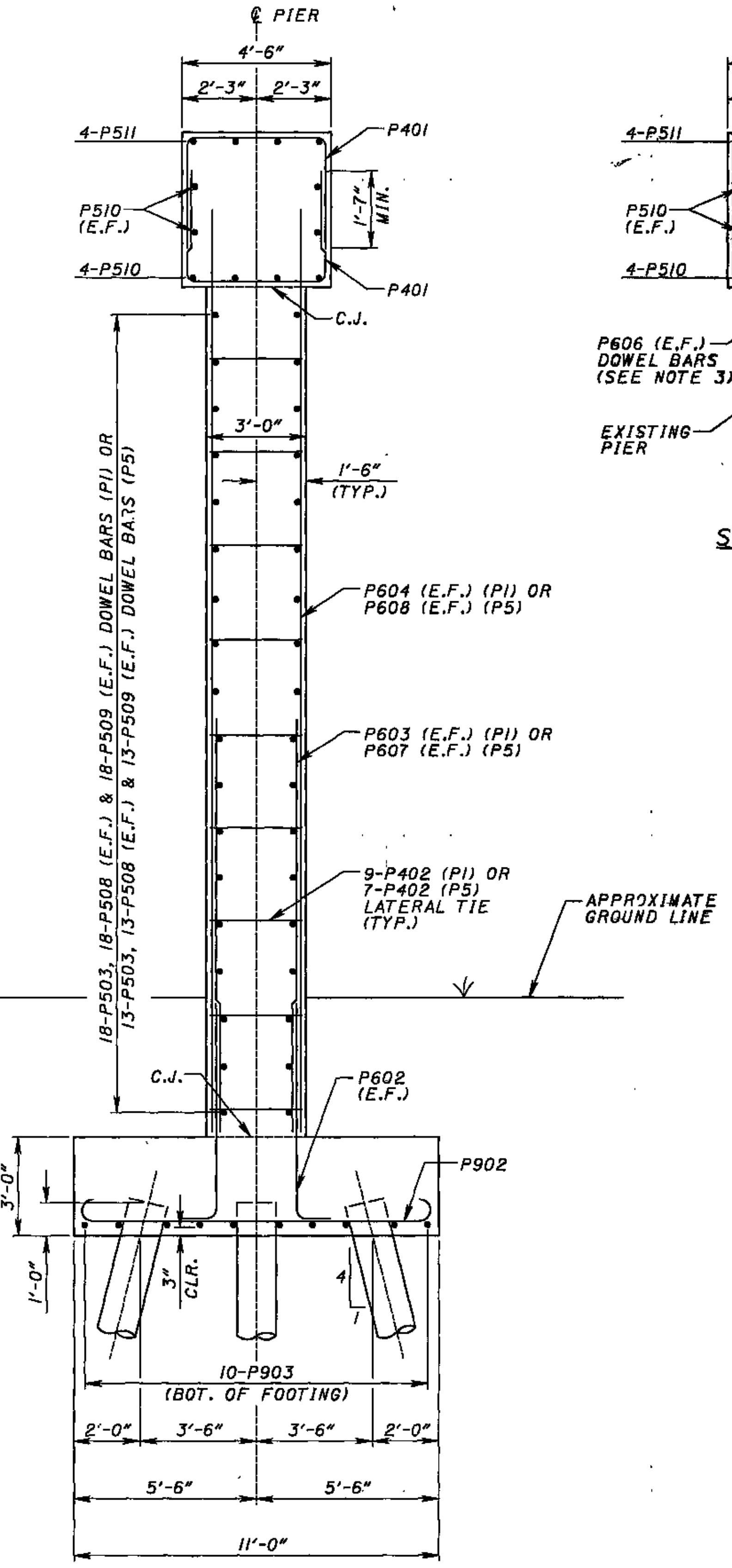
DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		5202256-LEFT 5202280-RIGHT	

PIER 3 PLAN & ELEVATION - NORTHBOUND
BRIDGE NO. MED-71-0031 R
OVER ABANDONED RAILROAD

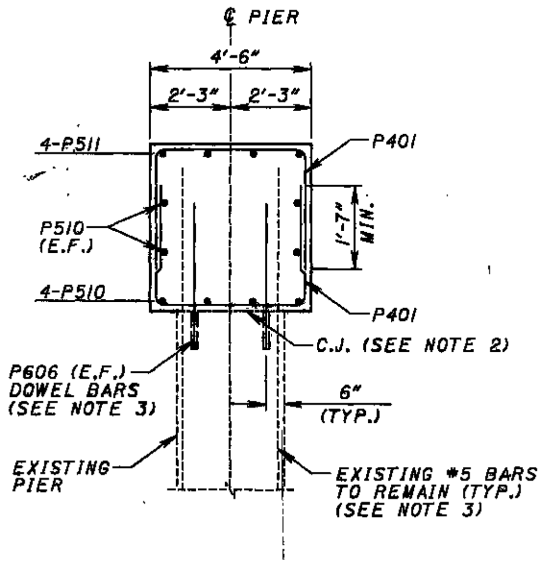
WAY/MED-71-7.04/0.00


℄ PIER
4'-6"
2'-3"
2'-3"
7-P901
P601
P505 (E.F.)
2'-4" MIN.
4-P505
P601
C.J.
3'-0"
1'-6" (TYP.)
18-P503 & 18-P504 (E.F.) (P1) OR 13-P503 & 13-P504 (E.F.) (P5)
P703 (E.F.) (P1) OR P705 (E.F.) (P5)
P702 (E.F.) (P1) OR P704 (E.F.) (P5)
9-P402 (P1) OR 7-P402 (P5) LATERAL TIE (TYP.)
C.J.
P701 (E.F.)
P801
3'-0"
1'-0"
3" CLR.
4
1
10-P802 (BOT. OF FOOTING)
2'-0"
4'-0"
4'-0"
2'-0"
6'-0"
6'-0"
12'-0"

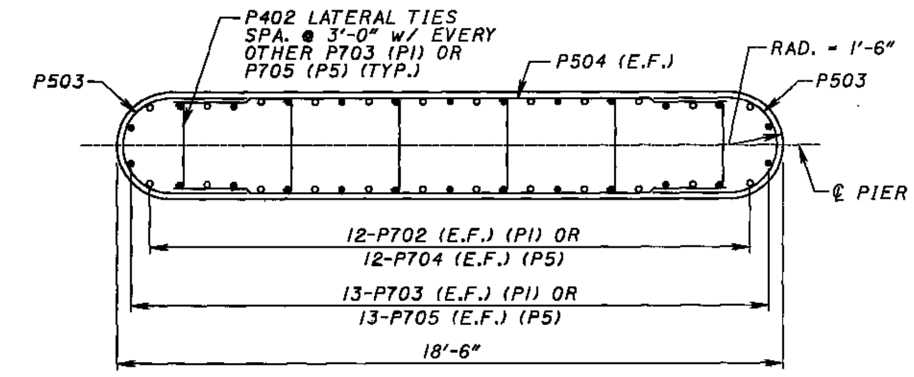
SECTION A-A


℄ PIER
4'-6"
2'-3"
2'-3"
4-P511
P401
P510 (E.F.)
1'-7" MIN.
4-P510
P401
C.J.
3'-0"
1'-6" (TYP.)
18-P503, 18-P508 (E.F.) & 18-P509 (E.F.) DOWEL BARS (P1) OR 13-P503, 13-P508 (E.F.) & 13-P509 (E.F.) DOWEL BARS (P5)
P604 (E.F.) (P1) OR P608 (E.F.) (P5)
P603 (E.F.) (P1) OR P607 (E.F.) (P5)
9-P402 (P1) OR 7-P402 (P5) LATERAL TIE (TYP.)
APPROXIMATE GROUND LINE
C.J.
P602 (E.F.)
P902
3'-0"
1'-0"
3" CLR.
4
1
10-P903 (BOT. OF FOOTING)
2'-0"
3'-6"
3'-6"
2'-0"
5'-6"
5'-6"
11'-0"

SECTION B-B

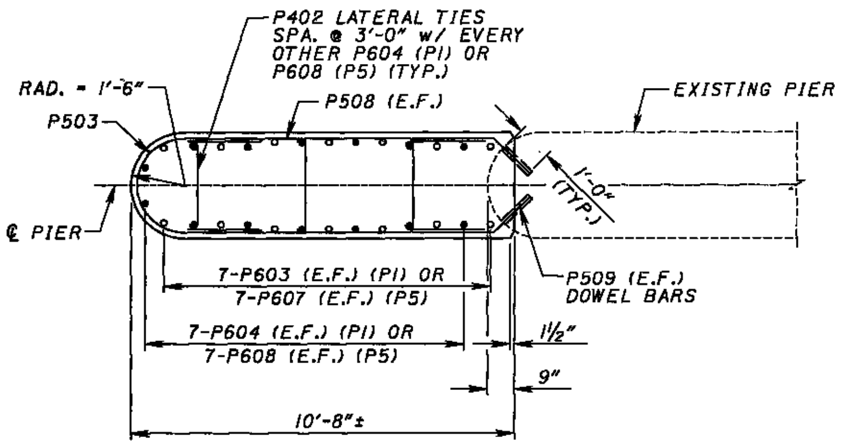


SECTION C-C



SECTION D-D

(FOOTING NOT SHOWN)



SECTION E-E

(FOOTING NOT SHOWN)

NOTES:

1. EMBED ALL DOWEL BARS 1'-0" INTO EXISTING STRUCTURE.
2. THE EXPOSED EXISTING HORIZONTAL CONCRETE SURFACE THAT IS TO BE COVERED WITH NEW CONCRETE SHALL BE ROUGH AND IRREGULAR WITH AN AMPLITUDE OF ¼" OR MORE.
3. THE CONTRACTOR HAS THE OPTION OF SALVAGING EXISTING VERTICAL NO. 5 BARS THAT PROJECT FROM WALL INTO CAP OR PROVIDING NEW NO. 6 DOWELS. IF NEW DOWELS ARE PROVIDED, INSTALL PER 510 USING NONSHRINK, NONMETALLIC GROUT. IF EXISTING BARS ARE RE-USED, FIELD-CUT (IF NECESSARY) TO PROVIDE 2" MIN. CLEAR COVER TO TOP OF PROPOSED CONCRETE CAP. EXISTING BARS SHALL PROJECT AT LEAST 2'-0" ABOVE THE REMOVAL LINE. INCLUDE FIELD-CUTTING WITH ITEM 202 FOR PAYMENT.

LEGEND:

BOT. = BOTTOM
C.J. = CONSTRUCTION JOINT
CLR. = CLEAR
E.F. = EACH FACE
P1 = PIER 1
P5 = PIER 5
RAD. = RADIUS

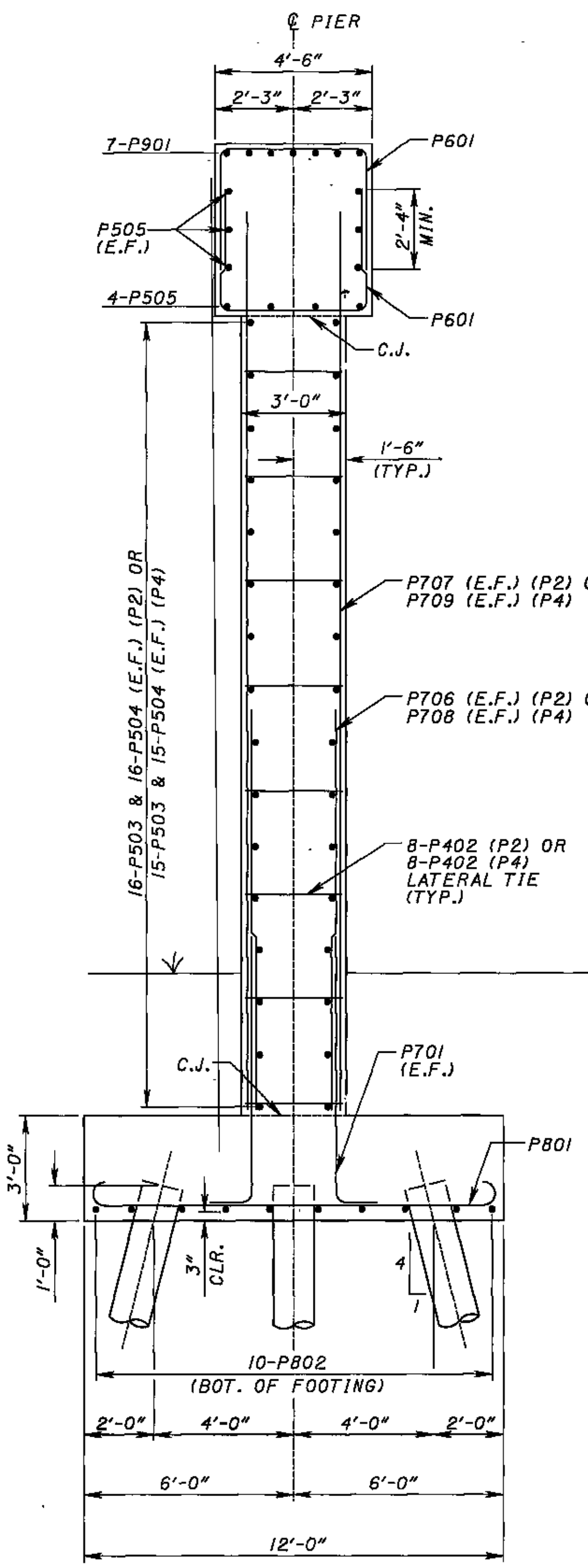
P:/PR30489/CADD/MED-71-0031/ME071p13.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

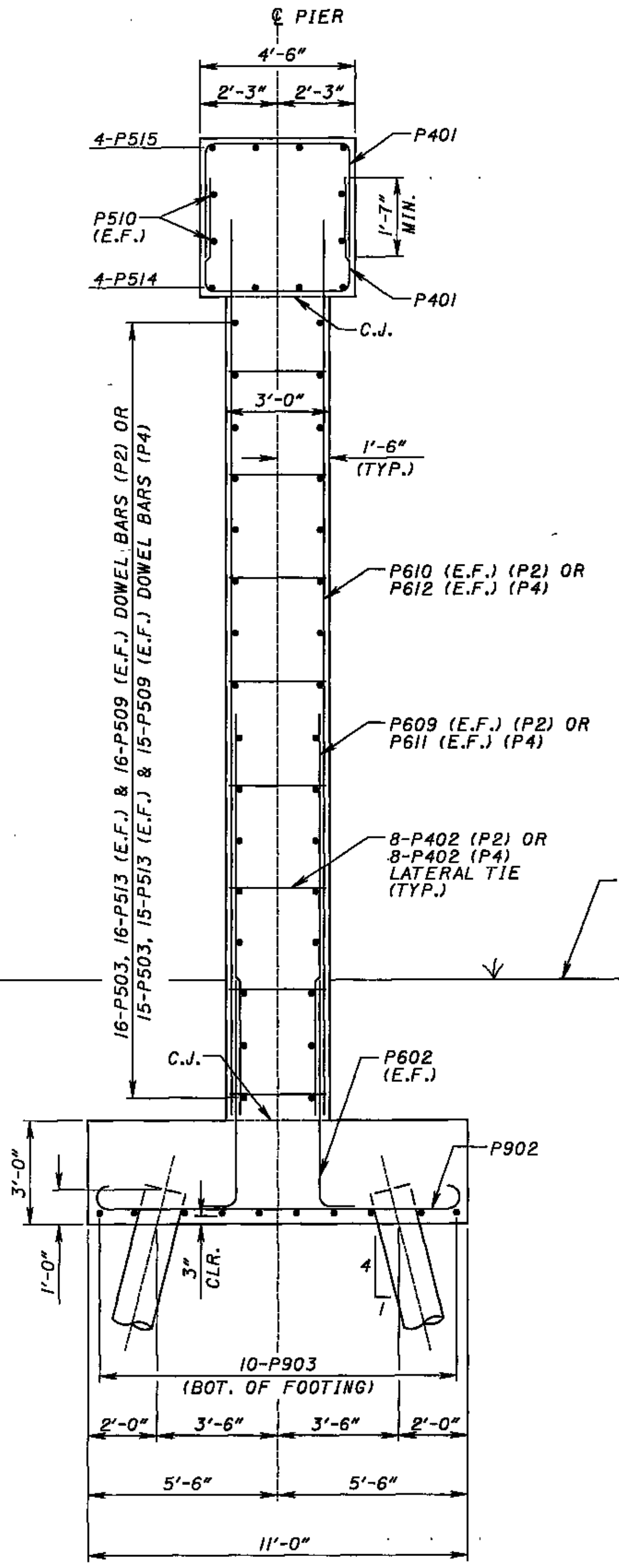
DESIGNED TTK	DRAWN TTK	REVIEWED CAS	DATE 6/03
CHECKED BES	REVISED	STRUCTURE FILE NUMBER 5202256-LEFT 5202280-RIGHT	

PIERS 1 & 5 DETAILS - SOUTHBOUND
BRIDGE NO. MED-71-0031 L
OVER ABANDONED RAILROAD

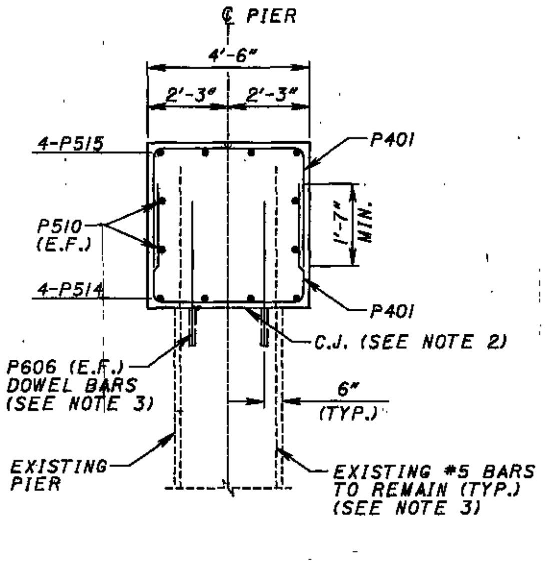
WAY/MED-71-7.04/0.00


℄ PIER
4'-6"
2'-3"
2'-3"
7-P901
P601
P505 (E.F.)
2'-4" MIN.
4-P505
P601
C.J.
3'-0"
1'-6" (TYP.)
16-P503 & 16-P504 (E.F.) (P2) OR 15-P503 & 15-P504 (E.F.) (P4)
P707 (E.F.) (P2) OR P709 (E.F.) (P4)
P706 (E.F.) (P2) OR P708 (E.F.) (P4)
8-P402 (P2) OR 8-P402 (P4) LATERAL TIE (TYP.)
C.J.
P701 (E.F.)
P801
3'-0"
1'-0"
3" CLR.
4
1
10-P802 (BOT. OF FOOTING)
2'-0"
4'-0"
4'-0"
2'-0"
6'-0"
6'-0"
12'-0"

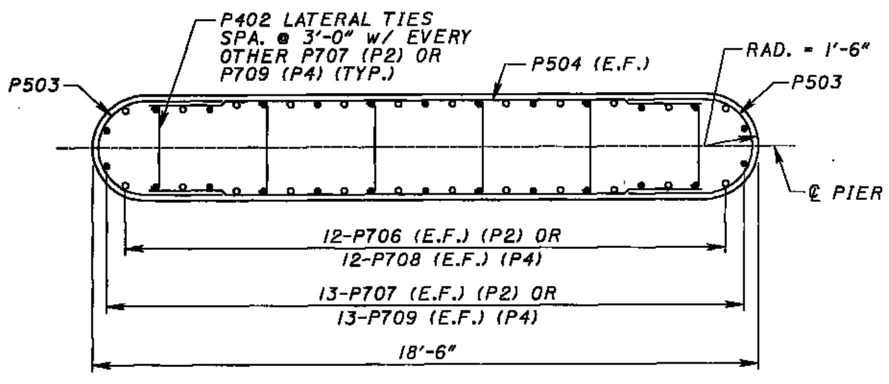
SECTION F-F


℄ PIER
4'-6"
2'-3"
2'-3"
4-P515
P401
P510 (E.F.)
1'-7" MIN.
4-P514
P401
C.J.
3'-0"
1'-6" (TYP.)
16-P503, 16-P513 (E.F.) & 16-P509 (E.F.) DOWEL BARS (P2) OR 15-P503, 15-P513 (E.F.) & 15-P509 (E.F.) DOWEL BARS (P4)
P610 (E.F.) (P2) OR P612 (E.F.) (P4)
P609 (E.F.) (P2) OR P611 (E.F.) (P4)
8-P402 (P2) OR 8-P402 (P4) LATERAL TIE (TYP.)
APPROXIMATE GROUND LINE
C.J.
P602 (E.F.)
P902
3'-0"
1'-0"
3" CLR.
4
1
10-P903 (BOT. OF FOOTING)
2'-0"
3'-6"
3'-6"
2'-0"
5'-6"
5'-6"
11'-0"

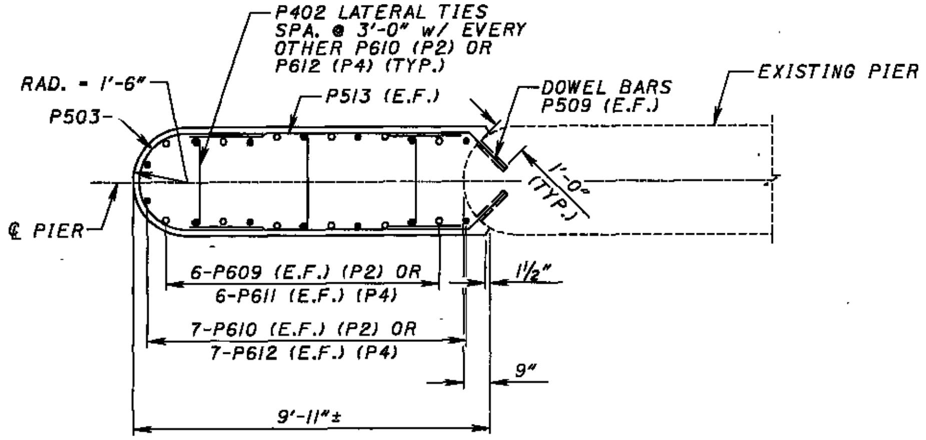
SECTION G-G



SECTION H-H


P402 LATERAL TIES SPA. @ 3'-0" w/ EVERY OTHER P707 (P2) OR P709 (P4) (TYP.)
P503
P504 (E.F.)
RAD. = 1'-6"
P503
℄ PIER
12-P706 (E.F.) (P2) OR 12-P708 (E.F.) (P4)
13-P707 (E.F.) (P2) OR 13-P709 (E.F.) (P4)
18'-6"

SECTION J-J
(FOOTING NOT SHOWN)


P402 LATERAL TIES SPA. @ 3'-0" w/ EVERY OTHER P610 (P2) OR P612 (P4) (TYP.)
RAD. = 1'-6"
P503
P513 (E.F.)
DOWEL BARS P509 (E.F.)
EXISTING PIER
1'-0" (TYP.)
℄ PIER
6-P609 (E.F.) (P2) OR 6-P611 (E.F.) (P4)
1½"
7-P610 (E.F.) (P2) OR 7-P612 (E.F.) (P4)
9"
9'-11"±

SECTION K-K
(FOOTING NOT SHOWN)

NOTES:

1. EMBED ALL DOWEL BARS 1'-0" INTO EXISTING STRUCTURE.
2. THE EXPOSED EXISTING HORIZONTAL CONCRETE SURFACE THAT IS TO BE COVERED WITH NEW CONCRETE SHALL BE ROUGH AND IRREGULAR WITH AN AMPLITUDE OF ¼" OR MORE.
3. THE CONTRACTOR HAS THE OPTION OF SALVAGING EXISTING VERTICAL NO. 5 BARS THAT PROJECT FROM WALL INTO CAP OR PROVIDING NEW NO. 6 DOWELS. IF NEW DOWELS ARE PROVIDED, INSTALL PER 510 USING NONSHRINK, NONMETALLIC GROUT. IF EXISTING BARS ARE RE-USED, FIELD-CUT (IF NECESSARY) TO PROVIDE 2" MIN. CLEAR COVER TO TOP OF PROPOSED CONCRETE CAP. EXISTING BARS SHALL PROJECT AT LEAST 2'-0" ABOVE THE REMOVAL LINE. INCLUDE FIELD-CUTTING WITH ITEM 202 FOR PAYMENT.

LEGEND:

BOT. - BOTTOM
C.J. - CONSTRUCTION JOINT
CLR. - CLEAR
E.F. - EACH FACE
P2 - PIER 2
P4 - PIER 4
RAD. - RADIUS

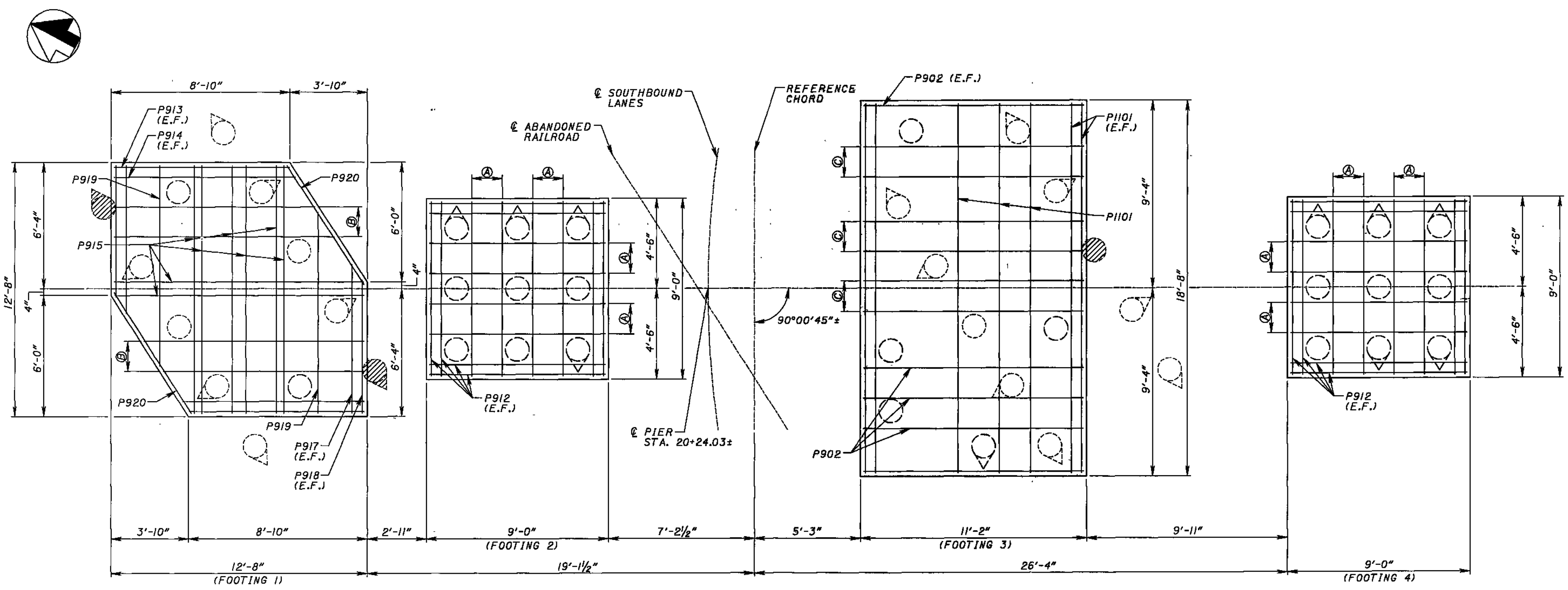
P:/PR30489/CADD/MED-71-0031/MED71p14.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED TTK
DRAWN TTK
REVIEWED CAS
DATE 6/03
CHECKED BES
REVISED
STRUCTURE FILE NUMBER 5202256-LEFT 5202280-RIGHT

PIERS 2 & 4 DETAILS - SOUTHBOUND
BRIDGE NO. MED-71-0031 L
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00



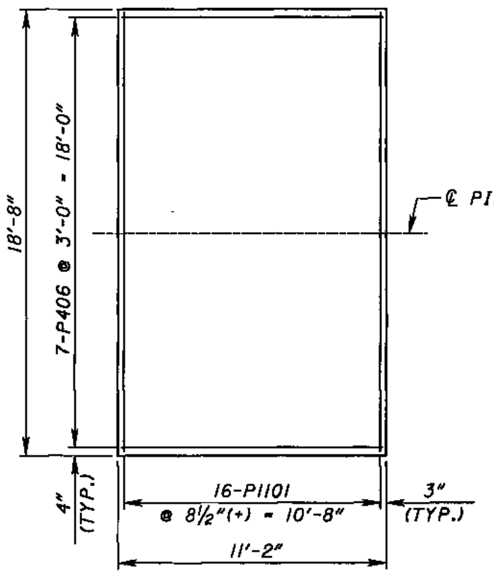
FOOTING PLAN

(BOTTOM REINFORCING STEEL SHOWN)

Ⓐ - 3-P912 @ EQUAL SPACES

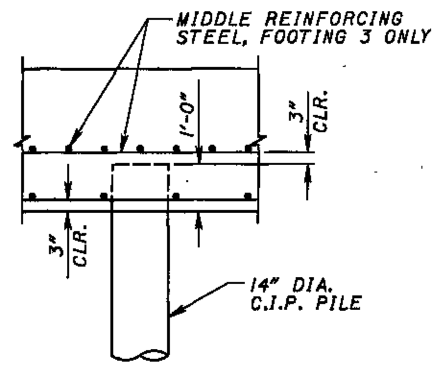
Ⓑ - 1 S.O. 3-P916 @ EQUAL SPACES

Ⓒ - 3-P902 @ EQUAL SPACES



FOOTING 3 PLAN

(MIDDLE REINFORCING STEEL SHOWN)



TYPICAL FOOTING SECTION

(LOOKING PARALLEL TO REFERENCE CHORD)

NOTES:

1. SEE SHEET 20 / 77 FOR PILING LAYOUT DETAILS AND FOUNDATION PLAN.
2. PROPOSED FOOTING SIZES AND ELEVATIONS ARE BASED ON EXISTING PILE LOCATIONS SHOWN IN EXISITNG PLANS. IF NECESSARY, INCREASE FOOTING SIZE TO MAINTAIN 9" (MINIMUM) HORIZONTALLY BETWEEN EDGE OF PILE AND EDGE OF FOOTING. IF NECESSARY, CUT-OFF EXISTING PILES THAT ARE TO BE RE-USED TO MAINTAIN 1'-6" (MINIMUM) CLEAR COVER BETWEEN TOP OF PILE AND TOP OF FOOTING. CLEAR COVER SHALL BE 2'-6" FOR FOOTING 3. IF NECESSARY, LOWER THE BOTTOM OF FOOTING ELEVATION TO MAINTAIN 1'-0" (MINIMUM) EMBEDMENT OF PILES INTO FOOTING. IF THE BOTTOM OF FOOTING IS LOWERED, INCREASE THE FOOTING THICKNESS SO THAT THE TOP OF FOOTING REMAINS AT THE ELEVATION SHOWN IN THESE PLANS.

LEGEND:

C.I.P. - CAST-IN-PLACE
CLR. - CLEAR
DIA. - DIAMETER
E.F. - EACH FACE
S.O. - SERIES OF
▨ - CUT-OFF EXISTING PILES AT ELEVATION 896.50

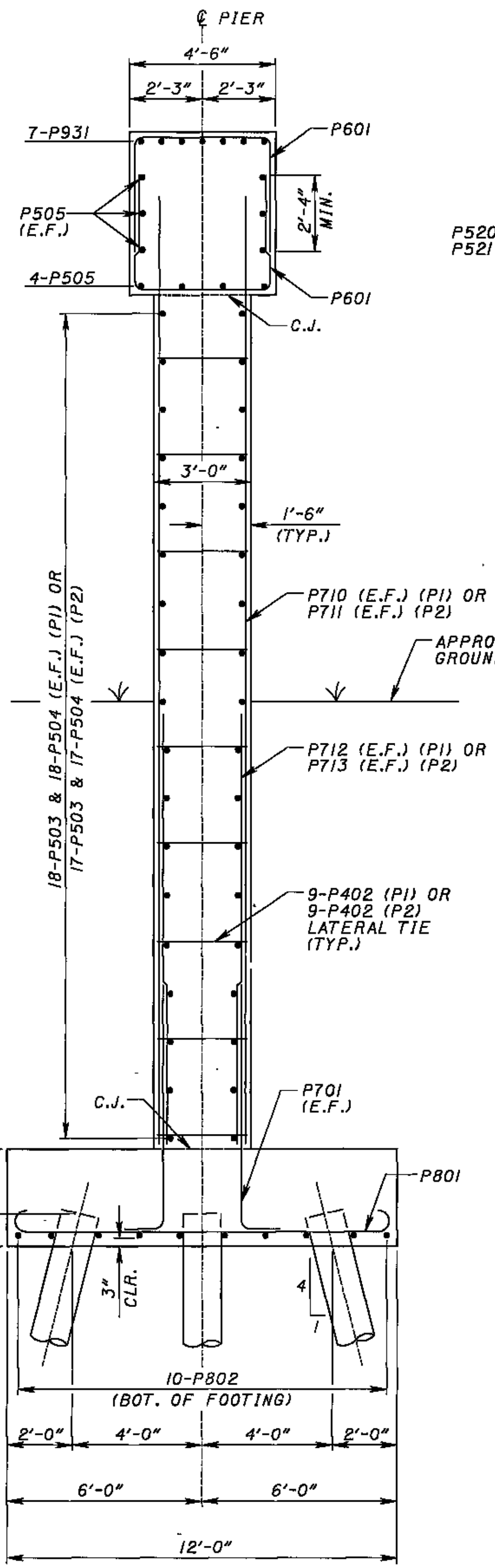
P:/PR30489/CADD/MED-71-0031/ME071pld.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

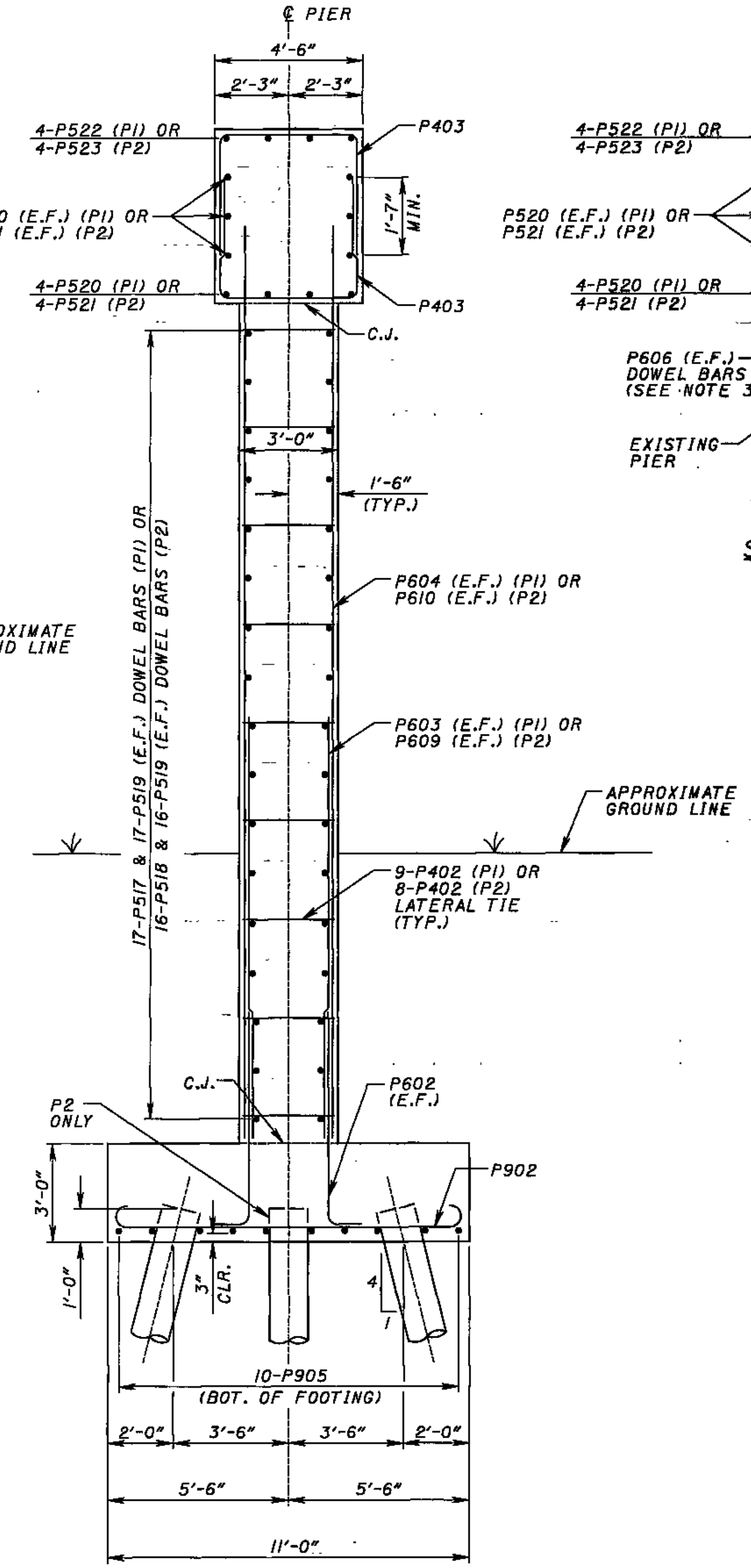
DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		5202256-LEFT 5202280-RIGHT	

PIER 3 FOOTING DETAILS - SOUTHBOUND
BRIDGE NO. MED-71-0031 L
OVER ABANDONED RAILROAD

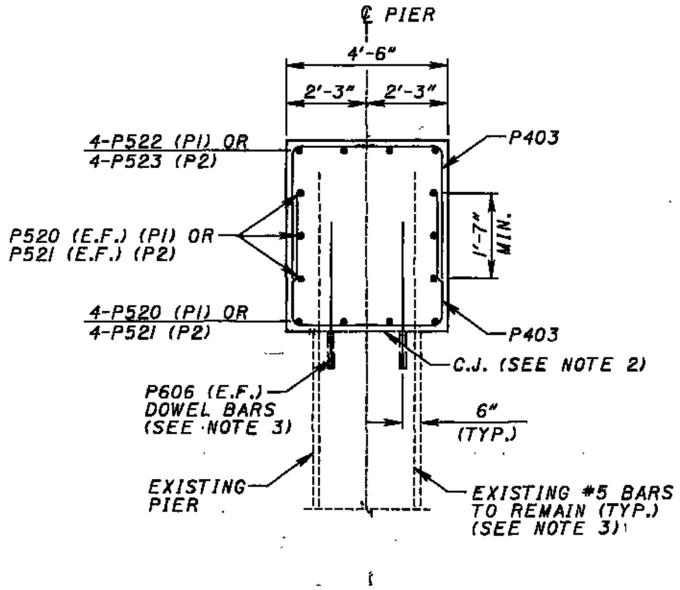
WAY/MED-71-7.04/0.00


℄ PIER
4'-6"
2'-3"
2'-3"
7-P931
P601
P505 (E.F.)
2'-4" MIN.
4-P505
P601
C.J.
3'-0"
1'-6" (TYP.)
18-P503 & 18-P504 (E.F.) (P1) OR 17-P503 & 17-P504 (E.F.) (P2)
P710 (E.F.) (P1) OR P711 (E.F.) (P2)
APPROXIMATE GROUND LINE
P712 (E.F.) (P1) OR P713 (E.F.) (P2)
9-P402 (P1) OR 9-P402 (P2) LATERAL TIE (TYP.)
C.J.
P701 (E.F.)
P801
3'-0"
1'-0"
3" CLR.
4
1
10-P802 (BOT. OF FOOTING)
2'-0"
4'-0"
4'-0"
2'-0"
6'-0"
6'-0"
12'-0"

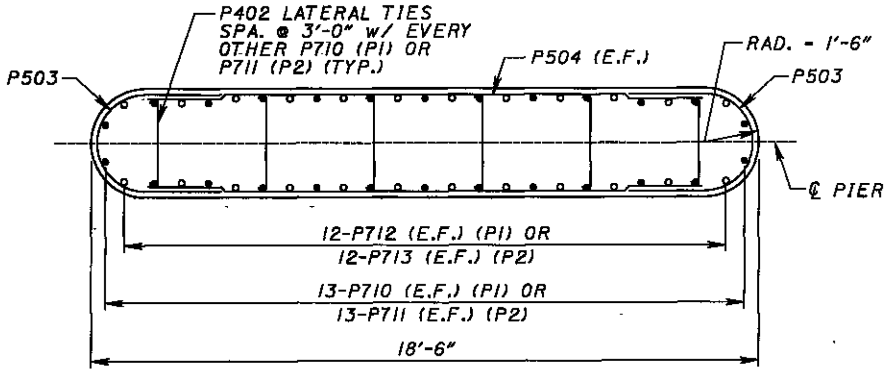
SECTION L-L


℄ PIER
4'-6"
2'-3"
2'-3"
4-P522 (P1) OR 4-P523 (P2)
P403
P520 (E.F.) (P1) OR P521 (E.F.) (P2)
1'-7" MIN.
4-P520 (P1) OR 4-P521 (P2)
P403
C.J.
3'-0"
1'-6" (TYP.)
17-P517 & 17-P519 (E.F.) DOWEL BARS (P1) OR 16-P518 & 16-P519 (E.F.) DOWEL BARS (P2)
P604 (E.F.) (P1) OR P610 (E.F.) (P2)
P603 (E.F.) (P1) OR P609 (E.F.) (P2)
APPROXIMATE GROUND LINE
9-P402 (P1) OR 8-P402 (P2) LATERAL TIE (TYP.)
C.J.
P602 (E.F.)
P2 ONLY
P902
3'-0"
1'-0"
3" CLR.
4
1
10-P905 (BOT. OF FOOTING)
2'-0"
3'-6"
3'-6"
2'-0"
5'-6"
5'-6"
11'-0"

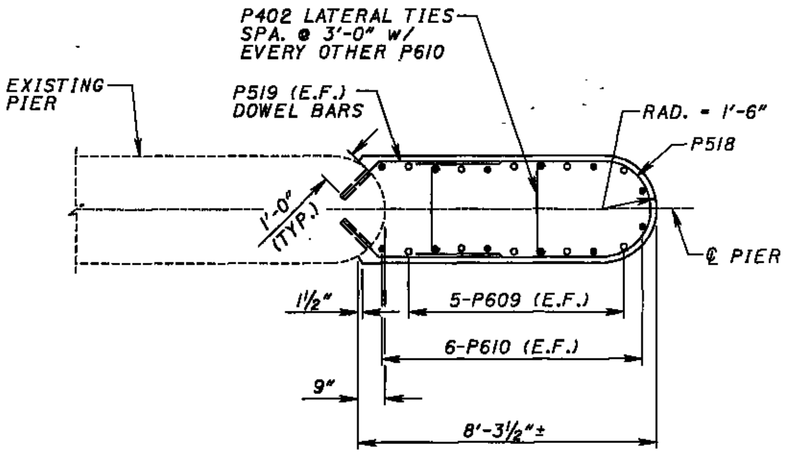
SECTION M-M


℄ PIER
4'-6"
2'-3"
2'-3"
4-P522 (P1) OR 4-P523 (P2)
P403
P520 (E.F.) (P1) OR P521 (E.F.) (P2)
1'-7" MIN.
4-P520 (P1) OR 4-P521 (P2)
P403
P606 (E.F.) DOWEL BARS (SEE NOTE 3)
C.J. (SEE NOTE 2)
6" (TYP.)
EXISTING PIER
EXISTING #5 BARS TO REMAIN (TYP.) (SEE NOTE 3)

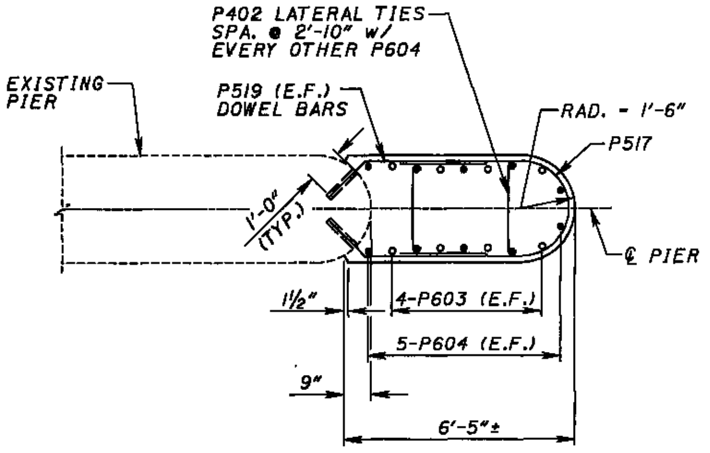
SECTION N-N


P402 LATERAL TIES SPA. @ 3'-0" w/ EVERY OTHER P710 (P1) OR P711 (P2) (TYP.)
P504 (E.F.)
RAD. = 1'-6"
P503
P503
℄ PIER
12-P712 (E.F.) (P1) OR 12-P713 (E.F.) (P2)
13-P710 (E.F.) (P1) OR 13-P711 (E.F.) (P2)
18'-6"

SECTION P-P
(FOOTING NOT SHOWN)



SECTION Q-Q
(PIER 2)
(FOOTING NOT SHOWN)



SECTION Q-Q
(PIER 1)
(FOOTING NOT SHOWN)

NOTES:

1. EMBED ALL DOWEL BARS 1'-0" INTO EXISTING STRUCTURE.
2. THE EXPOSED EXISTING HORIZONTAL CONCRETE SURFACE THAT IS TO BE COVERED WITH NEW CONCRETE SHALL BE ROUGH AND IRREGULAR WITH AN AMPLITUDE OF ¼" OR MORE.
3. THE CONTRACTOR HAS THE OPTION OF SALVAGING EXISTING VERTICAL NO. 5 BARS THAT PROJECT FROM WALL INTO CAP OR PROVIDING NEW NO. 6 DOWELS. IF NEW DOWELS ARE PROVIDED, INSTALL PER 510 USING NONSHRINK, NONMETALLIC GROUT. IF EXISTING BARS ARE RE-USED, FIELD-CUT (IF NECESSARY) TO PROVIDE 2" MIN. CLEAR COVER TO TOP OF PROPOSED CONCRETE CAP. EXISTING BARS SHALL PROJECT AT LEAST 2'-0" ABOVE THE REMOVAL LINE. INCLUDE FIELD-CUTTING WITH ITEM 202 FOR PAYMENT.

LEGEND:

BOT. = BOTTOM
C.J. = CONSTRUCTION JOINT
CLR. = CLEAR
E.F. = EACH FACE
P1 = PIER 1
P2 = PIER 2
RAD. = RADIUS

BURGESS & NIPLE
5085 Reed Road
Columbus Ohio 43220

DATE 6/03
REVIEWED CAS
DRAWN TTK
DESIGNED TTK
CHECKED BES
REVISED
STRUCTURE FILE NUMBER 5202256-LEFT 5202280-RIGHT

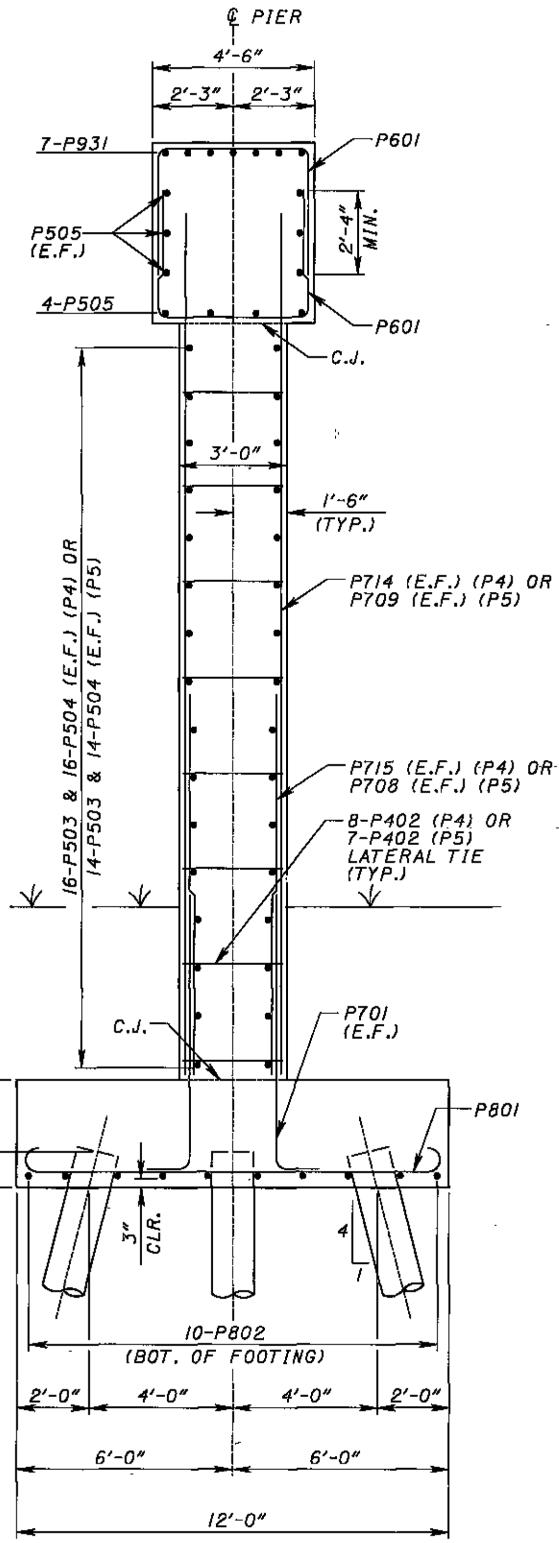
PIERS 1 & 2 DETAILS - NORTHBOUND
BRIDGE NO. MED-71-0031 R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

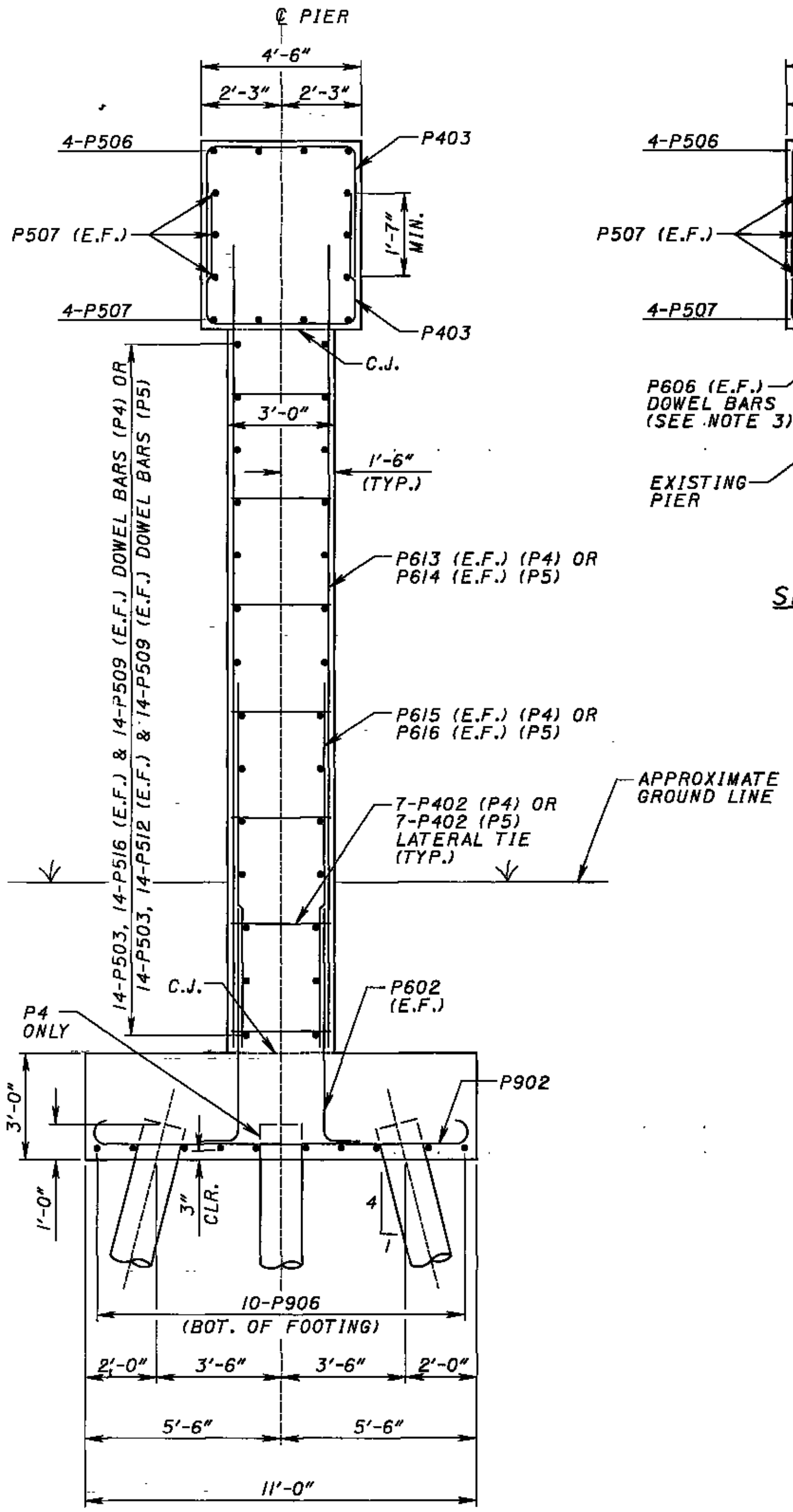
49/77

531/785

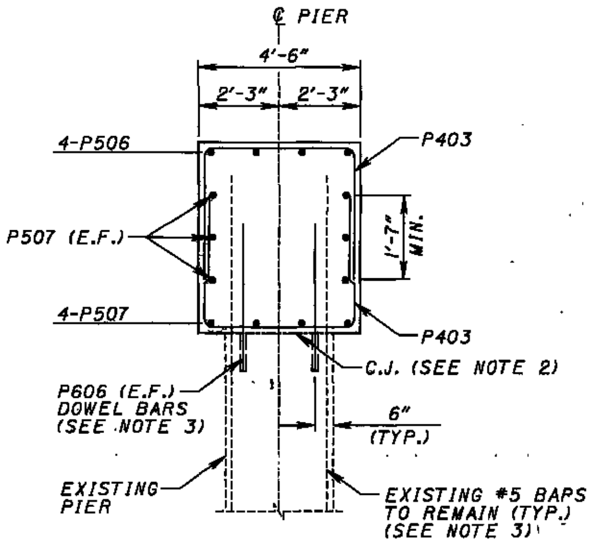
P:/PR30489/CADD/MED-71-0031/ME071pi7.DGN


℄ PIER
4'-6"
2'-3"
2'-3"
7-P931
P601
P505 (E.F.)
2'-4" MIN.
4-P505
P601
C.J.
3'-0"
1'-6" (TYP.)
16-P503 & 16-P504 (E.F.) (P4) OR 14-P503 & 14-P504 (E.F.) (P5)
P714 (E.F.) (P4) OR P709 (E.F.) (P5)
P715 (E.F.) (P4) OR P708 (E.F.) (P5)
8-P402 (P4) OR 7-P402 (P5) LATERAL TIE (TYP.)
C.J.
P701 (E.F.)
P801
3'-0"
1'-0"
3" CLR.
4
1
10-P802 (BOT. OF FOOTING)
2'-0"
4'-0"
4'-0"
2'-0"
6'-0"
6'-0"
12'-0"

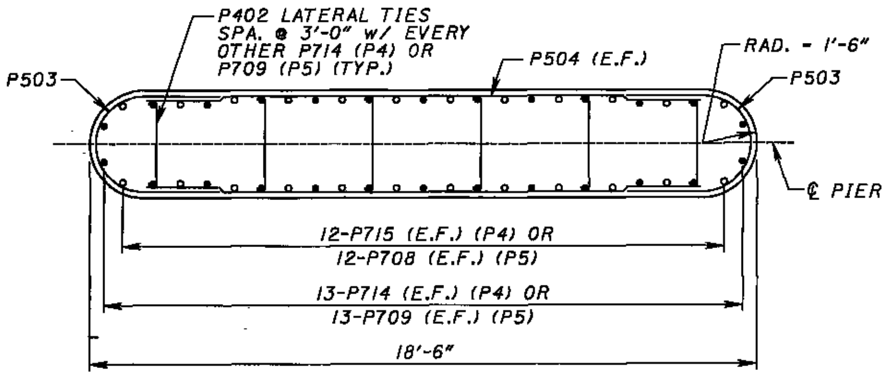
SECTION R-R


℄ PIER
4'-6"
2'-3"
2'-3"
4-P506
P403
P507 (E.F.)
1'-7" MIN.
4-P507
P403
C.J.
3'-0"
1'-6" (TYP.)
14-P503, 14-P516 (E.F.) & 14-P509 (E.F.) DOWEL BARS (P4) OR 14-P503, 14-P512 (E.F.) & 14-P509 (E.F.) DOWEL BARS (P5)
P613 (E.F.) (P4) OR P614 (E.F.) (P5)
P615 (E.F.) (P4) OR P616 (E.F.) (P5)
7-P402 (P4) OR 7-P402 (P5) LATERAL TIE (TYP.)
APPROXIMATE GROUND LINE
C.J.
P602 (E.F.)
P4 ONLY
P902
3'-0"
1'-0"
3" CLR.
4
1
10-P906 (BOT. OF FOOTING)
2'-0"
3'-6"
3'-6"
2'-0"
5'-6"
5'-6"
11'-0"

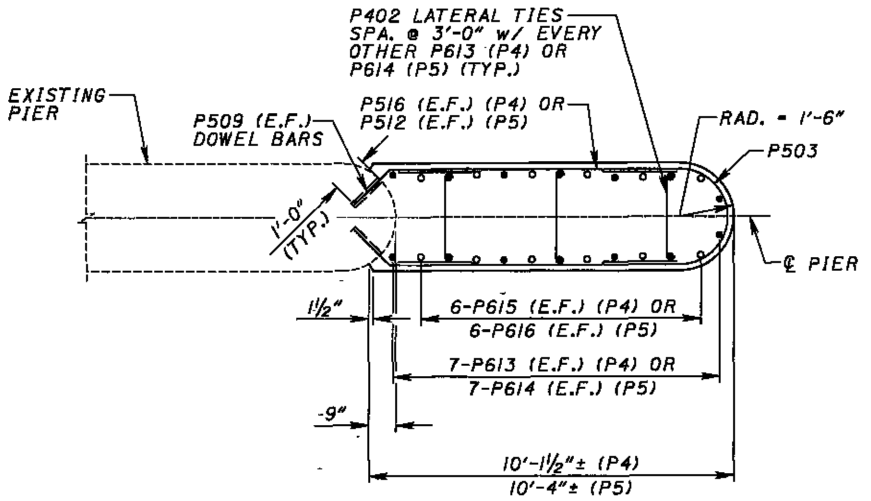
SECTION S-S



SECTION T-T


P402 LATERAL TIES SPA. @ 3'-0" w/ EVERY OTHER P714 (P4) OR P709 (P5) (TYP.)
P503
P504 (E.F.)
RAD. = 1'-6"
P503
℄ PIER
12-P715 (E.F.) (P4) OR 12-P708 (E.F.) (P5)
13-P714 (E.F.) (P4) OR 13-P709 (E.F.) (P5)
18'-6"

SECTION U-U
(FOOTING NOT SHOWN)


P402 LATERAL TIES SPA. @ 3'-0" w/ EVERY OTHER P613 (P4) OR P614 (P5) (TYP.)
EXISTING PIER
P516 (E.F.) (P4) OR P512 (E.F.) (P5)
P509 (E.F.) DOWEL BARS
RAD. = 1'-6"
P503
1'-0" (TYP.)
℄ PIER
1½"
6-P615 (E.F.) (P4) OR 6-P616 (E.F.) (P5)
7-P613 (E.F.) (P4) OR 7-P614 (E.F.) (P5)
9"
10'-1½"± (P4)
10'-4"± (P5)

SECTION V-V
(FOOTING NOT SHOWN)

NOTES:

1. EMBED ALL DOWEL BARS 1'-0" INTO EXISTING STRUCTURE.
2. THE EXPOSED EXISTING HORIZONTAL CONCRETE SURFACE THAT IS TO BE COVERED WITH NEW CONCRETE SHALL BE ROUGH AND IRREGULAR WITH AN AMPLITUDE OF 1/4" OR MORE.
3. THE CONTRACTOR HAS THE OPTION OF SALVAGING EXISTING VERTICAL NO. 5 BARS THAT PROJECT FROM WALL INTO CAP OR PROVIDING NEW NO. 6 DOWELS. IF NEW DOWELS ARE PROVIDED, INSTALL PER 510 USING NONSHRINK, NONMETALLIC GROUT. IF EXISTING BARS ARE RE-USED, FIELD-CUT (IF NECESSARY) TO PROVIDE 2" MIN. CLEAR COVER TO TOP OF PROPOSED CONCRETE CAP. EXISTING BARS SHALL PROJECT AT LEAST 2'-0" ABOVE THE REMOVAL LINE. INCLUDE FIELD-CUTTING WITH ITEM 202 FOR PAYMENT.

LEGEND:

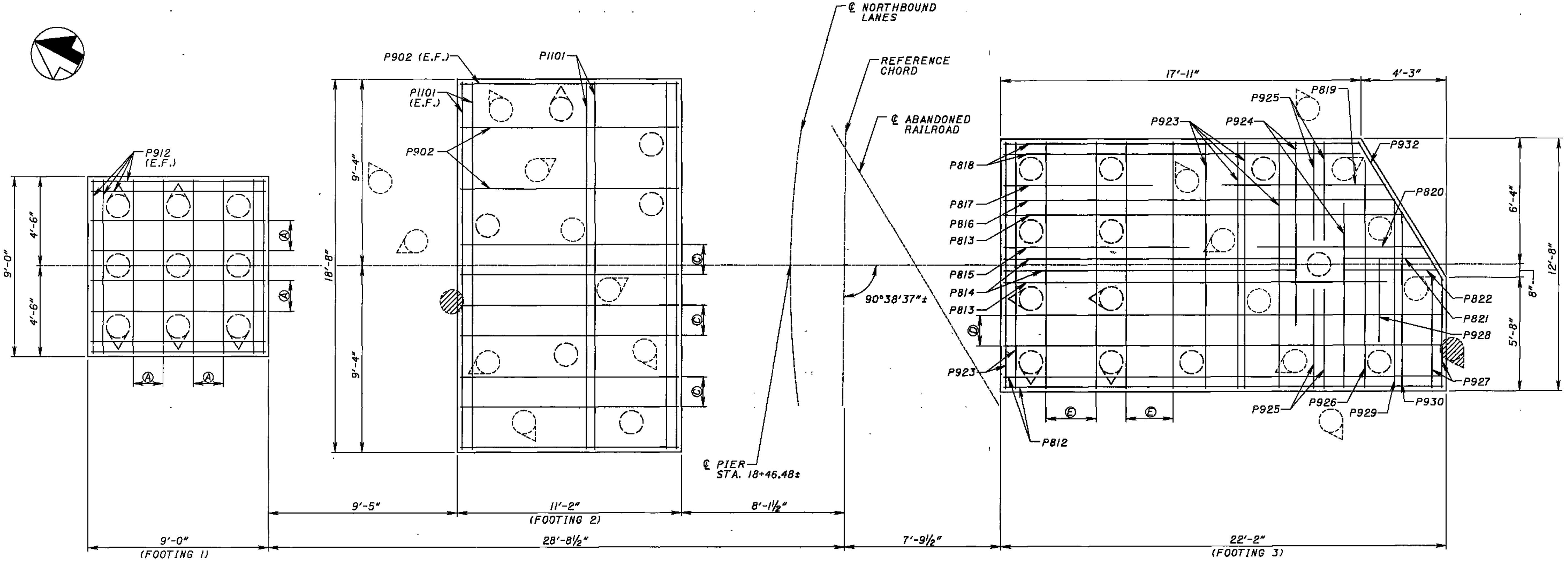
BOT. = BOTTOM
C.J. = CONSTRUCTION JOINT
CLR. = CLEAR
E.F. = EACH FACE
P4 = PIER 4
P5 = PIER 5
RAD. = RADIUS

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		5202256-LEFT 5202280-RIGHT	

PIERS 4 & 5 DETAILS - NORTHBOUND
BRIDGE NO. MED-71-0031 R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00



FOOTING PLAN

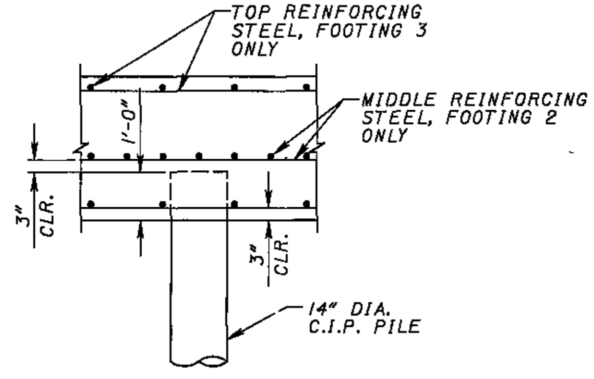
(BOTTOM REINFORCING STEEL SHOWN)

Ⓐ = 3-P912 @ EQUAL SPACES

Ⓒ = 3-P902 @ EQUAL SPACES

Ⓓ = 3-P812 @ EQUAL SPACES

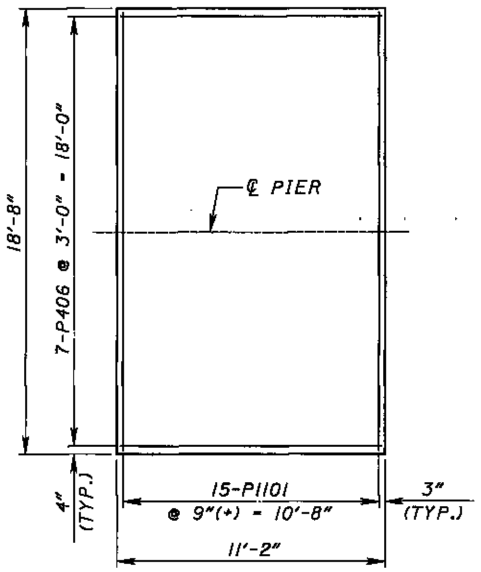
Ⓔ = 6-P923 @ EQUAL SPACES



TOP REINFORCING STEEL, FOOTING 3 ONLY
MIDDLE REINFORCING STEEL, FOOTING 2 ONLY
1'-0"
3" CLR.
3" CLR.
14" DIA. C.I.P. PILE

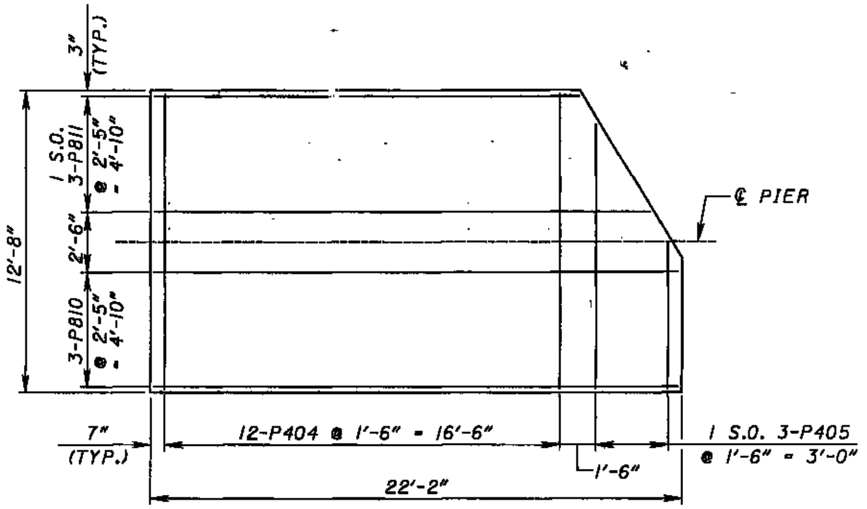
TYPICAL FOOTING SECTION

(LOOKING PARALLEL TO REFERENCE CHORD)



FOOTING 2 PLAN

(MIDDLE REINFORCING STEEL SHOWN)



FOOTING 3 PLAN

(TOP REINFORCING STEEL SHOWN)

NOTES:

1. SEE SHEET 21 / 77 FOR PILING LAYOUT DETAILS AND FOUNDATION PLAN.
2. PROPOSED FOOTING SIZES AND ELEVATIONS ARE BASED ON EXISTING PILE LOCATIONS SHOWN IN EXISITNG PLANS. IF NECESSARY, INCREASE FOOTING SIZE TO MAINTAIN 9" (MINIMUM) HORIZONTALLY BETWEEN EDGE OF PILE AND EDGE OF FOOTING. IF NECESSARY, CUT-OFF EXISTING PILES THAT ARE TO BE RE-USED TO MAINTAIN 1'-6" (MINIMUM) CLEAR COVER BETWEEN TOP OF PILE AND TOP OF FOOTING. CLEAR COVER SHALL BE 2'-9" FOR FOOTING 2. IF NECESSARY, LOWER THE BOTTOM OF FOOTING ELEVATION TO MAINTAIN 1'-0" (MINIMUM) EMBEDMENT OF PILES INTO FOOTING. IF THE BOTTOM OF FOOTING IS LOWERED, INCREASE THE FOOTING THICKNESS SO THAT THE TOP OF FOOTING REMAINS AT THE ELEVATION SHOWN IN THESE PLANS.

LEGEND:

C.I.P. = CAST-IN-PLACE
CLR. = CLEAR
DIA. = DIAMETER
E.F. = EACH FACE
S.O. = SERIES OF
▨ = CUT-OFF EXISTING PILES AT ELEVATION 896.25

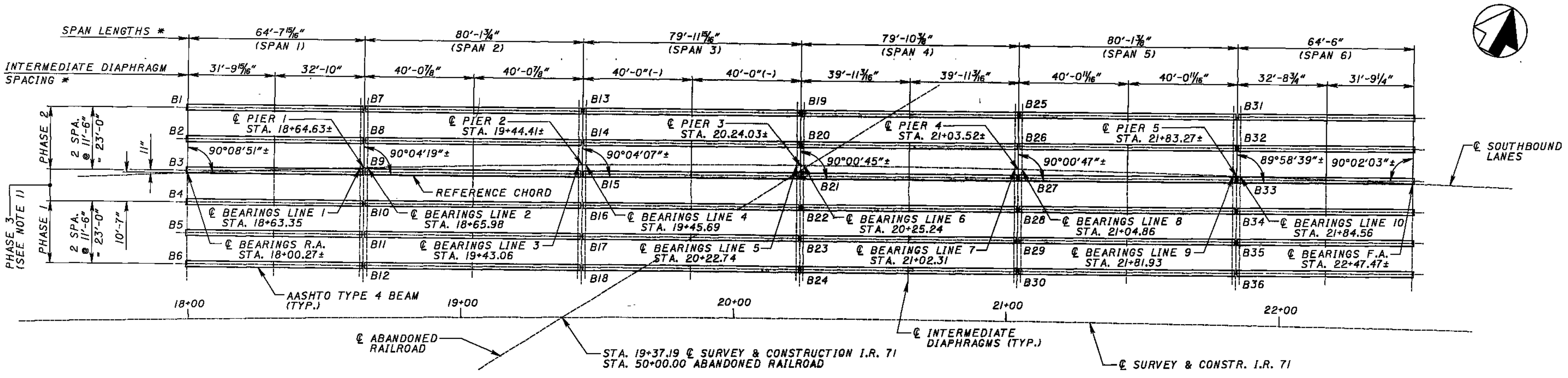
BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE	STRUCTURE FILE NUMBER
TTK	BES	TTK		CAS	6/03	5202256-LEFT 5202280-RIGHT

PIER 3 FOOTING DETAILS - NORTHBOUND
BRIDGE NO. MED-71-0031 R
OVER ABANDONED RAILROAD

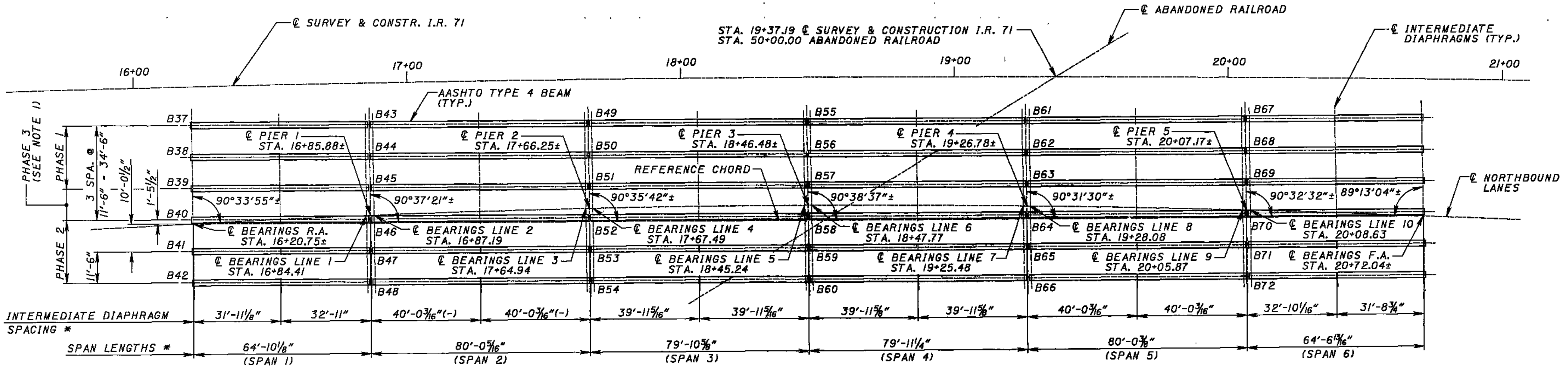
WAY/MED-71-7.04/0.00

P:/PR30489/CADD/MED-71-0031/ME071pie.DGN



FRAMING PLAN - SOUTHBOUND

(* - MEASURED ALONG REFERENCE CHORD)



FRAMING PLAN - NORTHBOUND

(* - MEASURED ALONG REFERENCE CHORD)

NOTES:

1. DO NOT INSTALL INTERMEDIATE DIAPHRAGMS IN THIS BAY UNTIL AFTER PHASE 2 DECK CONCRETE HAS BEEN PLACED.
2. SEE STD. DWG. PSID-1-99 FOR INTERMEDIATE DIAPHRAGM DETAILS.
3. DISTANCE BETWEEN SUBSTRUCTURES ALONG ℄ BEAMS VARIES. BEAM LENGTHS IN ALL SPANS ARE CONSTANT. THEREFORE THE DISTANCE FROM ℄ PIER TO THE END OF BEAM VARIES. SEE DIMENSION "C" LOCATION AND TABLES ON SHEETS 53 / 77 & 54 / 77 AND DIMENSIONS "E", "F", "G" & "H" LOCATION AND TABLES ON SHEET 55 / 77.

LEGEND:

B_ - BEAM NUMBER
F.A. - FORWARD ABUTMENT
R.A. - REAR ABUTMENT

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	TTK
CHECKED	WTL
DRAWN	TTK
REVISED	
REVIEWED	CAS
DATE	6/03
STRUCTURE FILE NUMBER	5202256-LEFT 5202280-RIGHT

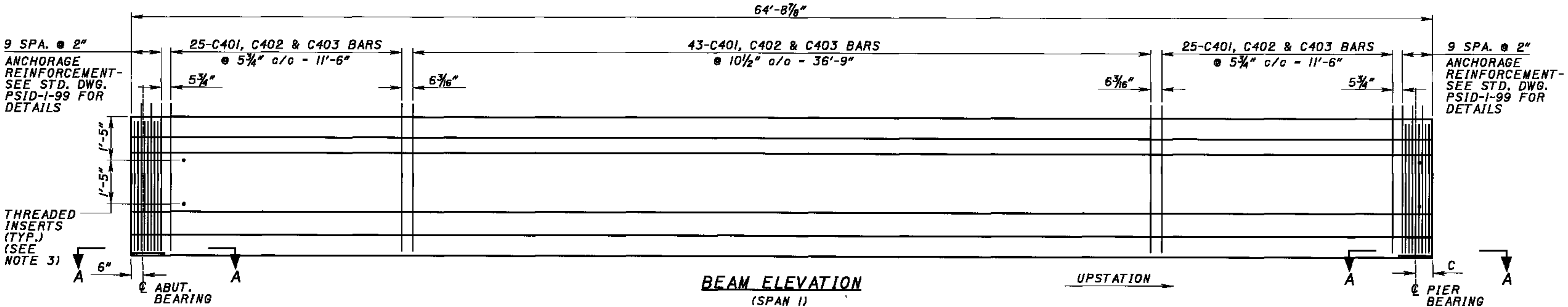
FRAMING PLAN
BRIDGE NO. MED-71-0031 L/R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

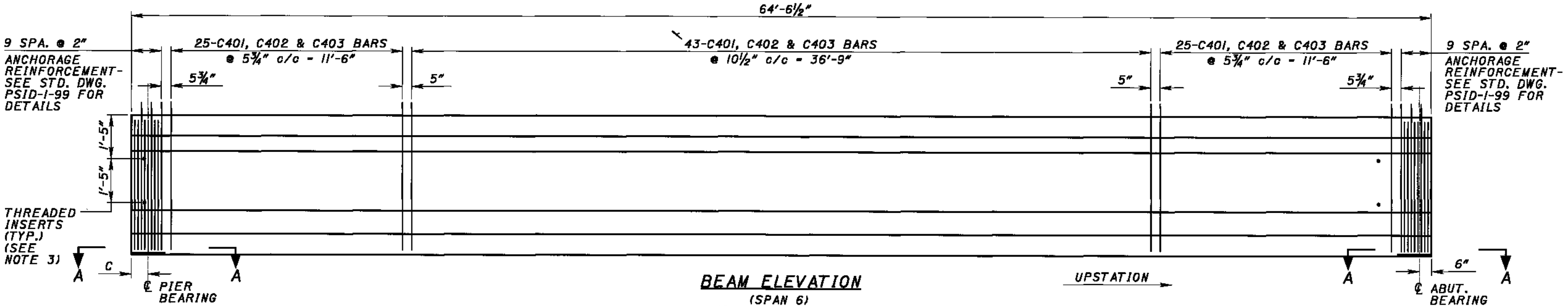
52 / 77

534 / 785

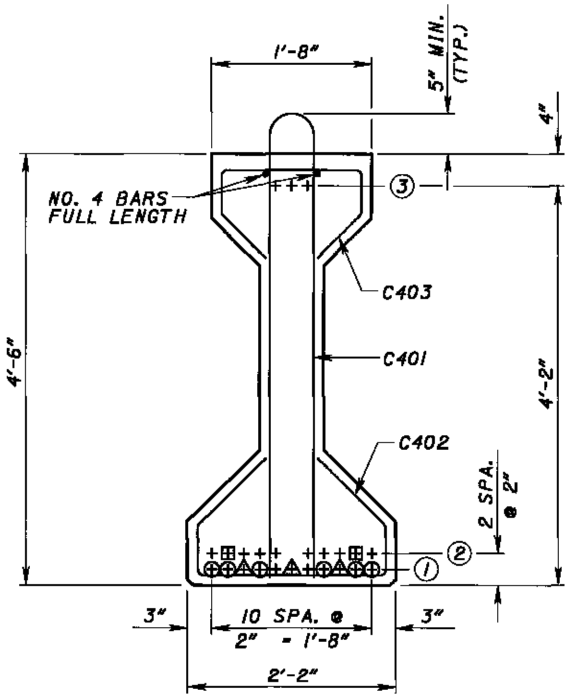
P:/PR30489/CADD/MED-71-0031/ME071sd1.DGN


64'-8⅞"
9 SPA. @ 2"
ANCHORAGE REINFORCEMENT- SEE STD. DWG. PSID-1-99 FOR DETAILS
25-C401, C402 & C403 BARS @ 5¾" c/c - 11'-6"
43-C401, C402 & C403 BARS @ 10½" c/c - 36'-9"
25-C401, C402 & C403 BARS @ 5¾" c/c - 11'-6"
9 SPA. @ 2"
ANCHORAGE REINFORCEMENT- SEE STD. DWG. PSID-1-99 FOR DETAILS
5¾"
6³⁄₁₆"
6³⁄₁₆"
5¾"
1'-5"
1'-5"
THREADED INSERTS (TYP.) (SEE NOTE 3)
A
6"
A
℄ ABUT. BEARING
UPSTATION
A
℄ PIER BEARING
C
A

BEAM ELEVATION
(SPAN 1)
(B1-B6 & B37-B42)


64'-6½"
9 SPA. @ 2"
ANCHORAGE REINFORCEMENT- SEE STD. DWG. PSID-1-99 FOR DETAILS
25-C401, C402 & C403 BARS @ 5¾" c/c - 11'-6"
43-C401, C402 & C403 BARS @ 10½" c/c - 36'-9"
25-C401, C402 & C403 BARS @ 5¾" c/c - 11'-6"
9 SPA. @ 2"
ANCHORAGE REINFORCEMENT- SEE STD. DWG. PSID-1-99 FOR DETAILS
5¾"
5"
5"
5¾"
1'-5"
1'-5"
THREADED INSERTS (TYP.) (SEE NOTE 3)
A
C
℄ PIER BEARING
A
UPSTATION
A
℄ ABUT. BEARING
6"
A

BEAM ELEVATION
(SPAN 6)
(B31-B36 & B67-B72)

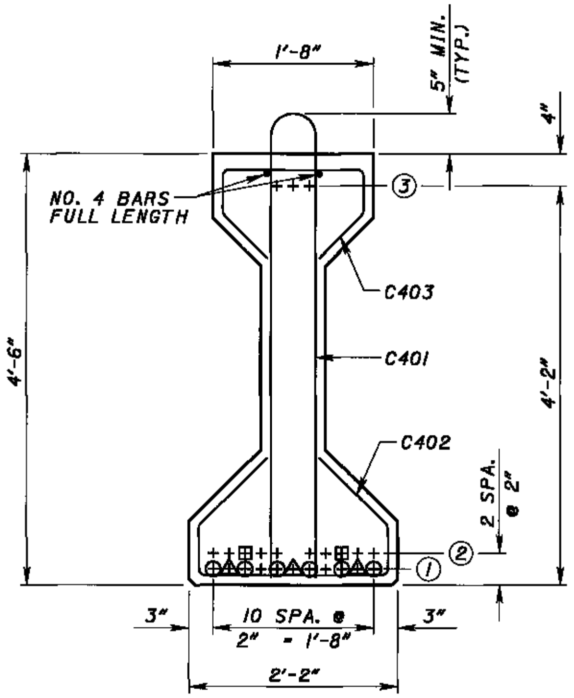


AASHTO TYPE 4
(SPAN 1)
(B1-B6 & B37-B42)

▲ - DEBOND STRAND 4'-0" EACH BEAM END

⊞ - DEBOND STRAND 2'-0" EACH BEAM END

⊕ - EXTEND & BEND UP STRAND AT EACH BEAM END



AASHTO TYPE 4
(SPAN 6)
(B31-B36 & B67-B72)

▲ - DEBOND STRAND 4'-0" EACH BEAM END

⊞ - DEBOND STRAND 2'-0" EACH BEAM END

⊕ - EXTEND & BEND UP STRAND AT EACH BEAM END

SOUTHBOUND			
SPAN 1		SPAN 6	
BEAM	DIMENSION C	BEAM	DIMENSION C
B1	10"	B31	10"
B2	10³⁄₁₆"	B32	10"
B3	10⅜"	B33	10¹⁄₁₆"
B4	10⁹⁄₁₆"	B34	10¹⁄₁₆"
B5	10¾"	B35	10⅛"
B6	10⁵⁄₁₆"	B36	10⅛"

NORTHBOUND			
SPAN 1		SPAN 6	
BEAM	DIMENSION C	BEAM	DIMENSION C
B37	10¹¹⁄₁₆"	B67	1'-0⅞'
B38	10⁹⁄₁₆"	B68	1'-0⁵⁄₁₆"
B39	10⁷⁄₁₆"	B69	11¾"
B40	10¼"	B70	11³⁄₁₆"
B41	10⅛"	B71	10⁹⁄₁₆"
B42	10"	B72	10"

CAMBER VALUES DUE TO PRESTRESS FORCE AND BEAM WEIGHT
B - ANTICIPATED MIDSPAN CAMBER DUE TO DESIGN PRESTRESSING FORCE AT TIME OF RELEASE C - MIDSPAN DEFLECTION DUE TO SELF WEIGHT OF BEAM
CAMBER AT RELEASE = B - C = ½"
CAMBER AT ERECTION = 1.8B - 1.85C = ⁵⁄₁₆"
LONG TERM CAMBER = 2.45B - 2.40C = 1⁵⁄₁₆"

SPAN PATTERN									
NUMBER OF STRANDS PER ROW					CONCRETE STRENGTHS (ksi)		C401 BARS REQ'D	C402 BARS REQ'D	C403 BARS REQ'D
BEAM MARK	ROW NUMBER ①	②	③	TOTAL STRANDS	f'ci	f'c			
B1-B6	11	10	3	24	5000	7000	99	111	99
B31-B36	11	10	3	24	5000	7000	99	111	99
B37-B42	11	10	3	24	5000	7000	99	111	99
B67-B72	11	10	3	24	5000	7000	99	111	99

NOTES:

1. SEE STD. DWG. PSID-1-99 FOR BEAM DETAILS NOT SHOWN.
2. SEE SHEET 62 / 77 FOR ABUTMENT BEARING DETAILS.
3. SEE SHEET 55 / 77 FOR HORIZONTAL LOCATION OF THREADED INSERTS.
4. SEE SHEET 55 / 77 FOR SECTION A-A.
5. SHOP MARK EACH BEAM WITH THE FOLLOWING LOCATION INFORMATION: BEAM NUMBER, SPAN NUMBER, SBL OR NBL, & UPSTATION DIRECTION.
6. SEE SHEET 52 / 77 FOR INTERMEDIATE DIAPHRAGM SPACING.

LEGEND:

B_ - BEAM NUMBER
NBL - NORTHBOUND LANES
SBL - SOUTHBOUND LANES

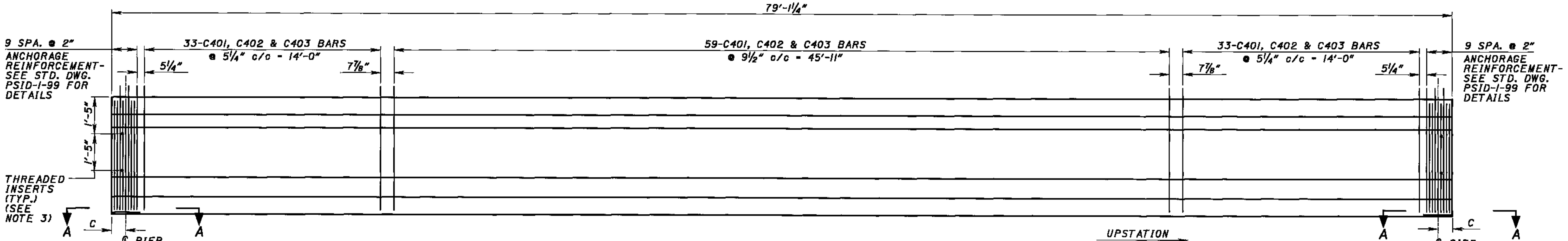
P:/PR30489/CADD/MED-71-0031/ME071sd2.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202256-LEFT 5202280-RIGHT	

BEAM DETAILS I
BRIDGE NO. MED-71-0031 L/R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

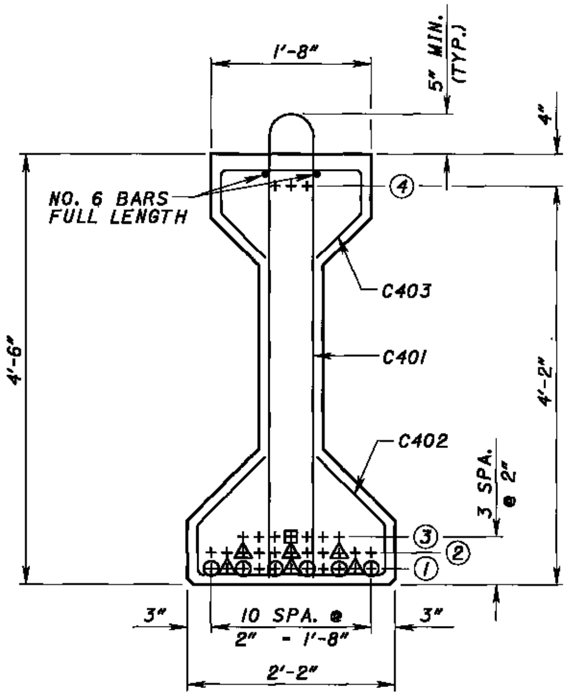

79'-1¼"
9 SPA. @ 2"
ANCHORAGE REINFORCEMENT-SEE STD. DWG. PSID-1-99 FOR DETAILS
33-C401, C402 & C403 BARS @ 5¼" c/c = 14'-0"
5¼"
7⅞"
59-C401, C402 & C403 BARS @ 9½" c/c = 45'-11"
33-C401, C402 & C403 BARS @ 5¼" c/c = 14'-0"
7⅞"
5¼"
9 SPA. @ 2"
ANCHORAGE REINFORCEMENT-SEE STD. DWG. PSID-1-99 FOR DETAILS
1'-5"
1'-5"
THREADED INSERTS (TYP.) (SEE NOTE 3)
A
C
℄ PIER BEARING
A
UPSTATION
A
C
℄ PIER BEARING
A

BEAM ELEVATION

(SPANS 2, 3, 4 & 5)
(B7-B30 & B43-B66)

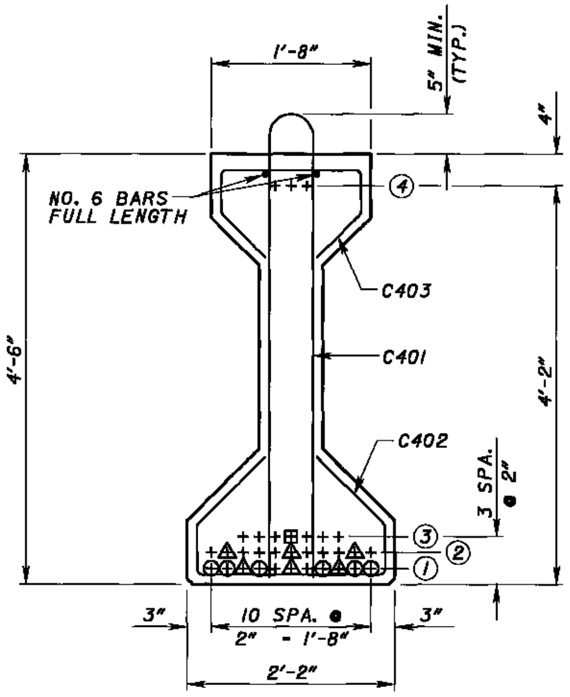
SOUTHBOUND							
SPAN 2		SPAN 3		SPAN 4		SPAN 5	
BEAM	DIMENSION C	BEAM	DIMENSION C	BEAM	DIMENSION C	BEAM	DIMENSION C
B7	10"	B13	10"	B19	10"	B25	10"
B8	10"	B14	10 1/16"	B20	10"	B26	10 1/16"
B9	10"	B15	10 1/8"	B21	10"	B27	10 1/16"
B10	10"	B16	10 3/16"	B22	10"	B28	10 1/8"
B11	10"	B17	10 1/4"	B23	10"	B29	10 3/16"
B12	10"	B18	10 5/16"	B24	10"	B30	10 3/16"

NORTHBOUND							
SPAN 2		SPAN 3		SPAN 4		SPAN 5	
BEAM	DIMENSION C	BEAM	DIMENSION C	BEAM	DIMENSION C	BEAM	DIMENSION C
B43	10"	B49	10 5/16"	B55	10"	B61	10 1/8"
B44	10 1/16"	B50	10 1/4"	B56	10 1/8"	B62	10 1/16"
B45	10 1/16"	B51	10 3/16"	B57	10 5/16"	B63	10 1/16"
B46	10 1/8"	B52	10 1/8"	B58	10 7/16"	B64	10 1/16"
B47	10 1/8"	B53	10 1/16"	B59	10 9/16"	B65	10"
B48	10 3/16"	B54	10"	B60	10 11/16"	B66	10"



AASHTO TYPE 4

(SPANS 2 & 4)
(B7-B12, B19-B24, B43-B48 & B55-B60)



AASHTO TYPE 4

(SPANS 3 & 5)
(B13-B18, B25-B30, B49-B54 & B61-B66)

▲ - DEBOND STRAND 4'-0" EACH BEAM END

⊞ - DEBOND STRAND 2'-0" EACH BEAM END

⊕ - EXTEND & BEND UP STRAND AT EACH BEAM END

CAMBER VALUES DUE TO PRESTRESS FORCE AND BEAM WEIGHT
B - ANTICIPATED MIDSPAN CAMBER DUE TO DESIGN PRESTRESSING FORCE AT TIME OF RELEASE C - MIDSPAN DEFLECTION DUE TO SELF WEIGHT OF BEAM
CAMBER AT RELEASE = B - C = 1 1/16"
CAMBER AT ERECTION = 1.8B - 1.85C = 1 13/16"
LONG TERM CAMBER = 2.45B - 2.40C = 2 9/16"

SPAN PATTERN										
NUMBER OF STRANDS PER ROW						CONCRETE STRENGTHS (ksi)		C401 BARS REQ'D	C402 BARS REQ'D	C403 BARS REQ'D
BEAM MARK	ROW NUMBER ①	②	③	④	TOTAL STRANDS	f'ci	f'c			
B7-B30	11	11	7	3	32	5000	7000	131	143	131
B43-B66	11	11	7	3	32	5000	7000	131	143	131

NOTES:

1. SEE STD. DWG. PSID-1-99 FOR BEAM DETAILS NOT SHOWN.
2. SEE SHEET 62 / 77 FOR ABUTMENT BEARING DETAILS.
3. SEE SHEET 55 / 77 FOR HORIZONTAL LOCATION OF THREADED INSERTS.
4. SEE SHEET 55 / 77 FOR SECTION A-A.
5. SHOP MARK EACH BEAM WITH THE FOLLOWING LOCATION INFORMATION: BEAM NUMBER, SPAN NUMBER, SBL OR NBL, & UPSTATION DIRECTION.
6. SEE SHEET 52 / 77 FOR INTERMEDIATE DIAPHRAGM SPACING.

LEGEND:

B_ - BEAM NUMBER
NBL - NORTHBOUND LANES
SBL - SOUTHBOUND LANES

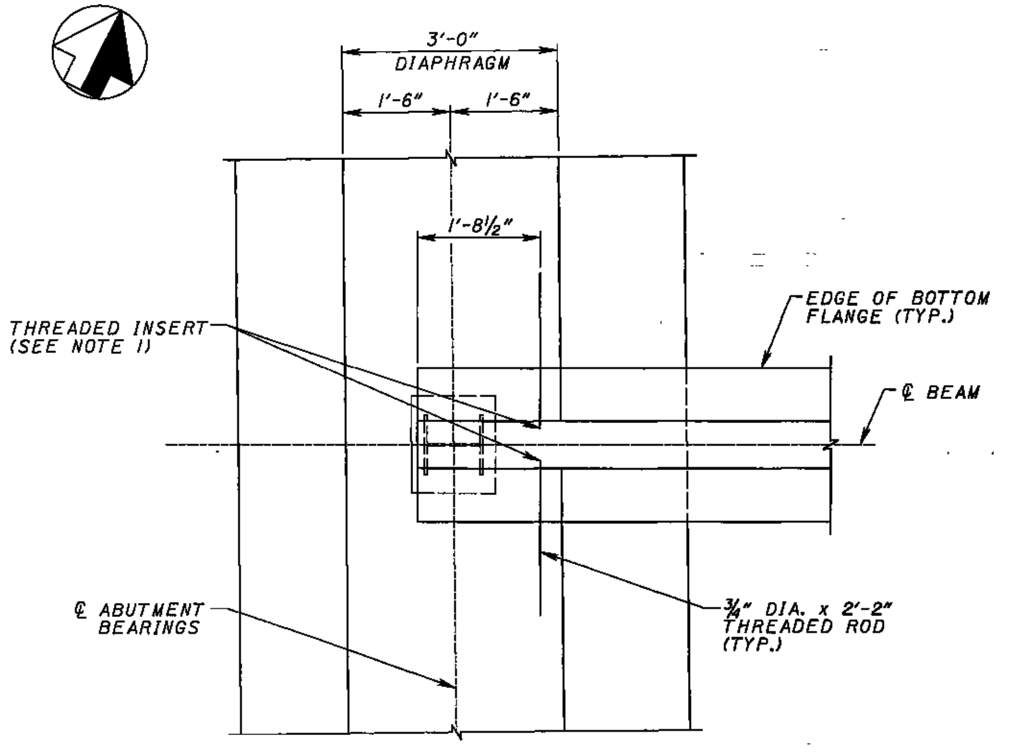
BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED TTK
DRAWN TTK
REVIEWED CAS
DATE 6/03
CHECKED WTL
REVISED
STRUCTURE FILE NUMBER 5202256-LEFT 5202280-RIGHT

BEAM DETAILS 2
BRIDGE NO. MED-71-0031 L/R
OVER ABANDONED RAILROAD

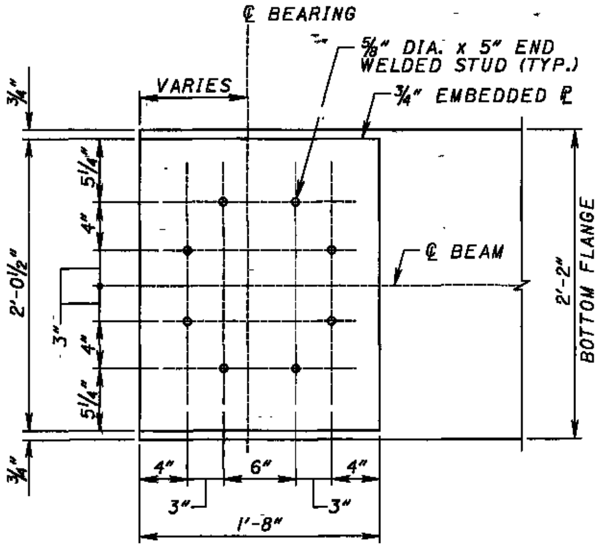
WAY/MED-71-7.04/0.00

P:/PR30489/CADD/MED-71-0031/ME071sd3.DGN

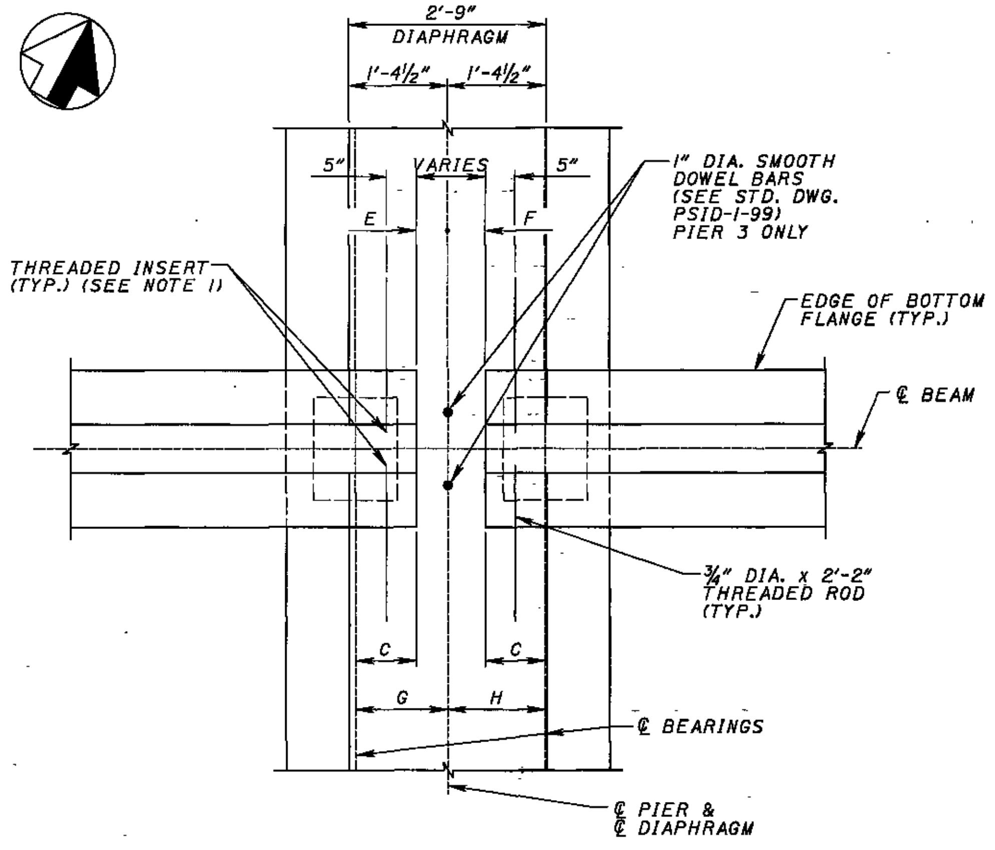

3'-0"
DIAPHRAGM
1'-6"
1'-6"
1'-8½"
THREADED INSERT (SEE NOTE 1)
EDGE OF BOTTOM FLANGE (TYP.)
℄ BEAM
℄ ABUTMENT BEARINGS
¾" DIA. x 2'-2" THREADED ROD (TYP.)

ABUTMENT PLAN

(REAR ABUTMENT SHOWN, FORWARD ABUTMENT OPPOSITE)



SECTION A-A


2'-9"
DIAPHRAGM
1'-4½"
1'-4½"
5"
VARIES
5"
E
F
1" DIA. SMOOTH DOWEL BARS (SEE STD. DWG. PSID-1-99) PIER 3 ONLY
THREADED INSERT (TYP.) (SEE NOTE 1)
EDGE OF BOTTOM FLANGE (TYP.)
℄ BEAM
¾" DIA. x 2'-2" THREADED ROD (TYP.)
C
C
G
H
℄ BEARINGS
℄ PIER & ℄ DIAPHRAGM

PIER PLAN

SOUTHBOUND														
PIER 1			PIER 2			PIER 3			PIER 4			PIER 5		
BEAM	DIM. E	DIM. F	BEAM	DIM. E	DIM. F	BEAM	DIM. E	DIM. F	BEAM	DIM. E	DIM. F	BEAM	DIM. E	DIM. F
B1, B7	5 7/16"	6 1/4"	B7, B13	6 1/4"	5 1/2"	B13, B19	5 1/2"	4 9/16"	B19, B25	4 9/16"	6 1/8"	B25, B31	6 1/8"	5 9/16"
B2, B8	5 1/4"	6 1/4"	B8, B14	6 1/4"	5 7/16"	B14, B20	5 7/16"	4 9/16"	B20, B26	4 9/16"	6 1/8"	B26, B32	6 1/8"	5 1/2"
B3, B9	5 1/16"	6 1/4"	B9, B15	6 1/4"	5 3/8"	B15, B21	5 3/8"	4 9/16"	B21, B27	4 9/16"	6 1/16"	B27, B33	6 1/16"	5 1/2"
B4, B10	4 7/8"	6 1/4"	B10, B16	6 1/4"	5 5/16"	B16, B22	5 5/16"	4 9/16"	B22, B28	4 9/16"	6"	B28, B34	6"	5 1/2"
B5, B11	4 11/16"	6 1/4"	B11, B17	6 1/4"	5 1/4"	B17, B23	5 1/4"	4 9/16"	B23, B29	4 9/16"	6"	B29, B35	6"	5 7/16"
B6, B12	4 1/2"	6 1/4"	B12, B18	6 1/4"	5 1/8"	B18, B24	5 1/8"	4 9/16"	B24, B30	4 9/16"	5 15/16"	B30, B36	5 15/16"	5 7/16"

NORTHBOUND														
PIER 1			PIER 2			PIER 3			PIER 4			PIER 5		
BEAM	DIM. E	DIM. F	BEAM	DIM. E	DIM. F	BEAM	DIM. E	DIM. F	BEAM	DIM. E	DIM. F	BEAM	DIM. E	DIM. F
B37, B43	6 13/16"	5 5/8"	B43, B49	5 5/8"	4 1/2"	B49, B55	4 1/2"	5 7/16"	B55, B61	5 7/16"	5 1/2"	B61, B67	5 1/2"	4 1/2"
B38, B44	6 15/16"	5 5/8"	B44, B50	5 5/8"	4 9/16"	B50, B56	4 9/16"	5 5/16"	B56, B62	5 5/16"	5 1/2"	B62, B68	5 1/2"	5 1/16"
B39, B45	7 1/8"	5 9/16"	B45, B51	5 9/16"	4 5/8"	B51, B57	4 5/8"	5 1/8"	B57, B63	5 1/8"	5 9/16"	B63, B69	5 9/16"	5 11/16"
B40, B46	7 1/4"	5 9/16"	B46, B52	5 9/16"	4 11/16"	B52, B58	4 11/16"	5"	B58, B64	5"	5 9/16"	B64, B70	5 9/16"	6 1/4"
B41, B47	7 3/8"	5 1/2"	B47, B53	5 1/2"	4 3/4"	B53, B59	4 3/4"	4 7/8"	B59, B65	4 7/8"	5 9/16"	B65, B71	5 9/16"	6 13/16"
B42, B48	7 1/2"	5 1/2"	B48, B54	5 1/2"	4 13/16"	B54, B60	4 13/16"	4 3/4"	B60, B66	4 3/4"	5 5/8"	B66, B72	5 5/8"	7 3/8"

SOUTHBOUND		
PIER	DIMENSION G	DIMENSION H
1	1'-3 7/16"	1'-4 1/4"
2	1'-4 1/4"	1'-3 1/2"
3	1'-3 1/2"	1'-2 9/16"
4	1'-2 9/16"	1'-4 1/8"
5	1'-4 1/8"	1'-3 9/16"

NORTHBOUND		
PIER	DIMENSION G	DIMENSION H
1	1'-5 1/2"	1'-3 5/8"
2	1'-3 5/8"	1'-2 13/16"
3	1'-2 13/16"	1'-3 7/16"
4	1'-3 7/16"	1'-3 5/8"
5	1'-3 5/8"	1'-5 3/8"

NOTES:

1. FACIA BEAMS AT ABUTMENT & PIER LOCATIONS SHALL ONLY HAVE THREADED INSERTS ON INTERIOR SIDE.
2. SEE SHEET 53 / 77 AND 54 / 77 FOR DIMENSION C.

LEGEND:

B_ - BEAM NUMBER
DIM. - DIMENSION

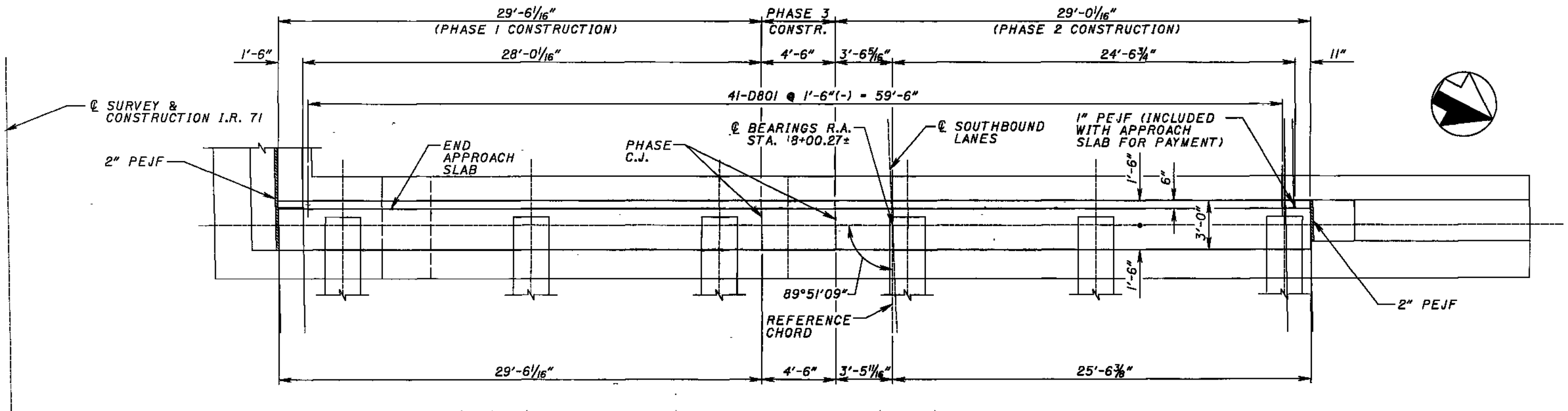
BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202256-LEFT 5202280-RIGHT	

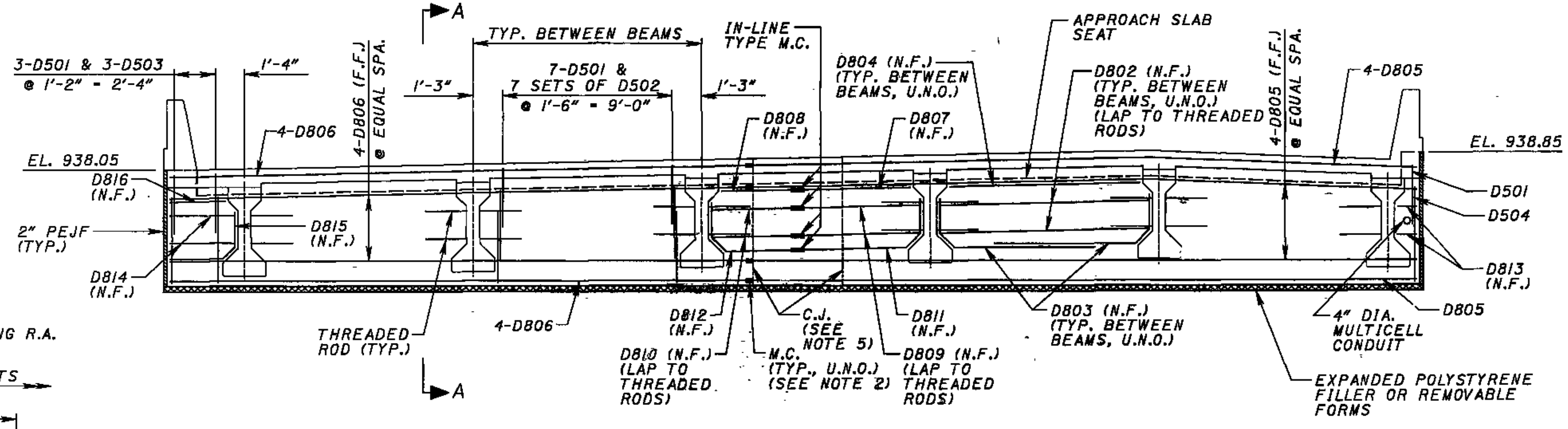
BEAM DETAILS 3
BRIDGE NO. MED-71-0031 L/R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

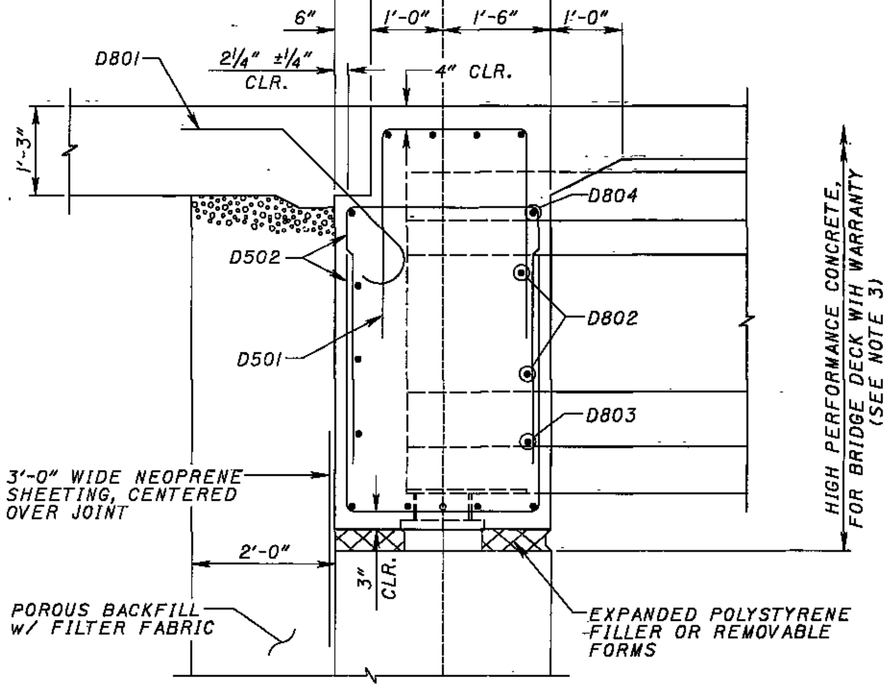
P:/PR30489/CADD/MED-71-0031/ME071sdc.DGN



PLAN



ELEVATION
(WINGWALLS NOT SHOWN FOR CLARITY)



SECTION A-A
(ALL BARS NORMAL TO SECTION ARE D805 OR D806 BARS, U.N.O.)

LEGEND:

C.J. - CONSTRUCTION JOINT
CLR. - CLEAR
F.F. - FAR FACE
N.F. - NEAR FACE
M.C. - MECHANICAL CONNECTOR
PEJF - PREFORMED EXPANSION JOINT FILLER
R.A. - REAR ABUTMENT
U.N.O. - UNLESS NOTED OTHERWISE

NOTES:

1. SEE STD. DWG. SICD-1-96 FOR DETAILS NOT SHOWN.
2. SEE MECHANICAL CONNECTOR NOTE, SHEET 5/77.
3. PHASED CONSTRUCTION ABUTMENT DIAPHRAGM CONCRETE, PRESTRESSED I-BEAM SUPERSTRUCTURE: PLACE ABUTMENT DIAPHRAGM CONCRETE ENCASING PRESTRESSED I-BEAM MEMBERS AT THE SAME TIME AS THE DECK CONCRETE OF AN INDIVIDUAL CONSTRUCTION PHASE TO ALLOW FOR EXPECTED DEAD LOAD ROTATION AT THE ABUTMENTS.
4. MINIMUM STEEL LAP LENGTHS:

   #5 BAR - 2'-6"
   #8 BAR - 5'-0"
5. PLACE TYPE 2 WATERPROOFING, 3'-0" WIDE CENTERED ON JOINT, FROM BOTTOM OF APPROACH SLAB TO TOP OF ABUTMENT SEAT.

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

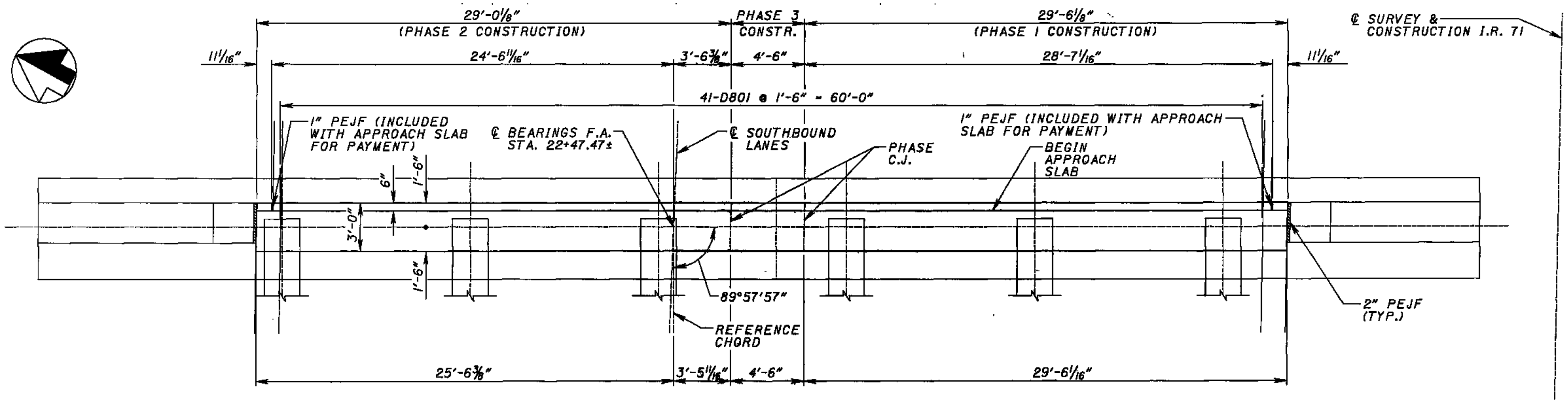
DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202256-LEFT 5202280-RIGHT	

REAR ABUTMENT END DIAPHRAGM - SOUTHBOUND
BRIDGE NO. MED-71-0031 L
OVER ABANDONED RAILROAD

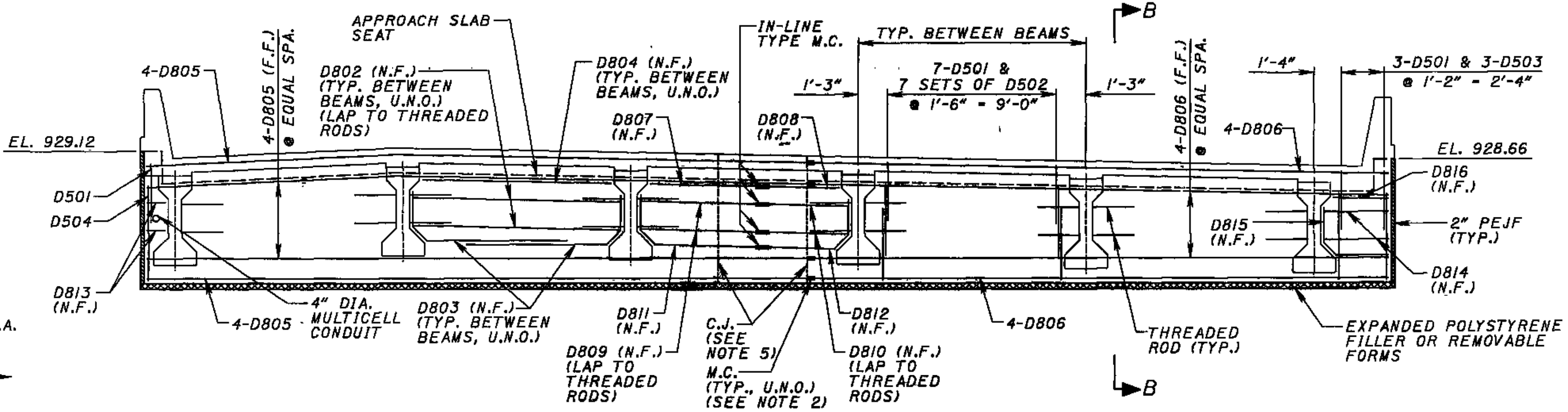
WAY/MED-71-7.04/0.00

56/77

538/785

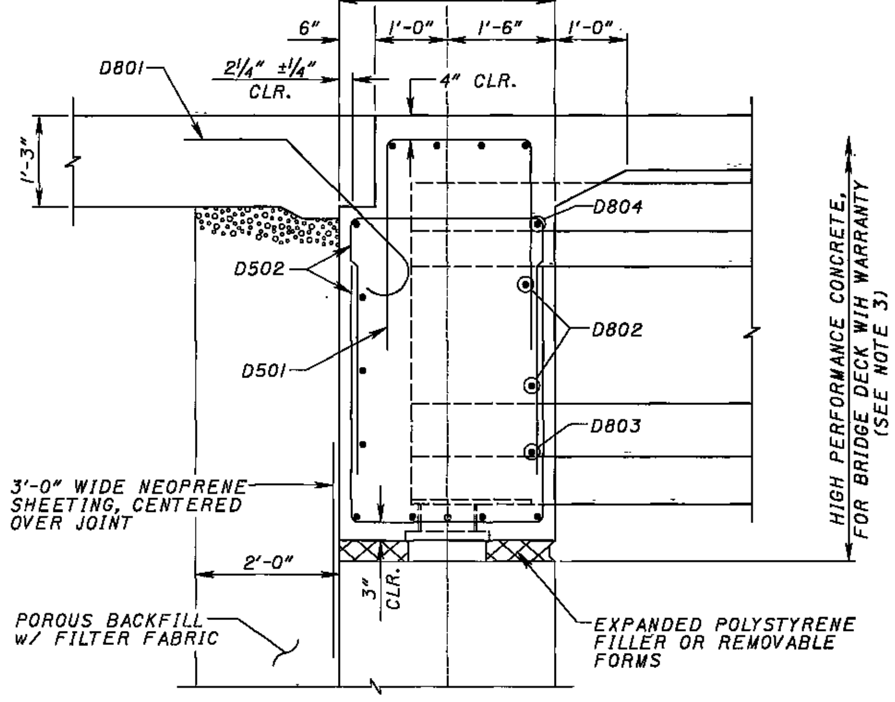


PLAN


B
APPROACH SLAB SEAT
4-D805
4-D805 (F.F.) @ EQUAL SPA.
D802 (N.F.) (TYP. BETWEEN BEAMS, U.N.O.) (LAP TO THREADED RODS)
D804 (N.F.) (TYP. BETWEEN BEAMS, U.N.O.)
D807 (N.F.)
IN-LINE TYPE M.C.
D808 (N.F.)
TYP. BETWEEN BEAMS
1'-3"
7-D501 & 7 SETS OF D502 @ 1'-6" = 9'-0"
1'-3"
4-D806 (F.F.) @ EQUAL SPA.
1'-4"
4-D806
3-D501 & 3-D503 @ 1'-2" = 2'-4"
EL. 929.12
EL. 928.66
D501
D504
D813 (N.F.)
4-D805
4" DIA. MULTICELL CONDUIT
D803 (N.F.) (TYP. BETWEEN BEAMS, U.N.O.)
D811 (N.F.)
D809 (N.F.) (LAP TO THREADED RODS)
C.J. (SEE NOTE 5)
M.C. (TYP., U.N.O.) (SEE NOTE 2)
D812 (N.F.)
D810 (N.F.) (LAP TO THREADED RODS)
4-D806
THREADED ROD (TYP.)
D815 (N.F.)
D816 (N.F.)
2" PEJF (TYP.)
D814 (N.F.)
EXPANDED POLYSTYRENE FILLER OR REMOVABLE FORMS
B

ELEVATION

(WINGWALLS NOT SHOWN FOR CLARITY)


℄ BEARING F.A.
APPROACH SLAB
BRIDGE LIMITS
3'-0"
6"
1'-0"
1'-6"
1'-0"
D801
2¼" ±¼" CLR.
4" CLR.
1'-3"
D804
D502
D802
D501
D803
HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY (SEE NOTE 3)
3'-0" WIDE NEOPRENE SHEETING, CENTERED OVER JOINT
2'-0"
3" CLR.
POROUS BACKFILL w/ FILTER FABRIC
EXPANDED POLYSTYRENE FILLER OR REMOVABLE FORMS

SECTION B-B

(ALL BARS NORMAL TO SECTION ARE D805 OR D806 BARS, U.N.O.)

LEGEND:

C.J. - CONSTRUCTION JOINT
CLR. - CLEAR
F.A. - FORWARD ABUTMENT
F.F. - FAR FACE
N.F. - NEAR FACE
M.C. - MECHANICAL CONNECTOR
PEJF - PREFORMED EXPANSION JOINT FILLER
U.N.O. - UNLESS NOTED OTHERWISE

NOTES:

1. SEE STD. DWG. SICD-1-96 FOR DETAILS NOT SHOWN.
2. SEE MECHANICAL CONNECTOR NOTE, SHEET 5 / 77 .
3. PHASED CONSTRUCTION ABUTMENT DIAPHRAGM CONCRETE, PRESTRESSED I-BEAM SUPERSTRUCTURE: PLACE ABUTMENT DIAPHRAGM CONCRETE ENCASING PRESTRESSED I-BEAM MEMBERS AT THE SAME TIME AS THE DECK CONCRETE OF AN INDIVIDUAL CONSTRUCTION PHASE TO ALLOW FOR EXPECTED DEAD LOAD ROTATION AT THE ABUTMENTS.
4. MINIMUM STEEL LAP LENGTHS:

   #5 BAR = 2'-6"
   #8 BAR = 5'-0"

5. PLACE TYPE 2 WATERPROOFING, 3'-0" WIDE CENTERED ON JOINT, FROM BOTTOM OF APPROACH SLAB TO TOP OF ABUTMENT SEAT.

P:/PR30489/CADD/MED-71-0031/ME071fd6.DGN

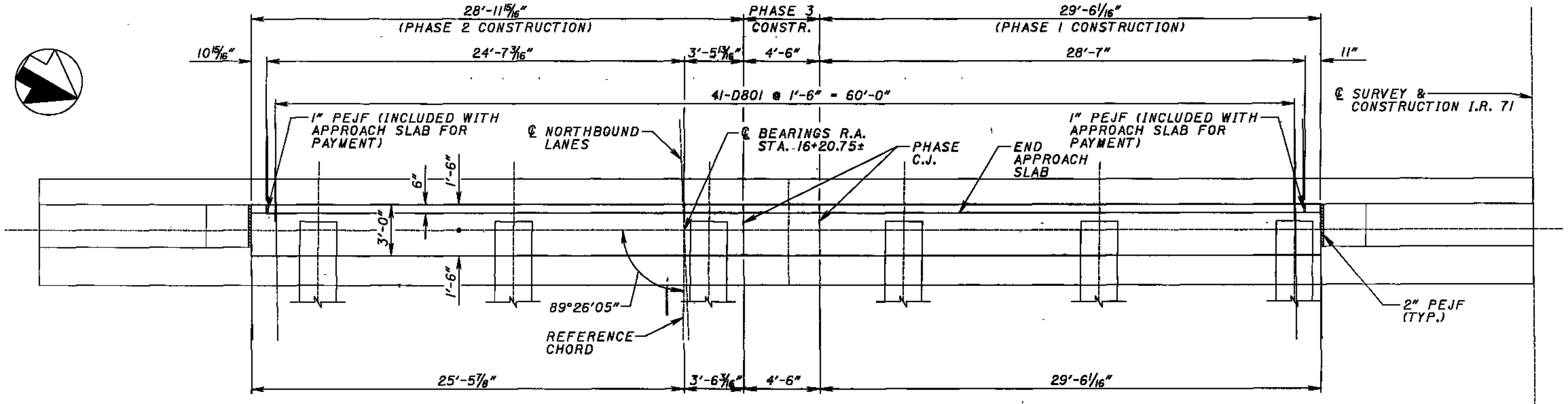
BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202256-LEFT 5202280-RIGHT	

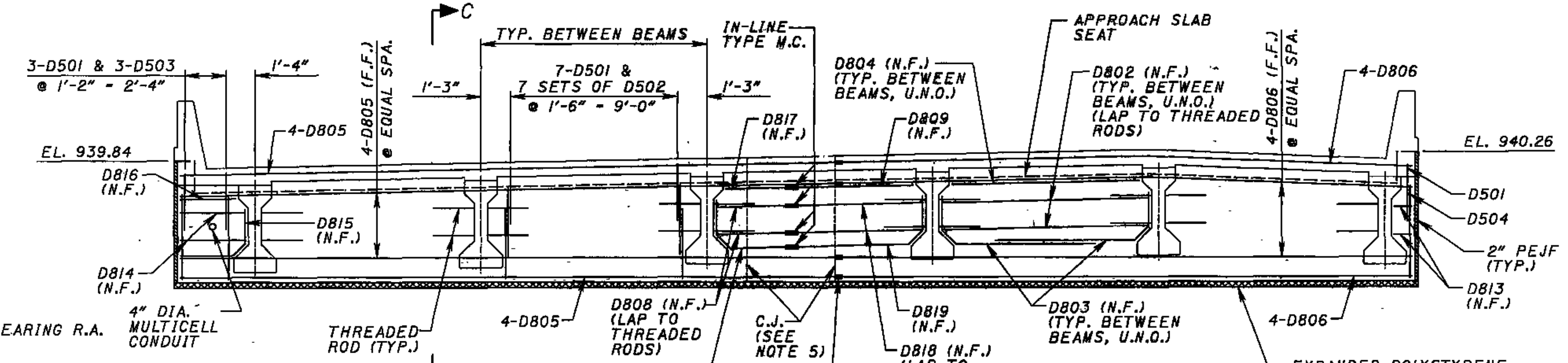
FORWARD ABUTMENT END DIAPHRAGM - SOUTHBOUND

BRIDGE NO. MED-71-0031 L
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

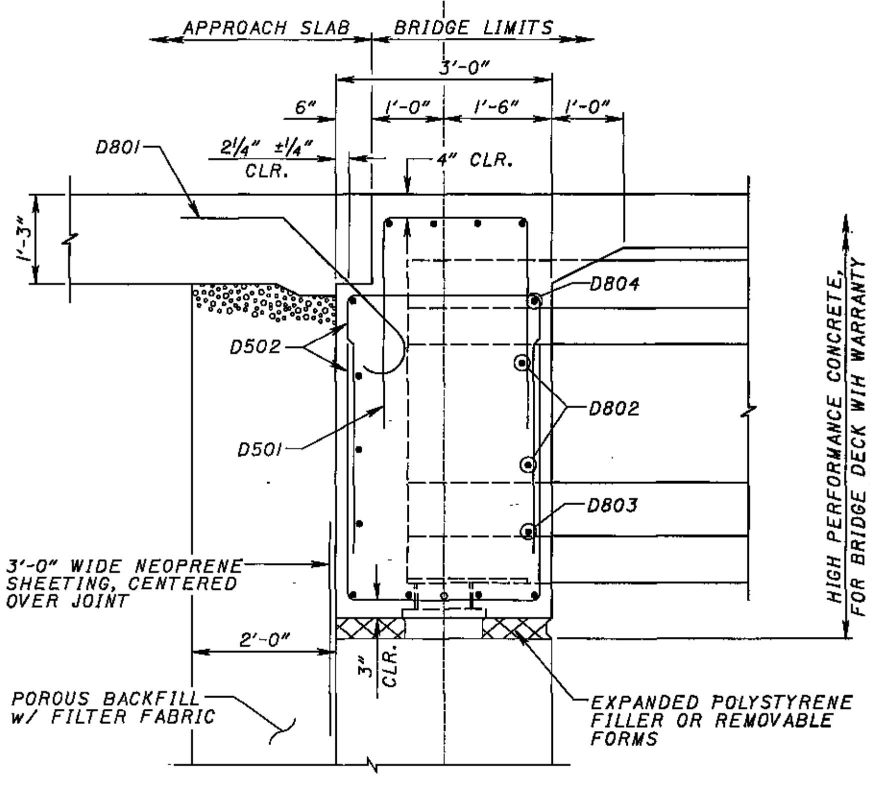

28'-11 15/16" (PHASE 2 CONSTRUCTION)
PHASE 3 CONSTR.
29'-6 1/16" (PHASE 1 CONSTRUCTION)
10 15/16"
24'-7 3/16"
3'-5 13/16"
4'-6"
28'-7"
11"
41-D801 @ 1'-6" = 60'-0"
℄ SURVEY & CONSTRUCTION I.R. 71
1" PEJF (INCLUDED WITH APPROACH SLAB FOR PAYMENT)
℄ NORTHBOUND LANES
℄ BEARINGS R.A. STA. 16+20.75±
PHASE C.J.
END APPROACH SLAB
1" PEJF (INCLUDED WITH APPROACH SLAB FOR PAYMENT)
6"
1'-6"
3'-0"
1'-6"
89°26'05"
REFERENCE CHORD
2" PEJF (TYP.)
25'-5 7/8"
3'-6 3/16"
4'-6"
29'-6 1/16"

PLAN


C
C
TYP. BETWEEN BEAMS
IN-LINE TYPE M.C.
3-D501 & 3-D503 @ 1'-2" = 2'-4"
1'-4"
1'-3"
7-D501 & 7 SETS OF D502 @ 1'-6" = 9'-0"
1'-3"
4-D805 (F.F.) @ EQUAL SPA.
4-D805
EL. 939.84
D816 (N.F.)
D815 (N.F.)
D814 (N.F.)
4" DIA. MULTICELL CONDUIT
THREADED ROD (TYP.)
4-D805
D804 (N.F.) (TYP. BETWEEN BEAMS, U.N.O.)
D817 (N.F.)
D809 (N.F.)
APPROACH SLAB SEAT
D802 (N.F.) (TYP. BETWEEN BEAMS, U.N.O.) (LAP TO THREADED RODS)
4-D806 (F.F.) @ EQUAL SPA.
4-D806
EL. 940.26
D501
D504
2" PEJF (TYP.)
D813 (N.F.)
D808 (N.F.) (LAP TO THREADED RODS)
D820 (N.F.)
C.J. (SEE NOTE 5)
M.C. (TYP., U.N.O.) (SEE NOTE 2)
D819 (N.F.)
D818 (N.F.) (LAP TO THREADED RODS)
D803 (N.F.) (TYP. BETWEEN BEAMS, U.N.O.)
4-D806
EXPANDED POLYSTYRENE FILLER OR REMOVABLE FORMS

ELEVATION

(WINGWALLS NOT SHOWN FOR CLARITY)


℄ BEARING R.A.
APPROACH SLAB
BRIDGE LIMITS
3'-0"
6"
1'-0"
1'-6"
1'-0"
D801
2 1/4" ±1/4" CLR.
4" CLR.
1'-3"
D804
D502
D802
D501
D803
HIGH PERFORMANCE CONCRETE FOR BRIDGE DECK WIH WARRANTY (SEE NOTE 3)
3'-0" WIDE NEOPRENE SHEETING, CENTERED OVER JOINT
2'-0"
3" CLR.
POROUS BACKFILL w/ FILTER FABRIC
EXPANDED POLYSTYRENE FILLER OR REMOVABLE FORMS

SECTION C-C

(ALL BARS NORMAL TO SECTION ARE D805 OR D806 BARS, U.N.O.)

LEGEND:

C.J. - CONSTRUCTION JOINT
CLR. - CLEAR
F.F. - FAR FACE
N.F. - NEAR FACE
M.C. - MECHANICAL CONNECTOR
PEJF - PREFORMED EXPANSION JOINT FILLER
R.A. - REAR ABUTMENT
U.N.O. - UNLESS NOTED OTHERWISE

NOTES:

1. SEE STD. DWG. SICD-1-96 FOR DETAILS NOT SHOWN.
2. SEE MECHANICAL CONNECTOR NOTE, SHEET 5 / 77 .
3. PHASED CONSTRUCTION ABUTMENT DIAPHRAGM CONCRETE, PRESTRESSED I-BEAM SUPERSTRUCTURE: PLACE ABUTMENT DIAPHRAGM CONCRETE ENCASING PRESTRESSED I-BEAM MEMBERS AT THE SAME TIME AS THE DECK CONCRETE OF AN INDIVIDUAL CONSTRUCTION PHASE TO ALLOW FOR EXPECTED DEAD LOAD ROTATION AT THE ABUTMENTS.
4. MINIMUM STEEL LAP LENGTHS:

   #5 BAR - 2'-6"
   #8 BAR - 5'-0"

5. PLACE TYPE 2 WATERPROOFING, 3'-0" WIDE CENTERED ON JOINT, FROM BOTTOM OF APPROACH SLAB TO TOP OF ABUTMENT SEAT.

P:/PR30489/CADD/MED-71-0031/MED71ra7.DGN

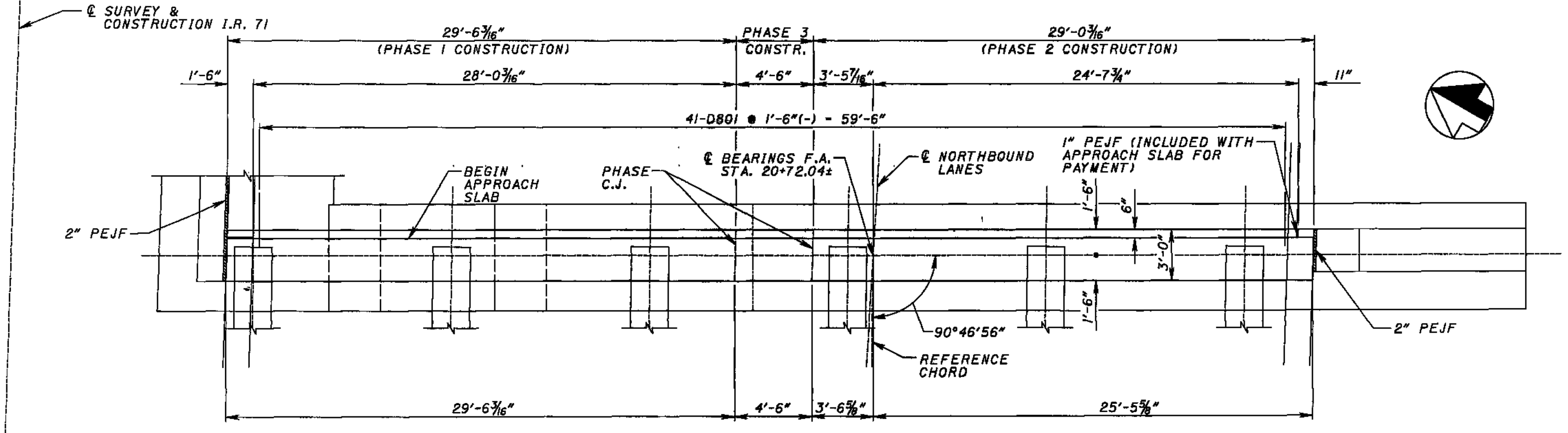
BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202256-LEFT 5202280-RIGHT	

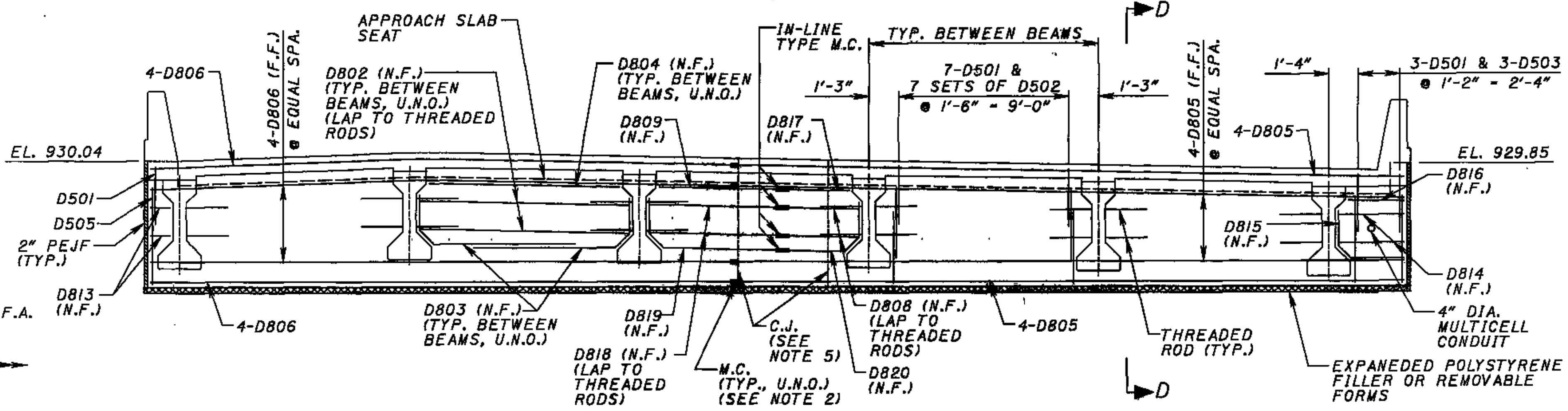
REAR ABUTMENT END DIAPHRAGM - NORTHBOUND

BRIDGE NO. MED-71-0031 R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

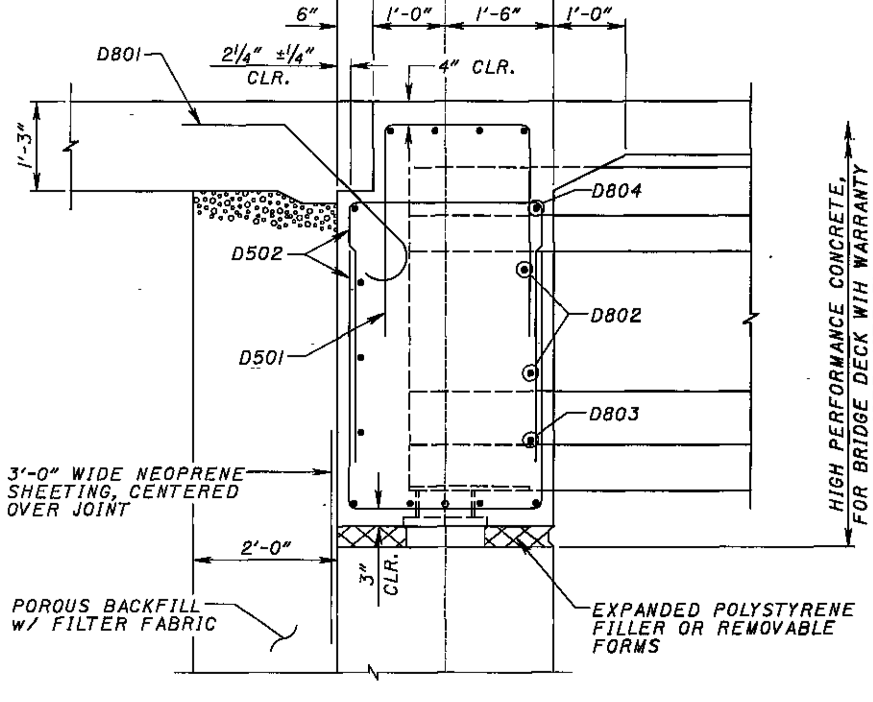


PLAN


APPROACH SLAB SEAT
IN-LINE TYPE M.C.
TYP. BETWEEN BEAMS
D
4-D806
4-D806 (F.F.) @ EQUAL SPA.
D802 (N.F.) (TYP. BETWEEN BEAMS, U.N.O.) (LAP TO THREADED RODS)
D804 (N.F.) (TYP. BETWEEN BEAMS, U.N.O.)
D809 (N.F.)
D817 (N.F.)
1'-3"
7-D501 & 7 SETS OF D502 @ 1'-6" = 9'-0"
1'-3"
4-D805 (F.F.) @ EQUAL SPA.
1'-4"
3-D501 & 3-D503 @ 1'-2" = 2'-4"
4-D805
EL. 930.04
EL. 929.85
D816 (N.F.)
D501
D505
2" PEJF (TYP.)
D815 (N.F.)
D813 (N.F.)
D814 (N.F.)
4-D806
D803 (N.F.) (TYP. BETWEEN BEAMS, U.N.O.)
D819 (N.F.)
D818 (N.F.) (LAP TO THREADED RODS)
C.J. (SEE NOTE 5)
M.C. (TYP., U.N.O.) (SEE NOTE 2)
D808 (N.F.) (LAP TO THREADED RODS)
D820 (N.F.)
4-D805
THREADED ROD (TYP.)
4" DIA. MULTICELL CONDUIT
EXPANEDED POLYSTYRENE FILLER OR REMOVABLE FORMS
D

ELEVATION

(WINGWALLS NOT SHOWN FOR CLARITY)


℄ BEARING F.A.
APPROACH SLAB
BRIDGE LIMITS
3'-0"
6"
1'-0"
1'-6"
1'-0"
D801
2¼" ±¼" CLR.
4" CLR.
1'-3"
D804
D502
D802
D501
D803
HIGH PERFORMANCE CONCRETE FOR BRIDGE DECK WIH WARRANTY (SEE NOTE 3)
3'-0" WIDE NEOPRENE SHEETING, CENTERED OVER JOINT
2'-0"
3" CLR.
POROUS BACKFILL w/ FILTER FABRIC
EXPANDED POLYSTYRENE FILLER OR REMOVABLE FORMS

SECTION D-D

(ALL BARS NORMAL TO SECTION ARE D805 OR D806 BARS, U.N.O.)

LEGEND:

C.J. - CONSTRUCTION JOINT
CLR. - CLEAR
F.A. - FORWARD ABUTMENT
F.F. - FAR FACE
N.F. - NEAR FACE
M.C. - MECHANICAL CONNECTOR
PEJF - PREFORMED EXPANSION JOINT FILLER
U.N.O. - UNLESS NOTED OTHERWISE

NOTES:

1. SEE STD. DWG. SICD-1-96 FOR DETAILS NOT SHOWN.
2. SEE MECHANICAL CONNECTOR NOTE, SHEET 5 / 77 .
3. PHASED CONSTRUCTION ABUTMENT DIAPHRAGM CONCRETE, PRESTRESSED I-BEAM SUPERSTRUCTURE: PLACE ABUTMENT DIAPHRAGM CONCRETE ENCASING PRESTRESSED I-BEAM MEMBERS AT THE SAME TIME AS THE DECK CONCRETE OF AN INDIVIDUAL CONSTRUCTION PHASE TO ALLOW FOR EXPECTED DEAD LOAD ROTATION AT THE ABUTMENTS.
4. MINIMUM STEEL LAP LENGTHS:

   #5 BAR = 2'-6"
   #8 BAR = 5'-0"
5. PLACE TYPE 2 WATERPROOFING, 3'-0" WIDE CENTERED ON JOINT, FROM BOTTOM OF APPROACH SLAB TO TOP OF ABUTMENT SEAT.

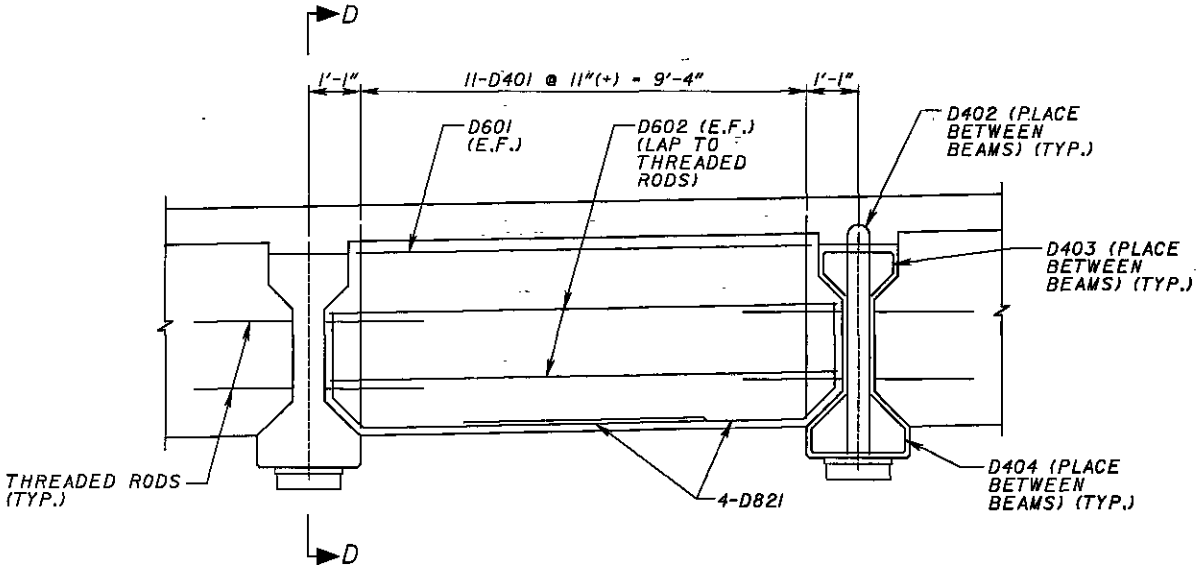
P:/PR30489/CADD/MED-71-0031/ME07fa7.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

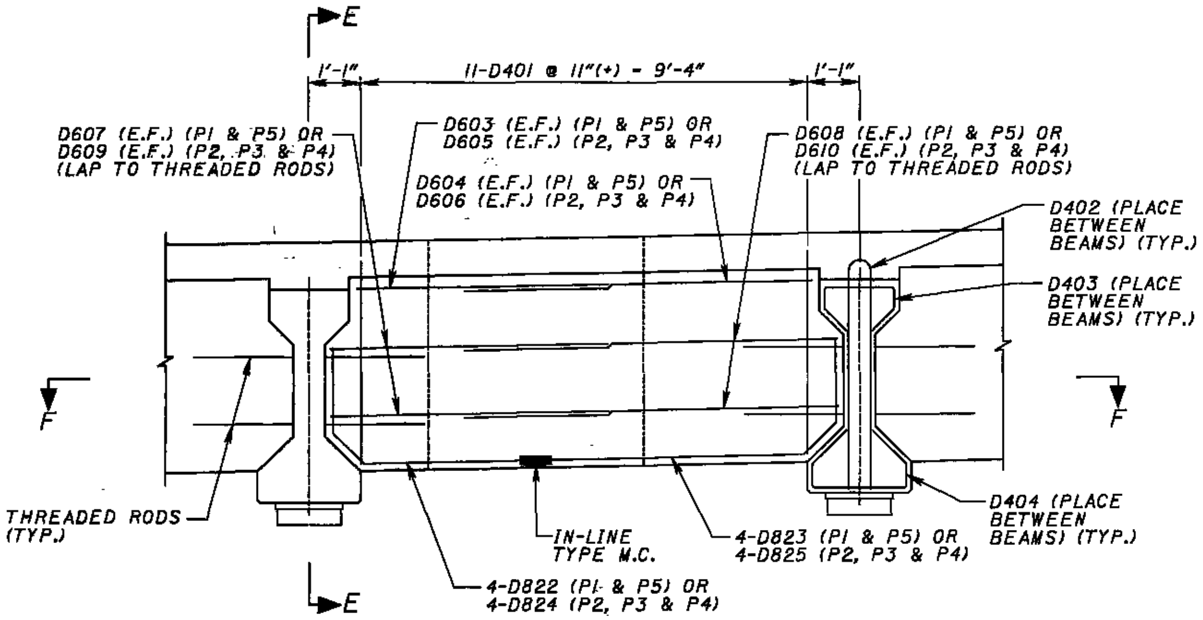
DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202256-LEFT 5202280-RIGHT	

FORWARD ABUTMENT END DIAPHRAGM - NORTHBOUND
BRIDGE NO. MED-71-0031 R
OVER ABANDONED RAILROAD

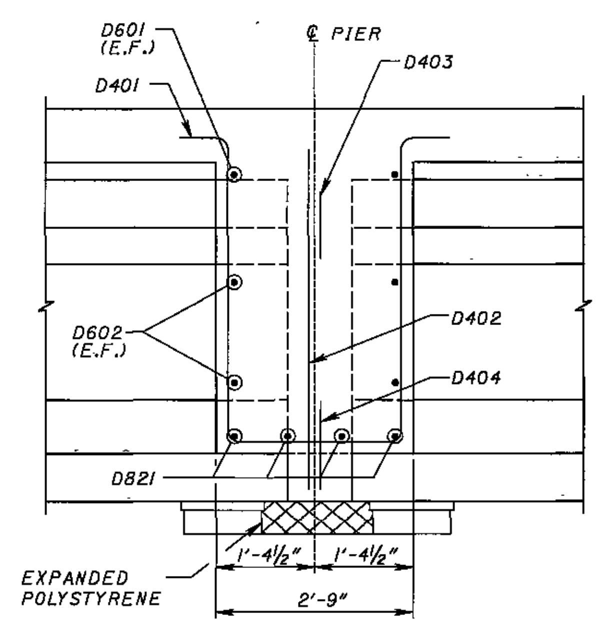
WAY/MED-71-7.04/0.00


D
1'-1"
11-D401 @ 11"(+) = 9'-4"
1'-1"
D601 (E.F.)
D602 (E.F.) (LAP TO THREADED RODS)
D402 (PLACE BETWEEN BEAMS) (TYP.)
D403 (PLACE BETWEEN BEAMS) (TYP.)
THREADED RODS (TYP.)
4-D821
D404 (PLACE BETWEEN BEAMS) (TYP.)
D

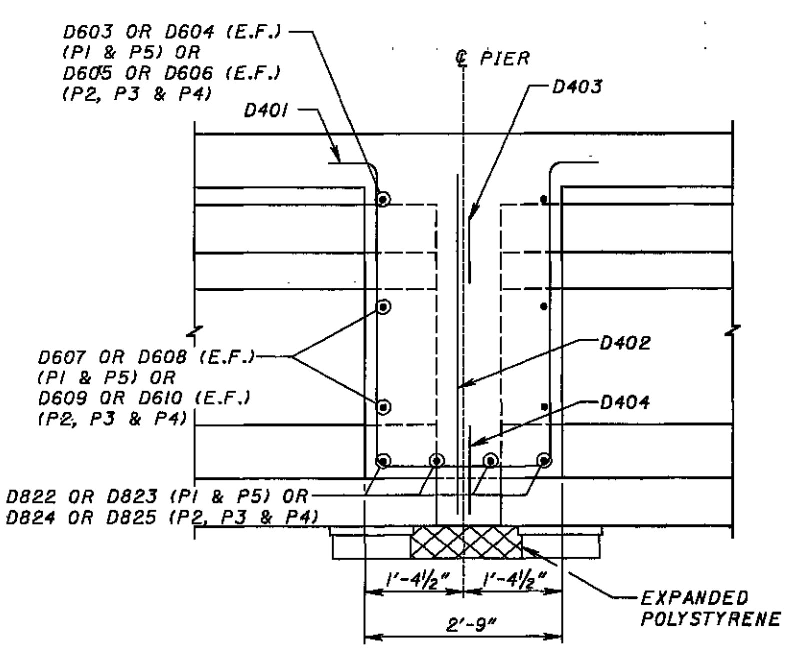
TYPICAL PIER DIAPHRAGM BETWEEN BEAMS
(SEE NOTE 3)


E
1'-1"
11-D401 @ 11"(+) = 9'-4"
1'-1"
D607 (E.F.) (P1 & P5) OR D609 (E.F.) (P2, P3 & P4) (LAP TO THREADED RODS)
D603 (E.F.) (P1 & P5) OR D605 (E.F.) (P2, P3 & P4)
D604 (E.F.) (P1 & P5) OR D606 (E.F.) (P2, P3 & P4)
D608 (E.F.) (P1 & P5) OR D610 (E.F.) (P2, P3 & P4) (LAP TO THREADED RODS)
D402 (PLACE BETWEEN BEAMS) (TYP.)
D403 (PLACE BETWEEN BEAMS) (TYP.)
F
F
THREADED RODS (TYP.)
IN-LINE TYPE M.C.
4-D823 (P1 & P5) OR 4-D825 (P2, P3 & P4)
D404 (PLACE BETWEEN BEAMS) (TYP.)
4-D822 (P1 & P5) OR 4-D824 (P2, P3 & P4)
E

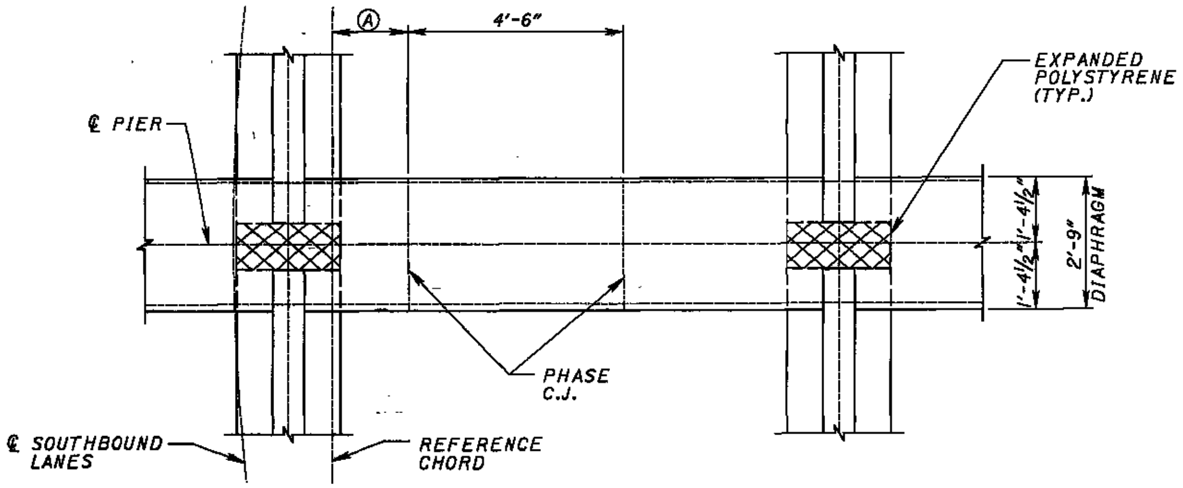
TYPICAL PIER DIAPHRAGM AT PHASE C.J.
(SEE NOTE 3)



SECTION D-D
(SEE NOTE 3)


D603 OR D604 (E.F.) (P1 & P5) OR D605 OR D606 (E.F.) (P2, P3 & P4)
℄ PIER
D403
D401
D607 OR D608 (E.F.) (P1 & P5) OR D609 OR D610 (E.F.) (P2, P3 & P4)
D402
D404
D822 OR D823 (P1 & P5) OR D824 OR D825 (P2, P3 & P4)
1'-4½"
1'-4½"
2'-9"
EXPANDED POLYSTYRENE

SECTION E-E
(SEE NOTE 3)



SECTION F-F
(SEE NOTE 3)

Ⓐ = 2'-5$\frac{1}{16}$" (P1)
= 1'-7$\frac{1}{16}$" (P2)
= 1'-3$\frac{11}{16}$" (P3)
= 1'-7$\frac{1}{16}$" (P4)
= 2'-5$\frac{1}{16}$" (P5)

LEGEND:

C.J. = CONSTRUCTION JOINT
E.F. = EACH FACE
M.C. = MECHANICAL CONNECTOR
P1 = PIER 1
P2 = PIER 2
P3 = PIER 3
P4 = PIER 4
P5 = PIER 5

NOTES:

1. ALL PIER DIAPHRAGM CONCRETE SHALL BE CLASS HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY AND BE PLACED CONCURRENTLY WITH THE DECK.
2. MINIMUM STEEL LAP LENGTH:

   #6 BAR = 3'-0"
   #8 BAR = 5'-0"

3. EXPANSION PIERS 1, 2, 4 AND 5 SHOWN. FIXED PIER 3 SIMILAR WITH ADDITION OF 2 - 1" DIA. SMOOTH DOWEL BARS BETWEEN BEAMS AT EACH BEAM LINE (SEE STD. DWG. PSID-1-99)

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202256-LEFT 5202280-RIGHT	

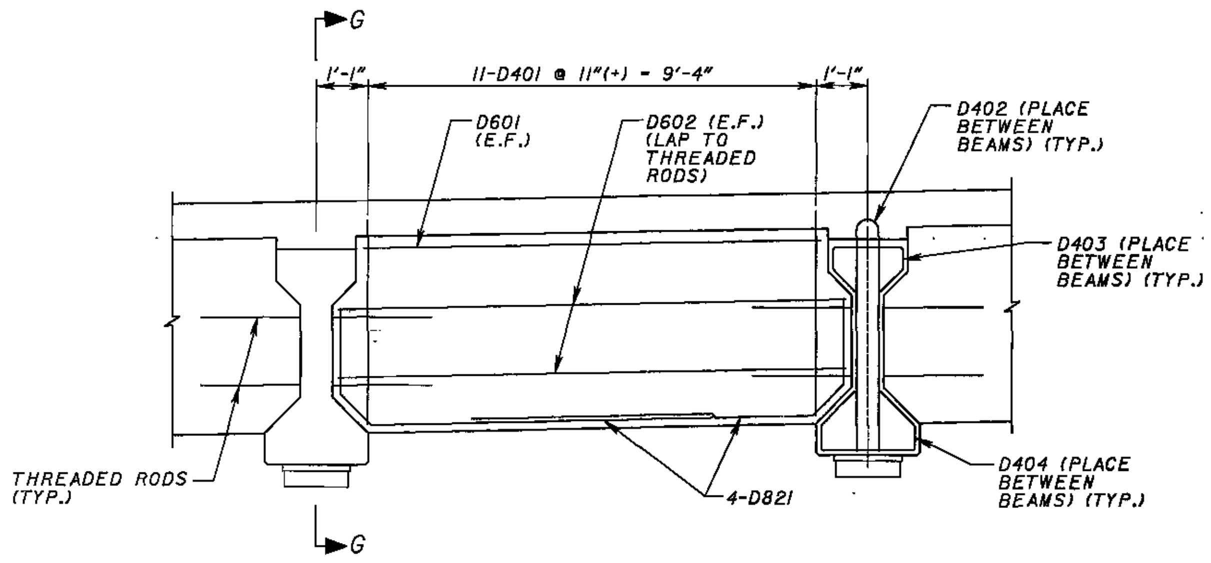
PIER DIAPHRAGM DETAILS - SOUTHBOUND
BRIDGE NO. MED-71-0031 L
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

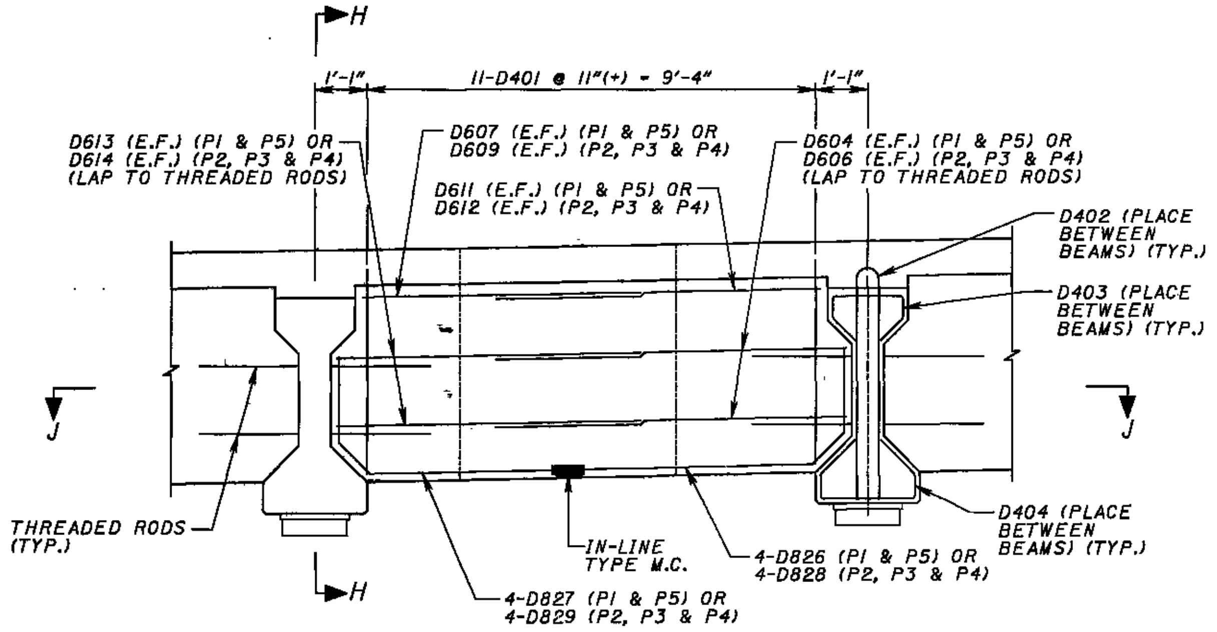
60/77

542/785

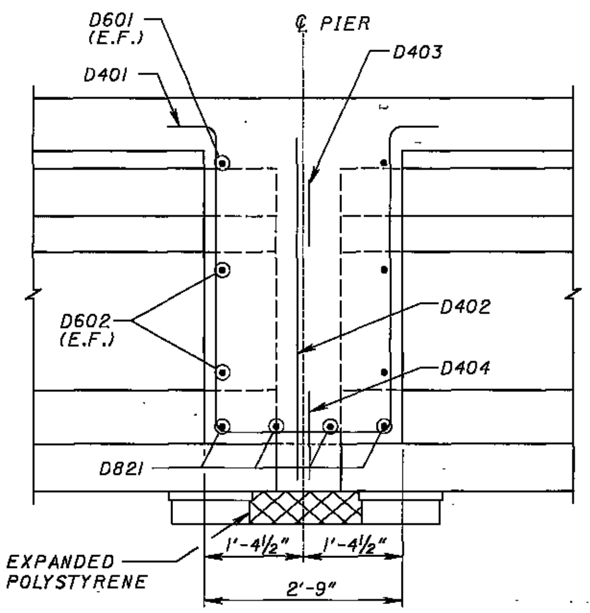
P:/PR30489/CADD/MED-71-0031/ME071p19.DGN


G
1'-1"
11-D401 @ 11"(+) = 9'-4"
1'-1"
D601 (E.F.)
D602 (E.F.) (LAP TO THREADED RODS)
D402 (PLACE BETWEEN BEAMS) (TYP.)
D403 (PLACE BETWEEN BEAMS) (TYP.)
THREADED RODS (TYP.)
4-D821
D404 (PLACE BETWEEN BEAMS) (TYP.)
G

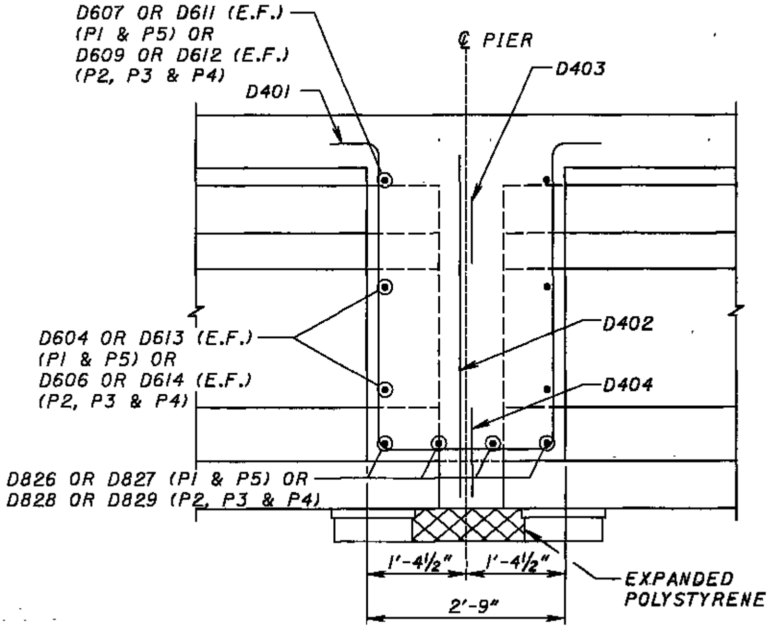
TYPICAL PIER DIAPHRAGM BETWEEN BEAMS
(SEE NOTE 3)


H
1'-1"
11-D401 @ 11"(+) = 9'-4"
1'-1"
D613 (E.F.) (P1 & P5) OR D614 (E.F.) (P2, P3 & P4) (LAP TO THREADED RODS)
D607 (E.F.) (P1 & P5) OR D609 (E.F.) (P2, P3 & P4)
D611 (E.F.) (P1 & P5) OR D612 (E.F.) (P2, P3 & P4)
D604 (E.F.) (P1 & P5) OR D606 (E.F.) (P2, P3 & P4) (LAP TO THREADED RODS)
D402 (PLACE BETWEEN BEAMS) (TYP.)
D403 (PLACE BETWEEN BEAMS) (TYP.)
J
J
THREADED RODS (TYP.)
IN-LINE TYPE M.C.
4-D826 (P1 & P5) OR 4-D828 (P2, P3 & P4)
D404 (PLACE BETWEEN BEAMS) (TYP.)
H
4-D827 (P1 & P5) OR 4-D829 (P2, P3 & P4)

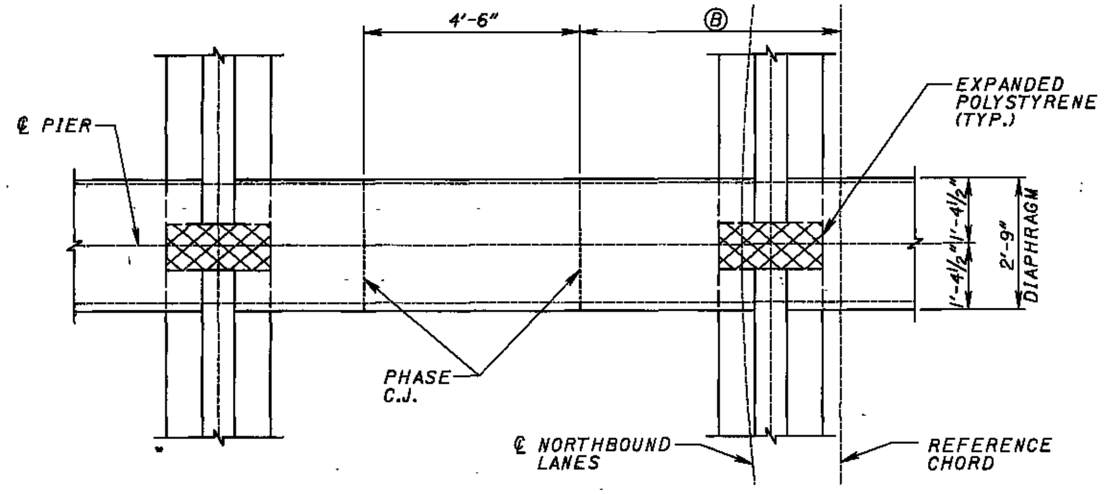
TYPICAL PIER DIAPHRAGM AT PHASE C.J.
(SEE NOTE 3)



SECTION G-G
(SEE NOTE 3)


D607 OR D611 (E.F.) (P1 & P5) OR D609 OR D612 (E.F.) (P2, P3 & P4)
℄ PIER
D401
D403
D604 OR D613 (E.F.) (P1 & P5) OR D606 OR D614 (E.F.) (P2, P3 & P4)
D402
D404
D826 OR D827 (P1 & P5) OR D828 OR D829 (P2, P3 & P4)
1'-4½"
1'-4½"
2'-9"
EXPANDED POLYSTYRENE

SECTION H-H
(SEE NOTE 3)



SECTION J-J
(SEE NOTE 3)

Ⓑ = 4'-7⅛" (P1)
= 5'-5⁵⁄₁₆" (P2)
= 5'-8½" (P3)
= 5'-5⁵⁄₁₆" (P4)
= 4'-7⁷⁄₁₆" (P5)

LEGEND:

C.J. = CONSTRUCTION JOINT
E.F. = EACH FACE
M.C. = MECHANICAL CONNECTOR
P1 = PIER 1
P2 = PIER 2
P3 = PIER 3
P4 = PIER 4
P5 = PIER 5

NOTES:

1. ALL PIER DIAPHRAGM CONCRETE SHALL BE CLASS HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY AND BE PLACED CONCURRENTLY WITH THE DECK.
2. MINIMUM STEEL LAP LENGTH:
   #6 BAR = 3'-0"
   #8 BAR = 5'-0"
3. EXPANSION PIERS 1, 2, 4 AND 5 SHOWN. FIXED PIER 3 SIMILAR WITH ADDITION OF 2 - 1" DIA. SMOOTH DOWEL BARS BETWEEN BEAMS AT EACH BEAM LINE (SEE STD. DWG. PSID-1-99)

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202256-LEFT 5202280-RIGHT	

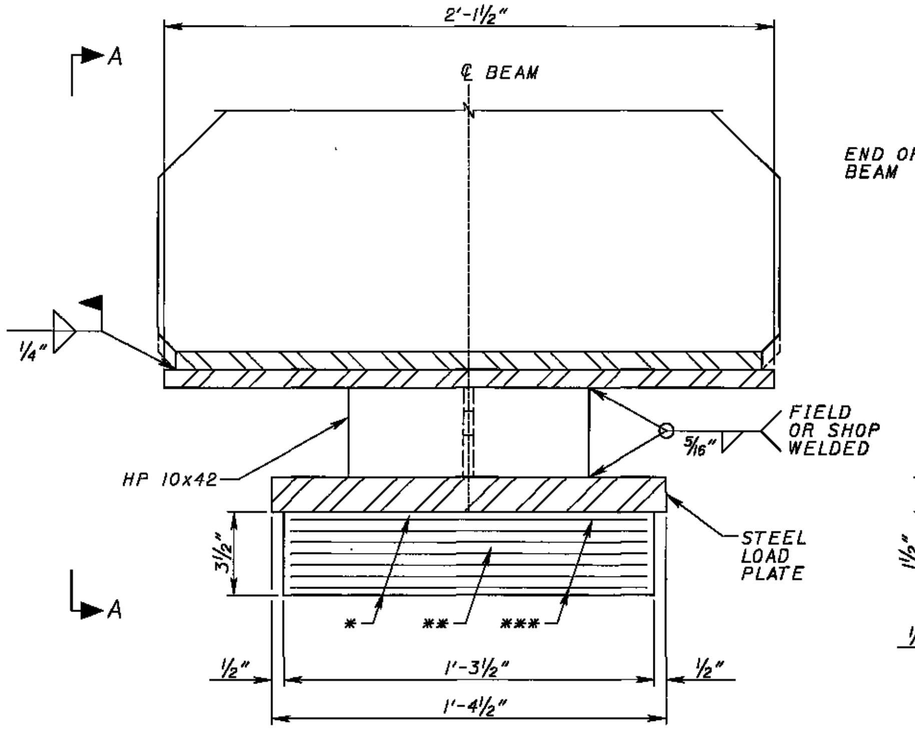
PIER DIAPHRAGM DETAILS - NORTHBOUND
BRIDGE NO. MED-71-0031 R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

61/77

543/785

P:/PR30489/CADD/MED-71-0031/ME071pia.DGN

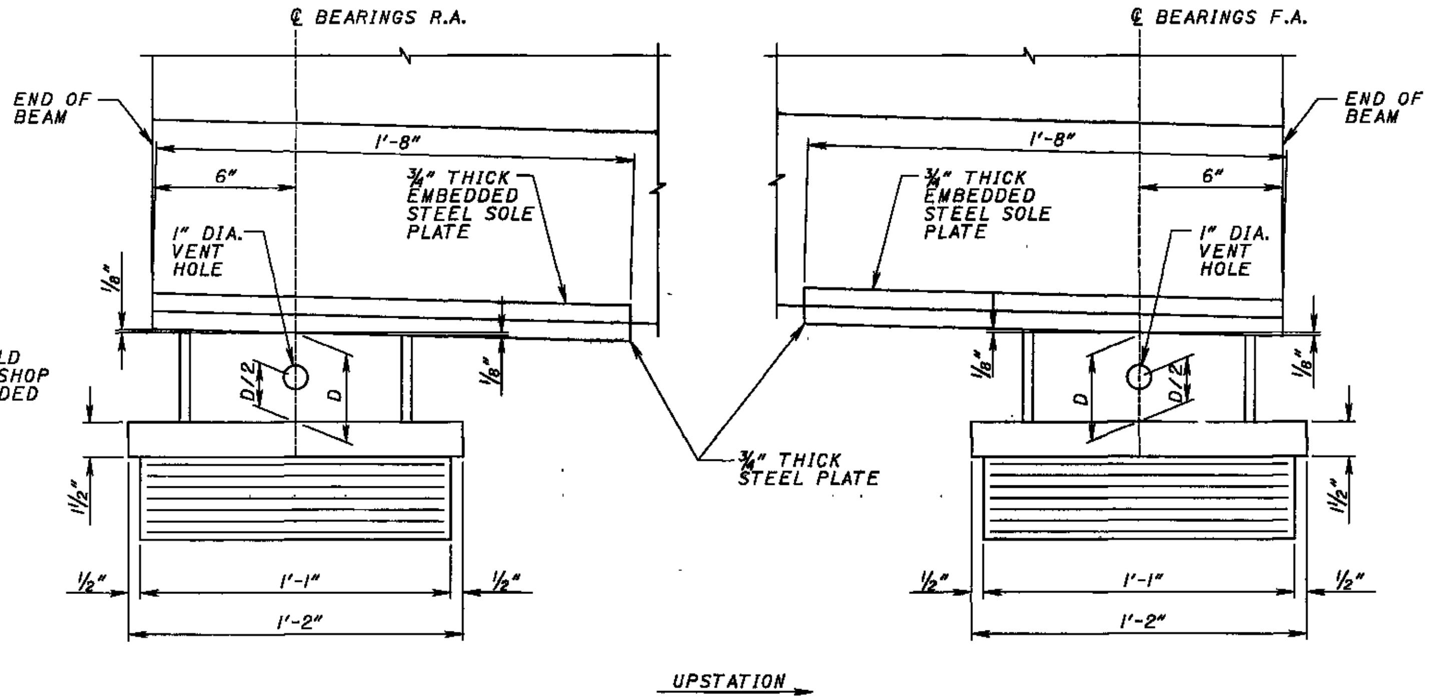


* - 2 EXTERNAL ELASTOMER LAYERS THICKNESS = 0.280"

** - 6 INTERNAL ELASTOMER LAYERS THICKNESS = 0.403"

*** - 7 INTERNAL STEEL LAMINATES THICKNESS = 0.075"

ABUTMENT BEARING DETAIL
(EXPANSION)



VIEW A-A

NOTES:

1. ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

2. BEARING REPOSITIONING: IF THE BEAMS ARE ERECTED AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40°F AND THE BEARING SHEAR DEFLECTION EXCEEDS 1/6 OF THE BEARING HEIGHT AT 60°F ±10°F, RAISE THE BEAMS TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F ±10°F.

3. WELDING: CONTROL WELDING SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300°F AS DETERMINED BY USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

4. LOAD PLATES: SHOP MARK THE LOAD PLATES WITH THE FOLLOWING INFORMATION: TOP, UPSTATION DIRECTION AND LOCATION (NORTHBOUND, SOUTHBOUND, SPAN NO. & PIER NO. OR ABUTMENT LOCATION). THE STEEL LOAD PLATE AND HP 10x42 TEMPORARY SUPPORT ARE ASTM A588 STRUCTURAL STEEL. VULCANIZE THE STEEL LOAD PLATE TO THE ELASTOMER DURING THE MOLDING PROCESS.

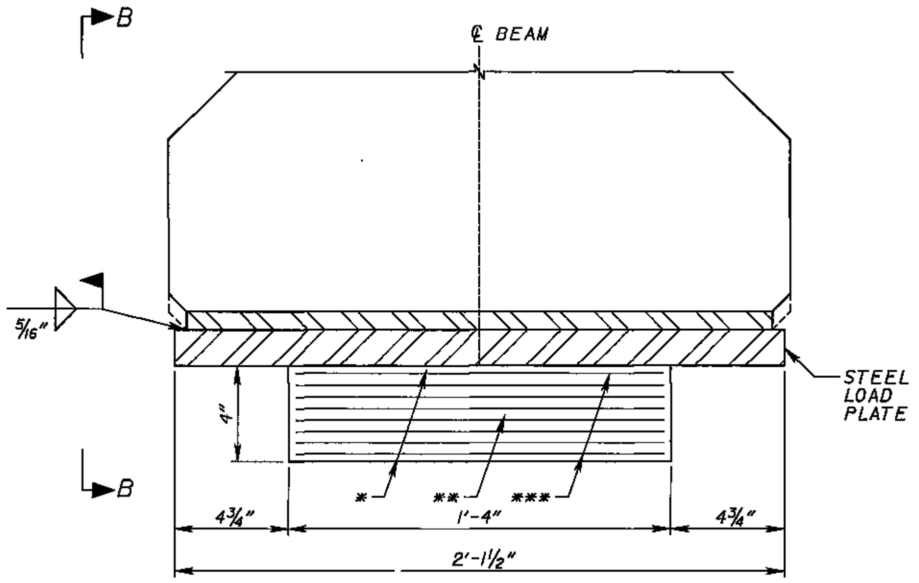
5. DESIGN LOADING: BEARINGS ARE DESIGNED FOR THE FOLLOWING LOADS (KIPS):

	ABUTMENTS	PIERS
DEAD LOAD	93	122
LIVE LOAD W/O IMPACT	71	52
TOTAL DESIGN LOAD	164	174

6. BASIS OF PAYMENT: THE UNIT BID PRICE INCLUDES ALL MATERIALS, LABOR, TESTING, AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS INCLUDING STEEL LOAD PLATES AND PEDESTALS. PAYMENT WILL BE INCLUDED WITH THE APPROPRIATE 516 ITEM.

SOUTHBOUND			
REAR ABUTMENT		FORWARD ABUTMENT	
BEAM	DIMENSION D	BEAM	DIMENSION D
B1	8 3⁄16"	B31	8 11⁄16"
B2	13¾"	B32	14⅛"
B3	11 7⁄16"	B33	11¾"
B4	8⅞"	B34	9 1⁄16"
B5	6 5⁄16"	B35	6 7⁄16"
B6	3¾"	B36	3¾"

NORTHBOUND			
REAR ABUTMENT		FORWARD ABUTMENT	
BEAM	DIMENSION D	BEAM	DIMENSION D
B37	8¼"	B67	8 15⁄16"
B38	13 13⁄16"	B68	14 5⁄16"
B39	11½"	B69	11 15⁄16"
B40	8 15⁄16"	B70	9 3⁄16"
B41	6 5⁄16"	B71	6½"
B42	3¾"	B72	3¾"

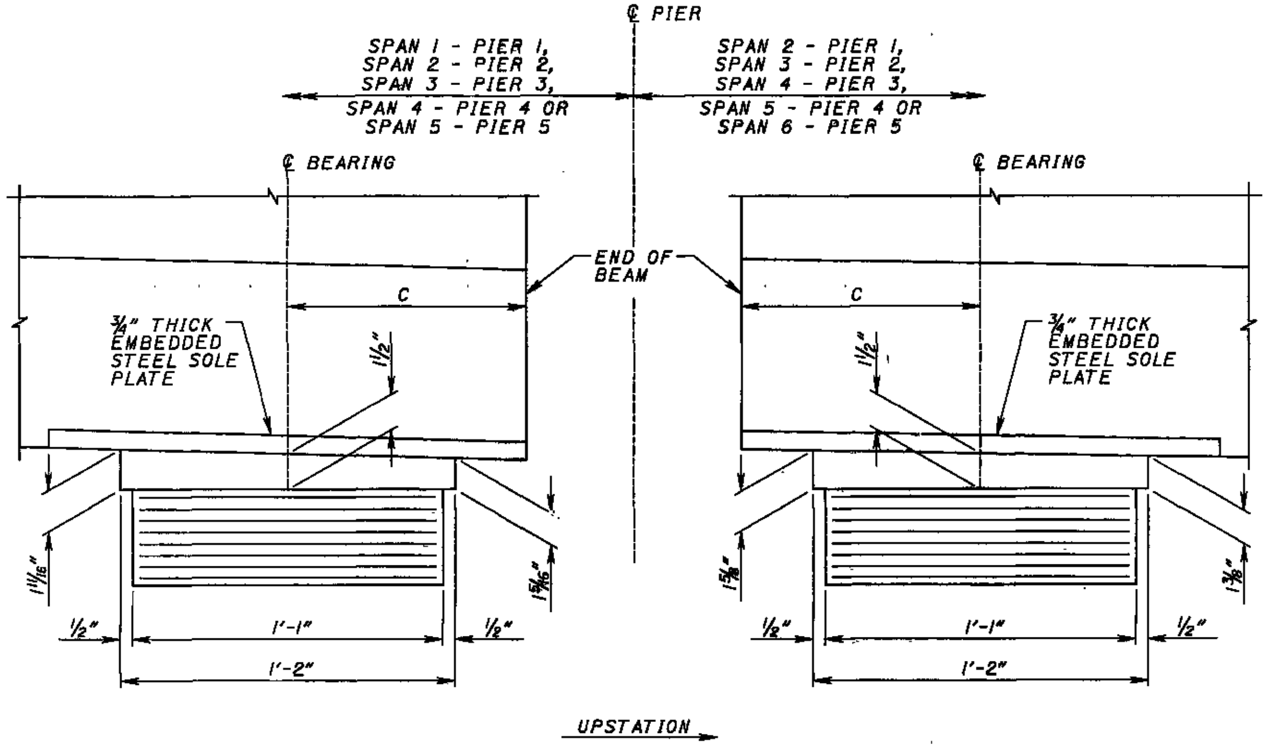


* - 2 EXTERNAL ELASTOMER LAYERS THICKNESS = 0.284"

** - 7 INTERNAL ELASTOMER LAYERS THICKNESS = 0.405"

*** - 8 INTERNAL STEEL LAMINATES THICKNESS = 0.075"

PIER BEARING DETAIL
(EXPANSION)



VIEW B-B

(SEE SHEET 53 / 77 & 54 / 77 FOR DIMENSION C)

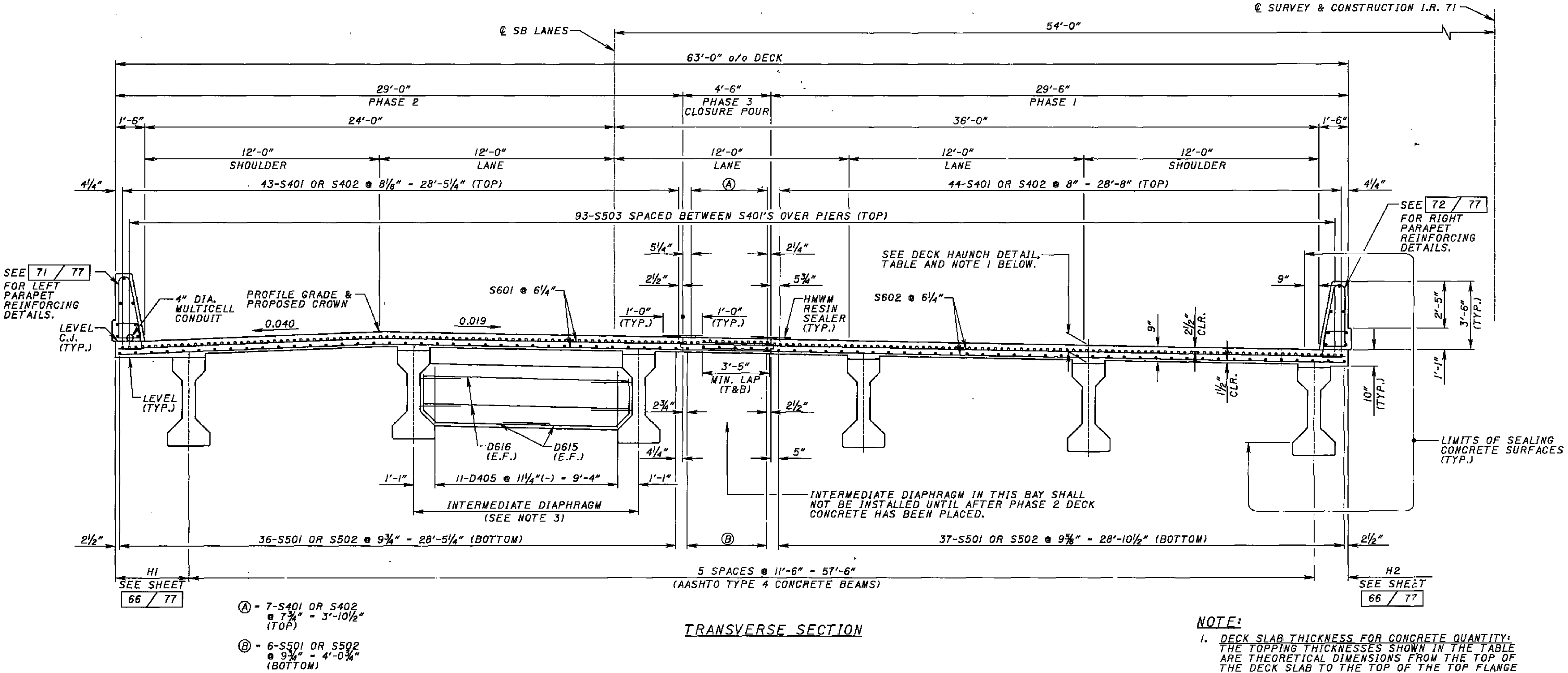
P:/PR30489/CADD/MED-71-0031/ME071sd9.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

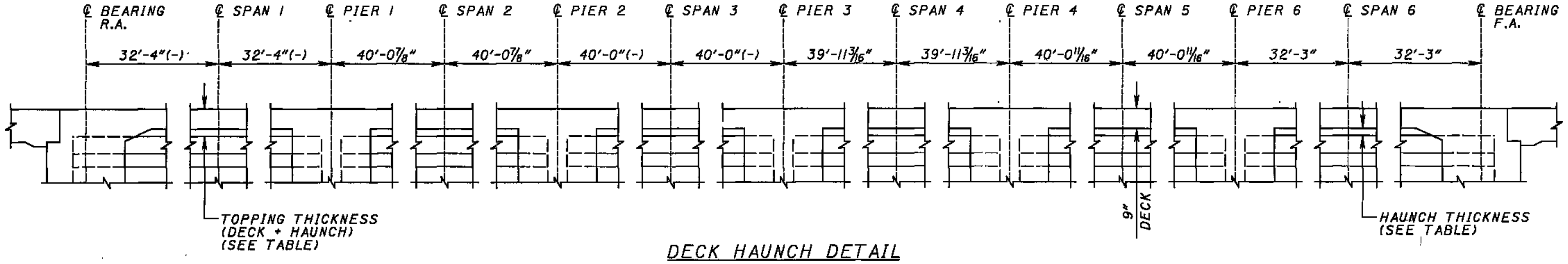
DATE 6/03
STRUCTURE FILE NUMBER 5202256-LEFT 5202280-RIGHT
REVIEWED CAS
DRAWN TTK
REVISED
DESIGNED TTK
CHECKED WTL

BEARING DETAILS
BRIDGE NO. MED-71-0031 L/R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00


℄ SURVEY & CONSTRUCTION I.R. 71
℄ SB LANES
54'-0"
63'-0" o/o DECK
29'-0"
PHASE 2
4'-6"
PHASE 3
CLOSURE POUR
29'-6"
PHASE 1
1'-6"
24'-0"
36'-0"
1'-6"
12'-0"
SHOULDER
12'-0"
LANE
12'-0"
LANE
12'-0"
LANE
12'-0"
SHOULDER
4¼"
43-S401 OR S402 @ 8⅛" = 28'-5¼" (TOP)
Ⓐ
44-S401 OR S402 @ 8" = 28'-8" (TOP)
4¼"
93-S503 SPACED BETWEEN S401'S OVER PIERS (TOP)
SEE 72 / 77 FOR RIGHT PARAPET REINFORCING DETAILS.
SEE 71 / 77 FOR LEFT PARAPET REINFORCING DETAILS.
5¼"
2¼"
2½"
5¾"
SEE DECK HAUNCH DETAIL, TABLE AND NOTE 1 BELOW.
9"
2'-5"
3'-6" (TYP.)
4" DIA. MULTICELL CONDUIT
PROFILE GRADE & PROPOSED CROWN
S601 @ 6¼"
1'-0" (TYP.)
1'-0" (TYP.)
HMWM RESIN SEALER (TYP.)
S602 @ 6¼"
LEVEL C.J. (TYP.)
0.040
0.019
9"
2½" CLR.
1'-1"
3'-5" MIN. LAP (T&B)
1½" CLR.
10" (TYP.)
LEVEL (TYP.)
2¾"
2½"
D616 (E.F.)
D615 (E.F.)
4¼"
5"
LIMITS OF SEALING CONCRETE SURFACES (TYP.)
1'-1"
11-D405 @ 11¼"(-) = 9'-4"
1'-1"
INTERMEDIATE DIAPHRAGM (SEE NOTE 3)
INTERMEDIATE DIAPHRAGM IN THIS BAY SHALL NOT BE INSTALLED UNTIL AFTER PHASE 2 DECK CONCRETE HAS BEEN PLACED.
2½"
36-S501 OR S502 @ 9¾" = 28'-5¼" (BOTTOM)
Ⓑ
37-S501 OR S502 @ 9⅝" = 28'-10½" (BOTTOM)
2½"
H1
SEE SHEET 66 / 77
5 SPACES @ 11'-6" = 57'-6"
(AASHTO TYPE 4 CONCRETE BEAMS)
H2
SEE SHEET 66 / 77
Ⓐ = 7-S401 OR S402 @ 7¾" = 3'-10½" (TOP)
Ⓑ = 6-S501 OR S502 @ 9¾" = 4'-0¾" (BOTTOM)

TRANSVERSE SECTION



DECK HAUNCH DETAIL
(SPAN LENGTHS MEASURED ALONG REFERENCE CHORD)

	DESCRIPTION	℄ BEARING R.A.	℄ SPAN 1	℄ PIER 1	℄ SPAN 2	℄ PIER 2	℄ SPAN 3	℄ PIER 3	℄ SPAN 4	℄ PIER 4	℄ SPAN 5	℄ PIER 5	℄ SPAN 6	℄ BEARING F.A.
ALL BEAMS	TOPPING THICKNESS	11⅛"	11"	11¹⁵⁄₁₆"	11"	11¹⁵⁄₁₆"	11"	12"	11"	12¹⁄₁₆"	11"	12¹⁄₁₆"	11"	11³⁄₁₆"
	HAUNCH THICKNESS	2⅛"	2"	2¹⁵⁄₁₆"	2"	2¹⁵⁄₁₆"	2"	3"	2"	3¹⁄₁₆"	2"	3¹⁄₁₆"	2"	2³⁄₁₆"

NOTE:

1. DECK SLAB THICKNESS FOR CONCRETE QUANTITY: THE TOPPING THICKNESSES SHOWN IN THE TABLE ARE THEORETICAL DIMENSIONS FROM THE TOP OF THE DECK SLAB TO THE TOP OF THE TOP FLANGE ALONG THE CENTERLINE OF THE I-BEAM. THE HAUNCH DEPTH IS THE TOPPING THICKNESS MINUS THE DESIGN SLAB THICKNESS. THE DEPARTMENT WILL PAY FOR SUPERSTRUCTURE CONCRETE BASED ON THE DESIGN SLAB THICKNESS AND THE AVERAGE OF THE THEORETICAL HAUNCH DEPTHS AT MID-SPAN AND AT EACH BEAM BEARING EVEN THOUGH DEVIATION FROM THE DIMENSIONS SHOWN MAY BE NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. ONCE ALL BEAMS ARE SET IN THEIR FINAL POSITION, THE ACTUAL CAMBER FOR EACH MEMBER WILL BE THE TOP OF THE BEAM ELEVATION AT MID-SPAN MINUS THE AVERAGE TOP OF BEAM ELEVATION AT EACH BEARING. THE ACTUAL TOPPING THICKNESS AT MID-SPAN WILL BE THE THEORETICAL DIMENSION PLUS OR MINUS THE DIFFERENCE BETWEEN THE ACTUAL AND ANTICIPATED CAMBER.

2. CAMBER: THE CALCULATED NET CAMBER DUE TO THE PRESTRESSING AND BEAM WEIGHT AT TIME OF ERECTION IS ¹⁵⁄₁₆" FOR SPANS 1 & 6 AND 1¹³⁄₁₆" FOR SPANS 2-5.

3. THE CONTRACTOR HAS THE OPTION OF STEEL OR CONCRETE INTERMEDIATE DIAPHRAGMS, SEE STD. DWG. PSID-1-99. THE CONCRETE DIAPHRAGM AND REINFORCING STEEL IS SHOWN FOR INFORMATION ONLY. INCLUDE THE COST OF THE INTERMEDIATE DIAPHRAGMS WITH ITEM 515 FOR PAYMENT.

4. SEE GENERAL NOTES (SHEET 5 / 77) FOR SEALING WITH HMWM RESIN NOTE.

LEGEND:

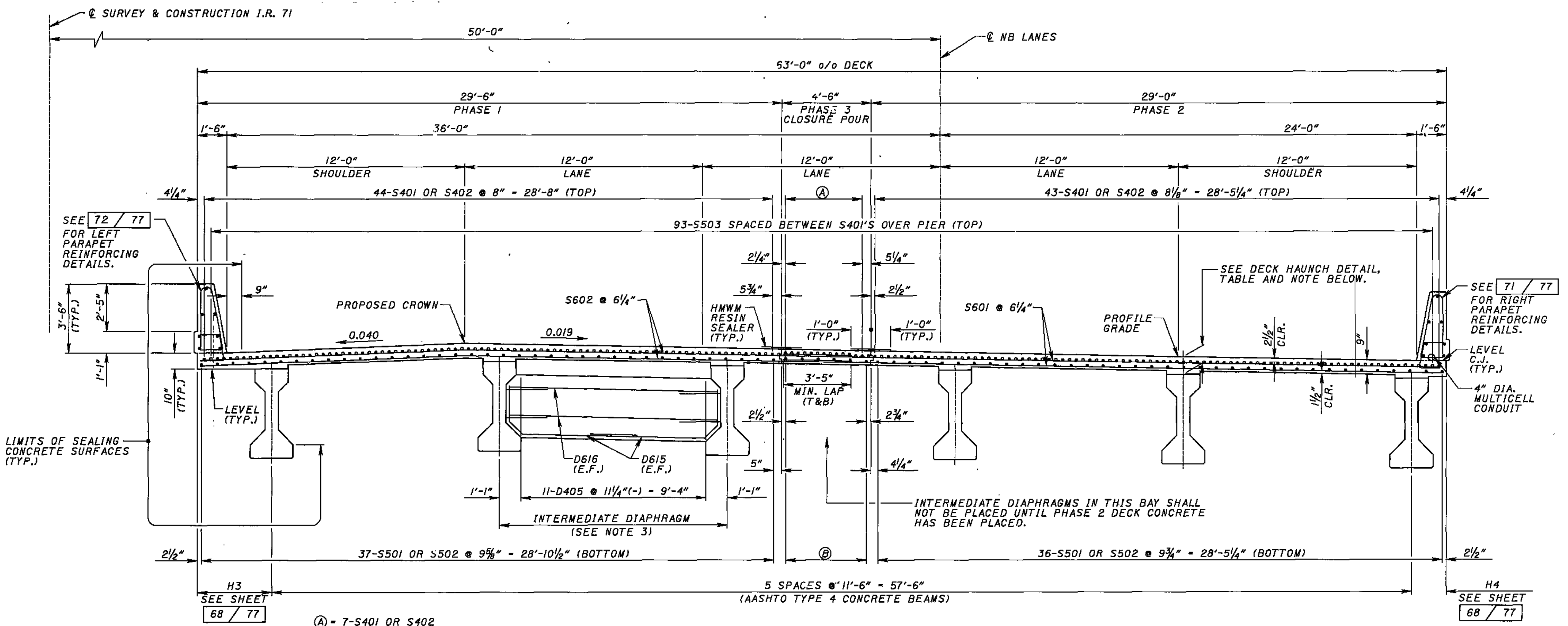
C.J. = CONSTRUCTION JOINT
CLR. = CLEAR
F.A. = FORWARD ABUTMENT
HMWM = HIGH MOLECULAR WEIGHT METHACRYLATE
R.A. = REAR ABUTMENT
T&B = TOP & BOTTOM

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	CPC	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202256-LEFT 5202280-RIGHT	

TRANSVERSE SECTION - SOUTHBOUND
BRIDGE NO. MED-71-0031 L
OVER ABANDONED RAILROAD

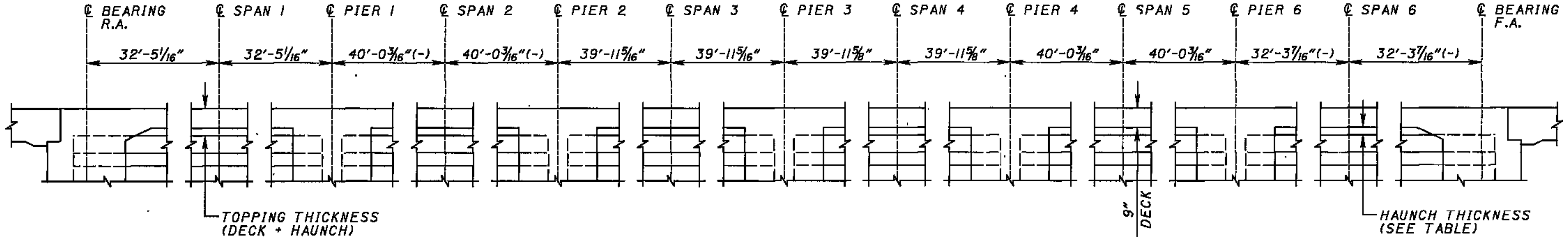
WAY/MED-71-7.04/0.00


℄ SURVEY & CONSTRUCTION I.R. 71
50'-0"
℄ NB LANES
63'-0" o/o DECK
29'-6" PHASE 1
4'-6" PHASE 3 CLOSURE POUR
29'-0" PHASE 2
1'-6"
36'-0"
24'-0"
1'-6"
12'-0" SHOULDER
12'-0" LANE
12'-0" LANE
12'-0" LANE
12'-0" SHOULDER
4¼"
44-S401 OR S402 @ 8" - 28'-8" (TOP)
Ⓐ
43-S401 OR S402 @ 8⅛" - 28'-5¼" (TOP)
4¼"
93-S503 SPACED BETWEEN S401'S OVER PIER (TOP)
SEE 72 / 77 FOR LEFT PARAPET REINFORCING DETAILS.
3'-6" (TYP.)
2'-5"
1'-1"
9"
PROPOSED CROWN
0.040
0.019
S602 @ 6¼"
2¼"
5¾"
HMWM RESIN SEALER (TYP.)
1'-0" (TYP.)
5¼"
2½"
1'-0" (TYP.)
S601 @ 6¼"
SEE DECK HAUNCH DETAIL, TABLE AND NOTE BELOW.
PROFILE GRADE
2½" CLR.
9"
SEE 71 / 77 FOR RIGHT PARAPET REINFORCING DETAILS.
LEVEL C.J. (TYP.)
4" DIA. MULTICELL CONDUIT
10" (TYP.)
LEVEL (TYP.)
3'-5" MIN. LAP (T&B)
2½"
2¾"
1½" CLR.
LIMITS OF SEALING CONCRETE SURFACES (TYP.)
D616 (E.F.)
D615 (E.F.)
5"
4¼"
1'-1"
11-D405 @ 11¼"(-) - 9'-4"
1'-1"
INTERMEDIATE DIAPHRAGM (SEE NOTE 3)
INTERMEDIATE DIAPHRAGMS IN THIS BAY SHALL NOT BE PLACED UNTIL PHASE 2 DECK CONCRETE HAS BEEN PLACED.
2½"
37-S501 OR S502 @ 9⅝" - 28'-10½" (BOTTOM)
Ⓑ
36-S501 OR S502 @ 9¾" - 28'-5¼" (BOTTOM)
2½"
H3 SEE SHEET 68 / 77
5 SPACES @ 11'-6" = 57'-6" (AASHTO TYPE 4 CONCRETE BEAMS)
H4 SEE SHEET 68 / 77

Ⓐ = 7-S401 OR S402 @ 7¾" - 3'-10½" (TOP)

Ⓑ = 6-S501 OR S502 @ 9¾" - 4'-0¾" (BOTTOM)

TRANSVERSE SECTION



DECK HAUNCH DETAIL

(SPAN LENGTHS MEASURED ALONG REFERENCE CHORD)

	DESCRIPTION	℄ BEARING R.A.	℄ SPAN 1	℄ PIER 1	℄ SPAN 2	℄ PIER 2	℄ SPAN 3	℄ PIER 3	℄ SPAN 4	℄ PIER 4	℄ SPAN 5	℄ PIER 5	℄ SPAN 6	℄ BEARING F.A.
ALL BEAMS	TOPPING THICKNESS	11⅛"	11"	11¹⁵⁄₁₆"	11"	11¹⁵⁄₁₆"	11"	11¹⁵⁄₁₆"	11"	11¹⁵⁄₁₆"	11"	11¹⁵⁄₁₆"	11"	11⅛"
	HAUNCH THICKNESS	2⅛"	2"	2¹⁵⁄₁₆"	2"	2¹⁵⁄₁₆"	2"	2¹⁵⁄₁₆"	2"	2¹⁵⁄₁₆"	2"	2¹⁵⁄₁₆"	2"	2⅛"

NOTE:

1. DECK SLAB THICKNESS FOR CONCRETE QUANTITY: THE TOPPING THICKNESSES SHOWN IN THE TABLE ARE THEORETICAL DIMENSIONS FROM THE TOP OF THE DECK SLAB TO THE TOP OF THE TOP FLANGE ALONG THE CENTERLINE OF THE I-BEAM. THE HAUNCH DEPTH IS THE TOPPING THICKNESS MINUS THE DESIGN SLAB THICKNESS. THE DEPARTMENT WILL PAY FOR SUPERSTRUCTURE CONCRETE BASED ON THE DESIGN SLAB THICKNESS AND THE AVERAGE OF THE THEORETICAL HAUNCH DEPTHS AT MID-SPAN AND AT EACH BEAM BEARING EVEN THOUGH DEVIATION FROM THE DIMENSIONS SHOWN MAY BE NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. ONCE ALL BEAMS ARE SET IN THEIR FINAL POSITION, THE ACTUAL CAMBER FOR EACH MEMBER WILL BE THE TOP OF THE BEAM ELEVATION AT MID-SPAN MINUS THE AVERAGE TOP OF BEAM ELEVATION AT EACH BEARING. THE ACTUAL TOPPING THICKNESS AT MID-SPAN WILL BE THE THEORETICAL DIMENSION PLUS OR MINUS THE DIFFERENCE BETWEEN THE ACTUAL AND ANTICIPATED CAMBER.
2. CAMBER: THE CALCULATED NET CAMBER DUE TO THE PRESTRESSING AND BEAM WEIGHT AT TIME OF ERECTION IS ¹⁵⁄₁₆" FOR SPANS 1 & 6 AND 1¹³⁄₁₆" FOR SPANS 2-5.
3. THE CONTRACTOR HAS THE OPTION OF STEEL OR CONCRETE INTERMEDIATE DIAPHRAGMS, SEE STD. DWG. PSID-1-99. THE CONCRETE DIAPHRAGM AND REINFORCING STEEL IS SHOWN FOR INFORMATION ONLY. INCLUDE THE COST OF THE INTERMEDIATE DIAPHRAGMS WITH ITEM 515 FOR PAYMENT.
4. SEE GENERAL NOTES (SHEET 5 / 77) FOR SEALING WITH HMWM RESIN NOTE.

LEGEND:

C.J. - CONSTRUCTION JOINT
CLR. - CLEAR
F.A. - FORWARD ABUTMENT
HMWM - HIGH MOLECULAR WEIGHT METHACRYLATE
R.A. - REAR ABUTMENT
T&B - TOP & BOTTOM

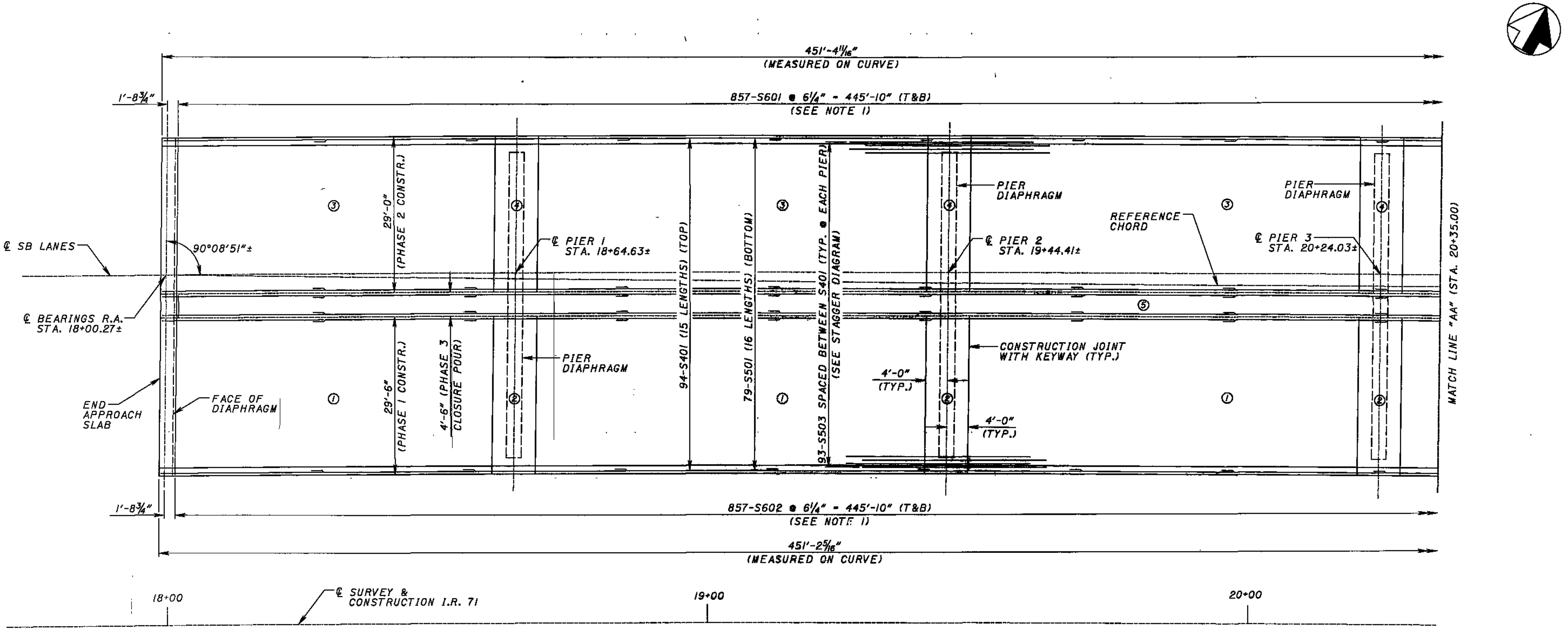
P:/PR30489/CADD/MED-71-0031/ME071ts2.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	CRC	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202256-LEFT 5202280-RIGHT	

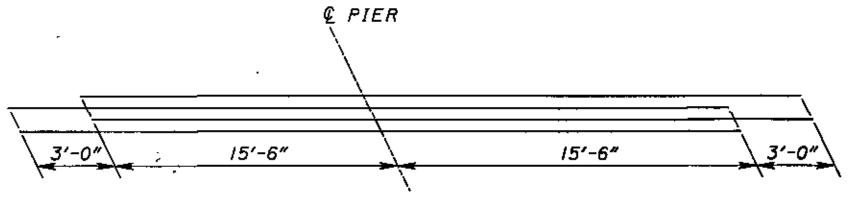
TRANSVERSE SECTION - NORTHBOUND
BRIDGE NO. MED-71-0031 R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00



DECK SLAB PLAN

(PARAPET REINFORCING NOT SHOWN)



STAGGER DIAGRAM FOR S503 BARS OVER PIERS

LEGEND:

CONSTR. - CONSTRUCTION
R.A. - REAR ABUTMENT
T&B - TOP & BOTTOM

NOTES:

1. ALL SPACING FOR #6 TRANSVERSE BARS ARE MEASURED ALONG REFERENCE CHORD.
2. SEE SHEET 71 / 77 AND 72 / 77 FOR PARAPET REINFORCING.
3. MINIMUM STEEL LAP LENGTHS:
   - #4 BAR = 1'-11"
   - #5 BAR = 3'-2"
   - #6 BAR = 3'-10"
4. THE ENCIRCLED NUMBERS INDICATE THE SEQUENCE FOR PLACING THE SLAB SECTIONS. IDENTICALLY NUMBERED PLACEMENTS MAY BE MADE SIMULTANEOUSLY OR SEPARATELY. DECK PLACEMENTS SHALL BE MADE IN THE SEQUENCE SHOWN. POURS ① AND ③ IN SPANS 1 AND 3 SHALL INCLUDE THE ABUTMENT END DIAPHRAGMS AND DECK CONCRETE. POURS ② AND ④ SHALL INCLUDE THE PIER DIAPHRAGMS AND DECK CONCRETE. POUR ⑤ SHALL INCLUDE ABUTMENT END DIAPHRAGMS, PIER DIAPHRAGMS AND DECK CONCRETE. SEE DETAIL "A" ON SHEET 7 / 77 FOR KEYWAY AT CONSTRUCTION JOINTS. SEAL CONSTRUCTION JOINTS WITH HMWM RESIN (SEE NOTE ON SHEET 5 / 77).

   CONTINUOUS DECK POUR PROCEDURES, WHICH PROCEED FROM END TO END OF THE BRIDGE AND PLACE THE ABUTMENT END DIAPHRAGM AND PIER DIAPHRAGM CONCRETE CONCURRENTLY WITH THE DECK CONCRETE, MAY BE APPROVED BY THE DIRECTOR IF THE PLACEMENT SUBMITTAL CAN ASSURE THAT THE DECK CONCRETE IN ADJACENT SPANS WILL BE PLACED BEFORE THE DIAPHRAGM CONCRETE HAS REACHED ITS INITIAL SET.

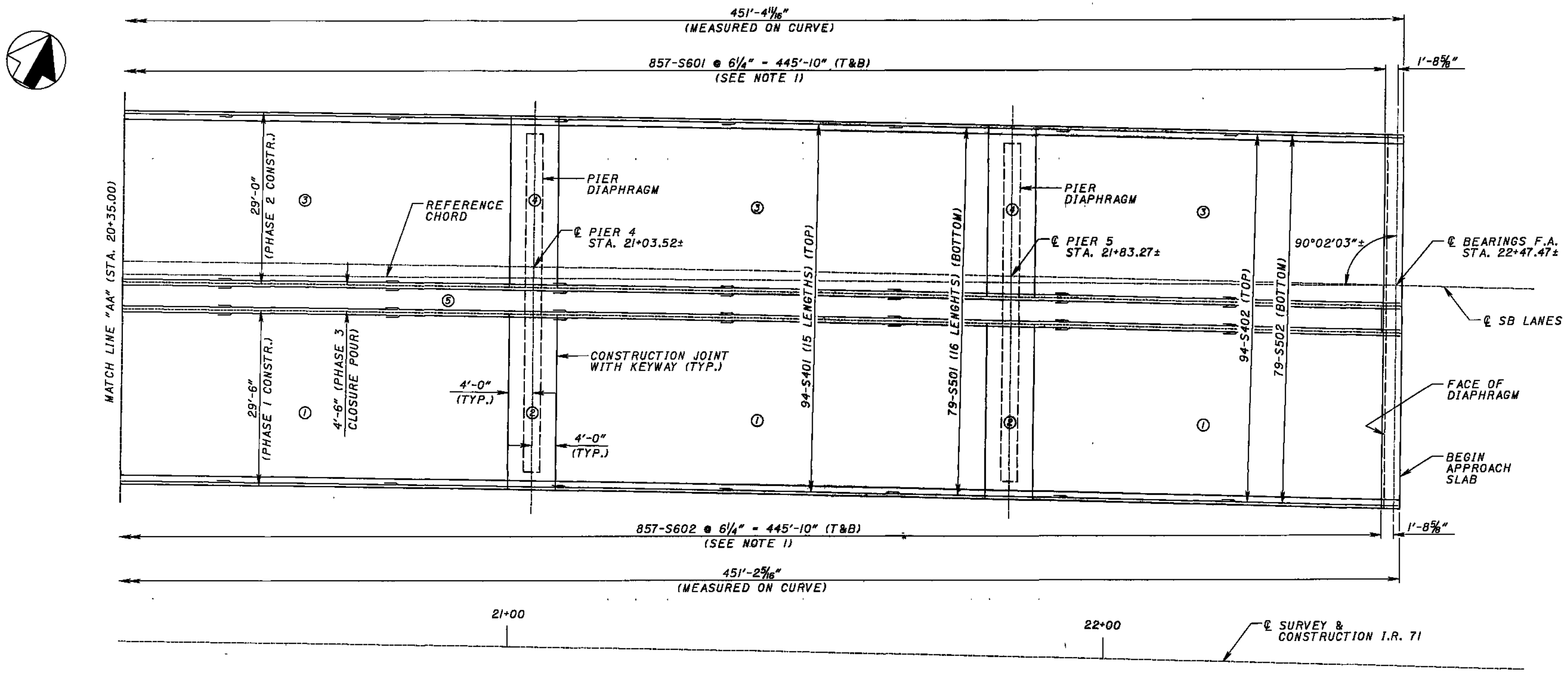
P:/PR30489/CADD/MED-71-0031/ME071sd4.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	CRC	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202256-LEFT 5202280-RIGHT	

DECK SLAB PLAN 1 - SOUTHBOUND
BRIDGE NO. MED-71-0031 L
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00



DECK SLAB PLAN
(PARAPET REINFORCING NOT SHOWN)

DECK OVERHANGS													
LOCATION	℄ BEARINGS R.A.	MIDSPAN	℄ PIER 1	MIDSPAN	℄ PIER 2	MIDSPAN	℄ PIER 3	MIDSPAN	℄ PIER 4	MIDSPAN	℄ PIER 5	MIDSPAN	℄ BEARINGS F.A.
H1	1'-7 1/16"	2'-2 1/16"	2'-8"	3'-1 13/16"	3'-6"	3'-8 7/16"	3'-9 5/16"	3'-8 7/16"	3'-5 15/16"	3'-1 13/16"	2'-7 15/16"	2'-2 1/16"	1'-7 1/16"
H2	3'-11 1/16"	3'-4"	2'-10 1/16"	2'-4 1/4"	2'-0 1/16"	1'-9 9/16"	1'-8 11/16"	1'-9 9/16"	2'-0 1/16"	2'-4 1/4"	2'-10 1/8"	3'-4 1/16"	3'-11 1/16"

LEGEND:

CONSTR. = CONSTRUCTION
F.A. = FORWARD ABUTMENT
R.A. = REAR ABUTMENT
T&B = TOP & BOTTOM

NOTES:

1. ALL SPACING FOR #6 TRANSVERSE BARS ARE MEASURED ALONG REFERENCE CHORD.
2. SEE SHEET 71 / 77 AND 72 / 77 FOR PARAPET REINFORCING.
3. MINIMUM STEEL LAP LENGTHS:
   #4 BAR = 1'-11"
   #5 BAR = 3'-2"
   #6 BAR = 3'-10"
4. THE ENCIRCLED NUMBERS INDICATE THE SEQUENCE FOR PLACING THE SLAB SECTIONS. IDENTICALLY NUMBERED PLACEMENTS MAY BE MADE SIMULTANEOUSLY OR SEPARATELY. DECK PLACEMENTS SHALL BE MADE IN THE SEQUENCE SHOWN. POURS ① AND ③ IN SPANS 1 AND 3 SHALL INCLUDE THE ABUTMENT END DIAPHRAGMS AND DECK CONCRETE. POURS ② AND ④ SHALL INCLUDE THE PIER DIAPHRAGMS AND DECK CONCRETE. POUR ⑤ SHALL INCLUDE ABUTMENT END DIAPHRAGMS, PIER DIAPHRAGMS AND DECK CONCRETE. SEE DETAIL "A" ON SHEET 7 / 77 FOR KEYWAY AT CONSTRUCTION JOINTS. SEAL CONSTRUCTION JOINTS WITH HMWM RESIN (SEE NOTE ON SHEET 5 / 77).

   CONTINUOUS DECK POUR PROCEDURES, WHICH PROCEED FROM END TO END OF THE BRIDGE AND PLACE THE ABUTMENT END DIAPHRAGM AND PIER DIAPHRAGM CONCRETE CONCURRENTLY WITH THE DECK CONCRETE, MAY BE APPROVED BY THE DIRECTOR IF THE PLACEMENT SUBMITTAL CAN ASSURE THAT THE DECK CONCRETE IN ADJACENT SPANS WILL BE PLACED BEFORE THE DIAPHRAGM CONCRETE HAS REACHED ITS INITIAL SET.

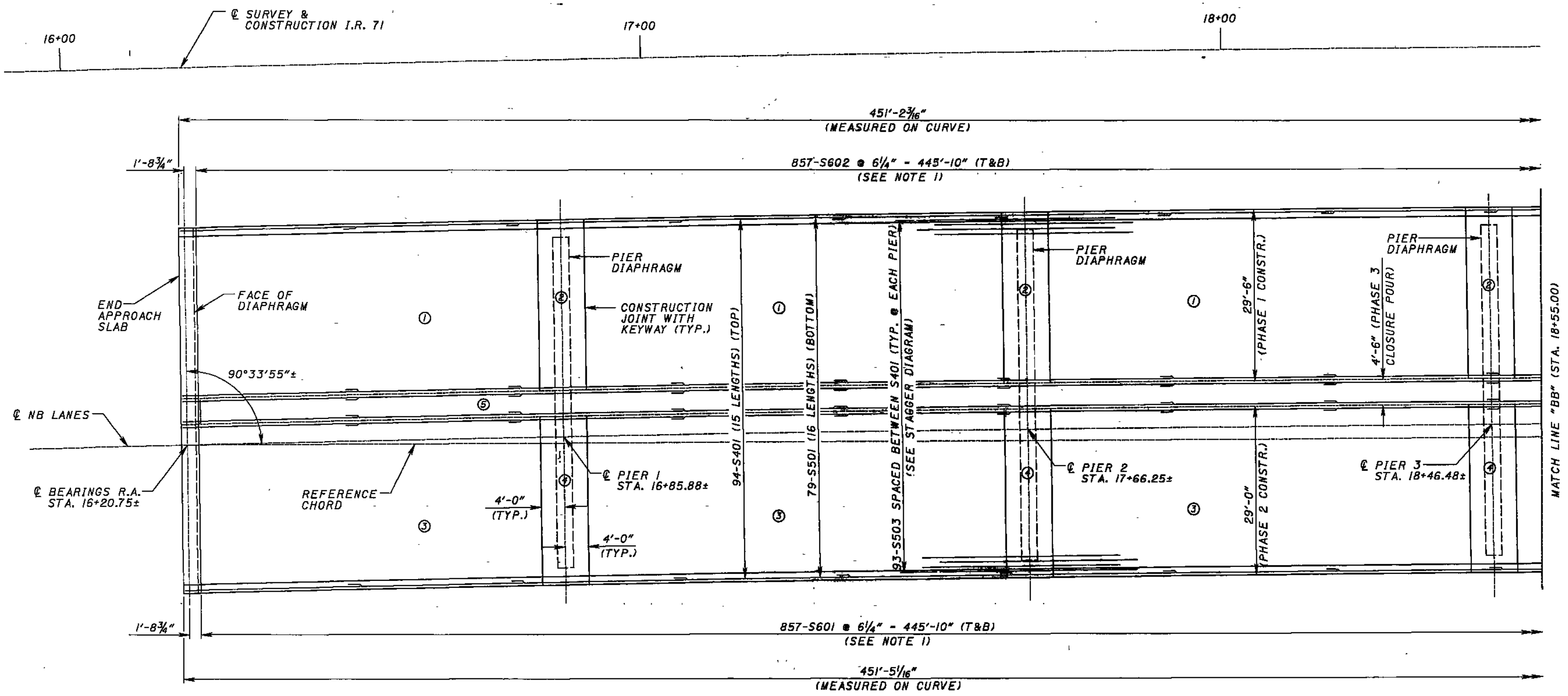
P:/PR30489/CADD/MED-71-0031/ME071sd5.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	CRC	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202256-LEFT 5202280-RIGHT	

DECK SLAB PLAN 2 - SOUTHBOUND
BRIDGE NO. MED-71-0031 L
OVER ABANDONED RAILROAD

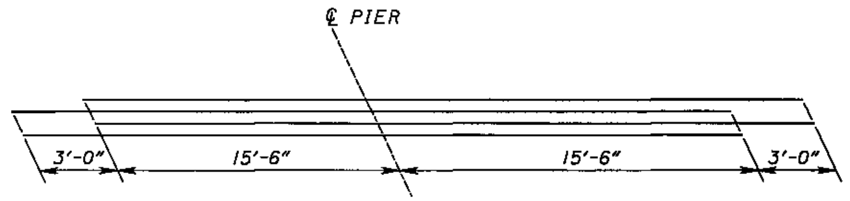
WAY/MED-71-7.04/0.00



16+00
17+00
18+00
℄ SURVEY & CONSTRUCTION I.R. 71
451'-2$\frac{3}{16}$" (MEASURED ON CURVE)
1'-8¾"
857-S602 @ 6¼" - 445'-10" (T&B) (SEE NOTE 1)
END APPROACH SLAB
FACE OF DIAPHRAGM
PIER DIAPHRAGM
CONSTRUCTION JOINT WITH KEYWAY (TYP.)
90°33'55"±
℄ NB LANES
℄ BEARINGS R.A. STA. 16+20.75±
REFERENCE CHORD
4'-0" (TYP.)
℄ PIER 1 STA. 16+85.88±
94-S401 (15 LENGTHS) (TOP)
79-S501 (16 LENGTHS) (BOTTOM)
93-S503 SPACED BETWEEN S401 (TYP. @ EACH PIER) (SEE STAGGER DIAGRAM)
℄ PIER 2 STA. 17+66.25±
29'-6" (PHASE 1 CONSTR.)
29'-0" (PHASE 2 CONSTR.)
4'-6" (PHASE 3 CLOSURE POUR)
℄ PIER 3 STA. 18+46.48±
MATCH LINE "BB" (STA. 18+55.00)
857-S601 @ 6¼" - 445'-10" (T&B) (SEE NOTE 1)
451'-5$\frac{1}{16}$" (MEASURED ON CURVE)
①
②
③
④
⑤

DECK SLAB PLAN

(PARAPET REINFORCING NOT SHOWN)



STAGGER DIAGRAM FOR S503 BARS OVER PIERS

LEGEND:

CONSTR. - CONSTRUCTION
R.A. - REAR ABUTMENT
T&B - TOP & BOTTOM

NOTES:

1. ALL SPACING FOR #6 TRANSVERSE BARS ARE MEASURED ALONG REFERENCE CHORD.
2. SEE SHEET 71 / 77 AND 72 / 77 FOR PARAPET REINFORCING.
3. MINIMUM STEEL LAP LENGTHS:

   #4 BAR - 1'-11"
   #5 BAR - 3'-2"
   #6 BAR - 3'-10"

4. THE ENCIRCLED NUMBERS INDICATE THE SEQUENCE FOR PLACING THE SLAB SECTIONS. IDENTICALLY NUMBERED PLACEMENTS MAY BE MADE SIMULTANEOUSLY OR SEPARATELY. DECK PLACEMENTS SHALL BE MADE IN THE SEQUENCE SHOWN. POURS ① AND ③ IN SPANS 1 AND 3 SHALL INCLUDE THE ABUTMENT END DIAPHRAGMS AND DECK CONCRETE. POURS ② AND ④ SHALL INCLUDE THE PIER DIAPHRAGMS AND DECK CONCRETE. POUR ⑤ SHALL INCLUDE ABUTMENT END DIAPHRAGMS, PIER DIAPHRAGMS AND DECK CONCRETE. SEE DETAIL "A" ON SHEET 9 / 77 FOR KEYWAY AT CONSTRUCTION JOINTS. SEAL CONSTRUCTION JOINTS WITH HMWM RESIN (SEE NOTE ON SHEET 5 / 77).

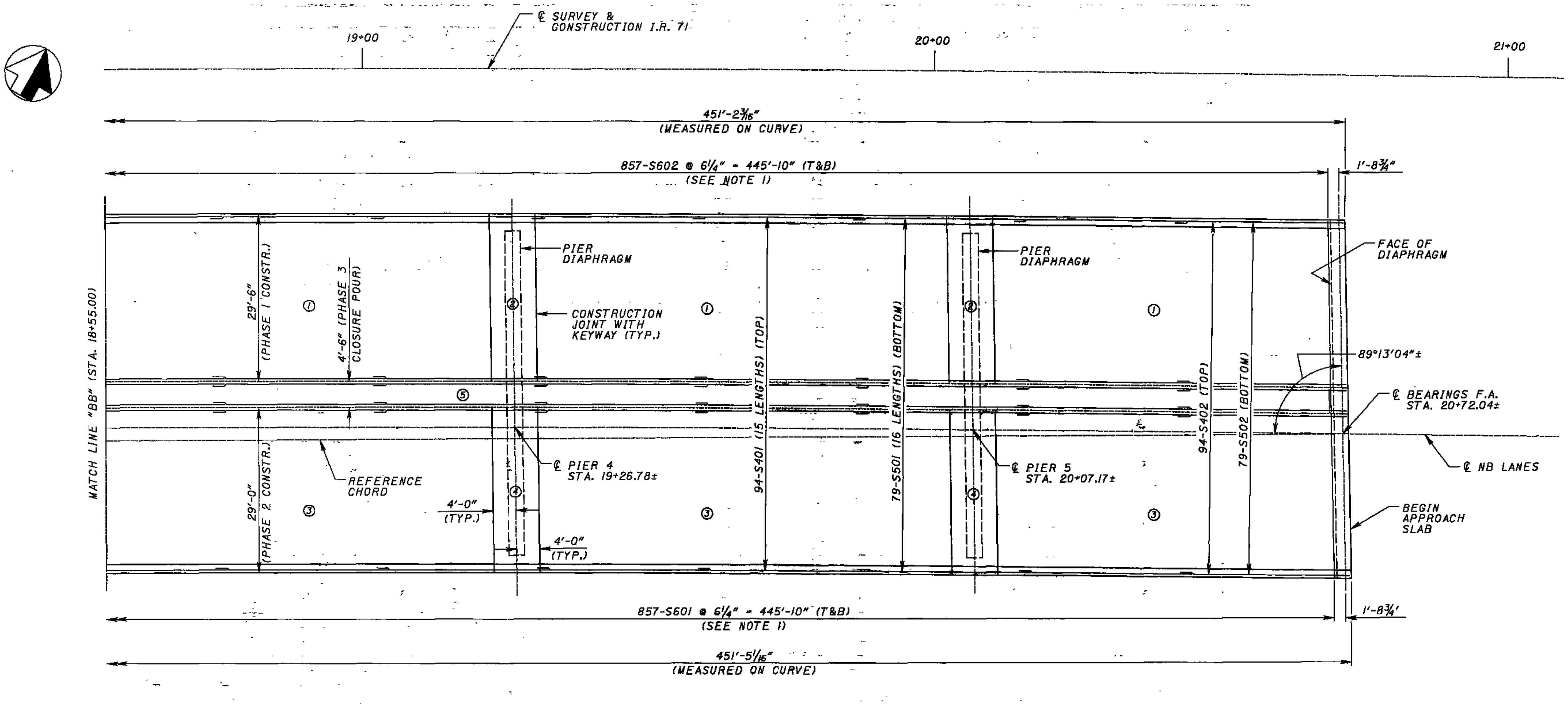
   CONTINUOUS DECK POUR PROCEDURES, WHICH PROCEED FROM END TO END OF THE BRIDGE AND PLACE THE ABUTMENT END DIAPHRAGM AND PIER DIAPHRAGM CONCRETE CONCURRENTLY WITH THE DECK CONCRETE, MAY BE APPROVED BY THE DIRECTOR IF THE PLACEMENT SUBMITTAL CAN ASSURE THAT THE DECK CONCRETE IN ADJACENT SPANS WILL BE PLACED BEFORE THE DIAPHRAGM CONCRETE HAS REACHED ITS INITIAL SET.

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	CRC	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202256-LEFT 5202280-RIGHT	

DECK SLAB PLAN 1 - NORTHBOUND
BRIDGE NO. MED-71-0031 R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00


℄ SURVEY & CONSTRUCTION I.R. 71
19+00
20+00
21+00
451'-2 3/16" (MEASURED ON CURVE)
857-S602 @ 6¼" = 445'-10" (T&B) (SEE NOTE 1)
1'-8¾"
PIER DIAPHRAGM
CONSTRUCTION JOINT WITH KEYWAY (TYP.)
PIER DIAPHRAGM
FACE OF DIAPHRAGM
89°13'04"±
℄ BEARINGS F.A. STA. 20+72.04±
℄ NB LANES
BEGIN APPROACH SLAB
MATCH LINE "BB" (STA. 18+55.00)
29'-6" (PHASE 1 CONSTR.)
4'-6" (PHASE 3 CLOSURE POUR)
29'-0" (PHASE 2 CONSTR.)
REFERENCE CHORD
4'-0" (TYP.)
4'-0" (TYP.)
℄ PIER 4 STA. 19+26.78±
℄ PIER 5 STA. 20+07.17±
94-S401 (15 LENGTHS) (TOP)
79-S501 (16 LENGTHS) (BOTTOM)
94-S402 (TOP)
79-S502 (BOTTOM)
①
②
③
④
⑤
857-S601 @ 6¼" = 445'-10" (T&B) (SEE NOTE 1)
1'-8¾'
451'-5 1/16" (MEASURED ON CURVE)

DECK SLAB PLAN
(PARAPET REINFORCING NOT SHOWN)

DECK OVERHANGS													
LOCATION	℄ BEARINGS R.A.	MIDSPAN	℄ PIER 1	MIDSPAN	℄ PIER 2	MIDSPAN	℄ PIER 3	MIDSPAN	℄ PIER 4	MIDSPAN	℄ PIER 5	MIDSPAN	℄ BEARINGS F.A.
H3	1'-6½"	2'-1 9/16"	2'-7 9/16"	3'-1 7/16"	3'-5 11/16"	3'-8 3/16"	3'-9"	3'-8 3/16"	3'-5 11/16"	3'-1½"	2'-7 11/16"	2'-1¾"	1'-6 11/16"
H4	3'-11½"	3'-4⅜"	2'-10⅜"	2'-4½"	2'-0 5/16"	1'-9 13/16"	1'-9"	1'-9 13/16"	2'-0⅜"	2'-4⅝"	2'-10½"	3'-4½"	3'-11⅝"

LEGEND:

CONSTR. = CONSTRUCTION
F.A. = FORWARD ABUTMENT
R.A. = REAR ABUTMENT
T&B = TOP & BOTTOM

NOTES:

1. ALL SPACING FOR #6 TRANSVERSE BARS ARE MEASURED ALONG REFERENCE CHORD.
2. SEE SHEET 71 / 77 AND 72 / 77 FOR PARAPET REINFORCING.
3. MINIMUM STEEL LAP LENGTHS:
   - #4 BAR = 1'-11"
   - #5 BAR = 3'-2"
   - #6 BAR = 3'-10"
4. THE ENCIRCLED NUMBERS INDICATE THE SEQUENCE FOR PLACING THE SLAB SECTIONS. IDENTICALLY NUMBERED PLACEMENTS MAY BE MADE SIMULTANEOUSLY OR SEPARATELY. DECK PLACEMENTS SHALL BE MADE IN THE SEQUENCE SHOWN. POURS ① AND ③ IN SPANS 1 AND 3 SHALL INCLUDE THE ABUTMENT END DIAPHRAGMS AND DECK CONCRETE. POURS ② AND ④ SHALL INCLUDE THE PIER DIAPHRAGMS AND DECK CONCRETE. POUR ⑤ SHALL INCLUDE ABUTMENT END DIAPHRAGMS, PIER DIAPHRAGMS AND DECK CONCRETE. SEE DETAIL "A" ON SHEET 9 / 77 FOR KEYWAY AT CONSTRUCTION JOINTS. SEAL CONSTRUCTION JOINTS WITH HMWM RESIN (SEE NOTE ON SHEET 5 / 77).

   CONTINUOUS DECK POUR PROCEDURES, WHICH PROCEED FROM END TO END OF THE BRIDGE AND PLACE THE ABUTMENT END DIAPHRAGM AND PIER DIAPHRAGM CONCRETE CONCURRENTLY WITH THE DECK CONCRETE, MAY BE APPROVED BY THE DIRECTOR IF THE PLACEMENT SUBMITTAL CAN ASSURE THAT THE DECK CONCRETE IN ADJACENT SPANS WILL BE PLACED BEFORE THE DIAPHRAGM CONCRETE HAS REACHED ITS INITIAL SET.

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	CRC	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202256-LEFT 5202280-RIGHT	

DECK SLAB PLAN 2 - NORTHBOUND
BRIDGE NO. MED-71-0031 R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

68 / 77

550 / 785

P:/PR30489/CADD/MED-71-0031/MED071sd7.DGN

SOUTHBOUND SCREED TABLE

	LEFT TOE OF PARAPET		B1		CROWN		B2		B3		LEFT PHASE C.J.		RIGHT PHASE C.J.		B4		B5		B6		RIGHT TOE OF PARAPET	
LOCATION	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
℄ BEARINGS R.A.	18+00.67	938.48	18+00.67	938.49	18+00.47	938.97	18+00.48	938.95	18+00.28	938.76	18+00.21	938.68	18+00.13	938.60	18+00.09	938.55	17+99.90	938.33	17+99.70	938.12	17+99.66	938.08
1/4 SPAN	18+16.42	938.15	18+16.41	938.17	18+16.23	938.64	18+16.23	938.63	18+16.05	938.43	18+15.98	938.35	18+15.91	938.26	18+15.87	938.21	18+15.69	938.00	18+15.50	937.78	18+15.47	937.74
MIDSPAN	18+32.16	937.81	18+32.16	937.84	18+31.99	938.30	18+31.99	938.29	18+31.82	938.08	18+31.76	938.01	18+31.69	937.92	18+31.65	937.86	18+31.48	937.65	18+31.31	937.43	18+31.28	937.40
3/4 SPAN	18+47.91	937.45	18+47.90	937.48	18+47.75	937.93	18+47.74	937.92	18+47.58	937.71	18+47.53	937.64	18+47.47	937.56	18+47.43	937.49	18+47.27	937.28	18+47.11	937.06	18+47.09	937.03
℄ BEARINGS LINE 1	18+63.66	937.07	18+63.64	937.12	18+63.51	937.56	18+63.50	937.55	18+63.35	937.33	18+63.31	937.27	18+63.25	937.18	18+63.21	937.11	18+63.06	936.90	18+62.91	936.68	18+62.90	936.66

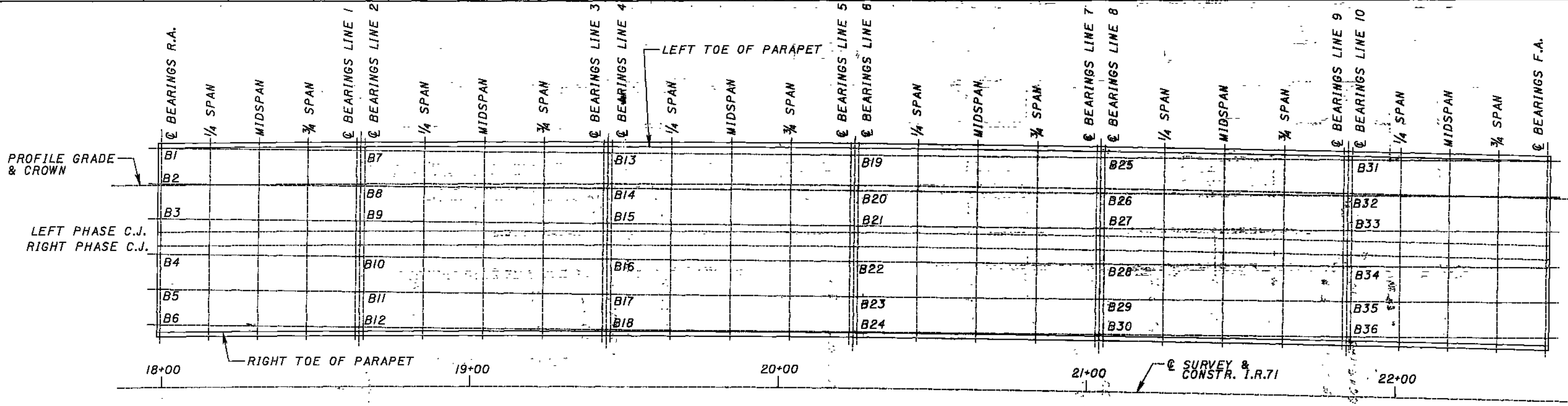
	LEFT TOE OF PARAPET		B7		CROWN		B8		B9		LEFT PHASE C.J.		RIGHT PHASE C.J.		B10		B11		B12		RIGHT TOE OF PARAPET	
LOCATION	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
℄ BEARINGS LINES 2	18+66.28	937.02	18+66.27	937.06	18+66.13	937.50	18+66.12	937.49	18+65.98	937.27	18+65.94	937.21	18+65.88	937.12	18+65.84	937.06	18+65.69	936.84	18+65.55	936.62	18+65.53	936.60
1/4 SPAN	18+85.51	936.63	18+85.49	936.69	18+85.38	937.11	18+85.37	937.10	18+85.25	936.88	18+85.21	936.82	18+85.16	936.74	18+85.12	936.67	18+85.00	936.45	18+84.87	936.23	18+84.86	936.21
MIDSPAN	19+04.74	936.22	19+04.72	936.29	19+04.63	936.71	19+04.62	936.68	19+04.51	936.47	19+04.49	936.41	19+04.45	936.33	19+04.41	936.25	19+04.30	936.04	19+04.20	935.82	19+04.19	935.80
3/4 SPAN	19+23.97	935.77	19+23.95	935.84	19+23.88	936.25	19+23.87	936.23	19+23.78	936.01	19+23.76	935.96	19+23.73	935.87	19+23.70	935.79	19+23.61	935.58	19+23.52	935.36	19+23.52	935.35
℄ BEARINGS LINES 3	19+43.20	935.29	19+43.19	935.37	19+43.13	935.77	19+43.12	935.75	19+43.05	935.53	19+43.04	935.48	19+43.01	935.40	19+42.99	935.31	19+42.92	935.09	19+42.85	934.88	19+42.85	934.87

	LEFT TOE OF PARAPET		B13		CROWN		B14		B15		LEFT PHASE C.J.		RIGHT PHASE C.J.		B16		B17		B18		RIGHT TOE OF PARAPET	
LOCATION	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
℄ BEARINGS LINES 4	19+45.82	935.23	19+45.81	935.31	19+45.76	935.71	19+45.75	935.69	19+45.69	935.47	19+45.67	935.42	19+45.65	935.34	19+45.62	935.25	19+45.56	935.04	19+45.49	934.82	19+45.49	934.81
1/4 SPAN	19+65.05	934.85	19+65.05	934.93	19+65.00	935.33	19+65.00	935.30	19+64.95	935.08	19+64.94	935.04	19+64.92	934.95	19+64.90	934.86	19+64.85	934.65	19+64.81	934.43	19+64.80	934.42
MIDSPAN	19+84.28	934.44	19+84.28	934.53	19+84.25	934.92	19+84.25	934.89	19+84.21	934.67	19+84.21	934.63	19+84.20	934.54	19+84.18	934.45	19+84.15	934.24	19+84.12	934.02	19+84.12	934.01
3/4 SPAN	20+03.51	933.99	20+03.51	934.08	20+03.50	934.47	20+03.49	934.43	20+03.48	934.22	20+03.48	934.17	20+03.47	934.09	20+03.46	934.00	20+03.45	933.78	20+03.43	933.56	20+03.43	933.56
℄ BEARINGS LINES 5	20+22.74	933.51	20+22.74	933.60	20+22.74	933.99	20+22.74	933.96	20+22.74	933.74	20+22.74	933.70	20+22.75	933.61	20+22.75	933.52	20+22.75	933.30	20+22.75	933.08	20+22.75	933.08

	LEFT TOE OF PARAPET		B19		CROWN		B20		B21		LEFT PHASE C.J.		RIGHT PHASE C.J.		B22		B23		B24		RIGHT TOE OF PARAPET	
LOCATION	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
℄ BEARINGS LINES 6	20+25.23	933.45	20+25.23	933.55	20+25.23	933.93	20+25.23	933.90	20+25.24	933.68	20+25.24	933.64	20+25.24	933.55	20+25.24	933.46	20+25.25	933.25	20+25.25	933.03	20+25.25	933.02
1/4 SPAN	20+44.46	933.07	20+44.46	933.16	20+44.48	933.55	20+44.49	933.52	20+44.51	933.30	20+44.51	933.25	20+44.52	933.17	20+44.53	933.08	20+44.56	932.86	20+44.58	932.64	20+44.58	932.64
MIDSPAN	20+63.69	932.66	20+63.70	932.75	20+63.73	933.14	20+63.74	933.11	20+63.78	932.89	20+63.79	932.85	20+63.80	932.76	20+63.82	932.67	20+63.86	932.45	20+63.91	932.23	20+63.91	932.23
3/4 SPAN	20+82.92	932.22	20+82.93	932.30	20+82.98	932.70	20+82.99	932.67	20+83.05	932.45	20+83.06	932.40	20+83.09	932.31	20+83.11	932.23	20+83.17	932.01	20+83.24	931.79	20+83.24	931.78
℄ BEARINGS LINES 7	21+02.14	931.75	21+02.16	931.83	21+02.23	932.23	21+02.24	932.20	21+02.32	931.98	21+02.34	931.93	21+02.37	931.85	21+02.40	931.76	21+02.48	931.54	21+02.56	931.32	21+02.57	931.31

	LEFT TOE OF PARAPET		B25		CROWN		B26		B27		LEFT PHASE C.J.		RIGHT PHASE C.J.		B28		B29		B30		RIGHT TOE OF PARAPET	
LOCATION	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
℄ BEARINGS LINES 8	21+04.69	931.70	21+04.70	931.78	21+04.77	932.18	21+04.78	932.15	21+04.87	931.93	21+04.89	931.88	21+04.92	931.79	21+04.95	931.71	21+05.04	931.49	21+05.12	931.27	21+05.12	931.26
1/4 SPAN	21+23.92	931.33	21+23.93	931.41	21+24.02	931.81	21+24.03	931.79	21+24.13	931.57	21+24.16	931.51	21+24.20	931.43	21+24.24	931.35	21+24.34	931.12	21+24.44	930.90	21+24.44	930.89
MIDSPAN	21+43.15	930.95	21+43.16	931.02	21+43.27	931.43	21+43.28	931.41	21+43.40	931.19	21+43.43	931.13	21+43.48	931.05	21+43.52	930.97	21+43.64	930.74	21+43.76	930.52	21+43.76	930.51
3/4 SPAN	21+62.38	930.53	21+62.39	930.59	21+62.52	931.01	21+62.53	930.99	21+62.66	930.77	21+62.70	930.71	21+62.75	930.62	21+62.80	930.55	21+62.94	930.33	21+63.07	930.10	21+63.09	930.08
℄ BEARINGS LINES 9	21+81.61	930.09	21+81.62	930.14	21+81.77	930.57	21+81.78	930.55	21+81.93	930.33	21+81.97	930.27	21+82.03	930.18	21+82.08	930.11	21+82.24	929.89	21+82.39	929.67	21+82.41	929.64

	LEFT TOE OF PARAPET		B31		CROWN		B32		B33		LEFT PHASE C.J.		RIGHT PHASE C.J.		B34		B35		B36		RIGHT TOE OF PARAPET	
LOCATION	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
℄ BEARINGS LINES 10	21+84.23	930.04	21+84.25	930.08	21+84.39	930.51	21+84.40	930.50	21+84.56	930.28	21+84.60	930.22	21+84.66	930.13	21+84.71	930.06	21+84.87	929.84	21+85.03	929.62	21+85.05	929.59
1/4 SPAN	21+99.93	929.74	21+99.94	929.78	22+00.11	930.22	22+00.11	930.21	22+00.28	929.99	22+00.34	929.92	22+00.40	929.83	22+00.45	929.77	22+00.63	929.54	22+00.80	929.32	22+00.82	929.29
MIDSPAN	22+15.62	929.44	22+15.64	929.47	22+15.82	929.92	22+15.82	929.91	22+16.01	929.69	22+16.07	929.62	22+16.14	929.53	22+16.19	929.47	22+16.38	929.25	22+16.57	929.03	22+16.60	928.99
3/4 SPAN	22+31.32	929.12	22+31.33	929.14	22+31.53	929.60	22+31.53	929.59	22+31.73	929.38	22+31.80	929.30	22+31.88	929.21	22+31.93	929.16	22+32.13	928.93	22+32.34	928.71	22+32.37	928.67
℄ BEARINGS F.A.	22+47.02	928.80	22+47.02	928.80	22+47.25	929.27	22+47.24	929.26	22+47.45	929.06	22+47.54	928.97	22+47.62	928.89	22+47.67	928.84	22+47.89	928.61	22+48.10	928.39	22+48.15	928.34



SCREED DIAGRAM

LEGEND:

B_ - BEAM NUMBER
C.J. - CONSTRUCTION JOINT
F.A. - FORWARD ABUTMENT
R.A. - REAR ABUTMENT

NOTE:

1. SCREED ELEVATIONS SHOWN ARE FOR THE TOP OF DECK SLAB PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR ANTICIPATED DEAD LOAD DEFLECTIONS.

P:/PR30489/CADD/MED-71-0031/ME071sda.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE	STRUCTURE FILE NUMBER
TTK	WTL	CRC		CAS	6/03	5202256-LEFT 5202280-RIGHT

SCREED TABLE - SOUTHBOUND
BRIDGE NO. MED-71-0031 L
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

NORTHBOUND SCREED TABLE

	LEFT TOE OF PARAPET		B37		CROWN		B38		B39		LEFT PHASE C.J.		RIGHT PHASE C.J.		B40		B41		B42		RIGHT TOE OF PARAPET	
LOCATION	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
℄ BEARINGS R.A.	16+21.11	939.90	16+21.10	939.90	16+20.99	940.38	16+20.99	940.36	16+20.88	940.17	16+20.83	940.08	16+20.79	940.00	16+20.77	939.96	16+20.65	939.74	16+20.54	939.53	16+20.51	939.48
¼ SPAN	16+36.96	939.57	16+36.96	939.59	16+36.86	940.05	16+36.86	940.05	16+36.77	939.84	16+36.73	939.75	16+36.70	939.67	16+36.68	939.62	16+36.58	939.41	16+36.49	939.19	16+36.47	939.15
MIDSPAN	16+52.82	939.23	16+52.81	939.26	16+52.74	939.72	16+52.74	939.71	16+52.66	939.50	16+52.63	939.41	16+52.60	939.33	16+52.59	939.28	16+52.51	939.06	16+52.44	938.85	16+52.42	938.81
¾ SPAN	16+68.67	938.87	16+68.67	938.91	16+68.61	939.36	16+68.61	939.35	16+68.56	939.13	16+68.54	939.05	16+68.51	938.97	16+68.50	938.91	16+68.44	938.70	16+68.39	938.48	16+68.38	938.45
℄ BEARINGS LINE 1	16+84.53	938.50	16+84.53	938.55	16+84.49	938.99	16+84.49	938.97	16+84.45	938.76	16+84.44	938.68	16+84.42	938.60	16+84.41	938.54	16+84.37	938.32	16+84.34	938.10	16+84.33	938.08

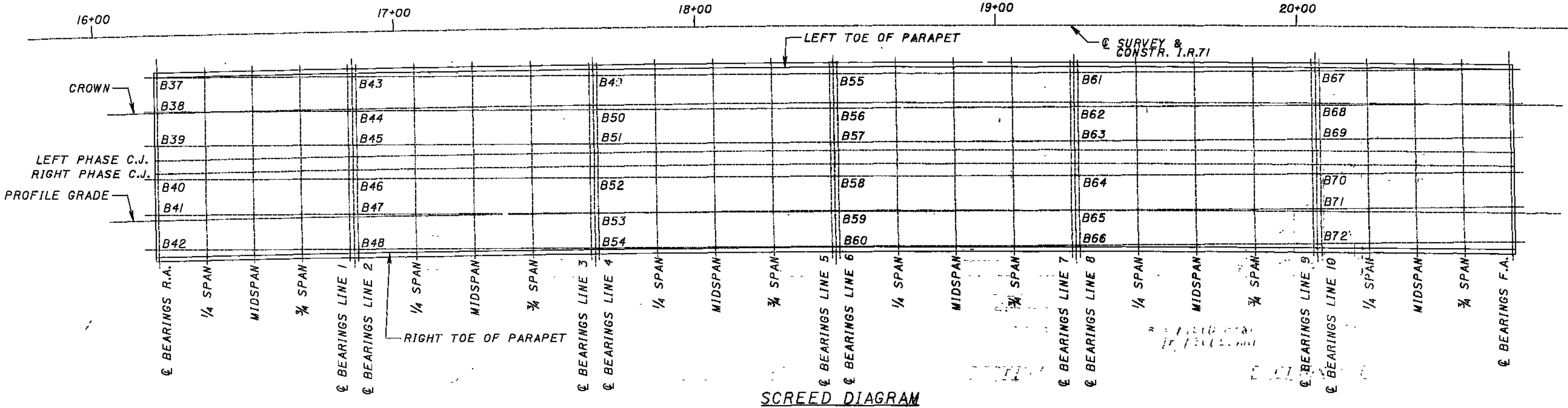
	LEFT TOE OF PARAPET		B43		CROWN		B44		B45		LEFT PHASE C.J.		RIGHT PHASE C.J.		B46		B47		B48		RIGHT TOE OF PARAPET	
LOCATION	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
℄ BEARINGS LINE 2	16+87.29	938.44	16+87.29	938.49	16+87.26	938.92	16+87.26	938.91	16+87.22	938.69	16+87.21	938.62	16+87.20	938.54	16+87.19	938.48	16+87.15	938.26	16+87.12	938.04	16+87.11	938.02
¼ SPAN	17+06.68	938.06	17+06.67	938.12	17+06.66	938.54	17+06.66	938.53	17+06.64	938.31	17+06.64	938.24	17+06.63	938.16	17+06.62	938.09	17+06.61	937.87	17+06.59	937.65	17+06.59	937.63
MIDSPAN	17+26.06	937.66	17+26.06	937.73	17+26.06	938.14	17+26.06	938.12	17+26.06	937.90	17+26.06	937.84	17+26.06	937.75	17+26.06	937.68	17+26.06	937.46	17+26.07	937.24	17+26.07	937.23
¾ SPAN	17+45.44	937.21	17+45.44	937.28	17+45.46	937.69	17+45.46	937.67	17+45.48	937.45	17+45.49	937.39	17+45.50	937.30	17+45.50	937.23	17+45.52	937.01	17+45.54	936.79	17+45.54	936.78
℄ BEARINGS LINE 3	17+64.82	936.74	17+64.83	936.82	17+64.86	937.22	17+64.87	937.19	17+64.91	936.97	17+64.91	936.91	17+64.93	936.83	17+64.94	936.75	17+64.98	936.53	17+65.02	936.31	17+65.02	936.30

	LEFT TOE OF PARAPET		B49		CROWN		B50		B51		LEFT PHASE C.J.		RIGHT PHASE C.J.		B52		B53		B54		RIGHT TOE OF PARAPET	
LOCATION	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
℄ BEARINGS LINE 4	17+67.36	936.68	17+67.37	936.76	17+67.40	937.16	17+67.41	937.13	17+67.45	936.91	17+67.46	936.86	17+67.48	936.77	17+67.49	936.69	17+67.53	936.47	17+67.57	936.26	17+67.57	936.25
¼ SPAN	17+86.73	936.30	17+86.74	936.39	17+86.80	936.78	17+86.81	936.75	17+86.87	936.53	17+86.88	936.48	17+86.91	936.39	17+86.93	936.31	17+86.99	936.09	17+87.06	935.87	17+87.06	935.86
MIDSPAN	18+06.10	935.90	18+06.12	935.99	18+06.19	936.38	18+06.20	936.35	18+06.29	936.12	18+06.31	936.07	18+06.34	935.98	18+06.37	935.90	18+06.46	935.68	18+06.54	935.46	18+06.54	935.46
¾ SPAN	18+25.47	935.45	18+25.49	935.54	18+25.58	935.93	18+25.60	935.89	18+25.70	935.67	18+25.73	935.62	18+25.77	935.53	18+25.81	935.45	18+25.92	935.23	18+26.02	935.01	18+26.03	935.01
℄ BEARINGS LINE 5	18+44.84	934.98	18+44.87	935.07	18+44.98	935.45	18+44.99	935.42	18+45.12	935.20	18+45.15	935.15	18+45.20	935.06	18+45.25	934.98	18+45.38	934.76	18+45.51	934.54	18+45.51	934.53

	LEFT TOE OF PARAPET		B55		CROWN		B56		B57		LEFT PHASE C.J.		RIGHT PHASE C.J.		B58		B59		B60		RIGHT TOE OF PARAPET	
LOCATION	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
℄ BEARINGS LINE 6	18+47.37	934.92	18+47.39	935.01	18+47.50	935.40	18+47.52	935.37	18+47.65	935.14	18+47.68	935.09	18+47.73	935.00	18+47.78	934.92	18+47.91	934.70	18+48.05	934.48	18+48.05	934.47
¼ SPAN	18+66.75	934.54	18+66.78	934.63	18+66.90	935.02	18+66.92	934.99	18+67.07	934.76	18+67.10	934.71	18+67.16	934.62	18+67.21	934.54	18+67.36	934.32	18+67.50	934.10	18+67.50	934.09
MIDSPAN	18+86.13	934.14	18+86.16	934.23	18+86.30	934.61	18+86.32	934.58	18+86.48	934.36	18+86.52	934.31	18+86.58	934.22	18+86.64	934.14	18+86.80	933.92	18+86.95	933.69	18+86.96	933.69
¾ SPAN	19+05.52	933.69	19+05.55	933.77	19+05.70	934.17	19+05.72	934.13	19+05.89	933.91	19+05.94	933.86	19+06.00	933.77	19+06.06	933.69	19+06.24	933.47	19+06.41	933.25	19+06.42	933.24
℄ BEARINGS LINE 7	19+24.90	933.22	19+24.94	933.29	19+25.10	933.69	19+25.12	933.66	19+25.31	933.44	19+25.35	933.38	19+25.43	933.30	19+25.49	933.22	19+25.68	933.00	19+25.86	932.77	19+25.87	932.76

	LEFT TOE OF PARAPET		B61		CROWN		B62		B63		LEFT PHASE C.J.		RIGHT PHASE C.J.		B64		B65		B66		RIGHT TOE OF PARAPET	
LOCATION	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
℄ BEARINGS LINE 8	19+27.50	933.16	19+27.53	933.24	19+27.69	933.63	19+27.71	933.61	19+27.90	933.38	19+27.95	933.33	19+28.03	933.24	19+28.09	933.16	19+28.28	932.94	19+28.47	932.72	19+28.48	932.71
¼ SPAN	19+46.88	932.78	19+46.91	932.85	19+47.09	933.25	19+47.12	933.23	19+47.32	933.01	19+47.38	932.94	19+47.46	932.86	19+47.53	932.78	19+47.74	932.56	19+47.95	932.34	19+47.96	932.32
MIDSPAN	19+66.26	932.38	19+66.29	932.44	19+66.50	932.85	19+66.52	932.83	19+66.75	932.61	19+66.81	932.54	19+66.90	932.45	19+66.97	932.38	19+67.20	932.16	19+67.43	931.93	19+67.45	931.92
¾ SPAN	19+85.64	931.93	19+85.67	931.98	19+85.90	932.40	19+85.92	932.38	19+86.17	932.16	19+86.24	932.09	19+86.34	932.00	19+86.42	931.94	19+86.67	931.71	19+86.92	931.49	19+86.94	931.47
℄ BEARINGS LINE 9	20+05.02	931.45	20+05.05	931.50	20+05.30	931.93	20+05.32	931.91	20+05.59	931.69	20+05.68	931.62	20+05.78	931.53	20+05.86	931.47	20+06.13	931.24	20+06.40	931.02	20+06.43	930.99

	LEFT TOE OF PARAPET		B67		CROWN		B68		B69		LEFT PHASE C.J.		RIGHT PHASE C.J.		B70		B71		B72		RIGHT TOE OF PARAPET	
LOCATION	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
℄ BEARINGS LINE 10	20+07.78	931.39	20+07.80	931.44	20+08.06	931.87	20+08.07	931.85	20+08.35	931.63	20+08.44	931.55	20+08.55	931.47	20+08.62	931.41	20+08.89	931.18	20+09.17	930.96	20+09.20	930.93
¼ SPAN	20+23.54	931.07	20+23.56	931.10	20+23.85	931.54	20+23.86	931.53	20+24.16	931.31	20+24.27	931.23	20+24.39	931.14	20+24.46	931.08	20+24.76	930.86	20+25.07	930.63	20+25.11	930.60
MIDSPAN	20+39.31	930.73	20+39.32	930.76	20+39.65	931.20	20+39.65	931.20	20+39.98	930.97	20+40.10	930.89	20+40.23	930.80	20+40.31	930.75	20+40.64	930.52	20+40.97	930.30	20+41.02	930.26
¾ SPAN	20+55.07	930.37	20+55.08	930.39	20+55.44	930.85	20+55.44	930.84	20+55.79	930.62	20+55.94	930.53	20+56.08	930.44	20+56.15	930.40	20+56.51	930.17	20+56.87	929.94	20+56.93	929.90
℄ BEARINGS F.A.	20+70.84	930.01	20+70.84	930.01	20+71.24	930.48	20+71.23	930.46	20+71.61	930.26	20+71.77	930.16	20+71.93	930.07	20+71.99	930.03	20+72.38	929.80	20+72.76	929.58	20+72.85	929.53



SCREED DIAGRAM

LEGEND:

B_ - BEAM NUMBER
C.J. - CONSTRUCTION JOINT
F.A. - FORWARD ABUTMENT
R.A. - REAR ABUTMENT

NOTE:

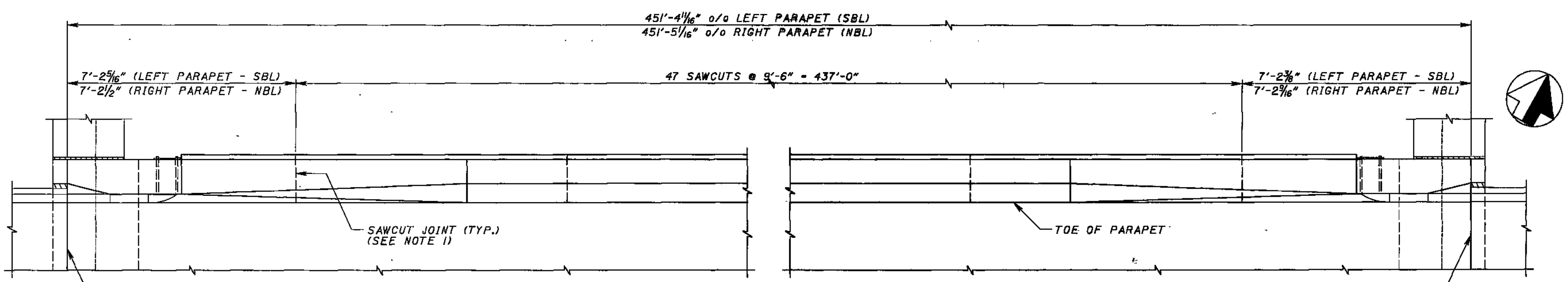
1. SCREED ELEVATIONS SHOWN ARE FOR THE TOP OF DECK SLAB PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR ANTICIPATED DEAD LOAD DEFLECTIONS.

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED TTK
CHECKED WTL
DRAWN GRC
REVISED
REVIEWED CAS
DATE 6/03
STRUCTURE FILE NUMBER 5202256-LEFT 5202280-RIGHT

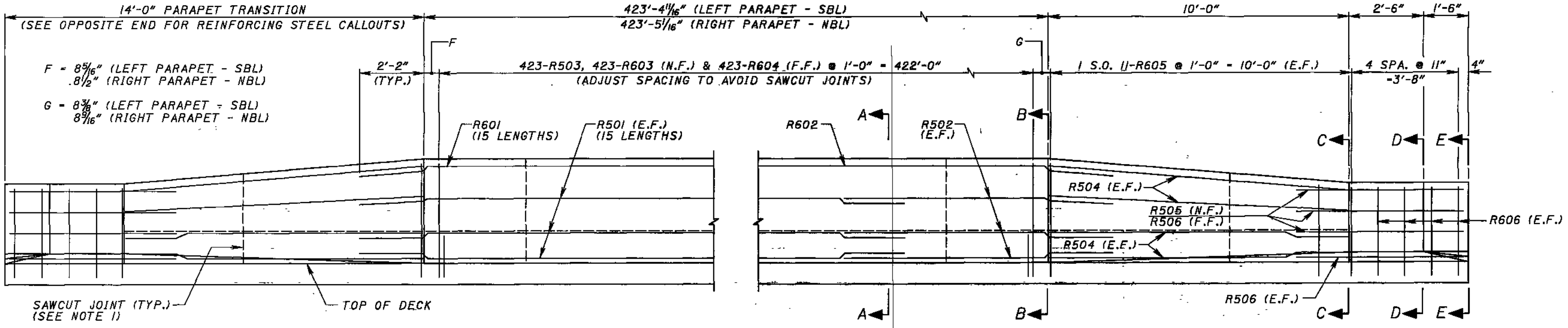
SCREED TABLE - NORTHBOUND
BRIDGE NO. MED-71-0031 R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00


451'-4 11/16" o/o LEFT PARAPET (SBL)
451'-5 1/16" o/o RIGHT PARAPET (NBL)
7'-2 5/16" (LEFT PARAPET - SBL)
7'-2 1/2" (RIGHT PARAPET - NBL)
47 SAWCUTS @ 9'-6" = 437'-0"
7'-2 3/8" (LEFT PARAPET - SBL)
7'-2 9/16" (RIGHT PARAPET - NBL)
SAWCUT JOINT (TYP.)
(SEE NOTE 1)
TOE OF PARAPET
END APPROACH SLAB
BEGIN APPROACH SLAB

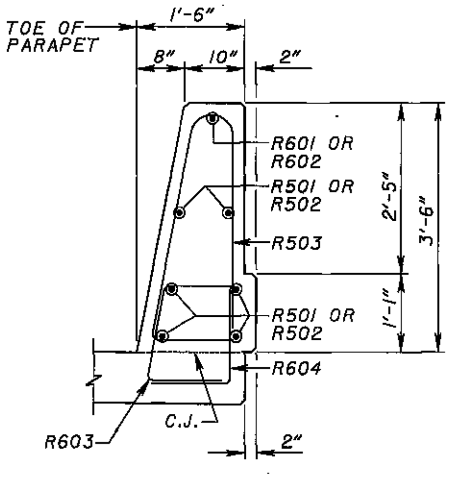
PARAPET PLAN

(LEFT PARAPET - SBL SHOWN,
RIGHT PARAPET - NBL OPPOSITE HAND)

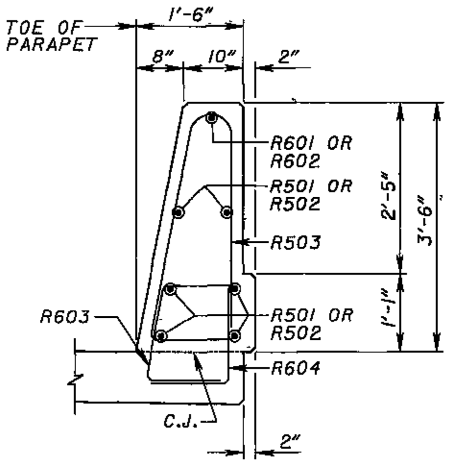

14'-0" PARAPET TRANSITION
(SEE OPPOSITE END FOR REINFORCING STEEL CALLOUTS)
423'-4 11/16" (LEFT PARAPET - SBL)
423'-5 1/16" (RIGHT PARAPET - NBL)
10'-0"
2'-6"
1'-6"
F = 8 5/16" (LEFT PARAPET - SBL)
8 1/2" (RIGHT PARAPET - NBL)
G = 8 3/8" (LEFT PARAPET - SBL)
8 9/16" (RIGHT PARAPET - NBL)
F
G
2'-2"
(TYP.)
423-R503, 423-R603 (N.F.) & 423-R604 (F.F.) @ 1'-0" = 422'-0"
(ADJUST SPACING TO AVOID SAWCUT JOINTS)
1 S.O. 11-R605 @ 1'-0" = 10'-0" (E.F.)
4 SPA. @ 11"
=3'-8"
4"
R601
(15 LENGTHS)
R501 (E.F.)
(15 LENGTHS)
R602
R502
(E.F.)
A
B
C
D
E
R504 (E.F.)
R505 (N.F.)
R506 (F.F.)
R504 (E.F.)
R606 (E.F.)
R506 (E.F.)
SAWCUT JOINT (TYP.)
(SEE NOTE 1)
TOP OF DECK

PARAPET ELEVATION

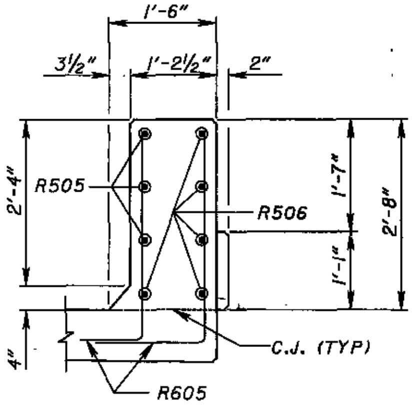
(INSIDE FACE OF LEFT PARAPET - SBL SHOWN,
INSIDE FACE OF RIGHT PARAPET - NBL OPPOSITE HAND)



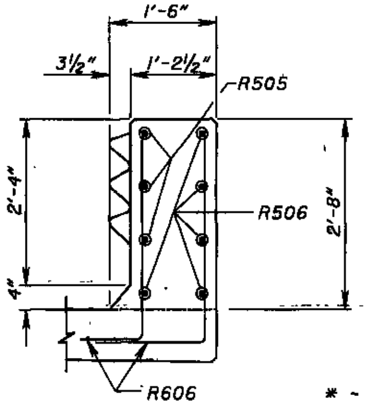
SECTION A-A



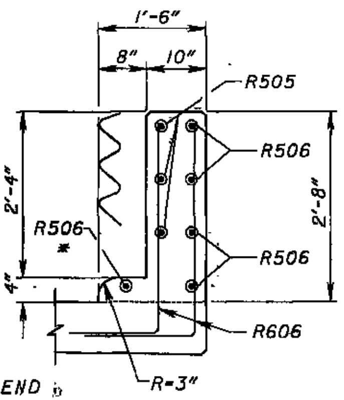
SECTION B-B



SECTION C-C



SECTION D-D



* - FIELD BEND
IF NECESSARY

SECTION E-E

NOTES:

1. SEE STANDARD DRAWING SBR-1-99 FOR ADDITIONAL NOTES AND DETAILS.
2. MINIMUM STEEL LAP LENGTHS:

   #5 BAR - 2'-0"
   #6 BAR - 3'-4"

LEGEND:

C.J. = CONSTRUCTION JOINT
E.F. = EACH FACE
F.F. = FAR FACE
N.F. = NEAR FACE
NBL = NORTHBOUND LANES
SBL = SOUTHBOUND LANES
S.O. = SERIES OF

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	C?C	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202256-LEFT 5202280-RIGHT	

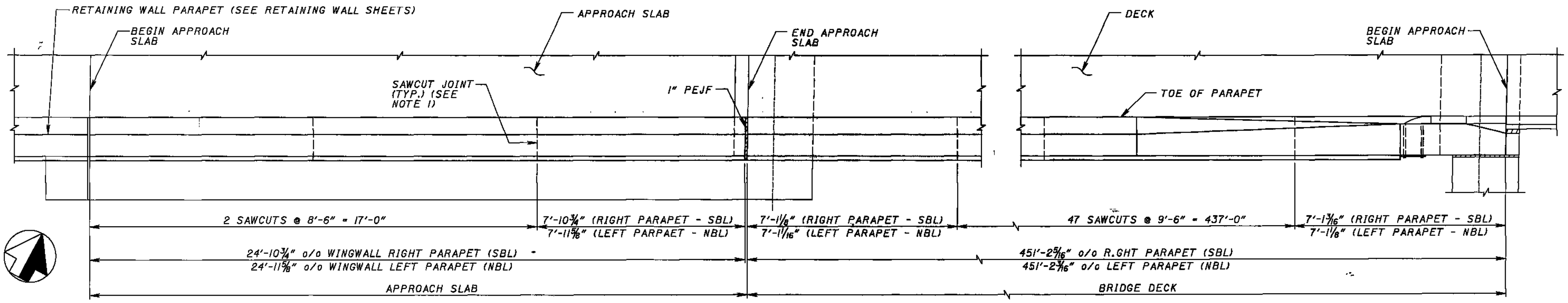
PARAPET DETAILS 1
BRIDGE NO. MED-71-0031 L/R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

71/77

553/785

P:/PR30489/CADD/MED-71-0031/ME071sd8.DGN


RETAINING WALL PARAPET (SEE RETAINING WALL SHEETS)
BEGIN APPROACH SLAB
APPROACH SLAB
END APPROACH SLAB
DECK
BEGIN APPROACH SLAB
SAWCUT JOINT (TYP.) (SEE NOTE 1)
1" PEJF
TOE OF PARAPET
2 SAWCUTS @ 8'-6" = 17'-0"
7'-10¾" (RIGHT PARAPET - SBL)
7'-11⅝" (LEFT PARPAPET - NBL)
7'-1⅛" (RIGHT PARAPET - SBL)
7'-1¹¹⁄₁₆" (LEFT PARAPET - NBL)
47 SAWCUTS @ 9'-6" = 437'-0"
7'-1³⁄₁₆" (RIGHT PARAPET - SBL)
7'-1⅛" (LEFT PARAPET - NBL)
24'-10¾" o/o WINGWALL RIGHT PARAPET (SBL)
24'-11⅝" o/o WINGWALL LEFT PARAPET (NBL)
451'-2⁵⁄₁₆" o/o RIGHT PARAPET (SBL)
451'-2³⁄₁₆" o/o LEFT PARAPET (NBL)
APPROACH SLAB
BRIDGE DECK

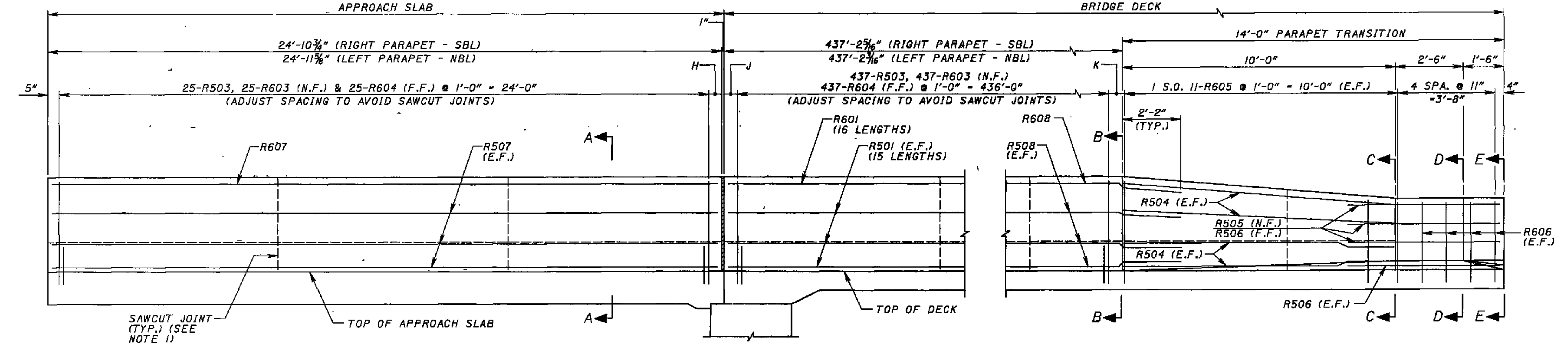
H = 5¾" (RIGHT PARPAET - SBL)
6⅝" (LEFT PARAPET - NBL)

J = 7⅛" (RIGHT PARAPET - SBL)
7¹⁄₁₆" (LEFT PARAPET - NBL)

K = 7³⁄₁₆" (RIGHT PARAPET - SBL)
7⅛" (LEFT PARAPET - NBL)

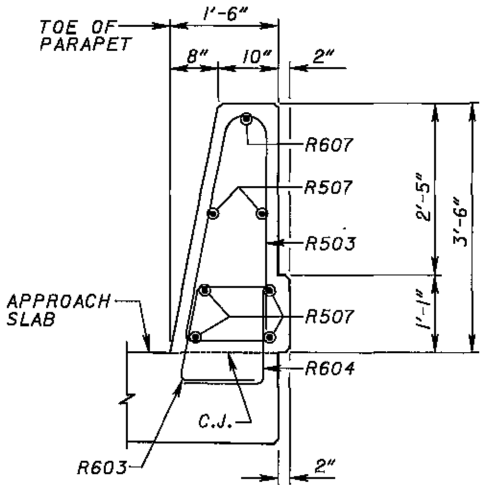
PARAPET PLAN

(RIGHT PARAPET - SBL SHOWN, LEFT PARAPET - NBL OPPOSITE HAND)

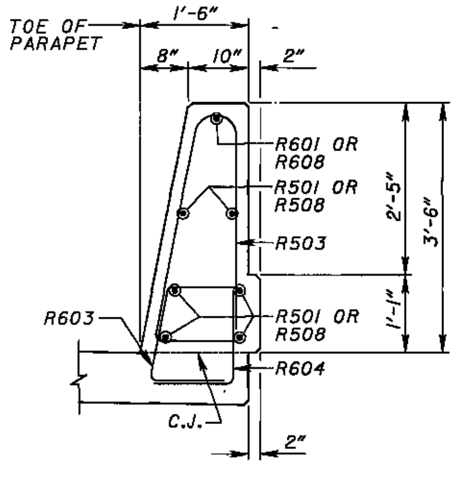

APPROACH SLAB
BRIDGE DECK
1"
24'-10¾" (RIGHT PARAPET - SBL)
24'-11⅝" (LEFT PARAPET - NBL)
437'-2⁵⁄₁₆" (RIGHT PARAPET - SBL)
437'-2³⁄₁₆" (LEFT PARAPET - NBL)
14'-0" PARAPET TRANSITION
10'-0"
2'-6"
1'-6"
H
J
K
5"
25-R503, 25-R603 (N.F.) & 25-R604 (F.F.) @ 1'-0" = 24'-0"
(ADJUST SPACING TO AVOID SAWCUT JOINTS)
437-R503, 437-R603 (N.F.)
437-R604 (F.F.) @ 1'-0" = 436'-0"
(ADJUST SPACING TO AVOID SAWCUT JOINTS)
1 S.O. 11-R605 @ 1'-0" = 10'-0" (E.F.)
4 SPA. @ 11" =3'-8"
4"
2'-2" (TYP.)
R607
R507 (E.F.)
A
R601 (16 LENGTHS)
R501 (E.F.) (15 LENGTHS)
R608
R508 (E.F.)
B
C
D
E
R504 (E.F.)
R505 (N.F.)
R506 (F.F.)
R504 (E.F.)
R606 (E.F.)
R506 (E.F.)
SAWCUT JOINT (TYP.) (SEE NOTE 1)
TOP OF APPROACH SLAB
TOP OF DECK

PARAPET ELEVATION

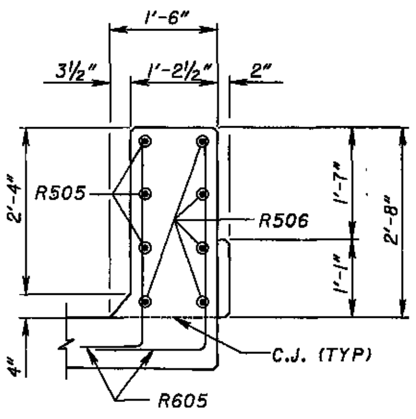
(INSIDE FACE OF RIGHT PARAPET - SBL SHOWN, INSIDE FACE OF LEFT PARAPET - NBL OPPOSITE HAND)



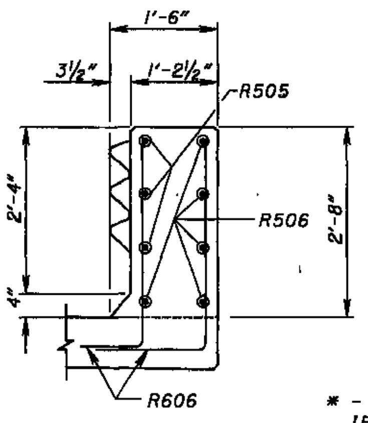
SECTION A-A



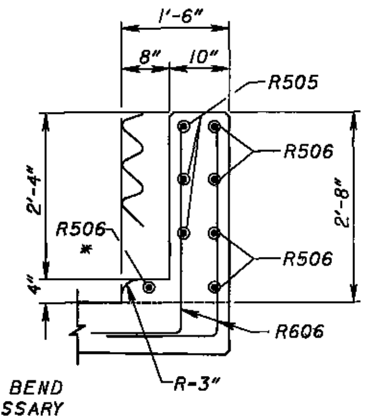
SECTION B-B



SECTION C-C



SECTION D-D



* - FIELD BEND IF NECESSARY

SECTION E-E

NOTES:

1. SEE STANDARD DRAWING SBR-1-99 FOR ADDITIONAL NOTES AND DETAILS.
2. SEE SHEET 39 / 77 FOR RETAINING WALL PARAPET DETAILS.
3. MINIMUM STEEL LAP LENGTHS:

   #5 BAR = 2'-0"
   #6 BAR = 3'-4"

LEGEND:

C.J. = CONSTRUCTION JOINT
E.F. = EACH FACE
F.F. = FAR FACE
N.F. = NEAR FACE
NBL = NORTHBOUND LANES
SBL = SOUTHBOUND LANES
S.O. = SERIES OF
PEJF = PREFORMED EXPANSION JOINT FILLER

P:/PR30489/CADD/MED-71-0031/ME071sdd.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	CRC	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202256-LEFT 5202280-RIGHT	

PARAPET DETAILS 2
BRIDGE NO. MED-71-0031 L/R
OVER ABANDONED RAILROAD

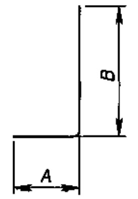
WAY/MED-71-7.04/0.00

ABUTMENT REINFORCING STEEL LIST

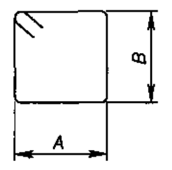
	MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
	A501	18	30'-0"	563	STR						
	A502	110	17'-6"	2007	16	5'-11"	2'-7"				
	A503	79	16'-8"	1373	16	2'-8"	5'-5"				
	A504	22	17'-5"	399	18	2'-2"	7'-9"	7'-9"			
*	A505	6	17'-0"	106	STR						
*	A506	6	14'-10"	92	STR						
	A507	3	19'-0"	59	16	2'-2"	7'-1"				
	A508	10	12'-10"	133	STR						
		4	5'-3"								
	A509	S.O.	TO	102	STR						2'-11⅜"
		3	11'-2"								
	A510	4	15'-3"	63	18	2'-2"	6'-8"	6'-8"			
		2	6'-11"				2'-6"	2'-6"			
	A511	S.O.	TO	137	18	2'-2"	TO	TO			1'-7½"
		6	15'-1"				6'-7"	6'-7"			
	A512	2	14'-1"	29	20	5'-4"	10'-7"	2'-3"			
	A513	2	11'-3"	23	STR						
		2	5'-0"								
	A514	S.O.	TO	48	STR						2'-9⅜"
		3	10'-7"								
	A515	2	14'-5"	30	18	2'-2"	6'-3"	6'-3"			
		1	7'-1"				2'-7"	2'-7"			
	A516	S.O.	TO	66	18	2'-2"	TO	TO			1'-4¾"
		6	14'-1"				6'-1"	6'-1"			
	A517	2	12'-5"	25	20	4'-10"	9'-0"	2'-3"			
*	A518	2	31'-8"	66	STR						
*	A519	2	31'-0"	64	STR						
	A520	8	15'-4"	127	STR						
	A521	4	13'-9"	57	STR						
*	A534	6	17'-1"	106	STR						
*	A535	2	31'-9"	66	STR						
*	A536	2	24'-7"	51	STR						
*	A537	4	30'-10"	128	1	6'-5"	24'-7"				
*	A538	2	32'-7"	67	STR						
	A539	2	14'-0"	29	20	5'-4"	10'-6"	2'-3"			
	A540	6	7'-7"	47	STR						
	A541	6	25'-0"	156	16	2'-8"	9'-7"				
	A542	2	19'-4"	40	16	2'-8"	6'-9"				
	A543	24	17'-0"	425	16	5'-8"	2'-7"				
	A544	29	12'-7"	380	18	1'-2"	5'-10"	5'-10"			
	A545	58	9'-9"	589	STR						
	A546	20	27'-1"	564	STR						
	A547	7	25'-0"	182	STR						
	A601	29	11'-4"	493	18	1'-2"	5'-3"	5'-3"			
	A801	12	30'-0"	961	STR						
*	A802	4	20'-6"	218	STR						
*	A803	4	18'-4"	195	STR						
*	A804	4	31'-8"	338	STR						
*	A805	4	31'-0"	331	STR						
*	A810	4	20'-7"	219	STR						
*	A811	4	24'-7"	262	STR						
	A812	4	19'-1"	203	1	6'-5"	12'-10"				
*	A813	4	31'-9"	339	STR						
*	A814	4	32'-7"	347	STR						
	A815	4	26'-0"	277	STR						
			TOTAL	12582							

DIAPHRAGM REINFORCING STEEL LIST

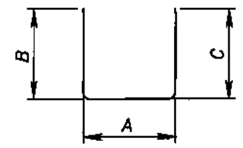
	MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
	D401	275	11'-11"	2189	98	2'-5"	4'-3"	0'-8"			
	D402	30	9'-11"	198	21	0'-5½"	4'-10"				
	D403	30	3'-5"	70	99	1'-5½"	0'-5½"	0'-5½"	0'-5½"		
	D404	30	4'-9"	96	99	1'-11½"	0'-6¼"	0'-8½"	0'-8½"		
	D501	78	8'-9"	711	18	2'-2"	3'-5"	3'-5"			
	D502	70	10'-1"	736	18	2'-8"	3'-10"	3'-10"			
	D503	6	14'-2"	88	16	2'-8"	4'-2"				
	D504	2	15'-0"	31	16	2'-8"	4'-7"				
	D601	40	9'-6"	570	STR						
	D602	80	10'-6"	1261	STR						
	D603	4	6'-1"	36	STR						
	D604	4	6'-5"	38	STR						
	D605	6	5'-3"	47	STR						
	D606	6	7'-3"	65	STR						
	D607	8	6'-7"	79	STR						
	D608	8	6'-11"	83	STR						
	D609	12	5'-9"	103	STR						
	D610	12	7'-9"	139	STR						
	D801	82	4'-11"	1076	28	2'-7"	1'-5"				
	D802	16	10'-6"	448	STR						
	D803	16	9'-9"	416	26	1'-3"	1'-3"	1'-0"	5'-0"	5'-0"	
	D804	8	9'-6"	202	STR						
*	D805	24	33'-4"	2136	STR						
*	D806	24	29'-4"	1879	STR						
*	D807	2	5'-8"	30	STR						
*	D808	2	3'-10"	20	STR						
*	D809	4	6'-2"	65	STR						
*	D810	4	4'-4"	46	STR						
*	D811	2	8'-1"	43	26	1'-3"	1'-3"	1'-0"	3'-10"	3'-10"	
*	D812	2	6'-4"	33	26	1'-3"	1'-3"	1'-0"	2'-7"	2'-7"	
	D813	4	0'-11"	9	STR						
	D814	4	3'-3"	34	STR						
	D815	2	5'-2"	27	26	1'-3"	1'-3"	1'-0"	1'-9"	1'-9"	
	D816	2	2'-9"	14	STR						
	D821	160	9'-10"	4200	26	1'-3"	1'-3"	0'-11"	5'-1"	5'-1"	
*	D822	8	7'-1"	151	26	1'-3"	1'-3"	0'-11"	3'-1⅝"	3'-1⅝"	
*	D823	8	7'-5"	158	26	1'-3"	1'-3"	0'-11"	3'-4½"	3'-4½"	
*	D824	12	6'-0"	192	26	1'-3"	1'-3"	0'-11"	2'-5"	2'-5"	
*	D825	12	8'-5"	269	26	1'-3"	1'-3"	0'-11"	4'-1⅛"	4'-1⅛"	
			TOTAL	17988							



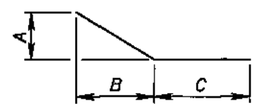
TYPE 1



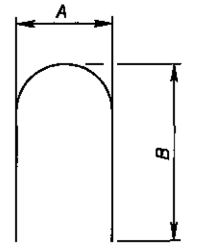
TYPE 16



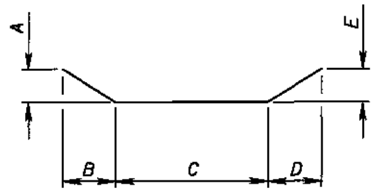
TYPE 18



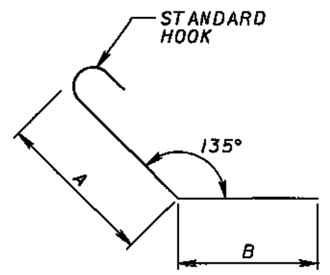
TYPE 20



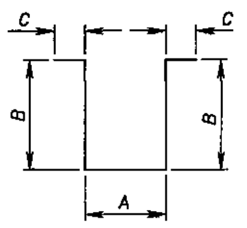
TYPE 21



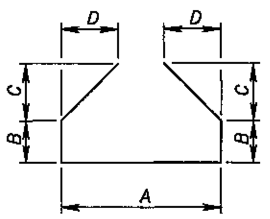
TYPE 26



TYPE 28



TYPE 98



TYPE 99

NOTES:

1. ALL BARS SHALL BE EPOXY COATED.
2. BAR DIMENSIONS SHOWN ARE OUT TO OUT AND RAD INDICATES INSIDE RADIUS.

* REINFORCING BAR UTILIZES A MECHANICAL CONNECTOR. BAR LENGTH IS MEASURED TO THE CONSTRUCTION JOINT OR END OF CONNECTOR AS APPLICABLE. EXTRA BAR LENGTH AND/OR BAR END PREPARATION MAY BE NECESSARY DEPENDING UPON THE TYPE OF MECHANICAL CONNECTOR FURNISHED.

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED TTK | DRAWN CRC | REVIEWED CAS | DATE 6/03
CHECKED CRC | REVISED | STRUCTURE FILE NUMBER 5202256-LEFT 5202280-RIGHT

REINFORCING STEEL LIST 1 - SOUTHBOUND
BRIDGE NO. MED-71-0031 L
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

73/77

555/785

P:/PR30489/CADD/MED-71-0031/ME071r11.DGN

PARAPET REINFORCING STEEL LIST

MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A	DIM B	DIM C	DIM D	IM E/RAD	INCR.
R501	180	30'-0"	5632	STR						
R502	6	8'-6"	53	STR						
R503	885	7'-4"	6769	2	3'-0"	3'-2"	1'-1"	0'-6½"	0'-2¾"	
R504	24	10'-0"	250	STR						
R505	9	5'-6"	52	96						
R506	15	5'-6"	86	STR						
R507	6	24'-7"	153	STR						
R508	6	20'-0"	125	STR						
R601	31	30'-0"	1396	STR						
R602	1	28'-6"	42	STR						
R603	885	3'-4"	4541	6	1'-1"	0'-0"	1'-1"	0'-3¼"	1'-5"	
R604	885	2'-4"	3101	1	1'-1"	1'-5"				
	6	3'-11"				3'-0"				
R605	S.O.	TO	429	1	1'-1"	TO				0'-1"
	11	4'-9"				3'-10"				
R606	24	3'-11"	141	1	1'-1"	3'-0"				
R607	1	24'-7"	36	STR						
R608	1	13'-3"	19	STR						
		TOTAL	22825							

PIER REINFORCING STEEL LIST

MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
P401	168	10'-4"	1159	18	4'-2"	3'-2"	3'-2"			
P402	288	3'-9"	721	24	2'-8"					
P406	7	10'-10"	50	STR						
P501	8	34'-0"	283	STR						
P502	6	28'-2"	176	STR						
P503	186	8'-4"	1616	21	2'-8"	3'-5"				
P504	124	15'-4"	1983	STR						
P505	40	26'-2"	1091	STR						
P508	62	8'-4"	538	STR						
P509	124	3'-7"	463	20	0'-11¾"	0'-11¾"	2'-3"			
P510	32	17'-0"	567	STR						
P511	16	21'-0"	350	1	4'-2"	17'-0"				
P513	62	7'-7"	490	STR						
P514	32	16'-6"	550	STR						
P515	16	20'-5"	340	1	4'-1"	16'-6"				
P524	40	7'-9"	323	18	4'-0"	2'-0"	2'-0"			
P525	7	7'-7"	55	18	3'-10"	2'-0"	2'-0"			
P601	284	11'-4"	4834	18	4'-2"	3'-9"	3'-9"			
P602	60	7'-4"	660	1	1'-0"	6'-6"				
P603	14	12'-10"	269	STR						
P604	14	27'-10"	585	STR						
P605	40	5'-1"	305	STR						
P606	104	5'-0"	781	STR						
P607	14	9'-3"	194	STR						
P608	14	21'-0"	441	STR						
P609	12	12'-0"	216	STR						
P610	14	26'-0"	546	STR						
P611	12	10'-2"	183	STR						
P612	14	22'-6"	473	STR						
P617	120	10'-1"	1817	18	2'-9"	3'-10"	3'-10"			
P618	60	9'-5"	848	18	2'-9"	3'-6"	3'-6"			
P619	8	11'-0"	132	18	4'-0"	3'-8"	3'-8"			
P701	200	8'-7"	3508	1	1'-2"	7'-7"				
P702	24	12'-6"	613	STR						
P703	26	27'-9"	1474	STR						
P704	24	8'-9"	429	STR						
P705	26	20'-9"	1102	STR						
P706	24	11'-6"	564	STR						
P707	26	25'-9"	1368	STR						
P708	24	9'-9"	478	STR						
P709	26	22'-2"	1178	STR						
P801	128	13'-6"	4613	22	11'-8"					
P802	40	25'-6"	2723	22	23'-8"					
P803	52	25'-0"	3471	STR						
P804	52	9'-6"	1318	1	1'-4"	8'-4"				
P901	28	35'-2"	3347	18	26'-2"	4'-7"	5'-0"			
P902	50	13'-2"	2238	22	10'-8"					
P903	40	12'-1"	1643	22	9'-7"					
P904	32	6'-0"	652	STR						
P907	8	16'-4"	444	1	3'-6"	13'-2"				
P908	8	30'-0"	815	STR						
P909	2	34'-0"	231	STR						

PIER REINFORCING STEEL LIST (CONT'D)

MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
P910	8	30'-10"	838	1	3'-0"	28'-2"				
P911	2	28'-2"	191	STR						
P912	40	11'-2"	1518	22	8'-8"					
P913	2	11'-1"	75	22	8'-7"					
P914	2	11'-5"	77	22	8'-11"					
P915	8	14'-10"	403	22	12'-4"					
	2	12'-5"			9'-11"					
P916	S.O.	TO	262	22	TO					0'-5½"
	3	13'-4"			10'-10"					
P917	2	9'-10"	66	22	7'-4"					
P918	2	8'-11"	60	22	6'-5"					
P919	2	12'-6"	84	22	10'-0"					
P920	2	6'-11"	47	STR						
P1001	12	34'-0"	1755	STR						
P1002	12	28'-2"	1454	STR						
P1101	23	21'-6"	2627	22	18'-4"					
SP401	4	22'-0"	1573	15	2'-6"	0'-4½"				
		TOTAL	66278							

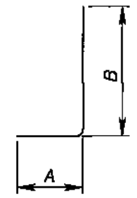
SUPERSTRUCTURE REINFORCING STEEL LIST

MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
S401	1410	30'-0"	28256	STR						
S402	94	30'-6"	1915	STR						
S501	1264	30'-0"	39550	STR						
S502	79	22'-6"	1853	STR						
S503	465	34'-0"	16489	STR						
S601	1714	33'-3"	85600	STR						
S602	1714	32'-10"	84527	STR						
		TOTAL	258190							

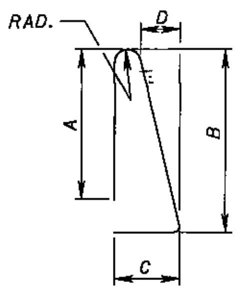
INTERMEDIATE DIAPHRAGM REINFORCING STEEL LIST †

MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
D405	330	7'-1"	1579	16	0'-6"	2'-10"				
D615	120	8'-9"	1577	26	1'-3"	1'-3"	0'-11"	4'-4"	4'-4"	
D616	120	10'-6"	1892	STR						
		TOTAL	5048							

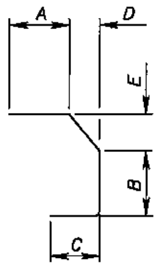
† - FOR INFORMATION ONLY - NOT INCLUDED IN REINFORCING STEEL QUANTITY PAYMENT.



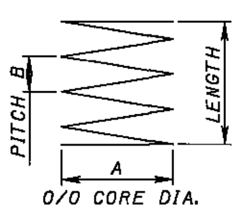
TYPE 1



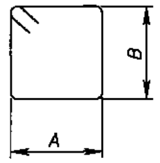
TYPE 2



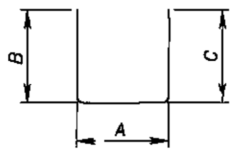
TYPE 6



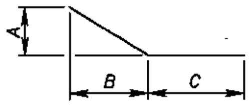
TYPE 15



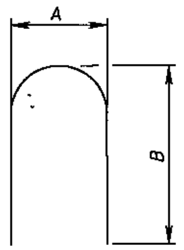
TYPE 16



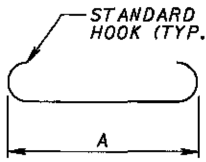
TYPE 18



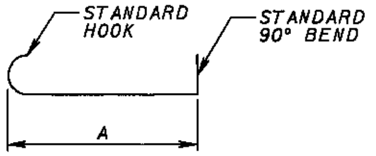
TYPE 20



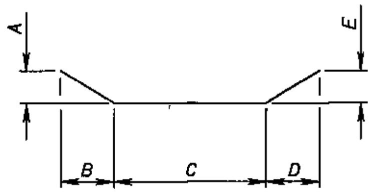
TYPE 21



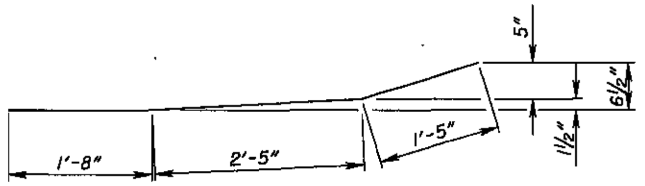
TYPE 22



TYPE 24



TYPE 26



TYPE 96

NOTES:

1. ALL BARS SHALL BE EPOXY COATED.
2. BAR DIMENSIONS SHOWN ARE OUT TO OUT AND RAD INDICATES INSIDE RADIUS.

P:/PR30489/CADD/MED-71-0342/ME07Ir12.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	CRC	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CRC		5202256-LEFT 5202280-RIGHT	

REINFORCING STEEL LIST 2 - SOUTHBOUND
BRIDGE NO. MED-71-0031 L
OVER ABANDONED RAILROAD

WAY/MED-71-1.04/0.00

ABUTMENT REINFORCING STEEL LIST

	MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A	DIM B	DIM C	DIM D	D'M E/RAD	INCR.
	A501	18	30'-0"	563	STR						
	A502	110	17'-6"	2007	16	5'-11"	2'-7"				
	A503	75	16'-8"	1303	16	2'-8"	5'-5"				
	A504	21	17'-5"	381	18	2'-2"	7'-9"	7'-9"			
	A507	3	19'-0"	59	16	2'-2"	7'-1"				
		2	5'-3"								
	A509	S.O.	TO	51	STR						2'-11⅜"
		3	11'-2"								
	A510	2	15'-3"	31	18	2'-2"	6'-8"	6'-8"			
	A515	2	14'-5"	30	18	2'-2"	6'-3"	6'-3"			
*	A522	6	16'-1"	100	STR						
*	A523	6	15'-8"	98	STR						
*	A524	2	31'-6"	65	STR						
*	A525	2	31'-2"	65	STR						
	A526	8	14'-8"	122	STR						
	A527	4	12'-0"	50	STR						
		1	6'-9"				2'-5"	2'-5"			
	A528	S.O.	TO	77	18	2'-2"	TO	TO			1'-3¼"
		7	14'-5"				6'-3"	6'-3"			
	A529	2	13'-1"	27	20	4'-11"	9'-8"	2'-3"			
		2	5'-0"								
	A530	S.O.	TO	48	STR						2'-9"
		3	10'-6"								
		1	7'-11"				3'-0"	3'-0"			
	A531	S.O.	TO	72	18	2'-2"	TO	TO			1'-5½"
		6	15'-3"				6'-8"	6'-8"			
	A532	2	13'-4"	27	20	5'-4"	9'-9"	2'-3"			
	A533	1	20'-8"	21	16	2'-2"	7'-11"				
	A544	50	12'-7"	656	18	1'-2"	5'-10"	5'-10"			
	A548	6	16'-8"	104	STR						
	A549	2	12'-4"	67	STR						
*	A550	4	14'-5"	60	STR						
*	A551	2	31'-11"	66	STR						
	A552	2	14'-9"	30	STR						
*	A553	4	22'-1"	92	1	7'-6"	14'-9"				
*	A554	2	12'-3"	25	STR						
*	A555	4	19'-7"	81	1	7'-6"	12'-3"				
	A556	6	12'-7"	78	STR						
	A557	6	7'-3"	45	STR						
	A558	8	16'-11"	141	STR						
	A559	2	27'-4"	57	16	2'-8"	10'-9"				
	A560	4	28'-3"	117	16	5'-11"	7'-11½"				
	A561	4	28'-11"	120	18	2'-8"	13'-3"	13'-3"			
	A562	2	11'-10"	24	STR						
		2	5'-3"								
	A563	S.O.	TO	51	STR						2'-11"
		3	11'-1"								
	A564	2	14'-3"	29	18	2'-2"	6'-2"	6'-2"			
		1	6'-11"				2'-6"	2'-6"			
	A565	S.O.	TO	53	18	2'-2"	TO	TO			1'-7½"
		5	13'-5"				5'-9"	5'-9"			
	A566	2	12'-11"	26	20	4'-11"	9'-6"	2'-3"			
	A567	4	2'-8"	11	STR						
	A568	28	27'-3"	795	STR						
	A569	8	12'-11"	107	18	2'-8"	5'-3"	5'-3"			
	A570	6	18'-3"	114	18	2'-8"	7'-11"	7'-11"			
	A571	2	23'-9"	49	18	2'-8"	10'-8"	10'-8"			
	A572	100	16'-2"	1686	STR						
	A602	41	24'-11"	1534	16	9'-8"	2'-7"				
	A603	9	25'-0"	337	STR						
	A801	12	30'-0"	961	STR						
	A806	4	19'-7"	209	STR						
*	A807	4	19'-2"	204	STR						
*	A808	4	31'-6"	336	STR						
*	A809	4	31'-2"	332	STR						
*	A815	6	26'-0"	416	STR						
	A816	4	14'-9"	157	STR						
*	A817	4	19'-7"	209	1	7'-6"	12'-3"				
	A818	4	19'-11"	212	1	7'-6"	12'-7"				
	A819	4	32'-4"	345	STR						
*	A820	4	31'-11"	340	STR						
*	A821	4	20'-3"	216	STR						
*	A822	50	14'-9"	1969	18	1'-2"	7'-0"	7'-0"			
			TOTAL	17658							

P:/PR30489/CADD/MED-71-0031/ME071r13.DGN

DIAPHRAGM REINFORCING STEEL LIST

	MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
	D401	275	11'-11"	2189	98	2'-5"	4'-3"	0'-8"			
	D402	30	9'-11"	198	21	0'-5½"	4'-10"				
	D403	30	3'-5"	70	99	1'-5½"	0'-5½"	0'-5½"	0'-5½"		
	D404	30	4'-9"	96	99	1'-11½"	0'-6¼"	0'-8½"	0'-8½"		
	D501	78	8'-9"	711	18	2'-2"	3'-5"	3'-5"			
	D502	70	10'-1"	736	18	2'-8"	3'-10"	3'-10"			
	D503	6	14'-2"	88	16	2'-8"	4'-2"				
	D504	1	15'-0"	15	16	2'-8"	4'-7"				
	D505	1	15'-2"	15	16	2'-8"	4'-8"				
	D601	40	9'-6"	570	STR						
	D602	80	10'-6"	1261	STR						
	D604	8	6'-5"	77	STR						
	D606	12	7'-3"	130	STR						
	D607	4	6'-7"	39	STR						
	D609	6	5'-9"	51	STR						
	D611	4	5'-11"	35	STR						
	D612	6	6'-9"	60	STR						
	D613	8	7'-1"	85	STR						
	D614	12	6'-3"	112	STR						
	D801	82	4'-11"	1076	28	2'-7"	1'-5"				
	D802	16	10'-6"	448	STR						
	D803	16	9'-9"	416	26	1'-3"	1'-3"	1'-0"	5'-0"	5'-0"	
	D804	8	9'-6"	202	STR						
*	D805	24	33'-4"	2136	STR						
*	D806	24	29'-4"	1879	STR						
*	D808	4	3'-10"	40	STR						
*	D809	2	6'-2"	32	STR						
	D813	4	0'-11"	9	STR						
	D814	4	3'-3"	34	STR						
	D815	2	5'-2"	27	26	1'-3"	1'-3"	1'-0"	1'-9"	1'-9"	
	D816	2	2'-9"	14	STR						
*	D817	2	3'-4"	17	STR						
*	D818	4	6'-8"	71	STR						
*	D819	2	8'-7"	45	26	1'-3"	1'-3"	1'-0"	4'-2"	4'-2"	
*	D820	2	5'-10"	31	26	1'-3"	1'-3"	1'-0"	2'-3"	2'-3"	
	D821	160	9'-10"	4200	26	1'-3"	1'-3"	0'-11"	5'-1"	5'-1"	
*	D826	8	6'-10"	145	26	1'-3"	1'-3"	0'-11"	3'-0"	3'-0"	
*	D827	8	7'-7"	161	26	1'-3"	1'-3"	0'-11"	3'-6⅛"	3'-6⅛"	
*	D828	12	7'-11"	253	26	1'-3"	1'-3"	0'-11"	3'-9"	3'-9"	
*	D829	12	6'-6"	208	26	1'-3"	1'-3"	0'-11"	2'-9⅛"	2'-9⅛"	
			TOTAL	17982							

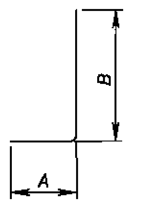
SUPERSTRUCTURE REINFORCING STEEL LIST

MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
S401	1410	30'-0"	28256	STR						
S402	94	30'-6"	1915	STR						
S501	1264	30'-0"	39550	STR						
S502	79	22'-6"	1853	STR						
S503	465	34'-0"	16489	STR						
S601	1714	33'-3"	85600	STR						
S602	1714	32'-10"	84527	STR						
		TOTAL	258190							

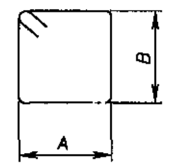
INTERMEDIATE DIAPHRAGM REINFORCING STEEL LIST †

MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
D405	330	7'-1"	1579	16	0'-6"	2'-10"				
D615	120	8'-9"	1577	26	1'-3"	1'-3"	0'-11"	4'-4"	4'-4"	
D616	120	10'-6"	1892	STR						
		TOTAL	5048							

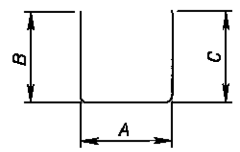
† - FOR INFORMATION ONLY - NOT INCLUDED IN REINFORCING STEEL QUANTITY PAYMENT.



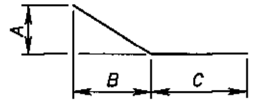
TYPE 1



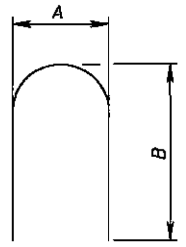
TYPE 16



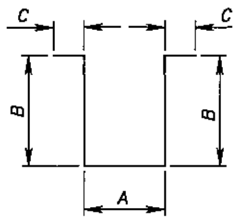
TYPE 18



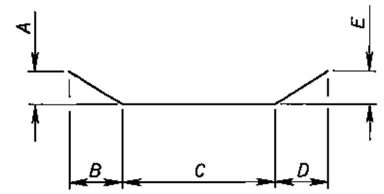
TYPE 20



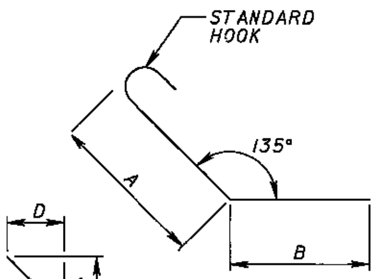
TYPE 21



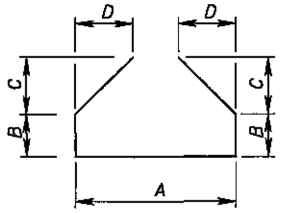
TYPE 98



TYPE 26



TYPE 28



TYPE 99

NOTES:

1. ALL BARS SHALL BE EPOXY COATED.
2. BAR DIMENSIONS SHOWN ARE OUT TO OUT AND RAD INDICATES INSIDE RADIUS.
- * REINFORCING BAR UTILIZES A MECHANICAL CONNECTOR. BAR LENGTH IS MEASURED TO THE CONSTRUCTION JOINT OR END OF CONNECTOR AS APPLICABLE. EXTRA BAR LENGTH AND/OR BAR END PREPARATION MAY BE NECESSARY DEPENDING UPON THE TYPE OF MECHANICAL CONNECTOR FURNISHED.

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

REVIEWED CAS	DATE 6/03
STRUCTURE FILE NUMBER 5202256-LEFT 5202280-RIGHT	
DRAWN CRC	REVISED
DESIGNED TTK	CHECKED CRC

REINFORCING STEEL LIST 3 - NORTHBOUND
BRIDGE NO. MED-71-0031 R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

PARAPET REINFORCING STEEL LIST

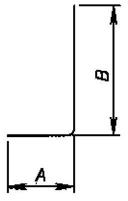
MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
R501	180	30'-0"	5632	STR						
R502	6	8'-6"	53	STR						
R503	885	7'-4"	6769	2	3'-0"	3'-2"	1'-1"	0'-6½"	0'-2¾"	
R504	24	10'-0"	250	STR						
R505	9	5'-6"	52	96						
R506	15	5'-6"	86	STR						
R507	6	24'-7"	153	STR						
R508	6	20'-0"	125	STR						
R601	31	30'-0"	1396	STR						
R602	1	28'-6"	42	STR						
R603	885	3'-4"	4541	6	1'-1"	0'-0"	1'-1"	0'-3¼"	1'-5"	
R604	885	2'-4"	3101	1	1'-1"	1'-5"				
	6	3'-11"				3'-0"				
R605	S.O.	TO	429	1	1'-1"	TO				0'-1"
	11	4'-9"				3'-10"				
R606	24	3'-11"	141	1	1'-1"	3'-0"				
R607	1	24'-7"	36	STR						
R608	1	13'-3"	19	STR						
		TOTAL	22825							

PIER REINFORCING STEEL LIST

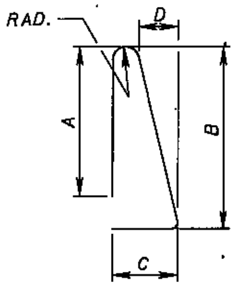
MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
P402	274	3'-9"	686	24	2'-8"					
P403	164	11'-0"	1205	18	4'-2"	3'-6"	3'-6"			
P404	12	12'-4"	98	STR						
	1	6'-2"								
P405	S.O.	TO	17	STR						2'-5⅜"
	3	11'-1"								
P406	7	10'-10"	50	STR						
P503	158	8'-4"	1373	21	2'-8"	3'-5"				
P504	130	15'-4"	2079	STR						
P505	40	26'-2"	1091	STR						
P506	16	21'-3"	354	1	4'-8"	16'-9"				
P507	40	16'-9"	698	STR						
P509	56	3'-7"	209	20	0'-11¾"	0'-11¾"	2'-3"			
P512	28	8'-0"	233	STR						
P516	28	7'-9"	228	STR						
P517	17	10'-10"	192	21	2'-8"	4'-8"				
P518	16	14'-6"	241	21	2'-8"	6'-6"				
P519	66	4'-8"	321	20	0'-11¾"	0'-11¾"	3'-4"			
P520	20	14'-10"	309	STR						
P521	20	15'-9"	328	STR						
P522	8	19'-5"	162	1	4'-9"	14'-10"				
P523	8	20'-4"	169	1	4'-9"	15'-9"				
P524	48	7'-9"	387	18	4'-0"	2'-0"	2'-0"			
P525	8	7'-7"	63	18	3'-10"	2'-0"	2'-0"			
P601	296	11'-4"	5038	18	4'-2"	3'-9"	3'-9"			
P602	46	7'-4"	506	1	1'-0"	6'-6"				
P603	8	12'-10"	154	STR						
P604	10	27'-10"	418	STR						
P605	38	5'-1"	290	STR						
P606	104	5'-0"	781	STR						
P609	10	12'-0"	180	STR						
P610	12	26'-0"	468	STR						
P613	14	22'-7"	474	STR						
P614	14	20'-10"	438	STR						
P615	12	10'-3"	184	STR						
P616	12	9'-4"	168	STR						
P620	168	10'-11"	2754	18	2'-9"	4'-3"	4'-3"			
P621	8	12'-0"	144	18	4'-0"	4'-2"	4'-2"			
P622	8	26'-10"	322	STR						
P623	8	35'-10"	430	STR						
P701	200	8'-7"	3508	1	1'-2"	7'-7"				
P708	24	9'-9"	478	STR						
P709	26	22'-2"	1178	STR						
P710	26	29'-3"	1554	STR						
P711	26	27'-6"	1461	STR						
P712	24	13'-3"	649	STR						
P713	24	12'-4"	605	STR						
P714	26	24'-0"	1275	STR						
P715	24	10'-7"	519	STR						
P801	136	13'-6"	4902	22	11'-8"					

PIER REINFORCING STEEL LIST (CONT'D)

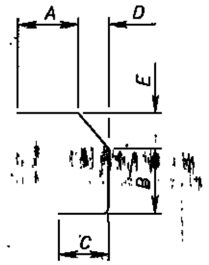
MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
P802	40	25'-6"	2723	22	23'-8"					
P805	8	30'-11"	660	1	4'-3"	26'-10"				
P806	4	26'-10"	286	STR						
P807	8	30'-0"	640	STR						
P808	4	35'-10"	382	STR						
P809	8	16'-6"	352	1	3'-7"	13'-1"				
P810	3	21'-10"	174	STR						
	1	17'-9"								
P811	S.O.	TO	153	STR						1'-5½"
	3	20'-8"								
P812	5	23'-8"	315	22	21'-10"					
P813	2	20'-11"	111	22	19'-1"					
P814	2	16'-3"	86	22	14'-5"					
P815	1	10'-7"	28	22	8'-9"					
P816	1	21'-3"	56	22	19'-5"					
P817	1	9'-2"	24	22	7'-4"					
P818	2	19'-6"	104	22	17'-8"					
P819	1	9'-11"	26	22	8'-1"					
P820	1	[illegible]	[illegible]	22	[illegible]					
P821	1	[illegible]	16	22	[illegible]					
P822	1	6'-6"	17	22	4'-8"					
P902	45	13'-2"	2014	22	10'-8"					
P904	32	6'-0"	652	STR						
P905	20	8'-11"	606	22	6'-5"					
P906	20	11'-11"	810	22	9'-5"					
P912	20	11'-2"	759	22	8'-8"					
P921	44	26'-4"	3939	STR						
P922	44	11'-4"	1695	1	1'-8"	10'-0"				
P923	18	14'-10"	907	22	12'-4"					
P924	2	11'-8"	79	22	9'-2"					
P925	4	7'-5"	100	22	4'-11"					
P926	1	13'-10"	47	22	11'-4"					
P927	2	8'-0"	54	22	5'-6"					
P928	1	4'-1"	13	STR						
P929	1	11'-11"	40	22	9'-5"					
P930	1	11'-3"	38	22	8'-9"					
P931	28	34'-9"	3308	18	26'-2"	4'-7"	4'-7"			
P932	1	8'-1"	27	STR						
P1003	12	26'-10"	1385	STR						
P1004	12	35'-10"	1850	STR						
P1101	21	21'-6"	2398	22	18'-4"					
SP402	4	22'-8"	1819	15	2'-6"	0'-4½"				
		TOTAL	67890							



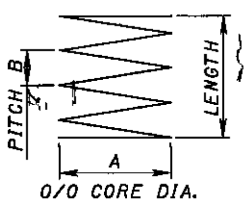
TYPE 1



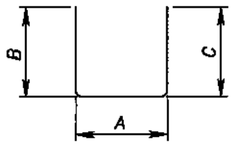
TYPE 2



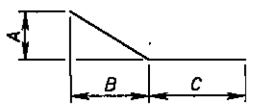
TYPE 6



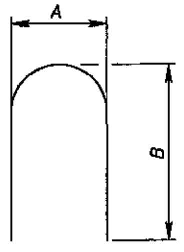
TYPE 15



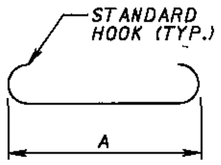
TYPE 18



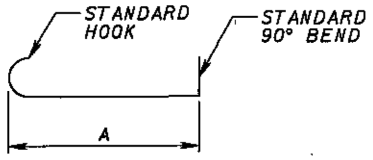
TYPE 20



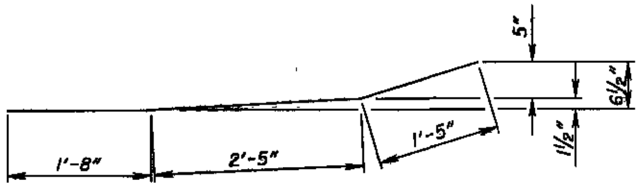
TYPE 21



TYPE 22



TYPE 24



TYPE 96

NOTES:

1. ALL BARS SHALL BE EPOXY COATED.
2. BAR DIMENSIONS SHOWN ARE OUT TO OUT AND RAD INDICATES INSIDE RADIUS.

DESIGNED	DRAWN	REVIEWED	DATE
TTK	CRC	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CRC		5202256-LEFT 5202280-RIGHT	

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

REINFORCING STEEL LIST 4 - NORTHBOUND
BRIDGE NO. MED-71-0031 R.
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00

76/77

558/785

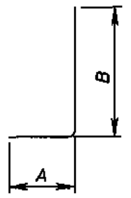
P:/PR30489/CADD/MED-71-0342/ME071r14.DGN

NORTHBOUND RETAINING WALL REINFORCING STEEL LIST

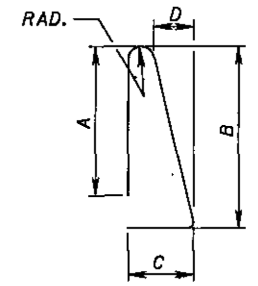
MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
WN501	2	13'-6"	28	STR						
WN502	81	29'-8"	2506	STR						
WN503	2	12'-2"	25	20	0'-10"	10'-0"	2'-2"			
WN504	6	12'-2"	76	STR						
WN505	3	5'-6"	17	96						
WN506	5	5'-6"	28	STR						
WN507	4	20'-6"	85	STR						
WN508	11	15'-7"	178	STR						
WN509	10	29'-6"	307	STR						
WN510	4	5'-7"	23	STR						
WN511	140	7'-4"	1070	2	3'-0"	3'-2"	1'-1"	0'-6½"	0'-2¾"	
WN512	156	5'-7"	908	1	1'-6"	4'-3"				
WN513	31	13'-2"	425	STR						
WN514	31	12'-5"	401	STR						
WN515	31	11'-9"	379	STR						
WN516	22	11'-1"	254	STR						
WN517	15	9'-1"	142	STR						
WN518	10	4'-9"	49	STR						
WN519	14	4'-6"	65	STR						
WN520	10	6'-5"	66	18	1'-2"	2'-9"	2'-9"			
WN601	168	11'-4"	2859	STR						
WN602	59	9'-4"	827	STR						
WN603	62	6'-4"	589	STR						
WN604	64	30'-0"	2883	STR						
	2	4'-2"								
WN605	S.O.	TO	151	STR						0'-1"
	11	5'-0"								
WN606	8	3'-11"	47	1	1'-1"	3'-0"				
WN607	17	30'-8"	783	STR						
WN608	15	29'-0"	653	STR						
WN609	13	32'-11"	642	STR						
WN610	11	32'-1"	530	STR						
WN611	18	16'-8"	450	STR						
WN612	18	11'-8"	315	STR						
WN613	18	13'-8"	369	STR						
WN614	30	7'-8"	345	32	3'-0"	2'-0"	3'-0"			
WN615	8	9'-2"	110	33	3'-0"	2'-6"	3'-0"	2'-0"		
WN616	16	9'-6"	228	33	3'-0"	3'-0"	3'-0"	2'-0"		
WN617	140	11'-4"	2383	95						
WN618	15	9'-7"	215	STR						
WN619	10	5'-3"	78	STR						
WN620	14	5'-0"	105	STR						
WN701	84	11'-4"	1945	STR						
WN702	30	9'-4"	572	STR						
WN703	37	6'-4"	478	STR						
WN704	31	13'-8"	865	STR						
WN705	31	12'-11"	818	STR						
WN706	31	12'-3"	776	STR						
WN707	22	11'-7"	520	STR						
WN708	39	6'-7"	524	1	1'-6"	5'-3"				
WN901	115	6'-5"	2508	1	1'-6"	5'-3"				
		TOTAL	30600							

SOUTHBOUND RETAINING WALL REINFORCING STEEL LIST

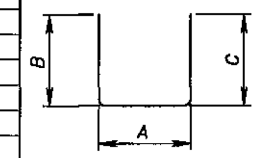
MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
WS501	168	7'-4"	1284	2	3'-0"	3'-2"	1'-1"	0'-6½"	0'-2¾"	
WS502	31	9'-11"	320	STR						
WS503	2	12'-2"	25	20	0'-10"	10'-0"	2'-2"			
WS504	6	12'-2"	76	STR						
WS505	3	5'-6"	17	96						
WS506	5	5'-6"	28	STR						
WS507	182	5'-7"	1059	1	1'-6"	4'-3"				
WS508	7	11'-0"	80	STR						
WS509	31	9'-0"	290	STR						
WS510	31	9'-8"	312	STR						
WS511	31	10'-3"	331	STR						
WS512	2	11'-0"	22	STR						
WS513	20	8'-6"	177	STR						
WS514	11	7'-6"	86	STR						
WS515	8	5'-8"	47	STR						
WS516	14	5'-10"	85	STR						
WS517	12	18'-8"	233	STR						
WS518	8	0'-11"	7	STR						
WS519	7	4'-7"	33	STR						
WS520	117	29'-8"	3620	STR						
WS521	4	20'-8"	86	STR						
WS522	8	6'-5"	53	18	1'-2"	2'-9"	2'-9"			
WS601	247	8'-5"	3122	STR						
WS602	69	6'-5"	665	STR						
WS603	24	37'-3"	1342	STR						
WS604	48	30'-0"	2162	STR						
	2	4'-2"								
WS605	S.O.	TO	151	STR						0'-1"
	11	5'-0"								
WS606	8	3'-11"	47	1	1'-1"	3'-0"				
WS607	13	35'-0"	683	STR						
WS608	11	33'-0"	545	STR						
WS609	18	21'-3"	574	STR						
WS610	18	11'-3"	304	STR						
WS611	18	17'-3"	466	STR						
WS612	43	7'-8"	495	32	3'-0"	2'-0"	3'-0"			
WS613	27	9'-6"	385	33	3'-0"	3'-0"	3'-0"	2'-0"		
WS614	8	8'-9"	105	33	3'-0"	2'-0"	3'-0"	2'-0"		
WS615	168	11'-4"	2860	95						
WS616	20	9'-0"	270	STR						
WS617	11	8'-0"	132	STR						
WS618	4	6'-2"	37	STR						
WS619	14	6'-4"	133	STR						
WS701	124	8'-5"	2133	STR						
WS702	45	6'-5"	590	STR						
WS703	31	10'-5"	660	STR						
WS704	7	11'-6"	164	STR						
WS705	31	9'-6"	601	STR						
WS706	31	10'-2"	644	STR						
WS707	31	10'-9"	681	STR						
WS708	2	11'-6"	47	STR						
WS709	49	6'-7"	659	1	1'-6"	5'-3"				
WS801	133	5'-10"	2071	1	1'-6"	4'-6"				
		TOTAL	30999							



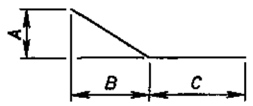
TYPE 1



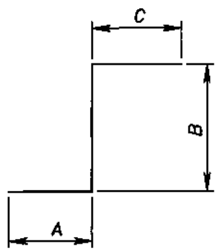
TYPE 2



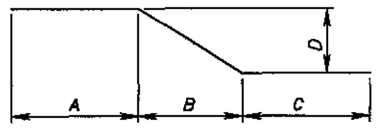
TYPE 18



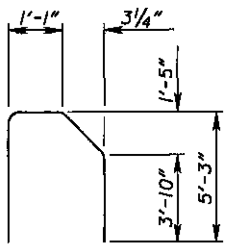
TYPE 20



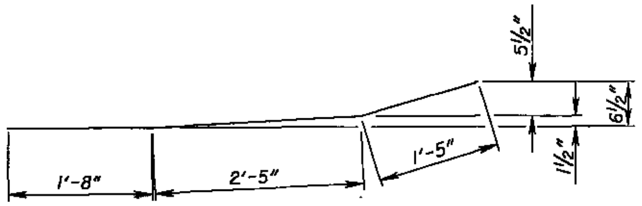
TYPE 32



TYPE 33



TYPE 95



TYPE 96

NOTES:

1. ALL BARS SHALL BE EPOXY COATED.
2. BAR DIMENSIONS SHOWN ARE OUT TO OUT AND RAD INDICATES INSIDE RADIUS.

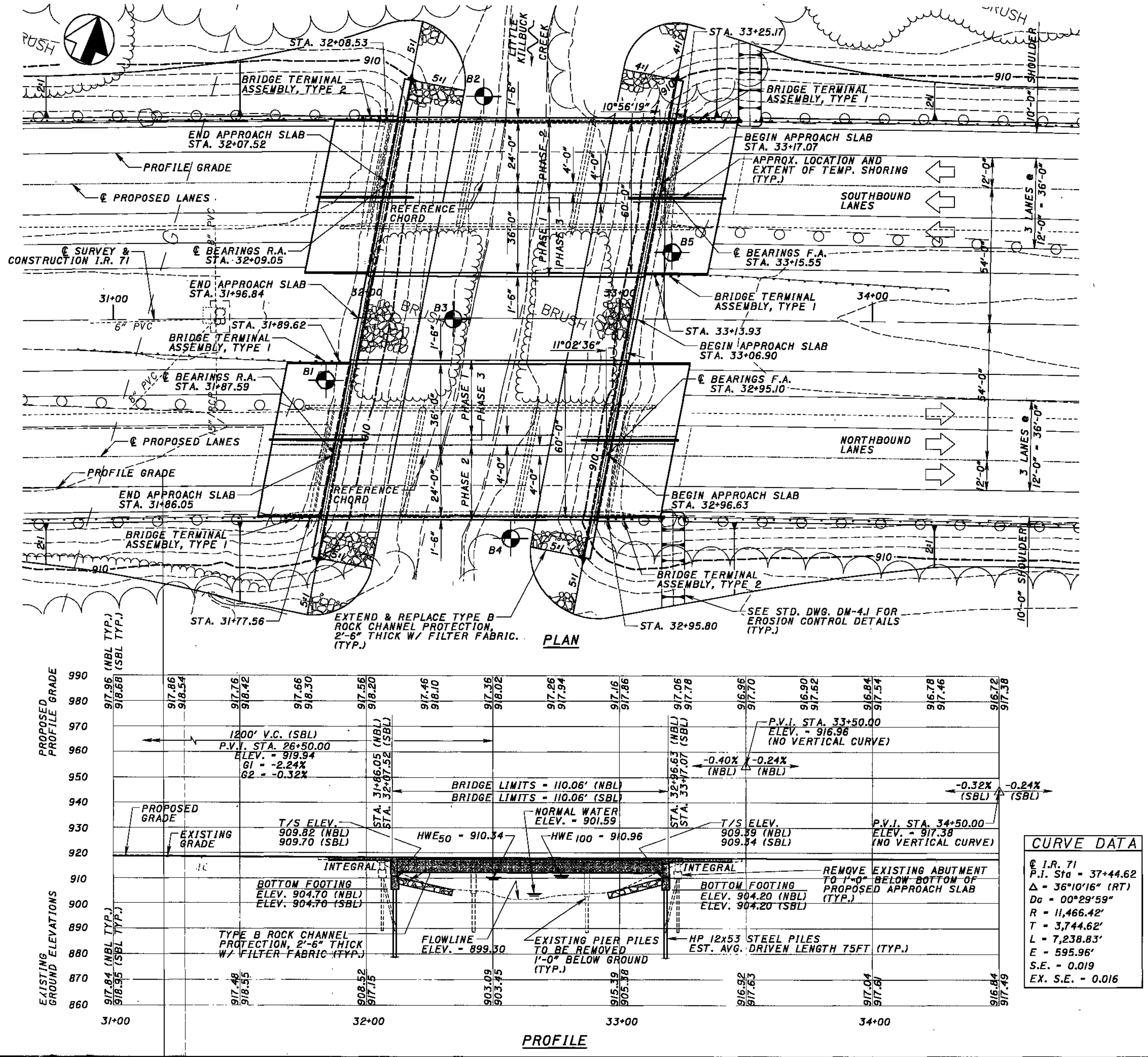
P:/PR30489/CADD/MED-71-0342/ME071r15.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
MAK	AAA	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CRC		5202256-LEFT 5202280-RIGHT	

REINFORCING STEEL LIST 5 - RETAINING WALLS
BRIDGE NO. MED-71-0031 L/R
OVER ABANDONED RAILROAD

WAY/MED-71-7.04/0.00


PLAN
PROFILE
LITTLE KILLBUCK CREEK
BRUSH
STA. 32+08.53
STA. 33+25.17
BRIDGE TERMINAL ASSEMBLY, TYPE 2
BRIDGE TERMINAL ASSEMBLY, TYPE 1
10°56'19"
11°02'36"
END APPROACH SLAB STA. 32+07.52
BEGIN APPROACH SLAB STA. 33+17.07
APPROX. LOCATION AND EXTENT OF TEMP. SHORING (TYP.)
PROFILE GRADE
℄ PROPOSED LANES
SOUTHBOUND LANES
NORTHBOUND LANES
REFERENCE CHORD
PHASE 1
PHASE 2
PHASE 3
℄ SURVEY & CONSTRUCTION I.R. 71
℄ BEARINGS R.A. STA. 32+09.05
℄ BEARINGS F.A. STA. 33+15.55
END APPROACH SLAB STA. 31+96.84
STA. 31+89.62
STA. 33+13.93
BEGIN APPROACH SLAB STA. 33+06.90
℄ BEARINGS R.A. STA. 31+87.59
℄ BEARINGS F.A. STA. 32+95.10
END APPROACH SLAB STA. 31+86.05
BEGIN APPROACH SLAB STA. 32+96.63
STA. 31+77.56
STA. 32+95.80
EXTEND & REPLACE TYPE B ROCK CHANNEL PROTECTION, 2'-6" THICK W/ FILTER FABRIC. (TYP.)
SEE STD. DWG. DM-4.1 FOR EROSION CONTROL DETAILS (TYP.)
3 LANES @ 12'-0" = 36'-0"
54'-0"
10'-0" SHOULDER
60'-0"
36'-0"
24'-0"
4'-0"
1'-6"
6" PVC
31+00
32+00
33+00
34+00
B1
B2
B3
B4
B5
910
PROPOSED PROFILE GRADE
EXISTING GROUND ELEVATIONS
1200' V.C. (SBL)
P.V.I. STA. 26+50.00
ELEV. = 919.94
G1 = -2.24%
G2 = -0.32%
P.V.I. STA. 33+50.00
ELEV. = 916.96
(NO VERTICAL CURVE)
-0.40% (NBL)
-0.24% (NBL)
-0.32% (SBL)
-0.24% (SBL)
BRIDGE LIMITS = 110.06' (NBL)
BRIDGE LIMITS = 110.06' (SBL)
STA. 31+86.05 (NBL)
STA. 32+07.52 (SBL)
STA. 32+96.63 (NBL)
STA. 33+17.07 (SBL)
PROPOSED GRADE
EXISTING GRADE
T/S ELEV. 909.82 (NBL) 909.70 (SBL)
T/S ELEV. 909.39 (NBL) 909.34 (SBL)
HWE50 = 910.34
NORMAL WATER ELEV. = 901.59
HWE100 = 910.96
P.V.I. STA. 34+50.00
ELEV. = 917.38
(NO VERTICAL CURVE)
INTEGRAL
BOTTOM FOOTING ELEV. 904.70 (NBL) ~~ELEV. 904.70 (SBL)~~
BOTTOM FOOTING ELEV. 904.20 (NBL) ~~ELEV. 904.20 (SBL)~~
REMOVE EXISTING ABUTMENT TO 1'-0" BELOW BOTTOM OF PROPOSED APPROACH SLAB (TYP.)
TYPE B ROCK CHANNEL PROTECTION, 2'-6" THICK W/ FILTER FABRIC (TYP.)
FLOWLINE ELEV. = 899.30
EXISTING PIER PILES TO BE REMOVED 1'-0" BELOW GROUND (TYP.)
HP 12x53 STEEL PILES EST. AVG. DRIVEN LENGTH 75FT (TYP.)
917.96 (NBL TYP.)
918.68 (SBL TYP.)
917.86 918.54
917.76 918.42
917.66 918.30
917.56 918.20
917.46 918.10
917.36 918.02
917.26 917.94
917.16 917.86
917.06 917.78
916.96 917.70
916.90 917.62
916.84 917.54
916.78 917.46
916.72 917.38
917.84 (NBL TYP.)
918.95 (SBL TYP.)
917.48 918.55
908.52 917.15
903.09 903.45
915.39 905.38
916.92 917.63
917.04 917.61
916.84 917.49
990
980
970
960
950
940
930
920
910
900
890
880
870
860

CURVE DATA

℄ I.R. 71
P.I. Sta = 37+44.62
Δ = 36°10'16" (RT)
Dc = 00°29'59"
R = 11,466.42'
T = 3,744.62'
L = 7,238.83'
E = 595.96'
S.E. = 0.019
EX. S.E. = 0.016

NOTES:

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS-SECTIONS.
2. REFERENCE CHORDS ARE MEASURED FROM THE INTERSECTION OF THE CENTERLINES OF LANES AND THE CENTERLINES OF ABUTMENT BEARINGS.
3. SPAN LENGTHS ARE MEASURED ALONG REFERENCE CHORDS.
4. BRIDGE LIMITS ARE MEASURED ALONG THE ℄ PROPOSED LANES, NOT ℄ OF I.R. 71.

LEGEND:

B1 ⌖ - CURRENT FOUNDATION INVESTIGATION BORING
R.A. = REAR ABUTMENT
F.A. = FORWARD ABUTMENT
NBL = NORTHBOUND LANES
SBL = SOUTHBOUND LANES

HYDRAULIC DATA

DRAINAGE AREA = 10.55 SQ.MI.
Q_{50} = 1987 cfs Q_{100} = 2296 cfs
V_{50} = 9.00 ft/s V_{100} = 9.69 ft/s
$FREEBOARD_{50}$ = 0.74 ft

SOIL BORING INFORMATION

BORING NO.	STATION	OFFSET	ELEVATION
B1	31+83.99	24.57' (RT)	916.81
B2	32+46.44	87.77' (LT)	905.08
B3	32+34.34	00.49' (RT)	904.83
B4	32+57.14	86.96' (RT)	904.43
B5	33+20.64	26.35' (LT)	916.31

BENCHMARK INFORMATION

BM #5 TOP STEEL POST SE OF NB LANES 200' SW OF BR # MED 71 0060R ELEV. 916.22

TBM #105 "X" CUT ON SE BOLT TOP PARAPET WALL NW END OF NORTHERLY PARAPET WALL NB LANES BRIDGE # MED 71 0060R ELEV. 920.35

EXISTING STRUCTURE

TYPE: CONTINUOUS REINFORCED CONCRETE SLAB DECK WITH CAPPED PILE SUBSTRUCTURE.
SPANS: 36'-0", 45'-0", 36'-0"± c/c BEARINGS
STRUCTURE FILE NO.: 5202310 & 5202345
ROADWAY: 42'-0"± f/f PARAPETS
ORIGINAL DESIGN LOADING: CF 2000, ADEQUATE FOR AASHTO ALTERNATE LOADING
WEARING SURFACE: 1" MONOLITHIC
ALIGNMENT: 00°30'00"± CURVE RIGHT
SUPERELEVATION: 3/16" PER FT
APPROACH SLABS: 25'-0"± LONG
DATE BUILT: 1959
SKEW: 11°00'00"± LEFT FORWARD

PROPOSED STRUCTURE

TYPE: PRESTRESSED CONCRETE I-BEAM WITH COMPOSITE REINFORCED CONCRETE DECK ON REINFORCED CONCRETE INTEGRAL ABUTMENTS.
SPAN: 107'-0" c/c BEARINGS (MEASURED ALONG REFERENCE CHORD)
ROADWAY: 60'-0" f/f PARAPETS (MEASURED PERPENDICULAR TO REFERENCE CHORD)
DESIGN LOADING: HS25 AND THE ALTERNATE MILITARY LOADING
FUTURE WEARING SURFACE LOADING: 60 PSF
SKEW: 10°56'19" LEFT FORWARD (SBL), 11°02'36" LEFT FORWARD (NBL) (MEASURED WITH RESPECT TO REFERENCE CHORD)
WEARING SURFACE: MONOLITHIC CONCRETE
APPROACH SLABS: AS-1-81 (25'-0" LONG)
ALIGNMENT: 00°29'59" CURVE RIGHT
SUPERELEVATION: 0.019 FT/FT
ADT (2006): 44690   ADTT (2006): 15200
ADT (2026): 61590   ADTT (2026): 20940
LATITUDE: N 40°59'42"
LONGITUDE: W 82°01'13"

ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

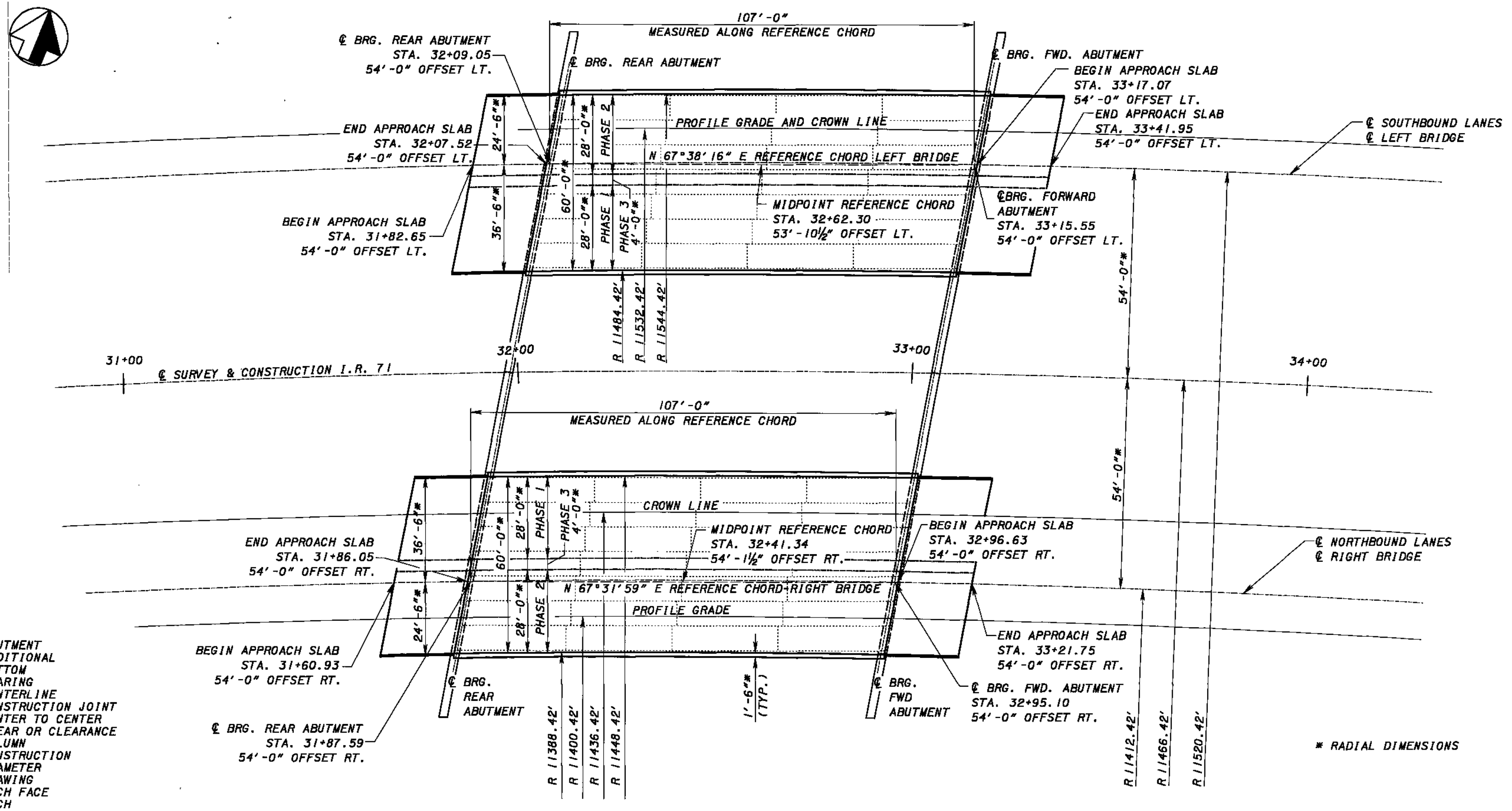
DESIGNED	DRAWN	REVIEWED	DATE
WTL	CRC	RWB	5/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TTK		5202310-LEFT 5202345-RIGHT	

MEDINA COUNTY
STA. 31+96.84
STA. 33+06.90

SITE PLAN

BRIDGE NO. MED-71-0060 L/R
OVER LITTLE KILLBUCK CREEK

WAY/MED-71-7.04



REFERENCE CHORD SCHEMATIC

GENERAL PLAN

(NOT TO SCALE)

ABBREVIATIONS

ABUT.	ABUTMENT
ADD'L.	ADDITIONAL
BOT. OR BOTT.	BOTTOM
BRG.	BEARING
℄	CENTERLINE
C.J.	CONSTRUCTION JOINT
C/C	CENTER TO CENTER
CLR.	CLEAR OR CLEARANCE
COL.	COLUMN
CONSTR. OR CONST.	CONSTRUCTION
DIA.	DIAMETER
DWG.	DRAWING
E.F.	EACH FACE
EA.	EACH
ELEV. OR EL.	ELEVATION
EQ.	EQUAL
EX. OR EXIST.	EXISTING
EXT.	EXTERIOR
F.A.	FORWARD ABUTMENT
F.F.	FAR FACE
FDN.	FOUNDATION
FT.	FEET OR FOOT
FTG.	FOOTING
FWD.	FORWARD
GRD.	GROUND
INT.	INTERIOR
JT.	JOINT
LB.	POUND
LIN. FT.	LINEAL FOOT
LT.	LEFT
MAX.	MAXIMUM
MFR. OR MANUF	MANUFACTURER
MIN.	MINIMUM
MISC.	MISCELLANEOUS
MSE	MECHANICALLY STABALIZED EARTH WALL
N.F.	NEAR FACE
O/C	ON CENTERS
O/O	OUT TO OUT
℄	PLATE
PCB	PORTABLE CONCRETE BARRIER
PEJF	PREFORMED EXPANSION JOINT FILLER
PROP.	PROPOSED
R.A.	REAR ABUTMENT
REF.	REFERENCE
RT.	RIGHT
SER.	SERIES
SHLDR.	SHOULDER
SHT.	SHEET
SP. OR SPA.	SPACE OR SPACES
STA.	STATION
STD.	STANDARD
STR.	STRAIGHT
T & B	TOP AND BOTTOM
T/S OR T.O.S.	TOP OF SLOPE
TEMP.	TEMPORARY
TYP.	TYPICAL
W/	WITH

NOTE:
THE CENTERLINE OF SURVEY & CONSTRUCTION, I.R. 71 HAS A CURVED ALIGNMENT AND THE BRIDGE DECK AND APPROACH SLAB MATCHES THIS CURVE AS SHOWN. EACH REFERENCE LINE IS ESTABLISHED BY CONNECTING THE INTERSECTION OF THE CENTERLINE OF EACH BRIDGE WITH THE CENTERLINE OF BEARING OF THE REAR AND FORWARD ABUTMENTS WITH A STRAIGHT LINE. THE PRESTRESSED CONCRETE I-BEAMS ARE PARALLEL TO THE REFERENCE LINE. THEREFORE, THE DECK OVERHANG DIMENSIONS ON EITHER SIDE OF EACH BRIDGE VARY. SEE SHEET 24/29 FOR LEFT BRIDGE DECK OFFSETS. SEE SHEET 25/29 FOR RIGHT BRIDGE DECK OFFSETS.

DATE: 10/17/2003 08:51:21 PM
FILENAME: t:\drawing\08\06419\312\detail design\02genplan.dgn

PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
GKL	KVM	RWB	5/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JNS		5202310-LEFT 5202345-RIGHT	

GENERAL PLAN
BRIDGE NO. MED-71-0060 L/R
OVER LITTLE KILLBUCK CREEK

WAY/MED-71-7.04

2/29

561/785

GENERAL NOTES

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002 AND THE ODOT BRIDGE DESIGN MANUAL.

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-81	REVISED	07/19/02
DM-4.1	REVISED	07/19/02
ICD-1-82	REVISED	07/19/02
PCB-91	REVISED	07/19/02
PSID-1-99	REVISED	07/18/03
SBR-1-99	REVISED	07/19/02

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

846	DATED	04/19/02
864	DATED	07/11/00
894	DATED	10/18/02
954	DATED	09/09/97

DESIGN LOADING:

HS25, AND THE ALTERNATE MILITARY LOADING
FUTURE WEARING SURFACE (FWS) OF 60 LBS/FT½

DESIGN DATA:

CONCRETE CLASS HP - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)
CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL:
ASTM A615 OR A996 GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI
SPIRAL REINFORCEMENT MAY BE PLAIN BARS, ASTM A82 OR A615

CONCRETE FOR PRESTRESSED BEAMS:
COMPRESSIVE STRENGTH (FINAL) - 7000 PSI
COMPRESSIVE STRENGTH (RELEASE) - 5500 PSI

PRESTRESSING STRAND:
AREA = 0.167 IN½
ULTIMATE STRESS = 270 KSI
INITIAL STRESS = 202.5 KSI (LOW RELAXATION STRANDS)

DECK PROTECTION METHOD:

CLASS HP CONCRETE
EPOXY COATED REINFORCING STEEL
2½" CONCRETE COVER

MONOLITHIC WEARING SURFACE:

ASSUMED FOR DESIGN PURPOSES TO BE 1" THICK.

ITEM 202, STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN:

SEE SHEET 1/29 FOR LIMITS OF ABUTMENT REMOVAL.

PROTECTION OF TRAFFIC:

PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, SUBMIT PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR, PEDESTRIAN, BOAT, ETC.) ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE DIRECTOR AT LEAST 30 DAYS BEFORE CONSTRUCTION BEGINS. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. MAINTAIN THE TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE DIRECTOR. ALL COSTS ASSOCIATED WITH THIS TRAFFIC PROTECTION WILL BE INCLUDED WITH ITEM 202 FOR PAYMENT.

ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN:

THE BACKFILL MATERIAL BEHIND THE ABUTMENTS SHALL BE TYPE B GRANULAR MATERIAL, 703.16.C, PLACED AND COMPACTED IN 6 INCH LIFTS.

ITEM 503, COFFERDAMS, CRIBS, AND SHEETING, AS PER PLAN:

AT THE OPTION OF THE CONTRACTOR, AN ALTERNATE METHOD OF TEMPORARY SHORING FOR PART-WIDTH CONSTRUCTION MAY BE USED. PLANS FOR SUCH SHORING SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER AND CONFORM WITH 501.05. FOR APPROVAL, FIVE COPIES OF THE DRAWINGS SHALL BE SUBMITTED TO THE DIRECTOR AND CONCURRENTLY, ONE COPY TO THE OFFICE OF STRUCTURAL ENGINEERING. CONSTRUCTION OF THE SHORING SHALL NOT BEGIN UNTIL AFTER WRITTEN APPROVAL HAS BEEN RECEIVED FROM THE DIRECTOR. PORTIONS OF THE TEMPORARY SHORING COMPOSED OF STEEL OR CONCRETE MAY BE LEFT IN PLACE AT THE DISCRETION OF THE ENGINEER. PORTIONS COMPOSED OF OTHER MATERIALS SHALL BE REMOVED PRIOR TO COMPLETION OF THE WORK.

ITEM 507, STEEL PILES:

PILES DRIVEN INTO BEDROCK:
DRIVE PILES TO REFUSAL ON BEDROCK. THE DEPARTMENT WILL CONSIDER REFUSAL TO BE OBTAINED BY PENETRATING SOFT BEDROCK FOR SEVERAL INCHES TO A MINIMUM RESISTANCE OF 20 BLOWS PER INCH OR BY CONTACTING HARD BEDROCK AND THE PILE RECEIVING AT LEAST 20 BLOWS. SELECT THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL.

THE ULTIMATE BEARING VALUE IS 121.0 TONS PER PILE FOR THE HP12x53 ABUTMENT PILES.

REAR ABUTMENT PILES, RIGHT BRIDGE:
17 - HP12x53 PILES 80 FEET LONG, ORDER LENGTH

FORWARD ABUTMENT PILES, RIGHT BRIDGE:
17 - HP12x53 PILES 80 FEET LONG, ORDER LENGTH

REAR ABUTMENT PILES, LEFT BRIDGE:
17 - HP12x53 PILES 80 FEET LONG, ORDER LENGTH

FORWARD ABUTMENT PILES, LEFT BRIDGE:
17 - HP12x53 PILES 80 FEET LONG, ORDER LENGTH

ITEM 507, STEEL POINTS, AS PER PLAN:

USE STEEL PILE POINTS TO PROTECT THE TIPS OF THE PROPOSED STEEL "H" PILING. FURNISH STEEL POINTS FROM THE FOLLOWING MANUFACTURERS/SUPPLIERS: ASSOCIATED PILE AND FITTING CORPORATION, 262 RUTHERFORD BLVD., CLIFTON, NEW JERSY 07014; INTERNATIONAL CONSTRUCTION EQUIPMENT, INC., 301 WAREHOUSE DRIVE, MATTHEWS, NORTH CAROLINA 28015; DOUGHERTY FOUNDATION PRODUCTS, INC., P.O. BOX 688, FRANKLIN LAKES, NEW JERSY 07417; VERSA STEEL, INC., 1618 N.E. FIRST AVE., PORTLAND, OREGON 97232; PILING ACCESSORIES, INC., 3467 GRIBBLE ROAD, MATHEWS, NORTH CAROLINA 28105; OR BY A MANUFACTURER THAT CAN FURNISH A STEEL POINT THAT IS ACCEPTABLE TO THE DIRECTOR. THE MATERIAL USED FOR THE MANUFACTURING OF PILE POINTS SHALL CONFORM TO ASTM A27/A27M 65/35 [450/240] - CLASS 2 - HEAT TREATED OR AASHTO M103/M103M 65/35[450/240] - HEAT TREATED. WELD THE PILE POINTS TO THE PILE IN ACCORDANCE WITH AWS D1.5 OR THE MANUFACTURER'S WRITTEN WELDING PROCEDURE SUPPLIED TO THE ENGINEER BEFORE THE WELDING IS PERFORMED. SUBMIT A NOTARIZED COPY OF THE MILL TEST REPORT TO THE ENGINEER.

UTILITY LINES:

THE UTILITY(IES) SHALL BEAR ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITY(IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

ITEM 516 INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN:

INSTALL A 3 FOOT WIDE NEOPRENE SHEET AT LOCATIONS SHOWN IN THE PLANS. SECURE THE NEOPRENE SHEETING TO THE CONCRETE WITH 1¼"x#10 GAGE (LENGTH x SHANK DIAMETER) GALVANIZED BUTTON HEAD SPIKES THROUGH A 1 INCH OUTSIDE DIAMETER, #10 GAGE GALVANIZED WASHER. MAXIMUM FASTENER SPACING IS 9 INCHES. USE OF OTHER SIMILAR GALVANIZED DEVICES, WHICH WILL NOT DAMAGE EITHER THE NEOPRENE OR THE CONCRETE WILL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

CENTER THE NEOPRENE STRIPS ON ALL JOINTS. FOR HORIZONTAL JOINTS, SECURE THE HORIZONTAL NEOPRENE STRIP BY USING A SINGLE LINE OF FASTENERS, STARTING AT 6 INCHES, ±, FROM THE TOP OF THE NEOPRENE STRIP. FOR THE VERTICAL JOINTS SECURE THE VERTICAL NEOPRENE STRIP BY USING A SINGLE VERTICAL LINE OF FASTENERS, STARTING AT 6 INCHES, ±, FROM THE VERTICAL EDGE OF THE NEOPRENE STRIP NEAREST TO THE CENTERLINE OF ROADWAY. FOR VERTICAL JOINTS, INSTALL 2 ADDITIONAL FASTENERS AT 6 INCHES, CENTER TO CENTER, ACROSS THE TOP OF THE NEOPRENE STRIP ON THE SAME SIDE OF THE VERTICAL JOINT AS THE SINGLE VERTICAL ROW OF FASTENERS IS LOCATED.

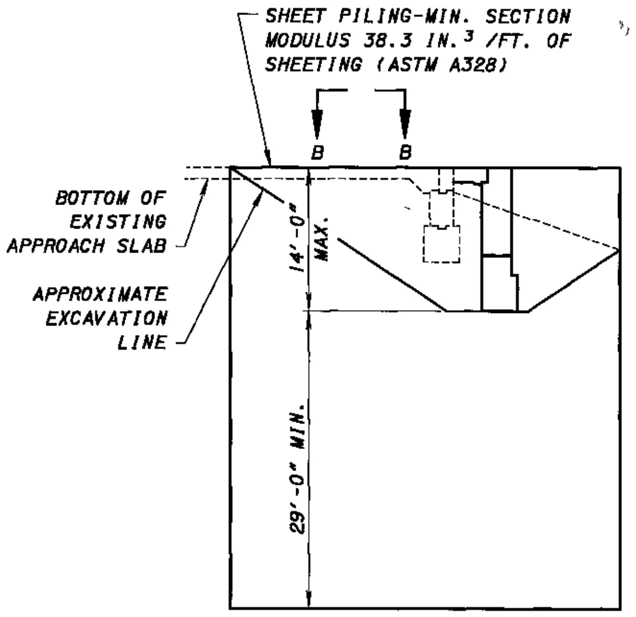
THE VERTICAL NEOPRENE STRIPS SHALL COMPLETELY OVERLAP THE HORIZONTAL STRIPS. LAP LENGTHS OF THE HORIZONTAL STRIPS THAT ARE NOT VULCANIZED OR ADHESIVE BONDED, SHALL BE AT LEAST 1 FOOT IN LENGTH, OR 6 INCHES IN LENGTH IF THE LAP IS VULCANIZED OR ADHESIVE BONDED. NO LAPS ARE ACCEPTABLE IN VERTICALLY INSTALLED NEOPRENE STRIPS.

THE NEOPRENE SHEETING SHALL BE 3/32" THICK GENERAL PURPOSE, HEAVY DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT. THE SHEETING SHALL BE "FAIRPRENE NUMBER NN-0003", BY E.I. DUPONT DE NEMOURS AND COMPANY, INC., "WINGPRENE" BY THE GOODYEAR TIRE AND RUBBER COMPANY, OR AN APPROVED ALTERNATE. THE NEOPRENE SHEETING SHALL CONFORM TO THE FOLLOWING:

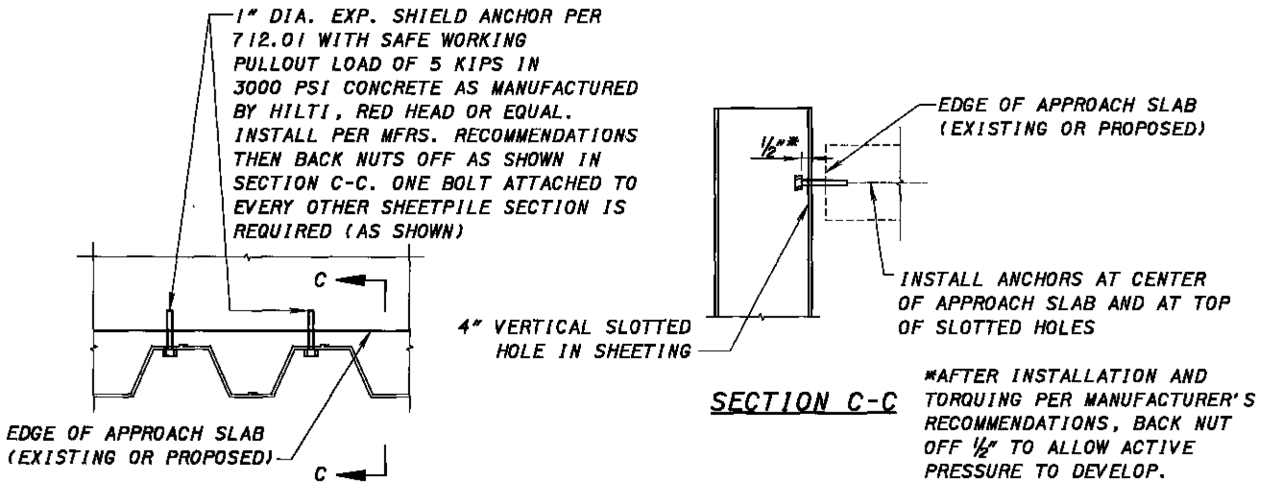
DESCRIPTION OF TEST	ASTM METHOD	REQUIREMENT
THICKNESS, INCHES	D 751	0.094" +/- .01
BREAKING STRENGTH, GRAB, LBS, MIN.	D 751	700 x 700
ADHESIVE STRIP 1"x2" LONG, LBS MIN.	D 751	9
BURST STRENGTH PSI, MIN.	D 751	1400
HEAT AGING 70 HOURS 212°F, 180° BEND WITHOUT CRACKING	D 2136	NO CRACKING OF COATING
LOW TEMPERATURE BRITTLENESS 1 HOUR AT -40°F, BEND AROUND ¼" MANDREL	D 2136	NO CRACKING OF COATING

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE TOTAL LENGTH OF JOINT TO BE SEALED BY THE NUMBER OF FEET.

BASIS OF PAYMENT: THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN.


SHEET PILING-MIN. SECTION MODULUS 38.3 IN.³ /FT. OF SHEETING (ASTM A328)
B
B
BOTTOM OF EXISTING APPROACH SLAB
APPROXIMATE EXCAVATION LINE
14'-0" MAX.
29'-0" MIN.

ELEVATION VIEW


C
C
½"*
EDGE OF APPROACH SLAB (EXISTING OR PROPOSED)
EDGE OF APPROACH SLAB (EXISTING OR PROPOSED)
4" VERTICAL SLOTTED HOLE IN SHEETING

1" DIA. EXP. SHIELD ANCHOR PER 712.01 WITH SAFE WORKING PULLOUT LOAD OF 5 KIPS IN 3000 PSI CONCRETE AS MANUFACTURED BY HILTI, RED HEAD OR EQUAL. INSTALL PER MFRS. RECOMMENDATIONS THEN BACK NUTS OFF AS SHOWN IN SECTION C-C. ONE BOLT ATTACHED TO EVERY OTHER SHEETPILE SECTION IS REQUIRED (AS SHOWN)

INSTALL ANCHORS AT CENTER OF APPROACH SLAB AND AT TOP OF SLOTTED HOLES

*AFTER INSTALLATION AND TORQUING PER MANUFACTURER'S RECOMMENDATIONS, BACK NUT OFF ½" TO ALLOW ACTIVE PRESSURE TO DEVELOP.

VIEW B-B

SECTION C-C

SHORING DETAILS

(TO BE PAID FOR WITH ITEM 503-COFFERDAMS, CRIBS, AND SHEETING, AS PER PLAN)

PREPARED BY
ms consultants, Inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
GKL	KVM	RWB	5/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JNS		5202310 - LEFT 5202345 - RIGHT	

GENERAL NOTES
BRIDGE NO. MED-71-0060 L/R
OVER LITTLE KILLBUCK CREEK

WAY/MED-71-7.04

ESTIMATED QUANTITIES

CALC BY: GKL DATE: 05/13/03
CHECK BY: JNS DATE: 05/20/03

ITEM	ITEM EXT.	LEFT 5202310	RIGHT 5202345	TOTAL	UNIT	DESCRIPTION	SUPER.		ABUT. REAR		ABUT. FWD.		GENERAL		AS PER PLAN SHEET REFERENCE
							LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	
202	11003	LUMP	LUMP	LUMP		STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN							LUMP	LUMP	1 / 29
503	11101	LUMP	LUMP	LUMP		COFFERDAMS, CRIBS, AND SHEETING, AS PER PLAN							LUMP	LUMP	3 / 29
503	21301	LUMP	LUMP	LUMP		UNCLASSIFIED EXCAVATION, AS PER PLAN							LUMP	LUMP	3 / 29
505	11100	LUMP	LUMP	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION							LUMP	LUMP	
507	00200	2,720	2,720	5,440	FOOT	STEEL PILES HP12X53, FURNISHED			1,360	1,360	1,360	1,360			
507	00250	2,550	2,550	5,100	FOOT	STEEL PILES HP12X53, DRIVEN			1,275	1,275	1,275	1,275			
507	93301	34	34	68	EACH	STEEL POINTS, OR SHOES, AS PER PLAN			17	17	17	17			3 / 29
509	10000	75,630	75,630	151,260	POUND	EPOXY COATED REINFORCING STEEL	59,990	59,990	7,820	7,820	7,820	7,820			
511	43500	170	170	340	CU. YD.	CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING			85	85	85	85			
511	52000	LUMP	LUMP	LUMP		CLASS HP CONCRETE, TEST SLAB	LUMP	LUMP							
512	33000	36	36	72	SQ. YD.	TYPE 2 WATERPROOFING			18	18	18	18			
515	15030	8	8	16	EACH	DRAPED STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 3, TYPE 4 MOD. (60")	8	8							
515	20000	21	21	42	EACH	INTERMEDIATE DIAPHRAMS	21	21							
516	14015	196	196	392	FOOT	INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN			98	98	98	98			3 / 29
516	44000	16	16	32	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (1.9238" x 10" x 16" BEARING WITH 1.5" x 12" x 18" LOAD PLATE			8	8	8	8			
518	21230	LUMP	LUMP	LUMP		POROUS BACKFILL WITH FILTER FABRIC							LUMP	LUMP	
518	40000	206	206	412	FOOT	6" PERFORATED CORRUGATED PLASTIC PIPE			103	103	103	103			
518	40010	111	111	222	FOOT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS			63	63	48	48			
526	25000	340	340	680	SQ. YD.	REINFORCED CONCRETE APPROACH SLABS (T-15")			170	170	170	170			
* 601	32104	510	510	1020	CU. YD.	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER FABRIC							510	510	
625	25920	120	120	240	FOOT	CONDUIT MISC.: 4" MULTICELL RACEWAY							120	120	
625	30707	2	2	4	EACH	PULLBOX, 725.08, 24", AS PER PLAN							2	2	482A / 785
864	10100	642	642	1,284	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	556	556	43	43	43	43			
**894	10001	329	329	658	CU. YD.	HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY, AS PER PLAN	329	329							4 / 29

* THIS QUANTITY CARRIED OVER TO THE ROADWAY QUANTITIES SUMMARY.
** THIS QUANTITY INCLUDES CONCRETE IN ABUTMENT DIAPHRAGMS.

ITEM 894 HIGH PERFORMANCE CONCRETE FOR BRIDGE DECK WITH WARRANTY, AS PER PLAN

GENERAL REQUIREMENTS.
THE PROVISIONS OF ITEM 511 SHALL APPLY EXCEPT AS NOTED BELOW.

MIX OPTIONS.
ALL SUPERSTRUCTURE CONCRETE SHALL BE THIS MIX (HP4, AS PER PLAN).
ALL OTHER STRUCTURE CONCRETE SHALL BE THIS MIX OR MIX 2 CONCRETE.

THE FOLLOWING PROPORTIONS WILL BE USED AS A STARTING MIX DESIGN.

CONCRETE TABLE
QUANTITIES PER CUBIC YARD
AGGREGATES (SSD)

HP4, AS PER PLAN (GGBF SLAG + MICROSILICA)									
AGGREGATE TYPE	FINE AGGRE. (LB)	* #8 COARSE AGGRE. (LB)	* #57 COARSE AGGRE. (LB)	TOTAL (LB)	CEMENT CONTENT (LB)	GGBF SLAG (LB)	MICROSILICA (LB)	WATER/CEMENT RATIO +/- .02	AIR CONTENT +/- 2%
GRAVEL	1245	360	1315	2920	400	170	30	0.42	7
LIMESTONE	1245	360	1335	2940	400	170	30	0.42	7
SLAG	1245	315	1155	2715	400	170	30	0.42	7

*ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER, AS DEFINED PER ASTM C127 THE WEIGHTS SPECIFIED IN THE CONCRETE TABLE WERE CALCULATED FOR MATERIALS OF THE FOLLOWING BULK SPECIFIC GRAVITIES (SSD): NATURAL SAND AND GRAVEL 2.62, LIMESTONE SAND 2.68, LIMESTONE 2.65, SLAG 2.30, FLY ASH 2.65, GGBF SLAG 2.90, MICROSILICA SOLIDS 2.20 AND PORTLAND CEMENT 3.15. FOR AGGREGATES OF SPECIFIC GRAVITIES DIFFERING MORE THAN PLUS OR MINUS 0.02 FROM THESE, THE WEIGHTS IN THE TABLE WILL BE CORRECTED.

PARAPET CONSTRUCTION (FORMED AND POURED)
FORMS SHALL NOT BE REMOVED UNTIL AT LEAST 2 HOURS AFTER THE FINAL SET. DETERMINATION OF THE FINAL SET SHALL BE AS PER ASTM C266 (GILLMORE NEEDLE). TESTING SHALL BE PERFORMED BY THE CONTRACTOR AT NO COST TO THE STATE.

THE MINIMUM CONCRETE SLUMP DURING PLACEMENT OF FORMED CONCRETE PARAPETS SHALL BE 6 INCHES, WITH A MAXIMUM SLUMP OF 8 INCHES.

ANCHOR BOLTS FOR FENCE POSTS SHALL BE CAST IN PLACE.

PARAPET CONSTRUCTION (SLIP FORMED)
SLIP FORMING SHALL NOT BE PERFORMED DIRECTLY OVER AREAS WHERE THERE IS OR WILL BE VEHICULAR OR PEDESTRIAN TRAFFIC (WHICH INCLUDES RAILROADS AND WATER CRAFTS). AT THESE LOCATIONS, THE PARAPETS SHALL BE FORMED AND POURED.

THE CONTRACTOR IS ONLY ALLOWED THE OPTION OF SLIP FORMING BRIDGE PARAPETS OVER NON-TRAVELED WAYS, AND ONLY AFTER THE SUCCESSFUL COMPLETION OF A TEST SECTION TWENTY FEET LONG. A MINIMUM OF 3 DAYS AFTER PLACING THE TEST SECTION, THE CONTRACTOR SHALL CORE THE TEST SECTION (A MINIMUM OF 3 CORES) AT LOCATIONS AS DIRECTED BY THE ENGINEER. APPROVAL TO SHIP FORM SHALL NOT BE GRANTED UNTIL AFTER THE CORING AND AFTER A SUCCESSFUL SLIP FORMING RESULT IS OBTAINED.

IN ADDITION TO THE REQUIREMENTS OF THE LAST PARAGRAPH OF 511.11 THE ENGINEER WILL INSPECT THE SLIP FORMED SURFACE FOR HORIZONTAL CRACKING 6 MONTHS AFTER COMPLETION OF THE SLIP FORMING OPERATION. ANY ADDITIONAL CRACKS FOUND SHALL BE REPAIRED AS PER THE SPECIFICATIONS AT NO ADDITIONAL COST TO THE STATE.

ALL ANCHOR BOLTS FOR FENCE POSTS SHALL BE CAST IN PLACE.

THE MINIMUM CONCRETE SLUMP DURING PLACEMENT OF SLIP FORMED CONCRETE PARAPETS SHALL BE 1 INCH, WITH A MAXIMUM SLUMP OF 1½ INCHES.

THE WATER CEMENT RATION FOR SLIP FORMED PARAPETS SHALL NOT BE LESS THAN THE WATER CEMENT RATIO USED FOR THE DECK CONCRETE. REDUCE SLUMP BY LIMITING THE USE OF SUPERPLASTICIZERS.

CRACK CONTROL JOINTS
FOR BOTH SLIP FORMED AND FORMED AND POURED PARAPETS, THE CONTRACTOR SHALL CONSTRUCT 1½" DEEP AND ¼" WIDE CRACK CONTROL JOINTS SPACED AT A MINIMUM OF 6 FT. AND A MAXIMUM OF 8 FT. ON CENTER. THE CRACK CONTROL JOINTS SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE PARAPET, STARTING AND ENDING AT THE ELEVATION OF THE TOP OF THE CONCRETE DECK. THE CONTRACTOR MAY EITHER FORM THE CRACK CONTROL JOINTS IN WITH FORM LINERS, OR, WITHIN 24 HOURS OF PLACEMENT, SAW CUT THE CRACK CONTROL JOINTS IN WITH THE USE OF AN EDGE GUIDE, FENCE, OR JIG WHICH IS REUIRED TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET. THE ENTIRE LENGTH OF EACH CONTROL JOINT SHALL BE SEALED TO A MINIMUM DEPTH OF 1½" WITH A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION, TT-S-00227E.

BASIS OF PAYMENT.
PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT BID PRICE FOR:

ITEM	UNITS	DESCRIPTION
894E10001	C.Y.	HIGH PERFORMANCE CONCRETE FOR BRIDGE DECK, AS PER PLAN
511E52000	LUMP SUM	CLASS HP CONCRETE, TEST SLAB

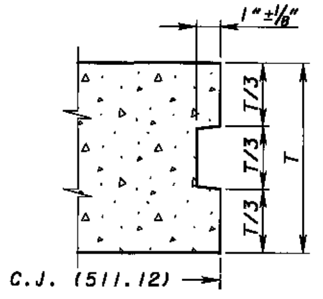
DATE: #DATE# #TIME#
FILENAME: #FILE#

PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

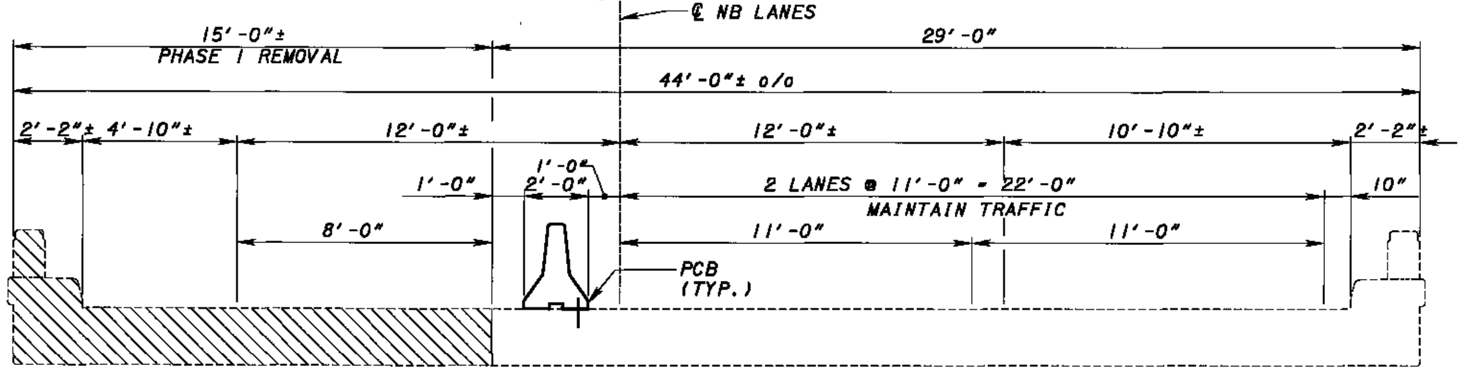
DESIGNED	DRAWN	REVIEWED	DATE
GKL	KVM	RWB	5/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JNS		5202310 - LEFT 5202345 - RIGHT	

ESTIMATED QUANTITIES
BRIDGE NO. MED-71-0060 L/R
OVER LITTLE KILLBUCK CREEK

WAY/MED-71-7.04

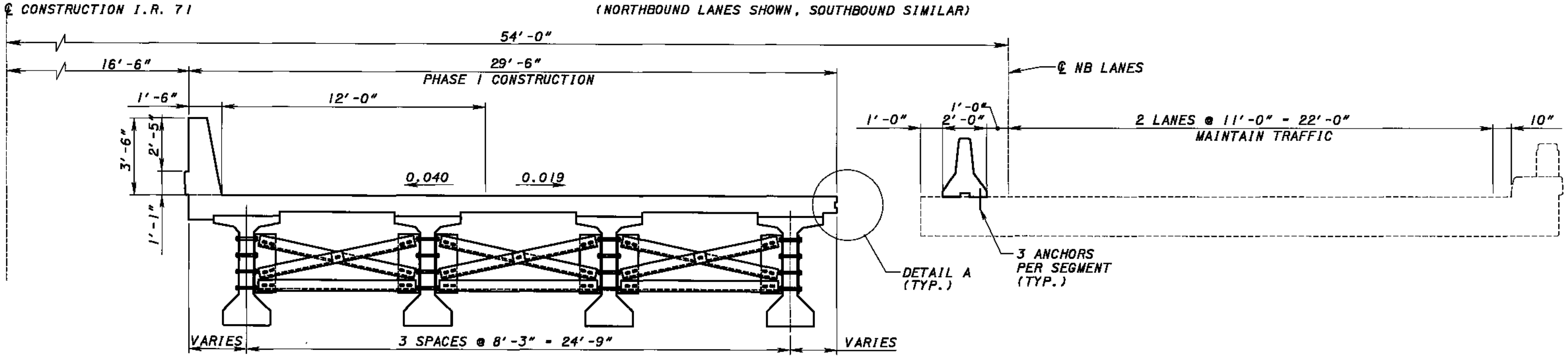


DETAIL A



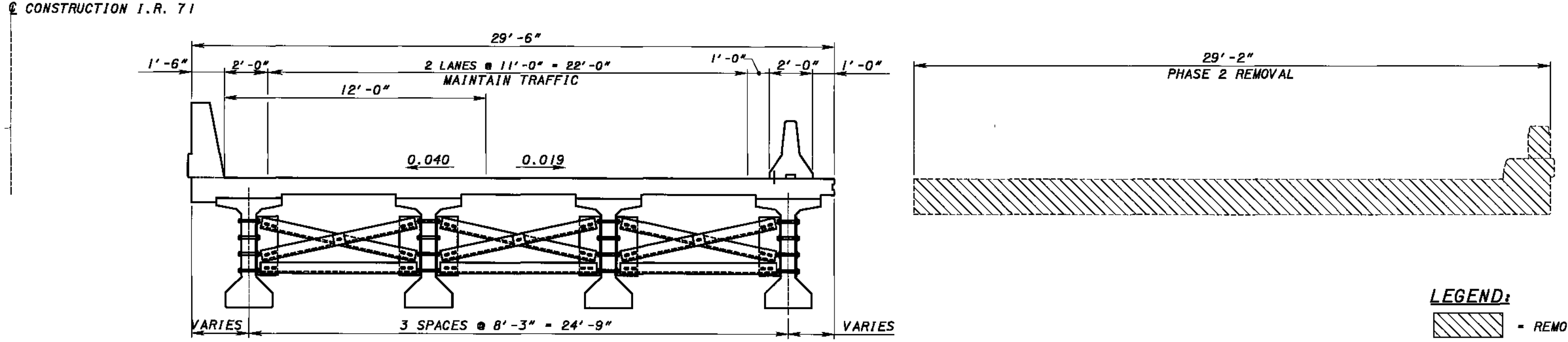
PHASE 1 REMOVAL

(NORTHBOUND LANES SHOWN, SOUTHBOUND SIMILAR)



PHASE 1 CONSTRUCTION

(NORTHBOUND LANES SHOWN, SOUTHBOUND SIMILAR)



PHASE 2 REMOVAL

(NORTHBOUND LANES SHOWN, SOUTHBOUND SIMILAR)

LEGEND:

▨ - REMOVALS

PCB - PORTABLE CONCRETE BARRIER

C.J. - CONSTRUCTION JOINT

ms consultants, inc.

DESIGNED	DRAWN	REVIEWED	DATE
GKL	KVM	RWB	5/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JNS		5202310-LEFT 5202345-RIGHT	

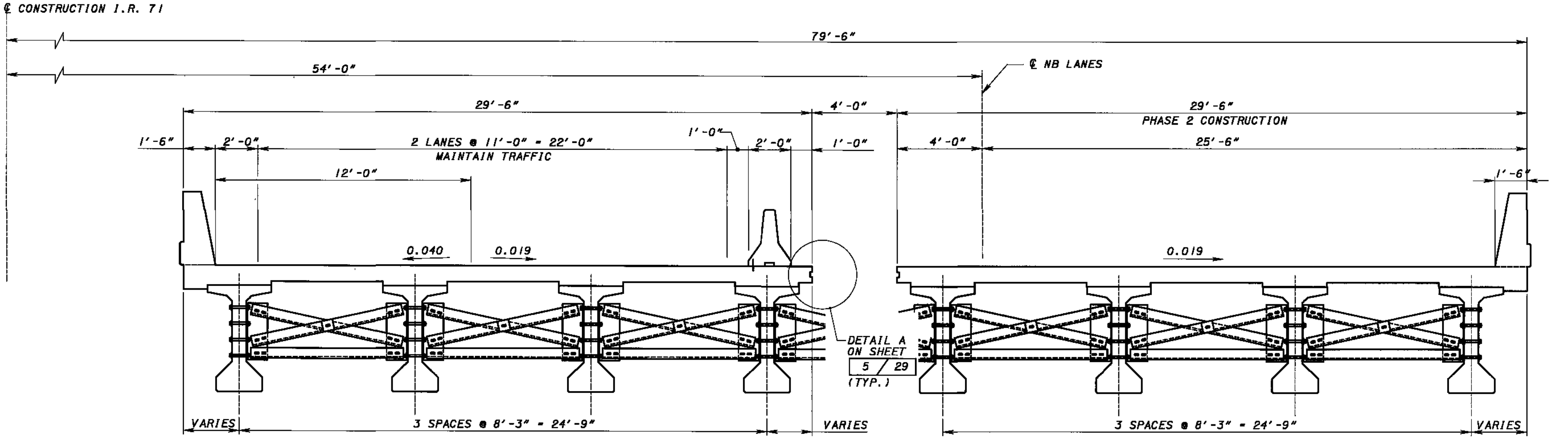
PHASE CONSTRUCTION DEATILS - I

BRIDGE NO. MED-71-0060 L/R

OVER LITTLE KILLBUCK CREEK

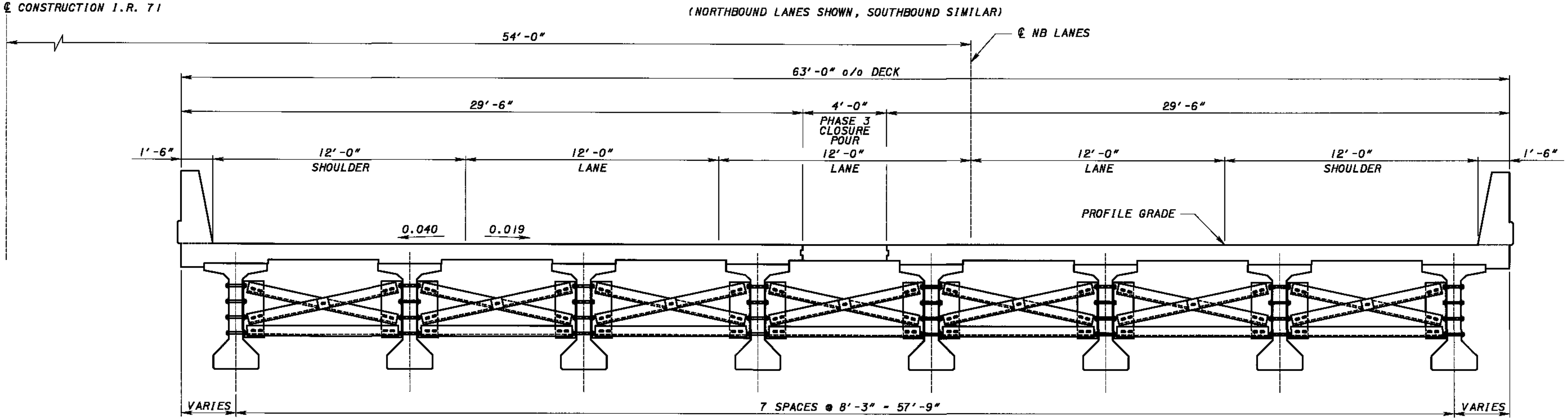
WAY/MED-71-7.04

DATE: 10/17/2003 02:51:23 PM
FILENAME: t:\drawing\08\06449\312\detail design\05phasecons.dgn



PHASE 2 CONSTRUCTION

(NORTHBOUND LANES SHOWN, SOUTHBOUND SIMILAR)



CLOSURE POUR CONSTRUCTION

(NORTHBOUND LANES SHOWN, SOUTHBOUND SIMILAR)

PHASE CONSTRUCTION NOTES:

TEMPORARY BARRIERS SHALL BE ANCHORED TO EXISTING AND PROPOSED BRIDGE DECKS. THREE ANCHORS PER BARRIER SEGMENT ARE REQUIRED. THE ANCHOR BOLT PATTERN SHALL BE SYMMETRICAL ABOUT THE CENTER OF EACH SEGMENT. SEE STANDARD DRAWING PCB-91 FOR ADDITIONAL DETAILS

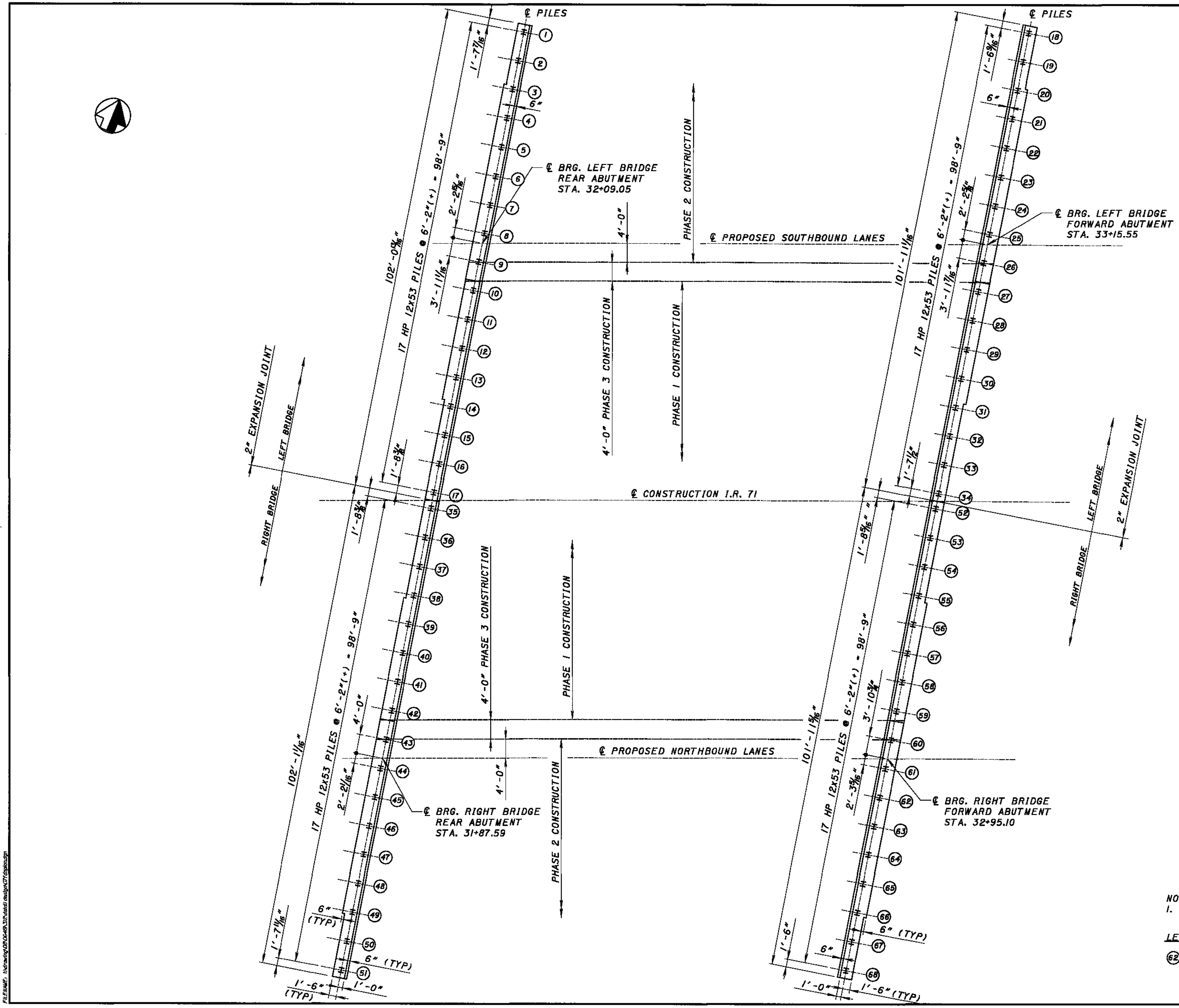
DATE: 10/17/2003 02:56:23 PM
FILENAME: h:\drawing\08\08419\312\detail design\06phaseone.dgn

PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
GKL	KVM	RWB	5/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JNS		5202310-LEFT 5202345-RIGHT	

PHASE CONSTRUCTION DEATILS - 2
BRIDGE NO. MED-71-0060 L/R
OVER LITTLE KILLBUCK CREEK

WAY/MED-71-7.04



NOTES:
1. ALL ABUTMENT PILES SHALL BE HP12x53.

LEGEND

(62) INDICATES PILE NUMBER

DATE: 10/17/2003 02:51:24 PM
FILENAME: t:\drawing\08\06419\312\detail design\077dnplan.dgn

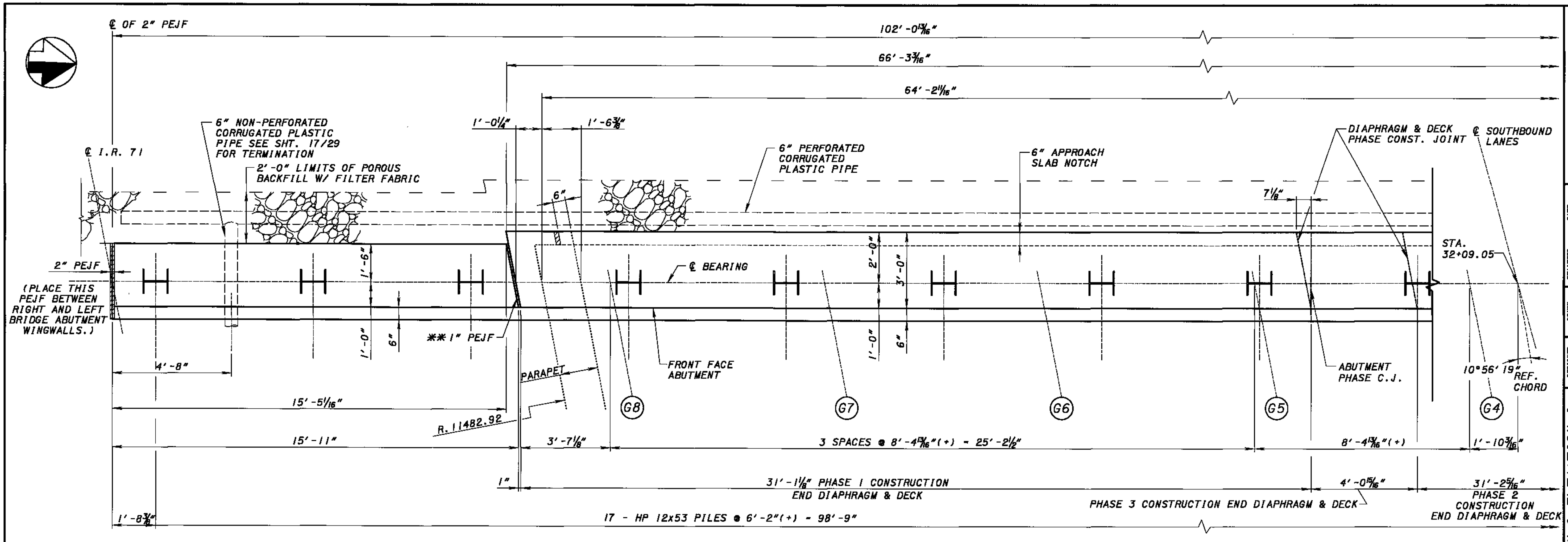
PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
GKL	KVM	RWB	5/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JNS		5202310 - LEFT 5202345 - RIGHT	

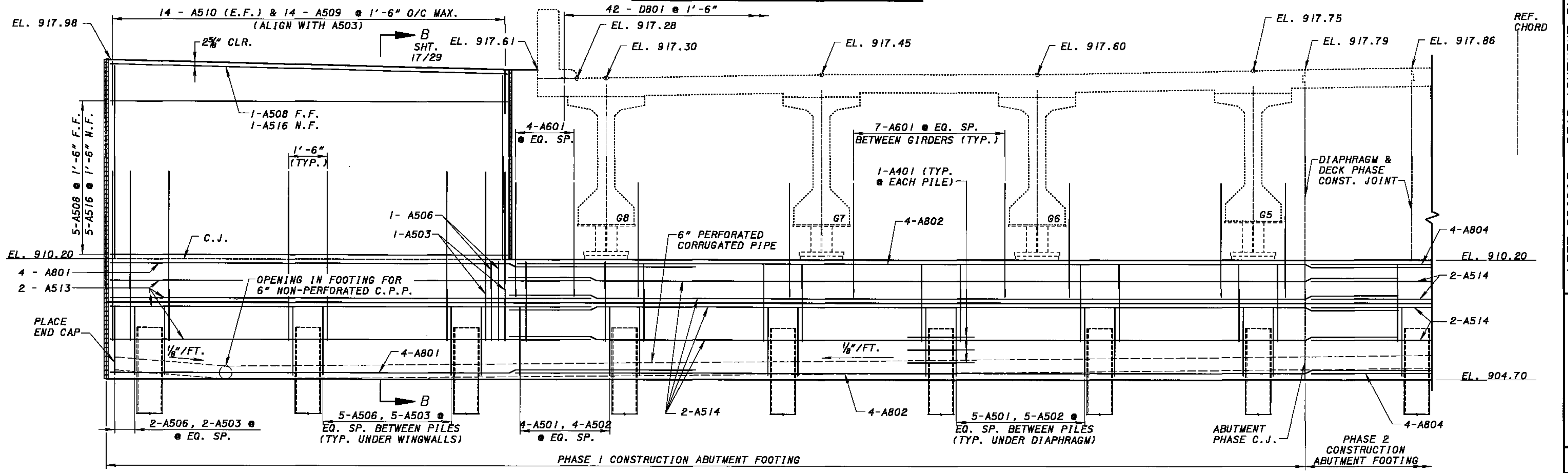
FOUNDATION LAYOUT PLAN
BRIDGE NO. MED-71-0060 L/R
OVER LITTLE KILLBUCK CREEK

WAY/MED-71-7.04

7/29


℄ OF 2″ PEJF
102′-0¹³⁄₁₆″
66′-3⅝″
64′-2¹¹⁄₁₆″
6″ NON-PERFORATED CORRUGATED PLASTIC PIPE SEE SHT. 17/29 FOR TERMINATION
1′-0¼″
1′-6⅞″
℄ I.R. 71
2′-0″ LIMITS OF POROUS BACKFILL W/ FILTER FABRIC
6″ PERFORATED CORRUGATED PLASTIC PIPE
6″ APPROACH SLAB NOTCH
DIAPHRAGM & DECK PHASE CONST. JOINT
℄ SOUTHBOUND LANES
6″
7⅛″
STA. 32+09.05
2″ PEJF
(PLACE THIS PEJF BETWEEN RIGHT AND LEFT BRIDGE ABUTMENT WINGWALLS.)
1′-6″
1′-0″
6″
2′-0″
3′-0″
℄ BEARING
** 1″ PEJF
FRONT FACE ABUTMENT
PARAPET
ABUTMENT PHASE C.J.
10°56′ 19″
REF. CHORD
4′-8″
15′-5¹⁄₁₆″
R. 11482.92
G8
G7
G6
G5
G4
15′-11″
3′-7⅛″
3 SPACES @ 8′-4¹³⁄₁₆″(+) = 25′-2½″
8′-4¹³⁄₁₆″(+)
1′-10³⁄₁₆″
1″
31′-1⅛″ PHASE 1 CONSTRUCTION END DIAPHRAGM & DECK
4′-0¹⁵⁄₁₆″
31′-2⁵⁄₁₆″
PHASE 2 CONSTRUCTION END DIAPHRAGM & DECK
PHASE 3 CONSTRUCTION END DIAPHRAGM & DECK
1′-8¾″
17 - HP 12x53 PILES @ 6′-2″(+) = 98′-9″

LEFT BRIDGE - REAR ABUTMENT PLAN


EL. 917.98
14 - A510 (E.F.) & 14 - A509 @ 1′-6″ O/C MAX. (ALIGN WITH A503)
2⅝″ CLR.
B
SHT. 17/29
EL. 917.61
42 - D801 @ 1′-6″
EL. 917.28
EL. 917.30
EL. 917.45
EL. 917.60
EL. 917.75
EL. 917.79
EL. 917.86
REF. CHORD
1-A508 F.F.
1-A516 N.F.
5-A508 @ 1′-6″ F.F.
5-A516 @ 1′-6″ N.F.
4-A601 @ EQ. SP.
7-A601 @ EQ. SP. BETWEEN GIRDERS (TYP.)
1′-6″ (TYP.)
1-A401 (TYP. @ EACH PILE)
DIAPHRAGM & DECK PHASE CONST. JOINT
1- A506
1-A503
G8
G7
G6
G5
4-A802
4-A804
C.J.
6″ PERFORATED CORRUGATED PIPE
EL. 910.20
4 - A801
2 - A513
OPENING IN FOOTING FOR 6″ NON-PERFORATED C.P.P.
EL. 910.20
2-A514
2-A514
PLACE END CAP
⅛″/FT.
⅛″/FT.
4-A801
EL. 904.70
B
2-A514
4-A802
4-A804
2-A506, 2-A503 @ @ EQ. SP.
5-A506, 5-A503 @ EQ. SP. BETWEEN PILES (TYP. UNDER WINGWALLS)
4-A501, 4-A502 @ EQ. SP.
5-A501, 5-A502 @ EQ. SP. BETWEEN PILES (TYP. UNDER DIAPHRAGM)
ABUTMENT PHASE C.J.
PHASE 2 CONSTRUCTION ABUTMENT FOOTING
PHASE 1 CONSTRUCTION ABUTMENT FOOTING

MINIMUM LAP LENGTHS
#5 BARS - 3′-5″
#8 BARS - 7′-3″

NOTES:
1. TOP OF DECK ELEVATIONS ARE GIVEN @ ℄ BEARING.
2. FOR PHASE CONSTRUCTION NOTES, SEE SHEET 16/29.

LEFT BRIDGE - REAR ABUTMENT ELEVATION

** PAYMENT FOR THIS ITEM SHALL BE INCLUDED IN ITEM 511, CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING.

DATE: 10/17/2003 08:51:24 PM
FILENAME: [illegible]

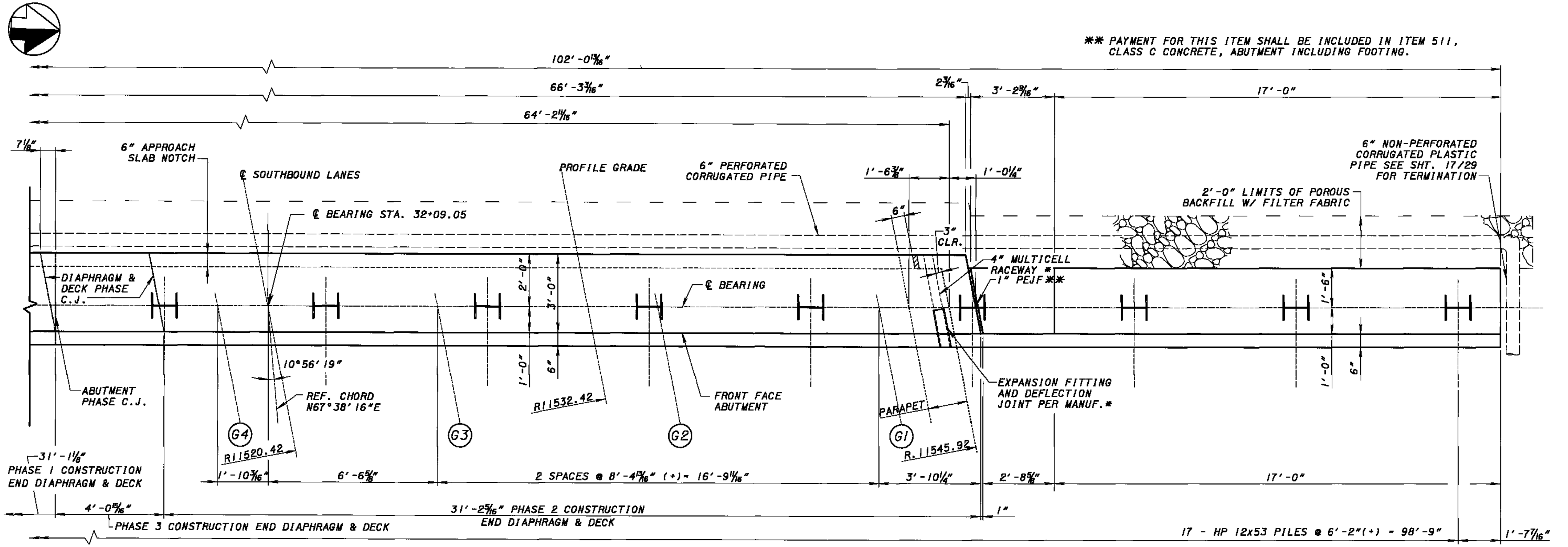
PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
GKL	KVM	RWB	5/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JNS		5202310 - LEFT 5202345 - RIGHT	

LEFT BRIDGE - REAR ABUTMENT PLAN & ELEVATION I
BRIDGE NO. MED-71-0060
OVER LITTLE KILLBUCK CREEK

WAY/MED-71-7.04

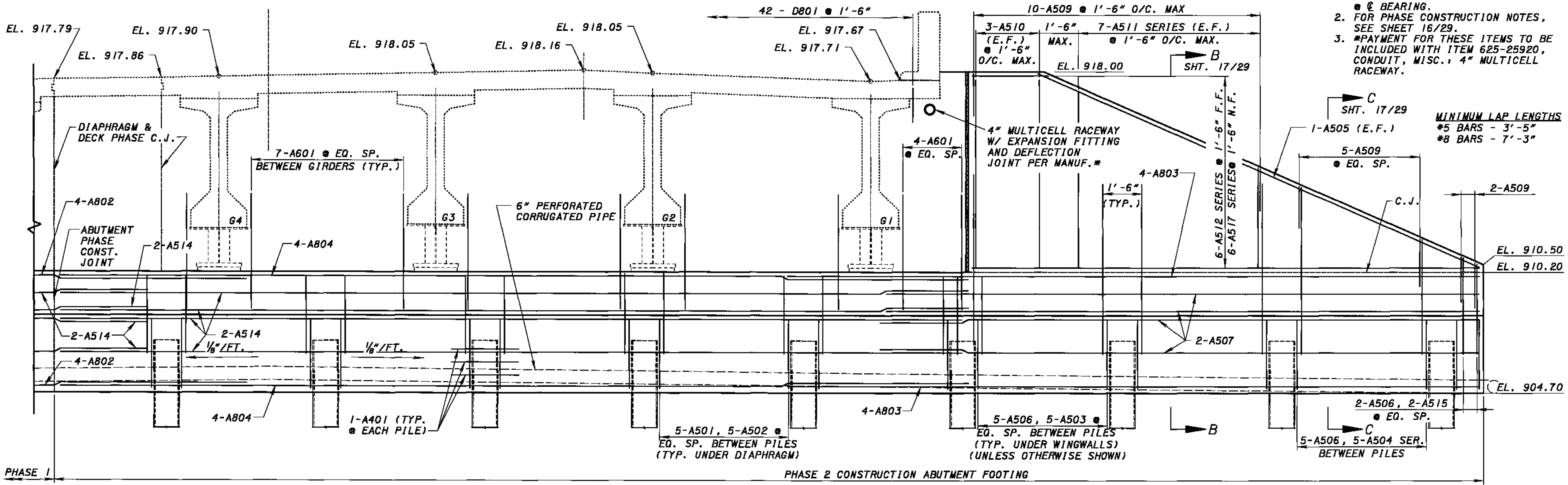
** PAYMENT FOR THIS ITEM SHALL BE INCLUDED IN ITEM 511, CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING.


102'-0 13/16"
66'-3 3/16"
64'-2 11/16"
2 3/16"
3'-2 9/16"
17'-0"
7 1/8"
6" APPROACH SLAB NOTCH
℄ SOUTHBOUND LANES
PROFILE GRADE
6" PERFORATED CORRUGATED PIPE
1'-6 3/4"
1'-0 1/4"
6" NON-PERFORATED CORRUGATED PLASTIC PIPE SEE SHT. 17/29 FOR TERMINATION
2'-0" LIMITS OF POROUS BACKFILL W/ FILTER FABRIC
℄ BEARING STA. 32+09.05
6"
3" CLR.
4" MULTICELL RACEWAY *
1" PEJF **
DIAPHRAGM & DECK PHASE C.J.
2'-0"
3'-0"
℄ BEARING
1'-6"
1'-0"
6"
10°56' 19"
ABUTMENT PHASE C.J.
REF. CHORD N67°38' 16"E
R11532.42
FRONT FACE ABUTMENT
PARAPET
EXPANSION FITTING AND DEFLECTION JOINT PER MANUF.*
G4
G3
G2
G1
R11520.42
R.11545.92
31'-1 1/8"
PHASE 1 CONSTRUCTION END DIAPHRAGM & DECK
1'-10 3/16"
6'-6 5/8"
2 SPACES @ 8'-4 13/16" (+) = 16'-9 11/16"
3'-10 1/4"
2'-8 5/8"
4'-0 5/16"
31'-2 5/16" PHASE 2 CONSTRUCTION END DIAPHRAGM & DECK
1"
PHASE 3 CONSTRUCTION END DIAPHRAGM & DECK
17 - HP 12x53 PILES @ 6'-2"(+) = 98'-9"
1'-7 7/16"

LEFT BRIDGE - REAR ABUTMENT PLAN

NOTES:
1. TOP OF DECK ELEVATIONS ARE GIVEN @ ℄ BEARING.
2. FOR PHASE CONSTRUCTION NOTES, SEE SHEET 16/29.
3. *PAYMENT FOR THESE ITEMS TO BE INCLUDED WITH ITEM 625-25920, CONDUIT, MISC.: 4" MULTICELL RACEWAY.

MINIMUM LAP LENGTHS
#5 BARS - 3'-5"
#8 BARS - 7'-3"


42 - D801 @ 1'-6"
10-A509 @ 1'-6" O/C. MAX
3-A510 (E.F.) @ 1'-6" O/C. MAX.
1'-6" MAX.
7-A511 SERIES (E.F.) @ 1'-6" O/C. MAX.
EL. 917.79
EL. 917.90
EL. 917.86
EL. 918.05
EL. 918.16
EL. 918.05
EL. 917.67
EL. 917.71
EL. 918.00
B SHT. 17/29
C SHT. 17/29
DIAPHRAGM & DECK PHASE C.J.
7-A601 @ EQ. SP. BETWEEN GIRDERS (TYP.)
4-A601 @ EQ. SP.
4" MULTICELL RACEWAY W/ EXPANSION FITTING AND DEFLECTION JOINT PER MANUF.*
1'-6" (TYP.)
4-A803
6-A512 SERIES @ 1'-6" F.F.
6-A517 SERIES @ 1'-6" N.F.
1-A505 (E.F.)
5-A509 @ EQ. SP.
2-A509
C.J.
6" PERFORATED CORRUGATED PIPE
G4
G3
G2
G1
4-A802
ABUTMENT PHASE CONST. JOINT
2-A514
4-A804
EL. 910.50
EL. 910.20
2-A514
2-A514
1/8"/FT.
1/8"/FT.
2-A507
4-A802
EL. 904.70
4-A804
1-A401 (TYP. @ EACH PILE)
5-A501, 5-A502 @ EQ. SP. BETWEEN PILES (TYP. UNDER DIAPHRAGM)
4-A803
5-A506, 5-A503 @ EQ. SP. BETWEEN PILES (TYP. UNDER WINGWALLS) (UNLESS OTHERWISE SHOWN)
B
C
2-A506, 2-A515 @ EQ. SP.
5-A506, 5-A504 SER. BETWEEN PILES
PHASE 1
PHASE 2 CONSTRUCTION ABUTMENT FOOTING

LEFT BRIDGE - REAR ABUTMENT ELEVATION

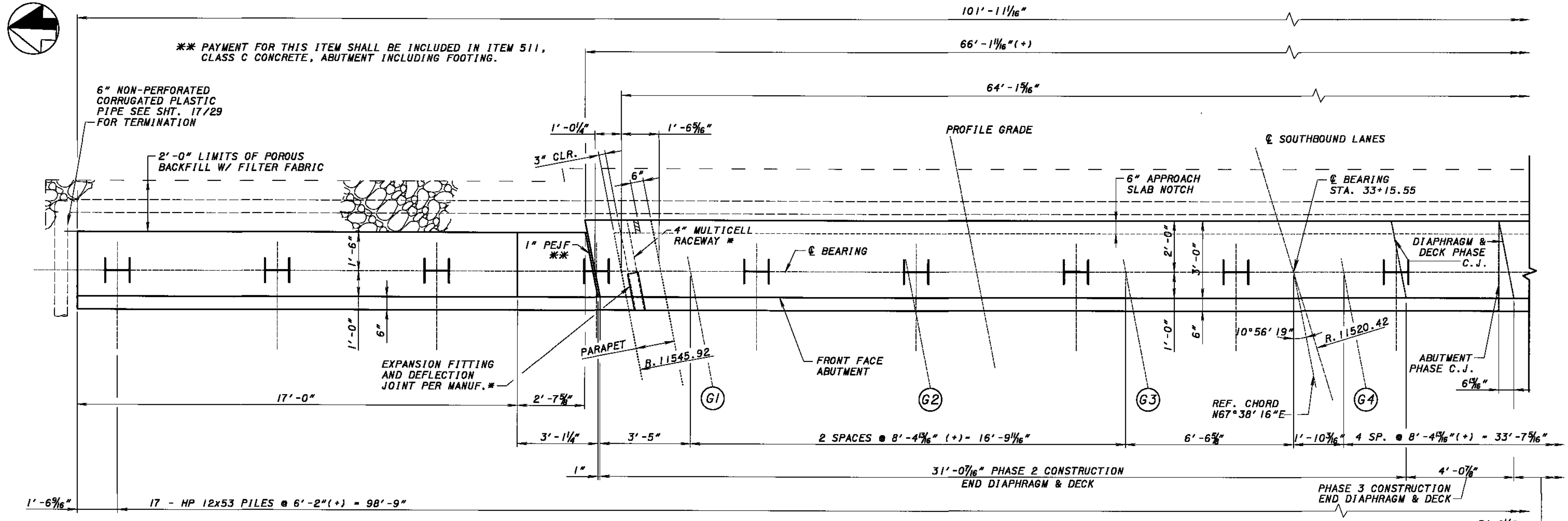
DATE: 10/17/2003 02:51:24 PM
FILENAME: [illegible]

PREPARED BY ms consultants, inc. CONSULTING ENGINEERS & PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
GKL	KVM	RWB	5/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JNS		5202310 - LEFT 5202345 - RIGHT	

LEFT BRIDGE - REAR ABUTMENT PLAN & ELEVATION II
BRIDGE NO. MED-71-0060
OVER LITTLE KILLBUCK CREEK

WAY/MED-71-7.04

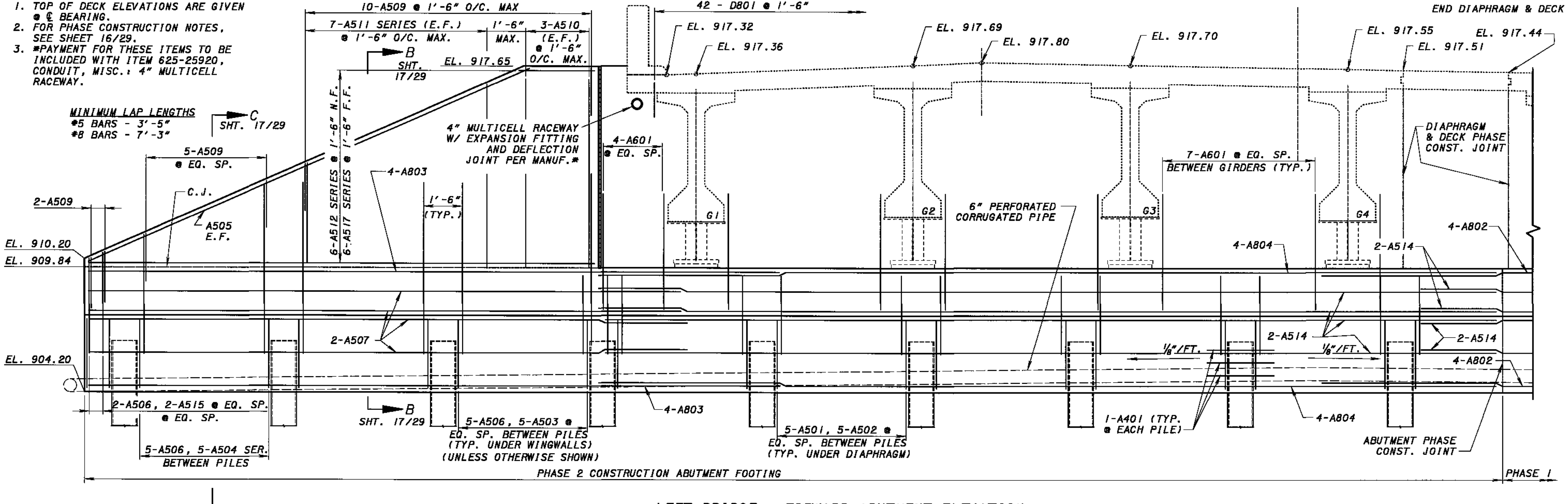

101'-11 1/16"
66'-1 11/16"(+)
64'-1 5/16"
6" NON-PERFORATED CORRUGATED PLASTIC PIPE SEE SHT. 17/29 FOR TERMINATION
2'-0" LIMITS OF POROUS BACKFILL W/ FILTER FABRIC
1'-0 1/4"
1'-6 5/16"
3" CLR.
6"
PROFILE GRADE
℄ SOUTHBOUND LANES
6" APPROACH SLAB NOTCH
℄ BEARING STA. 33+15.55
1" PEJF **
4" MULTICELL RACEWAY *
℄ BEARING
DIAPHRAGM & DECK PHASE C.J.
1'-6"
1'-0"
6"
2'-0"
3'-0"
1'-0"
6"
PARAPET
EXPANSION FITTING AND DEFLECTION JOINT PER MANUF. *
R. 11545.92
FRONT FACE ABUTMENT
10°56' 19"
R. 11520.42
ABUTMENT PHASE C.J.
6 1/16"
G1
G2
G3
G4
REF. CHORD N67°38' 16"E
17'-0"
2'-7 5/8"
3'-1 1/4"
3'-5"
2 SPACES @ 8'-4 15/32" (+)= 16'-9 1/16"
6'-6 5/8"
1'-10 3/16"
4 SP. @ 8'-4 13/16"(+) = 33'-7 5/16"
1"
31'-0 7/16" PHASE 2 CONSTRUCTION END DIAPHRAGM & DECK
4'-0 7/8"
PHASE 3 CONSTRUCTION END DIAPHRAGM & DECK
1'-6 9/16"
17 - HP 12x53 PILES @ 6'-2"(+) = 98'-9"
3'-0 1/2"
PHASE 1 CONSTRUCTION END DIAPHRAGM & DECK

** PAYMENT FOR THIS ITEM SHALL BE INCLUDED IN ITEM 511, CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING.

LEFT BRIDGE - FORWARD ABUTMENT PLAN

NOTES:
1. TOP OF DECK ELEVATIONS ARE GIVEN @ ℄ BEARING.
2. FOR PHASE CONSTRUCTION NOTES, SEE SHEET 16/29.
3. *PAYMENT FOR THESE ITEMS TO BE INCLUDED WITH ITEM 625-25920, CONDUIT, MISC.: 4" MULTICELL RACEWAY.

MINIMUM LAP LENGTHS
#5 BARS - 3'-5"
#8 BARS - 7'-3"


C SHT. 17/29
10-A509 @ 1'-6" O/C. MAX
7-A511 SERIES (E.F.) @ 1'-6" O/C. MAX.
1'-6" MAX.
3-A510 (E.F.) @ 1'-6" O/C. MAX.
B SHT. 17/29
EL. 917.65
6-A512 SERIES @ 1'-6" N.F.
6-A517 SERIES @ 1'-6" F.F.
42 - D801 @ 1'-6"
EL. 917.32
EL. 917.36
EL. 917.69
EL. 917.80
EL. 917.70
EL. 917.55
EL. 917.51
EL. 917.44
4" MULTICELL RACEWAY W/ EXPANSION FITTING AND DEFLECTION JOINT PER MANUF. *
4-A601 @ EQ. SP.
7-A601 @ EQ. SP. BETWEEN GIRDERS (TYP.)
DIAPHRAGM & DECK PHASE CONST. JOINT
5-A509 @ EQ. SP.
C.J.
A505 E.F.
4-A803
1'-6" (TYP.)
2-A509
EL. 910.20
EL. 909.84
G1
G2
G3
G4
6" PERFORATED CORRUGATED PIPE
4-A804
2-A514
4-A802
2-A507
EL. 904.20
1/8"/FT.
2-A514
1/8"/FT.
2-A514
4-A802
2-A506, 2-A515 @ EQ. SP.
@ EQ. SP.
B SHT. 17/29
5-A506, 5-A503 @ EQ. SP. BETWEEN PILES (TYP. UNDER WINGWALLS) (UNLESS OTHERWISE SHOWN)
4-A803
5-A501, 5-A502 @ EQ. SP. BETWEEN PILES (TYP. UNDER DIAPHRAGM)
1-A401 (TYP. @ EACH PILE)
4-A804
ABUTMENT PHASE CONST. JOINT
5-A506, 5-A504 SER. BETWEEN PILES
PHASE 2 CONSTRUCTION ABUTMENT FOOTING
PHASE 1
C

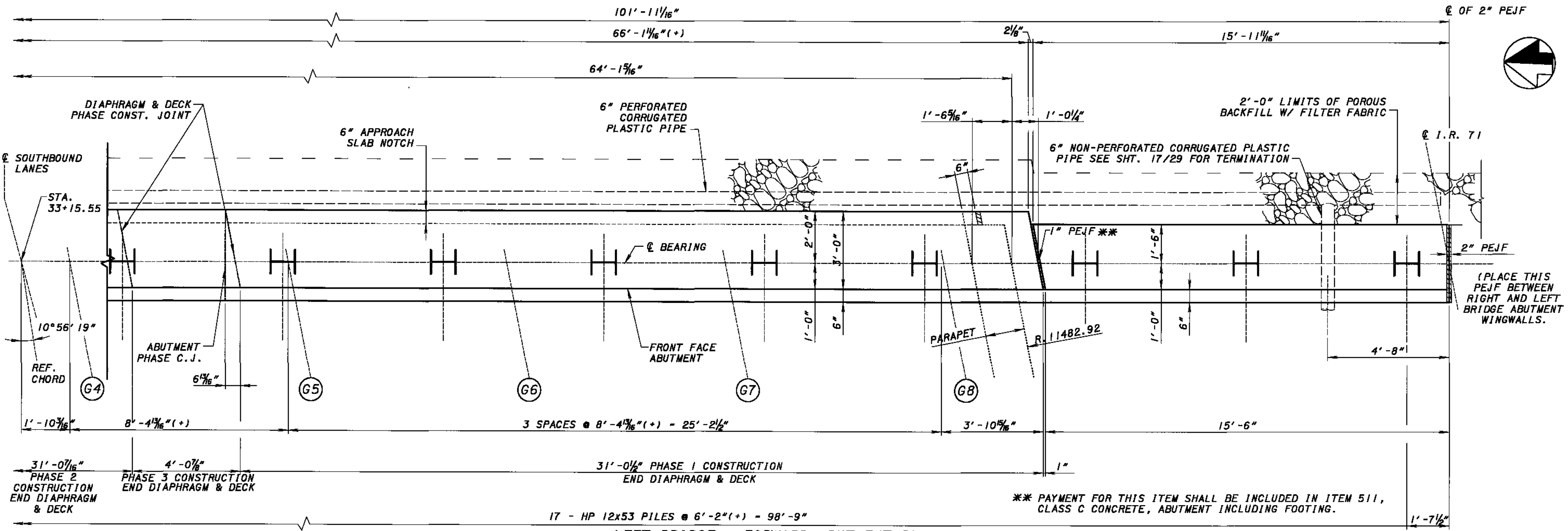
LEFT BRIDGE - FORWARD ABUTMENT ELEVATION

PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
GKL	KVM	RWB	5/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JNS		5202310 - LEFT 5202345 - RIGHT	

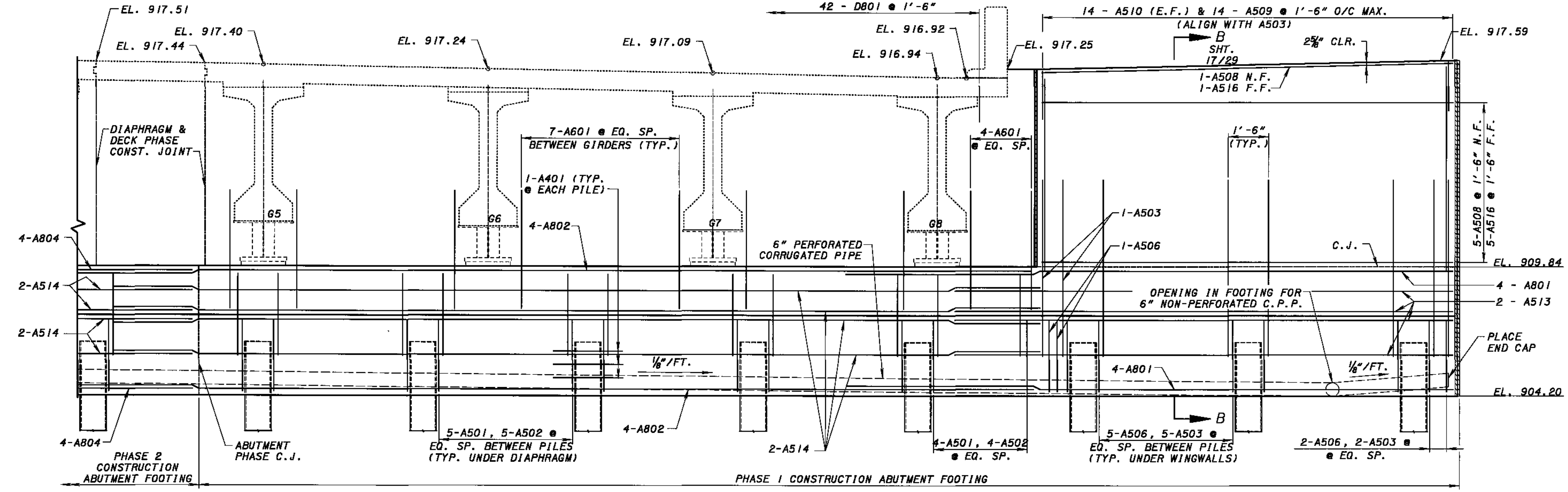
LEFT BRIDGE - FORWARD ABUTMENT PLAN & ELEVATION I
BRIDGE NO. MED-71-0060
OVER LITTLE KILLBUCK CREEK

WAY/MED-71-7.04



101′-11¹¹⁄₁₆″
66′-1¹¹⁄₁₆″(+)
64′-1⁵⁄₁₆″
2⅛″
15′-11¹¹⁄₁₆″
℄ OF 2″ PEJF
DIAPHRAGM & DECK PHASE CONST. JOINT
6″ APPROACH SLAB NOTCH
6″ PERFORATED CORRUGATED PLASTIC PIPE
1′-6⁵⁄₁₆″
1′-0¼″
2′-0″ LIMITS OF POROUS BACKFILL W/ FILTER FABRIC
℄ I.R. 71
6″ NON-PERFORATED CORRUGATED PLASTIC PIPE SEE SHT. 17/29 FOR TERMINATION
℄ SOUTHBOUND LANES
STA. 33+15.55
6″
2′-0″
3′-0″
1″ PEJF ✱✱
1′-6″
℄ BEARING
2″ PEJF
(PLACE THIS PEJF BETWEEN RIGHT AND LEFT BRIDGE ABUTMENT WINGWALLS.)
10°56′ 19″
ABUTMENT PHASE C.J.
FRONT FACE ABUTMENT
1′-0″
6″
PARAPET
R. 11482.92
1′-0″
6″
4′-8″
REF. CHORD
6¹⁵⁄₁₆″
G4
G5
G6
G7
G8
1′-10¾″
8′-4¹³⁄₁₆″(+)
3 SPACES @ 8′-4¹³⁄₁₆″(+) = 25′-2½″
3′-10⁵⁄₁₆″
15′-6″
31′-0⁷⁄₁₆″
PHASE 2 CONSTRUCTION END DIAPHRAGM & DECK
4′-0⅞″
PHASE 3 CONSTRUCTION END DIAPHRAGM & DECK
31′-0½″ PHASE 1 CONSTRUCTION END DIAPHRAGM & DECK
1″
✱✱ PAYMENT FOR THIS ITEM SHALL BE INCLUDED IN ITEM 511, CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING.
17 - HP 12x53 PILES @ 6′-2″(+) = 98′-9″
1′-7½″

LEFT BRIDGE - FORWARD ABUTMENT PLAN



EL. 917.51
EL. 917.40
EL. 917.44
EL. 917.24
EL. 917.09
42 - D801 @ 1′-6″
EL. 916.92
EL. 916.94
EL. 917.25
14 - A510 (E.F.) & 14 - A509 @ 1′-6″ O/C MAX. (ALIGN WITH A503)
B SHT. 17/29
2⅝″ CLR.
EL. 917.59
1-A508 N.F.
1-A516 F.F.
DIAPHRAGM & DECK PHASE CONST. JOINT
7-A601 @ EQ. SP. BETWEEN GIRDERS (TYP.)
4-A601 @ EQ. SP.
1′-6″ (TYP.)
1-A401 (TYP. @ EACH PILE)
5-A508 @ 1′-6″ N.F.
5-A516 @ 1′-6″ F.F.
G5
G6
G7
G8
4-A802
1-A503
1-A506
4-A804
6″ PERFORATED CORRUGATED PIPE
C.J.
EL. 909.84
2-A514
OPENING IN FOOTING FOR 6″ NON-PERFORATED C.P.P.
4 - A801
2 - A513
2-A514
PLACE END CAP
⅛″/FT.
⅛″/FT.
4-A801
EL. 904.20
B
4-A804
4-A802
5-A501, 5-A502 @ EQ. SP. BETWEEN PILES (TYP. UNDER DIAPHRAGM)
2-A514
4-A501, 4-A502 @ EQ. SP.
5-A506, 5-A503 @ EQ. SP. BETWEEN PILES (TYP. UNDER WINGWALLS)
2-A506, 2-A503 @ EQ. SP.
PHASE 2 CONSTRUCTION ABUTMENT FOOTING
ABUTMENT PHASE C.J.
PHASE 1 CONSTRUCTION ABUTMENT FOOTING

MINIMUM LAP LENGTHS
#5 BARS - 3′-5″
#8 BARS - 7′-3″

NOTES:
1. TOP OF DECK ELEVATIONS ARE GIVEN @ ℄ BEARING.
2. FOR PHASE CONSTRUCTION NOTES, SEE SHEET 16/29.

LEFT BRIDGE - FORWARD ABUTMENT ELEVATION

DATE: 10/17/2003 02:56:26 PM
FILENAME: t:\drawing\08\06415\312\detail design\left\fwdabut.dgn

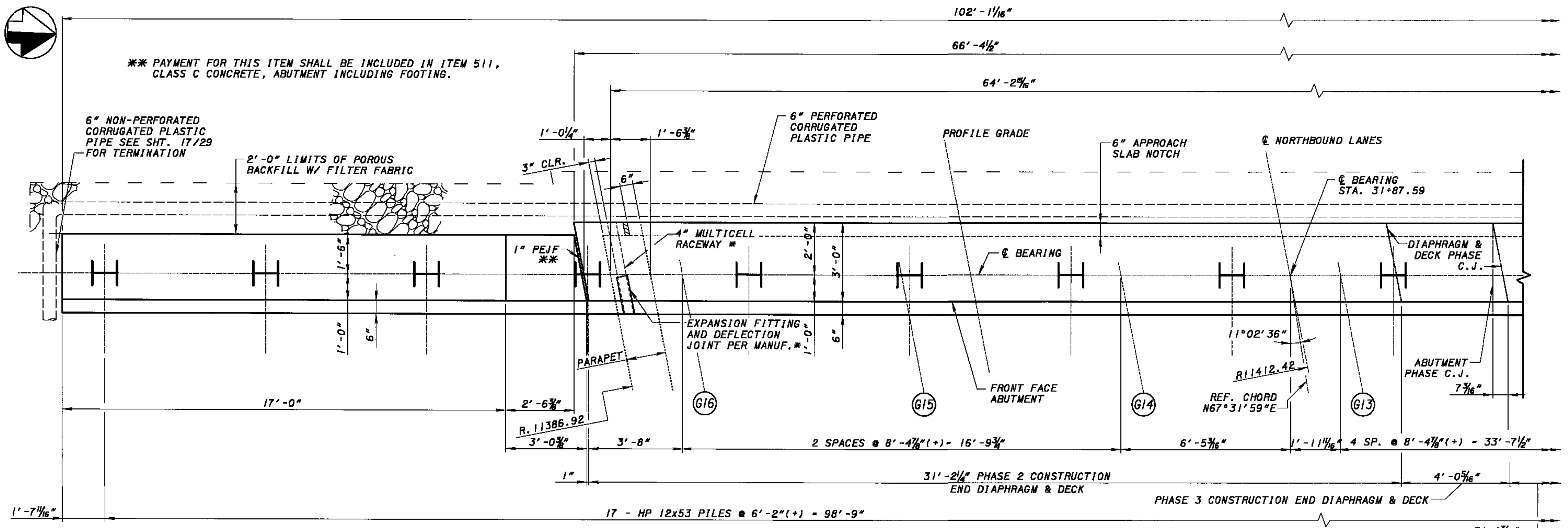
PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
GKL	KVM	RWB	5/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JNS		5202310 - LEFT 5202345 - RIGHT	

LEFT BRIDGE - FORWARD ABUTMENT PLAN & ELEVATION II
BRIDGE NO. MED-71-0060
OVER LITTLE KILLBUCK CREEK

WAY/MED-71-7.04

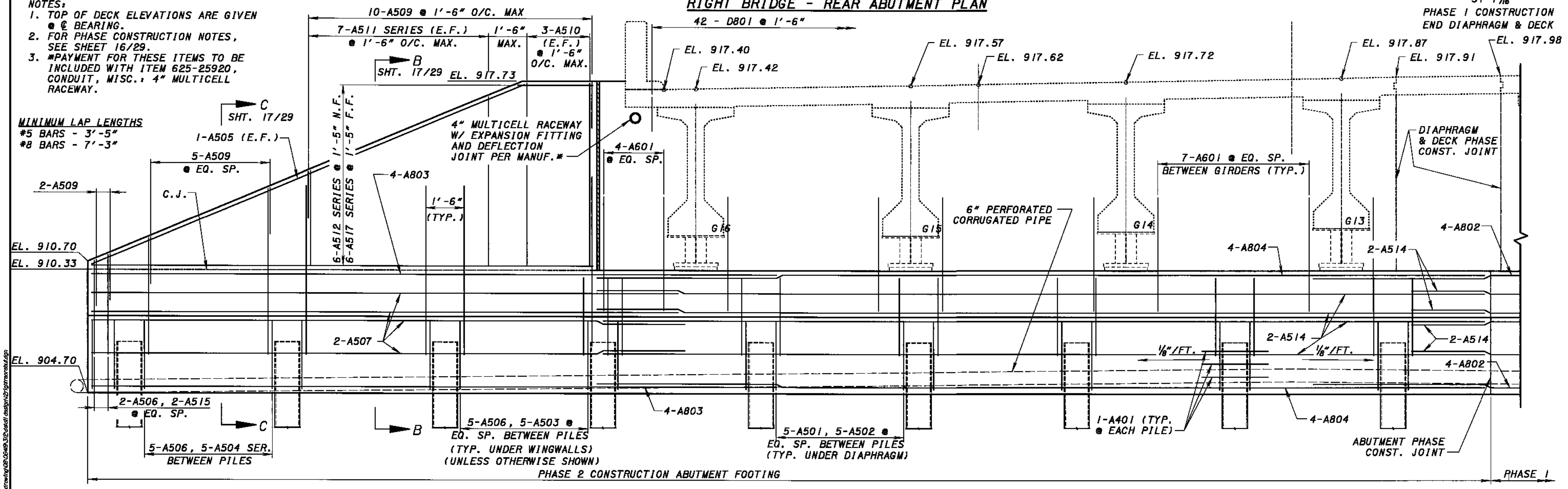
** PAYMENT FOR THIS ITEM SHALL BE INCLUDED IN ITEM 511, CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING.


102'-1 1/16"
66'-4 1/2"
64'-2 5/16"
6" NON-PERFORATED CORRUGATED PLASTIC PIPE SEE SHT. 17/29 FOR TERMINATION
2'-0" LIMITS OF POROUS BACKFILL W/ FILTER FABRIC
1'-0 1/4"
1'-6 7/8"
3" CLR.
6"
6" PERFORATED CORRUGATED PLASTIC PIPE
PROFILE GRADE
6" APPROACH SLAB NOTCH
℄ NORTHBOUND LANES
℄ BEARING STA. 31+87.59
4" MULTICELL RACEWAY *
1" PEJF **
1'-6"
2'-0"
3'-0"
℄ BEARING
DIAPHRAGM & DECK PHASE C.J.
1'-0"
6"
EXPANSION FITTING AND DEFLECTION JOINT PER MANUF. *
1'-0"
6"
11°02'36"
PARAPET
R11412.42
ABUTMENT PHASE C.J.
7 3/16"
G16
G15
FRONT FACE ABUTMENT
G14
REF. CHORD N67°31'59"E
G13
17'-0"
2'-6 3/8"
R. 11386.92
3'-0 3/4"
3'-8"
2 SPACES @ 8'-4 7/8"(+) = 16'-9 3/4"
6'-5 3/16"
1'-11 11/16"
4 SP. @ 8'-4 7/8"(+) = 33'-7 1/2"
1"
31'-2 1/4" PHASE 2 CONSTRUCTION END DIAPHRAGM & DECK
4'-0 5/16"
PHASE 3 CONSTRUCTION END DIAPHRAGM & DECK
1'-7 11/16"
17 - HP 12x53 PILES @ 6'-2"(+) = 98'-9"

RIGHT BRIDGE - REAR ABUTMENT PLAN

NOTES:
1. TOP OF DECK ELEVATIONS ARE GIVEN @ ℄ BEARING.
2. FOR PHASE CONSTRUCTION NOTES, SEE SHEET 16/29.
3. *PAYMENT FOR THESE ITEMS TO BE INCLUDED WITH ITEM 625-25920, CONDUIT, MISC.: 4" MULTICELL RACEWAY.

MINIMUM LAP LENGTHS
#5 BARS - 3'-5"
#8 BARS - 7'-3"


31-1 3/16"
PHASE 1 CONSTRUCTION END DIAPHRAGM & DECK
10-A509 @ 1'-6" O/C. MAX
7-A511 SERIES (E.F.) @ 1'-6" O/C. MAX.
1'-6" MAX.
3-A510 (E.F.) @ 1'-6" O/C. MAX.
42 - D801 @ 1'-6"
B SHT. 17/29
EL. 917.73
EL. 917.40
EL. 917.42
EL. 917.57
EL. 917.62
EL. 917.72
EL. 917.87
EL. 917.91
EL. 917.98
C SHT. 17/29
6-A512 SERIES @ 1'-5" N.F.
6-A517 SERIES @ 1'-5" F.F.
4" MULTICELL RACEWAY W/ EXPANSION FITTING AND DEFLECTION JOINT PER MANUF. *
4-A601 @ EQ. SP.
7-A601 @ EQ. SP. BETWEEN GIRDERS (TYP.)
DIAPHRAGM & DECK PHASE CONST. JOINT
1-A505 (E.F.)
5-A509 @ EQ. SP.
2-A509
C.J.
4-A803
1'-6" (TYP.)
6" PERFORATED CORRUGATED PIPE
G16
G15
G14
G13
4-A802
4-A804
2-A514
EL. 910.70
EL. 910.33
2-A507
2-A514
1/8"/FT.
1/8"/FT.
2-A514
4-A802
EL. 904.70
2-A506, 2-A515 @ EQ. SP.
C
B
5-A506, 5-A503 @ EQ. SP. BETWEEN PILES (TYP. UNDER WINGWALLS) (UNLESS OTHERWISE SHOWN)
4-A803
5-A501, 5-A502 @ EQ. SP. BETWEEN PILES (TYP. UNDER DIAPHRAGM)
1-A401 (TYP. @ EACH PILE)
4-A804
ABUTMENT PHASE CONST. JOINT
5-A506, 5-A504 SER. BETWEEN PILES
PHASE 2 CONSTRUCTION ABUTMENT FOOTING
PHASE 1

RIGHT BRIDGE - REAR ABUTMENT ELEVATION

PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
GKL	KVM	RWB	5/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JNS		5202310 - LEFT 5202345 - RIGHT	

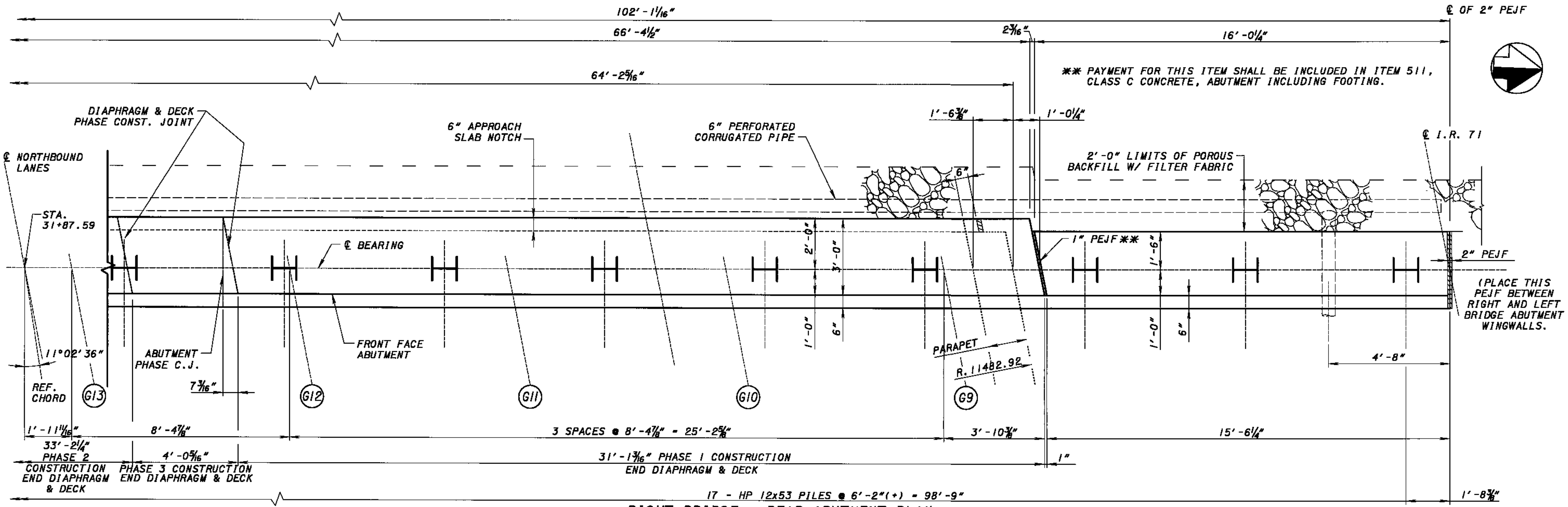
RIGHT BRIDGE - REAR ABUTMENT PLAN & ELEVATION I
BRIDGE NO. MED-71-0060
OVER LITTLE KILLBUCK CREEK

WAY/MED-71-7.04

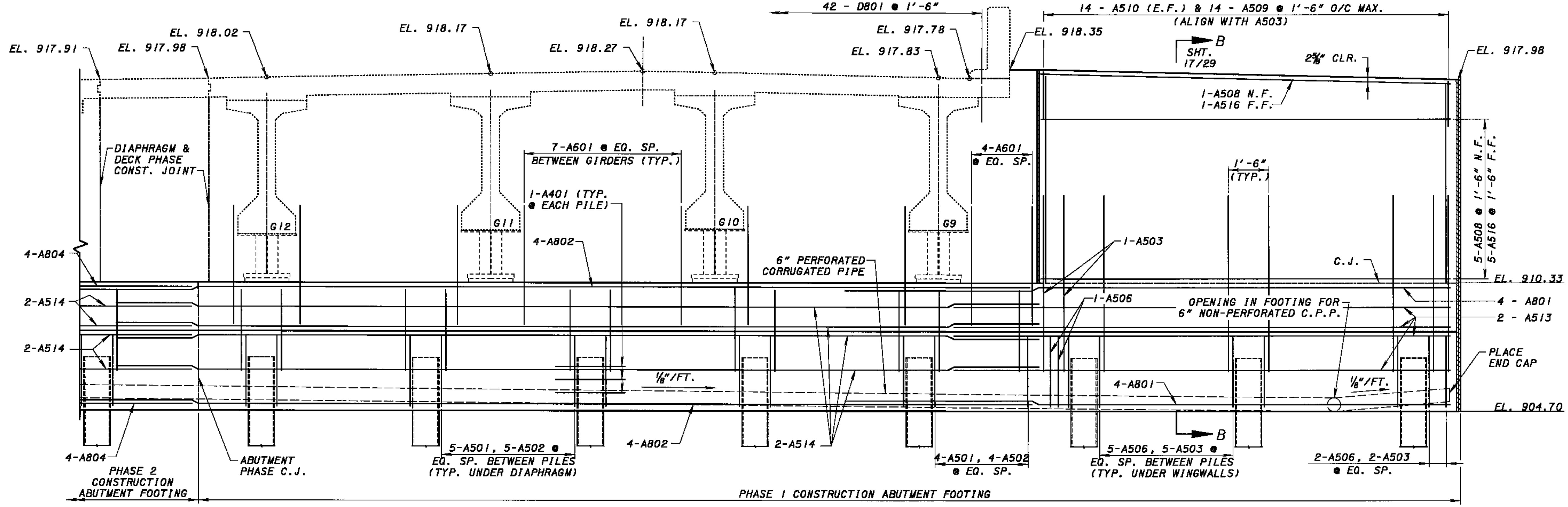
12/29

571/785

DATE: 10/17/2003 02:56:26 PM
FILENAME: h:\drawings\2003\03-0483\2\e\abut\2\rightrearabut.dgn


102'-1 1/16"
℄ OF 2" PEJF
66'-4 1/2"
2 3/16"
16'-0 1/4"
64'-2 5/16"
✱✱ PAYMENT FOR THIS ITEM SHALL BE INCLUDED IN ITEM 511, CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING.
DIAPHRAGM & DECK PHASE CONST. JOINT
6" APPROACH SLAB NOTCH
6" PERFORATED CORRUGATED PIPE
1'-6 3/8"
1'-0 1/4"
2'-0" LIMITS OF POROUS BACKFILL W/ FILTER FABRIC
℄ I.R. 71
℄ NORTHBOUND LANES
STA. 31+87.59
6"
℄ BEARING
2'-0"
3'-0"
1" PEJF ✱✱
1'-6"
2" PEJF
(PLACE THIS PEJF BETWEEN RIGHT AND LEFT BRIDGE ABUTMENT WINGWALLS.
FRONT FACE ABUTMENT
1'-0"
6"
PARAPET
R. 11482.92
1'-0"
6"
4'-8"
11°02'36"
ABUTMENT PHASE C.J.
REF. CHORD
G13
7 3/16"
G12
G11
G10
G9
1'-11 11/16"
8'-4 7/8"
3 SPACES @ 8'-4 7/8" = 25'-2 5/8"
3'-10 3/8"
15'-6 1/4"
33'-2 1/4"
PHASE 2 CONSTRUCTION END DIAPHRAGM & DECK
4'-0 5/16"
PHASE 3 CONSTRUCTION END DIAPHRAGM & DECK
31'-1 3/16" PHASE 1 CONSTRUCTION END DIAPHRAGM & DECK
1"
17 - HP 12x53 PILES @ 6'-2"(+) = 98'-9"
1'-8 3/4"

RIGHT BRIDGE - REAR ABUTMENT PLAN



RIGHT BRIDGE - REAR ABUTMENT ELEVATION

MINIMUM LAP LENGTHS
#5 BARS - 3'-5"
#8 BARS - 7'-3"

NOTES:
1. TOP OF DECK ELEVATIONS ARE GIVEN @ ℄ BEARING.
2. FOR PHASE CONSTRUCTION NOTES, SEE SHEET 16/29.

DATE: 10/17/2003 02:51:27 PM
FILENAME: h:\drawing\08\0645\312\detail design\[illegible]

ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

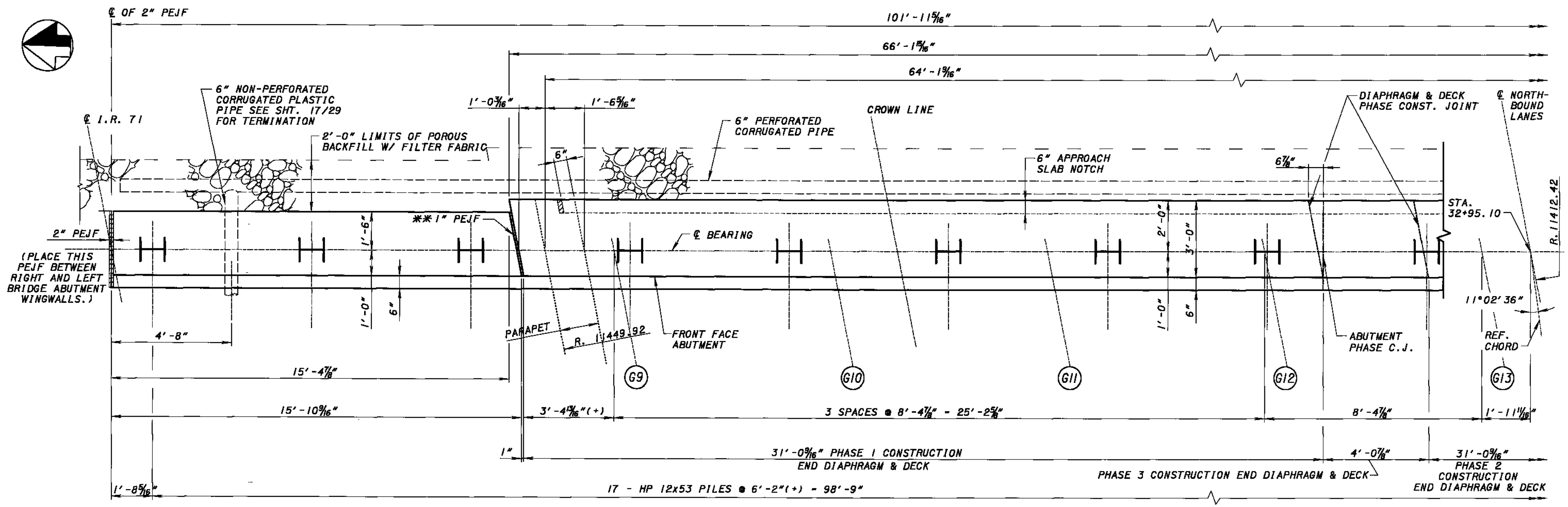
DESIGNED	DRAWN	REVIEWED	DATE
GKL	KVM	RWB	5/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JNS		5202310 - LEFT 5202345 - RIGHT	

RIGHT BRIDGE - REAR ABUTMENT PLAN & ELEVATION II
BRIDGE NO. MED-71-0060
OVER LITTLE KILLBUCK CREEK

WAY/MED-71-7.04

13/29

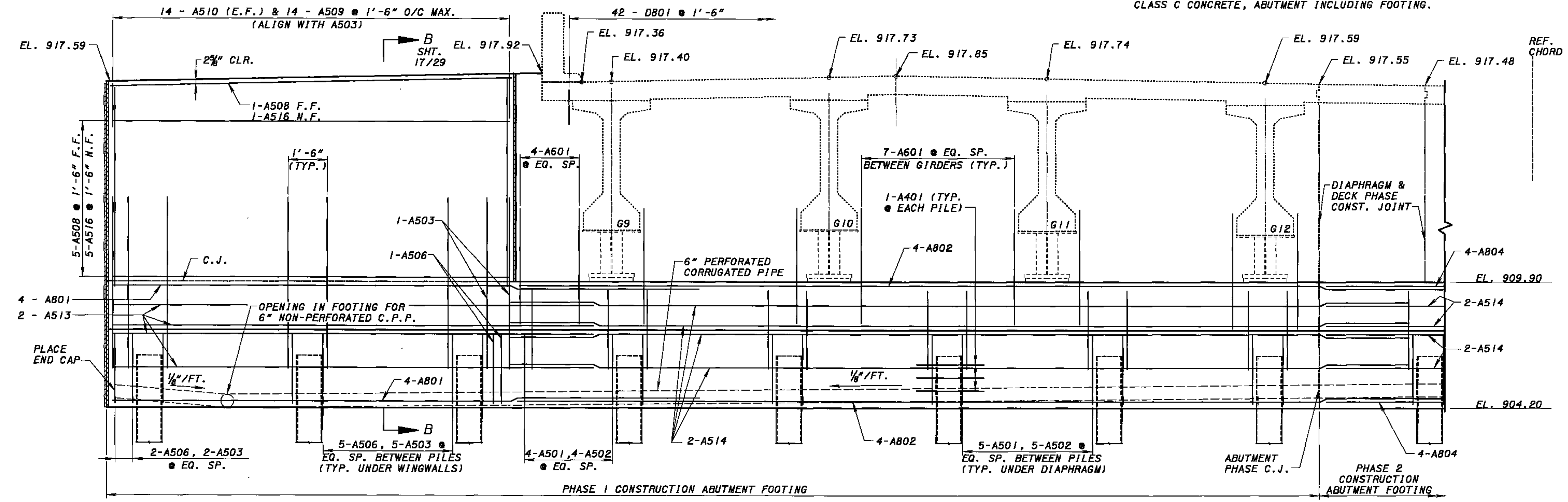
572/785



℄ OF 2" PEJF
101'-11⅝"
66'-1⅝"
64'-1⅜"
6" NON-PERFORATED CORRUGATED PLASTIC PIPE SEE SHT. 17/29 FOR TERMINATION
℄ I.R. 71
1'-0⁹⁄₁₆"
1'-6⁵⁄₁₆"
2'-0" LIMITS OF POROUS BACKFILL W/ FILTER FABRIC
6" PERFORATED CORRUGATED PIPE
CROWN LINE
DIAPHRAGM & DECK PHASE CONST. JOINT
℄ NORTHBOUND LANES
6"
6" APPROACH SLAB NOTCH
6⅞"
STA. 32+95.10
R. 11412.42
2" PEJF
** 1" PEJF
℄ BEARING
(PLACE THIS PEJF BETWEEN RIGHT AND LEFT BRIDGE ABUTMENT WINGWALLS.)
1'-6"
1'-0"
6"
2'-0"
3'-0"
1'-0"
6"
11°02'36"
4'-8"
PARAPET
R. 11449.92
FRONT FACE ABUTMENT
ABUTMENT PHASE C.J.
REF. CHORD
G9
G10
G11
G12
G13
15'-4⅞"
15'-10⁹⁄₁₆"
3'-4¹⁵⁄₁₆"(+)
3 SPACES @ 8'-4⅞" = 25'-2⅝"
8'-4⅞"
1'-11¹¹⁄₁₆"
1"
31'-0⁹⁄₁₆" PHASE 1 CONSTRUCTION END DIAPHRAGM & DECK
4'-0⅞"
31'-0⁹⁄₁₆" PHASE 2 CONSTRUCTION END DIAPHRAGM & DECK
PHASE 3 CONSTRUCTION END DIAPHRAGM & DECK
1'-8⁵⁄₁₆"
17 - HP 12x53 PILES @ 6'-2"(+) = 98'-9"

RIGHT BRIDGE - FORWARD ABUTMENT PLAN

** PAYMENT FOR THIS ITEM SHALL BE INCLUDED IN ITEM 511, CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING.



MINIMUM LAP LENGTHS
#5 BARS - 3'-5"
#8 BARS - 7'-3"

NOTES:
1. TOP OF DECK ELEVATIONS ARE GIVEN @ ℄ BEARING.
2. FOR PHASE CONSTRUCTION NOTES, SEE SHEET 16/29.

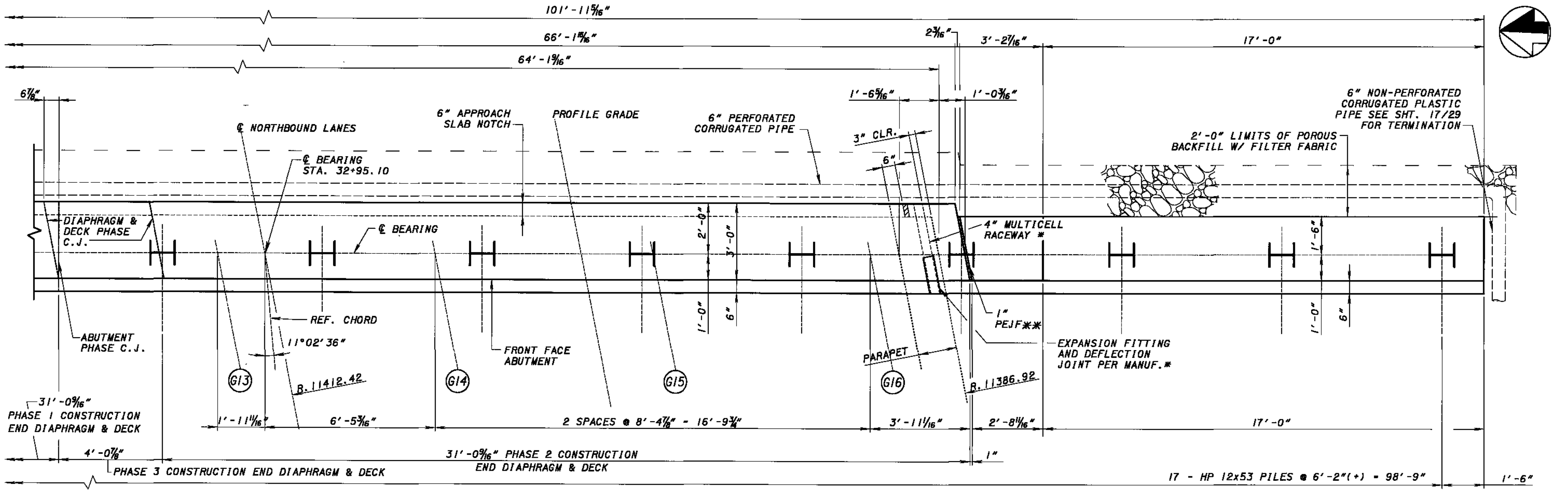
RIGHT BRIDGE - FORWARD ABUTMENT ELEVATION

ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED GKL
CHECKED JNS
DRAWN KVM
REVISED
REVIEWED RWB
DATE 5/03
STRUCTURE FILE NUMBER 5202310 - LEFT 5202345 - RIGHT

RIGHT BRIDGE - FORWARD ABUTMENT PLAN & ELEVATION I
BRIDGE NO. MED-71-0060
OVER LITTLE KILLBUCK CREEK

WAY/MED-71-7.04

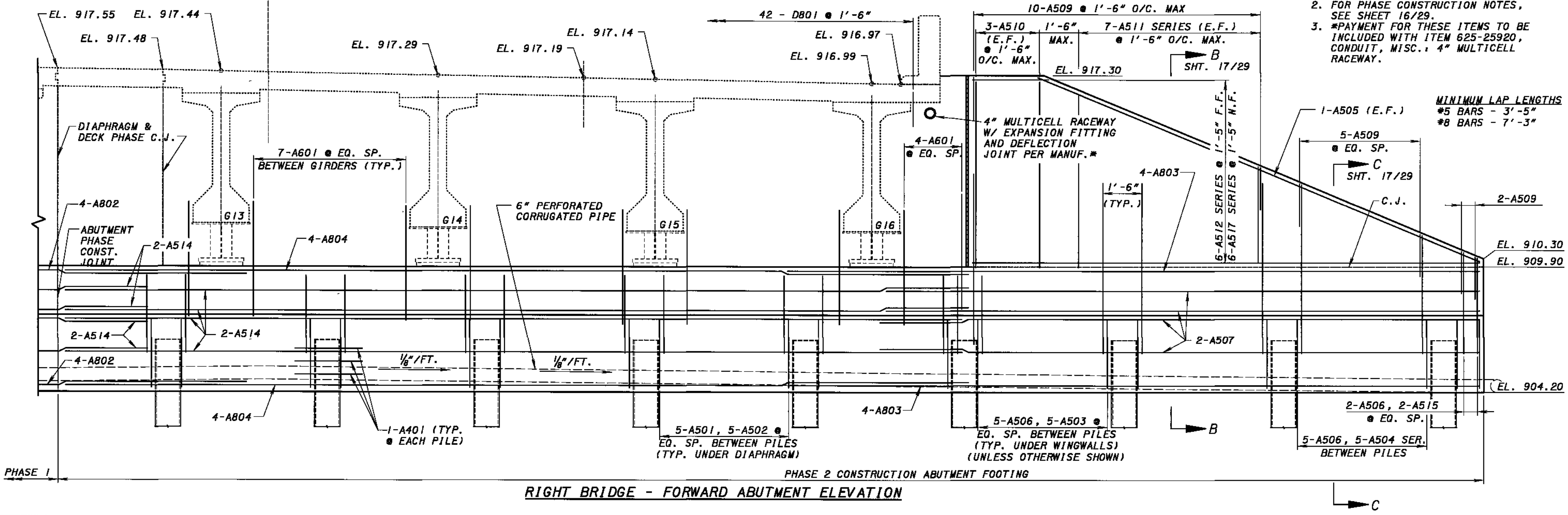

101'-11 5/16"
66'-1 11/16"
64'-1 3/16"
2 3/16"
3'-2 7/16"
17'-0"
6 7/8"
1'-6 5/16"
1'-0 3/16"
6" NON-PERFORATED CORRUGATED PLASTIC PIPE SEE SHT. 17/29 FOR TERMINATION
℄ NORTHBOUND LANES
6" APPROACH SLAB NOTCH
PROFILE GRADE
6" PERFORATED CORRUGATED PIPE
3" CLR.
6"
2'-0" LIMITS OF POROUS BACKFILL W/ FILTER FABRIC
℄ BEARING STA. 32+95.10
DIAPHRAGM & DECK PHASE C.J.
℄ BEARING
2'-0"
3'-0"
4" MULTICELL RACEWAY *
1'-6"
REF. CHORD
11°02'36"
FRONT FACE ABUTMENT
1'-0"
6"
1" PEJF**
EXPANSION FITTING AND DEFLECTION JOINT PER MANUF.*
ABUTMENT PHASE C.J.
PARAPET
G13
G14
G15
G16
R. 11412.42
R. 11386.92
31'-0 9/16" PHASE 1 CONSTRUCTION END DIAPHRAGM & DECK
1'-11 11/16"
6'-5 3/16"
2 SPACES @ 8'-4 7/8" = 16'-9 3/4"
3'-11 1/16"
2'-8 11/16"
17'-0"
4'-0 7/8"
31'-0 9/16" PHASE 2 CONSTRUCTION END DIAPHRAGM & DECK
1"
PHASE 3 CONSTRUCTION END DIAPHRAGM & DECK
17 - HP 12x53 PILES @ 6'-2"(+) = 98'-9"
1'-6"

RIGHT BRIDGE - FORWARD ABUTMENT PLAN

** PAYMENT FOR THIS ITEM SHALL BE INCLUDED IN ITEM 511, CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING.

NOTES:
1. TOP OF DECK ELEVATIONS ARE GIVEN @ ℄ BEARING.
2. FOR PHASE CONSTRUCTION NOTES, SEE SHEET 16/29.
3. *PAYMENT FOR THESE ITEMS TO BE INCLUDED WITH ITEM 625-25920, CONDUIT, MISC.: 4" MULTICELL RACEWAY.

MINIMUM LAP LENGTHS
#5 BARS - 3'-5"
#8 BARS - 7'-3"


EL. 917.55
EL. 917.44
EL. 917.48
EL. 917.29
EL. 917.19
EL. 917.14
42 - D801 @ 1'-6"
EL. 916.97
EL. 916.99
10-A509 @ 1'-6" O/C. MAX
3-A510 (E.F.) @ 1'-6" O/C. MAX.
1'-6" MAX.
7-A511 SERIES (E.F.) @ 1'-6" O/C. MAX.
EL. 917.30
B SHT. 17/29
DIAPHRAGM & DECK PHASE C.J.
4" MULTICELL RACEWAY W/ EXPANSION FITTING AND DEFLECTION JOINT PER MANUF.*
1-A505 (E.F.)
5-A509 @ EQ. SP.
C SHT. 17/29
7-A601 @ EQ. SP. BETWEEN GIRDERS (TYP.)
4-A601 @ EQ. SP.
4-A803
1'-6" (TYP.)
6-A512 SERIES @ 1'-5" F.F.
6-A517 SERIES @ 1'-5" N.F.
C.J.
2-A509
4-A802
6" PERFORATED CORRUGATED PIPE
G13
G14
G15
G16
ABUTMENT PHASE CONST. JOINT
2-A514
4-A804
EL. 910.30
EL. 909.90
2-A514
2-A514
2-A507
4-A802
1/8"/FT.
1/8"/FT.
EL. 904.20
4-A804
1-A401 (TYP. @ EACH PILE)
5-A501, 5-A502 @ EQ. SP. BETWEEN PILES (TYP. UNDER DIAPHRAGM)
4-A803
5-A506, 5-A503 @ EQ. SP. BETWEEN PILES (TYP. UNDER WINGWALLS) (UNLESS OTHERWISE SHOWN)
B
2-A506, 2-A515 @ EQ. SP.
5-A506, 5-A504 SER. BETWEEN PILES
PHASE 1
PHASE 2 CONSTRUCTION ABUTMENT FOOTING
C

RIGHT BRIDGE - FORWARD ABUTMENT ELEVATION

PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
GKL	KVM	RWB	5/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JNS		5202310 - LEFT 5202345 - RIGHT	

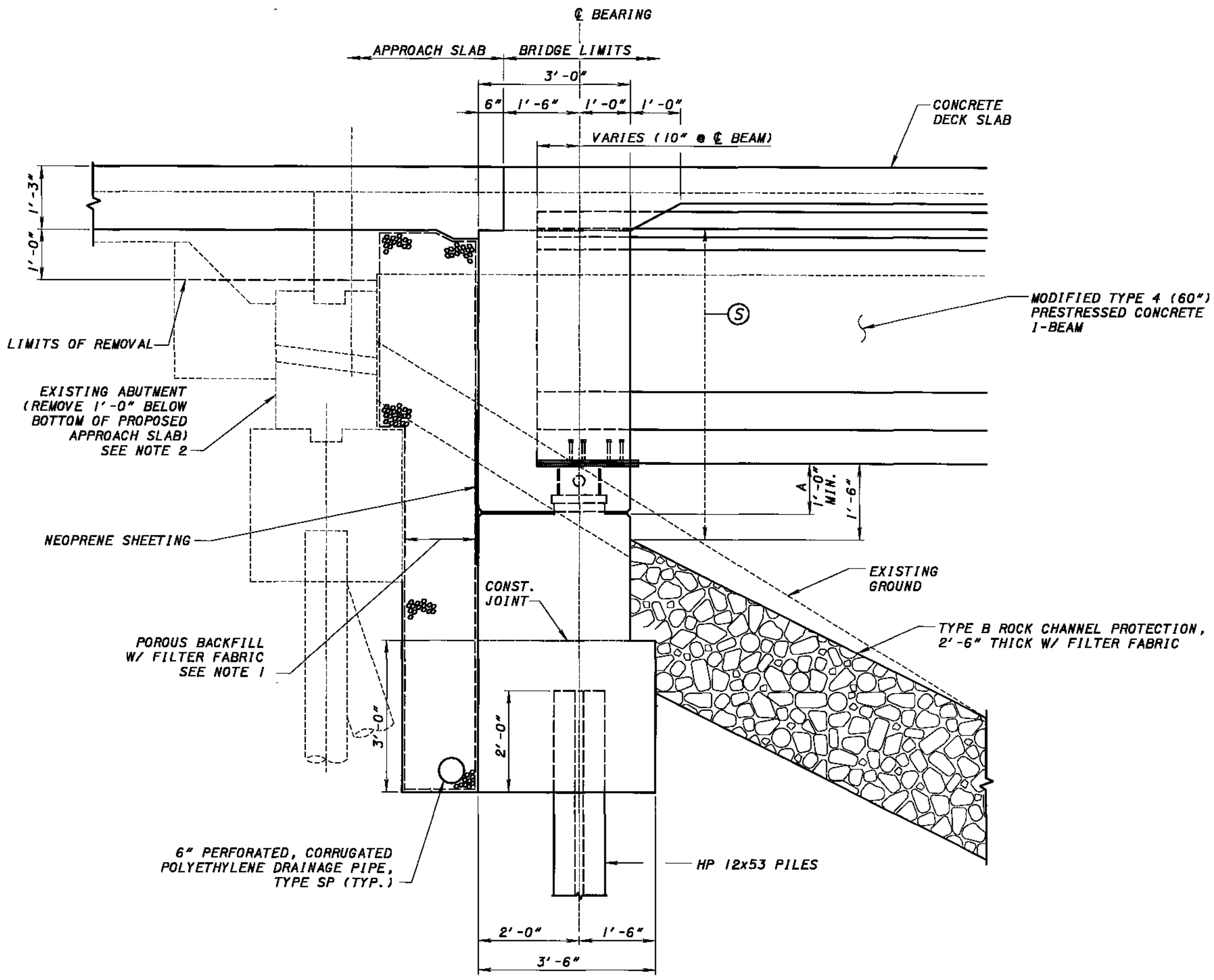
RIGHT BRIDGE - FORWARD ABUTMENT PLAN & ELEVATION II
BRIDGE NO. MED-71-0060
OVER LITTLE KILLBUCK CREEK

WAY/MED-71-7.04

15/29

574/785

DATE: 10/17/2003 08:56:25 PM
FILENAME: N:\drawing\38\06\49\52\detail\design\5r\g\rfwdabut.dgn

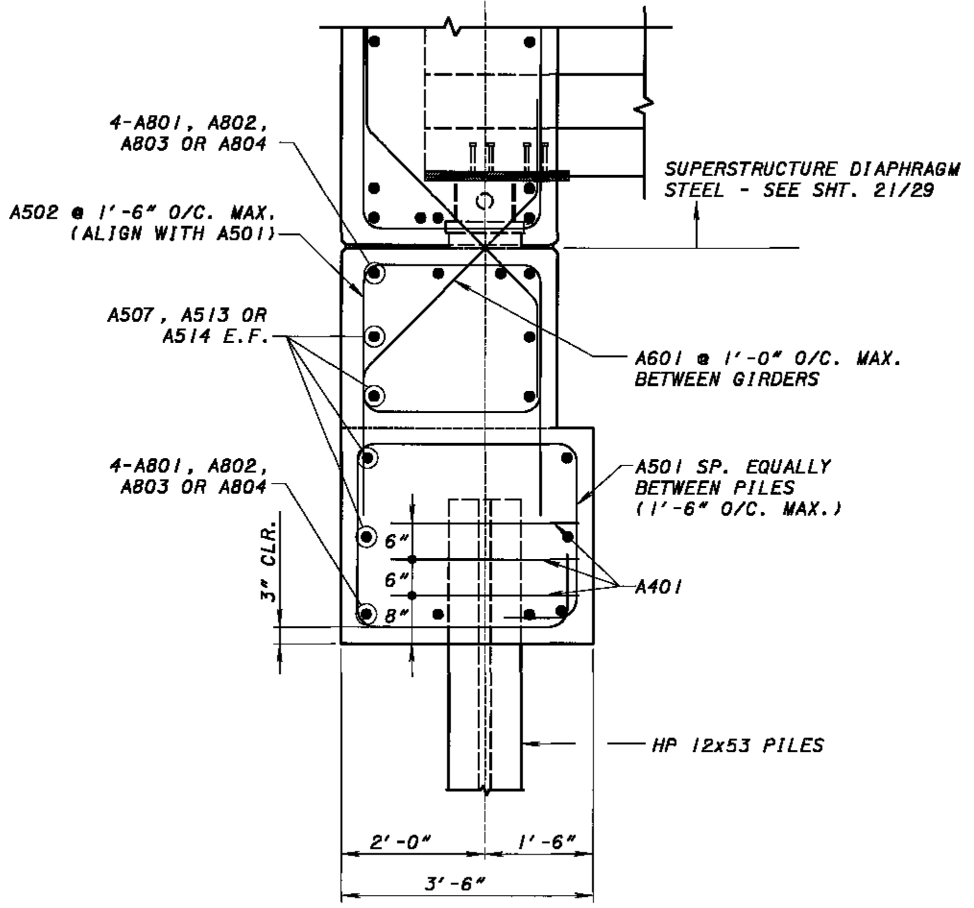

℄ BEARING
APPROACH SLAB
BRIDGE LIMITS
3'-0"
6"
1'-6"
1'-0"
1'-0"
VARIES (10" @ ℄ BEAM)
CONCRETE DECK SLAB
1'-3"
1'-0"
LIMITS OF REMOVAL
EXISTING ABUTMENT (REMOVE 1'-0" BELOW BOTTOM OF PROPOSED APPROACH SLAB) SEE NOTE 2
S
MODIFIED TYPE 4 (60") PRESTRESSED CONCRETE I-BEAM
A
1'-0" MIN.
1'-6"
NEOPRENE SHEETING
EXISTING GROUND
CONST. JOINT
TYPE B ROCK CHANNEL PROTECTION, 2'-6" THICK W/ FILTER FABRIC
POROUS BACKFILL W/ FILTER FABRIC SEE NOTE 1
3'-0"
2'-0"
6" PERFORATED, CORRUGATED POLYETHYLENE DRAINAGE PIPE, TYPE SP (TYP.)
HP 12x53 PILES
2'-0"
1'-6"
3'-6"

TYPICAL SECTION THRU PROPOSED ABUTMENT @ EXISTING ABUTMENT

Ⓢ DENOTES CONCRETE SURFACES TO BE SEALED WITH EPOXY-URETHANE.

NOTES:

1. POROUS BACKFILL SHALL BE 2'-0" WIDE OUTSIDE THE LIMITS OF THE EXISTING ABUTMENT.
2. CONTRACTOR HAS THE OPTION OF REMOVING EXISTING ABUTMENTS BELOW THE LIMITS OF REMOVAL SHOWN. COST SHALL BE INCLUDED IN PAY ITEM 202, STRUCTURE REMOVED.
3. SEE STD. DWG. ICD-1-82 FOR DETAILS NOT SHOWN.
4. IN ADDITION TO THE 4" MULTICELL RACEWAY, EXPANSION FITTING AND DEFLECTION JOINT PER MANUFACTURER DETAILED ON SHTS. 9, 10, 12, 15, 21/29, A 24" PULLBOX IS REQUIRED OFF THE BRIDGE LIMITS ON EITHER END OF THE LEFT SIDE OF THE LEFT BRIDGE AND THE RIGHT SIDE OF THE RIGHT BRIDGE. PAYMENT FOR THESE ITEMS TO BE INCLUDED WITH ITEM 625-30707, PULLBOX, 725.08, 24" AS PER PLAN.


4-A801, A802, A803 OR A804
SUPERSTRUCTURE DIAPHRAGM STEEL - SEE SHT. 21/29
A502 @ 1'-6" O/C. MAX. (ALIGN WITH A501)
A507, A513 OR A514 E.F.
A601 @ 1'-0" O/C. MAX. BETWEEN GIRDERS
4-A801, A802, A803 OR A804
A501 SP. EQUALLY BETWEEN PILES (1'-6" O/C. MAX.)
3" CLR.
6"
6"
8"
A401
HP 12x53 PILES
2'-0"
1'-6"
3'-6"

TYPICAL SECTION

PHASED CONSTRUCTION NOTES:

PLACE ABUTMENT DIAPHRAGM CONCRETE ENCASING PRESTRESSED I-BEAM MEMBERS AT THE SAME TIME AS THE DECK CONCRETE OF AN INDIVIDUAL CONSTRUCTION PHASE TO ALLOW FOR EXPECTED DEAD LOAD ROTATION AT THE ABUTMENTS.

SEAL EACH VERTICAL JOINT BETWEEN CONSTRUCTION PHASES ON THE BACKSIDE OF ABUTMENT BREASTWALL AND DIAPHRAGMS FROM TOP OF FOOTING TO THE APPROACH SLAB SEAT WITH ITEM 512, TYPE 2 WATERPROOFING, 3' WIDE CENTERED ON THE JOINT.

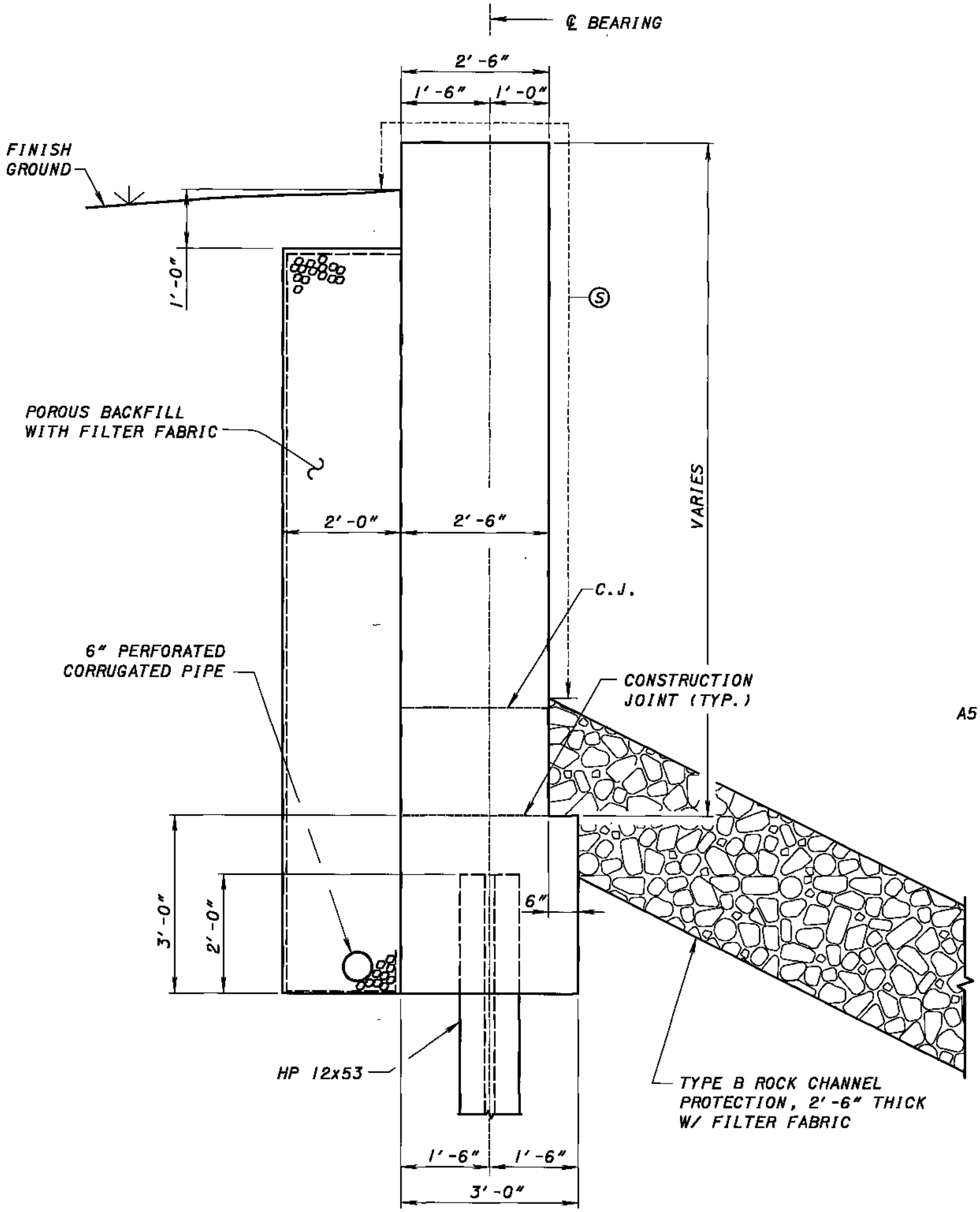
UNLESS OTHERWISE NOTED, HORIZONTAL BARS IN THE ABUTMENT DIAPHRAGM WILL PROTRUDE FROM PHASE I CONSTRUCTION, THRU PHASE III CONSTRUCTION AND INTO PHASE II CONSTRUCTION. SEE SHT. 21/29 FOR NOTES SPECIFIC TO PLACEMENT OF S803, S804 BARS.

PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
GKL	KVM	RWB	5/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JNS		5202310-LEFT 5202345-RIGHT	

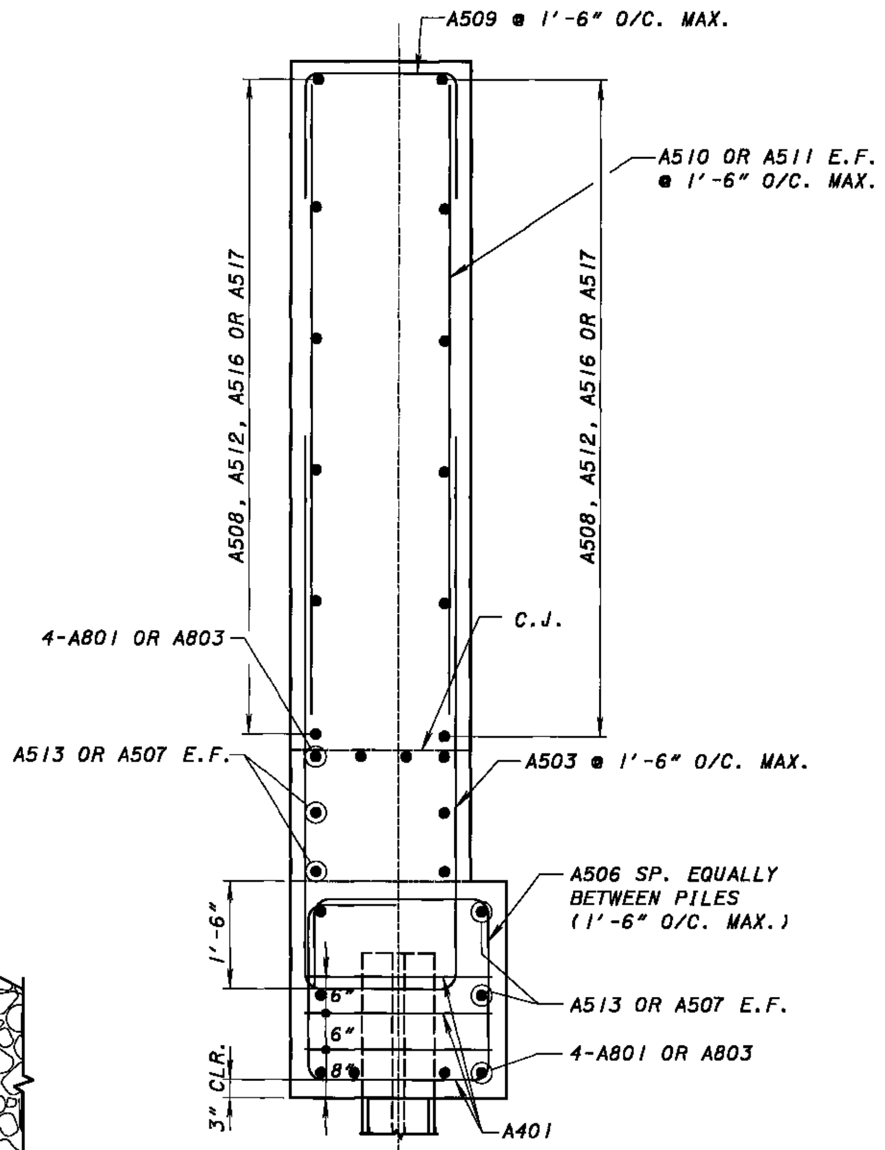
ABUTMENT DETAILS
BRIDGE NO. MED-71-0060 L/R
OVER LITTLE KILLBUCK CREEK

WAY/MED-71-7.04

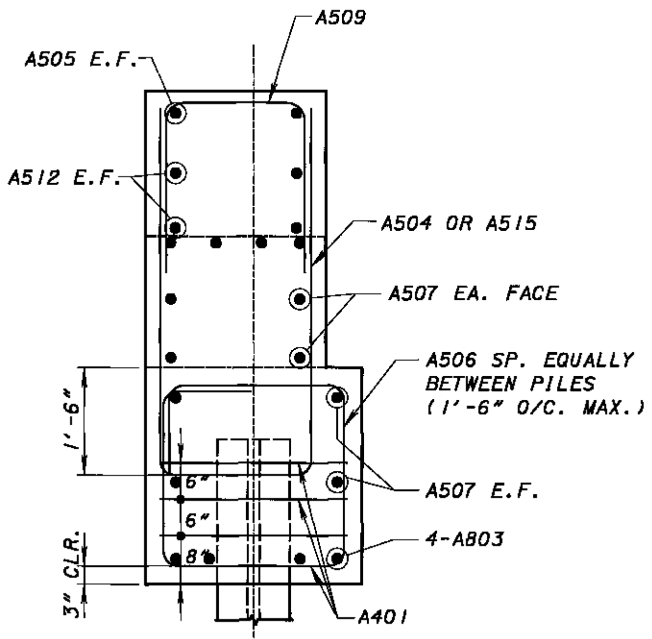

℄ BEARING
2'-6"
1'-6"
1'-0"
FINISH GROUND
1'-0"
Ⓢ
POROUS BACKFILL WITH FILTER FABRIC
2'-0"
2'-6"
VARIES
C.J.
6" PERFORATED CORRUGATED PIPE
CONSTRUCTION JOINT (TYP.)
3'-0"
2'-0"
6"
HP 12x53
TYPE B ROCK CHANNEL PROTECTION, 2'-6" THICK W/ FILTER FABRIC
1'-6"
1'-6"
3'-0"

ABUTMENT SECTIONS B-B, C-C (DIMENSIONS)

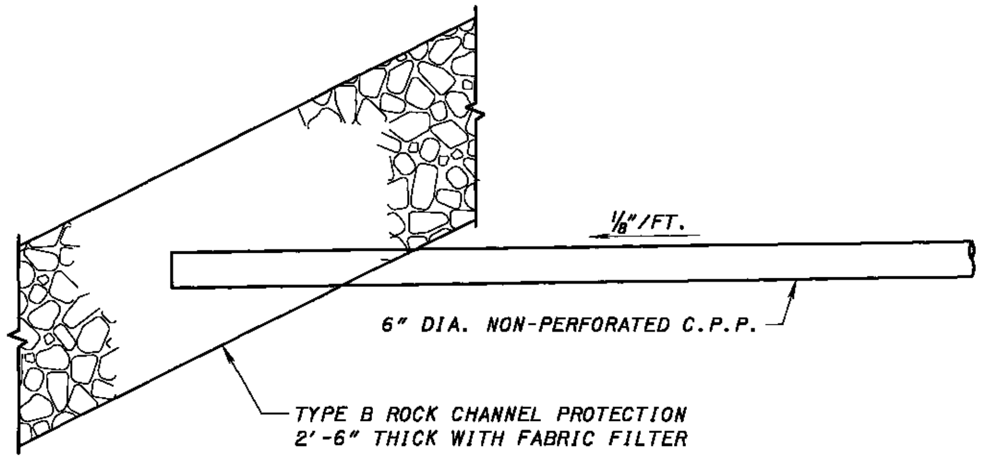
Ⓢ DENOTES CONCRETE SURFACES TO BE SEALED WITH EPOXY-URETHANE.



ABUTMENT SECTION B-B (REINFORCING)



ABUTMENT SECTION C-C (REINFORCING)


1/8"/FT.
6" DIA. NON-PERFORATED C.P.P.
TYPE B ROCK CHANNEL PROTECTION 2'-6" THICK WITH FABRIC FILTER

TERMINATION OF 6" N.P.C.P.P. DETAIL

PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
GKL	KVM	RWB	5/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JNS		5202310-LEFT 5202345-RIGHT	

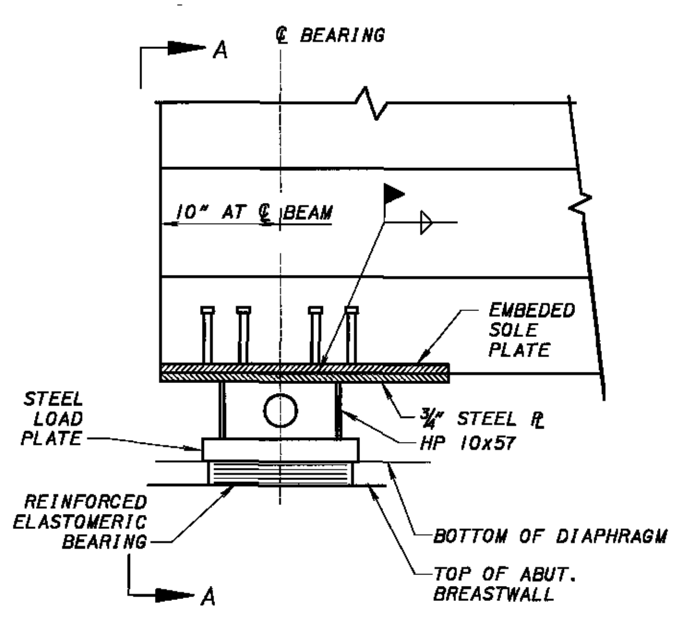
ABUTMENT DETAILS
BRIDGE NO. MED-71-0060 L/R
OVER LITTLE KILLBUCK CREEK

WAY/MED-71-7.04

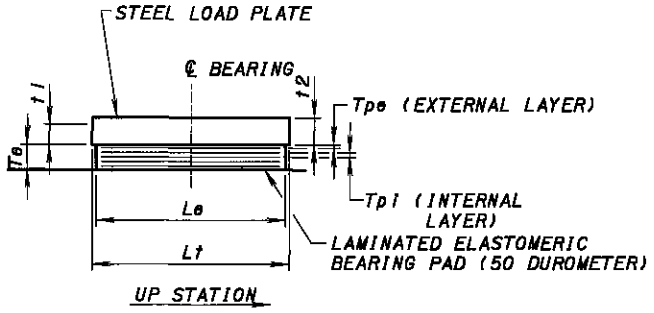
17/29

576/785

DATE: 10/17/2003 02:51:29 PM
FILENAME: h:\drawing\08\06415\3\2\detail design\17abutdetail.dgn



ABUTMENT BEARING DETAIL

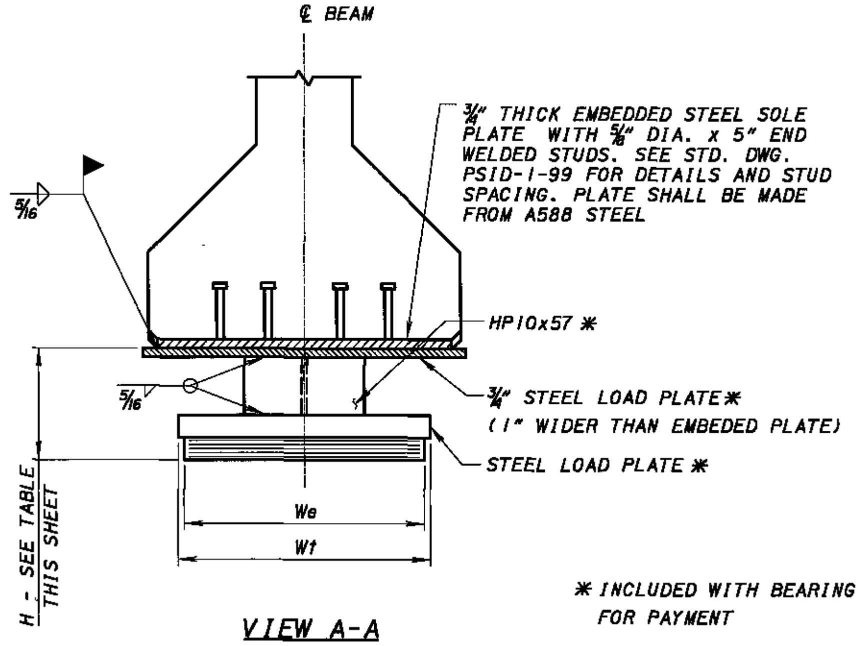


STEEL LOAD PLATE & BEARING PAD DETAIL

NOTES:

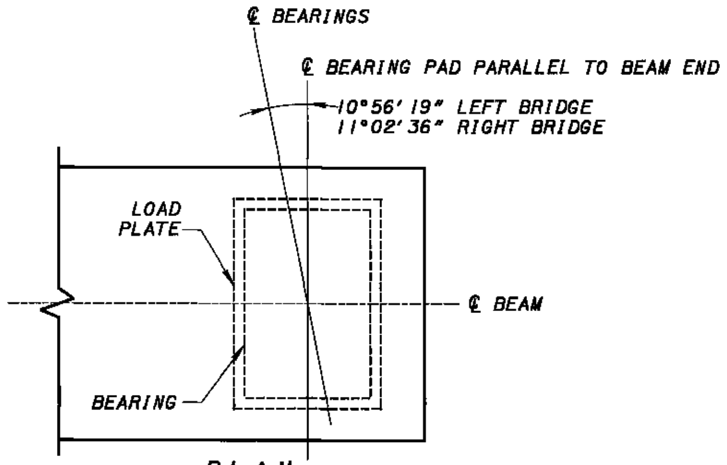
WELDING:
CONTROL WELDING SO THAT THE PLATE TEMPERATURE AT THE ELASTOMERIC BONDED SURFACE DOES NOT EXCEED 300 DEGREES FARENHEIT AS DETERMINED BY USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE DEVICES.

ELASTOMERIC BEARINGS:
THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.


℄ BEAM
¾" THICK EMBEDDED STEEL SOLE PLATE WITH ⅝" DIA. x 5" END WELDED STUDS. SEE STD. DWG. PSID-1-99 FOR DETAILS AND STUD SPACING. PLATE SHALL BE MADE FROM A588 STEEL
5/16
5/16
HP10x57 ✱
¾" STEEL LOAD PLATE✱ (1" WIDER THAN EMBEDED PLATE)
STEEL LOAD PLATE ✱
We
Wt
H - SEE TABLE THIS SHEET

VIEW A-A

✱ INCLUDED WITH BEARING FOR PAYMENT



PLAN

BEARING ASSEMBLY HEIGHT "H" REAR & FORWARD ABUTMENTS							
G1, G9	G2, G10	G3, G11	G4, G12	G5, G13	G6, G14	G7, G15	G8, G16
1′-4 15/16"	1′-8 15/16"	1′-9 1/16"	1′-7 1/4"	1′-5 7/16"	1′-3 5/8"	1′-1 13/16"	1′-0"

BEARING LOCATION	BEARING TYPE	NO. REQ'D.	UNFACTORED LOADS			Le (inches)	We (inches)	Tpi (inches)	NO. OF Tpi's	Tpe (2 EA.) (inches)	NUMBER OF INTERNAL STEEL LAMINATES (14 GAGE)	Te (inches)	STEEL LOAD PLATE			
			DEAD LOAD (KIPS)	LIVE LOAD (KIPS)	TOTAL LOAD (DL + LL) (KIPS)								Lt (inches)	Wt (inches)	t1 (inches)	t2 (inches)
LEFT BRIDGE REAR ABUTMENT	REINFORCED ELASTOMERIC	8	130.5	67.3	197.8	12	18	.375	3	.25	4	1.9238	14	20	1.5	1.5
LEFT BRIDGE FORWARD ABUTMENT	REINFORCED ELASTOMERIC	8	130.5	67.3	197.8	12	18	.375	3	.25	4	1.9238	14	20	1.5	1.5
RIGHT BRIDGE REAR ABUTMENT	REINFORCED ELASTOMERIC	8	130.5	67.3	197.8	12	18	.375	3	.25	4	1.9238	14	20	1.5	1.5
RIGHT BRIDGE FORWARD ABUTMENT	REINFORCED ELASTOMERIC	8	130.5	67.3	197.8	12	18	.375	3	.25	4	1.9238	14	20	1.5	1.5

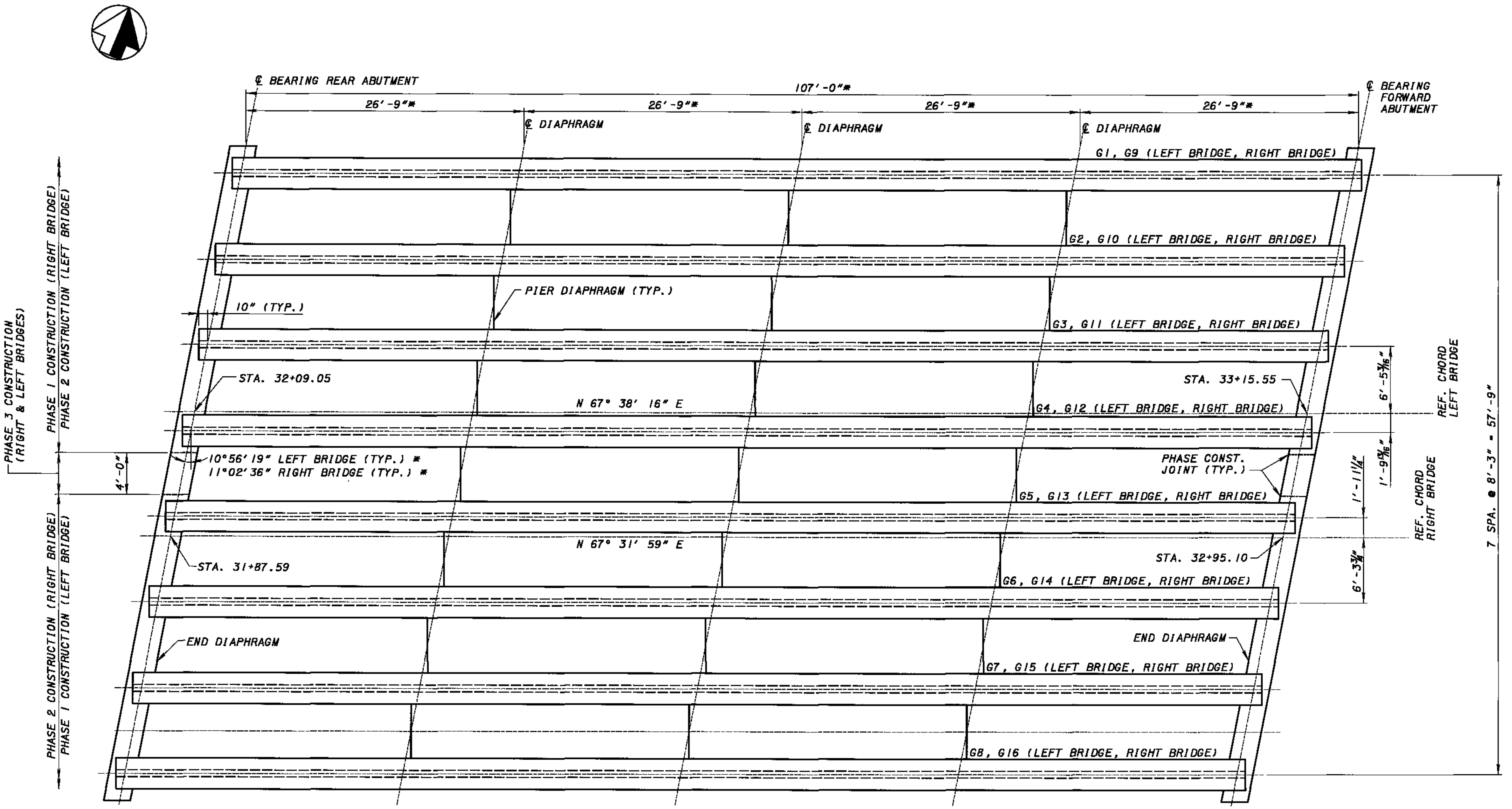
PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED WJS
DRAWN KVM
REVIEWED RWB
DATE 5/03
CHECKED JNS
REVISED
STRUCTURE FILE NUMBER
5202310-LEFT
5202345-RIGHT

BEARING DETAILS
BRIDGE NO. MED-71-0060 L/R
OVER LITTLE KILLBUCK CREEK

WAY/MED-71-7.04

DATE: 03/17/2004 01:32:46 PM
FILENAME: T:\drawing\08\06419\312\Detail Design\BBearingDetail.dgn


℄ BEARING REAR ABUTMENT
107'-0"*
26'-9"*
26'-9"*
26'-9"*
26'-9"*
℄ BEARING FORWARD ABUTMENT
℄ DIAPHRAGM
℄ DIAPHRAGM
℄ DIAPHRAGM
G1, G9 (LEFT BRIDGE, RIGHT BRIDGE)
G2, G10 (LEFT BRIDGE, RIGHT BRIDGE)
PIER DIAPHRAGM (TYP.)
10" (TYP.)
G3, G11 (LEFT BRIDGE, RIGHT BRIDGE)
STA. 32+09.05
STA. 33+15.55
N 67° 38' 16" E
G4, G12 (LEFT BRIDGE, RIGHT BRIDGE)
10°56'19" LEFT BRIDGE (TYP.) *
11°02'36" RIGHT BRIDGE (TYP.) *
PHASE CONST. JOINT (TYP.)
G5, G13 (LEFT BRIDGE, RIGHT BRIDGE)
N 67° 31' 59" E
STA. 31+87.59
STA. 32+95.10
G6, G14 (LEFT BRIDGE, RIGHT BRIDGE)
END DIAPHRAGM
END DIAPHRAGM
G7, G15 (LEFT BRIDGE, RIGHT BRIDGE)
G8, G16 (LEFT BRIDGE, RIGHT BRIDGE)
PHASE 3 CONSTRUCTION (RIGHT & LEFT BRIDGES)
PHASE 1 CONSTRUCTION (RIGHT BRIDGE)
PHASE 2 CONSTRUCTION (LEFT BRIDGE)
4'-0"
PHASE 2 CONSTRUCTION (RIGHT BRIDGE)
PHASE 1 CONSTRUCTION (LEFT BRIDGE)
6'-5 5/16"
1'-9 5/16"
1'-11 1/4"
6'-3 3/4"
REF. CHORD LEFT BRIDGE
REF. CHORD RIGHT BRIDGE
7 SPA. @ 8'-3" = 57'-9"

FRAMING PLAN

* MEASURED WITH RESPECT TO REFERENCE CHORD

PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
WJS	KVM	RWB	5/03
CHECKED JNS	REVISED	STRUCTURE FILE NUMBER 5202310-LEFT 5202345-RIGHT	

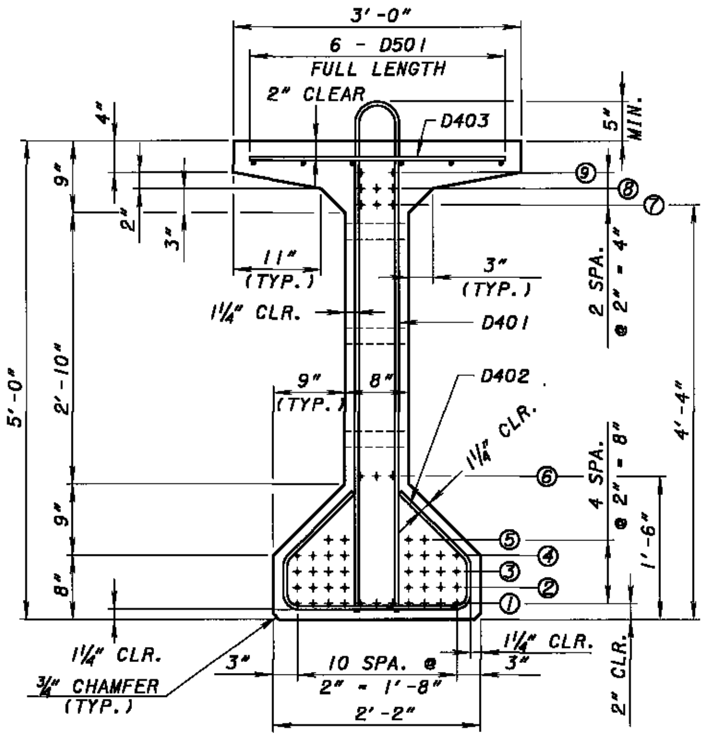
FRAMING PLAN
BRIDGE NO. MED-71-0060 L/R
OVER LITTLE KILLBUCK CREEK

WAY/MED-71-7.04

19/29

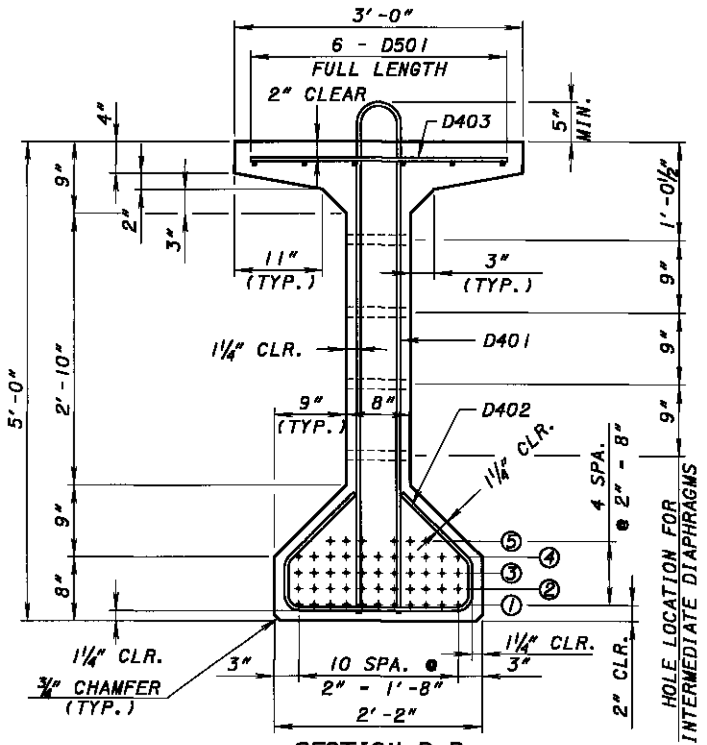
578/785

DATE: 10/17/2003 02:51:30 PM
FILENAME: t:\drawing\08\06489.312\detail design\19framingplan.dgn



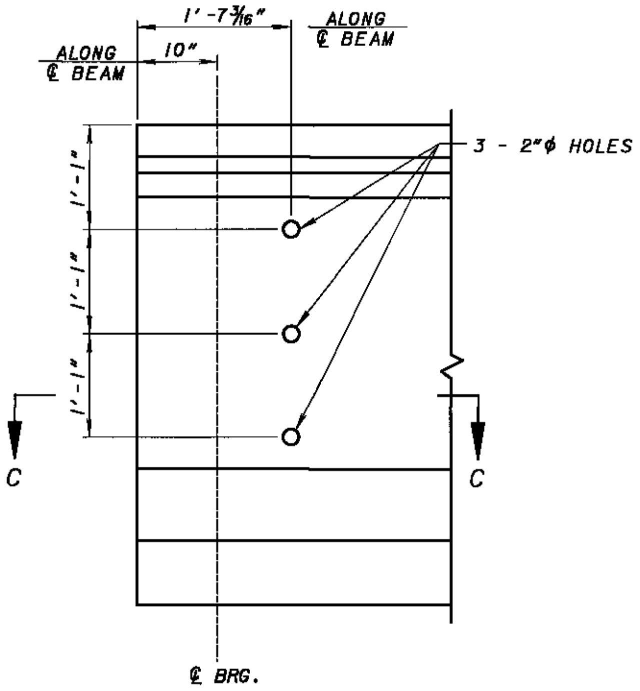
SECTION A-A

(STRAND PATTERN AT END)

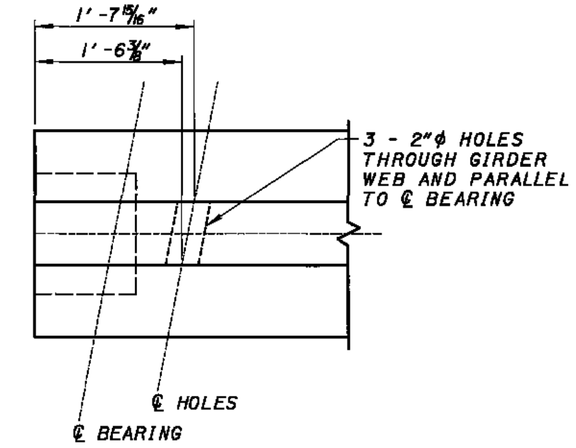


SECTION B-B

(STRAND PATTERN AT MIDSPAN)



DETAIL D



SECTION C-C

(LOCATION OF HOLES THROUGH WEB FOR END DIAPHRAGMS REINFORCEMENT)

STRAND DATA

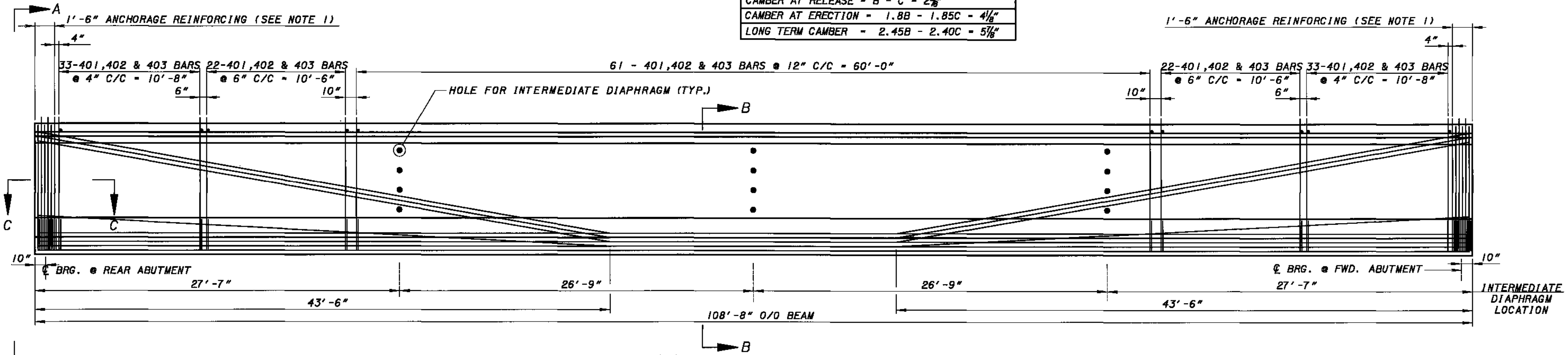
STRANDS SHALL BE LOW-RELAXATION ½ INCH DIAMETER (A_s-0.167 IN^2) SEVEN WIRE UNCOATED STRANDS, ASTM A416, GRADE 270.

BEAM MARK	LOCATION	NUMBER OF STRANDS PER ROW ROW NUMBER ①	②	③	④	⑤	⑥	⑦	⑧	⑨		TOTAL STRANDS	CONCRETE STRENGTHS f'ci	f'c	401 BARS REQ'D	402 BARS REQ'D	403 BARS REQ'D
G1-G16	AT ENDS	11	8	8	8	4	3	3	3	2		50	5.5	7	177	177	177
G1-G16	MIDSPAN	11	11	11	11	6	-	-	-	-		50					

NOTE:
1. SEE STANDARD DRAWING PSID-1-99 FOR ADDITIONAL DETAILS.
2. FOR INTERMEDIATE STEEL DIAPHRAGM LOCATIONS, SEE FRAMING PLAN, SHEET 19/29. FOR HOLE DETAILS, SEE STD. DWG. PSID-1-99.

STRAND DEBONDING BEAMS G1 TO G16		
ROW NUMBER	NUMBER OF DEBONDED STRANDS	LENGTH FROM END TO DEBOND
①	2	2'-0"

CAMBER VALUES DUE TO PRESTRESS FORCE AND BEAM WEIGHT
B = ANTICIPATED MIDSPAN CAMBER DUE TO DESIGN PRESTRESSING FORCE AT TIME OF RELEASE C = MIDSPAN DEFLECTION DUE TO SELF WEIGHT OF BEAM
CAMBER AT RELEASE = B - C = 2⅜"
CAMBER AT ERECTION = 1.8B - 1.85C = 4⅛"
LONG TERM CAMBER = 2.45B - 2.40C = 5⅞"


A
1'-6" ANCHORAGE REINFORCING (SEE NOTE 1)
4"
33-401,402 & 403 BARS @ 4" C/C = 10'-8"
22-401,402 & 403 BARS @ 6" C/C = 10'-6"
6"
10"
61 - 401,402 & 403 BARS @ 12" C/C = 60'-0"
HOLE FOR INTERMEDIATE DIAPHRAGM (TYP.)
B
1'-6" ANCHORAGE REINFORCING (SEE NOTE 1)
4"
22-401,402 & 403 BARS @ 6" C/C = 10'-6"
33-401,402 & 403 BARS @ 4" C/C = 10'-8"
10"
6"
C
C
10"
℄ BRG. @ REAR ABUTMENT
27'-7"
26'-9"
26'-9"
43'-6"
43'-6"
℄ BRG. @ FWD. ABUTMENT
27'-7"
10"
INTERMEDIATE DIAPHRAGM LOCATION
108'-8" O/O BEAM
B
A

ELEVATION BEAMS G1 THRU G16

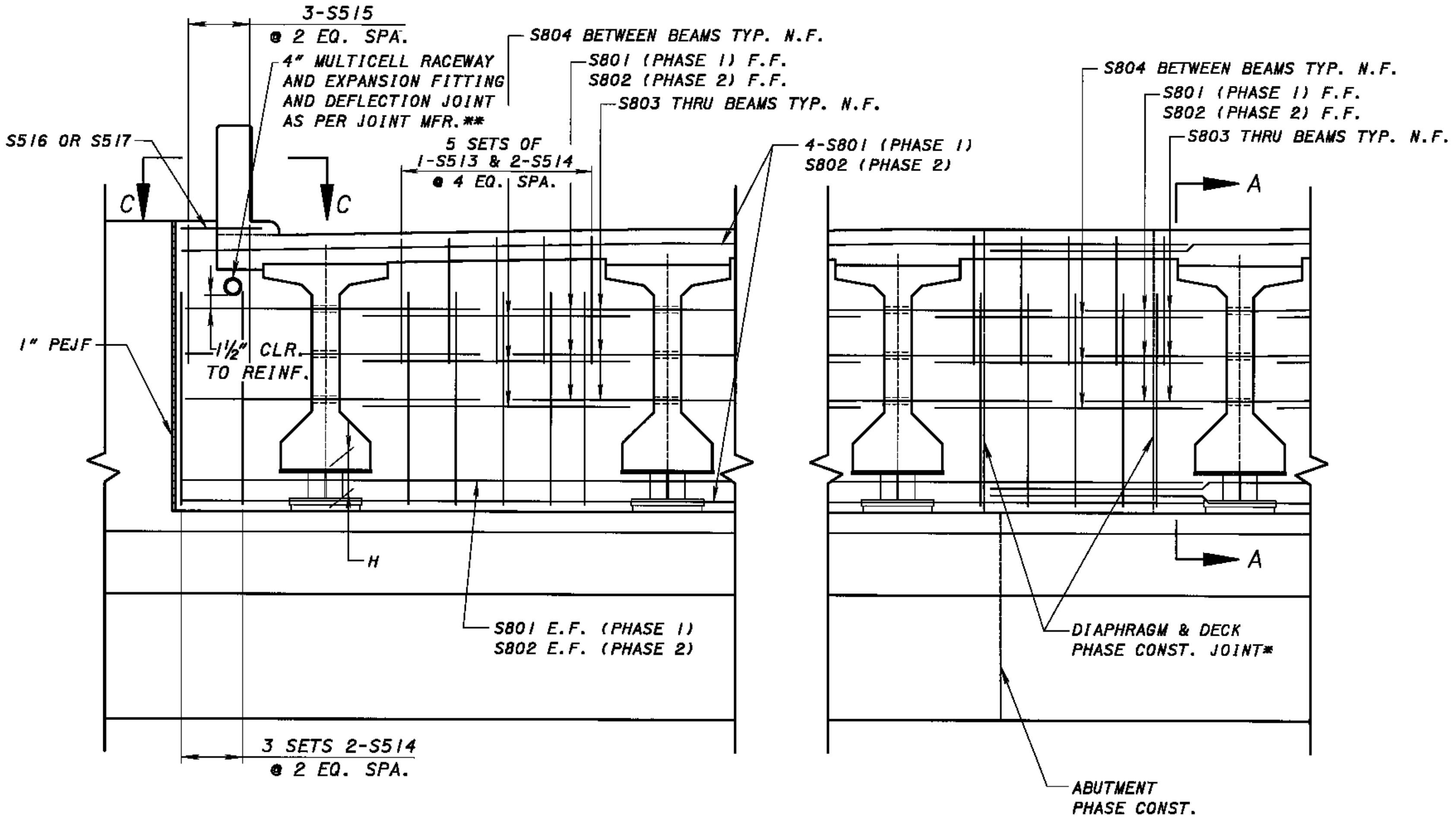
DATE: #DATE# #TIME#
FILENAME: #FILE#

PREPARED BY
ms consultants, Inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
WJS	KVW	JNS	5/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RWB		5202310 - LEFT 5202345 - RIGHT	

BEAM DETAILS
BRIDGE NO. MED-71-0060 L/R
OVER LITTLE KILLBUCK CREEK

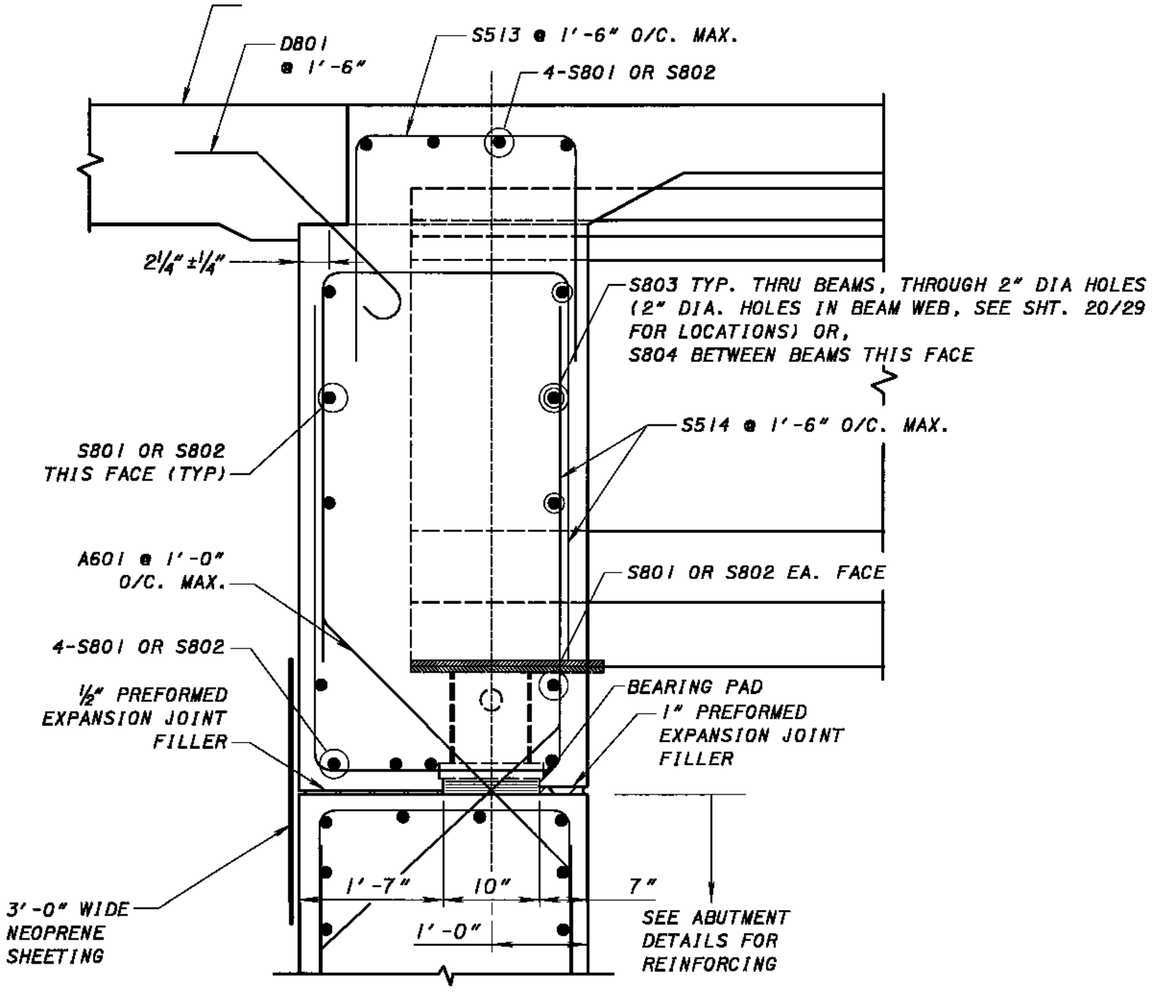
WAY/MED-71-7.04


3-S515
@ 2 EQ. SPA.
4" MULTICELL RACEWAY AND EXPANSION FITTING AND DEFLECTION JOINT AS PER JOINT MFR.**
S804 BETWEEN BEAMS TYP. N.F.
S801 (PHASE 1) F.F.
S802 (PHASE 2) F.F.
S803 THRU BEAMS TYP. N.F.
5 SETS OF 1-S513 & 2-S514 @ 4 EQ. SPA.
4-S801 (PHASE 1)
S802 (PHASE 2)
S516 OR S517
C
C
1" PEJF
1½" CLR. TO REINF.
H
S801 E.F. (PHASE 1)
S802 E.F. (PHASE 2)
3 SETS 2-S514
@ 2 EQ. SPA.
S804 BETWEEN BEAMS TYP. N.F.
S801 (PHASE 1) F.F.
S802 (PHASE 2) F.F.
S803 THRU BEAMS TYP. N.F.
A
A
DIAPHRAGM & DECK PHASE CONST. JOINT*
ABUTMENT PHASE CONST. JOINT*

REINFORCING @ ABUTMENT DIAPHRAGM (TYP.)

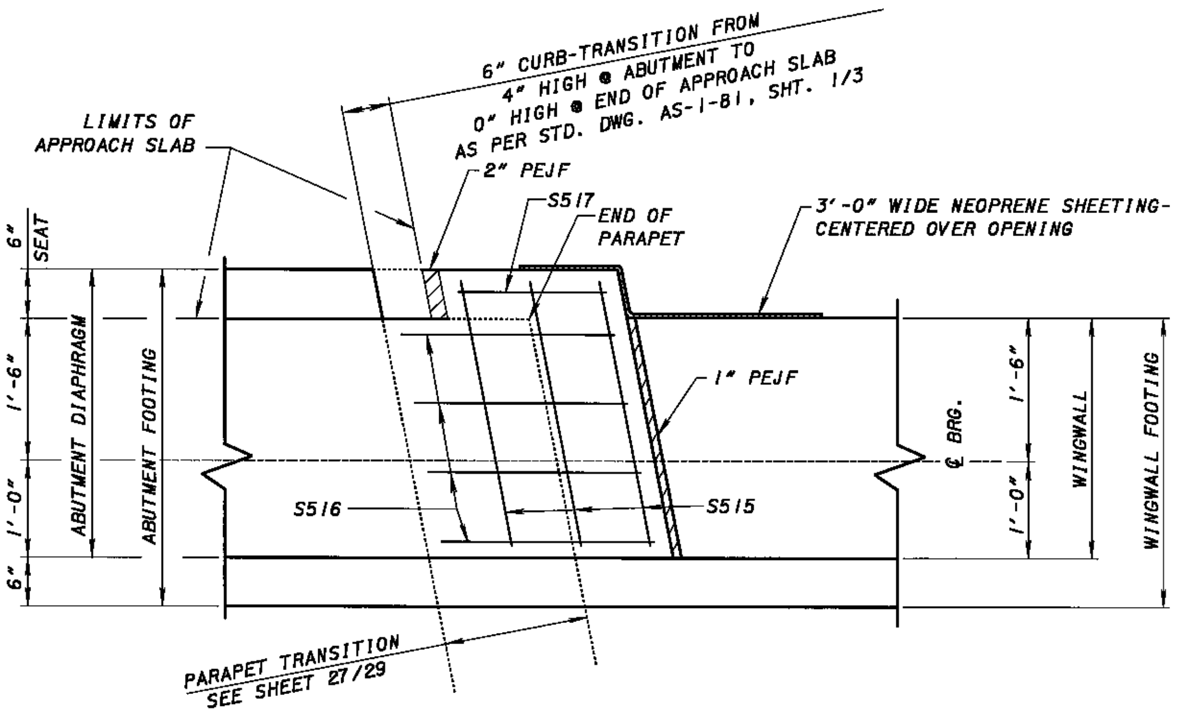
NOTE:
AT PHASE CONSTRUCTION JOINT, S803 THRU G5 (LEFT BRIDGE), G12 (RIGHT BRIDGE) WILL PROTRUDE FROM PHASE I CONSTRUCTION INTO PHASE III CONSTRUCTION. S803 THRU G4 (LEFT BRIDGE), G13 (RIGHT BRIDGE) WILL PROTRUDE FROM PHASE II CONSTRUCTION INTO PHASE III CONSTRUCTION. S804 BETWEEN G4 & G5 (LEFT BRIDGE), G12 & G13 (RIGHT BRIDGE) WILL PROTRUDE FROM PHASE I CONSTRUCTION THRU PHASE III CONSTRUCTION, AND INTO PHASE II CONSTRUCTION. SEE SHT. 16/29 FOR ADDITIONAL NOTES ON HORIZONTAL BARS IN ABUTMENT DIAPHRAGM.

**PAYMENT FOR THESE ITEMS TO BE INCLUDED WITH ITEM 625-25920, CONDUIT, MISC.: 4" MULTICELL RACEWAY. SEE SHTS. 9/29, 10/29, 12/29, 15/29 FOR PLACEMENT OF THESE ITEMS.

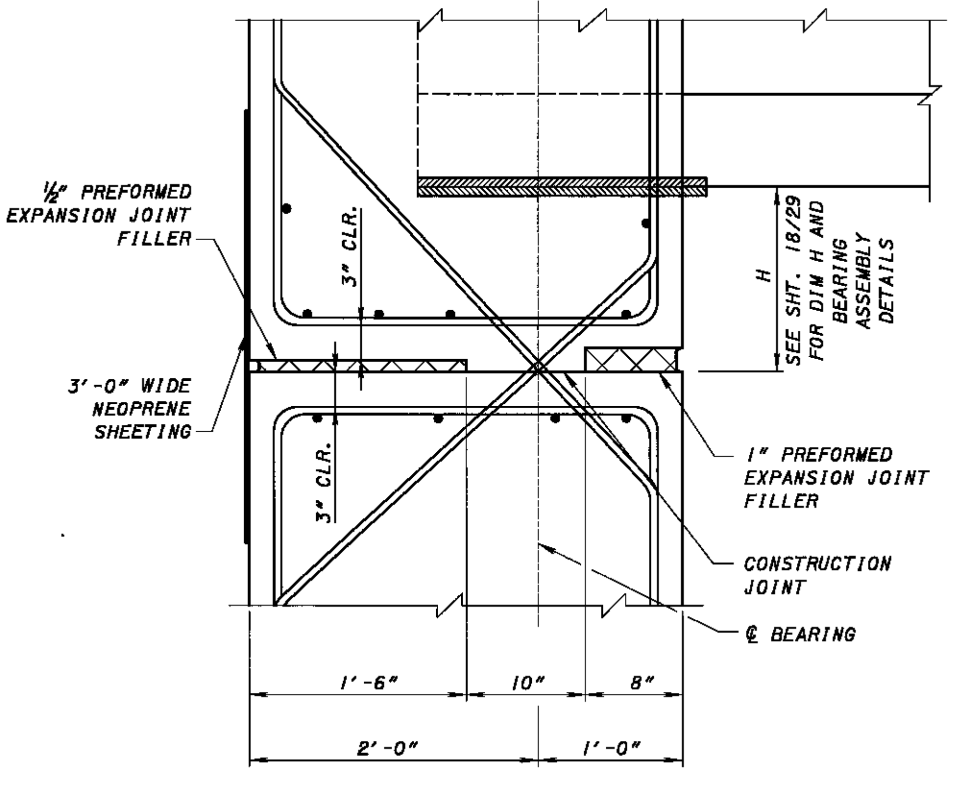

D801
@ 1'-6"
S513 @ 1'-6" O/C. MAX.
4-S801 OR S802
2¼" ± ¼"
S803 TYP. THRU BEAMS, THROUGH 2" DIA HOLES (2" DIA. HOLES IN BEAM WEB, SEE SHT. 20/29 FOR LOCATIONS) OR,
S804 BETWEEN BEAMS THIS FACE
S514 @ 1'-6" O/C. MAX.
S801 OR S802 THIS FACE (TYP)
S801 OR S802 EA. FACE
A601 @ 1'-0" O/C. MAX.
4-S801 OR S802
½" PREFORMED EXPANSION JOINT FILLER
BEARING PAD
1" PREFORMED EXPANSION JOINT FILLER
3'-0" WIDE NEOPRENE SHEETING
1'-7"
10"
7"
1'-0"
SEE ABUTMENT DETAILS FOR REINFORCING

SECTION A-A

* SEE SHTS. 8 THRU 15/29 FOR LOCATION OF THESE CONSTRUCTION JOINTS.


6" CURB-TRANSITION FROM 4" HIGH @ ABUTMENT TO 0" HIGH @ END OF APPROACH SLAB AS PER STD. DWG. AS-1-81, SHT. 1/3
LIMITS OF APPROACH SLAB
2" PEJF
S517
END OF PARAPET
3'-0" WIDE NEOPRENE SHEETING-CENTERED OVER OPENING
6" SEAT
1'-6"
1'-0"
6"
ABUTMENT DIAPHRAGM
ABUTMENT FOOTING
1" PEJF
S516
S515
℄ BRG.
1'-6"
1'-0"
WINGWALL
WINGWALL FOOTING
PARAPET TRANSITION SEE SHEET 27/29

SECTION C-C


½" PREFORMED EXPANSION JOINT FILLER
3" CLR.
3'-0" WIDE NEOPRENE SHEETING
3" CLR.
H
SEE SHT. 18/29 FOR DIM H AND BEARING ASSEMBLY DETAILS
1" PREFORMED EXPANSION JOINT FILLER
CONSTRUCTION JOINT
℄ BEARING
1'-6"
10"
8"
2'-0"
1'-0"

DETAIL B

(SHOWN BETWEEN BEARING PADS)

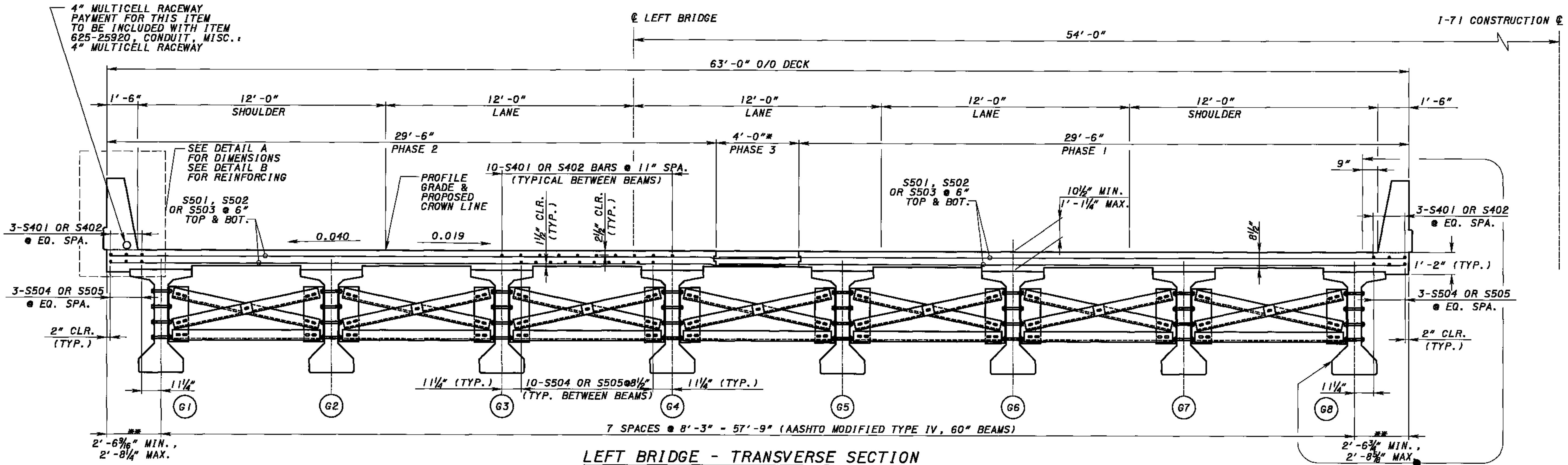
ABUTMENT DIAPHRAGM DETAILS
BRIDGE NO. MED-71-0060
OVER LITTLE KILLBUCK CREEK

DESIGNED	DRAWN	REVIEWED	DATE
GKL	KVM	RWB	5/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JNS		5202310 - LEFT 5202345 - RIGHT	

PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

WAY/MED-71-7.04

DATE: 10/17/2003 02:51:31 PM
FILENAME: t:\drawing\05\06489\312\detail design\2\abutdiadet.dgn

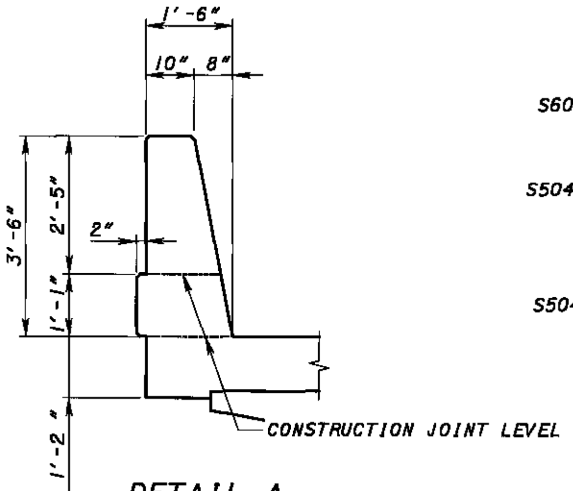

4" MULTICELL RACEWAY PAYMENT FOR THIS ITEM TO BE INCLUDED WITH ITEM 625-25920, CONDUIT, MISC.: 4" MULTICELL RACEWAY
℄ LEFT BRIDGE
I-71 CONSTRUCTION ℄
54'-0"
63'-0" O/O DECK
1'-6"
12'-0" SHOULDER
12'-0" LANE
12'-0" LANE
12'-0" LANE
12'-0" SHOULDER
1'-6"
29'-6" PHASE 2
4'-0"* PHASE 3
29'-6" PHASE 1
SEE DETAIL A FOR DIMENSIONS SEE DETAIL B FOR REINFORCING
PROFILE GRADE & PROPOSED CROWN LINE
10-S401 OR S402 BARS @ 11" SPA. (TYPICAL BETWEEN BEAMS)
S501, S502 OR S503 @ 6" TOP & BOT.
S501, S502 OR S503 @ 6" TOP & BOT.
10½" MIN. 1'-1¼" MAX.
9"
3-S401 OR S402 @ EQ. SPA.
3-S401 OR S402 @ EQ. SPA.
0.040
0.019
1½" CLR. (TYP.)
2½" CLR. (TYP.)
8½"
1'-2" (TYP.)
3-S504 OR S505 @ EQ. SPA.
3-S504 OR S505 @ EQ. SPA.
2" CLR. (TYP.)
2" CLR. (TYP.)
11¼"
11¼" (TYP.)
10-S504 OR S505@8½" (TYP. BETWEEN BEAMS)
11¼" (TYP.)
11¼"
G1
G2
G3
G4
G5
G6
G7
G8
7 SPACES @ 8'-3" = 57'-9" (AASHTO MODIFIED TYPE IV, 60" BEAMS)
**
2'-6⁹⁄₁₆" MIN., 2'-8¼" MAX.
**
2'-6¾" MIN., 2'-8⅝" MAX.
LIMITS OF CONCRETE SURFACES TO BE SEALED WITH EPOXY-URETHANE (TYP.)

LEFT BRIDGE - TRANSVERSE SECTION

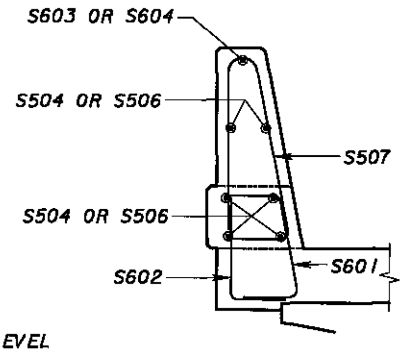
SOUTHBOUND LANES

* SEE SHEET 23/29 FOR PHASE CONSTRUCTION JOINT DETAIL

** MIN., MAX. OVERHANGS AT ONE SIDE DO NOT OCCUR AT STATIONS CONCURRENT WITH OTHER SIDE'S MIN., MAX. STATIONS.



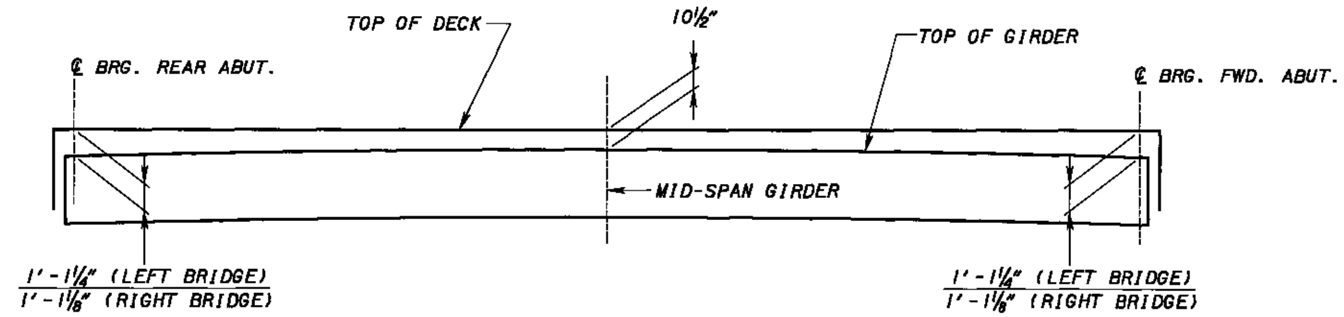
DETAIL A



DETAIL B

NOTES:

1. SEE STD. DWG. PSID-1-99 FOR FURTHER DETAILS.
2. SEE FRAMING PLAN, SHEET 19/29 FOR INTERMEDIATE DIAPHRAGM LOCATIONS.
3. INTERMEDIATE DIAPHRAGMS
   INTERMEDIATE DIAPHRAGMS SHALL BE STEEL PER STD. DWG. PSID-1-99 AND IN LIEU OF THE OPTION GIVEN THEREIN. STEEL DIAPHRAGMS SHALL BE INCLUDED WITH "ITEM 515 INTERMEDIATE DIAPHRAGMS" FOR PAYMENT.
4. DECK SLAB THICKNESS FOR CONCRETE QUANTITY:
   THE TOPPING THICKNESSES SHOWN FROM THE TOP OF THE DECK SLAB TO THE TOP OF THE TOP FLANGE ALONG THE CENTERLINE OF THE I-BEAM ARE THEORETICAL DIMENSIONS. THE HAUNCH DEPTH IS THE TOPPING THICKNESS MINUS THE DESIGN SLAB THICKNESS. THE DEPARTMENT WILL PAY FOR THE SUPERSTRUCTURE CONCRETE BASED ON THE DESIGN SLAB THICKNESS AND THE AVERAGE OF THE THEORETICAL HAUNCH DEPTHS AT MID-SPAN AND AT EACH BEAM BEARING EVEN THOUGH DEVIATION FROM THE DIMENSIONS SHOWN MAY BE NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. ONCE ALL BEAMS ARE SET IN THEIR FINAL POSITION, THE ACTUAL CAMBER FOR EACH MEMBER WILL BE THE TOP OF BEAM ELEVATION AT MID-SPAN MINUS THE AVERAGE TOP OF BEAM ELEVATION AT EACH BEARING. THE ACTUAL TOPPING THICKNESS AT MID-SPAN WILL BE THE THEORETICAL DIMENSION PLUS OR MINUS THE DIFFERENCE BETWEEN THE ACTUAL AND ANTICIPATED CAMBER.
5. CAMBER: THE CALCULATED NET CAMBER DUE TO THE PRESTRESSING AND BEAM WEIGHT AT TIME OF ERECTION IS 4⅛".



TOPPING THICKNESS DIAGRAM

(SEE NOTE 4)

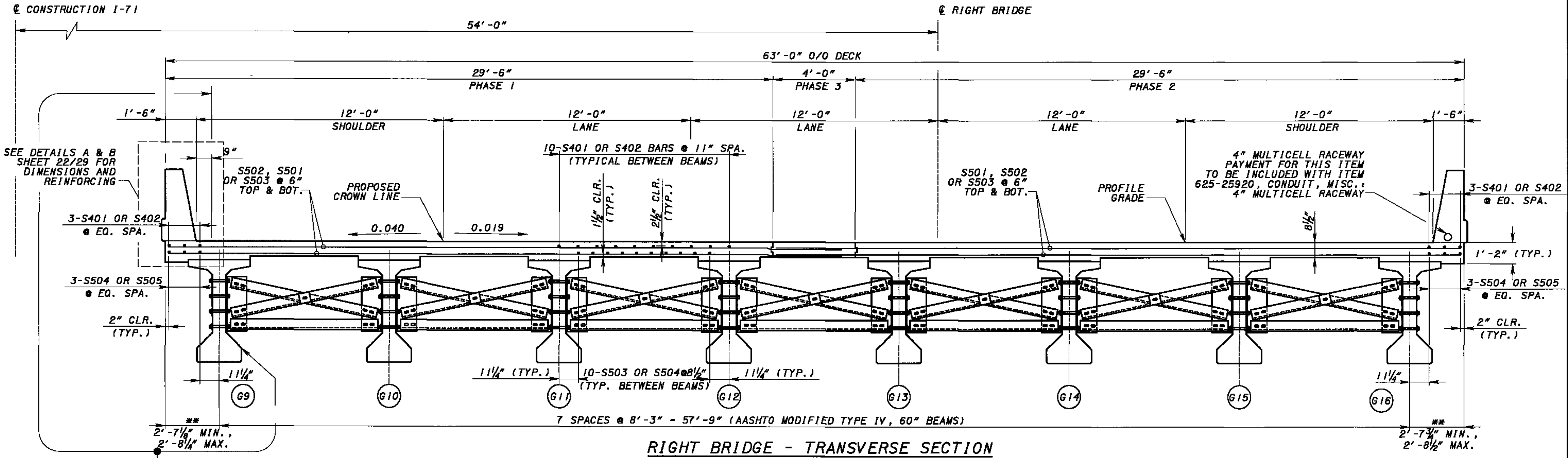
PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED GKL
DRAWN KVM
REVIEWED RWB
DATE 5/03
CHECKED JNS
REVISED
STRUCTURE FILE NUMBER 5202310-LEFT 5202345-RIGHT

LEFT BRIDGE - TRANSVERSE SECTION & DETAILS
BRIDGE NO. MED-71-0060
OVER LITTLE KILLBUCK CREEK

WAY/MED-71-7.04

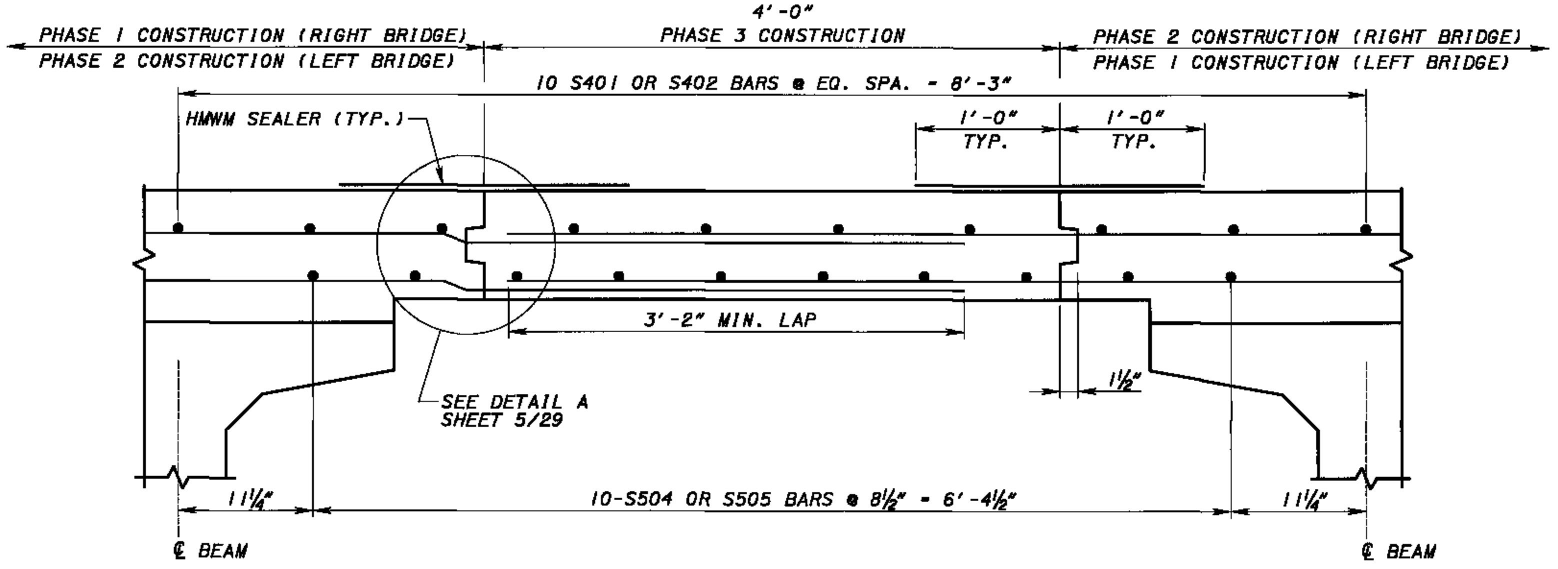
DATE: $DATE$ FILENAME: $FILE$ $TIME$


℄ CONSTRUCTION I-71
℄ RIGHT BRIDGE
54'-0"
63'-0" O/O DECK
29'-6" PHASE 1
4'-0" PHASE 3
29'-6" PHASE 2
1'-6"
12'-0" SHOULDER
12'-0" LANE
12'-0" LANE
12'-0" LANE
12'-0" SHOULDER
1'-6"
SEE DETAILS A & B SHEET 22/29 FOR DIMENSIONS AND REINFORCING
9"
S502, S501 OR S503 @ 6" TOP & BOT.
PROPOSED CROWN LINE
10-S401 OR S402 BARS @ 11" SPA. (TYPICAL BETWEEN BEAMS)
1½" CLR. (TYP.)
2½" CLR. (TYP.)
S501, S502 OR S503 @ 6" TOP & BOT.
PROFILE GRADE
4" MULTICELL RACEWAY PAYMENT FOR THIS ITEM TO BE INCLUDED WITH ITEM 625-25920, CONDUIT, MISC.: 4" MULTICELL RACEWAY
3-S401 OR S402 @ EQ. SPA.
3-S401 OR S402 @ EQ. SPA.
0.040
0.019
8½"
1'-2" (TYP.)
3-S504 OR S505 @ EQ. SPA.
3-S504 OR S505 @ EQ. SPA.
2" CLR. (TYP.)
2" CLR. (TYP.)
11¼"
11¼" (TYP.)
10-S503 OR S504 @ 8½" (TYP. BETWEEN BEAMS)
11¼" (TYP.)
11¼"
G9
G10
G11
G12
G13
G14
G15
G16
7 SPACES @ 8'-3" = 57'-9" (AASHTO MODIFIED TYPE IV, 60" BEAMS)
**
2'-7⅛" MIN., 2'-8¼" MAX.
**
2'-7¾" MIN., 2'-8½" MAX.
LIMITS OF CONCRETE SURFACES TO BE SEALED WITH EPOXY-URETHANE (TYP.)

RIGHT BRIDGE - TRANSVERSE SECTION

NORTHBOUND LANES

** MIN., MAX. OVERHANGS AT ONE SIDE DO NOT OCCUR AT STATIONS CONCURRENT WITH OTHER SIDE'S MIN., MAX. STATIONS.


4'-0"
PHASE 1 CONSTRUCTION (RIGHT BRIDGE)
PHASE 2 CONSTRUCTION (LEFT BRIDGE)
PHASE 3 CONSTRUCTION
PHASE 2 CONSTRUCTION (RIGHT BRIDGE)
PHASE 1 CONSTRUCTION (LEFT BRIDGE)
10 S401 OR S402 BARS @ EQ. SPA. = 8'-3"
HMWM SEALER (TYP.)
1'-0" TYP.
1'-0" TYP.
3'-2" MIN. LAP
SEE DETAIL A SHEET 5/29
1½"
11¼"
10-S504 OR S505 BARS @ 8½" = 6'-4½"
11¼"
℄ BEAM
℄ BEAM

PHASE CONSTRUCTION JOINT DETAIL

NOTES:

1. SEE NOTES, SHEET 22/29.
2. FOR TOPPING THICKNESS DIAGRAM, SEE SHEET 22/29.

PREPARED BY ms consultants, inc. CONSULTING ENGINEERS & PLANNERS

DATE 5/03

REVIEWED RWB

STRUCTURE FILE NUMBER 5202310-LEFT 5202345-RIGHT

DRAWN KVM

REVISED

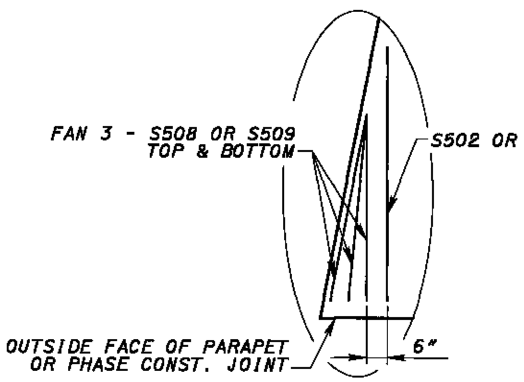
DESIGNED GKL

CHECKED JHS

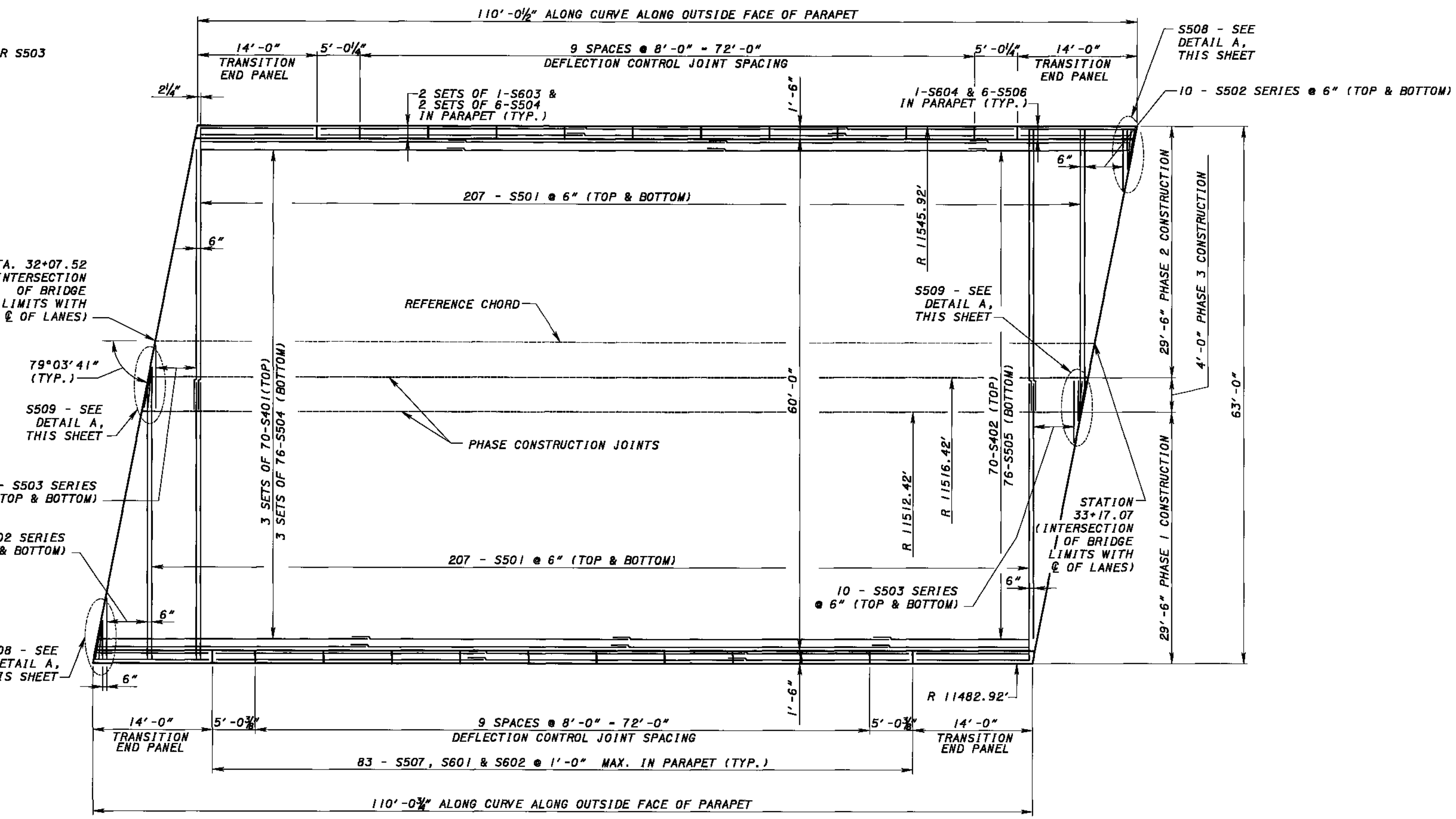
RIGHT BRIDGE - TRANSVERSE SECTION & DETAILS
BRIDGE NO. MED-71-0060
OVER LITTLE KILLBUCK CREEK

WAY/MED-71-7.04

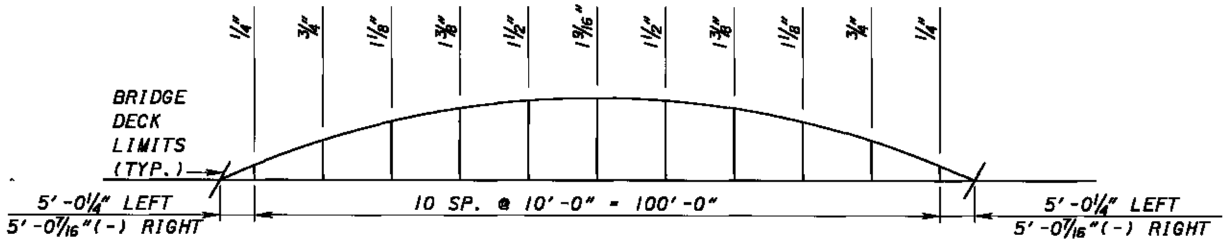
DATE: 10/17/2003 02:54:32 PM


FAN 3 - S508 OR S509 TOP & BOTTOM
S502 OR S503
OUTSIDE FACE OF PARAPET OR PHASE CONST. JOINT
6"

DETAIL A
(TYPICAL 4 LOCATIONS)


110'-0½" ALONG CURVE ALONG OUTSIDE FACE OF PARAPET
14'-0" TRANSITION END PANEL
5'-0¼"
9 SPACES @ 8'-0" = 72'-0" DEFLECTION CONTROL JOINT SPACING
5'-0¼"
14'-0" TRANSITION END PANEL
2¼"
2 SETS OF 1-S603 & 2 SETS OF 6-S504 IN PARAPET (TYP.)
1'-6"
1-S604 & 6-S506 IN PARAPET (TYP.)
S508 - SEE DETAIL A, THIS SHEET
10 - S502 SERIES @ 6" (TOP & BOTTOM)
6"
207 - S501 @ 6" (TOP & BOTTOM)
R 11545.92'
6"
STA. 32+07.52 (INTERSECTION OF BRIDGE LIMITS WITH ℄ OF LANES)
REFERENCE CHORD
S509 - SEE DETAIL A, THIS SHEET
29'-6" PHASE 2 CONSTRUCTION
4'-0" PHASE 3 CONSTRUCTION
63'-0"
79°03'41" (TYP.)
3 SETS OF 70-S401 (TOP)
3 SETS OF 76-S504 (BOTTOM)
60'-0"
S509 - SEE DETAIL A, THIS SHEET
PHASE CONSTRUCTION JOINTS
R 11516.42'
70-S402 (TOP)
76-S505 (BOTTOM)
10 - S503 SERIES @ 6" (TOP & BOTTOM)
R 11512.42'
STATION 33+17.07 (INTERSECTION OF BRIDGE LIMITS WITH ℄ OF LANES)
29'-6" PHASE 1 CONSTRUCTION
10 - S502 SERIES @ 6" (TOP & BOTTOM)
207 - S501 @ 6" (TOP & BOTTOM)
6"
10 - S503 SERIES @ 6" (TOP & BOTTOM)
6"
S508 - SEE DETAIL A, THIS SHEET
6"
1'-6"
R 11482.92'
14'-0" TRANSITION END PANEL
5'-0⅜"
9 SPACES @ 8'-0" = 72'-0" DEFLECTION CONTROL JOINT SPACING
5'-0⅜"
14'-0" TRANSITION END PANEL
83 - S507, S601 & S602 @ 1'-0" MAX. IN PARAPET (TYP.)
110'-0¾" ALONG CURVE ALONG OUTSIDE FACE OF PARAPET

LEFT BRIDGE - DECK REINFORCING PLAN



CURVE OFFSETS - LEFT BRIDGE
(ALONG LEFT & RIGHT DECK OVERHANG)
CURVE EXAGGERATED FOR CLARITY

NOTE: BRIDGE DECK LIMITS DEFINED AS THE END OF PARAPET ALONG THE OUTSIDE FACE.

NOTES:

1. FOR DEFLECTION CONTROL JOINT NOTES, SEE SHEET 22/29.
2. FOR REINFORCEMENT IN PARAPET TRANSITION END PANEL, SEE PARAPET TRANSITION DETAIL, SHEET 27/29.
3. FOR REINFORCEMENT SCHEDULE, SEE SHT. 28/29.
4. TRANSVERSE REINFORCING SHALL BE PLACED PERPENDICULAR TO REFERENCE CHORD UNLESS OTHERWISE NOTED.

MINIMUM LAP LENGTHS

#4 BARS - 1'-11"
#5 BARS - 3'-2"
#6 BARS - 4'-1"

ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
GKL	KVM	RWB	5/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
GFS		5202310-LEFT 5202345-RIGHT	

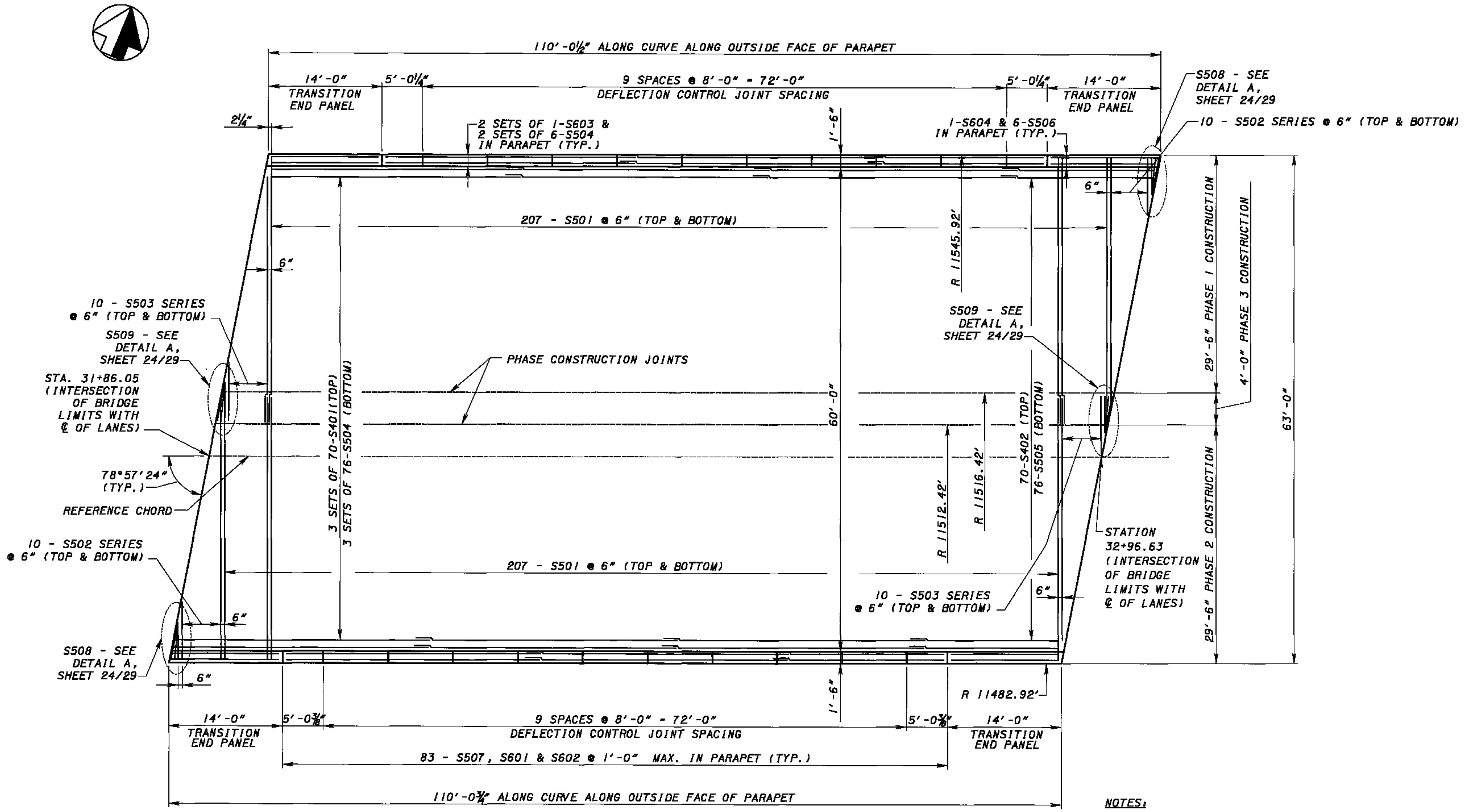
LEFT BRIDGE - DECK REINFORCING PLAN
BRIDGE NO. MED-71-0060
OVER LITTLE KILLBUCK CREEK

WAY/MED-71-7.04

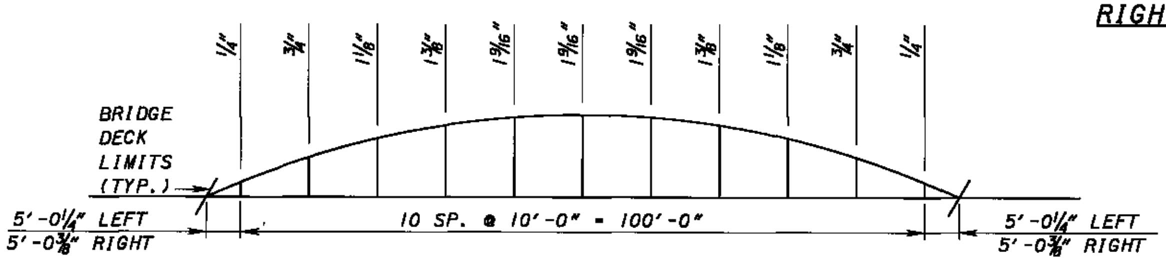
24/29

583/785

DATE: 10/17/2003


110'-0½" ALONG CURVE ALONG OUTSIDE FACE OF PARAPET
14'-0" TRANSITION END PANEL
5'-0¼"
9 SPACES @ 8'-0" = 72'-0" DEFLECTION CONTROL JOINT SPACING
5'-0¼"
14'-0" TRANSITION END PANEL
2¼"
2 SETS OF 1-S603 & 2 SETS OF 6-S504 IN PARAPET (TYP.)
1-S604 & 6-S506 IN PARAPET (TYP.)
S508 - SEE DETAIL A, SHEET 24/29
10 - S502 SERIES @ 6" (TOP & BOTTOM)
1'-6"
6"
207 - S501 @ 6" (TOP & BOTTOM)
R 11545.92'
6"
10 - S503 SERIES @ 6" (TOP & BOTTOM)
S509 - SEE DETAIL A, SHEET 24/29
STA. 31+86.05 (INTERSECTION OF BRIDGE LIMITS WITH ℄ OF LANES)
78°57'24" (TYP.)
REFERENCE CHORD
PHASE CONSTRUCTION JOINTS
3 SETS OF 70-S401 (TOP)
3 SETS OF 76-S504 (BOTTOM)
60'-0"
S509 - SEE DETAIL A, SHEET 24/29
70-S402 (TOP)
76-S505 (BOTTOM)
R 11516.42'
R 11512.42'
29'-6" PHASE 1 CONSTRUCTION
4'-0" PHASE 3 CONSTRUCTION
63'-0"
29'-6" PHASE 2 CONSTRUCTION
STATION 32+96.63 (INTERSECTION OF BRIDGE LIMITS WITH ℄ OF LANES)
10 - S502 SERIES @ 6" (TOP & BOTTOM)
6"
207 - S501 @ 6" (TOP & BOTTOM)
10 - S503 SERIES @ 6" (TOP & BOTTOM)
6"
S508 - SEE DETAIL A, SHEET 24/29
6"
1'-6"
R 11482.92'
14'-0" TRANSITION END PANEL
5'-0⅜"
9 SPACES @ 8'-0" = 72'-0" DEFLECTION CONTROL JOINT SPACING
5'-0⅜"
14'-0" TRANSITION END PANEL
83 - S507, S601 & S602 @ 1'-0" MAX. IN PARAPET (TYP.)
110'-0¾" ALONG CURVE ALONG OUTSIDE FACE OF PARAPET

RIGHT BRIDGE - DECK REINFORCING PLAN



CURVE OFFSETS - RIGHT BRIDGE

(ALONG LEFT & RIGHT DECK OVERHANG)
CURVE EXAGGERATED FOR CLARITY

NOTE: BRIDGE DECK LIMITS DEFINED AS THE END OF PARAPET ALONG THE OUTSIDE FACE.

NOTES:

1. FOR DEFLECTION CONTROL JOINT NOTES, SEE SHEET 22/29.
2. FOR REINFORCEMENT IN PARAPET TRANSITION END PANEL, SEE PARAPET TRANSITION DETAIL, SHEET 27/29.
3. FOR REINFORCEMENT SCHEDULE, SEE SHT. 28/29.
4. TRANSVERSE REINFORCING SHALL BE PLACED PERPENDICULAR TO REFERENCE CHORD UNLESS OTHERWISE NOTED.

MINIMUM LAP LENGTHS

#4 BARS - 1'-11"
#5 BARS - 3'-2"
#6 BARS - 4'-1"

DATE: 03/18/2004 05:58:59 AM
FILENAME: T:\drawing\05\0549\312\Detail Design\25RightDeck.dgn

PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
GKL	KVM	RWB	5/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
GFS		5202310-LEFT 5202345-RIGHT	

RIGHT BRIDGE - DECK REINFORCING PLAN
BRIDGE NO. MED-71-0060
OVER LITTLE KILLBUCK CREEK

WAY/MED-71-7.04

SCREED ELEVATIONS LEFT BRIDGE - SPAN A

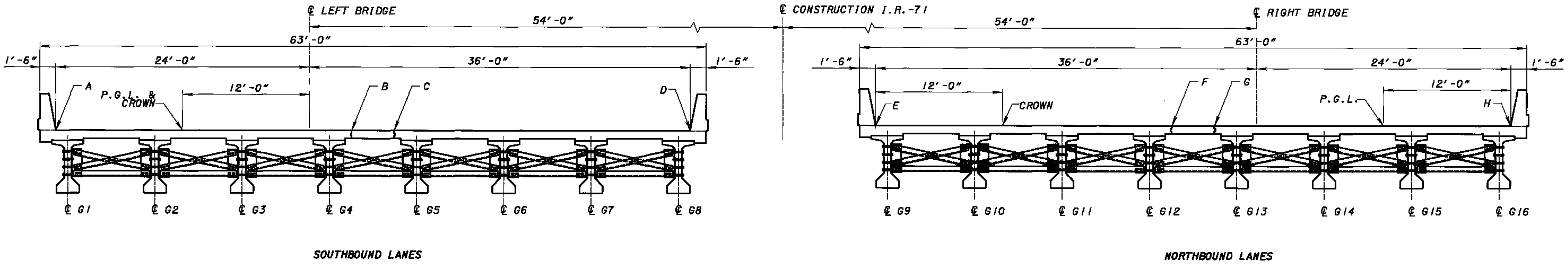
POINT	A0		A1		A2		A3		A4		A5		A6		A7		A8		A9		A10	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
A	32+13.77	917.67	32+24.40	917.67	32+35.03	917.66	32+45.65	917.65	32+56.28	917.64	32+66.91	917.61	32+77.53	917.57	32+88.16	917.52	32+98.79	917.46	33+09.41	917.39	33+20.04	917.32
G1	32+13.56	917.71	32+24.19	917.71	32+34.82	917.71	32+45.44	917.70	32+56.07	917.69	32+66.70	917.66	32+77.33	917.62	32+87.96	917.56	32+98.59	917.50	33+09.22	917.43	33+19.85	917.36
G2	32+11.94	918.05	32+22.58	918.05	32+33.21	918.05	32+43.85	918.05	32+54.48	918.03	32+65.12	918.01	32+75.76	917.97	32+86.39	917.91	32+97.03	917.85	33+07.67	917.77	33+18.30	917.69
PGL	32+11.41	918.16	32+22.05	918.16	32+32.69	918.16	32+43.33	918.15	32+53.97	918.14	32+64.61	918.11	32+75.24	918.07	32+85.88	918.02	32+96.52	917.95	33+07.16	917.88	33+17.80	917.80
G3	32+10.32	918.05	32+20.96	918.06	32+31.60	918.06	32+42.25	918.05	32+52.89	918.03	32+63.54	918.01	32+74.18	917.97	32+84.82	917.91	32+95.47	917.85	33+06.11	917.78	33+16.76	917.70
G4	32+08.69	917.90	32+19.34	917.91	32+30.00	917.91	32+40.65	917.90	32+51.30	917.88	32+61.95	917.86	32+72.60	917.81	32+83.25	917.76	32+93.90	917.70	33+04.56	917.63	33+15.21	917.55
B	32+08.26	917.86	32+18.91	917.87	32+29.57	917.87	32+40.22	917.86	32+50.88	917.84	32+61.53	917.82	32+72.18	917.78	32+82.84	917.72	32+93.49	917.66	33+04.14	917.59	33+14.80	917.51
C	32+07.47	917.79	32+18.13	917.79	32+28.79	917.79	32+39.44	917.79	32+50.10	917.77	32+60.76	917.74	32+71.42	917.70	32+82.07	917.65	32+92.73	917.59	33+03.39	917.51	33+14.05	917.44
G5	32+07.07	917.75	32+17.72	917.76	32+28.38	917.75	32+39.04	917.75	32+49.70	917.73	32+60.36	917.70	32+71.02	917.66	32+81.68	917.61	32+92.34	917.55	33+03.00	917.47	33+13.66	917.40
G6	32+05.44	917.60	32+16.10	917.60	32+26.77	917.60	32+37.44	917.60	32+48.10	917.58	32+58.77	917.55	32+69.44	917.51	32+80.10	917.46	32+90.77	917.39	33+01.44	917.32	33+12.10	917.24
G7	32+03.81	917.45	32+14.48	917.45	32+25.15	917.45	32+35.83	917.44	32+46.50	917.43	32+57.18	917.40	32+67.85	917.36	32+78.53	917.31	32+89.20	917.24	32+99.88	917.17	33+10.55	917.09
G8	32+02.17	917.30	32+12.85	917.30	32+23.54	917.29	32+34.22	917.28	32+44.90	917.26	32+55.58	917.23	32+66.26	917.19	32+76.95	917.14	32+87.63	917.08	32+98.31	917.01	33+08.99	916.94
D	32+01.93	917.28	32+12.61	917.28	32+23.30	917.27	32+33.98	917.26	32+44.67	917.24	32+55.35	917.21	32+66.04	917.17	32+76.72	917.12	32+87.41	917.06	32+98.09	916.99	33+08.77	916.92

SCREED ELEVATIONS RIGHT BRIDGE - SPAN A

POINT	A0		A1		A2		A3		A4		A5		A6		A7		A8		A9		A10	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
E	31+94.80	917.78	32+05.52	917.78	32+16.23	917.77	32+26.95	917.76	32+37.66	917.73	32+48.38	917.69	32+59.09	917.64	32+69.81	917.58	32+80.53	917.51	32+91.24	917.44	33+01.96	917.36
G9	31+94.58	917.83	32+05.30	917.83	32+16.02	917.82	32+26.74	917.80	32+37.45	917.78	32+48.17	917.74	32+58.89	917.69	32+69.61	917.63	32+80.32	917.56	32+91.04	917.48	33+01.76	917.40
G10	31+92.93	918.17	32+03.66	918.17	32+14.39	918.16	32+25.11	918.15	32+35.84	918.13	32+46.56	918.09	32+57.29	918.04	32+68.01	917.98	32+78.74	917.91	32+89.46	917.82	33+00.19	917.73
CROWN	31+92.40	918.27	32+03.13	918.27	32+13.86	918.27	32+24.58	918.26	32+35.31	918.23	32+46.04	918.20	32+56.77	918.15	32+67.49	918.09	32+78.22	918.01	32+88.95	917.93	32+99.67	917.85
G11	31+91.28	918.17	32+02.02	918.17	32+12.75	918.17	32+23.48	918.15	32+34.22	918.13	32+44.95	918.09	32+55.68	918.05	32+66.42	917.98	32+77.15	917.91	32+87.88	917.83	32+98.62	917.74
G12	31+89.63	918.02	32+00.37	918.02	32+11.11	918.02	32+21.86	918.00	32+32.60	917.98	32+43.34	917.94	32+54.08	917.89	32+64.82	917.83	32+75.56	917.76	32+86.30	917.68	32+97.04	917.59
F	31+89.20	917.98	31+99.94	917.98	32+10.68	917.98	32+21.42	917.97	32+32.17	917.94	32+42.91	917.91	32+53.65	917.86	32+64.40	917.79	32+75.14	917.72	32+85.88	917.64	32+96.62	917.55
G	31+88.39	917.91	31+99.14	917.91	32+09.89	917.91	32+20.63	917.89	32+31.38	917.87	32+42.13	917.83	32+52.87	917.78	32+63.62	917.72	32+74.37	917.65	32+85.11	917.57	32+95.86	917.48
G13	31+87.98	917.87	31+98.73	917.87	32+09.47	917.87	32+20.22	917.85	32+30.97	917.83	32+41.72	917.79	32+52.47	917.74	32+63.22	917.68	32+73.97	917.61	32+84.72	917.53	32+95.47	917.44
G14	31+86.32	917.72	31+97.08	917.72	32+07.83	917.72	32+18.59	917.70	32+29.35	917.68	32+40.10	917.64	32+50.86	917.59	32+61.62	917.53	32+72.37	917.46	32+83.13	917.38	32+93.89	917.29
PGL	31+85.17	917.62	31+95.94	917.62	32+06.70	917.62	32+17.46	917.60	32+28.22	917.58	32+38.99	917.54	32+49.75	917.49	32+60.51	917.43	32+71.27	917.36	32+82.04	917.28	32+92.80	917.19
G15	31+84.66	917.57	31+95.42	917.57	32+06.19	917.57	32+16.95	917.55	32+27.72	917.53	32+38.48	917.49	32+49.25	917.44	32+60.01	917.38	32+70.78	917.31	32+81.54	917.23	32+92.30	917.14
G16	31+83.00	917.42	31+93.77	917.42	32+04.54	917.41	32+15.31	917.39	32+26.09	917.37	32+36.86	917.33	32+47.63	917.28	32+58.40	917.22	32+69.18	917.15	32+79.95	917.07	32+90.72	916.99
H	31+82.75	917.40	31+93.53	917.40	32+04.30	917.39	32+15.08	917.37	32+25.85	917.35	32+36.63	917.31	32+47.40	917.26	32+58.17	917.20	32+68.95	917.13	32+79.72	917.05	32+90.50	916.97

SCREED ELEVATION TABLES

	ANTICIPATED CAMBER PRIOR TO DECK PLACEMENT
LEFT BRIDGE	2⅜"
RIGHT BRIDGE	2⅜"



SOUTHBOUND LANES

NORTHBOUND LANES

SCREED LINE LOCATIONS

NOTES:
SCREED ELEVATIONS ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR THE ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.

L - SPAN LENGTH

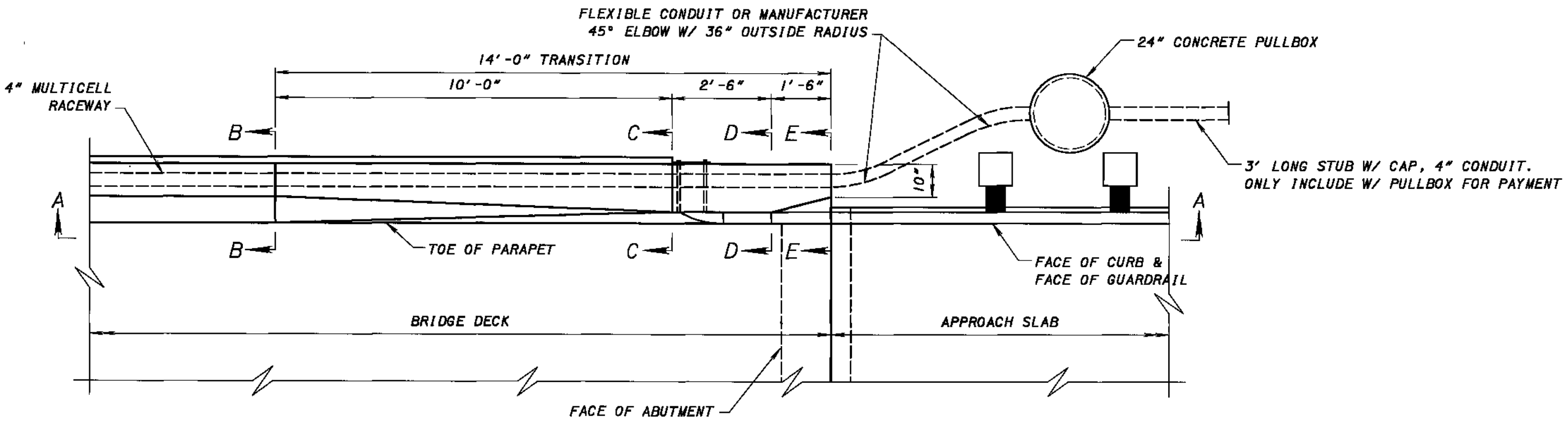
DATE: #DATE# #TIME#
FILENAME: #FILE#

PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
GKL	KVM	RWB	5/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JNS		5202310 - LEFT 5202345 - RIGHT	

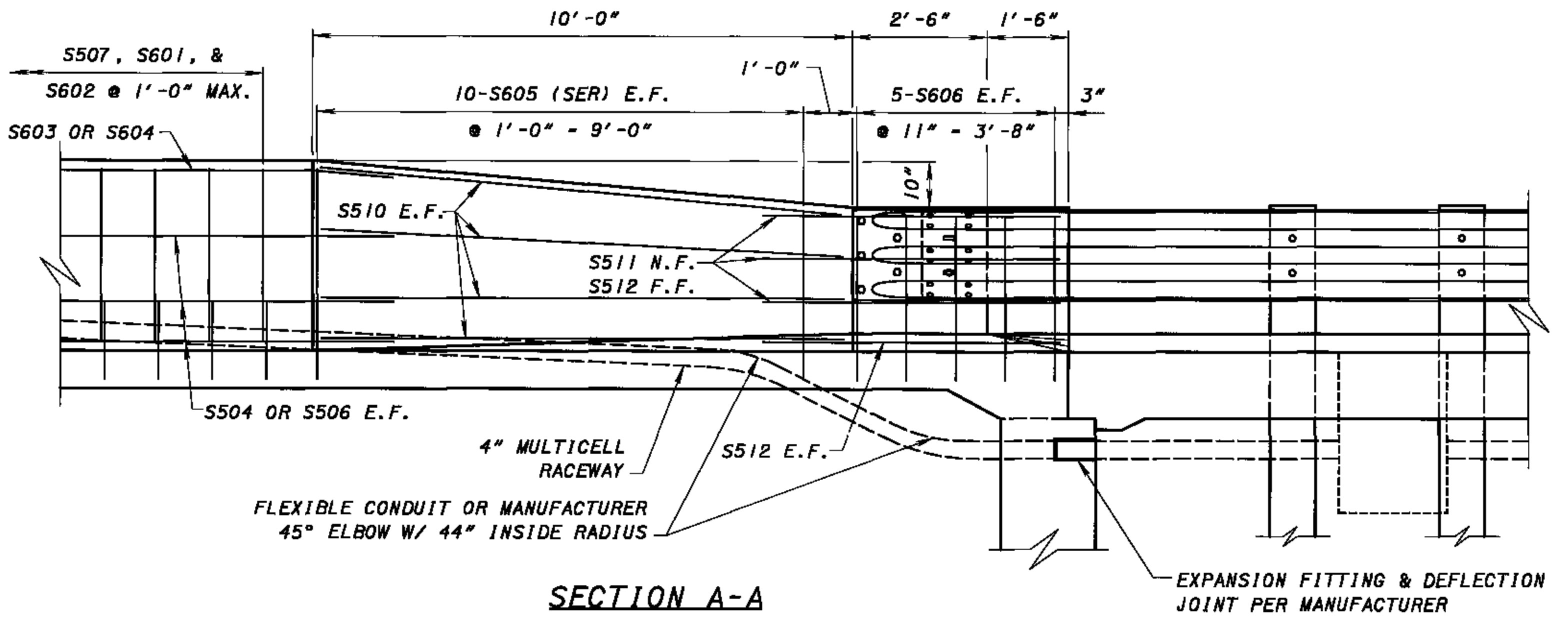
SCREED ELEVATIONS
BRIDGE NO. MED-71-0060 L/R
OVER LITTLE KILLBUCK

WAY/MED-71-7.04

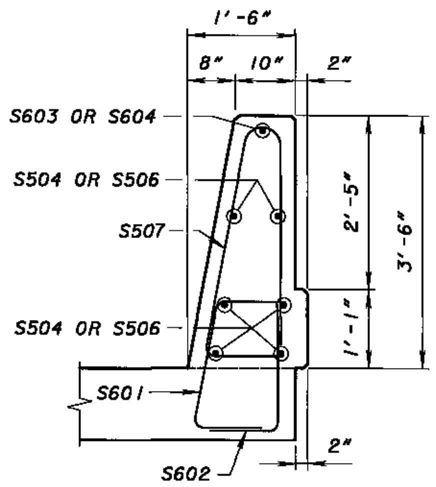


PART PLAN AT ABUTMENT

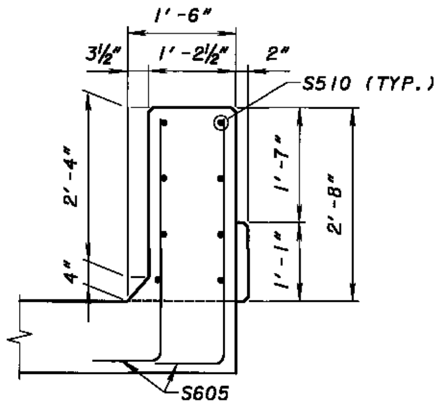
NOTE: SEE SHEET MD1, 482A/785 FOR DETAILS OF MULTICELL RACEWAY AT ENDS OF BRIDGE.



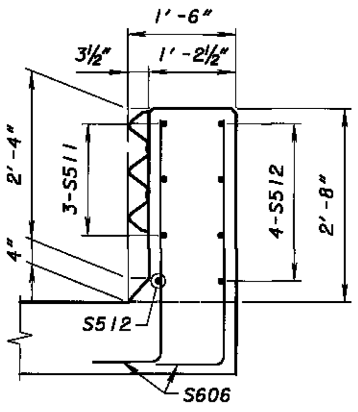
SECTION A-A



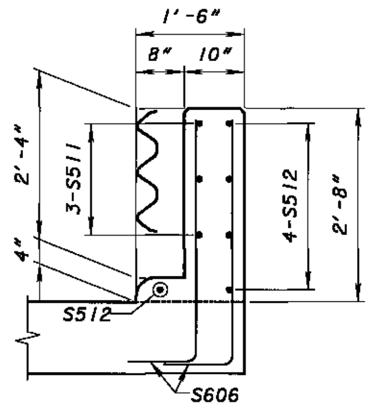
SECTION B-B



SECTION C-C



SECTION D-D



SECTION E-E

MINIMUM LAP LENGTHS
#5 BARS - 3'-2"
#6 BARS - 4'-1"

PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
GKL	KVM	RWB	5/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JNS	---	5202310 - LEFT 5202345 - RIGHT	

PARAPET TRANSITION DETAILS
BRIDGE NO. MED-71-0060 L/R
OVER LITTLE KILLBUCK CREEK

WAY/MED-71-7.04

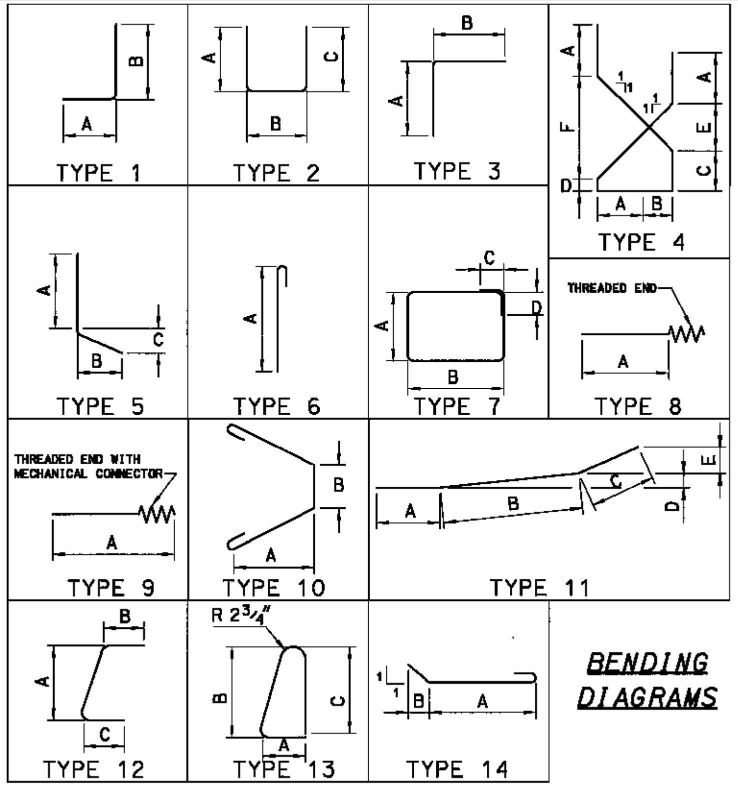
27/29

586/785

DATE: 10/17/2003 02:51:34 PM
FILENAME: t:\drawing\08\06419\312\detail design\27partrans.dgn

ABUTMENT REINFORCING

MARK	QUANTITY								WEIGHT															
	LEFT BRIDGE			RIGHT BRIDGE			GRAND TOTAL	LENGTH	LEFT BRIDGE			RIGHT BRIDGE			GRAND TOTAL	TYPE	DIMENSIONS							
	REAR	FWD	TOTAL	REAR	FWD	TOTAL			REAR	FWD	TOTAL	REAR	FWD	TOTAL			A	B	C	D	E	F	R	INC
A401	51	51	102	51	51	102	204	9' - 7"	510	510	1,020	510	510	1,020	2040	7	2' - 6¾"	1' - 9"	0' - 8"	0' - 8"				
A501	54	54	108	54	54	108	216	12' - 7"	709	709	1,418	709	709	1,418	2836	7	2' - 7"	3' - 2"	0' - 10"	0' - 10"				
A502	54	54	108	54	54	108	216	10' - 11"	615	615	1,230	615	615	1230	2460	2	4' - 3"	2' - 8"	4' - 3"					
A503	24	24	48	24	24	48	96	17' - 3"	432	432	864	432	432	864	1728	2	7' - 8"	2' - 2"	7' - 8"					
SER A504	1 SER OF 5	1 SER OF 5	2 SER OF 5	1 SER OF 5	1 SER OF 5	2 SER OF 5	4 SER OF 5	12' - 9" TO 16' - 9"	77	77	154	77	77	154	308	2	5' - 5" 7' - 5"	2' - 2" 2' - 2"	5' - 5" 7' - 5"					0' - 6"
A505	2	2	4	2	2	4	8	18' - 2"	38	38	76	38	38	76	152	STR.								
A506	31	31	62	31	31	62	124	11' - 7"	375	375	750	375	375	750	1500	7	2' - 7"	2' - 8"	0' - 10"	0' - 10"				
A507	8	8	16	8	8	16	32	23' - 4"	195	195	390	195	195	390	780	STR.								
A508	6	6	12	6	6	12	24	15' - 0"	94	94	188	94	94	188	376	STR.								
A509	31	31	62	31	31	62	124	6' - 3"	203	203	406	203	203	406	812	2	2' - 2"	2' - 2"	2' - 2"					
A510	34	34	68	34	34	68	136	7' - 11"	281	281	562	281	281	562	1124	STR.								
SER A511	2 SER OF 7	2 SER OF 7	4 SER OF 7	2 SER OF 7	2 SER OF 7	4 SER OF 7	8 SER OF 7	4' - 3" TO 7' - 3"	84	84	168	84	84	168	336	STR.								0' - 6"
SER A512	1 SER OF 6	1 SER OF 6	2 SER OF 6	1 SER OF 6	1 SER OF 6	2 SER OF 6	4 SER OF 6	2' - 7" TO 19' - 8"	70	70	140	70	70	140	280	STR.								3' - 5"
A513	8	8	16	8	8	16	32	19' - 1"	160	160	320	160	160	320	640	STR.								
A514	16	16	32	16	16	32	64	34' - 9"	580	580	1160	580	580	1160	2320	STR.								
A515	2	2	4	2	2	4	8	10' - 11"	23	23	46	23	23	46	92	2	4' - 6"	2' - 2"	4' - 6"					
A516	6	6	12	6	6	12	24	15' - 5"	97	97	194	97	97	194	388	STR.								
SER A517	1 SER OF 6	1 SER OF 6	2 SER OF 6	1 SER OF 6	1 SER OF 6	2 SER OF 6	4 SER OF 6	2' - 1" TO 19' - 2"	67	67	134	67	67	134	268	STR.								3' - 5"
A601	57	57	114	57	57	114	228	14' - 9"	1,263	1,263	2526	1,263	1,263	2526	5052	4	1' - 10"	0' - 10"	1' - 5"	0' - 5"	1'-8"	3'-8"		
A801	8	8	16	8	8	16	32	23' - 0"	492	492	984	492	492	984	1968	STR.								
A802	8	8	16	8	8	16	32	38' - 5"	821	821	1642	821	821	1,642	3284	STR.								
A803	8	8	16	8	8	16	32	27' - 3"	583	583	1166	583	583	1,166	2332	STR.								
A804	8	8	16	8	8	16	32	34' - 10"	745	745	1490	745	745	1,490	2980	STR.								
D801	42	42	84	42	42	84	168	5' - 0"	561	561	1122	561	561	1122	2244	14	2' - 8"	1' - 0"						
								TOTAL	7,820	7,820	15,640	7,820	7,820	15,640	31,280									



BENDING DIAGRAMS

PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
GKL	KVM	RWB	5/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JNS	---	5202310 - LEFT 5202345 - RIGHT	

ABUTMENT REINFORCING STEEL LIST
BRIDGE NO. MED-71-0060
OVER LITTLE KILLBUCK CREEK

WAY/MED-71-7.04

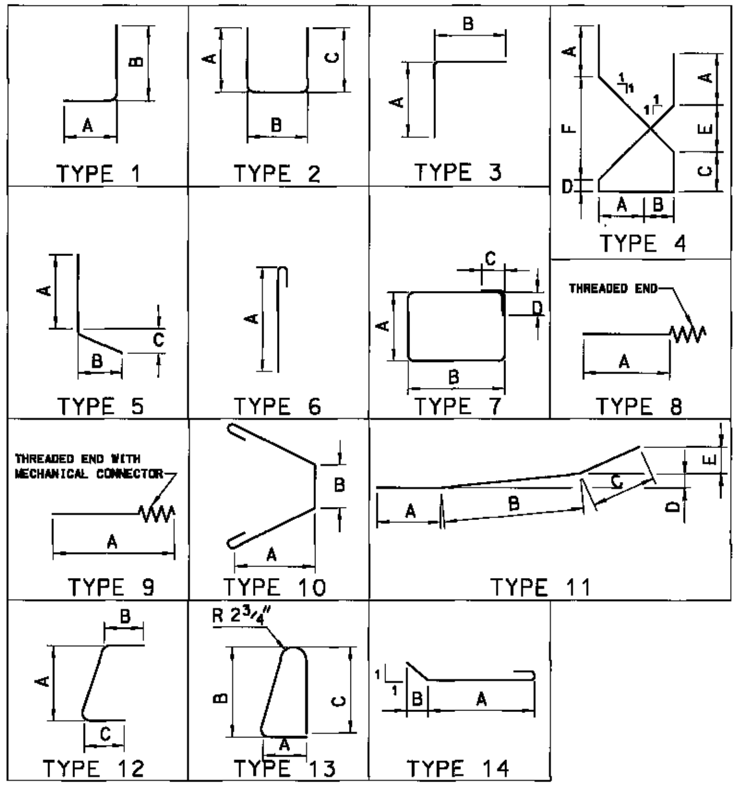
28/29

587/785

DATE: 10/17/2003 02:51:35 PM
FILENAME: h:\drawing\06\06419\312\detail design\28stllist.dgn

SUPERSTRUCTURE REINFORCING

MARK	QUANTITY			LENGTH	WEIGHT			TYPE	DIMENSIONS						
	LEFT BRIDGE	RIGHT BRIDGE	TOTAL		LEFT BRIDGE	RIGHT BRIDGE	TOTAL		A	B	C	D	E	R	INC
S401	210	210	420	30' - 0"	4209	4209	8418	STR							
S402	70	70	140	25' - 6"	1193	1193	2386	STR							
S501	828	828	1656	32' - 11"	28,427	28,427	56854	STR							
SER S502	4 SER OF 10	4 SER OF 10	8 SER OF 10	8' - 7" TO 31' - 10"	844	844	1688	STR							2' - 7"
SER S503	4 SER OF 10	4 SER OF 10	8 SER OF 10	7' - 4" TO 30' - 7"	791	791	1582	STR							2' - 7"
S504	252	252	504	30' - 0"	7886	7886	15772	STR							
S505	76	76	152	29' - 3"	2319	2319	4638	STR							
S506	12	12	24	28' - 9"	360	360	720	STR							
S507	166	166	332	7' - 5"	1285	1285	2570	13	1'-1"	3'-2"	3'-0"			2¾"	
S508	12	12	24	6' - 0"	76	76	152	STR							
S509	12	12	24	4' - 8"	59	59	118	STR							
S510	32	32	64	10' - 0"	334	334	668	STR							
S511	12	12	24	5' - 6"	69	69	138	11	1'-8"	2'-5"	1'-5"	1½"	5"		
S512	20	20	40	5' - 6"	115	115	230	STR							
S513	70	70	140	6' - 9"	493	493	986	2	2' - 5"	2' - 2"	2' - 5"				
S514	164	164	328	10' - 5"	1782	1782	3564	2	4' - 0"	2' - 8"	4' - 0"				
S515	12	12	24	7' - 11"	100	100	200	2	2' - 9"	2' - 8"	2' - 9"				
S516	16	16	32	2' - 4"	39	39	78	STR.							
S517	4	4	8	1' - 8"	7	7	14	STR.							
S601	166	166	332	3' - 9"	935	935	1870	12	1'-9"	1'-1"	1'-1"				
S602	166	166	332	2' - 8"	665	665	1330	1	1'-9"	1'-1"					
S603	4	4	8	30' - 0"	181	181	362	STR							
S604	2	2	4	30' - 7"	92	92	184	STR							
SER S605	8 SER OF 10	8 SER OF 10	16 SER OF 10	4' - 5" TO 5' - 2"	576	576	1152	1	1' - 1" 1' - 1"	3' - 6" 4' - 3"					0' - 1"
S606	40	40	80	4' - 4"	261	261	522	1	1' - 1"	3' - 5"					
S801	26	26	52	38' - 5"	2667	2667	5334	STR.							
S802	26	26	52	34' - 10"	2419	2419	4838	STR.							
S803	48	48	96	7' - 8"	983	983	1966	STR.							
S804	42	42	84	7' - 4"	823	823	1646	STR.							
				TOTAL	59,990	59,990	119,980								



BENDING DIAGRAMS

NOTES:

BAR SIZE:
THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, P601 IS A NO. 6 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED. "STD." WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.

ALL BARS TO BE EPOXY COATED.

REINFORCING BAR SAMPLES:
REFER TO C.M.S. SECTION 700, 709.01 THROUGH 709.05 AND 709.08. SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR SAMPLING FOR EACH BRIDGE. RANDOM SAMPLES SHALL BE REPLACED IN THE STRUCTURES BY THE ADDITIONAL STEEL, SPLICED IN ACCORDANCE WITH THE PROJECT PLANS.

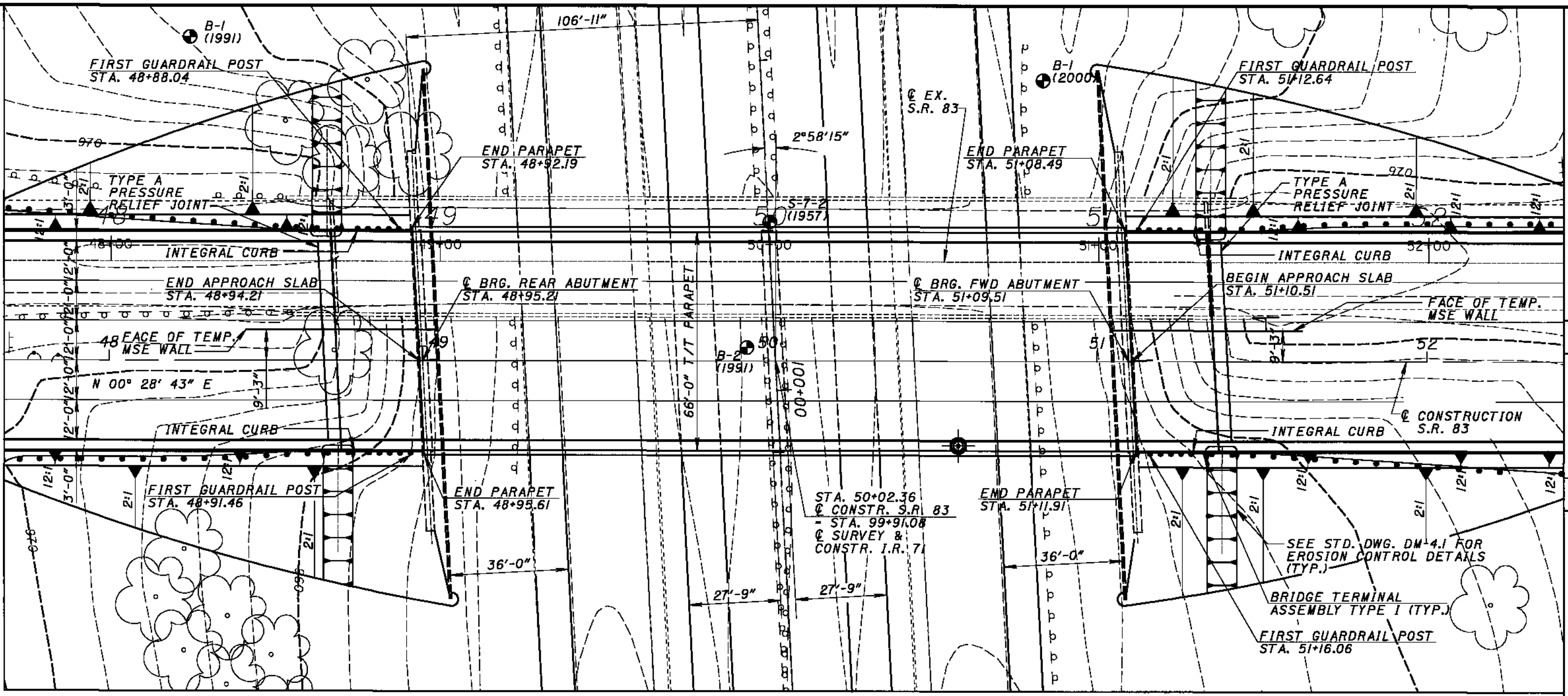
PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED GKL
DRAWN KVM
REVIEWED RWB
DATE 5/03
CHECKED JNS
REVISED ---
STRUCTURE FILE NUMBER
5202310 - LEFT
5202345 - RIGHT

SUPERSTRUCTURE REINFORCING STEEL LIST
BRIDGE NO. MED-71-0060
OVER LITTLE KILLBUCK CREEK

WAY/MED-71-7.04

DATE: 10/17/2003 02:51:35 PM
FILENAME: h:\drawing\08\06419\312\detail design\29stlist.dgn


B-1 (1991)
FIRST GUARDRAIL POST STA. 48+88.04
106'-11"
END PARAPET STA. 48+92.19
TYPE A PRESSURE RELIEF JOINT
INTEGRAL CURB
END APPROACH SLAB STA. 48+94.21
FACE OF TEMP. MSE WALL
N 00° 28' 43" E
℄ BRG. REAR ABUTMENT STA. 48+95.21
66'-0" T/T PARAPET
2°58'15"
S-7-2 (1957)
B-2 (1991)
℄ EX. S.R. 83
100+00
B-1 (2000)
END PARAPET STA. 51+08.49
℄ BRG. FWD ABUTMENT STA. 51+09.51
FIRST GUARDRAIL POST STA. 51+12.64
TYPE A PRESSURE RELIEF JOINT
BEGIN APPROACH SLAB STA. 51+10.51
FACE OF TEMP. MSE WALL
℄ CONSTRUCTION S.R. 83
INTEGRAL CURB
FIRST GUARDRAIL POST STA. 48+91.46
END PARAPET STA. 48+95.61
36'-0"
27'-9"
27'-9"
STA. 50+02.36 ℄ CONSTR. S.R. 83 = STA. 99+91.08 ℄ SURVEY & CONSTR. I.R. 71
END PARAPET STA. 51+11.91
36'-0"
SEE STD. DWG. DM-4.1 FOR EROSION CONTROL DETAILS (TYP.)
BRIDGE TERMINAL ASSEMBLY TYPE I (TYP.)
FIRST GUARDRAIL POST STA. 51+16.06
48+00
49
50+00
51+00
52+00
2:1
12:1
970

THE ESTIMATED AVERAGE LENGTHS FOR THE HP 10X42 PILES ARE AS FOLLOWS:
REAR ABUT. : 30 FT.
FORWARD ABUT. : 40 FT.

THE ESTIMATED AVERAGE LENGTHS FOR THE HP 14X73 PIER PILES ARE 20 FT.

ALL UTILITIES TO REMAIN UNLESS OTHERWISE NOTED.

NOTE:

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS-SECTIONS

POWER LINE RELOCATED BY OTHERS.

PLAN

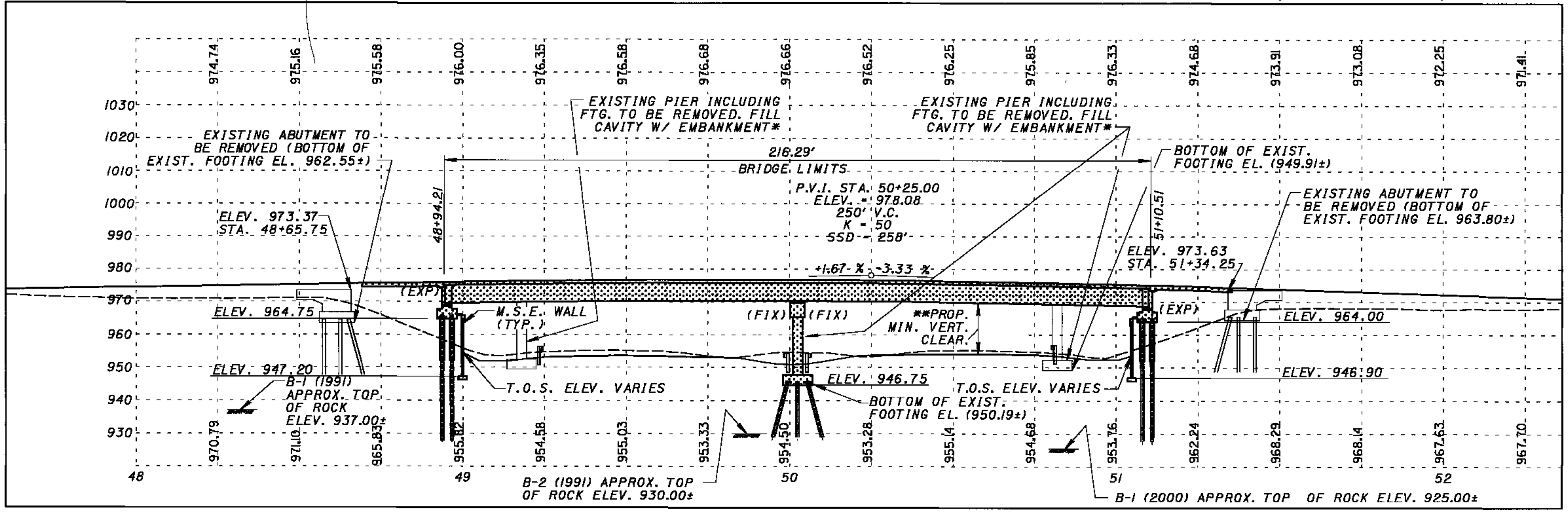
* POINT OF MINIMUM VERTICAL CLEARANCE

SR 83 STA. 49+47.35 27'-00" RT.
I-71 STA. 100+13.24 54'-0" RT.

⊕ INDICATES POINT OF MINIMUM VERTICAL CLEARANCE

LEGEND

T.O.S. - TOP OF SLOPE
M.S.E. WALL - MECHANICALLY STABILIZED EARTH WALL
● INDICATES SUBSURFACE BORING LOCATION
* PAYMENT FOR THIS WORK TO BE INCLUDED WITH ITEM 202, STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN



PROFILE

MINIMUM VERTICAL CLEARANCE

REQUIRED MIN. VERT. CLEARANCE = 16'-6"
**PROPOSED MIN. VERT. CLEARANCE = 17'-2"(+)

VERTICAL CURVE DATA

P.V.I. STA. 50+25.00
ELEV. = 978.08
250' V.C.
K = 50
SSD = 258'

HORIZONTAL ALIGNMENT DATA

BEARING = N 00° 28' 43" E

BENCH MARK

TBM #4
STA. 52+55.32, 39.20 RT.
CHISELED "X" ON WEST BOLT ON TRAFFIC SIGNAL POLE IN THE SE QUADRANT OF S.R. 83 AND I-71 SB EXIT RAMP. ELEV. 969.44

EXISTING STRUCTURE

TYPE: 4 SPAN CONTINUOUS STEEL GIRDER WITH REINFORCED CONCRETE DECK & SUBSTRUCTURES
SPANS: 50' - 82' - 82' - 50' C/C BEARINGS
ROADWAY: 30' FACE/FACE CURBS
LOAD FREQUENCY: C F = 400
WEARING SURFACE: 1" MONOLITHIC
SKEW: 03° 02' 10" R. F.
APPROACH SLAB: 25'-0"
ALIGNMENT: STRAIGHT
DISPOSTION: TO BE REMOVED
STRUCTURE FILE NUMBER: 5205107
DATE CONSTRUCTED: 1959

PROPOSED STRUCTURE

TYPE: "TWO SPAN (CONTINUOUS FOR LIVE LOAD) PRESTRESSED CONCRETE I-GIRDER TYPE IV COMPOSITE WITH THE REINFORCED CONCRETE DECK SUPERSTRUCTURE WITH A CAP AND COLUMN PIER SUPPORTED BY PILES AND SEMI-INTEGRAL ABUTMENTS SUPPORTED BY PILES ON MSE WALLS."
SPANS: 107'-1 13/16" - 107'-1 13/16" C/C BRG
ROADWAY: 66' TOE TO TOE OF PARAPETS
DESIGN LOADING: HS25 & ALTERNATE MILITARY LOAD
FUTURE WEARING SURFACE LOADING: 60 PSF
SKEW: 2° 58' 15" R. F.
WEARING SURFACE: MONOLITHIC CONCRETE
APPROACH SLAB: AS-1-81 (25'-0" LONG)
ALIGNMENT: TANGENT
CROWN: NORMAL
AVERAGE DAILY TRAFFIC: 15,900 (2004)
27,100 (2024)
AVG. DAILY TRUCK TRAFFIC: 800 (2004)
1,360 (2024)
COORDINATES: LAT. 40°59'51" LONG. 81°59'44"

PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
MCV	TRL	RWB	04-2003
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MUR		5205115	

MEDINA COUNTY
STA. 48+94.21
STA. 51+10.51

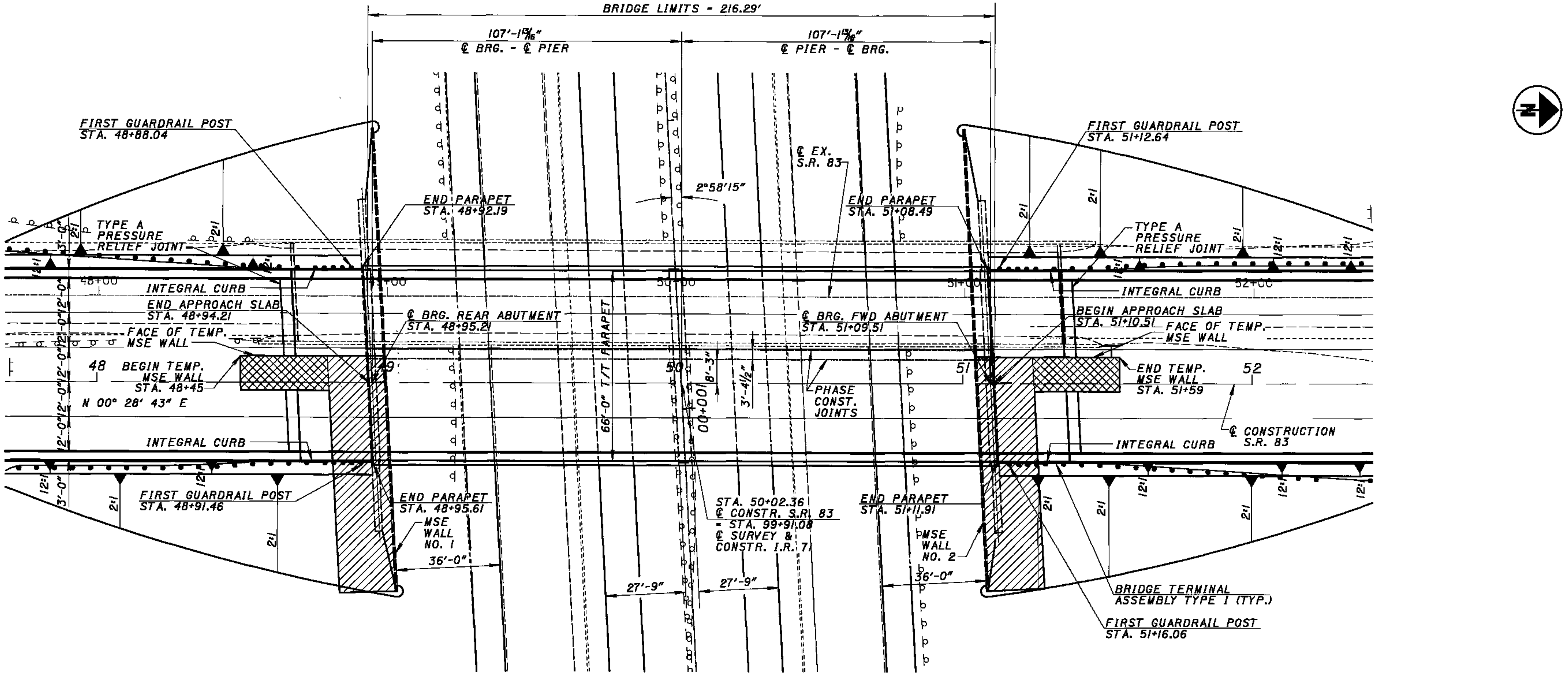
SITE PLAN

BRIDGE NO. MED-83-0053
OVER I-71

WAY/MED-71-7.04

1/25

589
785


BRIDGE LIMITS - 216.29'
107'-1 15/16"
℄ BRG. - ℄ PIER
107'-1 15/16"
℄ PIER - ℄ BRG.
FIRST GUARDRAIL POST STA. 48+88.04
FIRST GUARDRAIL POST STA. 51+12.64
END PARAPET STA. 48+92.19
END PARAPET STA. 51+08.49
℄ EX. S.R. 83
2°58'15"
TYPE A PRESSURE RELIEF JOINT
TYPE A PRESSURE RELIEF JOINT
48+00
49+00
50+00
51+00
52+00
INTEGRAL CURB
INTEGRAL CURB
INTEGRAL CURB
INTEGRAL CURB
END APPROACH SLAB STA. 48+94.21
℄ BRG. REAR ABUTMENT STA. 48+95.21
℄ BRG. FWD ABUTMENT STA. 51+09.51
BEGIN APPROACH SLAB STA. 51+10.51
FACE OF TEMP. MSE WALL
FACE OF TEMP. MSE WALL
48
49
50
51
52
BEGIN TEMP. MSE WALL STA. 48+45
END TEMP. MSE WALL STA. 51+59
N 00° 28' 43" E
66'-0" T/T PARAPET
8'-3"
3'-4 1/2"
00+00
PHASE CONST. JOINTS
℄ CONSTRUCTION S.R. 83
3'-0"
12'-0"
12'-0"
12'-0"
12'-0"
3'-0"
12:1
2:1
FIRST GUARDRAIL POST STA. 48+91.46
END PARAPET STA. 48+95.61
MSE WALL NO. 1
36'-0"
27'-9"
27'-9"
STA. 50+02.36 ℄ CONSTR. S.R. 83
STA. 99+91.08 ℄ SURVEY & CONSTR. I.R. 71
END PARAPET STA. 51+11.91
MSE WALL NO. 2
36'-0"
BRIDGE TERMINAL ASSEMBLY TYPE I (TYP.)
FIRST GUARDRAIL POST STA. 51+16.06
N

NOTE:
SEE SHEETS 1/4 THRU 4/4
FOR MSE WALL PLANS

GENERAL PLAN

LEGEND

☰	MSE WALL. SEE MSE WALL PLANS
▩	TEMPORARY MSE WALL WITH FABRIC REINFORCED FACE TO BE INCLUDED WITH ITEM 503, COFFERDAMS, CRIBS, AND SHEETING, AS PER PLAN

ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
GKL	KVM	RWB	04-2003
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JNS		5205115	

GENERAL PLAN
BRIDGE NO. MED-83-0053
OVER I-71

WAY/MED-71-7.04

2/25

590/785

DATE: 10/17/2003 02:40:21 PM
FILENAME: f:\drawing\05\05419\300\detail design\02gen[illegible]

GENERAL NOTES

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002 AND THE ODOT BRIDGE DESIGN MANUAL.

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-81	REVISED	07/19/02
DM-4.1	REVISED	07/19/02
PCB-91	REVISED	07/19/02
PSID-1-99	REVISED	7/18/03
SBR-1-99	REVISED	07/19/02
SICD-1-96	REVISED	07/19/02

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

846	DATED	04/19/02
864	DATED	07/11/00
894	DATED	10/18/02
954	DATED	09/09/97

DESIGN LOADING:

HS25, AND THE ALTERNATE MILITARY LOADING
FUTURE WEARING SURFACE (FWS) OF 60 LBS/FT½

DESIGN DATA:

CONCRETE CLASS HP - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL:
ASTM A615 OR A996 GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI
SPIRAL REINFORCEMENT MAY BE PLAIN BARS, ASTM A82 OR A615

CONCRETE FOR PRESTRESSED BEAMS:
COMPRESSIVE STRENGTH (FINAL) - 7000 PSI
COMPRESSIVE STRENGTH (RELEASE) - 4500 PSI

PRESTRESSING STRAND:
AREA = 0.153 IN½
ULTIMATE STRESS = 270 KSI
INITIAL STRESS = 202.5 KSI (LOW RELAXATION STRANDS)

DECK PROTECTION METHOD:

CLASS HP CONCRETE
EPOXY COATED REINFORCING STEEL
2½" CONCRETE COVER

MONOLITHIC WEARING SURFACE:

ASSUMED FOR DESIGN PURPOSES TO BE 1" THICK.

ABUTMENT ANCHORAGE:

ABUTMENTS SHALL BE ANCHORED TO THE SELECT GRANULAR EMBANKMENT BY THE STANDARD REINFORCING STRIPS USED IN THE CONSTRUCTION OF THE MSE WALLS. THE NUMBER OF ANCHORS, CAST-IN-PLACE CONNECTORS AND STRIP LENGTHS REQUIRED AT EACH ABUTMENT WILL BE BASED ON THE REQUIREMENTS OF THE SPECIFIC MSE WALL MANUFACTURER. THE ANCHORS SHALL BE LOCATED IN A SINGLE ROW 12 INCHES ABOVE THE BOTTOM OF THE ABUTMENT FOOTING AND BE EQUALLY SPACED ALONG THE BACK OF THE ABUTMENT. ANCHORS SHALL BE INCLUDED FOR PAYMENT WITH THE UNIT PRICE PER SQ. FT. OF MSE WALL. THE MSE STRAPS SHALL BE DESIGNED TO RESIST 4.5 KIPS PER LINEAR FOOT ALONG THE ABUTMENT.

ITEM 202, STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN:

SEE SHEET 1/25 FOR LIMITS OF ABUTMENT, PIER REMOVAL.

PROTECTION OF TRAFFIC:

PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, SUBMIT PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR, PEDESTRIAN, BOAT, ETC.) ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE DIRECTOR AT LEAST 30 DAYS BEFORE CONSTRUCTION BEGINS. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. MAINTAIN THE TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE DIRECTOR. ALL COSTS ASSOCIATED WITH THIS TRAFFIC PROTECTION WILL BE INCLUDED WITH ITEM 202 FOR PAYMENT.

ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN:

THE BACKFILL MATERIAL BEHIND THE ABUTMENTS SHALL BE TYPE B GRANULAR MATERIAL, 703.16.C, PLACED AND COMPACTED IN 6 INCH LIFTS.

ITEM 507, STEEL PILES:

PILES DRIVEN INTO BEDROCK:
DRIVE PILES TO REFUSAL ON BEDROCK. THE DEPARTMENT WILL CONSIDER REFUSAL TO BE OBTAINED BY PENETRATING SOFT BEDROCK FOR SEVERAL INCHES TO A MINIMUM RESISTANCE OF 20 BLOWS PER INCH OR BY CONTACTING HARD BEDROCK AND THE PILE RECEIVING AT LEAST 20 BLOWS. SELECT THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL.

THE ULTIMATE BEARING VALUE IS 90.2 TONS PER PILE FOR THE HP10x42 ABUTMENT PILES.
THE ULTIMATE BEARING VALUE IS 181 TONS PER PILE FOR THE HP14x73 PIER PILES.

REAR ABUTMENT PILES:
26 - HP10x42 PILES 35 FEET LONG, ORDER LENGTH

FORWARD ABUTMENT PILES:
26 - HP10x42 PILES 45 FEET LONG, ORDER LENGTH

PIER PILES:
30 - HP14x73 PILES 25 FEET LONG, ORDER LENGTH

PILE DRIVING CONSTRAINTS:

PRIOR TO DRIVING PILES, THE MSE WALLS SHALL BE CONSTRUCTED. THE INSTALLATION OF ABUTMENT AND PILES SHALL NOT BEGIN UNTIL 30 DAYS AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED.

ITEM 507, STEEL POINTS, AS PER PLAN:

USE STEEL PILE POINTS TO PROTECT THE TIPS OF THE PROPOSED STEEL "H" PILING. FURNISH STEEL POINTS FROM THE FOLLOWING MANUFACTURERS/SUPPLIERS: ASSOCIATED PILE AND FITTING CORPORATION, 262 RUTHERFORD BLVD., CLIFTON, NEW JERSEY 07014; INTERNATIONAL CONSTRUCTION EQUIPMENT, INC., 301 WAREHOUSE DRIVE, MATTHEWS, NORTH CAROLINA 28015; DOUGHERTY FOUNDATION PRODUCTS, INC., P.O. BOX 688, FRANKLIN LAKES, NEW JERSEY 07417; VERSA STEEL, INC., 1618 N.E. FIRST AVE., PORTLAND, OREGON 97232; PILING ACCESSORIES, INC., 3467 GRIBBLE ROAD, MATHEWS, NORTH CAROLINA 28105; OR BY A MANUFACTURER THAT CAN FURNISH A STEEL POINT THAT IS ACCEPTABLE TO THE DIRECTOR. THE MATERIAL USED FOR THE MANUFACTURING OF PILE POINTS SHALL CONFORM TO ASTM A27/A27M 65/35 [450/240] - CLASS 2 - HEAT TREATED OR AASHTO M103/M103M 65/35[450/240] - HEAT TREATED. WELD THE PILE POINTS TO THE PILE IN ACCORDANCE WITH AWS D1.5 OR THE MANUFACTURER'S WRITTEN WELDING PROCEDURE SUPPLIED TO THE ENGINEER BEFORE THE WELDING IS PERFORMED. SUBMIT A NOTARIZED COPY OF THE MILL TEST REPORT TO THE ENGINEER.

ITEM 516 SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN:

INSTALL A 3 FOOT WIDE NEOPRENE SHEET AT LOCATIONS SHOWN IN THE PLANS. SECURE THE NEOPRENE SHEETING TO THE CONCRETE WITH 1¼"x#10 GAGE (LENGTH x SHANK DIAMETER) GALVANIZED BUTTON HEAD SPIKES THROUGH A 1 INCH OUTSIDE DIAMETER, #10 GAGE GALVANIZED WASHER. MAXIMUM FASTENER SPACING IS 9 INCHES. USE OF OTHER SIMILAR GALVANIZED DEVICES, WHICH WILL NOT DAMAGE EITHER THE NEOPRENE OR THE CONCRETE WILL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

CENTER THE NEOPRENE STRIPS ON ALL JOINTS. FOR HORIZONTAL JOINTS, SECURE THE HORIZONTAL NEOPRENE STRIP BY USING A SINGLE LINE OF FASTENERS, STARTING AT 6 INCHES, ±, FROM THE TOP OF THE NEOPRENE STRIP. FOR THE VERTICAL JOINTS SECURE THE VERTICAL NEOPRENE STRIP BY USING A SINGLE VERTICAL LINE OF FASTENERS, STARTING AT 6 INCHES, ±, FROM THE VERTICAL EDGE OF THE NEOPRENE STRIP NEAREST TO THE CENTERLINE OF ROADWAY. FOR VERTICAL JOINTS, INSTALL 2 ADDITIONAL FASTENERS AT 6 INCHES, CENTER TO CENTER, ACROSS THE TOP OF THE NEOPRENE STRIP ON THE SAME SIDE OF THE VERTICAL JOINT AS THE SINGLE VERTICAL ROW OF FASTENERS IS LOCATED.

THE VERTICAL NEOPRENE STRIPS SHALL COMPLETELY OVERLAP THE HORIZONTAL STRIPS. LAP LENGTHS OF THE HORIZONTAL STRIPS THAT ARE NOT VULCANIZED OR ADHESIVE BONDED, SHALL BE AT LEAST 1 FOOT IN LENGTH, OR 6 INCHES IN LENGTH IF THE LAP IS VULCANIZED OR ADHESIVE BONDED. NO LAPS ARE ACCEPTABLE IN VERTICALLY INSTALLED NEOPRENE STRIPS.

THE NEOPRENE SHEETING SHALL BE 3/32" THICK GENERAL PURPOSE, HEAVY DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT. THE SHEETING SHALL BE "FAIRPRENE NUMBER NN-0003", BY E.I. DUPONT DE NEMOURS AND COMPANY, INC., "WINGPRENE" BY THE GOODYEAR TIRE AND RUBBER COMPANY, OR AN APPROVED ALTERNATE. THE NEOPRENE SHEETING SHALL CONFORM TO THE FOLLOWING:

DESCRIPTION OF TEST	ASTM METHOD	REQUIREMENT
THICKNESS, INCHES	D 751	0.094" +/- .01
BREAKING STRENGTH, GRAB, LBS, MIN.	D 751	700 x 700
ADHESIVE STRIP 1"x2" LONG, LBS MIN.	D 751	9
BURST STRENGTH PSI, MIN.	D 751	1400
HEAT AGING 70 HOURS 212°F, 180° BEND WITHOUT CRACKING	D 2136	NO CRACKING OF COATING
LOW TEMPERATURE BRITTLENESS 1 HOUR AT -40°F, BEND AROUND ¼" MANDREL	D 2136	NO CRACKING OF COATING

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE TOTAL LENGTH OF JOINT TO BE SEALED BY THE NUMBER OF FEET.

BASIS OF PAYMENT: THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN.

UTILITY LINES:

THE UTILITY(IES) SHALL BEAR ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITY(IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

MECHANICAL CONNECTORS:

AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING BARS SHALL BE PROVIDED. INSTALLATION OF CONNECTORS SHALL CONFORM WITH MANUFACTURER'S RECOMMENDED PROCEDURES.

CONNECTORS SHALL CONFORM WITH ITEM 509 AND BE INCLUDED IN THE BID PRICE PER POUND FOR THE REINFORCING STEEL.

CONNECTORS USED WITH EPOXY COATED BARS SHALL BE EPOXY COATED. COATING FOR BOTH CONNECTORS AND BARS SHALL CONFORM TO THE SAME SPECIFICATIONS. COATINGS WHICH HAVE BEEN DAMAGED OR WHICH OTHERWISE DO NOT MEET SPECIFICATIONS WITH RESPECT TO COLOR, CONTINUITY AND UNIFORMITY MAY BE REPAIRED AS DIRECTED BY THE ENGINEER OR THEY SHALL BE REPLACED WITH MATERIAL THAT MEETS THE SPECIFICATIONS. CONNECTORS SHALL CONFORM WITH ITEM 509 AND BE INCLUDED IN THE BID PRICE PER POUND FOR THE REINFORCING STEEL.

ABBREVIATIONS

ABUT.	ABUTMENT	R.A.	REAR ABUTMENT
ADD'L.	ADDITIONAL	REF.	REFERENCE
BOT. OR BOTT.	BOTTOM	RT.	RIGHT
BRG.	BEARING	SER.	SERIES
℄	CENTERLINE	SHLDR.	SHOULDER
C.J.	CONSTRUCTION JOINT	SHT.	SHEET
C/C	CENTER TO CENTER	SP. OR SPA.	SPACE OR SPACES
CLR.	CLEAR OR CLEARANCE	STA.	STATION
COL.	COLUMN	STD.	STANDARD
CONSTR. OR CONST.	CONSTRUCTION	STR.	STRAIGHT
DIA.	DIAMETER	T & B	TOP AND BOTTOM
DWG.	DRAWING	T/S OR T.O.S.	TOP OF SLOPE
E.F.	EACH FACE	TEMP.	TEMPORARY
EA.	EACH	TYP.	TYPICAL
ELEV. OR EL.	ELEVATION	W/	WITH
EQ.	EQUAL		
EX. OR EXIST.	EXISTING		
EXT.	EXTERIOR		
F.A.	FORWARD ABUTMENT		
F.F.	FAR FACE		
FDN.	FOUNDATION		
FT.	FEET OR FOOT		
FTG.	FOOTING		
FWD.	FORWARD		
GRD.	GROUND		
INT.	INTERIOR		
JT.	JOINT		
LB.	POUND		
LIN. FT.	LINEAL FOOT		
LT.	LEFT		
MAX.	MAXIMUM		
MFR. OR MANUF	MANUFACTURER		
MIN.	MINIMUM		
MISC.	MISCELLANEOUS		
MSE	MECHANICALLY STABALIZED EARTH WALL		
N.F.	NEAR FACE		
O/C	ON CENTERS		
O/O	OUT TO OUT		
⅊	PLATE		
PCB	PORTABLE CONCRETE BARRIER		
PEJF	PREFORMED EXPANSION JOINT FILLER		
PROP.	PROPOSED		

PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED GKL	DRAWN KVM	REVIEWED RWB	DATE 04-2003
CHECKED JNS	REVISED	STRUCTURE FILE NUMBER 5205115	

GENERAL NOTES
BRIDGE NO. MED-83-0053
OVER I-71

WAY/MED-71-7.04

DATE: $DATE$ $TIME$
FILENAME: $FILE$

ESTIMATED QUANTITIES

CALC BY: GKL DATE: 04/16/03
CHECK BY: JNS DATE: 04/28/03

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUTMENTS	PIER	GENERAL	AS PER PLAN SHEET REF.
202	11003	LUMP	LUMP	STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	1 / 25
503	21301	LUMP	LUMP	UNCLASSIFIED EXCAVATION, AS PER PLAN			LUMP		3 / 25
503	11101	LUMP	LUMP	COFFERDAMS, CRIBS AND SHEETING, AS PER PLAN				LUMP	6 / 25
505	11100	LUMP	LUMP	PILE DRIVING EQUIPMENT MOBILIZATION				LUMP	
507	00100	2,080	FT.	STEEL PILES HP10X42, FURNISHED		2,080			
507	00150	1,820	FT.	STEEL PILES HP10X42, DRIVEN		1,820			
507	00300	750	FT.	STEEL PILES HP14X73, FURNISHED			750		
507	00350	600	FT.	STEEL PILES HP14X73, DRIVEN			600		
507	93300	82	EACH	STEEL POINTS OR SHOES		52	30		
509	10000	187,945	POUND	EPOXY COATED REINFORCING STEEL	152,226	15,950	19.769		
511	41000	75	CU. YD.	CLASS C CONCRETE, PIER ABOVE FOOTINGS - CAP AND COLUMN			75		
511	43500	194	CU. YD.	CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING		194			
511	46500	45	CU. YD.	CLASS C CONCRETE, FOOTING			45		
511	52000	LUMP	LUMP	CLASS HP CONCRETE, TEST SLAB	LUMP				
512	33000	10	SQ. YD.	TYPE 2 WATERPROOFING		10			
515	15030	18	EACH	DRAPED STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 3, TYPE 4 MOD. (60")	18				
515	20000	48	EACH	INTERMEDIATE DIAPHRAMS	48				
516	14021	166	FT.	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN		166			3 / 25
516	43100	18	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES ONLY (NEOPRENE) (1.8491" x 14" x 22" BEARING WITH 1.5" x 16" x 24" BEVELED LOAD PLATE)			18		
516	44000	9	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (1.9238" x 12" x 20" BEARING WITH 1.5" x 14" x 22" LOAD PLATE)		9			
516	44000	9	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (1.9238" x 12" x 20" BEARING WITH 1.5" x 14" x 22" BEVELED LOAD PLATE)		9			
518	21230	LUMP	LUMP	POROUS BACKFILL WITH FILTER FABRIC		LUMP			
518	40000	200	FT.	6" PERFORATED CORRUGATED PLASTIC PIPE		200			
526	25000	372	SQ. YD.	REINFORCED CONCRETE APPROACH SLABS (T-15")				372	
864	10100	1,433	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	1,047	206	180		
*894	10001	631	CU. YD.	HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY, AS PER PLAN	631				4 / 25

*THIS QUANTITY INCLUDES CONCRETE IN ABUTMENT DIAPHRAGMS AND PIER DIAPHRAGM.

ITEM 894 HIGH PERFORMANCE CONCRETE FOR BRIDGE DECK WITH WARRANTY, AS PER PLAN

GENERAL REQUIREMENTS.
THE PROVISIONS OF ITEM 511 SHALL APPLY EXCEPT AS NOTED BELOW.

MIX OPTIONS.
ALL SUPERSTRUCTURE CONCRETE SHALL BE THIS MIX (HP4, AS PER PLAN).
ALL OTHER STRUCTURE CONCRETE SHALL BE THIS MIX OR MIX 2 CONCRETE.

THE FOLLOWING PROPORTIONS WILL BE USED AS A STARTING MIX DESIGN.

CONCRETE TABLE
QUANTITIES PER CUBIC YARD
AGGREGATES (SSD)

HP4, AS PER PLAN (GGBF SLAG + MICROSILICA)

AGGREGATE TYPE	FINE AGGRE. (LB)	* #8 COARSE AGGRE. (LB)	* #57 COARSE AGGRE. (LB)	TOTAL (LB)	CEMENT CONTENT (LB)	GGBF SLAG (LB)	MICROSILICA (LB)	WATER/CEMENT RATIO +/- .02	AIR CONTENT +/- 2%
GRAVEL	1245	360	1315	2920	400	170	30	0.42	7
LIMESTONE	1245	360	1335	2940	400	170	30	0.42	7
SLAG	1245	315	1155	2715	400	170	30	0.42	7

*ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER, AS DEFINED PER ASTM C127
THE WEIGHTS SPECIFIED IN THE CONCRETE TABLE WERE CALCULATED FOR MATERIALS OF THE FOLLOWING BULK SPECIFIC GRAVITIES (SSD): NATURAL SAND AND GRAVEL 2.62, LIMESTONE SAND 2.68, LIMESTONE 2.65, SLAG 2.30, FLY ASH 2.65, GGBF SLAG 2.90, MICROSILICA SOLIDS 2.20 AND PORTLAND CEMENT 3.15. FOR AGGREGATES OF SPECIFIC GRAVITIES DIFFERING MORE THAN PLUS OR MINUS 0.02 FROM THESE, THE WEIGHTS IN THE TABLE WILL BE CORRECTED.

PARAPET CONSTRUCTION (FORMED AND POURED)
FORMS SHALL NOT BE REMOVED UNTIL AT LEAST 2 HOURS AFTER THE FINAL SET. DETERMINATION OF THE FINAL SET SHALL BE AS PER ASTM C266 (GILLMORE NEEDLE). TESTING SHALL BE PERFORMED BY THE CONTRACTOR AT NO COST TO THE STATE.

THE MINIMUM CONCRETE SLUMP DURING PLACEMENT OF FORMED CONCRETE PARAPETS SHALL BE 6 INCHES, WITH A MAXIMUM SLUMP OF 8 INCHES.

ANCHOR BOLTS FOR FENCE POSTS SHALL BE CAST IN PLACE.

PARAPET CONSTRUCTION (SLIP FORMED)
SLIP FORMING SHALL NOT BE PERFORMED DIRECTLY OVER AREAS WHERE THERE IS OR WILL BE VEHICULAR OR PEDESTRIAN TRAFFIC (WHICH INCLUDES RAILROADS AND WATER CRAFTS). AT THESE LOCATIONS, THE PARAPETS SHALL BE FORMED AND POURED.

THE CONTRACTOR IS ONLY ALLOWED THE OPTION OF SLIP FORMING BRIDGE PARAPETS OVER NON-TRAVELED WAYS, AND ONLY AFTER THE SUCCESSFUL COMPLETION OF A TEST SECTION TWENTY FEET LONG. A MINIMUM OF 3 DAYS AFTER PLACING THE TEST SECTION, THE CONTRACTOR SHALL CORE THE TEST SECTION (A MINIMUM OF 3 CORES) AT LOCATIONS AS DIRECTED BY THE ENGINEER. APPROVAL TO SHIP FORM SHALL NOT BE GRANTED UNTIL AFTER THE CORING AND AFTER A SUCCESSFUL SLIP FORMING RESULT IS OBTAINED.

IN ADDITION TO THE REQUIREMENTS OF THE LAST PARAGRAPH OF 511.11 THE ENGINEER WILL INSPECT THE SLIP FORMED SURFACE FOR HORIZONTAL CRACKING 6 MONTHS AFTER COMPLETION OF THE SLIP FORMING OPERATION. ANY ADDITIONAL CRACKS FOUND SHALL BE REPAIRED AS PER THE SPECIFICATIONS AT NO ADDITIONAL COST TO THE STATE.

ALL ANCHOR BOLTS FOR FENCE POSTS SHALL BE CAST IN PLACE.

THE MINIMUM CONCRETE SLUMP DURING PLACEMENT OF SLIP FORMED CONCRETE PARAPETS SHALL BE 1 INCH, WITH A MAXIMUM SLUMP OF 1½ INCHES.

THE WATER CEMENT RATION FOR SLIP FORMED PARAPETS SHALL NOT BE LESS THAN THE WATER CEMENT RATIO USED FOR THE DECK CONCRETE. REDUCE SLUMP BY LIMITING THE USE OF SUPERPLASTICIZERS.

CRACK CONTROL JOINTS
FOR BOTH SLIP FORMED AND FORMED AND POURED PARAPETS, THE CONTRACTOR SHALL CONSTRUCT 1½" DEEP AND ¼" WIDE CRACK CONTROL JOINTS SPACED AT A MINIMUM OF 6 FT. AND A MAXIMUM OF 8 FT. ON CENTER. THE CRACK CONTROL JOINTS SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE PARAPET, STARTING AND ENDING AT THE ELEVATION OF THE TOP OF THE CONCRETE DECK. THE CONTRACTOR MAY EITHER FORM THE CRACK CONTROL JOINTS IN WITH FORM LINERS, OR, WITHIN 24 HOURS OF PLACEMENT, SAW CUT THE CRACK CONTROL JOINTS IN WITH THE USE OF AN EDGE GUIDE, FENCE, OR JIG WHICH IS REUIRED TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET. THE ENTIRE LENGTH OF EACH CONTROL JOINT SHALL BE SEALED TO A MINIMUM DEPTH OF 1½" WITH A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION, TT-S-00227E.

BASIS OF PAYMENT.
PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT BID PRICE FOR:

ITEM	UNITS	DESCRIPTION
894E10001	C.Y.	HIGH PERFORMANCE CONCRETE FOR BRIDGE DECK, AS PER PLAN
511E52000	LUMP SUM	CLASS HP CONCRETE, TEST SLAB

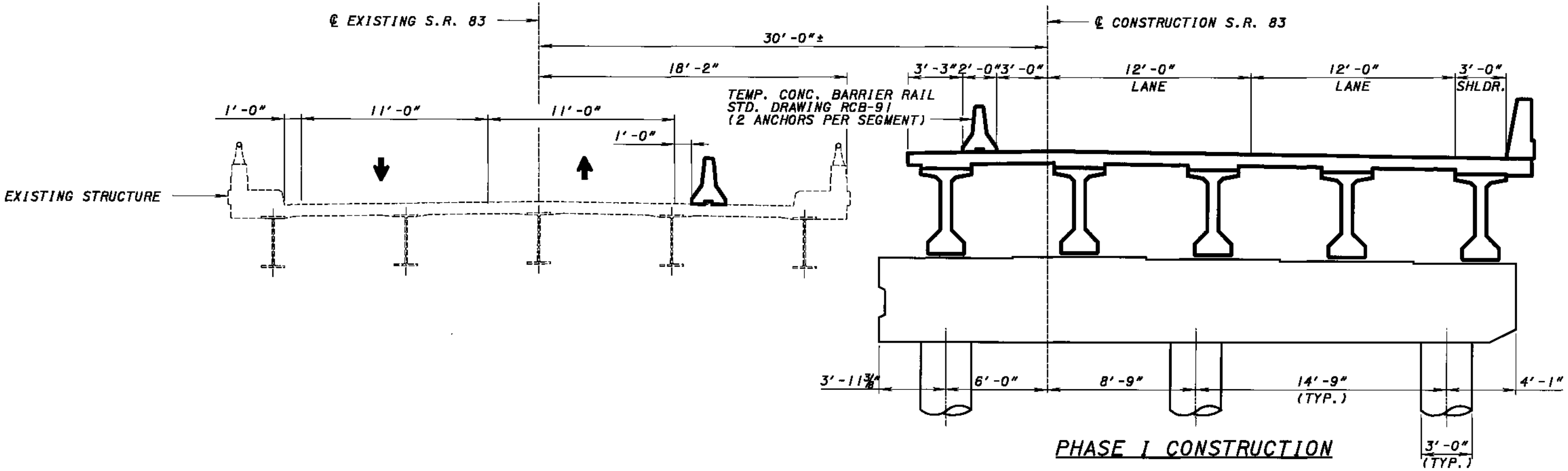
DATE: 10/12/2004 11:04:49 AM
FILENAME: T:\drawing\08\0649\308\Detail Design\04EstQuant.dgn

PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

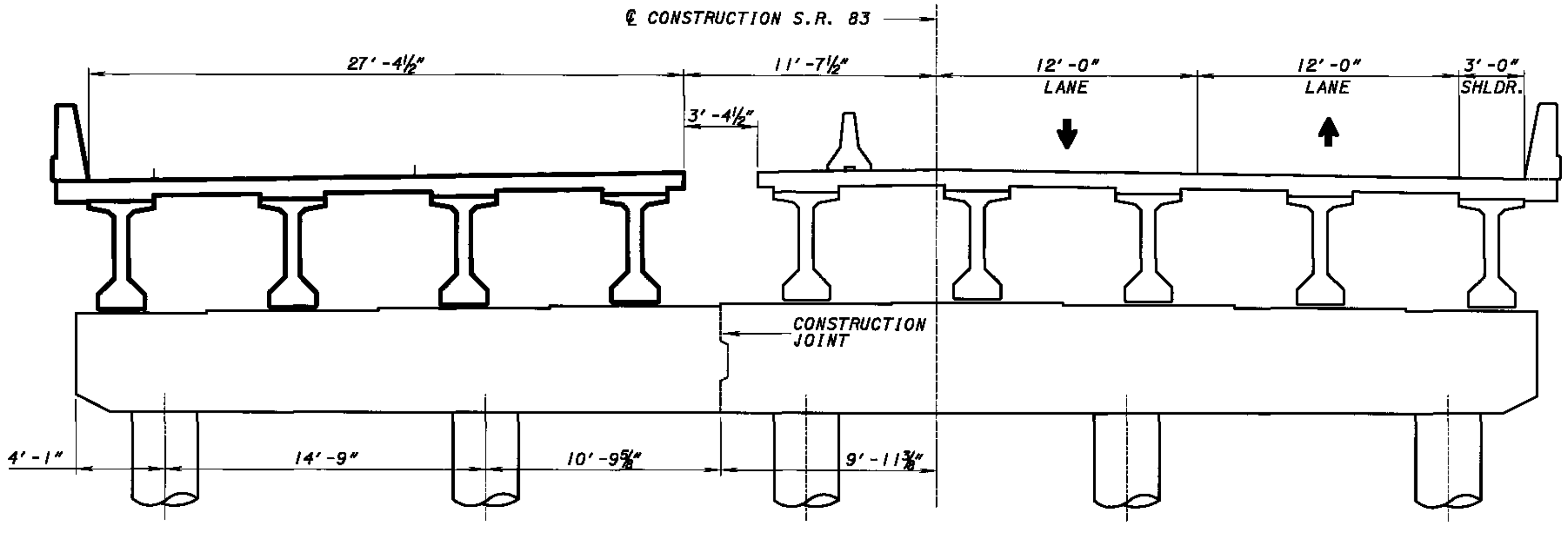
DESIGNED	DRAWN	REVIEWED	DATE
GKL	KVM	RWB	04-2003
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JNS		5205115	

ESTIMATED QUANTITIES
BRIDGE NO. MED-83-0053
OVER I-71

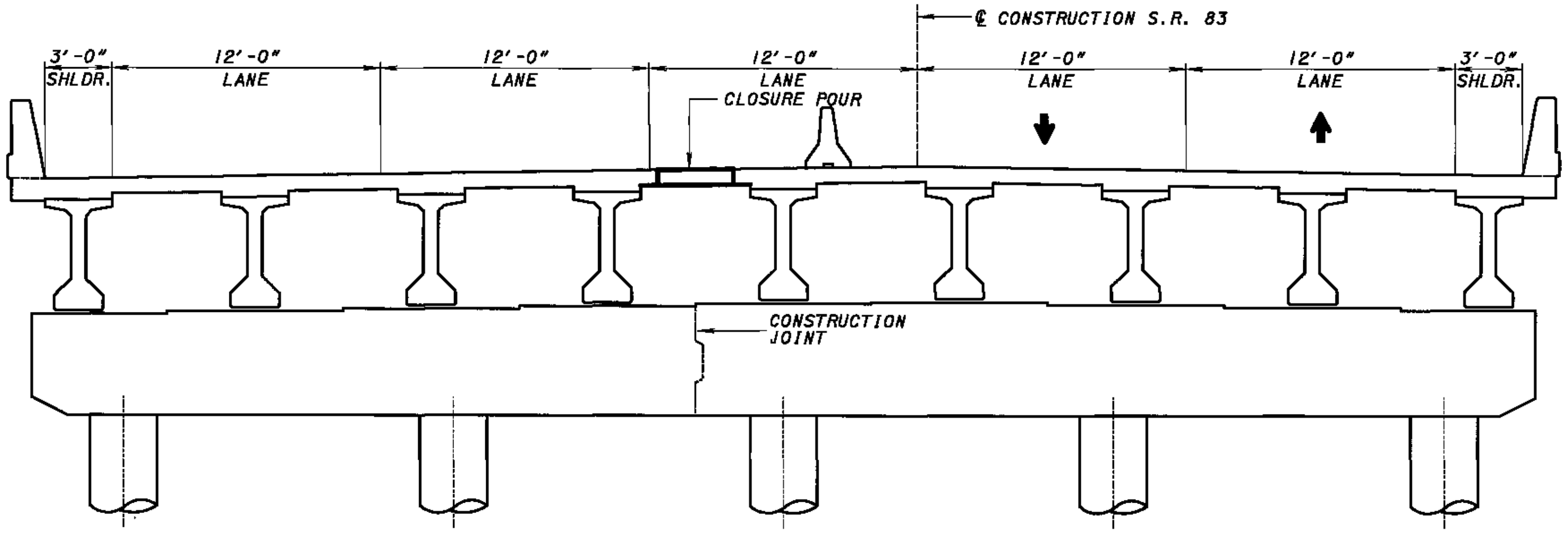
WAY/MED-71-7.04



PHASE I CONSTRUCTION



PHASE II CONSTRUCTION



PHASE III CONSTRUCTION

LEGEND

MAINTENANCE OF TRAFFIC ↓ ↑

PHASE I NOTES:

MAINTAIN TRAFFIC ON EXISTING STRUCTURE DURING PHASE I

PHASE II NOTES:

SHIFT TRAFFIC TO NEWLY CONSTRUCTED PORTION OF THE BRIDGE. DEMOLISH EXISTING STRUCTURE AND CONSTRUCT LEFT HALF OF THE PROPOSED BRIDGE.

PHASE III NOTES:

COMPLETE CLOSURE POUR. OPEN THE ENTIRE BRIDGE TO TRAFFIC.

PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
GFS	TJB	RWB	04-2003
CHECKED	REVISED	STRUCTURE FILE NUMBER	
GKL		5205115	

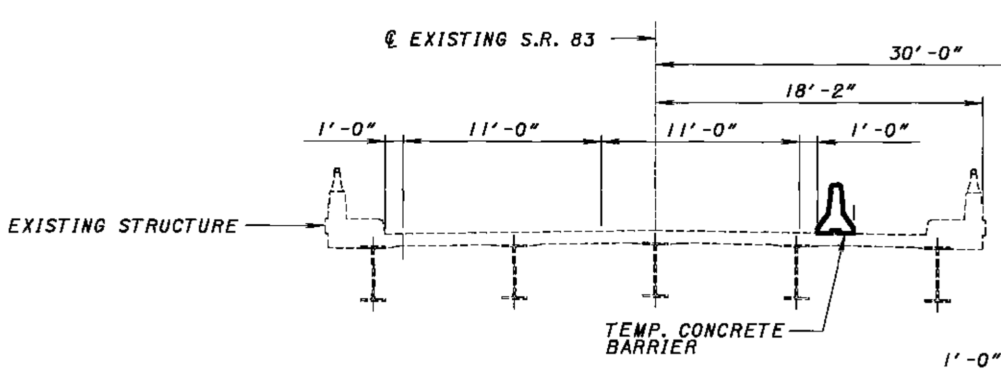
PHASE CONSTRUCTION DETAILS
BRIDGE NO. MED-83-0053
OVER I-71

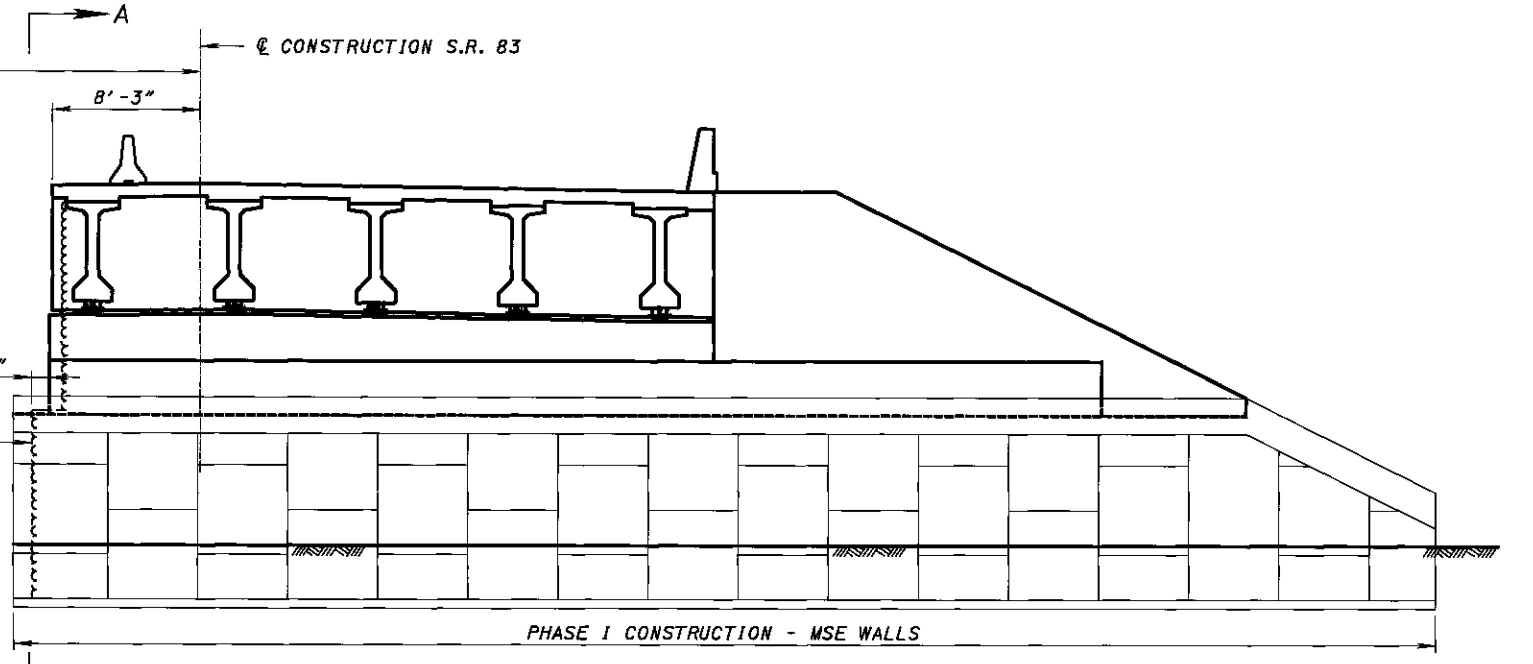
WAY/MED-71-7.04

5/25

593/785

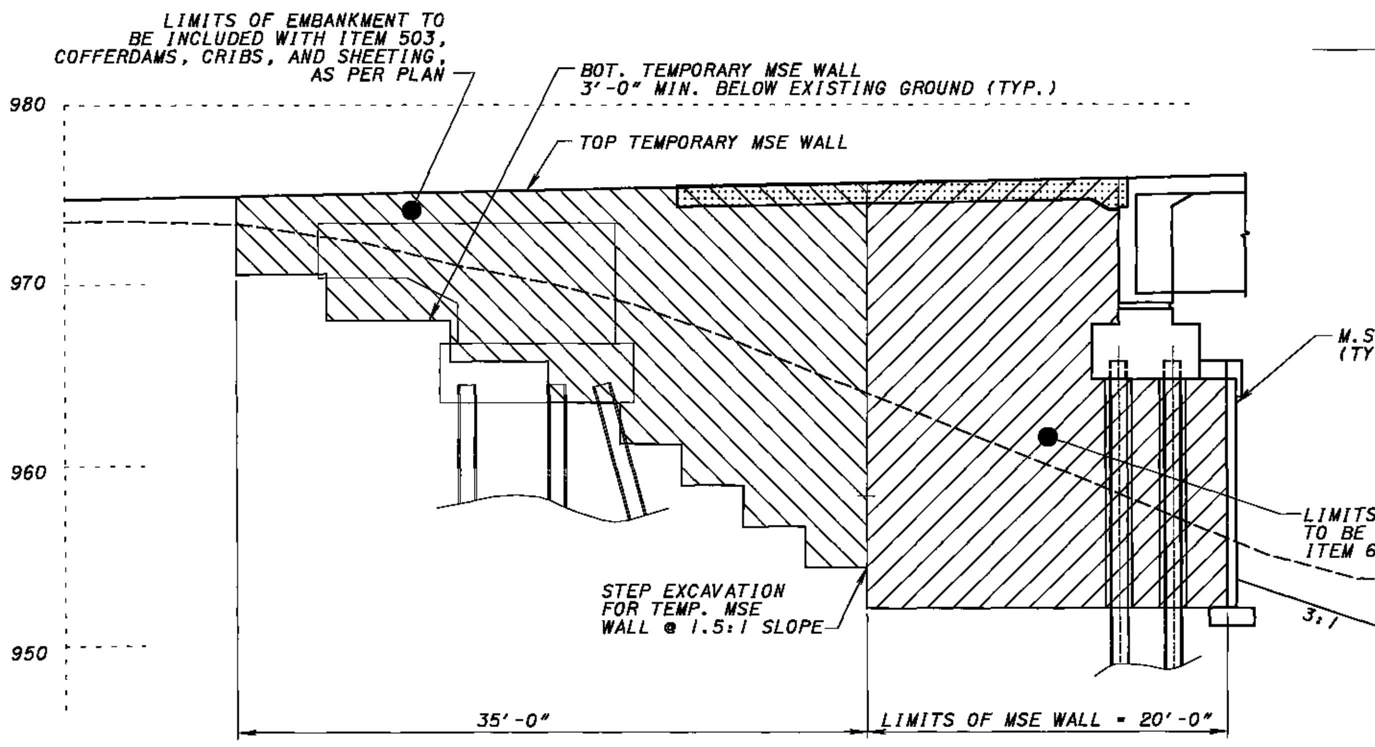
DATE: 10/17/2003 02:40:23 PM
FILENAME: h:\drawing\08\06419\308\detail design\05phaseconst.dgn





PHASE I

FWD. ABUTMENT SHOWN
(REAR OPPOSITE HAND)


LIMITS OF EMBANKMENT TO BE INCLUDED WITH ITEM 503, COFFERDAMS, CRIBS, AND SHEETING, AS PER PLAN
BOT. TEMPORARY MSE WALL 3'-0" MIN. BELOW EXISTING GROUND (TYP.)
TOP TEMPORARY MSE WALL
980
970
960
950
M.S.E. WALL (TYP.)
LIMITS OF EMBANKMENT TO BE INCLUDED WITH ITEM 610, MSE WALLS
STEP EXCAVATION FOR TEMP. MSE WALL @ 1.5:1 SLOPE
3:1
6:1
EXISTING GROUND
PROPOSED FINISH GRADE
35'-0"
LIMITS OF MSE WALL = 20'-0"

NOTE: BOTH CROSS HATCHED AREAS IN VIEW A-A REPRESENT THE FABRIC REINFORCED FACE ALONG THE PHASE CONSTRUCTION LINE.

VIEW "A-A"

(FOR ADDITIONAL DETAILS OF MSE WALL TYPICAL SECTION SEE SHEET 4/4)

* INCLUDE WITH MSE WALL FOR PAYMENT

PHASE I NOTES:

CONSTRUCT ABUTMENT, SUPERSTRUCTURE AND MSE WALL FOR PHASE I CONSTRUCTION. USE FABRIC REINFORCED FACE ALONG THE CONSTRUCTION LINE TO RETAIN THE EMBANKMENT.

PHASE II NOTES:

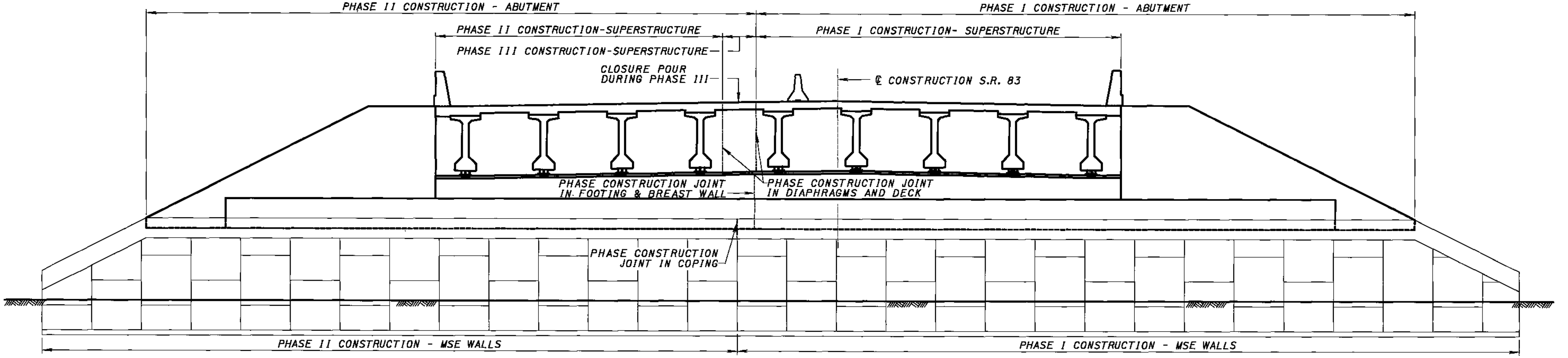
REMOVE THE EXISTING STRUCTURE AND CONSTRUCT THE ABUTMENT, SUPERSTRUCTURE AND MSE WALL FOR PHASE II CONSTRUCTION.

PHASE III NOTES:

CONSTRUCT DIAPHRAGM AND DECK FOR PHASE III CONSTRUCTION.

LEGEND

M.S.E. WALL = MECHANICALLY STABILIZED EARTH WALL


PHASE II CONSTRUCTION - ABUTMENT
PHASE I CONSTRUCTION - ABUTMENT
PHASE II CONSTRUCTION-SUPERSTRUCTURE
PHASE I CONSTRUCTION- SUPERSTRUCTURE
PHASE III CONSTRUCTION-SUPERSTRUCTURE
CLOSURE POUR DURING PHASE III
℄ CONSTRUCTION S.R. 83
PHASE CONSTRUCTION JOINT IN FOOTING & BREAST WALL
PHASE CONSTRUCTION JOINT IN DIAPHRAGMS AND DECK
PHASE CONSTRUCTION JOINT IN COPING
PHASE II CONSTRUCTION - MSE WALLS
PHASE I CONSTRUCTION - MSE WALLS

PHASE II

PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

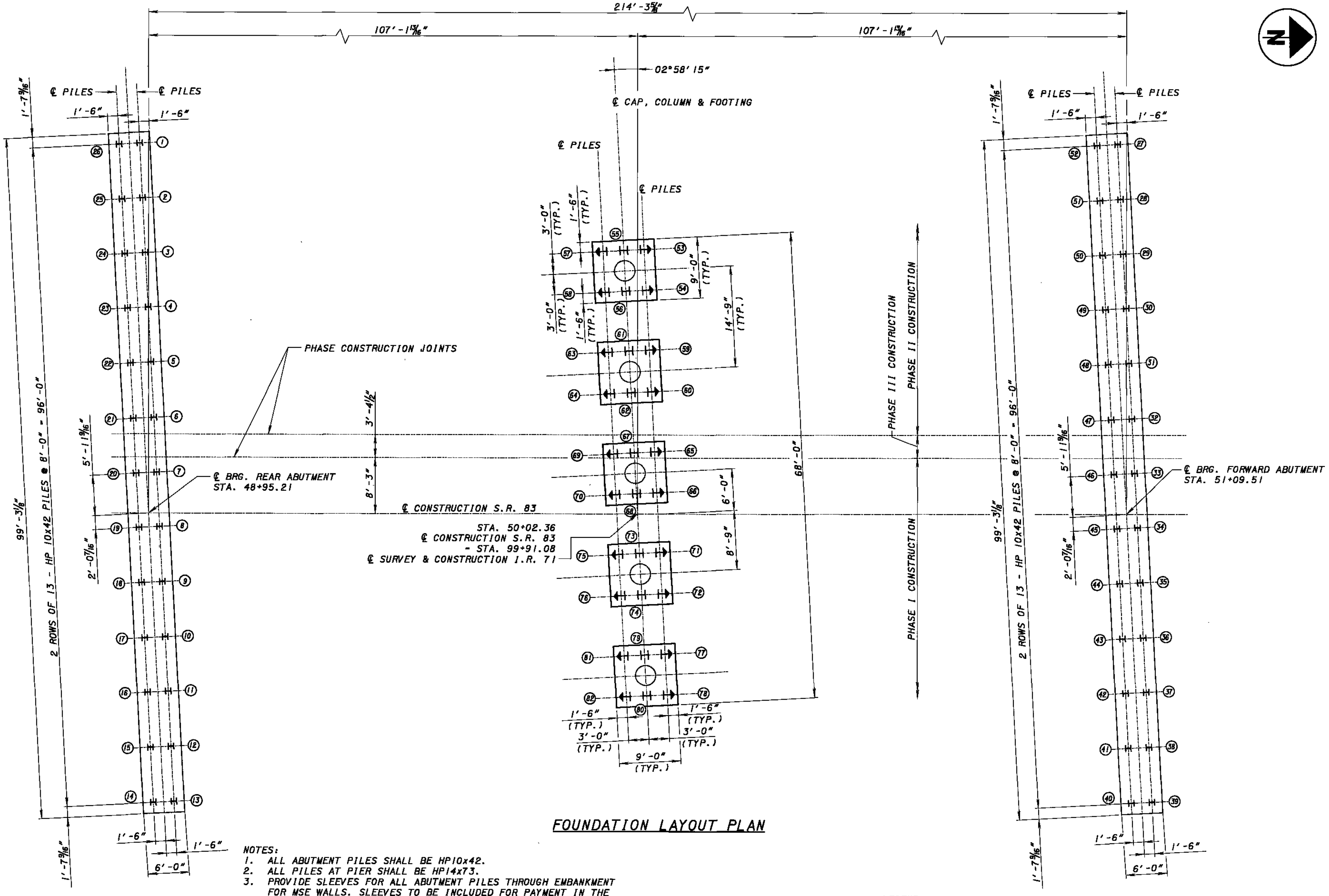
DESIGNED	DRAWN	REVIEWED	DATE
GFS	KVM	RWB	04-2003
CHECKED	REVISED	STRUCTURE FILE NUMBER	
GKL		5205115	

PHASE CONSTRUCTION DETAILS AT ABUTMENTS
BRIDGE NO. MED-83-0053
OVER I-71

WAY/MED-71-7.04

6/25

DATE: 10/20/2003 11:06:55 AM
FILENAME: i:\drawing\05\0545\5308\Detail Design\06PhaseConstAbuts.dgn



FOUNDATION LAYOUT PLAN

NOTES:
1. ALL ABUTMENT PILES SHALL BE HP10x42.
2. ALL PILES AT PIER SHALL BE HP14x73.
3. PROVIDE SLEEVES FOR ALL ABUTMENT PILES THROUGH EMBANKMENT FOR MSE WALLS. SLEEVES TO BE INCLUDED FOR PAYMENT IN THE COST OF MSE WALLS.

LEGEND

④ INDICATES PILE NUMBER

⟻ INDICATES DIRECTION OF BATTER (1:4)

PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

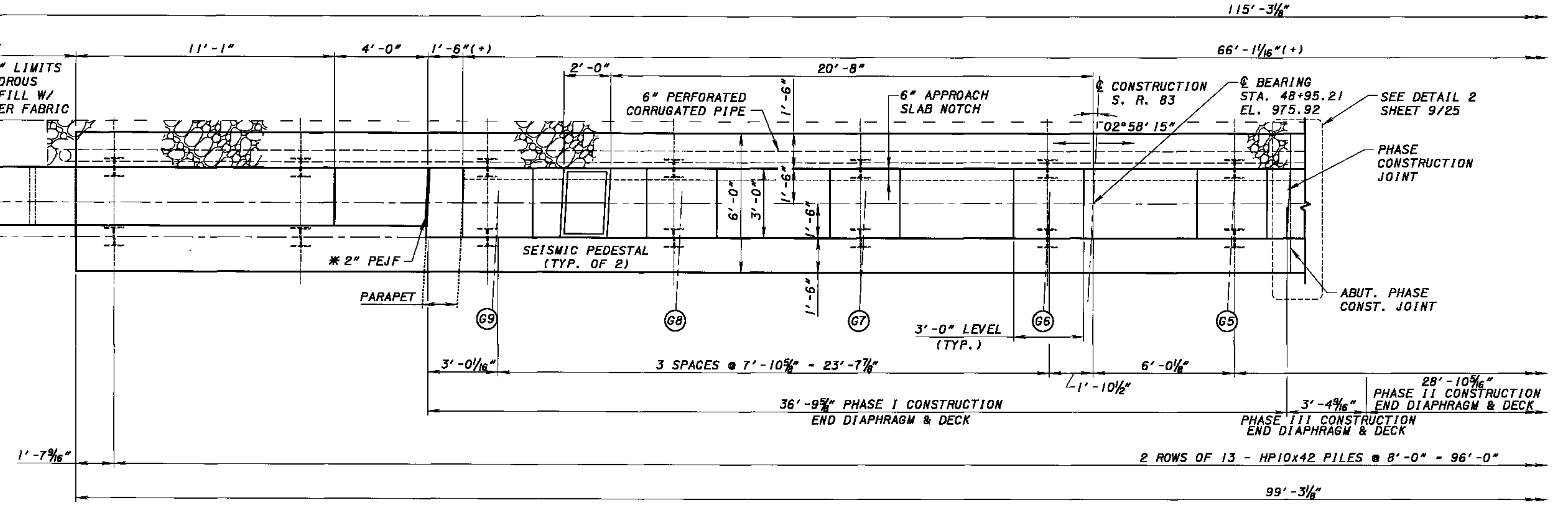
DESIGNED	DRAWN	REVIEWED	DATE
KVM	KVM	RWB	04-2003
CHECKED	REVISED	STRUCTURE FILE NUMBER	
GKL		5205115	

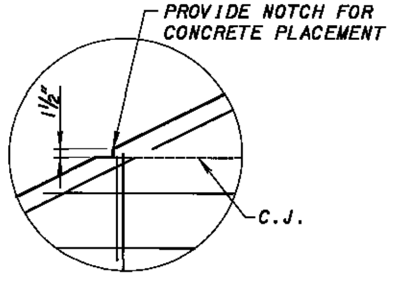
FOUNDATION LAYOUT PLAN
BRIDGE NO. MED-83-0053
OVER I-71

WAY/MED-71-7.04

7/25

595/785





DETAIL 1

✱ PAYMENT FOR THIS ITEM SHALL BE INCLUDED IN ITEM 511, CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING.

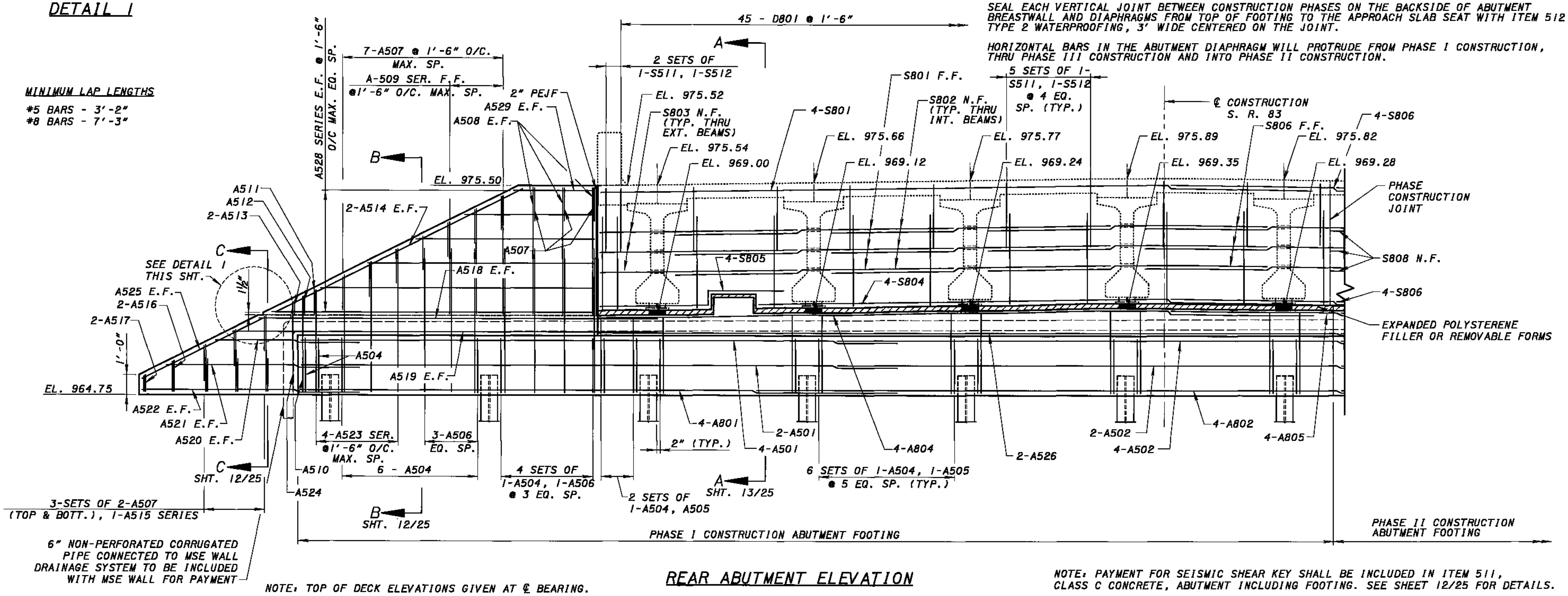
REAR ABUTMENT PLAN

PHASED CONSTRUCTION NOTES:

PLACE ABUTMENT DIAPHRAGM CONCRETE ENCASING PRESTRESSED I-BEAM MEMBERS AT THE SAME TIME AS THE DECK CONCRETE OF AN INDIVIDUAL CONSTRUCTION PHASE TO ALLOW FOR EXPECTED DEAD LOAD ROTATION AT THE ABUTMENTS.

SEAL EACH VERTICAL JOINT BETWEEN CONSTRUCTION PHASES ON THE BACKSIDE OF ABUTMENT BREASTWALL AND DIAPHRAGMS FROM TOP OF FOOTING TO THE APPROACH SLAB SEAT WITH ITEM 512, TYPE 2 WATERPROOFING, 3' WIDE CENTERED ON THE JOINT.

HORIZONTAL BARS IN THE ABUTMENT DIAPHRAGM WILL PROTRUDE FROM PHASE I CONSTRUCTION, THRU PHASE III CONSTRUCTION AND INTO PHASE II CONSTRUCTION.


45 - D801 @ 1'-6"
A
2 SETS OF 1-S511, 1-S512
A528 SERIES E.F. @ 1'-6" O/C MAX. EQ. SP.
7-A507 @ 1'-6" O/C. MAX. SP.
A-509 SER. F.F. @1'-6" O/C. MAX. SP.
2" PEJF
A529 E.F.
A508 E.F.
B
EL. 975.50
EL. 975.52
S803 N.F. (TYP. THRU EXT. BEAMS)
EL. 975.54
EL. 969.00
4-S801
S801 F.F.
EL. 975.66
EL. 969.12
S802 N.F. (TYP. THRU INT. BEAMS)
5 SETS OF 1-S511, 1-S512 @ 4 EQ. SP. (TYP.)
EL. 975.77
EL. 969.24
EL. 975.89
EL. 969.35
℄ CONSTRUCTION S. R. 83
S806 F.F.
EL. 975.82
EL. 969.28
4-S806
PHASE CONSTRUCTION JOINT
S808 N.F.
4-S806
EXPANDED POLYSTERENE FILLER OR REMOVABLE FORMS
A511
A512
2-A513
2-A514 E.F.
A507
4-S805
4-S804
A518 E.F.
C
SEE DETAIL 1 THIS SHT.
1 1/2"
A525 E.F.
2-A516
2-A517
1'-0"
EL. 964.75
A504
A519 E.F.
A522 E.F.
A521 E.F.
A520 E.F.
C SHT. 12/25
A510
A524
4-A523 SER. @1'-6" O/C. MAX. SP.
3-A506 EQ. SP.
6 - A504
4 SETS OF 1-A504, 1-A506 @ 3 EQ. SP.
2 SETS OF 1-A504, A505
A SHT. 13/25
B SHT. 12/25
2" (TYP.)
4-A801
2-A501
4-A501
4-A804
6 SETS OF 1-A504, 1-A505 @ 5 EQ. SP. (TYP.)
2-A526
2-A502
4-A502
4-A802
4-A805
3-SETS OF 2-A507 (TOP & BOTT.), 1-A515 SERIES
6" NON-PERFORATED CORRUGATED PIPE CONNECTED TO MSE WALL DRAINAGE SYSTEM TO BE INCLUDED WITH MSE WALL FOR PAYMENT
PHASE I CONSTRUCTION ABUTMENT FOOTING
PHASE II CONSTRUCTION ABUTMENT FOOTING

MINIMUM LAP LENGTHS

#5 BARS - 3'-2"
#8 BARS - 7'-3"

REAR ABUTMENT ELEVATION

NOTE: TOP OF DECK ELEVATIONS GIVEN AT ℄ BEARING.

NOTE: PAYMENT FOR SEISMIC SHEAR KEY SHALL BE INCLUDED IN ITEM 511, CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING. SEE SHEET 12/25 FOR DETAILS.

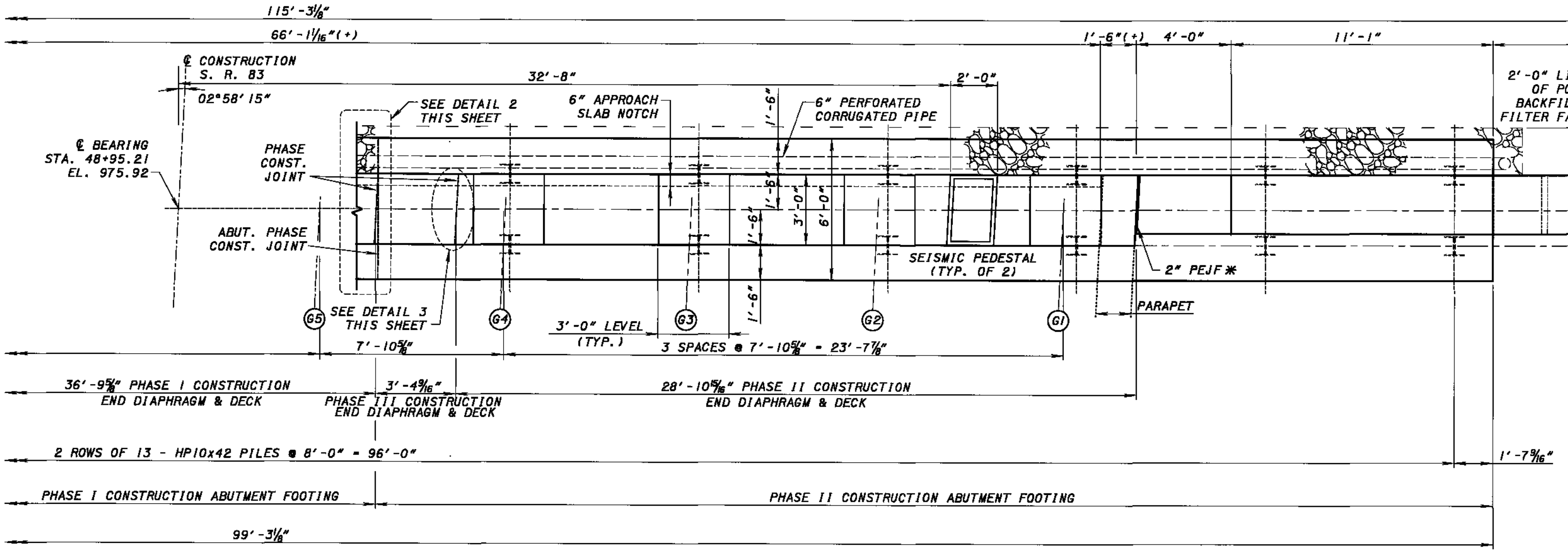
DATE: 10/17/2003 05:40:25 PM
FILENAME: ...

PREPARED BY ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
WJS	KVM	RWB	04-2003
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MJR		5205115	

REAR ABUTMENT PLAN & ELEVATION - I
BRIDGE NO. MED-83-0053
OVER I-71

WAY/MED-71-7.04


115'-3 1/8"
66'-1 1/16"(+)
1'-6"(+)
4'-0"
11'-1"
8'-0"
℄ CONSTRUCTION S. R. 83
02°58' 15"
32'-8"
2'-0"
2'-0" LIMITS OF POROUS BACKFILL W/ FILTER FABRIC
℄ BEARING STA. 48+95.21 EL. 975.92
SEE DETAIL 2 THIS SHEET
6" APPROACH SLAB NOTCH
6" PERFORATED CORRUGATED PIPE
PHASE CONST. JOINT
1'-6"
℄ PILES
℄ BRG.
℄ PILES
2'-6"
6"
1'-6"
1'-6"
3'-0"
6'-0"
ABUT. PHASE CONST. JOINT
SEISMIC PEDESTAL (TYP. OF 2)
2" PEJF ✱
G5
SEE DETAIL 3 THIS SHEET
G4
3'-0" LEVEL (TYP.)
G3
G2
G1
PARAPET
7'-10 5/8"
3 SPACES @ 7'-10 5/8" = 23'-7 7/8"
36'-9 5/8" PHASE I CONSTRUCTION END DIAPHRAGM & DECK
3'-4 9/16"
PHASE III CONSTRUCTION END DIAPHRAGM & DECK
28'-10 15/16" PHASE II CONSTRUCTION END DIAPHRAGM & DECK
2 ROWS OF 13 - HP10x42 PILES @ 8'-0" = 96'-0"
1'-7 9/16"
PHASE I CONSTRUCTION ABUTMENT FOOTING
PHASE II CONSTRUCTION ABUTMENT FOOTING
99'-3 1/8"
N

✱ PAYMENT FOR THIS ITEM SHALL BE INCLUDED IN ITEM 511, CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING.

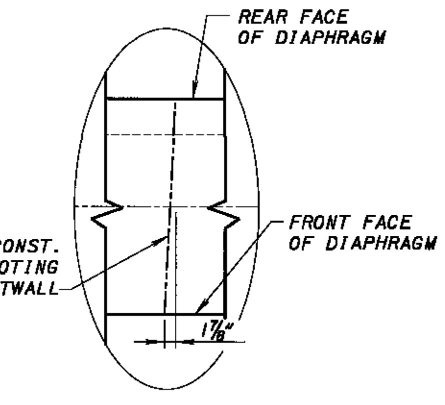
REAR ABUTMENT PLAN

MINIMUM LAP LENGTHS

#5 BARS - 3'-2"
#8 BARS - 7'-3"

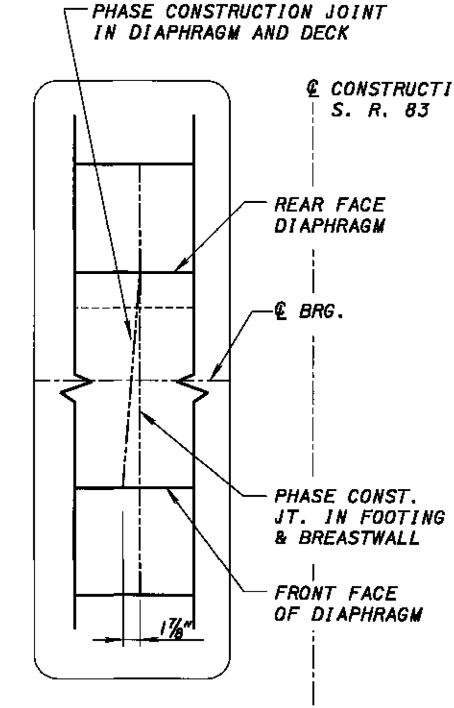
PHASED CONSTRUCTION NOTES:

SEE NOTES, SHEET 8/25



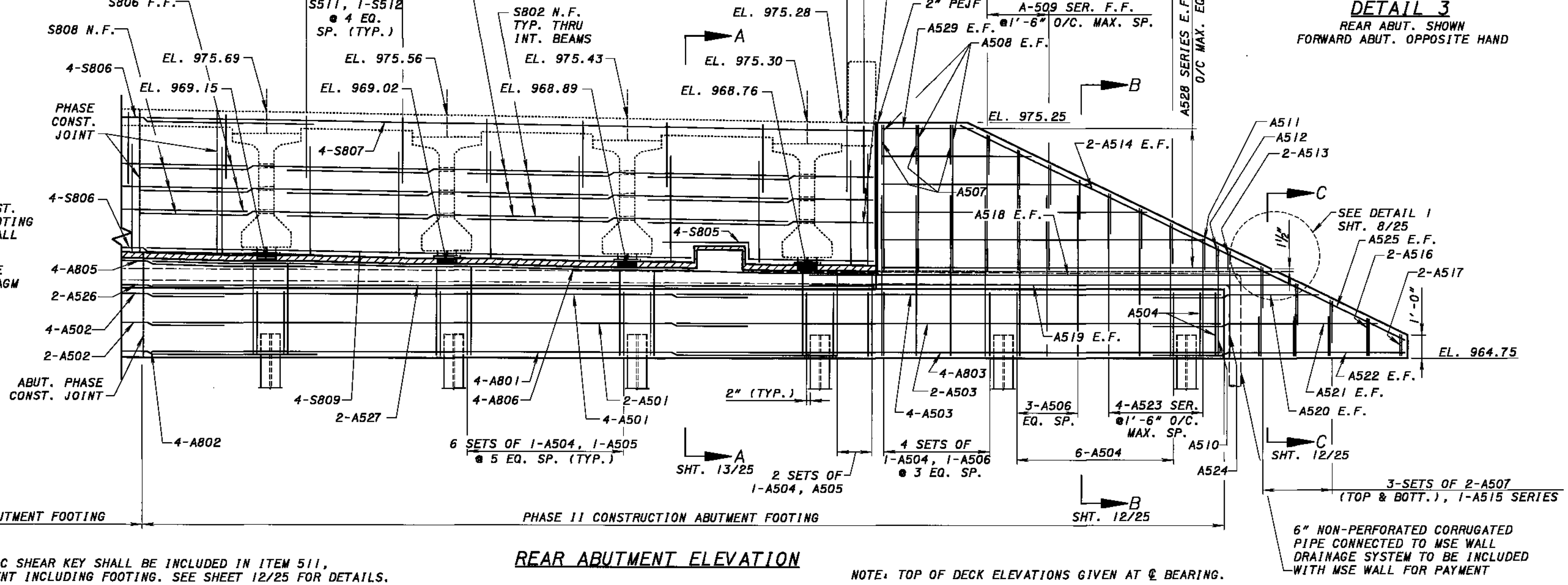
DETAIL 3

REAR ABUT. SHOWN
FORWARD ABUT. OPPOSITE HAND


PHASE CONSTRUCTION JOINT IN DIAPHRAGM AND DECK
℄ CONSTRUCTION S. R. 83
REAR FACE DIAPHRAGM
℄ BRG.
PHASE CONST. JT. IN FOOTING & BREASTWALL
FRONT FACE OF DIAPHRAGM
1 7/8"

DETAIL 2

REAR ABUT. SHOWN
FORWARD ABUT. OPPOSITE HAND



REAR ABUTMENT ELEVATION

NOTE: PAYMENT FOR SEISMIC SHEAR KEY SHALL BE INCLUDED IN ITEM 511, CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING. SEE SHEET 12/25 FOR DETAILS.

NOTE: TOP OF DECK ELEVATIONS GIVEN AT ℄ BEARING.

ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
WJS	KVM	RWB	04-2003
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MUR		520515	

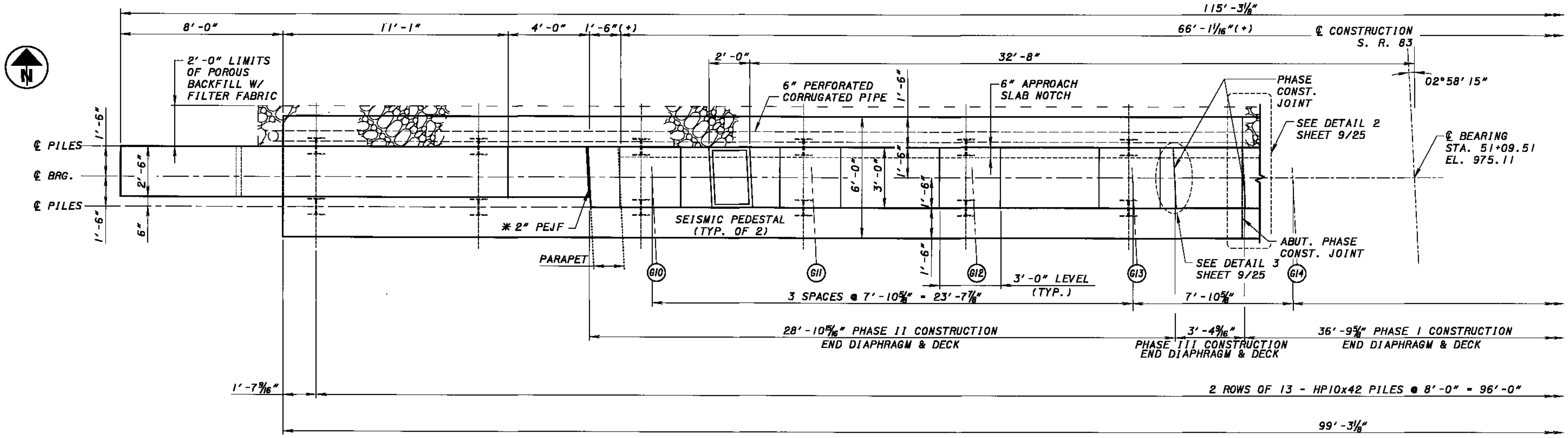
REAR ABUTMENT PLAN & ELEVATION - II
BRIDGE NO. MED-83-0053
OVER I-71

WAY/MED-71-7.04

9/25

597
785

DATE: 10/17/2003 08:40:25 PM


115'-3⅛"
8'-0"
11'-1"
4'-0"
1'-6"(+)
66'-1¹⁄₁₆"(+)
℄ CONSTRUCTION S. R. 83
N
2'-0" LIMITS OF POROUS BACKFILL W/ FILTER FABRIC
2'-0"
32'-8"
6" PERFORATED CORRUGATED PIPE
6" APPROACH SLAB NOTCH
PHASE CONST. JOINT
02°58' 15"
SEE DETAIL 2 SHEET 9/25
℄ BEARING STA. 51+09.51 EL. 975.11
℄ PILES
℄ BRG.
℄ PILES
1'-6"
2'-6"
6"
1'-6"
6'-0"
3'-0"
1'-6"
1'-6"
1'-6"
1'-6"
✻ 2" PEJF
SEISMIC PEDESTAL (TYP. OF 2)
ABUT. PHASE CONST. JOINT
PARAPET
G10
G11
G12
G13
G14
SEE DETAIL 3 SHEET 9/25
3'-0" LEVEL (TYP.)
3 SPACES @ 7'-10⅝" = 23'-7⅞"
7'-10⅝"
28'-10⁹⁄₁₆" PHASE II CONSTRUCTION END DIAPHRAGM & DECK
3'-4⁹⁄₁₆"
PHASE III CONSTRUCTION END DIAPHRAGM & DECK
36'-9⅝" PHASE I CONSTRUCTION END DIAPHRAGM & DECK
1'-7⁹⁄₁₆"
2 ROWS OF 13 - HP10x42 PILES @ 8'-0" = 96'-0"
99'-3⅛"

FORWARD ABUTMENT PLAN

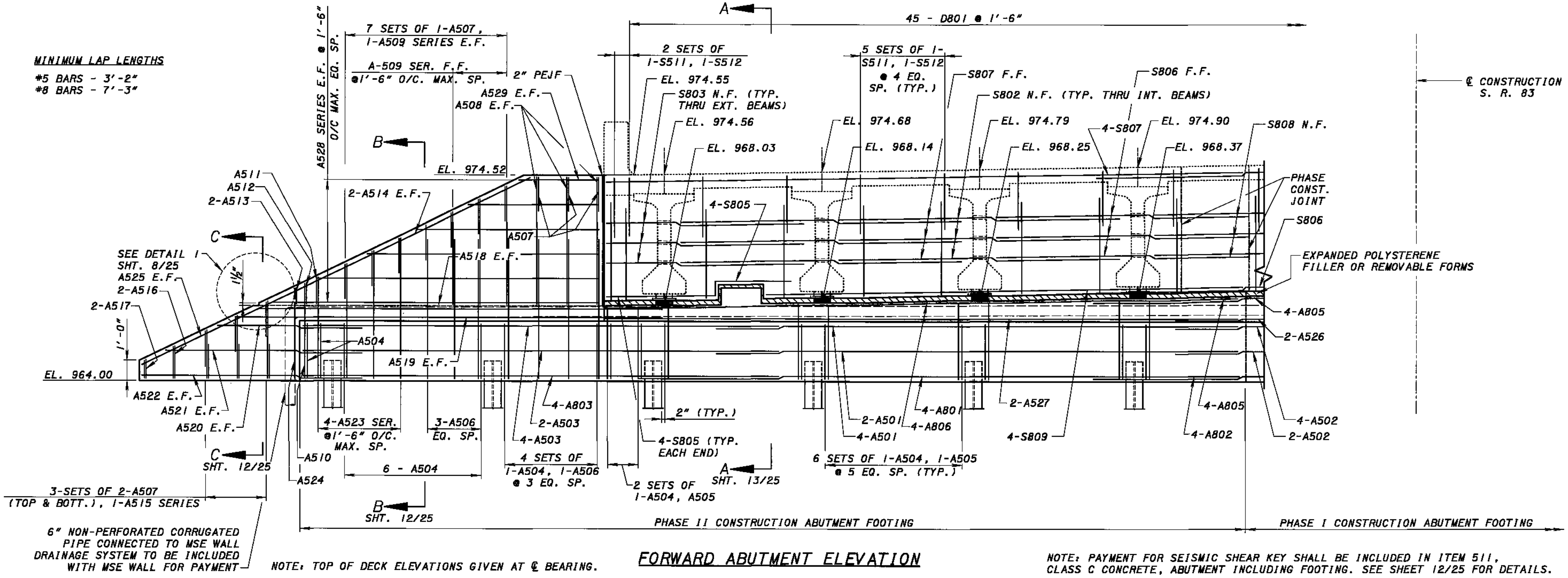
✻ PAYMENT FOR THIS ITEM SHALL BE INCLUDED IN ITEM 511, CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING.

PHASED CONSTRUCTION NOTES:

SEE NOTES SHEET 8/25

MINIMUM LAP LENGTHS

#5 BARS - 3'-2"
#8 BARS - 7'-3"


A
45 - D801 @ 1'-6"
7 SETS OF 1-A507, 1-A509 SERIES E.F.
A528 SERIES E.F. @ 1'-6" O/C MAX. EQ. SP.
A-509 SER. F.F. @1'-6" O/C. MAX. SP.
2" PEJF
A529 E.F.
A508 E.F.
2 SETS OF 1-S511, 1-S512
EL. 974.55
S803 N.F. (TYP. THRU EXT. BEAMS)
EL. 974.56
EL. 968.03
5 SETS OF 1-S511, 1-S512 @ 4 EQ. SP. (TYP.)
EL. 974.68
EL. 968.14
S807 F.F.
S802 N.F. (TYP. THRU INT. BEAMS)
EL. 974.79
EL. 968.25
S806 F.F.
4-S807
EL. 974.90
EL. 968.37
S808 N.F.
℄ CONSTRUCTION S. R. 83
B
EL. 974.52
A511
A512
2-A513
2-A514 E.F.
4-S805
PHASE CONST. JOINT
S806
A507
A518 E.F.
C
SEE DETAIL 1 SHT. 8/25
A525 E.F.
2-A516
2-A517
1½"
EXPANDED POLYSTERENE FILLER OR REMOVABLE FORMS
4-A805
2-A526
1'-0"
A504
A519 E.F.
EL. 964.00
A522 E.F.
A521 E.F.
A520 E.F.
C SHT. 12/25
4-A523 SER. @1'-6" O/C. MAX. SP.
3-A506 EQ. SP.
4-A803
2-A503
4-A503
4 SETS OF 1-A504, 1-A506 @ 3 EQ. SP.
2" (TYP.)
4-S805 (TYP. EACH END)
A SHT. 13/25
2 SETS OF 1-A504, A505
2-A501
4-A501
4-A801
4-A806
6 SETS OF 1-A504, 1-A505 @ 5 EQ. SP. (TYP.)
2-A527
4-S809
4-A805
4-A802
4-A502
2-A502
A510
A524
6 - A504
B SHT. 12/25
3-SETS OF 2-A507 (TOP & BOTT.), 1-A515 SERIES
PHASE II CONSTRUCTION ABUTMENT FOOTING
PHASE I CONSTRUCTION ABUTMENT FOOTING
6" NON-PERFORATED CORRUGATED PIPE CONNECTED TO MSE WALL DRAINAGE SYSTEM TO BE INCLUDED WITH MSE WALL FOR PAYMENT

NOTE: TOP OF DECK ELEVATIONS GIVEN AT ℄ BEARING.

FORWARD ABUTMENT ELEVATION

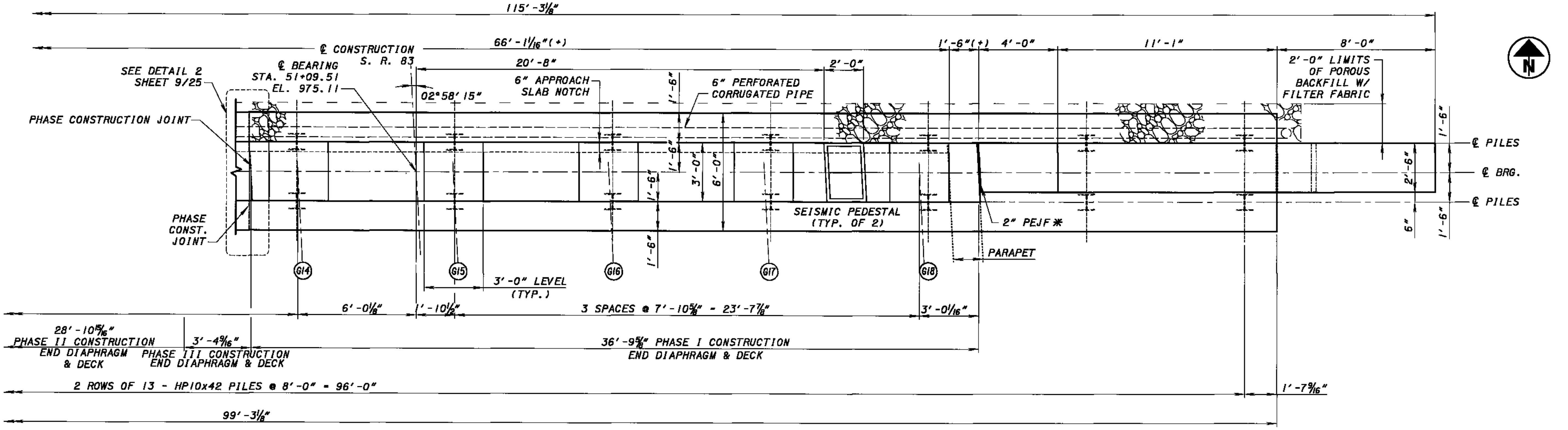
NOTE: PAYMENT FOR SEISMIC SHEAR KEY SHALL BE INCLUDED IN ITEM 511, CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING. SEE SHEET 12/25 FOR DETAILS.

ms consultants, inc.

DESIGNED	DRAWN	REVIEWED	DATE
WJS	KVM	RWB	04-2003
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MUR		5205115	

FORWARD ABUTMENT PLAN & ELEVATION - I
BRIDGE NO. MED-83-0053
OVER I-71

WAY/MED-71-7.04

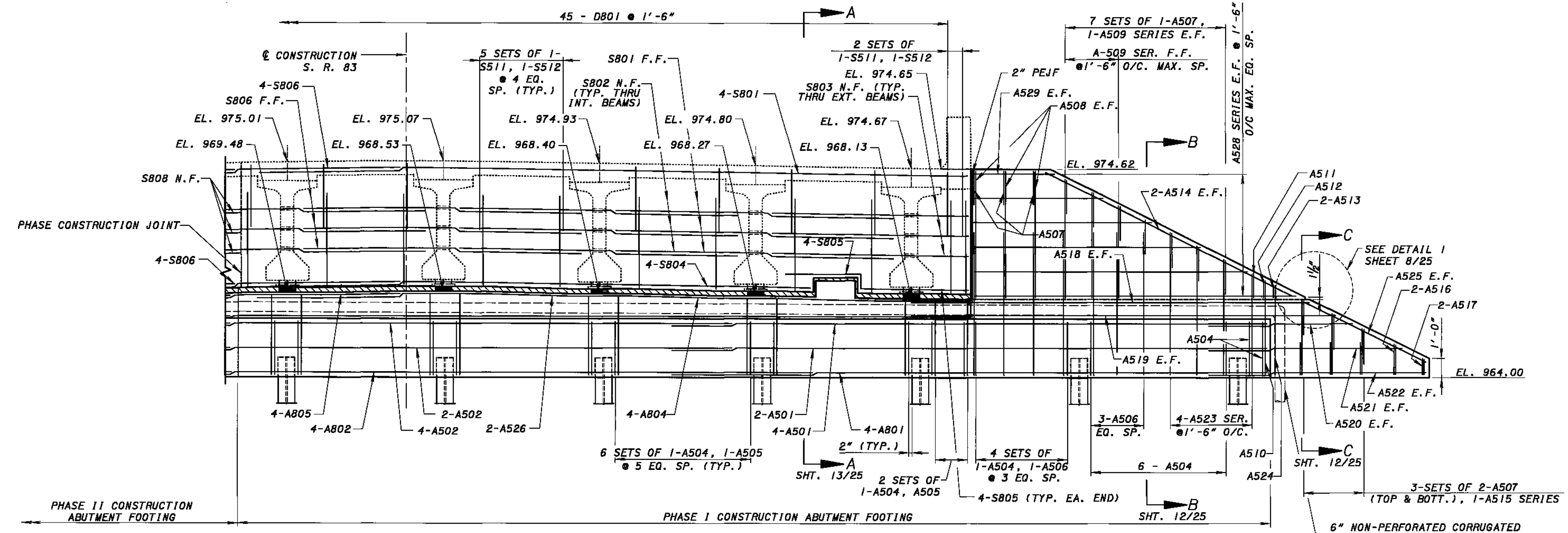

115'-3⅛"
66'-1¹⁄₁₆"(+)
℄ CONSTRUCTION S. R. 83
1'-6"(+) 4'-0"
11'-1"
8'-0"
SEE DETAIL 2 SHEET 9/25
℄ BEARING STA. 51+09.51 EL. 975.11
20'-8"
2'-0"
02°58'15"
6" APPROACH SLAB NOTCH
6" PERFORATED CORRUGATED PIPE
2'-0" LIMITS OF POROUS BACKFILL W/ FILTER FABRIC
PHASE CONSTRUCTION JOINT
℄ PILES
℄ BRG.
℄ PILES
PHASE CONST. JOINT
SEISMIC PEDESTAL (TYP. OF 2)
2" PEJF ✱
PARAPET
G14
G15
G16
G17
G18
3'-0" LEVEL (TYP.)
6'-0⅛"
1'-10½"
3 SPACES @ 7'-10⅝" = 23'-7⅞"
3'-0¹⁄₁₆"
28'-10⁹⁄₁₆"
PHASE II CONSTRUCTION END DIAPHRAGM & DECK
3'-4⁹⁄₁₆"
PHASE III CONSTRUCTION END DIAPHRAGM & DECK
36'-9⅝" PHASE I CONSTRUCTION END DIAPHRAGM & DECK
2 ROWS OF 13 - HP10x42 PILES @ 8'-0" = 96'-0"
1'-7⁹⁄₁₆"
99'-3⅛"
1'-6"
3'-0"
6'-0"
2'-6"
6"

PHASED CONSTRUCTION NOTES:
SEE NOTES SHEET 8/25

FORWARD ABUTMENT PLAN

✱ PAYMENT FOR THIS ITEM SHALL BE INCLUDED IN ITEM 511, CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING.

MINIMUM LAP LENGTHS
#5 BARS - 3'-2"
#8 BARS - 7'-3"



NOTE: PAYMENT FOR SEISMIC SHEAR KEY SHALL BE INCLUDED IN ITEM 511, CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING. SEE SHEET 12/25 FOR DETAILS.

FORWARD ABUTMENT ELEVATION

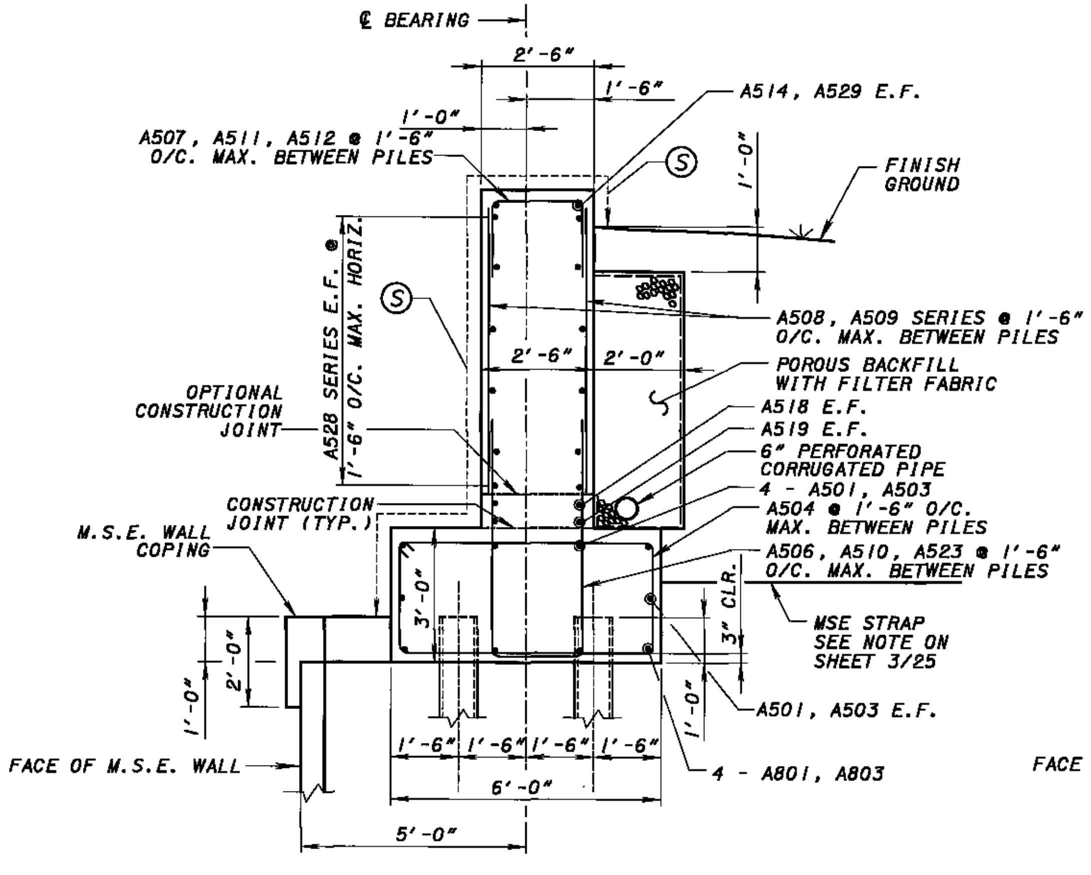
NOTE: TOP OF DECK ELEVATIONS GIVEN AT ℄ BEARING.

ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE	STRUCTURE FILE NUMBER
WJS	MUR	KVM		RWB	04-2003	5205115

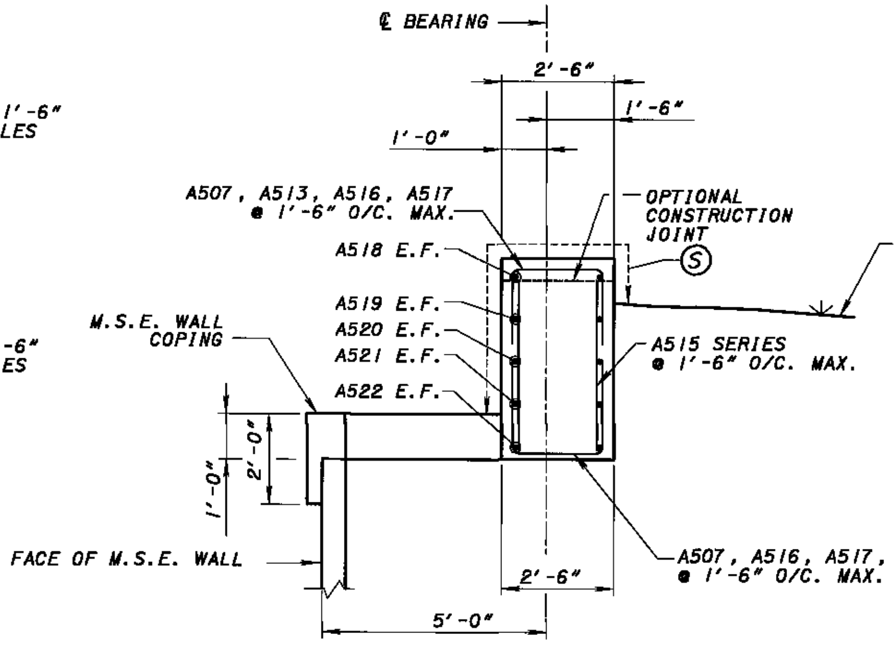
FORWARD ABUTMENT PLAN & ELEVATION - II
BRIDGE NO. MED-83-0053
OVER I-71

WAY/MED-71-7.04


℄ BEARING
2'-6"
1'-6"
1'-0"
A514, A529 E.F.
A507, A511, A512 @ 1'-6" O/C. MAX. BETWEEN PILES
Ⓢ
1'-0"
FINISH GROUND
A528 SERIES E.F. @ 1'-6" O/C. MAX. HORIZ.
Ⓢ
A508, A509 SERIES @ 1'-6" O/C. MAX. BETWEEN PILES
2'-6"
2'-0"
POROUS BACKFILL WITH FILTER FABRIC
OPTIONAL CONSTRUCTION JOINT
A518 E.F.
A519 E.F.
6" PERFORATED CORRUGATED PIPE
4 - A501, A503
CONSTRUCTION JOINT (TYP.)
A504 @ 1'-6" O/C. MAX. BETWEEN PILES
M.S.E. WALL COPING
A506, A510, A523 @ 1'-6" O/C. MAX. BETWEEN PILES
3'-0"
3" CLR.
MSE STRAP SEE NOTE ON SHEET 3/25
3" CLR.
2'-0"
1'-0"
1'-0"
A501, A503 E.F.
1'-6"
1'-6"
1'-6"
1'-6"
4 - A801, A803
FACE OF M.S.E. WALL
6'-0"
5'-0"

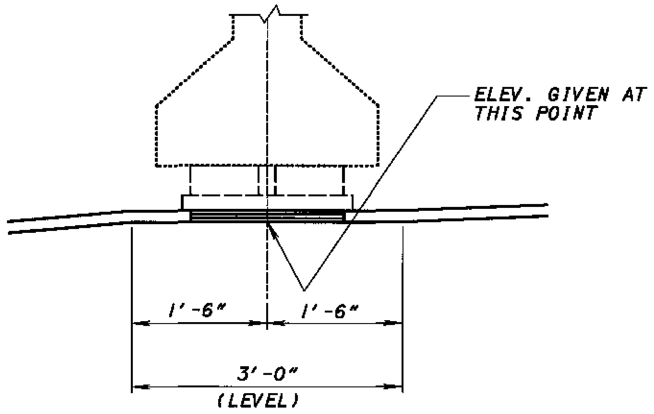
ABUTMENT SECTION B-B

Ⓢ DENOTES CONCRETE SURFACES TO BE SEALED WITH EPOXY-URETHANE.



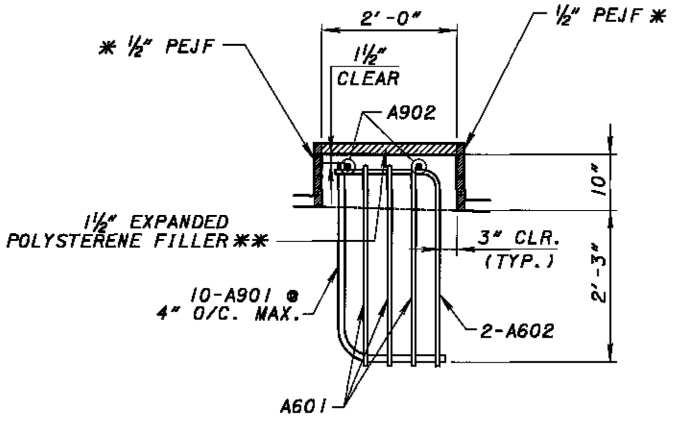
ABUTMENT SECTION C-C

Ⓢ DENOTES CONCRETE SURFACES TO BE SEALED WITH EPOXY-URETHANE.



BEAM SEAT DETAIL

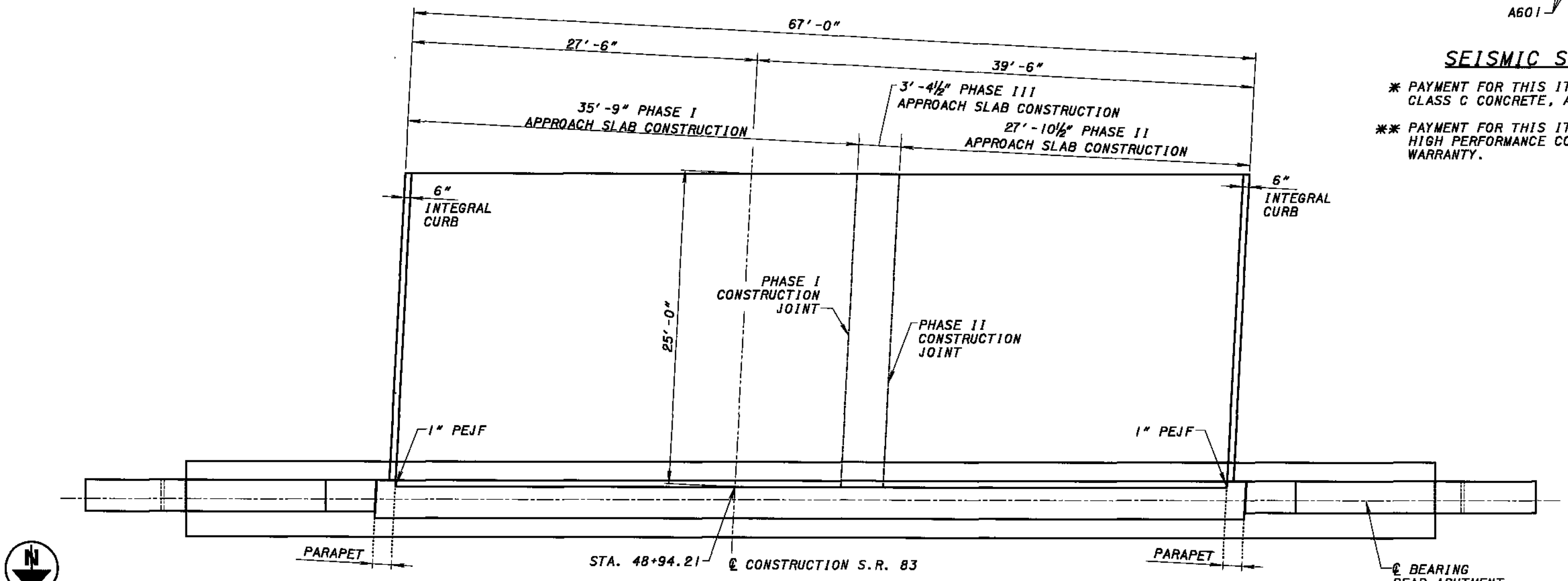
(INTERIOR GIRDER SHOWN)



SEISMIC SHEAR KEY DETAIL

✱ PAYMENT FOR THIS ITEM SHALL BE INCLUDED IN ITEM 511, CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING.

✱✱ PAYMENT FOR THIS ITEM SHALL BE INCLUDED IN ITEM 894, HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY.


67'-0"
27'-6"
39'-6"
35'-9" PHASE I APPROACH SLAB CONSTRUCTION
3'-4½" PHASE III APPROACH SLAB CONSTRUCTION
27'-10½" PHASE II APPROACH SLAB CONSTRUCTION
6" INTEGRAL CURB
6" INTEGRAL CURB
25'-0"
PHASE I CONSTRUCTION JOINT
PHASE II CONSTRUCTION JOINT
1" PEJF
1" PEJF
PARAPET
STA. 48+94.21
℄ CONSTRUCTION S.R. 83
PARAPET
℄ BEARING REAR ABUTMENT
N

APPROACH SLAB PHASE CONSTRUCTION

APPROACH SLAB @ REAR ABUTMENT
FORWARD ABUTMENT SIMILAR

PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
WJS	KVM	RWB	04-2003
CHECKED	**REVISED**	**STRUCTURE FILE NUMBER**	
MVR		5205115	

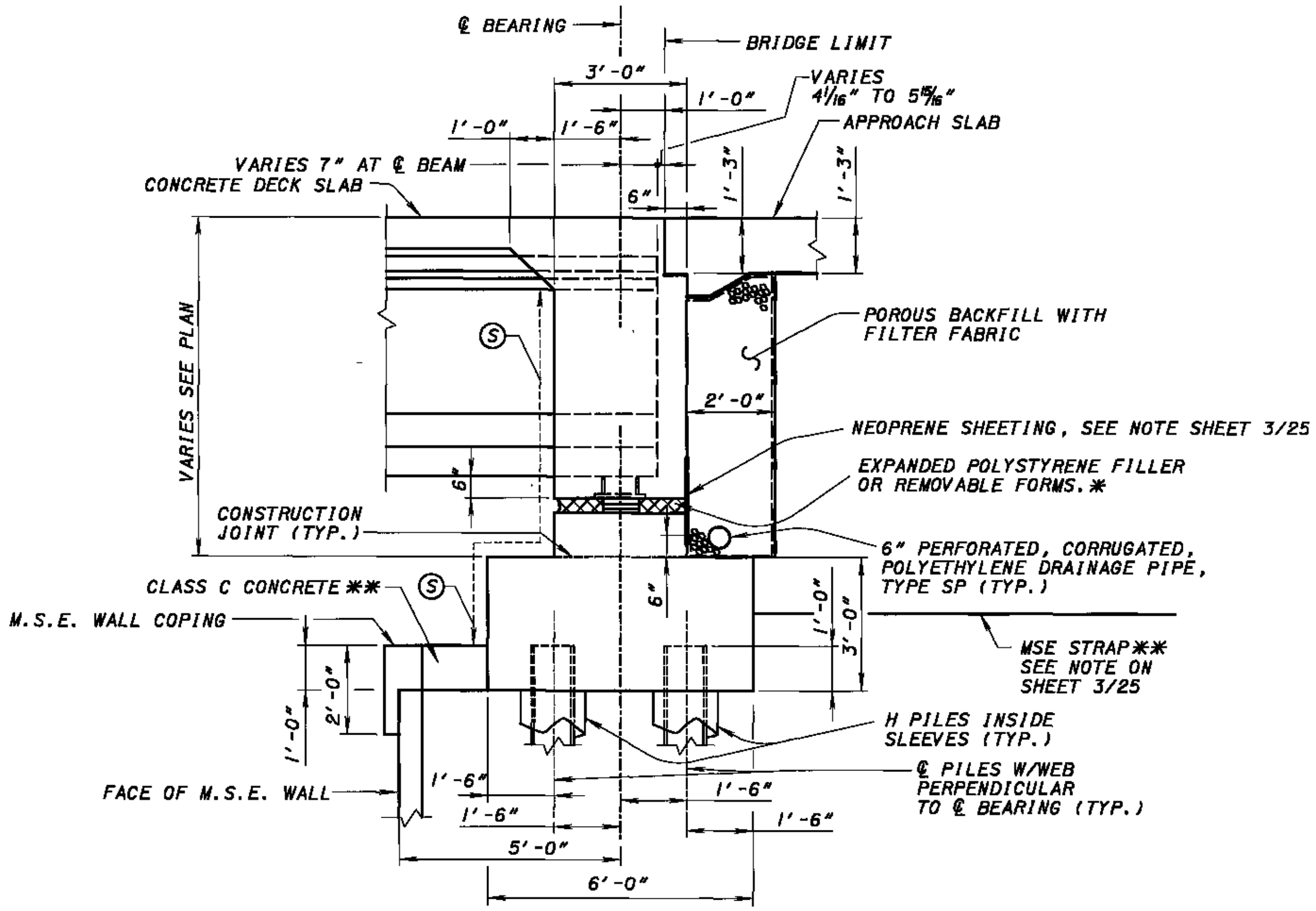
ABUTMENT DETAILS
BRIDGE NO. MED-83-0053
OVER I-71

WAY/MED-71-7.04

12/25

600/785

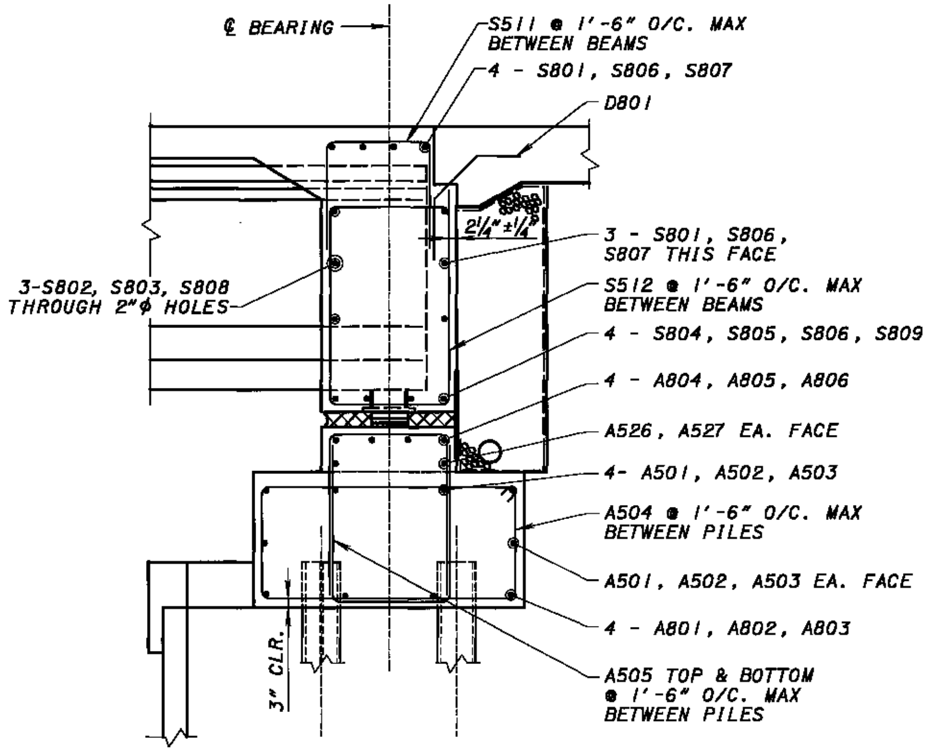
DATE: 10/17/2003 02:40:37 PM
FILENAME: h:\drawing\05\05419\308\detail design\2abutdetails.dgn


℄ BEARING
BRIDGE LIMIT
3'-0"
1'-0"
VARIES 4¹⁄₁₆" TO 5¹⁵⁄₁₆"
1'-0"
1'-6"
APPROACH SLAB
VARIES 7" AT ℄ BEAM
CONCRETE DECK SLAB
6"
1'-3"
1'-3"
VARIES SEE PLAN
S
POROUS BACKFILL WITH FILTER FABRIC
2'-0"
NEOPRENE SHEETING, SEE NOTE SHEET 3/25
EXPANDED POLYSTYRENE FILLER OR REMOVABLE FORMS.✱
6"
CONSTRUCTION JOINT (TYP.)
6" PERFORATED, CORRUGATED, POLYETHYLENE DRAINAGE PIPE, TYPE SP (TYP.)
CLASS C CONCRETE✱✱
S
M.S.E. WALL COPING
6"
1'-0"
3'-0"
MSE STRAP✱✱ SEE NOTE ON SHEET 3/25
2'-0"
1'-0"
H PILES INSIDE SLEEVES (TYP.)
℄ PILES W/WEB PERPENDICULAR TO ℄ BEARING (TYP.)
FACE OF M.S.E. WALL
1'-6"
1'-6"
1'-6"
1'-6"
5'-0"
6'-0"

ABUTMENT SECTION A-A (DIMENSIONS)

SEE DETAIL TO RIGHT (THIS SHEET), FOR REINFORCING

Ⓢ DENOTES CONCRETE SURFACES TO BE SEALED WITH EPOXY-URETHANE.


℄ BEARING
S511 @ 1'-6" O/C. MAX BETWEEN BEAMS
4 - S801, S806, S807
D801
2¼"±¼"
3 - S801, S806, S807 THIS FACE
3-S802, S803, S808 THROUGH 2"ϕ HOLES
S512 @ 1'-6" O/C. MAX BETWEEN BEAMS
4 - S804, S805, S806, S809
4 - A804, A805, A806
A526, A527 EA. FACE
4- A501, A502, A503
A504 @ 1'-6" O/C. MAX BETWEEN PILES
A501, A502, A503 EA. FACE
4 - A801, A802, A803
3" CLR.
A505 TOP & BOTTOM @ 1'-6" O/C. MAX BETWEEN PILES

ABUTMENT SECTION A-A (REINFORCING)

SEE DETAIL TO LEFT (THIS SHEET), FOR DIMENSIONS

ITEM 518 POROUS BACKFILL WITH FILTER FABRIC:

POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.

PHASED CONSTRUCTION NOTES:

SEE NOTES SHEET 8/25

✱ PAYMENT FOR THIS ITEM SHALL BE INCLUDED IN ITEM 894, HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY.

✱✱ PAYMENT FOR THIS ITEM SHALL BE INCLUDED IN ITEM 610, REINFORCED EARTH WALL.

NOTES:
1. FOR ADDITIONAL DETAILS, REFER TO STANDARD DWG. SICD-1-96.
2. USE CLASS HP CONCRETE FOR ABUTMENT DIAPHRAGMS.

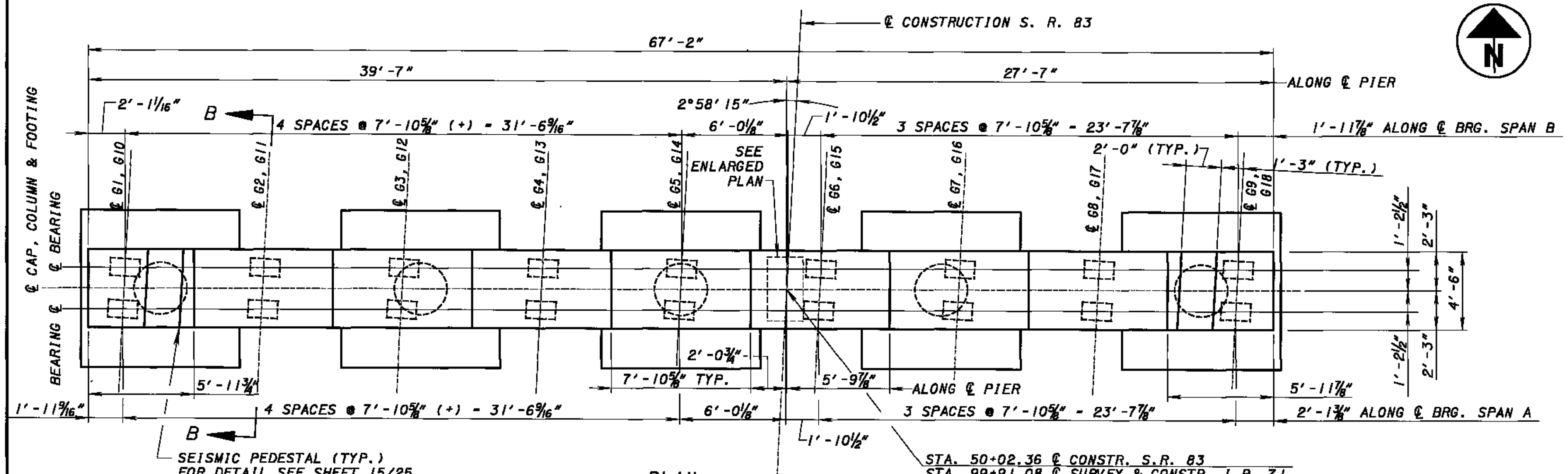
PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
WJS	KVM	RWB	04-2003
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MUR		5205115	

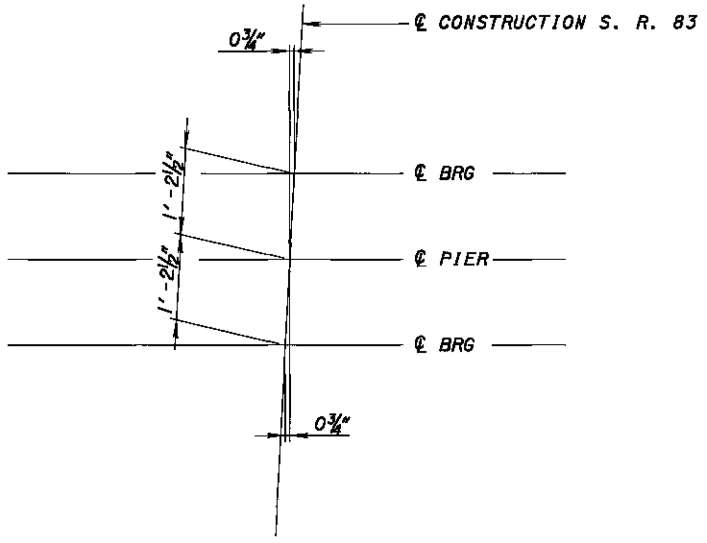
ABUTMENT DETAILS
BRIDGE NO. MED-83-0053
OVER I-71

WAY/MED-71-7.04

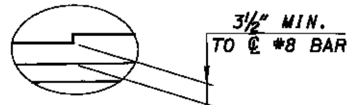
DATE: 10/17/2003 02:40:27 PM
FILENAME: f:\drawing\05\0541\9\5305\detail design\13abutdetail.dgn



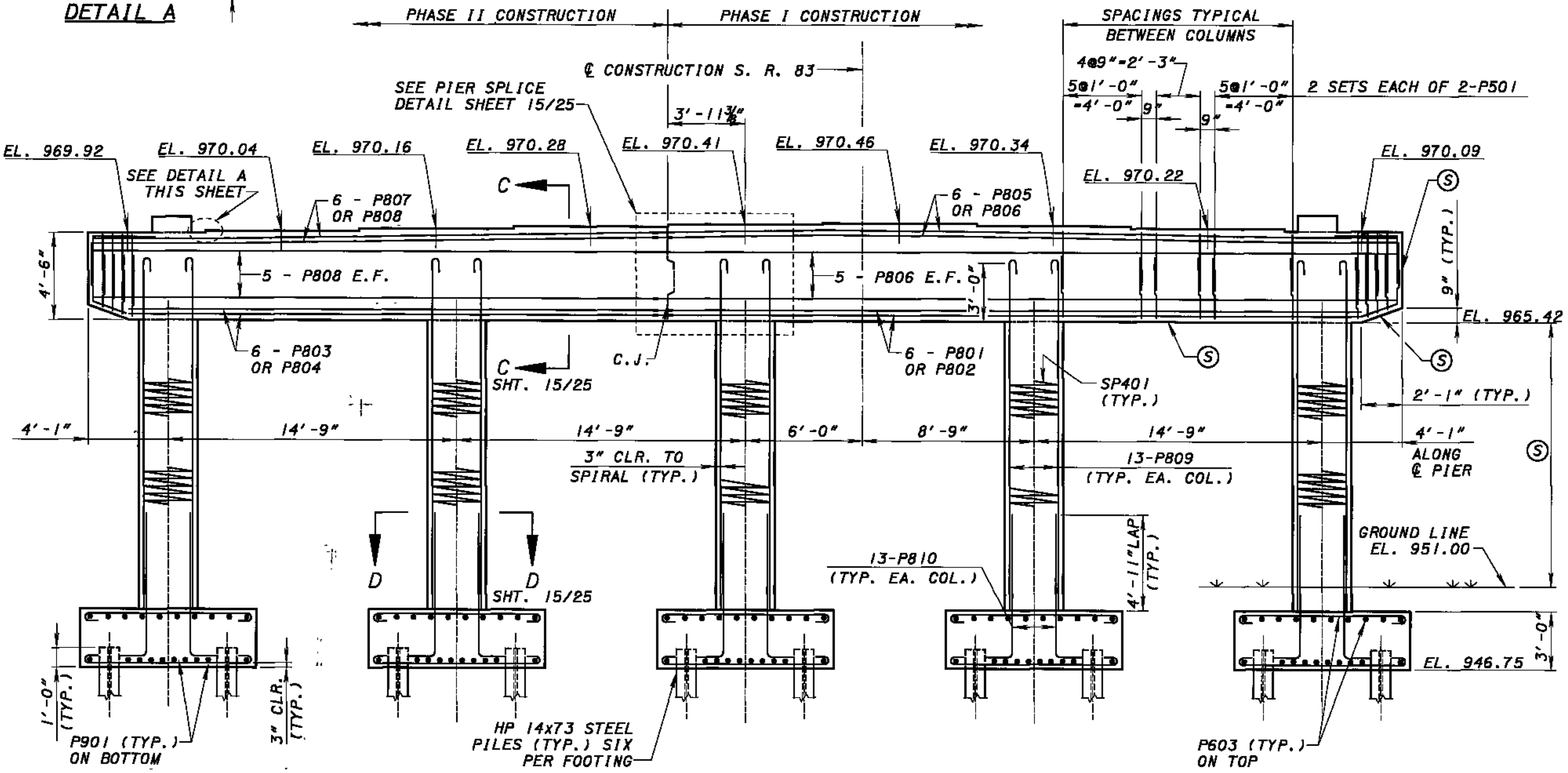
PLAN



ENLARGED PLAN

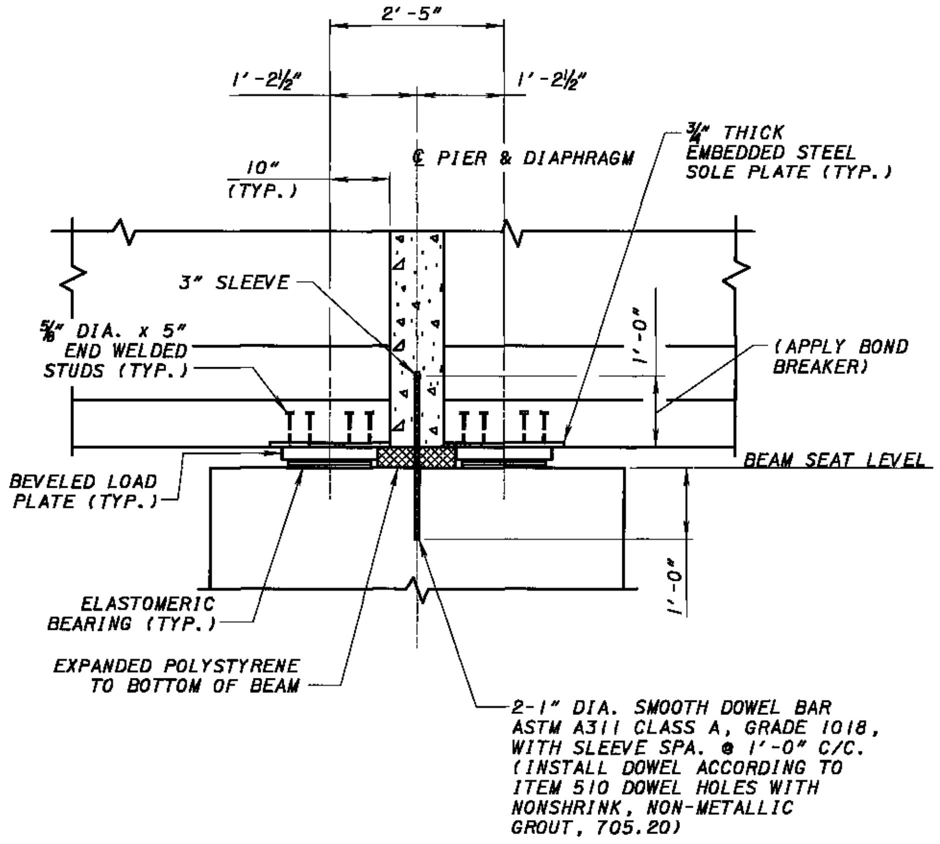


DETAIL A



ELEVATION

Ⓢ DENOTES CONCRETE SURFACES TO BE SEALED WITH EPOXY-URETHANE.


2'-5"
1'-2 1/2"
1'-2 1/2"
10" (TYP.)
℄ PIER & DIAPHRAGM
3/4" THICK EMBEDDED STEEL SOLE PLATE (TYP.)
3" SLEEVE
5/8" DIA. x 5" END WELDED STUDS (TYP.)
1'-0"
(APPLY BOND BREAKER)
BEVELED LOAD PLATE (TYP.)
BEAM SEAT LEVEL
1'-0"
ELASTOMERIC BEARING (TYP.)
EXPANDED POLYSTYRENE TO BOTTOM OF BEAM
2-1" DIA. SMOOTH DOWEL BAR ASTM A311 CLASS A, GRADE 1018, WITH SLEEVE SPA. @ 1'-0" C/C. (INSTALL DOWEL ACCORDING TO ITEM 510 DOWEL HOLES WITH NONSHRINK, NON-METALLIC GROUT, 705.20)

SECTION B-B

ACCURATELY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF ANCHOR BAR HOLES.

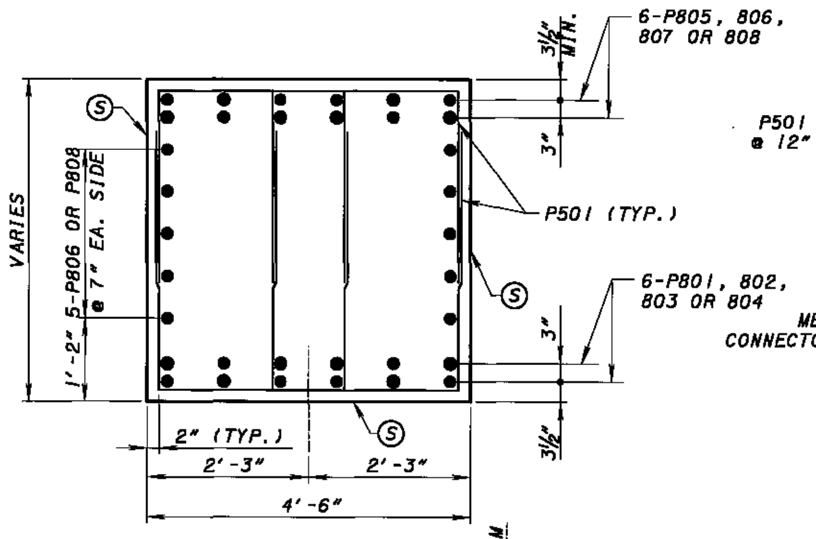
PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
RWB	KVM	MUR	04-2003
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WJS		5205115	

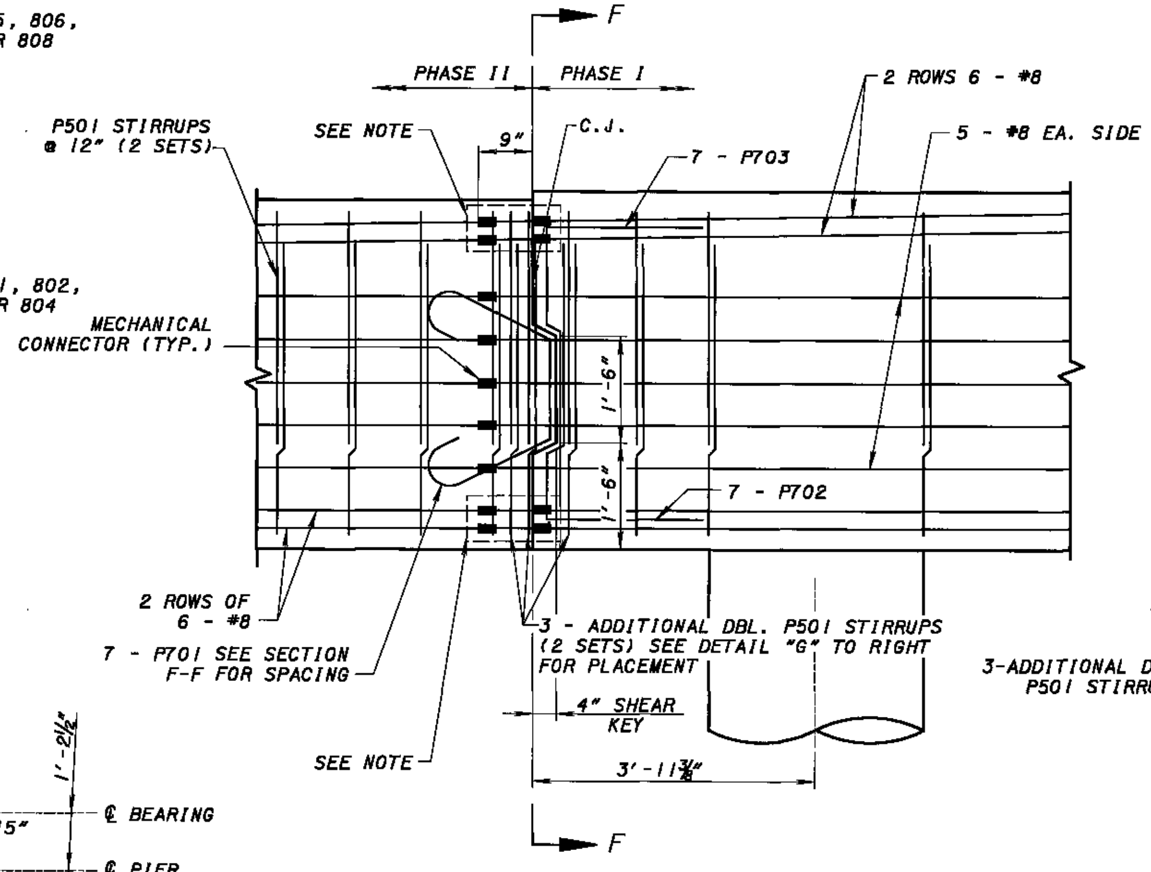
PIER PLAN & ELEVATION
BRIDGE NO. MED-83-0053
OVER I-71

WAY/MED-71-7.04

DATE: 10/12/2004 11:04:20 AM
FILENAME: t:\drawing\08\0645\308\detail design\4pier



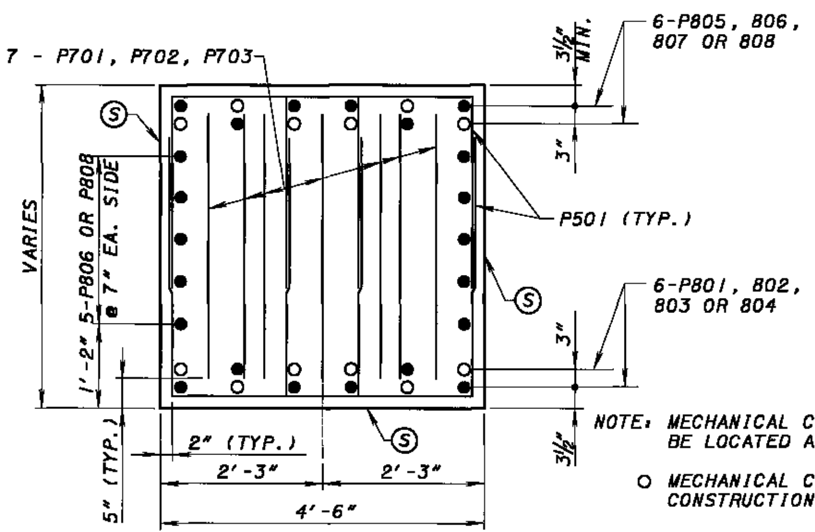
SECTION C-C



F
PHASE II
PHASE I
SEE NOTE
9"
C.J.
P501 STIRRUPS @ 12" (2 SETS)
7 - P703
2 ROWS 6 - #8
5 - #8 EA. SIDE
MECHANICAL CONNECTOR (TYP.)
1'-6"
1'-6"
7 - P702
2 ROWS OF 6 - #8
7 - P701 SEE SECTION F-F FOR SPACING
3 - ADDITIONAL DBL. P501 STIRRUPS (2 SETS) SEE DETAIL "G" TO RIGHT FOR PLACEMENT
4" SHEAR KEY
SEE NOTE
3'-11⅞"
F

NOTE: MECHANICAL SPLICES ALTERNATE
SEE SECTION F-F.

PIER SPLICE DETAIL

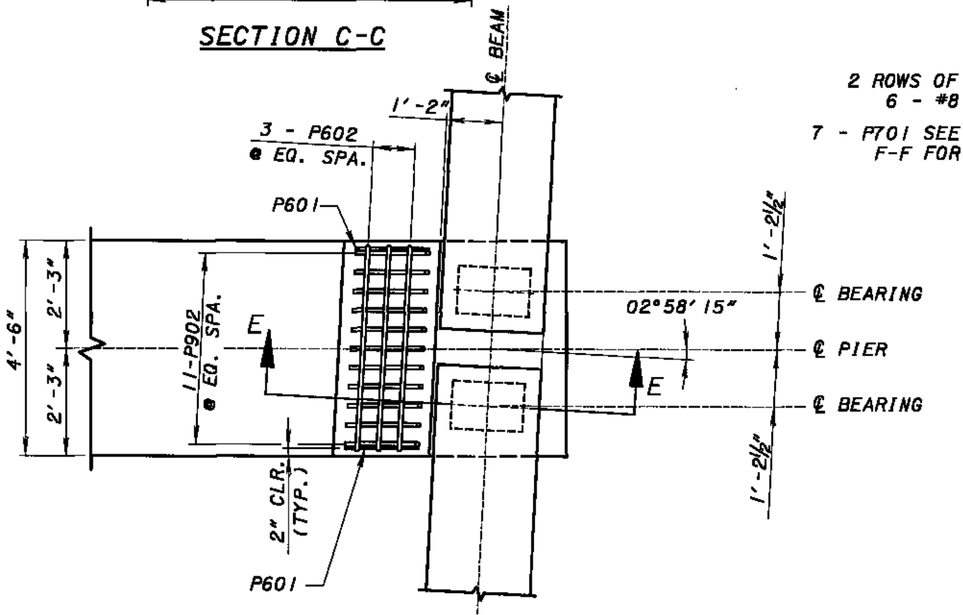


SECTION F-F

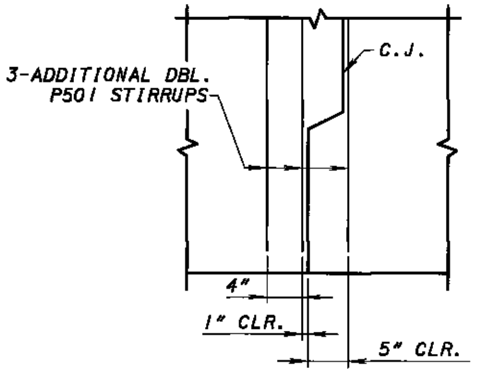
NOTE: MECHANICAL CONNECTORS SHALL BE LOCATED AS FOLLOWS:

○ MECHANICAL CONNECTORS AT PHASE CONSTRUCTION JOINT

● MECHANICAL CONNECTORS 9" FROM PHASE CONSTRUCTION JOINT

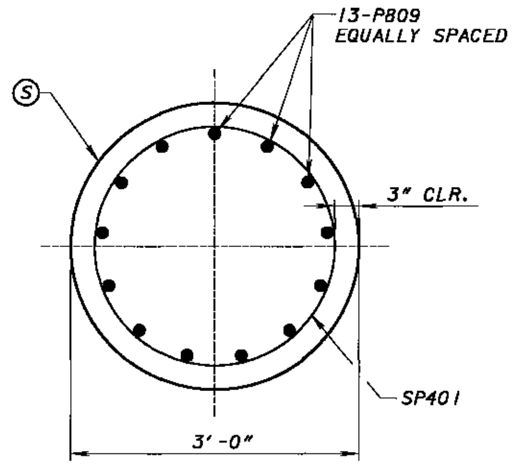


SEISMIC PEDESTAL PLAN

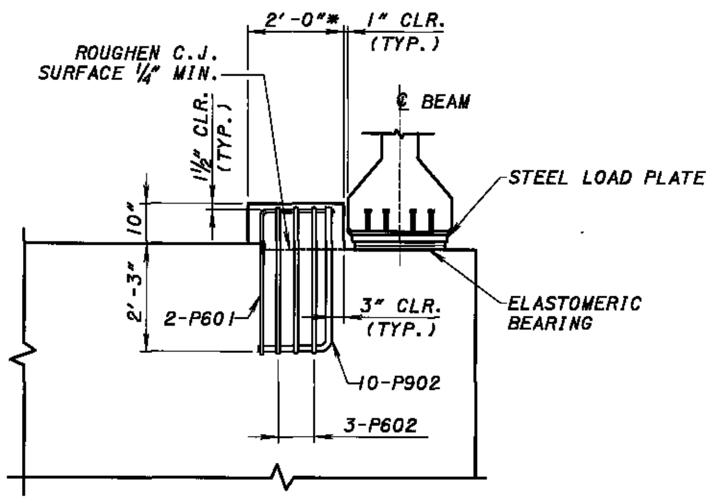


DETAIL "G"

NOTE: 3-ADD'L. P501 SHOWN ONLY IN THIS DETAIL FOR CLARITY.



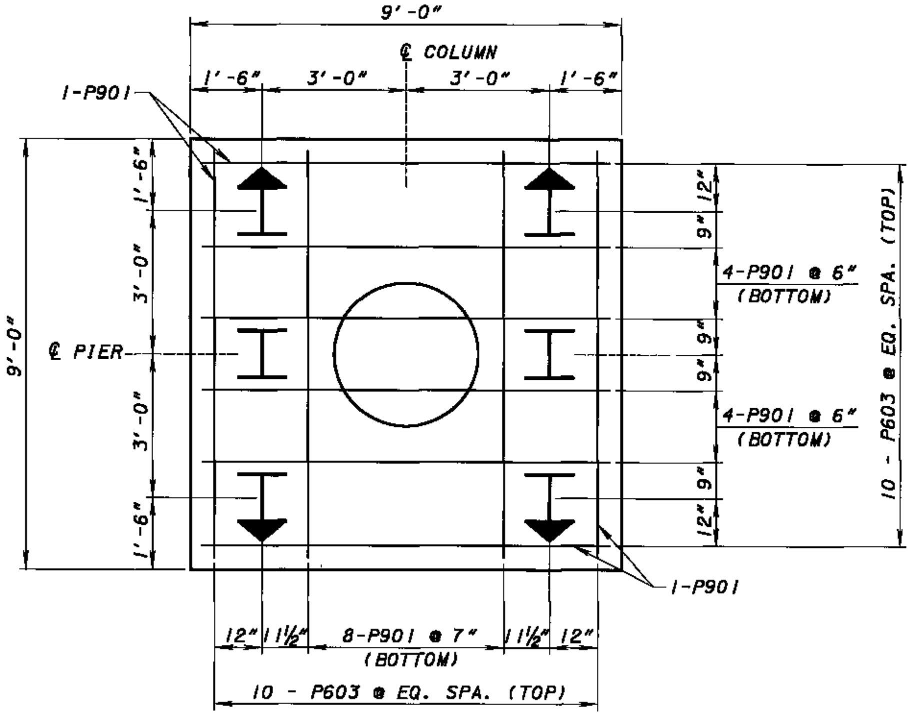
SECTION D-D



SECTION E-E

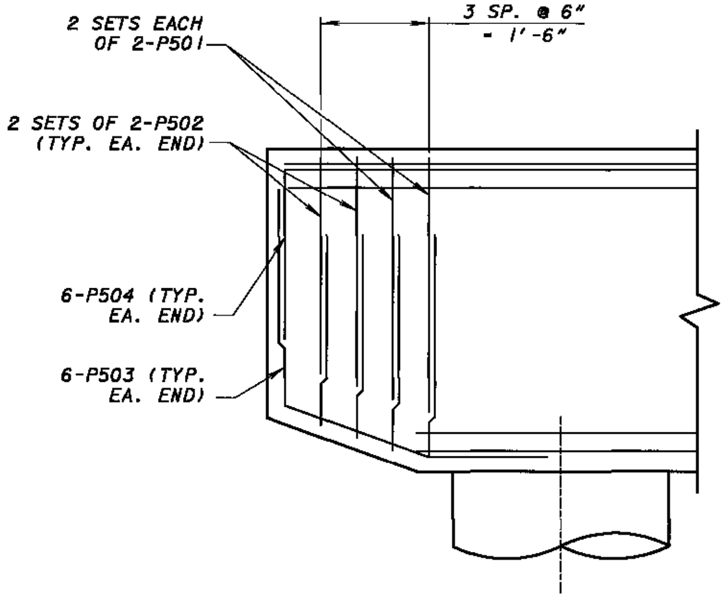
NOTE: ADJUST PIER CAP REINFORCEMENT NECESSARY TO PLACE SEISMIC REINFORCEMENT.

* MEASURED PARALLEL TO ℄ BEARING

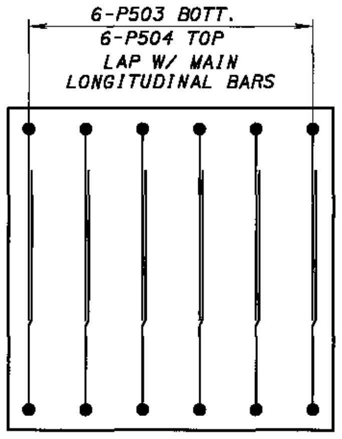


FOOTING PLAN

NOTE: SEE FOUNDATION LAYOUT PLAN SHEET 7/25 FOR PILE LOCATIONS.



PIER END ELEVATION



END VIEW OF PIER CAP

Ⓢ DENOTES CONCRETE SURFACES TO BE SEALED WITH EPOXY-URETHANE.

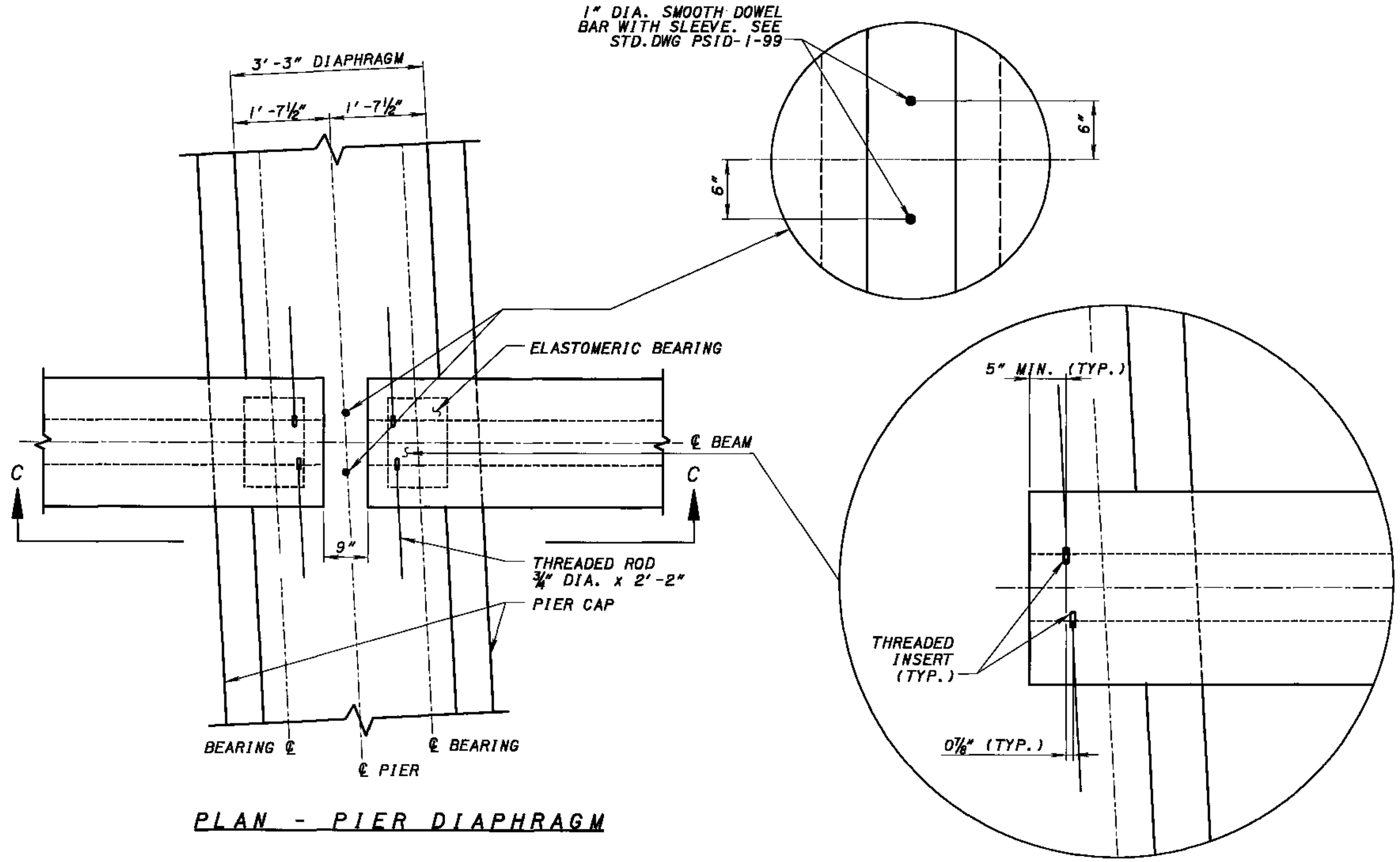
DATE: 10/12/2004 11:04:20 AM
FILENAME: t:\drawing\06\06459\308\detail design\15pierdetails.dgn

PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

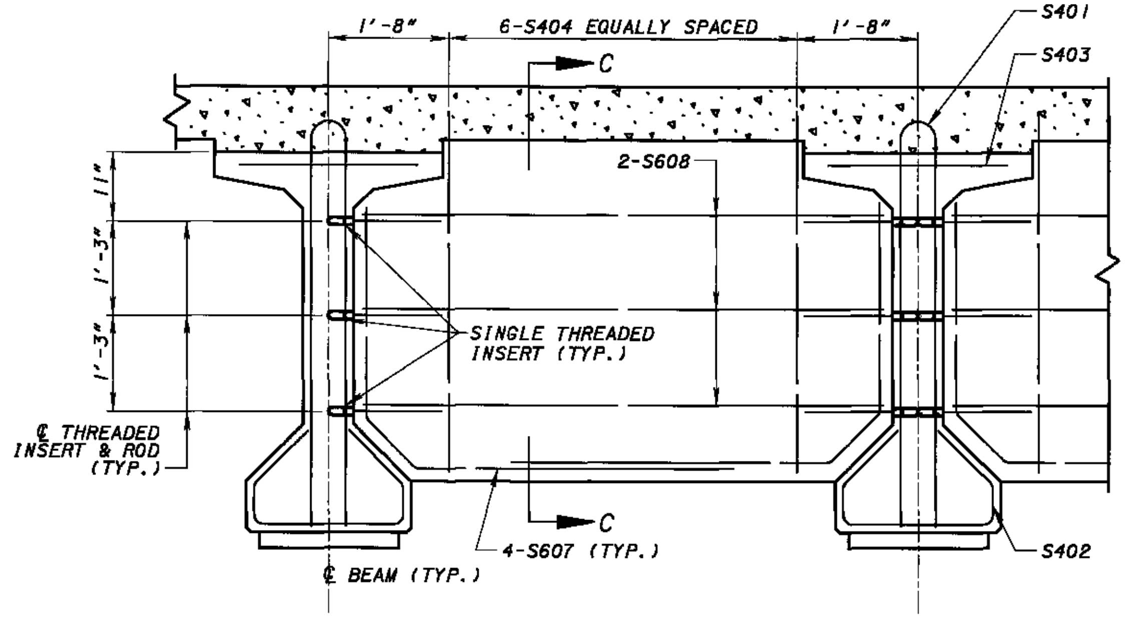
DESIGNED	DRAWN	REVIEWED	DATE
RWB	KVM	MUR	04-2003
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WJS		5205115	

PIER DETAILS
BRIDGE NO. MED-83-0053
OVER I-71

WAY/MED-71-7.04

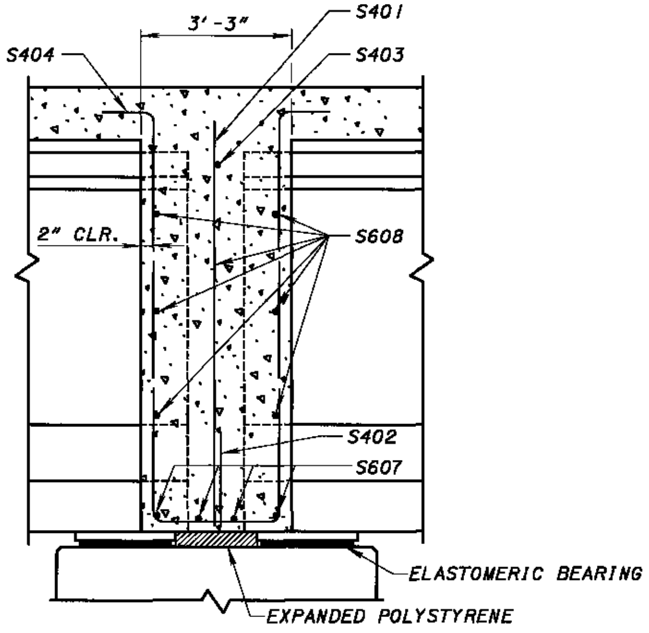


PLAN - PIER DIAPHRAGM



PIER DIAPHRAGM

(MODIFIED AASHTO TYPE 4 BEAMS)



SECTION C-C

(PARTIAL PIER SHOWN)

DESIGNED RWB
DRAWN KVM
REVIEWED MUR
DATE 04-2003
CHECKED WJS
REVISED
STRUCTURE FILE NUMBER 5205115

PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

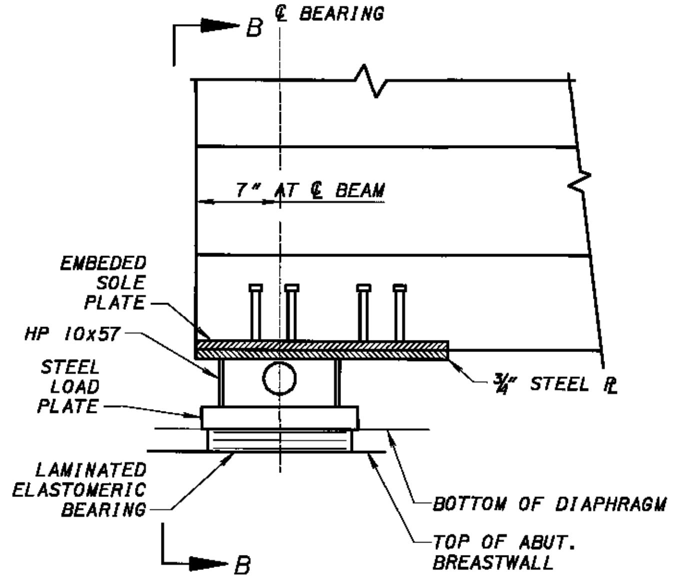
PIER DIAPHRAGM DETAILS
BRIDGE NO. MED-83-0053
OVER I-71

WAY/MED-71-7.04

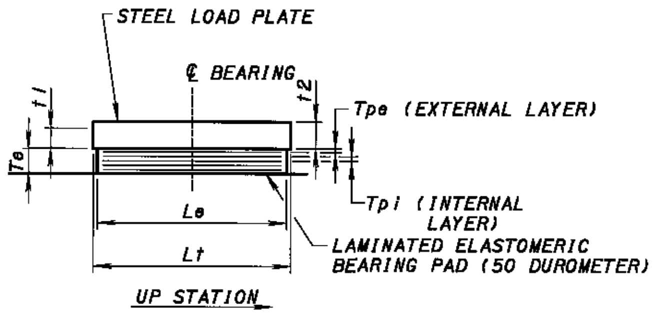
16/25

604/785

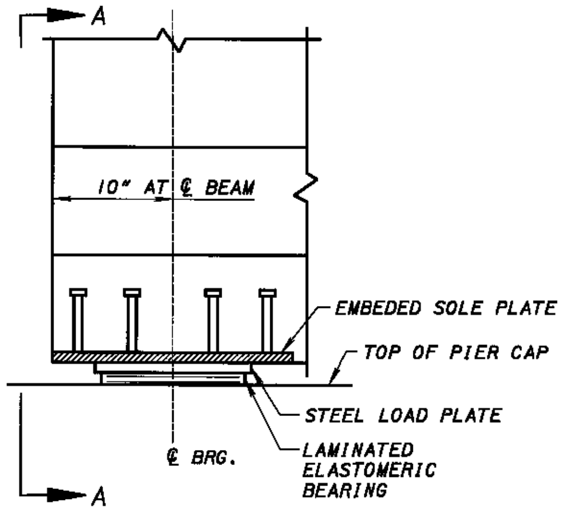
DATE: 10/17/2003 02:40:29 PM
FILENAME: h:\drawing\08\06419\308\detail design\6pierdiaphragm.dgn



ABUTMENT BEARING DETAIL



STEEL LOAD PLATE & BEARING PAD DETAIL



PIER BEARING DETAIL

NOTES:

LOAD PLATE

THE STEEL LOAD PLATE SHALL BE GALVANIZED AS PER 711.02. MATERIAL SHALL BE ASTM A709, YIELD STRENGTH = 36 KSI OR 50 KSI.

THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.

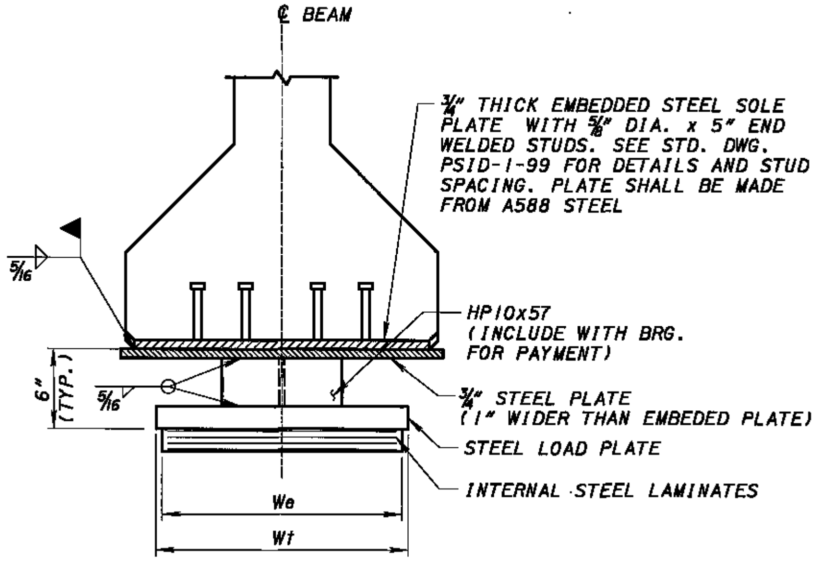
CONTROL WELDING SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300° F AS DETERMINED BY USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

ELASTOMERIC BEARINGS

THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

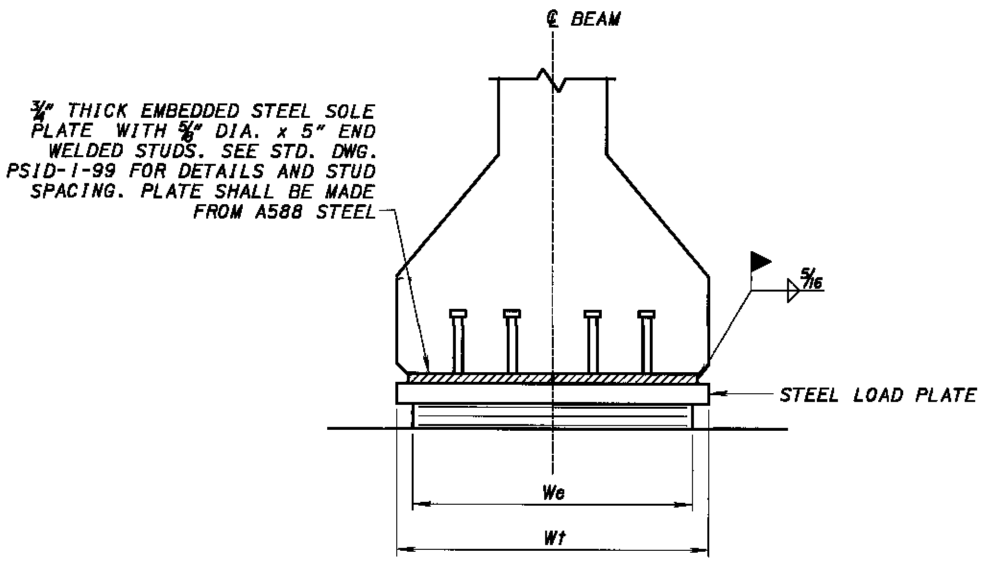
BASIS OF PAYMENT

THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS EITHER FIXED OR EXPANSION. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516, EACH, LAMINATED ELASTOMERIC BEARINGS.

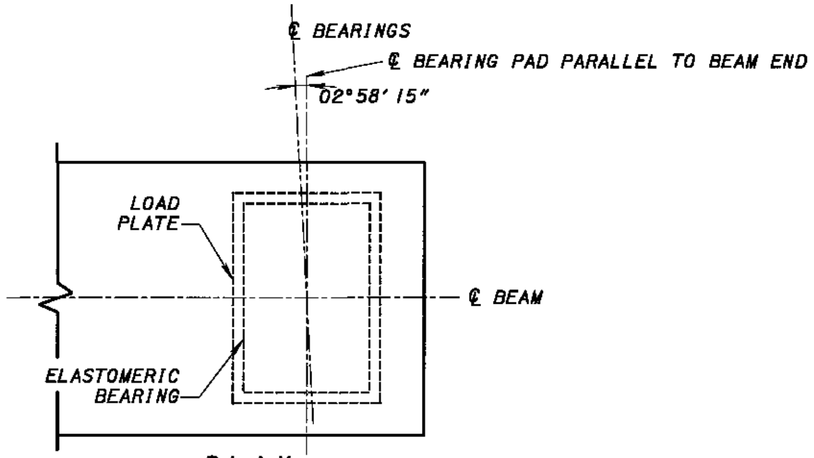

℄ BEAM
¾" THICK EMBEDDED STEEL SOLE PLATE WITH ⅝" DIA. x 5" END WELDED STUDS. SEE STD. DWG. PSID-1-99 FOR DETAILS AND STUD SPACING. PLATE SHALL BE MADE FROM A588 STEEL
5/16
6" (TYP.)
5/16
HP10x57 (INCLUDE WITH BRG. FOR PAYMENT)
¾" STEEL PLATE (1" WIDER THAN EMBEDED PLATE)
STEEL LOAD PLATE
INTERNAL STEEL LAMINATES
We
Wt

VIEW B-B

✱ INCLUDED WITH BEARING FOR PAYMENT


℄ BEAM
¾" THICK EMBEDDED STEEL SOLE PLATE WITH ⅝" DIA. x 5" END WELDED STUDS. SEE STD. DWG. PSID-1-99 FOR DETAILS AND STUD SPACING. PLATE SHALL BE MADE FROM A588 STEEL
5/16
STEEL LOAD PLATE
We
Wt

VIEW A-A



PLAN

BEARING LOCATION	BEARING TYPE	NO. REQ'D.	DEAD LOAD KIPS	LIVE LOAD KIPS	TOTAL LOAD (DL + LL) KIPS	Le (inches)	We (inches)	Tpi (inches)	NO. OF Tpi's	Tpe (2 EA.) (inches)	NUMBER OF INTERNAL STEEL LAMINATES (14 GAGE)	Te (inches)	STEEL LOAD PLATE			
													Lt (inches)	Wt (inches)	t1 (inches)	t2 (inches)
REAR ABUTMENT	REINFORCED ELASTOMERIC	9	147.7	57.35	205.05	12	20	.375	3	.25	4	1.9238	14	22	1.5	1.5
PIER 1 (SOUTH)	REINFORCED ELASTOMERIC	9	153.7	60.72	214.42	14	22	.5	2	.3125	3	1.8491	16	24	1.5	1.658
PIER 1 (NORTH)	REINFORCED ELASTOMERIC	9	153.7	60.72	214.42	14	22	.5	2	.3125	3	1.8491	16	24	1.780	1.5
FORWARD ABUTMENT	REINFORCED ELASTOMERIC	9	145.9	57.4	203.30	12	20	.375	3	.25	4	1.9238	14	22	1.661	1.5

DATE: 10/17/2003 08:40:29 PM
FILENAME: h:\drawing\08\05419\JD8\detail design\71bearingdetails.dgn

PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

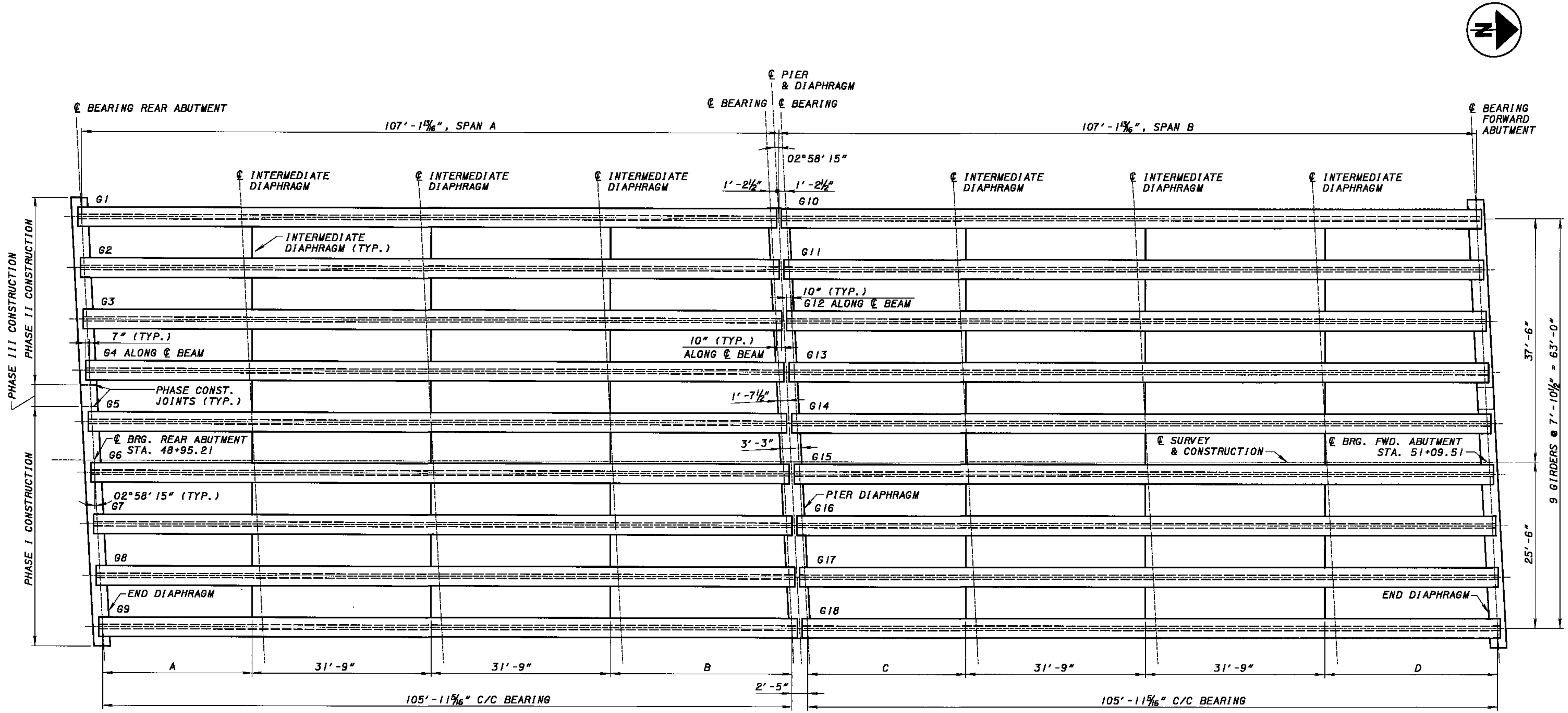
DESIGNED WJS | DRAWN KVM | REVIEWED RWB | DATE 04-2003
CHECKED MUR | REVISED | STRUCTURE FILE NUMBER 5205115

ELASTOMERIC BEARING DETAILS
BRIDGE NO. MED-83-0053
OVER I-71

WAY/MED-71-7.04

17/25

605/785



FRAMING PLAN

INTERMEDIATE DIAPHRAGM SPACING - SPAN 1		
BEAM	A	B
G1	23'-5½"	18'-11 13/16"
G2	23'-0⅝"	19'-4 11/16"
G3	22'-7 11/16"	19'-9⅝"
G4	22'-2 13/16"	20'-2½"
G5	21'-9⅞"	20'-7 7/16"
G6	21'-5"	21'-0 5/16"
G7	21'-0⅛"	21'-5 3/16"
G8	20'-7 3/16"	21'-10⅛"
G9	20'-2 5/16"	22'-3"

INTERMEDIATE DIAPHRAGM SPACING - SPAN 2		
BEAM	C	D
G10	22'-3"	20'-2 5/16"
G11	21'-10⅛"	20'-7 3/16"
G12	21'-5 3/16"	21'-0⅛"
G13	21'-0 5/16"	21'-5"
G14	20'-7 7/16"	21'-9⅞"
G15	20'-2½"	22'-2 13/16"
G16	19'-9⅝"	22'-7 11/16"
G17	19'-4 11/16"	23'-0⅝"
G18	18'-11 13/16"	23'-5½"

PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
GFS	KVM	RWB	04-2003
CHECKED	REVISED	STRUCTURE FILE NUMBER	
GKL		5205115	

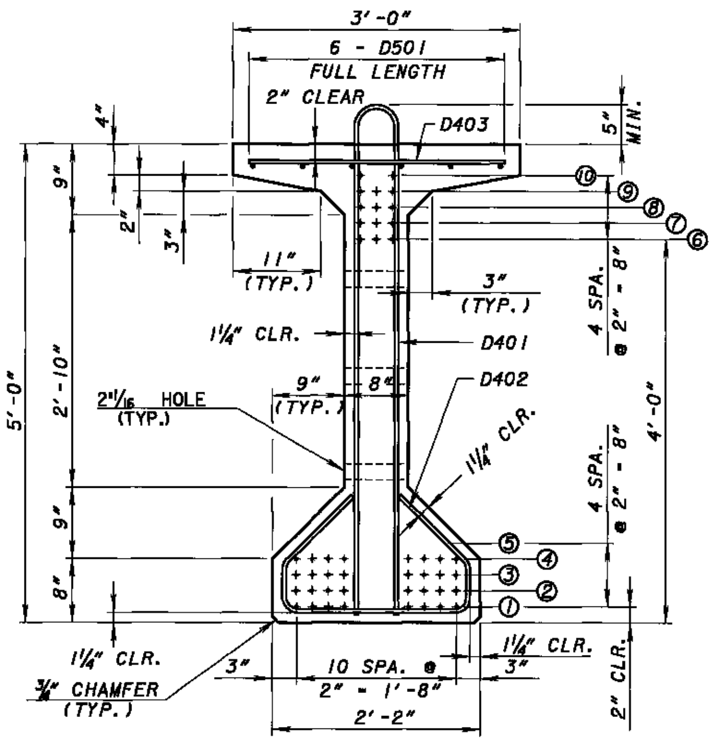
FRAMING PLAN
BRIDGE NO. MED-83-0053
OVER I-71

WAY/MED-71-7.04

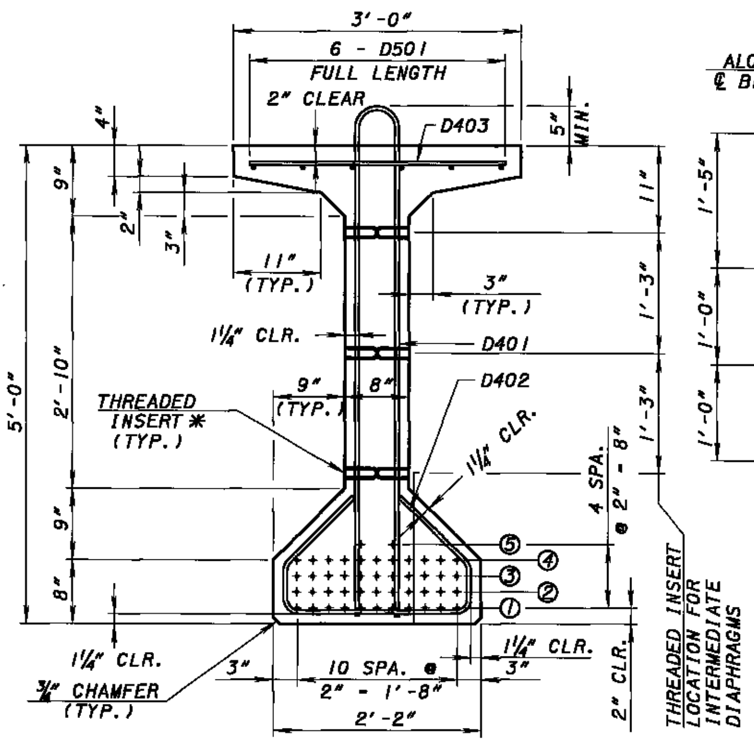
18/25

606/785

DATE: 10/17/2003 02:40:30 PM
FILENAME: h:\drawing\08\05419.306\detail design\8framingplan.dgn

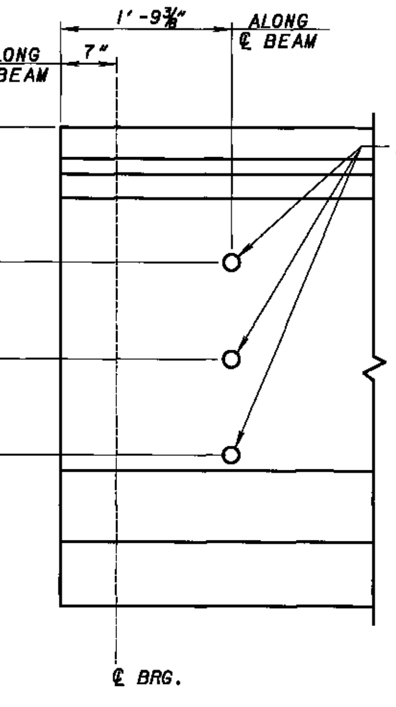


SECTION A-A
(STRAND PATTERN AT END)

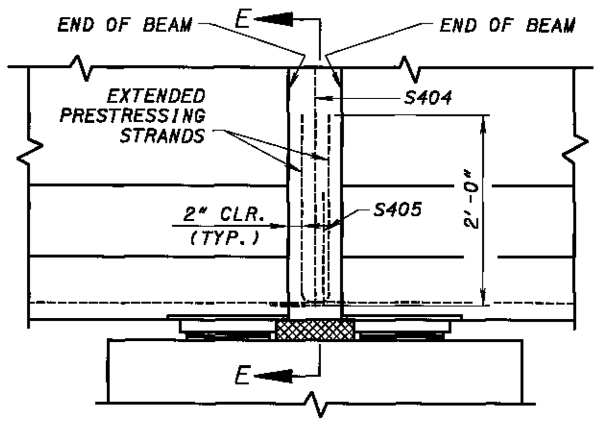


SECTION B-B
(STRAND PATTERN AT MIDSPAN)

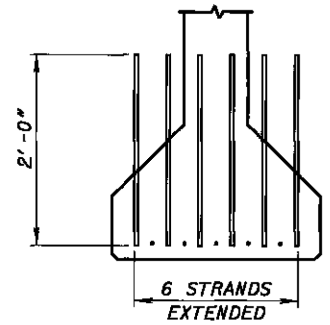
*FOR EXTERIOR BEAMS, PROVIDE THREADED INSERTS ON INSIDE FACE ONLY.



DETAIL D



EXTENDED STRAND DETAIL
(SEE NOTE 2)



SECTION E-E

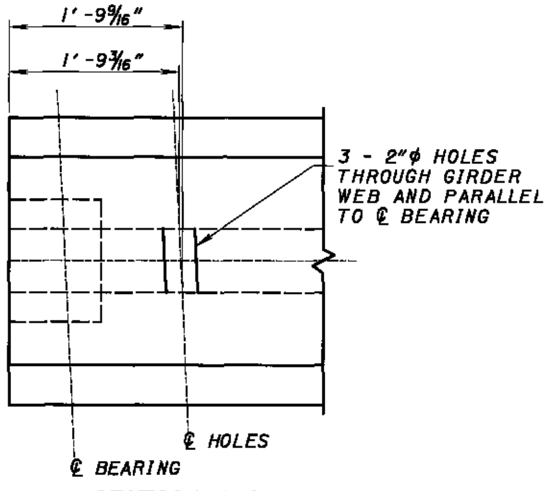
STRAND DATA

STRANDS SHALL BE LOW-RELAXATION ½ INCH DIAMETER (A_s=0.153 IN^2)
SEVEN WIRE UNCOATED STRANDS, ASTM A416, GRADE 270.

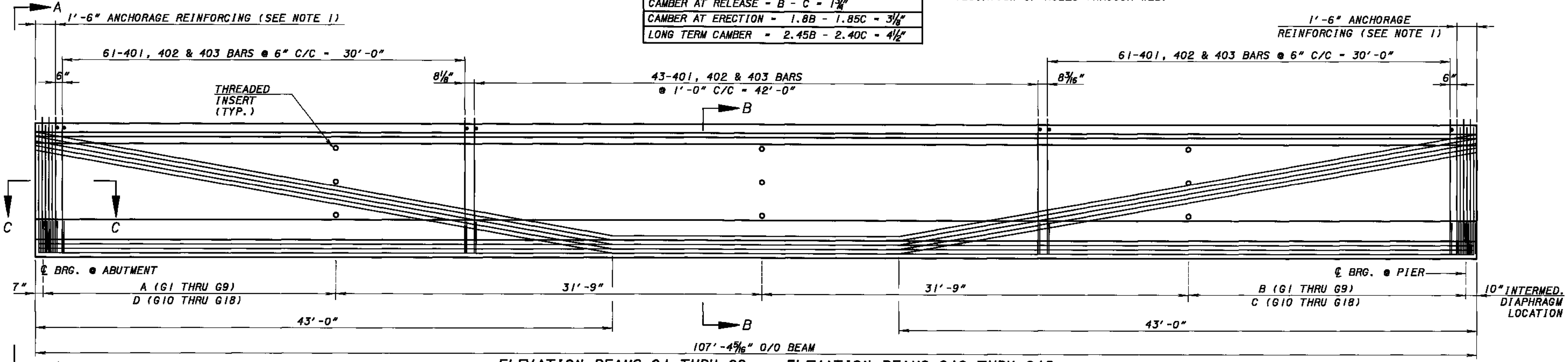
NUMBER OF STRANDS PER ROW													CONCRETE STRENGTHS		401 BARS REQ'D	402 BARS REQ'D	403 BARS REQ'D
BEAM MARK	LOCATION	ROW NUMBER										TOTAL STRANDS					
		①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩		f'ci	f'c			
G1-G18	AT ENDS	8	8	8	8	-	3	3	3	3	2	46	4.5	7	171	171	171
G1-G18	MIDSPAN	11	11	11	11	2	-	-	-	-	-	46					

NOTE:
1. SEE STANDARD DRAWING PSID-1-99 FOR ADDITIONAL DETAILS.
2. EXTEND STRANDS 2'-8" AND BEND UP.
3. FOR INTERMEDIATE DIAPHRAGM LOCATIONS (DIMENSIONS A, B, C & D), SEE FRAMING PLAN, SHEET 18/25.
4. FOR THREADED INSERT LOCATION FOR CONTINUITY DIAPHRAGM AT PIER, SEE SHEET 16/25.

CAMBER VALUES DUE TO PRESTRESS FORCE AND BEAM WEIGHT
B = ANTICIPATED MIDSPAN CAMBER DUE TO DESIGN PRESTRESSING FORCE AT TIME OF RELEASE C = MIDSPAN DEFLECTION DUE TO SELF WEIGHT OF BEAM
CAMBER AT RELEASE = B - C = 1¾"
CAMBER AT ERECTION = 1.8B - 1.85C = 3⅛"
LONG TERM CAMBER = 2.45B - 2.40C = 4½"



SECTION C-C
(LOCATION OF HOLES THROUGH WEB)


A
1'-6" ANCHORAGE REINFORCING (SEE NOTE 1)
61-401, 402 & 403 BARS @ 6" C/C = 30'-0"
6"
8⅛"
THREADED INSERT (TYP.)
43-401, 402 & 403 BARS @ 1'-0" C/C = 42'-0"
B
8³/₁₆"
61-401, 402 & 403 BARS @ 6" C/C = 30'-0"
1'-6" ANCHORAGE REINFORCING (SEE NOTE 1)
6"
C
C
℄ BRG. @ ABUTMENT
7"
A (G1 THRU G9)
D (G10 THRU G18)
31'-9"
31'-9"
B (G1 THRU G9)
C (G10 THRU G18)
℄ BRG. @ PIER
10" INTERMED. DIAPHRAGM LOCATION
43'-0"
B
43'-0"
107'-4⁵/₁₆" O/O BEAM
A

ELEVATION BEAMS G1 THRU G9
(SHOWN)

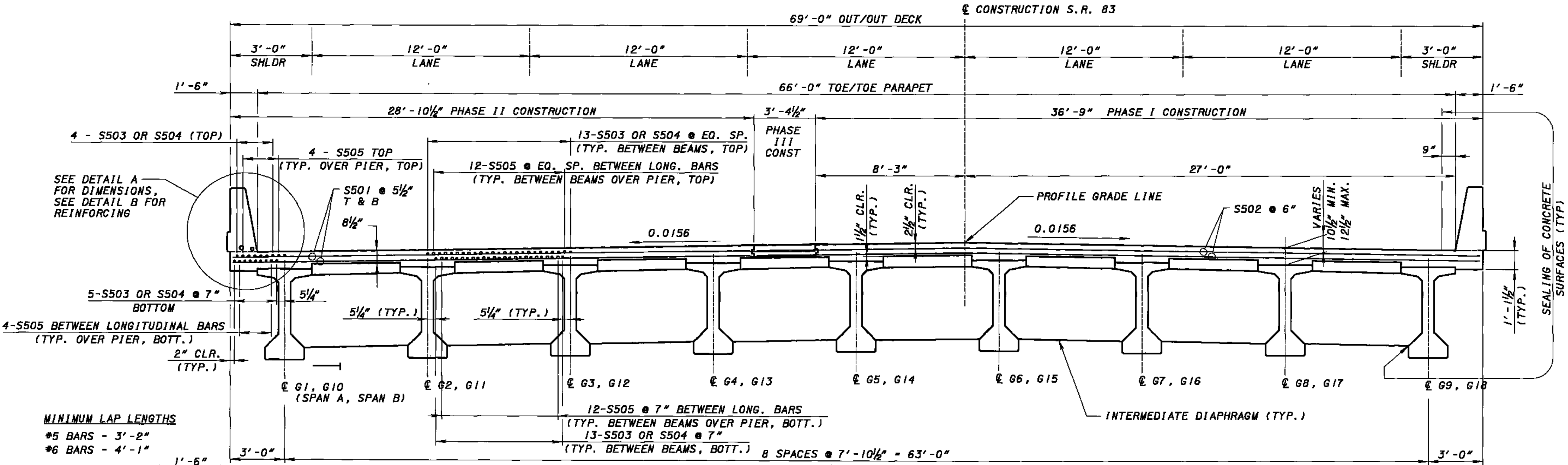
ELEVATION BEAMS G10 THRU G18
(OPPOSITE HAND)

PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
WJS	KVM	MUR	04-2003
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RWB		5205115	

BEAM DETAILS
BRIDGE NO. MED-83-0053
OVER I-71

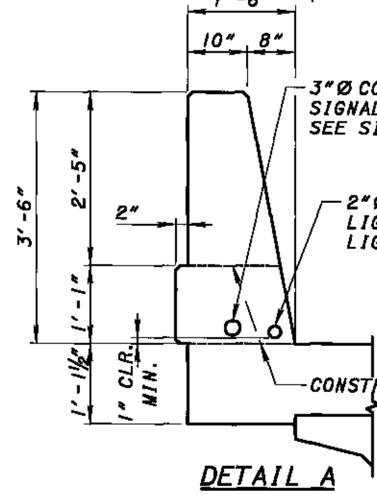
WAY/MED-71-7.04


℄ CONSTRUCTION S.R. 83
69'-0" OUT/OUT DECK
3'-0" SHLDR
12'-0" LANE
12'-0" LANE
12'-0" LANE
12'-0" LANE
12'-0" LANE
3'-0" SHLDR
1'-6"
66'-0" TOE/TOE PARAPET
1'-6"
28'-10½" PHASE II CONSTRUCTION
3'-4½"
36'-9" PHASE I CONSTRUCTION
4 - S503 OR S504 (TOP)
4 - S505 TOP (TYP. OVER PIER, TOP)
13-S503 OR S504 @ EQ. SP. (TYP. BETWEEN BEAMS, TOP)
PHASE III CONST
12-S505 @ EQ. SP. BETWEEN LONG. BARS (TYP. BETWEEN BEAMS OVER PIER, TOP)
9"
8'-3"
27'-0"
SEE DETAIL A FOR DIMENSIONS, SEE DETAIL B FOR REINFORCING
S501 @ 5½" T & B
8½"
1½" CLR. (TYP.)
2½" CLR. (TYP.)
PROFILE GRADE LINE
S502 @ 6"
VARIES 10½" MIN. 12½" MAX.
SEALING OF CONCRETE SURFACES (TYP)
0.0156
0.0156
5-S503 OR S504 @ 7" BOTTOM
5¼"
5¼" (TYP.)
5¼" (TYP.)
4-S505 BETWEEN LONGITUDINAL BARS (TYP. OVER PIER, BOTT.)
2" CLR. (TYP.)
1'-1½" (TYP.)
℄ G1, G10 (SPAN A, SPAN B)
℄ G2, G11
℄ G3, G12
℄ G4, G13
℄ G5, G14
℄ G6, G15
℄ G7, G16
℄ G8, G17
℄ G9, G18
12-S505 @ 7" BETWEEN LONG. BARS (TYP. BETWEEN BEAMS OVER PIER, BOTT.)
13-S503 OR S504 @ 7" (TYP. BETWEEN BEAMS, BOTT.)
INTERMEDIATE DIAPHRAGM (TYP.)
3'-0"
8 SPACES @ 7'-10½" = 63'-0"
3'-0"

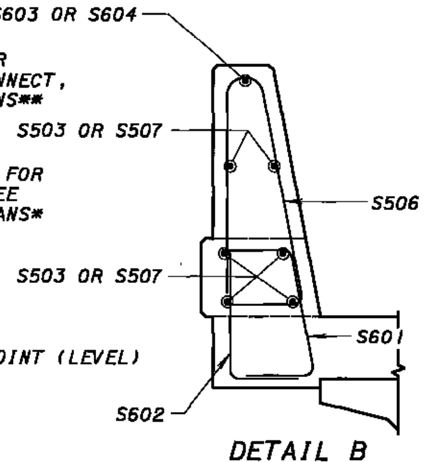
MINIMUM LAP LENGTHS
#5 BARS - 3'-2"
#6 BARS - 4'-1"

TRANSVERSE SECTION

AASHTO MODIFIED TYPE 4 PRESTRESSED CONCRETE I-BEAM (60")


1'-6"
10"
8"
3"Ø CONDUIT FOR SIGNAL INTERCONNECT, SEE SIGNAL PLANS**
2"Ø CONDUIT FOR LIGHTING, SEE LIGHTING PLANS*
3'-6"
2'-5"
2"
1'-1"
1'-1"
1'-1½"
1" CLR. MIN.
CONSTRUCTION JOINT (LEVEL)

DETAIL A



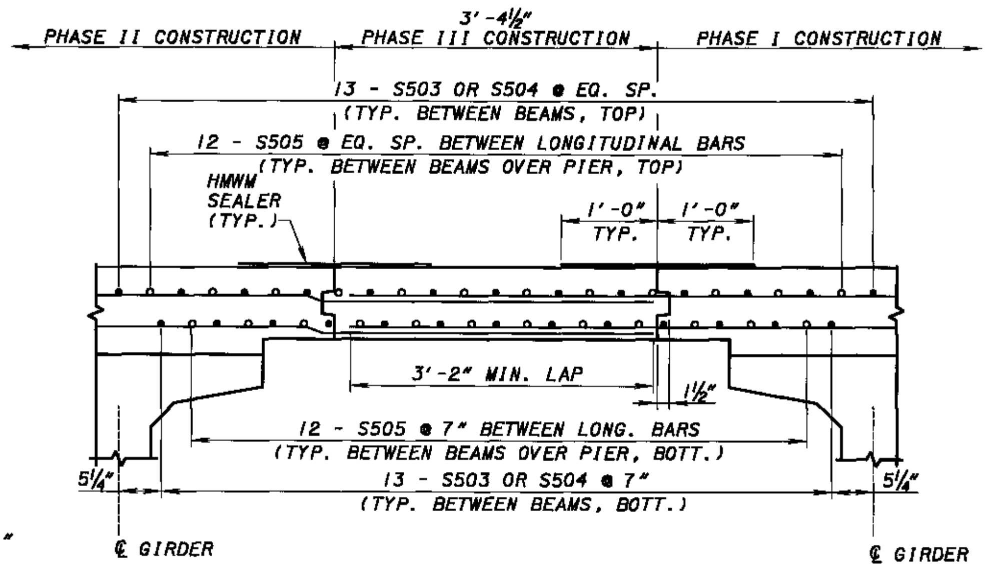
DETAIL B

* PAYMENT FOR THIS ITEM TO BE INCLUDED WITH ITEM 625, CONDUIT, 2", 725.04 IN THE LIGHTING GENERAL SUMMARY & SUBSUMMARY

** PAYMENT FOR THIS ITEM TO BE INCLUDED WITH ITEM 625, CONDUIT, 3", 725.04 IN THE TRAFFIC CONTROL GENERAL SUMMARY

NOTE:
PROVIDE STRUCTURE JUNCTION BOX AT STA. 49+15.00, 39'-0" LEFT, STA. 50+89.00, 39'-0" LEFT. PAYMENT FOR THIS ITEM TO BE INCLUDED WITH ITEM 625, STRUCTURE JUNCTION BOX, 725.10 IN THE LIGHTING GENERAL SUMMARY AND SUBSUMMARY. SEE LIGHTING PLANS FOR DETAILS.

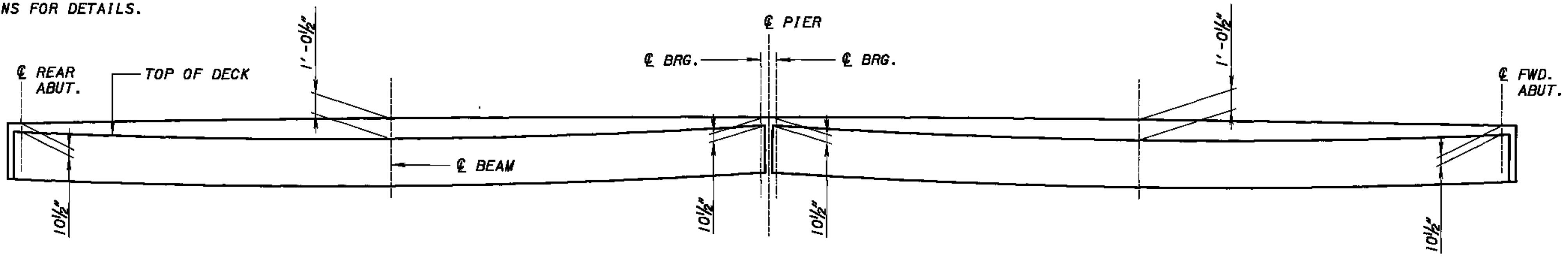
NOTE:
PROVIDE CONDUIT STUB AT STA. 48+74.00, 47'-0" LEFT, STA. 51+29.00, 47'-0" LEFT. PAYMENT FOR THIS ITEM TO BE INCLUDED WITH ITEM 625, CONDUIT, 2" 725.04 IN THE LIGHTING GENERAL SUMMARY AND SUBSUMMARY. SEE LIGHTING PLANS FOR DETAILS.


3'-4½"
PHASE II CONSTRUCTION
PHASE III CONSTRUCTION
PHASE I CONSTRUCTION
13 - S503 OR S504 @ EQ. SP. (TYP. BETWEEN BEAMS, TOP)
12 - S505 @ EQ. SP. BETWEEN LONGITUDINAL BARS (TYP. BETWEEN BEAMS OVER PIER, TOP)
HMWM SEALER (TYP.)
1'-0" TYP.
1'-0" TYP.
3'-2" MIN. LAP
1½"
12 - S505 @ 7" BETWEEN LONG. BARS (TYP. BETWEEN BEAMS OVER PIER, BOTT.)
13 - S503 OR S504 @ 7" (TYP. BETWEEN BEAMS, BOTT.)
5¼"
5¼"
℄ GIRDER
℄ GIRDER

PHASE CONSTRUCTION JOINT DETAIL

NOTES:
1. SEE STD. DWG. PSID-1-99.
2. DECK SLAB THICKNESS FOR CONCRETE QUANTITY:
   THE TOPPING THICKNESSES SHOWN FROM THE TOP OF THE DECK SLAB TO THE TOP OF THE TOP FLANGE ALONG THE CENTERLINE OF THE I-BEAM ARE THEORETICAL DIMENSIONS. THE HAUNCH DEPTH IS THE TOPPING THICKNESS MINUS THE DESIGN SLAB THICKNESS. THE DEPARTMENT WILL PAY FOR THE SUPERSTRUCTURE CONCRETE BASED ON THE DESIGN SLAB THICKNESS AND THE AVERAGE OF THE THEORETICAL HAUNCH DEPTHS AT MID-SPAN AND AT EACH BEAM BEARING EVEN THOUGH DEVIATION FROM THE DIMENSIONS SHOWN MAY BE NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. ONCE ALL BEAMS ARE SET IN THEIR FINAL POSITION, THE ACTUAL CAMBER FOR EACH MEMBER WILL BE THE TOP OF BEAM ELEVATION AT MID-SPAN MINUS THE AVERAGE TOP OF BEAM ELEVATION AT EACH BEARING. THE ACTUAL TOPPING THICKNESS AT MID-SPAN WILL BE THE THEORETICAL DIMENSION PLUS OR MINUS THE DIFFERENCE BETWEEN THE ACTUAL AND ANTICIPATED CAMBER.
3. INTERMEDIATE DIAPHRAGMS
   DO NOT PLACE THE DECK CONCRETE UNTIL ALL INTERMEDIATE DIAPHRAGMS HAVE BEEN PROPERLY INSTALLED. IF CONCRETE DIAPHRAGMS ARE USED, COMPLETE THE INSTALLATION OF THE INTERMEDIATE DIAPHRAGMS AT LEAST 48 HOURS BEFORE DECK PLACEMENT BEGINS. CONCRETE SHALL BE CLASS S.

   A CONCRETE DIAPHRAGM IS SHOWN. THE CONTRACTOR HAS THE OPTION OF INSTALLING STEEL DIAPHRAGMS. SEE STD. DWG. PSID-1-99 FOR DETAILS. DIAPHRAGMS, STEEL OR CONCRETE, SHALL BE INCLUDED WITH ITEM 515 INTERMEDIATE DIAPHRAGMS FOR PAYMENT.
4. SEE FRAMING PLAN, SHEET 18/25 FOR INTERMEDIATE DIAPHRAGM LOCATIONS.
5. CAMBER: THE CALCULATED NET CAMBER DUE TO THE PRESTRESSING AND BEAM WEIGHT AT TIME OF ERECTION IS 3⅛" FOR BOTH SPANS.



TOPPING THICKNESS DIAGRAM

(SEE NOTE 2)

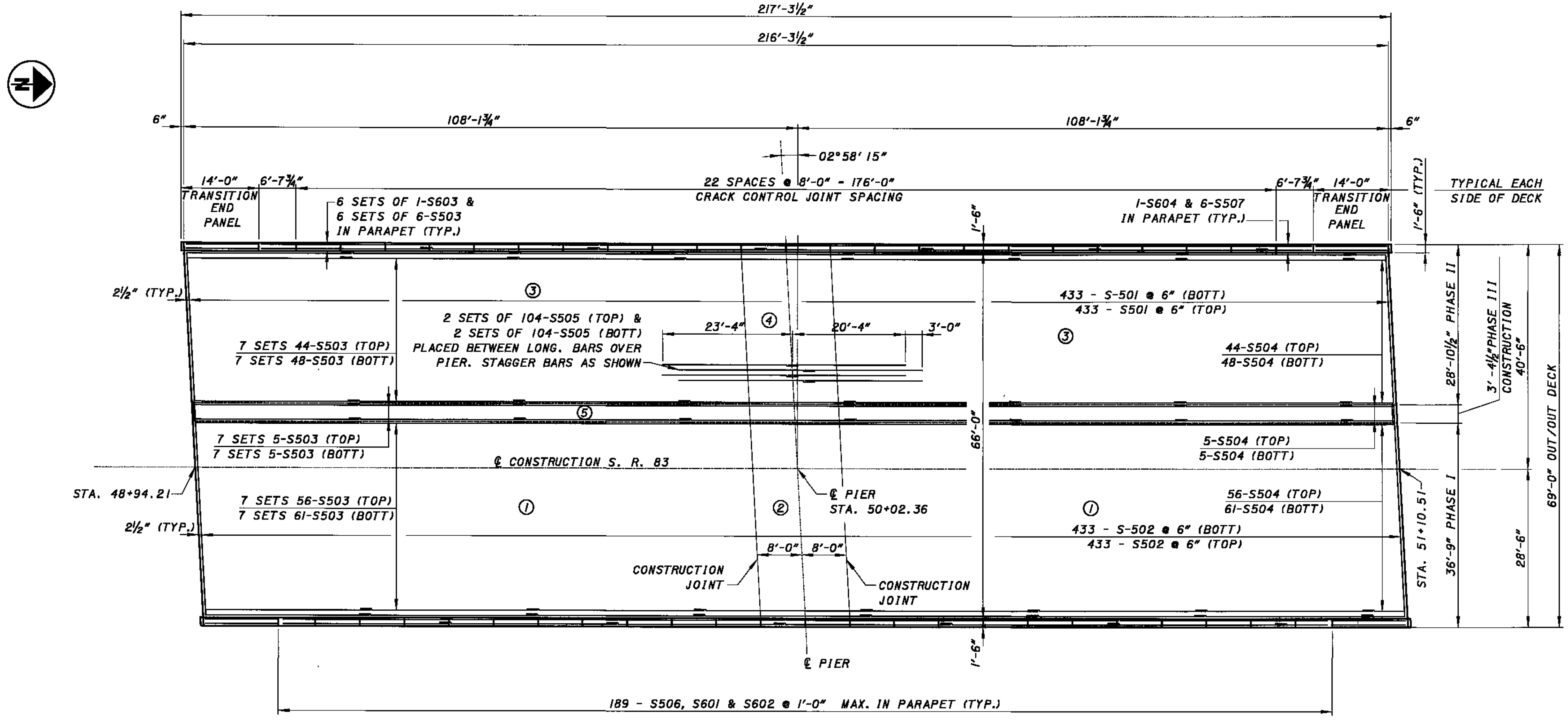
DATE: 10/17/2003 08:40:31 PM
FILENAME: h:\ohio\wdot\26049\308\detail design\br20transverse.dgn

PREPARED BY ms consultants, inc. CONSULTING ENGINEERS & PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
WJS	KVM	MUR	04-2003
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RWB		520515	

TRANSVERSE SECTION & DETAILS
BRIDGE NO. MED-83-0053
OVER I-71

WAY/MED-71-7.04



DECK REINFORCING PLAN

NOTES:

1. FOR REINFORCEMENT IN PARAPET TRANSITION END PANEL, SEE PARAPET TRANSITION DETAIL, SHEET 23/25.

2. MINIMUM LAP LENGTHS
   #5 BARS - 3'-2"
   #6 BARS - 4'-1"

3. FOR REINFORCEMENT SCHEDULE, SEE SHEET 24/25.

4. THE ENCIRCLED NUMBERS INDICATE THE SEQUENCE FOR PLACING THE SLAB SECTIONS. IDENTICALLY NUMBERED PLACEMENTS MAY BE MADE SIMULTANEOUSLY OR SEPARATELY. DECK PLACEMENTS SHALL BE MADE IN THE SEQUENCE SHOWN. POURS ① AND ③ IN BOTH SPANS SHALL INCLUDE THE ABUTMENT END DIAPHRAGMS AND DECK CONCRETE. POURS ② AND ④ SHALL INCLUDE THE PIER DIAPHRAGMS AND DECK CONCRETE. POUR ⑤ SHALL INCLUDE ABUTMENT END DIAPHRAGMS AND DECK CONCRETE. SEE PHASE CONSTRUCTION JOINT DETAIL ON SHT. 21/25 FOR KEYWAY AT CONSTRUCTION JOINTS. SEAL CONSTRUCTION JOINTS WITH HMWM RESIN PER SS 954.

DATE: 10/17/2003
FILENAME: [illegible]

ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
WJS	KVM	MUR	04-2003
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RWB		5205115	

DECK REINFORCING PLAN
BRIDGE NO. MED-83-0053
OVER I-71

WAY/MED-71-7.04

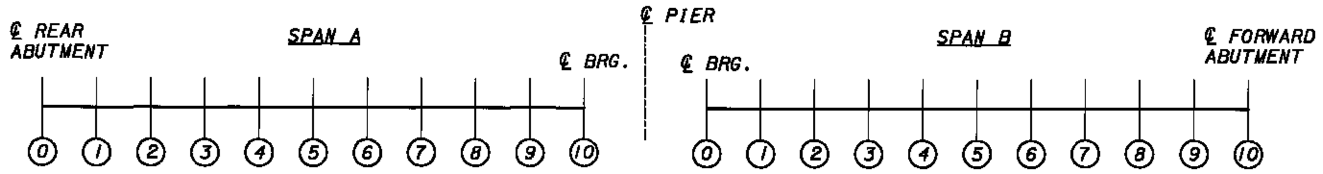
SCREED ELEVATION TABLES

SCREED ELEVATIONS RIGHT BRIDGE - SPAN A

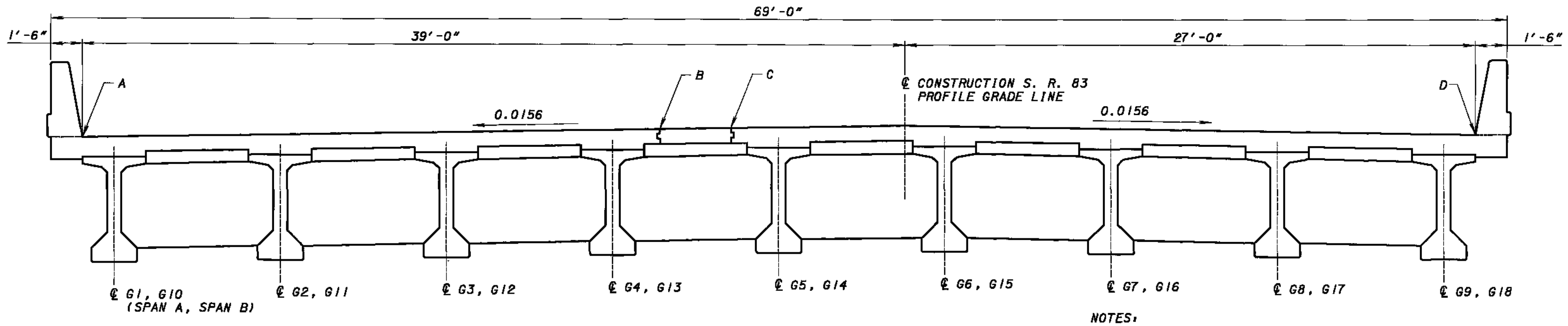
POINT	A0		A1		A2		A3		A4		A5		A6		A7		A8		A9		A10	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
A	48+93.19	975.28	49+03.78	975.49	49+14.37	975.68	49+24.97	975.84	49+35.56	975.97	49+46.16	976.06	49+56.75	976.13	49+67.34	976.16	49+77.94	976.15	49+88.53	976.12	49+99.13	976.06
G1	48+93.26	975.30	49+03.86	975.51	49+14.45	975.70	49+25.05	975.86	49+35.64	975.99	49+46.23	976.09	49+56.83	976.15	49+67.42	976.18	49+78.02	976.18	49+88.61	976.15	49+99.20	976.09
G2	48+93.67	975.43	49+04.27	975.65	49+14.86	975.84	49+25.45	976.00	49+36.05	976.13	49+46.64	976.23	49+57.24	976.29	49+67.83	976.31	49+78.42	976.31	49+89.02	976.27	49+99.61	976.21
G3	48+94.08	975.56	49+04.68	975.78	49+15.27	975.97	49+25.86	976.13	49+36.46	976.26	49+47.05	976.35	49+57.65	976.41	49+68.24	976.44	49+78.83	976.43	49+89.43	976.39	50+00.02	976.33
G4	48+94.49	975.69	49+05.08	975.91	49+15.68	976.10	49+26.27	976.26	49+36.87	976.38	49+47.46	976.48	49+58.05	976.54	49+68.65	976.56	49+79.24	976.55	49+89.84	976.52	50+00.43	976.45
B	48+94.61	975.73	49+05.20	975.94	49+15.79	976.13	49+26.39	976.29	49+36.98	976.42	49+47.58	976.51	49+58.17	976.57	49+68.76	976.60	49+79.36	976.59	49+89.95	976.55	50+00.55	976.49
C	48+94.78	975.78	49+05.38	976.00	49+15.97	976.19	49+26.56	976.35	49+37.16	976.48	49+47.75	976.57	49+58.35	976.63	49+68.94	976.65	49+79.53	976.64	49+90.13	976.60	50+00.72	976.54
G5	48+94.90	975.82	49+05.49	976.04	49+16.09	976.22	49+26.68	976.38	49+37.27	976.51	49+47.87	976.60	49+58.46	976.66	49+69.06	976.69	49+79.65	976.68	49+90.24	976.64	50+00.84	976.57
PGL	48+95.21	975.92	49+05.80	976.13	49+16.40	976.32	49+26.99	976.48	49+37.59	976.61	49+48.18	976.70	49+58.77	976.76	49+69.37	976.78	49+79.96	976.77	49+90.56	976.73	50+01.15	976.67
G6	48+95.31	975.89	49+05.90	976.11	49+16.50	976.29	49+27.09	976.45	49+37.68	976.58	49+48.28	976.67	49+58.87	976.73	49+69.47	976.75	49+80.06	976.74	49+90.65	976.70	50+01.25	976.64
G7	48+95.72	975.78	49+06.31	975.99	49+16.90	976.18	49+27.50	976.34	49+38.09	976.46	49+48.69	976.55	49+59.28	976.61	49+69.87	976.63	49+80.47	976.62	49+91.06	976.58	50+01.66	976.51
G8	48+96.12	975.66	49+06.72	975.87	49+17.31	976.06	49+27.91	976.22	49+38.50	976.34	49+49.09	976.43	49+59.69	976.49	49+70.28	976.51	49+80.88	976.50	49+91.47	976.46	50+02.06	976.39
G9	48+96.53	975.54	49+07.13	975.75	49+17.72	975.93	49+28.32	976.09	49+38.91	976.21	49+49.50	976.30	49+60.10	976.35	49+70.69	976.38	49+81.29	976.37	49+91.88	976.33	50+02.47	976.26
D	48+96.61	975.52	49+07.21	975.73	49+17.80	975.91	49+28.39	976.07	49+38.99	976.19	49+49.58	976.27	49+60.18	976.33	49+70.77	976.35	49+81.36	976.34	49+91.96	976.30	50+02.55	976.24

SCREED ELEVATIONS - SPAN B

POINT	B0		B1		B2		B3		B4		B5		B6		B7		B8		B9		B10	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
A	50+01.54	976.06	50+12.14	976.04	50+22.73	976.00	50+33.32	975.93	50+43.92	975.83	50+54.51	975.70	50+65.11	975.53	50+75.70	975.33	50+86.29	975.10	50+96.89	974.84	51+07.48	974.55
G10	50+01.62	976.08	50+12.21	976.07	50+22.81	976.03	50+33.40	975.96	50+44.00	975.85	50+54.59	975.72	50+65.18	975.55	50+75.78	975.35	50+86.37	975.12	50+96.97	974.86	51+07.56	974.57
G11	50+02.03	976.20	50+12.62	976.19	50+23.22	976.15	50+33.81	976.09	50+44.41	975.99	50+55.00	975.85	50+65.59	975.68	50+76.19	975.48	50+86.78	975.24	50+97.38	974.98	51+07.97	974.69
G12	50+02.44	976.32	50+13.03	976.31	50+23.63	976.27	50+34.22	976.20	50+44.81	976.10	50+55.41	975.97	50+66.00	975.80	50+76.60	975.59	50+87.19	975.36	50+97.78	975.09	51+08.38	974.80
G13	50+02.85	976.44	50+13.44	976.43	50+24.03	976.39	50+34.63	976.32	50+45.22	976.22	50+55.82	976.09	50+66.41	975.91	50+77.00	975.71	50+87.60	975.47	50+98.19	975.21	51+08.79	974.91
B	50+02.96	976.48	50+13.56	976.47	50+24.15	976.43	50+34.75	976.36	50+45.34	976.25	50+55.93	976.12	50+66.53	975.95	50+77.12	975.74	50+87.72	975.51	50+98.31	975.24	51+08.90	974.94
C	50+03.14	976.53	50+13.73	976.52	50+24.33	976.48	50+34.92	976.41	50+45.51	976.31	50+56.11	976.17	50+66.70	976.00	50+77.30	975.79	50+87.89	975.55	50+98.48	975.29	51+09.08	974.99
G14	50+03.26	976.56	50+13.85	976.55	50+24.44	976.51	50+35.04	976.44	50+45.63	976.34	50+56.23	976.20	50+66.82	976.03	50+77.41	975.83	50+88.01	975.59	50+98.60	975.32	51+09.20	975.02
PGL	50+03.57	976.66	50+14.16	976.64	50+24.75	976.60	50+35.35	976.53	50+45.94	976.43	50+56.54	976.29	50+67.13	976.12	50+77.72	975.91	50+88.32	975.67	50+98.91	975.41	51+09.51	975.11
G15	50+03.66	976.63	50+14.26	976.61	50+24.85	976.57	50+35.45	976.50	50+46.04	976.40	50+56.63	976.26	50+67.23	976.09	50+77.82	975.88	50+88.42	975.64	50+99.01	975.37	51+09.60	975.08
G16	50+04.07	976.50	50+14.67	976.49	50+25.26	976.45	50+35.85	976.37	50+46.45	976.27	50+57.04	976.13	50+67.64	975.96	50+78.23	975.75	50+88.82	975.51	50+99.42	975.24	51+10.01	974.94
G17	50+04.48	976.38	50+15.08	976.36	50+25.67	976.32	50+36.26	976.25	50+46.86	976.14	50+57.45	976.00	50+68.05	975.83	50+78.64	975.62	50+89.23	975.38	50+99.83	975.11	51+10.42	974.81
G18	50+04.89	976.25	50+15.48	976.23	50+26.08	976.19	50+36.67	976.11	50+47.27	976.00	50+57.86	975.86	50+68.45	975.69	50+79.05	975.48	50+89.64	975.24	51+00.24	974.97	51+10.83	974.68
D	50+04.97	976.23	50+15.56	976.21	50+26.16	976.16	50+36.75	976.09	50+47.34	975.98	50+57.94	975.84	50+68.53	975.66	50+79.13	975.45	50+89.72	975.22	51+00.31	974.95	51+10.91	974.65



SCREED POINT LOCATIONS



SCREED LINE LOCATIONS

NOTES:
SCREED ELEVATIONS ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT.
ALLOWANCE HAS BEEN MADE FOR THE ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.

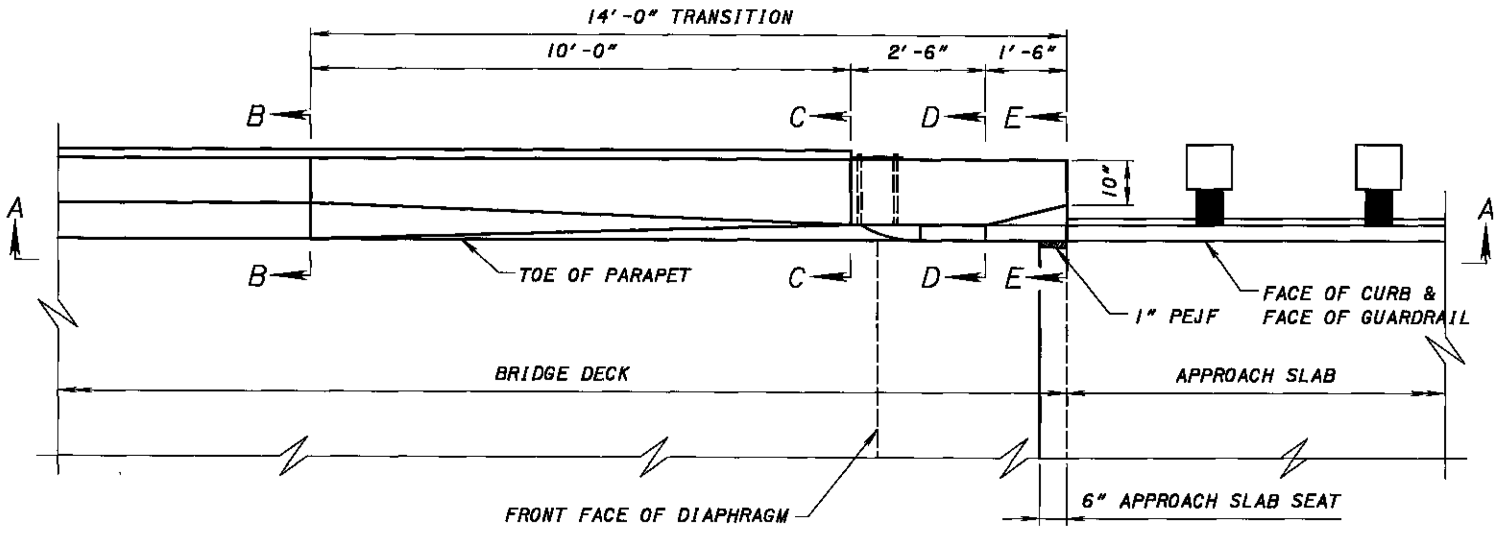
L - SPAN LENGTH

ms consultants, inc.

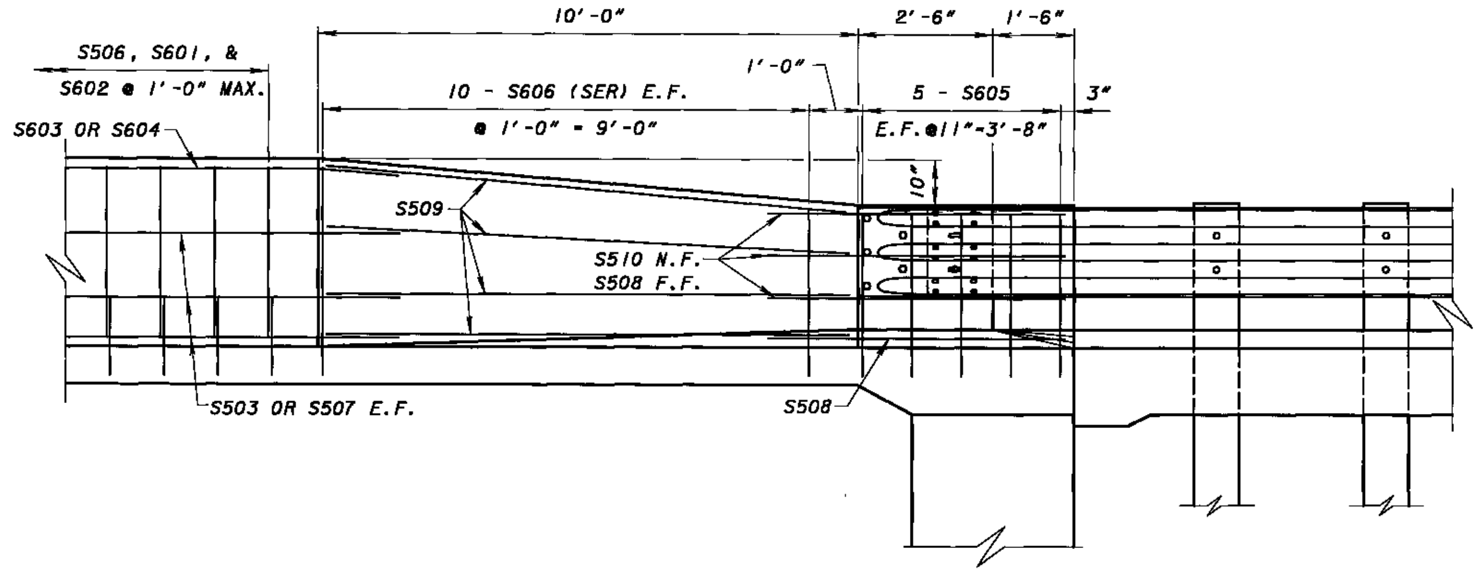
DESIGNED	DRAWN	REVIEWED	DATE
GKL	KVM	RWB	04-2003
CHECKED	REVISED	STRUCTURE FILE NUMBER	
GFS		5205115	

SCREED ELEVATIONS
BRIDGE NO. MED-83-0053
OVER I-71

WAY/MED-71-7.04

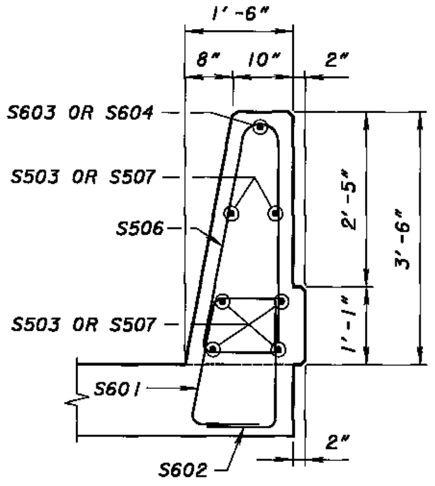


PART PLAN AT ABUTMENT

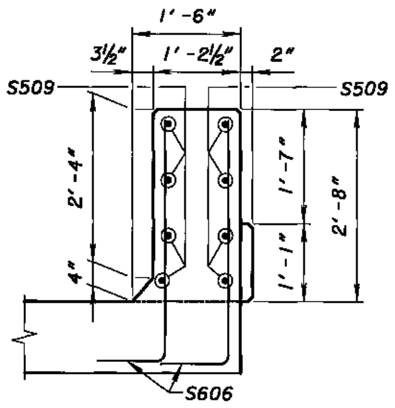


SECTION A-A

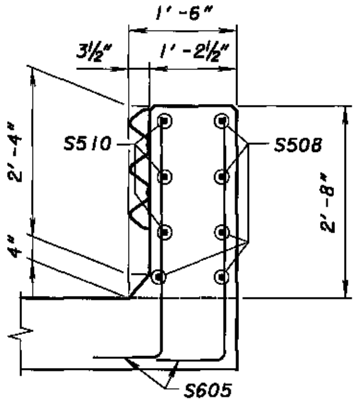
MINIMUM LAP LENGTHS
#5 BARS - 3'-2"
#6 BARS - 4'-1"



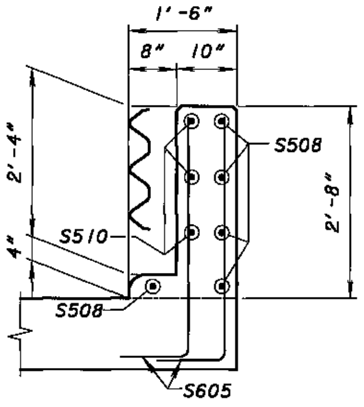
SECTION B-B



SECTION C-C



SECTION D-D



SECTION E-E

PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
GKL	TJB	RWB	04-2003
CHECKED	REVISED	STRUCTURE FILE NUMBER	
GFS	---	5205115	

PARAPET TRANSITION DETAILS
BRIDGE NO. MED-83-0053
OVER I-71

WAY/MED-71-7.04

23/25

611/785

DATE: 10/17/2003 02:40:32 PM
FILENAME: t:\drawing\08\05419\308\detail design\23partransdetail.dgn

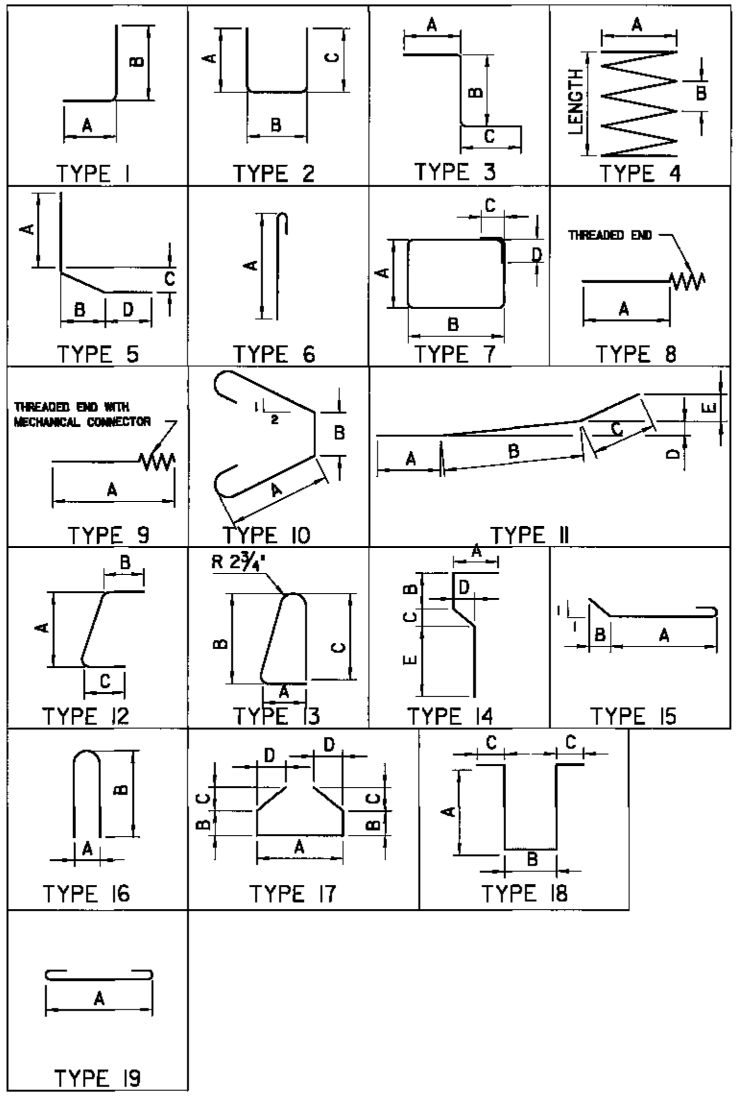
PIER REINFORCING

MARK	TOTAL	LENGTH	WEIGHT (POUNDS)	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SP401	5	15′ - 10″	1,166	4	2′ - 6″	0′-4½″					
P501	126	11′ - 1″	1,454	2	3′ - 7″	4′ - 2″	3′ - 7″				
P502	8	9′ - 11″	83	2	3′ - 0″	4′ - 2″	3′ - 0″				
P503	12	9′ - 1″	114	5	3′ - 5″	1′ - 11″	0′ - 8″	3′ - 2″			
P504	12	6′ - 2″	78	1	3′ - 2″	3′ - 2″					
P601	4	4′ - 4″	26	1	1′ - 6″	3′ - 0″					
P602	6	14′ - 11″	134	7	4′ - 0″	3′ - 0″	0′ - 10″	0′ - 10″			
P603	100	9′ - 10″	1,477	19	8′ - 6″						
P701	7	5′ - 11″	85	10	1′ - 6″	1′ - 4″					
P702	7	6′ - 8″	96	14	2′ - 2″	1′ - 1″	0′ - 2″	0′ - 4″	3′ - 4″		
P703	7	6′ - 7″	94	14	2′ - 2″	1′ - 6″	0′ - 2″	0′ - 4″	2′ - 10″		
P801	6	35′ - 5″	567	9							
P802	6	36′ - 2″	579	9							
P803	6	27′ - 7″	442	8							
P804	6	26′ - 10″	430	8							
P805	6	37′ - 4″	598	9							
P806	16	38′ - 1″	1,627	9							
P807	6	29′ - 6″	473	8							
P808	16	28′ - 9″	1,228	8							
P809	65	19′ - 11″	3,457	6							
P810	65	8′ - 7″	1,493	1	1′ - 4″	7′ - 6″					
P901	100	11′ - 0″	3,740	19	8′ - 6″						
P902	22	4′ - 5″	328	1	2′ - 11″	1′ - 9″					
		TOTAL	19,769								

SUPERSTRUCTURE REINFORCING

MARK	TOTAL	LENGTH	WEIGHT (POUNDS)	TYPE	DIMENSIONS A	B	C	D	E	R	INC
S401	9	11′ - 0″	66	16	0′ - 5″	5′ - 4″					
S402	9	4′ - 6″	27	17	1′ - 11″	0′ - 6″	0′ - 8″	0′ - 8″			
S403	9	2′ - 8″	16	STR.							
S404	48	13′ - 7″	435	18	4′ - 10″	2′ - 11″	0′ - 8″				
S501	866	32′ - 0″	28,912	STR.							
S502	866	39′ - 11″	36,035	STR.							
S503	1605	30′ - 0″	50,220	STR.							
S504	219	28′ - 1″	6,424	STR.							
S505	416	23′ - 5″	10,160	STR.							
S506	378	7′ - 5″	2,924	13	1′ - 1″	3′ - 2″	3′ - 0″				
S507	12	31′ - 5″	393	STR.							
S508	20	5′ - 6″	115	STR.							
S509	32	10′ - 0″	334	STR.							
S510	12	5′ - 6″	69	11	1′ - 8″	2′ - 5″	1′ - 5″	0′ - 2″	0′ - 5″		
S511	88	6′ - 9″	618	2	2′ - 5″	2′ - 2″	2′ - 5″				
S511	88	15′ - 10″	1,452	7	4′ - 9″	2′ - 8″	0′ - 10″	0′ - 10″			
S601	378	3′ - 9″	2,129	12	1′ - 9″	1′ - 1″	1′ - 1″				
S602	378	3′ - 11″	2,223	1	1′ - 1″	3′ - 0″					
S603	12	30′ - 0″	541	STR.							
S604	2	37′ - 10″	114	STR.							
S605	40	4′ - 4″	260	1	1′ - 1″	3′ - 5″					
SER S606	8 SER OF 10	4′ - 5″ TO 5′ - 2″	576	1	1′ - 1″	3′ - 6″ TO 4′ - 3″					0′ - 1″(-)
S607	64	8′ - 9″	841	5	3′ - 0″	0′ - 9″	0′ - 9″	5′ - 9″			
S608	48	6′ - 10″	492	STR.							

NOTE:
FOR REINFORCING STEEL
NOTES, SEE SHEET 25/25.



BENDING DIAGRAMS

SUPERSTRUCTURE REINFORCING

MARK	TOTAL	LENGTH	WEIGHT (POUNDS)	TYPE	DIMENSIONS A	B	C	D	E
S801	14	35′ - 9″	1,336	STR.					
S802	36	13′ - 11″	1,338	STR.					
S803	12	9′ - 6″	304	STR.					
S804	8	27′ - 11″	596	STR.					
S805	16	10′ - 11″	467	3	5′ - 2″	0′ - 10″	5′ - 4″		
S806	22	15′ - 6″	910	STR.					
S807	14	31′ - 11″	1,193	STR.					
S808	6	12′ - 5″	199	STR.					
S809	8	23′ - 9″	507	STR.					
		TOTAL	152,226						

PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
KVM	KVM	RWB	04-2003
CHECKED	REVISED	STRUCTURE FILE NUMBER	
GKL		5205115	

REINFORCING STEEL LIST
BRIDGE NO. MED-83-0053
OVER I-71

WAY/MED-71-7.04

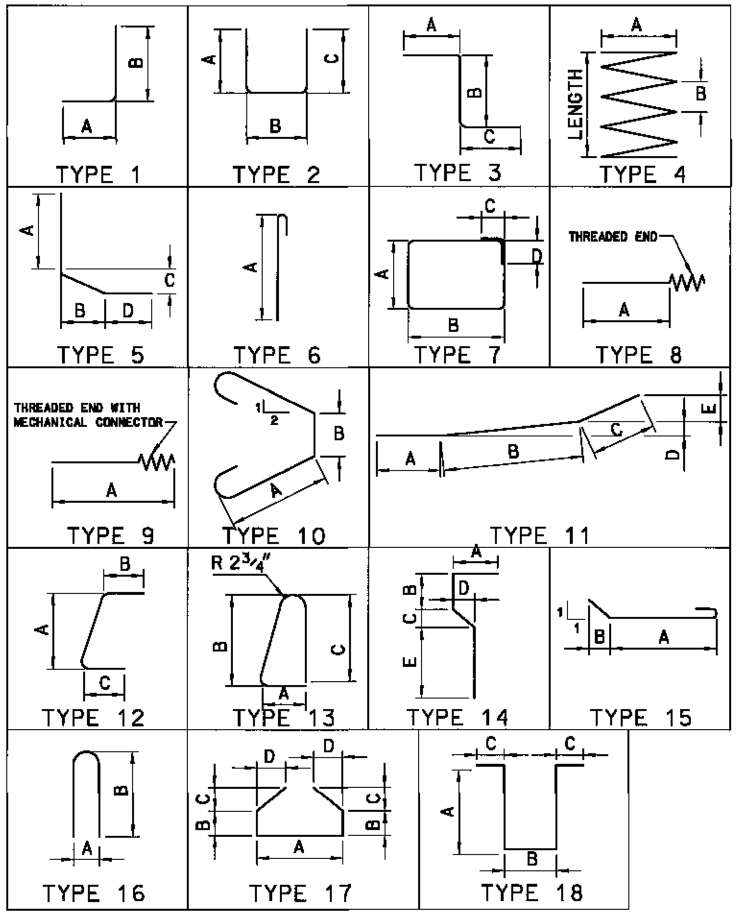
24/25

612/785

DATE: 10/12/2004 11:04:21 AM
FILENAME: h:\drawing\08\0649\308\detail design\24stllst.dgn

ABUTMENT REINFORCING

MARK	NUMBER			LENGTH	WEIGHT (POUNDS)	TYPE	DIMENSIONS						
	FWD.	REAR	TOTAL				A	B	C	D	E	R	INC
A501	12	12	24	30' - 0"	751	STR.							
A502	6	6	12	28' - 1"	351	STR.							
A503	6	6	12	20' - 2"	252	STR.							
A504	76	76	152	17' - 0"	2,695	7	2' - 6"	5' - 6"	0' - 10"	0' - 10"			
A505	104	104	208	9' - 5"	2,039	2	3' - 7"	2' - 6"	3' - 7"				
A506	20	20	40	15' - 11"	663	2	7' - 0"	2' - 2"	7' - 0"				
A507	32	32	64	5' - 3"	349	2	1' - 8"	2' - 2"	1' - 8"				
A508	12	12	24	6' - 2"	154	STR.							
SER A509	4 SER OF 7	4 SER OF 7	8 SER OF 7	6' - 8" 2' - 8"	273	STR.							0' - 8"
A510	2	2	4	10' - 11"	45	2	4' - 6"	2' - 2"	4' - 6"				
A511	2	2	4	3' - 7"	15	2	0' - 10"	2' - 2"	0' - 10"				
A512	2	2	4	2' - 11"	12	2	0' - 6"	2' - 2"	0' - 6"				
A513	4	4	8	2' - 5"	20	2	0' - 3"	2' - 2"	0' - 3"				
A514	4	4	8	14' - 0"	117	STR.							
SER A515	4 SER OF 3	4 SER OF 3	8 SER OF 3	2' - 8" 1' - 8"	54	STR.							0' - 6"
A516	4	4	8	4' - 3"	35	2	1' - 2"	2' - 2"	1' - 2"				
A517	4	4	8	3' - 7"	30	2	0' - 10"	2' - 2"	0' - 10"				
A518	4	4	8	18' - 3"	152	STR.							
A519	4	4	8	20' - 3"	169	STR.							
A520	4	4	8	7' - 4"	61	STR.							
A521	4	4	8	10' - 0"	83	STR.							
A522	4	4	8	11' - 0"	92	STR.							
SER A523	2 SER OF 3	2 SER OF 3	4 SER OF 3	15' - 1" 12' - 11"	175	2							1' - 1"
A524	2	2	4	11' - 7"	48	2	4' - 10"	2' - 2"	4' - 10"				
A525	4	4	8	6' - 1"	51	STR.							
A526	2	2	4	39' - 11"	167	STR.							
A527	2	2	4	31' - 11"	133	STR.							
SER A528	4 SER OF 6	4 SER OF 6	8 SER OF 6	3' - 10" 16' - 2"	501	STR.							2' - 6"(-)
A529	2	2	4	3' - 9"	16	STR.							
A601	6	6	12	12' - 7"	226	7	3' - 0"	2' - 8"	1' - 0"	1' - 0"			
A602	4	4	8	4' - 5"	53	1	1' - 7"	3' - 0"					
A801	8	8	16	30' - 0"	1,282	STR.							
A802	4	4	8	36' - 3"	774	STR.							
A803	4	4	8	24' - 3"	518	STR.							
A804	4	4	8	35' - 9"	764	STR.							
A805	4	4	8	15' - 6"	331	STR.							
A806	4	4	8	31' - 11"	682	STR.							
A901	20	20	40	4' - 4"	585	1	1' - 7"	3' - 0"					
A902	4	4	8	2' - 7"	70	STR.							
D801	45	45	90	4' - 10"	1162	5	1' - 5"	1' - 5"	1' - 5"	1' - 5"			
				TOTAL	15,950								



BENDING DIAGRAMS

NOTES:

BAR SIZE:
THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, P601 IS A NO. 6 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED. "STD." WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.

ALL BARS TO BE EPOXY COATED.

REINFORCING BAR SAMPLES:
REFER TO C.M.S. SECTION 700, 709.01 THROUGH 709.05 AND 709.08. SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR SAMPLING FOR EACH BRIDGE. RANDOM SAMPLES SHALL BE REPLACED IN THE STRUCTURES BY THE ADDITIONAL STEEL, SPLICED IN ACCORDANCE WITH THE PROJECT PLANS.

SPIRAL REINFORCING BARS:
COLUMN LENGTH: THE LENGTH SHOWN IN THE STEEL LIST FOR THE SPIRAL BARS IS THE DISTANCE FROM THE TOP OF THE FOOTING TO THE BOTTOM LAYER OF BARS IN THE PIER CAP.

THE NUMBER OF TURNS SHOWN IS THE LENGTH DIVIDED BY THE PITCH, PLUS 3 TURNS (TOTAL NUMBER OF CLOSED COILS), EXPRESSED AS THE NEAREST WHOLE NUMBER. SPIRAL REINFORCING BARS MAY HAVE DEFORMATION AND SHALL IN OTHER RESPECTS CONFORM TO ITEM 509. 1½ CLOSED COILS SHALL BE PROVIDED AT THE ENDS OF EACH SPIRAL UNIT. FOUR STEEL CHANNEL, TEE OR ANGLE SPACERS, WEIGHING APPROXIMATELY 1.01 LB. PER LIN. FT. OF SPACERS, SHALL BE PROVIDED ALONG THE PERIPHERY OF THE COIL. INCLUDE SPACERS WITH ITEM 509 FOR PAYMENT.

PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

REVIEWED	DATE
RWB	04-2003

STRUCTURE FILE NUMBER
5205115

DESIGNED	DRAWN	CHECKED	REVISED
KVM	KVM	GKL	---

REINFORCING STEEL LIST
BRIDGE NO. MED-83-0053
OVER I-71

WAY/MED-71-7.04

DATE: 10/17/2003 02:40:33 PM
FILENAME: h:\drawing\06\06449\309\detail design\25stlist.dgn

GENERAL NOTES:

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002, INCLUDING ALL INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

REFERENCE SHALL ALSO BE MADE TO THE FOLLOWING OHIO DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATIONS:

842	DATED	1/06/99
899	DATED	10/21/98

DESIGN LOADING: HS 25-44 AND THE ALTERNATE MILITARY LOADING
FUTURE WEARING SURFACE (FWS) OF 60 PSF

THE CONTRACTOR IS HEREBY NOTIFIED THAT THE MSE RETAINING WALL SHALL BE DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS PROVIDED IN THE RETAINING WALL SPECIAL PROVISIONS. AFTER THE AWARD OF CONTRACT, THE CONTRACTOR SHALL SUBMIT MSE RETAINING WALL DETAIL DESIGN PLANS, DESIGN CALCULATIONS AND SHOP DRAWINGS TO THE PROJECT ENGINEER FOR REVIEW AND APPROVAL BY THE DIRECTOR.

THE PLANS FOR RETAINING WALLS AT S.R.83 OVER I-71 SHALL BE PREPARED BY EITHER THE REINFORCED EARTH COMPANY , FOSTER GEOTECHNICAL, TENSAR EARTH TECHNOLOGIES, INC., OR BY MSE PLUS RETAINING WALL. THE PLANS SHALL BE SUBMITTED EIGHT (8) WEEKS PRIOR TO THE BEGINNING OF CONSTRUCTION OF THE WALLS AND THE CONTRACTOR SHALL ALLOW FOUR (4) WEEKS REVIEW TIME BY ODOT.

ALLOWABLE BEARING PRESSURE FOR DESIGN OF MSE WALLS

THE ALLOWABLE BEARING PRESSURE FOR THE DESIGN OF MSE WALLS AT S.R. 83 OVER I-71 IS 4.0 KSF.

EMBANKMENT TO BE PLACED OUTSIDE THE LIMITS OF THE SELECT GRANULAR BACKFILL AND BETWEEN S.R. 83 STATIONS 47+00 AND 53+20 AND I-71 STATIONS 99+00 AND 100+70 SHALL BE PLACED IN 6 INCH LIFTS. EMBANKMENT PLACED IN THIS AREA THAT IS OUTSIDE THE LIMITS OF EMBANKMENT TO BE INCLUDED WITH RETAINING WALLS IS INCLUDED IN THE ROADWAY QUANTITY FOR ITEM 203, EMBANKMENT, AS PER PLAN.

THE ARCHITECTURAL FINISH FOR THE MSE PANELS USED ON THIS PROJECT SHALL BE ASHLAR STONE.

ITEM SPECIAL, SEALING OF CONCRETE SURFACES:

COLOR FOR EPOXY-URETHANE SEALANT SHALL BE AS FOLLOWS:
FEDERAL COLOR NO. 17778-NEUTRAL. - TO BE APPLIED TO ALL PORTLAND CEMENT SURFACES INCLUDING PARAPETS, MSE WALL PANELS, COPING AND HEADWALLS. AS INDICATED IN THE DRAWINGS.

ITEM SPECIAL, REINFORCED EARTH WALL OR
ITEM SPECIAL, RETAINED EARTH WALL OR
ITEM SPECIAL, RETAINING WALL: A.R.E.S. RETAINING WALL OR
ITEM SPECIAL, MSE PLUS RETAINING WALL

MSE WALLS AND EMBANKMENT SHALL BE CONSTRUCTED IN TWO PHASES AS SHOWN ON THESE PLANS. A TEMPORARY MSE WALL WITH FABRIC REINFORCED FACE WILL BE NEEDED DURING PHASE I CONSTRUCTION. PAYMENT FOR THIS TEMPORARY MSE WALL W/ FABRIC REINFORCED FACE SHOULD BE INCLUDED WITH BRIDGE PAY ITEM 503, COFFERDAMS, CRIBS AND SHEETING, AS PER PLAN.

NOTE:

FOR METHOD OF MEASURMENT AND BASIS OF PAYMENT TO BE INCLUDED WITH LUMP SUM QUANTITY OF MSE WALLS, SEE MSE WALL SPECIAL PROVISIONS.

DESIGN A - REINFORCED EARTH WALLS.

ITEM	ITEM EXT	TOTAL	UNIT	DESCRIPTION	S.R.83 OVER I-71	
					WALL 1	WALL 2
SPECIAL	61013600	LUMP	LUMP	REINFORCED EARTH WALL	LUMP	LUMP

DESIGN B - FOSTER GEOTECHNICAL RETAINED EARTH WALLS.

ITEM	ITEM EXT	TOTAL	UNIT	DESCRIPTION	S.R.83 OVER I-71	
					WALL 1	WALL 2
SPECIAL	61013800	LUMP	LUMP	RETAINED EARTH WALL	LUMP	LUMP

DESIGN C - A.R.E.S. RETAINING WALLS BY TENSAR.

ITEM	ITEM EXT	TOTAL	UNIT	DESCRIPTION	S.R.83 OVER I-71	
					WALL 1	WALL 2
SPECIAL	61014000	LUMP	LUMP	RETAINING WALL: A.R.E.S. RETAINING WALL	LUMP	LUMP

DESIGN D - MSE PLUS RETAINING WALL

ITEM	ITEM EXT	TOTAL	UNIT	DESCRIPTION	S.R.83 OVER I-71	
					WALL 1	WALL 2
SPECIAL	61014200	LUMP	LUMP	MSE PLUS RETAINING WALL	LUMP	LUMP

PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED MCV	DRAWN JRS	REVIEWED RWB	DATE 04-2003
CHECKED MUR	REVISED	STRUCTURE FILE NUMBER 5205115	

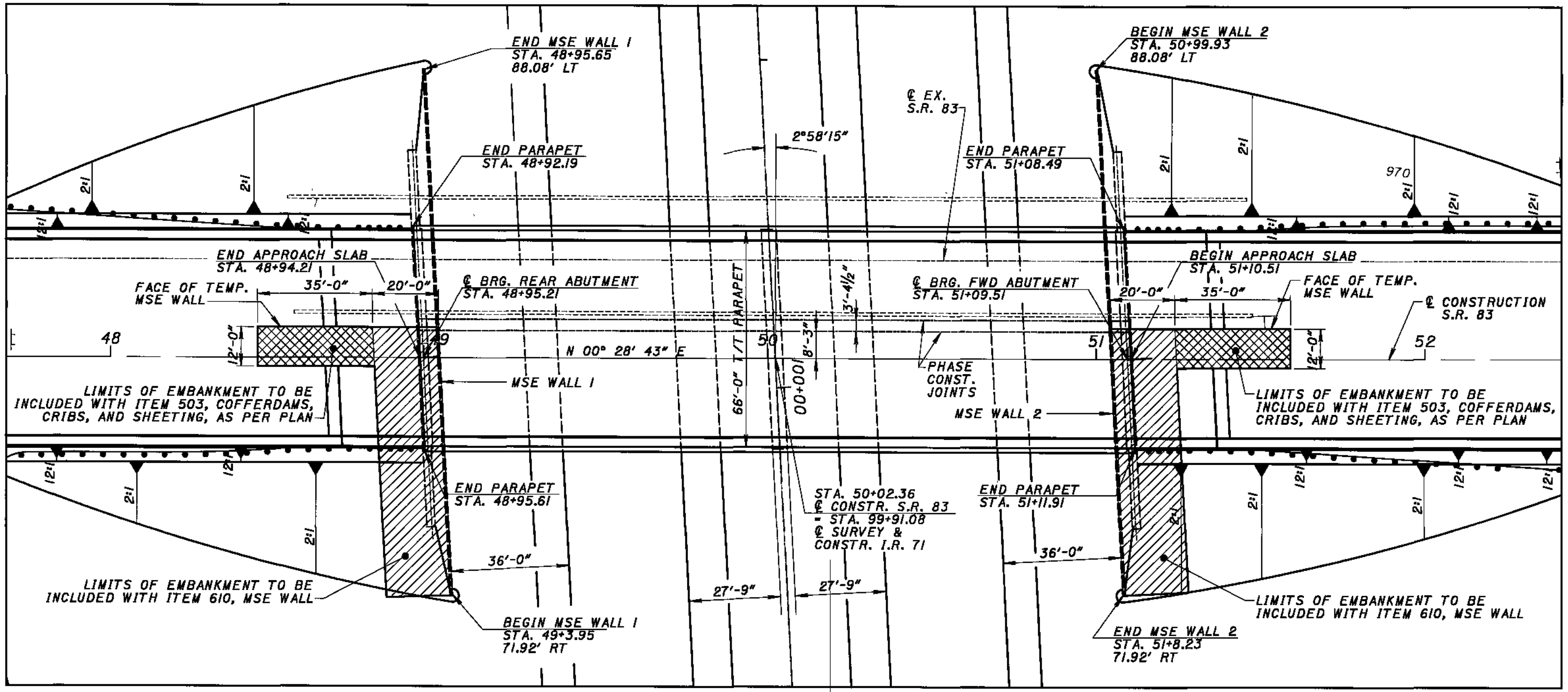
MSE WALL GENERAL NOTES & ESTIMATED QUANTITIES

BRIDGE NO. MED-83-0053
OVER I-71

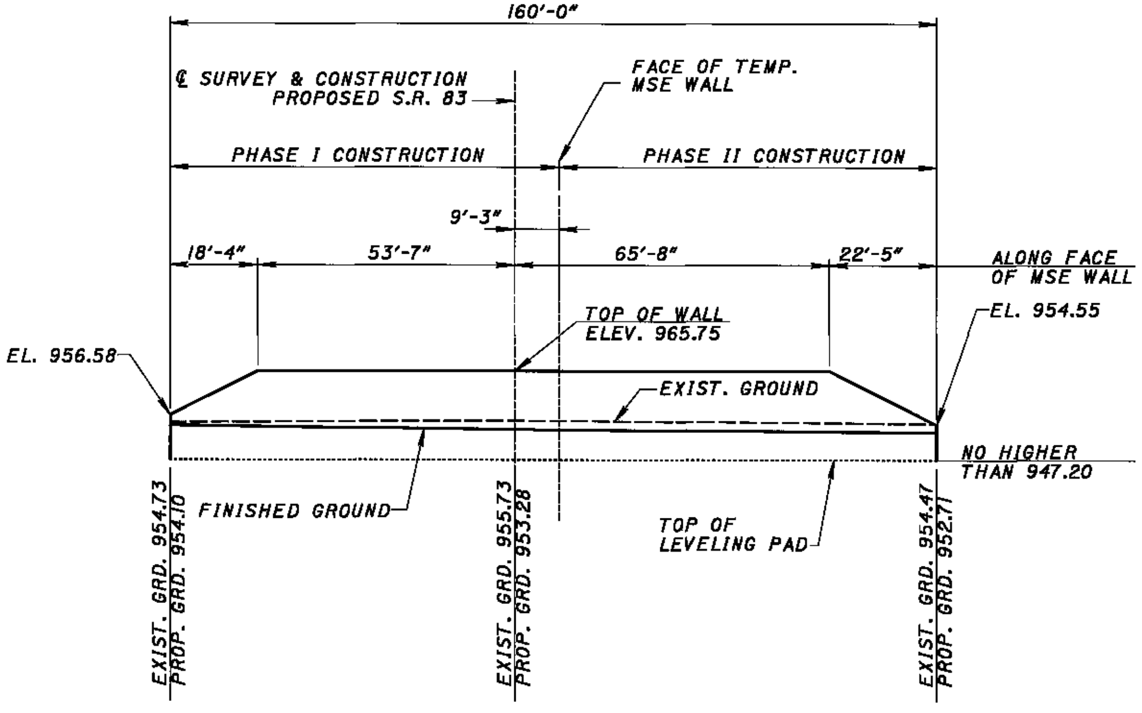
WAY/MED-71-7.04

1/4

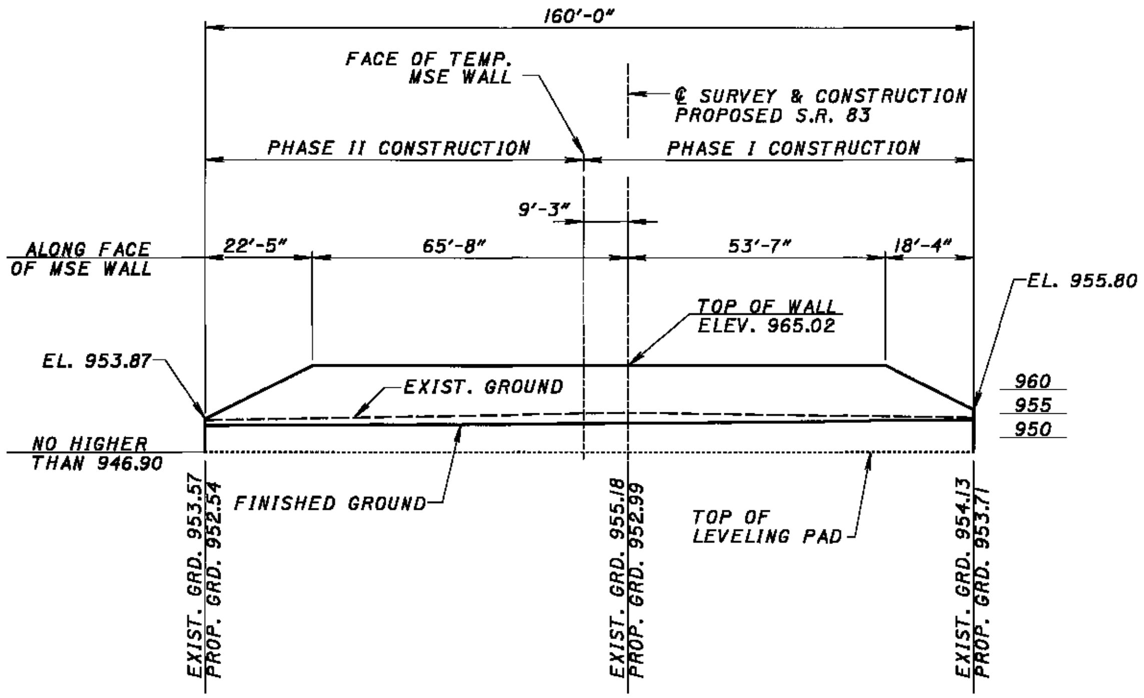
613A
785



PLAN



MSE WALL 1 (REAR ABUTMENT)



MSE WALL 2 (FORWARD ABUTMENT)

DATE: 10/17/2003 02:36:39 PM
FILENAME: h:\drawing\08\08419\308\detail design\mse walls\02mse.dgn

PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

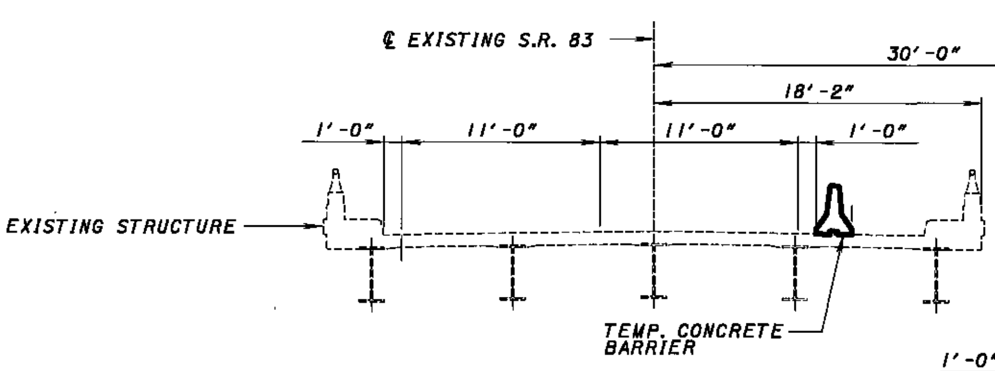
DESIGNED	DRAWN	REVIEWED	DATE
WJS	KVM	RWB	04-2003
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MUR		5205115	

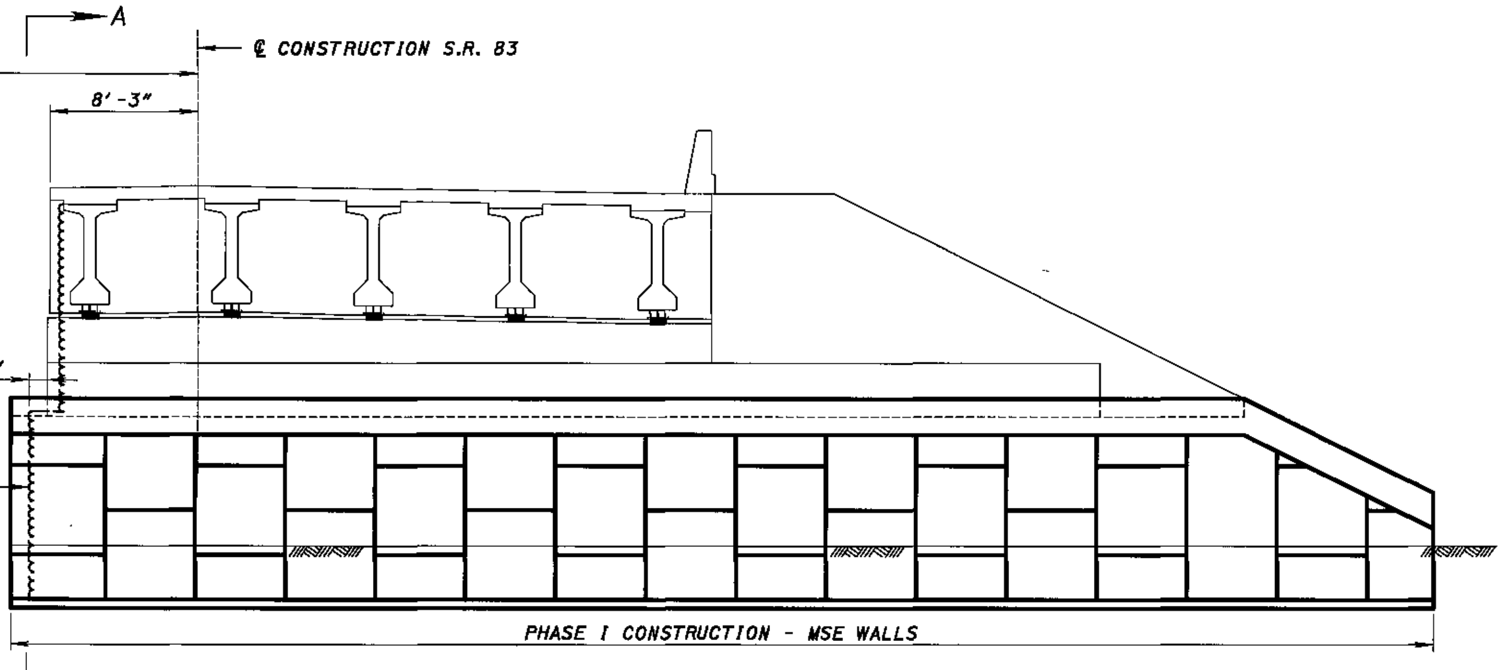
MSE WALL PLAN & PROFILES
BRIDGE NO. MED-83-0053
OVER I-71

WAY/MED-71-7.04

2/4

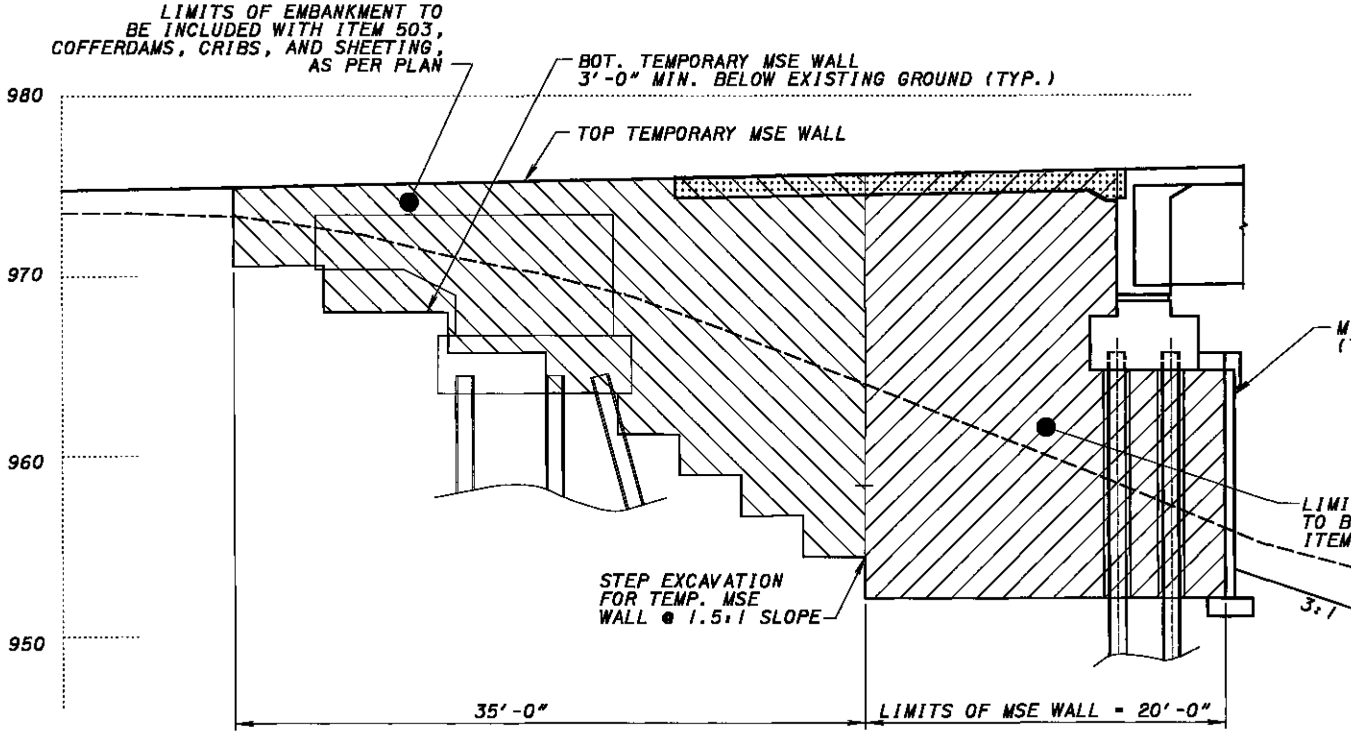
613B
785




A
℄ CONSTRUCTION S.R. 83
8'-3"
1'-0"
TEMPORARY MSE WALL FABRIC REINFORCED FACE
PHASE I CONSTRUCTION - MSE WALLS
A

PHASE I

FWD. ABUTMENT SHOWN
(REAR ABUTMENT OPPOSITE HAND)


LIMITS OF EMBANKMENT TO BE INCLUDED WITH ITEM 503, COFFERDAMS, CRIBS, AND SHEETING, AS PER PLAN
BOT. TEMPORARY MSE WALL 3'-0" MIN. BELOW EXISTING GROUND (TYP.)
TOP TEMPORARY MSE WALL
980
970
960
950
M.S.E. WALL (TYP.)
LIMITS OF EMBANKMENT TO BE INCLUDED WITH ITEM 610, MSE WALLS
STEP EXCAVATION FOR TEMP. MSE WALL @ 1.5:1 SLOPE
3:1
6:1
EXISTING GROUND
PROPOSED FINISH GRADE
35'-0"
LIMITS OF MSE WALL = 20'-0"

NOTE: BOTH CROSS HATCHED AREAS IN VIEW A-A REPRESENT THE FABRIC REINFORCED FACE ALONG THE PHASE CONSTRUCTION LINE.

VIEW "A-A"

(FOR ADDITIONAL DETAILS OF MSE WALL TYPICAL SECTION SEE SHEET 4/4)

* INCLUDE WITH MSE WALL FOR PAYMENT

PHASE I NOTES:

CONSTRUCT MSE WALL, ABUTMENT AND SUPERSTRUCTURE FOR PHASE I CONSTRUCTION. USE FABRIC REINFORCED FACE ALONG THE CONSTRUCTION LINE TO RETAIN THE EMBANKMENT.

PHASE II NOTES:

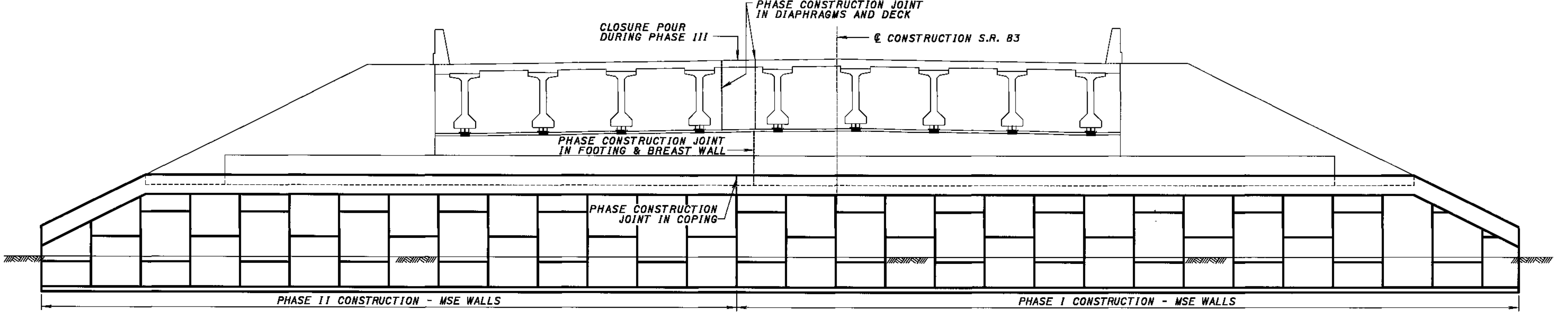
REMOVE THE EXISTING STRUCTURE AND CONSTRUCT THE ABUTMENT, SUPERSTRUCTURE AND MSE WALL FOR PHASE II CONSTRUCTION.

PHASE III NOTES:

CONSTRUCT DIAPHRAGM AND DECK FOR PHASE III CONSTRUCTION.

LEGEND

M.S.E. WALL - MECHANICALLY STABILIZED EARTH WALL


PHASE CONSTRUCTION JOINT IN DIAPHRAGMS AND DECK
CLOSURE POUR DURING PHASE III
℄ CONSTRUCTION S.R. 83
PHASE CONSTRUCTION JOINT IN FOOTING & BREAST WALL
PHASE CONSTRUCTION JOINT IN COPING
PHASE II CONSTRUCTION - MSE WALLS
PHASE I CONSTRUCTION - MSE WALLS

PHASE II

DATE: 10/17/2003 02:36:40 PM
FILENAME: t:\drawing\06\06419.308\detail design\mse walls\03mse.dgn

PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

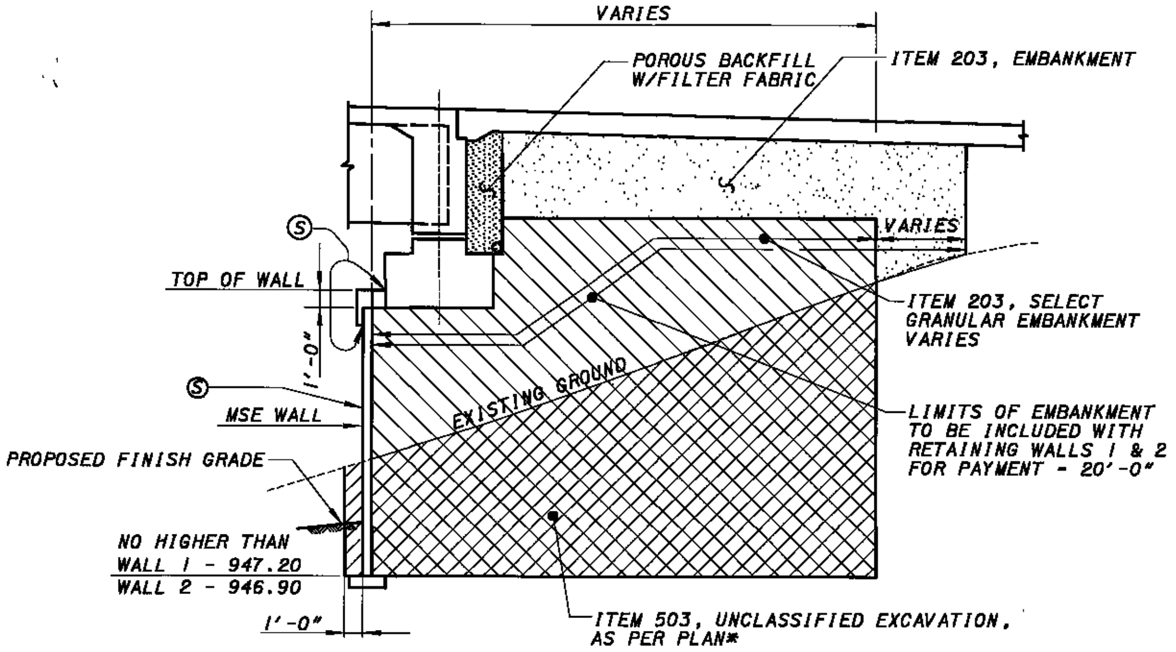
DESIGNED	DRAWN	REVIEWED	DATE
GFS	KVM	RWB	04-2003
CHECKED	REVISED	STRUCTURE FILE NUMBER	
GKL		5205115	

PHASE CONSTRUCTION DETAILS AT ABUTMENTS - MSE WALLS
BRIDGE NO. MED-83-0053
OVER I-71

WAY/MED-71-7.04

3/4

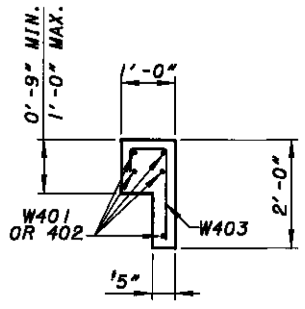
613C
785


VARIES
POROUS BACKFILL W/FILTER FABRIC
ITEM 203, EMBANKMENT
VARIES
Ⓢ
TOP OF WALL
1'-0"
Ⓢ
MSE WALL
PROPOSED FINISH GRADE
EXISTING GROUND
ITEM 203, SELECT GRANULAR EMBANKMENT VARIES
LIMITS OF EMBANKMENT TO BE INCLUDED WITH RETAINING WALLS 1 & 2 FOR PAYMENT - 20'-0"
NO HIGHER THAN
WALL 1 - 947.20
WALL 2 - 946.90
1'-0"
ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN*

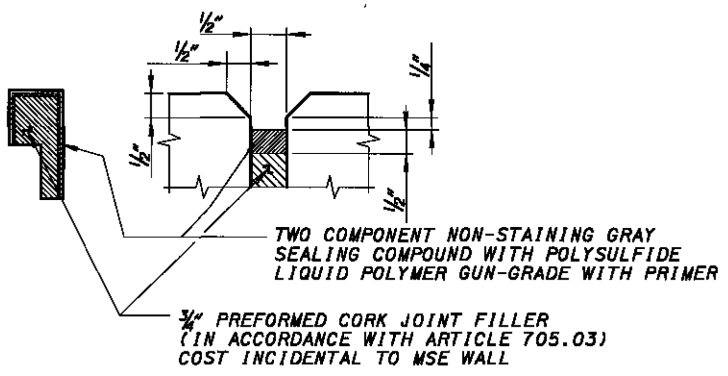
TYPICAL SECTION

(MSE WALL IN FRONT OF ABUTMENTS)

* INCLUDE WITH MSE WALL FOR PAYMENT



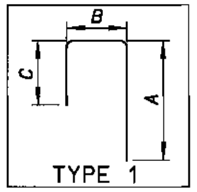
MSE WALL COPING


½"
½"
¼"
½"
½"
TWO COMPONENT NON-STAINING GRAY SEALING COMPOUND WITH POLYSULFIDE LIQUID POLYMER GUN-GRADE WITH PRIMER
¾" PREFORMED CORK JOINT FILLER (IN ACCORDANCE WITH ARTICLE 705.03) COST INCIDENTAL TO MSE WALL

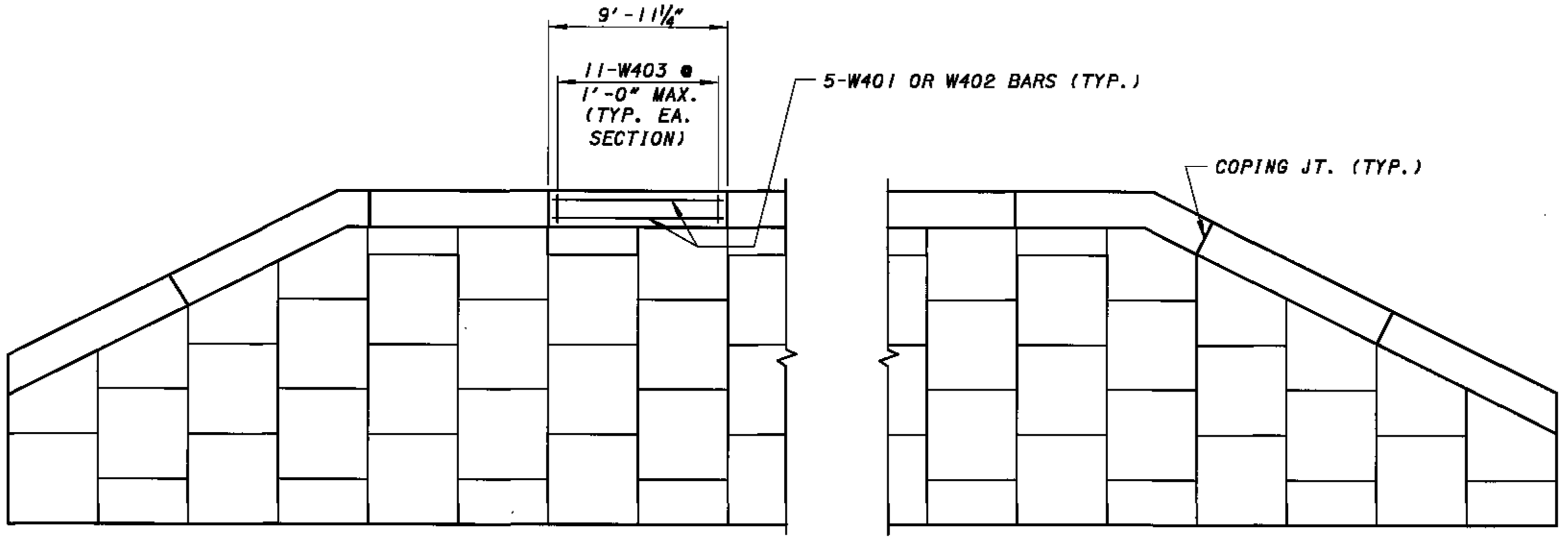
COPING JOINT DETAIL

MSE WALL COPING REINFORCING*

MARK	NUMBER			LENGTH	WEIGHT (POUNDS)	TYPE	DIMENSIONS		
	WALL 1	WALL 2	TOTAL				A	B	C
W401	55	55	110	9' - 7"	704	STR.			
W402	25	25	50	11' - 2"	373	STR.			
W403	176	176	352	2' - 7"	607	1	1' - 8"	0' - 8"	0' - 5"
				TOTAL	1,684				



BENDING DIAGRAMS


9'-11¼"
11-W403 @ 1'-0" MAX. (TYP. EA. SECTION)
5-W401 OR W402 BARS (TYP.)
COPING JT. (TYP.)

MSE WALL COPING ELEVATION

MSE WALL NO. 1 SHOWN
MSE WALL NO. 2 SIMILAR

NOTE:

JOINTS IN COPING SHALL BE AT 2 PANEL INTERVALS (TYP.) AND COINCIDE APPROXIMATELY WITH PANEL JOINTS. W401 BARS SHALL BE USED FOR COPING SECTIONS ALONG THE LEVEL TOP OF OF MSE WALL. W402 BARS SHALL BE USED FOR COPING ON SLOPED WALLS AND TRANSITION SECTIONS. THE REINFORCING STEEL SHALL BE STOPPED 2" SHORT OF EITHER SIDE OF THE JOINTS. FIELD CUT ANY EXCESS BAR LENGTH. FIELD BEND BARS AT SLOPE TRANSITIONS.

LEGEND

M.S.E. WALL - MECHANICALLY STABILIZED EARTH WALL

Ⓢ - DENOTES CONCRETE SURFACES TO BE SEALED WITH EPOXY-URETHANE, SEE GENERAL NOTES.

NOTE:

1. A 5" PANEL THICKNESS IS ASSUMED. PANEL THICKNESS MAY VARY FOR EACH WALL COMPANY.

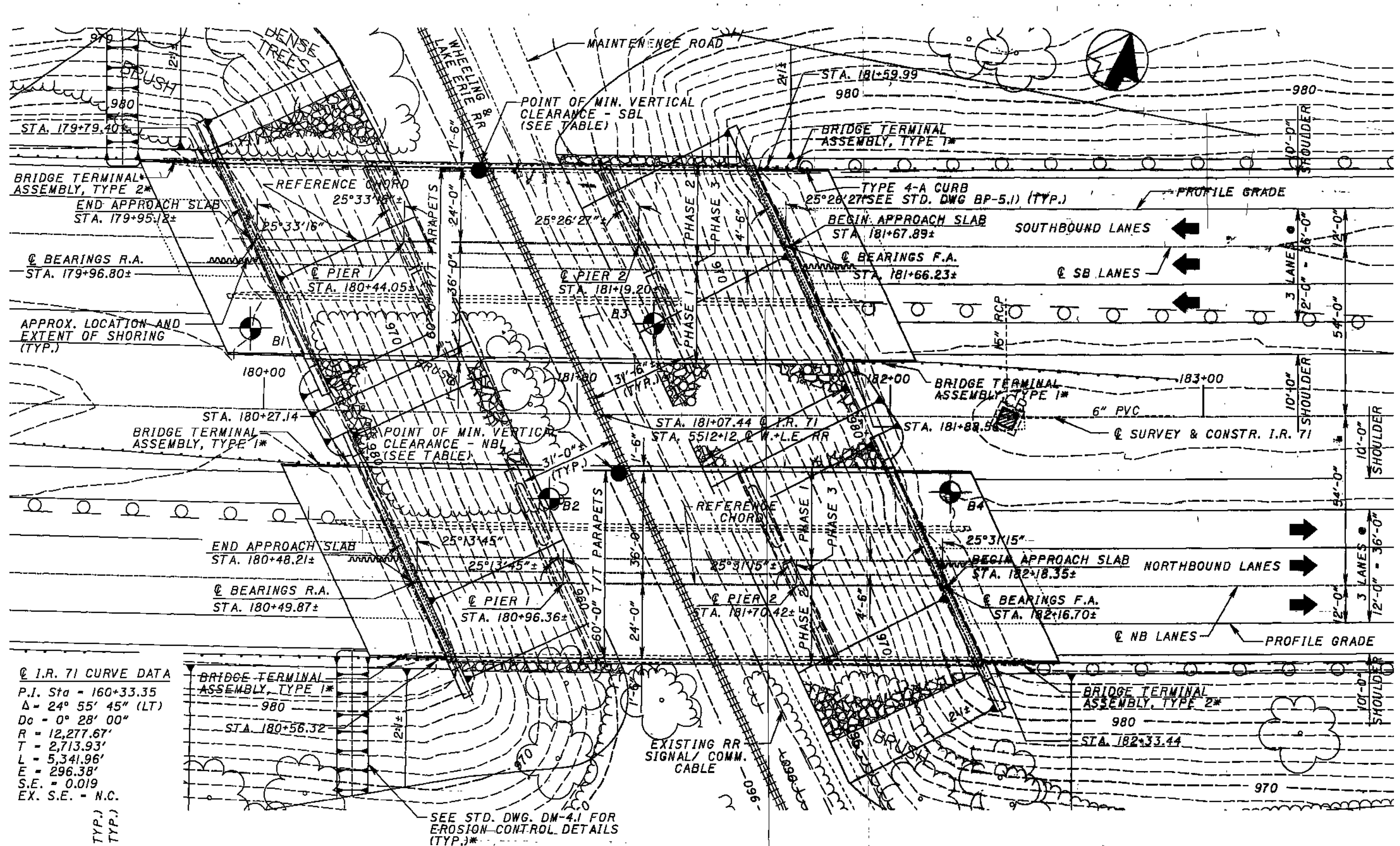
PREPARED BY
ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS

DESIGNED WJS
CHECKED MUR
DRAWN KVM
REVISED
REVIEWED RWB
DATE 04-2003
STRUCTURE FILE NUMBER 5205115

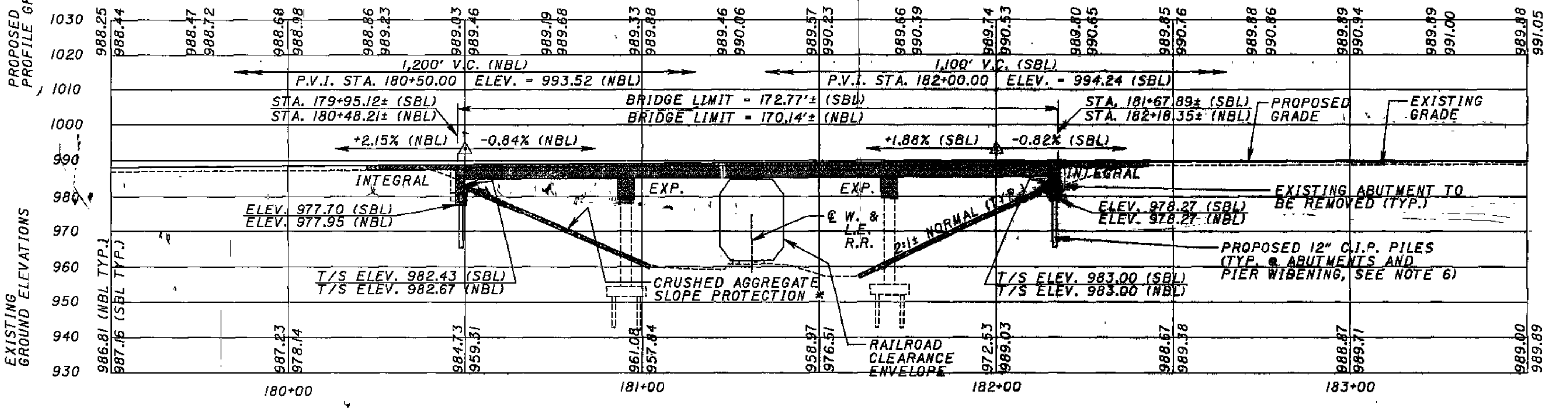
MSE WALL TYPICAL SECTIONS
BRIDGE NO. MED-83-0053
OVER I-71

WAY/MED-71-7.04

DATE: 10/17/2003 02:36:41 PM
FILENAME: h:\drawing\08\08549\308\detail design\mse walls\04mse.dgn



PLAN



* 1'-0" THICK IN WIDENED AND MEDIAN AREAS. THICKNESS AS NEEDED IN EXISITNG AREAS TO RE-ESTABLISH SLOPE

PROFILE

P:/PR30489/CADD/MED-71-0342/ME071sp.DGN

NOTES:

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO ROADWAY PLAN CROSS-SECTIONS.
2. REFERENCE CHORDS ARE GIVEN FROM THE INTERSECTIONS OF THE CENTERLINES OF LANES AND THE CENTERLINES OF ABUTMENT BEARINGS.
3. SPAN LENGTHS ARE MEASURED ALONG REFERENCE CHORDS.
4. BRIDGE LIMITS ARE MEASURED ALONG THE ℄ SURVEY & CONSTRUCTION I.R. 71.
5. SEE SHEET 5 / 51 FOR REFERENCE CHORD SCHEMATIC.
6. C.I.P. PILE ESTIMATED AVERAGE PAY LENGTH:
   ABUTMENTS = 50'-0"
   PIERS = 40'-0"

LEGEND:

● - POINT OF MINIMUM VERTICAL CLEARANCE
B# ⌖ - CURRENT FOUNDATION INVESTIGATION BORING
F.A. - FORWARD ABUTMENT
R.A. - REAR ABUTMENT
NBL = NORTHBOUND LANES
SBL - SOUTHBOUND LANES
* - SEE ROADWAY PLANS FOR DETAILS AND PAYMENT

VERTICAL CLEARANCE

POINT	REQUIRED	PROVIDED
NBL	23.0'	23.09'
SBL	23.0'	23.02'

SOIL BORING INFORMATION

BORING NO.	STATION	OFFSET	ELEVATION	APPROX. TOP OF ROCK
B1	179+95.38	25.70' (LT)	985.90	896.00
B2	180+91.64	27.09' (RT)	958.99	NONE
B3	181+24.33	29.07' (LT)	957.94	NONE
B4	182+19.21	24.07' (RT)	987.88	NONE

BENCHMARK INFORMATION

BM #3025: STA. 174+85.84, 0.185' RT., C/L MONUMENT, 486,316.64 N, 2,115,159.49 E, ELEV. 976.70

BM #3026: STA. 192+90.97, 0.020' RT., C/L MONUMENT, 487,097.37 N, 2,116,786.05 E, ELEV. 981.03

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS: 47'-0", 75'-0", 47'-0"
STRUCTURE FILE NO. : 5202493 (LEFT), 5202523 (RIGHT)
ROADWAY: 42'-0" F/F PARAPETS
ORIGINAL DESIGN LOADING: CF2000
WEARING SURFACE: 1" MONOLITHIC
ALIGNMENT: 00°28'00" LEFT
APPROACH SLABS: 25'-0" LONG
DATE BUILT: 1958
SKEW: 25°29'43"

PROPOSED STRUCTURE

TYPE: PRESTRESSED CONCRETE I-BEAM WITH REINFORCED COMPOSITE CONCRETE DECK ON MODIFIED CONCRETE T-TYPE PIERS AND INTEGRAL CONCRETE ABUTMENTS
SPANS: SBL: 46'-11 3/16", 74'-9 13/16"±, 46'-11 3/16" c/c BEARINGS
NBL: 46'-7 1/16", 74'-4 11/16"±, 46'-7" c/c BEARINGS
(MEASURED ALONG REFERENCE CHORD)
ROADWAY: 60'-0" T/T PARAPETS
SKEW: SEE PLAN VIEW (MEASURED WITH RESPECT TO REFERENCE CHORD)
ALIGNMENT: 00°28'00" LEFT
WEARING SURFACE: MONOLITHIC CONCRETE
DESIGN LOADING: HS25 AND ALT. MIL. LOADING
FWS LOADING: 60 PSF
APPROACH SLABS: 25' LONG
SUPERELEVATION: 0.019 FT./FT.
ADT (2006): 48930 ADTT (2006): 15170
ADT (2026): 68660 ADTT (2026): 21285
LATITUDE: N 41°00'03"
LONGITUDE: W 81°.3'03"

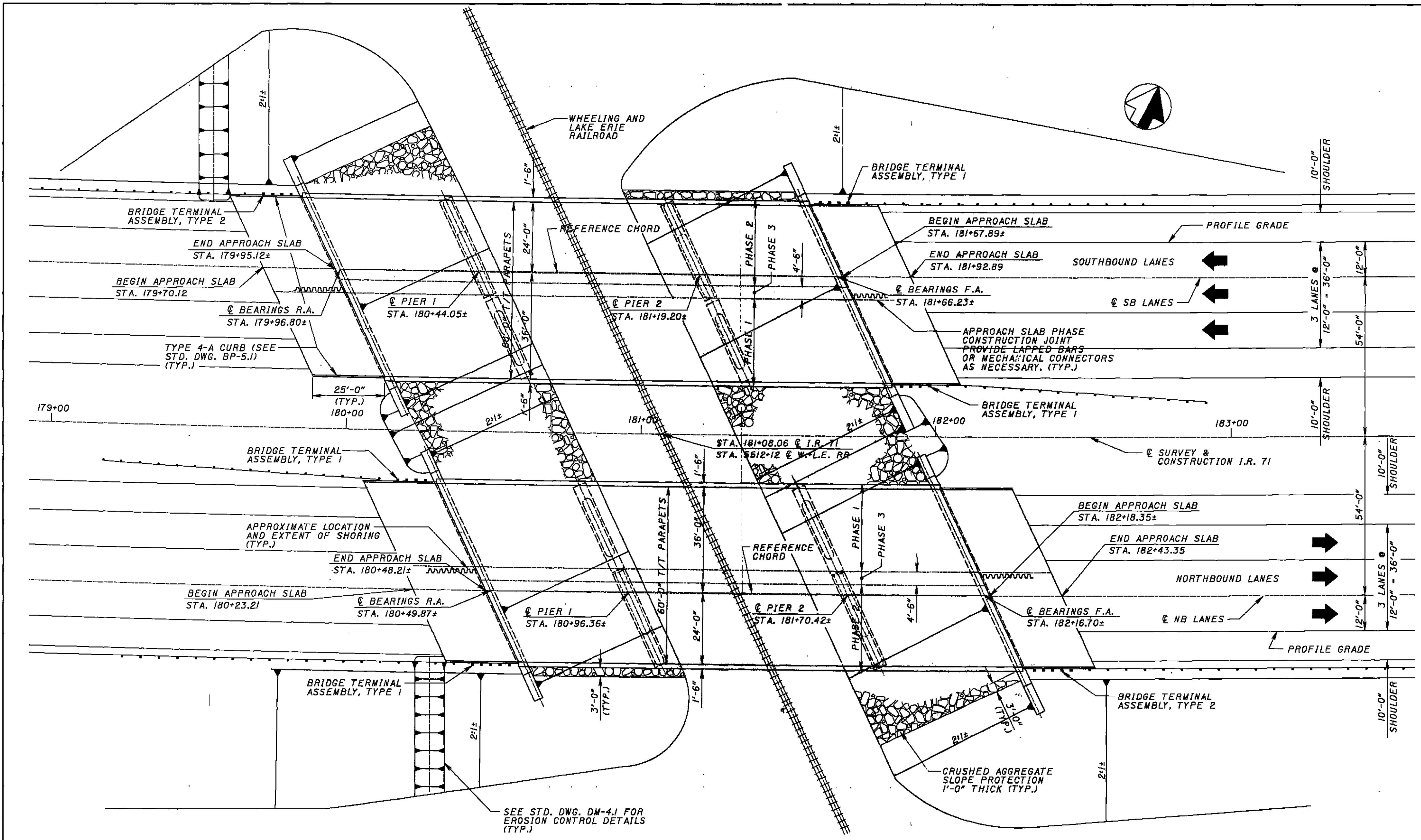
BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
WTL	CRC	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TTK		5202493 LEFT 5202523 RIGHT	

MEDINA COUNTY
STA. 179+95.12
STA. 182+18.35

SITE PLAN
BRIDGE NO. MED-71-0342 L/R
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00


WHEELING AND LAKE ERIE RAILROAD
BRIDGE TERMINAL ASSEMBLY, TYPE 2
BRIDGE TERMINAL ASSEMBLY, TYPE 1
END APPROACH SLAB STA. 179+95.12±
BEGIN APPROACH SLAB STA. 179+70.12
℄ BEARINGS R.A. STA. 179+96.80±
TYPE 4-A CURB (SEE STD. DWG. BP-5.1) (TYP.)
25'-0" (TYP.)
179+00
180+00
181+00
182+00
183+00
REFERENCE CHORD
℄ PIER 1 STA. 180+44.05±
℄ PIER 2 STA. 181+19.20±
60'-0" T/T PARAPETS
24'-0"
36'-0"
1'-6"
2:1±
PHASE 1
PHASE 2
PHASE 3
4'-6"
BEGIN APPROACH SLAB STA. 181+67.89±
END APPROACH SLAB STA. 181+92.89
℄ BEARINGS F.A. STA. 181+66.23±
APPROACH SLAB PHASE CONSTRUCTION JOINT ~~PROVIDE LAPPED BARS~~ OR MECHANICAL CONNECTORS AS NECESSARY. (TYP.)
PROFILE GRADE
SOUTHBOUND LANES
℄ SB LANES
3 LANES @ 12'-0" = 36'-0"
12'-0"
54'-0"
10'-0" SHOULDER
STA. 181+08.06 ℄ I.R. 71
STA. 5512+12 ℄ W.+L.E. RR
℄ SURVEY & CONSTRUCTION I.R. 71
APPROXIMATE LOCATION AND EXTENT OF SHORING (TYP.)
END APPROACH SLAB STA. 180+48.21±
BEGIN APPROACH SLAB STA. 180+23.21
℄ BEARINGS R.A. STA. 180+49.87±
℄ PIER 1 STA. 180+96.36±
℄ PIER 2 STA. 181+70.42±
BEGIN APPROACH SLAB STA. 182+18.35±
END APPROACH SLAB STA. 182+43.35
NORTHBOUND LANES
℄ NB LANES
℄ BEARINGS F.A. STA. 182+16.70±
3'-0" (TYP.)
CRUSHED AGGREGATE SLOPE PROTECTION 1'-0" THICK (TYP.)
SEE STD. DWG. DM-4.1 FOR EROSION CONTROL DETAILS (TYP.)

PLAN

NOTE:

1. SEE STD. DWG. AS-1-81 FOR APPROACH SLAB DETAILS NOT SHOWN.

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
WTL	CRC	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TTK		5202493 LEFT 5202523 RIGHT	

GENERAL PLAN
BRIDGE NO. MED-71-0342 L/R
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00

2 / 51

615 / 785

P:/PR30489/CADD/MED-71-0342/ME071gp1.DGN

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-81 DATED (REVISED) 7-19-02
DM-4.1 DATED 7-19-02
ICD-1-82 DATED (REVISED) 7-19-02
PCB-91 DATED (REVISED) 7-19-02
PSID-1-99 DATED (REVISED) 7-18-03
SBR-1-99 DATED (REVISED) 7-19-02

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:
846 DATED 4-19-02
864 DATED 7-11-00
894 DATED 10-18-02
954 DATED 9-9-97
1079 DATED 10-18-02

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF THE STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002 AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING: HS25 AND THE ALTERNATE MILITARY LOADING.
FUTURE WEARING SURFACE (FWS) OF 60 PSF.

DESIGN DATA:

CONCRETE CLASS HP - COMPRESSIVE STRENGTH 4,500 PSI (SUPERSTRUCTURE)

CONCRETE CLASS C - COMPRESSIVE STRENGTH 4,000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996 GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI

CONCRETE FOR PRESTRESSED BEAMS (SOUTHBOUND LANES)
COMPRESSIVE STRENGTH (FINAL) - 7,000 PSI
COMPRESSIVE STRENGTH (RELEASE) - 5,400 PSI

CONCRETE FOR PRESTRESSED BEAMS (NORTHBOUND LANES)
COMPRESSIVE STRENGTH (FINAL) - 7,000 PSI
COMPRESSIVE STRENGTH (RELEASE) - 5,500 PSI

PRESTRESSING STRAND
AREA = 0.167 in^2
ULTIMATE STRENGTH = 270 ksi
INITIAL STRESS = 202.5 ksi (LOW RELAXATION STRANDS)

DECK PROTECTION METHOD:
EPOXY COATED REINFORCING STEEL
2½" CONCRETE COVER
CLASS HP CONCRETE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN AS PER PLAN: THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER.

T-TYPE PIER CAP REMOVAL: FOR REMOVAL OF THE T-TYPE PIER CAPS, THE CONTRACTOR HAS THE OPTION OF USING A FULL DEPTH SAW CUT WITH SUBSEQUENT DOWEL INSTALLATION OR REMOVAL USING PNEUMATIC HAMMERS AND SALVAGING EXISTING RESTEEL. IF PNEUMATIC HAMMERS ARE USED, THE REQUIREMENTS UNDER "SUBSTRUCTURE CONCRETE REMOVAL", BELOW, SHALL BE FOLLOWED.

SUBSTRUCTURE CONCRETE REMOVAL: REMOVE CONCRETE BY MEANS OF APPROVED PNEMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. THE USE OF EXPLOSIVES, HEADACHE BALLS OR HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMERS SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUIT STRUCTURE.

SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISITNG REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISITNG EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISITNG CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

SUPERSTRUCTURE CONCRETE REMOVAL: FULL DEPTH SAWCUT THROUGH THE DECK IS REQUIRED.

PROTECTION OF TRAFFIC: PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, SUBMIT PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR, PEDESTRIAN, BOAT, ETC.) ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE DIRECTOR AT LEAST 30 DAYS BEFORE CONSTRUCTION BEGINS. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. MAINTAIN THE TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE DIRECTOR. ALL COSTS ASSOCIATED WITH THIS TRAFFIC PROTECTION WILL BE INCLUDED WITH ITEM 202 FOR PAYMENT.

ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN: THE BACKFILL MATERIAL BEHIND THE ABUTMENTS SHALL BE TYPE B GRANULAR MATERIAL, 703.16.C, PLACED AND COMPACTED IN 6 INCH LIFTS.

PILE DESIGN LOADS (ULTIMATE BEARING VALUE): THE ULTIMATE BEARING VALUE IS 95 TONS PER PILE FOR THE 12" DIAMETER CAST-IN-PLACE REINFORCED CONCRETE ABUTMENT PILES. THE ULTIMATE BEARING VALUE IS 82 TONS PER PILE FOR THE 12" DIAMETER CAST-IN-PLACE REINFORCED CONCRETE PIER PILES.

ABUTMENT PILES (SOUTHBOUND LANES):
26 PILES 55 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEM

PIER PILES (SOUTHBOUND LANES):
58 PILES 45 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEM

ABUTMENT PILES (NORTHBOUND LANES):
26 PILES 55 FEET LONG, ORDER LENGTH
NO ADDITIONAL DYNAMIC LOAD TESTING ITEM

PIER PILES (NORTHBOUND LANES):
60 PILES 45 FEET LONG, ORDER LENGTH
NO ADDITIONAL DYNAMIC LOAD TESTING ITEM

BATTERED PILES: THE BLOW COUNT FOR BATTERED PILES SHALL BE THE BLOW COUNT DETERMINED FOR VERTICAL PILES OF THE SAME ULTIMATE BEARING VALUE DIVIDED AN EFFICIENCY FACTOR (D). COMPUTE THE EFFICIENCY FACTOR (D) AS FOLLOWS:

$$D=\frac{1-UG}{\sqrt{(1+G^2)}}$$

U= COEFFICIENT OF FRICTION, WHICH IS ESTIMATED AT 0.05 FOR DOUBLE-ACTING AIR OPERATED OR DIESEL HAMMERS; 0.1 FOR SINGLE-ACTING AIR OPERATED OR DIESEL HAMMERS; AND 0.2 FOR DROP HAMMERS.

G= RATE OF BATTER (1/3, 1/4, ETC.)

EXISTING STRUCTURE VERIFICATION: DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05 AND 105.02.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.

EXISTING STRUCTURE PLANS: PLANS MAY BE EXAMINED BY PROSPECTIVE BIDDERS AT THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 3 OFFICES, 906 NORTH CLARK ST., ASHLAND, OHIO 44805 (PHONE 800-276-4188).

ITEM 516 INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN: INSTALL A 3 FOOT WIDE NEOPRENE SHEET AT LOCATIONS SHOWN IN THE PLANS. SECURE THE NEOPRENE SHEETING TO THE CONCRETE WITH 1¼" x #10 GAGE (LENGTH x SHANK DIAMETER) GALVANIZED BUTTON HEAD SPIKES THROUGH A 1 INCH OUTSIDE DIAMETER, #10 GAGE GALVANIZED WASHER. MAXIMUM FASTENER SPACING IS 9 INCHES. USE OF OTHER SIMILAR GALVANIZED DEVICES, WHICH WILL NOT DAMAGE EITHER THE NEOPRENE OR THE CONCRETE WILL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

CENTER THE NEOPRENE STRIPS ON ALL JOINTS. FOR HORIZONTAL JOINTS, SECURE THE HORIZONTAL NEOPRENE STRIP BY USING A SINGLE LINE OF FASTENERS, STARTING AT 6 INCHES, ±, FROM THE TOP OF THE NEOPRENE STRIP. FOR THE VERTICAL JOINTS SECURE THE VERTICAL NEOPRENE STRIP BY USING A SINGLE VERTICAL LINE OF FASTENERS, STARTING AT 6 INCHES, ±, FROM THE VERTICAL EDGE OF THE NEOPRENE STRIP NEAREST TO THE CENTERLINE OF ROADWAY. FOR VERTICAL JOINTS, INSTALL 2 ADDITIONAL FASTENERS AT 6 INCHES, CENTER TO CENTER, ACROSS THE TOP OF THE NEOPRENE STRIP ON THE SAME SIDE OF THE VERTICAL JOINT AS THE SINGLE VERTICAL ROW OF FASTENERS IS LOCATED.

THE VERTICAL NEOPRENE STRIPS SHALL COMPLETELY OVERLAP THE HORIZONTAL STRIPS. LAP LENGTHS OF THE HORIZONTAL STRIPS THAT ARE NOT VULCANIZED OR ADHESIVE BONDED, SHALL BE AT LEAST 1 FOOT IN LENGTH, OR 6 INCHES IN LENGTH IF THE LAP IS VULCANIZED OR ADHESIVE BONDED. NO LAPS ARE ACCEPTABLE IN VERTICALLY INSTALLED NEOPRENE STRIPS.

THE NEOPRENE SHEETING SHALL BE 3/32" THICK GENERAL PURPOSE, HEAVY DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT. THE SHEETING SHALL BE "FAIRPRENE NUMBER NN-0003", BY E.I. DUPONT DE NEMOURS AND COMPANY, INC., "WINGPRENE" BY THE GOODYEAR TIRE AND RUBBER COMPANY, OR AN APPROVED ALTERNATE. THE NEOPRENE SHEETING SHALL CONFORM TO THE FOLLOWING:

DESCRIPTION OF TEST	ASTM METHOD	REQUIREMENT
THICKNESS, INCHES	D751	0.094 ±0.01
BREAKING STRENGTH, GRAB, LBS, MINIMUM (LONG. x TRANS.)	D751	700 x 700
ADHESIVE STRIP, 1" WIDE x 2" LONG, LBS MINIMUM	D751	9
BURST STRENGTH, PSI MINIMUM	D751	1400
HEAT AGING, 70 HR, 212°F, 180° BEND WITHOUT CRACKING	D2136	NO CRACKING OF COATING
LOW TEMP. BITTLENESS, 1 HR, -40°F, BEND AROUND ¼" MANDREL	D2136	NO CRACKING OF COATING

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE TOTAL LENGTH OF JOINT TO BE SEALED BY THE NUMBER OF FEET.

BASIS OF PAYMENT: THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN.

MECHANICAL CONNECTORS: AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING BARS SHALL BE PROVIDED. INSTALLATION OF CONNECTORS SHALL CONFORM WITH MANUFACTURER'S RECOMMENDED PROCEDURES. IF A DOWEL BAR SPLICE TYPE OF CONNECTOR IS FURNISHED, THE MINIMUM DOWEL LENGTH TO BE FURNISHED WITH THE CONNECTOR SHALL BE THE MINIMUM LAP LENGTH FOR THAT BAR AS SHOWN ON THE PLANS.

CONNECTORS AND DOWEL BARS USED WITH EPOXY COATED BARS SHALL BE EPOXY COATED. COATING FOR BOTH CONNECTORS AND BARS SHALL CONFORM TO THE SAME SPECIFICATIONS. COATINGS WHICH HAVE BEEN DAMAGED OR WHICH OTHERWISE DO NOT MEET SPECIFICATIONS WITH RESPECT TO COLOR, CONTINUITY AND UNIFORMITY MAY BE REPAIRED AS DIRECTED BY THE ENGINEER OR THEY SHALL BE REPLACED WITH MATERIAL THAT MEETS THE SPECIFICATIONS.

CONNECTORS AND DOWEL BARS SHALL CONFORM WITH ITEM 509 AND BE INCLUDED IN THE BID PRICE PER CUBIC YARD FOR THE CONCRETE ITEMS.

SEALING WITH HMWM RESIN: AFTER THE APPLICATION OF THE MEMBRANE CURE, AND THE DECK HAS THOROUGHLY DRIED, VERTICAL CONSTRUCTION JOINTS (TRANSVERSE & LONGITUDINAL) IN THE DECK SLAB, HORIZONTAL JOINTS (AT THE BASE OF PARAPETS) AND CRACKS IN THE ROADWAY SURFACE THAT ARE VISIBLE TO THE UNAIDED EYE, SHALL BE SEALED WITH A HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM) RESIN AS DESCRIBED IN SUPPLEMENTAL SPECIFICATIONS 846 & 954. SEALANT SHALL BE APPLIED BY BRUSH, SPRAY OR OTHER SUITABLE APPLICATOR ALONG THE SURFACE OF JOINTS AND CRACKS. IF NECESSARY, MULTIPLE APPLICATIONS SHALL BE MADE UNTIL COMPLETE PENETRATION HAS BEEN ACHIEVED. AFTER SEALANT HAS BEEN CURED, IT SHALL BE SANDED AS SPECIFIED TO ROUGHEN THE SEALANT SURFACE AND RESTORE ITS SUITABILITY FOR VEHICULAR TRAFFIC. FOR OVERCOATING WITH A CONCRETE SURFACE SEALANT, TREATED SURFACES SHALL BE ROUGHENED BY ABRASIVE BLASTING AND OTHERWISE CLEANED AS SPECIFIED FOR THE SUBSEQUENT APPLICATION. SEALING CONSTRUCTION JOINTS AND CRACKS, AS DESCRIBED ABOVE, SHALL BE INCLUDED WITH THE DECK SLAB CONCRETE FOR PAYMENT.

ITEM 503 - COFFERDAMS, CRIBS, AND SHEETING, AS PER PLAN:

A PROPOSED SCHEME FOR TEMPORARY SHORING IS SHOWN ON SHEET 14 / 51 .

AT THE OPTION OF THE CONTRACTOR, AN ALTERNATE METHOD OF TEMPORARY SHORING FOR PART-WIDTH CONSTRUCTION MAY BE USED. PLANS FOR SUCH SHORING SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER AND CONFORM WITH 501.05. FOR APPROVAL, FIVE COPIES OF THE DRAWINGS SHALL BE SUBMITTED TO THE DIRECTOR AND CONCURRENTLY, ONE COPY TO THE OFFICE OF STRUCTURAL ENGINEERING. CONSTRUCTION OF THE SHORING SHALL NOT BEGIN UNTIL AFTER WRITTEN APPROVAL HAS BEEN RECEIVED FROM THE DIRECTOR. PORTIONS OF THE TEMPORARY SHORING COMPOSED OF STEEL OR CONCRETE MAY BE LEFT IN PLACE AT THE DISCRETION OF THE ENGINEER. PORTIONS COMPOSED OF OTHER MATERIALS SHALL BE REMOVED PRIOR TO COMPLETION OF THE WORK.

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	CRC	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202493 LEFT 5202523 RIGHT	

GENERAL NOTES I
BRIDGE NO. MED-71-0342 L/R
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00

ITEM 530, SPECIAL - STRUCTURE, MISC.: ESTABLISH SUBSTRUCTURE CENTERLINES
PRIOR TO THE START OF ANY WORK, THE CONTRACTOR SHALL ESTABLISH THE PROPOSED ABUTMENT CENTERLINE OF BEARINGS AND PIER CENTERLINES. A REGISTERED PROFESSIONAL SURVEYOR SHALL PERFORM THIS WORK. CENTERLINE OF PIERS SHALL BE BASED ON LOCATING THE CENTERLINE OF THE EXISTING PIER CAPS. THIS LINE SHALL BECOME THE PROPOSED CENTERLINE OF EACH PIER. CENTERLINE OF BEARINGS AT THE ABUTMENTS SHALL BE PARALLEL TO THE ADJACENT PIER CENTERLINES AND OFFSET BY THE SPAN LENGTH DIMENSIONS SHOWN ON THE REFERENCE CHORD SCHEMATIC (SEE SHEET 5 / 51). THESE PARALLEL OFFSET LINES SHALL BECOME THE PROPOSED CENTERLINE OF BEARINGS AT EACH ABUTMENT. IF THE ANGLE BETWEEN THE INTERSECTION OF CENTERLINE OF PIERS AND THE REFERENCE CHORD OR THE DIMENSIONS BETWEEN THE CENTERLINES ALONG THE REFERENCE CHORD DIFFER FROM INFORMATION SHOWN ON THE PLANS, LENGTH ADJUSTMENT MAY BE REQUIRED TO THE SPAN 2 BEAM LENGTHS. SURVEY RESULTS INCLUDING PROPOSED SPAN LENGTHS MEASURED ALONG THE REFERENCE CHORD SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO THE START OF CONSTRUCTION. ALL COSTS ASSOCIATED WITH PERFORMING THIS LUMP SUM ITEM SHALL BE INCLUDED IN THE PAY ITEM " SPECIAL - STRUCTURE, MISC.: ESTABLISH SUBSTRUCTURE CENTERLINES".

WHEELING AND LAKE ERIE RAILROAD REQUIREMENTS:
ALL REFERENCE TO "THE RAILROAD" OR "THE RAILROAD COMPANY" HEREIN SHALL BE MEANT TO APPLY TO THE WHEELING AND LAKE ERIE RAILROAD (W. & L.E.)

A. GENERAL
FOR ADDITIONAL REQUIREMENTS PERTAINING TO THE RAILROADS, SEE SPECIAL CLAUSES IN THE PROPOSAL.

THE CONTRACTOR SHALL:

1. COOPERATE AT ALL TIMES WITH THE LOCAL OFFICIALS OF THE RAILROAD COMPANIES.
2. USE CARE AND DILIGENCE IN THE WORK IN ORDER TO AVOID ACCIDENTS, DAMAGE, OR UNNECESSARY DELAY TO, OR INTERFERENCE WITH TRAINS AND OTHER PROPERTY OF THE RAILROAD COMPANIES.
3. CONDUCT WORK IN A MANNER SATISFACTORY TO THE CHIEF ENGINEER OF THE RAILROAD COMPANIES OR THEIR AUTHORIZED REPRESENTATIVES, IN SUCH MANNER AND AT SUCH TIME AS TO NOT UNNECESSARILY INTERFERE WITH THE MOVEMENT OF TRAINS OR RAILROAD TRAFFIC, AND TO HOLD THE WORK AT ALL TIMES OPEN TO INSPECTION BY RAILROAD COMPANY INSPECTORS.
4. COOPERATE WITH RAILROAD COMPANIES OR OTHER ORGANIZATIONS HAVING OCCASION TO DO WORK ON AND IN CONNECTION WITH THE IMPROVEMENT.
5. AVOID USE OF RAILROAD PROPERTY WITHOUT WRITTEN PERMISSION OF THE RAILROAD COMPANIES AND LEAVE RAILROAD RAIL BED AND PROPERTY IN A CONDITION ACCEPTABLE TO THE CHIEF ENGINEER OF THE RAILROAD COMPANIES.

PRIOR TO COMMENCING ANY WORK INVOLVING THE REMOVAL OF THE EXISTING STRUCTURE, THE CONTRACTOR SHALL SUBMIT TO THE DIRECTOR FOR APPROVAL BY THE DIRECTOR AND RAILROADS, COMPLETE DETAILS OF THE PROPOSED METHOD FOR REMOVING THE EXISTING STRUCTURE, INCLUDING THE METHOD OF TRACK PROTECTION, THE SEQUENCE OF DEMOLITION, AND THE PROCEDURES AND EQUIPMENT TO BE USED. NO DEMOLITION SHALL BEGIN UNTIL AFTER WRITTEN APPROVAL IS RECEIVED FROM THE DIRECTOR.

ALL WORK ABOVE OR DIRECTLY ADJACENT TO RAILROAD TRACKS SHALL BE SUBJECT TO THE APPROVAL OF THE RAILROAD COMPANIES AND TO INSPECTION AT ALL TIMES BY THEIR PROPERLY DESIGNATED REPRESENTATIVES. SAFETY AND CONTINUITY OF OPERATIONS OF RAILROAD TRAFFIC AND THE PROTECTION OF RAILROAD COMMUNICATION AND POWER LINES (IF PRESENT) SHALL BE OF MAJOR IMPORTANCE AND SHALL AT ALL TIMES BE PROTECTED AND SAFEGUARDED. THE CONTRACTOR SHALL GIVE WRITTEN NOTICE TO THE DIRECTOR AND DULY AUTHORIZED REPRESENTATIVES OF THE RAILROADS AT LEAST TEN WORKING DAYS IN ADVANCE OF THE TIME THE CONTRACTOR INTENDS TO COMMENCE ANY WORK ABOVE OR DIRECTLY ADJACENT TO TRACKS. WHENEVER PERFORMING ANY WORK SUCH AS CONSTRUCTION OF PIERS OR SETTING OF NEW BEAMS WHICH, IN THE OPINION OF THE ENGINEER, COULD AFFECT RAILROAD OPERATION, THE CONTRACTOR SHALL SUBMIT COMPLETE PLANS AND DETAILS OF THE PROPOSED WORK TO THE ENGINEER FOR APPROVAL BY THE DEPARTMENT AND RAILROAD COMPANIES. NO SUCH WORK SHALL BE COMMENCED OR PROSECUTED WITHOUT PRIOR APPROVAL. APPROVAL OF SUCH WORK SHALL NOT BE CONSTRUED AS A RELEASE FROM RESPONSIBILITY OR LIABILITY FOR ANY DAMAGE THAT RAILROADS MAY SUFFER.

THE CONTRACTOR SHALL NOT AT ANY TIME PERMIT EQUIPMENT IN HIS USE TO ENTER UPON OR FOUL THE RAILROADS TRACKS EXCEPT WHEN SUCH EQUIPMENT IS PROTECTED BY AUTHORIZED EMPLOYEES OF THE RAILROADS. NO DEBRIS SHALL BE ALLOWED TO FALL ON RAILROAD PROPERTY.

RAILROAD AERIAL LINES (IF PRESENT) WILL BE RELOCATED BY THE RAILROADS. THE CONTRACTOR SHALL USE ALL PRECAUTIONS NECESSARY TO SEE THAT THE LINES ARE NOT DISTURBED DURING THE CONSTRUCTION STAGE AND SHALL COOPERATE WITH THE RAILROADS IN THE RELOCATION OF THESE LINES. THE COST OF THE RELOCATION SHALL BE INCLUDED IN RAILROAD FORCE ACCOUNT WORK.

UPON COMPLETION OF CONSTRUCTION OF THE PROPOSED STRUCTURE, THE CONTRACTOR SHALL REQUEST THE ENGINEER TO ARRANGE A FINAL INSPECTION OF THE PROJECT WITH THE RAILROAD'S DIVISION ENGINEER OR HIS AUTHORIZED REPRESENTATIVE.

B. CONSTRUCTION ADJACENT TO TRACKS

THE FOLLOWING CONSTRUCTION CLEARANCES SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION OF THE NEW STRUCTURE:

HORIZONTALLY FROM THE CENTER OF THE TRACK:

W. & L.E. 14'-0"

VERTICALLY FROM A POINT LEVEL WITH THE TOP OF THE HIGHER RAIL AND 6 FEET FROM THE CENTER OF TRACKS:

W. & L.E. 22'-0"

NO OBSTRUCTIONS CLOSER TO THE TRACK THAN PERMITTED BY CONSTRUCTION CLEARANCES SHALL EXTEND ABOVE THE TOP OF RAIL. DURING REMOVAL OF THE EXISTING STRUCTURE, THE HORIZONTAL AND VERTICAL CLEARANCE SHALL NOT BE LESS THAN THE EXISTING OR THE PROPOSED CLEARANCE, WHICHEVER IS LESS.

SHORT DURATION INFRINGEMENTS ON THE ABOVE STATED CONSTRUCTION CLEARANCES SHALL BE DONE ONLY WITH APPROVAL FROM THE RAILROAD AND UNDER THE DIRECTION OF RAILROAD FLAGGERS OR AUTHORIZED PERSONNEL.

RAILROAD INSURANCE INFORMATION:

OWNER OF THIS RAILROAD CROSSING IS WHEELING AND LAKE ERIE RAILWAY COMPANY.
THE NUMBER OF TRAINS OPERATING THROUGH THE IMPROVEMENT IS ESTIMATED TO BE:

0 PASSENGER TRAINS PER DAY @ __ MILES PER HOUR.

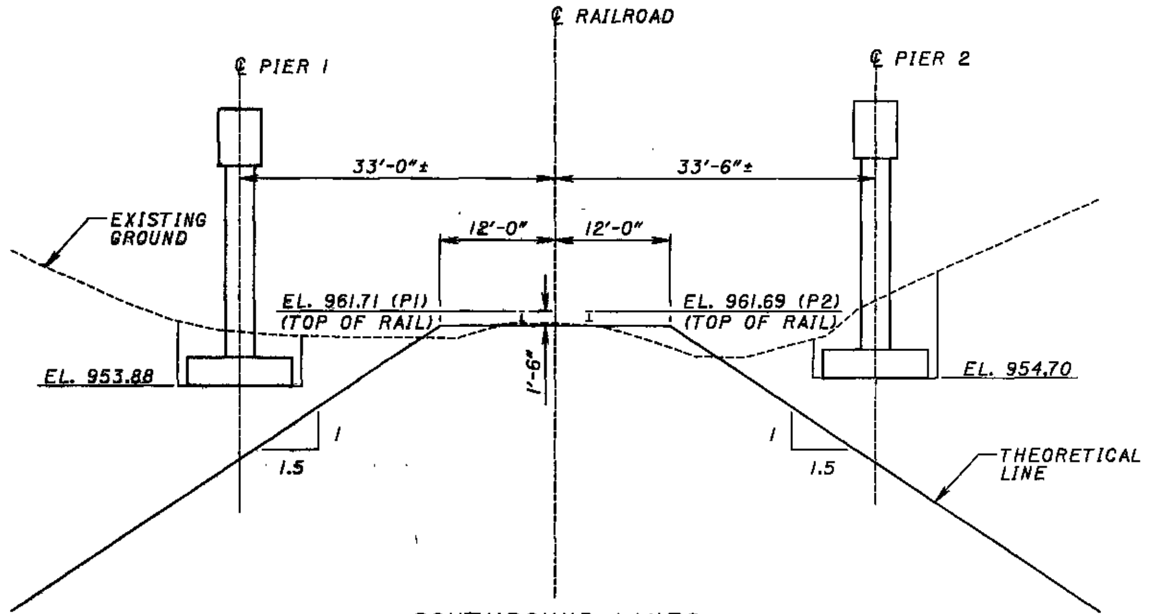
10 FREIGHT TRAINS PER DAY @ 25 MILES PER HOUR.

HAZARDOUS MATERIAL: VARIOUS (LIST PROVIDED UPON REQUEST)

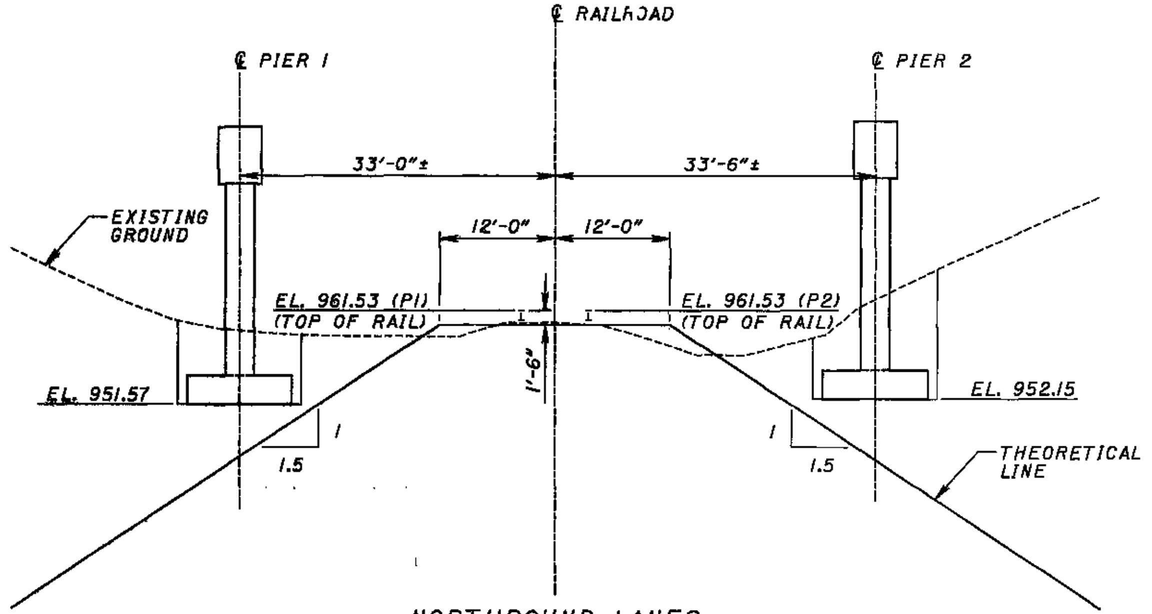
THE IDENTIFICATION OF THE CROSSING IS KNOWN AS:
MILEPOST: 104.5 BREWSTER SUBDIVISION
AARDOT NO: 473550G

LOCAL CONTACT PERSON FOR FLAGGING: HEIDI KAISER, ENGINEERING ADMIN.
PHONE: 330-767-7229

WLE RAILWAY COMPANY MAY REQUIRE ADVANCE NOTICE WHEN FLAGGING SERVICES ARE REQUIRED.



SOUTHBOUND LANES



NORTHBOUND LANES

P:/PR30489/CADD/MED-71-0342/MED71gn2.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	CRC	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202493 LEFT 5202523 RIGHT	

GENERAL NOTES 2
BRIDGE NO. MED-71-0342 L/R
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00

4 / 51

617
785

PHASE CONSTRUCTION AND MAINTENANCE OF TRAFFIC:

THE PROPOSED WORK (INCLUDING THE APPROACH SLABS) SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:

1. PLACE PORTABLE CONCRETE BARRIERS ON NORTHBOUND AND SOUTHBOUND LANES AND DIVERT TRAFFIC TO OUTER LANES.
2. INSTALL PHASE I T-TYPE PIER SUPPORTS AT EACH PIER.
3. REMOVE PORTIONS OF THE EXISTING STRUCTURES AS SHOWN ON THESE PLANS OR IN ABSENCE OF PLAN DETAILS OR NOTES, AS NEEDED TO PERMIT PHASE I CONSTRUCTION.
4. CONSTRUCT SUBSTRUCTURE FOR PHASE I.
5. COMPLETE PHASE I CONSTRUCTION.
6. PLACE PORTABLE CONCRETE BARRIERS ON PHASE I CONSTRUCTION AND DIVERT BOTH NORTHBOUND AND SOUTHBOUND TRAFFIC TO PHASE 2 TRAFFIC LANES.
7. REPEAT STEPS 3-5 FOR PHASE 2 REMOVALS AND CONSTRUCTION.
8. COMPLETE REMAINING WORK ITEMS, INCLUDING PHASE 3 CONSTRUCTION.
9. REMOVE PORTABLE CONCRETE BARRIERS AND OPEN STRUCTURE TO TRAFFIC.

ITEM 894 HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY, AS PER PLAN:

GENERAL REQUIREMENTS:
THE PROVISIONS OF ITEM 894 SHALL APPLY EXCEPT AS NOTED BELOW.

MIX OPTIONS:
ALL SUPERSTRUCTURE CONCRETE SHALL BE THIS MIX (HP4, AS PER PLAN). ALL OTHER STRUCTURE CONCRETE SHALL BE THIS MIX OR MIX 2 CONCRETE.

THE FOLLOWING PROPORTIONS WILL BE USED AS A STARTING MIX DESIGN.

CONCRETE TABLE
QUANTITIES PER CUBIC YARD
AGGREGATES (SSD)

HP4, AS PER PLAN (GGBF SLAG + MICROSILICA)

AGGREGATE TYPE	FINE AGGRE. (LB)	**8 COARSE AGGRE. (LB)	**57 COARSE AGGRE. (LB)	TOTAL (LB)	CEMENT CONTENT (LB)	GGBF SLAG (LB)	MICRO-SILICA (LB)	WATER TO CEMENTITIOUS RATIO ± .02	AIR CONTENT ± 2%
GRAVEL	1245	360	1315	2920	400	170	30	0.42	7
LIMESTONE	1245	360	1335	2940	400	170	30	0.42	7
SLAG	1245	315	1155	2715	400	170	30	0.42	7

* ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED PER ASTM C127. THE WEIGHTS SPECIFIED IN THE CONCRETE TABLE FOR MATERIALS OF THE FOLLOWING BULK SPECIFIED GRAVITIES (SSD): NATURAL SAND AND GRAVEL 2.62, LIMESTONE SAND 2.68, LIMESTONE 2.65, SLAG 2.30, FLY ASH 2.65, GGBF SLAG 2.90, MICROSILICA SOLIDS 2.20, AND PORTLAND CEMENT 3.15. FOR AGGREGATES OF SPECIFIC GRAVITIES DIFFERING MORE THAN PLUS OR MINUS 0.02 FROM THESE, THE WEIGHTS IN THE TABLE WILL BE CORRECTED.

PARAPET CONSTRUCTION (FORMED AND POURED):

FORMS SHALL NOT BE REMOVED UNTIL AT LEAST 2 HOURS AFTER THE FINAL SET. DETERMINATION OF THE FINAL SET SHALL BE AS PER ASTM C266 (GILLMORE NEEDLE). TESTING SHALL BE PREFORMED BY THE CONTRACTOR AT NO COST TO THE STATE.

THE MINIMUM CONCRETE SLUMP DURING PLACEMENT OF FORMED CONCRETE PARAPETS SHALL BE 6 INCHES, WITH A MAXIMUM SLUMP OF 8 INCHES.

ANCHOR BOLTS FOR FENCE POSTS SHALL BE CAST IN PLACE.

PARAPET CONSTRUCTION (SLIP FORMED):

SLIP FORMING SHALL NOT BE PERFORMED DIRECTLY OVER AREAS WHERE THERE IS OR WILL BE VEHICULAR OR PEDESTRIAN TRAFFIC (WHICH INCLUDES RAILROADS AND WATER CRAFTS). AT THESE LOCATIONS, THE PARAPETS SHALL BE FORMED AND POURED.

THE CONTRACTOR IS ONLY ALLOWED THE OPTION OF SLIP FORMING BRIDGE PARAPETS OVER NON TRAVELED WAYS, AND ONLY AFTER THE SUCCESSFUL COMPLETION OF A TEST SECTION TWENTY FEET LONG. A MINIMUM OF 3 DAYS AFTER PLACING THE TEST SECTION, THE CONTRACTOR SHALL CORE THE TEST SECTION (A MINIMUM OF 3 CORES) AT LOCATIONS AS DIRECTED BY THE ENGINEER. APPROVAL TO SLIP FORM SHALL NOT BE GRANTED UNTIL AFTER THE CORING AND AFTER A SUCCESSFUL SLIP FORMING RESULT IS OBTAINED.

IN ADDITION TO THE REQUIREMENTS OF THE LAST PARAGRAPH OF 511.11 THE ENGINEER WILL INSPECT THE SLIP FORMED SURFACE FOR HORIZONTAL CRACKING 6 MONTHS AFTER COMPLETION OF THE SLIP FORMING OPERATION. ANY ADDITIONAL CRACKS FOUND SHALL BE REPAIRED AS PER THE SPECIFICATIONS AT NO ADDITIONAL COST TO THE STATE.

ALL ANCHOR BOLTS FOR FENCE POSTS SHALL BE CAST IN PLACE.

THE MINIMUM CONCRETE SLUMP DURING PLACEMENT OF SLIP FORMED CONCRETE PARAPETS SHALL BE 1 INCH WITH A MAXIMUM SLUMP OF 1½ INCHES.

THE WATER CEMENT RATIO FOR SLIP FORMED PARAPETS SHALL NOT BE LESS THAN THE WATER CEMENT RATIO USED FOR THE DECK CONCRETE. REDUCE SLUMP BY LIMITING THE USE OF SUPERPLASTICIZERS.

CRACK CONTROL JOINTS:

FOR BOTH SLIP FORMED AND FORMED AND POURED PARAPETS, THE CONTRACTOR SHALL CONSTRUCT 1½" DEEP AND ¼" WIDE CRACK CONTROL JOINTS SPACED AT A MINIMUM OF 6 FT AND A MAXIMUM OF 8 FT ON CENTER. THE CRACK CONTROL JOINTS SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE PARAPET, STARTING AND ENDING AT THE ELEVATION OF THE TOP OF THE CONCRETE DECK. THE CONTRACTOR MAY EITHER FORM THE CRACK CONTROL JOINTS IN WITH FORM LINERS, OR, WITHIN 24 HOURS OF PLACEMENT, SAW CUT THE CRACK CONTROL JOINTS IN WITH THE USE OF AN EDGE GUIDE, FENCE, OR JIG WHICH IS REQUIRED TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET. THE ENTIRE LENGTH OF EACH CONTROL JOINT SHALL BE SEALED TO A MINIMUM DEPTH OF 1½" WITH A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION, TT-S-00227E.

BASIS OF PAYMENT:
PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT BID PRICE FOR:

ITEM	UNITS	DESCRIPTION
511E52000	LUMP SUM	CLASS HP CONCRETE, TEST SLAB
894E10001	CUBIC YARD	HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY, AS PER PLAN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	CRC	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202493 LEFT 5202523 RIGHT	

GENERAL NOTES 3
BRIDGE NO. MED-71-0342 L/R
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00

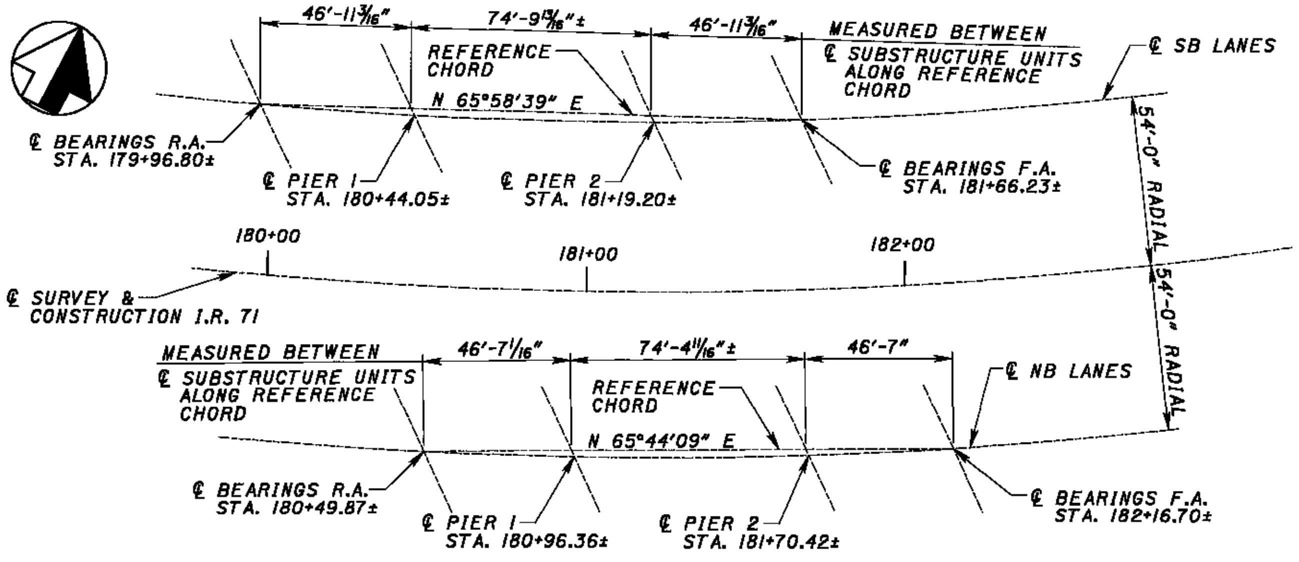
4A / 51

617A
785

P:/PR30489/CADD/MED-71-0342/ME071gn3.DGN

ESTIMATED QUANTITIES

		MED-71-0342 L	MED-71-0342 R			MED-71-0342 L					MED-71-0342 R				
ITEM	ITEM EXT.	TOTAL	TOTAL	UNIT	DESCRIPTION	ABUTS.	PIERS	SUPER.	GENERAL	SHT. REF.	ABUTS.	PIERS	SUPER.	GENERAL	SHT. REF.
202	11203	LUMP	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	3/51				LUMP	3/51
202	98000	LUMP	LUMP		REMOVAL MISC.: PHASE I T-TYPE PIER SUPPORT		LUMP					LUMP			
503	11101	LUMP	LUMP		COFFERDAMS, CRIBS AND SHEETING, AS PER PLAN				LUMP	3/51				LUMP	3/51
503	21301	LUMP	LUMP		UNCLASSIFIED EXCAVATION, AS PER PLAN	LUMP	LUMP			3/51	LUMP	LUMP			3/51
505	11100	LUMP	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION				LUMP					LUMP	
507	00500	3620	3700	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN	1300	2320				1300	2400			
507	00550	4040	4130	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED	1430	2610				1430	2700			
509	10000	159883	129254	POUND	EPOXY COATED REINFORCING STEEL	13475	21364	125044			12743	22848	93663		
510	10000	128	136	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT		128					136			
511	42000	286	311	CU YD	CLASS C CONCRETE, PIER ABOVE FOOTING		286					311			
511	43500	163	149	CU YD	CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING	163					149				
511	46500	92	92	CU YD	CLASS C CONCRETE, FOOTING		92					92			
511	52000	LUMP	LUMP	LUMP	CLASS HP CONCRETE, TEST SLAB			LUMP					LUMP		
512	33000	11	9	SQ YD	TYPE 2 WATERPROOFING	11					9				
515	14000		20	EACH	STRAIGHT STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 2, TYPE 2								20		
515	14010	12		EACH	STRAIGHT STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 2, TYPE 3			12							
515	15000		10	EACH	DRAPED STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 3, TYPE 2								10		
515	15010	6		EACH	DRAPED STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 3, TYPE 3			6							
515	20000	15	27	EACH	INTERMEDIATE DIAPHRAGMS			15					27		
516	13200	217	217	SQ FT	½" PREFORMED EXPANSION JOINT FILLER	217					217				
516	13600	176	165	SQ FT	1" PREFORMED EXPANSION JOINT FILLER	176					165				
516	14015	168	165	FT	INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN	168				3/51	165				3/51
516	44200		40	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), (1'-1" x 10½" x 3⅜")							40			
516	44200	24		EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), (1'-4" x 1'-0" x 3⅝")		24								
518	21200	145	129	CU YD	POROUS BACKFILL WITH FILTER FABRIC	145					129				
518	40000	195	189	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	195					189				
518	40010	59	59	FT	6" NON-PERFORATED CORRGATED PLASTIC PIPE, INCLUDING SPECIALS	59					59				
523	20000	2		EACH	DYNAMIC LOAD TESTING	1	1								
526	25000	339	339	SQ YD	REINFORCED CONCRETE APPROACH SLABS (T=15")				339					339	
SPECIAL	53000200	LUMP	LUMP		STRUCTURE, MISC.: ESTABLISH SUBSTRUCTURE CENTERLINES				LUMP					LUMP	
601	20000	788	792	SQ YD	CRUSHED AGGREGATE SLOPE PROTECTION				788					792	
625	25920	192	192	FT	CONDUIT MISC.: 4" MULTICELL RACEWAY				192					192	
625	30707	2	2	EACH	PULLBOX, 725.08, 24", AS PER PLAN				2	482A/785				2	482A/785
864	10100	875	814	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)			875					814		
894	10001	493	456	CU YD	HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY, AS PER PLAN	80	44	369		4A/51	68	35	353		4A/51



REFERENCE CHORD SCHEMATIC

(SEE "STRUCTURE. MISC.: ESTABLISH SUBSTRUCTURE CENTERLINES" NOTE ON SHEET 4/51)

LEGEND:

F.A. - FORWARD ABUTMENT
R.A. - REAR ABUTMENT

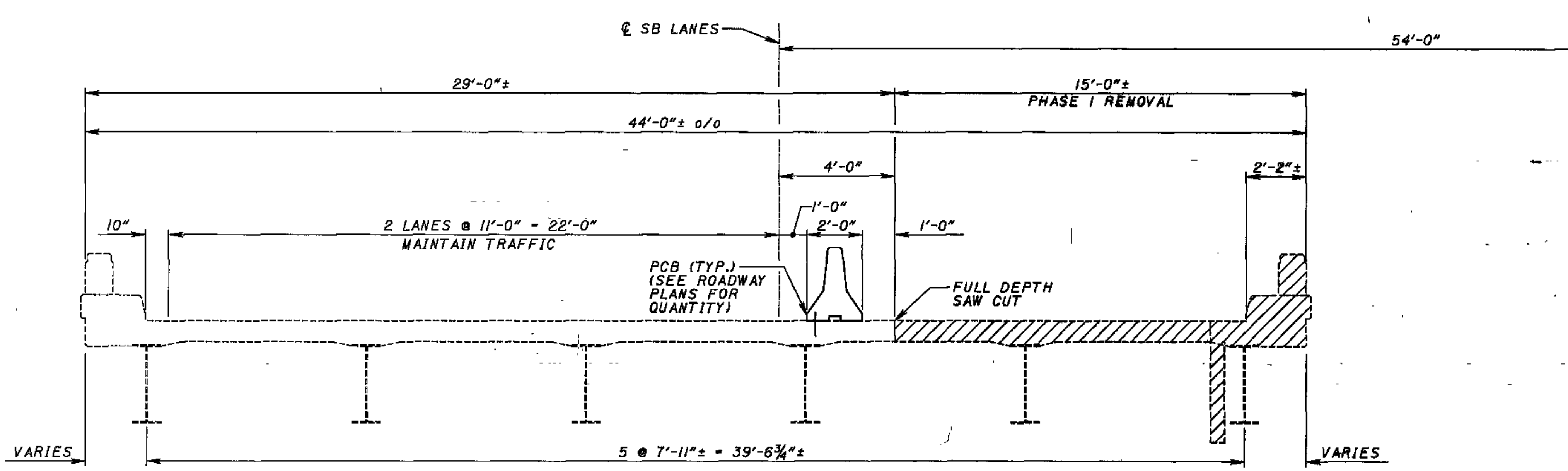
P:/PR30489/CADD/MED-71-0342/ME07leql.DGN

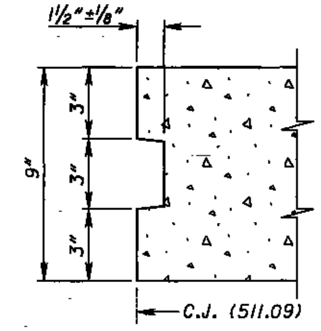
BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	CRC	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CRC/WTL		5202493 LEFT 5202523 RIGHT	

ESTIMATED QUANTITIES
BRIDGE NO. MED-71-0342 L/R
OVER W. & L.E. RAILROAD

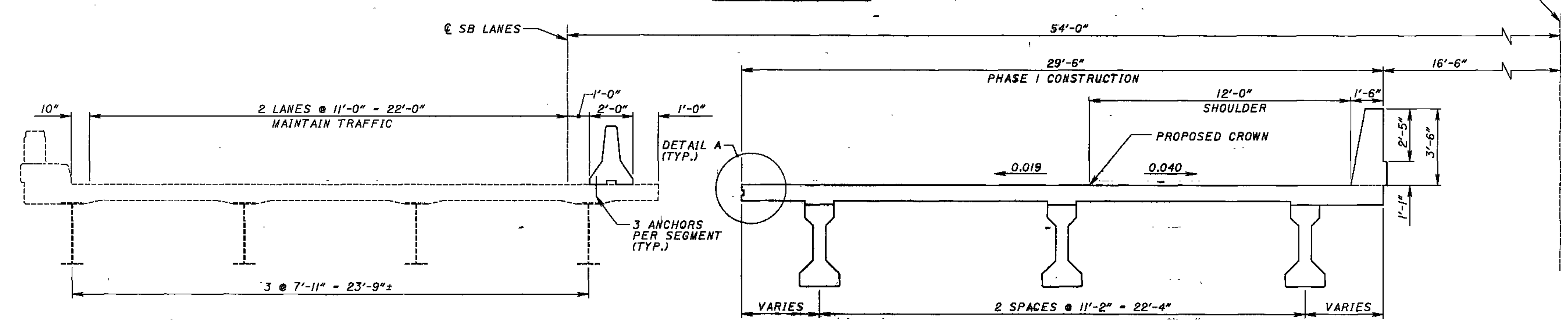
WAY/MED-71-7.04/0.00



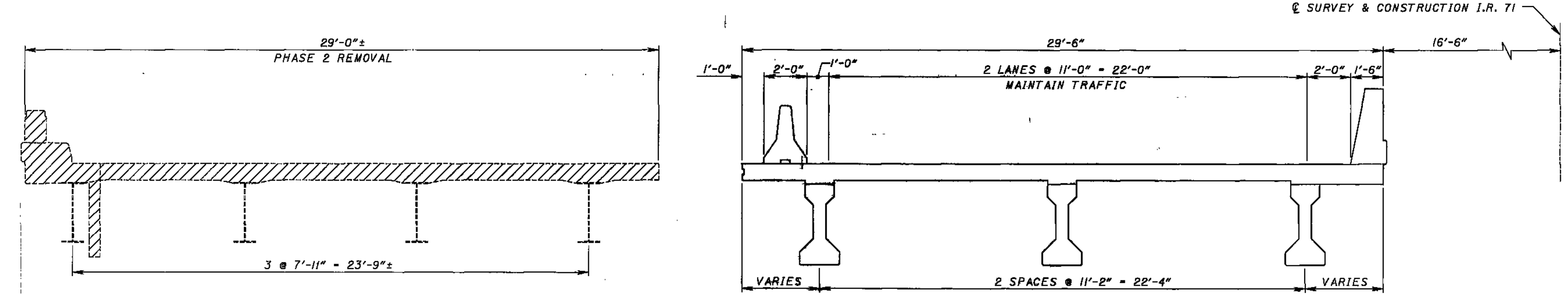


DETAIL A

PHASE I REMOVAL



PHASE I CONSTRUCTION



PHASE 2 REMOVAL

LEGEND:

▨ - REMOVALS

PCB - PORTABLE CONCRETE BARRIER

C.J. - CONSTRUCTION JOINT

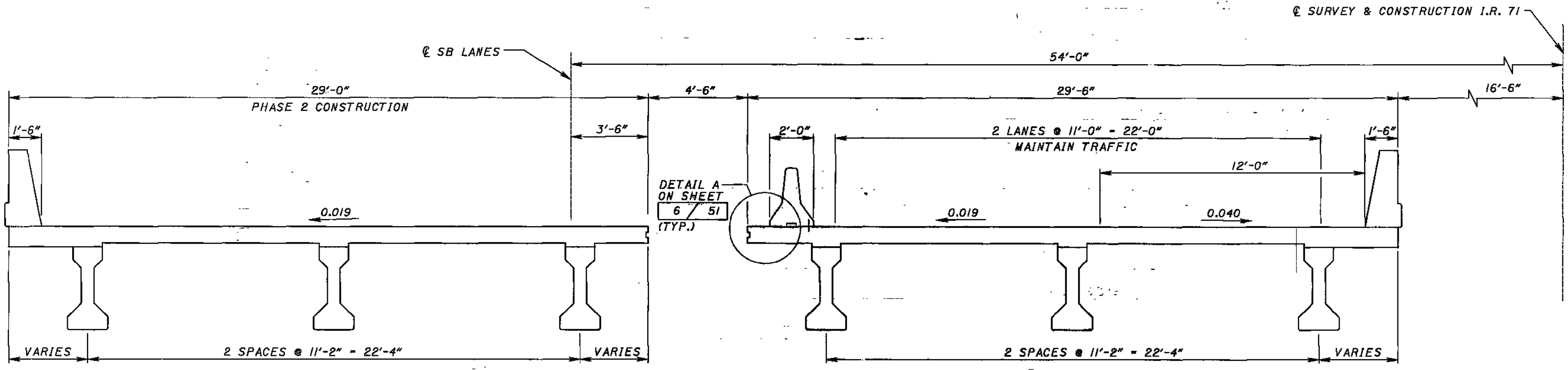
P:/PR30489/CADD/MED-71-0342/ME071pol.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

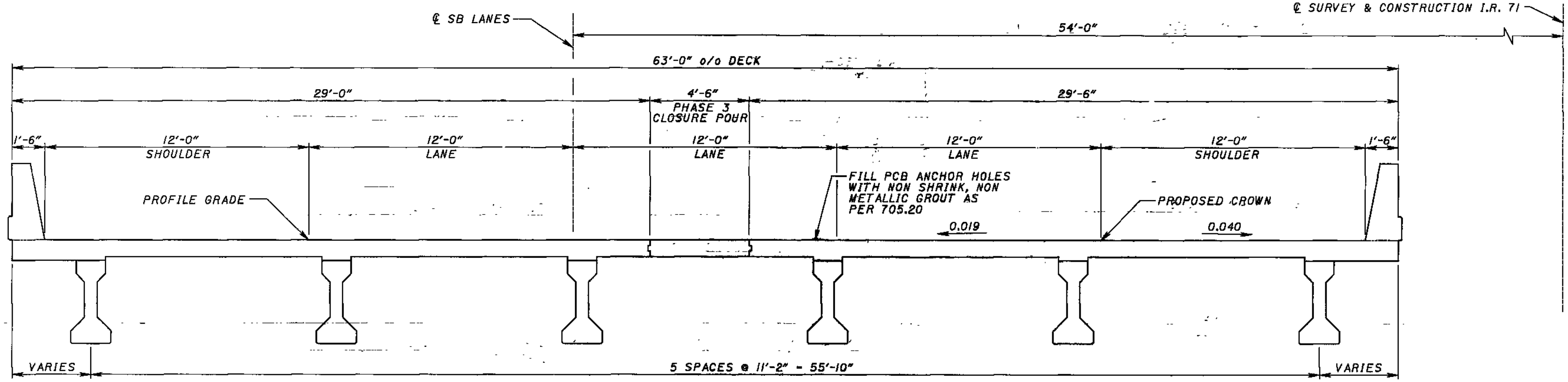
DESIGNED	DRAWN	REVIEWED	DATE
WTL	AAA	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TTK		5202493 LEFT 5202523 RIGHT	

PHASE CONSTRUCTION DETAILS I - SOUTHBOUND
BRIDGE NO. MED-71-0342 L
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00


℄ SURVEY & CONSTRUCTION I.R. 71
℄ SB LANES
54'-0"
29'-0"
PHASE 2 CONSTRUCTION
4'-6"
29'-6"
16'-6"
1'-6"
3'-6"
2'-0"
2 LANES @ 11'-0" = 22'-0"
MAINTAIN TRAFFIC
1'-6"
12'-0"
DETAIL A ON SHEET 6/51 (TYP.)
0.019
0.019
0.040
VARIES
2 SPACES @ 11'-2" = 22'-4"
VARIES
2 SPACES @ 11'-2" = 22'-4"
VARIES

PHASE 2 CONSTRUCTION



CLOSURE POUR CONSTRUCTION

STAGE CONSTRUCTION NOTES:

ANCHOR TEMPORARY BARRIERS TO EXISTING AND PROPOSED BRIDGE DECKS. THREE ANCHORS PER BARRIER SEGMENT ARE REQUIRED. THE ANCHOR BOLT PATTERN SHALL BE SYMMETRICAL ABOUT THE CENTER OF EACH SEGMENT. SEE STANDARD DRAWING PCB-91 FOR ADDITIONAL DETAILS.

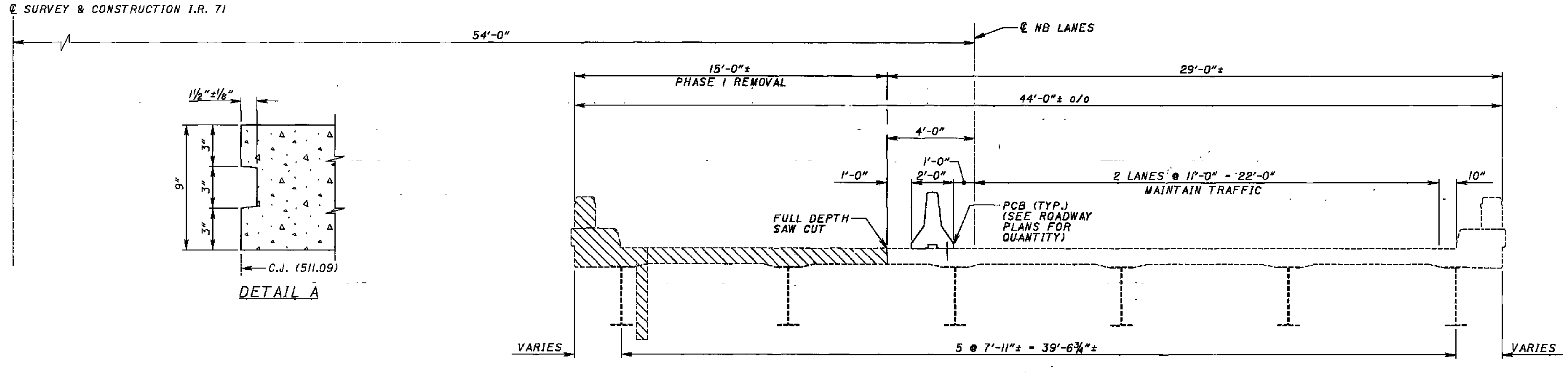
BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
WTL	AAA	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TTK		5202493 LEFT 5202523 RIGHT	

PHASE CONSTRUCTION DETAILS 2 - SOUTHBOUND
BRIDGE NO. MED-71-0342 L
OVER W. & L.E. RAILROAD

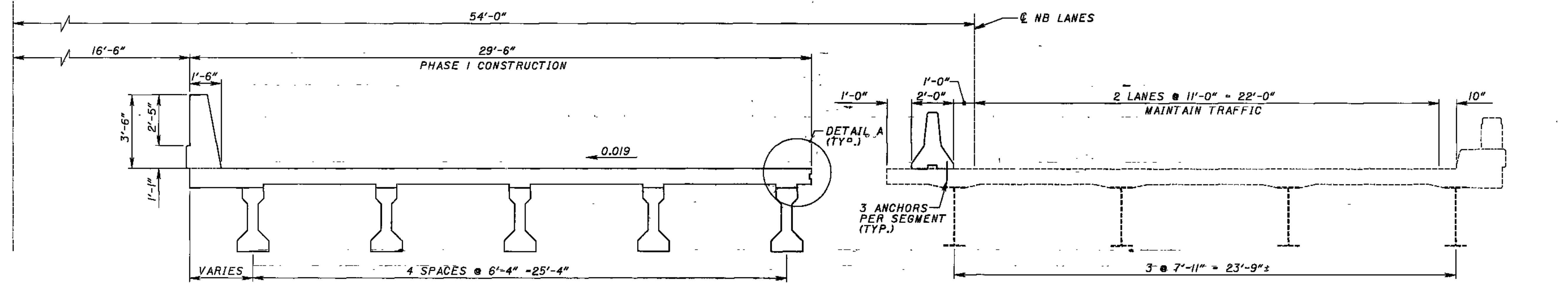
WAY/MED-71-7.04/0.00

P:/PR30489/CADD/MED-71-0342/ME071pc2.DGN

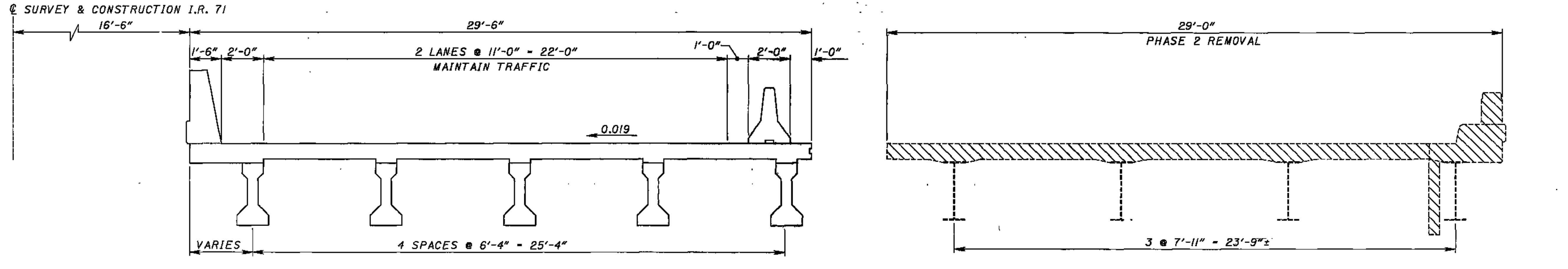


DETAIL A

PHASE 1 REMOVAL



PHASE 1 CONSTRUCTION



PHASE 2 REMOVAL

LEGEND:

▨ - REMOVALS

PCB - PORTABLE CONCRETE BARRIER

C.J. - CONSTRUCTION JOINT

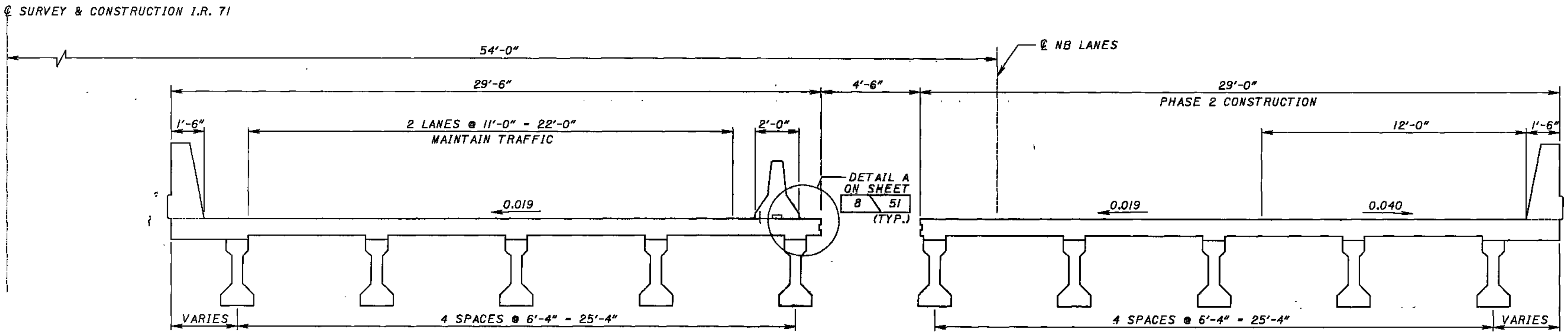
P:/PR30489/CADD/MED-71-0342/ME071pc3.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

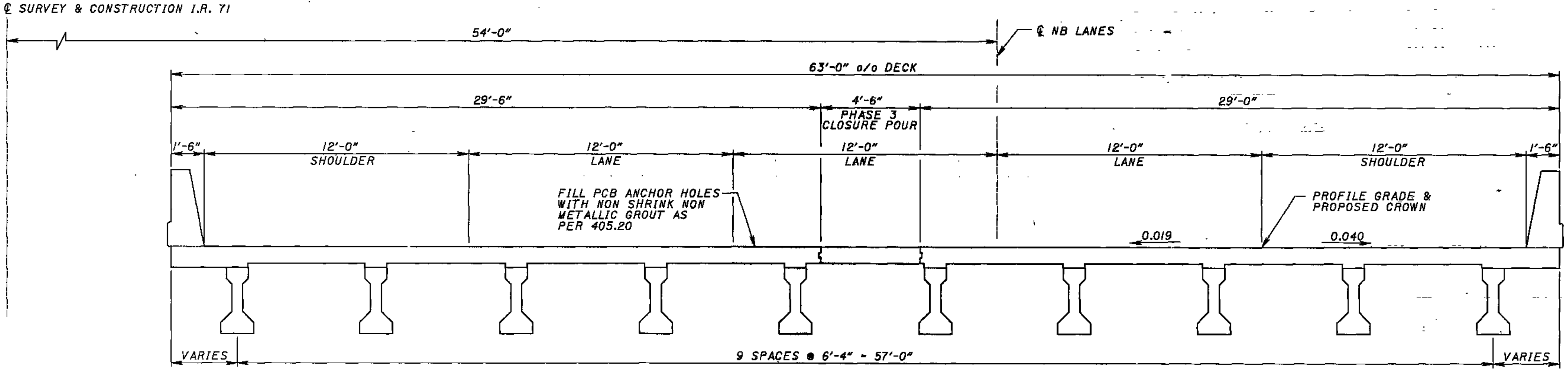
REVIEWED CAS	DATE 6/03
STRUCTURE FILE NUMBER	5202443 LEFT 5202523 RIGHT
DRAWN AAA	REVISED
DESIGNED WTL	CHECKED TTK

PHASE CONSTRUCTION DETAILS 1 - NORTHBOUND
BRIDGE NO. MED-71-0342 R
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00



PHASE 2 CONSTRUCTION



CLOSURE POUR CONSTRUCTION

STAGE CONSTRUCTION NOTES:

ANCHOR TEMPORARY BARRIERS TO EXISTING AND PROPOSED BRIDGE DECKS. THREE ANCHORS PER BARRIER SEGMENT ARE REQUIRED. THE ANCHOR BOLT PATTERN SHALL BE SYMMETRICAL ABOUT THE CENTER OF EACH SEGMENT. SEE STANDARD DRAWING PCB-91 FOR ADDITIONAL DETAILS.

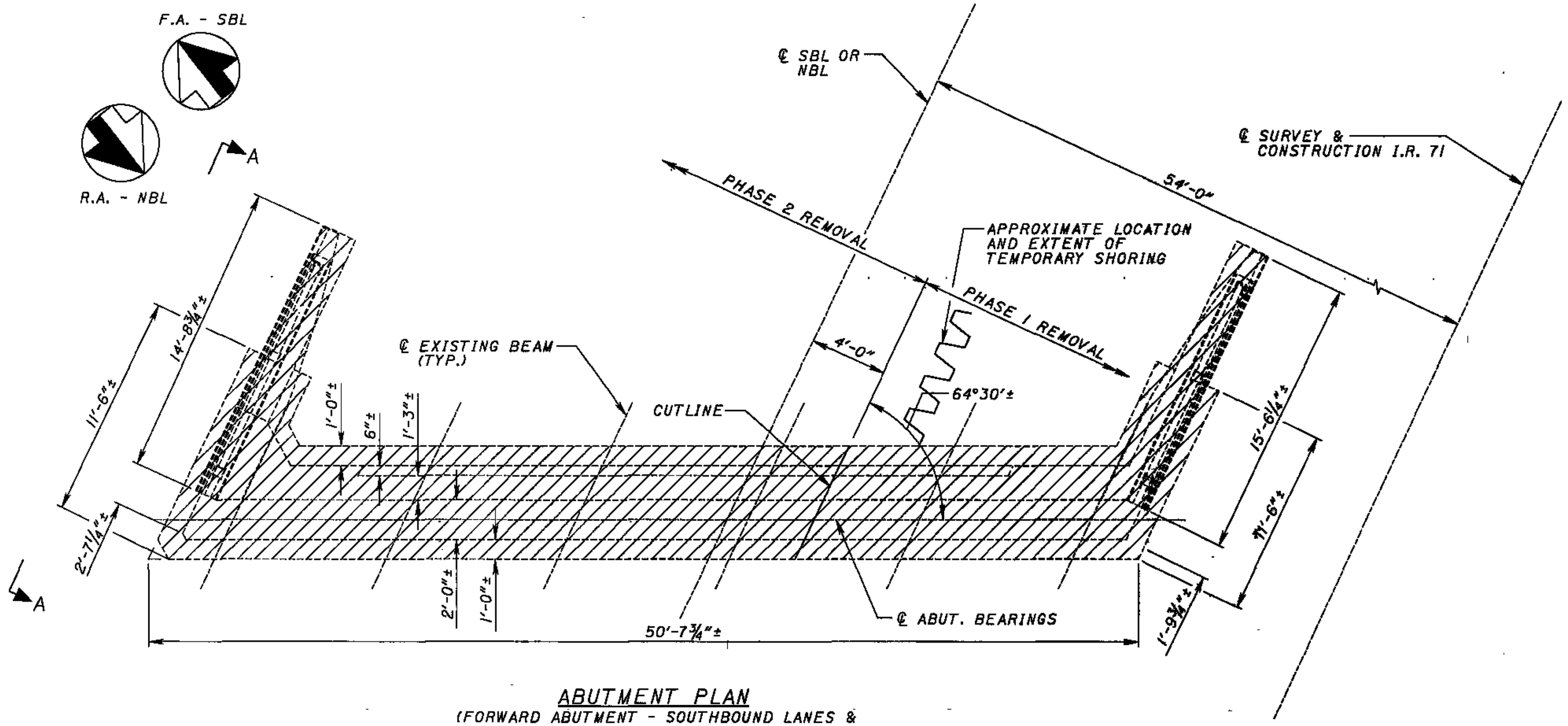
BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED WTL	CHECKED TTK
DRAWN AAA	REVISED
REVIEWED CAS	DATE 6/03
STRUCTURE FILE NUMBER 5202493 LEFT 5202523 RIGHT	

PHASE CONSTRUCTION DETAILS 2 - NORTHBOUND
BRIDGE NO. MED-71-0342 R
OVER W. & L.E. RAILROAD

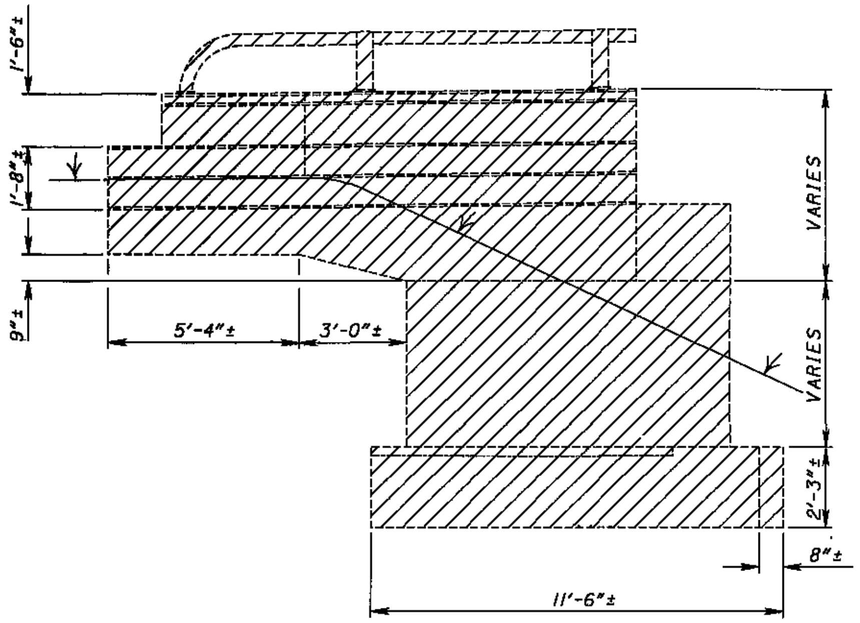
WAY/MED-71-7.04/0.00

P:/FR30489/CADD/MED-71-0342/MED71pc4.DGN

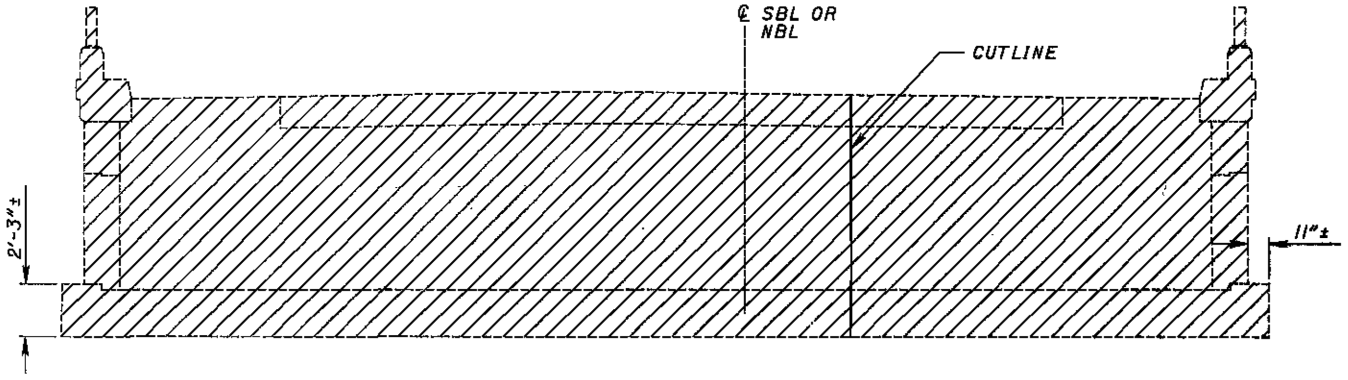


ABUTMENT PLAN

(FORWARD ABUTMENT - SOUTHBOUND LANES &
REAR ABUTMENT - NORTHBOUND LANES)



VIEW A-A



ABUTMENT ELEVATION

LEGEND:

▨ - REMOVALS

F.A. - FORWARD ABUTMENT
R.A. - REAR ABUTMENT
NBL - NORTHBOUND LANES
SBL - SOUTHBOUND LANES

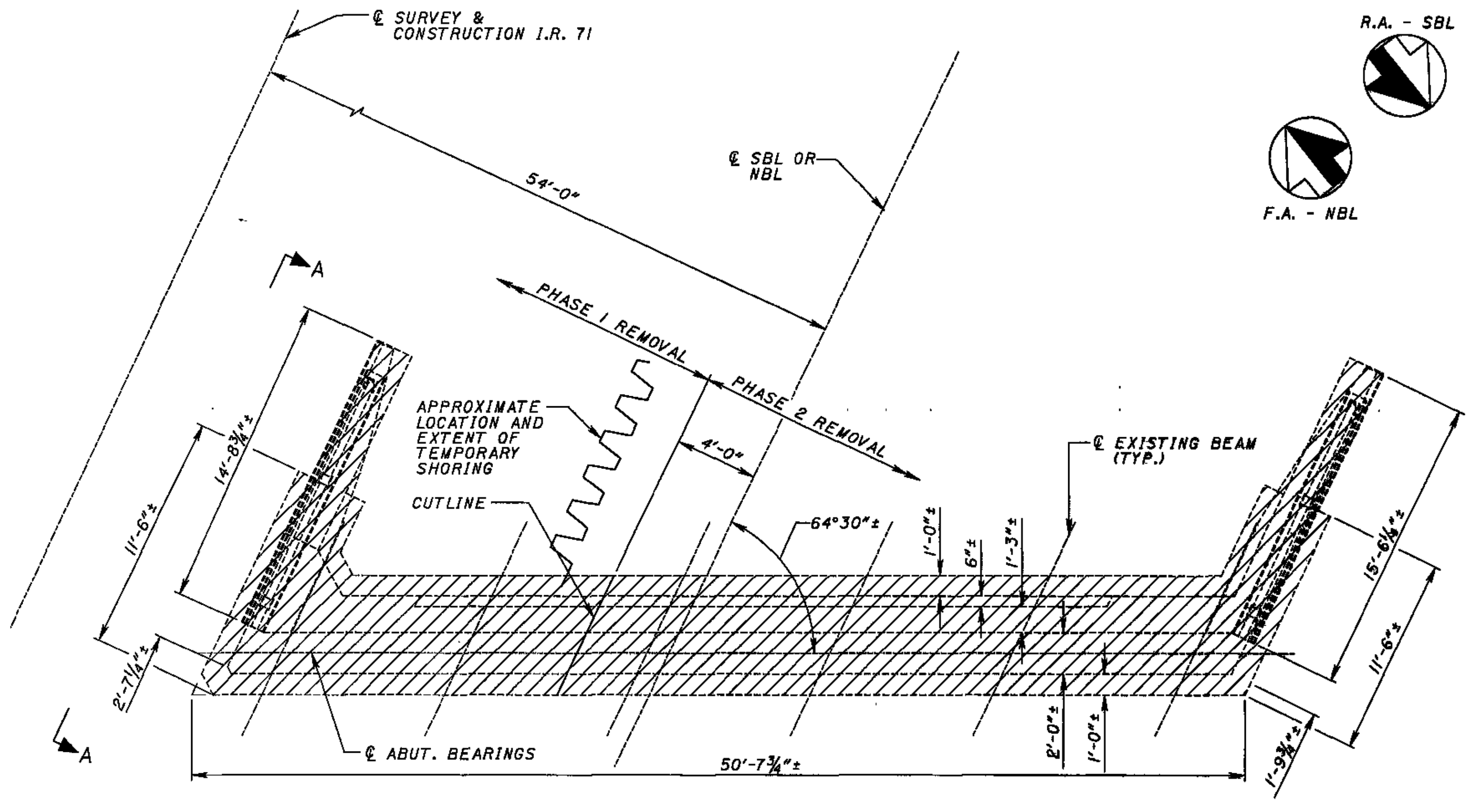
BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	AAA	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202493 LEFT 5202523 RIGHT	

ABUTMENT REMOVAL DETAILS I
BRIDGE NO. MED-71-0342 L/R
OVER W. & L.E. RAILROAD

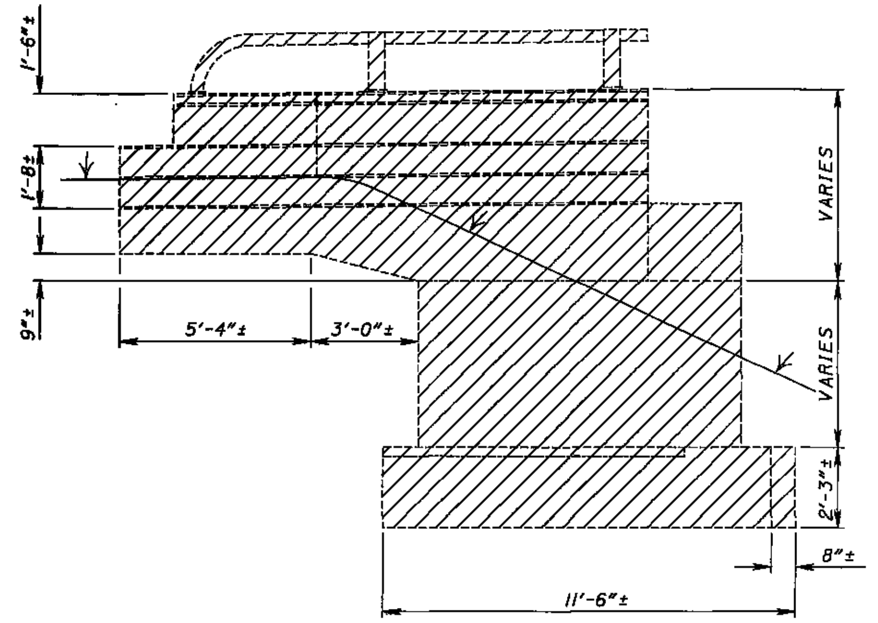
WAY/MED-71-7.04/0.00

P:/PR30489/CADD/MED-71-0342/ME07lpc5.DGN

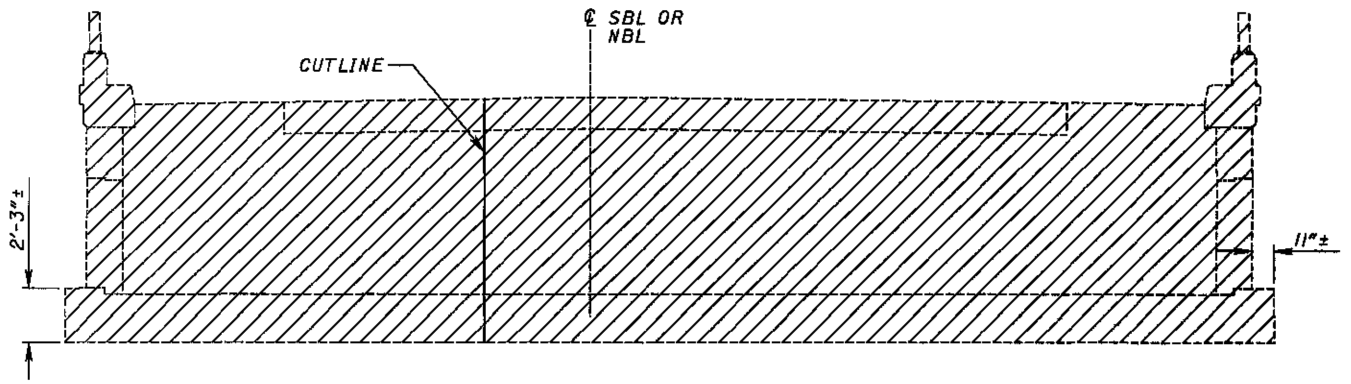


ABUTMENT PLAN

(REAR ABUTMENT - SOUTHBOUND LANES & FORWARD ABUTMENT - NORTHBOUND LANES)



VIEW A-A



ABUTMENT ELEVATION

LEGEND:

▨ - REMOVALS

F.A. - FORWARD ABUTMENT
R.A. - REAR ABUTMENT
NBL - NORTHBOUND LANES
SBL - SOUTHBOUND LANES

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	AAA	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202493 LEFT 5202523 RIGHT	

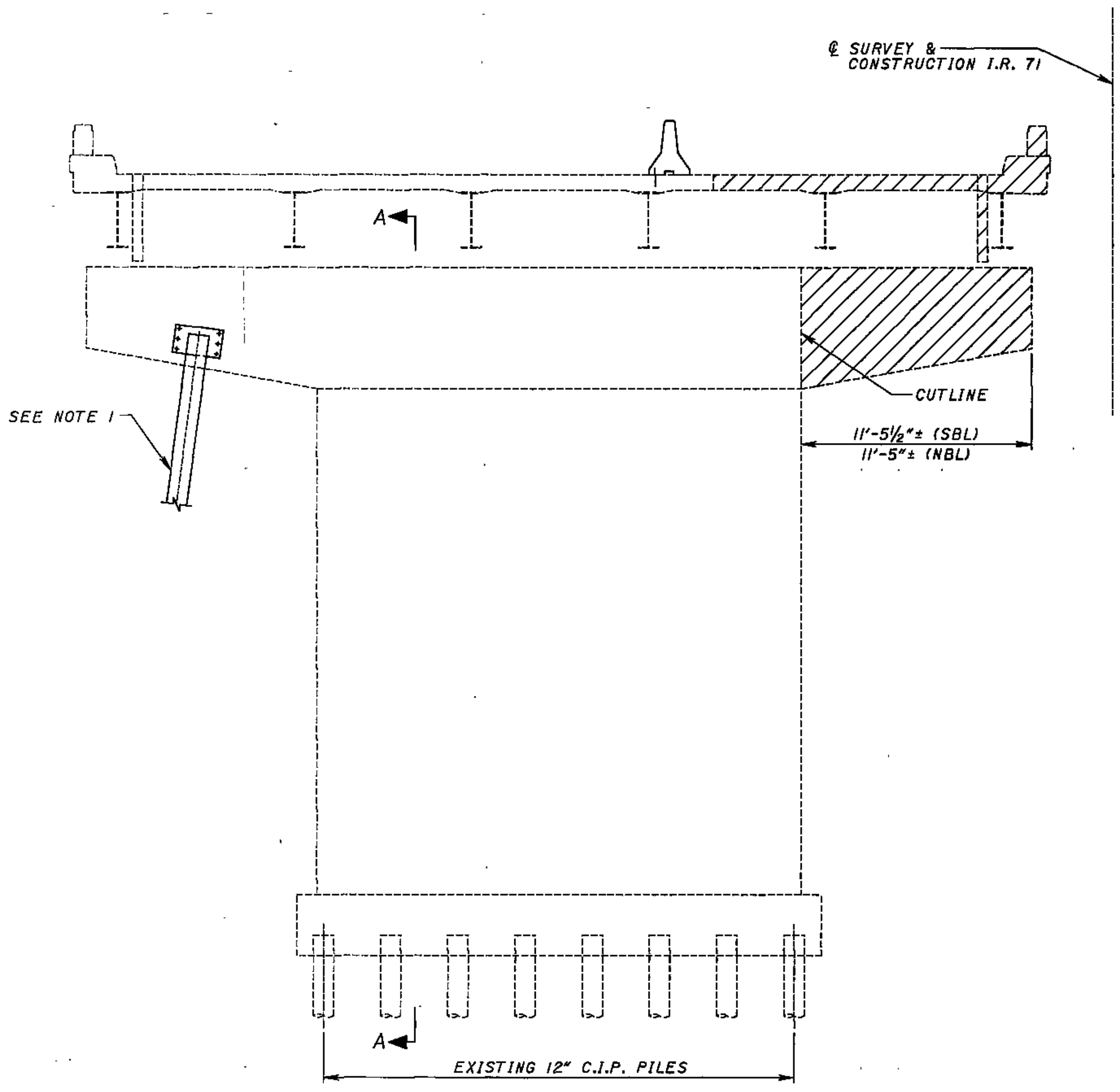
ABUTMENT REMOVAL DETAILS 2
BRIDGE NO. MED-71-0342 L/R
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00

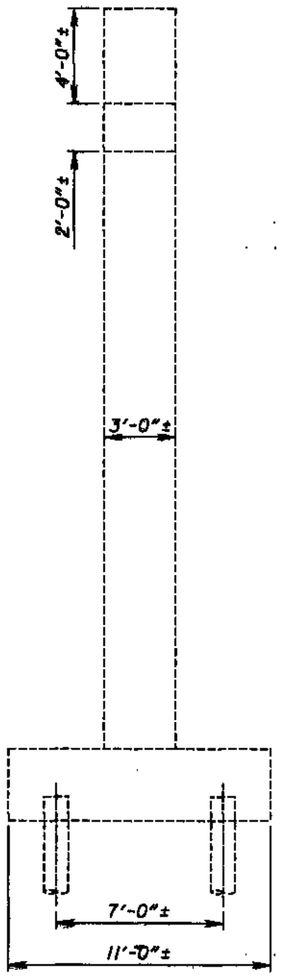
11/51

624/785

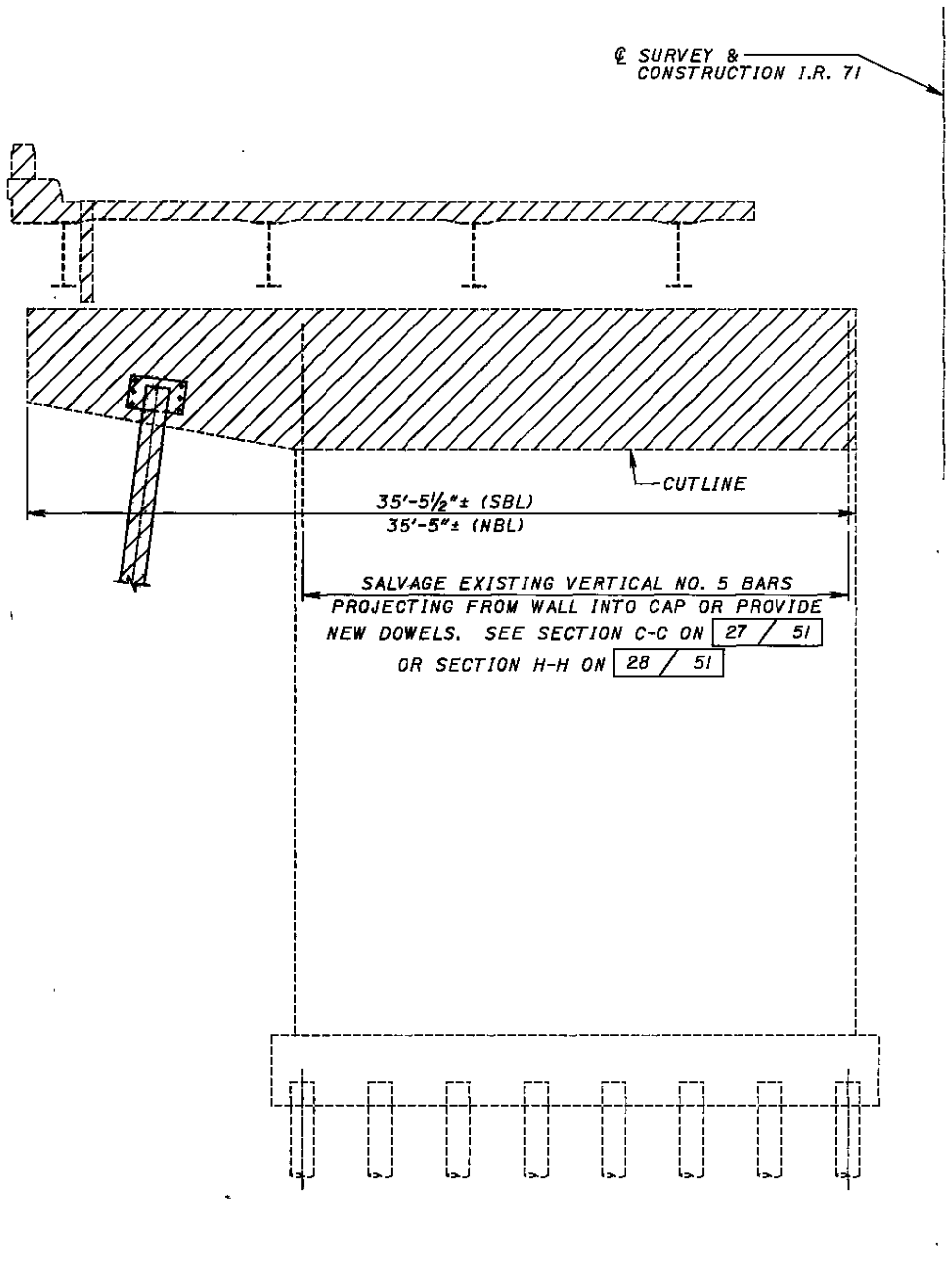
P:/PR30489/CADD/MED-71-0342/ME071pc6.DGN



PHASE 1 PIER REMOVAL
(SOUTHBOUND SHOWN, NORTHBOUND OPPOSITE HAND)



SECTION A-A



SALVAGE EXISTING VERTICAL NO. 5 BARS PROJECTING FROM WALL INTO CAP OR PROVIDE NEW DOWELS. SEE SECTION C-C ON 27 / 51 OR SECTION H-H ON 28 / 51

PHASE 2 PIER REMOVAL
(SOUTHBOUND SHOWN, NORTHBOUND OPPOSITE HAND)

NOTE:

1. SEE SHEET 13 / 51 FOR TEMPORARY SUPPORT DEATILS.

LEGEND:

▨ - REMOVALS

NBL - NORTHBOUND LANES
SBL - SOUTHBOUND LANES

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
WTL	AAA	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TTK		5202493 LEFT 5202523 RIGHT	

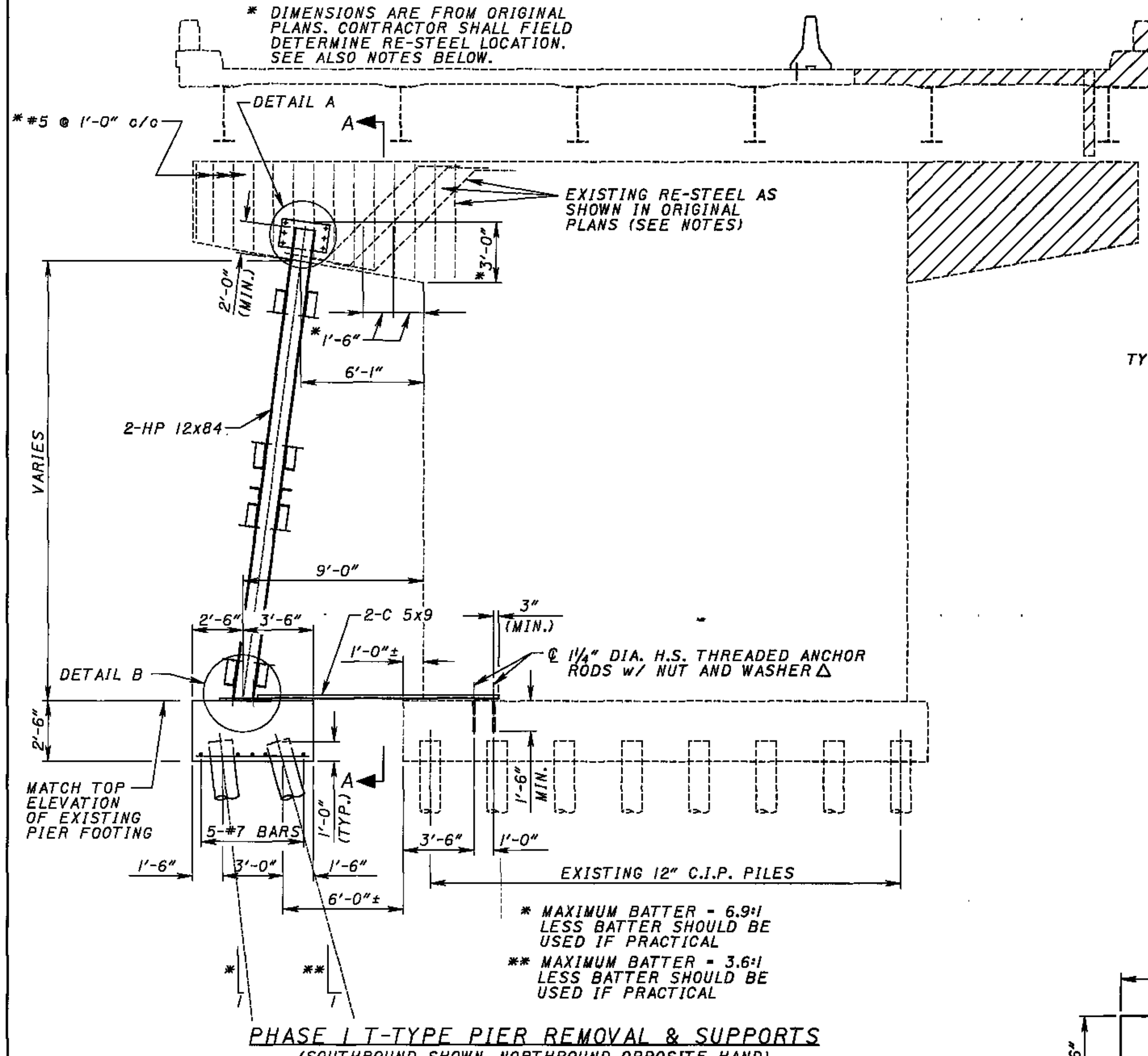
PIER REMOVAL DETAILS
BRIDGE NO. MED-71-0342 L/R
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00

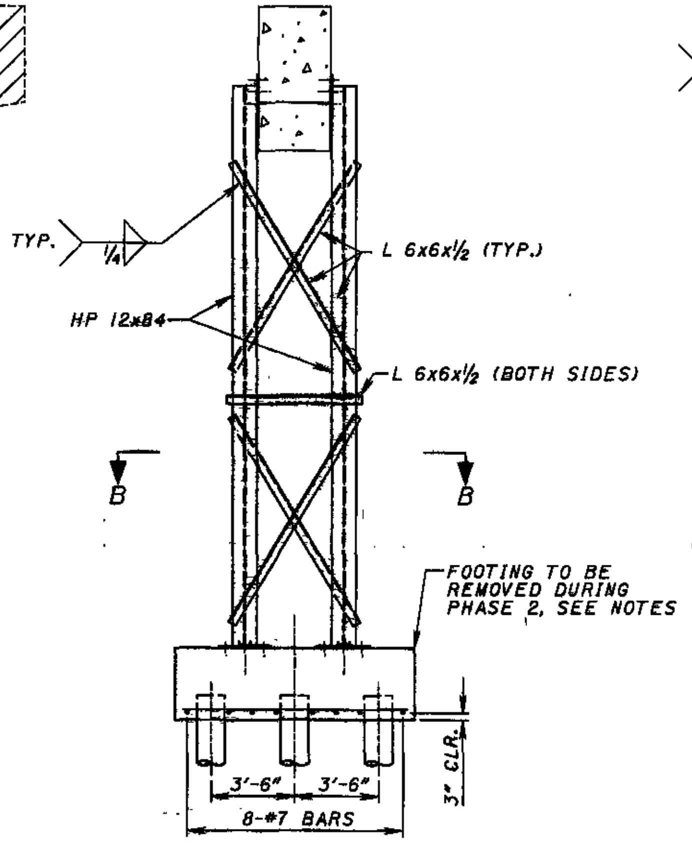
12 / 51

625 / 785

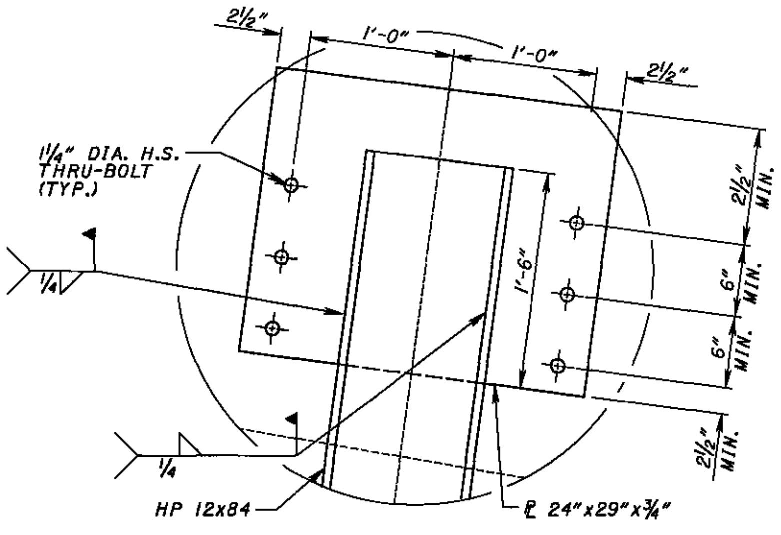
P:/PR30489/CADD/MED-71-0342/ME071pc7.DGN


* DIMENSIONS ARE FROM ORIGINAL PLANS. CONTRACTOR SHALL FIELD DETERMINE RE-STEEL LOCATION. SEE ALSO NOTES BELOW.
DETAIL A
A
* #5 @ 1'-0" c/c
EXISTING RE-STEEL AS SHOWN IN ORIGINAL PLANS (SEE NOTES)
*3'-0"
2'-0" (MIN.)
*1'-6"
6'-1"
VARIES
2-HP 12x84
9'-0"
2'-6"
3'-6"
2-C 5x9
3" (MIN.)
1'-0"±
℄ 1¼" DIA. H.S. THREADED ANCHOR RODS w/ NUT AND WASHER △
DETAIL B
2'-6"
A
MATCH TOP ELEVATION OF EXISTING PIER FOOTING
5-#7 BARS
1'-0" (TYP.)
1'-6" MIN.
3'-6"
1'-0"
1'-6"
3'-0"
1'-6"
6'-0"±
EXISTING 12" C.I.P. PILES
* MAXIMUM BATTER = 6.9:1 LESS BATTER SHOULD BE USED IF PRACTICAL
** MAXIMUM BATTER = 3.6:1 LESS BATTER SHOULD BE USED IF PRACTICAL
*
**
1
1

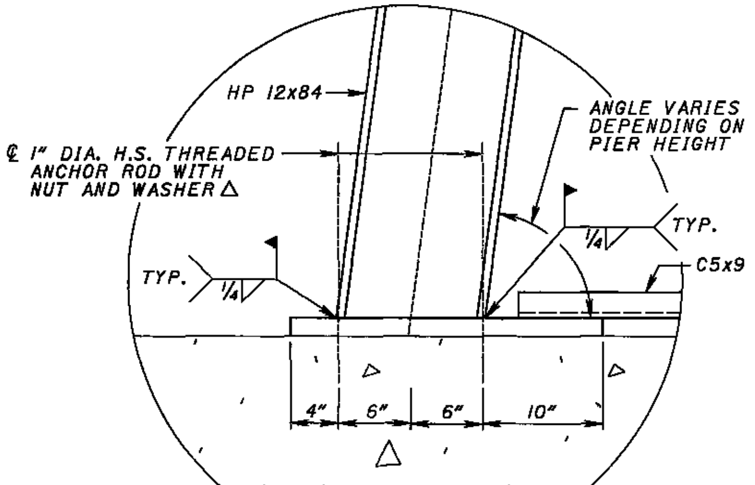
PHASE I T-TYPE PIER REMOVAL & SUPPORTS
(SOUTHBOUND SHOWN, NORTHBOUND OPPOSITE HAND)



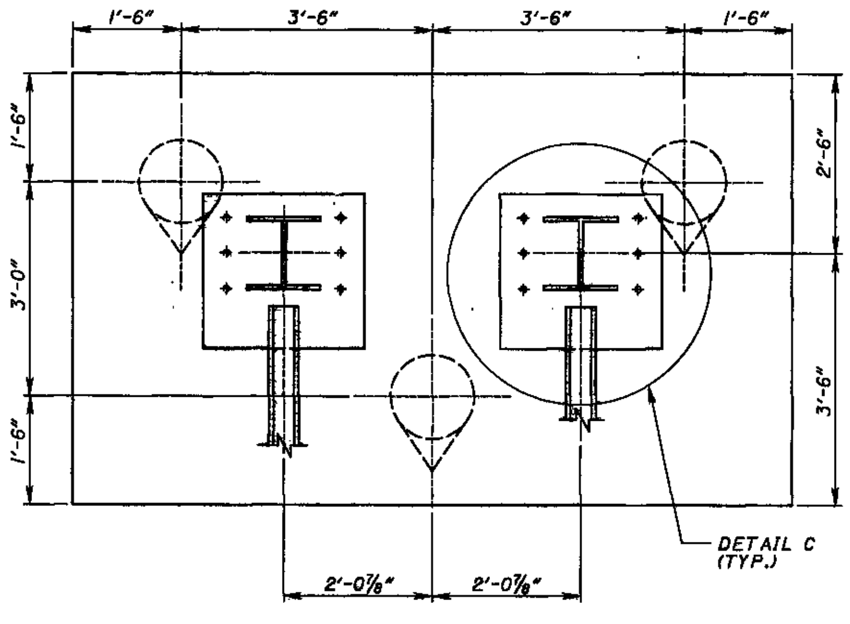
SECTION A-A



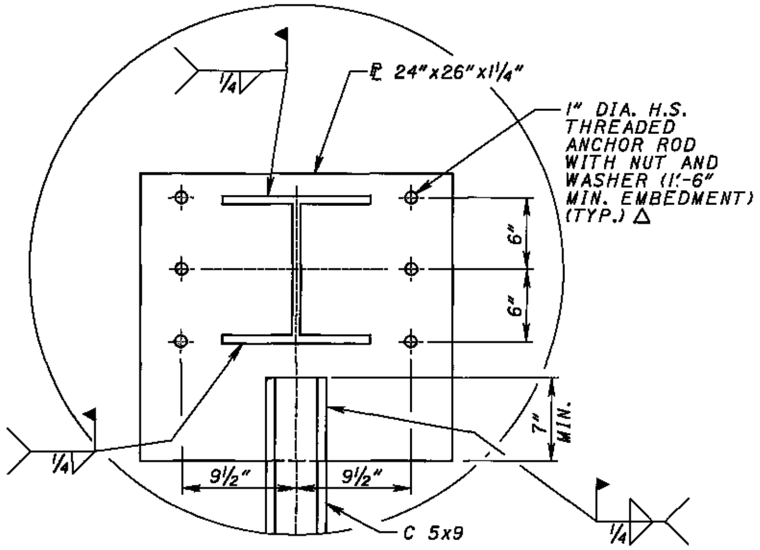
DETAIL A


HP 12x84
℄ 1" DIA. H.S. THREADED ANCHOR ROD WITH NUT AND WASHER △
ANGLE VARIES DEPENDING ON PIER HEIGHT
1/4
TYP.
TYP.
1/4
C5x9
4"
6"
6"
10"
△

DETAIL B



SECTION B-B


1/4
℘ 24"x26"x1¼"
1" DIA. H.S. THREADED ANCHOR ROD WITH NUT AND WASHER (1'-6" MIN. EMBEDMENT) (TYP.) △
6"
6"
7" MIN.
1/4
9½"
9½"
C 5x9
1/4

DETAIL C

LEGEND:

△- INSTALL PER 510 USING NONSHRINK, NONMETALLIC GROUT. INCLIDE DRILLING, GROUTING AND HARDWARE WITH PIER SUPPORTS FOR PAYMENT.

NOTES:

MATERIALS:
STEEL SHALL BE ASTM A36 OR BETTER. USED STRUCTURAL STEEL IN GOOD CONDITION MAY BE PROVIDED. HIGH STRENGTH BOLTS AND ANCHOR RODS SHALL BE NEW 1" DIA. AND 1¼" DIA. ASTM A325. WELDING ELECTRODES SHALL HAVE A MINIMUM TENSILE STRENGTH OF 70 KSI.

EXISTING RE-STEEL:
LOCATE THE EXISTING REINFORCING STEEL AND ADJUST THE LOCATION OF THE BOLTS OR ANY OTHER DIMENSIONS NECESSARY TO AVOID INTERFERENCE.

OPTIONAL DESIGN:
IN LIEU OF THE TEMPORARY SUPPORT DESIGN SPECIFIED BY THESE PLANS, THE CONTRACTOR HAS THE OPTION OF PROVIDING ANOTHER SYSYEM, PROVIDED THAT SUCH SYSTEM IS DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER AND IS APPROVED BY THE DIRECTOR PRIOR TO ITS FABRICATION AND INSTALLATION. THE TOTAL SERVICE LOAD REACTION TO BOTH COLUMNS IS AS FOLLOWS:

VERTICAL
DL = 142 KIPS
LL = 49 KIPS
HORIZONTAL
DL = 19 KIPS
LL = 7 KIPS
MOMENT AT TOP OF COLUMNS (TOTAL TO BOTH)
DL = 23 FT. KIPS
LL = 9 FT. KIPS

PILING:
THE PILING IN THIS SCHEME ARE 12" DIA. C.I.P. PILES AND ARE INTENDED TO BE USED IN THE PERMANENT FOOTING. THESE PILING ARE INCLUDED WITH THE 12" CAST-IN PLACE REINFORCED CONCRETE PILE PAY ITEMS FOR PAYMENT. SEE GENERAL NOTES FOR PILE INFORMATION.

CONSTRUCTION SEQUENCE:
REMOVE THE CROSSHATCHED AREA AFTER THE PIER SUPPORTS HAVE BEEN PLACED

REMOVAL OF PHASE I T-TYPE PIER SUPPORTS:
AFTER PHASE 2 REMOVAL OF SUPERSTRUCTURE IS COMPLETE, REMOVE ALL PORTIONS OF PIER SUPPORTS, INCLUDING FOOTING. TAKE CARE NOT TO DAMAGE PILING USED IN THE PERMANENT FOOTING. THE METHOD OF REMOVAL SHALL BE APPROVED BY THE ENGINEER.

WELDING:
CONTRACTOR MAY CHOOSE WHICH, IF ANY, WELDS ARE PERFORMED IN THE SHOP.

PAYMENT:
INCLUDE PAYMENT FOR THE PHASE I T-TYPE PIER SUPPORTS WITH THE LUMP SUM PAY ITEM FOR "REMOVAL MISC: PHASE I T-TYPE PIER SUPPORT". INCLUDE THE COSTS FOR ALL STRUCTURAL STEEL, NUTS, BOLTS, WASHERS, PLATES WELDING, CONCRETE, REINFORCING STEEL AND ANY OTHER LABOR OR MATERIALS NECESSARY TO COMPLETE THE INSTALLATION AND SUBSEQUENT REMOVAL OF THE SUPPORTS.

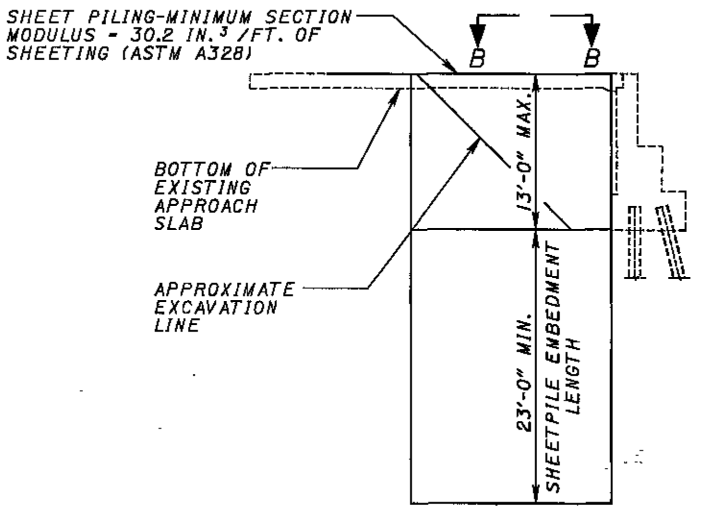
P:/PR30489/CADD/MED-71-0342/ME071pi7.DGN

[redacted]
BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

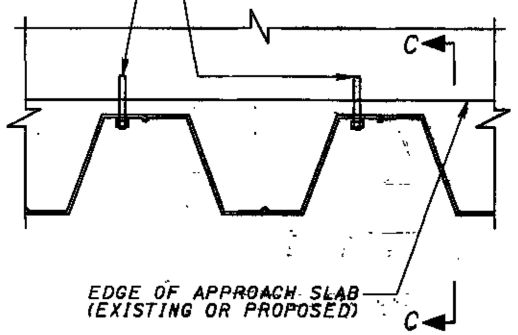
DESIGNED	DRAWN	REVIEWED	DATE
WTL	WTL	GAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		5202493 LEFT 5202523 RIGHT	

PHASE I. T-TYPE PIER SUPPORTS
BRIDGE NO. MED-71-0342 L/R
OVER W. & L.E. RAILROAD

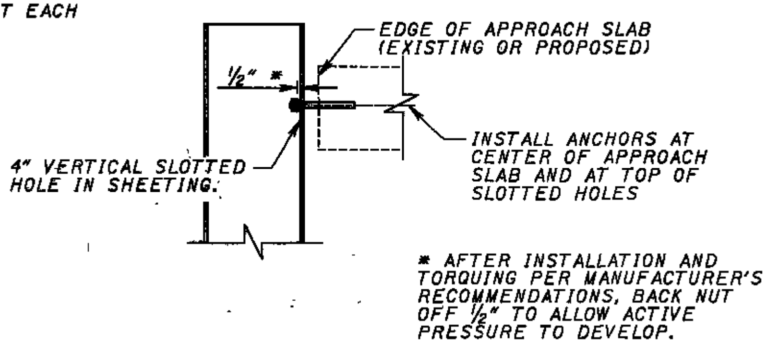
WAY/MED-71-7.04/0.00


SHEET PILING-MINIMUM SECTION MODULUS = 30.2 IN.^{3}/FT. OF SHEETING (ASTM A328)
B
B
BOTTOM OF EXISTING APPROACH SLAB
APPROXIMATE EXCAVATION LINE
13'-0" MAX.
23'-0" MIN.
SHEETPILE EMBEDMENT LENGTH

ELEVATION VIEW


1" DIAM. EXPANSION SHIELD ANCHOR PER 712.01 WITH SAFE WORKING PULLOUT LOAD OF 5 KIPS IN 3000 psi CONCRETE AS MANUFACTURED BY HILTI, RED HEAD OR EQUAL. INSTALL PER MANUFACTURER'S RECOMMENDATIONS THEN BACK NUTS OFF AS SHOWN IN SECTION C-C. ONE BOLT EACH SHEETPILE SECTION IS REQUIRED.
C
C
EDGE OF APPROACH SLAB (EXISTING OR PROPOSED)

VIEW B-B


EDGE OF APPROACH SLAB (EXISTING OR PROPOSED)
½" *
4" VERTICAL SLOTTED HOLE IN SHEETING.
INSTALL ANCHORS AT CENTER OF APPROACH SLAB AND AT TOP OF SLOTTED HOLES
* AFTER INSTALLATION AND TORQUING PER MANUFACTURER'S RECOMMENDATIONS, BACK NUT OFF ½" TO ALLOW ACTIVE PRESSURE TO DEVELOP.

SECTION C-C

NOTE:

1. TO BE PAID FOR WITH ITEM 503 - COFFERDAMS, CRIBS, AND SHEETING, AS PER PLAN, SEE SHEET 3 / 51 .

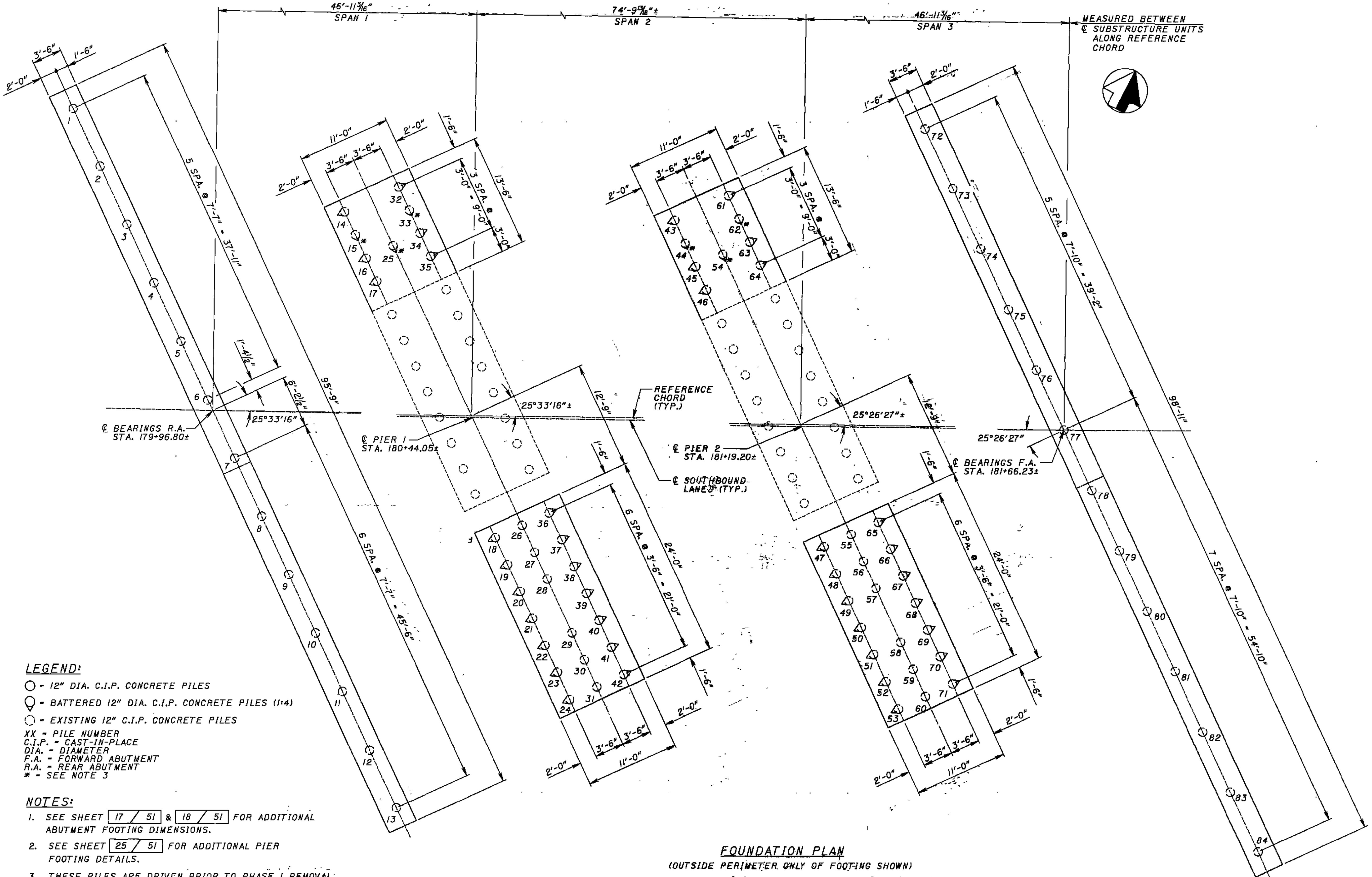
BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
VEA	CRC	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202493 LEFT 5202523 RIGHT	

SHORING DETAILS
BRIDGE NO. MED-71-0342 L/R
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00

P:/PR30489/CADD/MED-71-0342/ME071sh1.DGN



FOUNDATION PLAN
(OUTSIDE PERIMETER ONLY OF FOOTING SHOWN)

LEGEND:

○ - 12" DIA. C.I.P. CONCRETE PILES

○ - BATTERED 12" DIA. C.I.P. CONCRETE PILES (1:4)

◌ - EXISTING 12" C.I.P. CONCRETE PILES

XX - PILE NUMBER
C.I.P. - CAST-IN-PLACE
DIA. - DIAMETER
F.A. - FORWARD ABUTMENT
R.A. - REAR ABUTMENT
* - SEE NOTE 3

NOTES:

1. SEE SHEET 17 / 51 & 18 / 51 FOR ADDITIONAL ABUTMENT FOOTING DIMENSIONS.
2. SEE SHEET 25 / 51 FOR ADDITIONAL PIER FOOTING DETAILS.
3. THESE PILES ARE DRIVEN PRIOR TO PHASE 1 REMOVAL FOR PHASE 1 T-TYPE PIER SUPPORT AND WILL REMAIN AS PART OF PERMANENT FOOTING. FOR PILE BATTER AND ADDITIONAL DETAILS SEE SHEET 13 / 51.

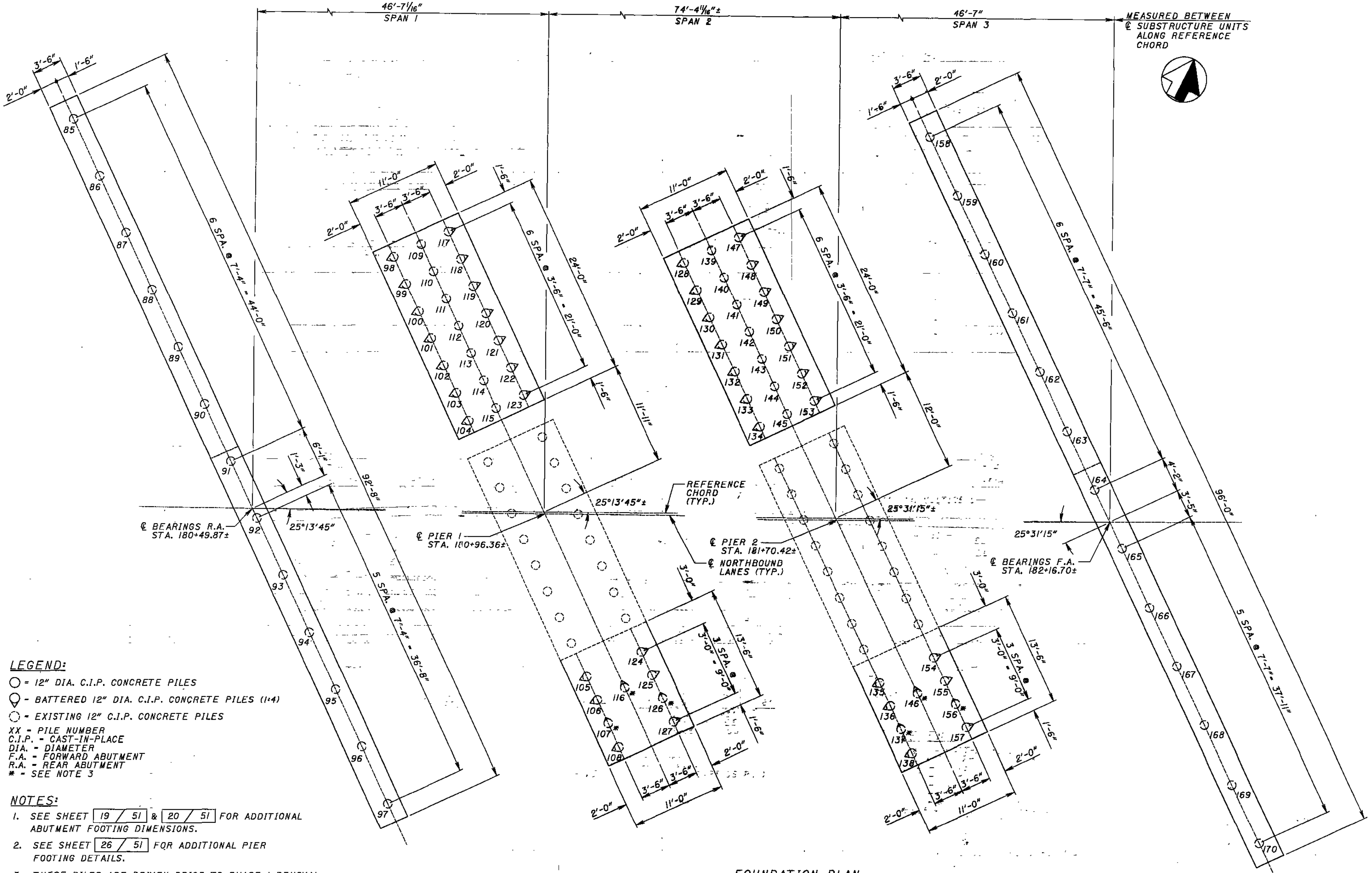
P:/PR30489/CADD/MED-71-0342/ME071fpl.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	CRC	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		5202493 LEFT 5202523 RIGHT	

FOUNDATION PLAN - SOUTHBOUND
BRIDGE NO. MED-71-0342 L
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00



LEGEND:

○ = 12" DIA. C.I.P. CONCRETE PILES

- BATTERED 12" DIA. C.I.P. CONCRETE PILES (1:4)

○ = EXISTING 12" C.I.P. CONCRETE PILES

XX - PILE NUMBER
C.I.P. - CAST-IN-PLACE
DIA. - DIAMETER
F.A. - FORWARD ABUTMENT
R.A. - REAR ABUTMENT
* - SEE NOTE 3

NOTES:

1. SEE SHEET 19 / 51 & 20 / 51 FOR ADDITIONAL ABUTMENT FOOTING DIMENSIONS.
2. SEE SHEET 26 / 51 FOR ADDITIONAL PIER FOOTING DETAILS.
3. THESE PILES ARE DRIVEN PRIOR TO PHASE I REMOVAL FOR PHASE I T-TYPE PIER SUPPORT AND WILL REMAIN AS PART OF PERMANENT FOOTING. FOR PILE BATTER AND ADDITIONAL DETAILS SEE SHEET 13 / 51 .

FOUNDATION PLAN

(OUTSIDE PERIMETER ONLY OF FOOTING SHOWN)

P:/PR30489/CADD/MED-71-0342/ME071fp2.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

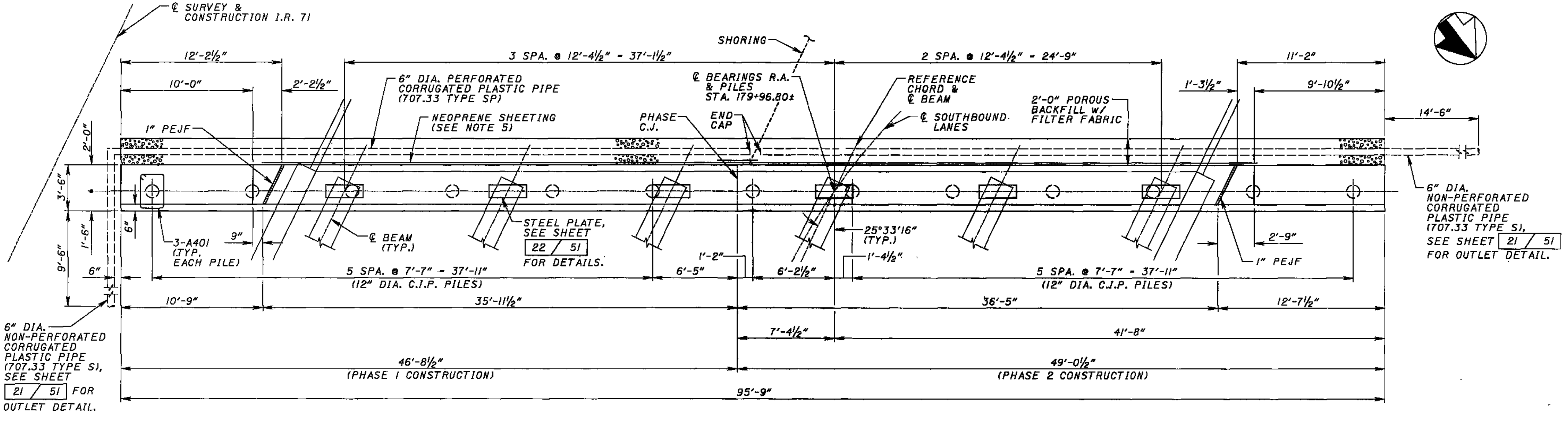
DESIGNED	DRAWN	REVIEWED	DATE
TTK	CRC	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		5202493 LEFT 5202523 RIGHT	

FOUNDATION PLAN - NORTHBOUND
BRIDGE NO. MED-71-0342 R
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00

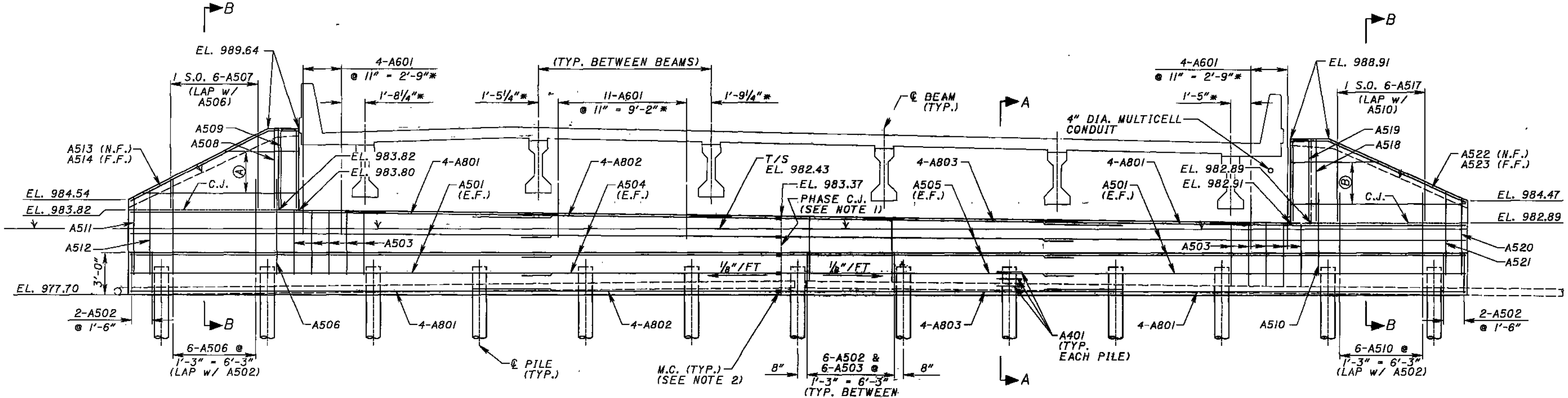
16 / 51

629 / 785



℄ SURVEY & CONSTRUCTION I.R. 71
SHORING
12'-2½"
10'-0"
2'-2½"
3 SPA. @ 12'-4½" = 37'-1½"
2 SPA. @ 12'-4½" = 24'-9"
11'-2"
1'-3½"
9'-10½"
14'-6"
6" DIA. PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE SP)
NEOPRENE SHEETING (SEE NOTE 5)
℄ BEARINGS R.A. & PILES STA. 179+96.80±
PHASE C.J.
END CAP
REFERENCE CHORD & ℄ BEAM
℄ SOUTHBOUND LANES
2'-0" POROUS BACKFILL w/ FILTER FABRIC
1" PEJF
2'-0"
3'-6"
1'-6"
9'-6"
6"
6"
3-A401 (TYP. EACH PILE)
9"
℄ BEAM (TYP.)
STEEL PLATE, SEE SHEET 22 / 51 FOR DETAILS.
1'-2"
25°33'16" (TYP.)
1'-4½"
2'-9"
1" PEJF
6" DIA. NON-PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE S), SEE SHEET 21 / 51 FOR OUTLET DETAIL.
5 SPA. @ 7'-7" = 37'-11" (12" DIA. C.I.P. PILES)
6'-5"
6'-2½"
5 SPA. @ 7'-7" = 37'-11" (12" DIA. C.I.P. PILES)
10'-9"
35'-11½"
36'-5"
12'-7½"
7'-4½"
41'-8"
46'-8½" (PHASE 1 CONSTRUCTION)
49'-0½" (PHASE 2 CONSTRUCTION)
95'-9"
6" DIA. NON-PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE S), SEE SHEET 21 / 51 FOR OUTLET DETAIL.

PLAN



Ⓐ - 1 S.O. 3-A515 (N.F.)
1 S.O. 3-A516 (F.F.)
@ 1'-6" = 3'-0"

Ⓑ - 1 S.O. 3-A524 (N.F.)
1 S.O. 3-A525 (F.F.)
@ 1'-6" = 3'-0"

ELEVATION
(* - MEASURED ALONG ℄ BEARINGS R.A.)

LEGEND:

C.I.P. - CAST-IN-PLACE
C.J. - CONSTRUCTION JOINT
DIA. - DIAMETER
E.F. - EACH FACE
F.F. - FAR FACE
N.F. - NEAR FACE
M.C. - MECHANICAL CONNECTOR
PEJF - PREFORMED EXPANSION JOINT FILLER
R.A. - REAR ABUTMENT
S.O. - SERIES OF
T/S - TOP OF SLOPE
U.N.O. - UNLESS NOTED OTHERWISE

NOTES:

1. PLACE TYPE 2 WATERPROOFING, 3' WIDE, CENTERED ON JOINT, FROM BOTTOM OF FOOTING TO SEAT ELEVATION.
2. SEE MECHANICAL CONNECTOR NOTE, SHEET 3 / 51 .
3. SEE SHEET 21 / 51 FOR SECTIONS A-A & B-B.
4. MINIMUM STEEL LAP LENGTHS:
   #5 BAR - 2'-0"
   #8 BAR - 5'-6"
5. SEE STD. DWG. ICD-1-82 AND SECTIONS A-A & B-B FOR NEOPRENE SHEETING LIMITS AND DETAILS.
6. SEE SHEET 15 / 51 FOR FOUNDATION PLAN.

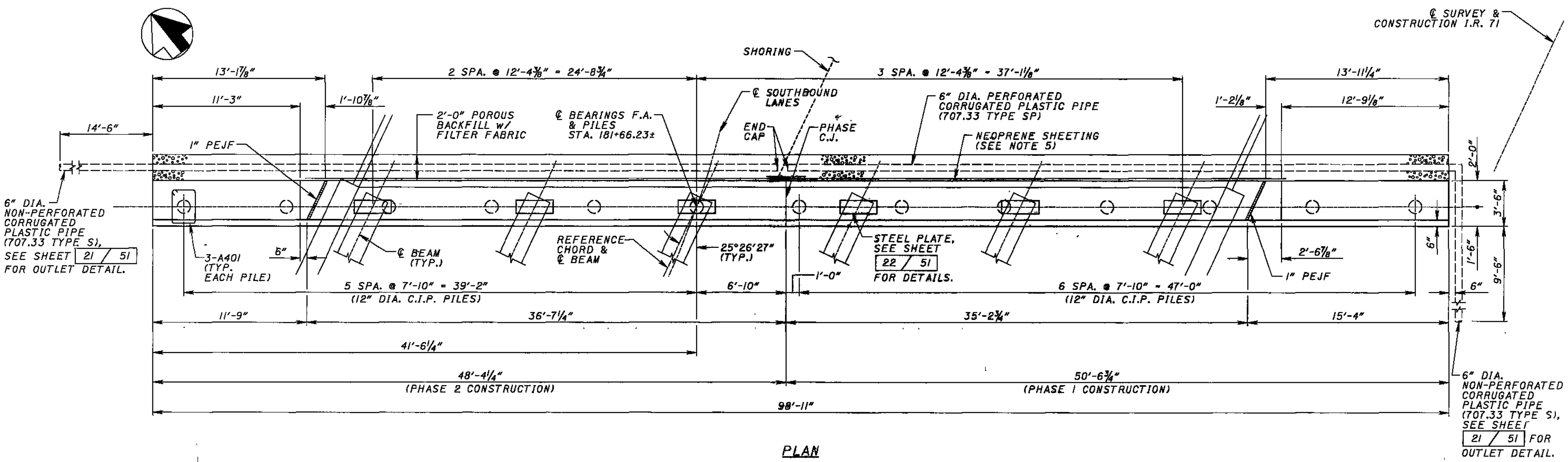
P:/PR30489/CADD/MED-71-0342/ME071ra4.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

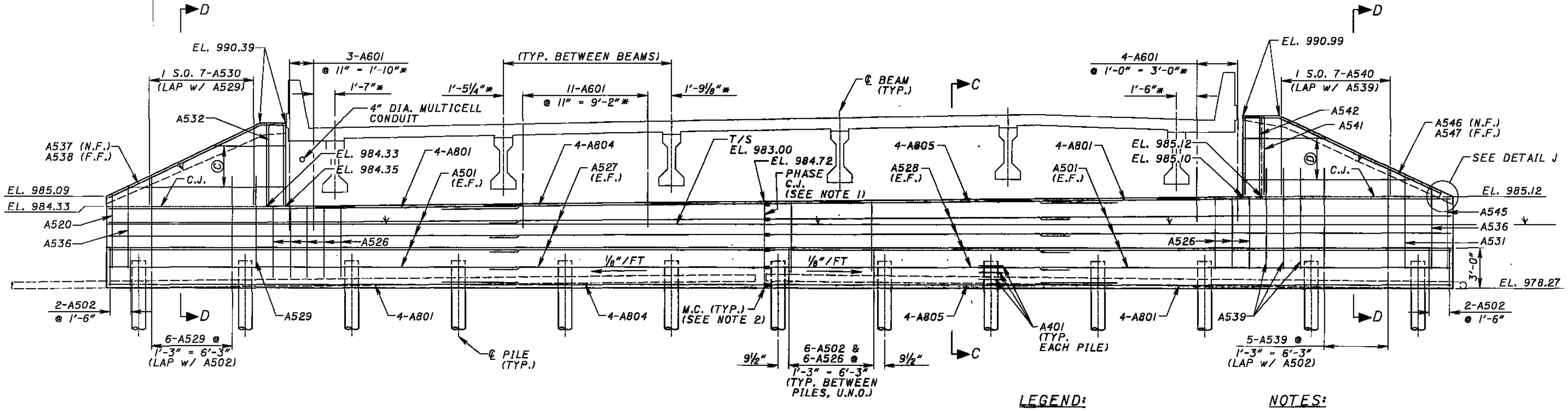
DESIGNED	CHECKED	DRAWN	REVIEWED	REVIEWED	DATE	STRUCTURE FILE NUMBER
TTK	WTL	TTK		CAS	6/03	5202433 LEFT 5202523 RIGHT

REAR ABUTMENT PLAN & ELEVATION - SOUTHBOUND
BRIDGE NO. MED-71-0342 L
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00


℄ SURVEY & CONSTRUCTION I.R. 71
SHORING
13'-1⅞"
2 SPA. @ 12'-4⅜" = 24'-8¾"
3 SPA. @ 12'-4⅜" = 37'-1⅛"
13'-11¼"
11'-3"
1'-10⅞"
1'-2⅛"
12'-9⅛"
14'-6"
2'-0" POROUS BACKFILL w/ FILTER FABRIC
℄ BEARINGS F.A. & PILES STA. 181+66.23±
℄ SOUTHBOUND LANES
END CAP
PHASE C.J.
6" DIA. PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE SP)
NEOPRENE SHEETING (SEE NOTE 5)
1" PEJF
2'-0"
3'-6"
6" DIA. NON-PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE S), SEE SHEET 21 / 51 FOR OUTLET DETAIL.
6"
3-A401 (TYP. EACH PILE)
℄ BEAM (TYP.)
REFERENCE CHORD & ℄ BEAM
25°26'27" (TYP.)
STEEL PLATE, SEE SHEET 22 / 51 FOR DETAILS.
2'-6⅞"
1" PEJF
6"
1'-6"
9'-6"
6"
5 SPA. @ 7'-10" = 39'-2" (12" DIA. C.I.P. PILES)
6'-10"
1'-0"
6 SPA. @ 7'-10" = 47'-0" (12" DIA. C.I.P. PILES)
11'-9"
36'-7¼"
35'-2¾"
15'-4"
41'-6¼"
48'-4¼" (PHASE 2 CONSTRUCTION)
50'-6¾" (PHASE 1 CONSTRUCTION)
98'-11"
6" DIA. NON-PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE S), SEE SHEET 21 / 51 FOR OUTLET DETAIL.

PLAN

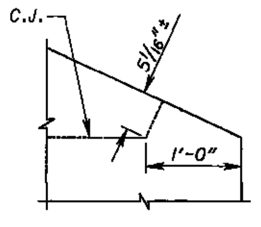


Ⓒ = 1 S.O. 3-A533 (N.F.)
1 S.O. 3-A534 (F.F.)
@ 1'-6" = 3'-0"

Ⓓ = 1 S.O. 3-A543 (N.F.)
1 S.O. 3-A544 (F.F.)
@ 1'-6" = 3'-0"

ELEVATION

(* - MEASURED ALONG ℄ BEARINGS F.A.)



DETAIL J

LEGEND:

C.I.P. - CAST-IN-PLACE
C.J. - CONSTRUCTION JOINT
DIA. - DIAMETER
E.F. - EACH FACE
F.F. - FAR FACE
N.F. - NEAR FACE
M.C. - MECHANICAL CONNECTOR
PEJF - PREFORMED EXPANSION JOINT FILLER
F.A. - FORWARD ABUTMENT
S.O. - SERIES OF
T/S - TOP OF SLOPE
U.N.O. - UNLESS NOTED OTHERWISE

NOTES:

1. PLACE TYPE 2 WATERPROOFING, 3' WIDE, CENTERED ON JOINT, FROM BOTTOM OF FOOTING TO SEAT ELEVATION.
2. SEE MECHANICAL CONNECTOR NOTE, SHEET 3 / 51.
3. SEE SHEET 22 / 51 FOR SECTIONS C-C & D-D.
4. MINIMUM STEEL LAP LENGTHS:
   #5 BAR - 2'-0"
   #8 BAR - 5'-6"
5. SEE STD. DWG. ICD-1-82 AND SECTIONS C-C & D-D FOR NEOPRENE SHEETING LIMITS AND DETAILS.
6. SEE SHEET 15 / 51 FOR FOUNDATION PLAN.

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202493 LEFT 5202523 RIGHT	

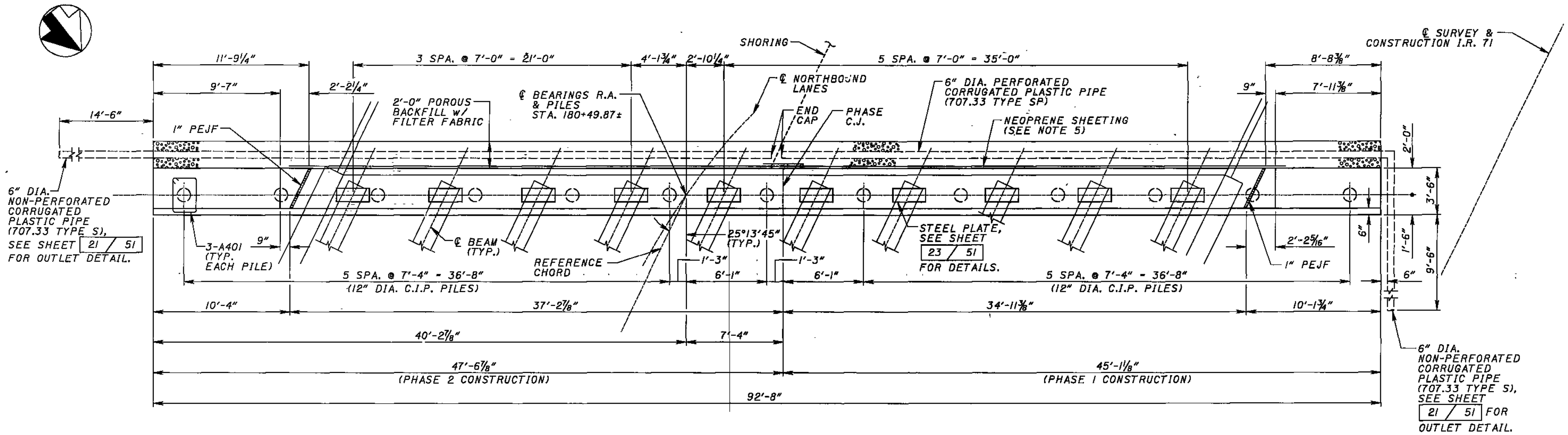
FORWARD ABUTMENT PLAN & ELEVATION - SOUTHBOUND
BRIDGE NO. MED-71-0342 L
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00

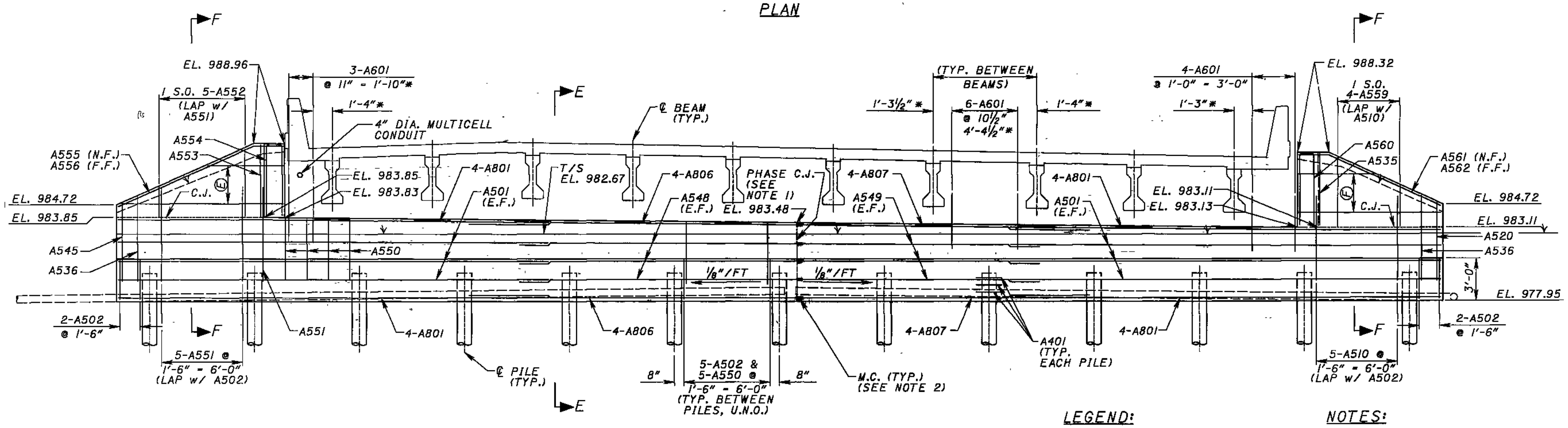
18 / 51

631 / 785

P:/PR30489/CADD/MED-71-0342/ME071fa3.DGN



PLAN



ELEVATION
(* - MEASURED ALONG ℄ BEARINGS R.A.)

Ⓔ - 1 S.O. 3-A557 (N.F.)
1 S.O. 3-A558 (F.F.)
@ 1'-4" - 2'-8"

Ⓕ - 1 S.O. 3-A563 (N.F.)
1 S.O. 3-A564 (F.F.)
@ 1'-4" - 2'-8"

LEGEND:

C.I.P. - CAST-IN-PLACE
C.J. - CONSTRUCTION JOINT
DIA. - DIAMETER
E.F. - EACH FACE
F.F. - FAR FACE
N.F. - NEAR FACE
M.C. - MECHANICAL CONNECTOR
PEJF - PREFORMED EXPANSION JOINT FILLER
R.A. - REAR ABUTMENT
S.O. - SERIES OF
T/S - TOP OF SLOPE
U.N.O. - UNLESS NOTED OTHERWISE

NOTES:

1. PLACE TYPE 2 WATERPROOFING, 3' WIDE, CENTERED ON JOINT, FROM BOTTOM OF FOOTING TO SEAT ELEVATION.
2. SEE MECHANICAL CONNECTOR NOTE, SHEET 3 / 51 .
3. SEE SHEET 23 / 51 FOR SECTIONS E-E & F-F.
4. MINIMUM STEEL LAP LENGTHS:
   #5 BAR - 2'-0"
   #8 BAR - 5'-6"
5. SEE STD. DWG. ICD-1-82 AND SECTIONS E-E & F-F FOR NEOPRENE SHEETING LIMITS AND DETAILS.
6. SEE SHEET 16 / 51 FOR FOUNDATION PLAN.

P:/PR30489/CADD/MED-71-0342/ME071ral.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

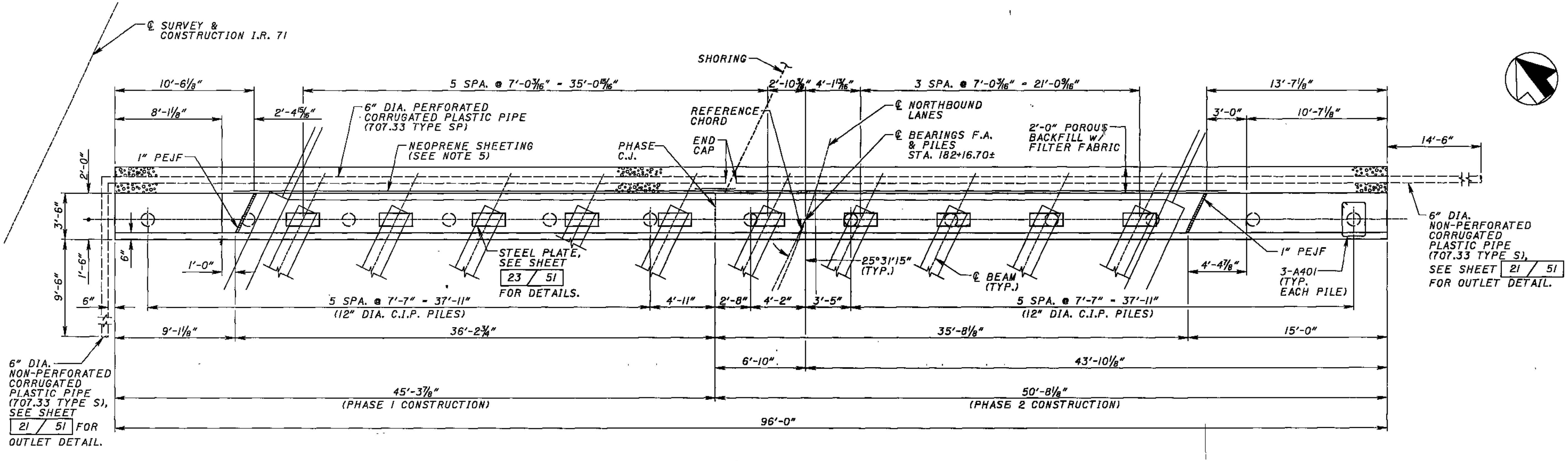
DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202493 LEFT 5202523 RIGHT	

REAR ABUTMENT PLAN & ELEVATION - NORTHBOUND
BRIDGE NO. MED-71-0342 R
OVER W. & L.E. RAILROAD

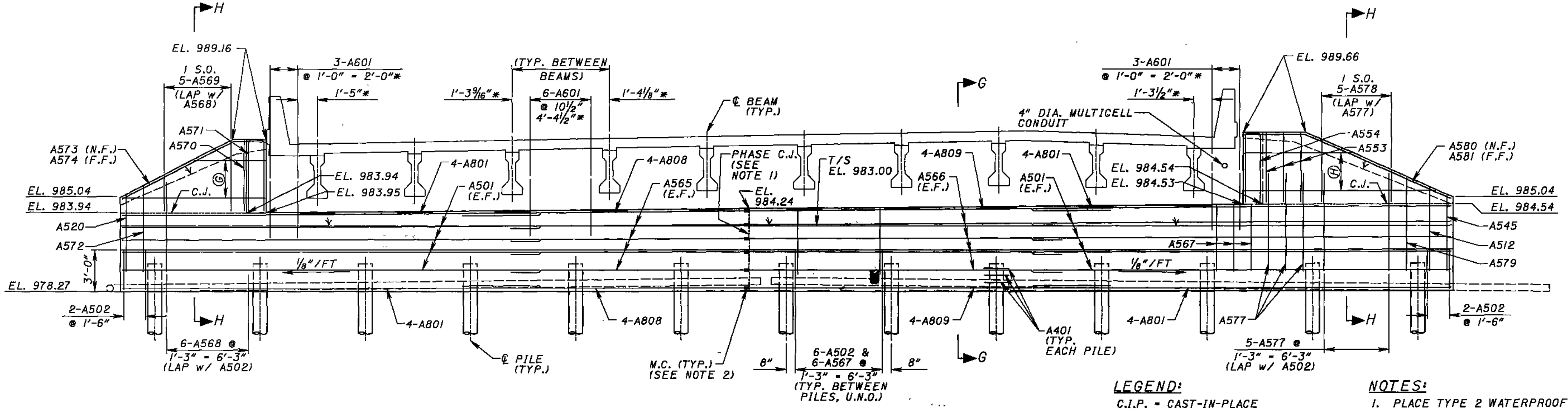
WAY/MED-71-7.04/0.00

19 / 51

632 / 785


℄ SURVEY &
CONSTRUCTION I.R. 71
SHORING
10'-6⅛"
8'-1⅛"
2'-4¹⁵⁄₁₆"
5 SPA. @ 7'-0³⁄₁₆" = 35'-0¹⁵⁄₁₆"
2'-10⅞"
4'-1⁷⁄₁₆"
3 SPA. @ 7'-0³⁄₁₆" = 21'-0⁹⁄₁₆"
13'-7⅛"
3'-0"
10'-7⅛"
14'-6"
6" DIA. PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE SP)
NEOPRENE SHEETING (SEE NOTE 5)
REFERENCE CHORD
END CAP
PHASE C.J.
℄ NORTHBOUND LANES
℄ BEARINGS F.A. & PILES STA. 182+16.70±
2'-0" POROUS BACKFILL w/ FILTER FABRIC
1" PEJF
2'-0"
3'-6"
9'-6"
1'-6"
6"
6"
1'-0"
STEEL PLATE, SEE SHEET 23 / 51 FOR DETAILS.
25°31'15" (TYP.)
℄ BEAM (TYP.)
1" PEJF
4'-4⅞"
3-A401 (TYP. EACH PILE)
6" DIA. NON-PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE S), SEE SHEET 21 / 51 FOR OUTLET DETAIL.
5 SPA. @ 7'-7" = 37'-11"
(12" DIA. C.I.P. PILES)
4'-11"
2'-8"
4'-2"
3'-5"
5 SPA. @ 7'-7" = 37'-11"
(12" DIA. C.I.P. PILES)
9'-1⅛"
36'-2¾"
35'-8⅛"
15'-0"
6'-10"
43'-10⅛"
6" DIA. NON-PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE S), SEE SHEET 21 / 51 FOR OUTLET DETAIL.
45'-3⅞"
(PHASE 1 CONSTRUCTION)
50'-8⅛"
(PHASE 2 CONSTRUCTION)
96'-0"

PLAN



ELEVATION

(* - MEASURED ALONG ℄ BEARINGS F.A.)

Ⓖ = 1 S.O. 3-A575 (N.F.)
1 S.O. 3-A576 (F.F.)
@ 1'-4" = 2'-8"

Ⓗ = 1 S.O. 3-A582 (N.F.)
1 S.O. 3-A583 (F.F.)
@ 1'-4" = 2'-8"

LEGEND:

C.I.P. = CAST-IN-PLACE
C.J. = CONSTRUCTION JOINT
DIA. = DIAMETER
E.F. = EACH FACE
F.F. = FAR FACE
N.F. = NEAR FACE
M.C. = MECHANICAL CONNECTOR
PEJF = PREFORMED EXPANSION JOINT FILLER
F.A. = FORWARD ABUTMENT
S.O. = SERIES OF
T/S = TOP OF SLOPE
U.N.O. = UNLESS NOTED OTHERWISE

NOTES:

1. PLACE TYPE 2 WATERPROOFING, 3' WIDE, CENTERED ON JOINT, FROM BOTTOM OF FOOTING TO SEAT ELEVATION.
2. SEE MECHANICAL CONNECTOR NOTE, SHEET 3 / 51 .
3. SEE SHEET 24 / 51 FOR SECTIONS G-G & H-H.
4. MINIMUM STEEL LAP LENGTHS:

   #5 BAR = 2'-0"
   #8 BAR = 5'-6"

5. SEE STD. DWG. ICD-1-82 AND SECTIONS G-G & H-H FOR NEOPRENE SHEETING LIMITS AND DETAILS.
6. SEE SHEET 16 / 51 FOR FOUNDATION PLAN.

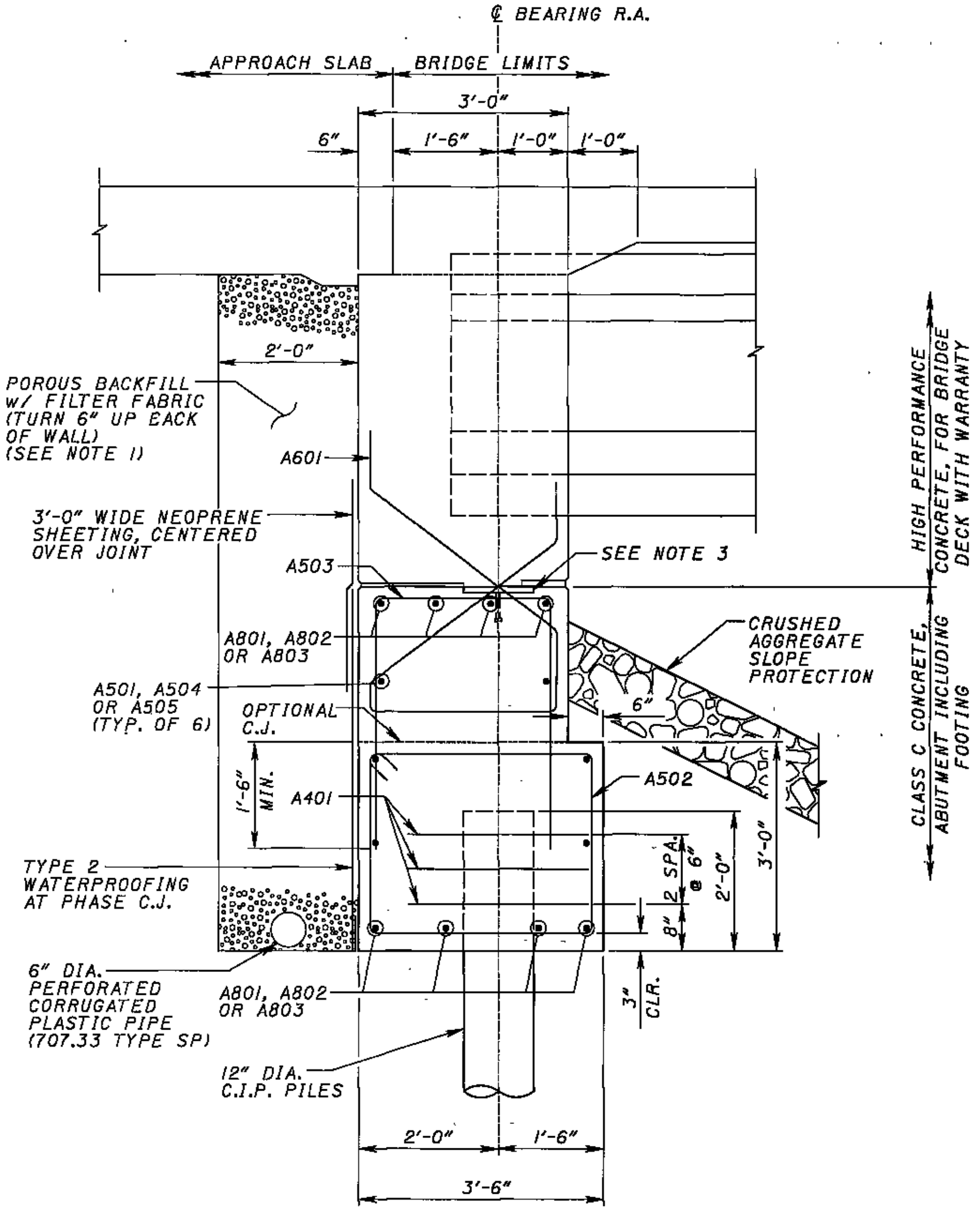
P:/PR30489/CADD/MED-71-0342/ME071fa1.DGN

FORWARD ABUTMENT PLAN & ELEVATION - NORTHBOUND
BRIDGE NO. MED-71-0342 R
OVER W. & L.E. RAILROAD

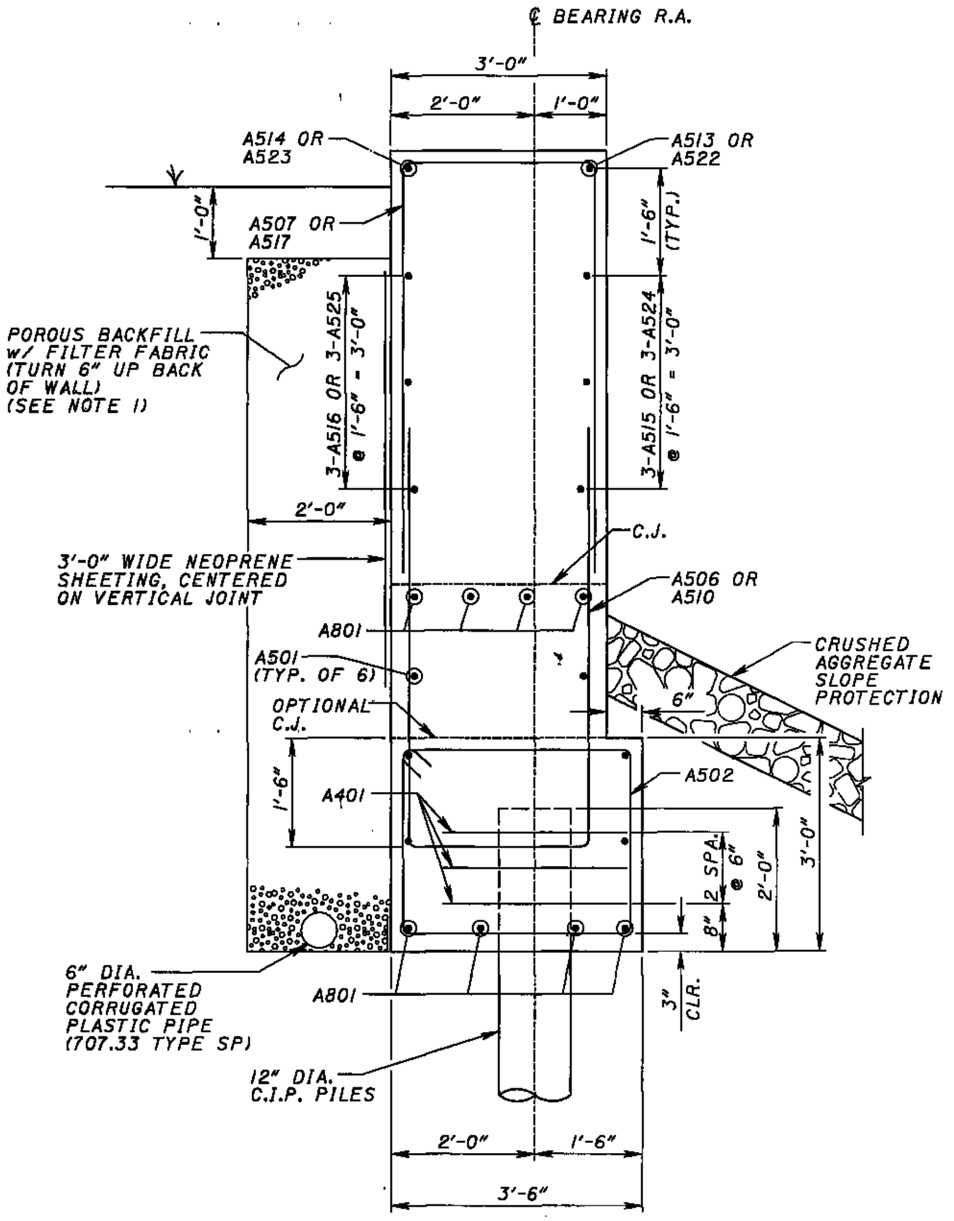
DESIGNED	DRAWN	REVIEWED	DATE
WTL	WTL	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TTK		5202493 LEFT 5202523 RIGHT	

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

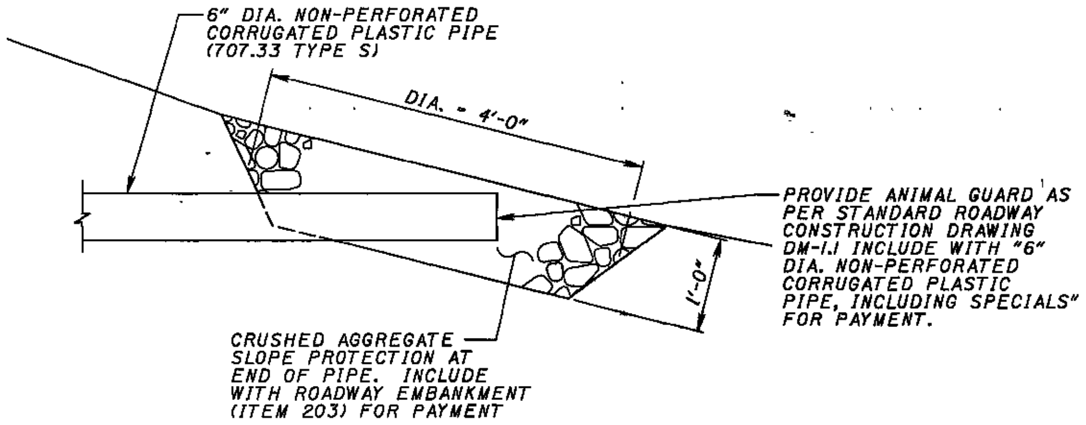
WAY/MED-71-7.04/0.00


℄ BEARING R.A.
APPROACH SLAB
BRIDGE LIMITS
3'-0"
6"
1'-6"
1'-0"
1'-0"
2'-0"
POROUS BACKFILL w/ FILTER FABRIC (TURN 6" UP BACK OF WALL) (SEE NOTE 1)
A601
3'-0" WIDE NEOPRENE SHEETING, CENTERED OVER JOINT
A503
SEE NOTE 3
A801, A802 OR A803
A501, A504 OR A505 (TYP. OF 6)
OPTIONAL C.J.
CRUSHED AGGREGATE SLOPE PROTECTION
6"
1'-6" MIN.
A401
A502
TYPE 2 WATERPROOFING AT PHASE C.J.
2 SPA. @ 6"
8"
2'-0"
3'-0"
6" DIA. PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE SP)
A801, A802 OR A803
3" CLR.
12" DIA. C.I.P. PILES
2'-0"
1'-6"
3'-6"
HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY
CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING

SECTION A-A


℄ BEARING R.A.
3'-0"
2'-0"
1'-0"
A514 OR A523
A513 OR A522
1'-0"
A507 OR A517
1'-6" (TYP.)
POROUS BACKFILL w/ FILTER FABRIC (TURN 6" UP BACK OF WALL) (SEE NOTE 1)
3-A516 OR 3-A525 @ 1'-6" = 3'-0"
3-A515 OR 3-A524 @ 1'-6" = 3'-0"
2'-0"
C.J.
3'-0" WIDE NEOPRENE SHEETING, CENTERED ON VERTICAL JOINT
A506 OR A510
A801
A501 (TYP. OF 6)
CRUSHED AGGREGATE SLOPE PROTECTION
OPTIONAL C.J.
6"
1'-6"
A401
A502
2 SPA. @ 6"
8"
2'-0"
3'-0"
6" DIA. PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE SP)
A801
3" CLR.
12" DIA. C.I.P. PILES
2'-0"
1'-6"
3'-6"

SECTION B-B


6" DIA. NON-PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE S)
DIA. = 4'-0"
PROVIDE ANIMAL GUARD AS PER STANDARD ROADWAY CONSTRUCTION DRAWING DM-1.1 INCLUDE WITH "6" DIA. NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS" FOR PAYMENT.
1'-0"
CRUSHED AGGREGATE SLOPE PROTECTION AT END OF PIPE. INCLUDE WITH ROADWAY EMBANKMENT (ITEM 203) FOR PAYMENT

OUTLET DETAIL

LEGEND:

C.I.P. - CAST-IN-PLACE
C.J. - CONSTRUCTION JOINT
CLR. - CLEAR
DIA. - DIAMETER
R.A. - REAR ABUTMENT

NOTES:

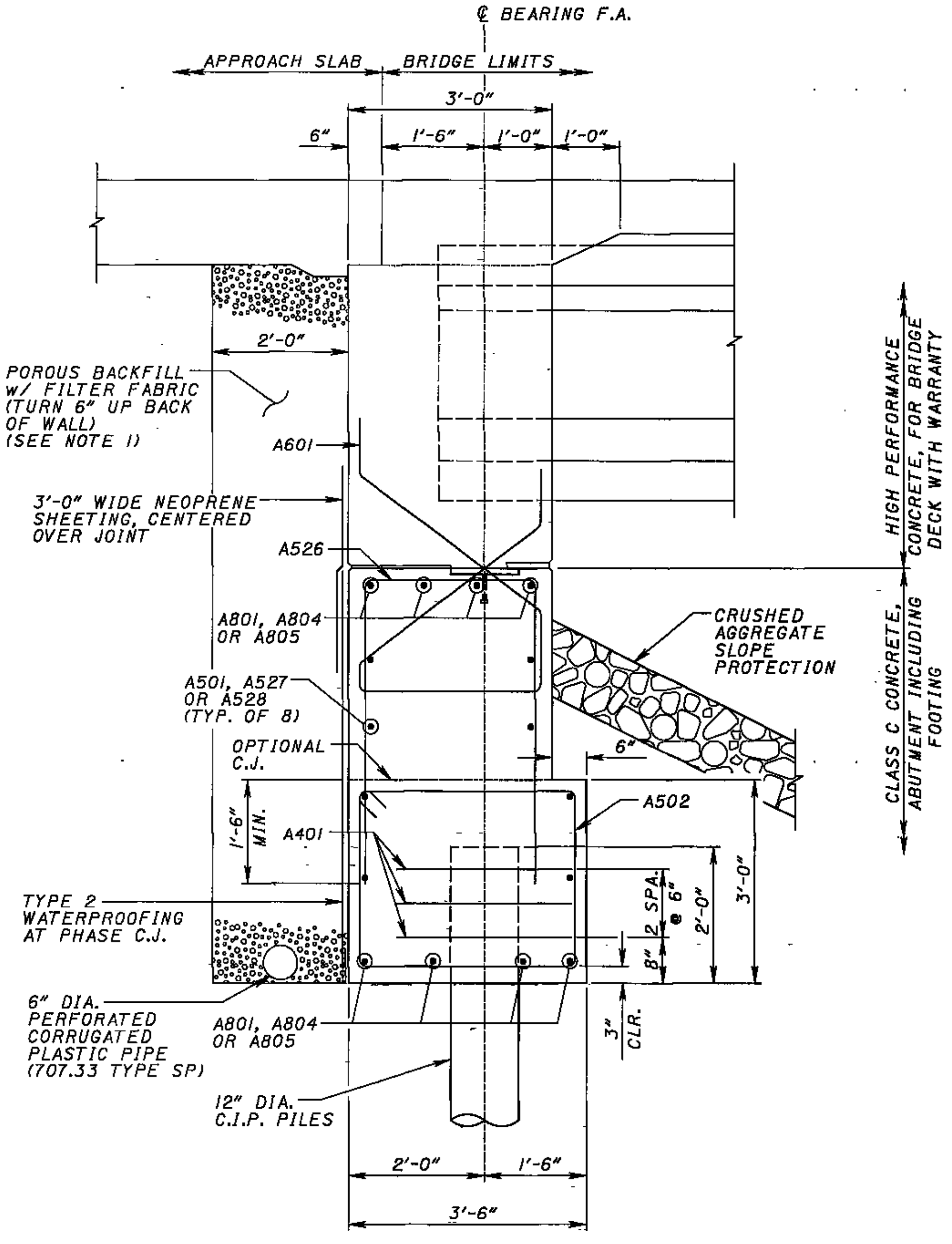
1. EXTEND POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK, UP TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.
2. SEE STD. DWG. ICD-1-82 FOR DETAILS NOT SHOWN.
3. SEE SHEET 22 / 51 FOR STEEL PLATE DETAILS.

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

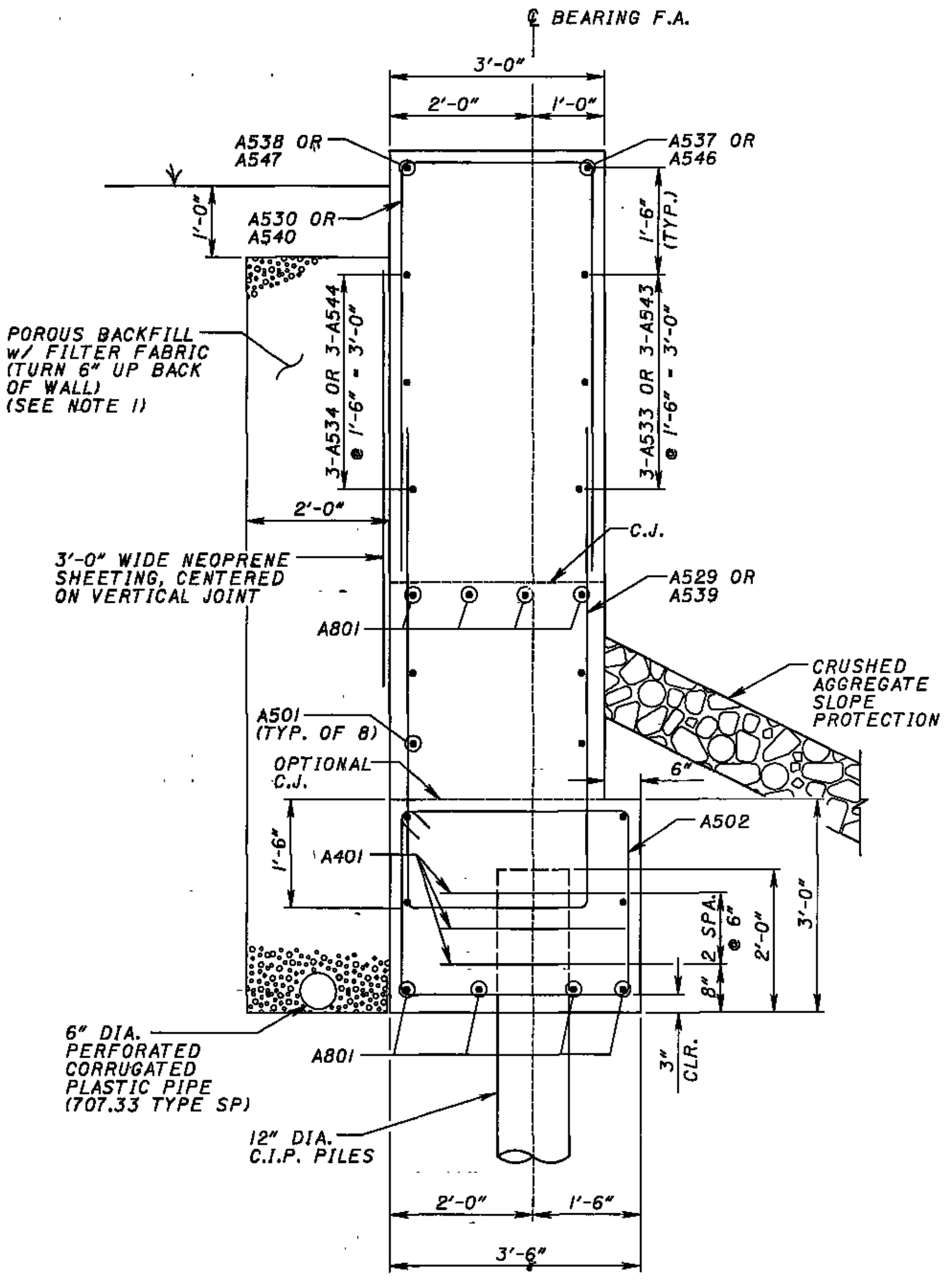
DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202493 LEFT 5202523 RIGHT	

REAR ABUTMENT DETAILS - SOUTHBOUND
BRIDGE NO. MED-71-0342 L
OVER W. & L.E. RAILROAD

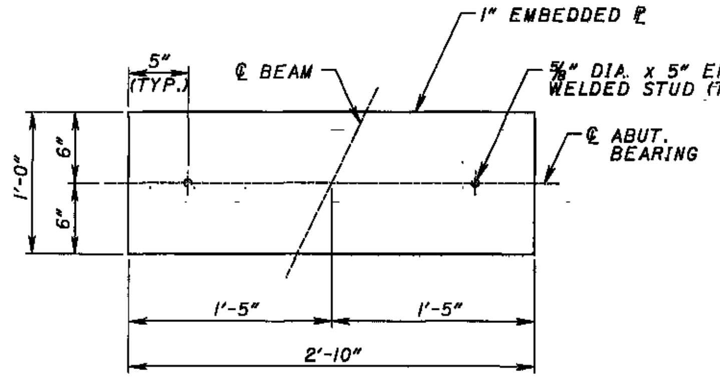
WAY/MED-71-7.04/0.00


℄ BEARING F.A.
APPROACH SLAB
BRIDGE LIMITS
3'-0"
6"
1'-6"
1'-0"
1'-0"
2'-0"
POROUS BACKFILL w/ FILTER FABRIC (TURN 6" UP BACK OF WALL) (SEE NOTE 1)
A601
3'-0" WIDE NEOPRENE SHEETING, CENTERED OVER JOINT
A526
A801, A804 OR A805
A501, A527 OR A528 (TYP. OF 8)
OPTIONAL C.J.
1'-6" MIN.
A401
TYPE 2 WATERPROOFING AT PHASE C.J.
6" DIA. PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE SP)
A801, A804 OR A805
12" DIA. C.I.P. PILES
CRUSHED AGGREGATE SLOPE PROTECTION
6"
A502
2 SPA. @ 6"
2'-0"
3'-0"
8"
3" CLR.
HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY
CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING
2'-0"
1'-6"
3'-6"

SECTION C-C


℄ BEARING F.A.
3'-0"
2'-0"
1'-0"
A538 OR A547
A537 OR A546
1'-0"
A530 OR A540
1'-6" (TYP.)
POROUS BACKFILL w/ FILTER FABRIC (TURN 6" UP BACK OF WALL) (SEE NOTE 1)
3-A534 OR 3-A544 @ 1'-6" = 3'-0"
3-A533 OR 3-A543 @ 1'-6" = 3'-0"
2'-0"
C.J.
3'-0" WIDE NEOPRENE SHEETING, CENTERED ON VERTICAL JOINT
A529 OR A539
A801
CRUSHED AGGREGATE SLOPE PROTECTION
A501 (TYP. OF 8)
OPTIONAL C.J.
6"
1'-6"
A401
A502
2 SPA. @ 6"
2'-0"
3'-0"
8"
6" DIA. PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE SP)
A801
3" CLR.
12" DIA. C.I.P. PILES
2'-0"
1'-6"
3'-6"

SECTION D-D



STEEL PLATE PLAN

(TOP OF STEEL PLATE SHALL BE FLUSH WITH ABUTMENT SEAT)

LEGEND:

C.I.P. - CAST-IN-PLACE
C.J. - CONSTRUCTION JOINT
CLR. - CLEAR
DIA. - DIAMETER
F.A. - FORWARD ABUTMENT

NOTES:

1. EXTEND POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK, UP TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.
2. SEE STD. DWG. ICD-1-82 FOR DETAILS NOT SHOWN.
3. EMBEDDED PLATE SHALL BE GALVANIZED A36 STEEL. INCLUDE WITH BEAMS FOR PAYMENT.

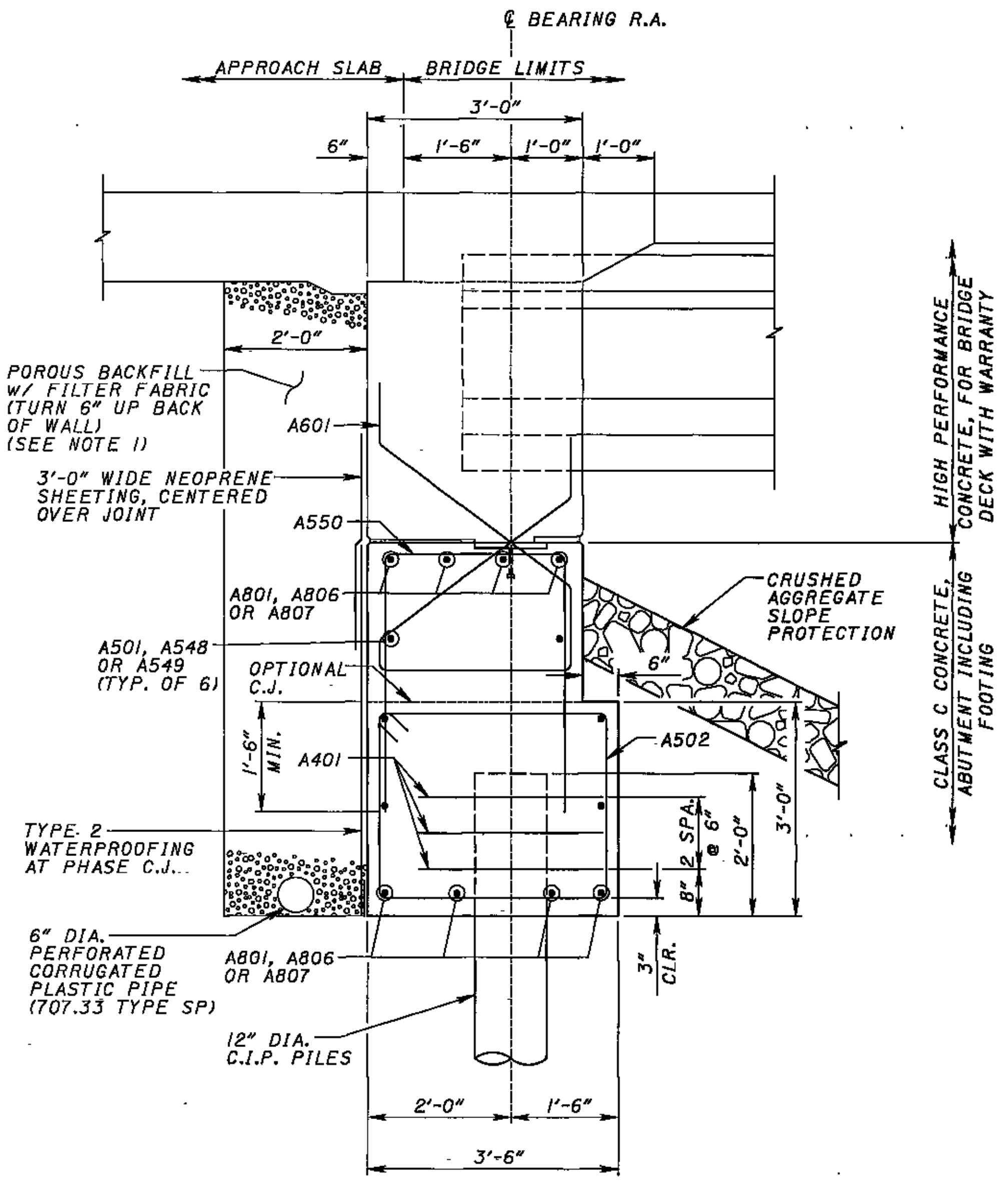
BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202493 LEFT 5202523 RIGHT	

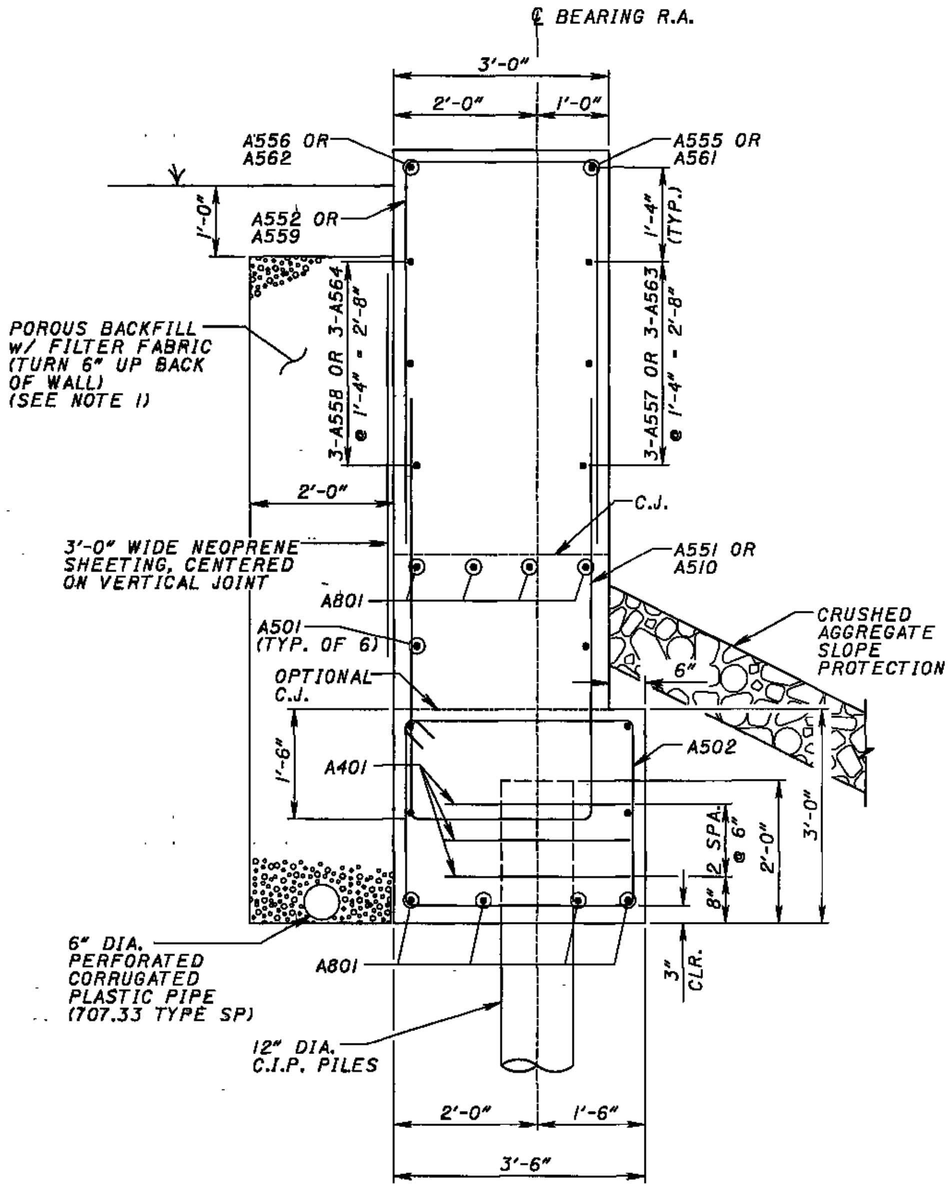
FORWARD ABUTMENT DETAILS - SOUTHBOUND
BRIDGE NO. MED-71-0342 L
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00

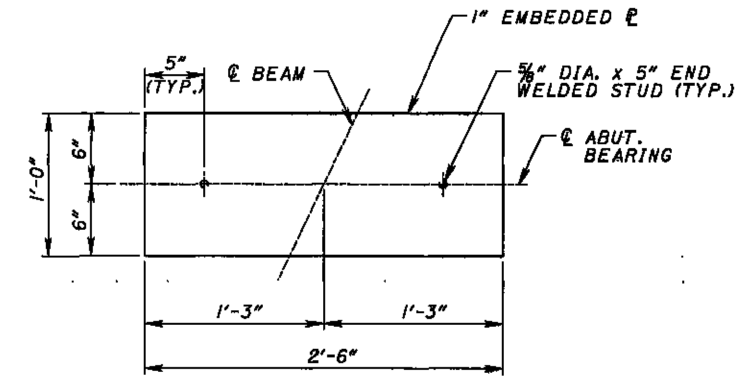
P:/PR30489/CADD/MED-71-0342/ME071fa4.DGN


℄ BEARING R.A.
APPROACH SLAB
BRIDGE LIMITS
3'-0"
6"
1'-6"
1'-0"
1'-0"
2'-0"
POROUS BACKFILL w/ FILTER FABRIC (TURN 6" UP BACK OF WALL) (SEE NOTE 1)
A601
3'-0" WIDE NEOPRENE SHEETING, CENTERED OVER JOINT
A550
A801, A806 OR A807
A501, A548 OR A549 (TYP. OF 6)
OPTIONAL C.J.
1'-6" MIN.
A401
A502
TYPE 2 WATERPROOFING AT PHASE C.J.
6" DIA. PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE SP)
A801, A806 OR A807
12" DIA. C.I.P. PILES
CRUSHED AGGREGATE SLOPE PROTECTION
6"
2 SPA. @ 6"
8"
2'-0"
3'-0"
3" CLR.
HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY
CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING
2'-0"
1'-6"
3'-6"

SECTION E-E


℄ BEARING R.A.
3'-0"
2'-0"
1'-0"
A556 OR A562
A555 OR A561
1'-0"
A552 OR A559
1'-4" (TYP.)
POROUS BACKFILL w/ FILTER FABRIC (TURN 6" UP BACK OF WALL) (SEE NOTE 1)
3-A558 OR 3-A564 @ 1'-4" = 2'-8"
3-A557 OR 3-A563 @ 1'-4" = 2'-8"
2'-0"
C.J.
3'-0" WIDE NEOPRENE SHEETING, CENTERED ON VERTICAL JOINT
A551 OR A510
A801
A501 (TYP. OF 6)
OPTIONAL C.J.
CRUSHED AGGREGATE SLOPE PROTECTION
6"
1'-6"
A401
A502
2 SPA. @ 6"
8"
2'-0"
3'-0"
3" CLR.
6" DIA. PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE SP)
A801
12" DIA. C.I.P. PILES
2'-0"
1'-6"
3'-6"

SECTION F-F



STEEL PLATE PLAN
(TOP OF STEEL PLATE SHALL BE FLUSH WITH ABUTMENT SEAT)

LEGEND:

C.I.P. - CAST-IN-PLACE
C.J. - CONSTRUCTION JOINT
CLR. - CLEAR
DIA. - DIAMETER
R.A. - REAR ABUTMENT

NOTES:

1. EXTEND POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK, UP TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.
2. SEE STD. DWG. ICD-1-82 FOR DETAILS NOT SHOWN.
3. EMBEDDED PLATE SHALL BE GALVANIZED A36 STEEL. INCLUDE WITH BEAMS FOR PAYMENT.

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03

CHECKED	REVISED	STRUCTURE FILE NUMBER
WTL		5202493 LEFT 5202523 RIGHT

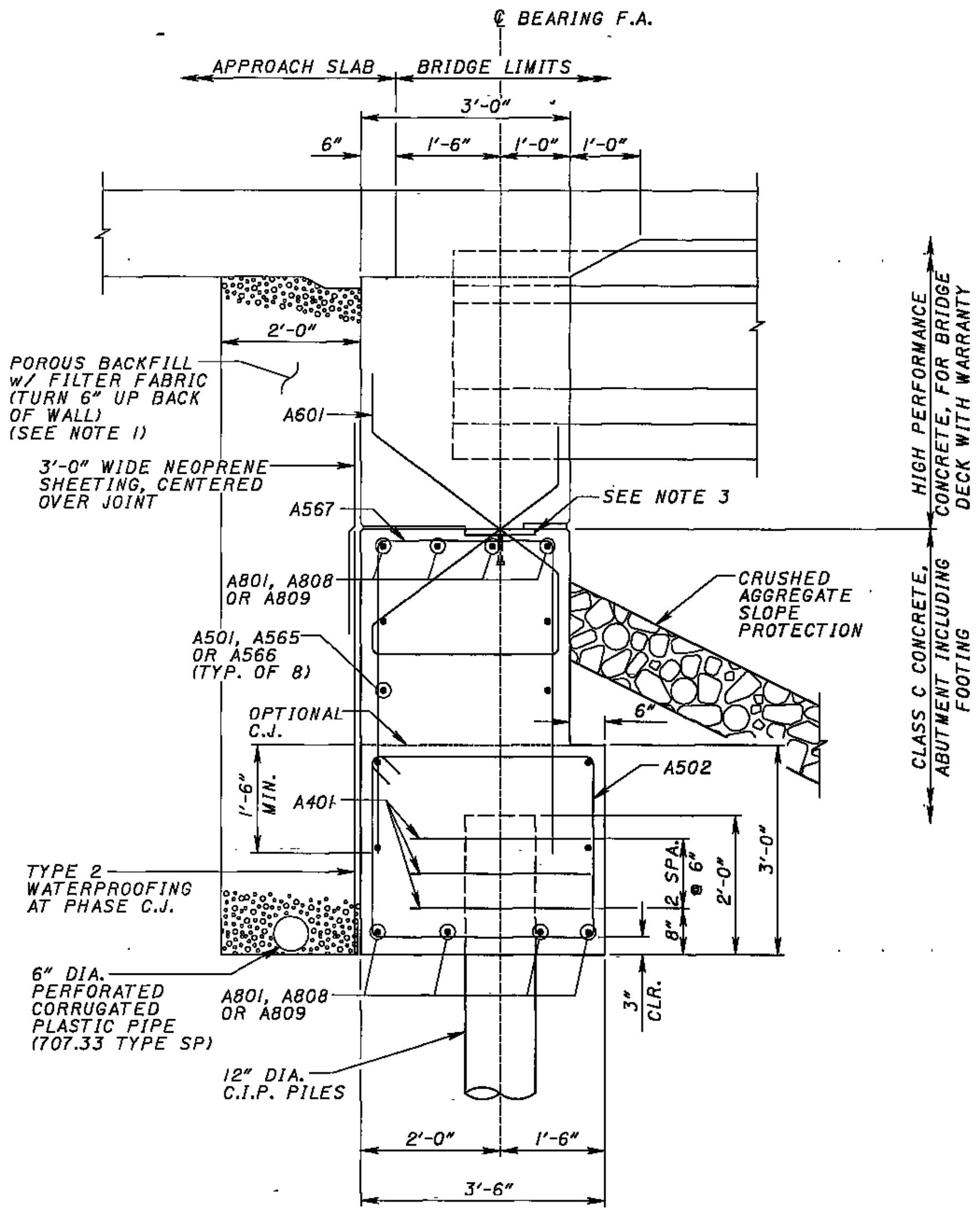
REAR ABUTMENT DETAILS - NORTHBOUND
BRIDGE NO. MED-71-0342 R
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00

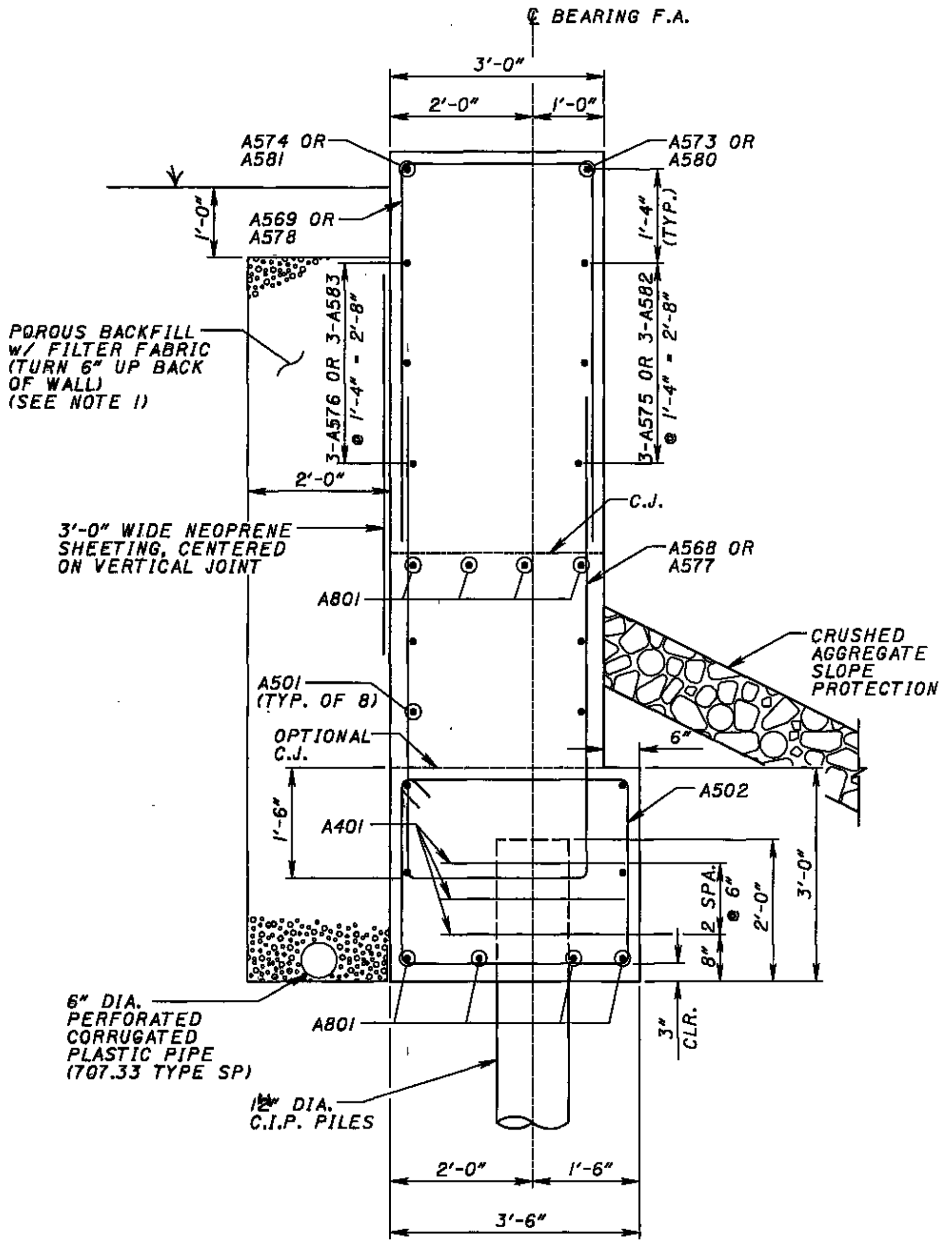
23/51

636/785

P:/PR30489/CADD/MED-71-0342/ME071rd2.DGN


℄ BEARING F.A.
APPROACH SLAB
BRIDGE LIMITS
3'-0"
6"
1'-6"
1'-0"
1'-0"
2'-0"
POROUS BACKFILL w/ FILTER FABRIC (TURN 6" UP BACK OF WALL) (SEE NOTE 1)
A601
3'-0" WIDE NEOPRENE SHEETING, CENTERED OVER JOINT
A567
SEE NOTE 3
HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY
CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING
A801, A808 OR A809
CRUSHED AGGREGATE SLOPE PROTECTION
A501, A565 OR A566 (TYP. OF 8)
OPTIONAL C.J.
6"
A502
1'-6" MIN.
A401
TYPE 2 WATERPROOFING AT PHASE C.J.
2 SPA. @ 6"
2'-0"
3'-0"
8"
6" DIA. PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE SP)
A801, A808 OR A809
3" CLR.
12" DIA. C.I.P. PILES
2'-0"
1'-6"
3'-6"

SECTION G-G


℄ BEARING F.A.
3'-0"
2'-0"
1'-0"
A574 OR A581
A573 OR A580
1'-0"
A569 OR A578
1'-4" (TYP.)
POROUS BACKFILL w/ FILTER FABRIC (TURN 6" UP BACK OF WALL) (SEE NOTE 1)
3-A576 OR 3-A583 @ 1'-4" = 2'-8"
3-A575 OR 3-A582 @ 1'-4" = 2'-8"
2'-0"
C.J.
3'-0" WIDE NEOPRENE SHEETING, CENTERED ON VERTICAL JOINT
A568 OR A577
A801
CRUSHED AGGREGATE SLOPE PROTECTION
A501 (TYP. OF 8)
OPTIONAL C.J.
6"
A502
1'-6"
A401
2 SPA. @ 6"
2'-0"
3'-0"
8"
6" DIA. PERFORATED CORRUGATED PLASTIC PIPE (707.33 TYPE SP)
A801
3" CLR.
12" DIA. C.I.P. PILES
2'-0"
1'-6"
3'-6"

SECTION H-H

LEGEND:

C.I.P. - CAST-IN-PLACE
C.J. - CONSTRUCTION JOINT
CLR. - CLEAR
DIA. - DIAMETER
F.A. - FORWARD ABUTMENT

NOTES:

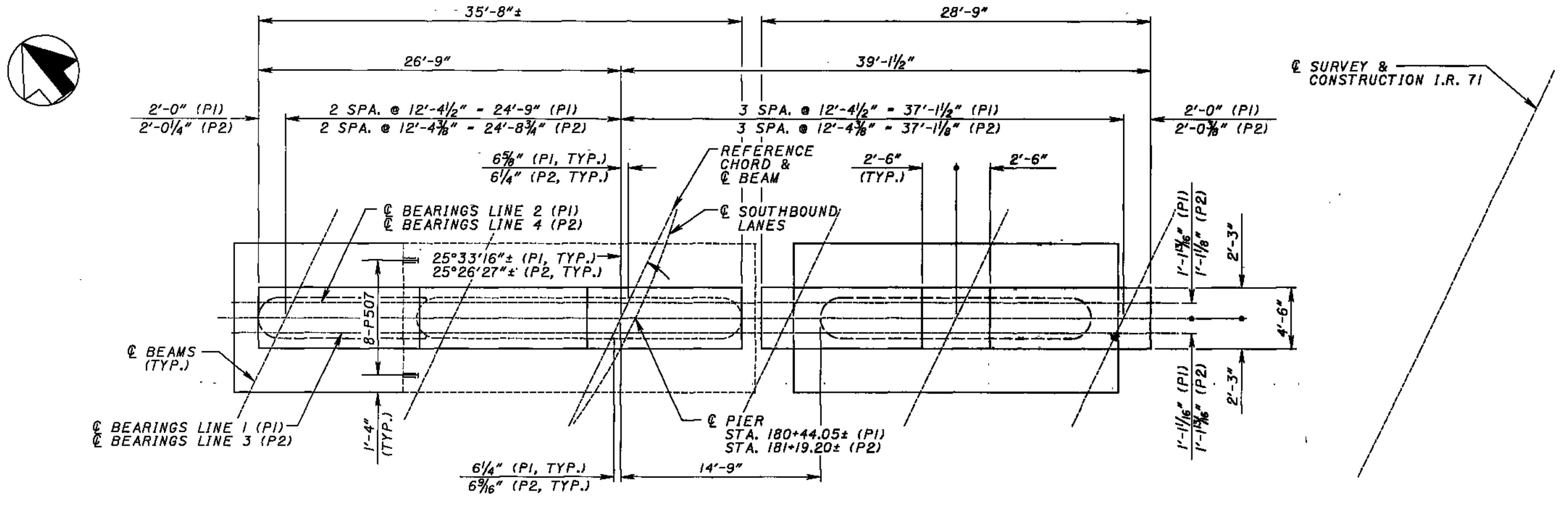
1. EXTEND POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK, UP TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.
2. SEE STD. DWG. ICD-1-82 FOR DETAILS NOT SHOWN.
3. SEE SHEET 23 / 51 FOR STEEL PLATE DETAILS.

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

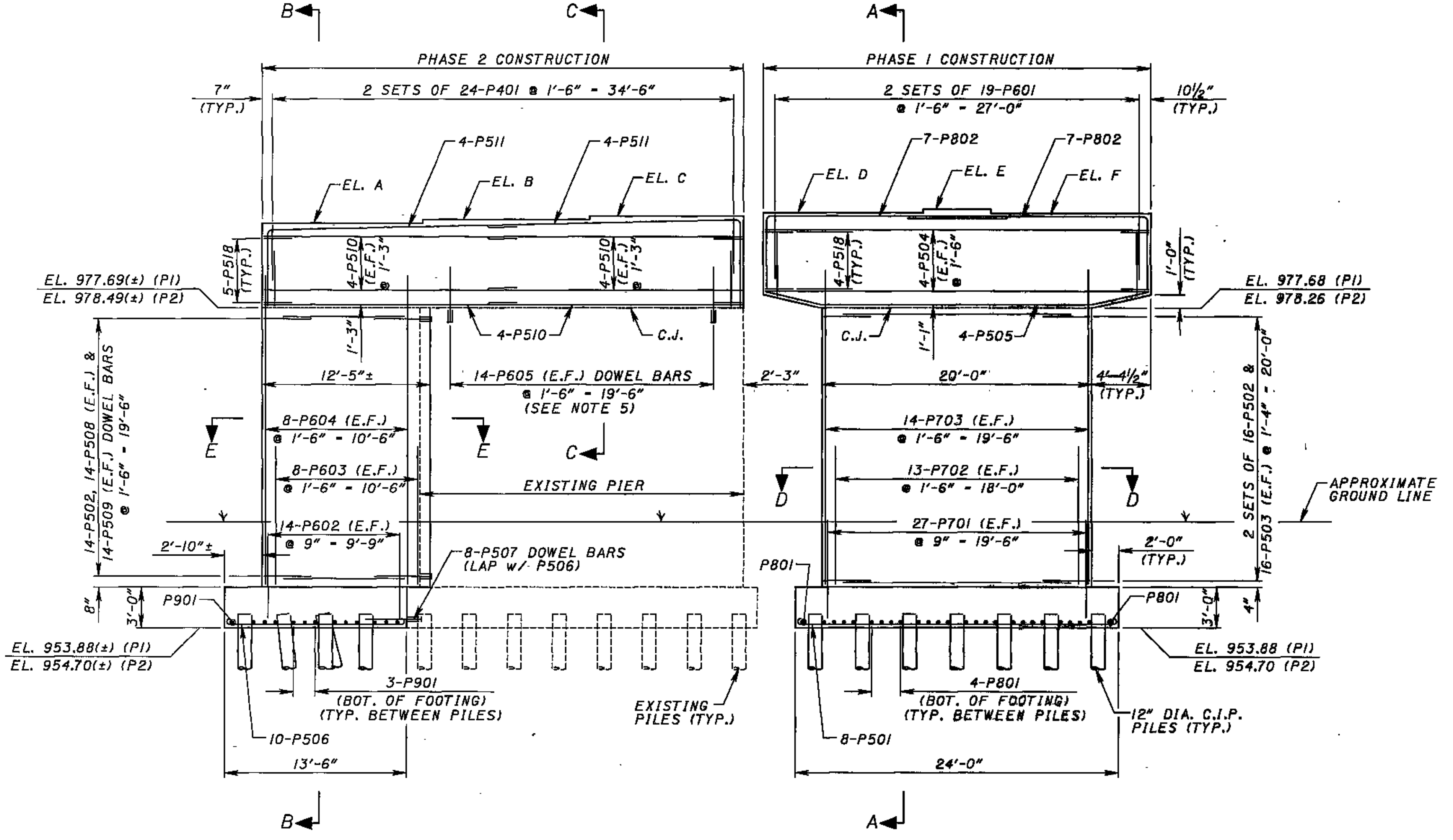
DESIGNED	DRAWN	REVIEWED	DATE
WTL	WTL	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TTK		5202493 LEFT 5202523 RIGHT	

FORWARD ABUTMENT DETAILS - NORTHBOUND
BRIDGE NO. MED-71-0342 R
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00



PLAN


B
C
A
PHASE 2 CONSTRUCTION
PHASE 1 CONSTRUCTION
7" (TYP.)
2 SETS OF 24-P401 @ 1'-6" = 34'-6"
2 SETS OF 19-P601 @ 1'-6" = 27'-0"
10½" (TYP.)
4-P511
4-P511
7-P802
7-P802
EL. A
EL. B
EL. C
EL. D
EL. E
EL. F
5-P518 (TYP.)
4-P510 (E.F.) @ 1'-3"
4-P510 (E.F.) @ 1'-3"
4-P518 (TYP.)
4-P504 (E.F.) @ 1'-6"
1'-0" (TYP.)
EL. 977.69(±) (P1)
EL. 978.49(±) (P2)
EL. 977.68 (P1)
EL. 978.26 (P2)
1'-3"
4-P510
C.J.
C.J.
1'-1"
4-P505
14-P502, 14-P508 (E.F.) & 14-P509 (E.F.) DOWEL BARS @ 1'-6" = 19'-6"
12'-5"±
14-P605 (E.F.) DOWEL BARS @ 1'-6" = 19'-6" (SEE NOTE 5)
2'-3"
20'-0"
4'-4½" (TYP.)
2 SETS OF 16-P502 & 16-P503 (E.F.) @ 1'-4" = 20'-0"
E
E
8-P604 (E.F.) @ 1'-6" = 10'-6"
C
14-P703 (E.F.) @ 1'-6" = 19'-6"
8-P603 (E.F.) @ 1'-6" = 10'-6"
EXISTING PIER
D
D
13-P702 (E.F.) @ 1'-6" = 18'-0"
APPROXIMATE GROUND LINE
14-P602 (E.F.) @ 9" = 9'-9"
27-P701 (E.F.) @ 9" = 19'-6"
2'-10"±
8-P507 DOWEL BARS (LAP w/ P506)
P801
2'-0" (TYP.)
8"
3'-0"
P901
P801
3'-0"
4"
EL. 953.88(±) (P1)
EL. 954.70(±) (P2)
EL. 953.88 (P1)
EL. 954.70 (P2)
3-P901 (BOT. OF FOOTING) (TYP. BETWEEN PILES)
EXISTING PILES (TYP.)
4-P801 (BOT. OF FOOTING) (TYP. BETWEEN PILES)
12" DIA. C.I.P. PILES (TYP.)
10-P506
8-P501
13'-6"
24'-0"
B
A

ELEVATION

(LATERAL TIES NOT SHOWN FOR CLARITY, SEE SHEET 27 / 51)

ELEVATION	PIER 1	PIER 2
A	983.92	984.56
B	984.19	984.81
C	984.45	985.06
D	984.71	985.32
E	984.97	985.57
F	984.68	985.26

NOTES:

1. EMBED ALL DOWEL BARS 1'-0" INTO EXISTING STRUCTURE.
2. SEE SHEET 27 / 51 FOR SECTIONS A-A, B-B, C-C, D-D & E-E.
3. SEE SHEET 15 / 51 FOR PILING LAYOUT DETAILS AND FOUNDATION PLAN.
4. MINIMUM STEEL LAP LENGTHS:
   #4 BAR = 1'-7"
   #5 BAR = 2'-0"
   #6 BAR = 2'-4"
   #8 BAR = 7'-3"
5. SEE SHEET 27 / 51 FOR ADDITIONAL NOTES CONCERNING VERTICAL DOWEL BARS.

LEGEND:

BOT. = BOTTOM
C.I.P. = CAST-IN-PLACE
C.J. = CONSTRUCTION JOINT
DIA. = DIAMETER
E.F. = EACH FACE
P1 = PIER 1
P2 = PIER 2

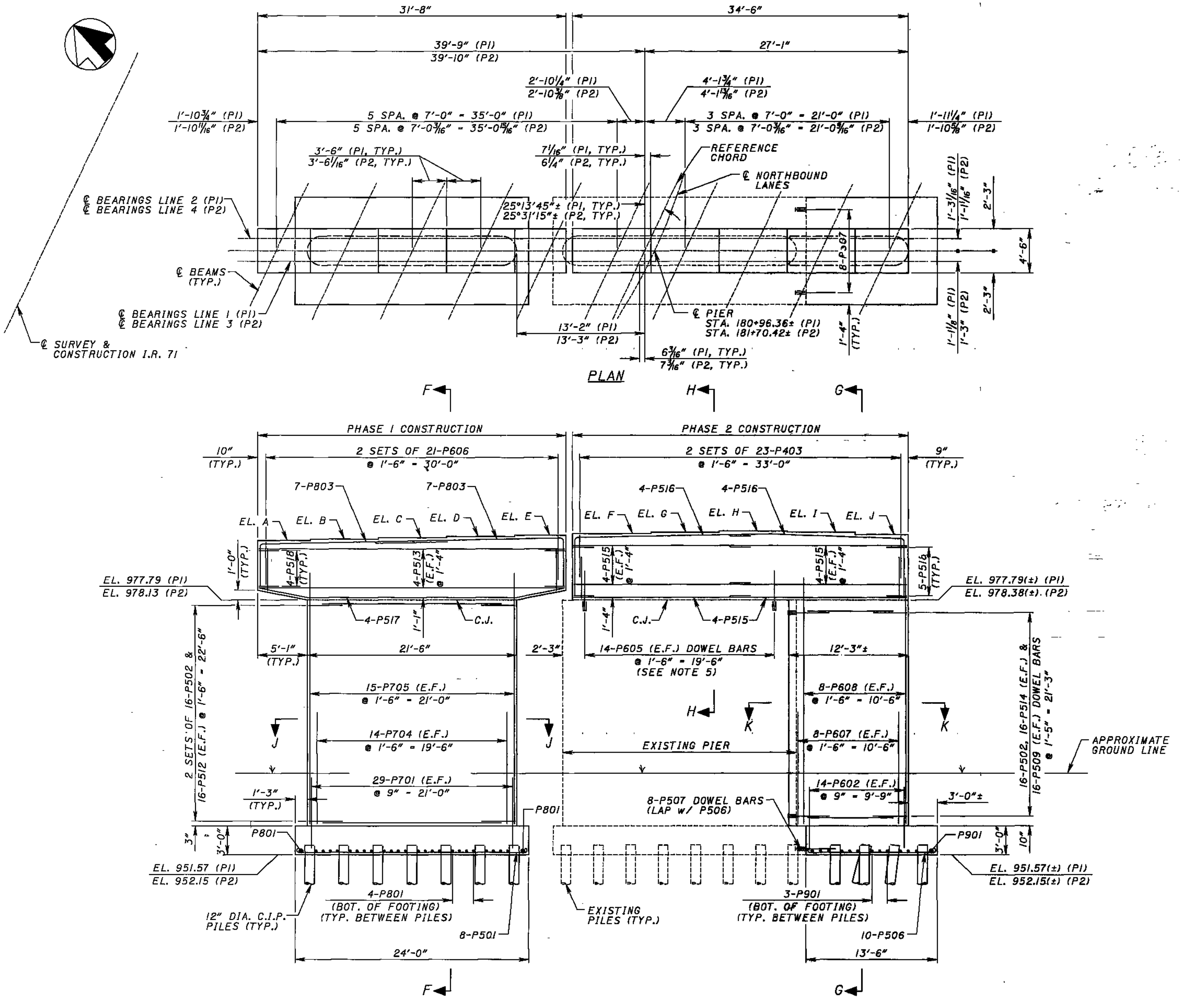
BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		5202493 LEFT 5202523 RIGHT	

PIER PLAN & ELEVATION - SOUTHBOUND
BRIDGE NO. MED-71-0342 L
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00

P:/PR30489/CADD/MED-71-0342/ME071pi3.DGN



ELEVATION

(LATERAL TIES NOT SHOWN FOR CLARITY, SEE SHEET 28 / 51)

ELEVATION	PIER 1	PIER 2
A	983.92	984.28
B	984.06	984.41
C	984.20	984.55
D	984.33	984.68
E	984.47	984.81
F	984.61	984.94
G	984.74	985.07
H	984.88	985.20
I	984.77	985.08
J	984.53	984.84

NOTES:

1. EMBED ALL DOWEL BARS 1'-0" INTO EXISTING STRUCTURE.
2. SEE SHEET 28 / 51 FOR SECTIONS F-F, G-G, H-H, J-J & K-K.
3. SEE SHEET 16 / 51 FOR PILING LAYOUT DETAILS AND FOUNDATION PLAN.
4. MINIMUM STEEL LAP LENGTHS:
   - #4 BAR = 1'-7"
   - #5 BAR = 2'-0"
   - #6 BAR = 2'-4"
   - #8 BAR = 7'-3"
5. SEE SHEET 28 / 51 FOR ADDITIONAL NOTES CONCERNING VERTICAL DOWEL BARS.

LEGEND:

BOT. = BOTTOM
C.I.P. = CAST-IN-PLACE
C.J. = CONSTRUCTION JOINT
DIA. = DIAMETER
E.F. = EACH FACE
P1 = PIER 1
P2 = PIER 2

P:/PR30489/CADD/MED-71-0342/ME071pl1.DGN

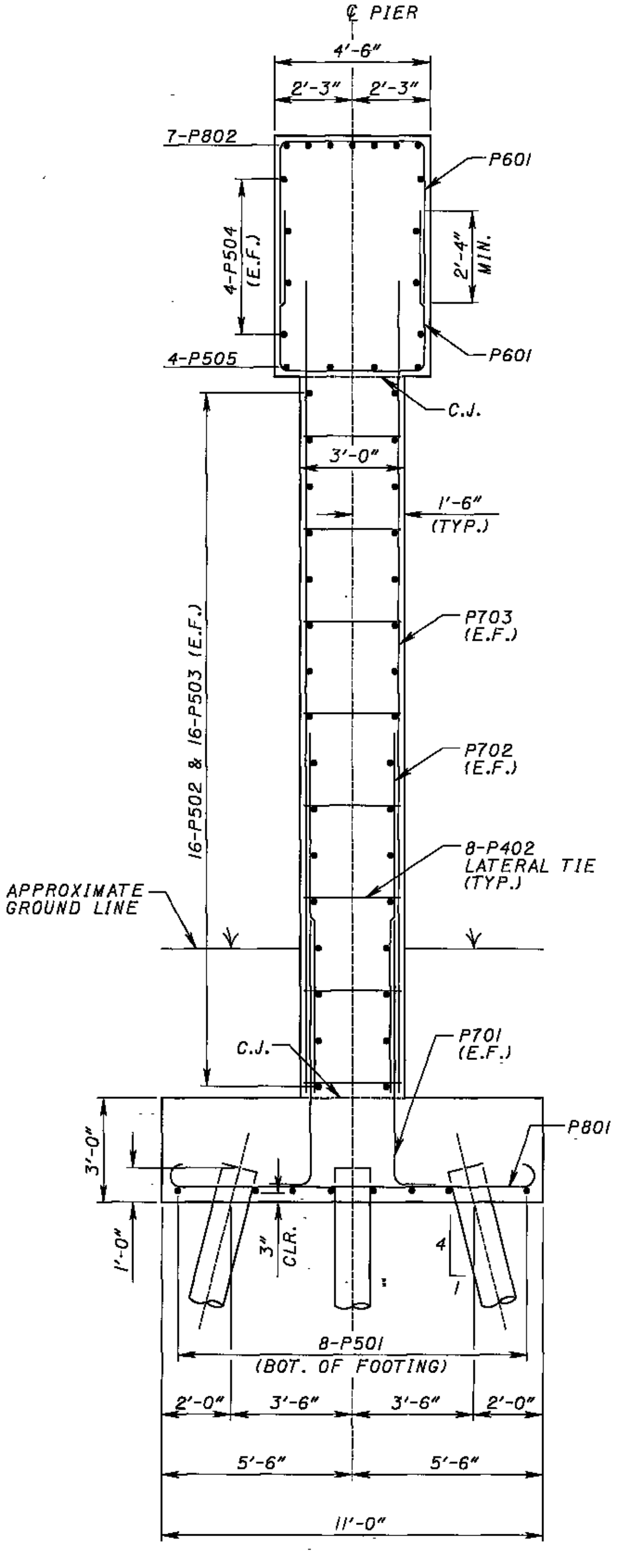
BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		5202493 LEFT 5202523 RIGHT	

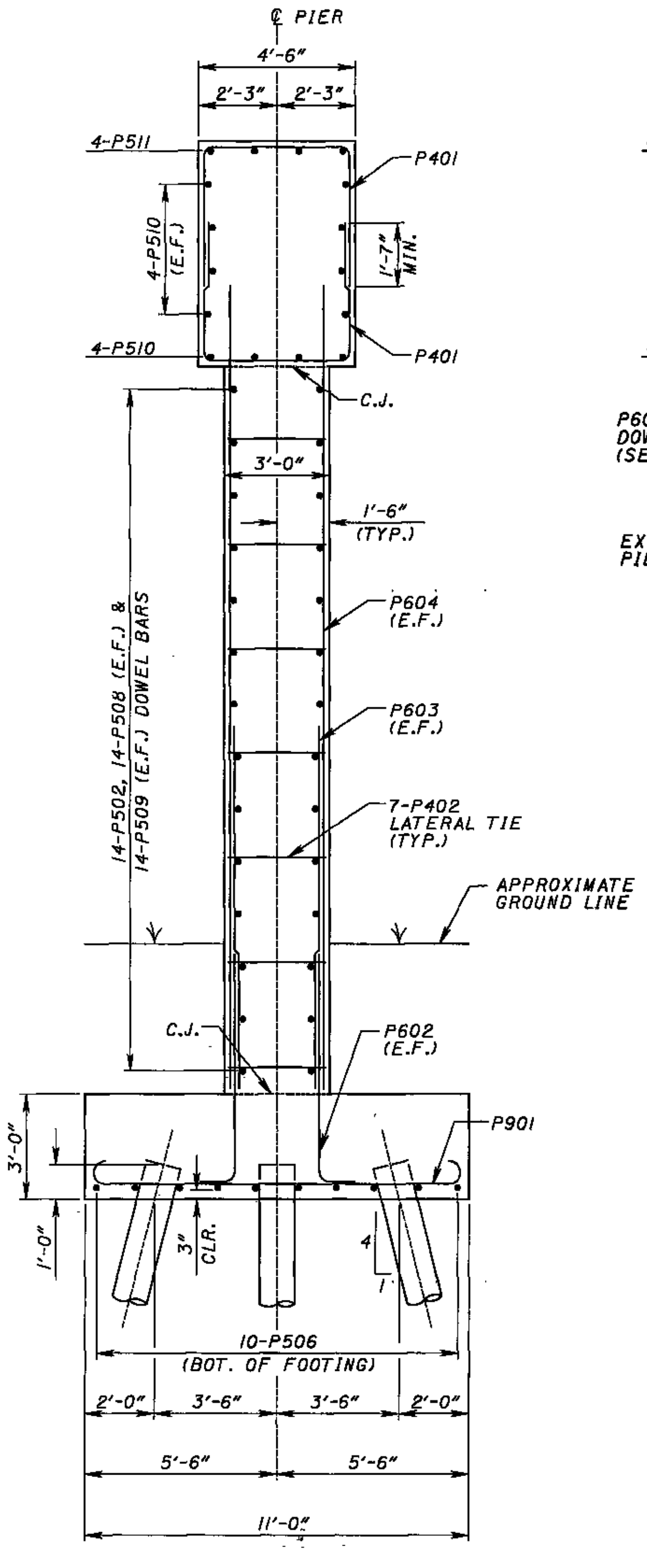
PIER PLAN & ELEVATION - NORTHBOUND

BRIDGE NO. MED-71-0342 R
OVER W. & L.E. RAILROAD

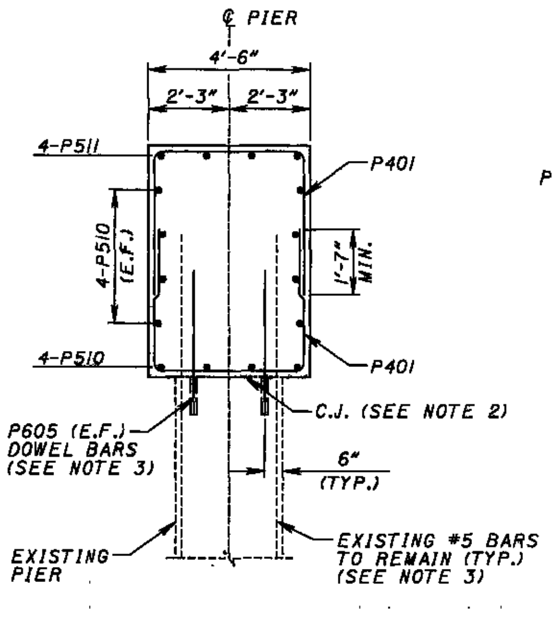
WAY/MED-71-7.04/0.00



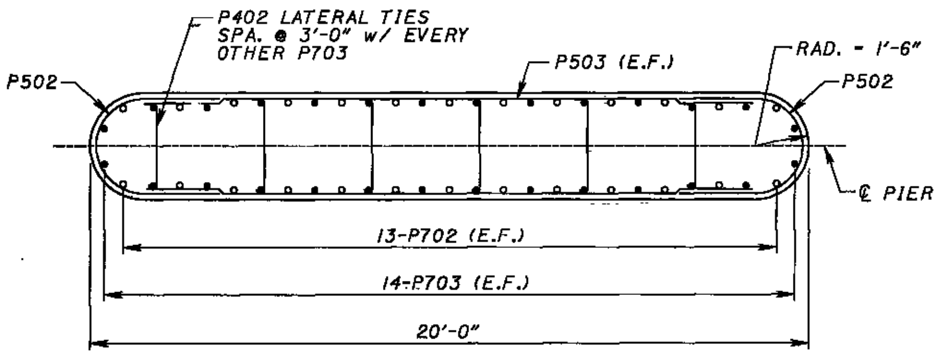
SECTION A-A



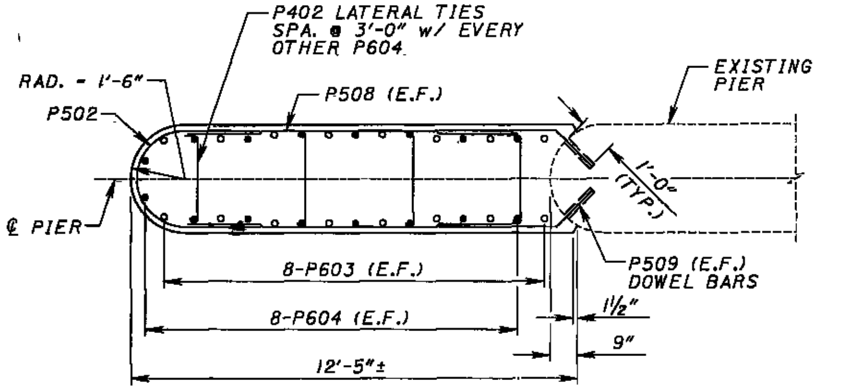
SECTION B-B



SECTION C-C



SECTION D-D
(FOOTING NOT SHOWN)



SECTION E-E
(FOOTING NOT SHOWN)

NOTES:

1. EMBED ALL DOWEL BARS 1'-0" INTO EXISTING STRUCTURE.
2. THE EXPOSED EXISTING HORIZONTAL CONCRETE SURFACE THAT IS TO BE COVERED WITH NEW CONCRETE SHALL BE ROUGH AND IRREGULAR WITH AN AMPLITUDE OF ¼" OR MORE.
3. THE CONTRACTOR HAS THE OPTION OF SALVAGING EXISTING VERTICAL NO. 5 BARS THAT PROJECT FROM WALL INTO CAP OR PROVIDING NEW NO. 6 DOWELS. IF NEW DOWELS ARE PROVIDED, INSTALL PER 510 USING NONSHRINK, NONMETALLIC GROUT. IF EXISTING BARS ARE RE-USED, FIELD-CUT (IF NECESSARY) TO PROVIDE 2" MIN. CLEAR COVER TO TOP OF PROPOSED CONCRETE CAP. EXISTING BARS SHALL PROJECT AT LEAST 2'-0" ABOVE THE REMOVAL LINE. INCLUDE FIELD-CUTTING WITH ITEM 202 FOR PAYMENT.

LEGEND:

BOT. - BOTTOM
C.J. - CONSTRUCTION JOINT
CLR. - CLEAR
E.F. - EACH FACE
RAD. - RADIUS

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

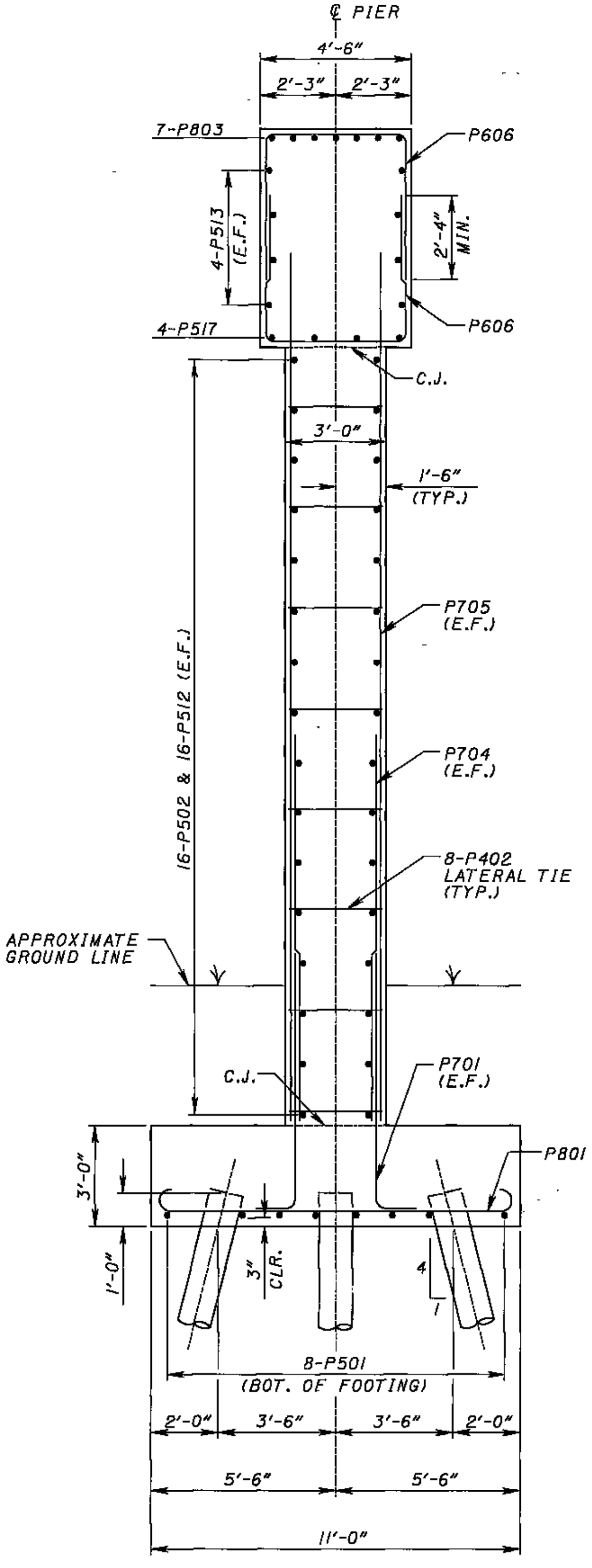
DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE
TTK	BES	TTK		CAS	6/03

STRUCTURE FILE NUMBER
5202493 LEFT
5202523 RIGHT

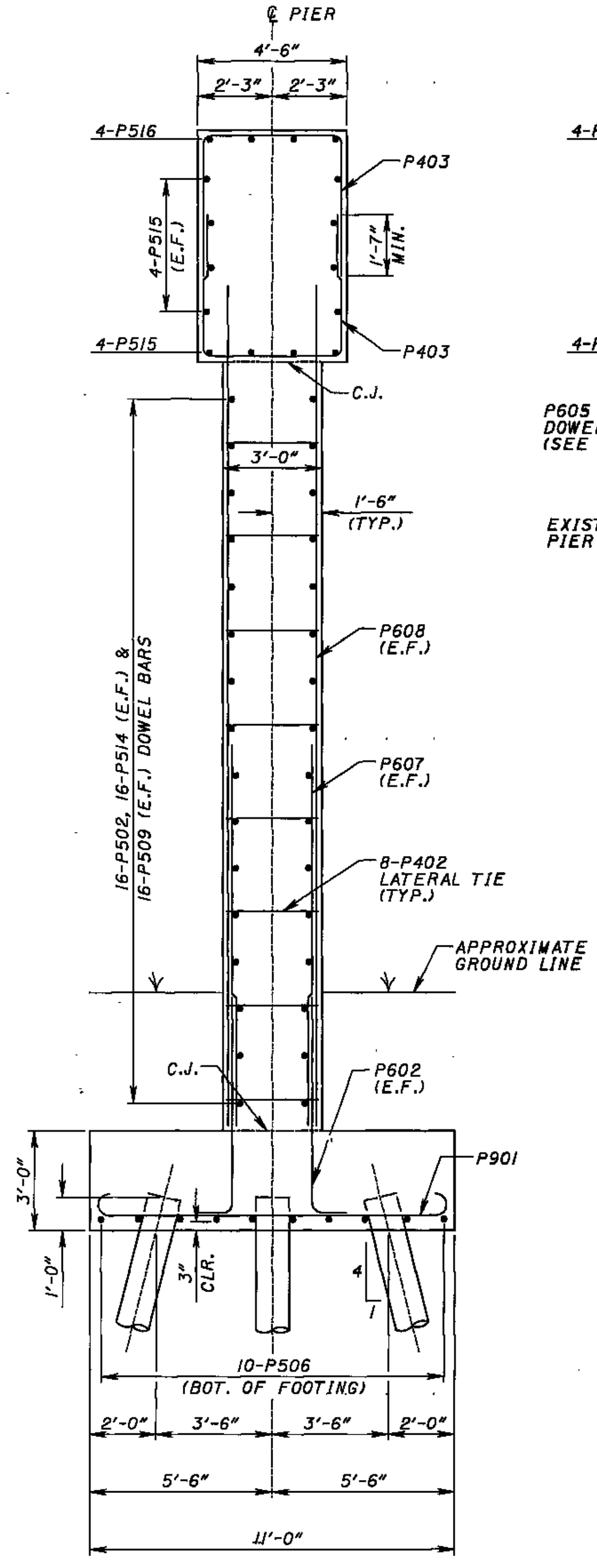
PIER DETAILS - SOUTHBOUND
BRIDGE NO. MED-71-0342 L
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00

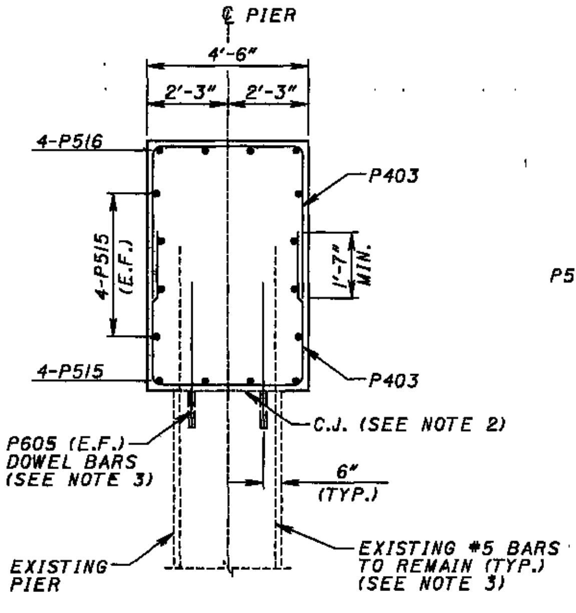
P:/PR30489/CADD/MED-71-0342/ME071pi4.DGN



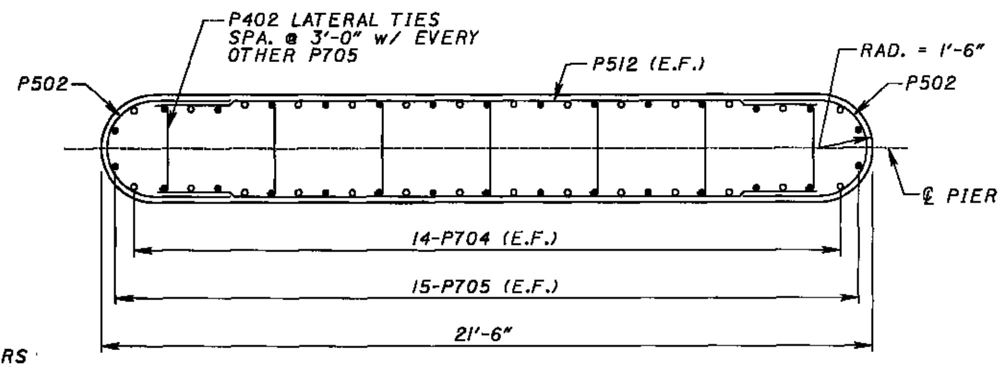
SECTION F-F



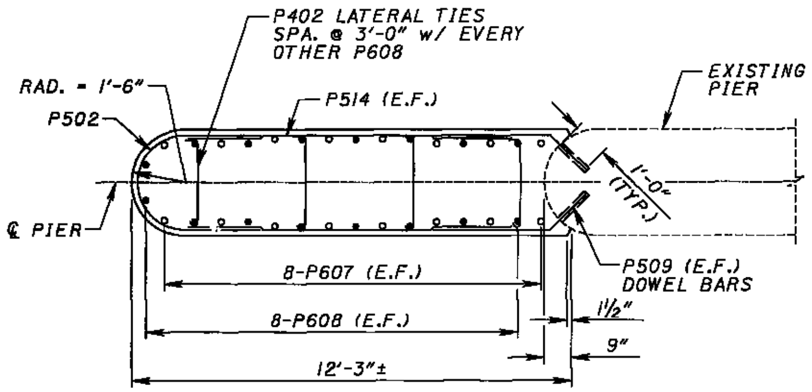
SECTION G-G



SECTION H-H



SECTION J-J
(FOOTING NOT SHOWN)



SECTION K-K
(FOOTING NOT SHOWN)

NOTES:

1. EMBED ALL DOWEL BARS 1'-0" INTO EXISTING STRUCTURE.
2. THE EXPOSED EXISTING HORIZONTAL CONCRETE SURFACE THAT IS TO BE COVERED WITH NEW CONCRETE SHALL BE ROUGH AND IRREGULAR WITH AN AMPLITUDE OF ¼" OR MORE.
3. THE CONTRACTOR HAS THE OPTION OF SALVAGING EXISTING VERTICAL NO. 5 BARS THAT PROJECT FROM WALL INTO CAP OR PROVIDING NEW NO. 6 DOWELS. IF NEW DOWELS ARE PROVIDED, INSTALL PER 510 USING NONSHRINK, NONMETALLIC GROUT. IF EXISTING BARS ARE RE-USED, FIELD-CUT (IF NECESSARY) TO PROVIDE 2" MIN. CLEAR COVER TO TOP OF PROPOSED CONCRETE CAP. EXISTING BARS SHALL PROJECT AT LEAST 2'-0" ABOVE THE REMOVAL LINE. INCLUDE FIELD-CUTTING WITH ITEM 202 FOR PAYMENT.

LEGEND:

BOT. - BOTTOM
C.J. - CONSTRUCTION JOINT
CLR. - CLEAR
E.F. - EACH FACE
RAD. - RADIUS

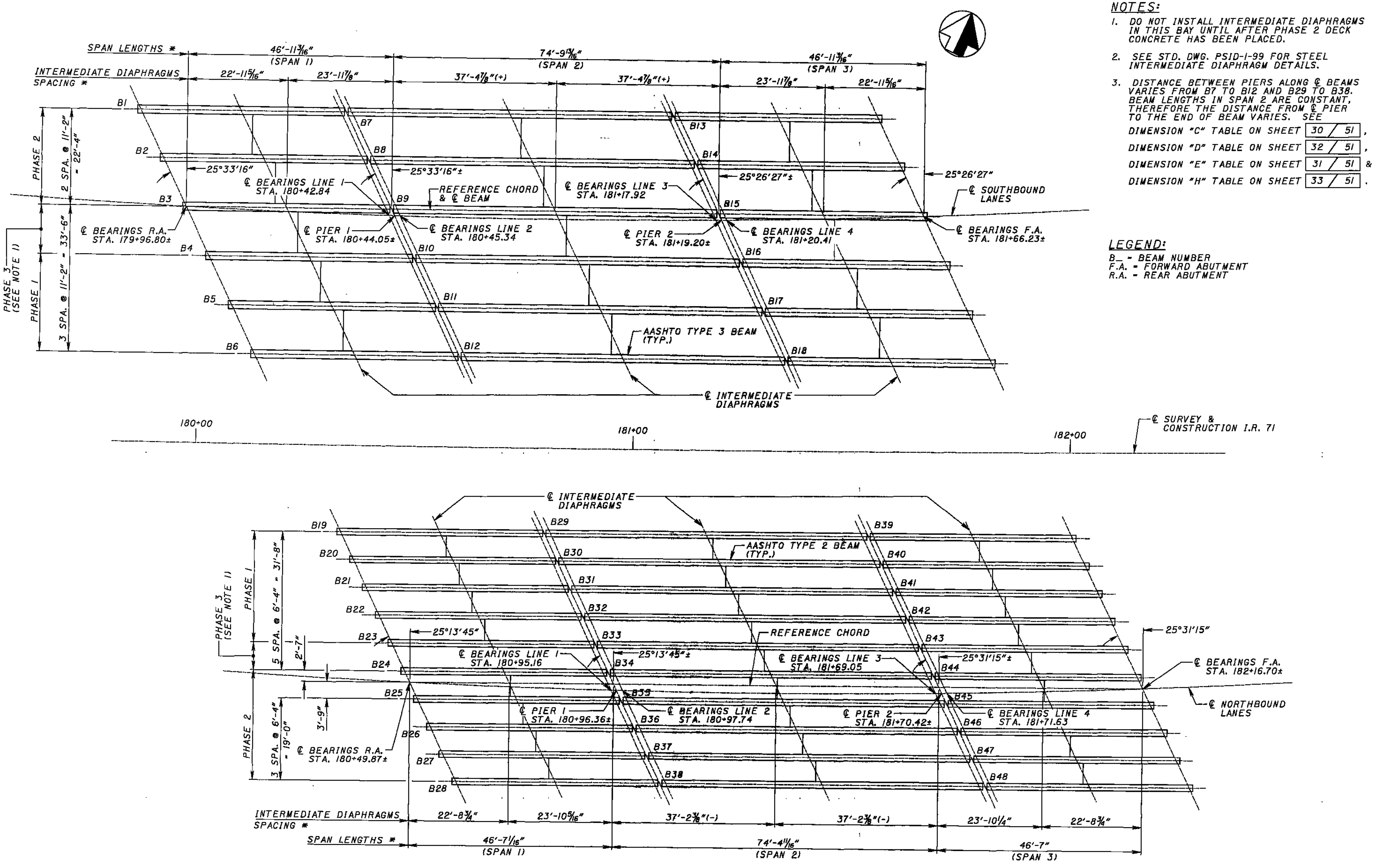
DESIGNED	DRAWN	REVIEWED	DATE
WTL	WTL	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		5202493 LEFT 5202523 RIGHT	

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

PIER DETAILS - NORTHBOUND
BRIDGE NO. MED-71-0342 R
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00

P:/PR30489/CADD/MED-71-0342/ME071pi2.DGN



FRAMING PLAN

(* - MEASURED ALONG REFERENCE CHORD)

NOTES:

1. DO NOT INSTALL INTERMEDIATE DIAPHRAGMS IN THIS BAY UNTIL AFTER PHASE 2 DECK CONCRETE HAS BEEN PLACED.
2. SEE STD. DWG. PSID-1-99 FOR STEEL INTERMEDIATE DIAPHRAGM DETAILS.
3. DISTANCE BETWEEN PIERS ALONG ℄ BEAMS VARIES FROM B7 TO B12 AND B29 TO B38. BEAM LENGTHS IN SPAN 2 ARE CONSTANT, THEREFORE THE DISTANCE FROM ℄ PIER TO THE END OF BEAM VARIES. SEE
   DIMENSION "C" TABLE ON SHEET 30 / 51 ,
   DIMENSION "D" TABLE ON SHEET 32 / 51 ,
   DIMENSION "E" TABLE ON SHEET 31 / 51 &
   DIMENSION "H" TABLE ON SHEET 33 / 51 .

LEGEND:

B_ - BEAM NUMBER
F.A. - FORWARD ABUTMENT
R.A. - REAR ABUTMENT

P:/PR30489/CADD/MED-71-0342/ME071sd6.DGN

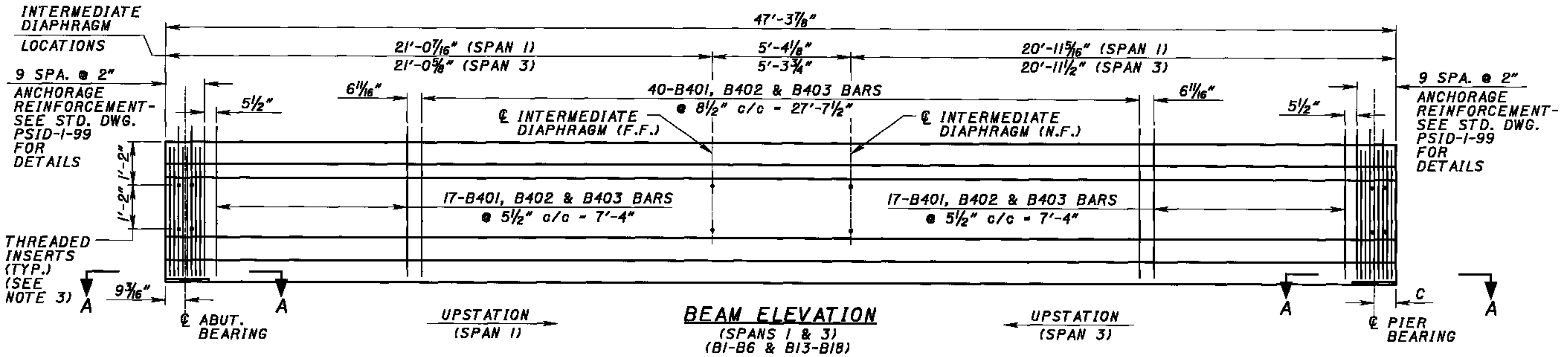
BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED TTK	DRAWN TTK	REVIEWED CAS
CHECKED WTL	REVISED	DATE 6/03

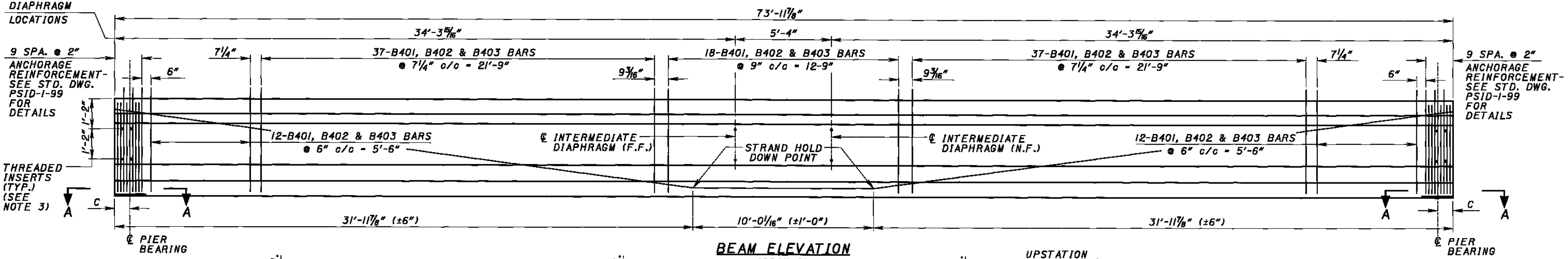
STRUCTURE FILE NUMBER 5202493 LEFT 5202523 RIGHT

FRAMING PLAN
BRIDGE NO. MED-71-0342 L/R
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00

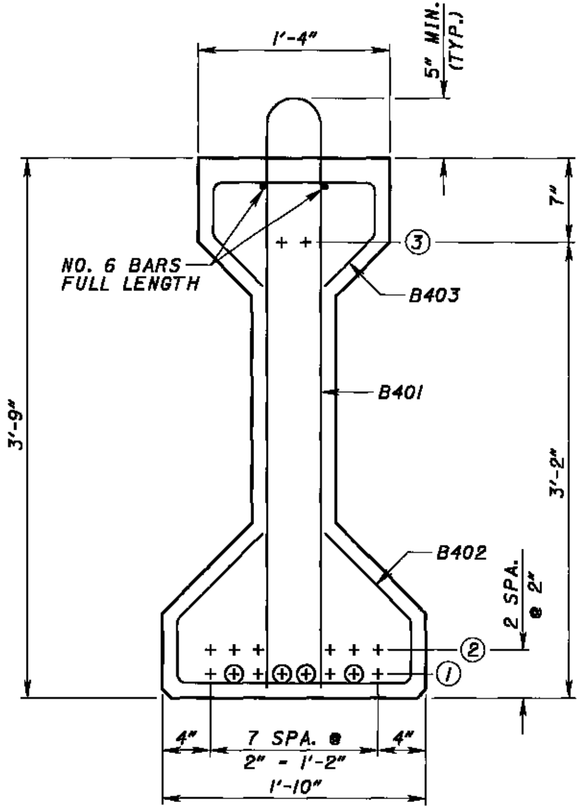

INTERMEDIATE DIAPHRAGM LOCATIONS
47'-3⅞"
21'-0⁷⁄₁₆" (SPAN 1)
21'-0⅝" (SPAN 3)
5'-4⅛"
5'-3¾"
20'-11⁵⁄₁₆" (SPAN 1)
20'-11½" (SPAN 3)
9 SPA. @ 2"
ANCHORAGE REINFORCEMENT- SEE STD. DWG. PSID-1-99 FOR DETAILS
5½"
6¹¹⁄₁₆"
40-B401, B402 & B403 BARS @ 8½" c/c - 27'-7½"
℄ INTERMEDIATE DIAPHRAGM (F.F.)
℄ INTERMEDIATE DIAPHRAGM (N.F.)
1'-2"
1'-2"
17-B401, B402 & B403 BARS @ 5½" c/c - 7'-4"
17-B401, B402 & B403 BARS @ 5½" c/c - 7'-4"
THREADED INSERTS (TYP.) (SEE NOTE 3)
9³⁄₁₆"
A
A
A
A
C
℄ ABUT. BEARING
℄ PIER BEARING
UPSTATION (SPAN 1)
UPSTATION (SPAN 3)

BEAM ELEVATION
(SPANS 1 & 3)
(B1-B6 & B13-B18)


INTERMEDIATE DIAPHRAGM LOCATIONS
73'-11⅞"
34'-3¹⁵⁄₁₆"
5'-4"
34'-3¹⁵⁄₁₆"
9 SPA. @ 2"
ANCHORAGE REINFORCEMENT- SEE STD. DWG. PSID-1-99 FOR DETAILS
7¼"
6"
37-B401, B402 & B403 BARS @ 7¼" c/c - 21'-9"
9³⁄₁₆"
18-B401, B402 & B403 BARS @ 9" c/c - 12-9"
9³⁄₁₆"
37-B401, B402 & B403 BARS @ 7¼" c/c - 21'-9"
7¼"
6"
9 SPA. @ 2"
ANCHORAGE REINFORCEMENT- SEE STD. DWG. PSID-1-99 FOR DETAILS
1'-2"
1'-2"
12-B401, B402 & B403 BARS @ 6" c/c - 5'-6"
℄ INTERMEDIATE DIAPHRAGM (F.F.)
STRAND HOLD DOWN POINT
℄ INTERMEDIATE DIAPHRAGM (N.F.)
12-B401, B402 & B403 BARS @ 6" c/c - 5'-6"
THREADED INSERTS (TYP.) (SEE NOTE 3)
A
C
A
A
C
A
31'-11⅞" (±6")
10'-0¹⁄₁₆" (±1'-0")
31'-11⅞" (±6")
℄ PIER BEARING
℄ PIER BEARING

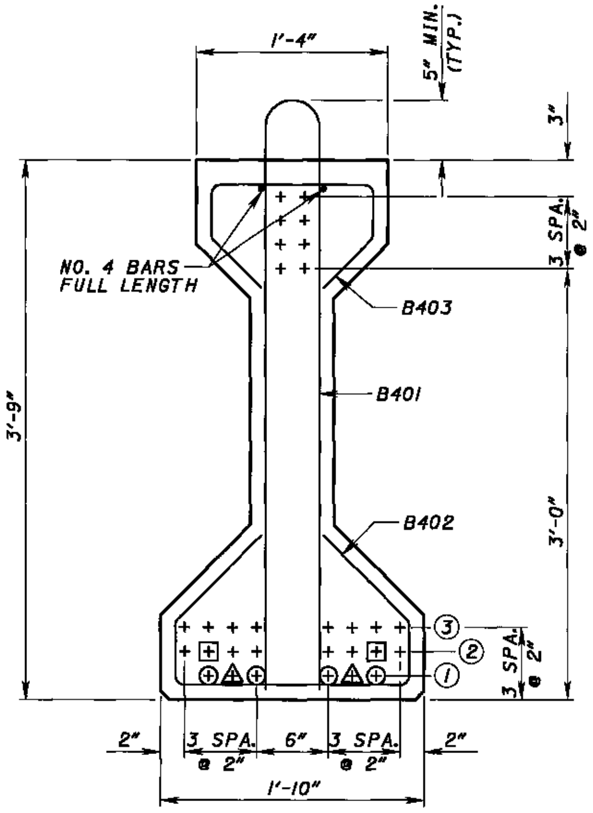
BEAM ELEVATION
(SPAN 2)
(B7-B12)

UPSTATION (SPAN 2)



AASHTO TYPE 3
(SPANS 1 & 3)
(B1-B6 & B13-B18)

⊕ - EXTEND & BEND UP STRAND AT PIER BEAM END ONLY

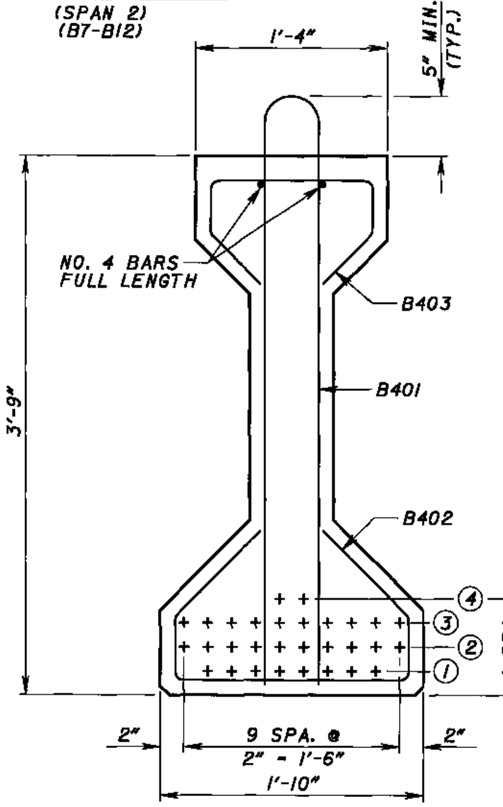


AASHTO TYPE 3
(SPAN 2 - END PATTERN)
(B7-B12)

▲ - DEBOND STRAND 2'-0" EACH BEAM END

⊞ - DEBOND STRAND 4'-0" EACH BEAM END

⊕ - EXTEND & BEND UP STRAND AT PIER BEAM END ONLY



AASHTO TYPE 3
(SPAN 2 - MIDSPAN PATTERN)
(B7-B12)

CAMBER VALUES DUE TO PRESTRESS FORCE AND BEAM WEIGHT		
	SPAN 1	SPAN 2
CAMBER AT RELEASE = B - C	⁵⁄₁₆"	1½"
CAMBER AT ERECTION = 1.8B - 1.85C	½"	2⅝"
LONG TERM CAMBER = 2.45B - 2.40C	¾"	3¹¹⁄₁₆"

B = ANTICIPATED MIDSPAN CAMBER DUE TO DESIGN PRESTRESSING FORCE AT TIME OF RELEASE

C = MIDSPAN DEFLECTION DUE TO SELF WEIGHT OF BEAM

BEAM	DIMENSION C †
B1-B6	10"
B7	10"
B8	10³⁄₁₆"
B9	10⁵⁄₁₆"
B10	10½"
B11	10⅝"
B12	10¹³⁄₁₆"
B13-B18	10"

† - MEASURED ALONG ℄ BEAM

NOTES:

1. SEE STD. DWG. PSID-1-99 FOR BEAM DETAILS NOT SHOWN.
2. SEE SHEET 31 / 51 FOR ABUTMENT BEARING DETAILS.
3. SEE SHEET 31 / 51 FOR HORIZONTAL LOCATION OF ABUT. & PIER THREADED INSERTS.
4. SEE SHEET 31 / 51 FOR SECTION A-A.
5. SHOP MARK EACH BEAM WITH THE FOLLOWING LOCATION INFORMATION: BEAM NUMBER, SPAN NUMBER, SBL & UPSTATION DIRECTION.

LEGEND:

B_ - BEAM NUMBER
F.F. - FAR FACE
N.F. - NEAR FACE
SBL - SOUTHBOUND LANES

MIDSPAN PATTERN										
NUMBER OF STRANDS PER ROW						CONCRETE STRENGTHS (ksi)		B401 BARS REQ'D	B402 BARS REQ'D	B403 BARS REQ'D
BEAM MARK	ROW NUMBER ①	②	③	④	TOTAL STRANDS	f'ci	f'c			
B1-B6	8	6	2		16	5400	7000	80	92	80
B7-B12	8*	10*	10*	2*	30	5400	7000	122	134	122
B13-B18	8	6	2		16	5400	7000	80	92	80

* - 2 DRAPED STRANDS

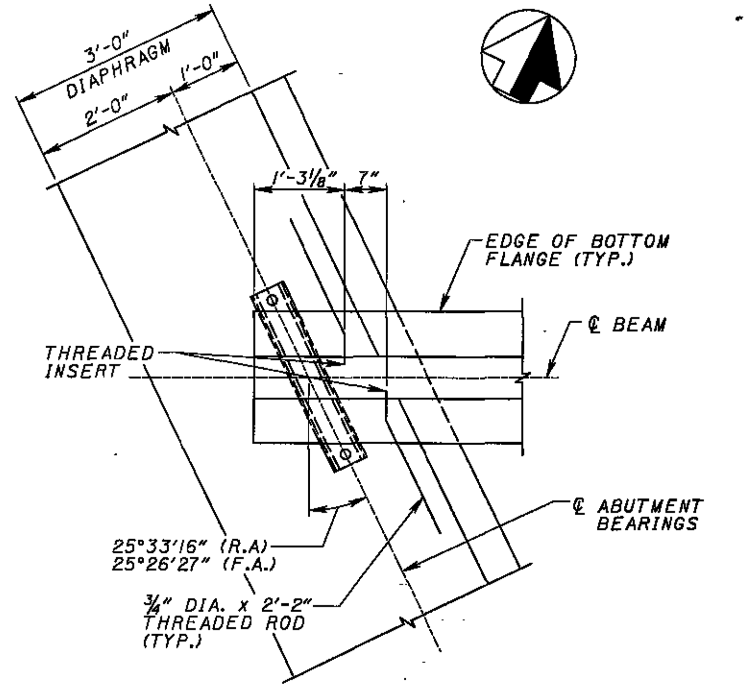
BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	CRC	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202493 LEFT 5202523 RIGHT	

BEAM DETAILS 1 - SOUTHBOUND
BRIDGE NO. MED-71-0342 L
OVER W. & L.E. RAILROAD

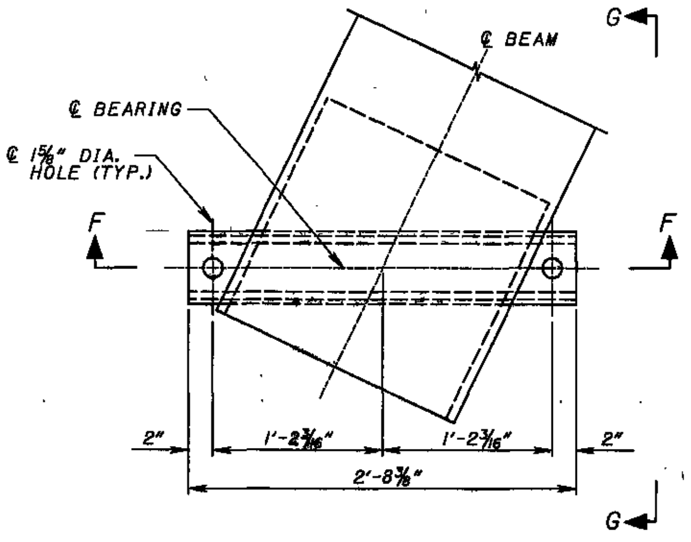
WAY/MED-71-7.04/0.00

P:/PR30489/CADD/MED-71-0342/ME071sd4.DGN

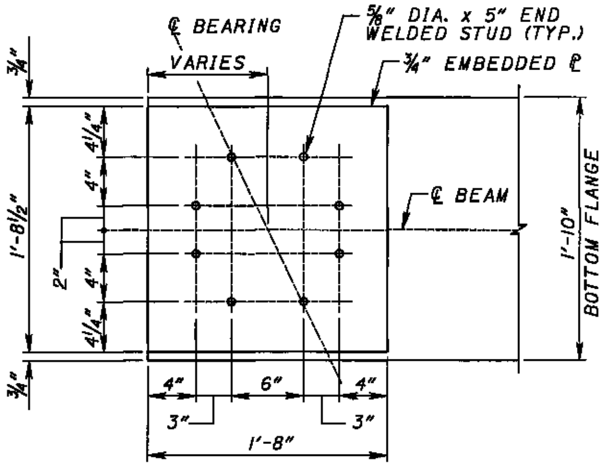


ABUTMENT PLAN

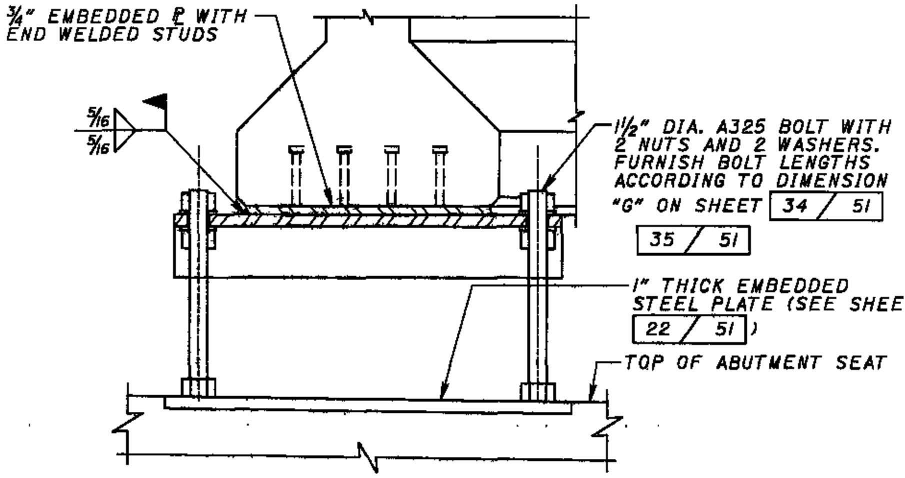
(REAR ABUTMENT SHOWN, FORWARD ABUTMENT OPPOSITE)



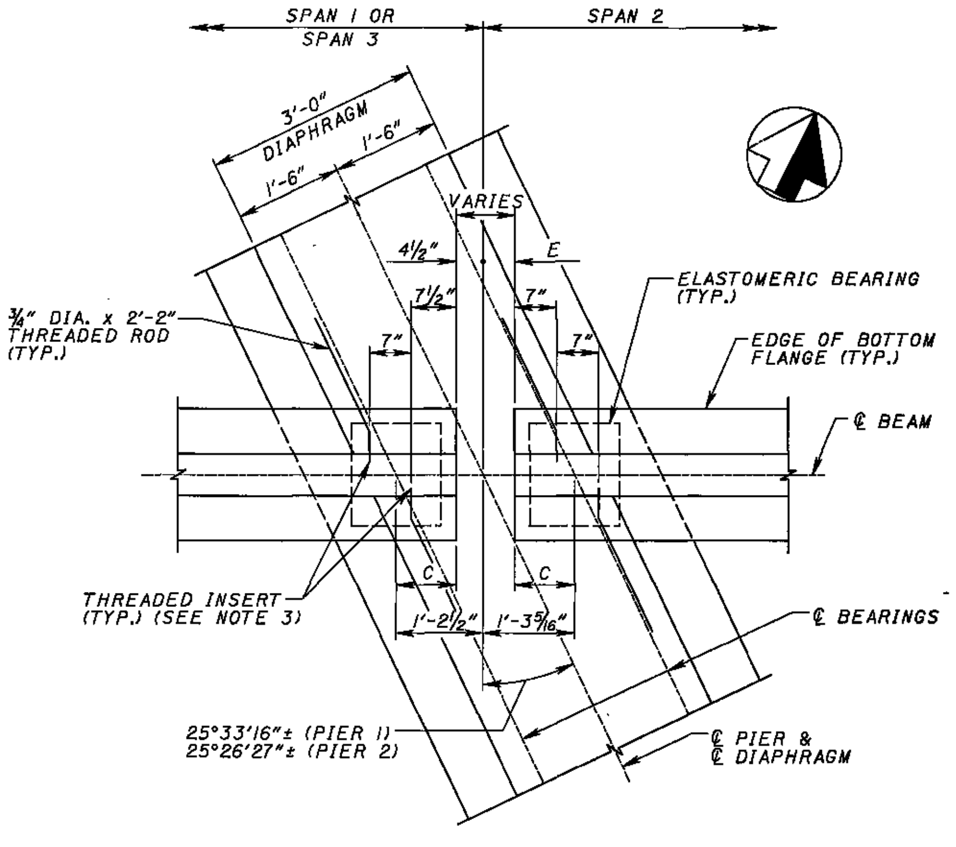
ABUTMENT BEARING PLAN



SECTION A-A

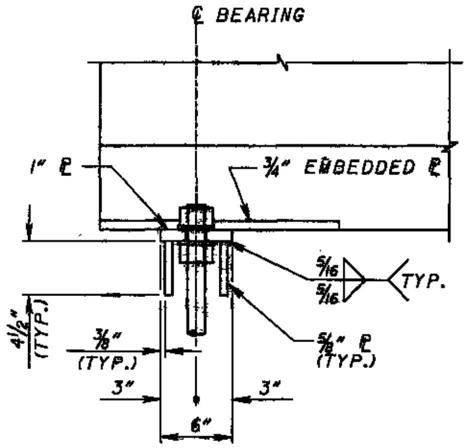

¾" EMBEDDED ℙ WITH END WELDED STUDS
⁵⁄₁₆
⁵⁄₁₆
1½" DIA. A325 BOLT WITH 2 NUTS AND 2 WASHERS. FURNISH BOLT LENGTHS ACCORDING TO DIMENSION "G" ON SHEET 34 / 51
35 / 51
1" THICK EMBEDDED STEEL PLATE (SEE SHEET, 22 / 51)
TOP OF ABUTMENT SEAT

SECTION F-F



PIER PLAN

(PIER 1 SHOWN, PIER 2 OPPOSITE)



VIEW G-G

BEAM	DIMENSION E
B7	5⁵⁄₁₆"
B8	5⅛"
B9	5"
B10	4¹³⁄₁₆"
B11	4¹¹⁄₁₆"
B12	4½"

NOTES:

1. SEE SHEET 30 / 51 FOR DIMENSION C.
2. 1" THICK STEEL PLATES SHALL BE A572, GRADE 50 STEEL. GALVANIZE ANCHOR BOLTS PER 711.02. INCLUDE STEEL PLATES, ANCHOR BOLTS, NUTS AND WASHERS WITH BEAMS FOR PAYMENT.
3. FACIA BEAMS AT PIER LOCATIONS SHALL ONLY HAVE THREADED INSERTS & RODS ON INTERIOR SIDE.

LEGEND:

F.A. = FORWARD ABUTMENT
R.A. = REAR ABUTMENT

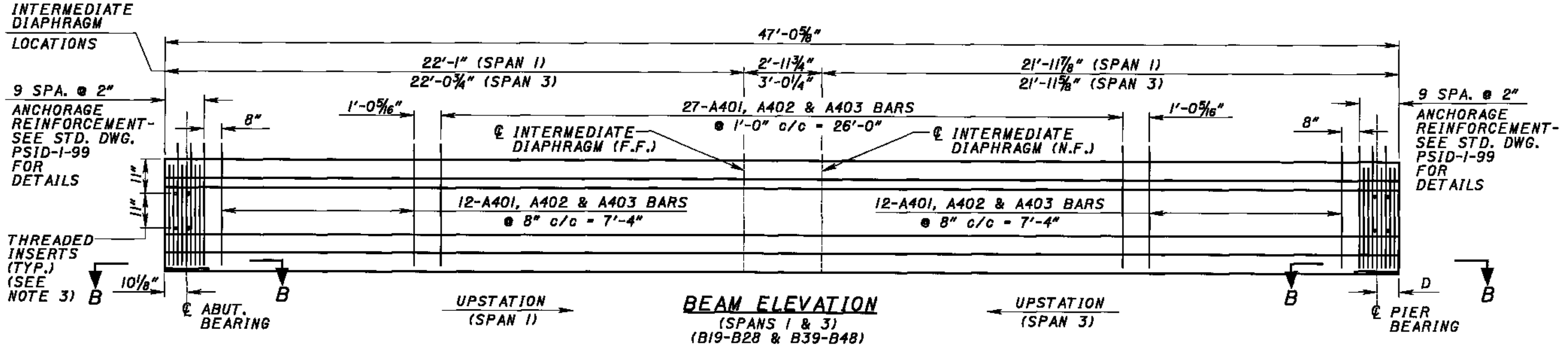
P:/PR30489/CADD/MED-71-0342/ME071sd9.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

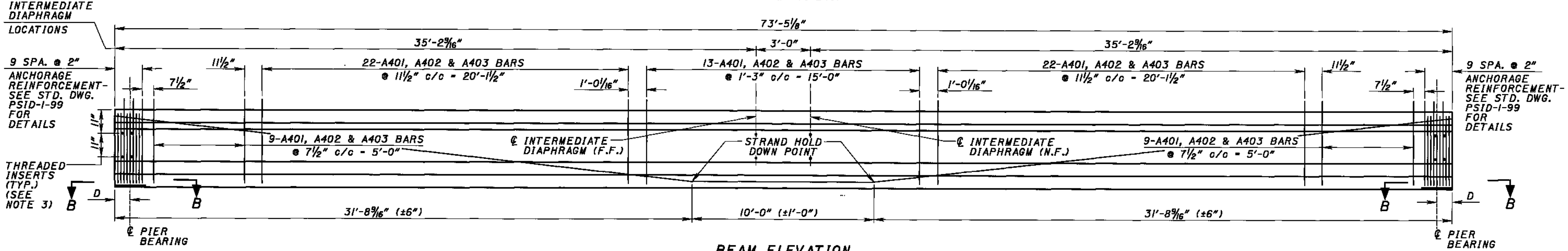
DESIGNED TTK	DRAWN TTK	REVIEWED CAS	DATE 6/03
CHECKED WTL	REVISED	STRUCTURE FILE NUMBER 5202493 LEFT 5202523 RIGHT	

BEAM DETAILS 2 - SOUTHBOUND
BRIDGE NO. MED-71-0342 L
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00

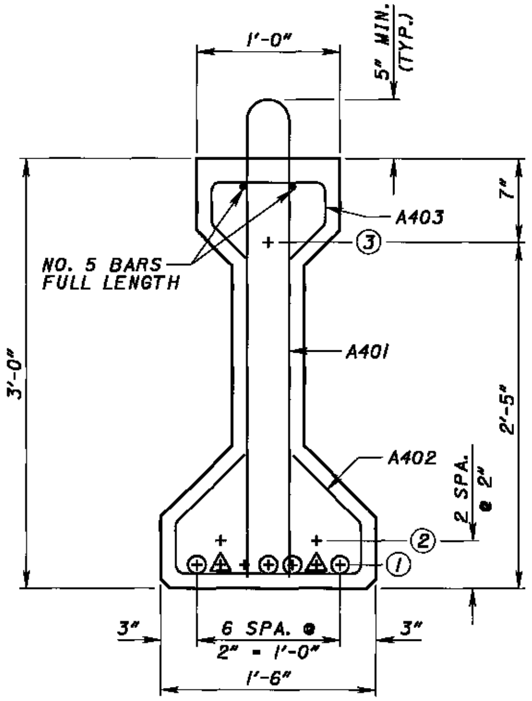

INTERMEDIATE DIAPHRAGM LOCATIONS
47'-0⅝"
22'-1" (SPAN 1)
22'-0¾" (SPAN 3)
2'-11¾"
3'-0¼"
21'-11⅞" (SPAN 1)
21'-11⅝" (SPAN 3)
9 SPA. @ 2"
ANCHORAGE REINFORCEMENT- SEE STD. DWG. PSID-1-99 FOR DETAILS
8"
1'-0⁵⁄₁₆"
27-A401, A402 & A403 BARS @ 1'-0" c/c = 26'-0"
℄ INTERMEDIATE DIAPHRAGM (F.F.)
℄ INTERMEDIATE DIAPHRAGM (N.F.)
1'-0⁵⁄₁₆"
8"
9 SPA. @ 2"
ANCHORAGE REINFORCEMENT- SEE STD. DWG. PSID-1-99 FOR DETAILS
11"
11"
12-A401, A402 & A403 BARS @ 8" c/c = 7'-4"
12-A401, A402 & A403 BARS @ 8" c/c = 7'-4"
THREADED INSERTS (TYP.) (SEE NOTE 3)
B
10⅛"
B
℄ ABUT. BEARING
UPSTATION (SPAN 1)
UPSTATION (SPAN 3)
B
D
B
℄ PIER BEARING

BEAM ELEVATION
(SPANS 1 & 3)
(B19-B28 & B39-B48)


INTERMEDIATE DIAPHRAGM LOCATIONS
73'-5⅛"
35'-2⁹⁄₁₆"
3'-0"
35'-2⁹⁄₁₆"
9 SPA. @ 2"
ANCHORAGE REINFORCEMENT- SEE STD. DWG. PSID-1-99 FOR DETAILS
7½"
11½"
22-A401, A402 & A403 BARS @ 11½" c/c = 20'-1½"
1'-0¹⁄₁₆"
13-A401, A402 & A403 BARS @ 1'-3" c/c = 15'-0"
1'-0¹⁄₁₆"
22-A401, A402 & A403 BARS @ 11½" c/c = 20'-1½"
11½"
7½"
9 SPA. @ 2"
ANCHORAGE REINFORCEMENT- SEE STD. DWG. PSID-1-99 FOR DETAILS
11"
11"
9-A401, A402 & A403 BARS @ 7½" c/c = 5'-0"
℄ INTERMEDIATE DIAPHRAGM (F.F.)
STRAND HOLD DOWN POINT
℄ INTERMEDIATE DIAPHRAGM (N.F.)
9-A401, A402 & A403 BARS @ 7½" c/c = 5'-0"
THREADED INSERTS (TYP.) (SEE NOTE 3)
B
D
B
B
D
B
31'-8⁹⁄₁₆" (±6")
10'-0" (±1'-0")
31'-8⁹⁄₁₆" (±6")
℄ PIER BEARING
℄ PIER BEARING

BEAM ELEVATION
(SPAN 2)
(B29-B38)

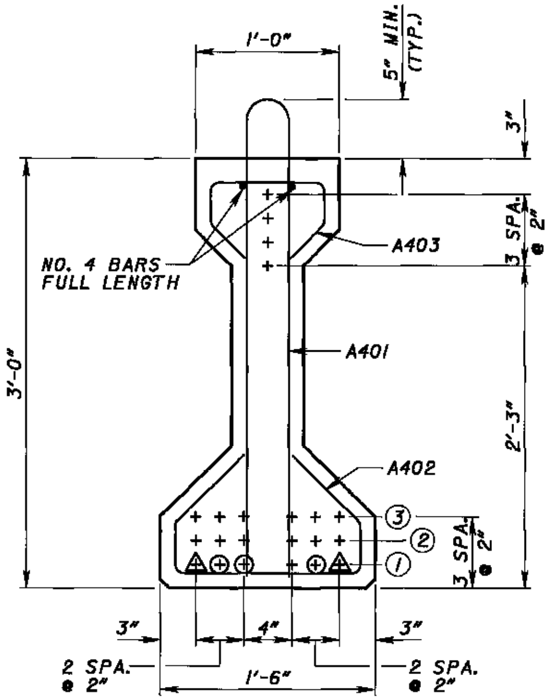
UPSTATION (SPAN 2)



AASHTO TYPE 2
(SPANS 1 & 3)
(B19-B28 & B39-B48)

⚠ - DEBOND STRAND 2'-0" EACH BEAM END

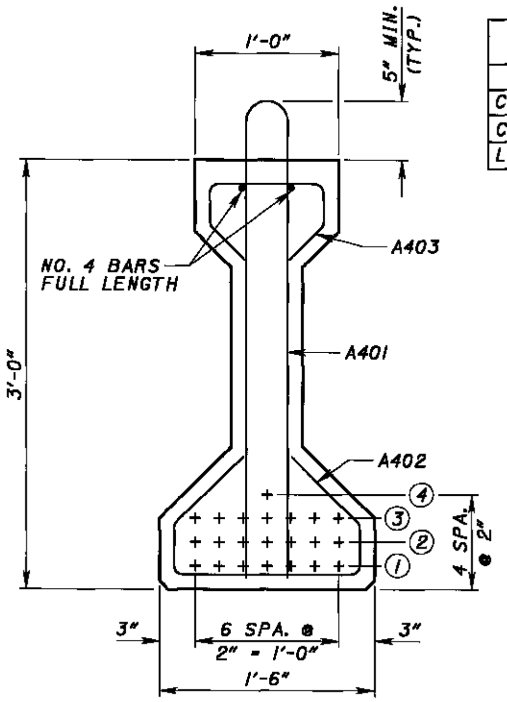
⊕ - EXTEND & BEND UP STRAND AT PIER BEAM END ONLY



AASHTO TYPE 2
(SPAN 2 - END PATTERN)
(B29-B38)

⚠ - DEBOND STRAND 2'-0" EACH BEAM END

⊕ - EXTEND & BEND UP STRAND AT EACH BEAM END



AASHTO TYPE 2
(SPAN 2 - MIDSPAN PATTERN)
(B29-B38)

CAMBER VALUES DUE TO PRESTRESS FORCE AND BEAM WEIGHT		
	SPAN 1	SPAN 2
CAMBER AT RELEASE = B - C	7⁄16"	1⅞"
CAMBER AT ERECTION = 1.8B - 1.85C	¾"	3⁵⁄₁₆"
LONG TERM CAMBER - 2.45B - 2.40C	1"	4¹¹⁄₁₆"

B - ANTICIPATED MIDSPAN CAMBER DUE TO DESIGN PRESTRESSING FORCE AT TIME OF RELEASE
C - MIDSPAN DEFLECTION DUE TO SELF WEIGHT OF BEAM

BEAM	DIMENSION D †
B19-B28	10"
B29	1'-0⅛"
B30	11⅞"
B31	11¹¹⁄₁₆"
B32	11⁷⁄₁₆"
B33	11³⁄₁₆"
B34	10¹⁵⁄₁₆"
B35	10¹¹⁄₁₆"
B36	10½"
B37	10¼"
B38	10"
B39-B48	10"

† - MEASURED ALONG ℄ BEAM

NOTES:

1. SEE STD. DWG. PSID-1-99 FOR BEAM DETAILS NOT SHOWN.
2. SEE SHEET 33 / 51 FOR ABUTMENT BEARING DETAILS.
3. SEE SHEET 33 / 51 FOR HORIZONTAL LOCATION OF THREADED INSERTS.
4. SEE SHEET 33 / 51 FOR SECTION B-B.
5. SHOP MARK EACH BEAM WITH THE FOLLOWING LOCATION INFORMATION: BEAM NUMBER, SPAN NUMBER, NBL & UPSTATION DIRECTION.

LEGEND:

B_ - BEAM NUMBER
F.F. - FAR FACE
N.F. - NEAR FACE
NBL - NORTHBOUND LANES

MIDSPAN PATTERN										
NUMBER OF STRANDS PER ROW						CONCRETE STRENGTHS (ksi)		A401 BARS REQ'D	A402 BARS REQ'D	A403 BARS REQ'D
BEAM MARK	ROW NUMBER ①	②	③	④	TOTAL STRANDS	f'ci	f'c			
B19-B28	7	2	1		10	5500	7000	57	69	57
B29-B38	7*	7*	7*	1*	22	5500	7000	81	93	81
B39-B48	7	2	1		10	5500	7000	57	69	57

* - 1 DRAPED STRAND

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	CRC	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202493 LEFT 5202523 RIGHT	

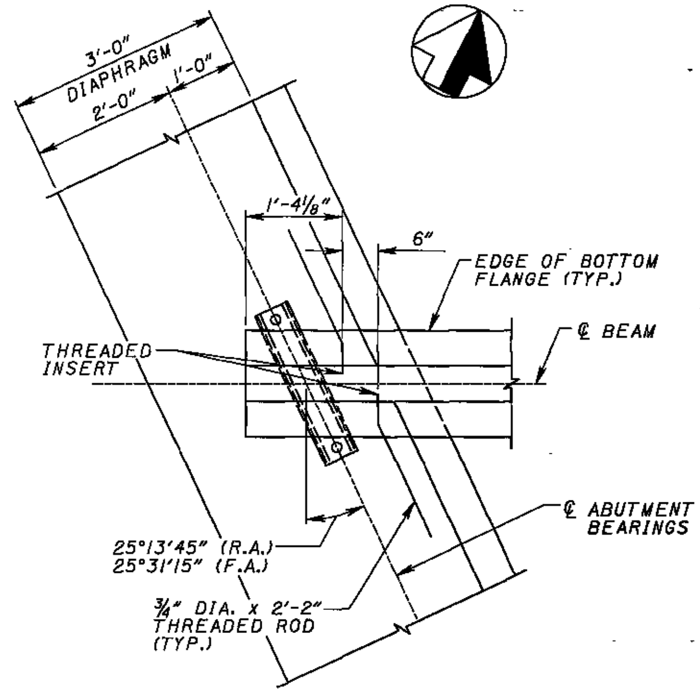
BEAM DETAILS I - NORTHBOUND
BRIDGE NO. MED-71-0342 R
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00

32/51

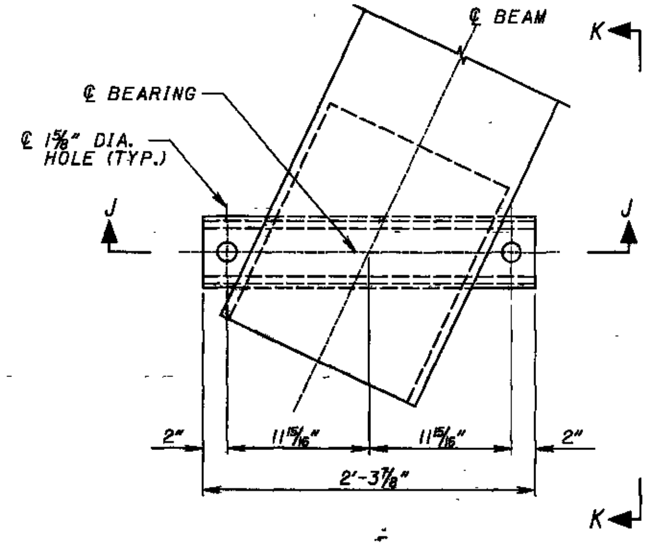
645/785

P:/PR30489/CADD/MED-71-0342/ME071sd3.DGN

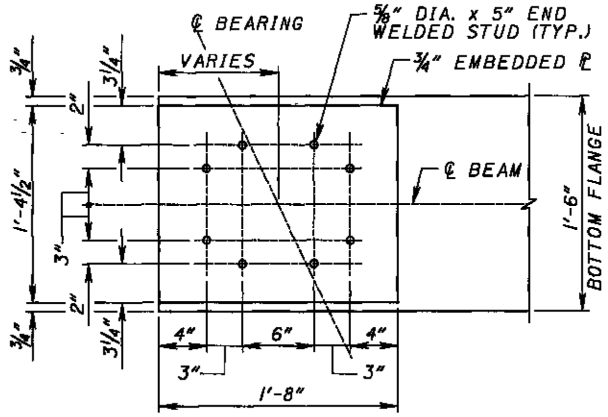


ABUTMENT PLAN

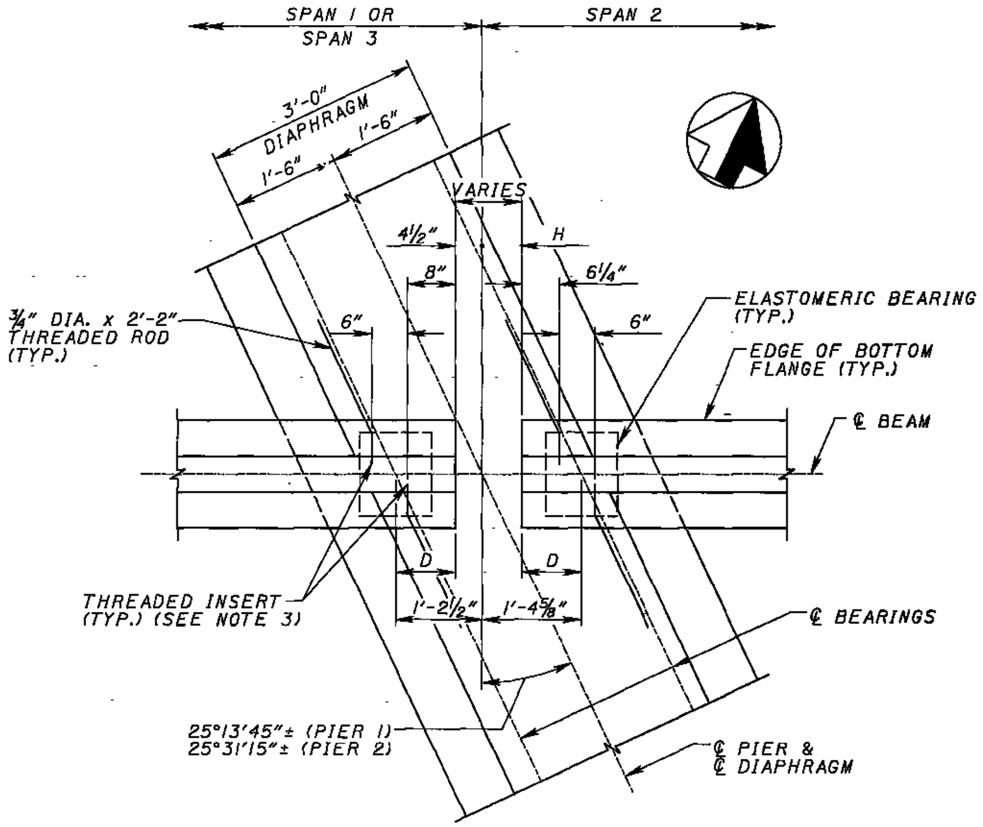
(REAR ABUTMENT SHOWN, FORWARD ABUTMENT OPPOSITE)



ABUTMENT BEARING PLAN

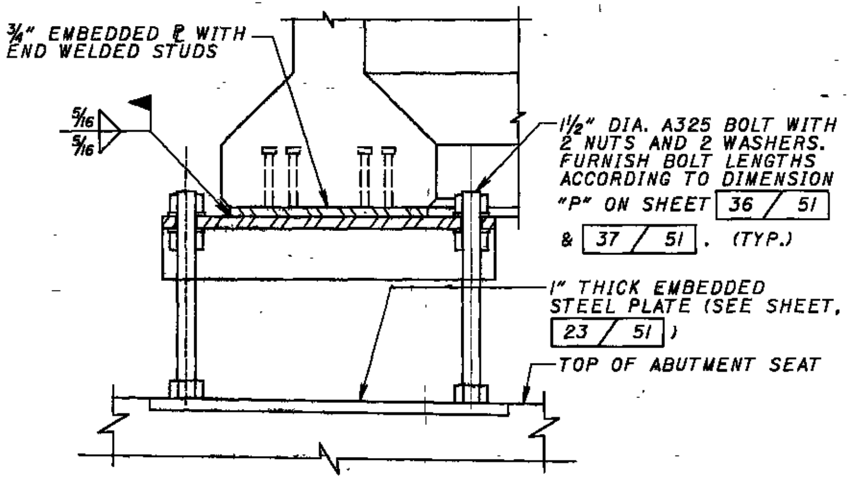


SECTION B-B

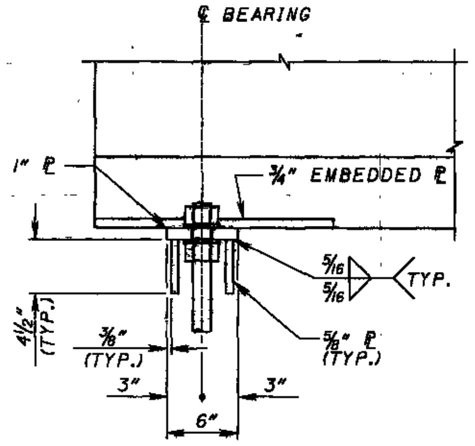


PIER PLAN

(PIER 1 SHOWN, PIER 2 OPPOSITE)


3/4" EMBEDDED ℄ WITH END WELDED STUDS
5/16
5/16
1 1/2" DIA. A325 BOLT WITH 2 NUTS AND 2 WASHERS. FURNISH BOLT LENGTHS ACCORDING TO DIMENSION "P" ON SHEET 36 / 51 & 37 / 51. (TYP.)
1" THICK EMBEDDED STEEL PLATE (SEE SHEET, 23 / 51)
TOP OF ABUTMENT SEAT

SECTION J-J



VIEW K-K

BEAM	DIMENSION H
B29	4 1/2"
B30	4 3/4"
B31	5"
B32	5 3/16"
B33	5 7/16"
B34	5 11/16"
B35	5 15/16"
B36	6 3/16"
B37	6 3/8"
B38	6 5/8"

NOTES:

1. SEE SHEET 32 / 51 FOR DIMENSION D.
2. 1" THICK STEEL PLATES SHALL BE A572, GRADE 50 STEEL. GALVANIZE ANCHOR BOLTS PER 711.02. INCLUDE STEEL PLATES, ANCHOR BOLTS, NUTS AND WASHERS WITH BEAMS FOR PAYMENT.
3. FACIA BEAMS AT PIER LOCATIONS SHALL ONLY HAVE THREADED INSERTS & RODS ON INTERIOR SIDE.

LEGEND:

F.A. = FORWARD ABUTMENT
R.A. = REAR ABUTMENT

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

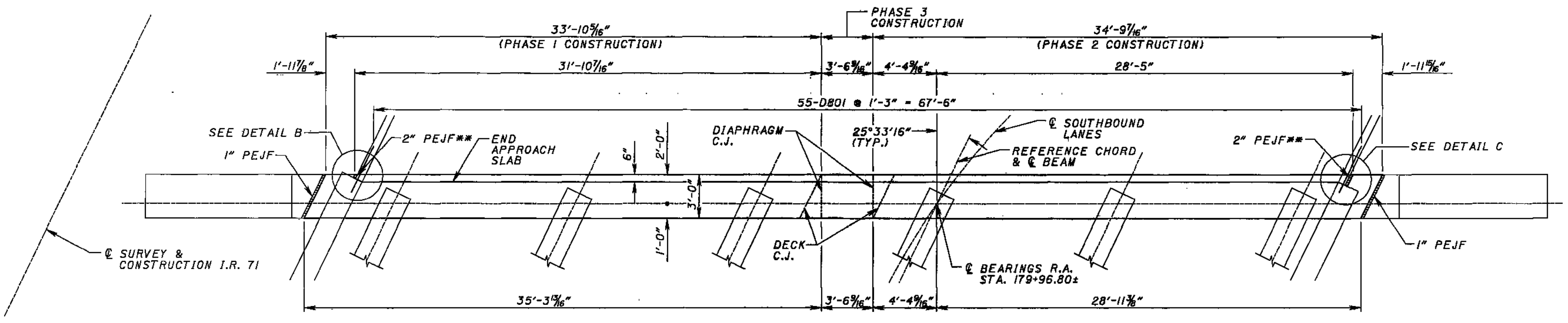
DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03

CHECKED	REVISED	STRUCTURE FILE NUMBER
WTL		5202493 LEFT 5202523 RIGHT

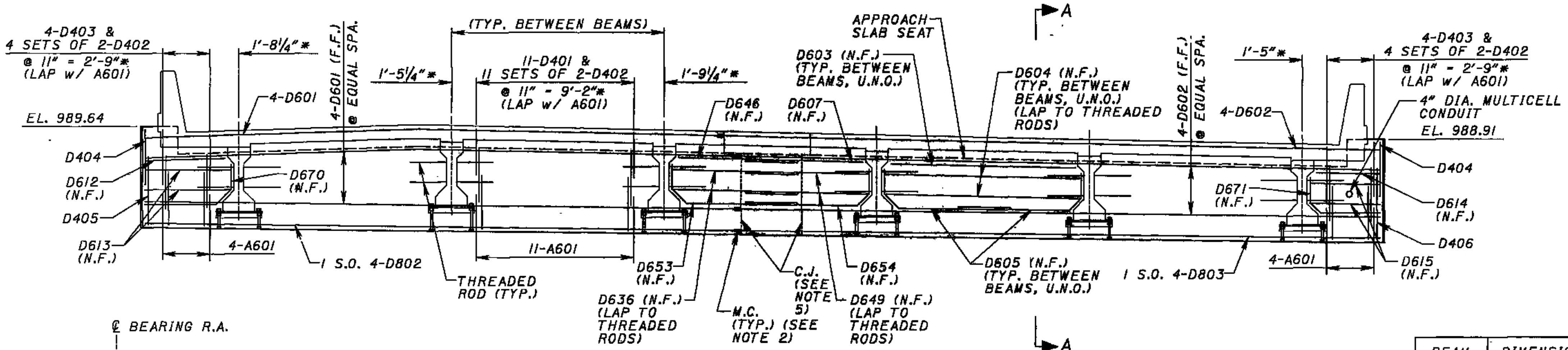
BEAM DETAILS 2 - NORTHBOUND
BRIDGE NO. MED-71-0342 R
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00

P:/PR30489/CADD/MED-71-0342/MED71sd8.DGN



PLAN

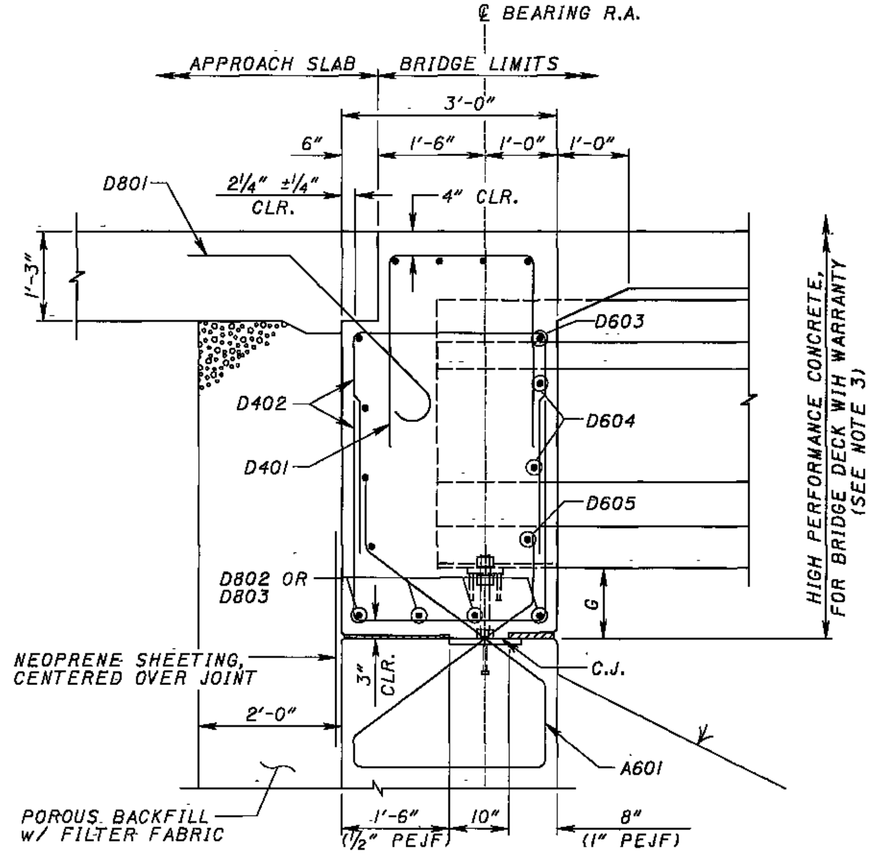

A
A
4-D403 & 4 SETS OF 2-D402 @ 11" = 2'-9"* (LAP w/ A601)
1'-8 1/4"*
4-D601 (F.F.) @ EQUAL SPA.
(TYP. BETWEEN BEAMS)
1'-5 1/4"*
11-D401 & 11 SETS OF 2-D402 @ 11" = 9'-2"* (LAP w/ A601)
1'-9 1/4"*
APPROACH SLAB SEAT
D603 (N.F.) (TYP. BETWEEN BEAMS, U.N.O.)
D604 (N.F.) (TYP. BETWEEN BEAMS, U.N.O.) (LAP TO THREADED RODS)
4-D602 (F.F.) @ EQUAL SPA.
1'-5"*
4-D403 & 4 SETS OF 2-D402 @ 11" = 2'-9"* (LAP w/ A601)
4" DIA. MULTICELL CONDUIT
EL. 988.91
EL. 989.64
4-D601
D646 (N.F.)
D607 (N.F.)
4-D602
D404
D612 (N.F.)
D670 (N.F.)
D405
D613 (N.F.)
4-A601
1 S.O. 4-D802
11-A601
THREADED ROD (TYP.)
D653 (N.F.)
D636 (N.F.) (LAP TO THREADED RODS)
M.C. (TYP.) (SEE NOTE 2)
C.J. (SEE NOTE 5)
D654 (N.F.)
D649 (N.F.) (LAP TO THREADED RODS)
D605 (N.F.) (TYP. BETWEEN BEAMS, U.N.O.)
1 S.O. 4-D803
4-A601
D671 (N.F.)
D404
D614 (N.F.)
D406
D615 (N.F.)

ELEVATION

(* - MEASURED ALONG ℄ BEARINGS R.A.)
(WINGWALLS NOT SHOWN FOR CLARITY)

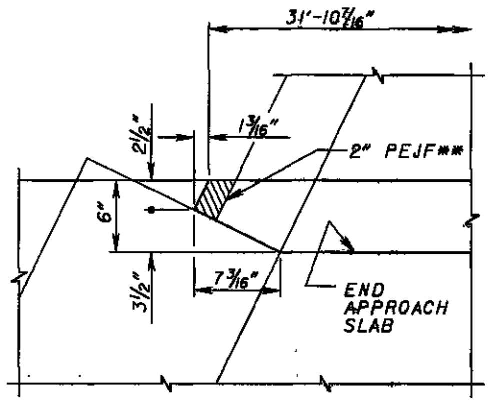
BEAM	DIMENSION G †
B1	1'-0"
B2	1'-1 3/8"
B3	1'-2 5/8"
B4	1'-4"
B5	1'-5 3/8"
B6	1'-0"

† - MEASURED AT ℄ BEAM

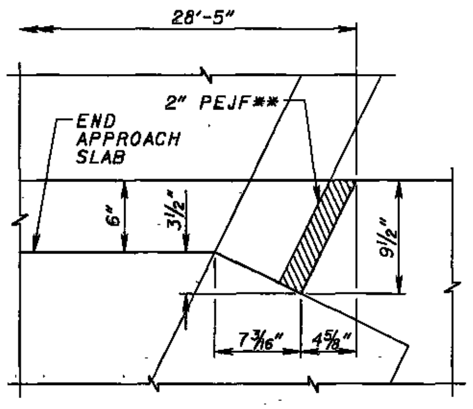


SECTION A-A

(ALL BARS NORMAL TO SECTION ARE D601 OR D602 BARS, U.N.O.)



DETAIL B



DETAIL C

LEGEND:

C.J. - CONSTRUCTION JOINT
CLR. - CLEAR
F.F. - FAR FACE
N.F. - NEAR FACE
M.C. - MECHANICAL CONNECTOR
PEJF - PREFORMED EXPANSION JOINT FILLER
R.A. - REAR ABUTMENT
S.O. - SERIES OF
U.N.O. - UNLESS NOTED OTHERWISE
** = INCLUDED WITH APPROACH SLAB FOR PAYMENT

NOTES:

1. SEE STD. DWG. ICD-1-82 FOR DETAILS NOT SHOWN.
2. SEE MECHANICAL CONNECTOR NOTE, SHEET 3 / 51 .
3. PHASED CONSTRUCTION ABUTMENT DIAPHRAGM CONCRETE, PRESTRESSED I-BEAM SUPERSTRUCTURE: PLACE ABUTMENT DIAPHRAGM CONCRETE ENCASING PRESTRESSED I-BEAM MEMBERS AT THE SAME TIME AS THE DECK CONCRETE OF AN INDIVIDUAL CONSTRUCTION PHASE TO ALLOW FOR EXPECTED DEAD LOAD ROTATION AT THE ABUTMENTS.
4. MINIMUM STEEL LAP LENGTHS:

   #4 BAR - 2'-0"
   #6 BAR - 3'-0"
   #8 BAR - 5'-0"

5. PLACE TYPE 2 WATERPROOFING, 3'-0" WIDE CENTERED ON JOINT, FROM BOTTOM OF APPROACH SLAB TO TOP OF ABUTMENT SEAT.

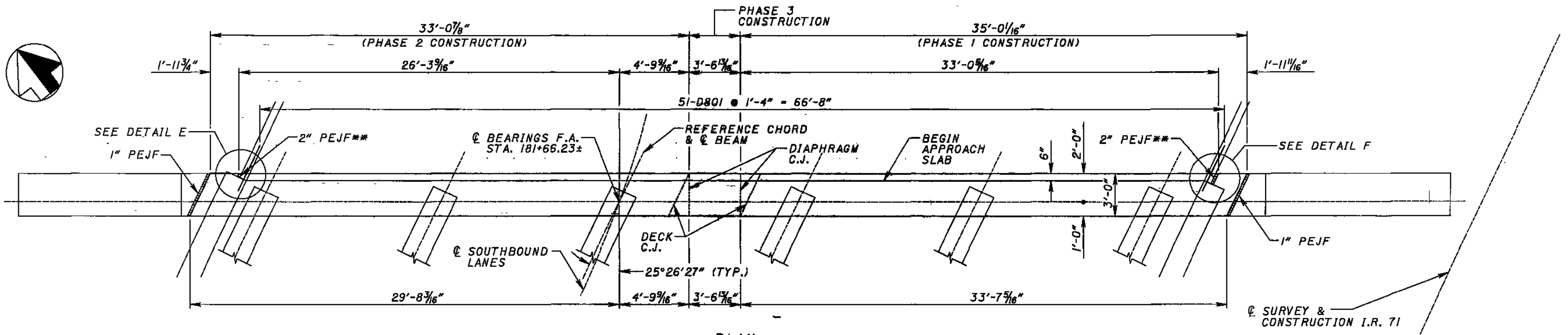
BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202493 LEFT 5202523 RIGHT	

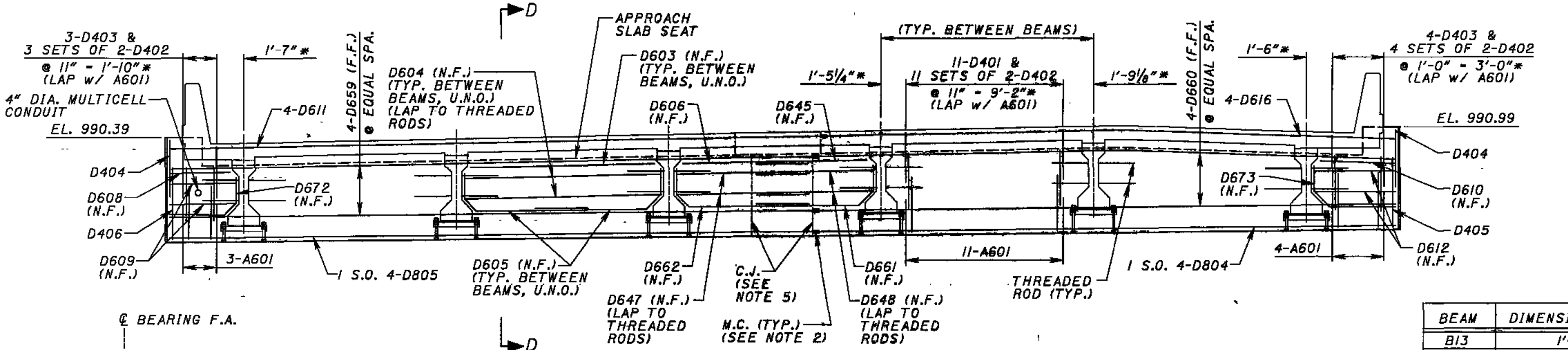
REAR ABUTMENT END DIAPHRAGM - SOUTHBOUND
BRIDGE NO. MED-71-0342 L
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00

P:/PR30489/CADD/MED-71-0342/ME071ra6.DGN



PLAN


D
3-D403 & 3 SETS OF 2-D402 @ 11" = 1'-10"* (LAP w/ A601)
1'-7"*
4-D659 (F.F.) @ EQUAL SPA.
4" DIA. MULTICELL CONDUIT
EL. 990.39
4-D611
D604 (N.F.) (TYP. BETWEEN BEAMS, U.N.O.) (LAP TO THREADED RODS)
APPROACH SLAB SEAT
D603 (N.F.) (TYP. BETWEEN BEAMS, U.N.O.)
D606 (N.F.)
D645 (N.F.)
1'-5¼"*
(TYP. BETWEEN BEAMS)
11-D401 & 11 SETS OF 2-D402 @ 11" = 9'-2"* (LAP w/ A601)
1'-9⅛"*
4-D660 (F.F.) @ EQUAL SPA.
1'-6"*
4-D616
4-D403 & 4 SETS OF 2-D402 @ 1'-0" = 3'-0"* (LAP w/ A601)
EL. 990.99
D404
D608 (N.F.)
D406
D672 (N.F.)
D673 (N.F.)
D404
D610 (N.F.)
D405
D609 (N.F.)
3-A601
1 S.O. 4-D805
D605 (N.F.) (TYP. BETWEEN BEAMS, U.N.O.)
D662 (N.F.)
D647 (N.F.) (LAP TO THREADED RODS)
C.J. (SEE NOTE 5)
M.C. (TYP.) (SEE NOTE 2)
D661 (N.F.)
D648 (N.F.) (LAP TO THREADED RODS)
11-A601
THREADED ROD (TYP.)
1 S.O. 4-D804
4-A601
D612 (N.F.)
D

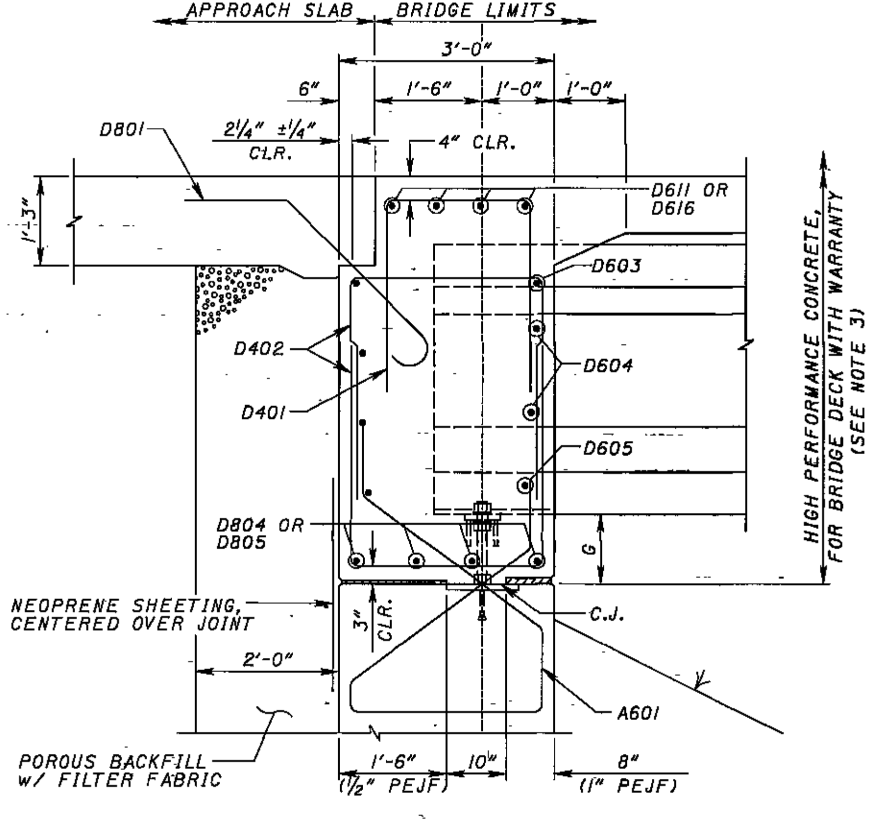
ELEVATION

(* - MEASURED ALONG ℄ BEARINGS F.A.)
(WINGWALLS NOT SHOWN FOR CLARITY)

BEAM	DIMENSION G †
B13	1'-0"
B14	1'-1⁷⁄₁₆"
B15	1'-2¹¹⁄₁₆"
B16	1'-4⅛"
B17	1'-5⁷⁄₁₆"
B18	1'-0"

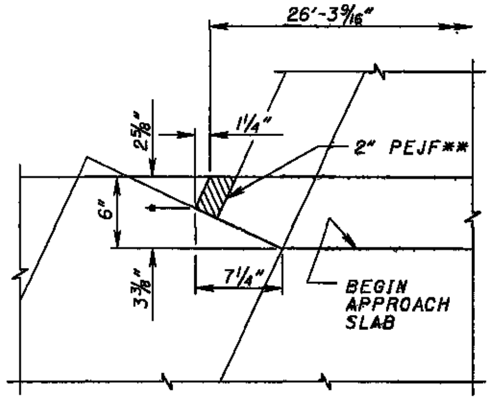
† - MEASURED AT ℄ BEAM

℄ BEARING F.A.

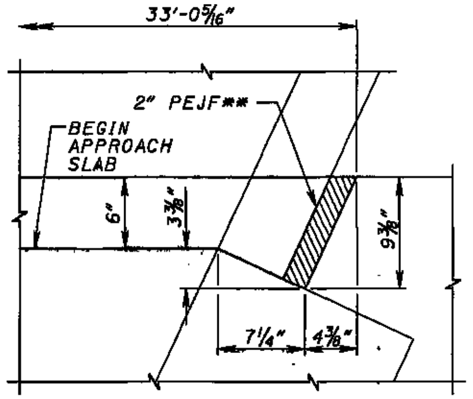


SECTION D-D

(ALL BARS NORMAL TO SECTION ARE D659 OR D660 BARS, U.N.O.)



DETAIL E



DETAIL F

LEGEND:

C.J. - CONSTRUCTION JOINT
CLR. - CLEAR
F.A. - FORWARD ABUTMENT
F.F. - FAR FACE
N.F. - NEAR FACE
M.C. - MECHANICAL CONNECTOR
PEJF - PREFORMED EXPANSION JOINT FILLER
S.O. - SERIES OF
U.N.O. - UNLESS NOTED OTHERWISE
** - INCLUDED WITH APPROACH SLAB FOR PAYMENT

NOTES:

1. SEE STD. DWG. ICD-1-82 FOR DETAILS NOT SHOWN.
2. SEE MECHANICAL CONNECTOR NOTE, SHEET 3 / 51 .
3. PHASED CONSTRUCTION ABUTMENT DIAPHRAGM CONCRETE, PRESTRESSED I-BEAM SUPERSTRUCTURE: PLACE ABUTMENT DIAPHRAGM CONCRETE ENCASING PRESTRESSED I-BEAM MEMBERS AT THE SAME TIME AS THE DECK CONCRETE OF AN INDIVIDUAL CONSTRUCTION PHASE TO ALLOW FOR EXPECTED DEAD LOAD ROTATION AT THE ABUTMENTS.
4. MINIMUM STEEL LAP LENGTHS:
   #4 BAR - 2'-0"
   #6 BAR - 3'-0"
   #8 BAR - 5'-0"
5. PLACE TYPE 2 WATERPROOFING, 3'-0" WIDE CENTERED ON JOINT, FROM BOTTOM OF APPROACH SLAB TO TOP OF ABUTMENT SEAT.

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

REVIEWED	DATE
CAS	6/03

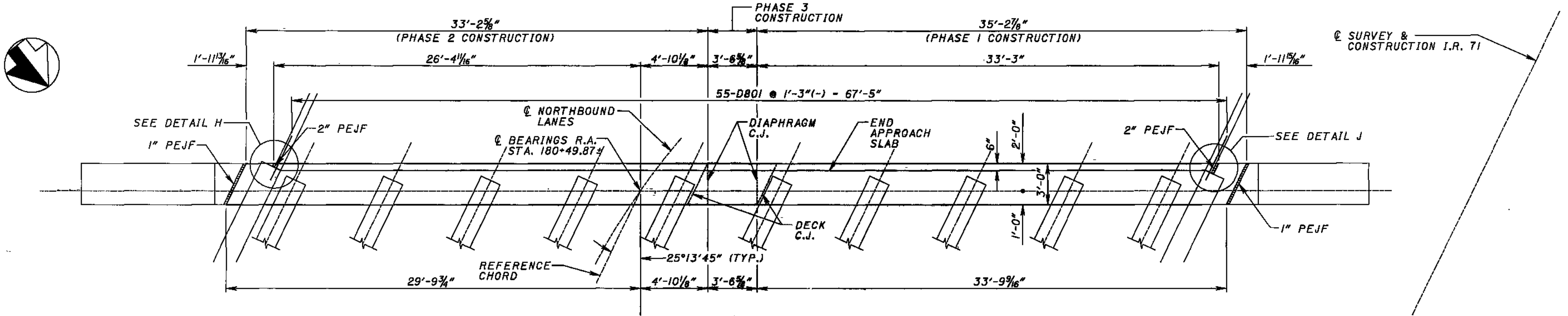
STRUCTURE FILE NUMBER
5202493 LEFT
5202523 RIGHT

DRAWN	REVISED
TTK	

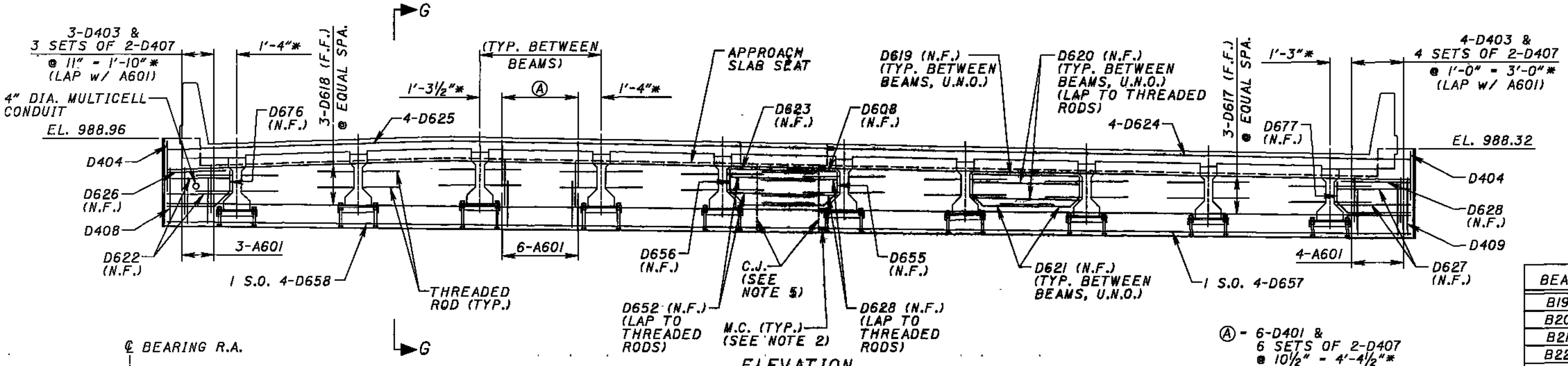
DESIGNED	CHECKED
TTK	WTL

FORWARD ABUTMENT END DIAPHRAGM - SOUTHBOUND
BRIDGE NO. MED-71-0342 L
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00



PLAN


G
3-D403 & 3 SETS OF 2-D407 @ 11" - 1'-10"* (LAP w/ A601)
1'-4"*
3-D618 (F.F.) @ EQUAL SPA.
(TYP. BETWEEN BEAMS)
Ⓐ
1'-3½"*
1'-4"*
APPROACH SLAB SEAT
D619 (N.F.) (TYP. BETWEEN BEAMS, U.N.O.)
D620 (N.F.) (TYP. BETWEEN BEAMS, U.N.O.) (LAP TO THREADED RODS)
3-D617 (F.F.) @ EQUAL SPA.
1'-3"*
4-D403 & 4 SETS OF 2-D407 @ 1'-0" - 3'-0"* (LAP w/ A601)
4" DIA. MULTICELL CONDUIT
D676 (N.F.)
4-D625
D623 (N.F.)
D608 (N.F.)
4-D624
D677 (N.F.)
EL. 988.96
EL. 988.32
D404
D626 (N.F.)
D408
D622 (N.F.)
3-A601
1 S.O. 4-D658
6-A601
THREADED ROD (TYP.)
D656 (N.F.)
C.J. (SEE NOTE 5)
D652 (N.F.) (LAP TO THREADED RODS)
M.C. (TYP.) (SEE NOTE 2)
D655 (N.F.)
D628 (N.F.) (LAP TO THREADED RODS)
D621 (N.F.) (TYP. BETWEEN BEAMS, U.N.O.)
1 S.O. 4-D657
4-A601
D404
D628 (N.F.)
D409
D627 (N.F.)
G

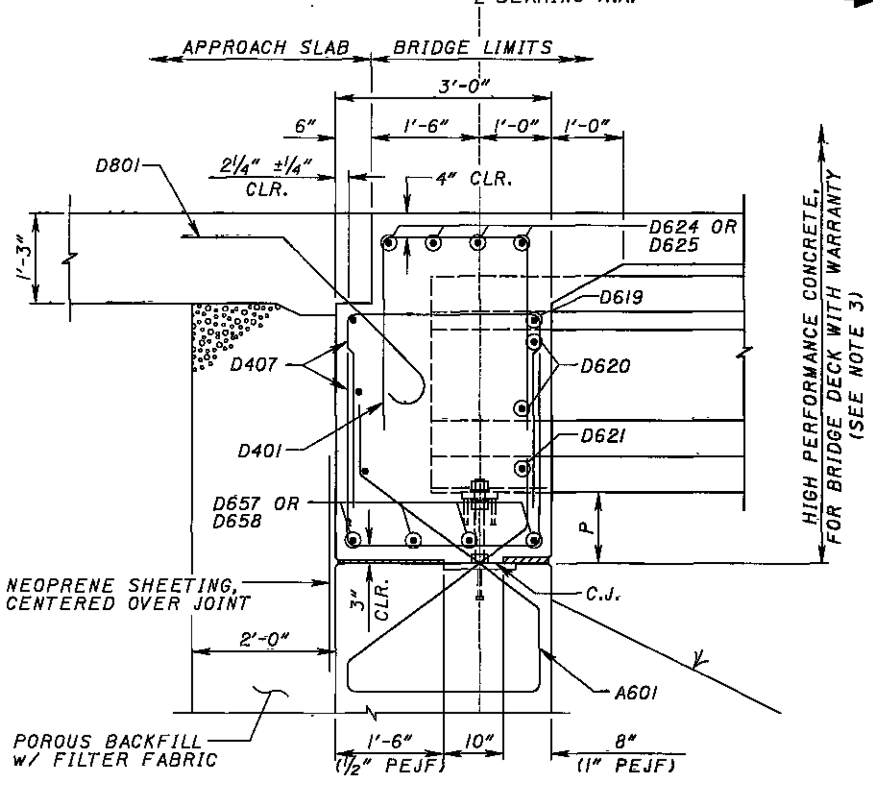
ELEVATION

(* - MEASURED ALONG ℄ BEARINGS R.A.)
(WINGWALLS NOT SHOWN FOR CLARITY)

Ⓐ - 6-D401 & 6 SETS OF 2-D407 @ 10½" - 4'-4½"* (LAP w/ A601)

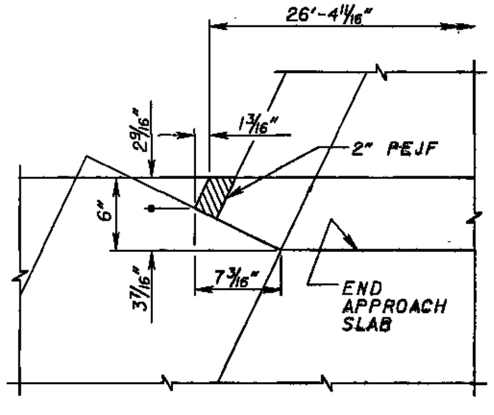
BEAM	DIMENSION P †
B19	1'-0"
B20	1'-0¹³⁄₁₆"
B21	1'-1¹¹⁄₁₆"
B22	1'-2½"
B23	1'-3⅜"
B24	1'-4³⁄₁₆"
B25	1'-5¹⁄₁₆"
B26	1'-5⅞"
B27	1'-3⅝"
B28	1'-0"

† - MEASURED AT ℄ BEAM

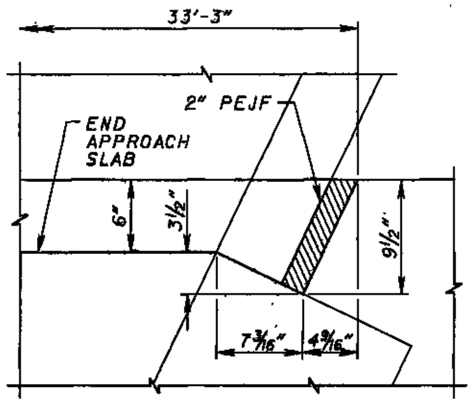


SECTION G-G

(ALL BARS NORMAL TO SECTION ARE D617 OR D618, U.N.O.)



DETAIL H



DETAIL J

LEGEND:

C.J. - CONSTRUCTION JOINT
CLR. - CLEAR
F.F. - FAR FACE
N.F. - NEAR FACE
M.C. - MECHANICAL CONNECTOR
PEJF - PREFORMED EXPANSION JOINT FILLER
R.A. - REAR ABUTMENT
S.O. - SERIES OF
U.N.O. - UNLESS NOTED OTHERWISE

NOTES:

1. SEE STD. DWG. ICD-1-82 FOR DETAILS NOT SHOWN.
2. SEE MECHANICAL CONNECTOR NOTE, SHEET 3 / 51 .
3. PHASED CONSTRUCTION ABUTMENT DIAPHRAGM CONCRETE, PRESTRESSED I-BEAM SUPERSTRUCTURE: PLACE ABUTMENT DIAPHRAGM CONCRETE ENCASING PRESTRESSED I-BEAM MEMBERS AT THE SAME TIME AS THE DECK CONCRETE OF AN INDIVIDUAL CONSTRUCTION PHASE TO ALLOW FOR EXPECTED DEAD LOAD ROTATION AT THE ABUTMENTS.
4. MINIMUM STEEL LAP LENGTHS:
   #4 BAR - 2'-0"
   #6 BAR - 3'-0"
5. PLACE TYPE 2 WATERPROOFING, 3'-0" WIDE CENTERED ON JOINT, FROM BOTTOM OF APPROACH SLAB TO TOP OF ABUTMENT SEAT.

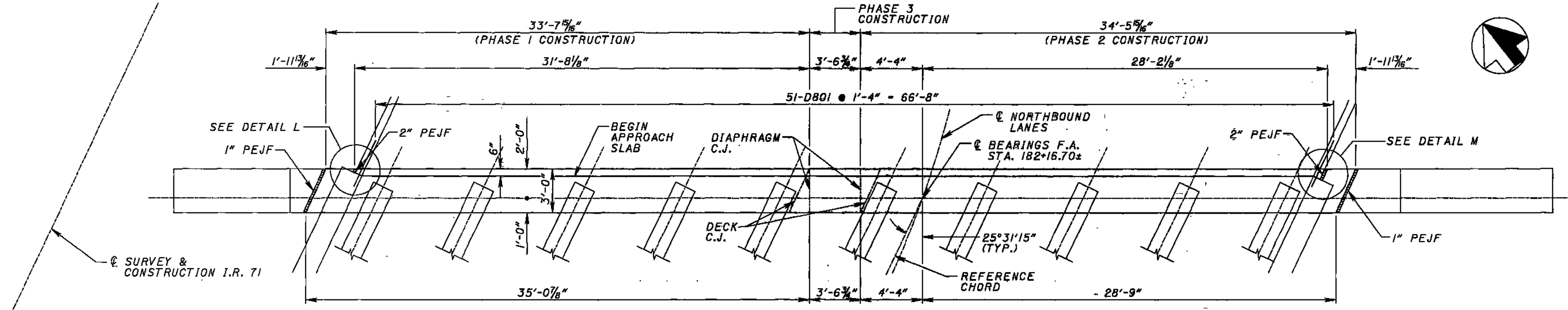
P:/PR30489/CADD/MED-71-0342/ME071ra3.dgn

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

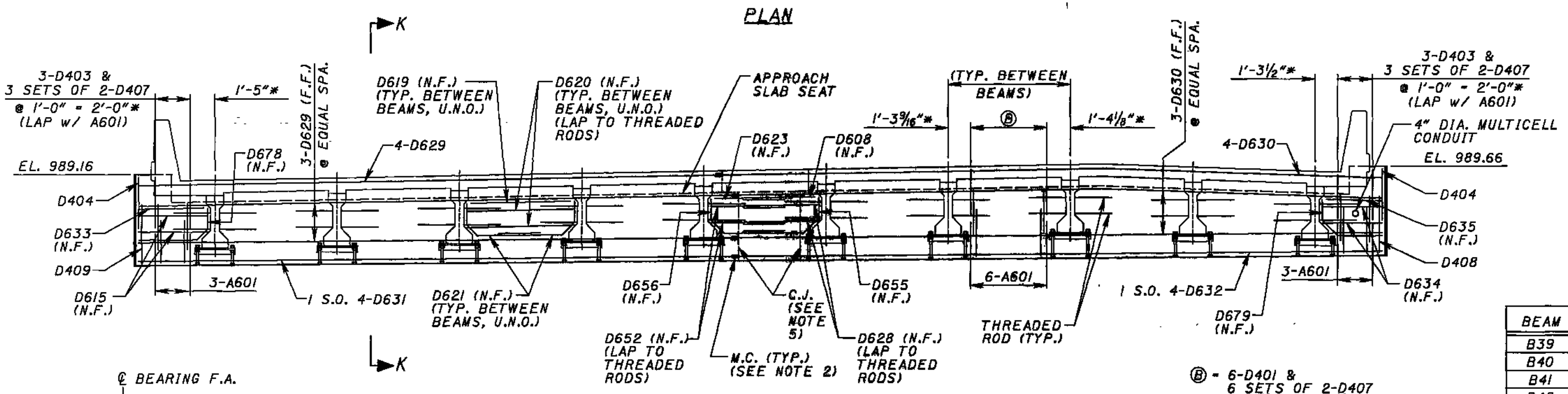
DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202493 LEFT 5202523 RIGHT	

REAR ABUTMENT END DIAPHRAGM - NORTHBOUND
BRIDGE NO. MED-71-0342 R
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00



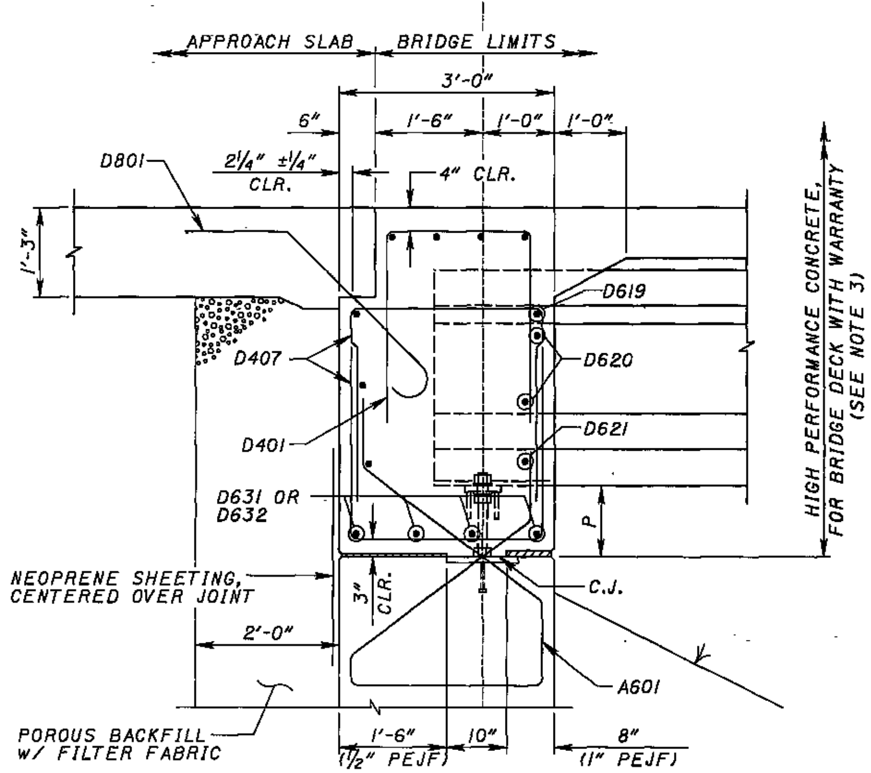
PLAN


K
3-D403 & 3 SETS OF 2-D407 @ 1'-0" = 2'-0"* (LAP w/ A601)
1'-5"*
3-D629 (F.F.) @ EQUAL SPA.
D619 (N.F.) (TYP. BETWEEN BEAMS, U.N.O.)
D620 (N.F.) (TYP. BETWEEN BEAMS, U.N.O.) (LAP TO THREADED RODS)
APPROACH SLAB SEAT
(TYP. BETWEEN BEAMS)
Ⓑ
1'-3 9/16"*
1'-4 1/8"*
3-D630 (F.F.) @ EQUAL SPA.
1'-3 1/2"*
3-D403 & 3 SETS OF 2-D407 @ 1'-0" = 2'-0"* (LAP w/ A601)
4" DIA. MULTICELL CONDUIT
EL. 989.16
EL. 989.66
D678 (N.F.)
4-D629
D623 (N.F.)
D608 (N.F.)
4-D630
D404
D633 (N.F.)
D409
D615 (N.F.)
3-A601
1 S.O. 4-D631
D621 (N.F.) (TYP. BETWEEN BEAMS, U.N.O.)
D656 (N.F.)
D652 (N.F.) (LAP TO THREADED RODS)
M.C. (TYP.) (SEE NOTE 2)
C.J. (SEE NOTE 5)
D655 (N.F.)
D628 (N.F.) (LAP TO THREADED RODS)
6-A601
THREADED ROD (TYP.)
1 S.O. 4-D632
D679 (N.F.)
3-A601
D404
D635 (N.F.)
D408
D634 (N.F.)
K

Ⓑ - 6-D401 & 6 SETS OF 2-D407 @ 10 1/2" = 4'-4 1/2"* (LAP w/ A601)

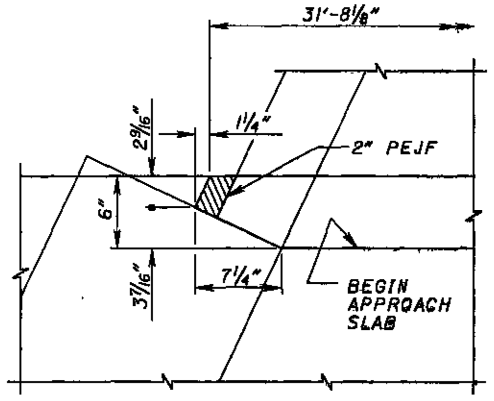
ELEVATION

(* - MEASURED ALONG ℄ BEARINGS F.A.)
(WINGWALLS NOT SHOWN FOR CLARITY)

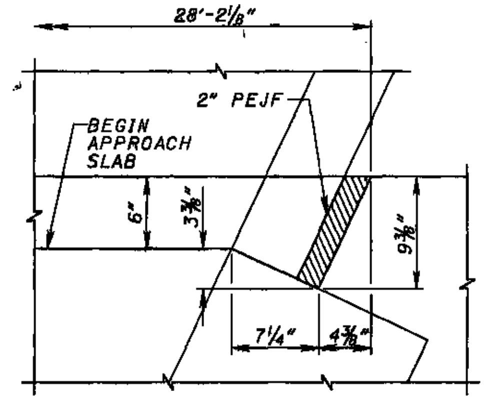


SECTION K-K

(ALL BARS NORMAL TO SECTION ARE D629 OR D630, U.N.O.)



DETAIL L



DETAIL M

BEAM	DIMENSION P†
B39	1'-0"
B40	1'-0 7/8"
B41	1'-1 3/4"
B42	1'-2 5/8"
B43	1'-3 7/16"
B44	1'-4 5/16"
B45	1'-5 1/16"
B46	1'-5 15/16"
B47	1'-3 11/16"
B48	1'-0"

† - MEASURED AT ℄ BEAM

LEGEND:

C.J. - CONSTRUCTION JOINT
CLR. - CLEAR
F.A. - FORWARD ABUTMENT
F.F. - FAR FACE
N.F. - NEAR FACE
M.C. - MECHANICAL CONNECTOR
PEJF - PREFORMED EXPANSION JOINT FILLER
S.O. - SERIES OF
U.N.O. - UNLESS NOTED OTHERWISE

NOTES:

1. SEE STD. DWG. ICD-1-82 FOR DETAILS NOT SHOWN.
2. SEE MECHANICAL CONNECTOR NOTE, SHEET 3 / 51 .
3. PHASED CONSTRUCTION ABUTMENT DIAPHRAGM CONCRETE, PRESTRESSED I-BEAM SUPERSTRUCTURE: PLACE ABUTMENT DIAPHRAGM CONCRETE ENCASING PRESTRESSED I-BEAM MEMBERS AT THE SAME TIME AS THE DECK CONCRETE OF AN INDIVIDUAL CONSTRUCTION PHASE TO ALLOW FOR EXPECTED DEAD LOAD ROTATION AT THE ABUTMENTS.
4. MINIMUM STEEL LAP LENGTHS:

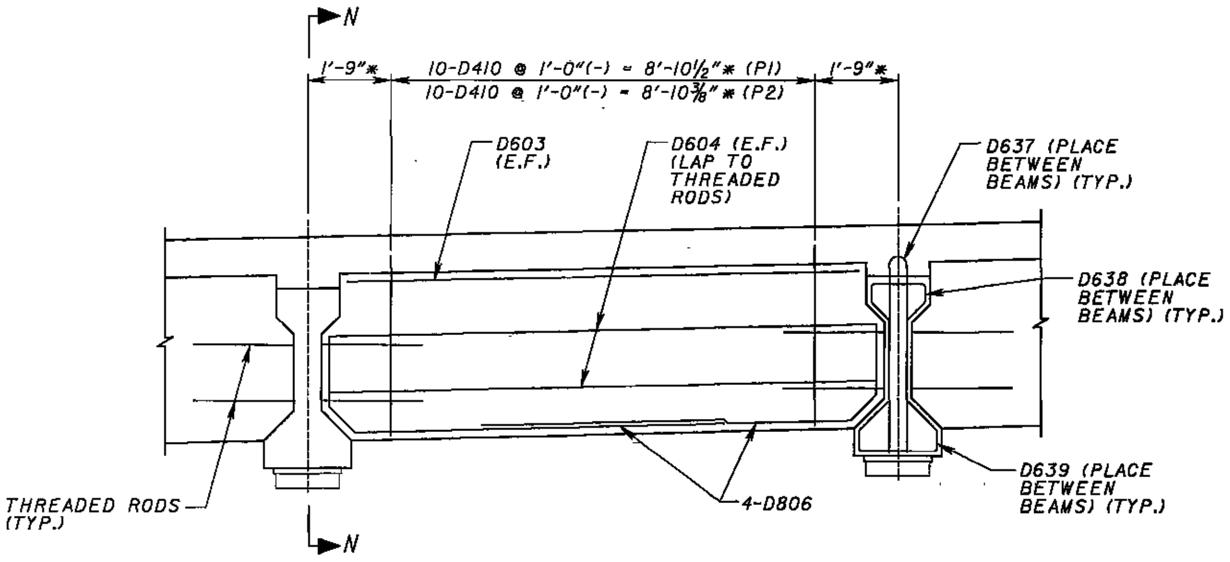
   #4 BAR = 2'-0"
   #6 BAR = 3'-0"
5. PLACE TYPE 2 WATERPROOFING, 3'-0" WIDE CENTERED ON JOINT, FROM BOTTOM OF APPROACH SLAB TO TOP OF ABUTMENT SEAT.

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202493 LEFT 5202523 RIGHT	

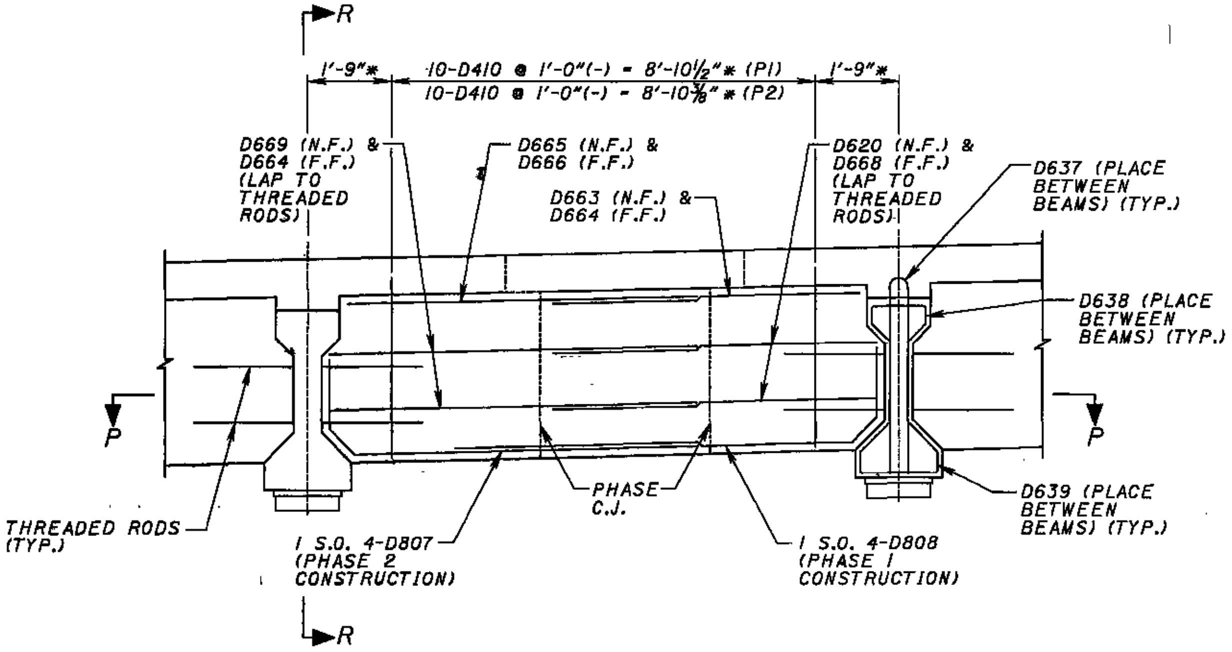
FORWARD ABUTMENT END DIAPHRAGM - NORTHBOUND
BRIDGE NO. MED-71-0342 R
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00


N
1'-9"*
10-D410 @ 1'-0"(-) = 8'-10½"* (P1)
10-D410 @ 1'-0"(-) = 8'-10⅜"* (P2)
1'-9"*
D603 (E.F.)
D604 (E.F.) (LAP TO THREADED RODS)
D637 (PLACE BETWEEN BEAMS) (TYP.)
D638 (PLACE BETWEEN BEAMS) (TYP.)
D639 (PLACE BETWEEN BEAMS) (TYP.)
THREADED RODS (TYP.)
4-D806
N

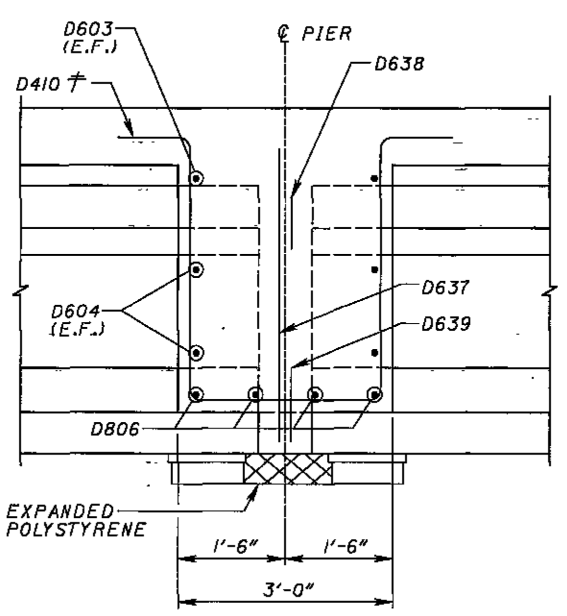
TYPICAL PIER DIAPHRAGM BETWEEN BEAMS

(* - MEASURED ALONG ℄ PIER)

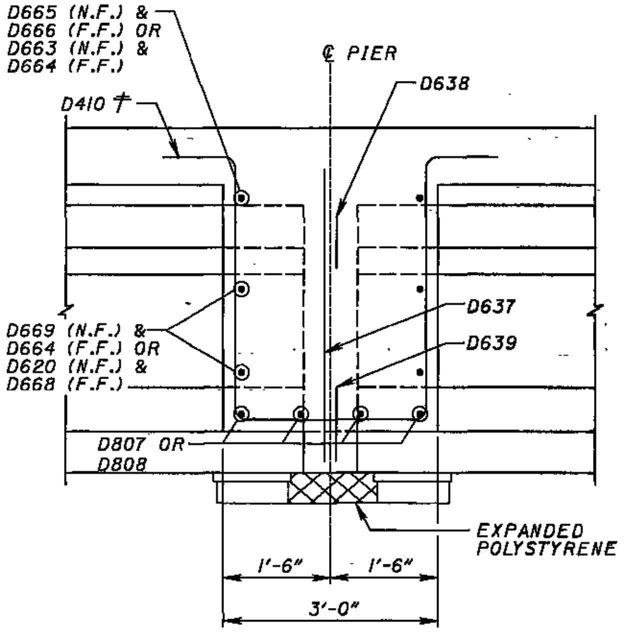

R
1'-9"*
10-D410 @ 1'-0"(-) = 8'-10½"* (P1)
10-D410 @ 1'-0"(-) = 8'-10⅞"* (P2)
1'-9"*
D669 (N.F.) & D664 (F.F.) (LAP TO THREADED RODS)
D665 (N.F.) & D666 (F.F.)
D663 (N.F.) & D664 (F.F.)
D620 (N.F.) & D668 (F.F.) (LAP TO THREADED RODS)
D637 (PLACE BETWEEN BEAMS) (TYP.)
D638 (PLACE BETWEEN BEAMS) (TYP.)
D639 (PLACE BETWEEN BEAMS) (TYP.)
P
P
PHASE C.J.
THREADED RODS (TYP.)
1 S.O. 4-D807 (PHASE 2 CONSTRUCTION)
1 S.O. 4-D808 (PHASE 1 CONSTRUCTION)
R

TYPICAL PIER DIAPHRAGM BETWEEN PHASE C.J.

(* - MEASURED ALONG ℄ PIER)

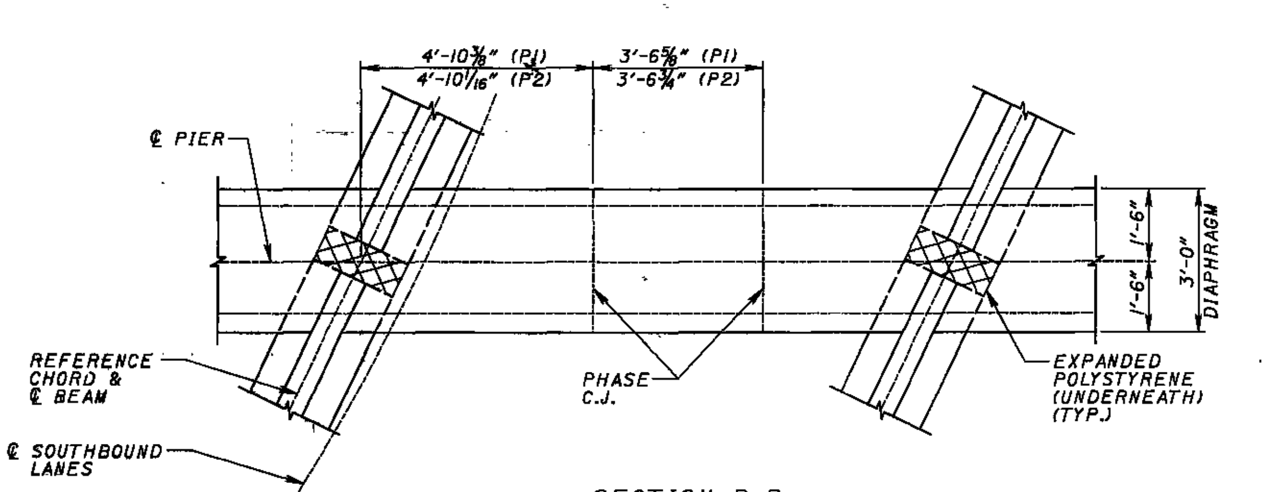


SECTION N-N


D665 (N.F.) & D666 (F.F.) OR D663 (N.F.) & D664 (F.F.)
D410 †
℄ PIER
D638
D637
D639
D669 (N.F.) & D664 (F.F.) OR D620 (N.F.) & D668 (F.F.)
D807 OR D808
EXPANDED POLYSTYRENE
1'-6"
1'-6"
3'-0"

SECTION R-R

(† - PLACE BARS PERPENDICULAR TO ℄ PIER)



SECTION P-P

LEGEND:

C.J. - CONSTRUCTION JOINT
E.F. - EACH FACE
F.F. - FAR FACE
N.F. - NEAR FACE
P1 - PIER 1
P2 - PIER 2
S.O. - SERIES OF

NOTES:

1. ALL PIER DIAPHRAGM CONCRETE SHALL BE CLASS HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY AND BE PLACED CONCURRENTLY WITH THE DECK.
2. MINIMUM STEEL LAP LENGTH:
   #6 BAR - 3'-0"
   #8 BAR - 5'-0"
3. SEE STD. DWG. PSID-1-99 FOR DIAPHRAGM DETAILS NOT SHOWN.

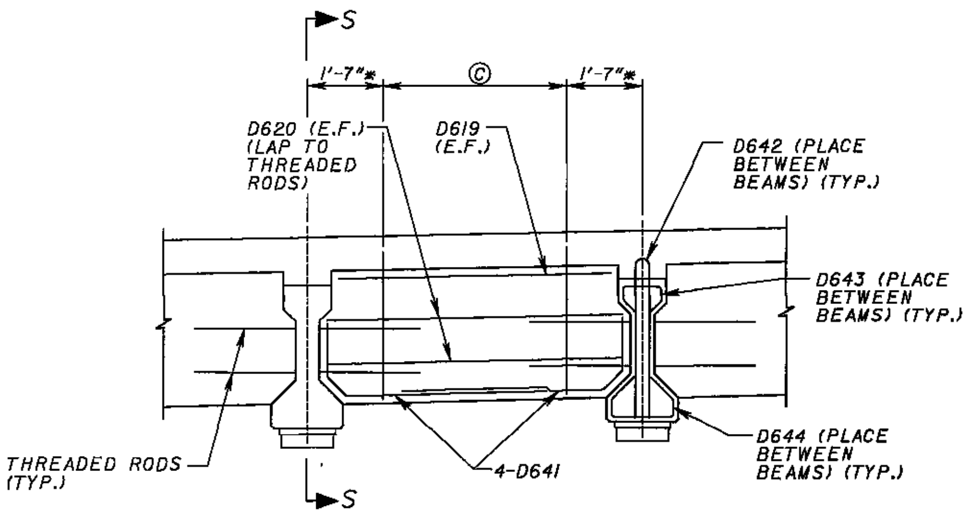
BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03.
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202493 LEFT 5202523 RIGHT	

PIER DIAPHRAGM DETAILS - SOUTHBOUND
BRIDGE NO. MED-71-0342 L
OVER W. & L.E. RAILROAD

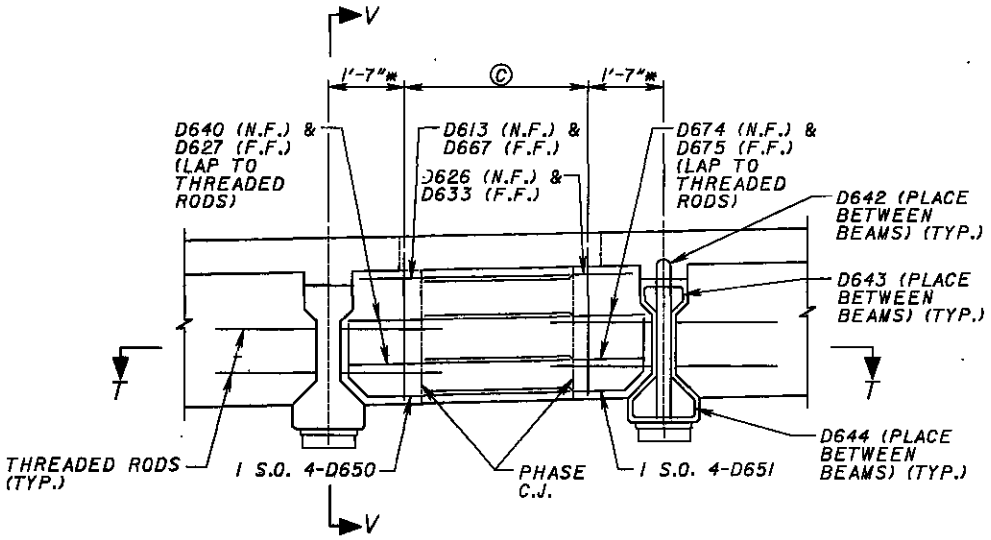
WAY/MED-71-7.04/0.00

P:/PR30489/CADD/MED-71-0342/ME07pi6.DGN


S
1'-7"*
©
1'-7"*
D620 (E.F.) (LAP TO THREADED RODS)
D619 (E.F.)
D642 (PLACE BETWEEN BEAMS) (TYP.)
D643 (PLACE BETWEEN BEAMS) (TYP.)
D644 (PLACE BETWEEN BEAMS) (TYP.)
THREADED RODS (TYP.)
4-D641
S

TYPICAL PIER DIAPHRAGM BETWEEN BEAMS

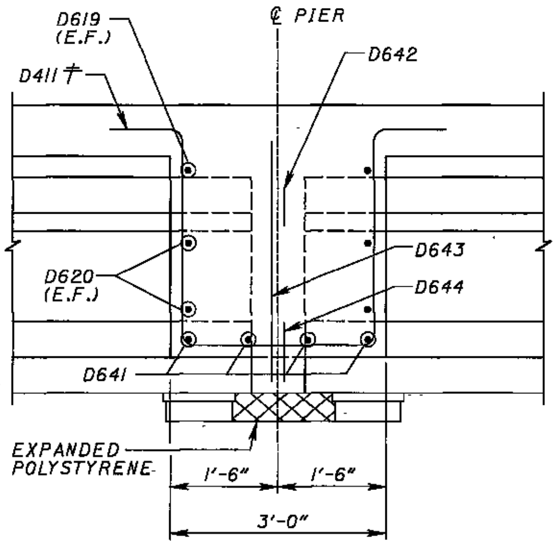
(* - MEASURED ALONG ℄ PIER)


V
1'-7"*
©
1'-7"*
D640 (N.F.) & D627 (F.F.) (LAP TO THREADED RODS)
D613 (N.F.) & D667 (F.F.)
D626 (N.F.) & D633 (F.F.)
D674 (N.F.) & D675 (F.F.) (LAP TO THREADED RODS)
D642 (PLACE BETWEEN BEAMS) (TYP.)
D643 (PLACE BETWEEN BEAMS) (TYP.)
D644 (PLACE BETWEEN BEAMS) (TYP.)
T
T
THREADED RODS (TYP.)
1 S.O. 4-D650
PHASE C.J.
1 S.O. 4-D651
V

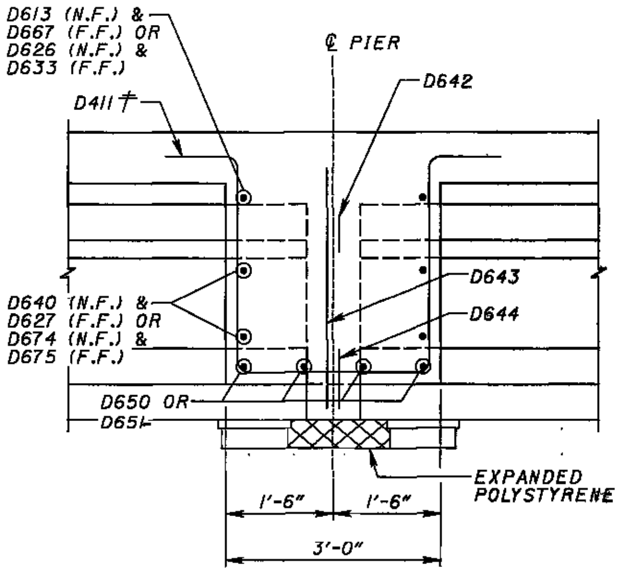
TYPICAL PIER DIAPHRAGM BETWEEN PHASE C.J.

(* - MEASURED ALONG ℄ PIER)

© - 5-D411 @ 1'-0"(-) = 3'-10"* (P1)
5-D411 @ 1'-0"(-) = 3'-10¾₁₆"* (P2)

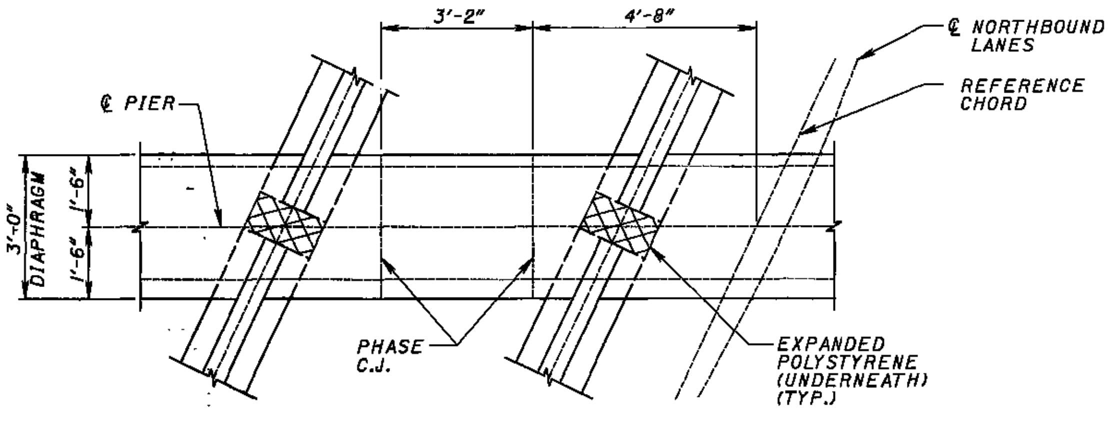


SECTION S-S


D613 (N.F.) & D667 (F.F.) OR D626 (N.F.) & D633 (F.F.)
℄ PIER
D642
D411 †
D643
D644
D640 (N.F.) & D627 (F.F.) OR D674 (N.F.) & D675 (F.F.)
D650 OR D651
EXPANDED POLYSTYRENE
1'-6"
1'-6"
3'-0"

SECTION V-V

(† - PLACE BARS PERPENDICULAR TO ℄ PIER)



SECTION T-T

LEGEND:

C.J. = CONSTRUCTION JOINT
E.F. = EACH FACE
F.F. = FAR FACE
N.F. = NEAR FACE
P1 - PIER 1
P2 - PIER 2
S.O. - SERIES OF

NOTES:

1. ALL PIER DIAPHRAGM CONCRETE SHALL BE CLASS HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY AND BE PLACED CONCURRENTLY WITH THE DECK.
2. MINIMUM STEEL LAP LENGTH:

   #6 BAR = 3'-0"
3. SEE STD. DWG. PSID-1-99 FOR DIAPHRAGM DETAILS NOT SHOWN.

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202493 LEFT 5202523 RIGHT	

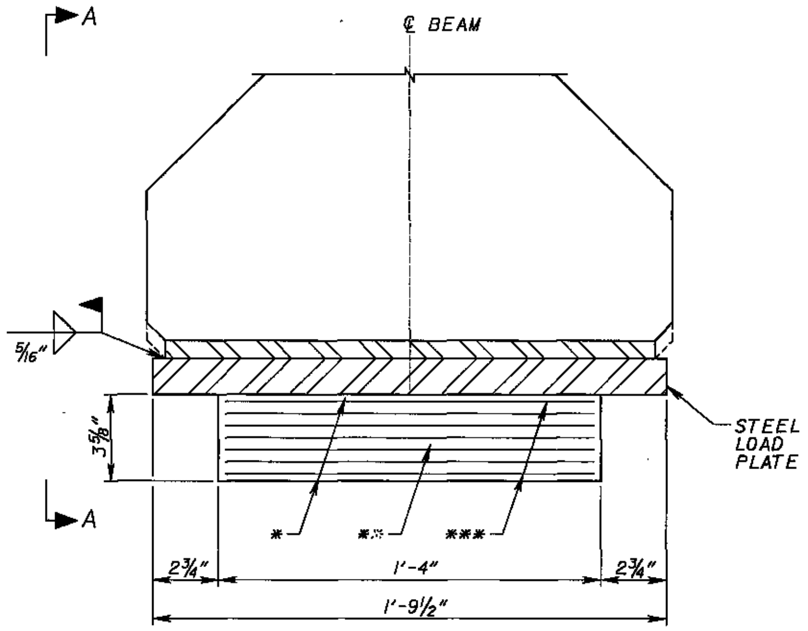
PIER DIAPHRAGM DETAILS - NORTHBOUND
BRIDGE NO. MED-71-0342 R
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00

39/51

652/785

P:/PR30489/CADD/MED-71-0342/ME07pi5.DGN



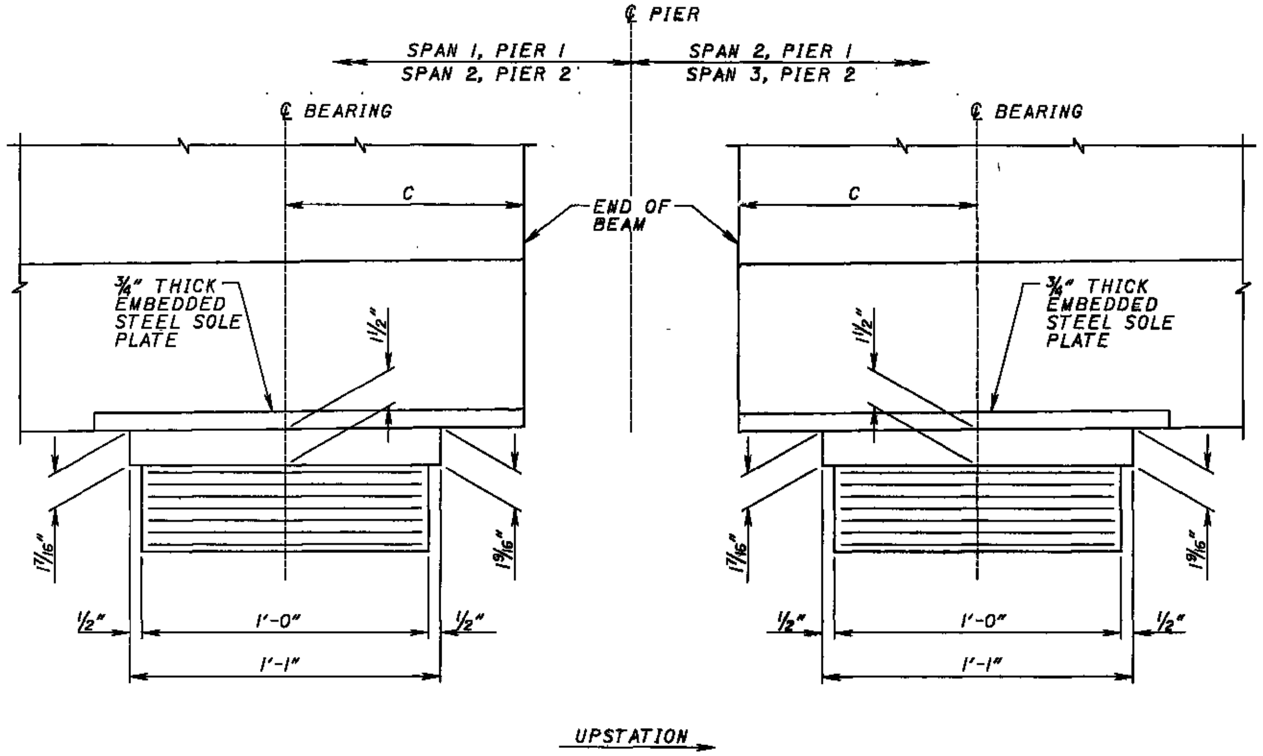
* - 2 EXTERNAL ELASTOMER LAYERS THICKNESS = 0.246"

** - 6 INTERNAL ELASTOMER LAYERS THICKNESS = 0.435"

*** - 7 INTERNAL STEEL LAMINATES THICKNESS = 0.075"

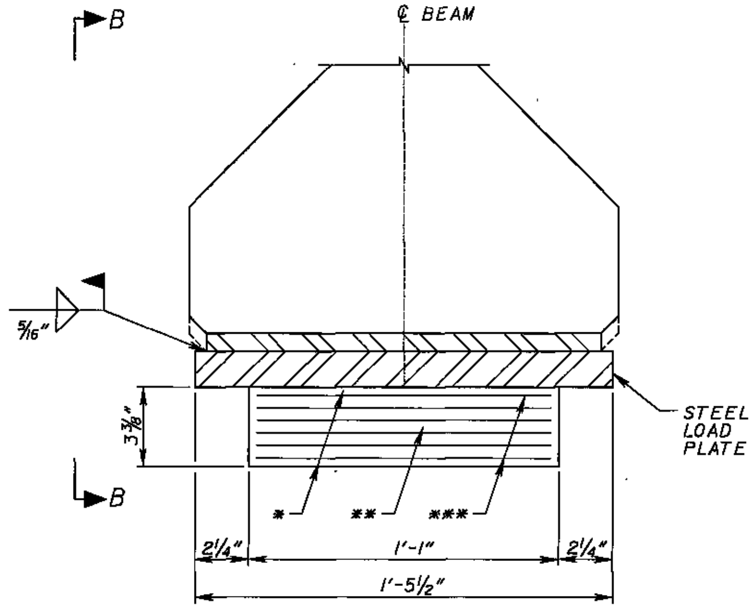
SOUTHBOUND PIER BEARING DETAIL

(EXPANSION)



VIEW A-A

(SEE SHEET 30 / 51 FOR DIMENSION C)



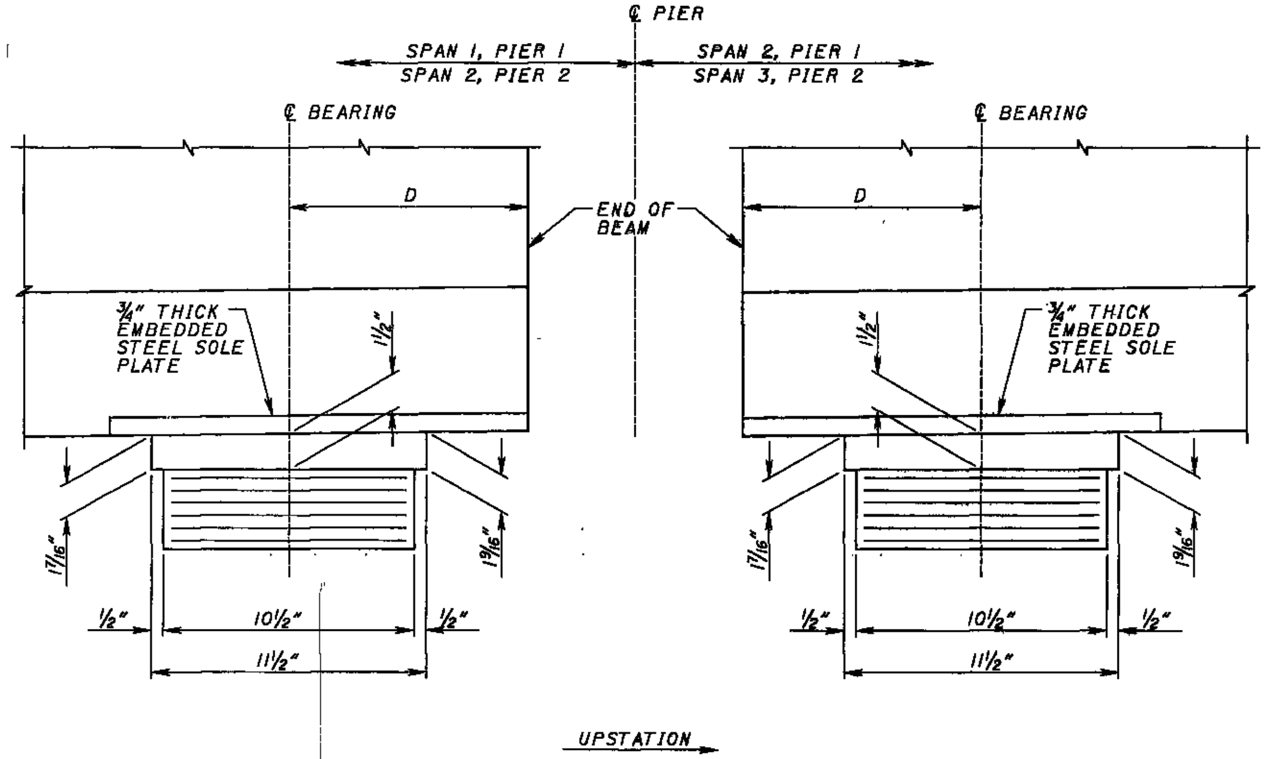
* - 2 EXTERNAL ELASTOMER LAYERS THICKNESS = 0.319"

** - 5 INTERNAL ELASTOMER LAYERS THICKNESS = 0.458"

*** - 6 INTERNAL STEEL LAMINATES THICKNESS = 0.075"

NORTHBOUND PIER BEARING DETAIL

(EXPANSION)



VIEW B-B

(SEE SHEET 32 / 51 FOR DIMENSION D)

NOTES:

1. ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.
2. BEARING REPOSITIONING: IF THE BEAMS ARE ERECTED AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40°F AND THE BEARING SHEAR DEFLECTION EXCEEDS 1/6 OF THE BEARING HEIGHT AT 60°F ±10°F, RAISE THE BEAMS TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F ±10°F.
3. WELDING: CONTROL WELDING SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300°F AS DETERMINED BY USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.
4. LOAD PLATES: SHOP MARK THE LOAD PLATES WITH THE FOLLOWING INFORMATION: TOP, UPSTATION DIRECTION AND LOCATION (NORTHBOUND & SOUTHBOUND). THE STEEL LOAD PLATE IS ASTM A588 STRUCTURAL STEEL. VULCANIZE THE STEEL LOAD PLATE TO THE ELASTOMER DURING THE MOLDING PROCESS.
5. DESIGN LOADING: BEARINGS ARE DESIGNED FOR THE FOLLOWING LOADS (KIPS):

	SOUTHBOUND PIERS 1 & 2	NORTHBOUND PIERS 1 & 2
DEAD LOAD	100	57
LIVE LOAD W/O IMPACT	42	24
TOTAL DESIGN LOAD	142	81

6. SEE SHEET 31 / 51 FOR SOUTHBOUND PLAN VIEW & 33 / 51 FOR NORTHBOUND PLAN VIEW SHOWING ELASTOMERIC BEARING ORIENTATION.
7. BASIS OF PAYMENT: THE UNIT BID PRICE INCLUDES ALL MATERIALS, LABOR, TESTING, AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS INCLUDING STEEL LOAD PLATES. PAYMENT WILL BE INCLUDED WITH THE APPROPRIATE 516 ITEM.

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202493 LEFT 5202523 RIGHT	

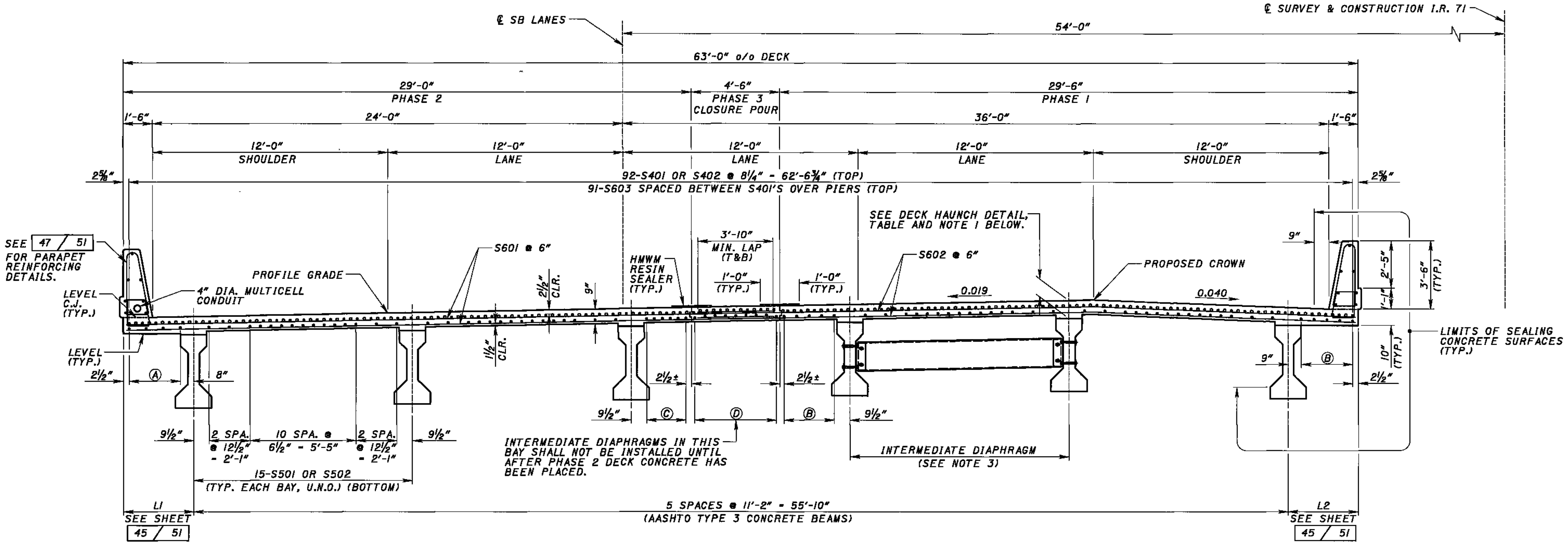
BEARING DETAILS
BRIDGE NO. MED-71-0342 L/R
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00

40 / 51

653 / 785

P:/PR30489/CADD/MED-71-0342/ME071sd7.DGN



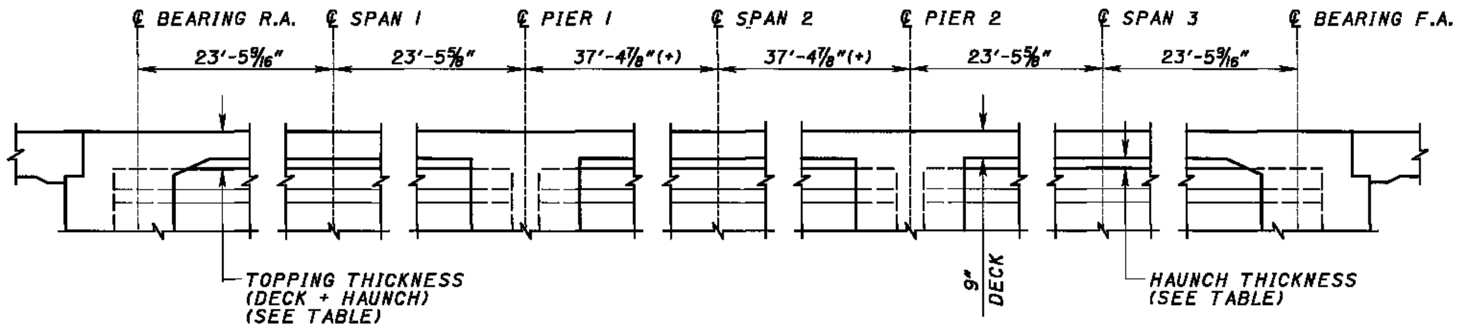
TRANSVERSE SECTION

Ⓐ - 4-S501 OR S502 @ 3 EQUAL SPACES (BOTTOM)

Ⓑ - 5-S501 OR S502 @ 4 EQUAL SPACES (BOTTOM)

Ⓒ - 6-S501 OR S502 @ 5 EQUAL SPACES (BOTTOM)

Ⓓ - 9-S501 OR S502 @ 6¼" - 4'-2" (BOTTOM)



DECK HAUNCH DETAIL

(SPAN LENGTHS MEASURED ALONG REFERENCE CHORD)

	DESCRIPTION	℄ BEARING R.A.	℄ SPAN 1	℄ PIER 1	℄ SPAN 2	℄ PIER 2	℄ SPAN 3	℄ BEARING F.A.
ALL BEAMS	TOPPING THICKNESS	11⅛"	11⅛"	12"	11"	12"	11⅛"	11⅛"
	HAUNCH THICKNESS	2⅛"	2⅛"	3"	2"	3"	2⅛"	2⅛"

NOTES:

1. DECK SLAB THICKNESS FOR CONCRETE QUANTITY: THE TOPPING THICKNESSES SHOWN IN THE TABLE ARE THEORETICAL DIMENSIONS FROM THE TOP OF THE DECK SLAB TO THE TOP OF THE TOP FLANGE ALONG THE CENTERLINE OF THE I-BEAM. THE HAUNCH DEPTH IS THE TOPPING THICKNESS MINUS THE DESIGN SLAB THICKNESS. THE DEPARTMENT WILL PAY FOR SUPERSTRUCTURE CONCRETE BASED ON THE DESIGN SLAB THICKNESS AND THE AVERAGE OF THE THEORETICAL HAUNCH DEPTHS AT MID-SPAN AND AT EACH BEAM BEARING EVEN THOUGH DEVIATION FROM THE DIMENSIONS SHOWN MAY BE NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. ONCE ALL BEAMS ARE SET IN THEIR FINAL POSITION, THE ACTUAL CAMBER FOR EACH MEMBER WILL BE THE TOP OF BEAM ELEVATION AT MID-SPAN MINUS THE AVERAGE TOP OF BEAM ELEVATION AT EACH BEARING. THE ACTUAL TOPPING THICKNESS AT MID-SPAN WILL BE THE THEORETICAL DIMENSION PLUS OR MINUS THE DIFFERENCE BETWEEN THE ACTUAL AND ANTICIPATED CAMBER.

2. CAMBER: THE CALCULATED NET CAMBER DUE TO THE PRESTRESSING AND BEAM WEIGHT AT TIME OF ERECTION IS ½" FOR SPANS 1 & 3 AND 2⅝" FOR SPAN 2

3. INTERMEDIATE DIAPHRAGMS SHALL BE STEEL AS PER STD. DWG. PSID-1-99 AND IN LIEU OF THE OPTION GIVEN THEREIN.

4. SEE GENERAL NOTES (SHEET 3 / 51) FOR SEALING WITH HMWM RESIN NOTE.

LEGEND:

C.J. - CONSTRUCTION JOINT
CLR. - CLEAR
E.F. - EACH FACE
F.A. - FORWARD ABUTMENT
HMWM - HIGH MOLECULAR WEIGHT METHACRYLATE
R.A. - REAR ABUTMENT
T&B - TOP & BOTTOM
U.N.O. - UNLESS NOTED OTHERWISE

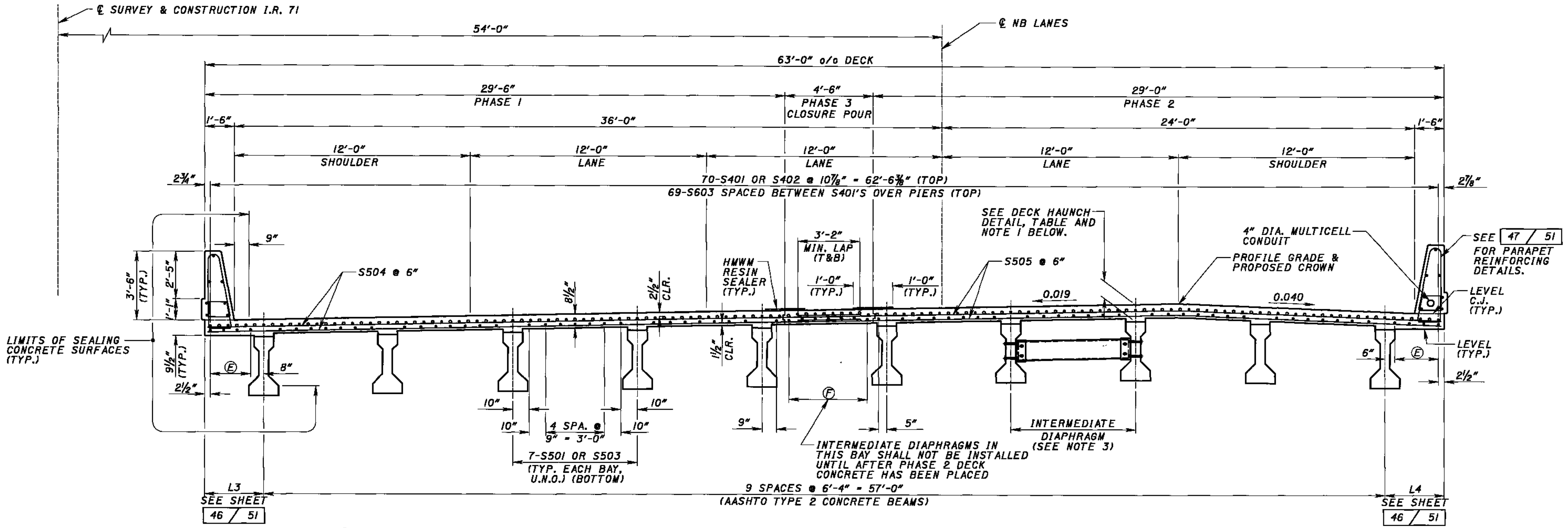
BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	CRC	CAS	6/03
CHECKED WTL	REVISED	STRUCTURE FILE NUMBER 5202493 LEFT 5202523 RIGHT	

TRANSVERSE SECTION - SOUTHBOUND
BRIDGE NO. MED-71-0342 L
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00

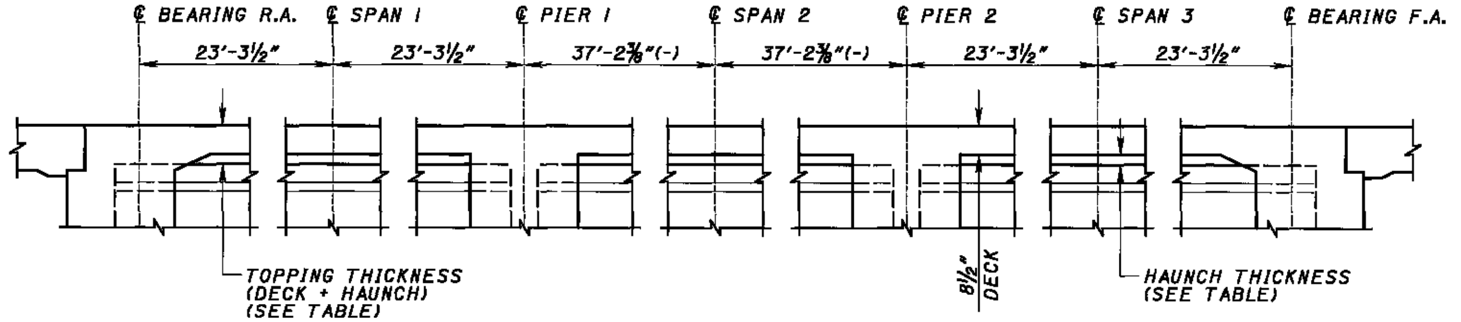
P:/PR30489/CADD/MED-71-0342/ME071tsl.DGN


℄ SURVEY & CONSTRUCTION I.R. 71
54'-0"
℄ NB LANES
63'-0" o/o DECK
29'-6"
PHASE 1
4'-6"
PHASE 3
CLOSURE POUR
29'-0"
PHASE 2
1'-6"
36'-0"
24'-0"
1'-6"
12'-0"
SHOULDER
12'-0"
LANE
12'-0"
LANE
12'-0"
LANE
12'-0"
SHOULDER
2¾"
70-S401 OR S402 @ 10⅞" = 62'-6⅜" (TOP)
69-S603 SPACED BETWEEN S401'S OVER PIERS (TOP)
2⅞"
9"
3'-6" (TYP.)
2'-5"
1'-1"
S504 @ 6"
8½"
2½" CLR.
HMWM RESIN SEALER (TYP.)
3'-2" MIN. LAP (T&B)
1'-0" (TYP.)
1'-0" (TYP.)
SEE DECK HAUNCH DETAIL, TABLE AND NOTE 1 BELOW.
S505 @ 6"
0.019
4" DIA. MULTICELL CONDUIT
PROFILE GRADE & PROPOSED CROWN
0.040
SEE 47 / 51 FOR PARAPET REINFORCING DETAILS.
LEVEL C.J. (TYP.)
LEVEL (TYP.)
LIMITS OF SEALING CONCRETE SURFACES (TYP.)
9½" (TYP.)
2½"
Ⓔ
8"
1½" CLR.
6"
Ⓔ
2½"
10"
10"
10"
4 SPA. @ 9" = 3'-0"
10"
7-S501 OR S503 (TYP. EACH BAY, U.N.O.) (BOTTOM)
9"
Ⓕ
5"
INTERMEDIATE DIAPHRAGMS IN THIS BAY SHALL NOT BE INSTALLED UNTIL AFTER PHASE 2 DECK CONCRETE HAS BEEN PLACED
INTERMEDIATE DIAPHRAGM (SEE NOTE 3)
L3
SEE SHEET 46 / 51
9 SPACES @ 6'-4" = 57'-0"
(AASHTO TYPE 2 CONCRETE BEAMS)
L4
SEE SHEET 46 / 51

Ⓔ - 4-S501 OR S503 @ 3 EQUAL SPACES (BOTTOM)

Ⓕ - 7-S501 OR S503 @ 8" = 4'-0" (BOTTOM)

TRANSVERSE SECTION



DECK HAUNCH DETAIL

(SPAN LENGTHS MEASURED ALONG REFERENCE CHORD)

	DESCRIPTION	℄ BEARING R.A.	℄ SPAN 1	℄ PIER 1	℄ SPAN 2	℄ PIER 2	℄ SPAN 3	℄ BEARING F.A.
ALL BEAMS	TOPPING THICKNESS	10½"	10¾"	12⅛"	10½"	12⅛"	10¾"	10½"
	HAUNCH THICKNESS	2"	2¼"	3⅝"	2"	3⅝"	2¼"	2"

NOTES:

1. DECK SLAB THICKNESS FOR CONCRETE QUANTITY: THE TOPPING THICKNESSES SHOWN IN THE TABLE ARE THEORETICAL DIMENSIONS FROM THE TOP OF THE DECK SLAB TO THE TOP OF THE TOP FLANGE ALONG THE CENTERLINE OF THE I-BEAM. THE HAUNCH DEPTH IS THE TOPPING THICKNESS MINUS THE DESIGN SLAB THICKNESS. THE DEPARTMENT WILL PAY FOR SUPERSTRUCTURE CONCRETE BASED ON THE DESIGN SLAB THICKNESS AND THE AVERAGE OF THE THEORETICAL HAUNCH DEPTHS AT MID-SPAN AND AT EACH BEAM BEARING EVEN THOUGH DEVIATION FROM THE DIMENSIONS SHOWN MAY BE NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. ONCE ALL BEAMS ARE SET IN THEIR FINAL POSITION, THE ACTUAL CAMBER FOR EACH MEMBER WILL BE THE TOP OF BEAM ELEVATION AT MID-SPAN MINUS THE AVERAGE TOP OF BEAM ELEVATION AT EACH BEARING. THE ACTUAL TOPPING THICKNESS AT MID-SPAN WILL BE THE THEORETICAL DIMENSION PLUS OR MINUS THE DIFFERENCE BETWEEN THE ACTUAL AND ANTICIPATED CAMBER.
2. CAMBER: THE CALCULATED NET CAMBER DUE TO THE PRESTRESSING AND BEAM WEIGHT AT TIME OF ERECTION IS ¾" FOR SPANS 1 & 3 AND 3$\frac{5}{16}$" FOR SPAN 2
3. INTERMEDIATE DIAPHRAGMS SHALL BE STEEL AS PER STD. DWG. PSID-1-99 AND IN LIEU OF THE OPTION GIVEN THEREIN.
4. SEE GENERAL NOTES (SHEET 3 / 51) FOR SEALING WITH HMWM RESIN NOTE.

LEGEND:

C.J. - CONSTRUCTION JOINT
CLR. - CLEAR
E.F. - EACH FACE
F.A. - FORWARD ABUTMENT
HMWM - HIGH MOLECULAR WEIGHT METHACRYLATE
R.A. - REAR ABUTMENT
T&B - TOP & BOTTOM
U.N.O. - UNLESS NOTED OTHERWISE

P:/PR30489/CADD/MED-71-0342/MEO71ts2.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

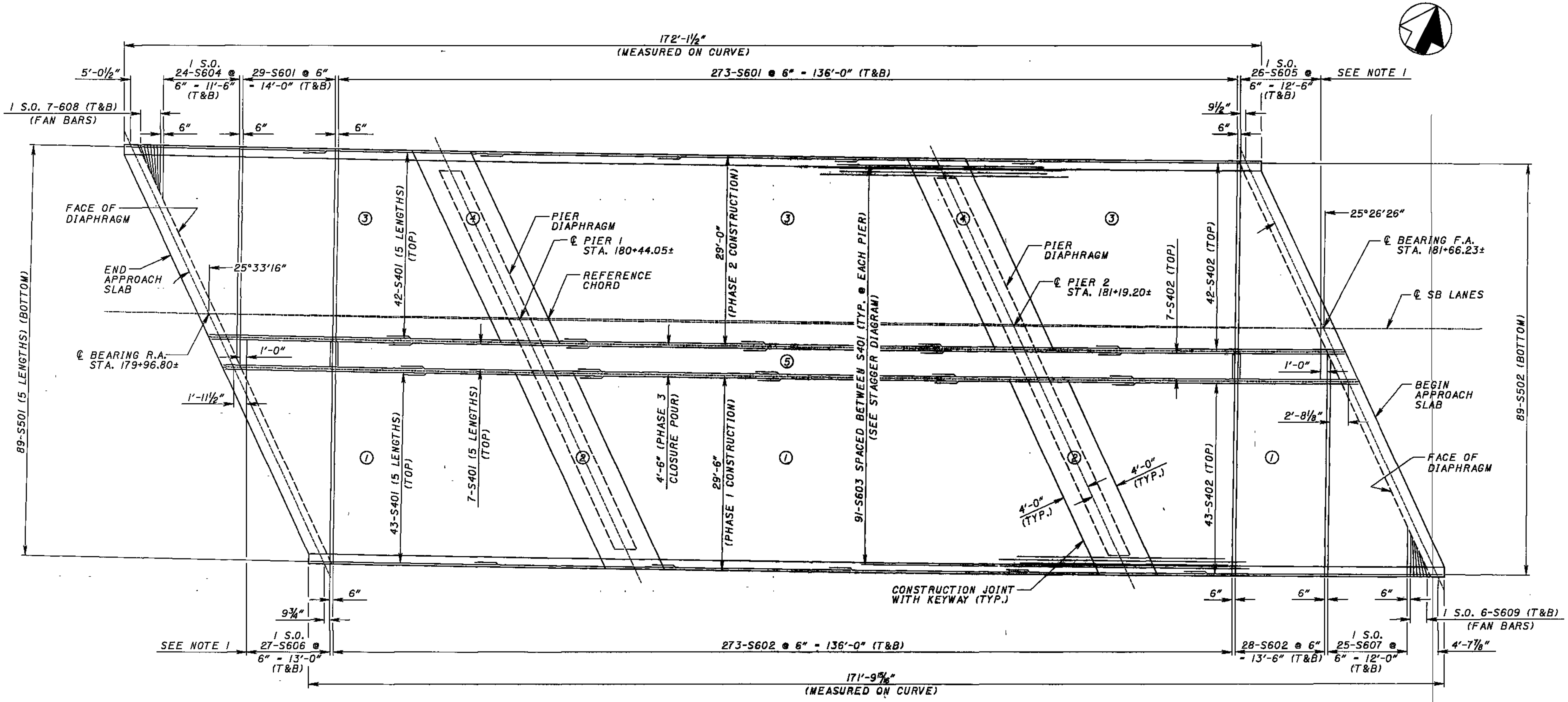
DESIGNED	DRAWN	REVIEWED	DATE
TTK	CRC	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202493 LEFT 5202523 RIGHT	

TRANSVERSE SECTION - NORTHBOUND
BRIDGE NO. MED-71-0342 R
OVER W. & L.E. RAILROAD

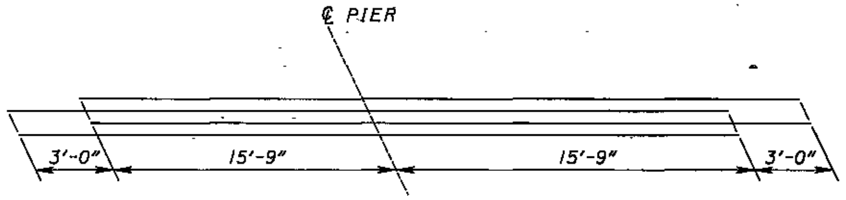
WAY/MED-71-7.04/0.00

42 / 51

655 / 785


172'-1½"
(MEASURED ON CURVE)
5'-0½"
1 S.O. 24-S604 @ 6" - 11'-6" (T&B)
29-S601 @ 6" - 14'-0" (T&B)
273-S601 @ 6" - 136'-0" (T&B)
1 S.O. 26-S605 @ 6" - 12'-6" (T&B)
SEE NOTE 1
1 S.O. 7-608 (T&B) (FAN BARS)
6"
6"
6"
9½"
6"
FACE OF DIAPHRAGM
END APPROACH SLAB
25°33'16"
89-S501 (5 LENGTHS) (BOTTOM)
℄ BEARING R.A. STA. 179+96.80±
1'-0"
1'-11½"
③
①
42-S401 (5 LENGTHS) (TOP)
43-S401 (5 LENGTHS) (TOP)
7-S401 (5 LENGTHS) (TOP)
④
②
PIER DIAPHRAGM
℄ PIER 1 STA. 180+44.05±
REFERENCE CHORD
29'-0" (PHASE 2 CONSTRUCTION)
4'-6" (PHASE 3 CLOSURE POUR)
29'-6" (PHASE 1 CONSTRUCTION)
⑤
91-S603 SPACED BETWEEN S401 (TYP. @ EACH PIER) (SEE STAGGER DIAGRAM)
PIER DIAPHRAGM
℄ PIER 2 STA. 181+19.20±
7-S402 (TOP)
42-S402 (TOP)
43-S402 (TOP)
4'-0" (TYP.)
4'-0" (TYP.)
25°26'26"
℄ BEARING F.A. STA. 181+66.23±
℄ SB LANES
1'-0"
2'-8⅛"
BEGIN APPROACH SLAB
FACE OF DIAPHRAGM
89-S502 (BOTTOM)
CONSTRUCTION JOINT WITH KEYWAY (TYP.)
9¾"
6"
SEE NOTE 1
1 S.O. 27-S606 @ 6" - 13'-0" (T&B)
273-S602 @ 6" - 136'-0" (T&B)
28-S602 @ 6" - 13'-6" (T&B)
1 S.O. 25-S607 @ 6" - 12'-0" (T&B)
1 S.O. 6-S609 (T&B) (FAN BARS)
4'-7⅞"
171'-9⅝"
(MEASURED ON CURVE)

DECK SLAB PLAN
(PARAPET REINFORCING NOT SHOWN)



STAGGER DIAGRAM FOR S603 BARS OVER PIERS

LEGEND:

F.A. - FORWARD ABUTMENT
R.A. - REAR ABUTMENT
S.O. - SERIES OF
T&B - TOP & BOTTOM

NOTES:

1. PLACE #6 TRANSVERSE BARS PERPENDICULAR TO REFERENCE CHORD. ALL SPACING FOR #6 TRANSVERSE BARS ARE MEASURED PARALLEL TO REFERENCE CHORD.
2. SEE SHEET 47 / 51 FOR PARAPET REINFORCING.
3. MINIMUM STEEL LAP LENGTHS:

   #4 BAR - 1'-11"
   #5 BAR - 3'-2"
   #6 BAR - 3'-10"

4. THE ENCIRCLED NUMBERS INDICATE THE SEQUENCE FOR PLACING THE SLAB SECTIONS. IDENTICALLY NUMBERED PLACEMENTS MAY BE MADE SIMULTANEOUSLY OR SEPARATELY. DECK PLACEMENTS SHALL BE MADE IN THE SEQUENCE SHOWN. POURS ① AND ③ IN SPANS 1 AND 3 SHALL INCLUDE THE ABUTMENT END DIAPHRAGMS AND DECK CONCRETE. POURS ② AND ④ SHALL INCLUDE THE PIER DIAPHRAGMS AND DECK CONCRETE. POUR ⑤ SHALL INCLUDE ABUTMENT END DIAPHRAGMS, PIER DIAPHRAGMS AND DECK CONCRETE. SEE DETAIL "A" ON SHEET 6 / 51 FOR KEYWAY AT CONSTRUCTION JOINTS. SEAL CONSTRUCTION JOINTS WITH HMWM RESIN (SEE NOTE ON SHEET 3 / 51).

   CONTINUOUS DECK POUR PROCEDURES, WHICH PROCEED FROM END TO END OF THE BRIDGE AND PLACE THE ABUTMENT END DIAPHRAGM AND PIER DIAPHRAGM CONCRETE CONCURRENTLY WITH THE DECK CONCRETE, MAY BE APPROVED BY THE DIRECTOR IF THE PLACEMENT SUBMITTAL CAN ASSURE THAT THE DECK CONCRETE IN ADJACENT SPANS WILL BE PLACED BEFORE THE DIAPHRAGM CONCRETE HAS REACHED ITS INITIAL SET.

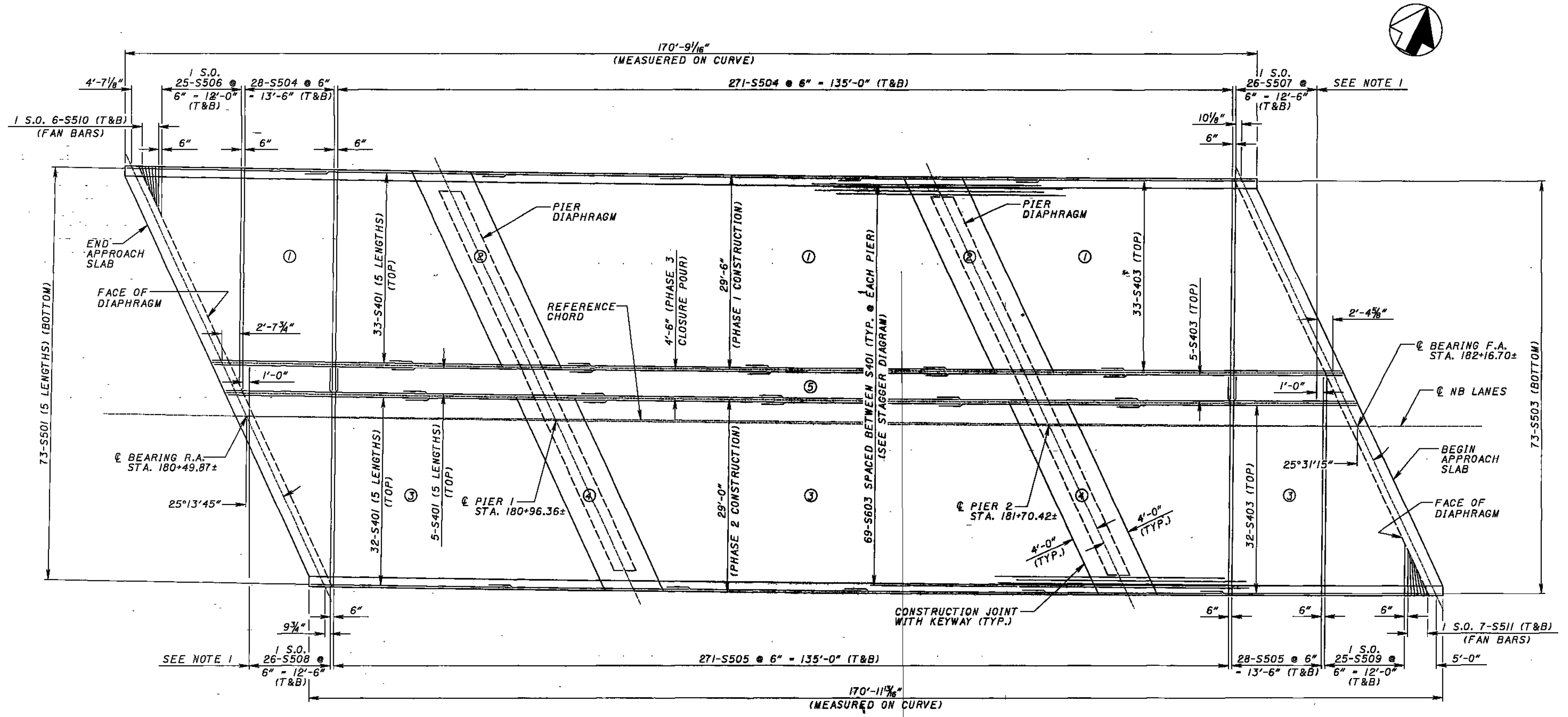
P:/PR30489/CADD/MED-71-0342/ME071sd1.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

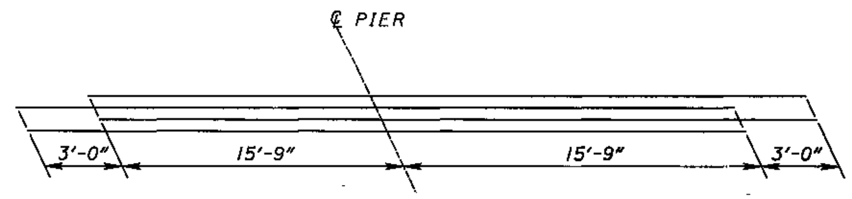
DESIGNED	DRAWN	REVIEWED	DATE
TTK	AAA	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202493 LEFT 5202523 RIGHT	

DECK SLAB PLAN - SOUTHBOUND
BRIDGE NO. MED-71-0342 L
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00


170'-9 1/16"
(MEASURED ON CURVE)
4'-7 1/8"
1 S.O. 6-S510 (T&B)
(FAN BARS)
1 S.O.
25-S506 @ 6" = 12'-0" (T&B)
28-S504 @ 6" = 13'-6" (T&B)
271-S504 @ 6" = 135'-0" (T&B)
1 S.O.
26-S507 @ 6" = 12'-6" (T&B)
SEE NOTE 1
10 1/8"
6"
6"
6"
6"
END APPROACH SLAB
FACE OF DIAPHRAGM
PIER DIAPHRAGM
PIER DIAPHRAGM
REFERENCE CHORD
33-S401 (5 LENGTHS) (TOP)
4'-6" (PHASE 3 CLOSURE POUR)
29'-6" (PHASE 1 CONSTRUCTION)
69-S603 SPACED BETWEEN S401 (TYP. @ EACH PIER) (SEE STAGGER DIAGRAM)
33-S403 (TOP)
5-S403 (TOP)
2'-4 5/8"
℄ BEARING F.A. STA. 182+16.70±
℄ NB LANES
BEGIN APPROACH SLAB
FACE OF DIAPHRAGM
73-S501 (5 LENGTHS) (BOTTOM)
73-S503 (BOTTOM)
2'-7 3/4"
1'-0"
1'-0"
℄ BEARING R.A. STA. 180+49.87±
25°13'45"
25°31'15"
32-S401 (5 LENGTHS) (TOP)
5-S401 (5 LENGTHS) (TOP)
℄ PIER 1 STA. 180+96.36±
29'-0" (PHASE 2 CONSTRUCTION)
℄ PIER 2 STA. 181+70.42±
4'-0" (TYP.)
4'-0" (TYP.)
32-S403 (TOP)
①
②
③
④
⑤
CONSTRUCTION JOINT WITH KEYWAY (TYP.)
9 3/4"
6"
6"
6"
6"
SEE NOTE 1
1 S.O.
26-S508 @ 6" = 12'-6" (T&B)
271-S505 @ 6" = 135'-0" (T&B)
28-S505 @ 6" = 13'-6" (T&B)
1 S.O.
25-S509 @ 6" = 12'-0" (T&B)
1 S.O. 7-S511 (T&B)
(FAN BARS)
5'-0"
170'-11 5/16"
(MEASURED ON CURVE)

DECK SLAB PLAN
(PARAPET REINFORCING NOT SHOWN)



STAGGER DIAGRAM FOR S603 BARS OVER PIERS

LEGEND:

F.A. = FORWARD ABUTMENT
R.A. = REAR ABUTMENT
S.O. = SERIES OF
T&B = TOP & BOTTOM

NOTES:

1. PLACE #5 TRANSVERSE BARS PERPENDICULAR TO REFERENCE CHORD. ALL SPACING FOR #5 TRANSVERSE BARS ARE MEASURED PARALLEL TO REFERENCE CHORD.
2. SEE SHEET 47 / 51 FOR PARAPET REINFORCING.
3. MINIMUM STEEL LAP LENGTHS:
   #4 BAR = 1'-11"
   #5 BAR = 3'-2"
4. THE ENCIRCLED NUMBERS INDICATE THE SEQUENCE FOR PLACING THE SLAB SECTIONS. IDENTICALLY NUMBERED PLACEMENTS MAY BE MADE SIMULTANEOUSLY OR SEPARATELY. DECK PLACEMENTS SHALL BE MADE IN THE SEQUENCE SHOWN. POURS ① AND ③ IN SPANS 1 AND 3 SHALL INCLUDE THE ABUTMENT END DIAPHRAGMS AND DECK CONCRETE. POURS ② AND ④ SHALL INCLUDE THE PIER DIAPHRAGMS AND DECK CONCRETE. POUR ⑤ SHALL INCLUDE ABUTMENT END DIAPHRAGMS, PIER DIAPHRAGMS AND DECK CONCRETE. SEE DETAIL "A" ON SHEET 8 / 51 FOR KEYWAY AT CONSTRUCTION JOINTS. SEAL CONSTRUCTION JOINTS WITH HMWM RESIN (SEE NOTE ON SHEET 3 / 51).

   CONTINUOUS DECK POUR PROCEDURES, WHICH PROCEED FROM END TO END OF THE BRIDGE AND PLACE THE ABUTMENT END DIAPHRAGM AND PIER DIAPHRAGM CONCRETE CONCURRENTLY WITH THE DECK CONCRETE, MAY BE APPROVED BY THE DIRECTOR IF THE PLACEMENT SUBMITTAL CAN ASSURE THAT THE DECK CONCRETE IN ADJACENT SPANS WILL BE PLACED BEFORE THE DIAPHRAGM CONCRETE HAS REACHED ITS INITIAL SET.

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	AAA	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202493 LEFT 5202523 RIGHT	

DECK SLAB PLAN - NORTHBOUND
BRIDGE NO. MED-71-0342 R
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00

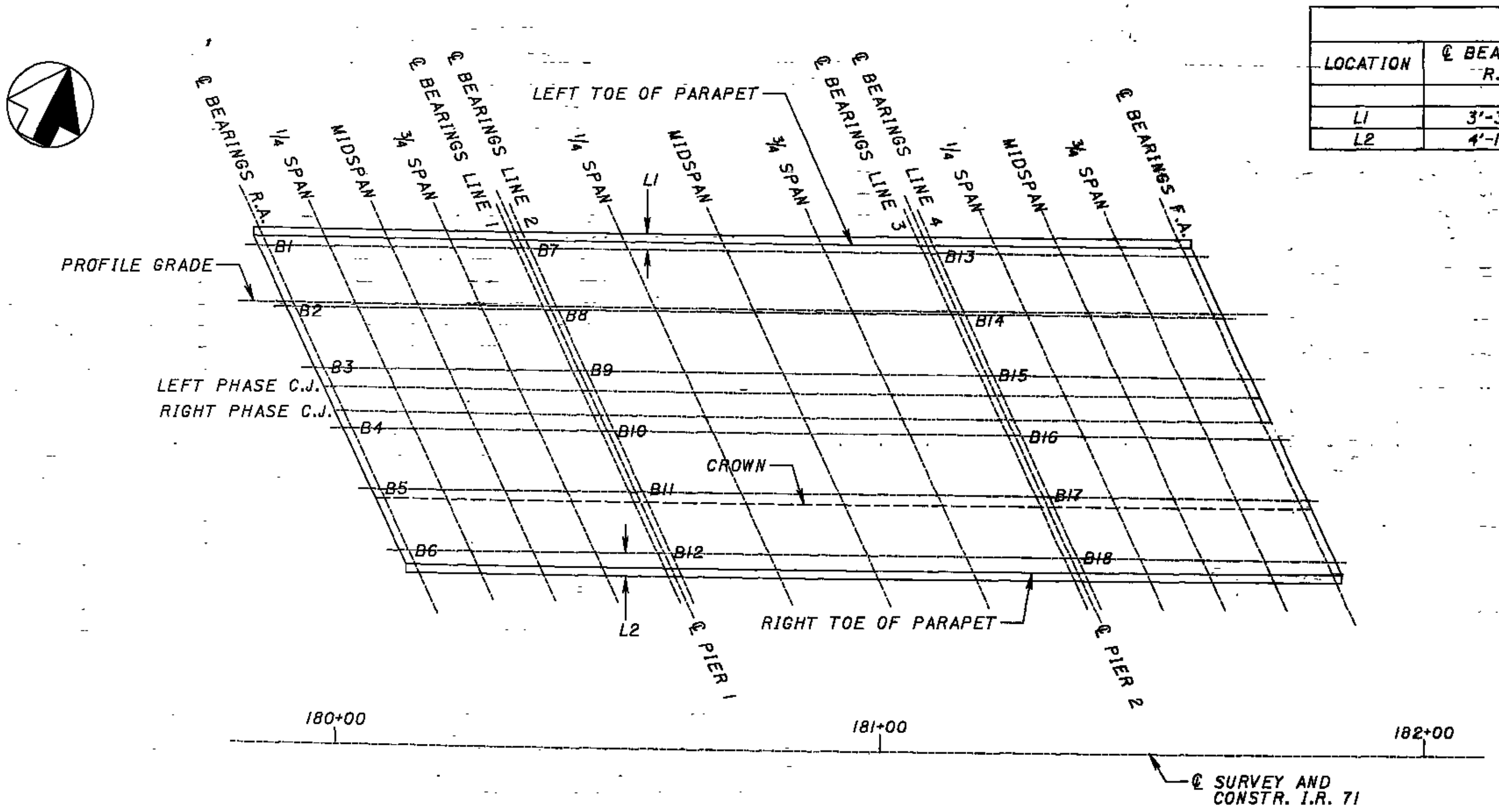
P:/PR30489/CADD/MED-71-0342/ME071sd2.DGN

SOUTHBOUND SCREED TABLE

	LEFT TOE OF PARAPET		B1		B2		B3		LEFT PHASE C.J.		RIGHT PHASE C.J.		B4		B5		CROWN		B6		RIGHT TOE OF PARAPET	
LOCATION	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
℄ BEARINGS R.A.	179+85.04	988.59	179+85.90	988.64	179+91.35	988.90	179+96.80	989.17	179+98.51	989.26	180+00.71	989.36	180+02.23	989.44	180+07.66	989.71	180+08.50	989.75	180+13.07	989.42	180+14.34	989.32
1/4 SPAN	179+96.59	988.72	179+97.40	988.76	180+02.85	989.03	180+08.28	989.30	180+10.02	989.38	180+12.21	989.49	180+13.71	989.56	180+19.12	989.83	180+19.99	989.87	180+24.53	989.54	180+25.81	989.45
MIDSPAN	180+08.13	988.85	180+08.90	988.89	180+14.34	989.15	180+19.76	989.42	180+21.53	989.50	180+23.72	989.61	180+25.18	989.68	180+30.58	989.94	180+31.48	989.99	180+35.98	989.66	180+37.28	989.56
3/4 SPAN	180+19.66	988.96	180+20.41	988.99	180+25.83	989.26	180+31.24	989.52	180+33.03	989.61	180+35.22	989.71	180+36.65	989.78	180+42.04	990.04	180+42.96	990.09	180+47.43	989.76	180+48.75	989.66
℄ BEARINGS LINE 1	180+31.91	989.06	180+31.91	989.09	180+37.32	989.35	180+42.73	989.61	180+44.53	989.70	180+46.71	989.81	180+48.12	989.87	180+53.50	990.14	180+54.43	990.18	180+58.88	989.85	180+60.21	989.75

	LEFT TOE OF PARAPET		B7		B8		B9		LEFT PHASE C.J.		RIGHT PHASE C.J.		B10		B11		CROWN		B12		RIGHT TOE OF PARAPET	
LOCATION	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
℄ BEARINGS LINE 2	180+33.70	989.08	180+34.41	989.11	180+39.82	989.38	180+45.22	989.64	180+47.03	989.72	180+49.21	989.83	180+50.61	989.90	180+55.99	990.16	180+56.93	990.20	180+61.37	989.87	180+62.70	989.77
1/4 SPAN	180+51.92	989.32	180+52.60	989.35	180+57.99	989.61	180+63.37	989.87	180+65.19	989.95	180+67.35	990.06	180+68.74	990.13	180+74.09	990.38	180+75.03	990.43	180+79.44	990.10	180+80.78	990.00
MIDSPAN	180+70.13	989.51	180+70.80	989.54	180+76.16	989.80	180+81.51	990.06	180+83.33	990.14	180+85.48	990.25	180+86.86	990.31	180+92.19	990.57	180+93.13	990.61	180+97.52	990.28	180+98.84	990.18
3/4 SPAN	180+88.33	989.62	180+88.99	989.66	180+94.33	989.91	180+99.66	990.17	181+01.46	990.25	181+03.60	990.35	181+04.98	990.42	181+10.29	990.67	181+11.21	990.71	181+15.59	990.38	181+16.89	990.28
℄ BEARINGS LINE 3	181+06.51	989.70	181+07.18	989.73	181+12.50	989.98	181+17.81	990.23	181+19.58	990.32	181+21.71	990.42	181+23.10	990.48	181+28.39	990.73	181+29.27	990.78	181+33.67	990.43	181+34.93	990.33

	LEFT TOE OF PARAPET		B13		B14		B15		LEFT PHASE C.J.		RIGHT PHASE C.J.		B16		B17		CROWN		B18		RIGHT TOE OF PARAPET	
LOCATION	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
℄ BEARINGS LINE 4	181+09.01	989.72	181+09.68	989.75	181+15.00	990.00	181+20.30	990.25	181+22.07	990.33	181+24.20	990.44	181+25.60	990.50	181+30.88	990.75	181+31.76	990.79	181+36.16	990.45	181+37.42	990.35
1/4 SPAN	181+20.50	989.81	181+21.19	989.84	181+26.49	990.09	181+31.78	990.34	181+33.53	990.43	181+35.65	990.53	181+37.07	990.59	181+42.34	990.84	181+43.20	990.88	181+47.61	990.54	181+48.84	990.44
MIDSPAN	181+31.99	989.90	181+32.69	989.93	181+37.98	990.18	181+43.27	990.43	181+44.98	990.51	181+47.10	990.61	181+48.54	990.68	181+53.81	990.92	181+54.63	990.96	181+59.06	990.61	181+60.25	990.52
3/4 SPAN	181+43.47	989.97	181+44.19	990.01	181+49.48	990.25	181+54.75	990.50	181+56.43	990.58	181+58.54	990.68	181+60.01	990.75	181+65.27	990.99	181+66.05	991.03	181+70.51	990.67	181+71.67	990.58
℄ BEARINGS F.A.	181+54.94	990.04	181+55.70	990.07	181+60.97	990.32	181+66.23	990.56	181+67.87	990.64	181+69.98	990.74	181+71.48	990.81	181+76.73	991.05	181+77.47	991.09	181+81.96	990.73	181+83.07	990.64



SCREED DIAGRAM

DECK OVERHANGS							
LOCATION	℄ BEARINGS R.A.	MIDSPAN	℄ PIER 1	MIDSPAN	℄ PIER 2	MIDSPAN	℄ BEARINGS F.A.
L1	3'-3 1/8"	3'-1 1/8"	2'-11 11/16"	2'-10 9/16"	2'-10 13/16"	2'-11 11/16"	3'-1 1/16"
L2	4'-1 5/16"	4'-2 9/16	4'-3 5/16"	4'-3 5/16"	4'-2"	4'-0 7/16"	3'-10 3/8"

LEGEND:

B_ - BEAM NUMBER
C.J. - CONSTRUCTION JOINT
F.A. - FORWARD ABUTMENT
R.A. - REAR ABUTMENT

NOTE:

1. SCREED ELEVATIONS SHOWN ARE FOR THE TOP OF DECK SLAB PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR ANTICIPATED DEAD LOAD DEFLECTIONS.

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	CRC	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202493 LEFT 5202523 RIGHT	

SCREED TABLE - SOUTHBOUND
BRIDGE NO. MED-71-0342 L
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00

P:/PR30489/CADD/MED-71-0342/ME071sda.DGN

NORTHBOUND SCREED TABLE

	LEFT TOE OF PARAPET		B19		B20		B21		B22		B23		LEFT PHASE C.J.		RIGHT PHASE C.J.		B24		B25		B26	
LOCATION	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
℄ BEARINGS R.A.	180+32.62	988.01	180+33.52	988.05	180+36.55	988.19	180+39.58	988.33	180+42.60	988.47	180+45.62	988.61	180+46.05	988.63	180+48.20	988.73	180+48.64	988.75	180+51.65	988.89	180+54.66	989.03
¼ SPAN	180+43.99	988.08	180+44.85	988.12	180+47.87	988.26	180+50.89	988.40	180+53.91	988.54	180+56.92	988.68	180+57.38	988.70	180+59.53	988.80	180+59.94	988.82	180+62.94	988.96	180+65.95	989.10
MIDSPAN	180+55.36	988.16	180+56.18	988.20	180+59.19	988.33	180+62.21	988.47	180+65.22	988.61	180+68.23	988.75	180+68.72	988.77	180+70.86	988.87	180+71.23	988.89	180+74.24	989.03	180+77.23	989.16
¾ SPAN	180+66.72	988.23	180+67.50	988.27	180+70.51	988.40	180+73.52	988.54	180+76.53	988.68	180+79.53	988.82	180+80.05	988.84	180+82.18	988.94	180+82.53	988.95	180+85.53	989.09	180+88.52	989.23
℄ BEARINGS LINE 1	180+78.08	988.30	180+78.83	988.33	180+81.84	988.47	180+84.84	988.61	180+87.84	988.74	180+90.84	988.88	180+91.37	988.90	180+93.50	989.00	180+93.83	989.02	180+96.82	989.15	180+99.81	989.29

	LEFT TOE OF PARAPET		B29		B30		B31		B32		B33		LEFT PHASE C.J.		RIGHT PHASE C.J.		B34		B35		B36	
LOCATION	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
℄ BEARINGS LINE 2	180+80.67	988.31	180+81.42	988.35	180+84.42	988.48	180+87.43	988.62	180+90.42	988.76	180+93.42	988.89	180+93.96	988.92	180+96.09	989.02	180+96.41	989.03	180+99.40	989.17	181+02.39	989.30
¼ SPAN	180+98.52	988.41	180+99.24	988.44	181+02.25	988.58	181+05.25	988.72	181+08.25	988.85	181+11.25	988.99	181+11.81	989.01	181+13.93	989.11	181+14.24	989.12	181+17.23	989.26	181+20.22	989.39
MIDSPAN	181+16.37	988.50	181+17.07	988.53	181+20.07	988.67	181+23.08	988.80	181+26.08	988.94	181+29.07	989.07	181+29.64	989.10	181+31.77	989.19	181+32.07	989.21	181+35.06	989.34	181+38.04	989.47
¾ SPAN	181+34.19	988.59	181+34.89	988.62	181+37.90	988.75	181+40.90	988.88	181+43.90	989.02	181+46.90	989.15	181+47.46	989.18	181+49.59	989.27	181+49.89	989.28	181+52.88	989.42	181+55.87	989.55
℄ BEARINGS LINE 3	181+52.01	988.66	181+52.71	988.69	181+55.72	988.82	181+58.73	988.96	181+61.73	989.09	181+64.72	989.22	181+65.27	989.24	181+67.40	989.34	181+67.72	989.35	181+70.71	989.48	181+73.70	989.61

	LEFT TOE OF PARAPET		B39		B40		B41		B42		B43		LEFT PHASE C.J.		RIGHT PHASE C.J.		B44		B45		B46	
LOCATION	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
℄ BEARINGS LINE 4	181+54.60	988.67	181+55.30	988.70	181+58.31	988.83	181+61.31	988.97	181+64.31	989.10	181+67.31	989.23	181+67.85	989.25	181+69.98	989.35	181+70.30	989.36	181+73.29	989.49	181+76.28	989.62
¼ SPAN	181+65.92	988.71	181+66.63	988.75	181+69.63	988.88	181+72.63	989.01	181+75.62	989.14	181+78.61	989.27	181+79.14	989.29	181+81.26	989.39	181+81.60	989.40	181+84.58	989.53	181+87.57	989.66
MIDSPAN	181+77.23	988.75	181+77.96	988.79	181+80.95	988.92	181+83.94	989.05	181+86.93	989.18	181+89.91	989.31	181+90.42	989.33	181+92.53	989.42	181+92.90	989.44	181+95.88	989.57	181+98.85	989.70
¾ SPAN	181+88.53	988.79	181+89.28	988.82	181+92.27	988.95	181+95.26	989.08	181+98.24	989.21	182+01.22	989.34	182+01.69	989.36	182+03.80	989.45	182+04.19	989.47	182+07.17	989.60	182+10.14	989.73
℄ BEARINGS F.A.	181+99.83	988.82	182+00.61	988.86	182+03.59	988.99	182+06.57	989.12	182+09.55	989.24	182+12.52	989.37	182+12.96	989.39	182+15.07	989.48	182+15.49	989.50	182+18.46	989.63	182+21.42	989.76

NORTHBOUND SCREED TABLE (CONT'D)

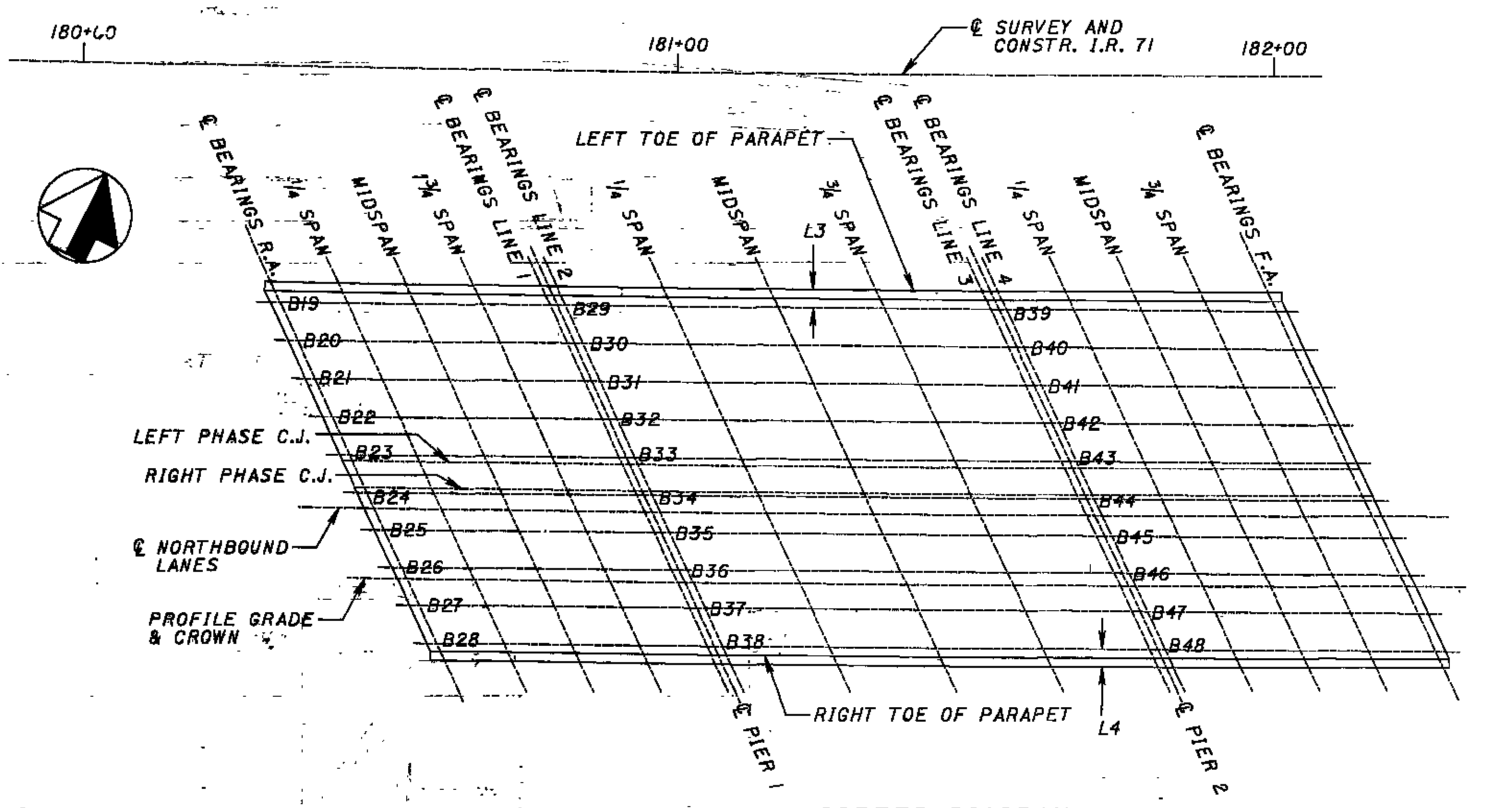
	CROWN		B27		B28		RIGHT TOE OF PARAPET	
LOCATION	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
℄ BEARINGS R.A.	180+55.59	989.07	180+57.67	988.91	180+60.67	988.68	180+61.30	988.63
¼ SPAN	180+66.91	989.14	180+68.95	988.98	180+71.95	988.75	180+72.60	988.70
MIDSPAN	180+78.22	989.21	180+80.23	989.05	180+83.22	988.82	180+83.90	988.76
¾ SPAN	180+89.52	989.27	180+91.51	989.12	180+94.50	988.88	180+95.19	988.83
℄ BEARINGS LINE 1	181+00.82	989.34	181+02.79	989.18	181+05.77	988.94	181+06.48	988.89

	CROWN		B37		B38		RIGHT TOE OF PARAPET	
LOCATION	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
℄ BEARINGS LINE 2	181+03.41	989.35	181+05.37	989.19	181+08.35	988.96	181+09.06	988.90
¼ SPAN	181+21.25	989.44	181+23.20	989.28	181+26.18	989.04	181+26.90	988.99
MIDSPAN	181+39.08	989.52	181+41.03	989.36	181+44.01	989.12	181+44.73	989.06
¾ SPAN	181+56.90	989.59	181+58.86	989.43	181+61.84	989.19	181+62.54	989.13
℄ BEARINGS LINE 3	181+74.71	989.66	181+76.69	989.50	181+79.67	989.25	181+80.35	989.20

	CROWN		B47		B48		RIGHT TOE OF PARAPET	
LOCATION	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
℄ BEARINGS LINE 4	181+77.28	989.67	181+79.27	989.50	181+82.25	989.26	181+82.92	989.21
¼ SPAN	181+88.54	989.70	181+90.54	989.54	181+93.52	989.29	181+94.17	989.24
MIDSPAN	181+99.80	989.74	182+01.82	989.57	182+04.79	989.32	182+05.41	989.27
¾ SPAN	182+11.05	989.77	182+13.10	989.60	182+16.07	989.35	182+16.65	989.30
℄ BEARINGS F.A.	182+22.30	989.79	182+24.38	989.62	182+27.34	989.37	182+27.89	989.33

DECK OVERHANGS

LOCATION	℄ BEARINGS R.A.	MIDSPAN	℄ PIER 1	MIDSPAN	℄ PIER 2	MIDSPAN	℄ BEARINGS F.A.
L3	3'-4 5/8"	3'-2 9/16"	3'-1 1/16"	2'-11 3/4"	2'-11 3/4"	3'-0 1/2"	3'-1 11/16"
L4	2'-9 15/16"	2'-11 1/4"	3'-0 1/8"	3'-0 5/16"	2'-11 1/4"	2'-9 7/8"	2'-7 15/16"



SCREED DIAGRAM

LEGEND:

B_ - BEAM NUMBER
C.J. - CONSTRUCTION JOINT
F.A. - FORWARD ABUTMENT
R.A. - REAR ABUTMENT

NOTE:

1. SCREED ELEVATIONS SHOWN ARE FOR THE TOP OF DECK SLAB PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR ANTICIPATED DEAD LOAD DEFLECTIONS.

P:/PR30489/CADD/MED-71-0342/MED71sdb.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

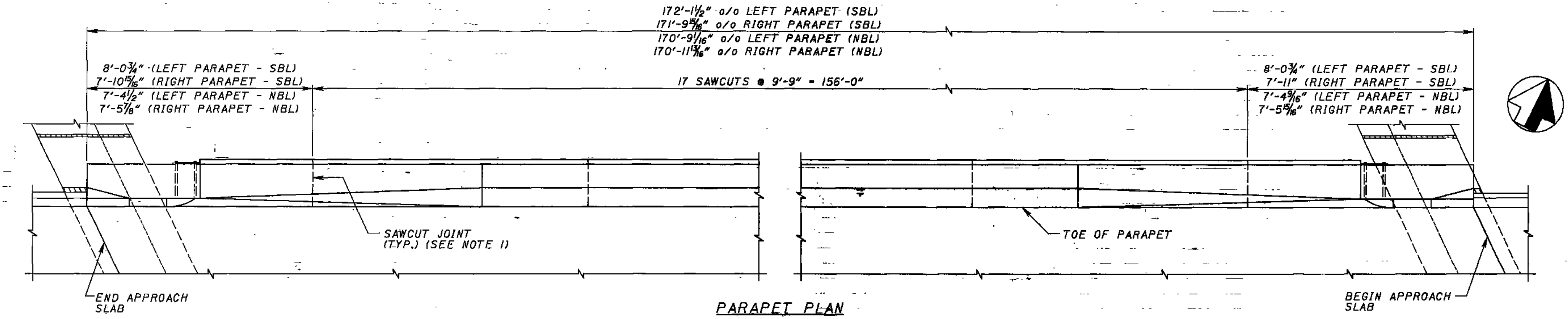
DESIGNED TTK
DRAWN CRC
REVIEWED CAS
DATE 6/03
CHECKED WTL
REVISED
STRUCTURE FILE NUMBER
5202493 LEFT
5202523 RIGHT

SCREED TABLE - NORTHBOUND
BRIDGE NO. MED-71-0342 R
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00

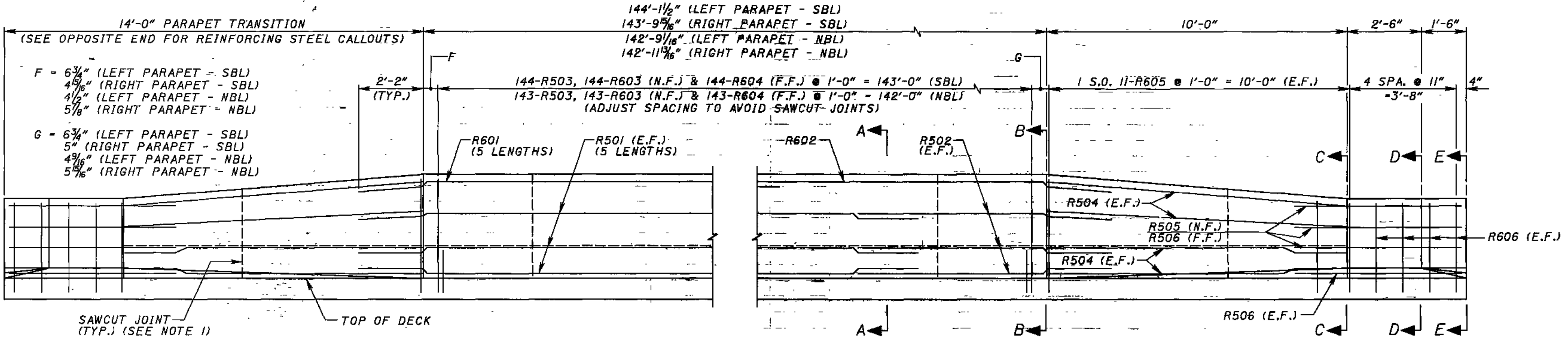
46/51

659
785


172'-1½" o/o LEFT PARAPET (SBL)
171'-9¹⁵⁄₁₆" o/o RIGHT PARAPET (SBL)
170'-9¹⁄₁₆" o/o LEFT PARAPET (NBL)
170'-11¹³⁄₁₆" o/o RIGHT PARAPET (NBL)
8'-0¾" (LEFT PARAPET - SBL)
7'-10¹⁵⁄₁₆" (RIGHT PARAPET - SBL)
7'-4½" (LEFT PARAPET - NBL)
7'-5⅞" (RIGHT PARAPET - NBL)
17 SAWCUTS @ 9'-9" = 156'-0"
8'-0¾" (LEFT PARAPET - SBL)
7'-11" (RIGHT PARAPET - SBL)
7'-4⁹⁄₁₆" (LEFT PARAPET - NBL)
7'-5¹⁵⁄₁₆" (RIGHT PARAPET - NBL)
SAWCUT JOINT (TYP.) (SEE NOTE 1)
TOE OF PARAPET
END APPROACH SLAB
BEGIN APPROACH SLAB

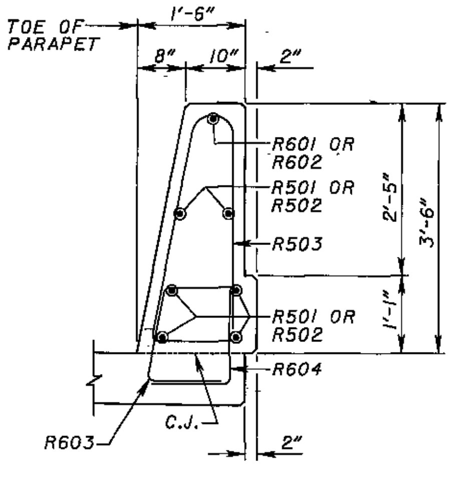
PARAPET PLAN

(LEFT PARAPET SHOWN,
RIGHT PARAPET OPPOSITE HAND)

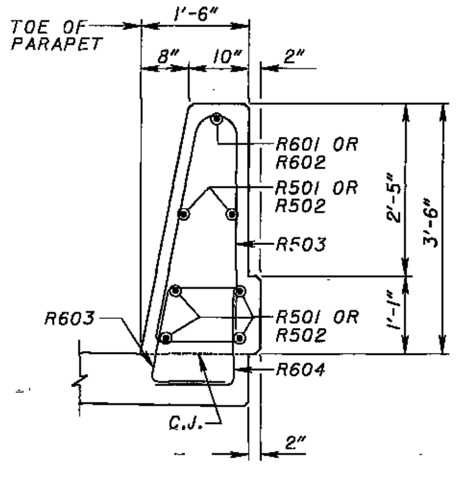

14'-0" PARAPET TRANSITION
(SEE OPPOSITE END FOR REINFORCING STEEL CALLOUTS)
144'-1½" (LEFT PARAPET - SBL)
143'-9¹⁵⁄₁₆" (RIGHT PARAPET - SBL)
142'-9¹⁄₁₆" (LEFT PARAPET - NBL)
142'-11¹³⁄₁₆" (RIGHT PARAPET - NBL)
10'-0"
2'-6"
1'-6"
F = 6¾" (LEFT PARAPET - SBL)
4¹⁵⁄₁₆" (RIGHT PARAPET - SBL)
4½" (LEFT PARAPET - NBL)
5⅞" (RIGHT PARAPET - NBL)
G = 6¾" (LEFT PARAPET - SBL)
5" (RIGHT PARAPET - SBL)
4⁹⁄₁₆" (LEFT PARAPET - NBL)
5¹⁵⁄₁₆" (RIGHT PARAPET - NBL)
F
G
2'-2" (TYP.)
144-R503, 144-R603 (N.F.) & 144-R604 (F.F.) @ 1'-0" = 143'-0" (SBL)
143-R503, 143-R603 (N.F.) & 143-R604 (F.F.) @ 1'-0" = 142'-0" (NBL)
(ADJUST SPACING TO AVOID SAWCUT JOINTS)
1 S.O. 11-R605 @ 1'-0" = 10'-0" (E.F.)
4 SPA. @ 11" = 3'-8"
4"
R601 (5 LENGTHS)
R501 (E.F.) (5 LENGTHS)
R602
A
B
R502 (E.F.)
C
D
E
R504 (E.F.)
R505 (N.F.)
R506 (F.F.)
R504 (E.F.)
R606 (E.F.)
R506 (E.F.)
SAWCUT JOINT (TYP.) (SEE NOTE 1)
TOP OF DECK

PARAPET ELEVATION

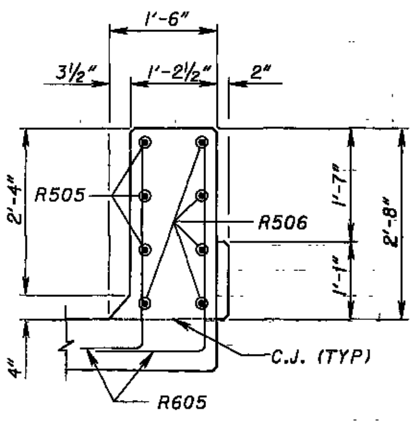
(INSIDE FACE OF LEFT PARAPET SHOWN,
INSIDE FACE OF RIGHT PARAPET OPPOSITE HAND)



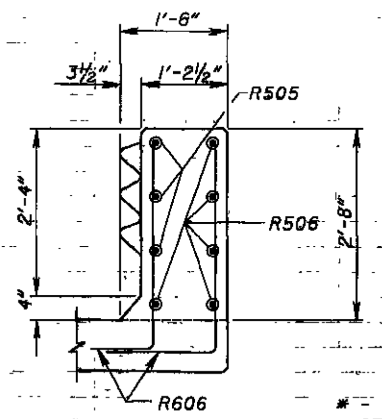
SECTION A-A



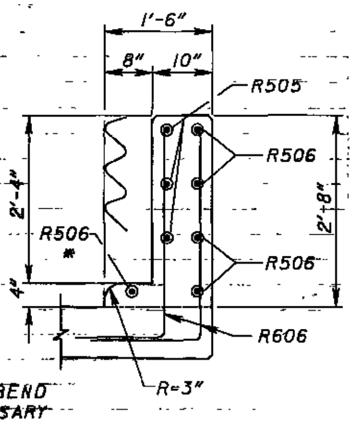
SECTION B-B



SECTION C-C



SECTION D-D



* - FIELD BEND IF NECESSARY

SECTION E-E

NOTES:

1. SEE STANDARD DRAWING SBR-1-99 FOR ADDITIONAL NOTES AND DETAILS.
2. MINIMUM STEEL LAP LENGTHS:

   #5 BAR = 2'-0"
   #6 BAR = 3'-4"

LEGEND:

C.J. - CONSTRUCTION JOINT
E.F. - EACH FACE
F.F. - FAR FACE
N.F. - NEAR FACE
NBL - NORTHBOUND LANES
SBL - SOUTHBOUND LANES
S.O. - SERIES OF

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	CRC	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202493 LEFT 5202523 RIGHT	

PARAPET DETAILS
BRIDGE NO. MED-71-0342 L/R
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00

ABUTMENT REINFORCING STEEL LIST

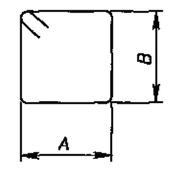
	MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
	A401	78	9'-1"	473	16	2'-6¾"	1'-9"				
	A501	28	30'-0"	876	STR						
	A502	152	12'-0"	1902	16	3'-2"	2'-7"				
	A503	58	11'-5"	690	18	2'-8"	4'-6"	4'-6"			
*	A504	6	18'-7"	116	STR						
*	A505	6	20'-11"	130	STR						
	A506	7	15'-11"	116	18	2'-8"	6'-9"	6'-9"			
		1	6'-5"				2'-0"	2'-0"			
	A507	S.O.	TO	59	18	2'-8"	TO	TO			1'-2¾"
		6	12'-7"				5'-1"	5'-1"			
	A508	1	13'-5"	13	18	2'-8"	5'-6"	5'-6"			
	A509	1	13'-8"	14	18	2'-11"	5'-6"	5'-6"			
	A510	7	14'-1"	102	18	2'-8"	5'-10"	5'-10"			
	A511	1	16'-6"	17	16	2'-8"	5'-4"				
	A512	1	17'-8"	18	16	2'-8"	5'-11"				
	A513	1	11'-7"	12	20	5'-1"	9'-11"	0'-6"			
	A514	1	13'-0"	13	20	5'-1"	9'-11"	1'-11"			
		1	3'-6"								
	A515	S.O.	TO	20	STR						2'-11"
		3	9'-4"								
		1	4'-11"								
	A516	S.O.	TO	24	STR						2'-11⅜"
		3	10'-10"								
		1	7'-9"				2'-8"	2'-8"			
	A517	S.O.	TO	66	18	2'-8"	TO	TO			1'-1½"
		6	13'-5"				5'-6"	5'-6"			
	A518	1	13'-9"	14	18	2'-8"	5'-8"	5'-8"			
	A519	1	14'-0"	14	18	2'-11"	5'-8"	5'-8"			
	A520	2	16'-4"	34	16	2'-8"	5'-3"				
	A521	1	17'-4"	18	16	2'-8"	5'-9"				
	A522	1	13'-2"	13	20	4'-4½"	9'-9"	2'-6½"			
	A523	1	11'-9"	12	20	4'-4½"	9'-9"	1'-1"			
		1	5'-10"								
	A524	S.O.	TO	28	STR						3'-2½"
		3	12'-3"								
		1	4'-5"								
	A525	S.O.	TO	23	STR						3'-2½"
		3	10'-10"								
	A526	56	12'-9"	744	18	2'-8"	5'-2"	5'-2"			
*	A527	8	20'-3"	168	STR						
*	A528	8	22'-5"	187	STR						
	A529	7	15'-7"	113	18	2'-8"	6'-7"	6'-7"			
		1	6'-5"				2'-0"	2'-0"			
	A530	S.O.	TO	73	18	2'-8"	TO	TO			1'-2⅝"
		7	13'-9"				5'-8"	5'-8"			
	A531	1	19'-4"	20	16	2'-8"	6'-9"				
	A532	1	14'-2"	14	18	2'-11"	5'-9"	5'-9"			
		1	3'-6"								
	A533	S.O.	TO	20	STR						3'-1⅞"
		3	9'-10"								
		1	4'-11"								
	A534	S.O.	TO	25	STR						3'-1⅞"
		3	11'-3"								
	A536	2	17'-6"	36	16	2'-8"	5'-10"				
	A537	1	12'-7"	13	20	5'-3"	11'-1"	0'-4"			
	A538	1	13'-11"	14	20	5'-3"	11'-1"	1'-8"			
	A539	8	17'-3"	143	18	2'-8"	7'-5"	7'-5"			
		1	6'-5"				2'-0"	2'-0"			
	A540	S.O.	TO	72	18	2'-8"	TO	TO			1'-2"
		7	13'-5"				5'-6"	5'-6"			
	A541	1	13'-7"	14	18	2'-8"	5'-7"	5'-7"			
	A542	1	13'-10"	14	18	2'-11"	5'-7"	5'-7"			
		1	5'-7"								
	A543	S.O.	TO	27	STR						3'-3"
		3	12'-2"								
		1	4'-3"								
	A544	S.O.	TO	23	STR						3'-3"
		3	10'-9"								
	A545	1	16'-2"	16	16	2'-8"	5'-2"				
	A546	1	15'-5"	16	20	5'-6"	11'-10"	2'-5"			
	A547	1	14'-1"	14	20	5'-6"	11'-10"	1'-1"			

ABUTMENT REINFORCING STEEL LIST (CONT'D)

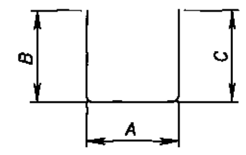
	MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
	A601	125	12'-1"	2277	99						
	A801	32	30'-0"	2563	STR						
*	A802	8	22'-1"	471	STR						
*	A803	8	24'-5"	521	STR						
*	A804	8	23'-9"	507	STR						
*	A805	8	25'-11"	553	STR						
			TOTAL	13475							

DIAPHRAGM REINFORCING STEEL LIST

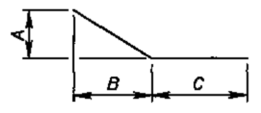
	MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
	D401	110	8'-2"	600	18	2'-2"	3'-1"	3'-1"			
	D402	250	9'-2"	1530	18	2'-8"	3'-4"	3'-4"			
	D403	15	9'-4"	93	18	2'-2"	3'-8"	3'-8"			
	D404	4	10'-1"	26	18	2'-11"	3'-8"	3'-8"			
	D405	2	10'-5"	13	18	2'-11"	3'-10"	3'-10"			
	D406	2	10'-9"	14	18	2'-11"	4'-0"	4'-0"			
	D410	100	11'-8"	780	98	2'-8"	3'-8"	1'-0"			
*	D601	8	33'-8"	404	STR						
*	D602	8	38'-2"	458	STR						
	D603	24	10'-9"	387	STR						
	D604	48	11'-5"	823	STR						
	D605	16	8'-11"	216	26	1'-0"	1'-0"	1'-3"	4'-6"	4'-6"	
	D606	1	7'-7"	11	STR						
	D607	1	6'-4"	9	STR						
	D608	1	3'-6"	5	STR						
	D609	2	3'-10"	11	STR						
	D610	1	4'-4"	6	STR						
*	D611	4	37'-10"	227	STR						
	D612	3	4'-8"	21	STR						
	D613	2	5'-0"	15	STR						
	D614	1	3'-8"	5	STR						
	D615	2	4'-0"	12	STR						
*	D616	4	33'-5"	200	STR						
	D620	4	6'-2"	37	STR						
	D636	2	7'-8"	23	STR						
	D637	12	8'-4"	151	21	0'-4½"	4'-1"				
	D638	12	2'-5"	44	97	1'-1½"	0'-4½"	0'-4"	0'-4"		
	D639	12	3'-9"	68	97	1'-7½"	0'-5¼"	0'-7"	0'-7"		
	D645	1	6'-0"	9	STR						
	D646	1	7'-3"	10	STR						
	D647	2	8'-0"	24	STR						
	D648	2	6'-5"	19	STR						
	D649	2	6'-9"	20	STR						
	D653	1	9'-4"	14	26	1'-0"	1'-0"	1'-3"	4'-9"	4'-9"	
	D654	1	8'-7"	12	26	1'-0"	1'-0"	1'-3"	4'-3"	4'-3"	
*	D659	4	36'-6"	219	STR						
*	D660	4	34'-10"	209	STR						
	D661	1	8'-3"	12	26	1'-0"	1'-0"	1'-3"	4'-0"	4'-0"	
	D662	1	9'-8"	14	26	1'-0"	1'-0"	1'-3"	5'-0"	5'-0"	
	D663	2	5'-8"	17	STR						
	D664	6	7'-0"	63	STR						
	D665	2	7'-11"	23	STR						
	D666	2	6'-7"	19	STR						
	D668	4	7'-5"	44	STR						
	D669	4	8'-3"	49	STR						
	D670	1	6'-7"	9	26	1'-0"	1'-0"	1'-3"	2'-10"	2'-10"	
	D671	1	5'-8"	8	26	1'-0"	1'-0"	1'-3"	2'-2"	2'-2"	
	D672	1	5'-6"	8	26	1'-0"	1'-0"	1'-3"	2'-1"	2'-1"	
	D673	1	6'-3"	9	26	1'-0"	1'-0"	1'-3"	2'-7"	2'-7"	
	D801	106	5'-3"	1485	28	2'-11"	1'-5"				
		1	33'-8"								
*	D802	S.O.	TO	367	STR						0'-6"
		4	35'-2"								
		1	36'-9"								
*	D803	S.O.	TO	400	STR						0'-5⅝"
		4	38'-2"								
		1	33'-5"								
*	D804	S.O.	TO	364	STR						0'-5⅝"
		4	34'-10"								



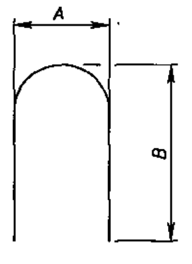
TYPE 16



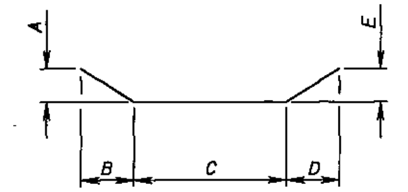
TYPE 18



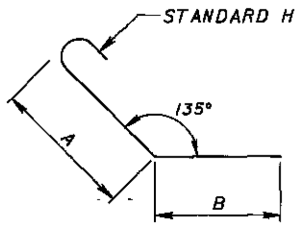
TYPE 20



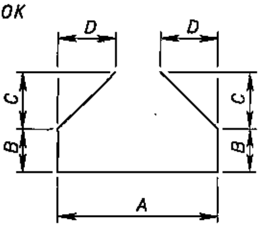
TYPE 21



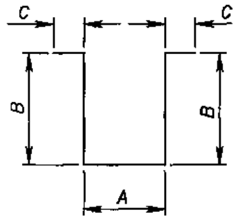
TYPE 26



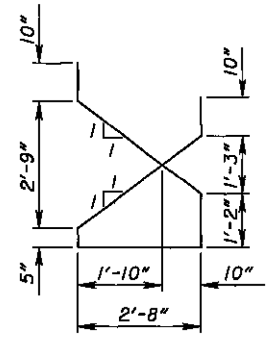
TYPE 28



TYPE 97



TYPE 98



TYPE 99

NOTES:

1. ALL BARS SHALL BE EPOXY COATED.
2. BAR DIMENSIONS SHOWN ARE OUT TO OUT AND RAD INDICATES INSIDE RADIUS.

* REINFORCING BAR UTILIZES A MECHANICAL CONNECTOR. BAR LENGTH IS MEASURED TO THE CONSTRUCTION JOINT OR END OF CONNECTOR AS APPLICABLE. EXTRA BAR LENGTH AND/OR BAR END PREPARATION MAY BE NECESSARY DEPENDING UPON THE TYPE OF MECHANICAL CONNECTOR FURNISHED.

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	CRC	CAS	6/03

CHECKED	REVISED	STRUCTURE FILE NUMBER
CRC		5202493 LEFT 5202523 RIGHT

REINFORCING STEEL LIST 1 - SOUTHBOUND
BRIDGE NO. MED-71-0342 L
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00

48/51

661/785

P:/PR30489/CADD/MED-71-0342/ME071r11.DGN

DIAPHRAGM REINFORCING STEEL LIST (CONT'D)

MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
	1	36'-6"								
* D805	S.O.	TO	396	STR						0'-5¼"
	4	37'-10"								
D806	64	9'-10"	1680	26	1'-0"	1'-0"	0'-9"	5'-5½"	5'-5½"	
	2	8'-7"						4'-7"	4'-7"	
D807	S.O.	TO	197	26	1'-0"	1'-0"	0'-9"	TO	TO	0'-5¼"
	4	9'-10"						5'-6"	5'-6"	
	2	9'-9"						5'-5"	5'-5"	
D808	S.O.	TO	222	26	1'-0"	1'-0"	0'-9"	TO	TO	0'-5¼"
	4	11'-1"						6'-4"	6'-4"	
		TOTAL	12111							

PARAPET REINFORCING STEEL LIST

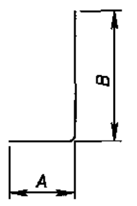
MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
R501	60	30'-0"	1877	STR						
R502	12	8'-6"	106	STR						
R503	288	7'-4"	2202	2	3'-0"	3'-2"	1'-1"	0'-6½"	0'-2¾"	
R504	32	10'-0"	333	STR						
R505	12	5'-6"	69	96						
R506	20	5'-6"	114	STR						
R601	10	30'-0"	450	STR						
R602	2	15'-2"	45	STR						
R603	288	3'-4"	1477	6	1'-1"	0'-0"	1'-1"	0'-3¼"	1'-5"	
R604	288	2'-4"	1009	1	1'-1"	1'-5"				
	8	3'-11"				3'-0"				
R605	S.O.	TO	572	1	1'-1"	TO				0'-1"
	11	4'-9"				3'-10"				
R606	32	3'-11"	188	1	1'-1"	3'-0"				
		TOTAL	8442							

PIER REINFORCING STEEL LIST

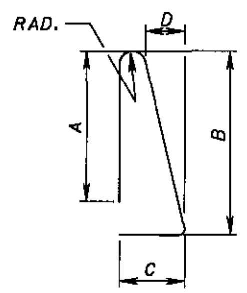
MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
P401	96	12'-0"	769	18	4'-2"	4'-0"	4'-0"			
P402	152	3'-9"	380	24	2'-8"					
P501	16	24'-10"	414	22	23'-8"					
P502	92	8'-4"	799	21	2'-8"	3'-5"				
P503	64	16'-10"	1123	STR						
P504	16	28'-5"	474	STR						
P505	8	28'-8"	239	26	1'-0"	4'-3"	19'-11"	4'-3"	1'-0"	
P506	20	14'-4"	298	22	13'-2"					
P507	16	4'-0"	66	STR						
P508	56	9'-2"	535	STR						
P509	56	4'-7"	267	20	0'-11¾"	0'-11¾"	3'-3"			
P510	48	18'-10"	942	STR						
P511	16	24'-2"	403	1	18'-10"	5'-6"				
P518	36	7'-9"	290	18	4'-0"	2'-0"	2'-0"			
P601	76	13'-2"	1503	18	4'-2"	4'-8"	4'-8"			
P602	56	7'-4"	616	1	6'-6"	1'-0"				
P603	32	10'-6"	504	STR						
P604	32	23'-0"	1105	STR						
P605	56	4'-0"	336	STR						
P701	108	8'-7"	1894	1	7'-7"	1'-2"				
P702	52	10'-6"	1116	STR						
P703	56	23'-5"	2680	STR						
P801	52	12'-6"	1735	22	10'-8"					
P802	28	22'-11"	1713	1	17'-10"	5'-3"				
P901	26	13'-2"	1163	22	10'-8"					
		TOTAL	21364							

SUPERSTRUCTURE REINFORCING STEEL LIST

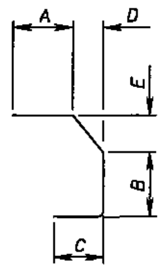
MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
S401	460	30'-0"	9218	STR						
S402	92	31'-9"	1951	STR						
S501	445	30'-0"	13924	STR						
S502	89	38'-0"	3527	STR						
S601	604	33'-0"	29937	STR						
S602	602	33'-6"	30290	STR						
S603	182	34'-6"	9431	STR						
	2	8'-0"								
S604	S.O.	TO	1438	STR						1'-0⅜"
	24	31'-11"								
	2	6'-2"								
S605	S.O.	TO	1510	STR						1'-0⅝"
	26	32'-6"								
	2	5'-11"								
S606	S.O.	TO	1581	STR						1'-0½"
	27	33'-1"								
	2	7'-4"								
S607	S.O.	TO	1501	STR						1'-0⅝"
	25	32'-8"								
	2	2'-8"								
S608	S.O.	TO	101	STR						0'-8⅝"
	7	7'-0"								
	2	2'-11"								
S609	S.O.	TO	82	STR						0'-8"
	6	6'-3"								
		TOTAL	104491							



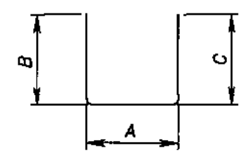
TYPE 1



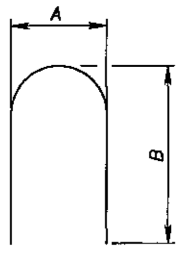
TYPE 2



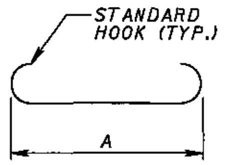
TYPE 6



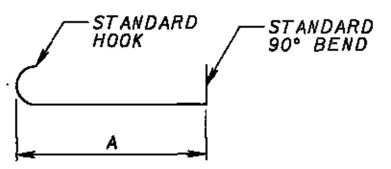
TYPE 18



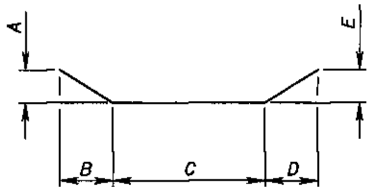
TYPE 21



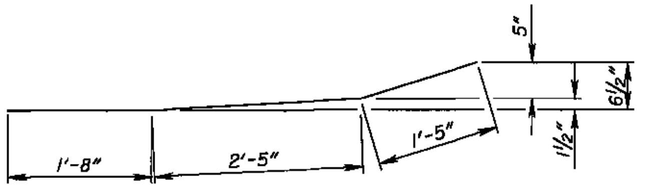
TYPE 22



TYPE 24



TYPE 26



TYPE 96

NOTES:

1. ALL BARS SHALL BE EPOXY COATED.
2. BAR DIMENSIONS SHOWN ARE OUT TO OUT AND RAD INDICATES INSIDE RADIUS.

* REINFORCING BAR UTILIZES A MECHANICAL CONNECTOR. BAR LENGTH IS MEASURED TO THE CONSTRUCTION JOINT OR END OF CONNECTOR AS APPLICABLE. EXTRA BAR LENGTH AND/OR BAR END PREPARATION MAY BE NECESSARY DEPENDING UPON THE TYPE OF MECHANICAL CONNECTOR FURNISHED.

P:/PR30489/CADD/MED-71-0342/ME071r12.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	CRC	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CRC		5202493 LEFT 5202523 RIGHT	

REINFORCING STEEL LIST 2 - SOUTHBOUND
BRIDGE NO. MED-71-0342 L
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00

ABUTMENT REINFORCING STEEL LIST

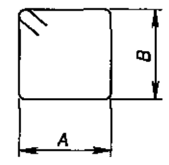
MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
A401	78	9'-1"	473	16	2'-6¾"	1'-9"				
A501	28	30'-0"	876	STR						
A502	140	12'-0"	1752	16	3'-2"	2'-7"				
A510	5	14'-1"	73	18	2'-8"	5'-10"	5'-10"			
A512	1	17'-8"	18	16	2'-8"	5'-11"				
A520	2	16'-4"	34	16	2'-8"	5'-3"				
A535	1	12'-3"	12	18	2'-8"	4'-11"	4'-11"			
A536	2	17'-6"	36	16	2'-8"	5'-10"				
A545	2	16'-2"	33	16	2'-8"	5'-2"				
* A548	6	19'-5"	121	STR						
* A549	6	17'-0"	106	STR						
A550	49	10'-11"	557	18	2'-8"	4'-3"	4'-3"			
A551	6	15'-3"	95	18	2'-8"	6'-5"	6'-5"			
	1	6'-5"				2'-0"	2'-0"			
A552	S.O.	TO	46	18	2'-8"	TO	TO			1'-3½"
	5	11'-7"				4'-7"	4'-7"			
A553	4	12'-1"	50	18	2'-8"	4'-10"	4'-10"			
A554	2	12'-4"	25	18	2'-11"	4'-10"	4'-10"			
A555	1	10'-10"	11	20	4'-2"	9'-5"	0'-7"			
A556	1	12'-3"	12	20	4'-2"	9'-5"	2'-0"			
	1	3'-7"								
A557	S.O.	TO	20	STR						3'-0"
	3	9'-7"								
	1	5'-0"								
A558	S.O.	TO	25	STR						3'-0"
	3	11'-0"								
	1	7'-9"				2'-8"	2'-8"			
A559	S.O.	TO	40	18	2'-8"	TO	TO			1'-4"
	4	11'-9"				4'-8"	4'-8"			
A560	1	12'-6"	13	18	2'-11"	4'-11"	4'-11"			
A561	1	10'-7"	11	20	3'-6½"	7'-10"	2'-0"			
A562	1	9'-2"	9	20	3'-6½"	7'-10"	0'-7"			
	1	4'-11"								
A563	S.O.	TO	22	STR						2'-5"
	3	9'-9"								
	1	3'-6"								
A564	S.O.	TO	18	STR						2'-5"
	3	8'-4"								
* A565	8	17'-2"	143	STR						
* A566	8	22'-6"	187	STR						
A567	57	11'-9"	698	18	2'-8"	4'-8"	4'-8"			
A568	6	15'-1"	94	18	2'-8"	6'-4"	6'-4"			
	1	7'-3"				2'-5"	2'-5"			
A569	S.O.	TO	50	18	2'-8"	TO	TO			1'-2¾"
	5	12'-2"				4'-10½"	4'-10½"			
A570	1	12'-2"	12	18	2'-8"	4'-10½"	4'-10½"			
A571	1	12'-5"	12	18	2'-11"	4'-10½"	4'-10½"			
A572	1	17'-10"	18	16	2'-8"	6'-0"				
A573	1	9'-9"	10	20	4'-1"	8'-0"	0'-10"			
A574	1	11'-1"	11	20	4'-1"	8'-0"	2'-2"			
	1	3'-5"								
A575	S.O.	TO	18	STR						2'-7⅜"
	3	8'-8"								
	1	4'-10"								
A576	S.O.	TO	23	STR						2'-7⅜"
	3	10'-1"								
A577	8	16'-3"	135	18	2'-8"	6'-11"	6'-11"			
	1	6'-9"				2'-2"	2'-2"			
A578	S.O.	TO	46	18	2'-8"	TO	TO			1'-1"
	5	11'-1"				4'-4"	4'-4"			
A579	1	18'-10"	19	16	2'-8"	6'-6"				
A580	1	15'-8"	16	20	4'-7"	10'-6"	4'-3"			
A581	1	14'-4"	14	20	4'-7"	10'-6"	2'-11"			
	1	7'-4"								
A582	S.O.	TO	32	STR						3'-0½"
	3	13'-5"								
	1	5'-11"								
A583	S.O.	TO	28	STR						3'-1"
	3	12'-1"								
A601	121	12'-1"	2204	99						

ABUTMENT REINFORCING STEEL LIST (CONT'D)

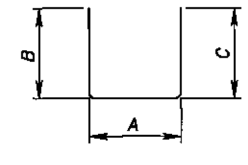
MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
A801	32	30'-0"	2563	STR						
* A806	8	22'-11"	489	STR						
* A807	8	20'-6"	437	STR						
* A808	8	20'-8"	441	STR						
* A809	8	26'-0"	555	STR						
		TOTAL	12743							

DIAPHRAGM REINFORCING STEEL LIST

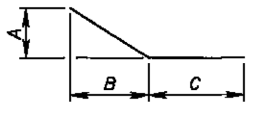
MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
D401	108	8'-2"	589	18	2'-2"	3'-1"	3'-1"			
D403	13	9'-4"	81	18	2'-2"	3'-8"	3'-8"			
D404	4	10'-1"	26	18	2'-11"	3'-8"	3'-8"			
D407	242	8'-4"	1347	18	2'-8"	2'-11"	2'-11"			
D408	2	8'-9"	11	18	2'-11"	3'-0"	3'-0"			
D409	2	9'-1"	12	18	2'-11"	3'-2"	3'-2"			
D411	90	10'-4"	622	98	2'-8"	3'-0"	1'-0"			
D608	2	3'-8"	11	STR						
D613	2	5'-1"	15	STR						
D615	2	4'-0"	12	STR						
* D617	3	35'-1"	158	STR						
* D618	3	38'-7"	164	STR						
D619	48	5'-7"	402	STR						
D620	96	6'-2"	889	STR						
D621	32	6'-0"	288	26	0'-9½"	0'-9½"	1'-3"	2'-7½"	2'-7½"	
D622	2	3'-7"	10	STR						
D623	2	4'-11"	14	STR						
* D624	4	33'-7"	201	STR						
* D625	4	38'-0"	228	STR						
D626	2	3'-6"	10	STR						
D627	6	4'-2"	37	STR						
D628	5	3'-11"	29	STR						
* D629	7	33'-6"	352	STR						
* D630	7	37'-10"	398	STR						
	1	33'-6"								
* D631	S.O.	TO	205	STR						0'-5⅝"
	4	34'-11"								
	1	36'-6"								
* D632	S.O.	TO	223	STR						0'-5⅝"
	4	37'-10"								
D633	2	3'-9"	11	STR						
D634	2	3'-5"	10	STR						
D635	1	3'-2"	4	STR						
D640	4	5'-5"	32	STR						
D641	128	5'-10"	1137	26	0'-9½"	0'-9½"	0'-7"	3'-0"	3'-0"	
D642	20	6'-10"	205	21	0'-3½"	3'-4"				
D643	20	1'-7"	47	97	0'-9½"	0'-3½"	0'-2½"	0'-2½"		
D644	20	2'-11"	87	97	1'-3½"	0'-4¼"	0'-5½"	0'-5½"		
	2	5'-4"						2'-7½"	2'-7½"	
D650	S.O.	TO	71	26	0'-9½"	0'-9½"	0'-7"	TO	TO	0'-5"
	4	6'-7"						3'-6"	3'-6"	
	2	5'-0"						2'-4½"	2'-4½"	
D651	S.O.	TO	67	26	0'-9½"	0'-9½"	0'-7"	TO	TO	0'-5"
	4	6'-3"						3'-3"	3'-3"	
D652	4	5'-3"	31	STR						
D655	2	5'-4"	16	26	0'-9½"	0'-9½"	1'-3"	2'-2"	2'-2"	
D656	2	6'-6"	19	26	0'-9½"	0'-9½"	1'-3"	3'-0"	3'-0"	
	1	33'-7"								
* D657	S.O.	TO	206	STR						0'-6"
	4	35'-1"								
	1	36'-7"								
* D658	S.O.	TO	224	STR						0'-5⅝"
	4	38'-0"								
D667	2	3'-10"	11	STR						
D674	4	3'-9"	22	STR						
D675	4	5'-0"	30	STR						
D676	1	4'-11"	7	26	0'-9½"	0'-9½"	1'-3"	1'-10"	1'-10"	
D677	1	5'-6"	8	26	0'-9½"	0'-9½"	1'-3"	2'-3"	2'-3"	
D678	1	5'-3"	7	26	0'-9½"	0'-9½"	1'-3"	2'-1"	2'-1"	
D679	1	4'-8"	7	26	0'-9½"	0'-9½"	1'-3"	1'-8"	1'-8"	
D801	106	5'-3"	1485	28	2'-11"	1'-5"				
		TOTAL	10078							



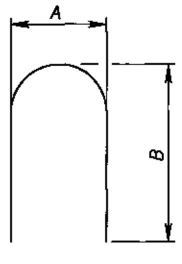
TYPE 16



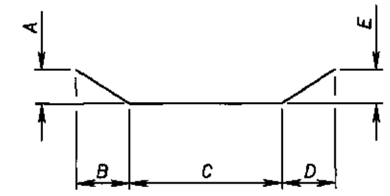
TYPE 18



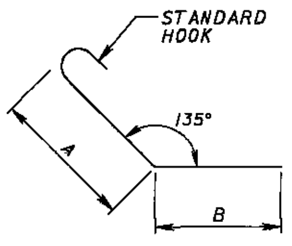
TYPE 20



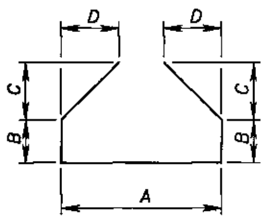
TYPE 21



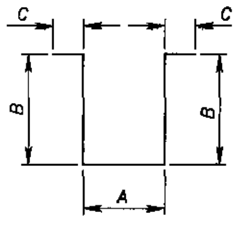
TYPE 26



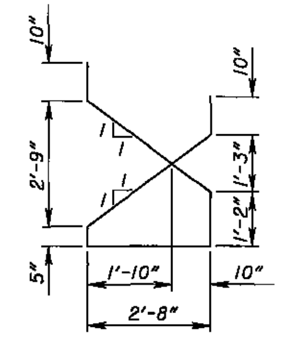
TYPE 28



TYPE 97



TYPE 98



TYPE 99

NOTES:

1. ALL BARS SHALL BE EPOXY COATED.
2. BAR DIMENSIONS SHOWN ARE OUT TO OUT AND RAD INDICATES INSIDE RADIUS.

* REINFORCING BAR UTILIZES A MECHANICAL CONNECTOR. BAR LENGTH IS MEASURED TO THE CONSTRUCTION JOINT OR END OF CONNECTOR AS APPLICABLE. EXTRA BAR LENGTH AND/OR BAR END PREPARATION MAY BE NECESSARY DEPENDING UPON THE TYPE OF MECHANICAL CONNECTOR FURNISHED.

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
TTK	CRC	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CRC		5202493 LEFT 5202523 RIGHT	

REINFORCING STEEL LIST 3 - NORTHBOUND
BRIDGE NO. MED-71-0342 R
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00

50/51

663/785

P:/PR30489/CADD/MED-71-0342/ME071r13.DGN

PARAPET REINFORCING STEEL LIST

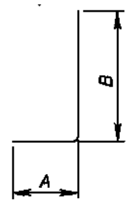
MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
R501	60	30'-0"	1877	STR						
R502	12	8'-6"	106	STR						
R503	286	7'-4"	2187	2	3'-0"	3'-2"	1'-1"	0'-6½"	0'-2¾"	
R504	32	10'-0"	333	STR						
R505	12	5'-6"	69	96						
R506	20	5'-6"	114	STR						
R601	10	30'-0"	450	STR						
R602	2	15'-2"	45	STR						
R603	286	3'-4"	1467	6	1'-1"	0'-0"	1'-1"	0'-3¼"	1'-5"	
R604	286	2'-4"	1002	1	1'-1"	1'-5"				
	8	3'-10"				2'-11½"				
R605	S.O.	TO	572	1	1'-1"	TO				0'-1"
	11	4'-8"				3'-9½"				
R606	32	3'-10"	188	1	1'-1"	2'-11½"				
		TOTAL	8410							

PIER REINFORCING STEEL LIST

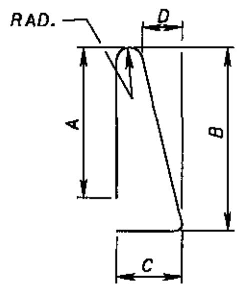
MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
P402	176	3'-9"	440	24	2'-8"					
P403	92	12'-6"	768	18	4'-2"	4'-3"	4'-3"			
P501	16	24'-10"	414	22	23'-8"					
P502	96	8'-4"	834	21	2'-8"	3'-5"				
P506	20	14'-4"	298	22	13'-2"					
P507	16	4'-0"	66	STR						
P509	64	4'-7"	305	20	0'-11¾"	0'-11¾"	3'-3"			
P512	64	18'-4"	1223	STR						
P513	16	31'-4"	522	STR						
P514	64	9'-0"	600	STR						
P515	48	18'-3"	913	STR						
P516	16	23'-11"	399	1	18'-3"	5'-10"				
P517	8	31'-6"	262	26	1'-0"	4'-11"	21'-6"	4'-11"	1'-0"	
P518	36	7'-9"	290	18	4'-0"	2'-0"	2'-0"			
P602	56	7'-4"	616	1	6'-6"	1'-0"				
P605	56	4'-0"	336	STR						
P606	84	12'-6"	1577	18	4'-2"	4'-4"	4'-4"			
P607	32	11'-8"	560	STR						
P608	32	25'-6"	1225	STR						
P701	116	8'-7"	2035	1	7'-7"	1'-2"				
P704	56	11'-8"	1335	STR						
P705	60	26'-0"	3188	STR						
P801	52	12'-6"	1735	22	10'-8"					
P803	28	23'-4"	1744	1	19'-3"	4'-3"				
P901	26	13'-2"	1163	22	10'-8"					
		TOTAL	22848							

SUPERSTRUCTURE REINFORCING STEEL LIST

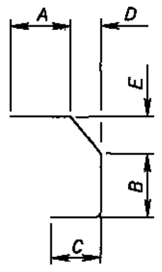
MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
S401	350	30'-0"	7013	STR						
S403	70	30'-6"	1426	STR						
S501	365	30'-0"	11420	STR						
S503	73	36'-9"	2798	STR						
S504	598	33'-2"	20686	STR						
S505	598	32'-8"	20374	STR						
	2	7'-2"								
S506	S.O.	TO	1036	STR						1'-0⅝"
	25	32'-7"								
	2	6'-6"								
S507	S.O.	TO	1064	STR						1'-0½"
	26	32'-9"								
	2	5'-9"								
S508	S.O.	TO	1039	STR						1'-0⅞"
	26	32'-7"								
	2	7'-8"								
S509	S.O.	TO	1051	STR						1'-0½"
	25	32'-8"								
	2	2'-8"								
S510	S.O.	TO	55	STR						0'-8⅜"
	6	6'-2"								
	2	2'-0"								
S511	S.O.	TO	62	STR						0'-9⅛"
	7	6'-7"								
S603	138	34'-6"	7151	STR						
		TOTAL	75175							



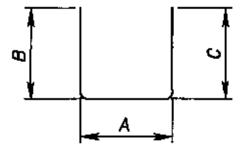
TYPE 1



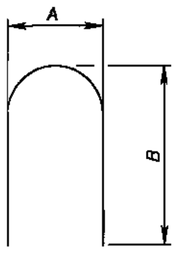
TYPE 2



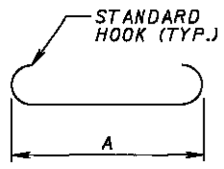
TYPE 6



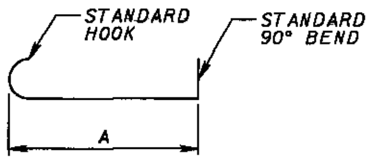
TYPE 18



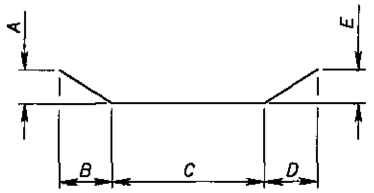
TYPE 21



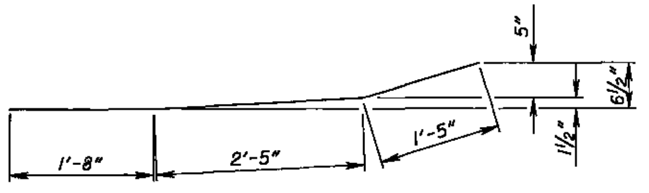
TYPE 22



TYPE 24



TYPE 26



TYPE 96

NOTES:

1. ALL BARS SHALL BE EPOXY COATED.
2. BAR DIMENSIONS SHOWN ARE OUT TO OUT AND RAD INDICATES INSIDE RADIUS.

P:/PR30489/CADD/MED-71-0342/ME071r14.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

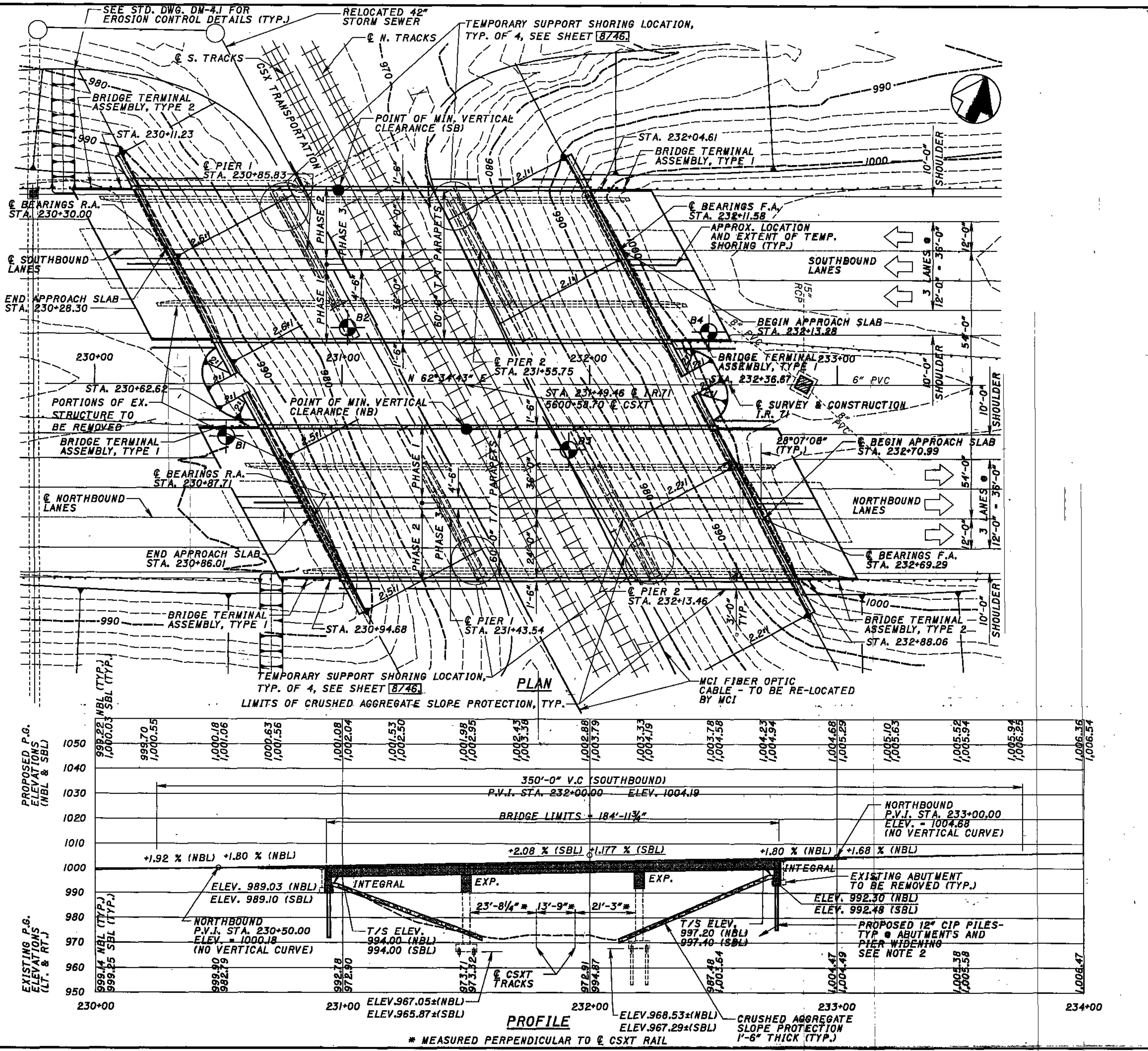
DESIGNED	DRAWN	REVIEWED	DATE
TTK	CRC	CAS	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CRC		5202493 LEFT 5202523 RIGHT	

REINFORCING STEEL LIST 4 - NORTHBOUND
BRIDGE NO. MED-71-0342 R
OVER W. & L.E. RAILROAD

WAY/MED-71-7.04/0.00

51 / 51

664
785


SEE STD. DWG. DM-4.1 FOR EROSION CONTROL DETAILS (TYP.)
RELOCATED 42" STORM SEWER
℄ N. TRACKS
TEMPORARY SUPPORT SHORING LOCATION, TYP. OF 4, SEE SHEET 8/46
℄ S. TRACKS
CSX TRANSPORTATION
980
990
1000
BRIDGE TERMINAL ASSEMBLY, TYPE 2
STA. 230+11.23
POINT OF MIN. VERTICAL CLEARANCE (SB)
STA. 232+04.61
BRIDGE TERMINAL ASSEMBLY, TYPE 1
℄ PIER 1 STA. 230+85.83
℄ BEARINGS R.A. STA. 230+30.00
℄ BEARINGS F.A. STA. 232+11.58
APPROX. LOCATION AND EXTENT OF TEMP. SHORING (TYP.)
℄ SOUTHBOUND LANES
SOUTHBOUND LANES
PHASE 1
PHASE 2
PHASE 3
T/T PARAPETS
END APPROACH SLAB STA. 230+28.30
B2
B4
BEGIN APPROACH SLAB STA. 232+13.28
15" RCP
BRIDGE TERMINAL ASSEMBLY, TYPE 1 STA. 232+36.67
230+00
231+00
232+00
233+00
℄ PIER 2 STA. 231+55.75
N 62°34'43" E
STA. 231+49.46 ℄ I.R.71 5600+58.70 ℄ CSXT
6" PVC
8" PVC
STA. 230+62.62
PORTIONS OF EX. STRUCTURE TO BE REMOVED
POINT OF MIN. VERTICAL CLEARANCE (NB)
℄ SURVEY & CONSTRUCTION I.R. 71
BRIDGE TERMINAL ASSEMBLY, TYPE 1
B1
B3
28°07'08" (TYP.)
℄ BEGIN APPROACH SLAB STA. 232+70.99
℄ BEARINGS R.A. STA. 230+87.71
℄ NORTHBOUND LANES
NORTHBOUND LANES
3 LANES @ 12'-0" = 36'-0"
54'-0"
10'-0" SHOULDER
60'-0" T/T
END APPROACH SLAB STA. 230+86.01
℄ BEARINGS F.A. STA. 232+69.29
℄ PIER 2 STA. 232+13.46
℄ PIER 1 STA. 231+43.54
BRIDGE TERMINAL ASSEMBLY, TYPE 1
STA. 230+94.68
BRIDGE TERMINAL ASSEMBLY, TYPE 2
STA. 232+88.06
TEMPORARY SUPPORT SHORING LOCATION, TYP. OF 4, SEE SHEET 8/46
MCI FIBER OPTIC CABLE - TO BE RE-LOCATED BY MCI
LIMITS OF CRUSHED AGGREGATE SLOPE PROTECTION, TYP.
2:1
PROPOSED P.G. ELEVATIONS (NBL & SBL)
NBL (TYP.) SBL (TYP.)
1050
1040
1030
1020
1010
1000
990
980
970
960
950
350'-0" V.C (SOUTHBOUND)
P.V.I. STA. 232+00.00 ELEV. 1004.19
BRIDGE LIMITS = 184'-11¾"
NORTHBOUND P.V.I. STA. 233+00.00 ELEV. = 1004.68 (NO VERTICAL CURVE)
+1.92 % (NBL) +1.80 % (NBL)
+2.08 % (SBL) +1.177 % (SBL)
+1.80 % (NBL) +1.68 % (NBL)
INTEGRAL
EXP.
EXP.
INTEGRAL
ELEV. 989.03 (NBL)
ELEV. 989.10 (SBL)
EXISTING ABUTMENT TO BE REMOVED (TYP.)
ELEV. 992.30 (NBL)
ELEV. 992.48 (SBL)
NORTHBOUND P.V.I. STA. 230+50.00 ELEV. = 1000.18 (NO VERTICAL CURVE)
T/S ELEV. 994.00 (NBL) 994.00 (SBL)
23'-8¼"*
13'-9"*
21'-3"*
T/S ELEV. 997.20 (NBL) 997.40 (SBL)
PROPOSED 12" CIP PILES-TYP @ ABUTMENTS AND PIER WIDENING SEE NOTE 2
℄ CSXT TRACKS
EXISTING P.G. ELEVATIONS (LT. & RT.)
230+00
231+00
232+00
233+00
234+00
ELEV. 967.05±(NBL)
ELEV. 965.87±(SBL)
ELEV. 968.53±(NBL)
ELEV. 967.29±(SBL)
CRUSHED AGGREGATE SLOPE PROTECTION 1'-6" THICK (TYP.)

PLAN

PROFILE

* MEASURED PERPENDICULAR TO ℄ CSXT RAIL

NOTES:

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

2. EST. AVG. PAY LENGTH:
   ABUTMENTS = 60'-0"
   PIERS = 40'-0"

3. FOR LOCATION OF TS REQUIRED FOR CONSTRUCTION OF PIER FOOTINGS ALONG THE RAILROAD TRACKS SEE SHEET 2/46

LEGEND:

B1 ⌖ - CURRENT FOUNDATION INVESTIGATION BORING
F.A. = FORWARD ABUTMENT
R.A. = REAR ABUTMENT
NBL = NORTHBOUND LANES
SBL = SOUTHBOUND LANES
TS - TEMPORARY SHORING
● = PT. OF MINIMUM VERTICAL CLEARANCE

VERTICAL CLEARANCE

POINT	REQUIRED	PROVIDED
NB	23:0'	23.00'
SB	23.0'	23.04'

SOIL BORING INFORMATION

BORING NO.	STATION	OFFSET	ELEVATION
B1	230+53.28	21.10' (RT)	999.63
B2	231+02.25	22.49' (LT)	973.20
B3	231+91.47	26.42' (RT)	971.58
B4	232+48.01	21.08' (LT)	1002.30

BENCHMARK INFORMATION

BM#3030	STA. 227+93.39; 0.033' LT.; C/L MONUMENT; 488,710.39 N; 2,119,894.93 E; ELEV. 991.82
BM #24	CUT CENTER HEADWALL NW SIDE I-71; 50' SE OF CL STA. 281+54; ELEV. 976.62
BM #3031	STA. 297+32.11, 0.327' RT.; C/L MONUMENT; 491,905.11 N; 2,126,053.31 E; ELEV 1006.58

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED DECK AND SUBSTRUCTURE
SPANS: 56'-0", 70'-0", 56'-0" C/C BEARINGS
STRUCTURE FILE NO.: 5202582-LEFT
5202612-RIGHT
ROADWAY: 42'-0" F/F PARAPET
ORIGINAL DESIGN LOADING: CF 2000 ADEQUATE FOR AASHTO ALTERNATE LOADING
WEARING SURFACE: 1" MONOLITHIC
ALIGNMENT: STRAIGHT
APPROACH SLABS: 25'-0" LONG AS-1-54
DATE BUILT: 1959
SKEW: 28° 07' 08" R.F.

PROPOSED STRUCTURE

TYPE: PRESTRESSED CONCRETE I-BEAMS WITH REINFORCED COMPOSITE CONCRETE DECK ON CONCRETE T-TYPE AND MODIFIED WALL-TYPE PIERS AND INTEGRAL CONCRETE ABUTMENTS
SPANS: 55'-10 ", 69'-11 ", 55'-10 " C/C SUBSTRUCTURE (NORTHBOUND AND SOUTHBOUND)
ROADWAY: 60'-0" T/T PARAPETS
SKEW: 28° 07' 08" RIGHT FORWARD
ALIGNMENT: TANGENT
WEARING SURFACE: MONOLITHIC CONCRETE
FUTURE WEARING SURFACE: 60 PSF
APPROACH SLABS: AS-1-81 (25'-0" LONG)
CROWN: 0.0156 FT./FT.
ADT (2006): 48930 ADTT (2006): 15168
ADT (2026): 68660 ADTT (2026): 21285
LATITUDE: 41° 00' 25"
LONGITUDE: 81° 57' 04"

MOODY/NOLAN LTD., INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
TRS	TRS	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202582 - LEFT 5202612 - RIGHT	

MEDINA COUNTY
STA. 230+28.30 L
STA. 232+70.99 R

SITE PLAN

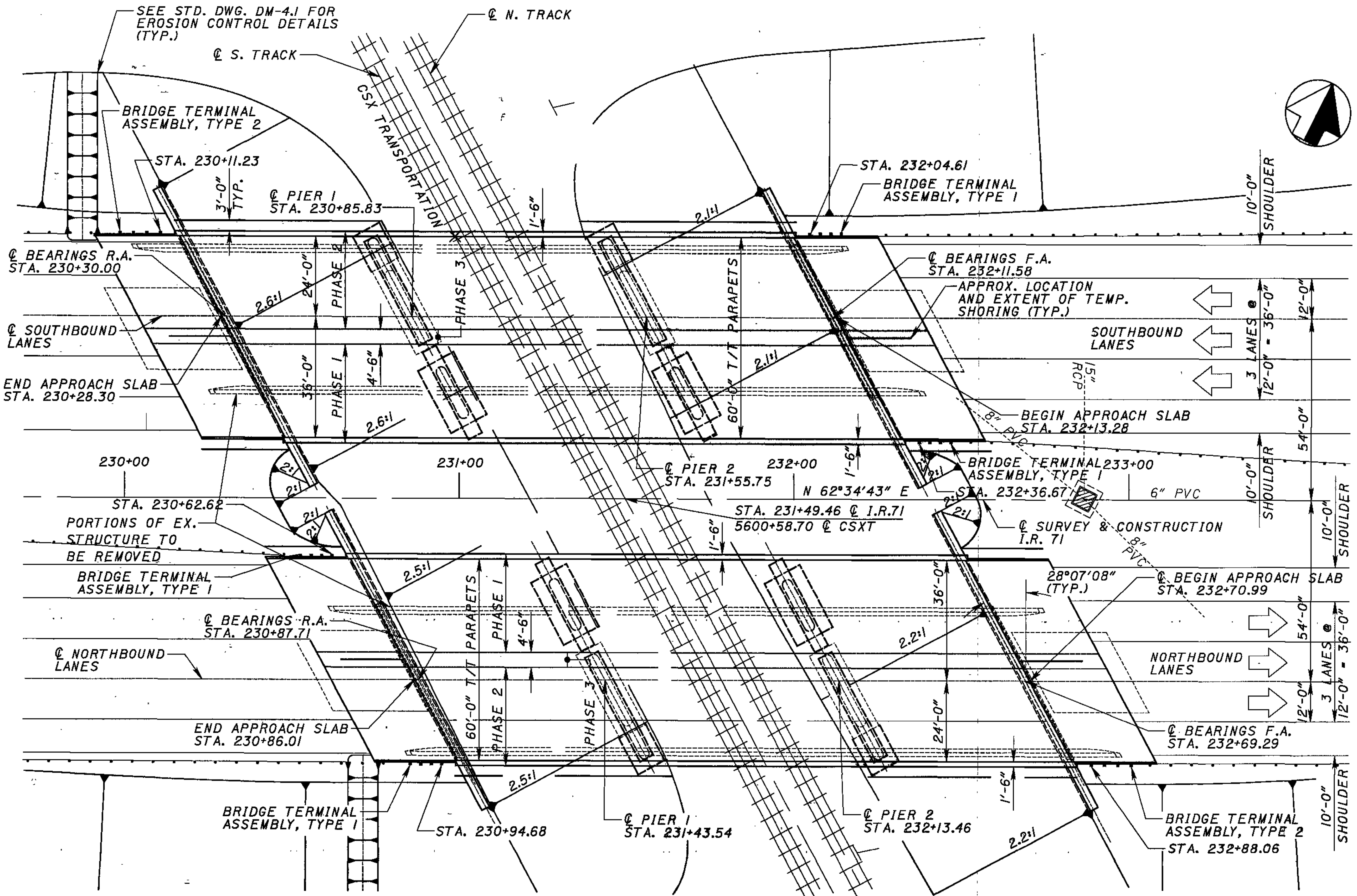
BRIDGE NO. MED-71-0437 L/R
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00

1/46

665/785

PLOTTED BY: Mbrcke 10/21/2003 11:24:21 AM p:\01202 Way-Med\Bridge\0437 Converted Drawings\ME071SP.DGN



PLAN

MOODY/NOLAN LTD., INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
TRS	TRS	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WTL		5202582-LEFT 5202612-RIGHT	

GENERAL PLAN
BRIDGE NO. MED-71-0437 L/R
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00

2/46

666/785

PLOTTED BY: MBrake 10/21/2003 11:25:38 AM D:\401202 Way-Med\Bridge\0437 Converted Drawings\ME0716P.dgn

GENERAL NOTES

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-81	DATED 07-19-02
BP-5.1	DATED 07-28-00
DM-1.1	DATED 07-18-02
DM-4.1	DATED 07-19-02
ICD-1-82	DATED 07-19-02
PCB-91	DATED 07-19-02
PSID-1-99	DATED 07-18-02
SBR-1-99	DATED 07-19-02

AND TO SUPPLEMENTAL SPECIFICATIONS:
846, TREATING CONCRETE BRIDGE DECKS WITH HMWM RESIN, DATED 04-19-02
864, SEALING OF CONCRETE SURFACES, DATED 07-11-00
894, HIGH PERFORMANCE CONCRETE FOR NEW BRIDGE DECKS WITH WARRANTY, DATED 10-18-03
954, HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM) RESIN, DATED 09-09-97
1079, QUALIFICATION AND EVALUATION OF PRESTRESSED CONCRETE FABRICATORS, DATED OCTOBER 18, 2002

DESIGN SPECIFICATIONS:
THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002 AND THE O.D.O.T BRIDGE DESIGN MANUAL.

DESIGN LOADING: HS25, AND THE ALTERNATE MILITARY LOADING. FUTURE WEARING SURFACE (FWS) OF 60 PSF.

DESIGN STRESSES: CONCRETE CLASS HP - COMPRESSIVE STRENGTH 4500 P.S.I. (SUPERSTRUCTURE) CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 P.S.I. (SUBSTRUCTURE) REINFORCING STEEL - ASTM A615 OR A996 GRADE 60 MINIMUM YIELD STRENGTH 60,000 P.S.I.

CONCRETE FOR PRESTRESSED BEAMS -
COMPRESSIVE STRENGTH (FINAL) - 7000 P.S.I. (RELEASE)
COMPRESSIVE STRENGTH (RELEASE) - 5000 P.S.I.

PRESTRESSING STRAND:
AREA - 0.167 IN^2
ULTIMATE STRENGTH - 270 KSI
INITIAL STRESS - 202.5 KSI
(LOW RELAXATION STRANDS)

DECK PROTECTION METHOD: EPOXY COATED REINFORCING STEEL; 2-1/2" CONCRETE COVER; SEALING OF CONCRETE SURFACES; HIGH PERFORMANCE CONCRETE.

MONOLITHIC WEARING SURFACE:
MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1" THICK.

ITEM 202.PORTIONS OF STRUCTURE REMOVED, AS PER PLAN: THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVAL. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

PROTECTION OF TRAFFIC: PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, SUBMIT PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR, PEDESTRIAN, BOAT, ECT.) ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE DIRECTOR AT LEAST 30 DAYS BEFORE CONSTRUCTION BEGINS. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. MAINTAIN THE TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE DIRECTOR. ALL COSTS ASSOCIATED WITH THIS TRAFFIC PROTECTION WILL BE INCLUDED WITH ITEM 202 FOR PAYMENT.

LOADING LIMITATIONS: NO PART OF THE STRUCTURE SHALL BE SUBJECTED TO UNIT STRESSES THAT EXCEED 136.5% OF ALLOWABLE UNIT STRESSES AS DEFINED IN THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DUE EITHER TO DEMOLITION, ERECTION OR CONSTRUCTION METHODS, OR TO THE USE OR MOVEMENT OF DEMOLITION OR ERECTION EQUIPMENT ON OR ACROSS THE STRUCTURE. SUBMIT STRUCTURAL ANALYSIS COMPUTATIONS, BY AN OHIO REGISTERED PROFESSIONAL ENGINEER, SHOWING THE ALLOWABLE STRESSES AND THE MAXIMUM STRESSES PRODUCED BY THE REMOVAL METHODS OR EQUIPMENT TO THE DIRECTOR AT LEAST 20 DAYS BEFORE CONSTRUCTION BEGINS.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE

UTILITY LINES: THE AFFECTED UTILITY(IES) LINES WILL BE RELOCATED BY MCI AT ODOT'S EXPENSE. THE CONTRACTOR AND UTILITY(IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

ITEM 516, INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN:
INSTALL A 3 FOOT WIDE NEOPRENE SHEET AT LOCATIONS SHOWN IN THE PLANS. SECURE THE NEOPRENE SHEETING TO THE CONCRETE WITH 1 ¼" X #10 GAGE (LENGTH X SHANK DIA.) GALVANIZED BUTTON HEAD SPIKES THROUGH A 1 INCH OUTSIDE DIAMETER, #10 GAGE GALVANIZED WASHER. MAXIMUM FASTENER SPACING IS 9 INCHES. USE OF OTHER SIMILAR GALVANIZED DEVICES, WHICH WILL NOT DAMAGE EITHER THE NEOPRENE OR THE CONCRETE WILL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

CENTER THE NEOPRENE STRIPS ON ALL JOINTS. FOR HORIZONTAL JOINTS, SECURE THE HORIZONTAL NEOPRENE STRIP BY USING A SINGLE LINE OF FASTENERS, STARTING AT 6 INCHES (+/-) FROM THE TOP OF THE NEOPRENE STRIP. FOR THE VERTICAL JOINTS SECURE THE VERTICAL NEOPRENE STRIP BY USING A SINGLE VERTICAL LINE OF FASTENERS, STARTING AT 6 INCHES (+/-) FROM THE VERTICAL EDGE OF THE NEOPRENE STRIP NEAREST TO THE CENTERLINE OF ROADWAY. FOR VERTICAL JOINTS, INSTALL 2 ADDITIONAL FASTENERS AT 6 INCHES, CENTER TO CENTER, ACROSS THE TOP OF THE NEOPRENE STRIP ON THE SAME SIDE OF THE VERTICAL JOINT AS THE SINGLE VERTICAL ROW OF FASTENERS IS LOCATED.

THE VERTICAL NEOPRENE STRIPS SHOULD COMPLETELY OVERLAP THE HORIZONTAL STRIPS. LAP LENGTHS OF THE HORIZONTAL STRIPS THAT ARE NOT VULCANIZED OR ADHESIVE BONDED, SHALL BE AT LEAST ONE FOOT IN LENGTH, OR 6 INCHES IN LENGTH IF THE LAP IS VULCANIZED OR ADHESIVE BONDED. NO LAPS ARE ACCEPTABLE IN VERTICALLY INSTALLED NEOPRENE STRIPS.

THE NEOPRENE SHEETING SHALL BE 3/32 INCH THICK GENERAL PURPOSE, HEAVY DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT. THE SHEETING SHALL BE "FAIRPRENE NUMBER NN-0003", BY E.I. DUPONT DE NEMOURS AND COMPANY, INC., "WINGPRENE" BY THE GOODYEAR TIRE AND RUBBER COMPANY, OR AN APPROVED ALTERNATE. THE NEOPRENE SHEETING SHALL CONFORM TO THE FOLLOWING:

DESCRIPTION OF TEST	ASTM METHOD	REQUIREMENT THICKNESS,
INCHES	D 751	094 +/-.01
BREAKING STRENGTH, GRAB WXF, LBS, MINIMUM	D 751	700 X 700
ADHESIVE STRIP, 1" WIDE X 2" LONG, LBS MINIMUM	D 751	9
BURST STRENGTH PSI, MINIMUM	D 751	1400
HEAT AGING, 70 HR, 212°F, 180° BEND WITHOUT CRACKING	D 2136	NO CRACKING OF COATING
LOW TEMPERATURE BRITTLENESS, 1 HR, -40° F, BEND AROUND ¼ INCH MANDREL	D 2136	NO CRACKING OF COATING

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE TOTAL LENGTH OF JOINT TO BE SEALED BY THE NUMBER OF FEET.

BASIS OF PAYMENT: THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN.

MECHANICAL CONNECTORS: AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING BARS SHALL BE PROVIDED. INSTALLATION OF CONNECTORS SHALL CONFORM WITH MANUFACTURER'S RECOMMENDED PROCEDURERS.

CONNECTORS SHALL CONFORM WITH ITEM 509 AND BE INCLUDED IN THE BID PRICE FOR ITEM 509 REINFORCING STEEL.

CONNECTORS USED WITH EPOXY COATED BARS SHALL BE EPOXY COATED. COATING FOR BOTH CONNECTORS AND BARS SHALL CONFORM TO THE SAME SPECIFICATIONS. COATINGS WHICH HAVE BEEN DAMAGED OR WHICH OTHERWISE DO NOT MEET SPECIFICATIONS WITH RESPECT TO COLOR, CONTINUITY AND UNIFORMITY MAY BE REPAIRED AS DIRECTED BY THE ENGINEER OR THEY SHALL BE REPLACED WITH MATERIAL THAT MEETS THE SPECIFICATIONS. CONNECTORS SHALL CONFORM WITH ITEM 509 AND BE INCLUDED IN THE BID PRICE FOR ITEM 509 REINFORCING STEEL.

DRIP GROOVES: THE DRIP GROOVES DETAILED ON STANDARD CONSTRUCTION DRAWINGS SHALL NOT BE CONSTRUCTED.

CSXT RAILROAD REQUIREMENTS

ALL REFERENCE TO "THE RAILROAD" OR "THE RAILROAD COMPANY" HEREIN SHALL BE MEANT TO APPLY TO CSX TRANSPORTATION (CSXT).

GENERAL

FOR ADDITIONAL REQUIREMENTS PERTAINING TO THE RAILROADS, SEE SPECIAL CLAUSES IN THE PROPOSAL.

THE CONTRACTOR SHALL:

1. COOPERATE AT ALL TIMES WITH THE LOCAL OFFICIALS OF THE RAILROAD COMPANY.

2. USE CARE AND DILIGENCE IN THE WORK IN ORDER TO AVOID ACCIDENTS, DAMAGE, OR UNNECESSARY DELAY TO, OR INTERFERENCE WITH THE TRAINS AND OTHER PROPERTY OF THE RAILROAD COMPANIES.

3. CONDUCT WORK IN A MANNER SATISFACTORY TO THE CHIEF ENGINEER OF THE RAILROAD COMPANY OR ITS AUTHORIZED REPRESENTATIVE, IN SUCH MANNER AND AT SUCH TIME AS TO NOT UNNECCESSARILY INTERFERE WITH THE MOVEMENT OF TRAINS OR RAILROAD TRAFFIC, AND TO HOLD THE WORK AT ALL TIMES OPEN TO INSPECTION BY RAILROAD COMPANY INSPECTORS.

4. COOPERATE WITH RAILROAD COMPANIES OR OTHER ORGANIZATIONS HAVING OCCASION TO DO WORK ON AND IN CONNECTION WITH THE IMPROVEMENT.

5. AVOID USE OF RAILROAD PROPERTY WITHOUT WRITTEN PERMISSION OF THE RAILROAD COMPANIES AND LEAVE RAILROAD BED AND PROPERTY IN A CONDITION ACCEPTABLE TO THE CHIEF ENGINEER OF THE RAILROAD COMPANY.

PRIOR TO COMMENCING ANY WORK INVOLVING THE REMOVAL OF THE EXISTING STRUCTURE, THE CONTRACTOR SHALL SUBMIT TO THE DIRECTOR AND THE RAILROAD FOR APPROVAL BY THE DIRECTOR AND THE RAILROAD, COMPLETE DETAILS OF THE PROPOSED METHOD FOR REMOVING THE EXISTING STRUCTURE, INCLUDING THE METHOD OF TRACK PROTECTION, THE SEQUENCE OF DEMOLITION, AND THE PROCEDURES AND EQUIPMENT TO BE USED. NO DEMOLITION SHALL BEGIN UNTIL AFTER WRITTEN APPROVAL IS RECEIVED FROM THE DIRECTOR.

ALL WORK ABOVE OR DIRECTLY ADJACENT TO RAILROAD TRACKS SHALL BE SUBJECT TO THE APPROVAL OF THE RAILROAD COMPANY AND TO INSPECTION AT ALL TIMES BY ITS PROPERLY DESIGNATED REPRESENTATIVE. WHENEVER PERFORMING ANY WORK SUCH AS DEMOLITION, CONSTRUCTION OF PIERS OR SETTING OF NEW BEAMS, WHICH IN THE OPINION OF THE ENGINEER, COULD AFFECT RAILROAD OPERATION, THE CONTRACTOR SHALL SUBMIT COMPLETE PLANS AND DETAILS OF THE PROPOSED WORK TO THE ENGINEER AND RAILROAD COMPANY FOR APPROVAL. SAFETY AND CONTINUITY OF OPERATIONS OF RAILROAD TRAFFIC AND THE PROTECTION OF RAILROAD COMMUNICATION AND POWER LINES SHALL BE OF MAJOR IMPORTANCE AND SHALL AT ALL TIMES BE PROTECTED AND SAFE GUARDED. CONTRACTOR FORCES WORKING WITHIN THE RAILROAD SAFETY ZONE MUST PARTICIPATE IN A JOB BRIEFING CONDUCTED BY THE CSXT FLAGPERSON THAT WILL OUTLINE SPECIFIC HAZARDS TO THEIR WORK ASSOCIATED WITH TRAIN OPERATIONS. CSX ROADMASTER DAN KINNER MUST BE CONTACTED (PHONE: 330-949-2225) 30 DAYS IN ADVANCE TO ARRANGE FOR CSX FLAGMAN PRIOR TO ANY ACCESS ON CSX PROPERTY.

THE CONTRACTOR SHALL NOT AT ANY TIME PERMIT EQUIPMENT IN HIS USE TO ENTER UPON OR FOUL THE RAILROAD TRACKS EXCEPT WHEN SUCH EQUIPMENT IS PROTECTED BY AUTHORIZED EMPLOYEES OF THE RAILROAD. NO DEBRIS SHALL BE ALLOWED TO FALL ON RAILROAD PROPERTY.

THE EXISTING DRAINAGE / DITCH CONDITIONS WITHIN THE RAILROAD RIGHT OF WAY SHALL NOT BE ALTERED BY THE CONTRACTOR'S OPERATIONS. ANY DISTURBANCE OF EXISTING DRAINAGE CONDITIONS WITHIN THE RAILROAD RIGHT OF WAY, CAUSED BY THE CONTRACTOR'S OPERATIONS, SHALL BE REMEDIED BY THE CONTRACTOR AT HIS EXPENSE SUBJECT TO APPROVAL OF CSXT.

PIER EXCAVATION FALLS WITHIN THE THEORETICAL SLOPE LINE STARTING 1'-6" BELOW TOP OF RAIL AND 12'-0" FROM CENTER OF TRACK. CONSEQUENTLY, SHEETING WILL BE REQUIRED. EXCAVATION ADJACENT TO THE TRACKS SHALL BE PROVIDED WITH BARRICADES AS REQUIRED BY CSX. THE CONTRACTOR SHALL SUBMIT THREE SETS OF DETAILED DRAWINGS OF THE SHORING SYSTEM INCLUDING CONSTRUCTION PROCEDURES AND ONE SET OF CALCULATIONS TO THE RAILROAD FOR APPROVAL. PAYMENT FOR SHEETING IS INCLUDED WITH ITEM 503 - COFFERDAMS, CRIBS, AND SHEETING, AS PER PLAN.

THE CONTRACTOR SHALL PROVIDE A SURVEY CREW TO MONITOR ELEVATION AND ALIGNMENT OF THE RAILROAD TRACK DURING THE INSTALLATION OF TEMPORARY SHEETING AND PILING WITHIN CSXT RIGHT-OF-WAY.

RAILROAD SUBMITTAL OF ALL PLANS, DETAILS CALCULATIONS AND PROCEDURES WILL REQUIRE A MINIMUM OF 30 DAYS FOR RAILROAD REVIEW AND ARE TO BE SENT TO CSX TRANSPORTATION INC., DAVE FETTE, DISTRICT PROJECT ENGINEER, 1717 DIXIE HIGHWAY, SUITE 400, FT WRIGHT, KENTUCKY 41011. NO SUCH WORK SHALL BE COMMENCED OR PROSECUTED WITHOUT PRIOR APPROVAL. APPROVAL OF SUCH WORK SHALL NOT BE CONSTRUED AS A RELEASE FROM RESPONSIBILITY OR LIABILITY FOR ANY DAMAGE THAT RAILROADS MAY SUFFER.

THE CONTRACTOR SHALL PROVIDE A SURVEY CREW TO MONITOR ELEVATION AND ALIGNMENT OF THE RAILROAD TRACK DURING THE INSTALLATION OF TEMPORARY SHEETING AND PILING WITHIN CSXT RIGHT-OF-WAY.

RAILROAD AERIAL LINES WILL BE RELOCATED BY THE RAILROAD. THE CONTRACTOR SHALL USE ALL PRECAUTIONS NECESSARY TO SEE THAT THE LINES ARE NOT DISTURBED DURING THE CONSTRUCTION STAGE AND SHALL COOPERATE WITH THE RAILROADS IN THE RELOCATION OF THESES LINES. THE COST OF RELOCATION SHALL BE INCLUDED IN RAILROAD FORCE ACCOUNT WORK.

THE FOLLOWING CONSTRUCTION CLEARANCES SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION OF THE NEW STRUCTURE:

HORIZONTALLY FROM THE CENTER OF THE TRACK: 14'-0"
VERTICALLY FROM A POINT LEVEL WITH THE TOP
OF THE HIGHER RAIL - 6 FEET FROM THE
CENTER OF THE TRACKS 22'-0"

NO OBSTRUCTIONS CLOSER TO THE TRACK THAN PERMITTED BY CONSTRUCTION CLEARANCES SHALL EXTEND ABOVE THE TOP OF RAIL. DURING REMOVAL OF THE EXISTING STRUCTURE, THE HORIZONTAL AND VERTICAL CLEARANCE SHALL NOT BE LESS THAN THE EXISTING OR PROPOSED CLEARANCE WHICHEVER IS LESS.

SHORT DURATION INFRINGEMENTS ON THE ABOVE STATED CONSTRUCTION CLEARANCE SHALL BE DONE ONLY WITH APPROVAL FROM THE RAILROAD AND UNDER THE DIRECTION OF RAILROAD FLAGGERS OR AUTHORIZED PERSONNEL.

UPON COMPLETION OF THE PROPOSED STRUCTURE, THE CONTRACTOR SHALL REQUEST THE ENGINEER TO ARRANGE A FINAL INSPECTION OF THE PROJECT WITH THE RAILROAD'S DIVISION ENGINEER OR HIS AUTHORIZED REPRESENTATIVE.

ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN:
THE BACKFILL MATERIAL BEHIND THE ABUTMENTS SHALL BE TYPE B GRANULAR MATERIAL, 703.16.C, PLACED AND COMPACTED IN 6 INCH LIFTS.

PILE DRIVING CONSTRAINTS:
PRIOR TO DRIVING PILES, CONSTRUCT THE SPILL THROUGH SLOPES AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENTS UP TO THE LEVEL OF THE SUBGRADE ELEVATION FOR A MINIMUM DISTANCE OF 200 FEET BEHIND EACH ABUTMENT. DO NOT BEGIN THE EXCAVATION FOR THE ABUTMENT FOOTINGS AND THE INSTALLATION OF THE ABUTMENT PILES UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED.

PILE DESIGN LOADS (ULTIMATE BEARING VALUE):
THE ULTIMATE BEARING VALUE IS 90 TONS PER PILE FOR THE 12 INCH DIAMETER CAST-IN-PLACE REINFORCED CONCRETE ABUTMENT PILES. THE ULTIMATE BEARING VALUE IS 80 TONS PER PILE FOR THE 12 INCH DIAMETER CAST-IN-PLACE REINFORCED CONCRETE PIER PILES.

LEFT BRIDGE	RIGHT BRIDGE
REAR AND FORWARD ABUTMENT PILES:	REAR AND FORWARD ABUTMENT PILES:
32 PILES 65 FEET LONG, ORDER LENGTH	32 PILES 65 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEMS	0 DYNAMIC LOAD TESTING ITEMS
PIER PILES	PIER PILES
58 PILES 45 FEET LONG, ORDER LENGTH (REAR)	58 PILES 45 FEET LONG, ORDER LENGTH (REAR)
1 DYNAMIC LOAD TESTING ITEMS	0 DYNAMIC LOAD TESTING ITEMS

EXISTING STRUCTURE VERIFICATION:
DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.

RAILROAD INSURANCE INFORMATION
OWNER OF THIS RAILROAD CROSSING IS CSX TRANSPORTATION, INC. THE NUMBER OF TRAINS OPERATING THROUGH THE IMPROVEMENT IS ESTIMATED TO BE: 30 PASSENGER TRAINS PER DAY @ 60 MILES PER HOUR. 2 FREIGHT TRAINS PER DAY @ 79 MILES PER HOUR. THE IDENTIFICATION OF THE CROSSING IS KNOWN AS: MILEPOST: BG-161.56 GREAT LAKES DIVISION, NEW CASTLE SUBDIVISION
AARDOT NO.: 142 045Y
LOCAL CONTACT PERSON FOR FLAGGING: DAN KINNER, CSXT ROADMASTER
PHONE: 330-948-2225

CSX TRANSPORTATION, INC. MAY REQUIRE ADVANCE NOTICE WHEN FLAGGING SERVICES ARE REQUIRED.

CONTINUED ON SHEET 3A/46.

GENERAL NOTES
BRIDGE NO. MED-71-0437L
OVER CSXT RAILROAD

DESIGNED	DRAWN	REVIEWED	DATE
PHB	RM	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
RM		5202582-LEFT 5202612-RIGHT	

MOODY/NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) [illegible]

WAY/MED-71-7.04/0.00

PLOTTED BY: MBrake 10/21/2003 11:26:38 AM pt#01202 Way-Med#Bridge#0437 Converted Drawings#ME071GN1convert2d.dgn

GENERAL NOTES CONTINUED

ITEM 530, SPECIAL - STRUCTURE, MISC.: ESTABLISH SUBSTRUCTURE CENTERLINES:
PRIOR TO THE START OF ANY WORK, THE CONTRACTOR SHALL ESTABLISH THE PROPOSED ABUTMENT CENTERLINE OF BEARINGS AND PIER CENTERLINES. A REGISTERED PROFESSIONAL SURVEYOR SHALL PERFORM THIS WORK. CENTERLINE OF BEARINGS AT THE ABUTMENTS SHALL BE BASED ON LOCATING THE CENTERLINE OF EXISTING BRIDGE SEAT (1'-0" FROM FRONT FACE OF BREASTWALL) AND OFFSETTING THIS LINE BY 9" TOWARDS THE APPROACH SLAB. THIS OFFSET LINE SHALL BECOME THE PROPOSED CENTERLINE BEARINGS OF EACH ABUTMENT.

CENTERLINE OF PIERS SHALL BE BASED ON LOCATING THE CENTERLINE OF THE EXISTING PIER CAPS. THIS LINE SHALL BECOME THE PROPOSED CENTERLINE OF EACH PIER.

IF THE ANGLE BETWEEN THE INTERSECTION OF CENTERLINE OF BEARINGS AT THE ABUTMENTS OR CENTERLINE OF PIERS AT THE PIERS AND THE REFERENCE CHORD OR THE DIMENSIONS BETWEEN THE CENTERLINES ALONG THE REFERENCE CHORD DIFFER FROM INFORMATION SHOWN ON THE PLANS, BEAM LENGTH ADJUSTMENT MAY BE REQUIRED TO COMPENSATE FOR THIS DIFFERENCE.

SURVEY RESULTS (INCLUDING PROPOSED SPAN LENGTHS MEASURED ALONG THE REFERENCE CHORD) SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO THE START OF CONSTRUCTION. ALL COSTS ASSOCIATED WITH PERFORMING THIS ITEM SHALL BE INCLUDED IN THE LUMP SUM PAY ITEM "SPECIAL-STRUCTURE, MISC.: ESTABLISH SUBSTRUCTURE CENTERLINES."

ITEM 503 - COFFERDAMS, CRIBS, AND SHEETING, AS PER PLAN:
AT THE OPTION OF THE CONTRACTOR, AN ALTERNATE METHOD OF TEMPORARY SHORING FOR PART-WIDTH CONSTRUCTION MAY BE USED. PLANS FOR SUCH SHORING SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER AND CONFORM WITH 501.05. FOR APPROVAL, FIVE COPIES OF THE DRAWINGS SHALL BE SUBMITTED TO THE DIRECTOR AND CONCURRENTLY, ONE COPY TO THE OFFICE OF STRUCTURAL ENGINEERING. CONSTRUCTION OF THE SHORING SHALL NOT BEGIN UNTIL AFTER WRITTEN APPROVAL HAS BEEN RECEIVED FROM THE DIRECTOR. PORTIONS OF THE TEMPORARY SHORING COMPOSED OF STEEL OR CONCRETE MAY BE LEFT IN PLACE AT THE DISCRETION OF THE ENGINEER. PORTIONS COMPOSED OF OTHER MATERIALS SHALL BE REMOVED PRIOR TO COMPLETION OF THE WORK.

TEMPORARY SHORING FOR PIER FOOTING EXCAVATIONS ADJACENT THE RAILROAD TRACKS DESCRIBED IN THE CSXT RAILROAD REQUIREMENTS NOTE ON SHEET 3/46 IS ALSO INCLUDED FOR PAYMENT IN ITEM 503 - COFFERDAMS, CRIBS, AND SHEETING AS PER PLAN.

ITEM 894 HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY, AS PER PLAN:

GENERAL REQUIREMENTS:
THE PROVISIONS OF ITEM 894 SHALL APPLY EXCEPT AS NOTED BELOW.

MIX OPTIONS:
ALL SUPERSTRUCTURE CONCRETE SHALL BE THIS MIX (HP4, AS PER PLAN). ALL OTHER STRUCTURE CONCRETE SHALL BE THIS MIX OR MIX 2 CONCRETE.

THE FOLLOWING PROPORTIONS WILL BE USED AS A STARTING MIX DESIGN.

CONCRETE TABLE
QUANTITIES PER CUBIC YARD
AGGREGATES (SSD)

HP4, AS PER PLAN (GGBF SLAG + MICROSILICA)

AGGREGATE TYPE	FINE AGGRE. (LB)	**8 COARSE AGGRE. (LB)	**57 COARSE AGGRE. (LB)	TOTAL (LB)	CEMENT CONTENT (LB)	GGBF SLAG (LB)	MICRO-SILICA (LB)	WATER TO CEMENTITIOUS RATIO ± .02	AIR CONTENT ± 2%
GRAVEL	1245	360	1315	2920	400	170	30	0.42	7
LIMESTONE	1245	360	1335	2940	400	170	30	0.42	7
SLAG	1245	315	1155	2715	400	170	30	0.42	7

* ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED PER ASTM C127. THE WEIGHTS SPECIFIED IN THE CONCRETE TABLE FOR MATERIALS OF THE FOLLOWING BULK SPECIFIED GRAVITIES (SSD): NATURAL SAND AND GRAVEL 2.62, LIMESTONE SAND 2.68, LIMESTONE 2.65, SLAG 2.30, FLY ASH 2.65, GGBF SLAG 2.90, MICROSILICA SOLIDS 2.20, AND PORTLAND CEMENT 3.15. FOR AGGREGATES OF SPECIFIC GRAVITIES DIFFERING MORE THAN PLUS OR MINUS 0.02 FROM THESE, THE WEIGHTS IN THE TABLE WILL BE CORRECTED.

PARAPET CONSTRUCTION (FORMED AND POURED):

FORMS SHALL NOT BE REMOVED UNTIL AT LEAST 2 HOURS AFTER THE FINAL SET. DETERMINATION OF THE FINAL SET SHALL BE AS PER ASTM C266 (GILLMORE NEEDLE). TESTING SHALL BE PREFORMED BY THE CONTRACTOR AT NO COST TO THE STATE.

THE MINIMUM CONCRETE SLUMP DURING PLACEMENT OF FORMED CONCRETE PARAPETS SHALL BE 6 INCHES, WITH A MAXIMUM SLUMP OF 8 INCHES.

ANCHOR BOLTS FOR FENCE POSTS SHALL BE CAST IN PLACE.

PARAPET CONSTRUCTION (SLIP FORMED):

SLIP FORMING SHALL NOT BE PERFORMED DIRECTLY OVER AREAS WHERE THERE IS OR WILL BE VEHICULAR OR PEDESTRIAN TRAFFIC (WHICH INCLUDES RAILROADS AND WATER CRAFTS). AT THESE LOCATIONS, THE PARAPETS SHALL BE FORMED AND POURED.

THE CONTRACTOR IS ONLY ALLOWED THE OPTION OF SLIP FORMING BRIDGE PARAPETS OVER NON TRAVELED WAYS, AND ONLY AFTER THE SUCCESSFUL COMPLETION OF A TEST SECTION TWENTY FEET LONG. A MINIMUM OF 3 DAYS AFTER PLACING THE TEST SECTION, THE CONTRACTOR SHALL CORE THE TEST SECTION (A MINIMUM OF 3 CORES) AT LOCATIONS AS DIRECTED BY THE ENGINEER. APPROVAL TO SLIP FORM SHALL NOT BE GRANTED UNTIL AFTER THE CORING AND AFTER A SUCCESSFUL SLIP FORMING RESULT IS OBTAINED.

IN ADDITION TO THE REQUIREMENTS OF THE LAST PARAGRAPH OF 511.11 THE ENGINEER WILL INSPECT THE SLIP FORMED SURFACE FOR HORIZONTAL CRACKING 6 MONTHS AFTER COMPLETION OF THE SLIP FORMING OPERATION. ANY ADDITIONAL CRACKS FOUND SHALL BE REPAIRED AS PER THE SPECIFICATIONS AT NO ADDITIONAL COST TO THE STATE.

ALL ANCHOR BOLTS FOR FENCE POSTS SHALL BE CAST IN PLACE.

THE MINIMUM CONCRETE SLUMP DURING PLACEMENT OF SLIP FORMED CONCRETE PARAPETS SHALL BE 1 INCH WITH A MAXIMUM SLUMP OF 1½ INCHES.

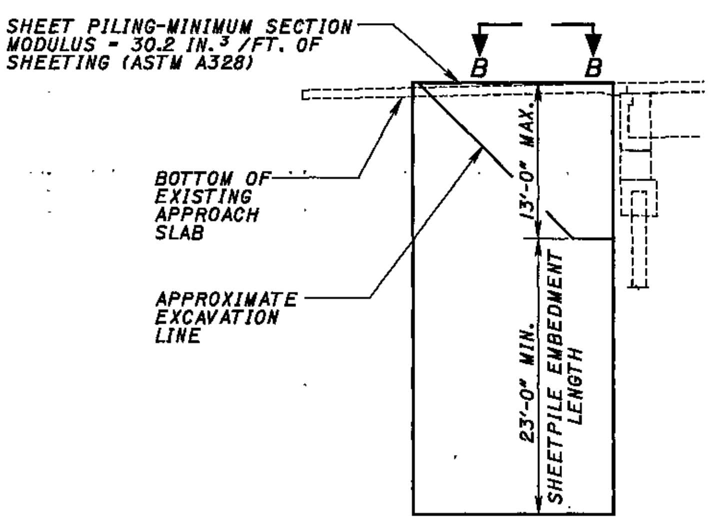
THE WATER CEMENT RATIO FOR SLIP FORMED PARAPETS SHALL NOT BE LESS THAN THE WATER CEMENT RATIO USED FOR THE DECK CONCRETE. REDUCE SLUMP BY LIMITING THE USE OF SUPERPLASTICIZERS.

CRACK CONTROL JOINTS:

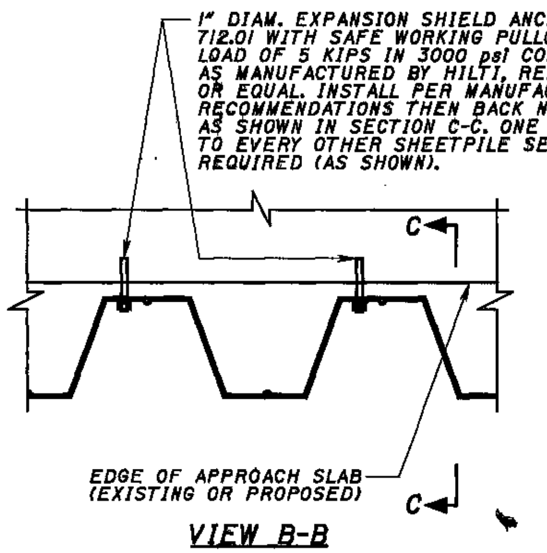
FOR BOTH SLIP FORMED AND FORMED AND POURED PARAPETS, THE CONTRACTOR SHALL CONSTRUCT 1½" DEEP AND ¼" WIDE CRACK CONTROL JOINTS SPACED AT A MINIMUM OF 6 FT AND A MAXIMUM OF 8 FT ON CENTER. THE CRACK CONTROL JOINTS SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE PARAPET, STARTING AND ENDING AT THE ELEVATION OF THE TOP OF THE CONCRETE DECK. THE CONTRACTOR MAY EITHER FORM THE CRACK CONTROL JOINTS IN WITH FORM LINERS, OR, WITHIN 24 HOURS OF PLACEMENT, SAW CUT THE CRACK CONTROL JOINTS IN WITH THE USE OF AN EDGE GUIDE, FENCE, OR JIG WHICH IS REQUIRED TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET. THE ENTIRE LENGTH OF EACH CONTROL JOINT SHALL BE SEALED TO A MINIMUM DEPTH OF 1½" WITH A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION, TT-S-00227E.

BASIS OF PAYMENT:
PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT BID PRICE FOR:

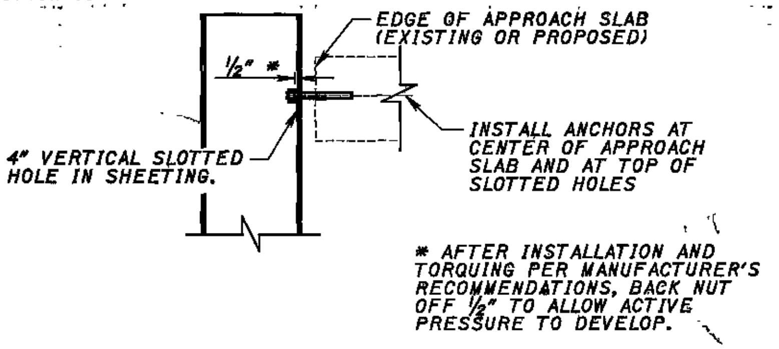
ITEM	UNITS	DESCRIPTION
511E52000	LUMP SUM	CLASS HP CONCRETE, TEST SLAB
894E10001	CUBIC YARD	HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY, AS PER PLAN


SHEET PILING-MINIMUM SECTION MODULUS = 30.2 IN.³ /FT. OF SHEETING (ASTM A328)
B
B
BOTTOM OF EXISTING APPROACH SLAB
APPROXIMATE EXCAVATION LINE
13'-0" MAX.
23'-0" MIN.
SHEETPILE EMBEDMENT LENGTH

ELEVATION VIEW


1" DIAM. EXPANSION SHIELD ANCHOR PER 712.01 WITH SAFE WORKING PULLOUT LOAD OF 5 KIPS IN 3000 psi CONCRETE AS MANUFACTURED BY HILTI, RED HEAD OR EQUAL. INSTALL PER MANUFACTURER'S RECOMMENDATIONS THEN BACK NUTS OFF AS SHOWN IN SECTION C-C. ONE BOLT ATTACHED TO EVERY OTHER SHEETPILE SECTION IS REQUIRED (AS SHOWN).
C
C
EDGE OF APPROACH SLAB (EXISTING OR PROPOSED)

VIEW B-B


½" *
EDGE OF APPROACH SLAB (EXISTING OR PROPOSED)
4" VERTICAL SLOTTED HOLE IN SHEETING.
INSTALL ANCHORS AT CENTER OF APPROACH SLAB AND AT TOP OF SLOTTED HOLES

* AFTER INSTALLATION AND TORQUING PER MANUFACTURER'S RECOMMENDATIONS, BACK NUT OFF ½" TO ALLOW ACTIVE PRESSURE TO DEVELOP.

SECTION C-C

SHORING DETAILS

(TO BE PAID FOR WITH ITEM 503 - COFFERDAMS, CRIBS, AND SHEETING, AS PER PLAN)

MOODY NOLAN INC
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
TTK/VEA	CRC	GT	6/03

CHECKED	REVISED	STRUCTURE FILE NUMBER
WTL		5202582-LEFT 5202612-RIGHT

GENERAL NOTES 2
BRIDGE NO. MED-71-0437 L/R
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00

3A/46

667A
785

PLOTTED BY: MBrake 10/21/2003 11:27:43 AM p:\01202 May-Med\Bridge\0437 Converted Drawings\MEGnotes2_0437.dgn

COMPUTED BY : RM DATE : 6/03
CHECKED BY : MRG DATE : 6/03

ESTIMATED QUANTITIES

ITEM	ITEM EXT.	LEFT BRIDGE	RIGHT BRIDGE	UNIT	DESCRIPTION	LEFT BRIDGE				RIGHT BRIDGE				
						ABUTS.	PIERS	SUPER	GENERAL	ABUTS.	PIERS	SUPER	GENERAL	REF. SHT. NO.
202	11203	LUMP	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP				LUMP	3
202	98000	LUMP	LUMP		REMOVAL MISC.: PHASE I T-TYPE PIER SUPPORT				LUMP				LUMP	
503	11101	LUMP	LUMP		COFFERDAMS, CRIBS AND SHEETING, AS PER PLAN				LUMP				LUMP	3A
503	21101	244	246	CU YD	UNCLASSIFIED EXCAVATION, AS PER PLAN	244				246				3
505	11100	LUMP	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION				LUMP				LUMP	
507	00500	4240	4240	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN	1920	2320			1920	2320			
507	00550	4690	4690	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED	2080	2610			2080	2610			
509	10000	173535	172815	POUND	EPOXY COATED REINFORCING STEEL	14748	28098	130689		14445	27674	130696		
510	09950	158	158	EACH	DOWEL HOLES WITH CEMENT GROUT		158				158			
511	40500	118	113	CU YD	CLASS C, CONCRETE, PIER ABOVE FOOTINGS (WALLS)		118				113			
511	42000	115	108	CU YD	CLASS C, CONCRETE, PIER ABOVE FOOTINGS (T TYPE)		115				108			
511	43500	170	171	CU YD	CLASS C, CONCRETE, ABUTMENT INCLUDING FOOTING	170				171				
511	46500	80	80	CU YD	CLASS C, CONCRETE, FOOTING		80				80			
511	52000	LUMP	LUMP		CLASS HP CONCRETE, TEST SLAB				LUMP				LUMP	
512	33000	10	15	SQ YD	TYPE 2 WATERPROOFING	10				15				
515	15010	18	18	EACH	DRAPED STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 3, TYPE 3			18				18		
515	20000	15	15	EACH	INTERMEDIATE DIAPHRAGMS			15				15		
516	13200	197	197	SQ FT	½" PREFORMED EXPANSION JOINT FILLER	197				197				
516	13600	93	86	SQ FT	1" PREFORMED EXPANSION JOINT FILLER	93				86				
516	13900	1	1	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	1				1				
516	14015	159	159	FT	INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN	159				159				3
516	44000	12	12	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE)	12				12				
					(1$\frac{9}{16}$" x 9" x 1'-1")									
516	44200	24	24	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE)		24				24			
					(3$\frac{7}{8}$"" x 12" x 1'-5")									
518	21200	150	155	CU YD	POROUS BACKFILL WITH FILTER FABRIC	150				155				
518	40000	202	202	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	202				202				
518	40010	56	58	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	56				58				
523	20000	2	0	EACH	DYNAMIC PILE TEST	1	1			0	0			
526	25000	339	339	SQ YD	REINFORCED CONCRETE APPROACH SLABS (T=15")				339				339	
SPECIAL	53000200	LUMP	LUMP		STRUCTURE, MISC.: ESTABLISH STRUCTURE CENTERLINES				LUMP				LUMP	
601	20000	1301	1296	SQ YD	CRUSHED AGGREGATE SLOPE PROTECTION 1'-6" THICK (TYP.)				1301				1296	
604	36600	2	2	EACH	PRECAST REINFORCED CONCRETE OUTLET	2				2				
625	25600	201	201	FT	CONDUIT, 4", 725.04				201				201	
625	30707	2	2	EACH	PULL BOX, 725.08, 24", AS PER PLAN				2				2	482A/785
864	10100	919	924	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	135		784		140		784		
894	10001	466	469	CU YD	HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY, AS PER PLAN			466				469		3A

MOODY NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

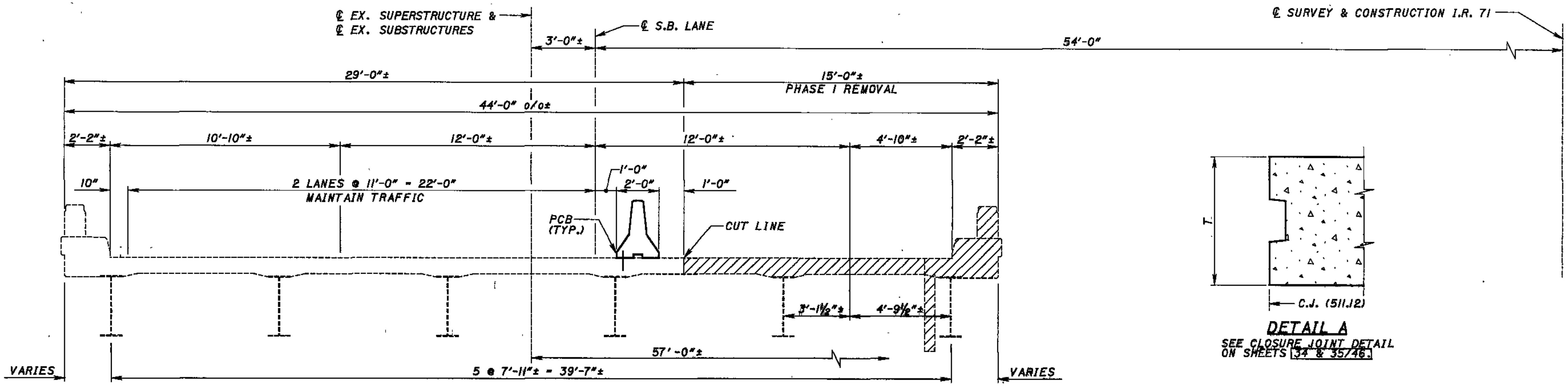
DESIGNED	DRAWN	REVIEWED	DATE
RM	RM	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MRG		5202612 RT. 5202582 LT.	

ESTIMATED QUANTITIES
BRIDGE NO. MED-71-0437 L/R
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00

4/46

668/785

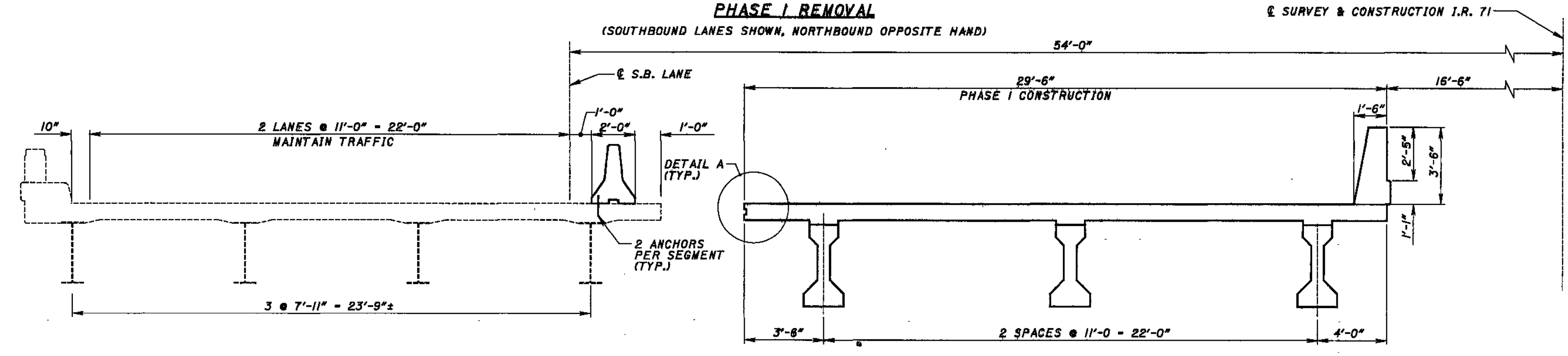


DETAIL A

SEE CLOSURE JOINT DETAIL ON SHEETS 34 & 35/46.

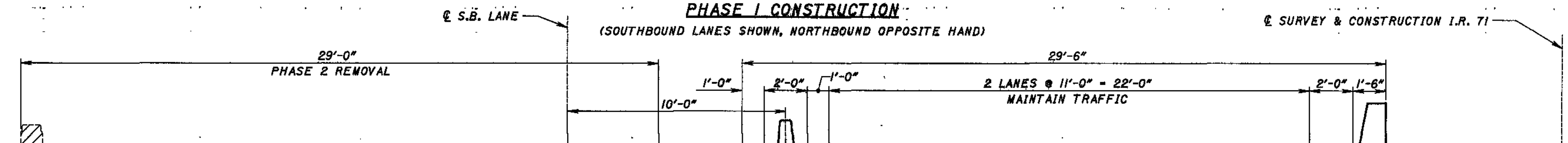
PHASE I REMOVAL

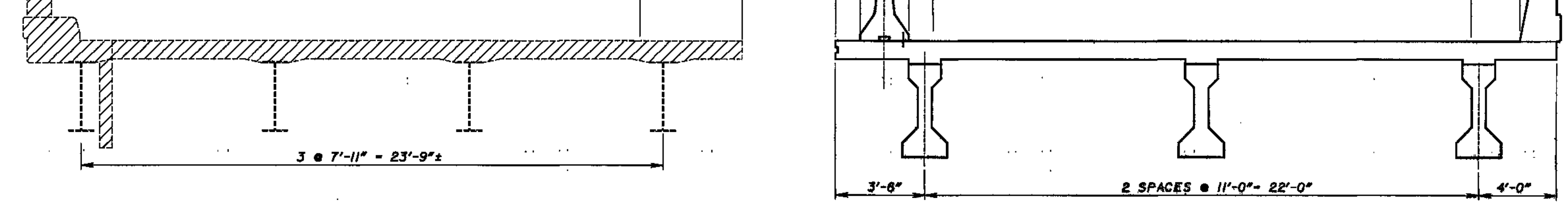
(SOUTHBOUND LANES SHOWN, NORTHBOUND OPPOSITE HAND)



PHASE I CONSTRUCTION

(SOUTHBOUND LANES SHOWN, NORTHBOUND OPPOSITE HAND)





PHASE 2 REMOVAL

(SOUTHBOUND LANES SHOWN, NORTHBOUND OPPOSITE HAND)

NOTES:

1. ALL HORIZONTAL DIMENSIONS ARE MEASURED NORMAL TO ℄ SURVEY & CONSTRUCTION I.R. 71.
2. ROADWAY CROWN NOT SHOWN. SEE TYPICAL DECK CROSS SECTION FOR APPROPRIATE SURFACE GEOMETRY.

LEGEND:

▨ - REMOVALS

PCB - PORTABLE CONCRETE BARRIER

C.J. - CONSTRUCTION JOINT

MOODY/NOLAN INC
Architecture·Engineering·Planning·Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

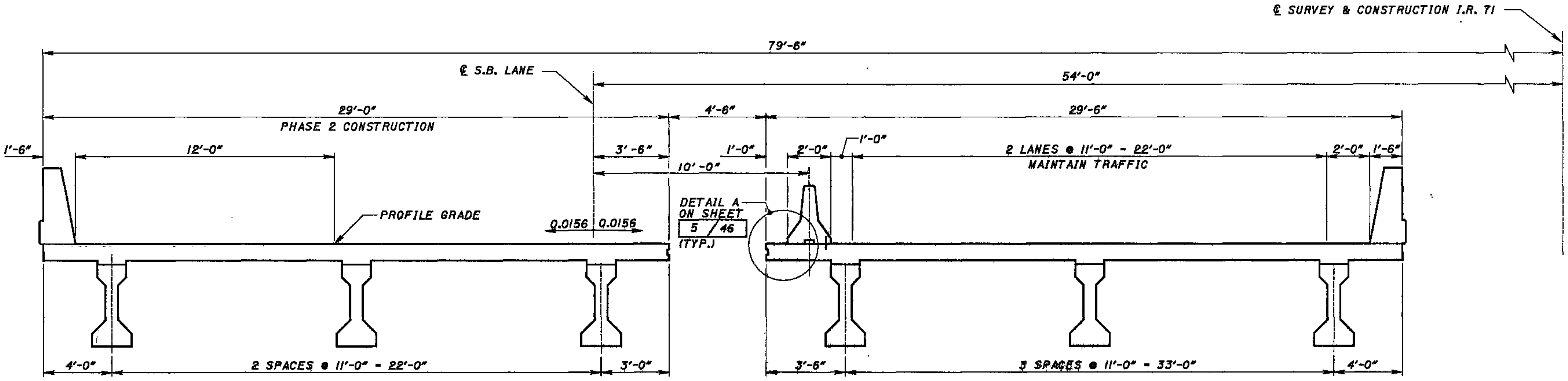
DESIGNED	DRAWN	REVIEWED	DATE
PHB	MR	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RM		5202582-LEFT 5202612-RIGHT	

PHASE CONSTRUCTION DETAILS - I

BRIDGE NO. MED-71-0437 L/R
OVER CSXT RAILROAD

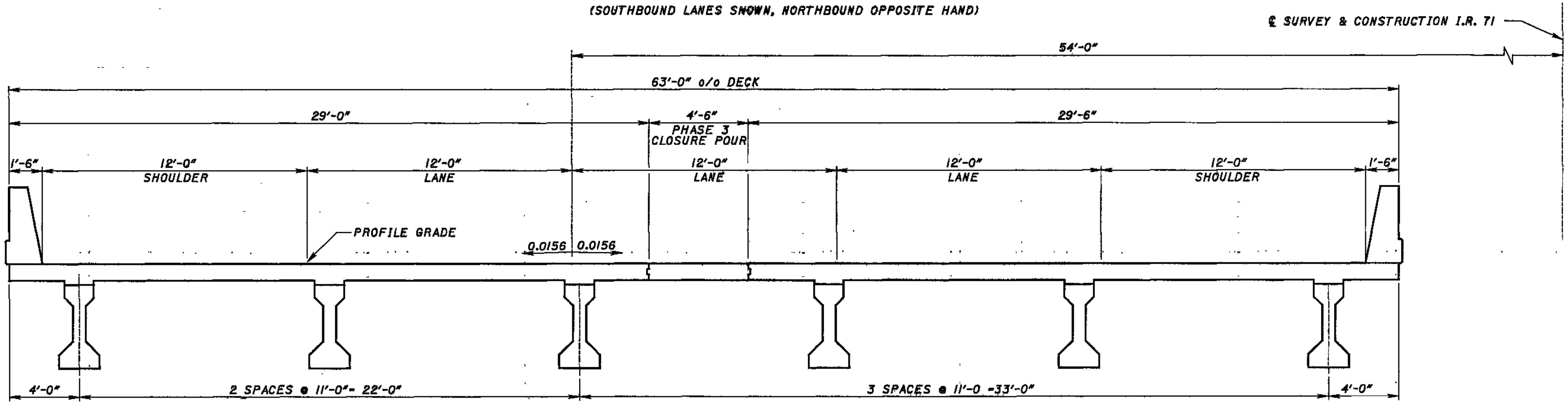
WAY/MED-71-7.04/0.00

PLOTTED BY: 10/16/2003 10:20:05 AM pcm01202 Way-Med\Bridge\0437 Converted Drawings\MED71PC1.dgn



PHASE 2 CONSTRUCTION

(SOUTHBOUND LANES SHOWN, NORTHBOUND OPPOSITE HAND)



CLOSURE POUR CONSTRUCTION

(SOUTHBOUND LANES SHOWN, NORTHBOUND OPPOSITE HAND)

PHASE CONSTRUCTION NOTES

TEMPORARY BARRIERS SHALL BE ANCHORED TO EXISTING AND PROPOSED BRIDGE DECKS. TWO ANCHORS PER BARRIER SEGMENT ARE REQUIRED. THE ANCHOR BOLT PATTERN SHALL BE SYMMETRICAL ABOUT THE CENTER OF EACH SEGMENT. SEE STANDARD DRAWING PCB-91 FOR ADDITIONAL DETAILS.

MOODY NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
PHB	MHR	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RM		5202582-LEFT 5202612-RIGHT	

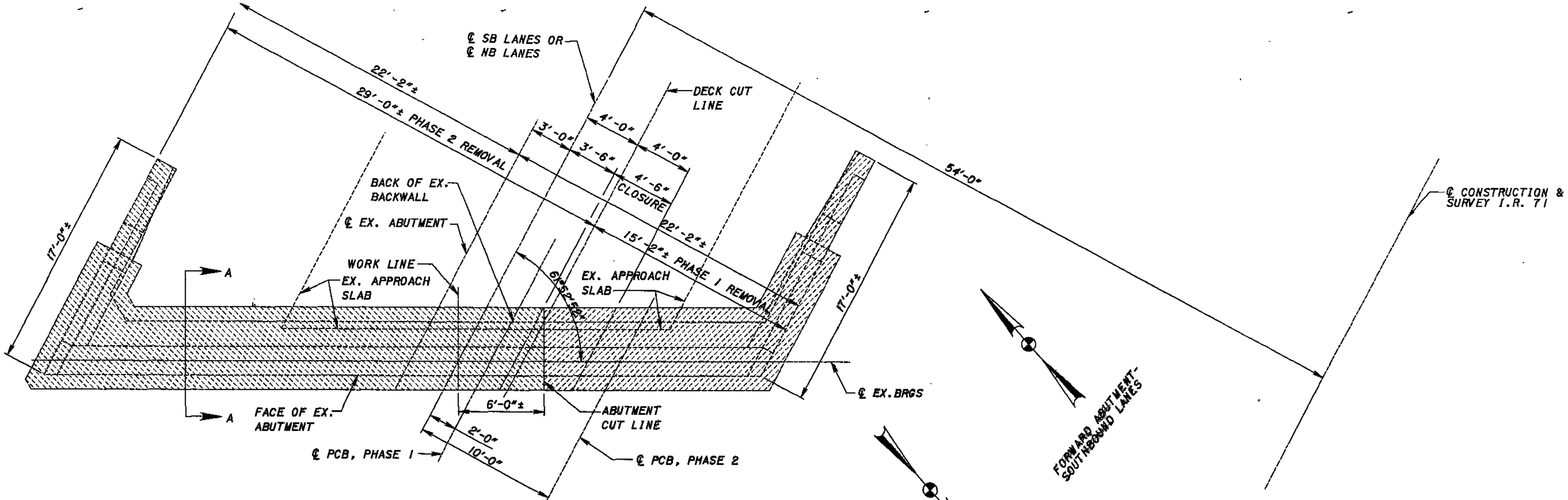
PHASE CONSTRUCTION DETAILS - 2
BRIDGE NO. MED-71-0437 L/R
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00

6/46

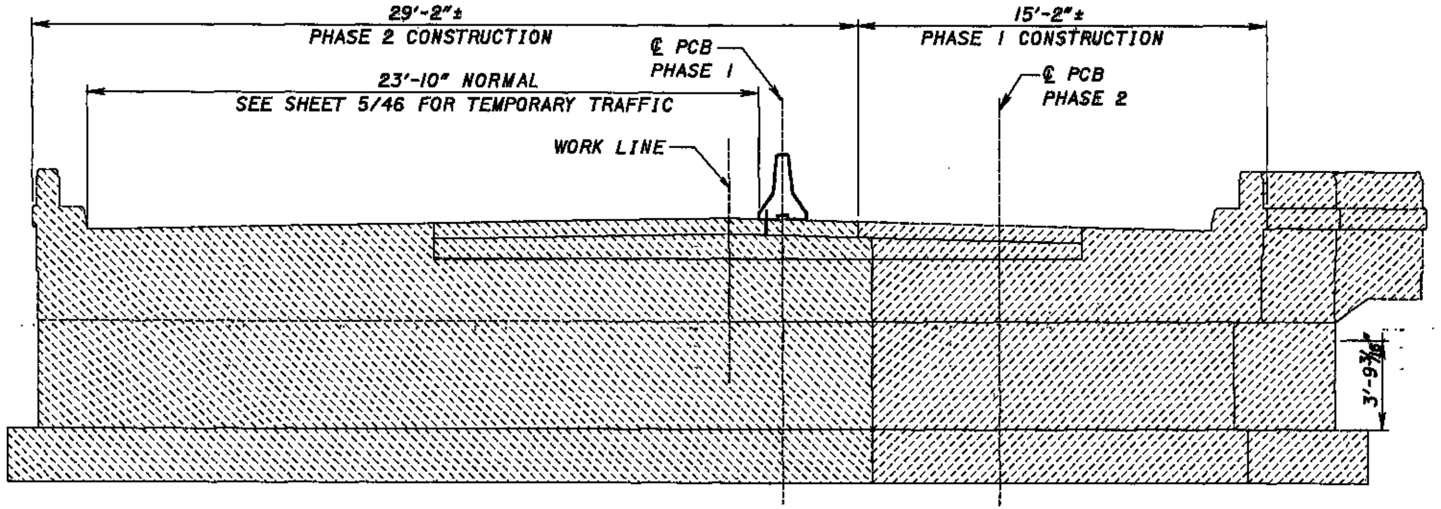
670/785

PLOTTED BY: MBrdka 10/16/2003 11:01:28 AM p:\01202 Way-Med\Bridges\0437 Converted Drawings\MED71PC2.dgn



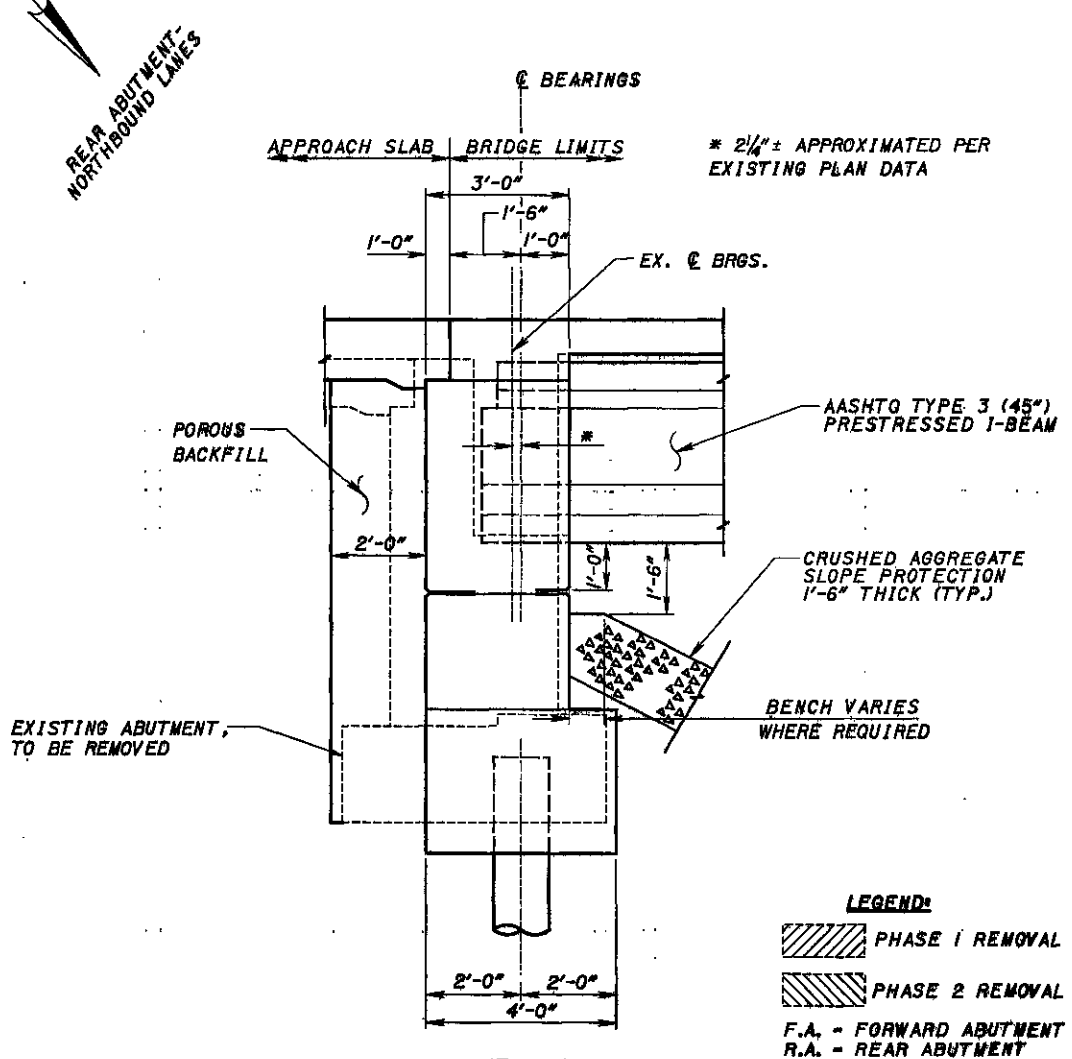
EXISTING ABUTMENT PLAN

(FORWARD ABUTMENT-SOUTHBOUND LANES &
REAR ABUTMENT-NORTHBOUND LANES)
REAR ABUTMENT-SOUTHBOUND LANES & FORWARD ABUTMENT NORTHBOUND LANES SIMILAR



ABUTMENT ELEVATION

NOTE: HORZONTAL DIMENSIONS ARE NORMAL TO ℄ SOUTHBOUND OR ℄ NORTHBOUND LANES



℄ BEARINGS
APPROACH SLAB
BRIDGE LIMITS
* 2¼"± APPROXIMATED PER EXISTING PLAN DATA
3'-0"
1'-6"
1'-0"
1'-0"
EX. ℄ BRGS.
POROUS BACKFILL
AASHTO TYPE 3 (45") PRESTRESSED I-BEAM
*
2'-0"
1'-0"
1'-6"
CRUSHED AGGREGATE SLOPE PROTECTION 1'-6" THICK (TYP.)
BENCH VARIES WHERE REQUIRED
EXISTING ABUTMENT, TO BE REMOVED
2'-0"
2'-0"
4'-0"

SECTION A-A

LEGEND:

▨ PHASE 1 REMOVAL

▨ PHASE 2 REMOVAL

F.A. - FORWARD ABUTMENT
R.A. - REAR ABUTMENT
NBL - NORTHBOUND LANES
SBL - SOUTHBOUND LANES
TYP. - TYPICAL
PCB - PORTABLE CONCRETE BARRIER

MOODY/NOLAN LTD., INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
PHB	MHR	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RM		5202582-LEFT 5202612-RIGHT	

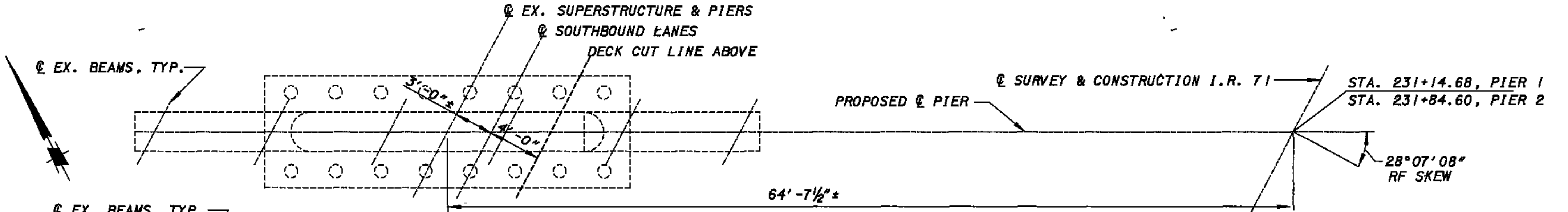
PHASE CONSTRUCTION DETAILS 3
BRIDGE NO. MED-71-0437 L/R
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00

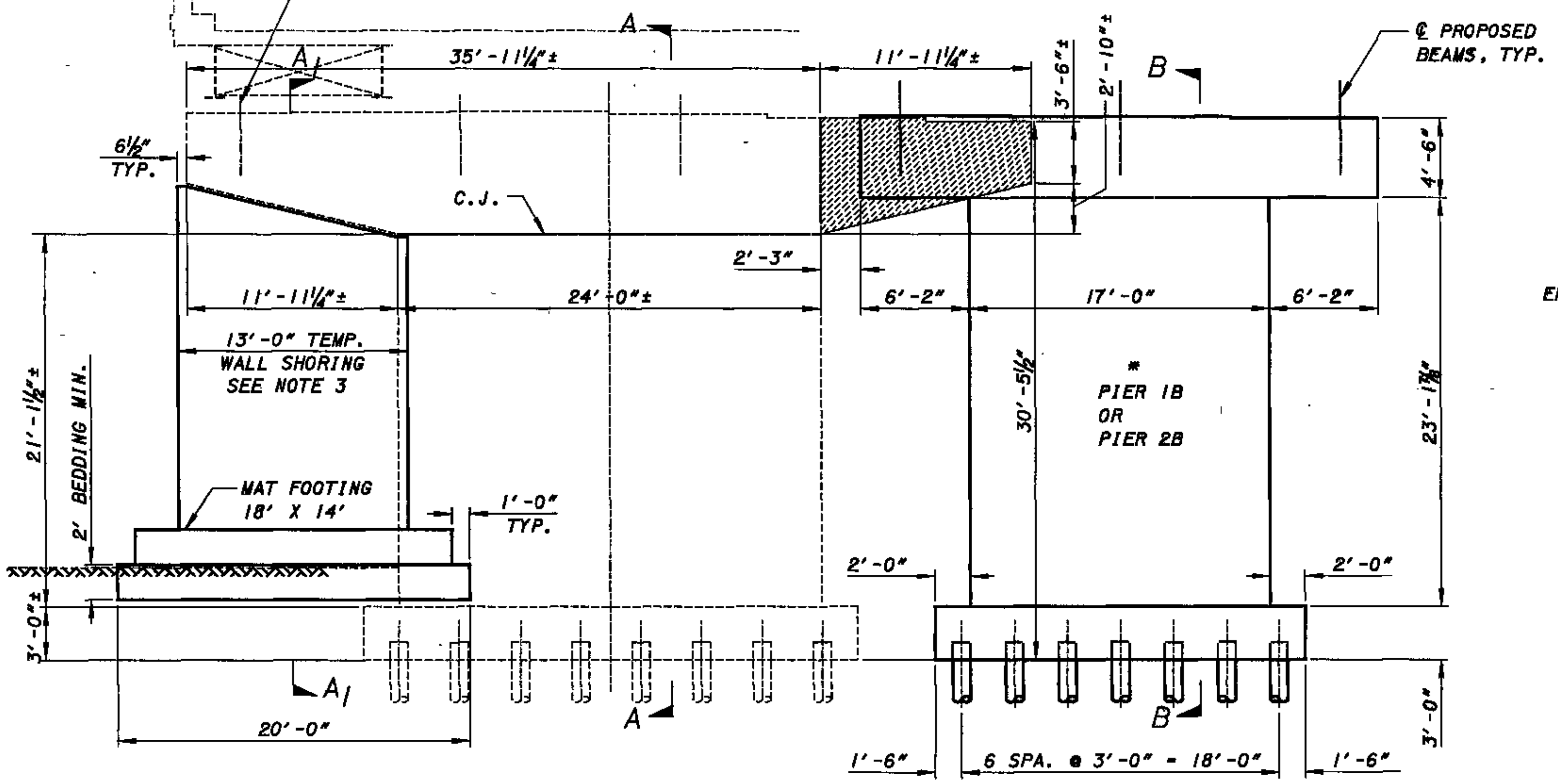
7/46

67/785

PLOTTED BY: MBrdko 10/17/2003 9:38:42 AM p:#01202 Way-Med#Bridge#0437 Converted Drawings#MED71PC3.dgn



EXISTING PIERS 1 & 2 PLAN (SEE NOTE 2)



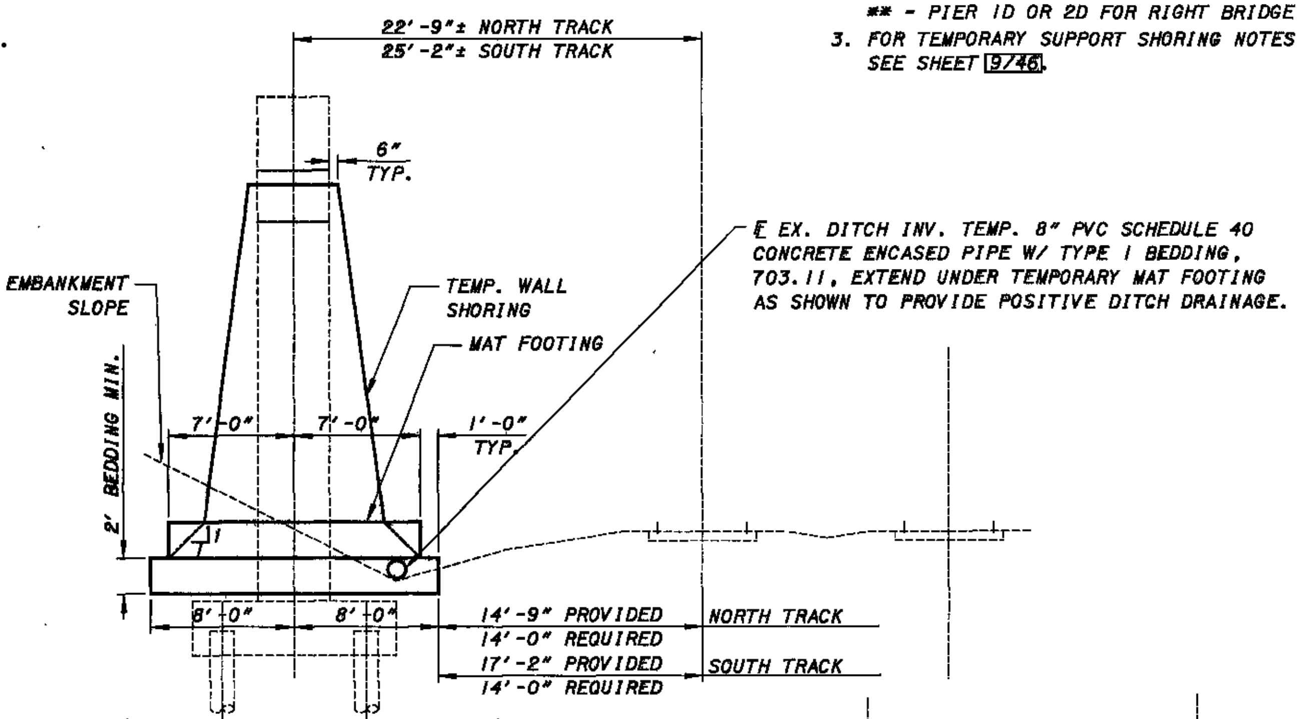
PHASE 1 ELEVATION (SEE NOTE 2)

LEGEND

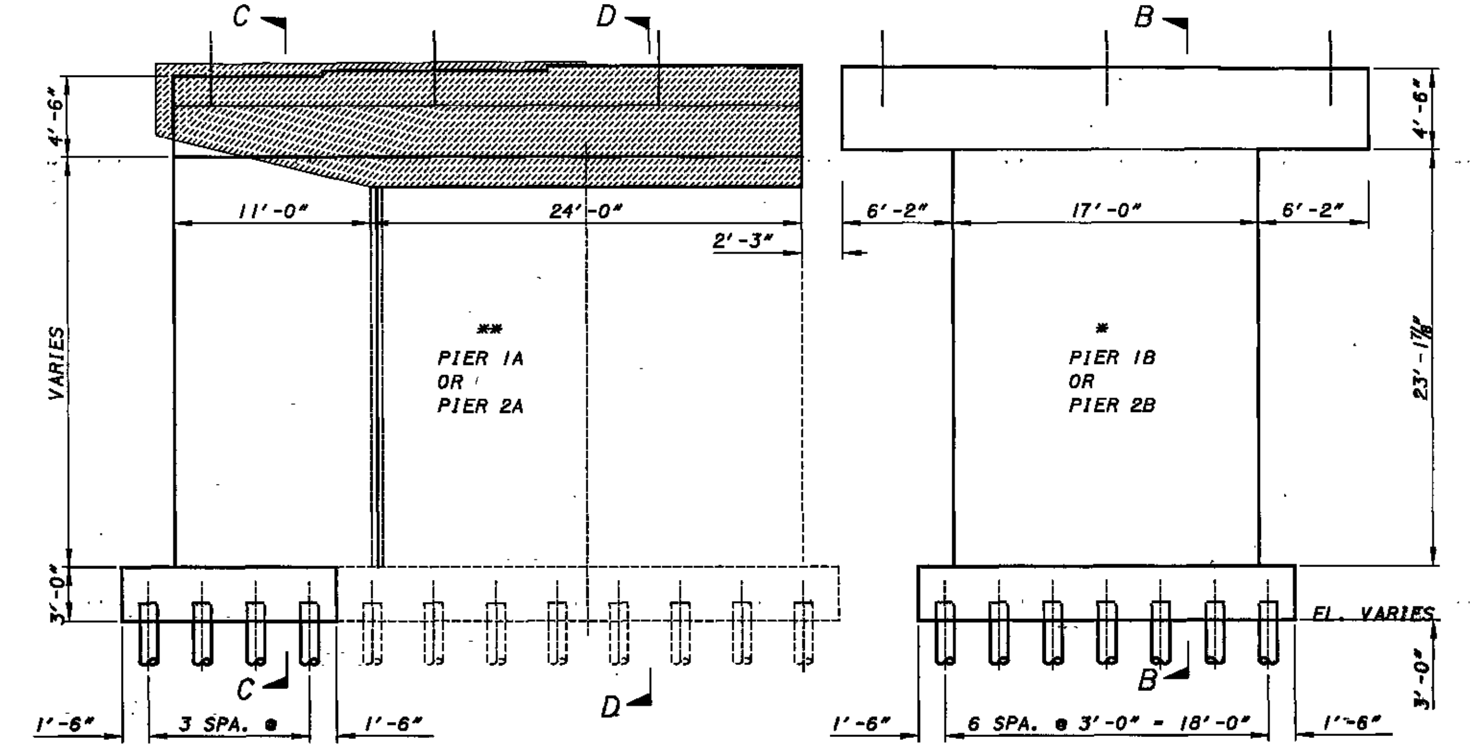
▨ PHASE REMOVAL

NOTES:

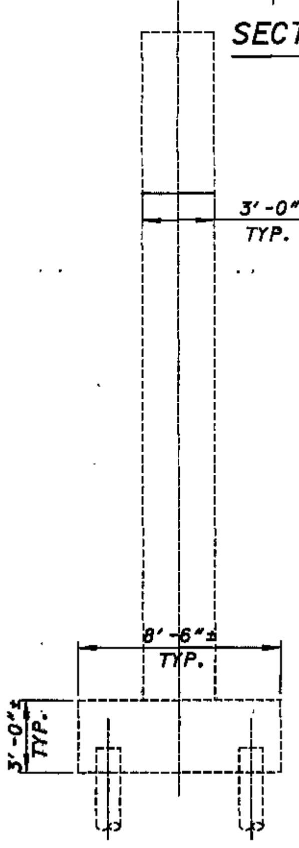
1. SEE PHASE CONSTRUCTION NOTES SHEET 5/46.
2. THE PIER PHASE CONSTRUCTION SHOWN IS FOR THE LEFT BRIDGE. THE PIER PHASE CONSTRUCTION FOR THE RIGHT BRIDGE IS SIMILAR (OPPOSITE HAND) EXCEPT AS NOTED.
   * - PIER 1C OR 2C FOR RIGHT BRIDGE
   ** - PIER 1D OR 2D FOR RIGHT BRIDGE
3. FOR TEMPORARY SUPPORT SHORING NOTES SEE SHEET 9/46.



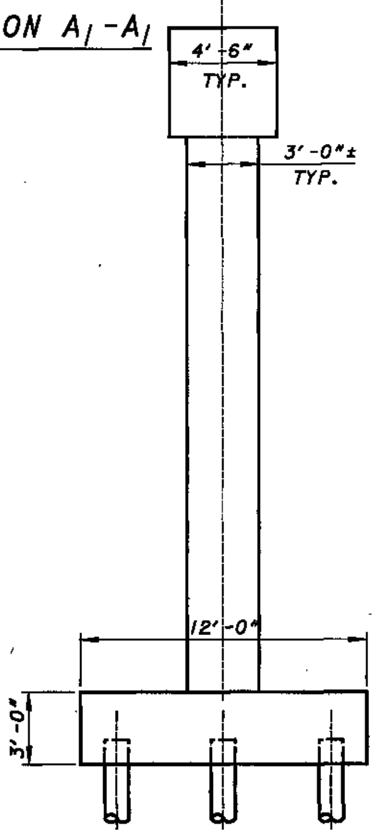
SECTION A₁-A₁



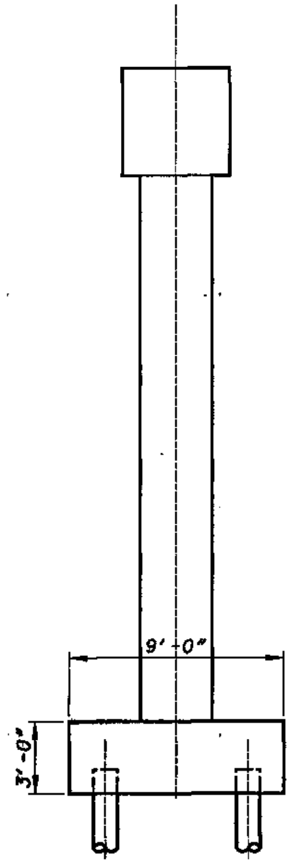
PHASE 2 ELEVATION (SEE NOTE 2)



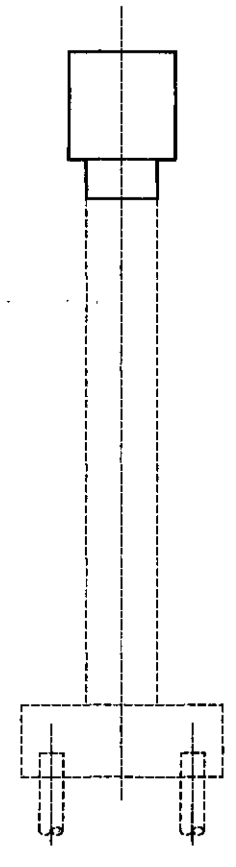
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

MOODY/NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215

DESIGNED	DRAWN	REVIEWED	DATE
PHB	MHR	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MRG		5802582-LEFT	

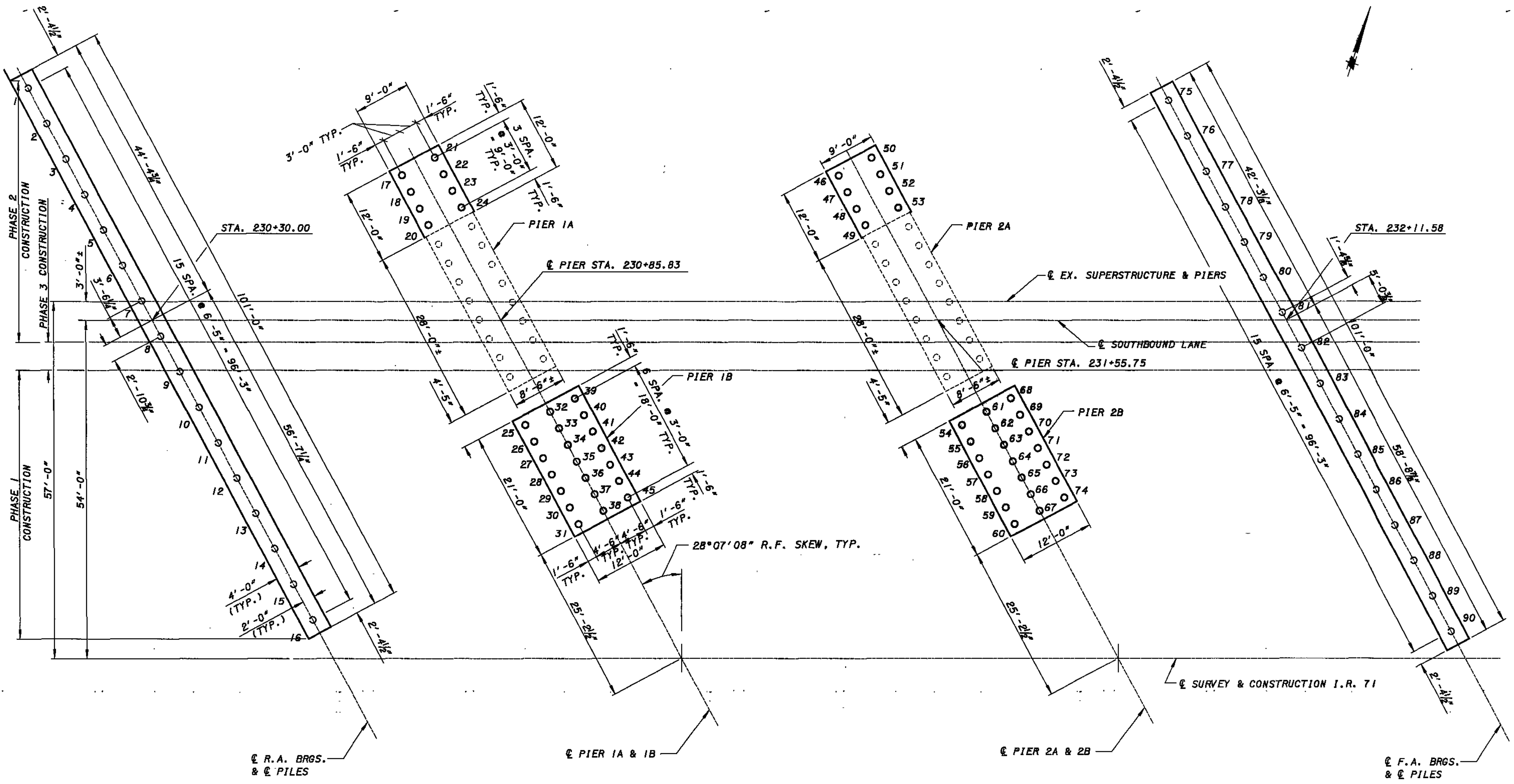
PHASE CONSTRUCTION DETAILS - 4
BRIDGE NO. MED-71-0437 L/R
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00

8/46

672/785

PLOTTED BY: MBrdee 10/21/2003 11:30:34 AM p:\401202 Way-Med\Bridges\0437 Converted Drawings\MED71PC4.dgn



TEMPORARY SUPPORT SHORING NOTES (SEE SHEETS 18/46):

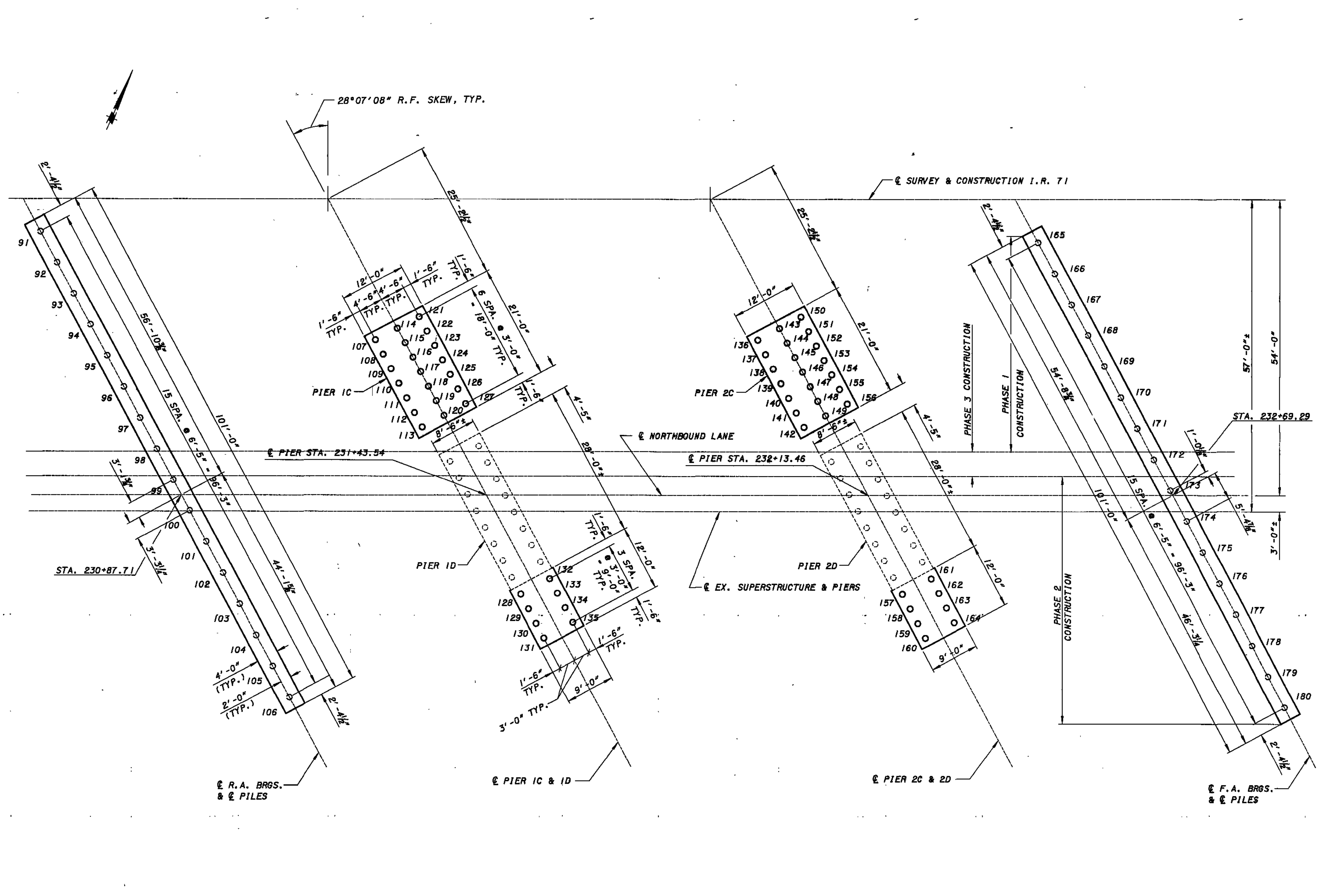
1. PROVIDE SUPPORT AT FOUR (4) LOCATIONS BEFORE BEGINNING SELECTIVE BRIDGE REMOVAL IN PHASE 1 CONSTRUCTION.
2. THE TEMPORARY SUPPORT SHALL CONSIST OF CONTINUOUS WALL SHORING UNDER THE EXTERIOR PIER CANTILEVER ARM AND FOOTING UNDER THE WALL SHORING.
3. THE PIER CANTILEVER ARM TEMPORARY DESIGN LOAD IS 30 KIPS PER FOOT OVER 13'-0" LENGTH WALL SHORING AND EXTENDED MAT SPREAD FOOTING SHALL BE DESIGNED FOR THIS LOAD. MAT FOOTING SHALL BE DESIGNED TO SPREAD DESIGN LOAD OVER 1800 POUNDS PER SQUARE FOOT INCLUDING SELF WEIGHT OF SHORING SYSTEM.
4. PROVIDE TEMPORARY POSITIVE DRAINAGE PIPE SLOPED ALONG THE EXISTING DITCH FLOWLINE UNDER MAT FOOTING.
5. MAT FOOTING SHALL BE LEVEL AND SUPPORTED BY 2'-0" MINIMUM OF TYPE 1 BEDDING FOUNDED ON EXISTING SOIL AFTER 2'-0" MINIMUM OF TOPSOIL IS REMOVED.
6. THE EXISTING SOIL AND TYPE 1 BEDDING SHALL BE CAPABLE OF SUPPORTING 1800 POUNDS PER SQUARE FOOT TEMPORARY DESIGN LOAD BEARING PRESSURE INCLUDING SHORING DEAD LOAD PRESSURE.
7. TEMPORARY SUPPORT SHORING SHALL REMAIN IN PLACE UNTIL PHASE 1 CONSTRUCTION MAINTENENCE OF TRAFFIC HAS BEEN RELOCATED AS PER PHASE 2 CONSTRUCTION.
8. THE CONTRACTOR MAY ELECT TO USE A DESIGN DIFFERENT THAN THE ONE SHOWN ON THESE PLANS, PROVIDED THE DESIGN IS PREPARED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF OHIO. FOR ALTERNATE DESIGN, FIVE COPIES OF DRAWINGS SHALL BE SUBMITTED TO THE DIRECTOR AND CONCURRENTLY, ONE COPY TO THE OFFICE OF STRUCTURAL OF ENGINEERING.
9. PAYMENT FOR TEMPORARY SUPPORT SHORING TO BE INCLUDED WITH ITEM 202-REMOVAL MISC., PHASE 1 T-TYPE PIER SUPPORT.

MOODY/NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone (614) 461-4664 Fax (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
PHB	MHR	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MRG		5202582-LEFT	

FOOTINGS & PILES LAYOUT
BRIDGE NO. MED-71-0437 L
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00



FOOTINGS & PILES LAYOUT

BRIDGE NO. MED-71-0437 R
OVER CSXT RAILROAD

DESIGNED	DRAWN	REVIEWED	DATE
PHB	MHR	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MRG		5202612-RIGHT	

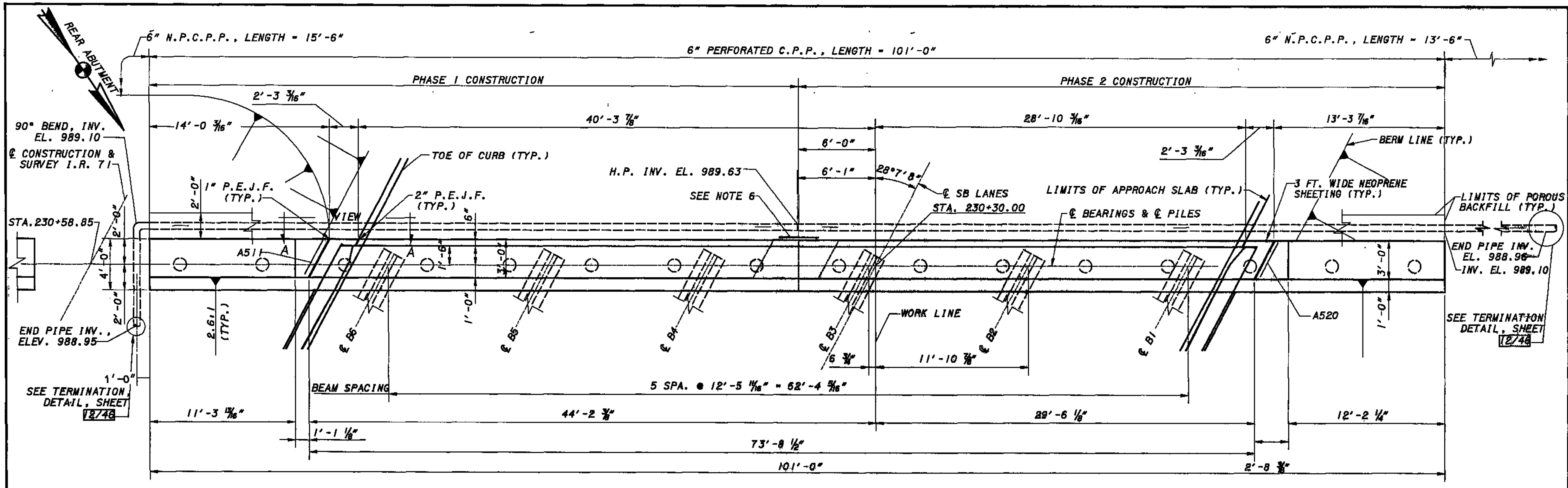
MOODY NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215

WAY/MED-71-7.04/0.00

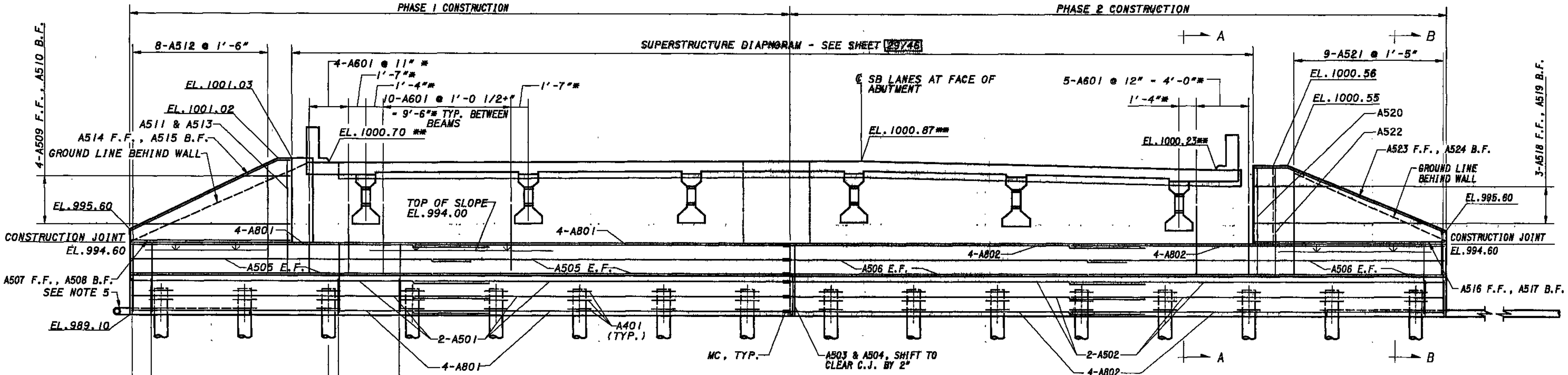
10/46

674/785

PLOTTED BY: MBrake 10/21/2003 11:36:54 AM pw#01202 Way-Med#Bridge#0437 Converted Drawings#ME071PC8.dgn



PLAN - REAR ABUTMENT



ELEVATION - REAR ABUTMENT

* MEASURED ALONG ℄ BRGS.

** MEASURED AT DIAPHRAGM FACE

NOTES:

1. FOR PILE LAYOUT, SEE SHEET 9/46
2. FOR LEGEND SEE SHEET 12/46
3. FOR SECTIONS A-A & B-B & VIEW A-A SEE SHEET 12/46
4. MINIMUM BAR LAPS:
   LAP No.5 BARS 2'-11".
   LAP NO.6 BARS 3'-5".
   LAP NO.8 BARS 7'-3".
5. 6" DIA. N.P.C.P.P. AT ENDS SPLICED TO PERFORATED PIPE AND OUTLET AS SHOWN IN PIPE TERMINATION DETAIL ON SHEET 12/46
6. PLACE TYP 2 WATERPROOFING 3' WIDE CENTERED ON JOINT FROM BOTTOM OF FOOTING TO APPROACH SLAB.

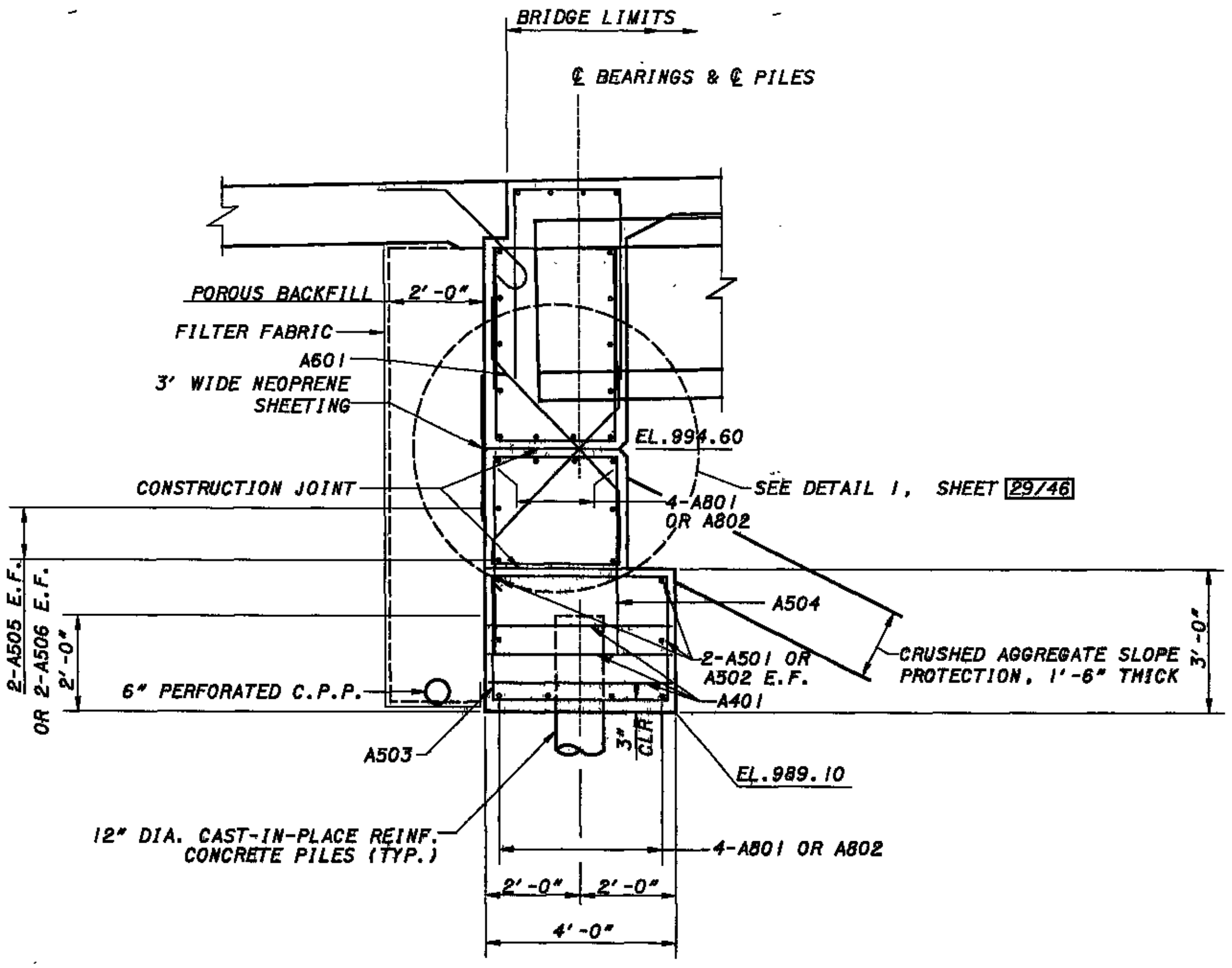
MOODY NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215

DESIGNED	DRAWN	REVIEWED	DATE
PHB	MR	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
RM		5202582-LEFT	

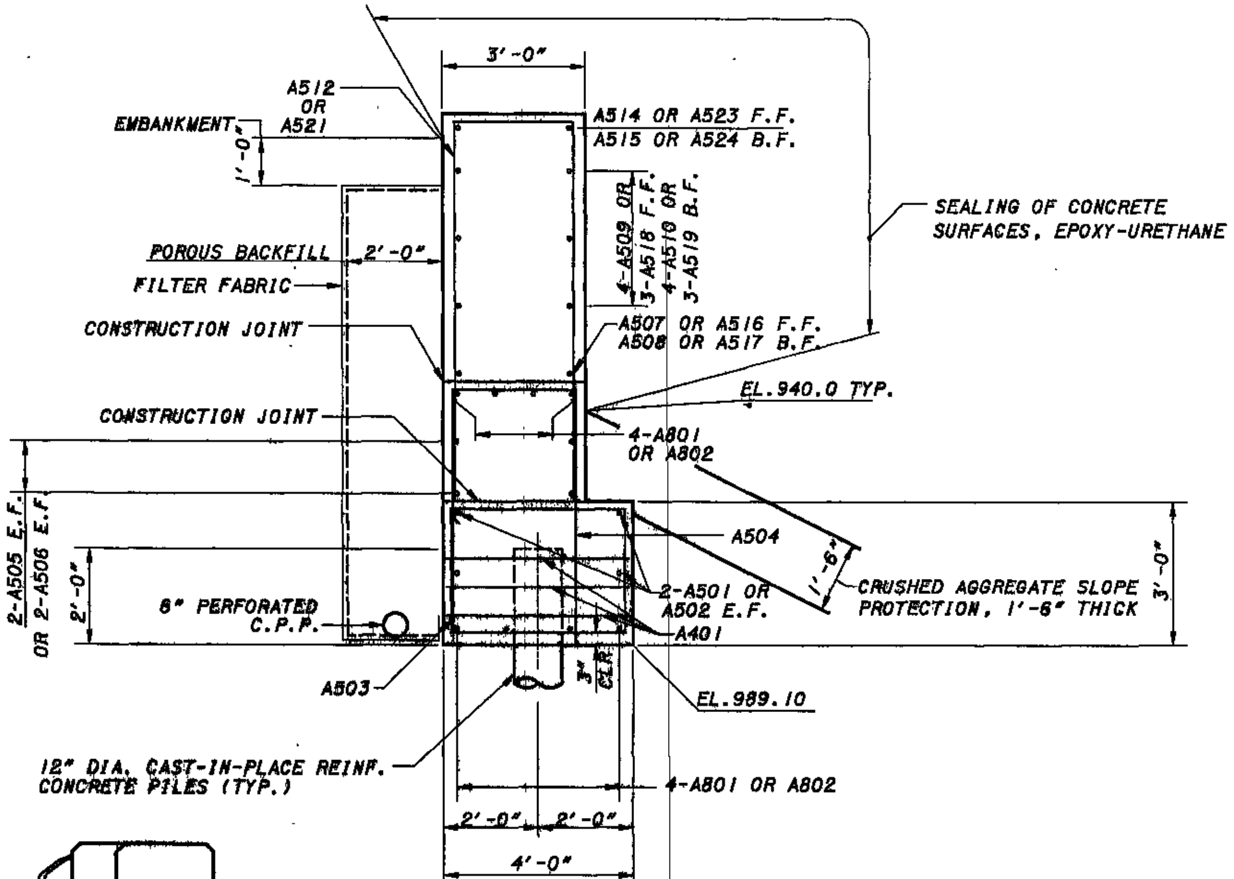
REAR ABUTMENT DETAILS
BRIDGE NO. MED-71-0437 L
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00

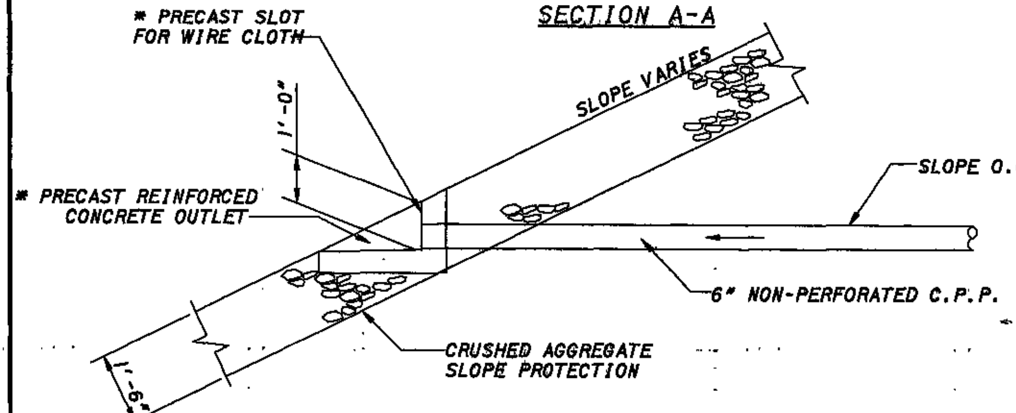
PLOTTED BY: 10/17/2003 9:46:14 AM



SECTION A-A

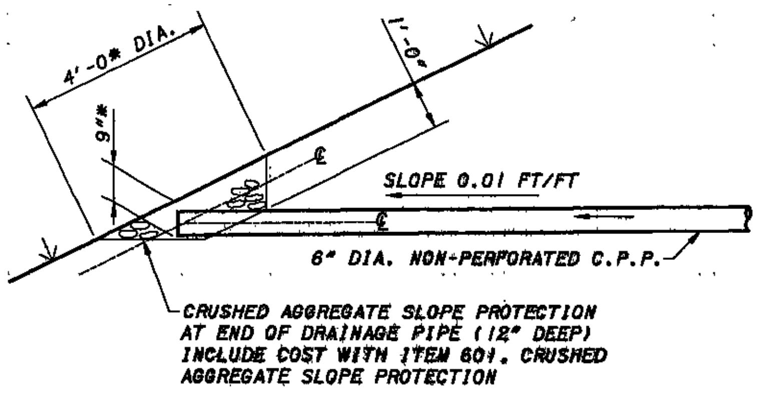


SECTION B-B


* PRECAST SLOT FOR WIRE CLOTH
1'-0"
SLOPE VARIES
SLOPE 0.01 FT/FT
* PRECAST REINFORCED CONCRETE OUTLET
6" NON-PERFORATED C.P.P.
CRUSHED AGGREGATE SLOPE PROTECTION
1'-6"

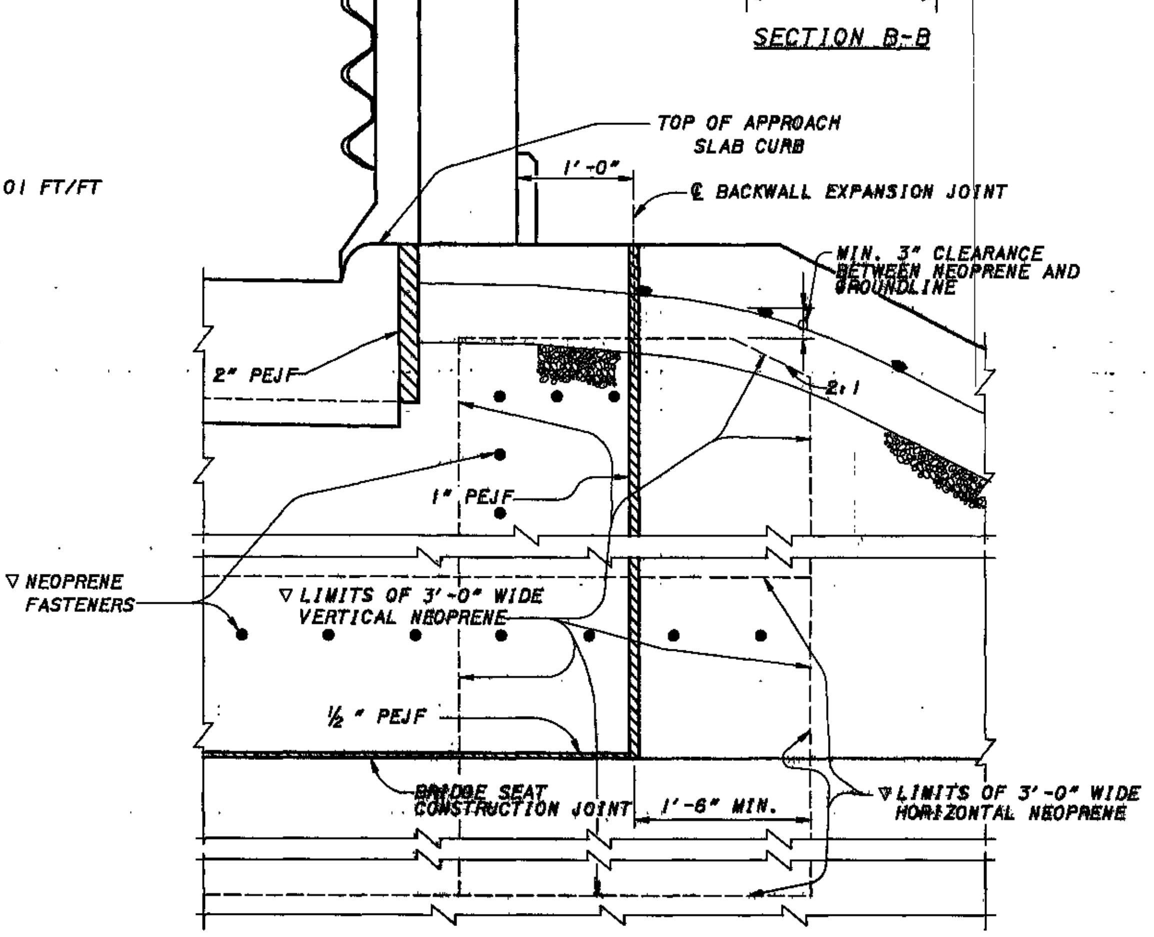
AT INSIDE MEDIAN-PHASE I

*REFER TO STD. CONSTR. DWG. DM-1.1 FOR PRECAST REINFORCED CONCRETE OUTLET DETAILS AND NOTES. INCLUDE WIRE CLOTH WITH ITEM 604 FOR PAYMENT


4'-0"* DIA.
1'-0"
9"*
℄
SLOPE 0.01 FT/FT
℄
6" DIA. NON-PERFORATED C.P.P.
CRUSHED AGGREGATE SLOPE PROTECTION AT END OF DRAINAGE PIPE (12" DEEP) INCLUDE COST WITH ITEM 601, CRUSHED AGGREGATE SLOPE PROTECTION

AT OUTSIDE EMBANKMENT-PHASE 2

TERMINATION OF 6" N.P.C.P.P. DETAIL


TOP OF APPROACH SLAB CURB
1'-0"
℄ BACKWALL EXPANSION JOINT
MIN. 3" CLEARANCE BETWEEN NEOPRENE AND GROUNDLINE
2" PEJF
2:1
1" PEJF
▽ NEOPRENE FASTENERS
▽ LIMITS OF 3'-0" WIDE VERTICAL NEOPRENE
½" PEJF
BRIDGE SEAT CONSTRUCTION JOINT
1'-6" MIN.
▽ LIMITS OF 3'-0" WIDE HORIZONTAL NEOPRENE

VIEW A-A

▽ SEE GENERAL NOTES SHEET 3/40

NOTES:

1. SEE SHEET 11/46 FOR ADDITIONAL NOTES AND DETAILS
2. MINIMUM STEEL LAP LENGTHS
   No. 5 BARS 2'-11"
   No. 8 BARS 7'-3"

LEGEND:

14 - PILE NUMBER
B.F. - BACK FACE
℄ - CENTERLINE OF BEARINGS
C.P.P. - CORRUGATED PLASTIC PIPE
DIA - DIAMETER
E.F. - EACH FACE
F.F. - FRONT FACE
H.P. - HIGH POINT
INV. EL. - INVERT ELEVATION
MC - MECHANICAL CONNECTOR
N.B. - NORTH BOUND
N.P.C.P.P. - NON-PERFORATED CORRUGATED PLASIC PIPE
P.E.J.F. - PREFORMED EXPANSION JOINT DETAIL
TYP. - TYPICAL
U.N.O. - UNLESS NOTED OTHERWISE

MOODY/NOLAN INC.
Architecture•Engineering•Planning•Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
PHB	MHR	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
RM		5202582-LEFT	

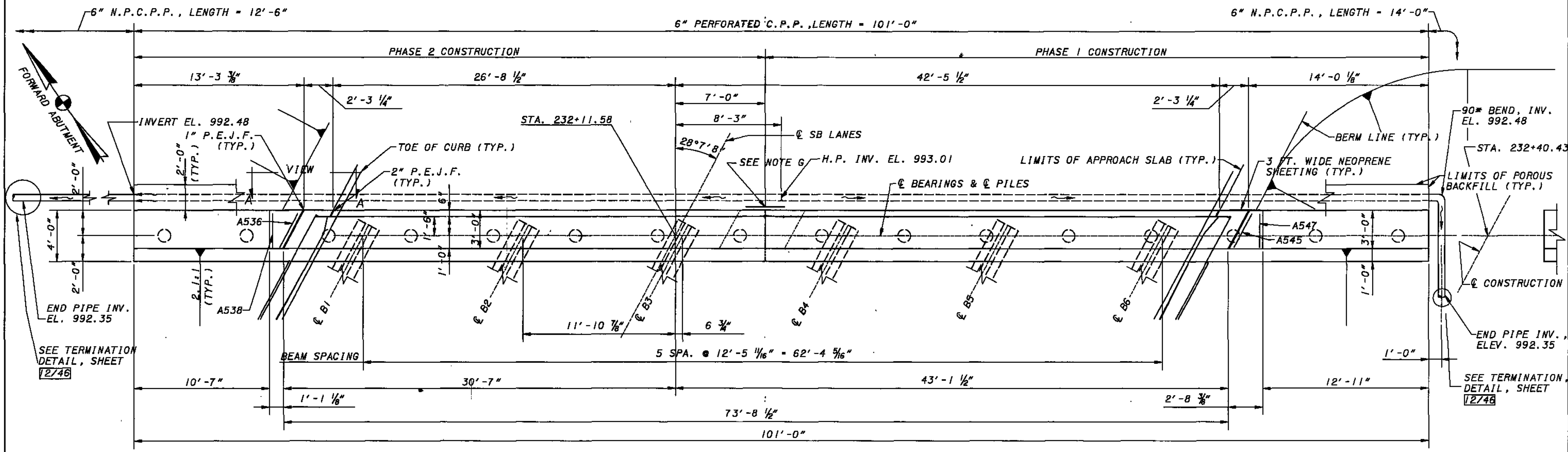
REAR ABUTMENT DETAILS
BRIDGE NO. MED-71-0437 L
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00

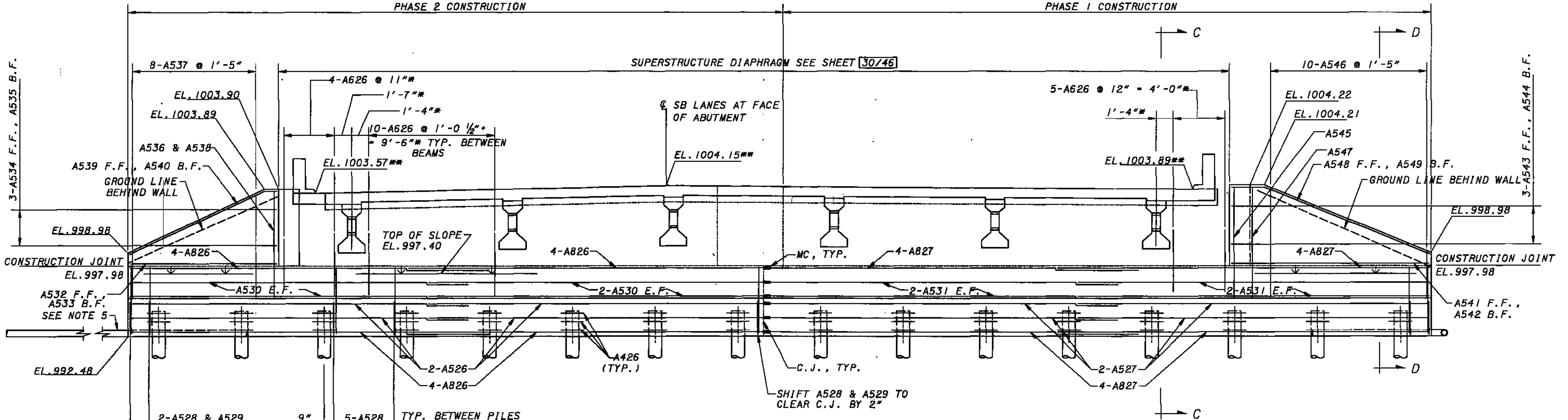
12/46

676
785

PLOTTED BY: MBrdeke 10/17/2003 11:05:54 AM P:\401202 Way-Med\Bridges\0437 Converted Drawings\ME071RA2CONVERT2D.dgn



PLAN - FORWARD ABUTMENT



ELEVATION - FORWARD ABUTMENT

* MEASURED ALONG ℄ BRGS.
** MEASURED AT DIAPHRAGM FACE

NOTES:
1. FOR PILE LAYOUT, SEE SHEET 9/46
2. FOR LEGEND SEE SHEET 12/46
3. SEE SHEET 12/46 FOR VIEW A-A & SHEET 14/46 FOR SECTIONS C-C & D-D
4. MINIMUM BAR LAPS:
   LAP No.5 BARS 2'-11".
   LAP NO.6 BARS 3'-5".
   LAP NO.8 BARS 7'-3".
5. 6" DIA. N.P.C.P.P. AT ENDS SPLICED TO PERFORATED PIPE AND OUTLET AS SHOWN IN PIPE TERMINATION DETAIL ON SHEET 12/46
6. PLACE TYP 2 WATERPROOFING 3' WIDE CENTERED ON JOINT FROM BOTTOM OF FOOTING TO APPROACH SLAB. FROM BOTTOM OF FOOTING TO APPROACH SLAB.

MOODY NOLAN INC.

DESIGNED	DRAWN	REVIEWED	DATE
PHB	MHR	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
RM		5202582-LEFT	

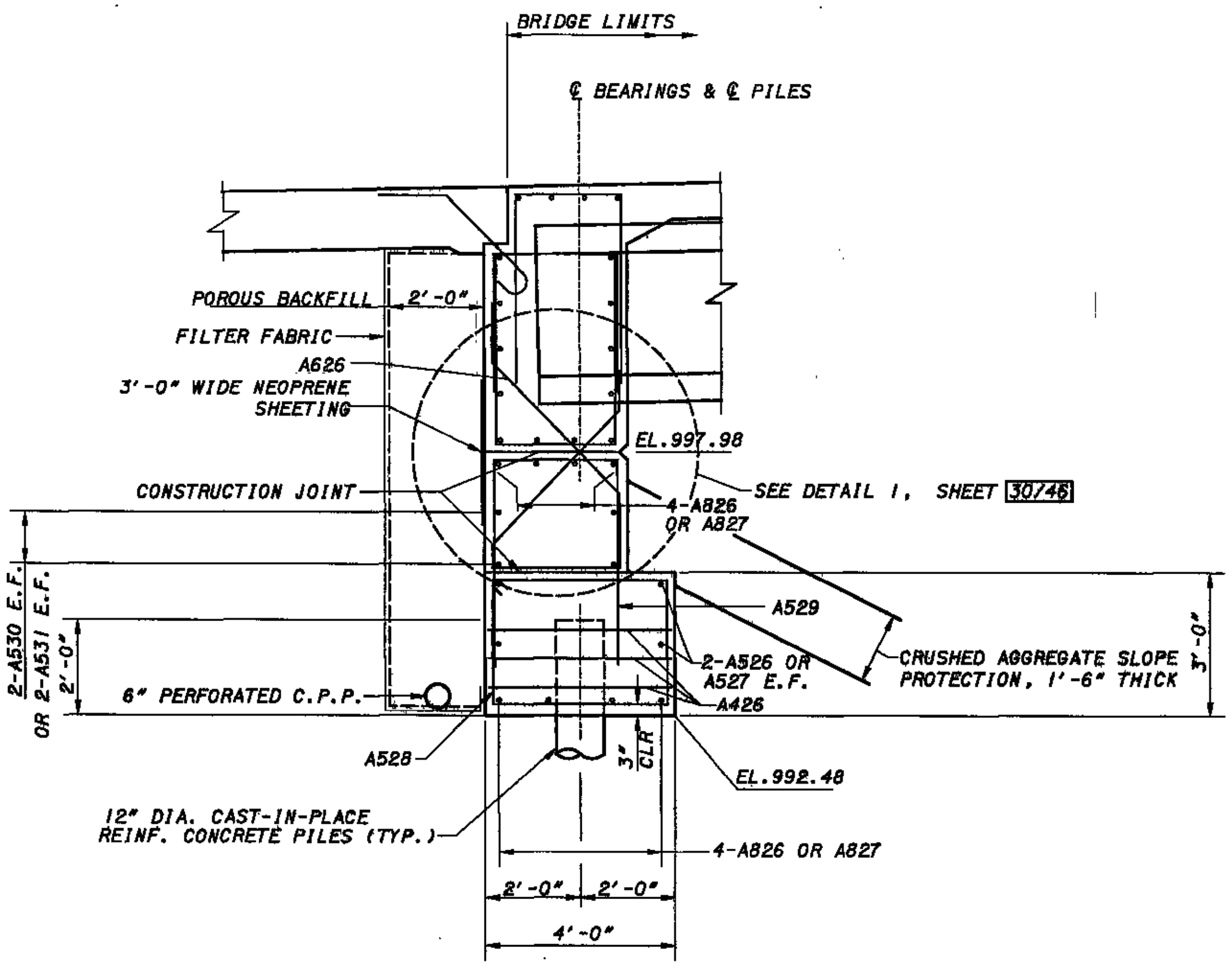
FORWARD ABUTMENT DETAILS
BRIDGE NO. MED-71-0437 L
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00

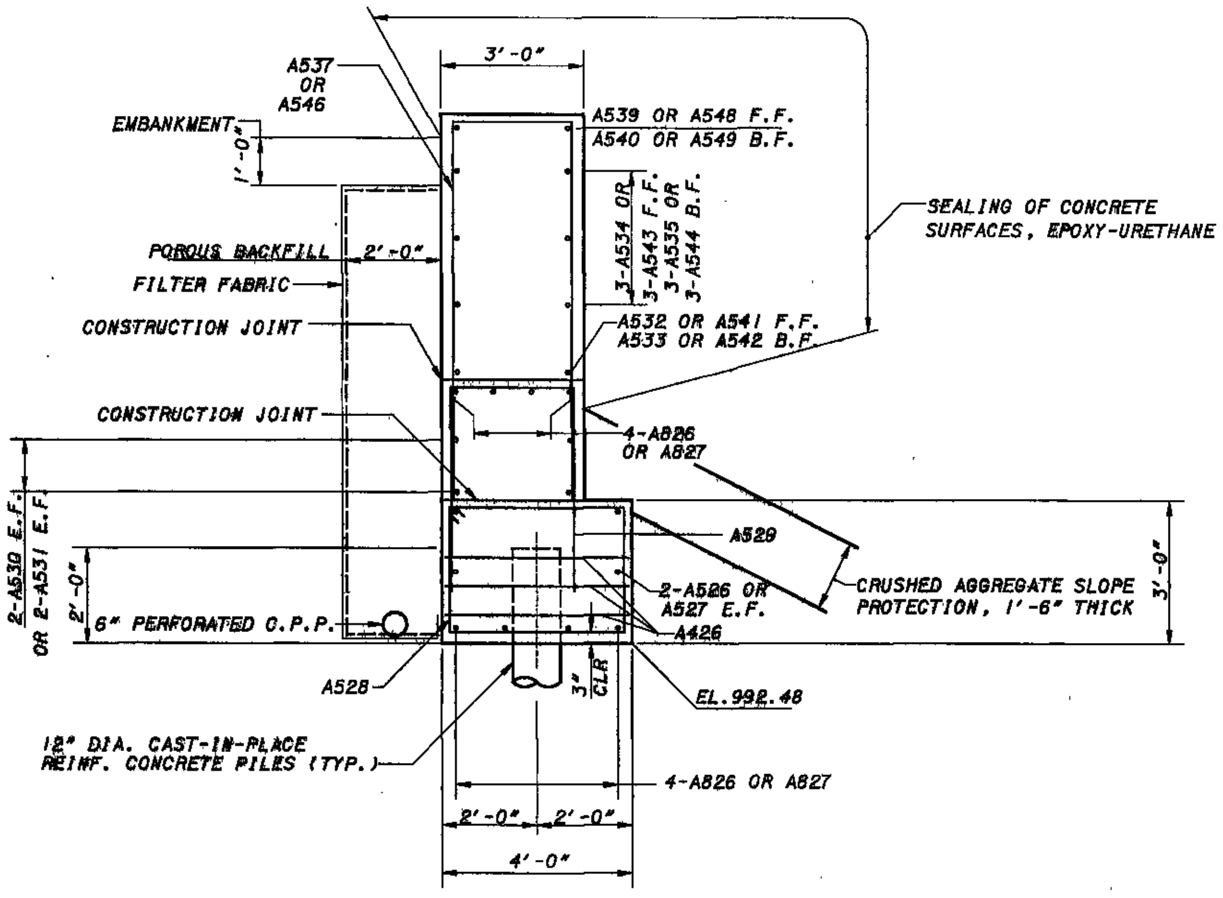
13/46

677/785

PLOTTED BY: $USER$ $DATE$ $TIME$ $FILE$



SECTION C-C



SECTION D-D

NOTES:

1. SEE SHEET 12/46 & 13/46 FOR ADDITIONAL NOTES AND DETAILS
2. MINIMUM STEEL LAP LENGTHS
   No. 5 BARS 2'-11"
   No. 8 BARS 7'-3"

MOODY NOLAN INC.

DESIGNED	DRAWN	REVIEWED	DATE
PHB	MHR	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
RW		5202582-LEFT	

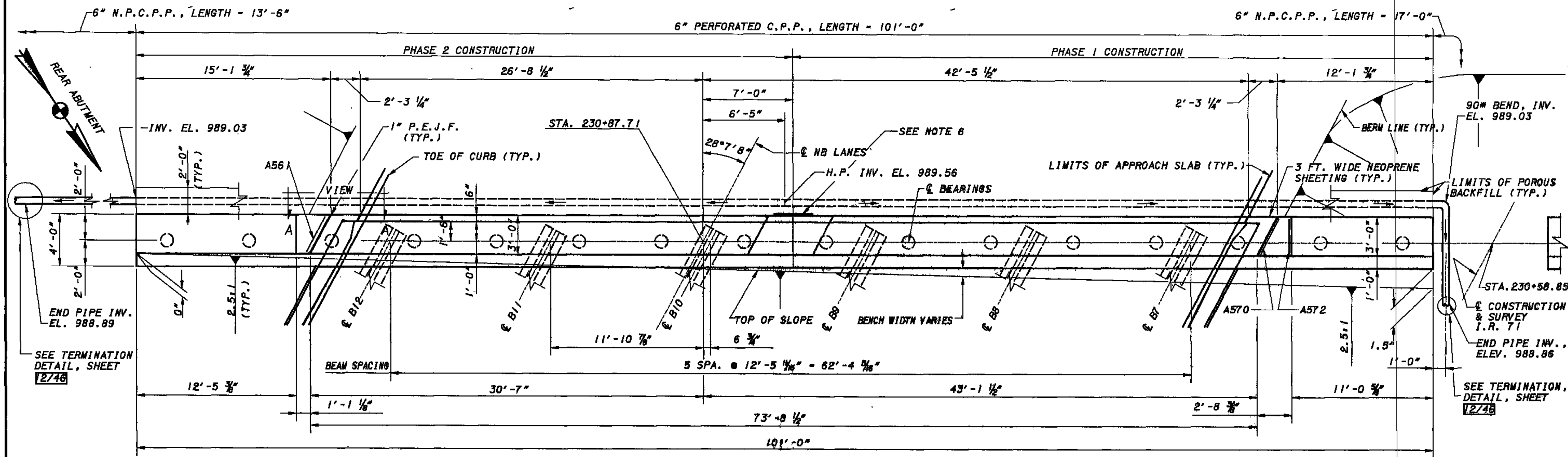
FORWARD ABUTMENT DETAILS
BRIDGE NO. MED-71-0437 L
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00

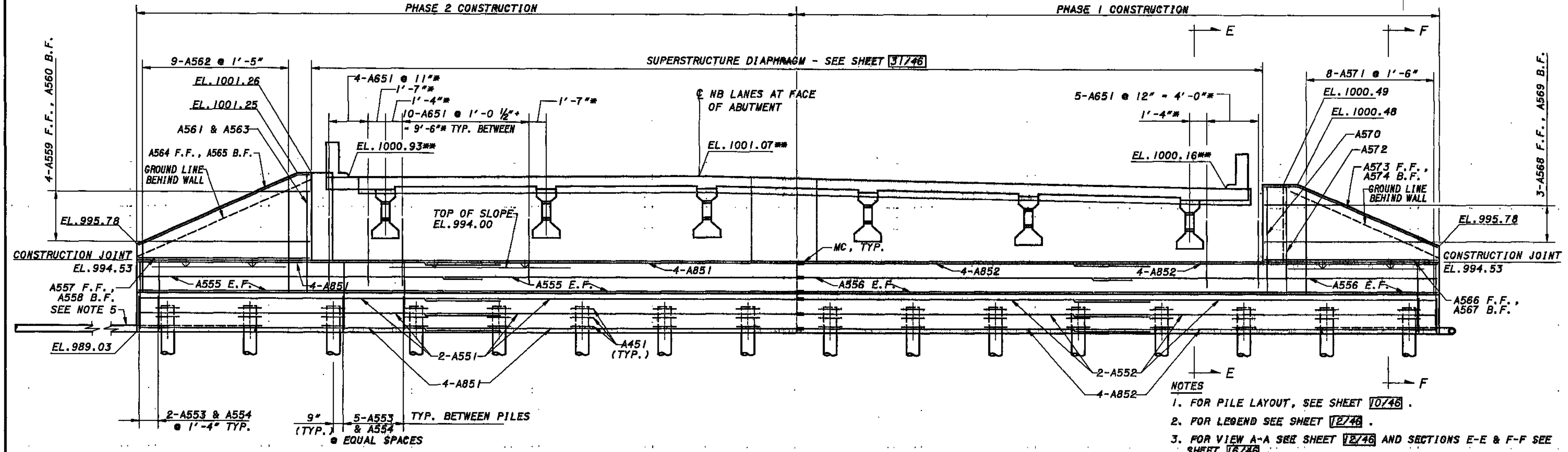
14/46

678/785

PLOTTED BY: 10/17/2003 9:50:49 AM



PLAN - REAR ABUTMENT



ELEVATION - REAR ABUTMENT

* MEASURED ALONG ℄ BEARINGS

** MEASURED AT DIAPHRAGM FACE

NOTES

1. FOR PILE LAYOUT, SEE SHEET 10/46.
2. FOR LEGEND SEE SHEET 12/46.
3. FOR VIEW A-A SEE SHEET 12/46 AND SECTIONS E-E & F-F SEE SHEET 16/46.
4. MINIMUM BAR LAPS:
   LAP No.5 BARS 2'-11".
   LAP NO.6 BARS 3'-5".
   LAP NO.8 BARS 7'-3".
5. 6" DIA. N.P.C.P.P. AT ENDS SPLICED TO PERFORATED PIPE AND OUTLET AS SHOWN IN PIPE TERMINATION DETAIL ON SHEET 12/46.
6. PLACE TYPE 2 WATERPROOFING 3' WIDE CENTERED ON JOINT FROM BOTTOM OF FOOTING TO APPROACH SLAB.

DESIGNED	PHB
DRAWN	MHR
REVIEWED	GT
DATE	6/03
CHECKED	RM
REVISED	
STRUCTURE FILE NO.	5202612-RIGHT

MOODY NOLAN INC.

Architecture·Engineering·Planning·Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215

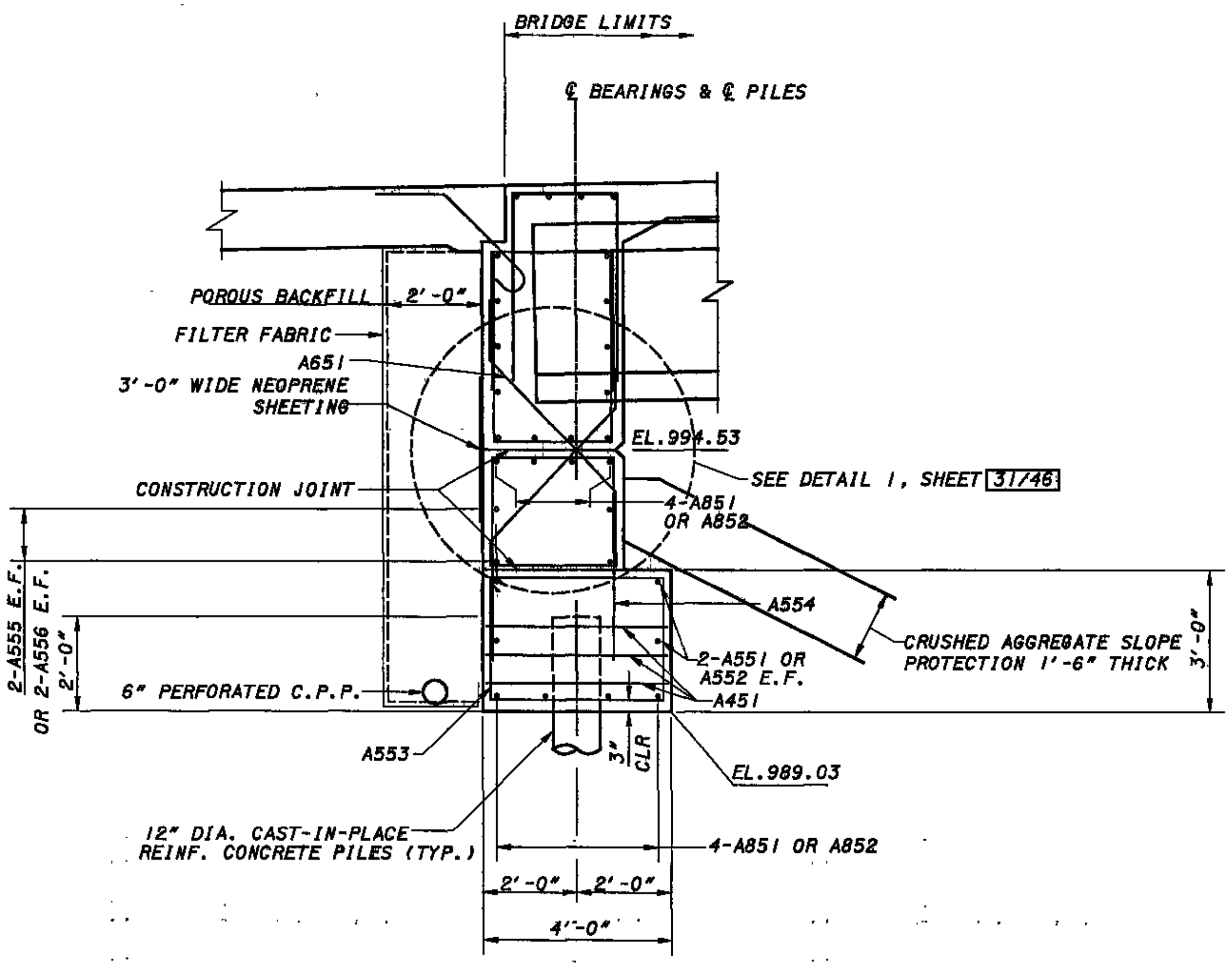
REAR ABUTMENT DETAILS
BRIDGE NO. MED-71-0437 R
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00

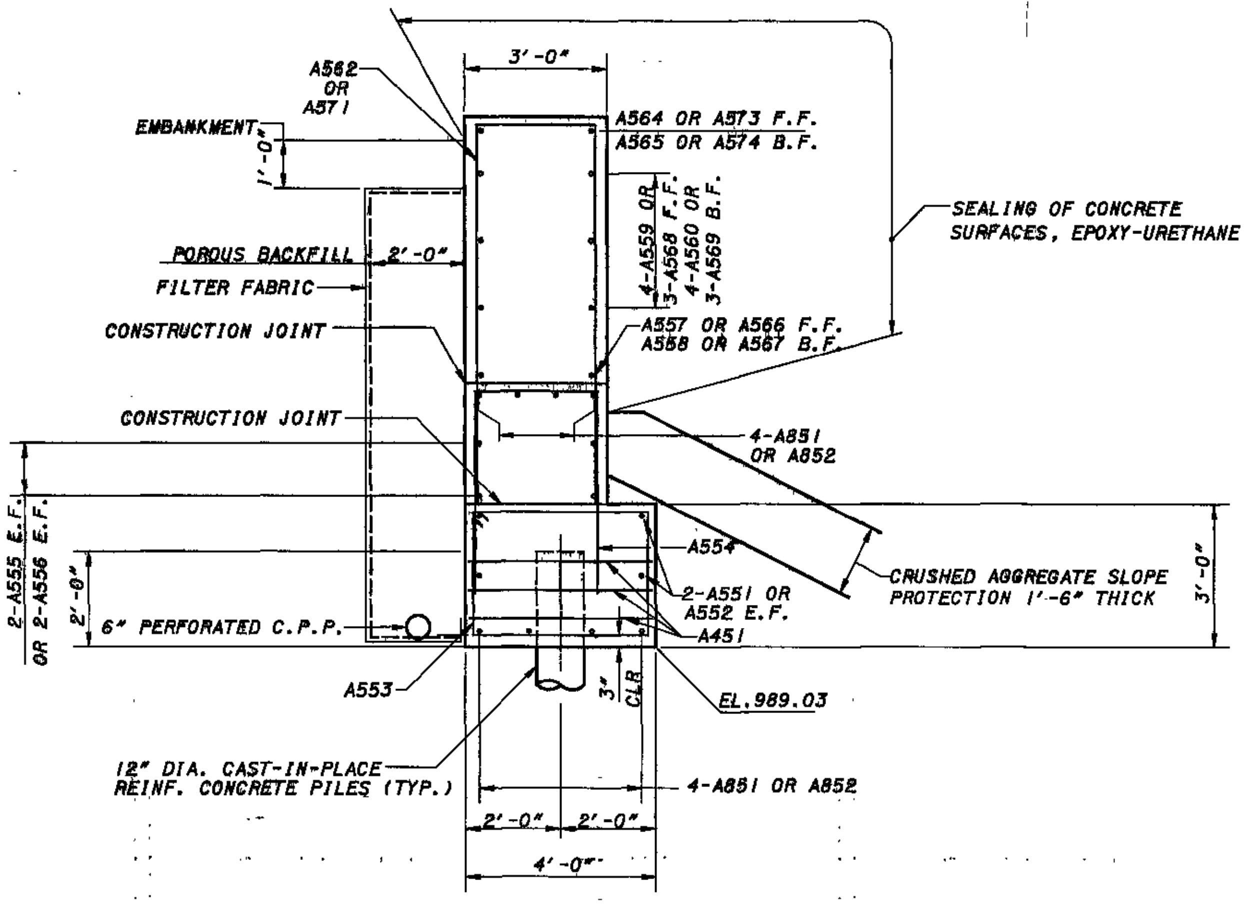
15/46

679
785

PLOTTED BY: hbrake 10/17/2003 8:47:24 AM pw01202 Way-Med\Bridges\0437 Converted Drawings\MED71RA3CONVERT2D.dgn



SECTION E-E



SECTION F-F

NOTE:

1. SEE SHEET 12/46 & 15/46 FOR ADDITIONAL NOTES AND DETAILS.
2. MINIMUM STEEL LAP LENGTHS
   No. 5 BARS 2'-11"
   No. 8 BARS 7'-3"

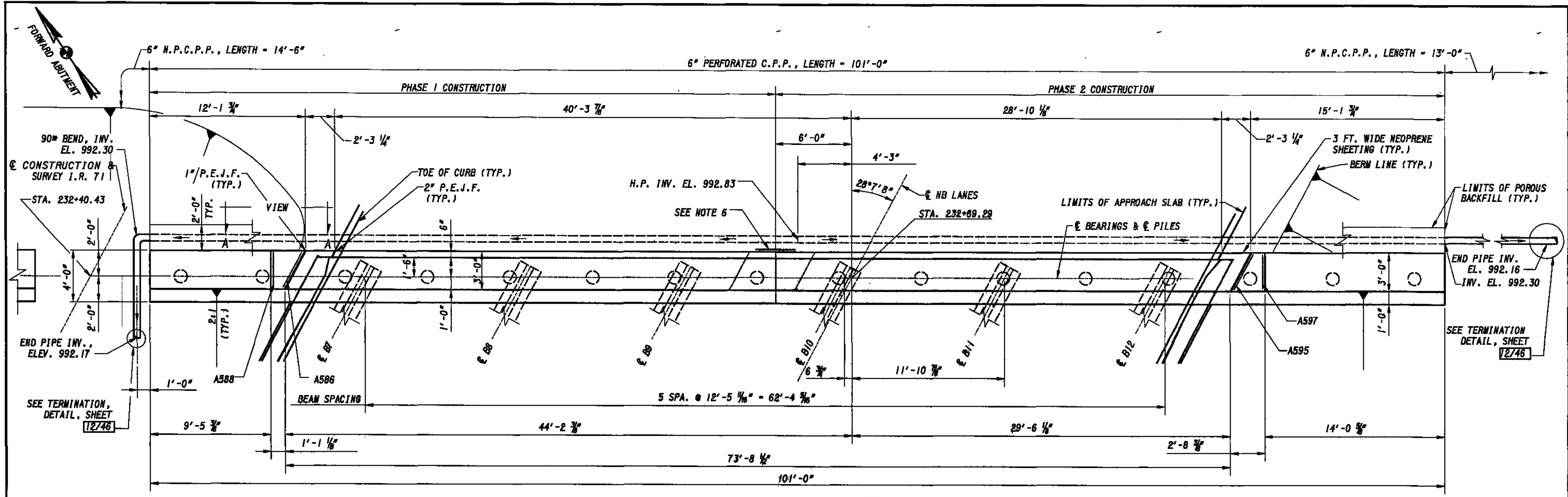
MOODY NOLAN INC.

DESIGNED	DRAWN	REVIEWED	DATE
PHB	MHR	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
RM		5202612-RIGHT	

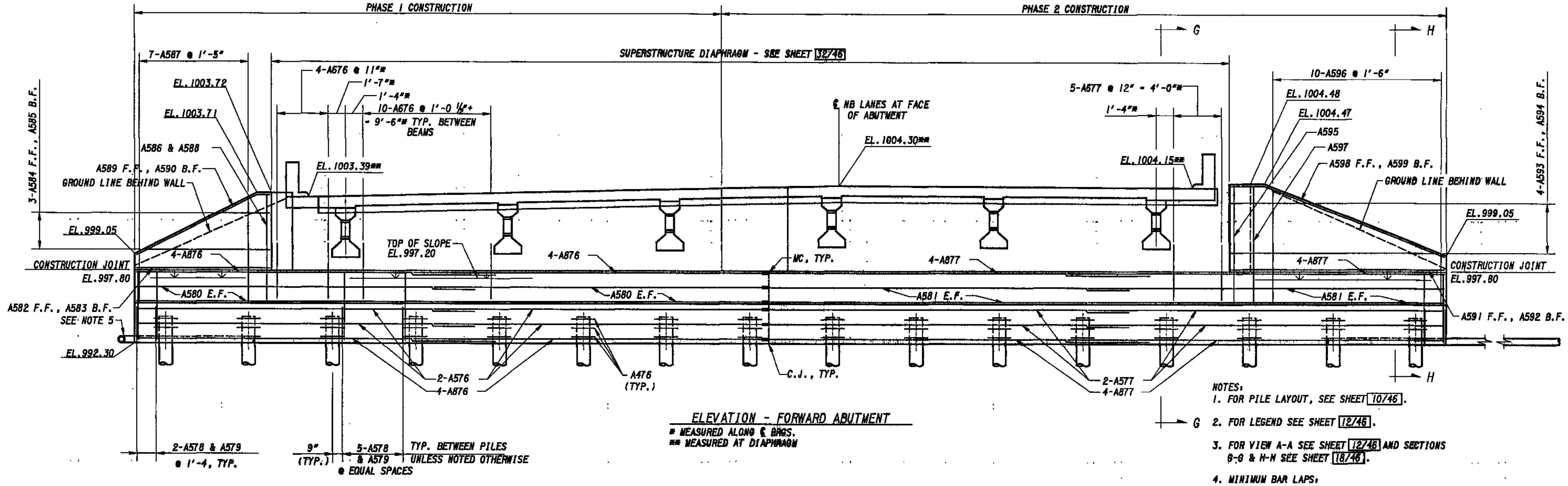
REAR ABUTMENT DETAILS
BRIDGE NO. MED-71-0437 R
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00

PLOTTED BY: 10/17/2003 9:52:16 AM



PLAN - FORWARD ABUTMENT



ELEVATION - FORWARD ABUTMENT

* MEASURED ALONG ℄ BRGS.

** MEASURED AT DIAPHRAGM

NOTES:

1. FOR PILE LAYOUT, SEE SHEET 10/46.
2. FOR LEGEND SEE SHEET 12/46.
3. FOR VIEW A-A SEE SHEET 12/46 AND SECTIONS G-G & H-H SEE SHEET 18/46.
4. MINIMUM BAR LAPS:
   - LAP No.5 BARS 2'-11".
   - LAP NO.6 BARS 3'-5".
   - LAP NO.8 BARS 7'-3".
5. 6" DIA. N.P.C.P.P. AT ENDS SPLICED TO PERFORATED PIPE AND OUTLET AS SHOWN IN PIPE TERMINATION DETAIL ON SHEET 12/46.
6. PLACE TYPE 2 WATERPROOFING 3' WIDE CENTERED ON JOINT FROM BOTTOM OF FOOTING TO APPROACH SLAB.

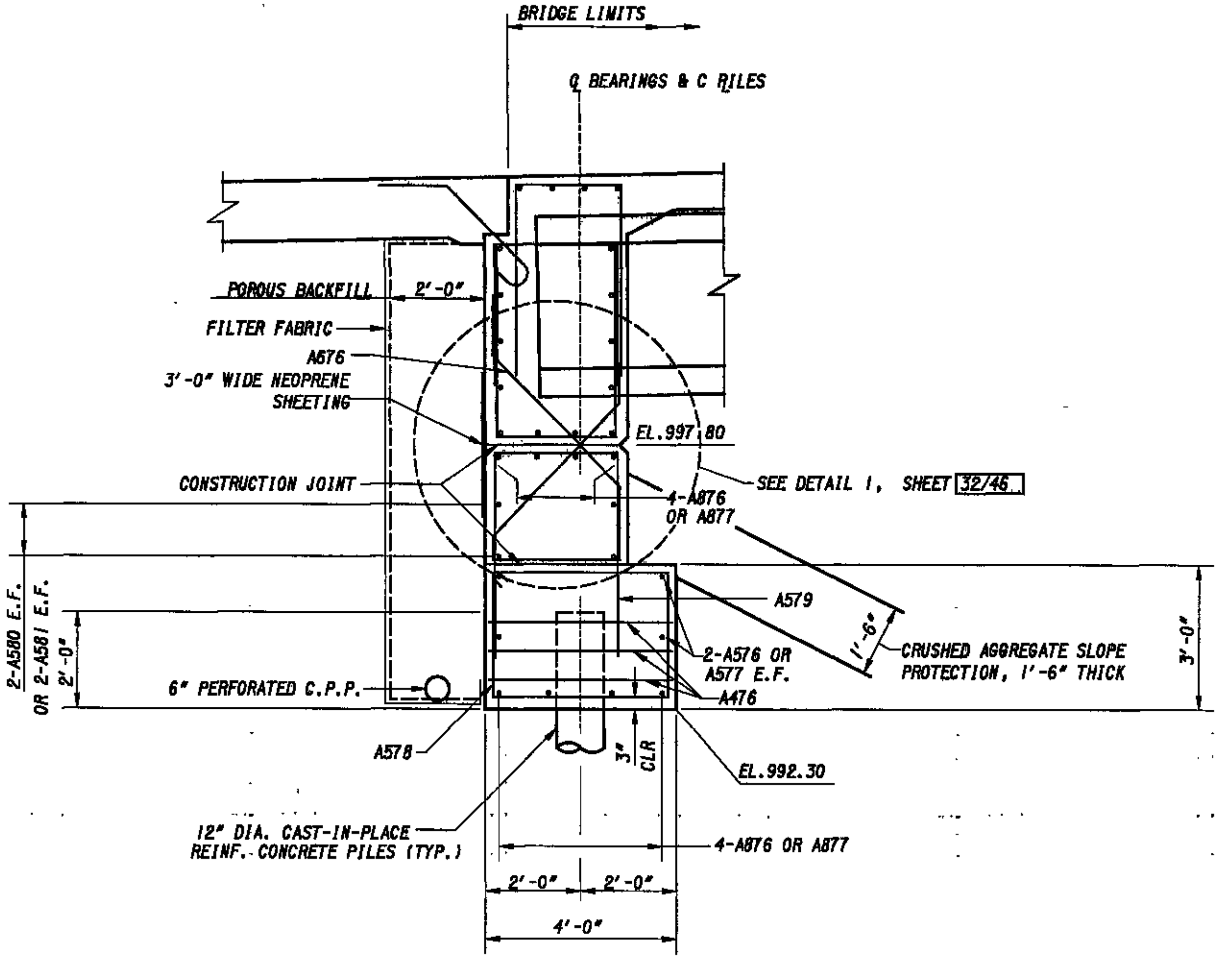
PLOTTED BY: Mbrdke 10/17/2003 8:51:22 AM p:\01202 Way-Med\Bridge0437 Converted Drawings\MED71FA3CONVERT2d.dgn

MOODY NOLAN INC
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614)

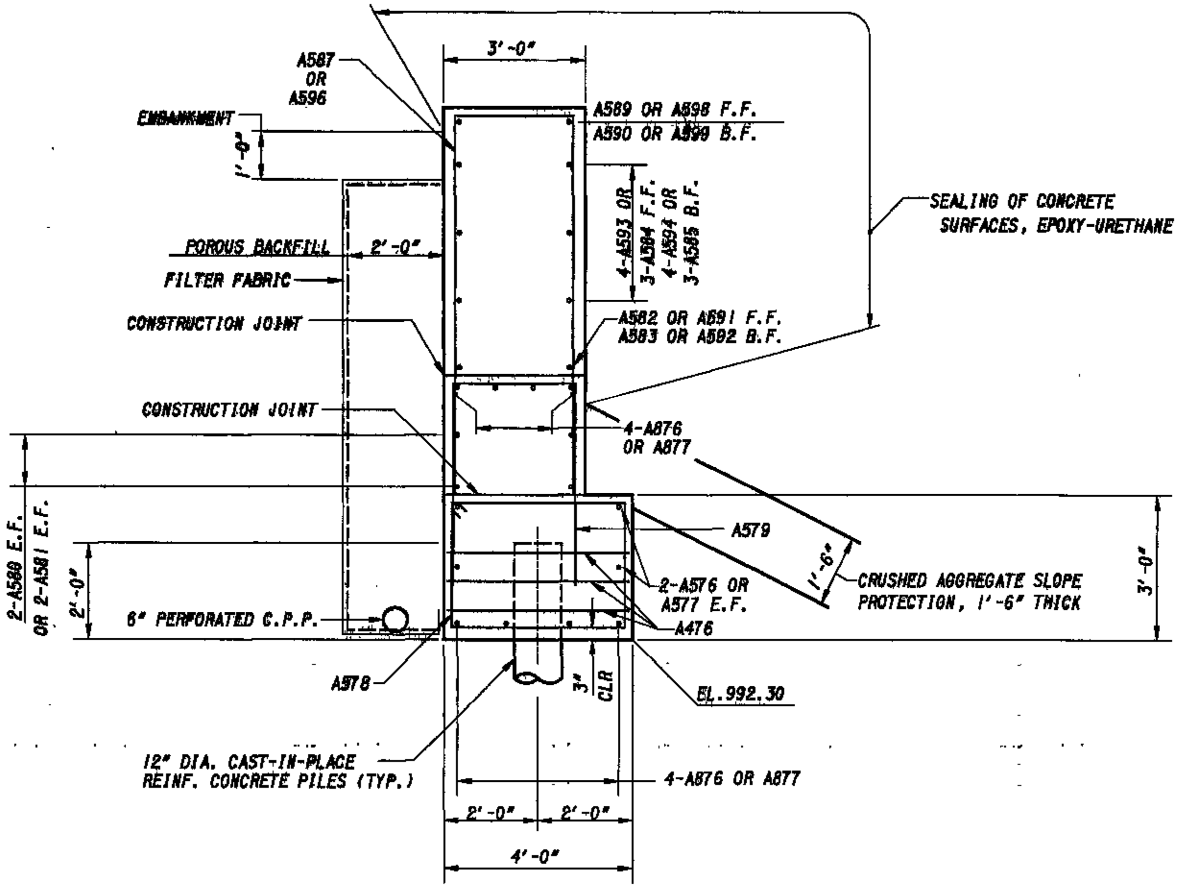
DESIGNED	DRAWN	REVIEWED	DATE
PHB	MHR	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
RM		5202612-RIGHT	

FORWARD ABUTMENT DETAILS
BRIDGE NO. MED-71-0437 R
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00



SECTION G-G



SECTION H-H

NOTE:

1. SEE SHEET 12/46 & 17/46 FOR ADDITIONAL NOTES AND DETAILS.
2. MINIMUM STEEL LAP LENGTHS
   - No. 5 BARS 2'-11"
   - No. 8 BARS 7'-3"

MOODY NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

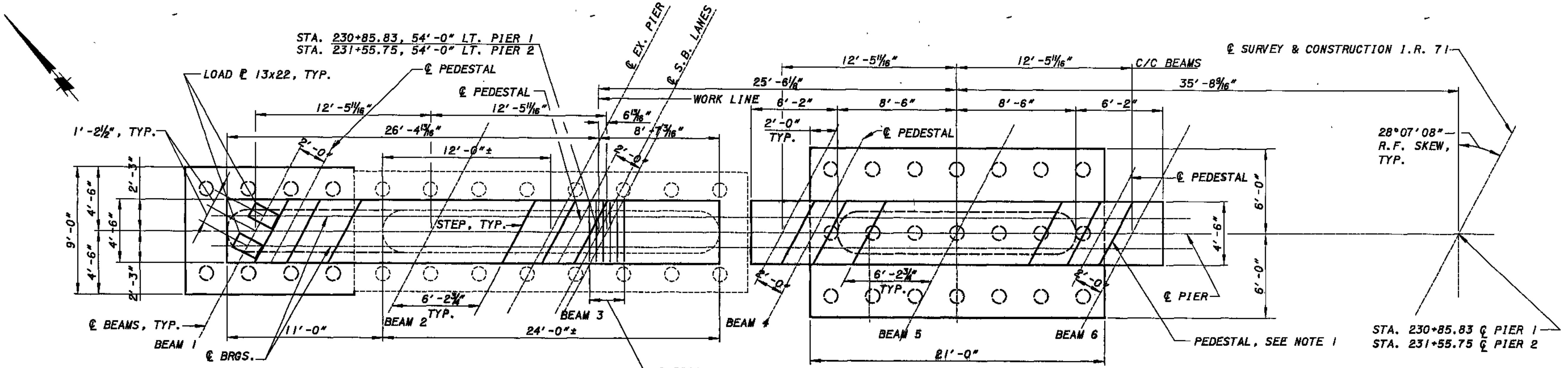
DESIGNED	DRAWN	REVIEWED	DATE
PHB	MHR	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
RW		5202612-RIGHT	

FORWARD ABUTMENT DETAILS
BRIDGE NO. MED-71-0437 R
OVER CSXT RAILROAD

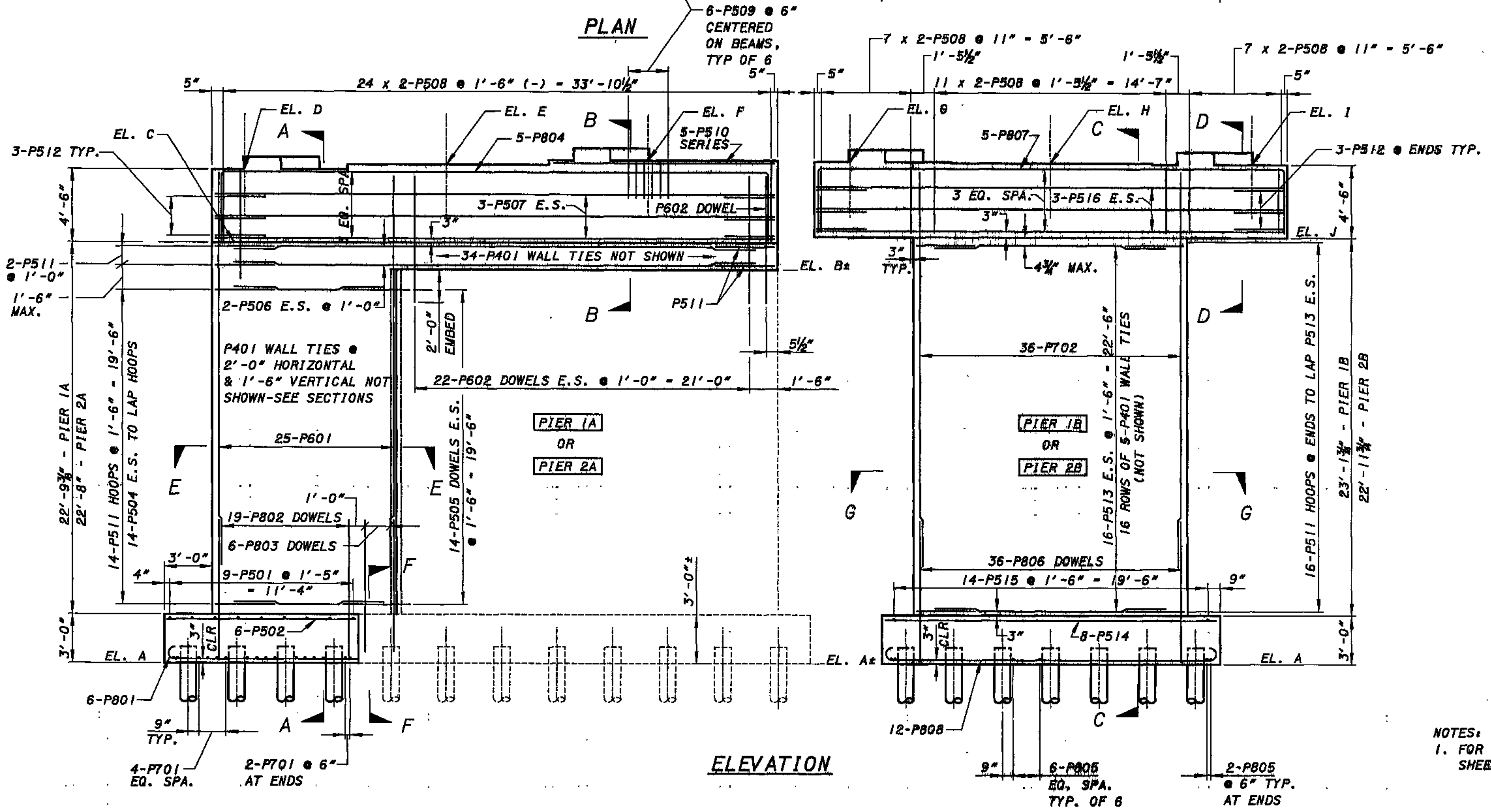
WAY/MED-71-7.04/0.00

18/46

682/785



PLAN



ELEVATION

NOTES:
1. FOR PEDESTAL DETAILS SEE SHEET 20/46.

TABLE OF ELEVATIONS										
				(BM-1)	(BM-2)	(BM-3)	(BM-4)	(BM-5)	(BM-6)	
PIER	EL. A	EL. B	EL. C	EL. D	EL. E	EL. F	EL. G	EL. H	EL. I	EL. J
1A & 1B	965.87	990.00±	991.65	996.15	996.44	996.71	996.65	996.60	996.52	992.02
2A & 2B	967.29	991.42±	992.95	997.45	997.74	998.00	997.93	997.86	997.77	993.27

MOODY/NOLAN LTD., INC.
Architecture•Engineering•Planning•Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

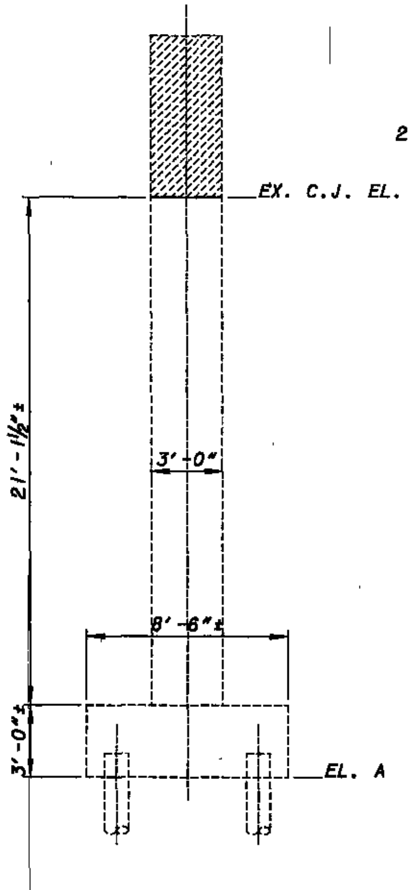
DESIGNED	DRAWN	REVIEWED	DATE
PHB	MHR	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MRG		5202582-LEFT 5202612-RIGHT	

SOUTHBOUND L PIERS 1 & 2 DETAILS-1

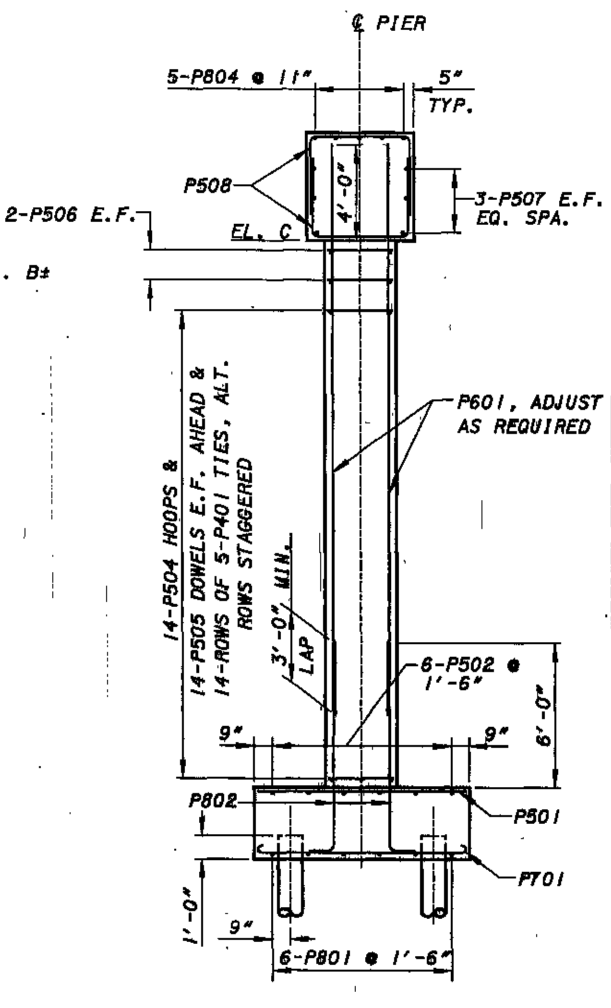
BRIDGE NO. MED-71-0437 L
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00

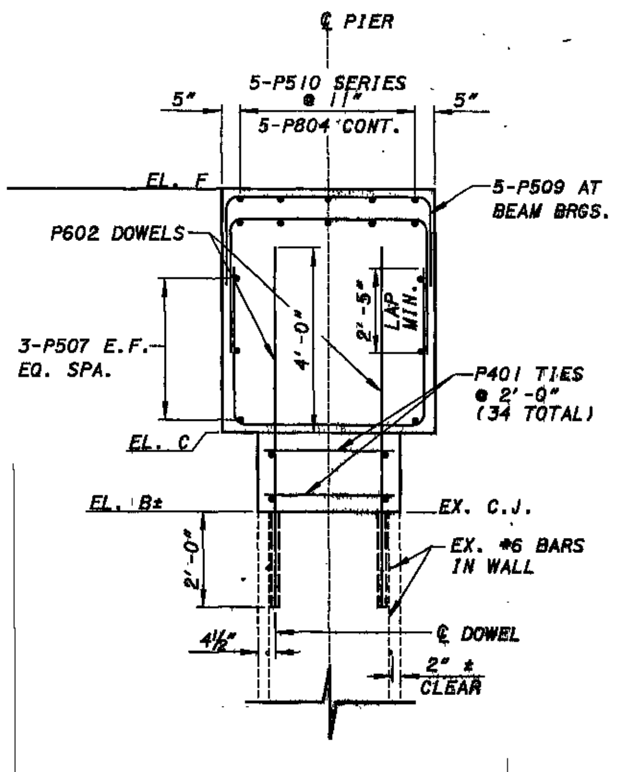
PLOTTED BY: MBrdke 10/16/2003 12:03:43 PM pw:\\01202 Way-Med\Bridge\0437 Converted Drawings\MED71P01.dgn



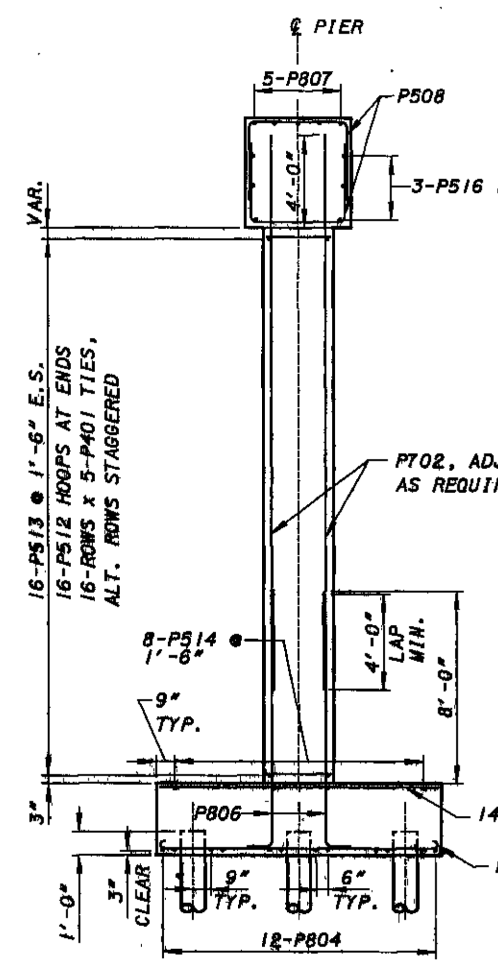
EXISTING SECTION



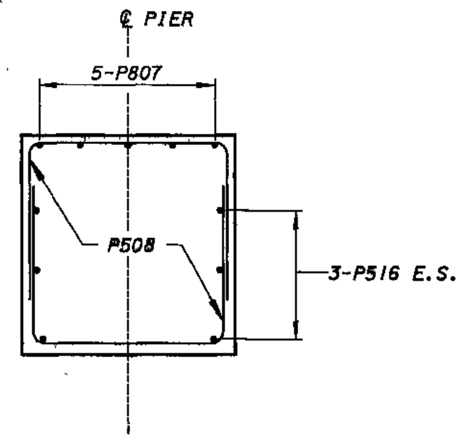
SECTION A-A



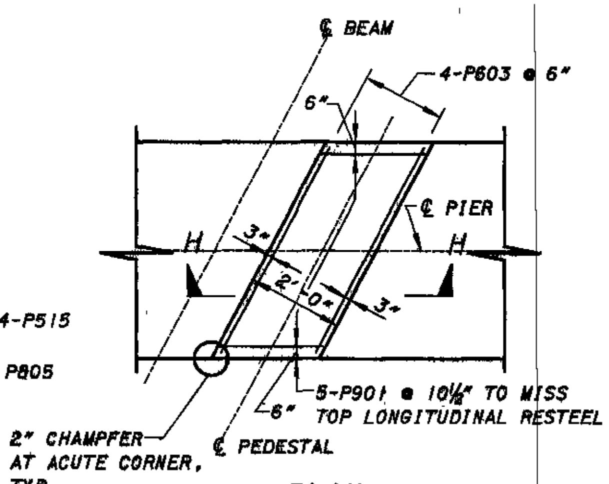
SECTION B-B



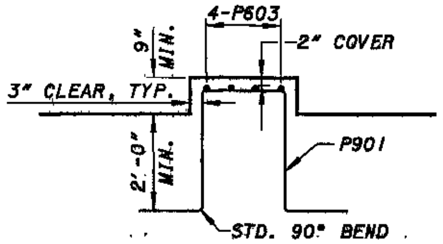
SECTION C-C



SECTION D-D

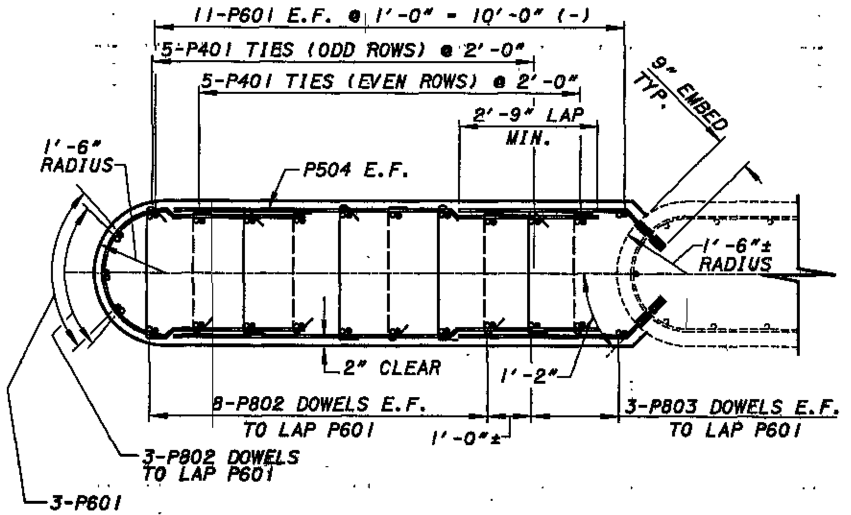

℄ BEAM
4-P603 @ 6"
6"
℄ PIER
H
H
3"
2'-0"
3"
2" CHAMPFER AT ACUTE CORNER, TYP.
℄ PEDESTAL
6"
5-P901 @ 10½" TO MISS TOP LONGITUDINAL RESTEEL

PLAN

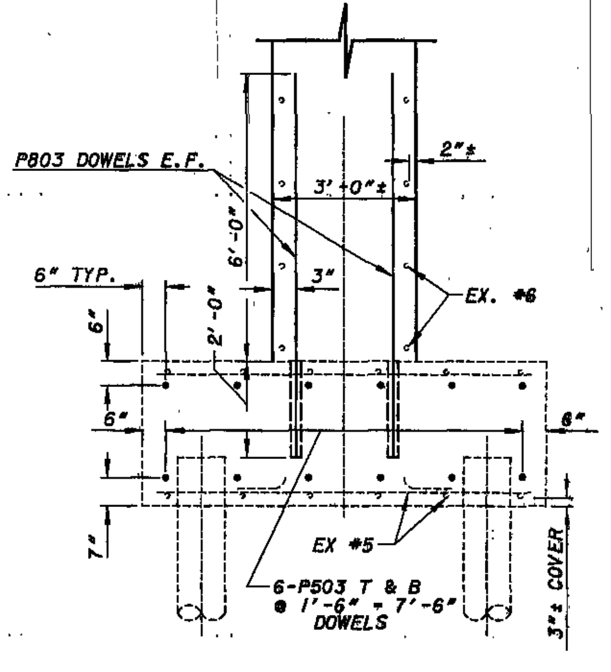


SECTION H-H

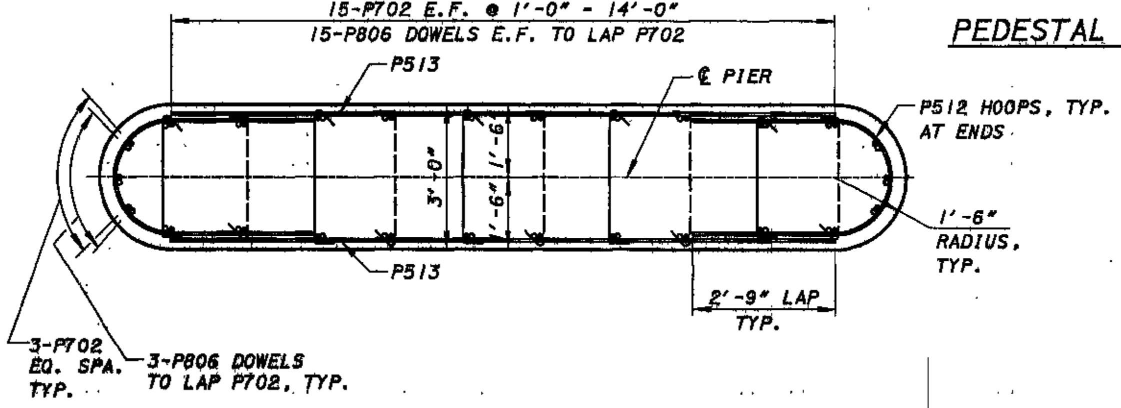
PEDESTAL DETAILS


11-P601 E.F. @ 1'-0" = 10'-0" (-)
5-P401 TIES (ODD ROWS) @ 2'-0"
5-P401 TIES (EVEN ROWS) @ 2'-0"
9" EMBED TYP.
2'-9" LAP MIN.
1'-6" RADIUS
P504 E.F.
1'-6"± RADIUS
2" CLEAR
1'-2"
8-P802 DOWELS E.F. TO LAP P601
1'-0"±
3-P803 DOWELS E.F. TO LAP P601
3-P802 DOWELS TO LAP P601
3-P601 @ EQ. SPA.

SECTION E-E



SECTION F-F



SECTION G-G

MOODY NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED PHB
DRAWN MHR
REVIEWED GT
DATE 6/03
CHECKED MRG
REVISED
STRUCTURE FILE NUMBER
5202582-LEFT
~~5202618-RIGHT~~

SOUTHBOUND L PIERS 1 & 2 DETAILS - 2
BRIDGE NO. MED-71-0437 L
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00

PLOTTED BY: 10/17/2003 9:54:55 AM

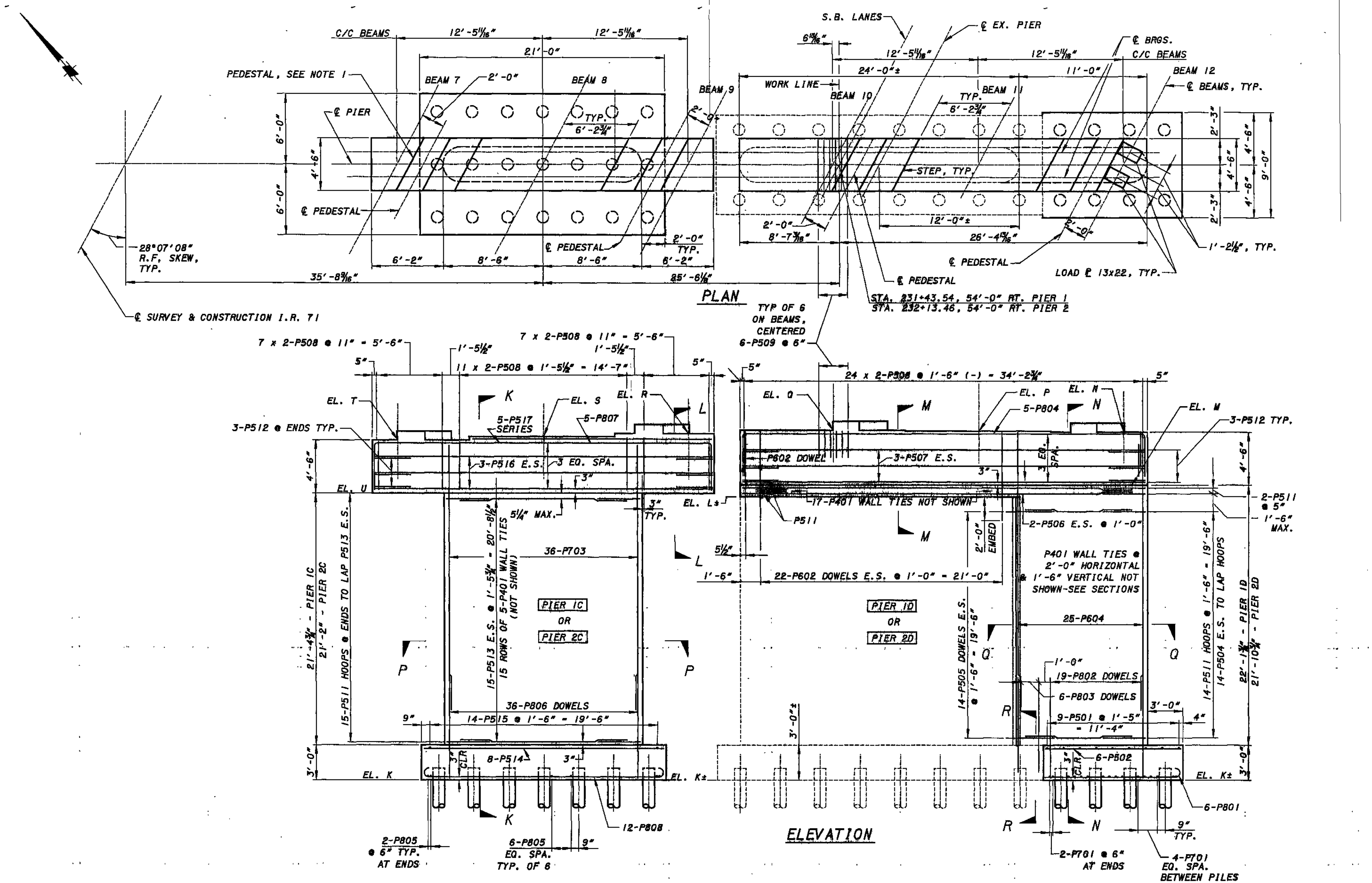


TABLE OF ELEVATIONS										
				(BM-12)	(BM-11)	(BM-10)	(BM-9)	(BM-8)	(BM-7)	
PIER	EL. K	EL. L	EL. M	EL. N	EL. P	EL. Q	EL. R	EL. S	EL. T	EL. U
1C & 1D	967.05*	991.18±	992.16	996.66	996.74	996.79	996.51	996.23	995.94	991.44
2C & 2D	968.53*	992.66±	993.42	997.92	998.00	998.05	997.77	997.49	997.20	992.70

NOTES:
1. FOR PEDESTAL DETAILS AND NOTES SEE SHEET 22/46.

MOODY NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
PHB	MHR	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MRG		5202562-LEFT 5202612-RIGHT	

NORTHBOUND R PIERS 1 & 2 DETAILS-1

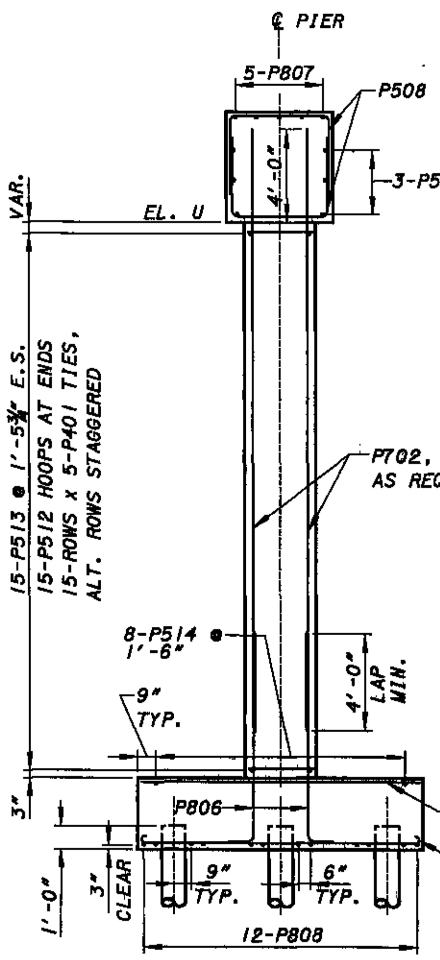
BRIDGE NO. MED-71-0437 R
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00

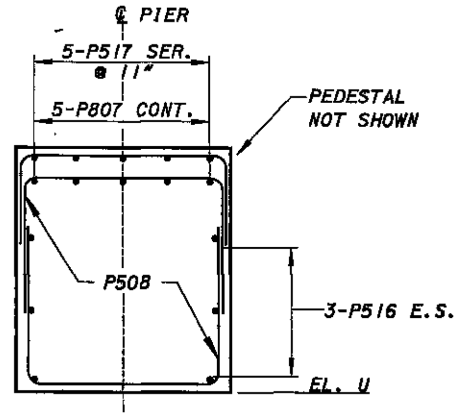
21/46

685
785

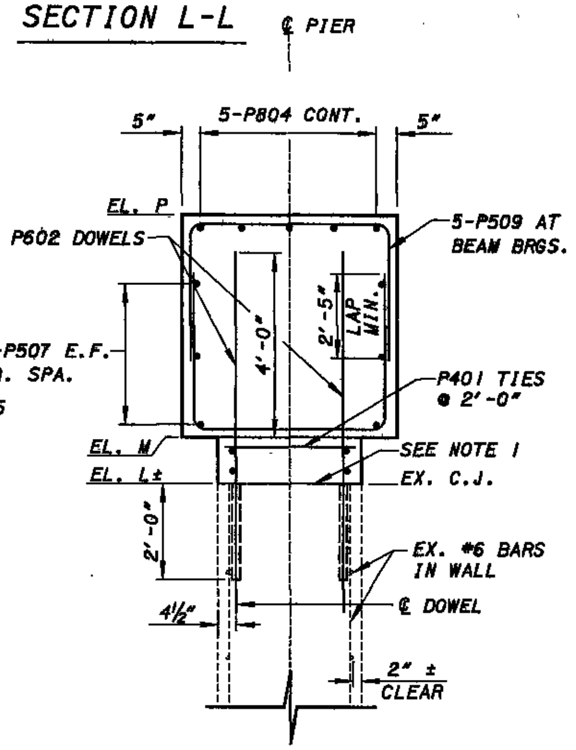
PLOTTED BY: MBrake 10/16/2003 12:07:48 PM pt=01202 Way-Med\Bridges\0437 Converted Drawings\ME071P03.dgn



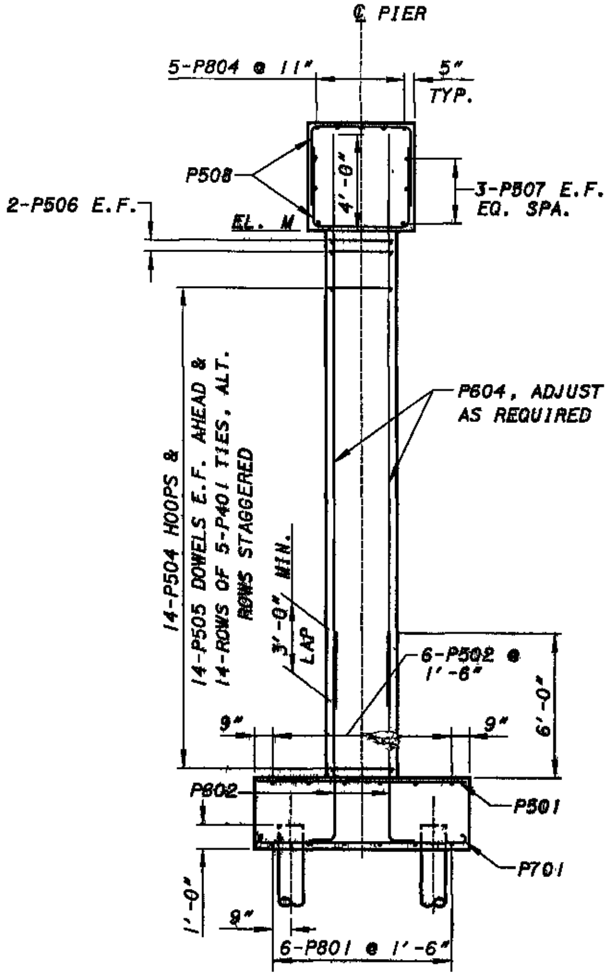
SECTION K-K



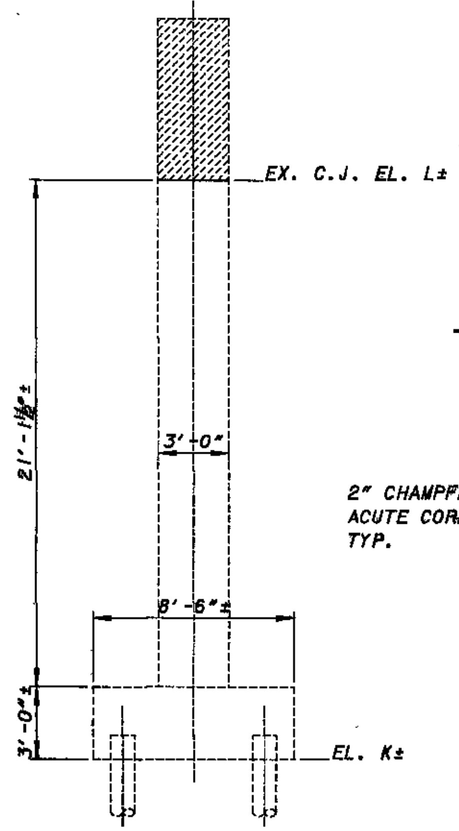
SECTION L-L



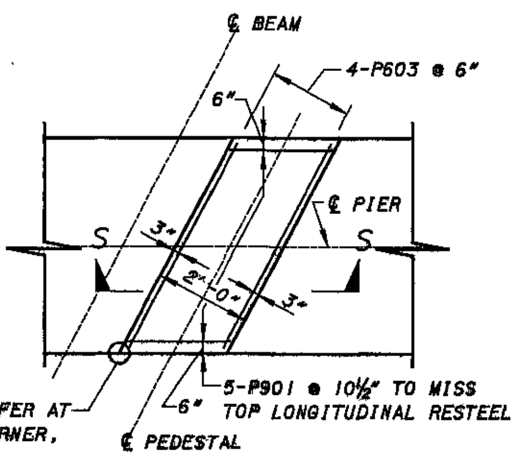
SECTION M-M



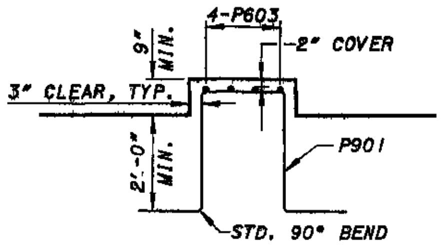
SECTION N-N



EXISTING SECTION

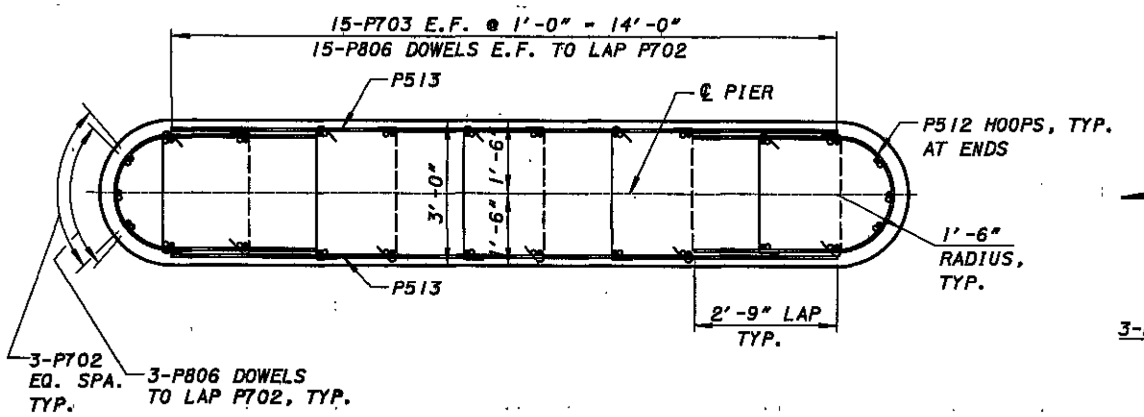

℄ BEAM
4-P603 @ 6"
6"
℄ PIER
S
S
3"
2'-0"
3"
5-P901 @ 10½" TO MISS TOP LONGITUDINAL RESTEEL
6"
2" CHAMPFER AT ACUTE CORNER, TYP.
℄ PEDESTAL

PLAN

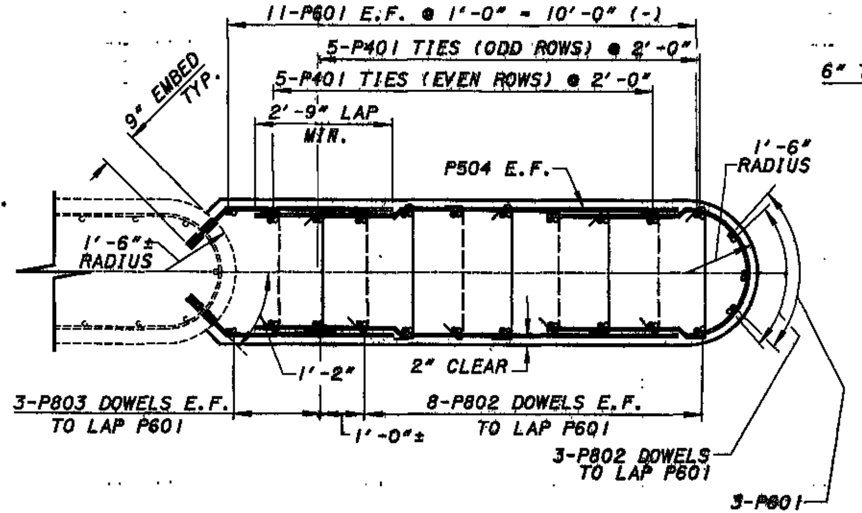


SECTION S-S

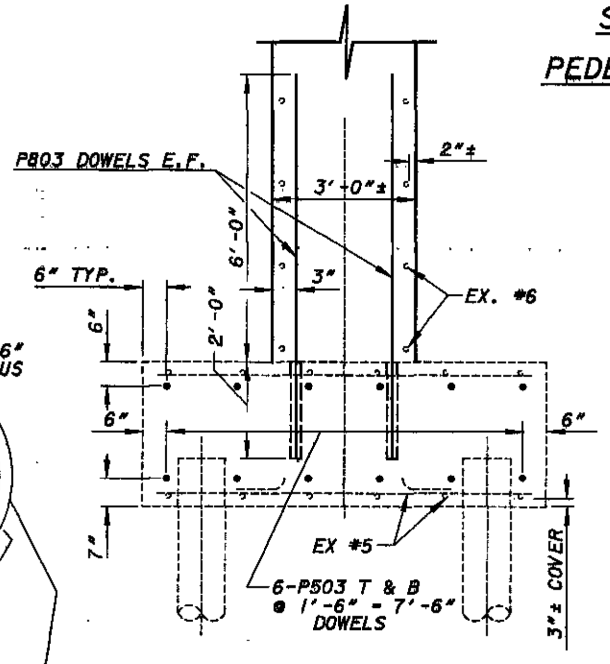
PEDESTAL DETAILS



SECTION P-P


11-P601 E.F. @ 1'-0" = 10'-0" (-)
5-P401 TIES (ODD ROWS) @ 2'-0"
5-P401 TIES (EVEN ROWS) @ 2'-0"
9" EMBED TYP.
2'-9" LAP MIN.
P504 E.F.
1'-6" RADIUS
1'-6"± RADIUS
1'-2"
2" CLEAR
3-P803 DOWELS E.F. TO LAP P601
1'-0"±
8-P802 DOWELS E.F. TO LAP P601
3-P802 DOWELS TO LAP P601
3-P801 @ EQ. SPA.

SECTION Q-Q



SECTION R-R

MOODY NOLAN INC
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215

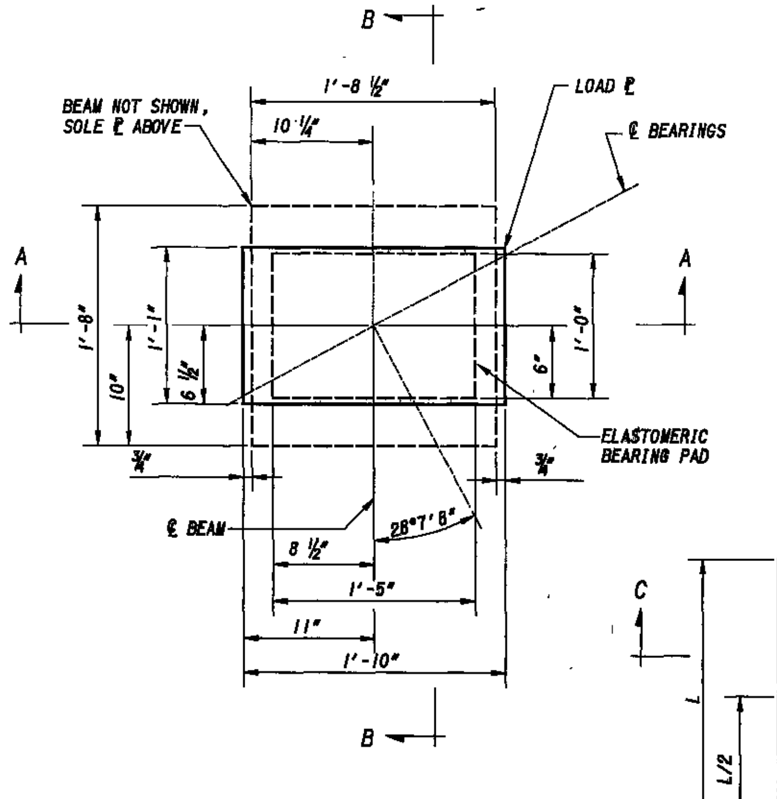
DESIGNED	DRAWN	REVIEWED	DATE
PHB	MHR	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MRG		5202582-LEFT 5202612-RIGHT	

NORTHBOUND R PIERS 1 & 2 DETAILS - 2

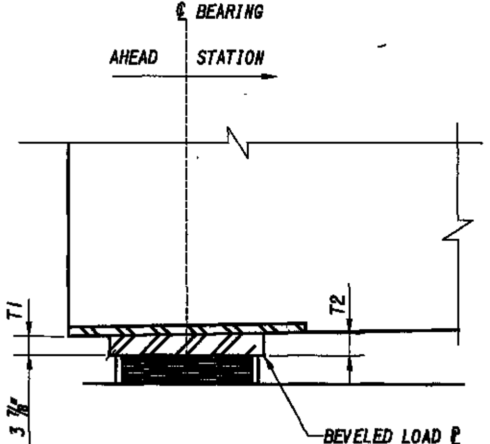
BRIDGE NO. MED-71-0437 R
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00

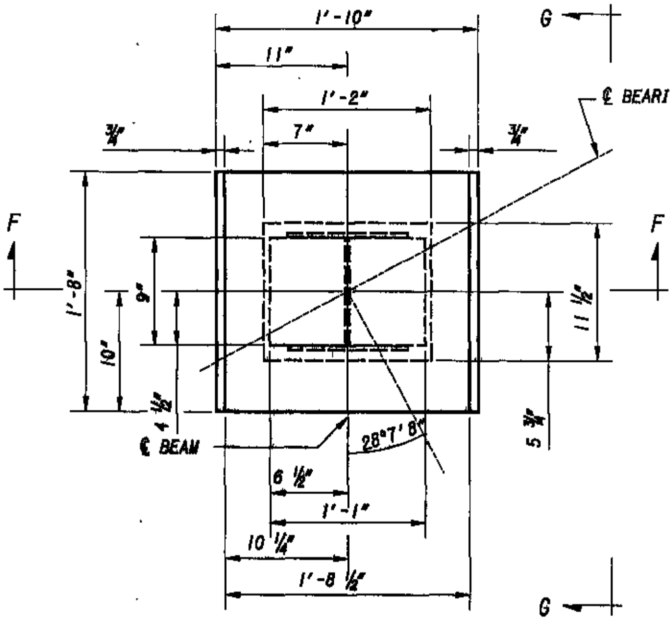
PLOTTED BY: 10/17/2003 9:56:34 AM



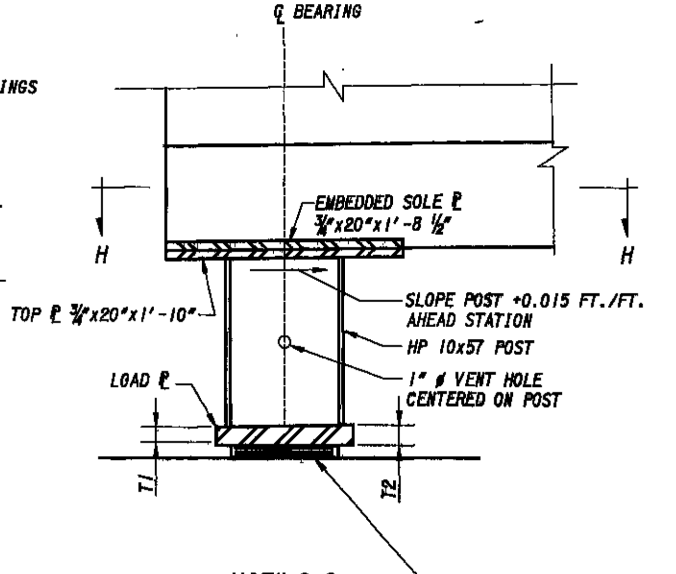
PIER BEARING PLAN



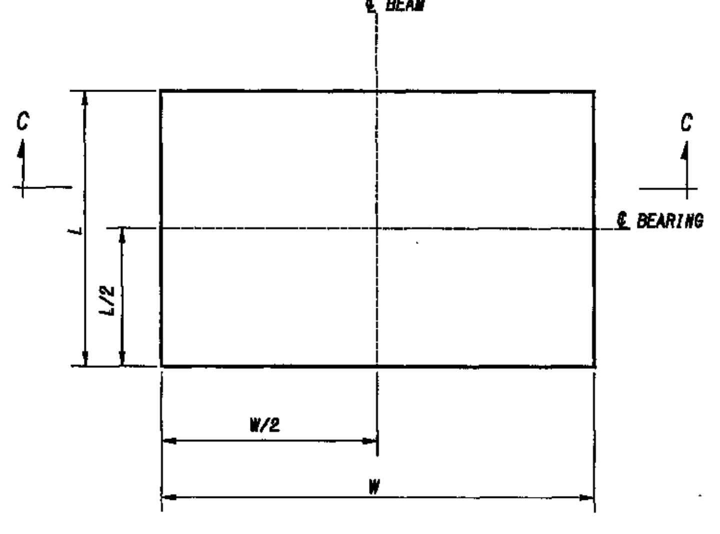
VIEW B-B



ABUTMENT BEARING PLAN

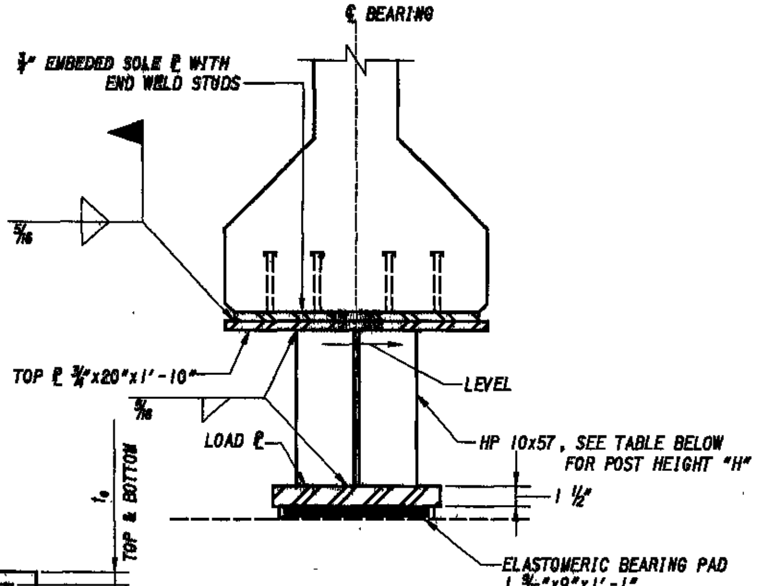

℄ BEARING
EMBEDDED SOLE ℙ ¾"x20"x1'-8 ½"
H
H
TOP ℙ ¾"x20"x1'-10"
SLOPE POST +0.015 FT./FT. AHEAD STATION
HP 10x57 POST
LOAD ℙ
1" ø VENT HOLE CENTERED ON POST
T1
T2
ELASTOMERIC BEARING PAD 1 ⁹⁄₁₆"x9"x1'-1"

VIEW G-G

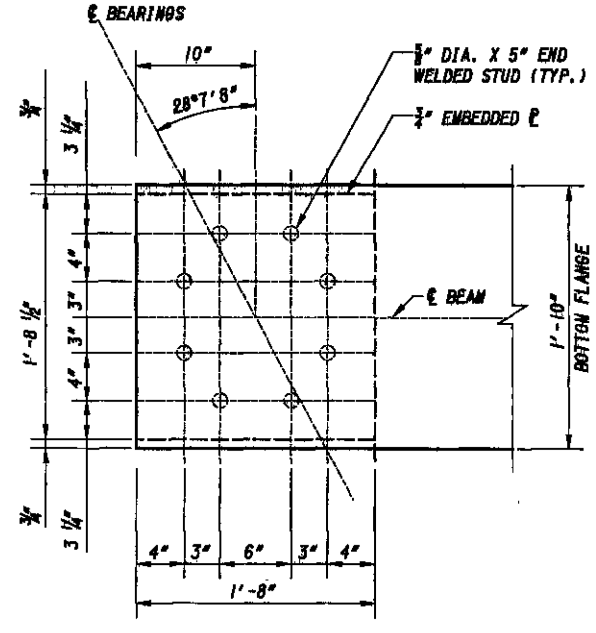


PLAN

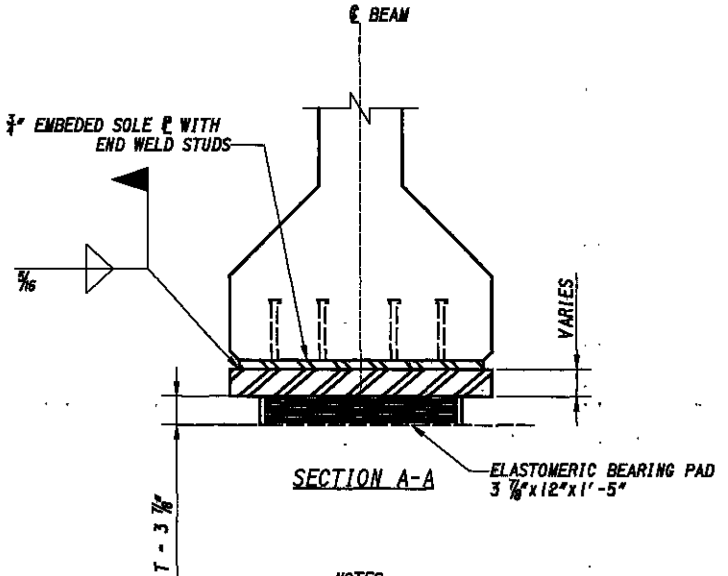
ELASTOMERIC BEARING PAD DETAILS


℄ BEARING
¾" EMBEDED SOLE ℙ WITH END WELD STUDS
⁵⁄₁₆
TOP ℙ ¾"x20"x1'-10"
⁵⁄₁₆
LEVEL
LOAD ℙ
HP 10x57, SEE TABLE BELOW FOR POST HEIGHT "H"
1 ½"
ELASTOMERIC BEARING PAD 1 ⁹⁄₁₆"x9"x1'-1"

SECTION F-F

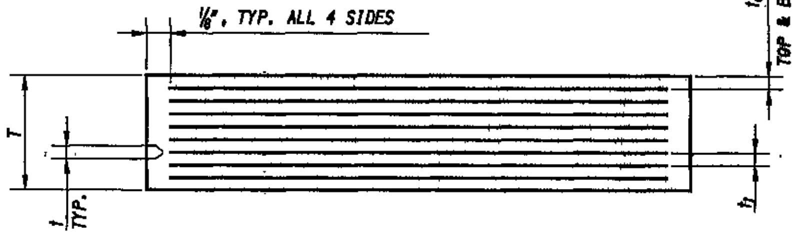


SECTION H-H



SECTION A-A

ELASTOMERIC BEARING PAD 3 ⅞"x12"x1'-5"



SECTION C-C

NOTES:

ALL STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36 OR 50. GALVANIZED AS PER CMS 711.02.

THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.

WELDING:
CONTROL WELDING SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300°F AS DETERMINED BY USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

ELASTOMERIC BEARINGS:
THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

BASIS OF PAYMENT:
THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS EITHER FIXED OR EXPANSION. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516, EACH, ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE.

LEGEND:

℄ - CENTERLINE
ℙ - PLATE
DIA. - DIAMETER
TYP. - TYPICAL
RA - REAR ABUTMENT
FA - FORWARD ABUTMENT

POST HEIGHT "H"		
BEAM	RA	FA
1	0'-8 ³⁄₁₆"	0'-8 ³⁄₁₆"
2	0'-11 ¹¹⁄₁₆"	0'-11 ⁷⁄₁₆"
3	1'-3 ¹⁄₁₆"	1'-2 ⁷⁄₁₆"
4	1'-2 ⁷⁄₁₆"	1'-1 ⁷⁄₁₆"
5	1'-1 ⁵⁄₁₆"	1'-3 ⁷⁄₁₆"
6	1'-1 ³⁄₁₆"	0'-11 ⁹⁄₁₆"
7	0'-8 ³⁄₁₆"	0'-8 ³⁄₁₆"
8	0'-11 ⁹⁄₁₆"	0'-11 ⁹⁄₁₆"
9	1'-2 ⁵⁄₁₆"	1'-2 ⁵⁄₁₆"
10	1'-6 ³⁄₁₆"	1'-6 ³⁄₁₆"
11	1'-5 ⁹⁄₁₆"	1'-5 ⁹⁄₁₆"
12	1'-4 ⁵⁄₁₆"	1'-4 ⁵⁄₁₆"

BEARING DESIGN LOADS AND DIMENSIONS						
SPAN	1	1	2	2	3	3
LOCATION	RA	PIER 1	PIER 1	PIER 2	PIER 2	FA
TYPE (EXPANSION OR FIXED)	F	E	E	E	E	F
DESIGN DEAD LOAD, KIPS	53	82	82	82	82	53
DESIGN LIVE LOAD, KIPS	23	78	78	78	78	23
DESIGN TOTAL LOAD, KIPS	76	160	160	160	160	76
ELASTOMERIC WIDTH, W, IN.	13	17	17	17	17	13
ELASTOMERIC LENGTH, L, IN.	9	12	12	12	12	9
ELASTOMERIC THICKNESS, T, IN.	1 ⁹⁄₁₆	3 ⅞	3 ⅞	3 ⅞	3 ⅞	1 ⁹⁄₁₆
NUMBER OF EXTERNAL LAYERS, Ne	2	2	2	2	2	2
THICKNESS OF EXTERNAL LAYER, te, IN.	0.273	0.273	0.273	0.273	0.273	0.273
NUMBER OF INTERNAL LAYERS, Ni	2	7	7	7	7	2
THICKNESS OF EXTERNAL LAYER, ti, IN.	0.390	0.390	0.390	0.390	0.390	0.390
NUMBER OF STEEL LAYERS, Ns	3	8	8	8	8	3
THICKNESS OF STEEL LAYER, ts, IN.	0.0747	0.0747	0.0747	0.0747	0.0747	0.0747
LOAD PLATE SIZE: Ws x Ls	14 x 11 ½	22 x 13	22 x 13	22 x 13	22 x 13	14 x 11 ½
LOAD PLATE THICKNESS T1, IN.	1 ½	1 ½	2 ¹⁄₁₆	1 ½	2	1 ½
LOAD PLATE THICKNESS, T2, IN.	1 ½	1 ¹¹⁄₁₆	2 ¼	1 ¹¹⁄₁₆	2 ³⁄₁₆	1 ½
VERTICAL POST SIZE	HP 10 x 57	-	-	-	-	HP 10 x 57
VERTICAL POST TOP SLOPE, IN./IN.	+ 0.015	-	-	-	-	+ 0.015
¾" TOP PLATE SIZE: W x L, IN.	22 x 20	-	-	-	-	22 x 20

MOODY NOLAN INC

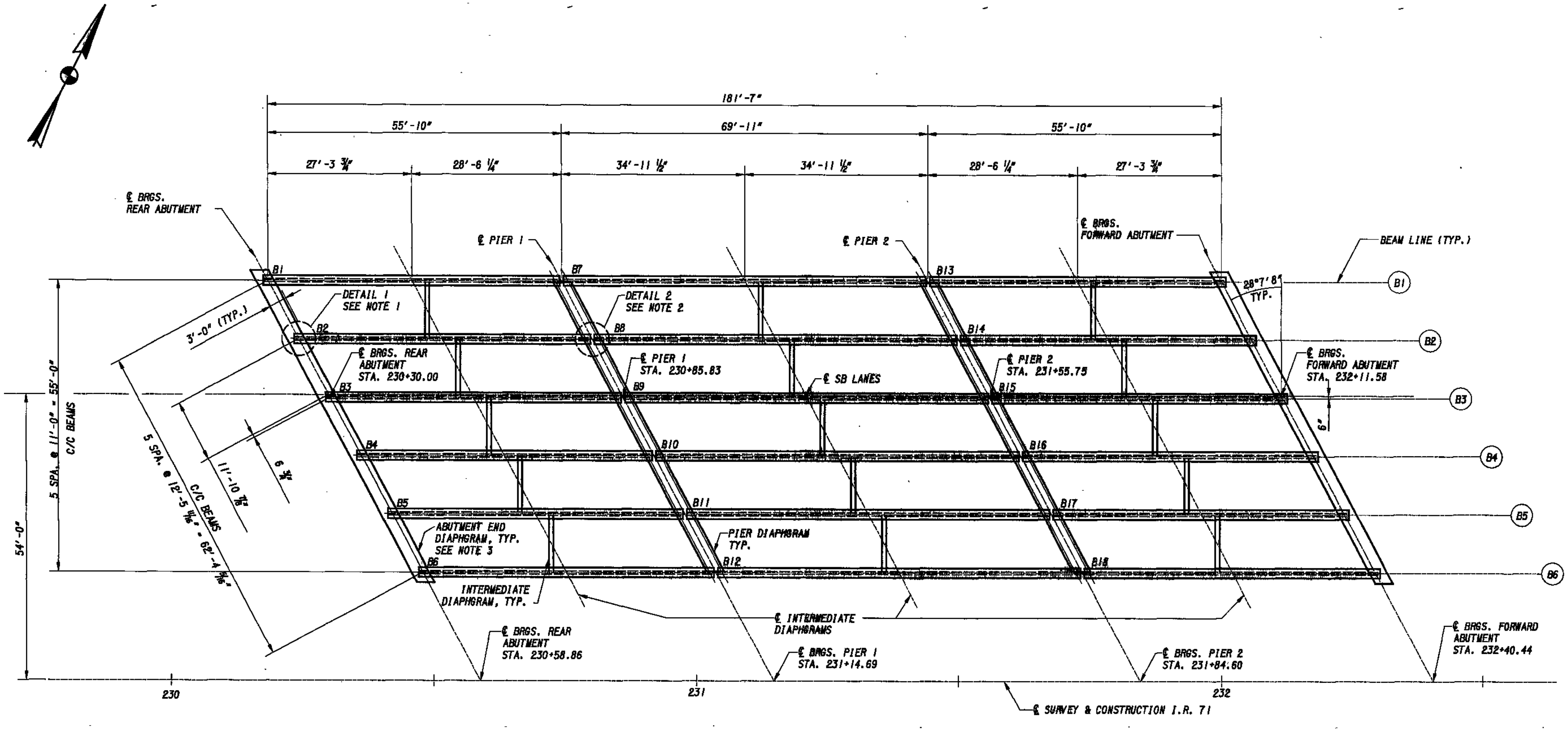
DESIGNED PHB
CHECKED MRG
DRAWN MHR
REVISED
REVIEWED GT
DATE 6/03
STRUCTURE FILE NO. 5202582-LEFT

BEARING DETAILS
BRIDGE NO. MED-71-0437L/R
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00

23/46

687/785


181'-7"
55'-10"
69'-11"
55'-10"
27'-3 3/4"
28'-6 1/4"
34'-11 1/2"
34'-11 1/2"
28'-6 1/4"
27'-3 3/4"
℄ BRGS. REAR ABUTMENT
℄ PIER 1
℄ PIER 2
℄ BRGS. FORWARD ABUTMENT
BEAM LINE (TYP.)
28°7'8" TYP.
B1
B2
B3
B4
B5
B6
B7
B8
B9
B10
B11
B12
B13
B14
B15
B16
B17
B18
DETAIL 1 SEE NOTE 1
DETAIL 2 SEE NOTE 2
3'-0" (TYP.)
℄ BRGS. REAR ABUTMENT STA. 230+30.00
℄ PIER 1 STA. 230+85.83
℄ SB LANES
℄ PIER 2 STA. 231+55.75
℄ BRGS. FORWARD ABUTMENT STA. 232+11.58
6"
5 SPA. @ 11'-0" = 55'-0" C/C BEAMS
54'-0"
5 SPA. @ 12'-5 1/16" = 62'-4 5/16" C/C BEAMS
11'-10 7/8"
6 3/8"
ABUTMENT END DIAPHRAGM, TYP. SEE NOTE 3
PIER DIAPHRAGM TYP.
INTERMEDIATE DIAPHRAGM, TYP.
℄ INTERMEDIATE DIAPHRAGMS
℄ BRGS. REAR ABUTMENT STA. 230+58.86
℄ BRGS. PIER 1 STA. 231+14.69
℄ BRGS. PIER 2 STA. 231+84.60
℄ BRGS. FORWARD ABUTMENT STA. 232+40.44
230
231
232
℄ SURVEY & CONSTRUCTION I.R. 71

LEFT FRAMING PLAN

NOTES:

1. FOR ABUTMENT DIAPHRAGM DETAIL 1, SEE SHEETS 28/46
2. FOR PIER DIAPHRAGM DETAIL 2, SEE SHEET 28/46
3. SEE STD. DWG. PSID-1-99 FOR INTERMEDIATE DIAPHGRAM DETAILS

LEGEND:

(B1) - BEAM LINE NUMBER
B18 - BEAM MARK FOR EACH BEAM

MOODY/NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
RW	PC	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
PHB		5202582	

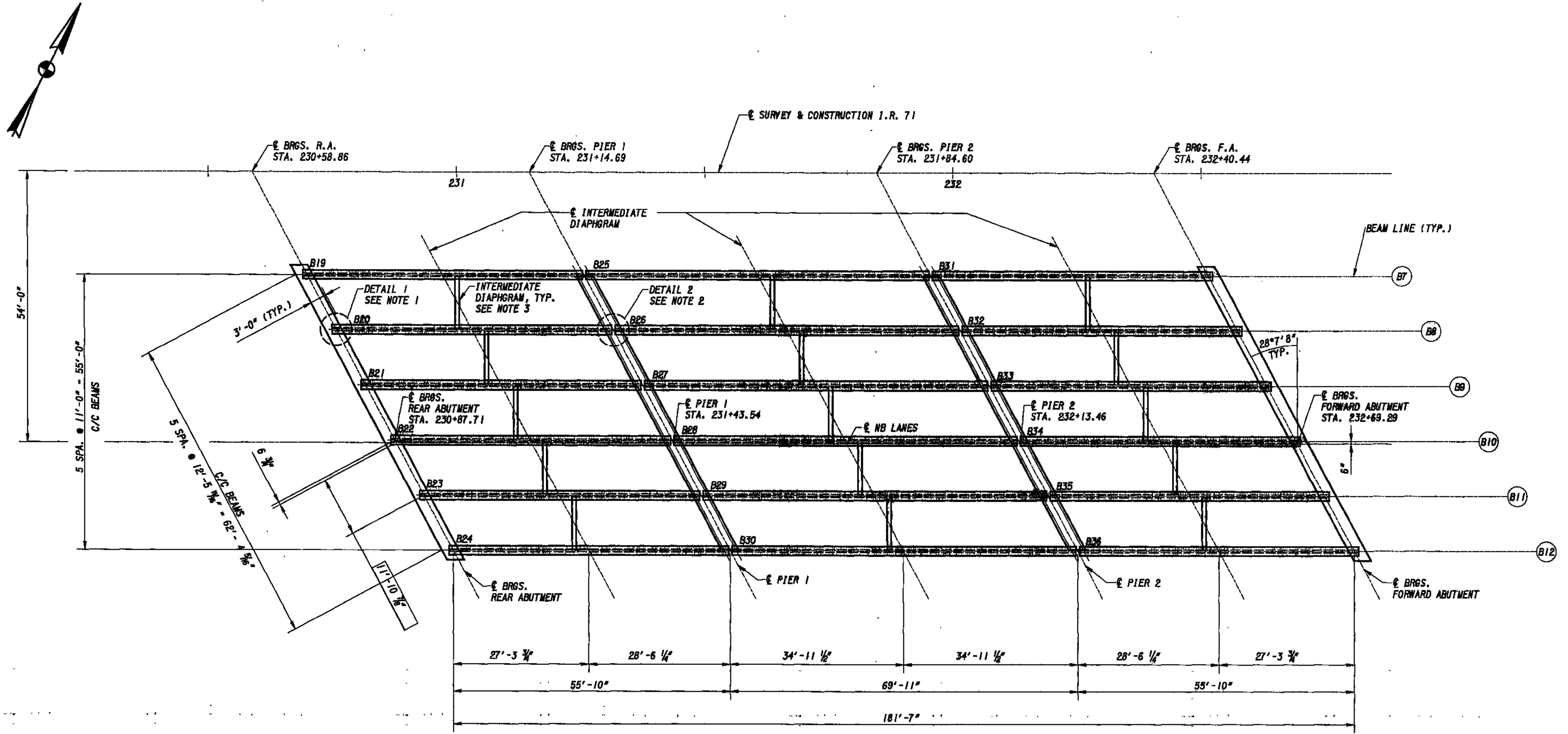
LEFT FRAMING PLAN
BRIDGE NO. MED-71-0437 L
OVER CSXT RAILROAD

WAY/MED 71-7.04/0.00

24/46

688/785

PLOTTED BY: MBrake 10/17/2003 11:04:03 AM D:\01202 Way-Med\Bridges\0437 Converted Drawings\MED71SD2CONVERT2D.dgn



RIGHT FRAMING PLAN

NOTES:

1. FOR ABUTMENT DIAPHRAGM DETAILS 1, SEE SHEETS 28/46
2. FOR PIER DIAPHRAGM DETAILS 2, SEE SHEET 28/46
3. SEE STD. DWG. PSID-1-99 FOR INTERMEDIATE DIAPHRAGM DETAILS

LEGEND:

(B7) - BEAM LINE NUMBER

B36 - BEAM MARK FOR EACH BEAM

MOODY NOLAN INC.

DESIGNED	DRAWN	REVIEWED	DATE
RM	PC	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
PHB		5202612	

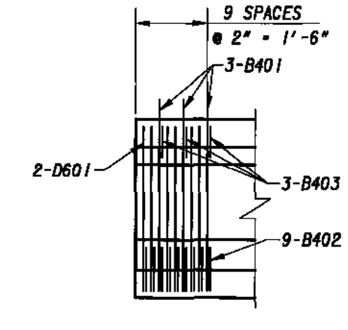
RIGHT FRAMING PLAN
BRIDGE NO. MED-71-0437 R
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00

25/46

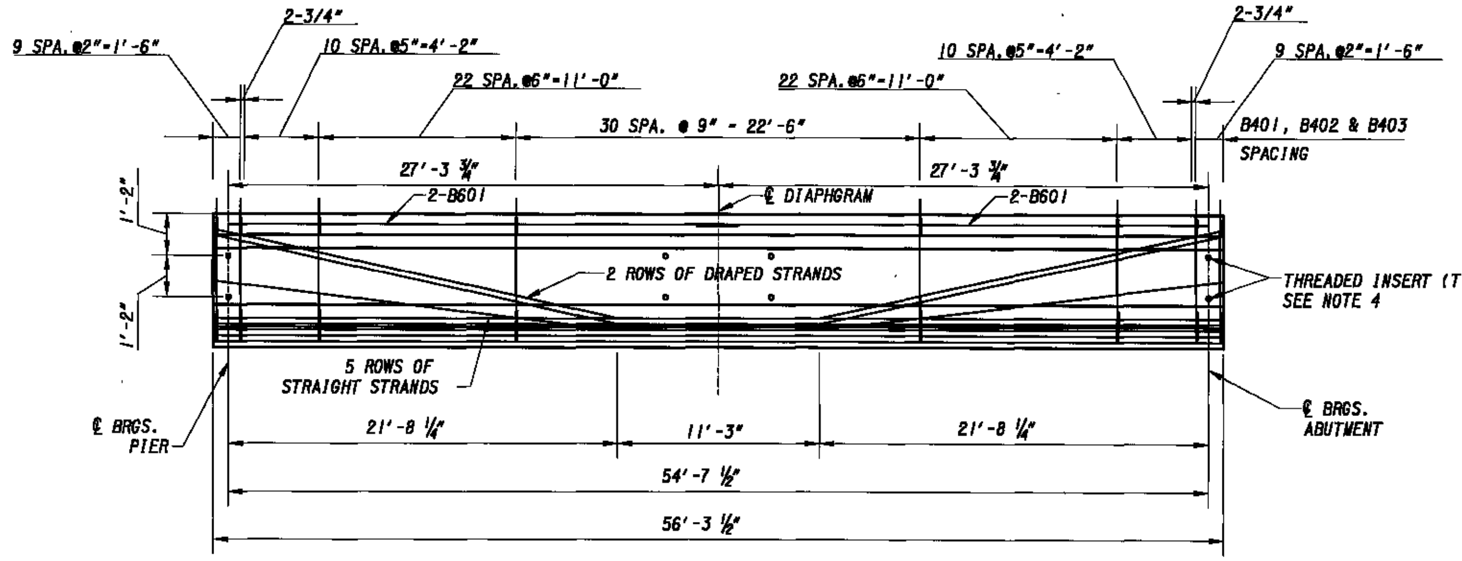
689
785

PLOTTED BY: Mbrooks 10/17/2003 11:04:56 AM



ANCHOR REINFORCEMENT

TYP. AT BEAM



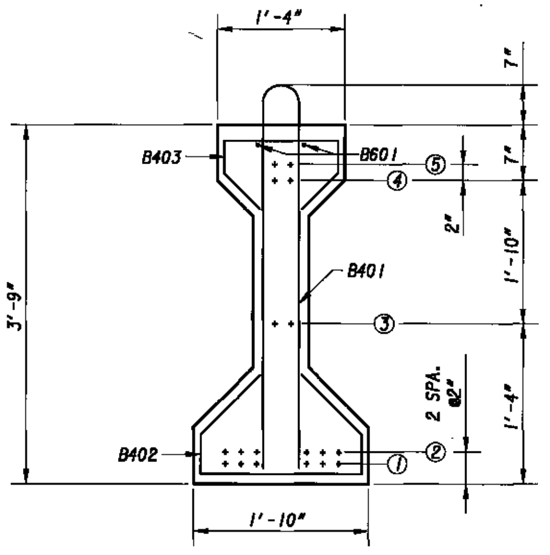
BEAM ELEVATION - SPAN 1&3

(B1-B6)
(B13-B18)
(B19-B24)
(B31-B36)

MARK	TYPE	LENGTH	A	B	C	D	R
B401	1	8'-8"	4 1/2"	4'-3"			1 3/4"
B402	2	4'-10"	1'-7 1/2"	5 1/4"	7"	7"	
B403	2	2'-7"	1'-1 1/2"	4 1/2"	4"	4"	
B601	3	30'-0"	30'-0"				
D601	3	3'-5"	3'-5"				

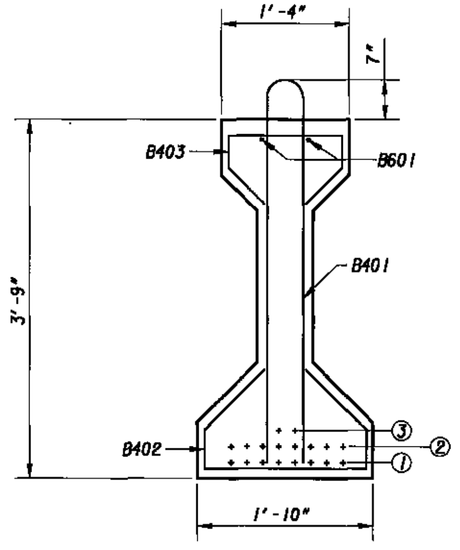
BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST LETTER IDENTIFIES THE BAR LOCATION. THE NEXT DIGIT INDICATES THE INCH-POUND BAR SIZE AND THE REMAINING DIGITS ITS SEQUENCE NUMBER. ALL STEEL SHALL BE EPOXY COATED.

MINIMUM BAR SPLICE LAP LENGTH
NO. 6 BAR = 2'-11"



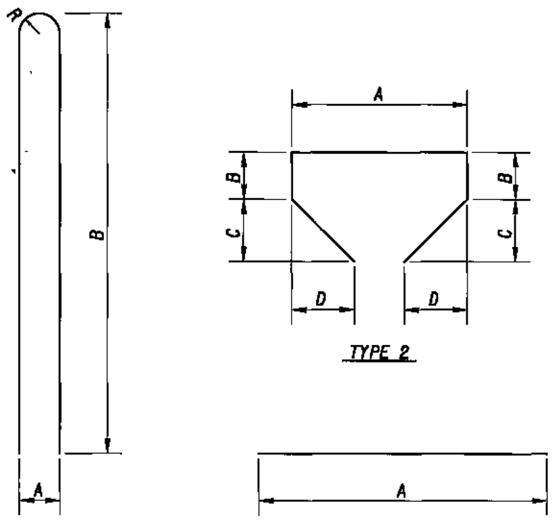
AASHTO TYPE 3 (45") - SPAN 1&3

END PATTERN



AASHTO TYPE 3 (45") - SPAN 1&3

MID-SPAN PATTERN



TYPE 1

TYPE 2

TYPE 3

BENDING DIAGRAMS

(ALL DIMENSIONS ARE OUT TO OUT. "R" IS INSIDE RADIUS)

CAMBER VALUES DUE TO PRESTRESS FORCE AND BEAM WEIGHT - SPANS 1 & 3
B = ANTICIPATED MIDSPAN CAMBER DUE TO DESIGN PRESTRESSING FORCE AT TIME OF RELEASE C = MIDSPAN DEFLECTION DUE TO SELF WEIGHT OF BEAM
CAMBER AT RELEASE = B - C = 5/8"
CAMBER AT ERECTION = 1.8B - 1.85C = 1 1/8"
LONG TERM CAMBER = 2.45B - 2.40C = 1 5/8"

NUMBER OF STRANDS PER ROW AT BEAM ENDS																
	END					MID-SPAN				CONCRETE STRENGTHS PSI		B401 BARS REQ'D PER BEAM	B402 BARS REQ'D PER BEAM	B403 BARS REQ'D PER BEAM	B601 BARS REQ'D PER BEAM	D601 BARS REQ'D PER BEAM
BEAM MARK	①	②	③	④	⑤	①	②	③	TOTAL STRANDS	f'ci	f'c					
B1-B6	6	6	2	2*	2*	8	8	2	18	5000	7000	101	113	101	4	12
B13-B18	6	6	2	2*	2*	8	8	2	18	5000	7000	101	113	101	4	12
B19-B24	6	6	2	2*	2*	8	8	2	18	5000	7000	101	113	101	4	12
B31-B36	6	6	2	2*	2*	8	8	2	18	5000	7000	101	113	101	4	12

* - DRAPED STRANDS

NOTES:

1. FOR ABUTMENT DIAPHRAGM DETAILS, SEE SHEET 29-32/46 .
2. FOR INTERMEDIATE DIAPHRAGM DETAILS, SEE SHEET 24 & 25/46 .
3. SEE STD. DWG. PSID-1-99 FOR BEAM DETAILS NOT SHOWN.
4. FOR INSERT LOCATIONS FOR THREADED RODS, SEE ABUTMENT PLAN ON SHEET 28/46 .

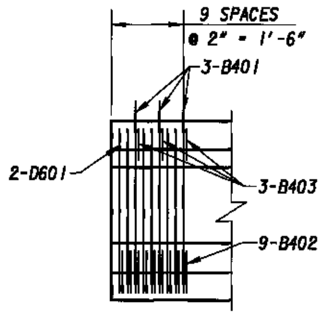
PLOTTED BY: $USER$ $DATE$ $TIME$ $FILE$

MOODY NOLAN INC
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

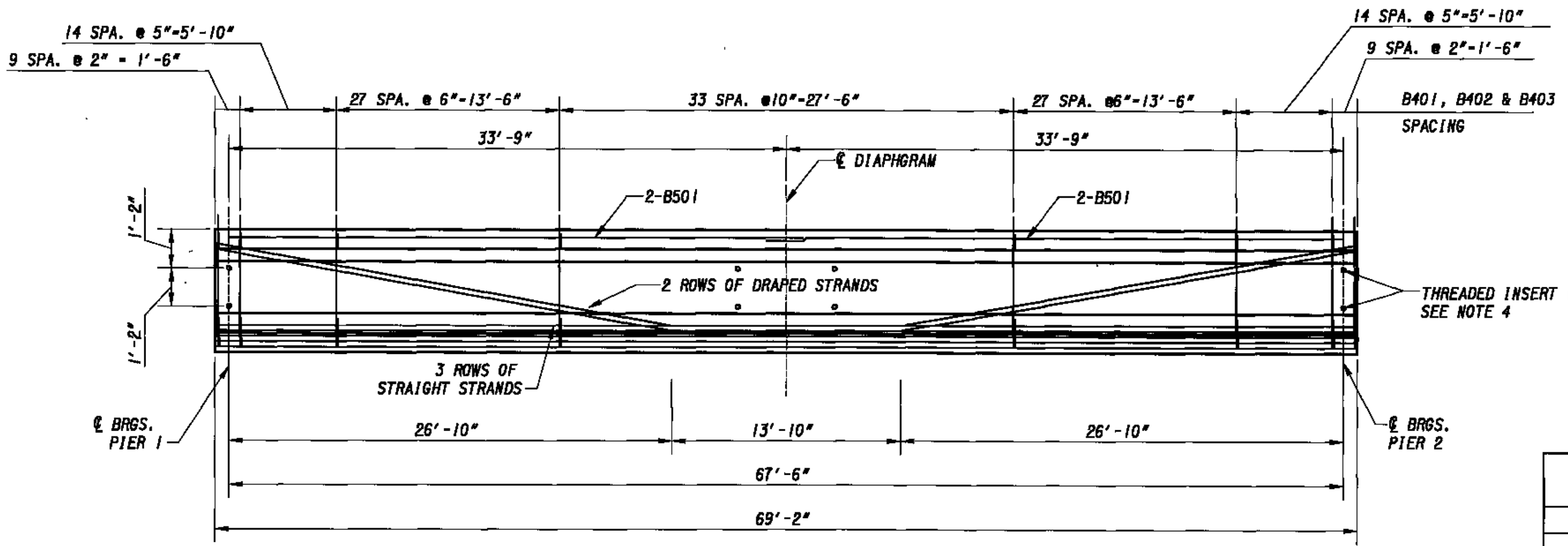
DESIGNED	DRAWN	REVIEWED	DATE
RM	PC	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
PHB		5202582 LEFT, 5202612 RIGHT	

BEAM DETAILS
BRIDGE NO. MED-71-0437 L/R
OVER CSXT RAILROAD

WAY/MED 71-7.04/0.00



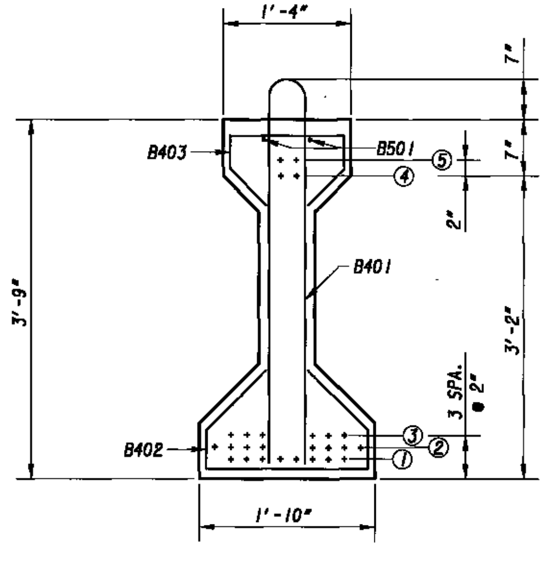
ANCHOR REINFORCEMENT
TYP. AT BEAM



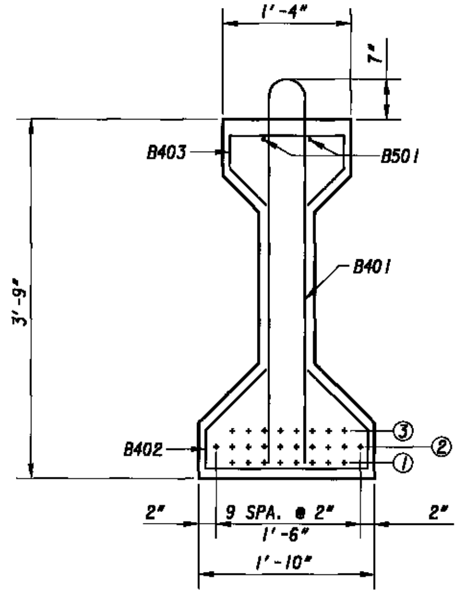
BEAM ELEVATION - SPAN 2
(B7-B12)
(B25-B30)

MARK	TYPE	LENGTH	A	B	C	D	R
B401	1	8'-8"	4 1/2"	4'-3"			1 3/4"
B402	2	4'-10"	1'-7 1/2"	5 1/4"	7"	7"	
B403	2	2'-7"	1'-1 1/2"	4 1/2"	4"	4"	
B501	3	35'-8"	35'-8"				
D601	3	3'-5"	3'-5"				

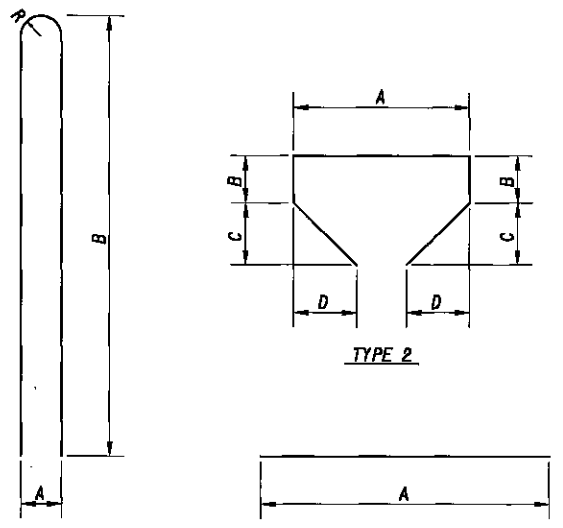
BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST LETTER IDENTIFIES THE BAR LOCATION. THE NEXT DIGIT INDICATES THE INCH-POUND BAR SIZE AND THE REMAINING DIGITS ITS SEQUENCE NUMBER. ALL STEEL SHALL BE EPOXY COATED.



AASHTO TYPE 3 (45") - SPAN 2
END PATTERN



AASHTO TYPE 3 (45") - SPAN 2
MID-SPAN PATTERN



TYPE 1

TYPE 2

TYPE 3

BENDING DIAGRAMS
(ALL DIMENSIONS ARE OUT TO OUT. "R" IS INSIDE RADIUS)

MINIMUM BAR SPLICE LAP LENGTH
NO. 5 BAR = 2'-5"

CAMBER VALUES DUE TO PRESTRESS FORCE AND BEAM WEIGHT - SPAN 2
B = ANTICIPATED MIDSPAN CAMBER DUE TO DESIGN PRESTRESSING FORCE AT TIME OF RELEASE C = MIDSPAN DEFLECTION DUE TO SELF WEIGHT OF BEAM
CAMBER AT RELEASE = B - C = 1 3/8"
CAMBER AT ERECTION = 1.8B - 1.85C = 2 1/2"
LONG TERM CAMBER = 2.45B - 2.40C = 3 3/8"

NUMBER OF STRANDS PER ROW AT BEAM ENDS																
	END					MID-SPAN				CONCRETE STRENGTHS PSI		B401 BARS	B402 BARS	B403 BARS	B501 BARS	D601 BARS
BEAM MARK	①	②	③	④	⑤	①	②	③	TOTAL STRANDS	f'c	f'c	REQ'D PER BEAM	REQ'D PER BEAM	REQ'D PER BEAM	REQ'D PER BEAM	REQ'D PER BEAM
B7-B12	8	8	6	2*	2*	8	10	8	26	5000	7000	120	132	120	4	12
B25-B30	8	8	6	2*	2*	8	10	8	26	5000	7000	120	132	120	4	12

* - DRAPED STRANDS

NOTES:

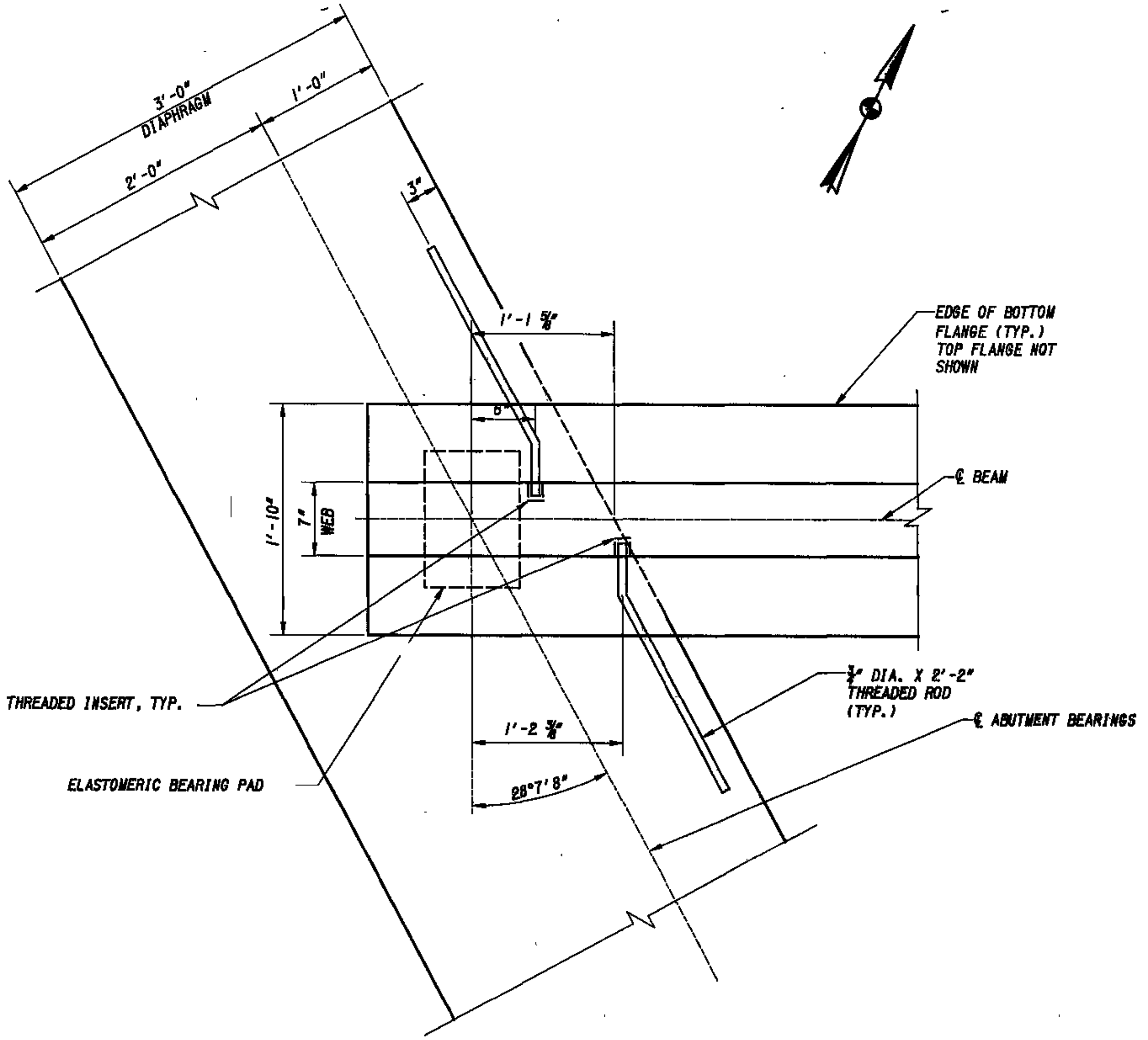
1. FOR ABUTMENT DIAPHRAGM DETAILS, SEE SHEET 29-32/46 .
2. FOR INTERMEDIATE DIAPHRAGM DETAILS, SEE SHEET 24 & 25/46 .
3. SEE STD. DWG. PSID-1-99 FOR BEAM DETAILS NOT SHOWN.
4. FOR INSERT LOCATIONS FOR THREADED RODS, SEE ABUTMENT PLAN ON SHEET 28/46 .

MOODY NOLAN INC.
Architecture•Engineering•Planning•Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

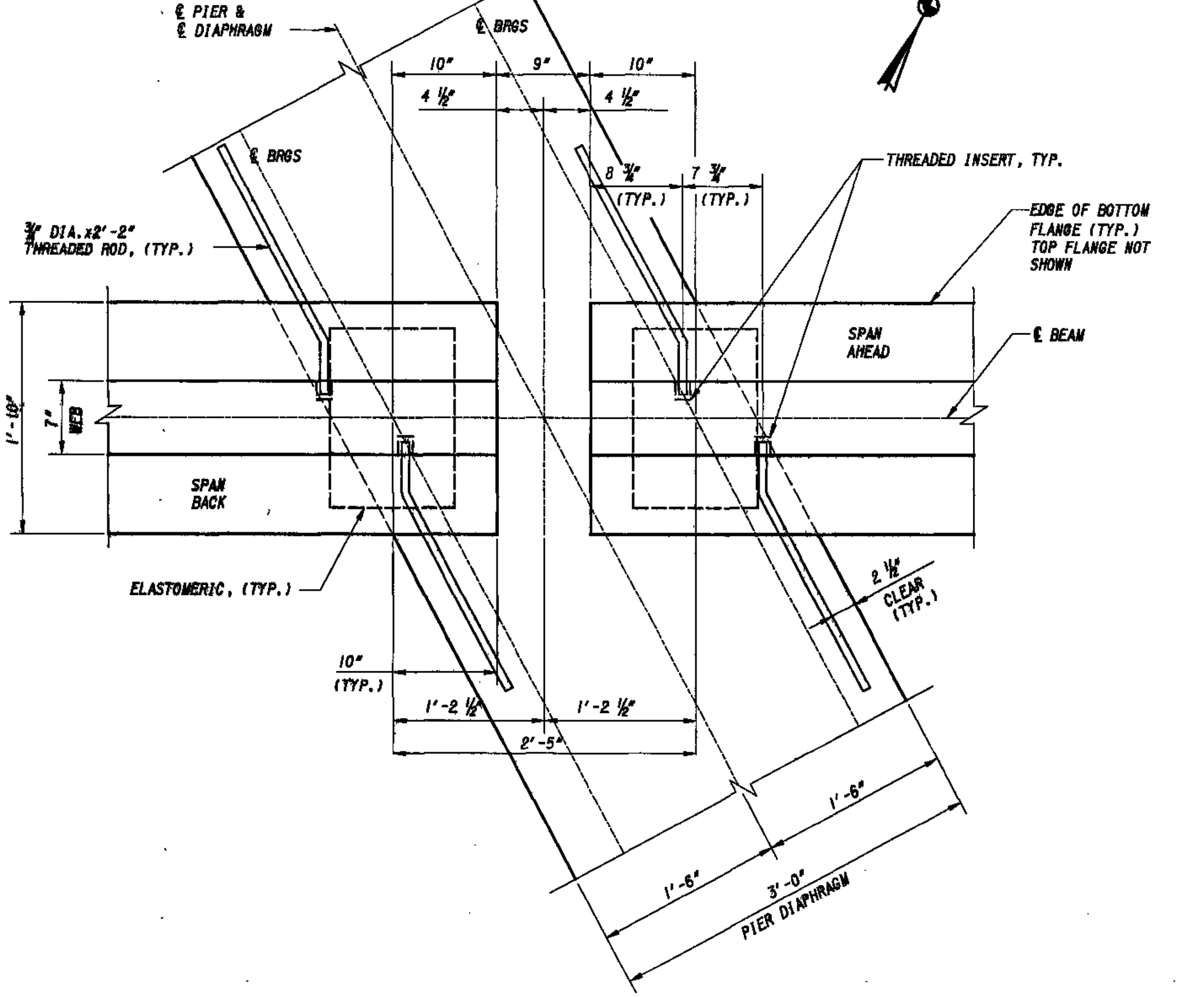
DESIGNED	DRAWN	REVIEWED	DATE
RM	PC	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
PHB		5202582 LEFT, 5202612 RIGHT	

BEAM DETAILS
BRIDGE NO. MED-71-0437 L/R
OVER CSXT RAILROAD

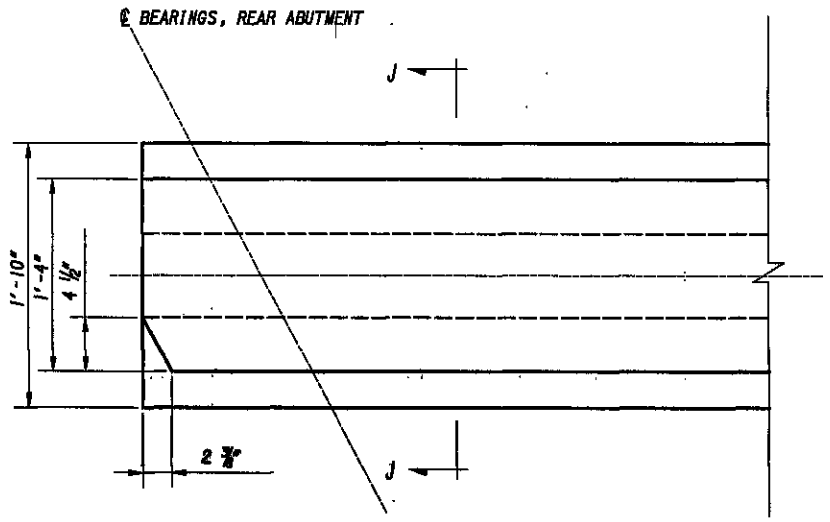
WAY/MED 71-7.04/0.00



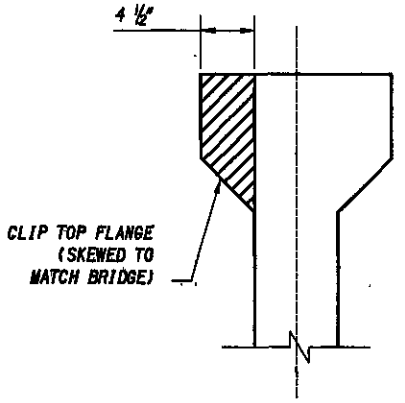
ABUTMENT PLAN - DETAIL 1
(REAR ABUTMENT SHOWN, FORWARD SIMILAR)



TYPICAL PIER PLAN - DETAIL 2



TOP FLANGE CLIP DETAIL
(TYPICAL)



SECTION J-J

MOODY/NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
PHB	MHR	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
MBG		5202582-LEFT	

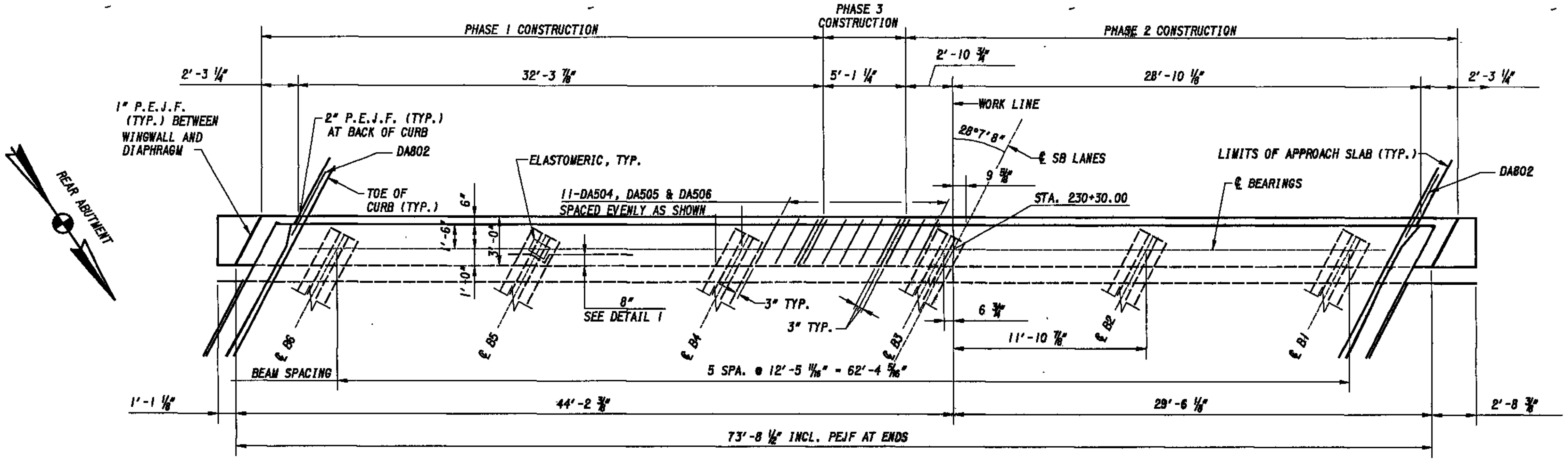
BEAM DETAILS - 3
BRIDGE NO. MED-71-0437L/R
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00

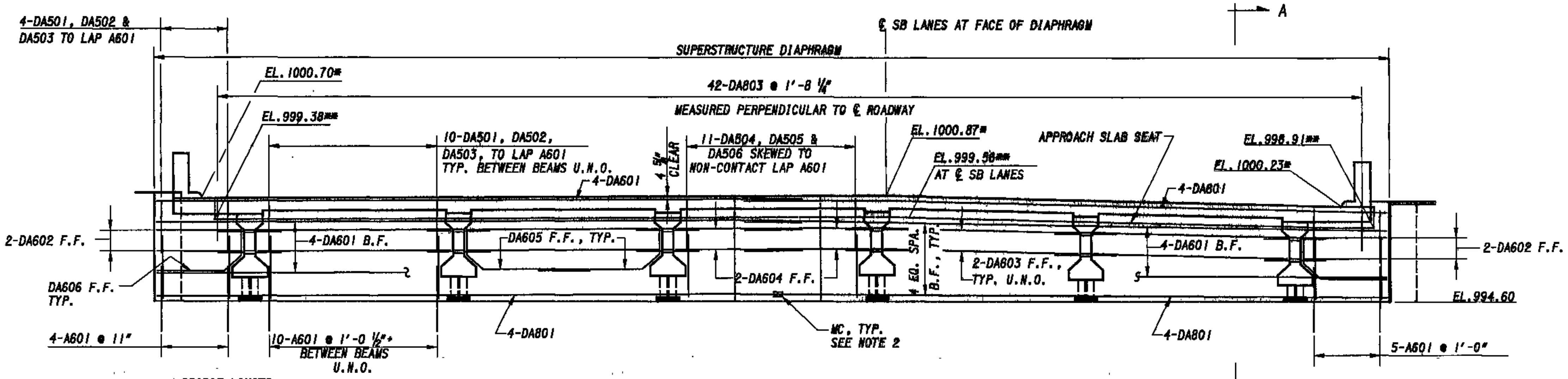
28/46

692
785

PLOTTED BY: MBrake 10/16/2003 3:15:20 PM pt#01202 Way-Med#Bridges#0437 Converted Drawings#ME0715D6CONVERT2D.dgn

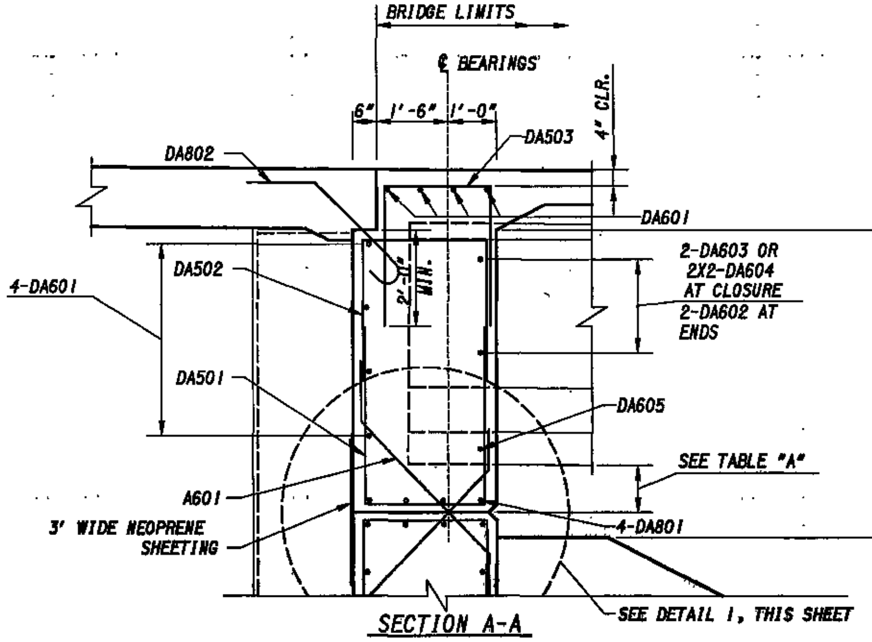


PLAN - REAR ABUTMENT

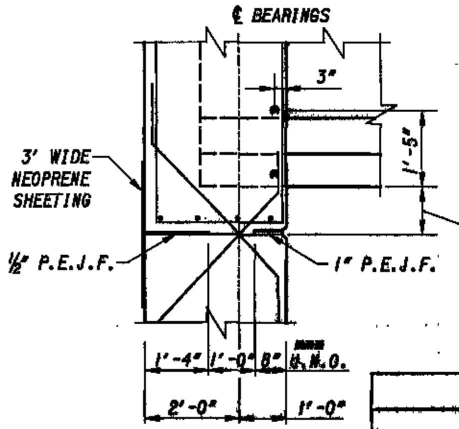


ELEVATION - REAR ABUTMENT

* AT FACE OF DIAPHRAGM
** AT APPROACH SLAB SEAT



SECTION A-A



DETAIL 1

*** PROVIDE 1" CLEARANCE AT ELASTOMERIC BEARINGS TO AVOID OVER LAPPING

NOTES:

1. FOR LEGEND SEE SHEET 12/46
2. SEE MECHANICAL CONNECTOR NOTE ON SHEET 3/46
3. ABUTMENT DIAPHGRAM, PRESTRESSED I-BEAM SUPERSTRUCTURE: PLACE THE CONCRETE ENCASING THE PRESTRESSED I-BEAM STRUCTURAL MEMBERS AS PART OF THE DECK POUR.
4. MINIMUM STEEL LAP LENGTHS
   #5 BAR = 1'-11"
   #6 BAR = 2'-11"

DIMENSION "A" TABLE						
	BEAM NO. 6	BEAM NO. 5	BEAM NO. 4	BEAM NO. 3	BEAM NO. 2	BEAM NO. 1
REAR ABUTMENT	1'-5"	1'-5 ⅝"	1'-6 ¼"	1'-8 ⅞"	1'-3 ½"	1'-0"

MOODY/NOLAN INC
Architecture • Engineering • Planning • Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215

DESIGNED	DRAWN	REVIEWED	DATE
PHB	MHR	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
RW		5202582-LEFT	

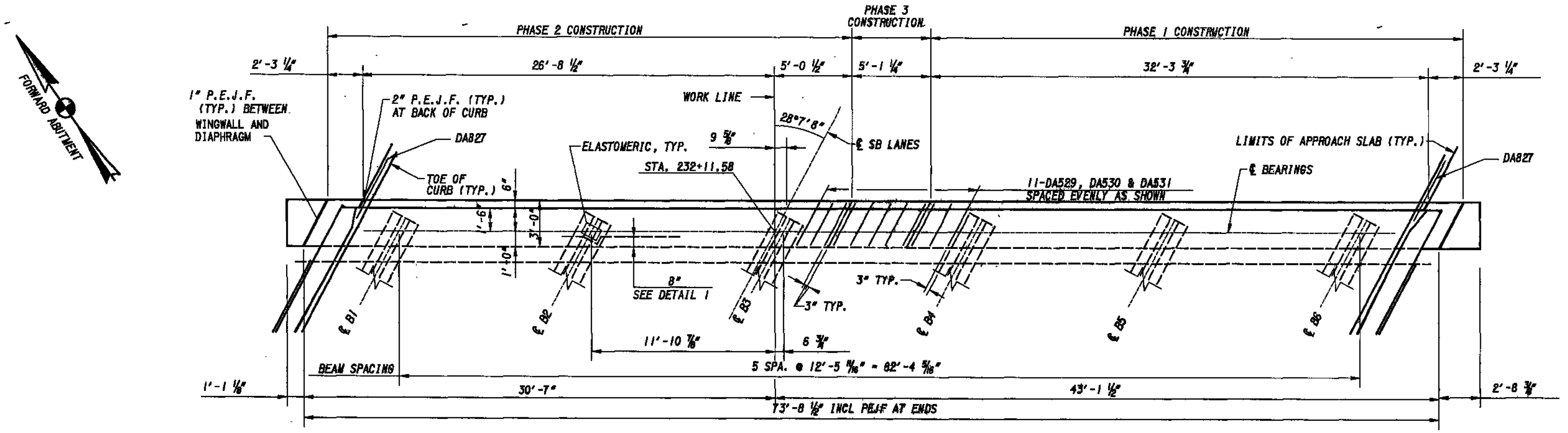
REAR ABUTMENT END DIAPHRAGM DETAILS
BRIDGE NO. MED-71-0437 L
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00

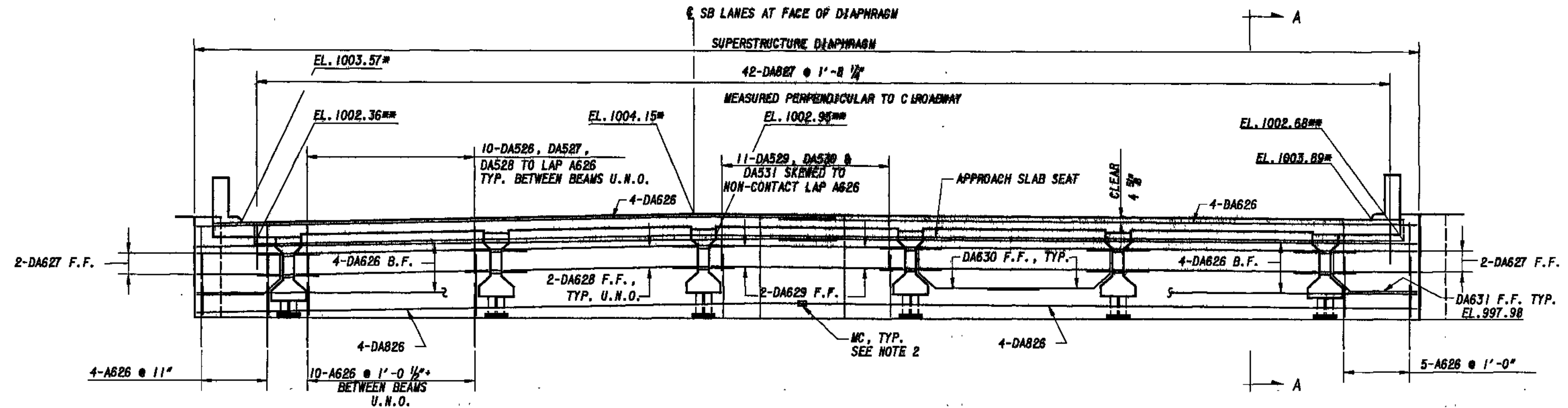
29/46

693/785

PLOTTED BY: 10/17/2003 10:00:16 AM

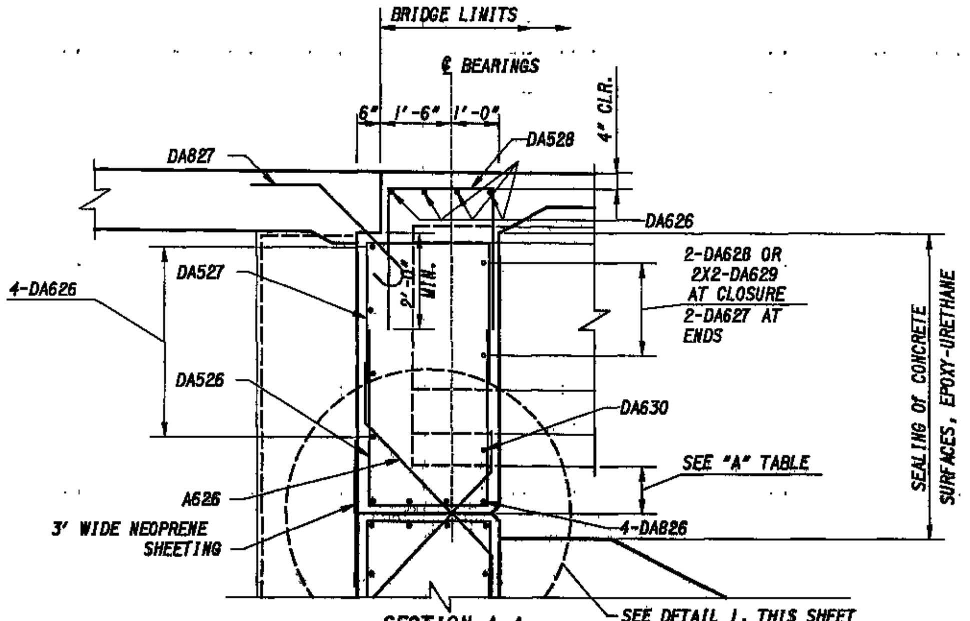


PLAN - FORWARD ABUTMENT

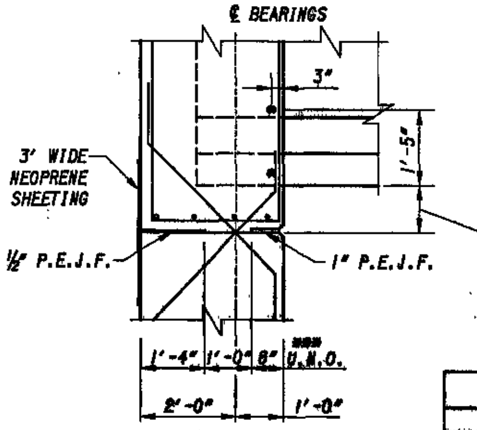


ELEVATION - FORWARD ABUTMENT

* AT FACE OF DIAPHRAGM
** AT APPROACH SLAB SEAT



SECTION A-A



DETAIL 1

*** PROVIDE 1" CLEARANCE AT ELASTOMERIC BEARINGS TO AVOID OVER LAPPING

NOTES:

1. FOR LEGEND SEE SHEET 12/46
2. SEE MECHANICAL CONNECTOR NOTE ON SHEET 3/46
3. ABUTMENT DIAPHGRAM, PRESTRESSED I-BEAM SUPERSTRUCTURE: PLACE THE CONCRETE ENCASING THE PRESTRESSED I-BEAM STRUCTURAL MEMBERS AS PART OF THE DECK POUR.
4. MINIMUM STEEL LAP LENGTHS
   #5 BAR = 1'-11"
   #6 BAR = 2'-11"

DIMENSION "A" TABLE

	BEAM NO. 1	BEAM NO. 2	BEAM NO. 3	BEAM NO. 4	BEAM NO. 5	BEAM NO. 6
FORWARD ABUTMENT	1'-0"	1'-3 1/4"	1'-6 1/4"	1'-5 1/4"	1'-7 1/4"	1'-3 3/8"

MOODY/NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215

DESIGNED	DRAWN	REVIEWED	DATE
PHB	MHR	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
BM		5202582-LEFT	

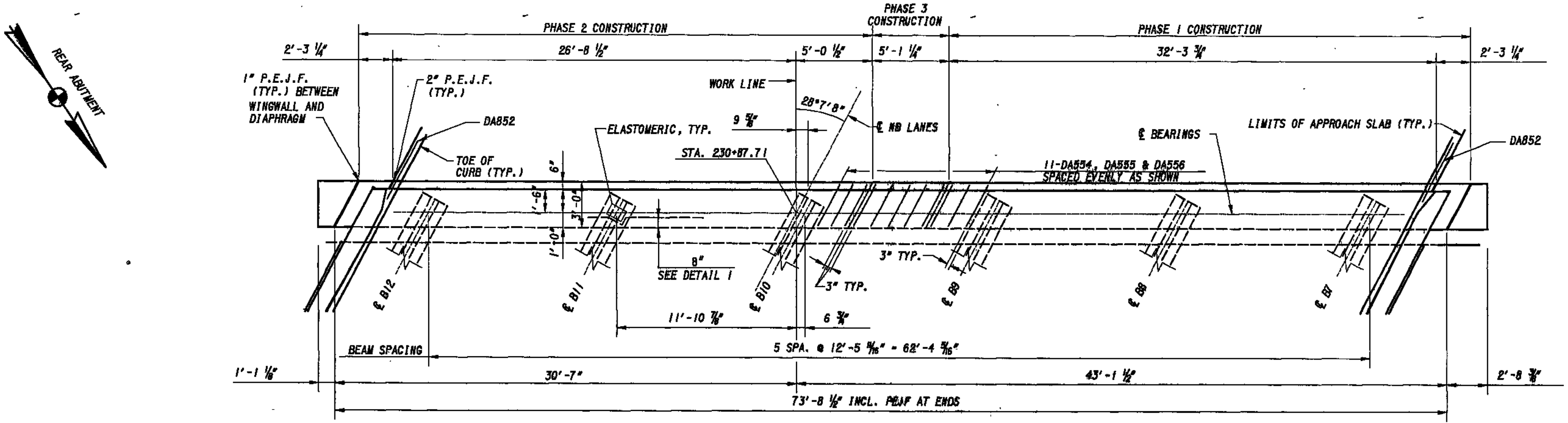
FORWARD ABUTMENT END DIAPHRAGM DETAILS
BRIDGE NO. MED-71-0437 L
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00

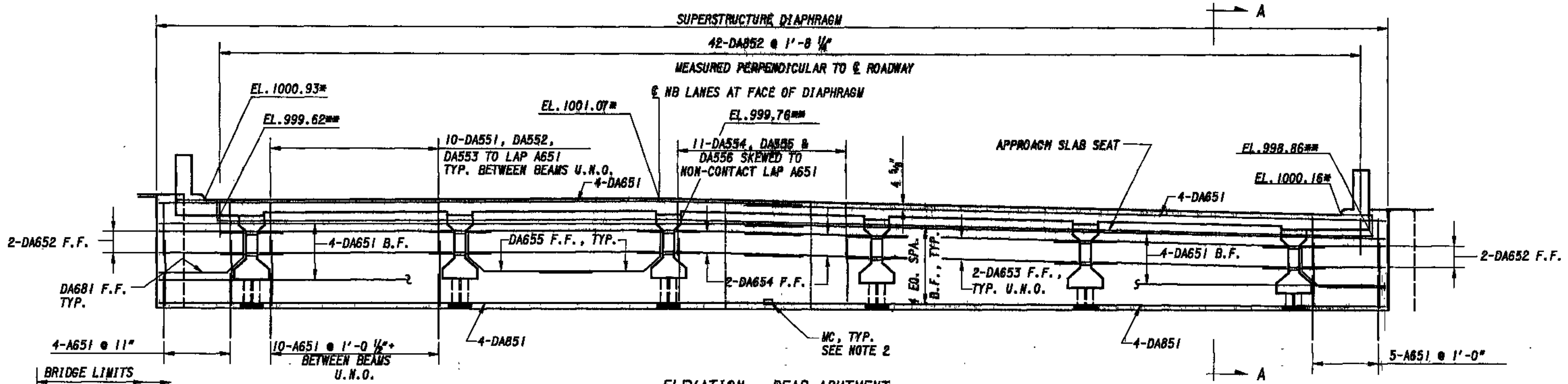
30/46

694
785

PLOTTED BY: 10/17/2003 11:07:35 AM

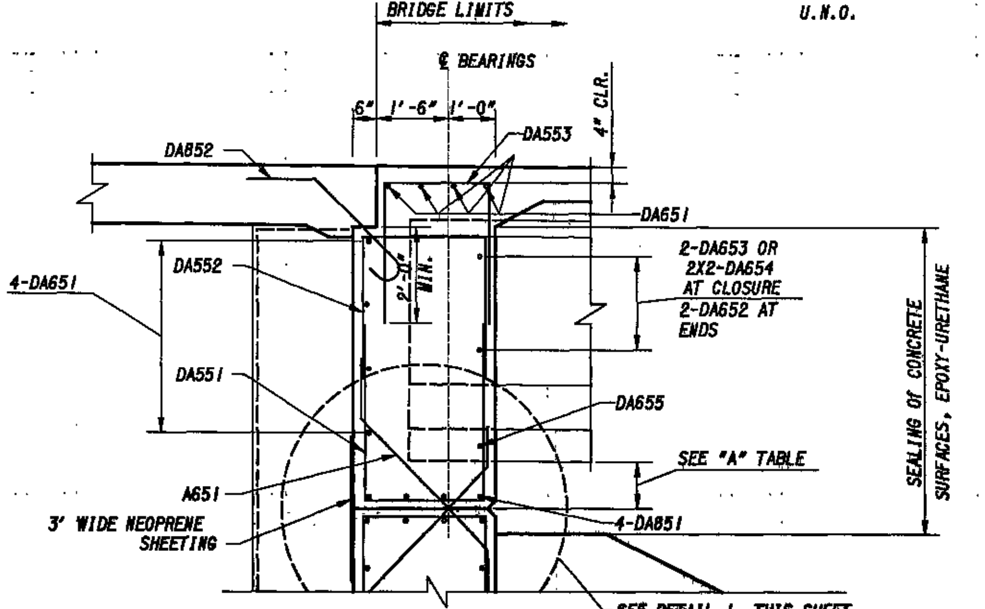


PLAN - REAR ABUTMENT

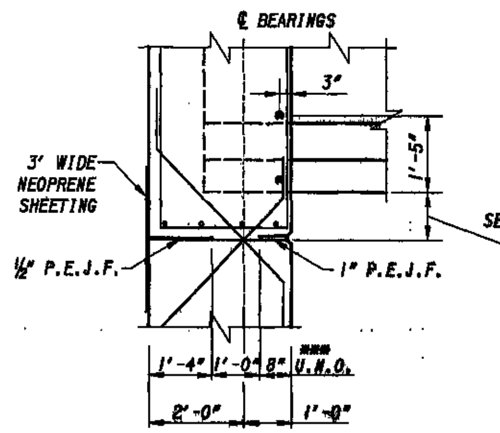


ELEVATION - REAR ABUTMENT

* AT FACE OF DIAPHRAGM
** AT APPROACH SLAB SEAT



SECTION A-A



DETAIL 1

*** PROVIDE 1" CLEARANCE AT ELASTOMERIC BEARINGS TO AVOID OVER LAPPING

NOTES:

1. FOR LEGEND SEE SHEET 12/46
2. SEE MECHANICAL CONNECTOR NOTE ON SHEET 3/46
3. ABUTMENT DIAPHGRAM, PRESTRESSED I-BEAM SUPERSTRUCTURE: PLACE THE CONCRETE ENCASING THE PRESTRESSED I-BEAM STRUCTURAL MEMBERS AS PART OF THE DECK POUR.
4. MINIMUM STEEL LAP LENGTHS
   #5 BAR = 1'-11"
   #6 BAR = 2'-11"

DIMENSION "A" TABLE						
	BEAM NO. 12	BEAM NO. 11	BEAM NO. 10	BEAM NO. 9	BEAM NO. 8	BEAM NO. 7
REAR ABUTMENT	1'-8 ⅝"	1'-9 ⅝"	1'-10"	1'-6 ⅝"	1'-3 ⅜"	1'-0"

MOODY/NOLAN LTD., INC.
Architecture·Engineering·Planning·Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
PRB	MHR	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
RM		5202612-RIGHT	

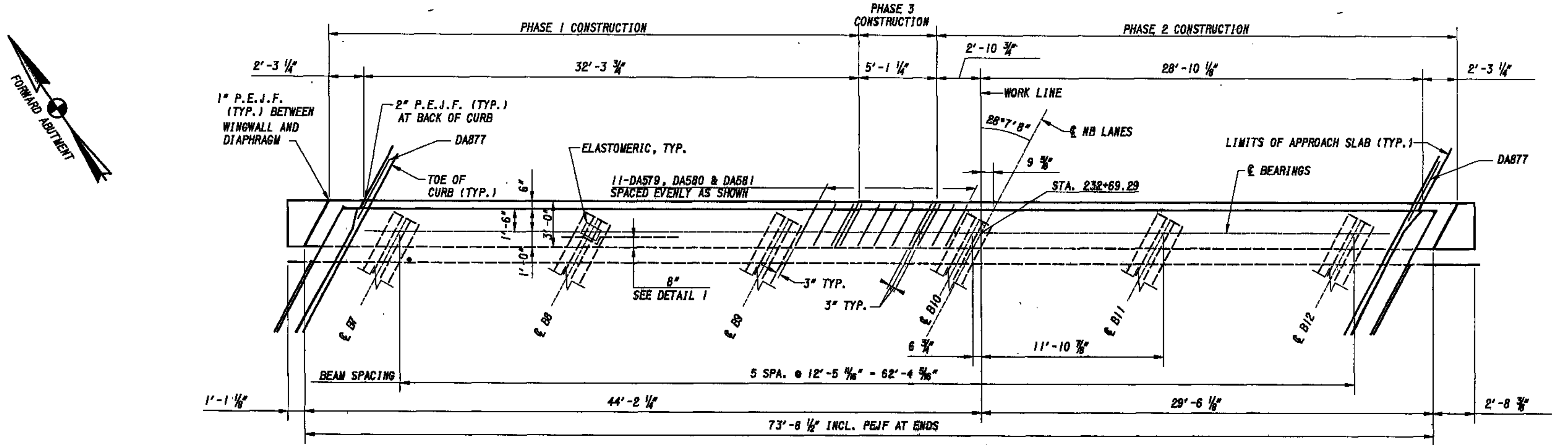
REAR ABUTMENT END DIAPHRAGM DETAILS
BRIDGE NO. MED-71-0437 R
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00

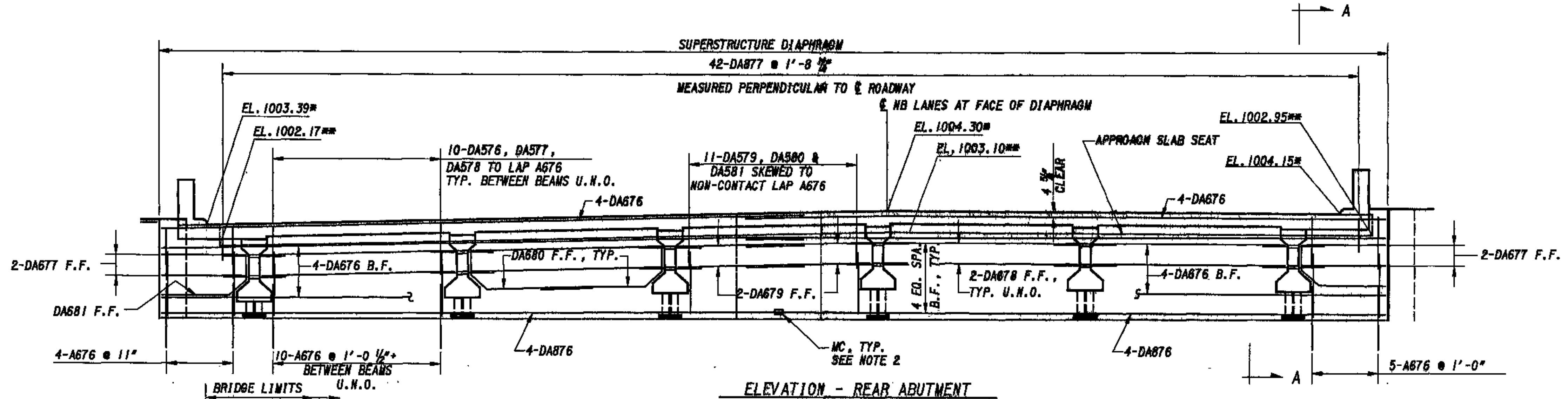
31/46

695
785

PLOTTED BY: 10/16/2003 3:22:01 PM



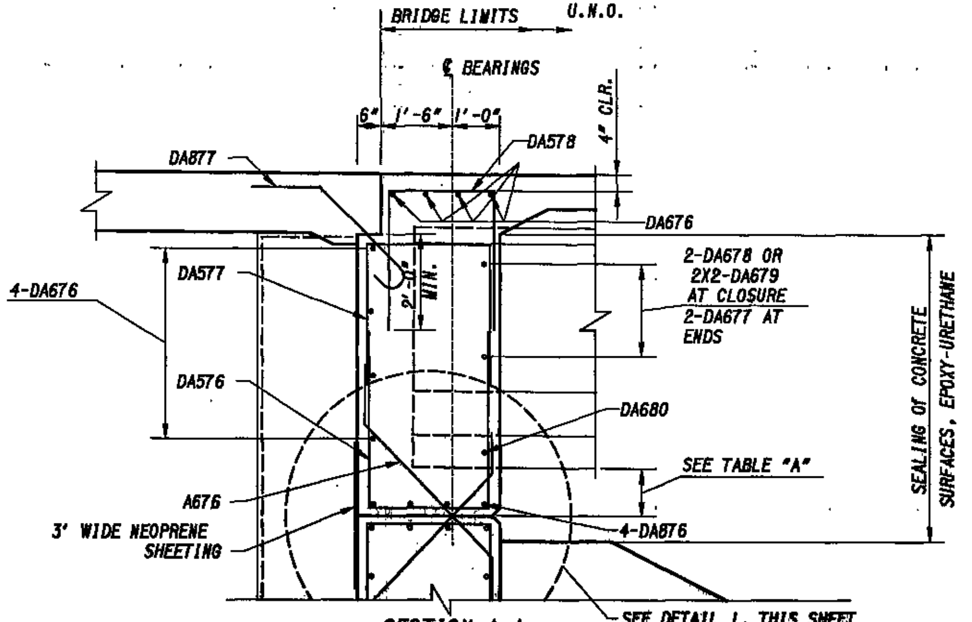
PLAN - FORWARD ABUTMENT



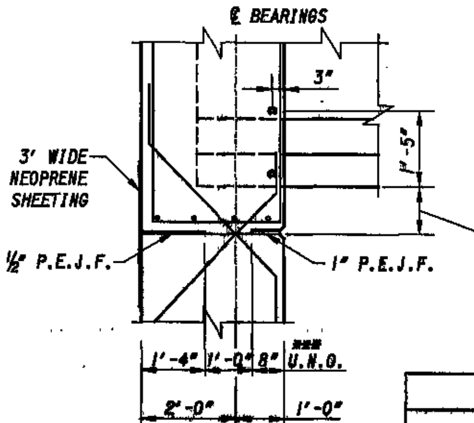
ELEVATION - REAR ABUTMENT

* AT FACE OF DIAPHRAGM

** AT APPROACH SLAB SEAT



SECTION A-A



DETAIL 1

*** PROVIDE 1" CLEARANCE AT ELASTOMERIC BEARINGS TO AVOID OVER LAPPING

NOTES:

1. FOR LEGEND SEE SHEET 12/46
2. SEE MECHANICAL CONNECTOR NOTE ON SHEET 3/46
3. ABUTMENT DIAPHGRAM, PRESTRESSED I-BEAM SUPERSTRUCTURE: PLACE THE CONCRETE ENCASING THE PRESTRESSED I-BEAM STRUCTURAL MEMBERS AS PART OF THE DECK POUR.
4. MINIMUM STEEL LAP LENGTHS
   #5 BAR = 1'-11"
   #6 BAR = 2'-11"

DIMENSION "A" TABLE						
	BEAM NO. 7	BEAM NO. 8	BEAM NO. 9	BEAM NO. 10	BEAM NO. 11	BEAM NO. 12
FORWARD ABUTMENT	1'-0"	1'-3 ¾"	1'-6 ⅝"	1'-10"	1'-9 ⅜"	1'-8 ⅝"

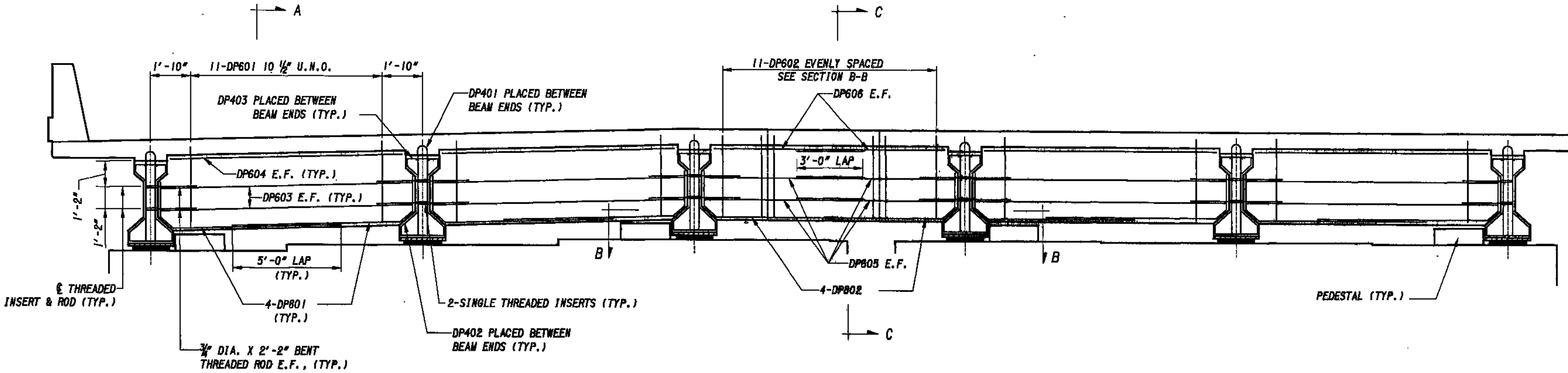
PLOTTED BY: Mbrdles 10/17/2003 10:04:46 AM pl401202 Moy-Med\Bridges\0437 Converted Drawings\MED71SUBCONVERT20.dgn

MOODY/NOLAN LTD., INC.
Architecture·Engineering·Planning·Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone (614) 461-4664 Fax (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
PHB	MHR	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
RW		5202612-RIGHT	

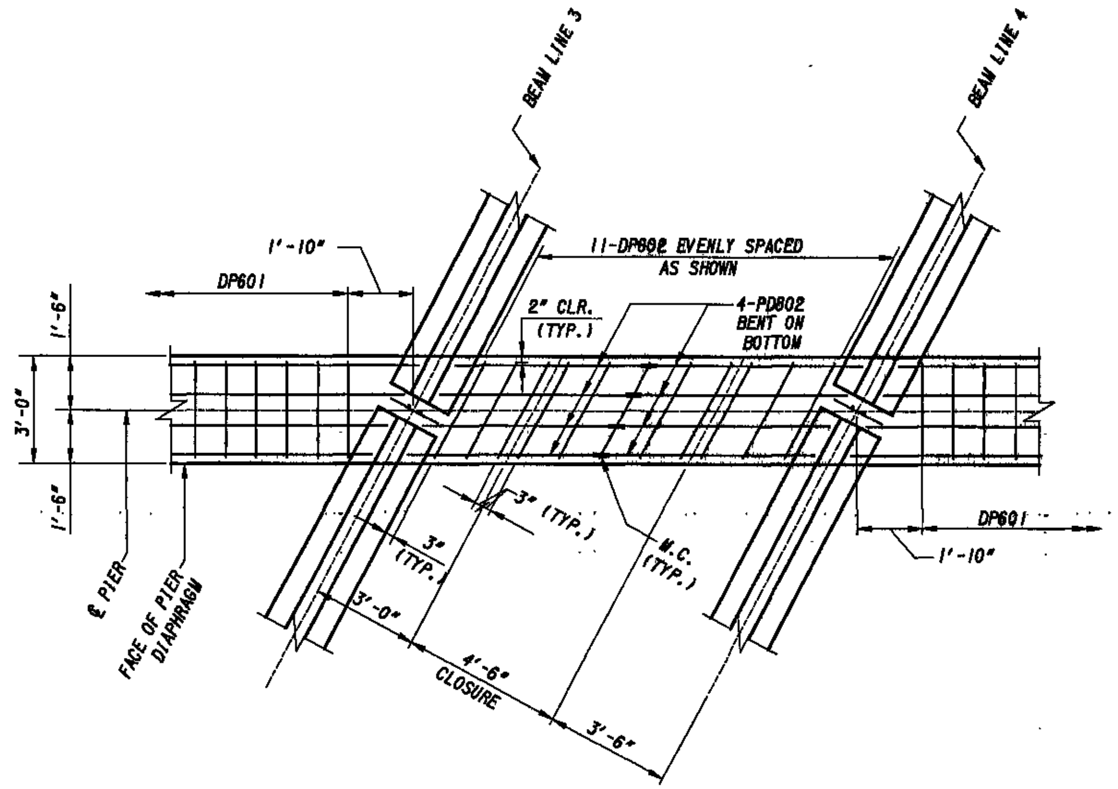
FORWARD ABUTMENT END DIAPHRAGM DETAILS
BRIDGE NO. MED-71-0437 R
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00

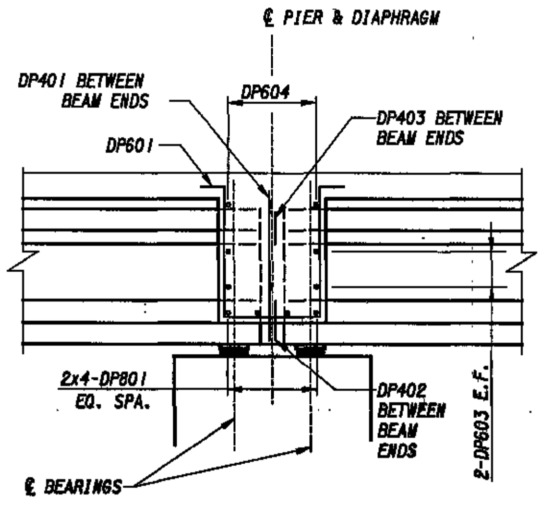

A
C
1'-10"
11-DP601 10 ½" U.N.O.
1'-10"
11-DP602 EVENLY SPACED
SEE SECTION B-B
DP403 PLACED BETWEEN BEAM ENDS (TYP.)
DP401 PLACED BETWEEN BEAM ENDS (TYP.)
DP606 E.F.
3'-0" LAP
DP604 E.F. (TYP.)
DP603 E.F. (TYP.)
1'-2"
1'-2"
5'-0" LAP (TYP.)
B
B
DP605 E.F.
4-DP802
℄ THREADED INSERT & ROD (TYP.)
4-DP801 (TYP.)
2-SINGLE THREADED INSERTS (TYP.)
PEDESTAL (TYP.)
DP402 PLACED BETWEEN BEAM ENDS (TYP.)
¾" DIA. X 2'-2" BENT THREADED ROD E.F., (TYP.)
C
A

ELEVATION - PIER 1 DIAPHRAGM (LEFT BRIDGE SHOWN)

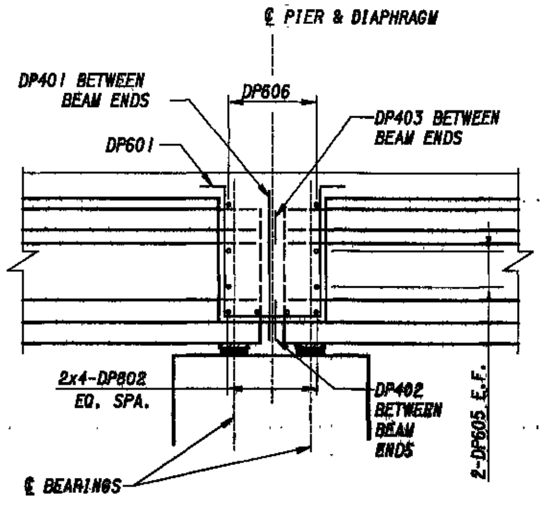
NOTE: PIER 2 SIMILAR
NOTE: RIGHT BRIDGE OPPOSITE HAND



SECTION B-B



SECTION A-A



SECTION C-C

NOTES:

1. PIER DIAPHRAGM SHALL BE CLASS S CONCRETE.
2. FOR FURTHER DETAILS SEE STD. DWG. PSID-1-99.

MOODY NOLAN INC.

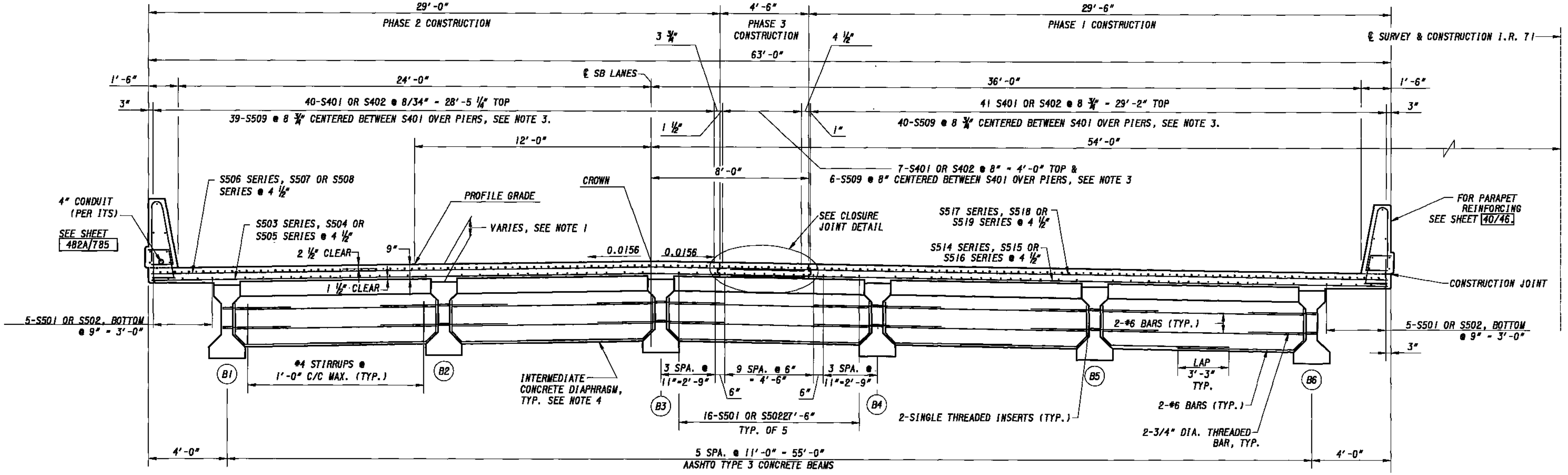
DESIGNED PHB
CHECKED MHB
DRAWN AME
REVISED PHB
REVIEWED GT
DATE 6/03
STRUCTURE FILE NO. 5202582 LEFT, 5202612 RIGHT

PIER DIAPHRAGM DETAILS
BRIDGE NO. MED-71-0437 L/R
OVER CSXT RAILROAD

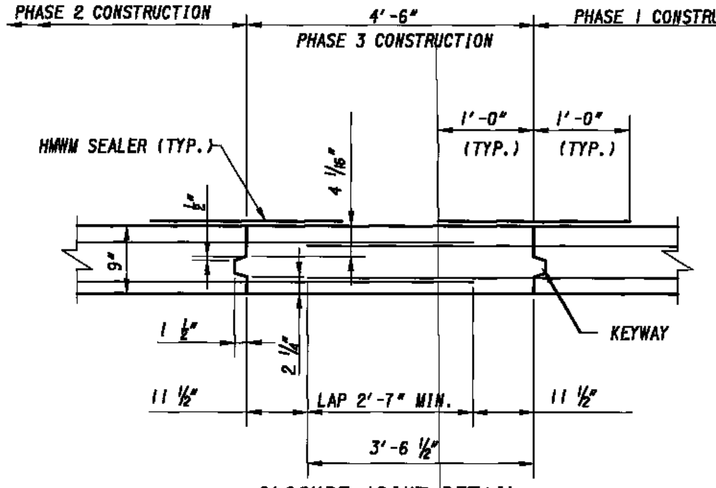
WAY/MED 71-7.04/0.00

33/46

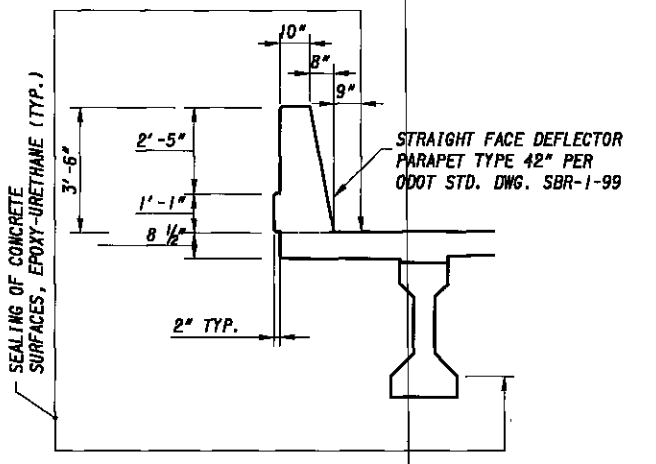
697/785


29'-0"
PHASE 2 CONSTRUCTION
4'-6"
PHASE 3 CONSTRUCTION
29'-6"
PHASE 1 CONSTRUCTION
3 3/4"
4 1/2"
℄ SURVEY & CONSTRUCTION I.R. 71
63'-0"
℄ SB LANES
1'-6"
24'-0"
36'-0"
1'-6"
3"
40-S401 OR S402 @ 8/34" = 28'-5 1/4" TOP
41 S401 OR S402 @ 8 3/4" = 29'-2" TOP
3"
39-S509 @ 8 3/4" CENTERED BETWEEN S401 OVER PIERS, SEE NOTE 3.
1 1/2"
1"
40-S509 @ 8 3/4" CENTERED BETWEEN S401 OVER PIERS, SEE NOTE 3.
12'-0"
54'-0"
8'-0"
7-S401 OR S402 @ 8" = 4'-0" TOP &
6-S509 @ 8" CENTERED BETWEEN S401 OVER PIERS, SEE NOTE 3
S506 SERIES, S507 OR S508 SERIES @ 4 1/2"
CROWN
4" CONDUIT (PER ITS)
PROFILE GRADE
FOR PARAPET REINFORCING SEE SHEET 40/46.
SEE SHEET 482A/785
S503 SERIES, S504 OR S505 SERIES @ 4 1/2"
VARIES, SEE NOTE 1
SEE CLOSURE JOINT DETAIL
S517 SERIES, S518 OR S519 SERIES @ 4 1/2"
2 1/2" CLEAR
9"
0.0156
0.0156
S514 SERIES, S515 OR S516 SERIES @ 4 1/2"
1 1/2" CLEAR
CONSTRUCTION JOINT
5-S501 OR S502, BOTTOM @ 9" = 3'-0"
2-#6 BARS (TYP.)
5-S501 OR S502, BOTTOM @ 9" = 3'-0"
3"
#4 STIRRUPS @ 1'-0" C/C MAX. (TYP.)
B1
B2
INTERMEDIATE CONCRETE DIAPHRAGM, TYP. SEE NOTE 4
3 SPA. @ 11"=2'-9"
9 SPA. @ 6" = 4'-6"
3 SPA. @ 11"=2'-9"
6"
6"
B3
B4
B5
B6
LAP 3'-3" TYP.
2-#6 BARS (TYP.)
16-S501 OR S502 27'-6" TYP. OF 5
2-SINGLE THREADED INSERTS (TYP.)
2-3/4" DIA. THREADED BAR, TYP.
4'-0"
5 SPA. @ 11'-0" = 55'-0"
AASHTO TYPE 3 CONCRETE BEAMS
4'-0"

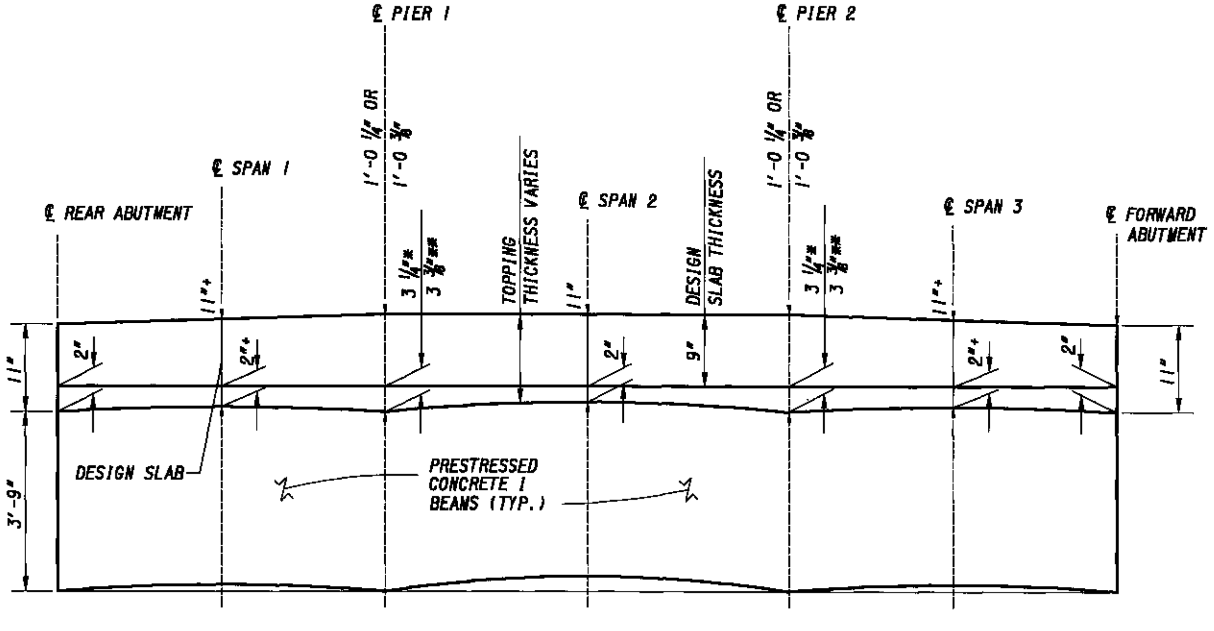
LEFT TRANSVERSE SECTION



CLOSURE JOINT DETAIL
LONGITUDINAL BARS NOT SHOWN.


10"
8"
9"
STRAIGHT FACE DEFLECTOR PARAPET TYPE 42" PER ODOT STD. DWG. SBR-1-99
SEALING OF CONCRETE SURFACES, EPOXY-URETHANE (TYP.)
3'-6"
2'-5"
1'-1"
8 1/2"
2" TYP.

PARAPET DETAIL



TYPICAL BEAM TOPPING THICKNESS (N.T.S.)
** AT EXTERIOR BEAMS B1 AND B6
* AT INTERIOR BEAMS B2 THRU B5

NOTES:

1. DECK SLAB THICKNESS FOR CONCRETE QUANTITY: THE TOPPING THICKNESSES SHOWN FROM THE TOP OF THE DECK SLAB TO THE TOP OF THE TOP FLANGE ALONG THE CENTERLINE OF THE I-BEAM ARE THEORETICAL DIMENSIONS. THE HAUNCH DEPTH IS THE TOPPING THICKNESS MINUS THE DESIGN SLAB THICKNESS. THE DEPARTMENT WILL PAY FOR SUPERSTRUCTURE CONCRETE BASED ON THE DESIGN SLAB THICKNESS AND THE AVERAGE OF THE THEORETICAL HAUNCH DEPTHS AT MID-SPAN AND AT EACH BEAM BEARING EVEN THOUGH DEVIATION FROM THE DIMENSIONS SHOWN MAY BE NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. ONCE ALL BEAMS ARE SET IN THEIR FINAL POSITION, THE ACTUAL CAMBER FOR EACH MEMBER WILL BE THE TOP OF BEAM ELEVATION AT MID-SPAN MINUS THE AVERAGE TOP OF BEAM ELEVATION AT EACH BEARING. THE ACTUAL TOPPING THICKNESS AT MID-SPAN WILL BE THE THEORETICAL DIMENSION PLUS OR MINUS THE DIFFERENCE BETWEEN THE ACTUAL AND ANTICIPATED CAMBER.

2. CAMBER: THE CALCULATED NET CAMBER DUE TO THE PRESTRESSING AND BEAM WEIGHT IS 1 1/8" FOR SPANS 1 AND 3 AND 2 1/2" FOR SPAN 2.

3. SEE STAGGER BAR DIAGRAM ON SHEET 36/46 FOR ADDITIONAL S509 BARS AT PIERS.

4. REFER TO STANDARD BRIDGE DRAWING PSID-1-99 FOR ADDITIONAL NOTES AND DETAILS PERTAINING TO THE INTERMEDIATE CONCRETE DIAPHRAGMS.

5. SEALING WITH HMWM RESIN: AFTER THE APPLICATION OF THE MEMBRANE CURE, AND THE DECK HAS THOROUGHLY DRIED, VERTICAL CONSTRUCTION JOINTS (TRANSVERSE & LONGITUDINAL) IN THE DECK SLAB, HORIZONTAL JOINTS (AT THE BASE OF PARAPETS) AND CRACKS IN THE ROADWAY SURFACE THAT ARE VISIBLE TO THE UNAIDED EYE, SHALL BE SEALED WITH A HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM) RESIN AS DESCRIBED IN SUPPLEMENTAL SPECIFICATIONS 846 & 954. SEALANT SHALL BE APPLIED BY BRUSH, SPRAY OR OTHER SUITABLE APPLICATOR ALONG THE SURFACE OF JOINTS AND CRACKS. IF NECESSARY, MULTIPLE APPLICATIONS SHALL BE MADE UNTIL COMPLETE PENETRATION HAS BEEN ACHIEVED. AFTER SEALANT HAS CURED, IT SHALL BE SANDED AS SPECIFIED TO ROUGHEN THE SEALANT SURFACE AND RESTORE ITS SUITABILITY FOR VEHICULAR TRAFFIC. FOR OVERCOATING WITH A CONCRETE SURFACE SEALANT, TREATED SURFACES SHALL BE ROUGHENED BY ABRASIVE BLASTING AND OTHERWISE CLEANED AS SPECIFIED FOR THE SUBSEQUENT APPLICATION. SEALING CONSTRUCTION JOINTS AND CRACKS, AS DESCRIBED ABOVE, SHALL BE INCLUDED WITH THE DECK SLAB CONCRETE FOR PAYMENT.

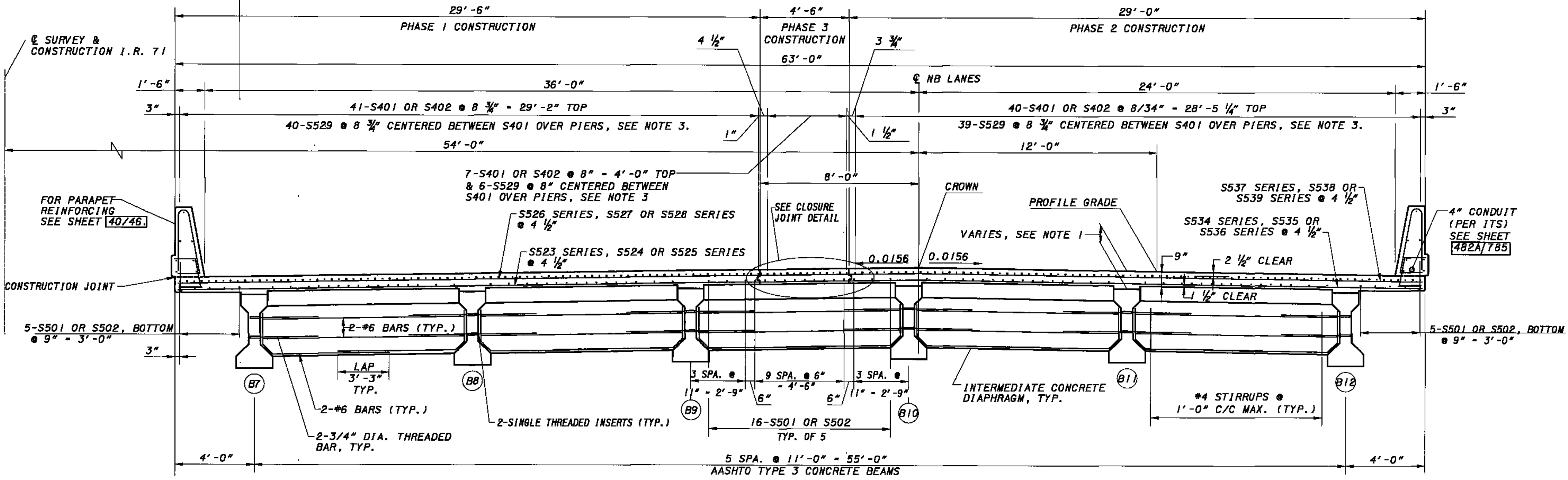
MOODY NOLAN INC.
Architecture•Engineering•Planning•Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
RM	MHR	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
PHB		5202582	

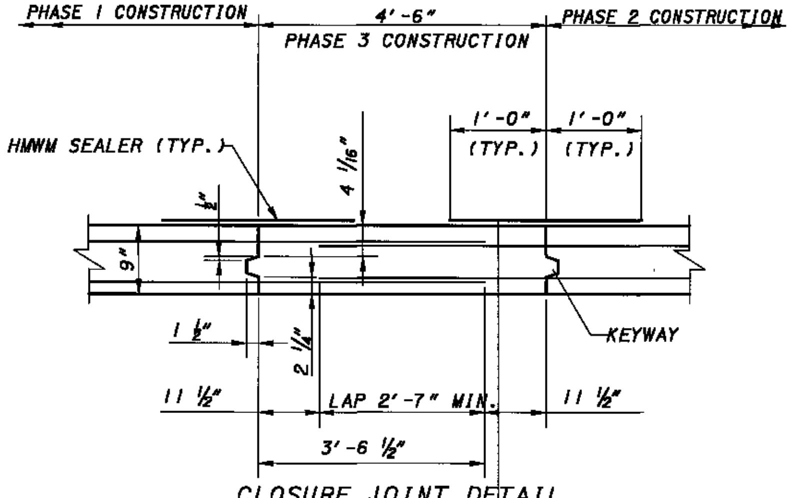
SUPERSTRUCTURE DETAILS
BRIDGE NO. MED-71-0437 L
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00

PLOTTED BY: #USER# #DATE# #TIME# #FILE#

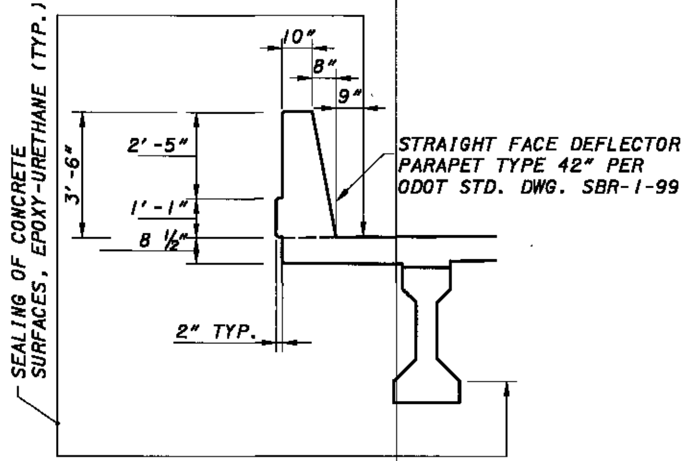

29'-6"
PHASE 1 CONSTRUCTION
4'-6"
PHASE 3 CONSTRUCTION
29'-0"
PHASE 2 CONSTRUCTION
℄ SURVEY & CONSTRUCTION I.R. 71
4 1/2"
3 3/4"
63'-0"
℄ NB LANES
1'-6"
36'-0"
24'-0"
1'-6"
3"
41-S401 OR S402 @ 8 3/4" = 29'-2" TOP
40-S401 OR S402 @ 8/34" = 28'-5 1/4" TOP
3"
40-S529 @ 8 3/4" CENTERED BETWEEN S401 OVER PIERS, SEE NOTE 3.
1"
1 1/2"
39-S529 @ 8 3/4" CENTERED BETWEEN S401 OVER PIERS, SEE NOTE 3.
54'-0"
12'-0"
7-S401 OR S402 @ 8" = 4'-0" TOP & 6-S529 @ 8" CENTERED BETWEEN S401 OVER PIERS, SEE NOTE 3
8'-0"
FOR PARAPET REINFORCING SEE SHEET 40/46
S526 SERIES, S527 OR S528 SERIES @ 4 1/2"
SEE CLOSURE JOINT DETAIL
CROWN
PROFILE GRADE
S537 SERIES, S538 OR S539 SERIES @ 4 1/2"
4" CONDUIT (PER ITS) SEE SHEET 482A/785
S534 SERIES, S535 OR S536 SERIES @ 4 1/2"
VARIES, SEE NOTE 1
S523 SERIES, S524 OR S525 SERIES @ 4 1/2"
0.0156
0.0156
9"
2 1/2" CLEAR
CONSTRUCTION JOINT
1 1/2" CLEAR
5-S501 OR S502, BOTTOM @ 9" = 3'-0"
2-#6 BARS (TYP.)
5-S501 OR S502, BOTTOM @ 9" = 3'-0"
3"
LAP 3'-3" TYP.
B7
B8
3 SPA. @ 11" = 2'-9"
9 SPA. @ 6" = 4'-6"
3 SPA. @ 11" = 2'-9"
6"
6"
INTERMEDIATE CONCRETE DIAPHRAGM, TYP.
B11
B12
2-#6 BARS (TYP.)
B9
B10
#4 STIRRUPS @ 1'-0" C/C MAX. (TYP.)
2-SINGLE THREADED INSERTS (TYP.)
16-S501 OR S502 TYP. OF 5
2-3/4" DIA. THREADED BAR, TYP.
4'-0"
5 SPA. @ 11'-0" = 55'-0"
AASHTO TYPE 3 CONCRETE BEAMS
4'-0"

RIGHT TRANSVERSE SECTION

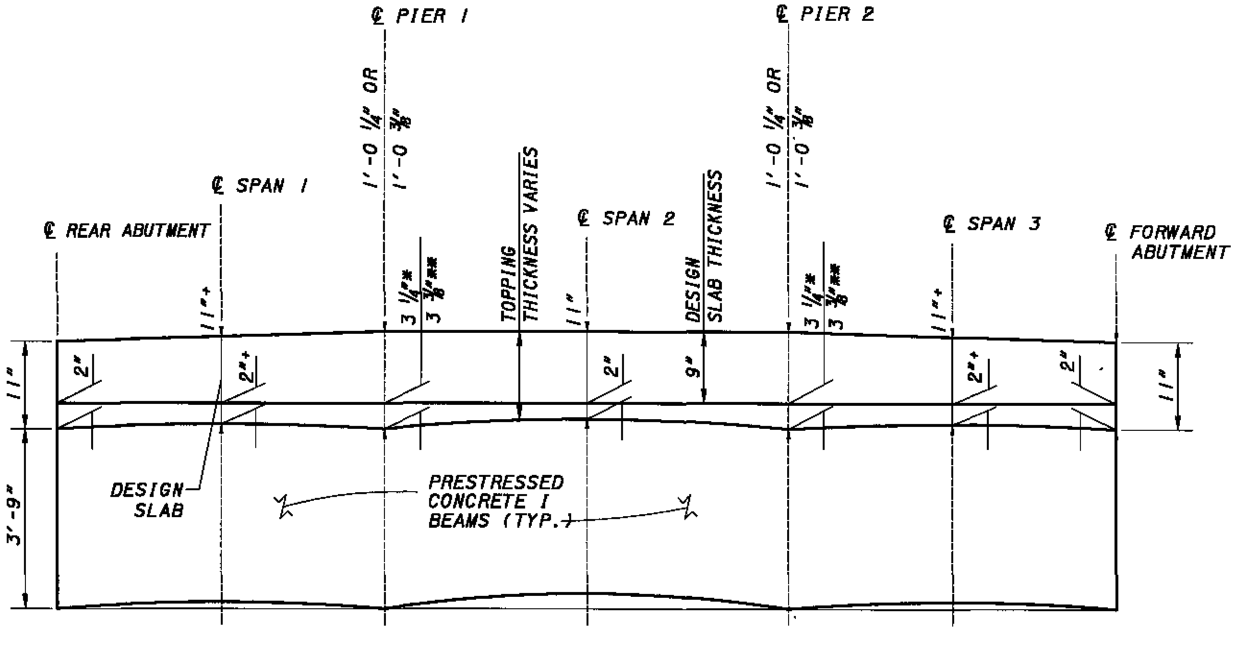


CLOSURE JOINT DETAIL

LONGITUDINAL BARS NOT SHOWN.


SEALING OF CONCRETE SURFACES, EPOXY-URETHANE (TYP.)
10"
8"
9"
2'-5"
3'-6"
1'-1"
8 1/2"
STRAIGHT FACE DEFLECTOR PARAPET TYPE 42" PER ODOT STD. DWG. SBR-1-99
2" TYP.

PARAPET DETAIL



TYPICAL BEAM TOPPING THICKNESS (N.T.S.)

** AT EXTERIOR BEAMS B7 AND B12
* AT INTERIOR BEAMS B8 THRU B11

NOTES:

1. DECK SLAB THICKNESS FOR CONCRETE QUANTITY: THE TOPPING THICKNESSES SHOWN FROM THE TOP OF THE DECK SLAB TO THE TOP OF THE TOP FLANGE ALONG THE CENTERLINE OF THE I-BEAM ARE THEORETICAL DIMENSIONS. THE HAUNCH DEPTH IS THE TOPPING THICKNESS MINUS THE DESIGN SLAB THICKNESS. THE DEPARTMENT WILL PAY FOR SUPERSTRUCTURE CONCRETE BASED ON THE DESIGN SLAB THICKNESS AND THE AVERAGE OF THE THEORETICAL HAUNCH DEPTHS AT MID-SPAN AND AT EACH BEAM BEARING EVEN THOUGH DEVIATION FROM THE DIMENSIONS SHOWN MAY BE NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. ONCE ALL BEAMS ARE SET IN THEIR FINAL POSITION, THE ACTUAL CAMBER FOR EACH MEMBER WILL BE THE TOP OF BEAM ELEVATION AT MID-SPAN MINUS THE AVERAGE TOP OF BEAM ELEVATION AT EACH BEARING. THE ACTUAL TOPPING THICKNESS AT MID-SPAN WILL BE THE THEORETICAL DIMENSION PLUS OR MINUS THE DIFFERENCE BETWEEN THE ACTUAL AND ANTICIPATED CAMBER.

2. CAMBER: THE CALCULATED NET CAMBER DUE TO THE PRESTRESSING AND BEAM WEIGHT IS 1 1/8" FOR SPANS 1 AND 3 AND 2 1/2" FOR SPAN 2.

3. SEE STAGGER BAR DIAGRAM ON SHEET 37/46 FOR ADDITIONAL S509 BARS AT PIERS.

4. REFER TO STANDARD BRIDGE DRAWING PSID-1-99 FOR ADDITIONAL NOTES AND DETAILS PERTAINING TO THE INTERMEDIATE CONCRETE DIAPHRAGMS.

5. SEALING WITH HMWM RESIN: AFTER THE APPLICATION OF THE MEMBRANE CURE, AND THE DECK HAS THOROUGHLY DRIED, VERTICAL CONSTRUCTION JOINTS (TRANSVERSE & LONGITUDINAL) IN THE DECK SLAB, HORIZONTAL JOINTS (AT THE BASE OF PARAPETS) AND CRACKS IN THE ROADWAY SURFACE THAT ARE VISIBLE TO THE UNAIDED EYE, SHALL BE SEALED WITH A HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM) RESIN AS DESCRIBED IN SUPPLEMENTAL SPECIFICATIONS 846 & 954. SEALANT SHALL BE APPLIED BY BRUSH, SPRAY OR OTHER SUITABLE APPLICATOR ALONG THE SURFACE OF JOINTS AND CRACKS. IF NECESSARY, MULTIPLE APPLICATIONS SHALL BE MADE UNTIL COMPLETE PENETRATION HAS BEEN ACHIEVED. AFTER SEALANT HAS CURED, IT SHALL BE SANDED AS SPECIFIED TO ROUGHEN THE SEALANT SURFACE AND RESTORE ITS SUITABILITY FOR VEHICULAR TRAFFIC. FOR OVERCOATING WITH A CONCRETE SURFACE SEALANT, TREATED SURFACES SHALL BE ROUGHENED BY ABRASIVE BLASTING AND OTHERWISE CLEANED AS SPECIFIED FOR THE SUBSEQUENT APPLICATION. SEALING CONSTRUCTION JOINTS AND CRACKS, AS DESCRIBED ABOVE, SHALL BE INCLUDED WITH THE DECK SLAB CONCRETE FOR PAYMENT.

MOODY NOLAN INC.
Architecture•Engineering•Planning•Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
RM	MHR	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
PHB		5202612	

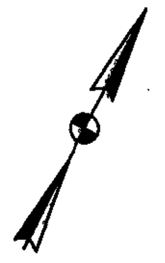
SUPERSTRUCTURE DETAILS
BRIDGE NO. MED-71-0437 R
OVER CSXT RAILROAD

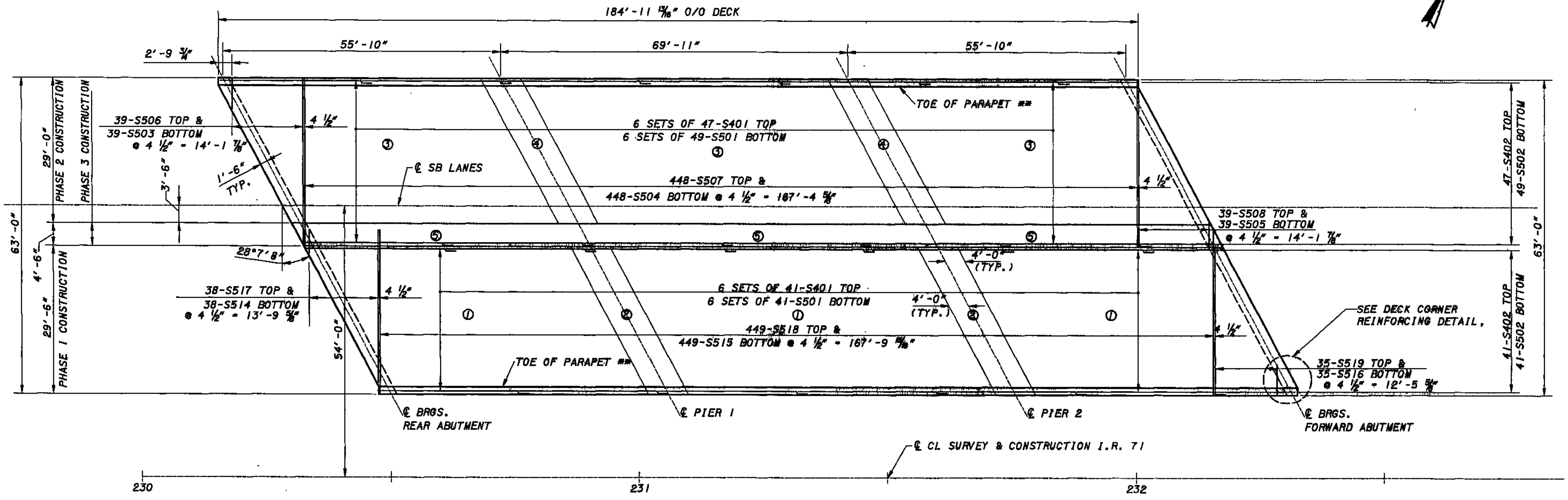
WAY/MED-71-7.04/0.00

35/46

699
785

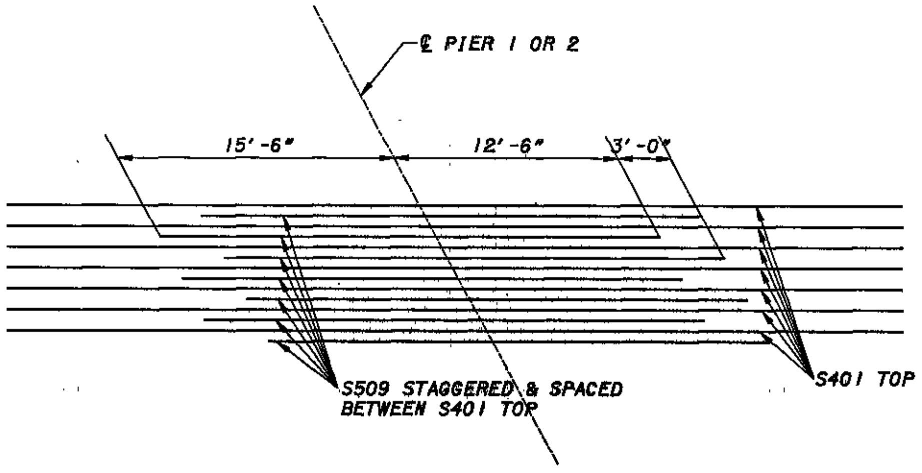
PLOTTED BY: $USER$ $DATE$ $TIME$ $FILE$



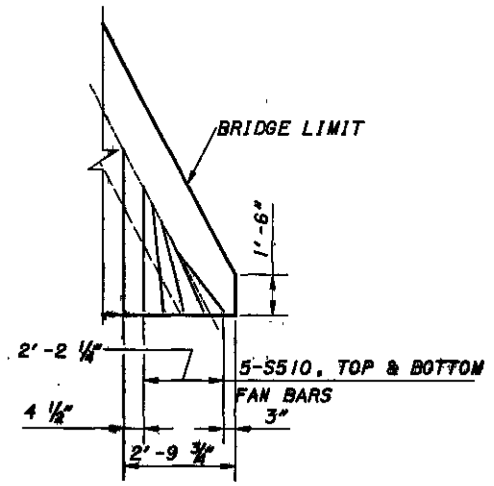


LEFT DECK REINFORCING PLAN

** PARAPET REINFORCING NOT SHOWN, SEE NOTE 4



STAGGER BAR DIAGRAM



DECK CORNER REINFORCING
(TYPICAL @ 2 LOCATIONS)

NOTES:

1. CONCRETE DECK SLAB DEPTH:
FOR CAMBER AND DECK THICKNESS DIAGRAM
AND TRANSVERSE SECTION, SEE SHEET 34/46.

2. MINIMUM LAP LENGTHS:
LAP NO. 4 BARS = 1'-11"
LAP NO. 5 BARS = 2'-7"

3. FOR DETAILS AT END OF DECK, SEE SHEETS 29/46 AND 30/46.

4. FOR PARAPET DETAILS, SEE SHEET 40/46.

5. FOR PHASE CONSTRUCTION NOTES, SEE SHEET 5/46.

6. DECK POOR SEQUENCE: THE ENCIRCLED NUMBERS INDICATE THE SEQUENCE FOR PLACING THE SLAB SECTIONS. IDENTICALLY NUMBERED PLACEMENTS MAY BE MADE SIMULTANEOUSLY OR SEPARATELY. DECK PLACEMENTS SHALL BE MADE IN THE SEQUENCE SHOWN. POURS ① AND ③ IN SPANS 1 AND 3 SHALL INCLUDE THE ABUTMENT END DIAPHRAGMS AND DECK CONCRETE. POURS ② AND ④ SHALL INCLUDE THE PIER DIAPHRAGMS AND DECK CONCRETE. POUR ⑤ SHALL INCLUDE ABUTMENT END DIAPHRAGMS, PIER DIAPHRAGMS AND DECK CONCRETE. SEE CLOSURE JOINT DETAIL ON SHEET 34/46 FOR KEYWAY AT CONSTRUCTION JOINTS. SEAL CONSTRUCTION JOINTS WITH HMWM RESIN (SEE NOTE 5 ON SHEET 34/46).

CONTINUOUS DECK POUR PROCEDURES, WHICH PROCEED FROM END TO END OF THE BRIDGE AND PLACE THE ABUTMENT END DIAPHRAGM AND PIER DIAPHRAGM CONCRETE CONCURRENTLY WITH THE DECK CONCRETE MAY APPROVED BY THE DIRECTOR IF THE PLACEMENT SUBMITTAL CAN ASSURE THAT THE DECK CONCRETE IN ADJACENT SPANS WILL BE PLACED BEFORE THE DIAPHRAGM CONCRETE HAS REACHED ITS INITIAL SET.

MOODY NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
RM	MR	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
PHB		5202582	

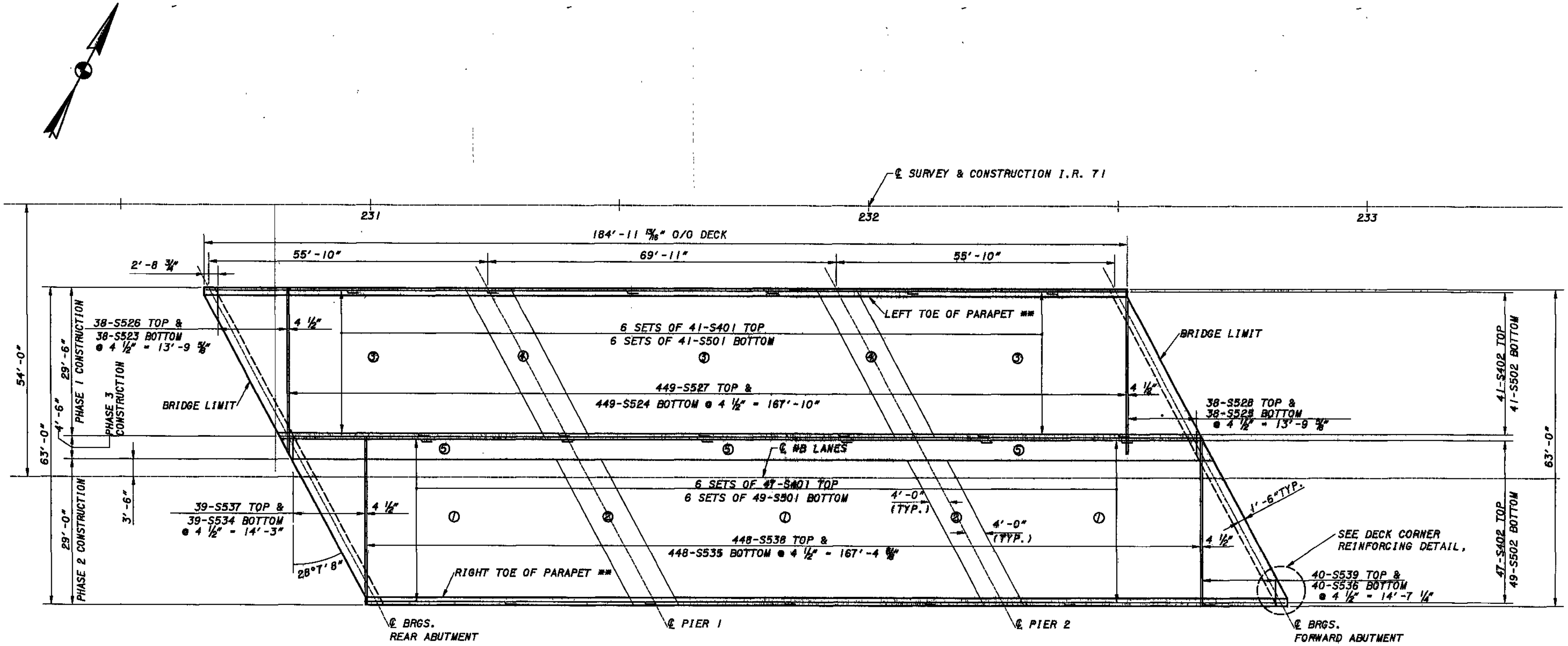
LEFT DECK REINFORCING PLAN
BRIDGE NO. MED-71-0437 L
OVER CSXT RAILROAD

WAY/MED 71-7.04/0.00

36/46

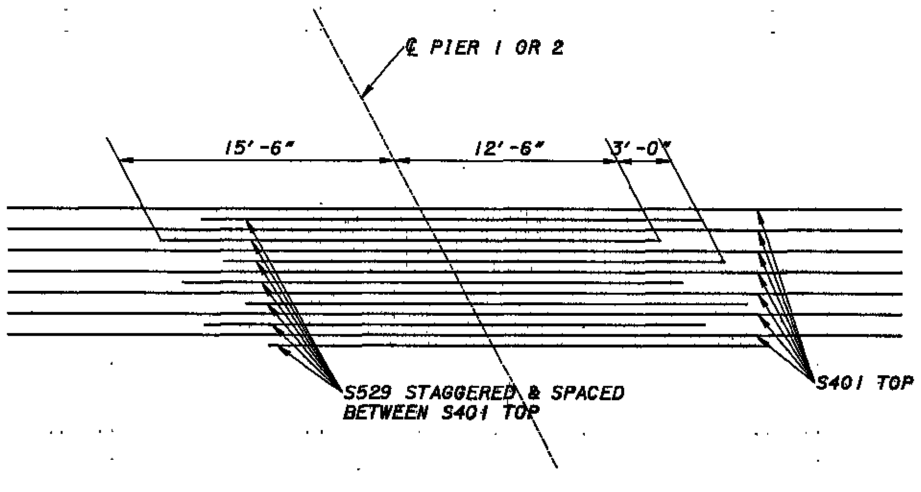
700/785

PLOTTED BY: MBrake 10/17/2003 11:08:20 AM p=401202 May-Med\Bridges\0437 Converted Drawings\MED71SDDCONVERT2D.dgn

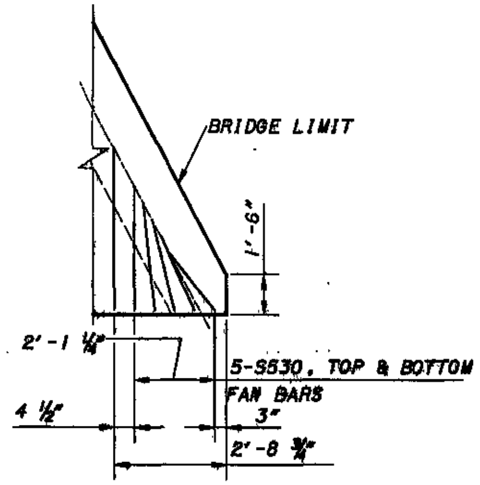


RIGHT DECK REINFORCING PLAN

** PARAPET REINFORCING NOT SHOWN, SEE NOTE 4



STAGGER BAR DIAGRAM



DECK CORNER REINFORCING
(TYPICAL @ 2 LOCATIONS)

NOTES:

1. CONCRETE DECK SLAB DEPTH:
   FOR CAMBER AND DECK THICKNESS DIAGRAM
   AND TRANSVERSE SECTION, SEE SHEET 34/46.

2. MINIMUM LAP LENGTHS:
   LAP NO. 4 BARS = 1'-11"
   LAP NO. 5 BARS = 2'-7"

3. FOR DETAILS AT END OF DECK, SEE SHEETS 29/46 AND 30/46.

4. FOR PARAPET DETAILS, SEE SHEET 40/46.

5. FOR PHASE CONSTRUCTION NOTES, SEE SHEET 5/46.

6. DECK POOR SEQUENCE: THE ENCIRCLED NUMBERS INDICATE THE SEQUENCE FOR PLACING THE SLAB SECTIONS. IDENTICALLY NUMBERED PLACEMENTS MAY BE MADE SIMULTANEOUSLY OR SEPARATELY. DECK PLACEMENTS SHALL BE MADE IN THE SEQUENCE SHOWN. POURS ① AND ③ IN SPANS 1 AND 3 SHALL INCLUDE THE ABUTMENT END DIAPHRAGMS AND DECK CONCRETE. POURS ② AND ④ SHALL INCLUDE THE PIER DIAPHRAGMS AND DECK CONCRETE. POUR ⑤ SHALL INCLUDE ABUTMENT END DIAPHRAGMS, PIER DIAPHRAGMS AND DECK CONCRETE. SEE CLOSURE JOINT DETAIL ON SHEET 35/46 FOR KEYWAY AT CONSTRUCTION JOINTS. SEAL CONSTRUCTION JOINTS WITH HMWM RESIN (SEE NOTE 5 ON SHEET 35/46).

CONTINUOUS DECK POUR PROCEDURES, WHICH PROCEED FROM END TO END OF THE BRIDGE AND PLACE THE ABUTMENT END DIAPHRAGM AND PIER DIAPHRAGM CONCRETE CONCURRENTLY WITH THE DECK CONCRETE MAY APPROVED BY THE DIRECTOR IF THE PLACEMENT SUBMITTAL CAN ASSURE THAT THE DECK CONCRETE IN ADJACENT SPANS WILL BE PLACED BEFORE THE DIAPHRAGM CONCRETE HAS REACHED ITS INITIAL SET.

MOODY/NOLAN INC
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
RM	MR	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
PHB		5202612	

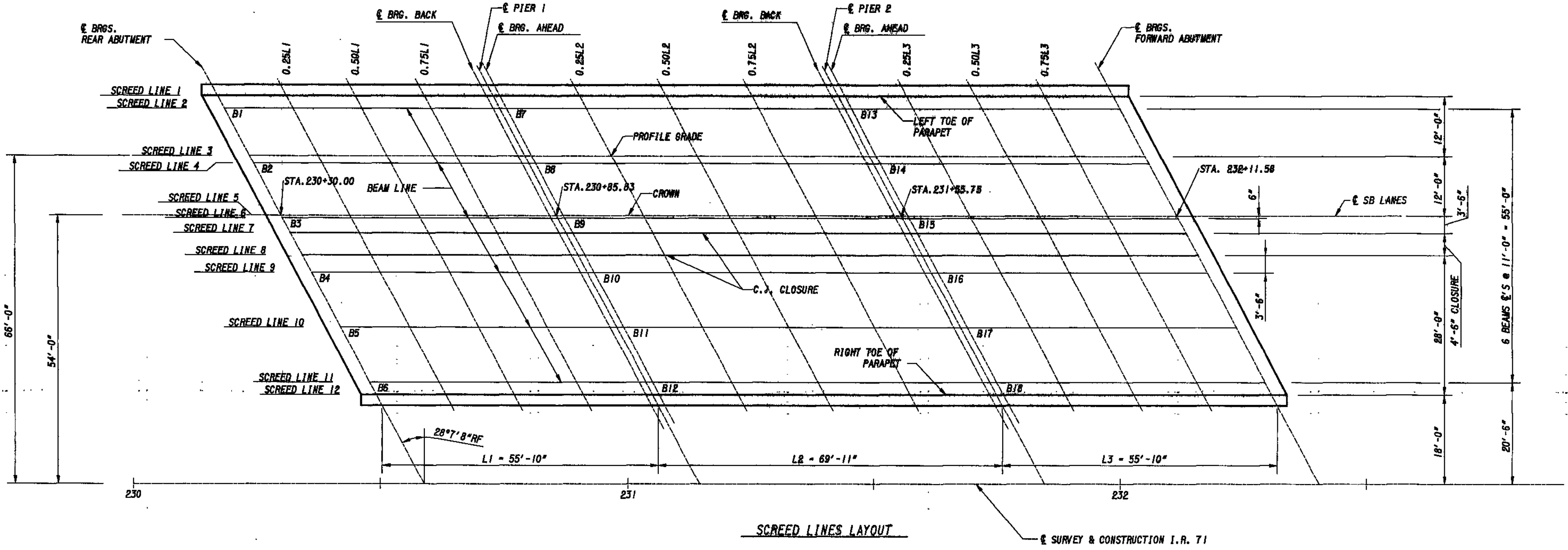
RIGHT DECK REINFORCING PLAN
BRIDGE NO. MED-71-0437 R
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00

PLOTTED BY: MBrake 10/17/2003 11:09:18 AM p1401202 Way-MedBridges0437 Converted DrawingsMED71SDECONVERT20.dgn

SCREED ELEVATIONS TABLE

SPAN	LOCATION	SCREED LINE 1		SCREED LINE 2		SCREED LINE 3		SCREED LINE 4		SCREED LINE 5		SCREED LINE 6		SCREED LINE 7		SCREED LINE 8		SCREED LINE 9		SCREED LINE 10		SCREED LINE 11		SCREED LINE 12	
		STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION
1	℄ BRG. RA	230+17.18	1000.20	230+18.51	1000.27	230+23.59	1000.52	230+24.39	1000.56	230+30.00	1000.84	230+30.27	1000.84	230+31.87	1000.83	230+34.27	1000.81	230+36.15	1000.79	230+42.02	1000.74	230+47.90	1000.69	230+49.24	1000.67
	0.25 L1	230+31.13	1000.52	230+32.47	1000.58	230+37.55	1000.84	230+38.35	1000.88	230+43.96	1001.16	230+44.23	1001.15	230+45.83	1001.14	230+48.23	1001.12	230+50.10	1001.10	230+55.98	1001.05	230+61.86	1000.99	230+63.20	1000.98
	0.50 L1	230+45.09	1000.87	230+46.43	1000.93	230+51.50	1001.13	230+52.31	1001.17	230+57.92	1001.45	230+58.18	1001.45	230+59.79	1001.43	230+62.19	1001.41	230+64.06	1001.39	230+69.94	1001.33	230+75.82	1001.33	230+77.15	1001.32
	0.75 L1	230+59.05	1001.08	230+60.39	1001.15	230+65.46	1001.40	230+66.26	1001.44	230+71.88	1001.71	230+72.14	1001.71	230+73.75	1001.69	230+76.15	1001.67	230+78.02	1001.65	230+83.90	1001.60	230+89.78	1001.53	230+91.11	1001.52
PIER 1	℄ BRG. BACK	230+71.80	1001.31	230+73.14	1001.37	230+78.21	1001.62	230+79.03	1001.66	230+84.63	1001.93	230+84.90	1001.93	230+86.50	1001.91	230+88.90	1001.89	230+90.77	1001.87	230+96.65	1001.81	231+02.53	1001.75	231+03.86	1001.74
	℄ BRG. AHEAD	230+74.22	1001.36	230+75.56	1001.42	230+80.63	1001.67	230+81.44	1001.71	230+87.04	1001.98	230+87.32	1001.98	230+88.91	1001.96	230+91.32	1001.94	230+93.19	1001.92	230+99.07	1001.86	231+04.94	1001.80	231+06.28	1001.78
2	0.25 L2	230+90.49	1001.73	230+91.82	1001.79	230+96.90	1002.04	230+97.70	1002.08	231+03.31	1002.35	231+03.58	1002.34	231+05.18	1002.33	231+07.59	1002.30	231+09.46	1002.28	231+15.34	1002.22	231+21.21	1002.15	231+22.55	1002.14
	0.50 L2	231+07.97	1002.08	231+09.30	1002.14	231+14.38	1002.39	231+15.18	1002.43	231+20.79	1002.69	231+21.06	1002.69	231+22.66	1002.67	231+25.07	1002.65	231+26.94	1002.63	231+32.82	1002.56	231+38.69	1002.49	231+40.03	1002.48
	0.75 L2	231+25.45	1002.38	231+26.78	1002.44	231+31.86	1002.68	231+32.66	1002.72	231+38.27	1002.99	231+38.54	1002.98	231+40.14	1002.97	231+42.55	1002.94	231+44.42	1002.92	231+50.29	1002.85	231+56.17	1002.78	231+57.51	1002.76
PIER 2	℄ BRG. BACK	231+41.72	1002.61	231+43.06	1002.68	231+48.13	1002.92	231+48.94	1002.95	231+54.54	1003.22	231+54.82	1003.21	231+56.41	1003.19	231+58.82	1003.16	231+60.69	1003.14	231+66.57	1003.07	231+72.44	1003.00	231+73.78	1002.98
	℄ BRG. AHEAD	231+44.13	1002.66	231+45.47	1002.72	231+50.95	1002.96	231+51.36	1003.00	231+56.96	1003.26	231+57.24	1003.25	231+58.83	1003.24	231+61.23	1003.21	231+63.10	1003.18	231+68.98	1003.11	231+74.86	1003.04	231+76.20	1003.03
3	0.25 L3	231+56.88	1002.91	231+58.22	1002.97	231+63.30	1003.21	231+64.10	1003.25	231+69.71	1003.51	231+69.98	1003.50	231+71.58	1003.48	231+73.98	1003.45	231+75.85	1003.43	231+81.73	1003.36	231+87.61	1003.28	231+88.95	1003.26
	0.50 L3	231+70.84	1003.21	231+72.18	1003.28	231+77.25	1003.46	231+78.06	1003.49	231+83.67	1003.75	231+83.93	1003.75	231+85.54	1003.73	231+87.94	1003.70	231+89.81	1003.68	231+95.69	1003.60	232+01.57	1003.58	232+02.90	1003.56
	0.75 L3	231+84.80	1003.38	231+86.14	1003.45	231+91.21	1003.68	231+92.01	1003.72	231+97.63	1003.97	231+97.89	1003.97	231+99.50	1003.95	232+01.90	1003.92	232+03.77	1003.89	232+09.65	1003.82	232+15.53	1003.74	232+16.86	1003.72
	℄ BRG. FA	231+98.76	1003.59	232+00.09	1003.65	232+05.17	1003.88	232+05.97	1003.92	232+11.58	1004.17	232+11.85	1004.17	232+13.45	1004.15	232+15.86	1004.12	232+17.73	1004.09	232+23.61	1004.01	232+29.48	1003.93	232+30.82	1003.91



SCREED LINES LAYOUT

NOTES:

1. SCREED ELEVATIONS ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR THE ANTICIPATED CALCULATED DEAD LOAD DEFLECTION.

LEGEND:

B3 = BEAM MARK

C.J. = CONSTRUCTION JOINT

℄ BRGS. = CENTERLINE OF BEARINGS

MOODY/NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215

DESIGNED	DRAWN	REVIEWED	DATE
RM	RM/PC	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
PHB		5202582	

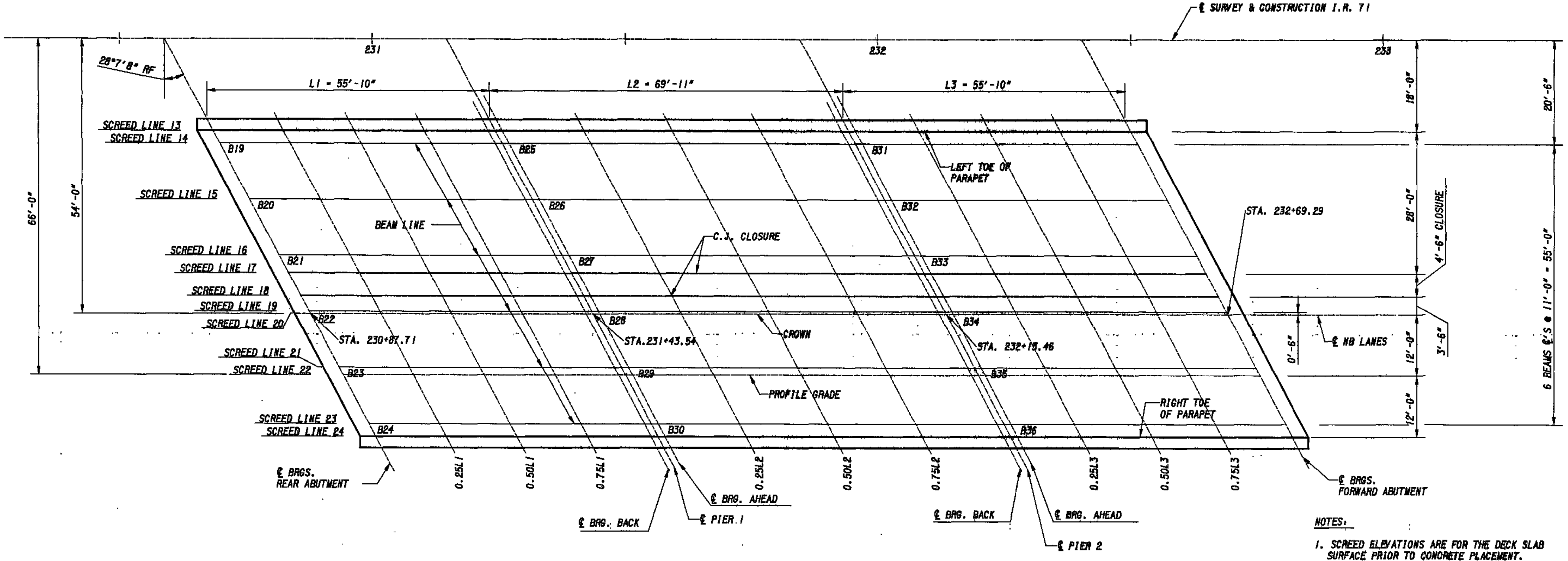
SCREED LAYOUT
BRIDGE NO. MED-71-0437 L
OVER CSXT RAILROAD

WAY/MED 71-7.04/0.00

PLOTTED BY: MBrake 10/17/2003 11:09:59 AM p:\401202 Way-Med\Bridges\0437 Converted Drawings\ME071SOFCONVERT2D.dgn

SCREED ELEVATIONS TABLE

		SCREED LINE 13		SCREED LINE 14		SCREED LINE 15		SCREED LINE 16		SCREED LINE 17		SCREED LINE 18		SCREED LINE 19		SCREED LINE 20		SCREED LINE 21		SCREED LINE 22		SCREED LINE 23		SCREED LINE 24	
SPAN	LOCATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION
1	℄ BRG. R.A.	230+68.47	1000.14	230+69.81	1000.21	230+75.69	1000.48	230+81.56	1000.76	230+83.44	1000.85	230+85.84	1000.96	230+87.44	1001.04	230+87.71	1001.05	230+93.32	1000.99	230+94.12	1000.98	230+99.20	1000.92	231+00.53	1000.91
	0.25 L1	230+82.43	1000.42	230+83.77	1000.48	230+89.64	1000.76	230+95.52	1001.04	230+97.39	1001.13	230+99.80	1001.24	231+01.40	1001.32	231+01.67	1001.33	231+07.28	1001.26	231+08.08	1001.26	231+13.16	1001.20	231+14.49	1001.18
	0.50 L1	230+96.39	1000.73	230+97.73	1000.80	231+03.60	1001.02	231+09.48	1001.30	231+11.35	1001.39	231+13.76	1001.60	231+15.36	1001.58	231+15.63	1001.59	231+21.24	1001.53	231+22.04	1001.52	231+27.12	1001.51	231+28.45	1001.50
	0.75 L1	231+10.35	1000.92	231+11.68	1000.98	231+17.56	1001.26	231+23.44	1001.54	231+25.31	1001.63	231+27.71	1001.74	231+29.32	1001.82	231+29.59	1001.83	231+35.20	1001.77	231+36.00	1001.76	231+41.07	1001.70	231+42.41	1001.68
PIER 1	℄ BRG. BACK	231+23.10	1001.12	231+24.44	1001.18	231+30.32	1001.46	231+36.19	1001.74	231+38.06	1001.83	231+40.47	1001.94	231+42.07	1002.02	231+42.33	1002.03	231+47.95	1001.97	231+48.75	1001.96	231+53.83	1001.90	231+55.16	1001.89
	℄ BRG. AHEAD	231+25.51	1001.16	231+26.85	1001.23	231+32.73	1001.51	231+38.61	1001.78	231+40.48	1001.87	231+42.88	1001.98	231+44.49	1002.06	231+44.75	1002.07	231+50.36	1002.01	231+51.16	1002.00	231+56.24	1001.94	231+57.57	1001.93
2	0.25 L2	231+41.79	1001.51	231+43.12	1001.58	231+49.00	1001.86	231+54.88	1002.14	231+56.75	1002.22	231+59.15	1002.34	231+60.76	1002.41	231+61.02	1002.43	231+66.63	1002.36	231+67.43	1002.35	231+72.51	1002.29	231+73.85	1002.28
	0.50 L2	231+59.26	1001.85	231+60.60	1001.92	231+66.48	1002.20	231+72.36	1002.48	231+74.23	1002.56	231+76.63	1002.68	231+78.23	1002.75	231+78.50	1002.77	231+84.11	1002.70	231+84.91	1002.69	231+89.99	1002.63	231+91.33	1002.62
	0.75 L2	231+76.74	1002.14	231+78.08	1002.21	231+83.96	1002.49	231+89.84	1002.77	231+91.71	1002.85	231+94.11	1002.97	231+95.71	1003.04	231+95.98	1003.06	232+01.59	1002.99	232+02.39	1002.98	232+07.47	1002.92	232+08.81	1002.91
PIER 2	℄ BRG. BACK	231+93.01	1002.38	231+94.35	1002.44	232+00.23	1002.72	232+06.11	1003.00	232+07.98	1003.09	232+10.38	1003.20	232+11.99	1003.28	232+12.25	1003.29	232+17.86	1003.22	232+18.66	1003.22	232+23.74	1003.16	232+25.07	1003.14
	℄ BRG. AHEAD	231+95.43	1002.42	231+96.77	1002.49	232+02.65	1002.76	232+08.52	1003.04	232+10.39	1003.13	232+12.80	1003.24	232+14.40	1003.32	232+14.67	1003.33	232+20.28	1003.27	232+21.08	1003.26	232+26.16	1003.20	232+27.49	1003.19
3	0.25 L3	232+08.18	1002.68	232+09.52	1002.74	232+15.39	1003.02	232+21.27	1003.30	232+23.14	1003.39	232+25.55	1003.50	232+27.15	1003.58	232+27.42	1003.59	232+33.03	1003.53	232+33.83	1003.52	232+38.91	1003.46	232+40.24	1003.44
	0.50 L3	232+22.14	1003.00	232+23.48	1003.06	232+29.35	1003.29	232+35.23	1003.56	232+37.10	1003.65	232+39.51	1003.76	232+41.11	1003.84	232+41.38	1003.85	232+46.99	1003.79	232+47.79	1003.78	232+52.87	1003.78	232+54.20	1003.76
	0.75 L3	232+36.10	1003.18	232+37.43	1003.25	232+43.31	1003.53	232+49.19	1003.80	232+51.06	1003.89	232+53.46	1004.01	232+55.07	1004.08	232+55.34	1004.09	232+60.95	1004.03	232+61.75	1004.02	232+66.82	1003.96	232+68.16	1003.95
	℄ BRG. FA	232+50.06	1003.41	232+51.39	1003.47	232+57.27	1003.75	232+63.15	1004.03	232+65.02	1004.12	232+67.48	1004.23	232+69.03	1004.31	232+69.29	1004.32	232+74.90	1004.26	232+75.71	1004.25	232+80.78	1004.19	232+82.12	1004.17



SCREED LINES LAYOUT

NOTES:

1. SCREED ELEVATIONS ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR THE ANTICIPATED CALCULATED DEAD LOAD DEFLECTION

LEGEND:

B3 - BEAM MARK

C.J. - CONSTRUCTION JOINT

℄ BRGS. - CENTERLINE OF BEARINGS

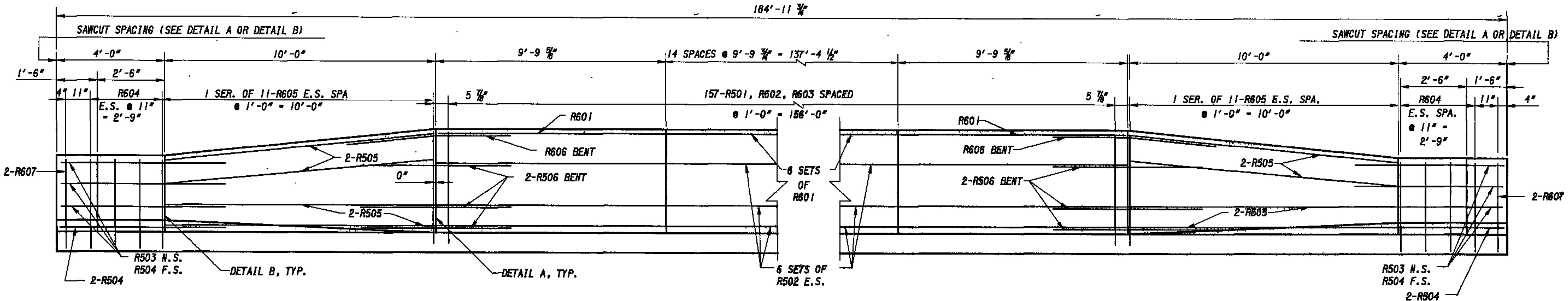
MOODY/NOLAN LTD., INC
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
RM	RM/PC	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
PHB		5202612	

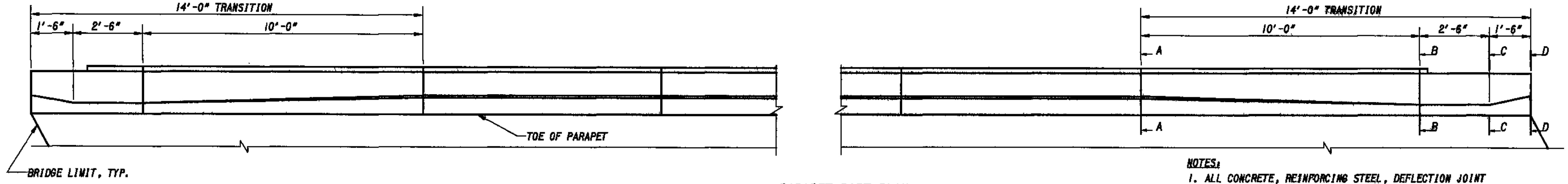
SCREED LAYOUT
BRIDGE NO. MED-71-0437 R
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00

PLOTTED BY: M8rdke 10/17/2003 11:10:52 AM p1401202 Way-Med\Bridges\0437 Converted Drawings\MED71SGGCONVERT20.dgn



PARAPET ELEVATION

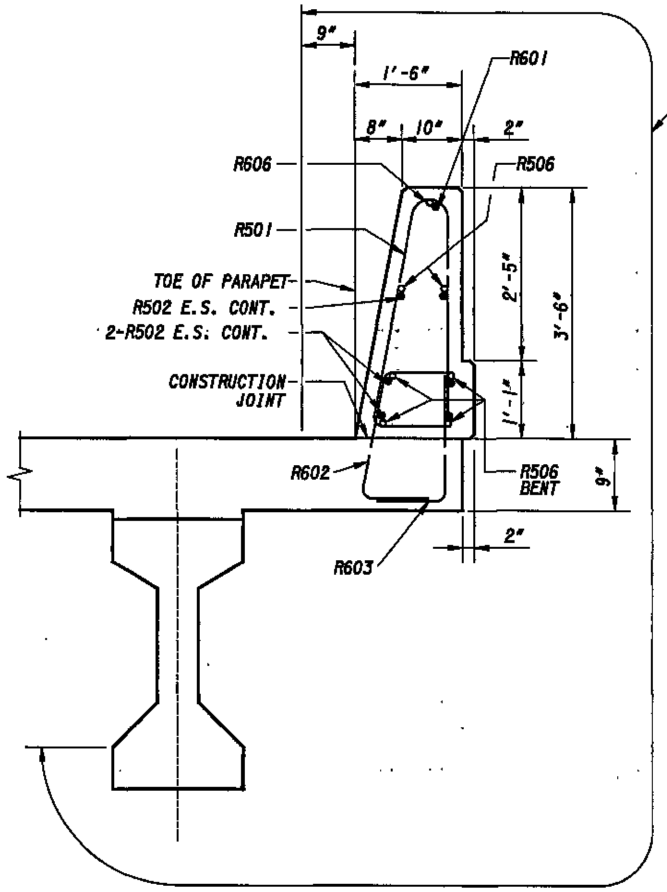


PARAPET PART PLAN

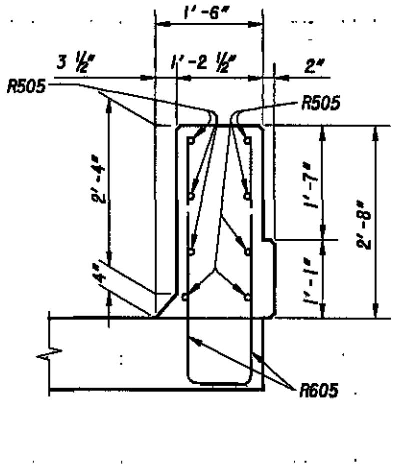
(NOTE: LEFT PARAPET SHOWN, RIGHT PARAPET SIMILAR)

NOTES:

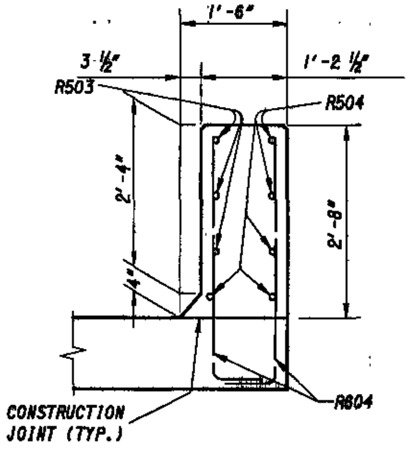
1. ALL CONCRETE, REINFORCING STEEL, DEFLECTION JOINT SAWCUT AND CAULKING MATERIAL FOR PARAPET ARE INCLUDED WITH ITEM 894, HIGH PERFORMANCE CONCRETE FOR BRIDGE DECK WITH WARRANTY, AS PER PLAN
2. MINIMUM LAP LENGTHS:
   NO. 5 BARS = 2'-9"
   NO. 6 BARS = 3'-3"
3. N.S. = NEAR SIDE
   F.S. = FAR SIDE
   E.S. = EACH SIDE
2. CONT. = CONTINUOUS



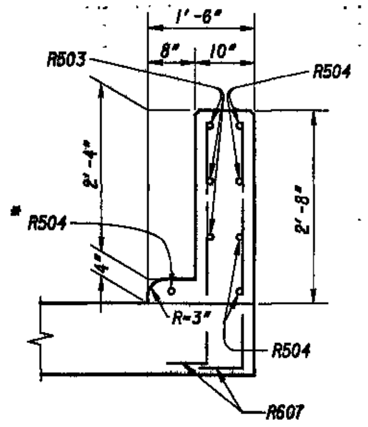
SECTION A-A



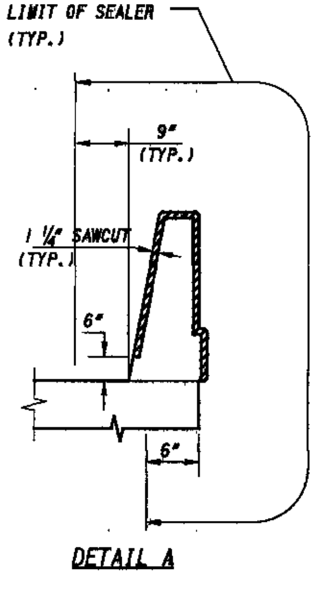
SECTION B-B



SECTION C-C

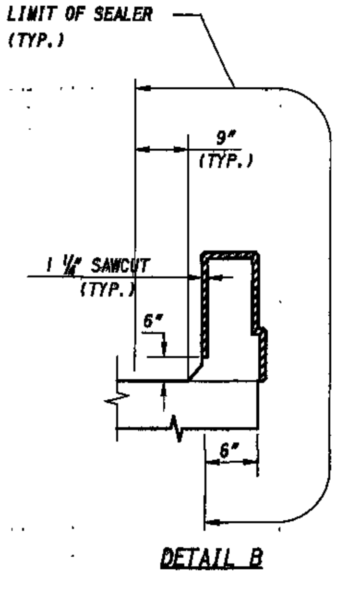


SECTION D-D



DETAIL A

(SECTION THROUGH SAWCUT)



DETAIL B

(SECTION THROUGH SAWCUT)

* FIELD BEND IF NECESSARY

MOODY NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) [illegible]

DESIGNED	DRAWN	REVIEWED	DATE
PHB	PC	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
RW		5202582-LEFT, 5208612-RIGHT	

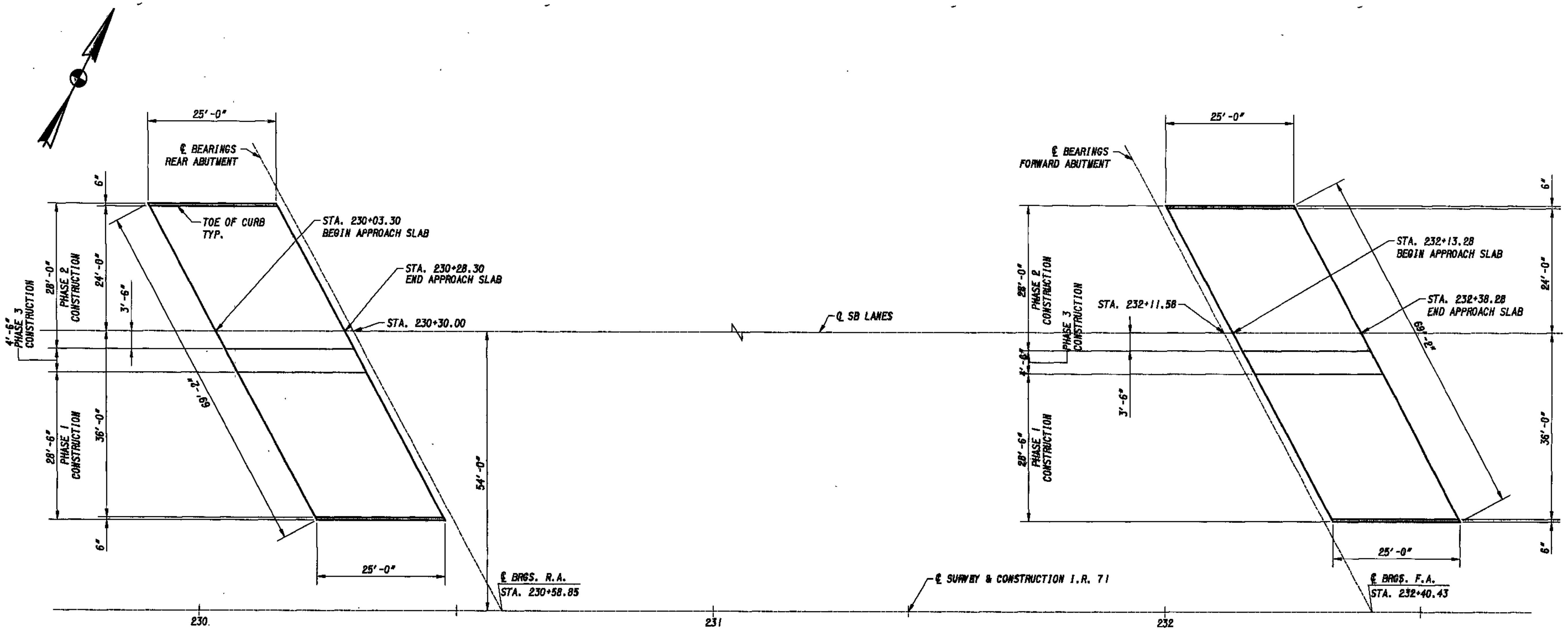
PARAPET DETAILS
BRIDGE NO. MED-71-0437L/R
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00

40/46

704/785

PLOTTED BY: MBrdke 10/16/2003 3:41:56 PM p:\01202 Way-Med\Bridge\0437 Converted Drawings\MED71SDHCONVERT2D.dgn


25'-0"
℄ BEARINGS REAR ABUTMENT
TOE OF CURB TYP.
STA. 230+03.30 BEGIN APPROACH SLAB
STA. 230+28.30 END APPROACH SLAB
STA. 230+30.00
6"
28'-0" PHASE 2 CONSTRUCTION
24'-0"
3'-6"
4'-6" PHASE 3 CONSTRUCTION
28'-6" PHASE 1 CONSTRUCTION
36'-0"
69'-2"
54'-0"
25'-0"
℄ BRGS. R.A. STA. 230+58.85
230.
231
232
℄ SB LANES
℄ SURVEY & CONSTRUCTION I.R. 71
℄ BEARINGS FORWARD ABUTMENT
25'-0"
STA. 232+13.28 BEGIN APPROACH SLAB
STA. 232+11.58
STA. 232+38.28 END APPROACH SLAB
69'-2"
28'-0" PHASE 2 CONSTRUCTION
PHASE 3 CONSTRUCTION
4'-6"
3'-6"
28'-6" PHASE 1 CONSTRUCTION
24'-0"
36'-0"
6"
25'-0"
℄ BRGS. F.A. STA. 232+40.43

REAR APPROACH SLAB PLAN

FORWARD APPROACH SLAB PLAN

TOP OF APPROACH SLAB ELEVATIONS							
APPROACH SLAB	LOCATION	LEFT TOE OF CURB		℄ SB LANES, CROWN		RIGHT TOE OF CURB	
		STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
REAR	0.0 L	229+90.47	999.65	230+03.30	1000.29	230+22.54	1000.13
	0.5 L	230+02.97	999.91	230+15.80	1000.55	230+35.04	1000.39
	1.0 L	230+15.47	1000.17	230+28.30	1000.81	230+47.54	1000.64
FORWARD	0.00 L	232+00.46	1003.62	232+13.28	1004.20	232+32.52	1003.94
	0.5 L	232+12.96	1003.82	232+25.78	1004.40	232+45.02	1004.13
	1.0 L	232+25.46	1004.02	232+38.28	1004.59	232+57.52	1004.32

NOTE:
1. FOR ADDITIONAL DETAILS, NOTES & APPROACH SLAB REINFORCING REFER TO STD. DRAWING AS-1-81.

MOODY/NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
RW	MHR	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
PHB		5202582-LEFT	

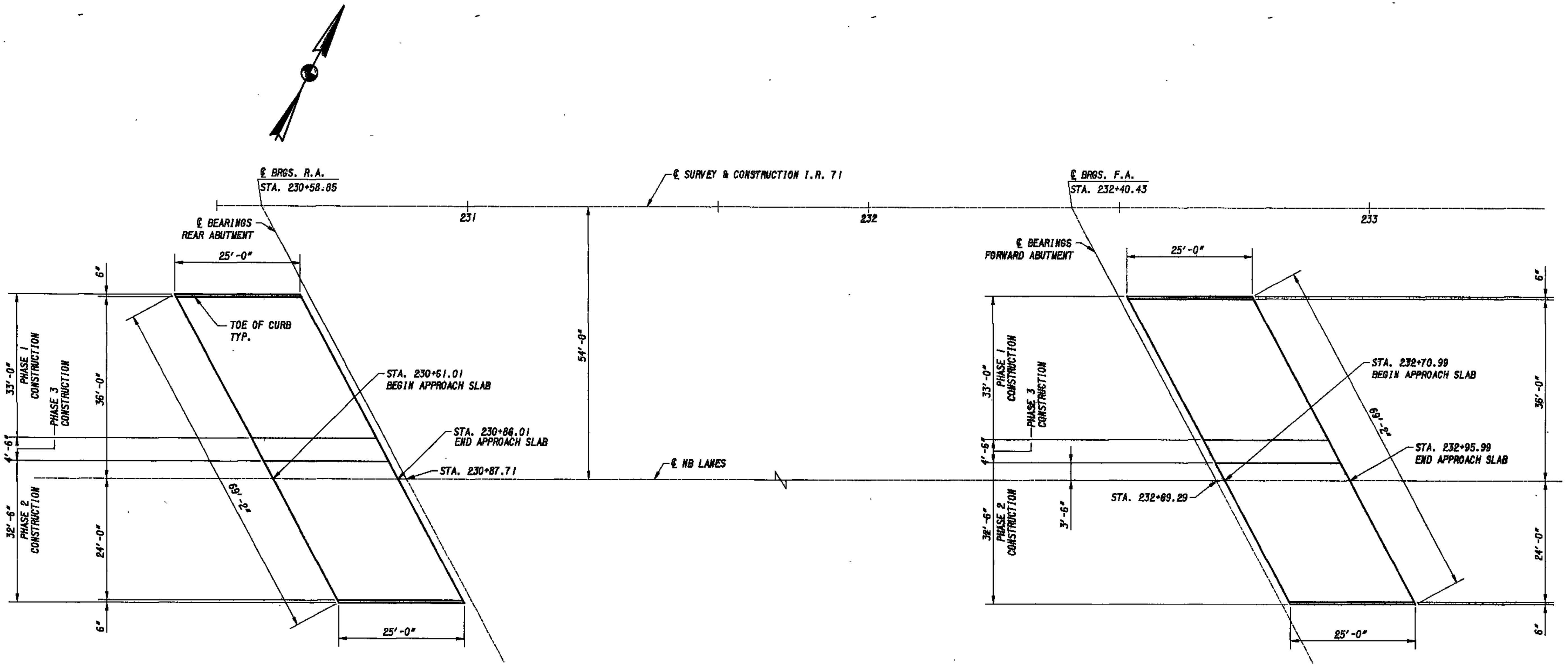
LEFT APPROACH SLAB DETAILS
BRIDGE NO. MED-71-0437 L
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00

41/46

705
785

PLOTTED BY: MBrake 10/16/2003 3:46:10 PM p:\401202 Way-Med\Bridges\0437 Converted Drawings\ME071SDICONVERT20.dgn


℄ BRGS. R.A.
STA. 230+58.85
℄ SURVEY & CONSTRUCTION I.R. 71
℄ BRGS. F.A.
STA. 232+40.43
231
232
233
℄ BEARINGS REAR ABUTMENT
℄ BEARINGS FORWARD ABUTMENT
25'-0"
6"
33'-0" PHASE 1 CONSTRUCTION
PHASE 3 CONSTRUCTION
4'-6"
32'-6" PHASE 2 CONSTRUCTION
36'-0"
24'-0"
TOE OF CURB TYP.
STA. 230+61.01 BEGIN APPROACH SLAB
STA. 230+86.01 END APPROACH SLAB
STA. 230+87.71
69'-2"
54'-0"
℄ NB LANES
STA. 232+70.99 BEGIN APPROACH SLAB
STA. 232+95.99 END APPROACH SLAB
STA. 232+69.29
3'-6"

REAR APPROACH SLAB PLAN

FORWARD APPROACH SLAB PLAN

TOP OF APPROACH SLAB ELEVATIONS

APPROACH SLAB	LOCATION	LEFT TOE OF CURB		℄ NB LANES, CROWN		RIGHT TOE OF CURB	
		STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
REAR	0.0 L	230+41.77	999.66	230+61.01	1000.57	230+73.83	1000.43
	0.5 L	230+54.27	999.89	230+73.51	1000.79	230+86.33	1000.65
	1.0 L	230+66.77	1000.11	230+86.01	1001.02	230+98.83	1000.88
FORWARD	0.00 L	232+51.76	1003.44	232+70.99	1004.35	232+83.82	1004.21
	0.5 L	232+64.26	1003.67	232+83.49	1004.57	232+96.32	1004.43
	1.0 L	232+76.76	1003.89	232+95.99	1004.80	233+08.82	1004.66

NOTE:
1. FOR ADDITIONAL DETAILS, NOTES & APPROACH SLAB REINFORCING REFER TO STD. DRAWING AS-1-81.

MOODY NOLAN INC.

DESIGNED	DRAWN	REVIEWED	DATE
BM	MHR	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
PHB		5202612-RIGHT	

RIGHT APPROACH SLAB DETAILS
BRIDGE NO. MED-71-0437 R
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00

PLOTTED BY: 10/16/2003 3:50:46 PM

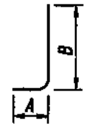
REINFORCING STEEL LIST

ABUTMENT - LEFT BRIDGE

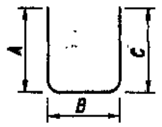
MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSION							
	REAR	FWD.	TOTAL				A	B	C	D	E	F	G	INC
A401	48		48	9'-0"	289	3	1'-9"	2'-6"						
A501	8		8	26'-10"	224	ST								
A502	8		8	26'-8"	223	ST								
A503	79		79	13'-0"	1071	3	2'-7"	3'-8"						
A504	79		79	11'-1"	913	2	4'-4"	2'-8"	4'-4"					
A505	8		8	26'-10"	224	ST								
A506	8		8	26'-8"	223	ST								
A507	1		1	12'-0"	13	ST								
A508	1		1	13'-8"	14	ST								
	1		1	3'-7"										
A509	SER		SER	TO	31	ST								2'-6 ¾"
	4		4	11'-2"										
	1		1	2'-0"										
A510	SER		SER	TO	24	ST								2'-6 ⅜"
	4		4	9'-7"										
A511	1		1	20'-1"	21	2	8'-8"	3'-0"	8'-8"					
	1		1	9'-11"			3'-9"		3'-9"					
A512	SER		SER	TO	128	2	TO	2'-8"	TO			DIM. A & C VARIES BY		6'-9 ¼"
	8		8	20'-9"			9'-2"		9'-2"					
A513	1		1	20'-9"	22	2	9'-2"	2'-8"	9'-2"					
A514	1		1	13'-1"	14	7	0'-10"	12'-3"	5'-5"					
A515	1		1	14'-8"	15	7	2'-5"	12'-3"	5'-5"					
A516	1		1	14'-7"	15	ST								
A517	1		1	12'-11"	13	ST								
	1		1	6'-2"										
A518	SER		SER	TO	30	ST								3'-5 ½"
	3		3	13'-1"										
	1		1	7'-9"										
A519	SER		SER	TO	35	ST								3'-5 ½"
	3		3	14'-8"										
A520	1		1	19'-1"	20	2	8'-2"	3'-0"	8'-2"					
	1		1	9'-11"			3'-9"		3'-9"					
A521	SER		SER	TO	140	2	TO	2'-8"	TO			DIM. A & C VARIES BY		0'-7 ½"
	9		9	19'-10"			8'-9"		8'-9"					
A522	1		1	19'-10"	21	2	8'-9"	2'-8"	8'-9"					
A523	1		1	16'-2"	17	7	2'-5"	13'-9"	5'-0"					
A524	1		1	13'-0"	15	7	0'-10"	13'-9"	5'-0"					
A601	59		59	13'-0"	1152	13								
A801	16		16	29'-0"	1239	ST								
A802	16		16	28'-10"	1232	ST								
				TOTAL =	7378									

ABUTMENT - LEFT BRIDGE

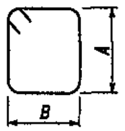
MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSION							
	REAR	FWD.	TOTAL				A	B	C	D	E	F	G	INC
A426		48	48	9'-0"	289	3	1'-9"	2'-6"						
A526		8	8	26'-2"	218	ST								
A527		8	8	27'-4"	228	ST								
A528		79	79	13'-0"	1071	3	2'-7"	3'-8"						
A529		79	79	11'-1"	913	2	4'-4"	2'-8"	4'-4"					
A530		8	8	26'-2"	218	ST								
A531		8	8	27'-4"	228	ST								
A532		1	1	11'-5"	12	ST								
A533		1	1	12'-6"	13	ST								
		1	1	3'-10"										
A534		SER	SER	TO	24	ST								3'-9"
		3	3	11'-4"										
		1	1	5'-3"										
A535		SER	SER	TO	28	ST								3'-9"
		3	3	12'-9"										
A536			1	19'-1"	20	2	8'-2"	3'-0"	8'-2"					
		1	1	9'-1"			3'-4"		3'-4"					
A537		SER	SER	TO	111	2	TO	2'-8"	TO			DIM. A & C VARIES BY		0'-7 ¼"
		8	8	17'-7"			7'-7"		7'-7"					
A538		1	1	18'-9"	20	2	8'-2"	2'-8"	8'-2"					
A539		1	1	12'-2"	13	7	0'-10"	11'-4"	4'-11"					
A540		1	1	13'-9"	14	7	2'-5"	11'-4"	4'-11"					
A541		1	1	15'-1"	16	ST								
A542		1	1	13'-8"	14	ST								
		1	1	7'-11"										
A543		SER	SER	TO	36	ST								3'-8"
		3	3	15'-3"										
		1	1	6'-4"										
A544		SER	SER	TO	31	ST								3'-7 ½"
		3	3	13'-7"										
A545		1	1	19'-9"	21	2	8'-6"	3'-0"	8'-6"					
		1	1	9'-11"			3'-8"		3'-8"					
A546		SER	SER	2'-5"	158	2	TO	2'-8"	TO			DIM. A & C VARIES BY		0'-7"
		10	10	20'-5"			9'-7"		9'-7"					
A547		1	1	19'-5"	20	2	8'-6"	2'-8"	8'-6"					
A548		1	1	16'-2"	17	7	2'-5"	13'-9"	5'-3"					
A549		1	1	14'-7"	15	7	0'-10"	13'-9"	5'-3"					
A626		59	59	13'-0"	1152	13								
A826		16	16	28'-4"	1210	ST								
A827		16	16	29'-8"	1260	ST								
				TOTAL =	7370									



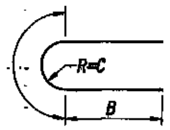
TYPE - 1



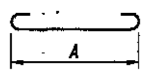
TYPE - 2



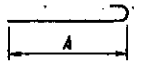
TYPE - 3



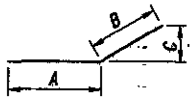
TYPE - 4



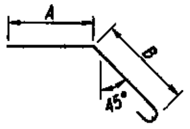
TYPE - 5



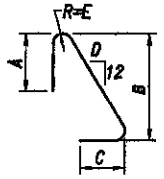
TYPE - 6



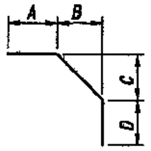
TYPE - 7



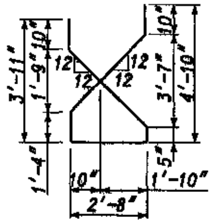
TYPE - 8



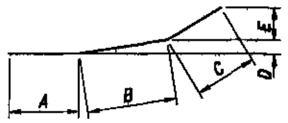
TYPE - 9



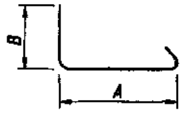
TYPE - 11



TYPE - 13



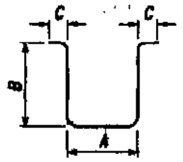
TYPE - 14



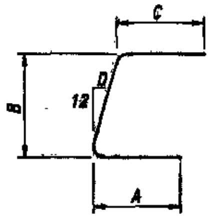
TYPE - 17

PARAPETS - LEFT BRIDGE

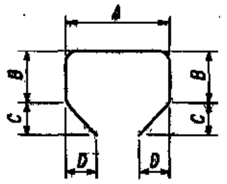
MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSION							
					A	B	C	D	E	F	G	INC
R501	314	7'-5"	2429	9	3'-0"	3'-2"	1'-2"	0'-2.25"	0'-1.5"			
R502	72	29'-3"	2197	ST								
R503	12	5'-6"	69	14	1'-8"	2'-5"	1'-5"	0'-6.5"	0'-5"			
R504	20	5'-6"	115	ST								
R505	32	10'-0"	334	ST								
R506	24	5'-6"	138	7	2'-9"	2'-9"	0'-1"					
R601	12	29'-6"	532	ST								
R602	314	3'-6"	1651	33	1'-3"	1'-6"	1'-0"	0'-2.25"				
R603	314	2'-7"	1218	1	1'-2"	1'-7"						
R604	32	3'-8"	176	1	0'-10"	3'-0"						
	8	3'-8"				3'-0"						
R605	SER	TO	430	1	0'-10"							0'+1"
	11	2'-10"				2'-2"						
R606	4	6'-6"	39	7	3'-3"	3'-3"	0'-3.25"					
R607	8	3'-8"	44	1	0'-10"	3'-0"						
		TOTAL =	9372									



TYPE - 31



TYPE - 33



TYPE - 45

NOTE:
1. FOR NOTES SEE SHEET 44/46.

PLOTTED BY: Mbrdoo 10/16/2003 3:53:27 PM pt401202 Way-Med\Bridges\0437 Converted Drawings\ME071RL1CONVERT2D.dgn

MOODY/NOLAN LTD., INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664

DESIGNED	DRAWN	REVIEWED	DATE
PHB	RM	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
RM		5202582 - LEFT	

REINFORCING STEEL LIST 1
BRIDGE NO. MED-71-0437 L
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00

43/46

707/785

REINFORCING STEEL LIST

PIERS - LEFT BRIDGE

MARK	NUMBER					LENGTH	WEIGHT	TYPE	DIMENSION					
	PIER 1A	PIER 1B	PIER 2A	PIER 2B	TOTAL				A	B	C	D	E	INC
P401	104	80	104	80	368	3'-7"	881	17	2'-8"	0'-8"				
P501	9		9		18	8'-8"	163	ST						
P502	6		6		12	11'-9"	147	ST						
P503	12		12		24	5'-0"	125	ST						
P504	28		28		56	9'-0"	526	ST						
P505	28		28		56	4'-4"	253	7	3'-3"	1'-1"	0'-9"			
P506	4		4		8	32'-0"	267	ST						
P507	6		6		12	34'-8"	434	ST						
P508	48	50	48	50	196	11'-1"	2266	2	3'-7"	4'-2"	3'-7"			
P509	18	18	18	18	72	7'-11"	595	2	2'-0"	4'-2"	2'-0"			
	1		1		2	14'-10"								
P510	SER		SER		SER	TO	144	ST						0'-6"
	5		5		5	12'-10"								
P511	14	32	14	32	92	9'-8"	928	4	4'-1"	2'-9"	1'-4"			
P512	6	6	6	6	24	9'-11"	248	2	3'-0"	4'-2"	3'-0"			
P513		32		32	64	14'-0"	935	ST						
P514		8		8	16	20'-8"	345	ST						
P515		14		14	28	11'-8"	341	ST						
P516		6		6	12	29'-0"	363	ST						
P601	25		25		50	23'-9"	1784	ST						
P602	45		45		90	7'-8"	1036	ST						
P603	12	12	12	12	48	9'-6"	685	2	2'-7"	4'-8"	2'-7"			
P701	16		16		32	10'-4"	676	5	8'-8"					
P702	36		36		72	23'-2"	3409	ST						
P801	6		6		12	12'-8"	406	6	11'-9"					
P802	19		19		38	9'-10"	998	1	1'-4"	8'-8"				
P803	6		6		12	8'-0"	256	ST						
P804	5		5		10	42'-1"	1124	2	4'-0"	34'-6"	4'-0"			
P805		40		40	80	13'-6"	2884	5	11'-8"					
P806		36		36	72	11'-10"	2275	1	1'-4"	10'-8"				
P807		5		5	10	36'-5"	972	2	4'-0"	28'-10"	4'-0"			
P808		12		12	24	22'-6"	1442	5	20'-8"					
P901	10	10	10	10	40	8'-9"	1190	31	1'-8"	2'-6"	1'-6"			
						TOTAL =	28098							

DIAPHRAGMS - LEFT BRIDGE

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSION							
	RA/P1	FA/P2	TOTAL				A	B	C	D	E	F	G	INC
DP402	6	6	12	3'-11"	31	45	1'-7.5"	0'-5.25"	0'-7"	0'-4"				
DP403	6	6	12	2'-8"	21	45	1'-1.5"	0'-4.5"	0'-4"	0'-4"				
DP601	44	44	88	11'-4"	1498	31	2'-8"	3'-8"	1'-0"					
DP602	11	11	22	11'-8"	386	31	3'-0"	3'-8"	1'-0"					
DP603	16	16	32	11'-6"	553	ST								
DP604	8	8	16	10'-7"	254	ST								
DP605	8	8	16	7'-3"	174	ST								
DP606	4	4	8	6'-10"	82	ST								
DP801	32	32	64	9'-7"	1638	11	7'-8"	0'-4"	0'-4.5"	1'-6"				
DP802	8	8	16	7'-1"	303	11	5'-2"	0'-4"	0'-4.5"	1'-6"				
				TOTAL =	4940									

NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, S501 IS A NO. 5 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.
2. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
3. "ST" IN THE TYPE COLUMN INDICATES STRAIGHT BARS.
4. "SER" DENOTES SERIES OF.
5. REFER TO C.M.S. SECTION 509.05 FOR STANDARD BEND DIMENSIONS.
6. FOR BAR BENDING DIAGRAMS SEE SHEET $\boxed{43/46}$.

DIAPHRAGMS - LEFT BRIDGE

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSION							
	RA/P1	FA/P2	TOTAL				A	B	C	D	E	F	G	INC
DA501	48		48	9'-9"	488	2	3'-8"	2'-8"	3'-8"					
DA502	48		48	8'-3"	413	2	2'-11"	2'-8"	2'-11"					
DA503	48		48	7'-9"	388	2	2'-11"	2'-2"	2'-11"					
DA504	11		11	10'-1"	116	2	3'-8"	3'-0"	3'-8"					
DA505	11		11	8'-7"	98	2	2'-11"	3'-0"	2'-11"					
DA506	11		11	8'-7"	98	2	2'-11"	3'-0"	2'-11"					
DA601	16		16	38'-0"	913	ST								
DA602	4		4	5'-0"	30	ST								
DA603	8		8	11'-6"	138	ST								
DA604	4		4	7'-3"	44	ST								
DA605	10		10	9'-4"	140	11	6'-6"	1'-0"	1'-0"	1'-6"				
DA606	2		2	6'-10"	21	11	4'-0"	1'-0"	1'-0"	1'-6"				
DA801	8		8	36'-7"	781	ST								
DA802	42		42	4'-11"	551	8	1'-5"	2'-8"						
DA526		48	48	9'-9"	488	2	3'-8"	2'-8"	3'-8"					
DA527		48	48	8'-3"	413	2	2'-11"	2'-8"	2'-11"					
DA528		48	48	7'-9"	388	2	2'-11"	2'-2"	2'-11"					
DA529		11	11	10'-1"	116	2	3'-8"	3'-0"	3'-8"					
DA530		11	11	8'-7"	98	2	2'-11"	3'-0"	2'-11"					
DA531		11	11	8'-7"	98	2	2'-11"	3'-0"	2'-11"					
DA626		16	16	38'-0"	913	ST								
DA627		4	4	5'-0"	30	ST								
DA628		8	8	11'-6"	138	ST								
DA629		4	4	7'-3"	44	ST								
DA630		10	10	9'-4"	140	11	6'-6"	1'-0"	1'-0"	1'-6"				
DA631		2	2	6'-10"	21	11	4'-0"	1'-0"	1'-0"	1'-6"				
DA826		8	8	36'-7"	781	ST								
DA827		42	42	4'-11"	551	8	1'-5"	2'-8"						
				TOTAL =	8438									

SUPERSTRUCTURE - LEFT BRIDGE

MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSION							
					A	B	C	D	E	F	G	INC
S401	774	30'-0"	15511	ST								
S402	129	16'-6"	1422	ST								
S501	540	30'-0"	16897	ST								
S502	90	20'-6"	1924	ST								
	1	6'-0"										
S503	SER	TO	783	ST								0'-8 ⅜"
	39	32'-6"										
S504	448	32'-6"	15186	ST								
	1	4'-7"										
S505	SER	TO	725	ST								0'-8 ⅜"
	39	31'-1"										
	1	6'-0"										
S506	SER	TO	783	ST								0'-8 ⅜"
	39	32'-6"										
S507	448	32'-6"	15186	ST								
	1	4'-7"										
S508	SER	TO	783	ST								0'-8 ⅜"
	39	31'-1"										
S509	170	28'-0"	4965	ST								
	4	2'-8"										
S510	SER	TO	76	ST								0'-5 ⅜"
	5	4'-7"										
S511	THRU	S513	NOT	USED								
	1	6'-0"										
S514	SER	TO	750	ST								0'-8 ⅜"
	38	31'-10"										
S515	449	33'-0"	15454	ST								
	1	29'-4"										
S516	SER	TO	645	ST								0'-8 ⅜"
	35	6'-0"										
	1	6'-0"										
S517	SER	TO	750	ST								0'-8 ⅜"
	38	31'-10"										
S518	449	33'-0"	15454	ST								
	1	29'-4"										
S519	SER	TO	645	ST								0'-8 ⅜"
	35	6'-0"										
		TOTAL =	107939									

MOODY NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-[illegible]

DESIGNED	DRAWN	REVIEWED	DATE
PHB	RM	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
RM		5202582 - LEFT	

REINFORCING STEEL LIST 2
BRIDGE NO. MED-71-0437 L
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00

44/46

708/785

PLOTTED BY: MBrake 10/16/2003 3:55:03 PM p:\401202 Way-Med\Bridges\0437 Converted Drawings\ME071RL2CONVERT2D.dgn

REINFORCING STEEL LIST

ABUTMENT - RIGHT BRIDGE

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSION							
	REAR	FWD.	TOTAL				A	B	C	D	E	F	G	INC
A451	48		48	9'-0"	289	3	1'-9"	2'-6"						
A551	8		8	27'-0"	225	ST								
A552	8		8	26'-6"	221	ST								
A553	79		79	13'-0"	1071	3	2'-7"	3'-8"						
A554	79		79	11'-1"	913	2	4'-4"	2'-8"	4'-4"					
A555	8		8	27'-0"	225	ST								
A556	8		8	26'-6"	221	ST								
A557	1		1	13'-3"	14	ST								
A558	1		1	14'-8"	15	ST								
	1		1	12'-4"										
A559	SER		SER	TO	34	ST								2'-10"
	4		4	3'-10"										
	1		1	13'-9"										
A560	SER		SER	TO	40	ST								2'-10"
	4		4	5'-3"										
A561	1		1	20'-9"	22	2	9'-0"	3'-0"	9'-0"					
	1		1	9'-11"			3'-9"		3'-9"					
A562	SER		SER	TO	136	2	TO	2'-8"	TO			DIM A & C VARIES BY		0'-6 7/8"
	9		9	19'-1"			8'-4"		8'-4"					
A563	1		1	20'-5"	21	2	9'-0"	2'-8"	9'-0"					
A564	1		1	13'-9"	14	7	1'-0"	12'-9"	5'-5"					
A565	1		1	15'-2"	16	7	2'-5"	12'-9"	5'-5"					
A566	1		1	13'-3"	14	ST								
A567	1		1	11'-10"	12	ST								
	1		1	12'-3"										
A568	SER		SER	TO	28	ST								3'-3"
	3		3	5'-9"										
	1		1	10'-10"										
A569	SER		SER	TO	27	ST								3'-3"
	3		3	4'-4"										
A570	1		1	19'-1"	20	2	8'-2"	3'-0"	8'-2"					
	1		1	9'-11"			3'-9"		3'-9"					
A571	SER		SER	TO	120	2	TO	2'-8"	TO			DIM A & C VARIES BY		0'-7 5/8"
	8		8	18'-9"			8'-2"		8'-2"					
A572	1		1	19'-11"	21	2	8'-9"	2'-8"	8'-9"					
A573	1		1	13'-8"	14	7	2'-5"	11'-3"	4'-8"					
A574	1		1	12'-3"	13	7	1'-0"	11'-3"	4'-8"					
A651	59		59	13'-0"	1152	13								
A851	16		16	29'-3"	1250	ST								
A852	16		16	28'-7"	1221	ST								
				TOTAL =	7369									

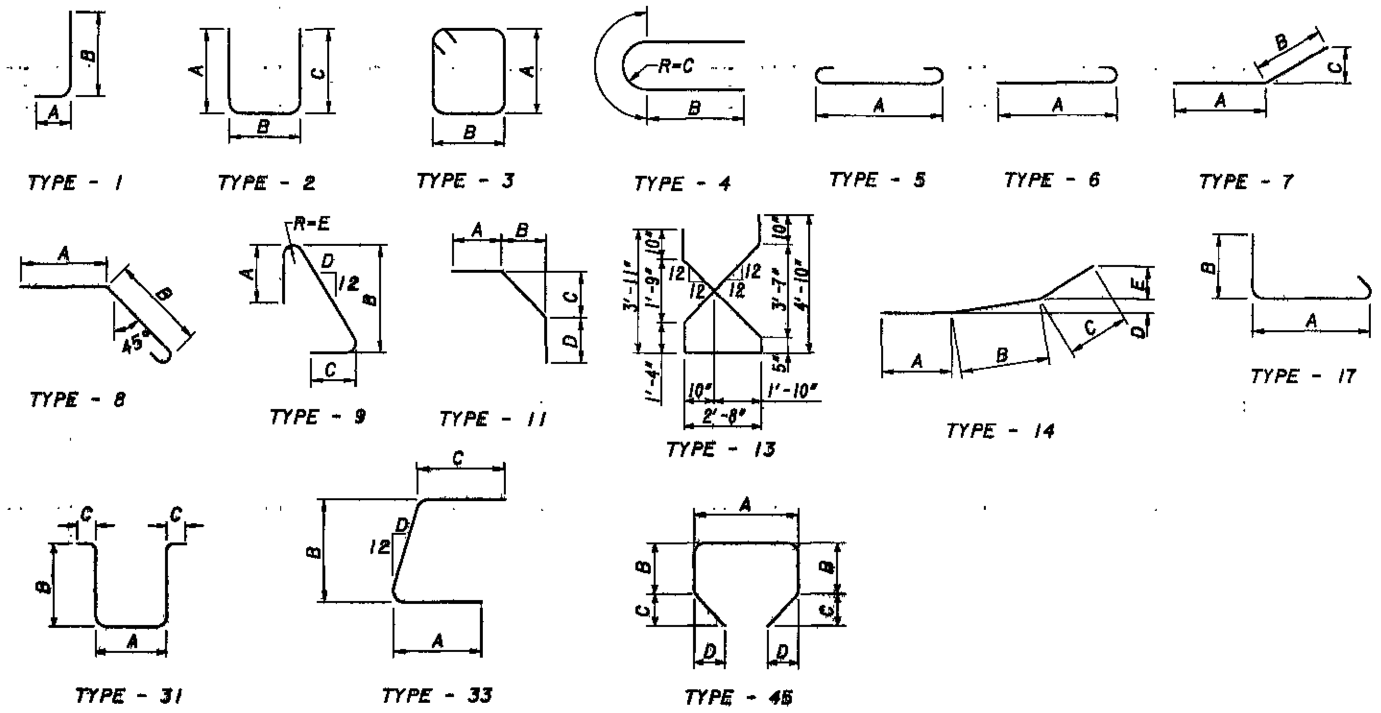
PARAPETS - RIGHT BRIDGE

MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSION							
					A	B	C	D	E	F	G	INC
R501	314	7'-5"	2429	9	3'-0"	3'-2"	1'-2"	0'-2.25"	0'-1.5"			
R502	72	29'-3"	2197	ST								
R503	12	5'-6"	69	14	1'-8"	2'-5"	1'-5"	0'-6.5"	0'-5"			
R504	20	5'-6"	115	ST								
R505	32	10'-0"	334	ST								
R506	24	5'-6"	138	7	2'-9"	2'-9"	0'-1"					
R601	12	29'-6"	532	ST								
R602	314	3'-6"	1651	10	1'-7"	1'-1"	1'-1"					
R603	314	2'-7"	1218	1	1'-2"	1'-7"						
R604	32	3'-8"	176	1	0'-10"	3'-0"						
	8	3'-8"				3'-0"						
R605	SER	TO	430	1	0'-10"							0'-1"
	11	2'-10"				2'-2"						
R606	4	6'-6"	39	7	3'-3"	3'-3"	0'-3.25"					
R607	8	3'-8"	44	1	0'-10"	3'-0"						
		TOTAL =	9372									

NOTE:
1. FOR NOTES SEE SHEET 44/46.

ABUTMENT - RIGHT BRIDGE

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSION							
	REAR	FWD.	TOTAL				A	B	C	D	E	F	G	INC
A576		8	8	25'-9"	215	ST								
A577		8	8	27'-6"	229	ST								
A578		79	79	27'-8"	1071	3	2'-7"	3'-8"						
A579		79	79	10'-2"	913	2	4'-4"	2'-8"	4'-4"					
A580		8	8	25'-9"	215	ST								
A581		8	8	27'-6"	289	ST								
A582		1	1	10'-2"	11	ST								
A583		1	1	11'-7"	12	ST								
		1	1	9'-4"										
A584		SER	SER	TO	20	ST								2'-9 1/2"
		3	3	3'-9"										
		1	1	10'-9"										
A585		SER	SER	TO	28	ST								2'-9 1/2"
		3	3	5'-2"										
A586		1	1	19'-1"	20	2	8'-2"	3'-0"	8'-2"					
		1	1	7'-6"			3'-4"		3'-4"					
A587		SER	SER	TO	105	2	TO	2'-8"	TO			DIM A & C VARIES BY		0'-7 1/4"
		8	8	17'-7"			7'-7"		7'-7"					
A588		1	1	16'-3"	20	2	8'-2"	2'-8"	8'-2"					
A589		1	1	14'-10"	11	7	0'-10"	10'-0"	4'-8"					
A590		1	1	12'-3"	13	7	2'-3"	10'-0"	4'-8"					
A591		1	1	16'-4"	17	ST								
A592		1	1	14'-11"	16	ST								
		1	1	15'-3"										
A593		SER	SER	TO	33	ST								4'-10 1/2"
		3	3	5'-6"										
		1	1	13'-10"										
A594		SER	SER	TO	28	ST								4'-10 1/2"
		3	3	4'-1"										
A595		1	1	20'-5"	21	2	8'-10"	3'-0"	8'-10"					
		1	1	8'-4"			3'-8"		3'-8"					
A596		SER	SER	TO	151	2	TO	2'-8"	TO			DIM A & C VARIES BY		0'-7 7/8"
		10	10	20'-7"			9'-7"		9'-7"					
A597		1	1	20'-1"	21	2	8'-10"	2'-8"	8'-10"					
A598		1	1	28'-0"	29	7	2'-5"	14'-3"	5'-5"					
A599		1	1	29'-9"	31	7	0'-10"	14'-3"	5'-5"					
A676		59	59	13'-0"	1152	13								
A876		16	16	28'-0"	1196	ST								
A877		16	16	29'-9"	1271	ST								
				TOTAL =	7078									



MOODY NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED PHB
CHECKED RM
DRAWN RM
REVISED
REVIEWED GT
DATE 6/03
STRUCTURE FILE NO. 5202612-RIGHT

REINFORCING STEEL LIST 3
BRIDGE NO. MED-71-0437 R
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00

45/46

709/785

PLOTTED BY: MBrake 10/16/2003 3:56:43 PM p:\01202 Way-Med\Bridges\0437 Converted Drawings\ME071RL3CONVERT2D.dgn

REINFORCING STEEL LIST

P I E R S - R I G H T B R I D G E

MARK	NUMBER					LENGTH	WEIGHT	TYPE	DIMENSION					
	PIER 1C	PIER 1D	PIER 2C	PIER 2D	TOTAL				A	B	C	D	E	INC
P401	75	87	75	87	324	3'-7"	776	17	2'-8"	0'-8"				
P501		9		9	18	8'-8"	163	ST						
P502		6		6	12	11'-9"	147	ST						
P503		12		12	24	5'-0"	125	ST						
P504		28		28	56	9'-0"	526	ST						
P505		28		28	56	4'-4"	253	7	3'-3"	1'-1"	0'-9"			
P506		4		4	8	32'-0"	267	ST						
P507		6		6	12	34'-8"	434	ST						
P508	50	48	50	48	196	11'-1"	2266	2	3'-7"	4'-2"	3'-7"			
P509	18	18	18	18	72	7'-11"	595	2	2'-0"	4'-2"	2'-0"			
		1		1	2	21'-8"								
P517		SER		SER	SER	TO	216	ST						0'-6"
		5		5	10	19'-8"								
P511	32	14	32	14	92	9'-8"	988	4	4'-1"	2'-9"	1'-4"			
P512	6	6	6	6	24	9'-11"	248	2	3'-0"	4'-2"	3'-0"			
P513	32		32		64	14'-0"	935	ST						
P514	8		8		16	20'-8"	345	ST						
P515	14		14		28	11'-8"	341	ST						
P516	6		6		12	29'-0"	363	ST						
P601		25		25	50	23'-2"	1740	ST						
P603	12	12	12	12	48	9'-6"	685	2	2'-7"	4'-8"	2'-7"			
P604		45		45	90	7'-0"	946	ST						
P701		16		16	32	10'-4"	676	5	8'-8"					
P703		36		36	72	21'-5"	3152	ST						
P801		6		6	12	12'-8"	406	6	11'-9"					
P802		19		19	38	9'-10"	998	1	1'-4"	8'-8"				
P803		6		6	12	8'-0"	256	ST						
P804		5		5	10	42'-1"	1124	2	4'-0"	34'-6"	4	0		
P805	40		40		80	13'-6"	2884	5	11'-8"					
P806	36		36		72	11'-10"	2275	1	1'-4"	10'-8"				
P807	5		5		10	36'-5"	972	2	4'-0"	28'-10"	4'-0"			
P808	12		12		24	22'-6"	1442	5	20'-8"					
P901	10	10	10	10	40	8'-9"	1190	31	1'-8"	2'-7"	1'-6"			
						TOTAL -	27674							

D I A P H R A G M S - R I G H T B R I D G E

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSION							
	REAR	FWD.	TOTAL				A	B	C	D	E	F	G	INC
DP601	44	44	88	11'-4"	1498	31	2'-8"	3'-8"	1'-0"					
DP602	11	11	22	11'-8"	386	31	3'-0"	3'-8"	1'-0"					
DP603	16	16	32	11'-6"	553	ST								
DP604	8	8	16	10'-7"	254	ST								
DP605	8	8	16	7'-3"	174	ST								
DP606	4	4	8	6'-10"	82	ST								
DP801	32	32	64	9'-7"	1638	11	7'-8"	0'-4"	0'-4.5"	1'-6"				
DP802	8	8	16	7'-1"	303	11	5'-2"	0'-4"	0'-4.5"	1'-6"				
				TOTAL -	4888									

NOTES:

1. FOR NOTES SEE SHEET 44/46.
2. FOR BAR BENDING DIAGRAMS SEE SHEET 45/46.

D I A P H R A G M S - R I G H T B R I D G E

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSION							
	REAR	FWD.	TOTAL				A	B	C	D	E	F	G	INC
DA551	48		48	9'-9"	488	2	3'-8"	2'-8"	3'-8"					
DA552	48		48	8'-3"	413	2	2'-11"	2'-8"	2'-11"					
DA553	48		48	7'-9"	388	2	2'-11"	2'-2"	2'-11"					
DA554	11		11	10'-1"	116	2	3'-8"	3'-0"	3'-8"					
DA555	11		11	8'-7"	98	2	2'-11"	3'-0"	2'-11"					
DA556	11		11	8'-7"	98	2	2'-11"	3'-0"	2'-11"					
DA651	16		16	38'-0"	913	ST								
DA652	4		4	5'-0"	30	ST								
DA653	8		8	11'-6"	138	ST								
DA654	4		4	7'-3"	44	ST								
DA655	10		10	9'-4"	140	11	6'-6"	1'-0"	1'-0"	1'-6"				
DA656	2		2	6'-10"	21	11	4'-0"	1'-0"	1'-0"	1'-6"				
DA851	8		8	36'-7"	781	ST								
DA852	42		42	4'-11"	551	8	1'-5"	2'-8"						
DA576		48	48	9'-9"	488	2	3'-8"	2'-8"	3'-8"					
DA577		48	48	8'-3"	413	2	2'-11"	2'-8"	2'-11"					
DA578		48	48	7'-9"	388	2	2'-11"	2'-2"	2'-11"					
DA579		11	11	10'-1"	116	2	3'-8"	3'-0"	3'-8"					
DA580		11	11	8'-7"	98	2	2'-11"	3'-0"	2'-11"					
DA581		11	11	8'-7"	98	2	2'-11"	3'-0"	2'-11"					
DA676		16	16	38'-0"	913	ST								
DA677		4	4	5'-0"	30	ST								
DA678		8	8	11'-6"	138	ST								
DA679		4	4	7'-3"	44	ST								
DA680		10	10	9'-4"	140	11	6'-6"	1'-0"	1'-0"	1'-6"				
DA681		2	2	6'-10"	21	11	4'-0"	1'-0"	1'-0"	1'-6"				
DA876		8	8	36'-7"	781	ST								
DA877		42	42	4'-11"	551	8	1'-5"	2'-8"						
				TOTAL -	8438									

S U P E R S T R U C T U R E - R I G H T B R I D G E

MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSION							
					A	B	C	D	E	F	G	INC
S401	774	30'-0"	15511	ST								
S402	129	16'-6"	1422	ST								
S501	540	30'-0"	16897	ST								
S502	90	20'-6"	1924	ST								
S503	THRU	S523	NOT	USED								
	1	6'-0"										
S523	SER	TO	780	ST								0'-8 3/8"
	38	31'-10"										
S524	449	32'-6"	15220	ST								
	1	4'-7"										
S525	SER	TO	690	ST								0'-8 3/8"
	38	30'-3"										
	1	6'-0"										
S526	SER	TO	750	ST								0'-8 3/8"
	38	31'-10"										
S527	449	32'-6"	15220	ST								
	1	4'-7"										
S528	SER	TO	690	ST								0'-8 3/8"
	38	30'-3"										
S529	170	28'-0"	4965	ST								
	4	2'-8"										
S530	SER	TO	78	ST								0'-5 3/8"
	5	4'-7"										
S531	THRU	S533	NOT	USED								
	1	4'-7"										
S534	SER	TO	729	ST								0'-8 3/8"
	39	31'-3'										
S535	448	33'-0"	15420	ST								
	1	32'-5"										
S536	SER	TO	782	ST								0'-8 3/8"
	40	5'-1"										
	1	4'-7"										
S537	SER	TO	759	ST								0'-8 3/8"
	39	31'-3"										
S538	448	33'-0"	15420	ST								
	1	32'-5"										
S539	SER	TO	782	ST								0'-8 3/8"
	40	5'-1"										
		TOTAL -	107998									

MOODY NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) [illegible]

DESIGNED	DRAWN	REVIEWED	DATE
PHB	RW	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
RW		520261 2-RIGHT	

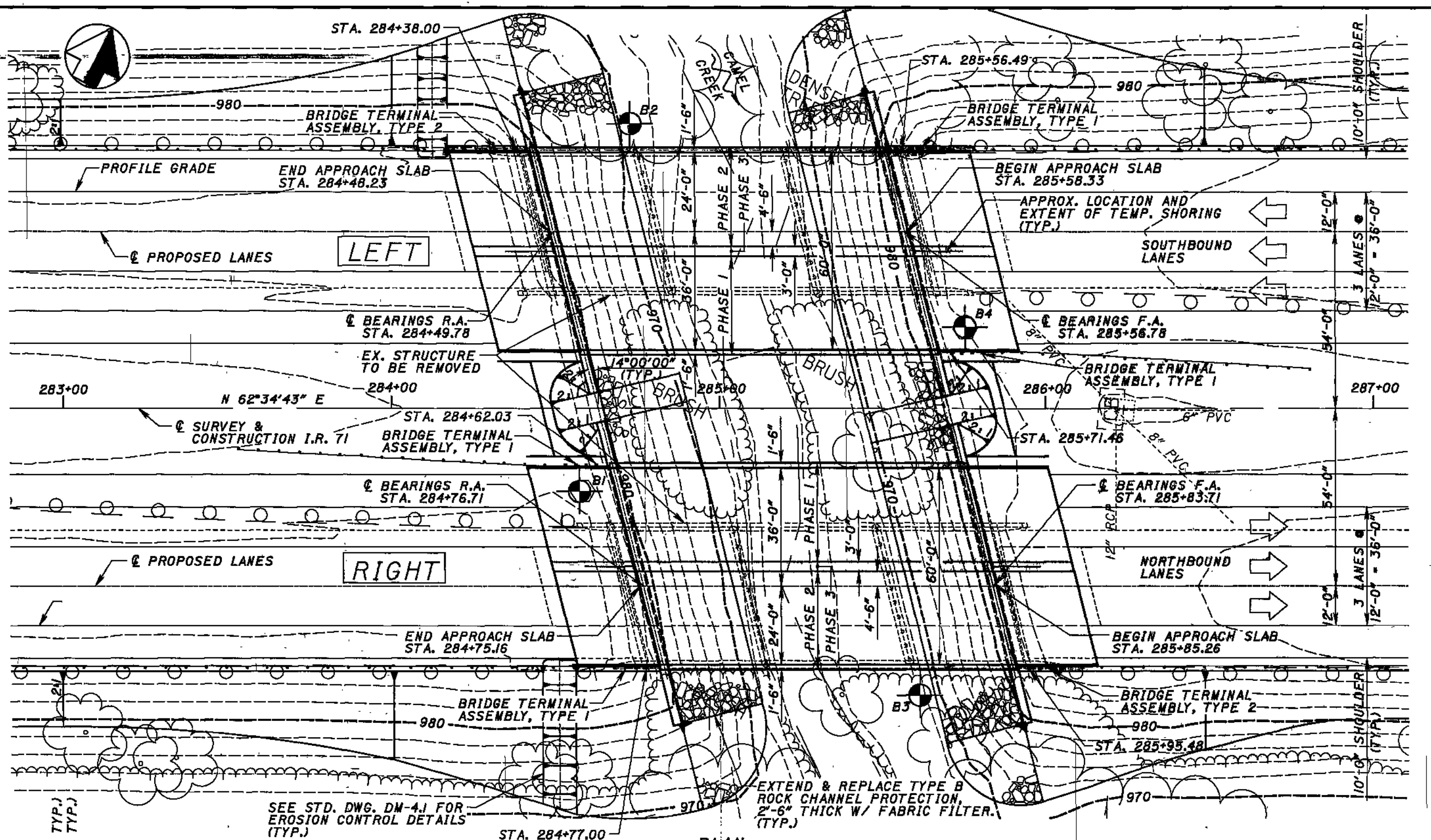
REINFORCING STEEL LIST 4
BRIDGE NO. MED-71-0437 R
OVER CSXT RAILROAD

WAY/MED-71-7.04/0.00

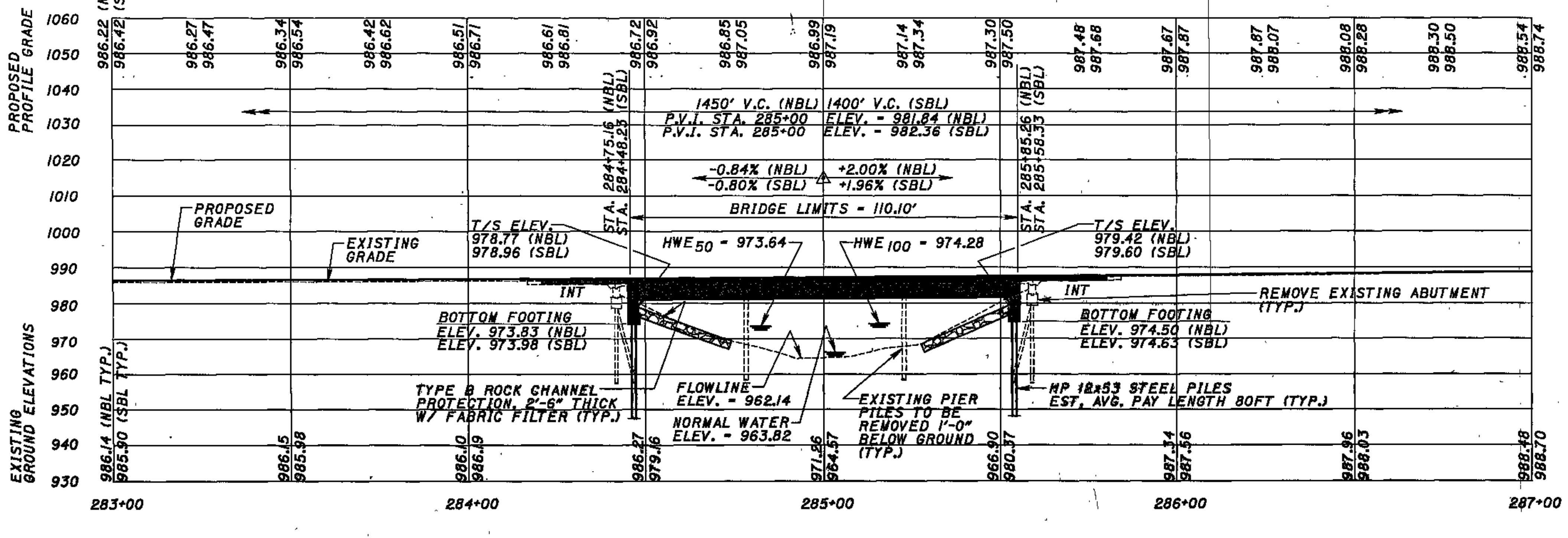
46/46

710/785

PLOTTED BY: [illegible] 10/16/2003 3:58:10 PM pr#01202 Way-Med\Bridges\0437 Converted Drawings\MED71RL4CONVERT2D.dgn


STA. 284+38.00
STA. 285+56.49
BRIDGE TERMINAL ASSEMBLY, TYPE 2
BRIDGE TERMINAL ASSEMBLY, TYPE 1
CAMEL CREEK
DENSE BRUSH
B2
980
10'-0" SHOULDER (TYP.)
PROFILE GRADE
END APPROACH SLAB STA. 284+48.23
BEGIN APPROACH SLAB STA. 285+58.33
APPROX. LOCATION AND EXTENT OF TEMP. SHORING (TYP.)
℄ PROPOSED LANES
LEFT
SOUTHBOUND LANES
PHASE 1
PHASE 2
PHASE 3
24'-0"
36'-0"
60'-0"
1'-6"
4'-6"
3'-0"
12'-0"
54'-0"
3 LANES @ 12'-0" = 36'-0"
℄ BEARINGS R.A. STA. 284+49.78
℄ BEARINGS F.A. STA. 285+56.78
B4
EX. STRUCTURE TO BE REMOVED
14°00'00" (TYP.)
BRUSH
BRIDGE TERMINAL ASSEMBLY, TYPE 1
283+00
284+00
285+00
286+00
287+00
N 62°34'43" E
℄ SURVEY & CONSTRUCTION I.R. 71
STA. 284+62.03
BRIDGE TERMINAL ASSEMBLY, TYPE 1
STA. 285+71.45
6" PVC
8" PVC
℄ BEARINGS R.A. STA. 284+76.71
℄ BEARINGS F.A. STA. 285+83.71
B1
12" RCP
℄ PROPOSED LANES
RIGHT
NORTHBOUND LANES
END APPROACH SLAB STA. 284+75.16
BEGIN APPROACH SLAB STA. 285+85.26
BRIDGE TERMINAL ASSEMBLY, TYPE 1
BRIDGE TERMINAL ASSEMBLY, TYPE 2
B3
980
STA. 285+95.48
EXTEND & REPLACE TYPE B ROCK CHANNEL PROTECTION, 2'-6" THICK W/ FABRIC FILTER. (TYP.)
SEE STD. DWG. DM-4.1 FOR EROSION CONTROL DETAILS (TYP.)
970
STA. 284+77.00

PLAN



PROFILE

NOTE:

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS-SECTIONS.

LEGEND:

B1 ⌖ - CURRENT FOUNDATION INVESTIGATION BORING
R.A. - REAR ABUTMENT
F.A. - FORWARD ABUTMENT
NBL - NORTHBOUND LANES
SBL - SOUTHBOUND LANES

HYDRAULIC DATA

DRAINAGE AREA = 10.55 SQ.MI.
Q_{50} = 2286 cfs Q_{100} = 2655 cfs
V_{50} = 8.02 ft/s V_{100} = 9.03 ft/s
FREEBOARD_{50} = 6.93 ft

SOIL BORING INFORMATION

BORING NO.	STATION	OFFSET	ELEVATION
B1	284+57.34	25.20' (RT)	985.26
B2	284+73.00	86.77' (LT)	967.83
B3	285+61.05	87.36' (RT)	967.23
B4	285+75.18	25.03' (LT)	985.87

BENCHMARK INFORMATION

BM #3035: STA 281+54.00, 0.181' RT., ℄ MONUMENT 491,178.93N; 2,124,653.33E; ELEV. 982.21

BM #28: [ ]-CUT CENTER HEADWALL SE SIDE I-71; 50' SE OF ℄ STA 281+54; ELEV. 976.62

BM #3036: STA 297+32.11, 0.327' RT., ℄ MONUMENT 491,905.11N; 2,126,053.31E; ELEV. 1006.58

EXISTING STRUCTURE

TYPE: CONTINUOUS REINFORCED CONCRETE SLAB DECK WITH CAPPED PILE SUBSTRUCTURE.
SPANS: 36'-0", 45'-0", 36'-0"± c/c BEARINGS
STRUCTURE FILE NO.: 5202671 & 5202701
ROADWAY: 42'-0"± f/f PARAPETS
ORIGINAL DESIGN LOADING: CF 2000, ADEQUATE FOR AASHTO ALTERNATE LOADING
WEARING SURFACE: 1" MONOLITHIC
ALIGNMENT: TANGENT
APPROACH SLABS: 25'-0"± LONG
DATE BUILT: 1959
SKEW: 14°00'00"± RIGHT FORWARD

PROPOSED STRUCTURE

TYPE: PRESTRESSED CONCRETE I-BEAM WITH COMPOSITE REINFORCED CONCRETE DECK ON REINFORCED CONCRETE INTEGRAL ABUTMENTS.
SPAN: 107'-0" C/C BEARINGS
ROADWAY: 60'-0" T/T PARAPETS
SKEW: 14°00'00" RIGHT FORWARD
ALIGNMENT: TANGENT
FUTURE WEARING SURFACE: 60 PSF
WEARING SURFACE: MONOLITHIC CONCRETE
DESIGN LOADING: HS25 AND THE ALTERNATE MILITARY LOADING
APPROACH SLABS: AS-1-81 (25'-0" LONG)
CROWN: 0.0156
ADT (2006): 48930 ADTT (2006): 15170
ADT (2026): 68660 ADTT (2026): 21290
LATITUDE: N 41°00'49"
LONGITUDE: W 81°56'02"

MOODY NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, Ohio 43215

DESIGNED	DRAWN	REVIEWED	DATE
TTK	TTK	GT	05/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TRS		5202671 - LEFT 5202701 - RIGHT	

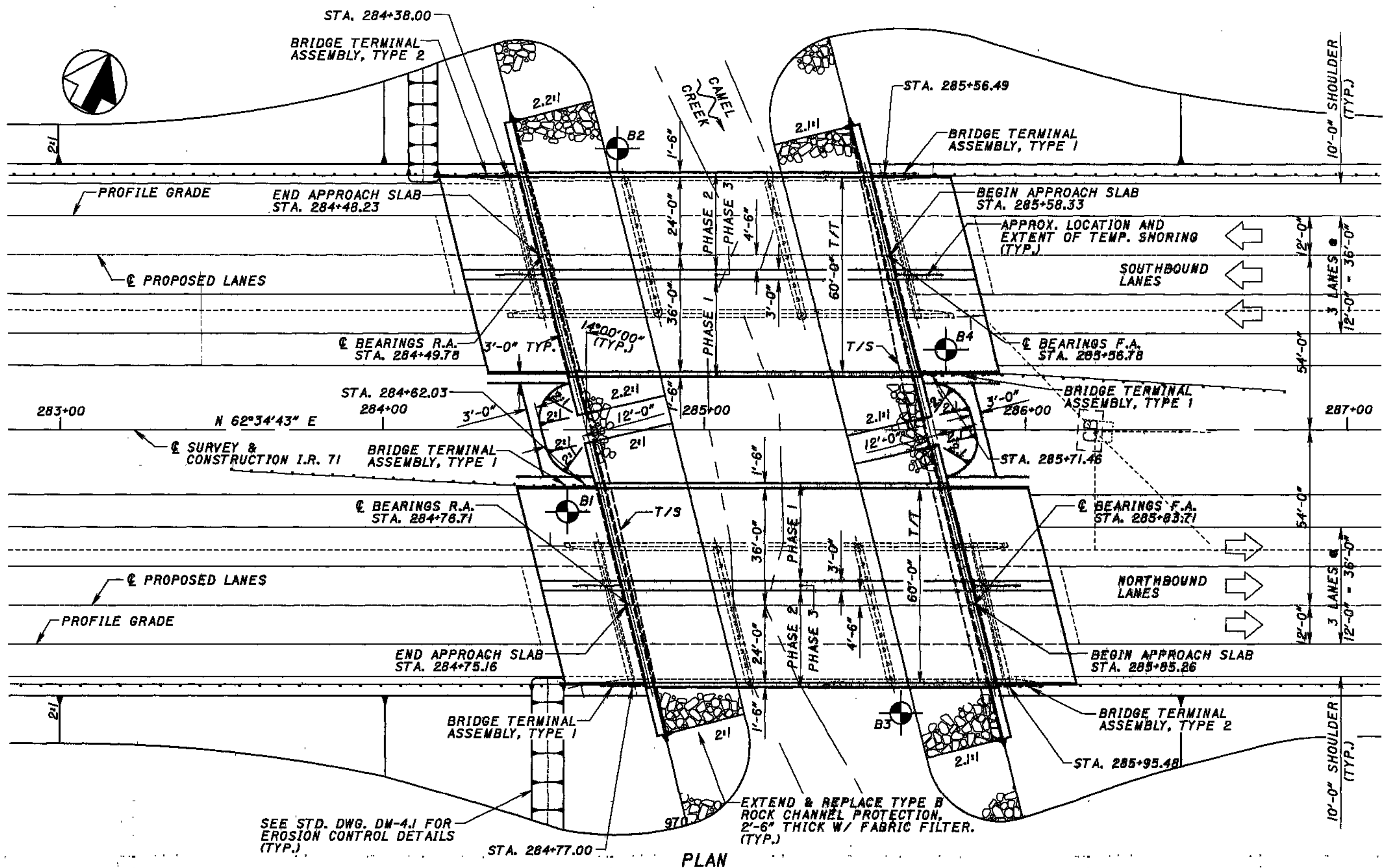
MEDINA COUNTY
STA. 284+48.23 L
STA. 285+85.26 R

S I T E   P L A N

BRIDGE NO. MED-71-0539 L/R
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00

1 / 40


STA. 284+38.00
BRIDGE TERMINAL ASSEMBLY, TYPE 2
CAMEL CREEK
STA. 285+56.49
BRIDGE TERMINAL ASSEMBLY, TYPE 1
10'-0" SHOULDER (TYP.)
2.2:1
2.1:1
2:1
B2
1'-6"
PROFILE GRADE
END APPROACH SLAB STA. 284+48.23
24'-0"
PHASE 2
PHASE 3
4'-6"
BEGIN APPROACH SLAB STA. 285+58.33
APPROX. LOCATION AND EXTENT OF TEMP. SHORING (TYP.)
12'-0"
SOUTHBOUND LANES
3 LANES @ 12'-0" = 36'-0"
℄ PROPOSED LANES
36'-0"
3'-0"
60'-0" T/T
PHASE 1
℄ BEARINGS R.A. STA. 284+49.78
3'-0" TYP.
14°00'00" (TYP.)
T/S
B4
℄ BEARINGS F.A. STA. 285+56.78
54'-0"
STA. 284+62.03
284+00
283+00
N 62°34'43" E
3'-0"
12'-0"
285+00
286+00
287+00
BRIDGE TERMINAL ASSEMBLY, TYPE 1
℄ SURVEY & CONSTRUCTION I.R. 71
STA. 285+71.46
B1
℄ BEARINGS R.A. STA. 284+76.71
T/S
℄ BEARINGS F.A. STA. 285+83.71
NORTHBOUND LANES
PROFILE GRADE
END APPROACH SLAB STA. 284+75.16
BEGIN APPROACH SLAB STA. 285+85.26
BRIDGE TERMINAL ASSEMBLY, TYPE 1
B3
BRIDGE TERMINAL ASSEMBLY, TYPE 2
STA. 285+95.48
SEE STD. DWG. DM-4.1 FOR EROSION CONTROL DETAILS (TYP.)
STA. 284+77.00
EXTEND & REPLACE TYPE B ROCK CHANNEL PROTECTION, 2'-6" THICK W/ FABRIC FILTER. (TYP.)
970

PLAN

LEGEND:

B1 ⊕ - CURRENT FOUNDATION INVESTIGATION BORING
R.A. - REAR ABUTMENT
F.A. - FORWARD ABUTMENT
NBL - NORTHBOUND LANES
SBL - SOUTHBOUND LANES
BRGS - BEARINGS
E/P - EDGE OF PAVEMENT
E/S - EDGE OF SHOULDER
EX. - EXISTING
EXP. - EXPANSION
FIX - FIXED
FTG. - FOOTING
FWD - FORWARD
LB - LEFT BRIDGE
RF - RIGHT FORWARD
O/O - OUT TO OUT
PROP. - PROPOSED
RB - RIGHT BRIDGE
T/S - TOP OF SLOPE
T/T - TOE TO TOE
C/C - CENTER TO CENTER
HP - HIGH POINT
EF. - EACH FACE

MOODY/NOLAN LTD., INC.

DESIGNED	DRAWN	REVIEWED	DATE
RW	PC	GT	05/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
PHB		5202671 - LEFT 5202701 - RIGHT	

GENERAL PLAN
BRIDGE NO. MED-71-0539 L/R
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00

2/40

712/785

PLOTTED BY: $[USERNAME] 10/17/03 01:23:22 PM p:\01202 Way-Med\Bridges\0539 Converted Drawings\MED71GP1.dgn

GENERAL NOTES

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-81	DATED 07-19-02
BP-5.1	DATED 07-28-00
DM-1.1	DATED 07-18-03
DM-4.1	DATED 07-19-02
ICD-1-82	DATED 07-19-02
PSID-1-99	DATED 07-18-03
PCB-91	DATED 07-19-02
SBR-1-99	DATED 07-19-02

AND TO SUPPLEMENTAL SPECIFICATIONS:
846, TREATING CONCRETE BRIDGE DECKS WITH HMWM RESIN, DATED 04-19-02
864, SEALING OF CONCRETE SURFACES, DATED 07-11-00
894, HIGH PERFORMANCE CONCRETE FOR NEW BRIDGE DECKS WITH WARRANTY, DATED 10-18-02
954, HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM) RESIN, DATED 09-09-97
1079, QUALIFICATION AND EVALUATION OF PRESTRESSED CONCRETE FABRICATORS, DATED OCTOBER 18, 2002

DESIGN SPECIFICATIONS:
THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002 AND THE O.D.O.T BRIDGE DESIGN MANUAL.

DESIGN LOADING: HS25, AND THE ALTERNATE MILITARY LOADING. FUTURE WEARING SURFACE (FWS) OF 60 PSF.

DESIGN STRESSES: CONCRETE CLASS HP - COMPRESSIVE STRENGTH 4500 P.S.I. (SUPERSTRUCTURE) CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 P.S.I. (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996
GRADE 60 MINIMUM YIELD STRENGTH 60,000 P.S.I.

CONCRETE FOR PRESTRESSED BEAMS -
COMPRESSIVE STRENGTH FINAL = 7000 P.S.I. (RELEASE)
COMPRESSIVE STRENGTH = 5500 P.S.I.
UNIT STRESS 2800 P.S.I. COMPRESSION, 543 P.S.I. TENSION.

PRESTRESSING STRAND:
AREA = 0.167 IN
ULTIMATE STRENGTH = 270 KSI
INITIAL STRESS = 202.5 KSI
(LOW RELAXATION STRANDS)

DECK PROTECTION METHOD: EPOXY COATED REINFORCING STEEL; 2-1/2" CONCRETE COVER; SEALING OF CONCRETE SURFACES; HIGH PERFORMANCE CONCRETE.

MONOLITHIC WEARING SURFACE:
MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1" THICK.

PORTIONS OF STRUCTURE REMOVED, AS PER PLAN: THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES THAT ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVAL. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

PROTECTION OF TRAFFIC: PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, SUBMIT PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR, PEDESTRIAN, BOAT, ECT.) ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE DIRECTOR AT LEAST 30 DAYS BEFORE CONSTRUCTION BEGINS. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. MAINTAIN THE TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE DIRECTOR. ALL COSTS ASSOCIATED WITH THIS TRAFFIC PROTECTION WILL BE INCLUDED WITH ITEM 202 FOR PAYMENT.

LOADING LIMITATIONS: NO PART OF THE STRUCTURE SHALL BE SUBJECTED TO UNIT STRESSES THAT EXCEED 136.5 % OF ALLOWABLE UNIT STRESSES AS DEFINED IN THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DUE EITHER TO DEMOLITION, ERECTION OR CONSTRUCTION METHODS, OR TO THE USE OR MOVEMENT OF DEMOLITION OR ERECTION EQUIPMENT ON OR ACROSS THE STRUCTURE. SUBMIT STRUCTURAL ANALYSIS COMPUTATIONS, BY AN OHIO REGISTERED PROFESSIONAL ENGINEER, SHOWING THE ALLOWABLE STRESSES AND THE MAXIMUM STRESSES PRODUCED BY THE REMOVAL METHODS OR EQUIPMENT TO THE DIRECTOR AT LEAST 20 DAYS BEFORE CONSTRUCTION BEGINS.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

UTILITY LINES: THE UTILITY(IES) SHALL BARE ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES. THE CONTRACTOR AND THE UTILITY(IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCNVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

ITEM 516, INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN:
INSTALL A 3 FOOT WIDE STRIP, 3/32 INCH THICK, GENERAL PURPOSE, HEAVY DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT AT LOCATIONS SHOWN IN THE PLANS. SECURE THE 3 FOOT WIDE NEOPRENE SHEETING TO THE CONCRETE WITH 1 ¼" X #10 GAGE (LENGTH X SHANK DIA.) #10 GALVANIZED BUTTON HEAD SPIKE THROUGH A 1 INCH OUTSIDE DIAMETER, #10 GAGE GALVANIZED WASHER. MAXIMUM FASTENER SPACING IS 9 INCHES. OTHER SIMILAR GALVANIZED DEVICES WHICH WILL NOT DAMAGE EITHER THE NEOPRENE OR THE CONCRETE MAY BE USED SUBJECT TO THE APPROVAL OF THE ENGINEER.

CENTER THE NEOPRENE STRIPS ON ALL JOINTS. FOR HORIZONTAL JOINTS, SECURE THE HORIZONTAL NEOPRENE STRIP BY USING A SINGLE LINE OF FASTENERS, STARTING AT 6 INCHES (+/-) FROM THE TOP OF THE NEOPRENE STRIP. FOR THE VERTICAL JOINTS SECURE THE VERTICAL NEOPRENE STRIP BY USING A SINGLE VERTICAL LINE OF FASTENERS, STARTING AT 6 INCHES (+/-) FORM THE VERTICAL EDGE OF THE NEOPRENE STRIP NEAREST TO THE CENTERLINE OF ROADWAY. FOR VERTICAL JOINTS, INSTALL 2 ADDITIONAL FASTENERS AT 6 INCHES, CENTER-TO-CENTER, ACROSS THE TOP OF THE NEOPRENE STRIP ON THE SAME SIDE OF THE VERTICAL JOINT AS THE SINGLE VERTICAL ROW OF FASTENERS IS LOCATED.

THE VERTICAL NEOPRENE STRIPS SHOULD COMPLETELY OVERLAP THE HORIZONTAL STRIPS. LAPS IN THE LENGTH OF THE HORIZONTAL STRIPS DUE TO MATERIAL MANUFACTURING SHALL BE AT LEAST ONE FOOT IN LENGTH, IF NOT VULCANIZED OR ADHESIVE BONDED, OR 6 INCHES IN LENGTH IF THE LAP IS VULCANIZED OR ADHESIVE BONDED. NO LAPS ARE ACCEPTABLE IN VERTICALLY INSTALLED NEOPRENE STRIPS.

THE NEOPRENE SHEETING SHALL BE 3/32 INCH THICK GENERAL PURPOSE, HEAVY DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT. THE SHEETING SHALL BE "FAIRPRENE NUMBER NN-0003", BY E.I. DUPONT DE NEMOURS AND COMPANY, INC., "WINGPRENE" BY THE GOODYEAR TIRE AND RUBBER COMPANY, OR AN APPROVED ALTERNATE. THE NEOPRENE SHEETING SHALL CONFORM TO THE FOLLOWING:

DESCRIPTION OF TEST	ASTM METHOD	REQUIREMENT
THICKNESS, INCHES	D 751	0.094 +/-.01
BREAKING STRENGTH, GRAB WXF, LBS, MINIMUM	D 751	700 X 700
ADHESIVE STRIP, 1" WIDE X 2" LONG, LBS MINIMUM	D 751	9 BURST
STRENGTH (MULLEN) PSI, MINIMUM	D 751	1400
HEAT AGING, 70 HOURS AT 212°F, 180° BEND WITHOUT CRACKING	D 2136	NO CRACKING OF COATING
LOW TEMPERATURE BRITTLENESS 1 HOUR AT -40°F, BEND AROUND ¼ INCH MANDREL	D 2136	NO CRACKING OF COATING

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE TOTAL LENGTH OF JOINT TO BE SEALED BY THE NUMBER OF FEET.

BASIS OF PAYMENT: THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACTOR PRICE FOR ITEM 516, INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN.

MECHANICAL CONNECTORS: AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING BARS SHALL BE PROVIDED. INSTALLATION OF CONNECTORS SHALL CONFORM WITH MANUFACTURER'S RECOMMENDED PROCEDURERS.

CONNECTORS SHALL CONFORM WITH ITEM 509 AND BE INCLUDED IN THE BID PRICE PER POUND FOR THE REINFORCING STEEL.

CONNECTORS USED WITH EPOXY COATED BARS SHALL BE EPOXY COATED. COATING FOR BOTH CONNECTORS AND BARS SHALL CONFORM TO THE SAME SPECIFICATIONS. COATINGS WHICH HAVE BEEN DAMAGED OR WHICH OTHERWISE DO NOT MEET SPECIFICATIONS WITH RESPECT TO COLOR, CONTINUITY AND UNIFORMITY MAY BE REPAIRED AS DIRECTED BY THE ENGINEER OR THEY SHALL BE REPLACED WITH MATERIAL THAT MEETS THE SPECIFICATIONS. CONNECTORS SHALL CONFORM WITH ITEM 509 AND BE INCLUDED IN THE BID PRICE PER POUND FOR THE REINFORCING STEEL.

DRIP GROOVES: THE DRIP GROOVES DETAILED ON STANDARD CONSTRUCTION DRAWINGS SHALL NOT BE CONSTRUCTED.

ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN:
THE BACKFILL MATERIAL BEHIND THE ABUTMENTS SHALL BE TYPE B GRANULAR MATERIAL, 703.16.C, PLACED AND COMPACTED IN 6 INCH LIFTS.

PILE DRIVING CONSTRAINTS:
PRIOR TO DRIVING PILES, CONSTRUCT THE SPILL THROUGH SLOPES AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENTS UP TO THE LEVEL OF THE SUBGRADE ELEVATION FOR A MINIMUM DISTANCE OF 200 FEET BEHIND EACH ABUTMENT. DO NOT BEGIN THE EXCAVATION FOR THE ABUTMENT FOOTINGS AND THE INSTALLATION OF THE ABUTMENT UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED.

PILE DESIGN LOADS (ULTIMATE BEARING VALUE):
THE ULTIMATE BEARING VALUE IS 100 TONS PER PILE FOR THE HP12X53 STEEL ABUTMENT PILES.

LEFT BRIDGE:	RIGHT BRIDGE:
REAR AND FORWARD ABUTMENT PILES:	REAR AND FORWARD ABUTMENT PILES:
23 PILES 85 FEET LONG, ORDER LENGTH	23 PILES 85 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEMS	0 DYNAMIC LOAD TESTING ITEMS

EXISTING STRUCTURE VERIFICATION:
DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.

MOODY NOLAN INC.
FORMS OF INTEGRITY
Architecture•Engineering•Planning•Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
PHB	RM	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
RM		5202671-LEFT 5202701-RIGHT	

GENERAL NOTES
BRIDGE NO. MED-71-0539 L
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00

3/40

713/785

PLOTTED BY: $USER$ $DATE$ $TIME$ $FILE$

ITEM 503 - COFFERDAMS, CRIBS, AND SHEETING, AS PER PLAN:

AT THE OPTION OF THE CONTRACTOR, AN ALTERNATE METHOD OF TEMPORARY SHORING FOR PART-WIDTH CONSTRUCTION MAY BE USED. PLANS FOR SUCH SHORING SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER AND CONFORM WITH 501.05. FOR APPROVAL, FIVE COPIES OF THE DRAWINGS SHALL BE SUBMITTED TO THE DIRECTOR AND CONCURRENTLY, ONE COPY TO THE OFFICE OF STRUCTURAL ENGINEERING. CONSTRUCTION OF THE SHORING SHALL NOT BEGIN UNTIL AFTER WRITTEN APPROVAL HAS BEEN RECEIVED FROM THE DIRECTOR. PORTIONS OF THE TEMPORARY SHORING COMPOSED OF STEEL OR CONCRETE MAY BE LEFT IN PLACE AT THE DISCRETION OF THE ENGINEER. PORTIONS COMPOSED OF OTHER MATERIALS SHALL BE REMOVED PRIOR TO COMPLETION OF THE WORK.

ITEM 894 HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY, AS PER PLAN:

GENERAL REQUIREMENTS:
THE PROVISIONS OF ITEM 894 SHALL APPLY EXCEPT AS NOTED BELOW.

MIX OPTIONS:
ALL SUPERSTRUCTURE CONCRETE SHALL BE THIS MIX (HP4, AS PER PLAN). ALL OTHER STRUCTURE CONCRETE SHALL BE THIS MIX OR MIX 2 CONCRETE.

THE FOLLOWING PROPORTIONS WILL BE USED AS A STARTING MIX DESIGN.

CONCRETE TABLE
QUANTITIES PER CUBIC YARD
AGGREGATES (SSD)

HP4, AS PER PLAN (GGBF SLAG + MICROSILICA)

AGGREGATE TYPE	FINE AGGRE. (LB)	**#8 COARSE AGGRE. (LB)	**#57 COARSE AGGRE. (LB)	TOTAL (LB)	CEMENT CONTENT (LB)	GGBF SLAG (LB)	MICRO-SILICA (LB)	WATER TO CEMENTITIOUS RATIO ± .02	AIR CONTENT ± 2%
GRAVEL	1245	360	1315	2920	400	170	30	0.42	7
LIMESTONE	1245	360	1335	2940	400	170	30	0.42	7
SLAG	1245	315	1155	2715	400	170	30	0.42	7

* ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED PER ASTM C127. THE WEIGHTS SPECIFIED IN THE CONCRETE TABLE FOR MATERIALS OF THE FOLLOWING BULK SPECIFIED GRAVITIES (SSD): NATURAL SAND AND GRAVEL 2.62, LIMESTONE SAND 2.68, LIMESTONE 2.65, SLAG 2.30, FLY ASH 2.65, GGBF SLAG 2.90, MICROSILICA SOLIDS 2.20, AND PORTLAND CEMENT 3.15. FOR AGGREGATES OF SPECIFIC GRAVITIES DIFFERING MORE THAN PLUS OR MINUS 0.02 FROM THESE, THE WEIGHTS IN THE TABLE WILL BE CORRECTED.

PARAPET CONSTRUCTION (FORMED AND POURED):

FORMS SHALL NOT BE REMOVED UNTIL AT LEAST 2 HOURS AFTER THE FINAL SET. DETERMINATION OF THE FINAL SET SHALL BE AS PER ASTM C266 (GILLMORE NEEDLE). TESTING SHALL BE PREFORMED BY THE CONTRACTOR AT NO COST TO THE STATE.

THE MINIMUM CONCRETE SLUMP DURING PLACEMENT OF FORMED CONCRETE PARAPETS SHALL BE 6 INCHES, WITH A MAXIMUM SLUMP OF 8 INCHES.

ANCHOR BOLTS FOR FENCE POSTS SHALL BE CAST IN PLACE.

PARAPET CONSTRUCTION (SLIP FORMED):

SLIP FORMING SHALL NOT BE PERFORMED DIRECTLY OVER AREAS WHERE THERE IS OR WILL BE VEHICULAR OR PEDESTRIAN TRAFFIC (WHICH INCLUDES RAILROADS AND WATER CRAFTS). AT THESE LOCATIONS, THE PARAPETS SHALL BE FORMED AND POURED.

THE CONTRACTOR IS ONLY ALLOWED THE OPTION OF SLIP FORMING BRIDGE PARAPETS OVER NON TRAVELED WAYS, AND ONLY AFTER THE SUCCESSFUL COMPLETION OF A TEST SECTION TWENTY FEET LONG. A MINIMUM OF 3 DAYS AFTER PLACING THE TEST SECTION, THE CONTRACTOR SHALL CORE THE TEST SECTION (A MINIMUM OF 3 CORES) AT LOCATIONS AS DIRECTED BY THE ENGINEER. APPROVAL TO SLIP FORM SHALL NOT BE GRANTED UNTIL AFTER THE CORING AND AFTER A SUCCESSFUL SLIP FORMING RESULT IS OBTAINED.

IN ADDITION TO THE REQUIREMENTS OF THE LAST PARAGRAPH OF 511.11 THE ENGINEER WILL INSPECT THE SLIP FORMED SURFACE FOR HORIZONTAL CRACKING 6 MONTHS AFTER COMPLETION OF THE SLIP FORMING OPERATION. ANY ADDITIONAL CRACKS FOUND SHALL BE REPAIRED AS PER THE SPECIFICATIONS AT NO ADDITIONAL COST TO THE STATE.

ALL ANCHOR BOLTS FOR FENCE POSTS SHALL BE CAST IN PLACE.

THE MINIMUM CONCRETE SLUMP DURING PLACEMENT OF SLIP FORMED CONCRETE PARAPETS SHALL BE 1 INCH WITH A MAXIMUM SLUMP OF 1½ INCHES.

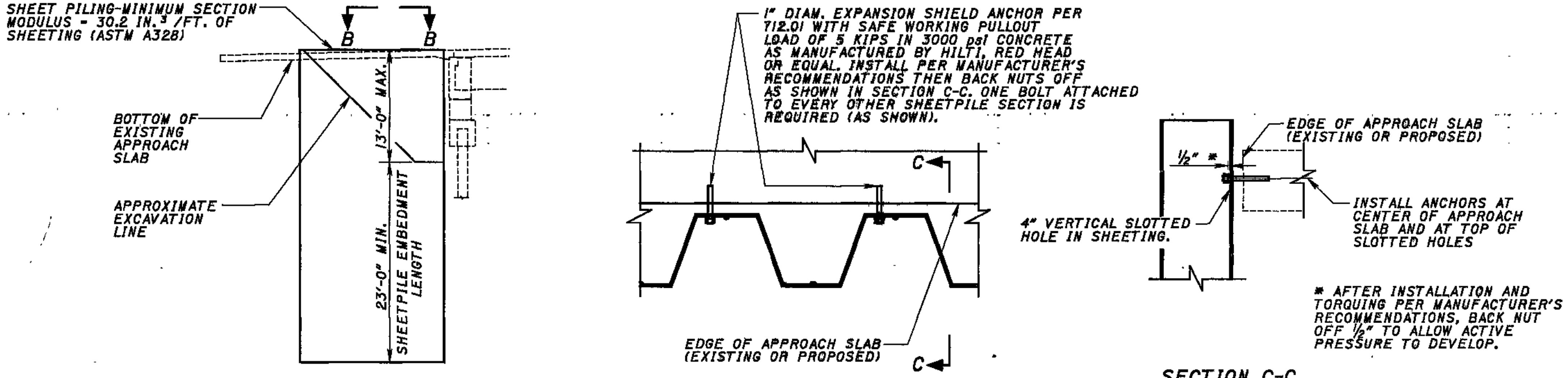
THE WATER CEMENT RATIO FOR SLIP FORMED PARAPETS SHALL NOT BE LESS THAN THE WATER CEMENT RATIO USED FOR THE DECK CONCRETE. REDUCE SLUMP BY LIMITING THE USE OF SUPERPLASTICIZERS.

CRACK CONTROL JOINTS:

FOR BOTH SLIP FORMED AND FORMED AND POURED PARAPETS, THE CONTRACTOR SHALL CONSTRUCT 1½" DEEP AND ¼" WIDE CRACK CONTROL JOINTS SPACED AT A MINIMUM OF 6 FT AND A MAXIMUM OF 8 FT ON CENTER. THE CRACK CONTROL JOINTS SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE PARAPET, STARTING AND ENDING AT THE ELEVATION OF THE TOP OF THE CONCRETE DECK. THE CONTRACTOR MAY EITHER FORM THE CRACK CONTROL JOINTS IN WITH FORM LINERS, OR, WITHIN 24 HOURS OF PLACEMENT, SAW CUT THE CRACK CONTROL JOINTS IN WITH THE USE OF AN EDGE GUIDE, FENCE, OR JIG WHICH IS REQUIRED TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET. THE ENTIRE LENGTH OF EACH CONTROL JOINT SHALL BE SEALED TO A MINIMUM DEPTH OF 1½" WITH A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION, TT-S-00227E.

BASIS OF PAYMENT:
PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT BID PRICE FOR:

ITEM	UNITS	DESCRIPTION
511E52000	LUMP SUM	CLASS HP CONCRETE, TEST SLAB
894E10001	CUBIC YARD	HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY, AS PER PLAN


SHEET PILING-MINIMUM SECTION MODULUS = 30.2 IN.³ /FT. OF SHEETING (ASTM A328)
B
B
BOTTOM OF EXISTING APPROACH SLAB
APPROXIMATE EXCAVATION LINE
13'-0" MAX.
23'-0" MIN.
SHEETPILE EMBEDMENT LENGTH
1" DIAM. EXPANSION SHIELD ANCHOR PER 712.01 WITH SAFE WORKING PULLOUT LOAD OF 5 KIPS IN 3000 psi CONCRETE AS MANUFACTURED BY HILTI, RED HEAD OR EQUAL. INSTALL PER MANUFACTURER'S RECOMMENDATIONS THEN BACK NUTS OFF AS SHOWN IN SECTION C-C. ONE BOLT ATTACHED TO EVERY OTHER SHEETPILE SECTION IS REQUIRED (AS SHOWN).
C
C
EDGE OF APPROACH SLAB (EXISTING OR PROPOSED)
4" VERTICAL SLOTTED HOLE IN SHEETING.
½" *
EDGE OF APPROACH SLAB (EXISTING OR PROPOSED)
INSTALL ANCHORS AT CENTER OF APPROACH SLAB AND AT TOP OF SLOTTED HOLES

* AFTER INSTALLATION AND TORQUING PER MANUFACTURER'S RECOMMENDATIONS, BACK NUT OFF ½" TO ALLOW ACTIVE PRESSURE TO DEVELOP.

ELEVATION VIEW

VIEW B-B

SECTION C-C

SHORING DETAILS

(TO BE PAID FOR WITH ITEM 503 - COFFERDAMS, CRIBS, AND SHEETING, AS PER PLAN)

MOODY NOLAN INC.
Architecture•Engineering•Planning•Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
TTK/VEA	CRC	GT	05/03

CHECKED	REVISED	STRUCTURE FILE NUMBER
WTL		5202671 - LEFT 5202701 - RIGHT

GENERAL NOTES 2
BRIDGE NO. MED-71-0539 L/R
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00

PLOTTED BY: $(USERNAME) 10/17/03 01:39:17 PM pw:\01202 Way-Med\Bridges\0539 Converted Drawings\MEGnotes2_0539.dgn

COMPUTED BY : RM DATE : 6/03
CHECKED BY : MRG DATE : 6/03

ESTIMATED QUANTITIES

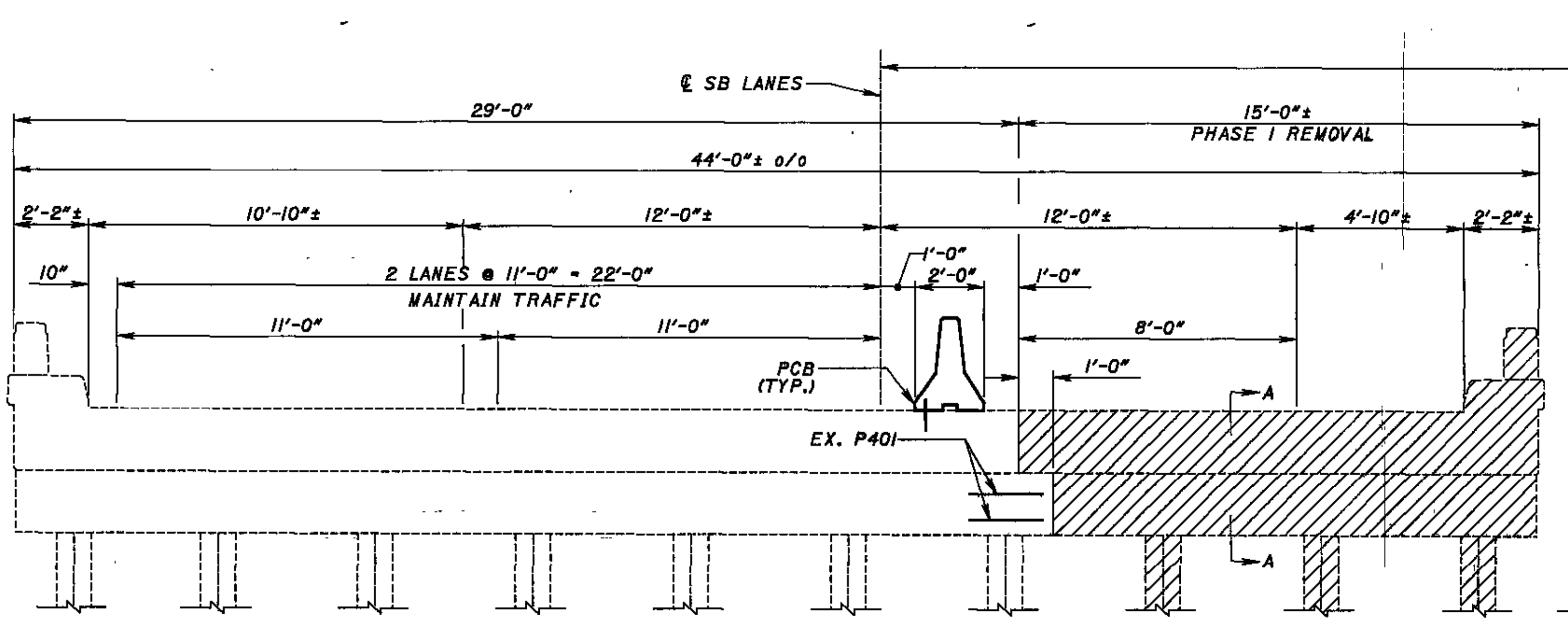
ITEM	ITEM EXT.	LEFT BRIDGE	RIGHT BRIDGE	UNIT	DESCRIPTION	LEFT BRIDGE ABUTS.	LEFT BRIDGE SUPER	LEFT BRIDGE GENERAL	RIGHT BRIDGE ABUTS.	RIGHT BRIDGE SUPER	RIGHT BRIDGE GENERAL	REF. SHT. NO.
202	11203	LUMP	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN			LUMP			LUMP	3
503	11101	LUMP	LUMP		COFFERDAMS, CRIBS, AND SHEETING, AS PER PLAN			LUMP			LUMP	
503	21101	231	221	CU YD	UNCLASSIFIED EXCAVATION, AS PER PLAN	221			221			3
505	11100	LUMP	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION			LUMP			LUMP	
507	00200	3910	3910	FT	STEEL PILES HP12 x 53, FURNISHED	3910			3910			
507	00250	3680	3680	FT	STEEL PILES HP12 x 53, DRIVEN	3680			3680			
509	10000	72846	72896	POUND	EPOXY COATED REINFORCING STEEL	14361	58485		14411	58485		
511	43500	164	164	CU YD	CLASS C, CONCRETE, ABUTMENT INCLUDING FOOTING	164			164			
511	52000	LUMP	LUMP		CLASS HP CONCRETE, TEST SLAB			LUMP			LUMP	
512	33000	11	11	SQ YD	TYPE 2 WATERPROOFING	11			11			
515	15030	8	8	EACH	DRAPED STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 3,		8			8		
					TYPE 4 MOD. (60 IN.)							
515	20000	21	21	EACH	INTERMEDIATE DIAPHRAGMS		21			21		
516	13200	179	179	SQ FT	½" PREFORMED EXPANSION JOINT FILLER	179			179			
516	13600	93	93	SQ FT	1" PREFORMED EXPANSION JOINT FILLER	93			93			
516	13900	1	1	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	1			1			
516	14015	159	159	FT	INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN	159			159			3
516	44200	16	16	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE)	16			16			
					(2" x 10" x 1'-4")							
518	21200	195	195	CU YD	POROUS BACKFILL WITH FILTER FABRIC	195			195			
518	40000	186	186	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	186			186			
518	40010	59	56	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	59			56			
523	20000	1	0	EACH	DYNAMIC PILE TEST	1			0			
526	25000	339	339	SQ YD	REINFORCED CONCRETE APPROACH SLABS (T-15")			339			339	
601	32104	426	400	CU YD	ROCK CHANNEL PROTECTION, TYPE B WITH FABRIC FILTER			426			400	
604	36600	2	2	EACH	PRECAST REINFORCED CONCRETE OUTLET	2			2			
625	25600	126	126	FT	CONDUIT, 4", 725.04			126			126	
625	30707	2	2	EA	PULL BOX, 725.08, 24", AS PER PLAN			2			2	482A/785
864	10100	604	606	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	151	453		153	453		
894	10001	324	325	CU YD	HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY, AS PER PLAN		324			325		3A

MOODY NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
RM	RM	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MRG		5202701RT. 5202671LT.	

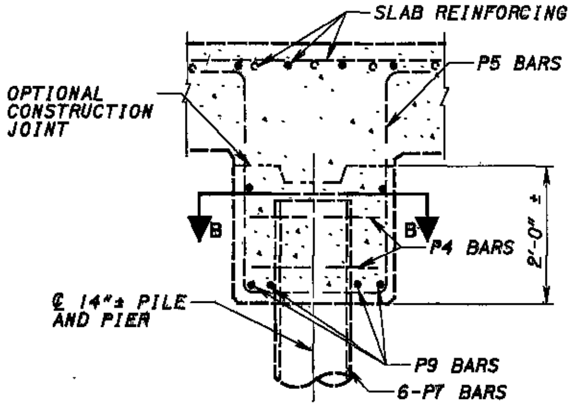
ESTIMATED QUANTITIES
BRIDGE NO. MED-71-0539 L/R
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00

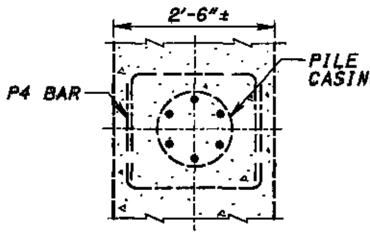


PHASE 1 REMOVAL

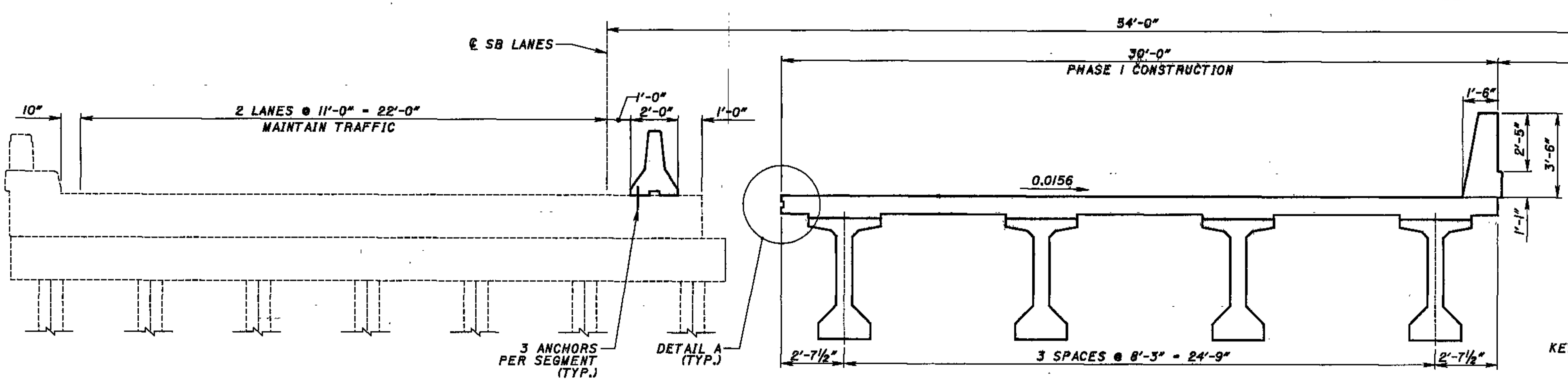
REMOVE DOWN TO 1'-0" BELOW FINAL GRADE



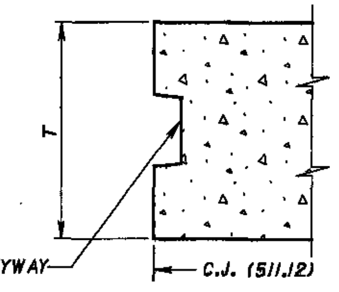
SECTION A-A



SECTION B-B

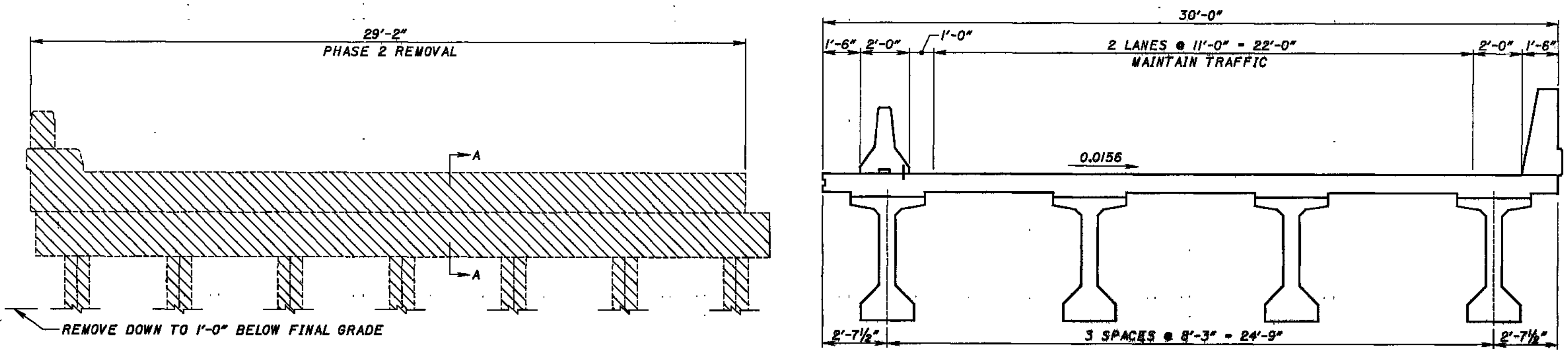


PHASE 1 CONSTRUCTION



DETAIL A

SEE CLOSURE JOINT DETAIL SHEET 28/40


29'-2"
PHASE 2 REMOVAL
A
A
REMOVE DOWN TO 1'-0" BELOW FINAL GRADE
30'-0"
1'-6"
2'-0"
1'-0"
2 LANES @ 11'-0" = 22'-0"
MAINTAIN TRAFFIC
2'-0"
1'-6"
0.0156
2'-7½"
3 SPACES @ 8'-3" = 24'-9"
2'-7½"

PHASE 2 REMOVAL

LEGEND:

▧ - REMOVALS PHASE 2

▨ - REMOVALS PHASE 1

PCB - PORTABLE CONCRETE BARRIER

C.J. - CONSTRUCTION JOINT

MOODY/NOLAN INC.

DESIGNED	DRAWN	REVIEWED	DATE
PHB	PC	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RM		5202671 - LEFT 5202701 - RIGHT	

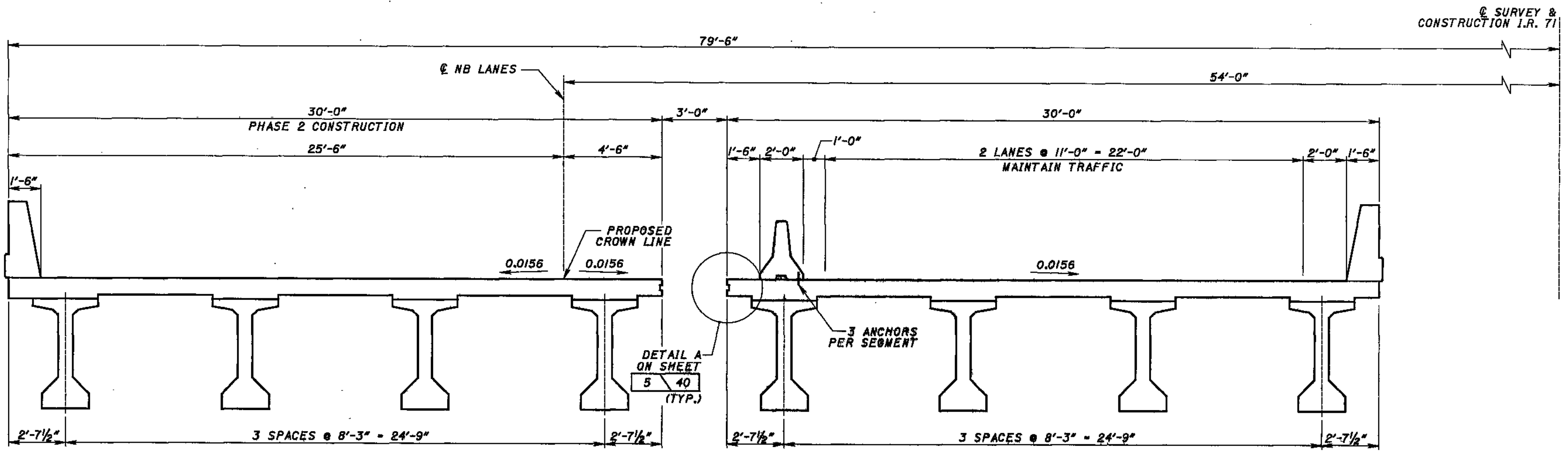
PHASE CONSTRUCTION DETAILS - I
BRIDGE NO. MED-71-0539 L
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00

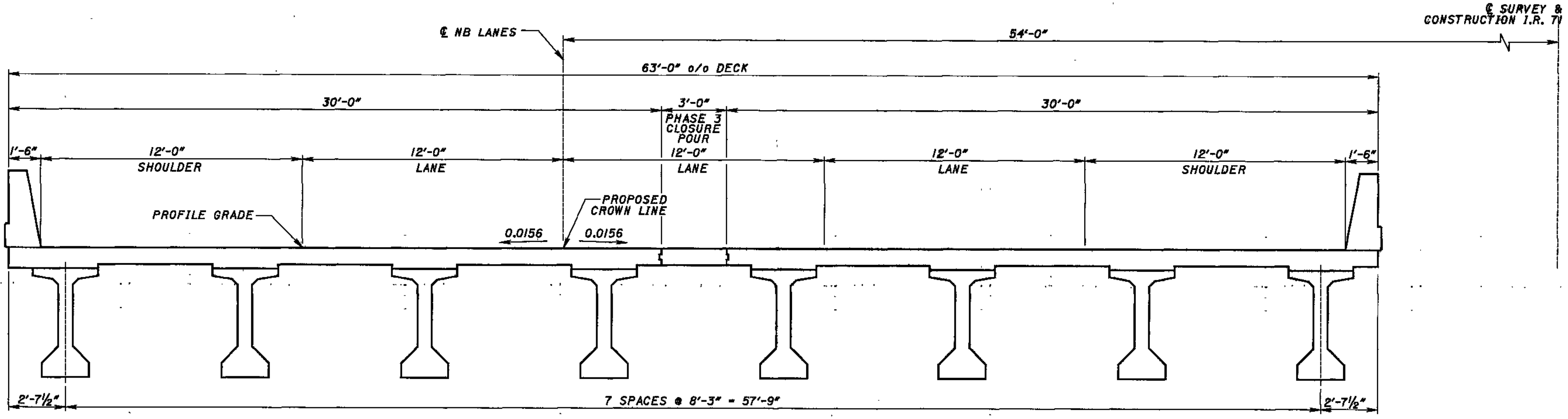
5/40

715/785

PLOTTED BY: $(USERNAME) 10/17/03 11:48:39 AM p:401202 Way-Med\Bridges\0539 Converted Drawings\MED71PC1.dgn



PHASE 2 CONSTRUCTION



CLOSURE POUR CONSTRUCTION

PHASE CONSTRUCTION NOTES

TEMPORARY BARRIERS SHALL BE ANCHORED TO EXISTING AND PROPOSED BRIDGE DECKS. THREE ANCHORS PER BARRIER SEGMENT ARE REQUIRED. THE ANCHOR BOLT PATTERN SHALL BE SYMMETRICAL ABOUT THE CENTER OF EACH SEGMENT. SEE STANDARD DRAWING PCB-91 FOR ADDITIONAL DETAILS.

MOODY NOLAN INC

DESIGNED	DRAWN	REVIEWED	DATE
PHB	PC	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RM		5202671 - LEFT 5202701 - RIGHT	

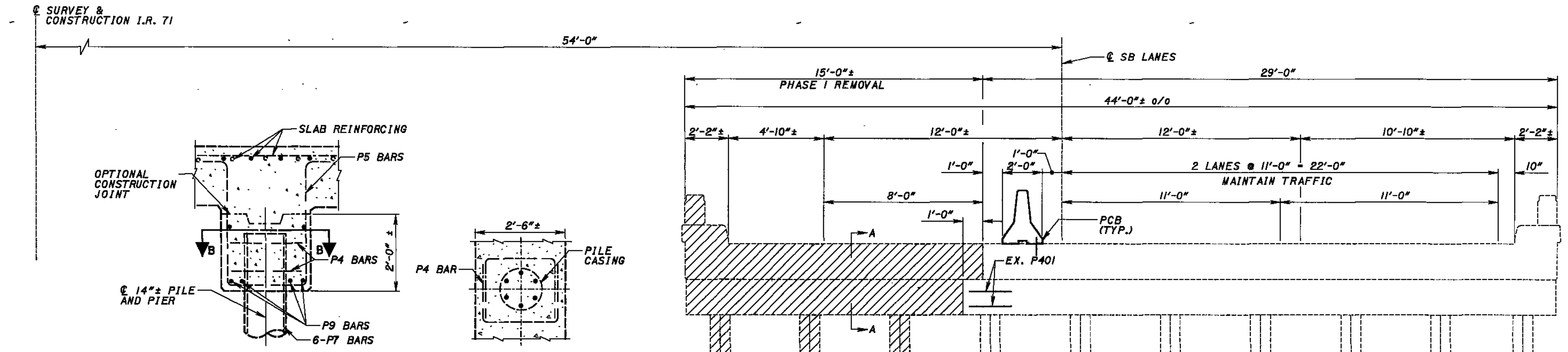
PHASE CONSTRUCTION DETAILS - 2
BRIDGE NO. MED-71-0539 L
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00

6/40

716/785

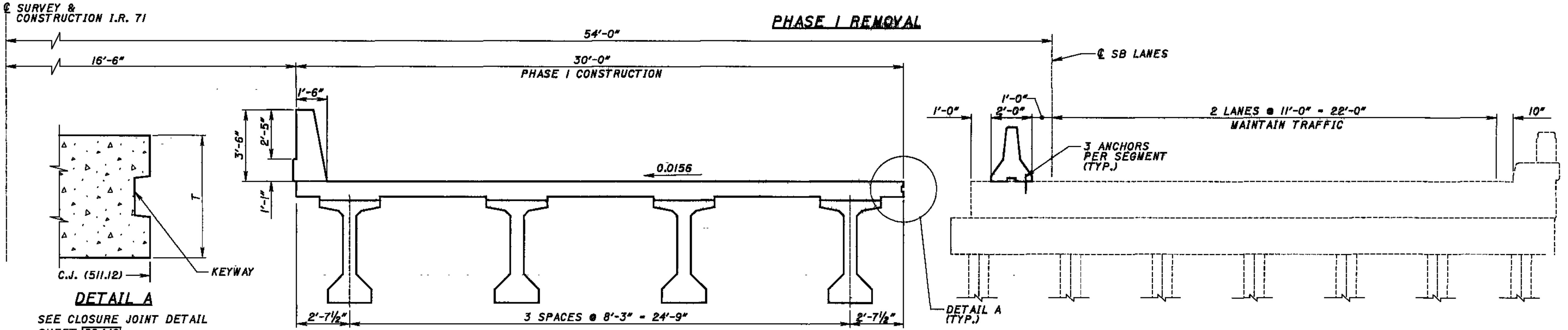
PLOTTED BY: $(USERNAME) 10/17/03 10:17:00 AM p:#01202 Way-Med\Bridge\0539 Converted Drawings\MED71PC2.DGN



SECTION A-A

SECTION B-B

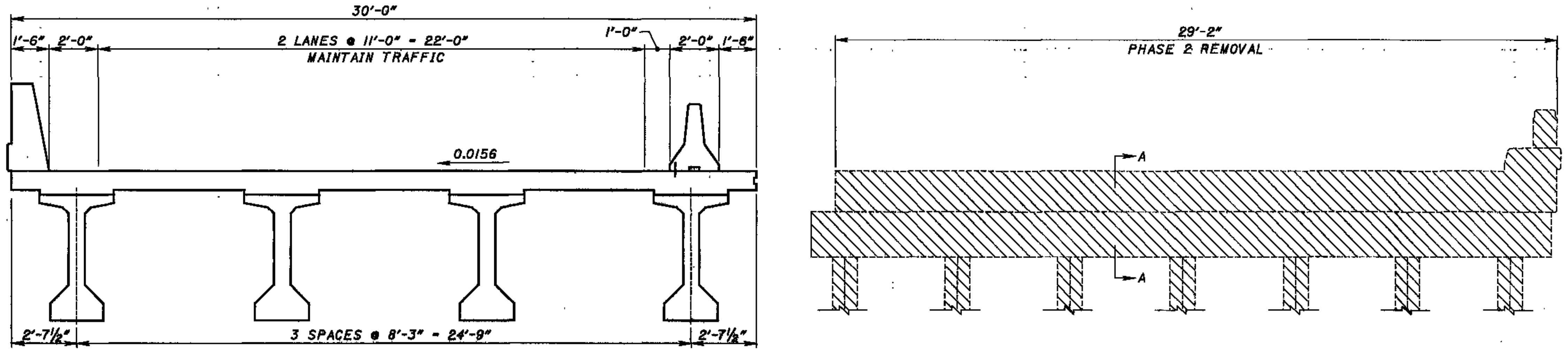
PHASE 1 REMOVAL



DETAIL A

SEE CLOSURE JOINT DETAIL SHEET $\boxed{29/40}$

PHASE 1 CONSTRUCTION



PHASE 2 REMOVAL

LEGEND:

▧ - REMOVALS PHASE 2

▨ - REMOVALS PHASE 1

PCB - PORTABLE CONCRETE BARRIER

C.J. - CONSTRUCTION JOINT

MOODY NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Columbus, Ohio 43215
Phone (614) 461-4664 Fax (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
PHB	PC	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RW		5202671 - LEFT 5202701 - RIGHT	

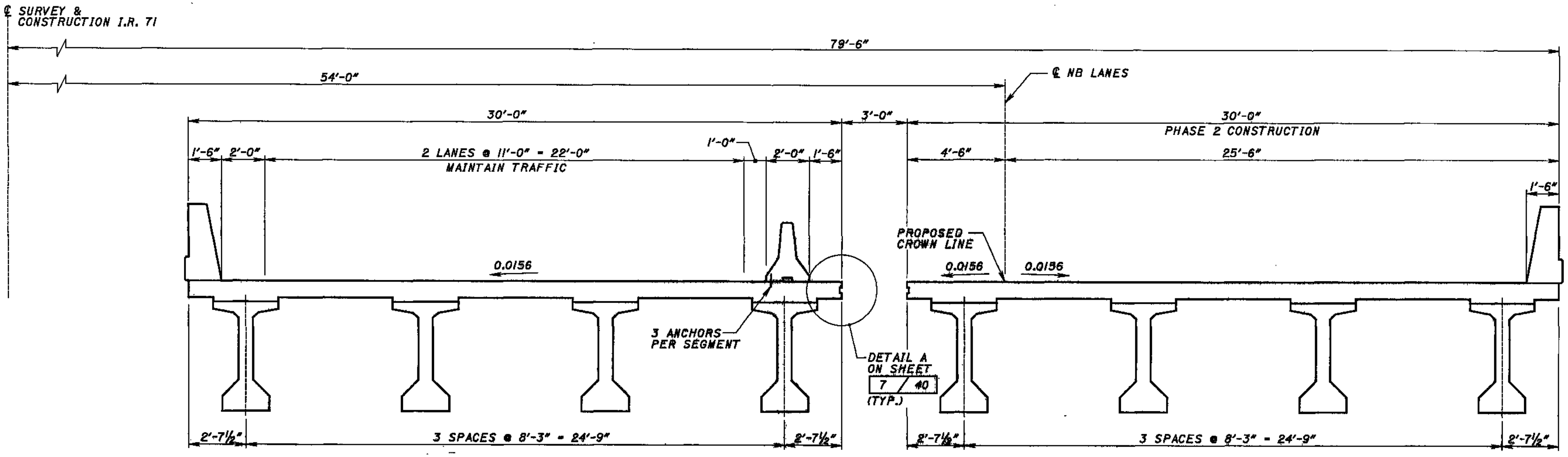
PHASE CONSTRUCTION DETAILS - I
BRIDGE NO. MED-71-0539 R
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00

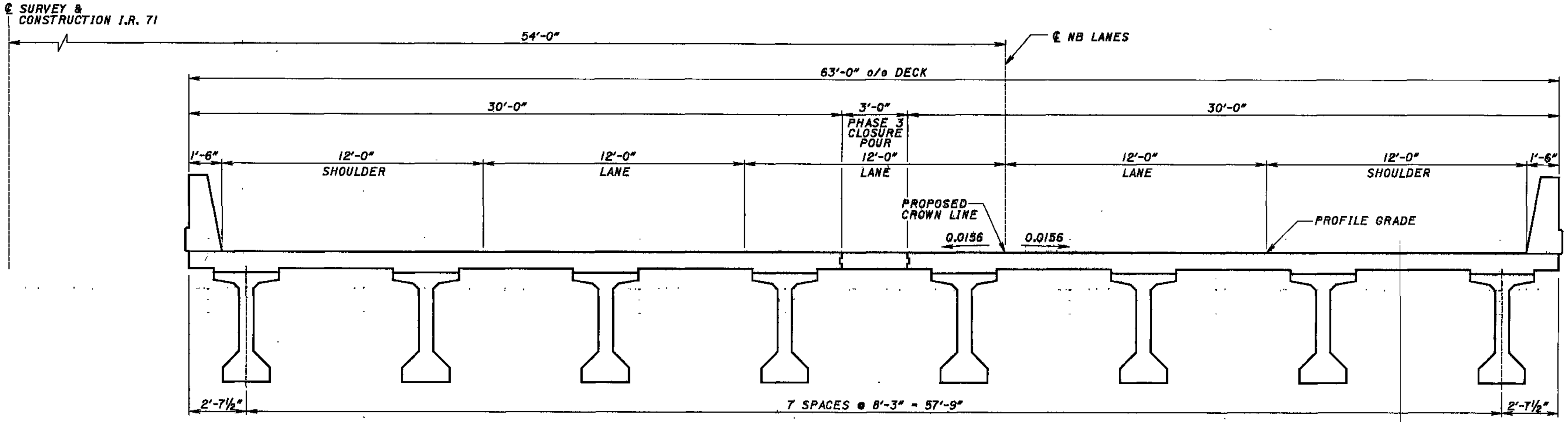
7/40

717/785

PLOTTED BY: $(USERNAME) 10/17/03 11:51:10 AM pt#01202 Way-Med#Bridges0539 Converted Drawings#MED71PC3.dgn



PHASE 2 CONSTRUCTION



CLOSURE POUR CONSTRUCTION

PHASE CONSTRUCTION NOTES

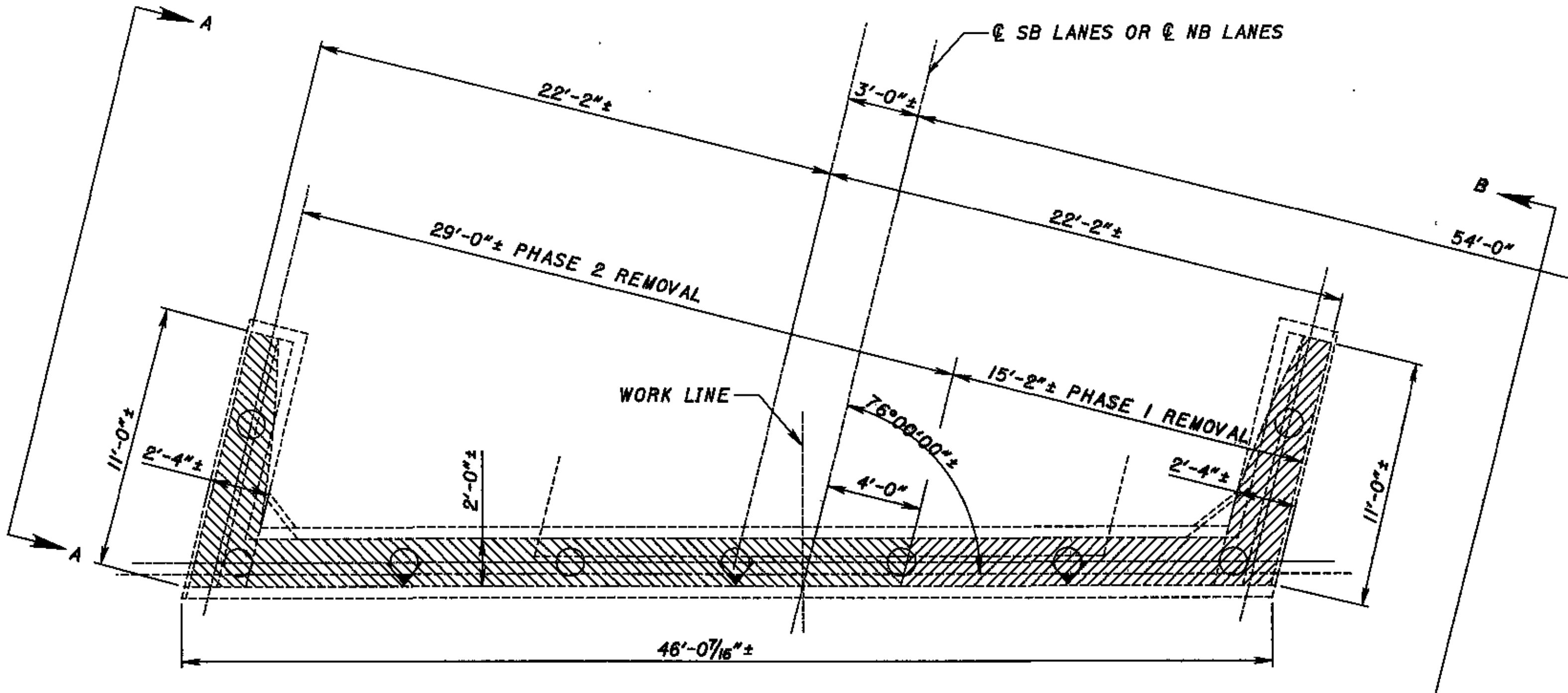
TEMPORARY BARRIERS SHALL BE ANCHORED TO EXISTING AND PROPOSED BRIDGE DECKS. THREE ANCHORS PER BARRIER SEGMENT ARE REQUIRED. THE ANCHOR BOLT PATTERN SHALL BE SYMMETRICAL ABOUT THE CENTER OF EACH SEGMENT. SEE STANDARD DRAWING PCB-91 FOR ADDITIONAL DETAILS.

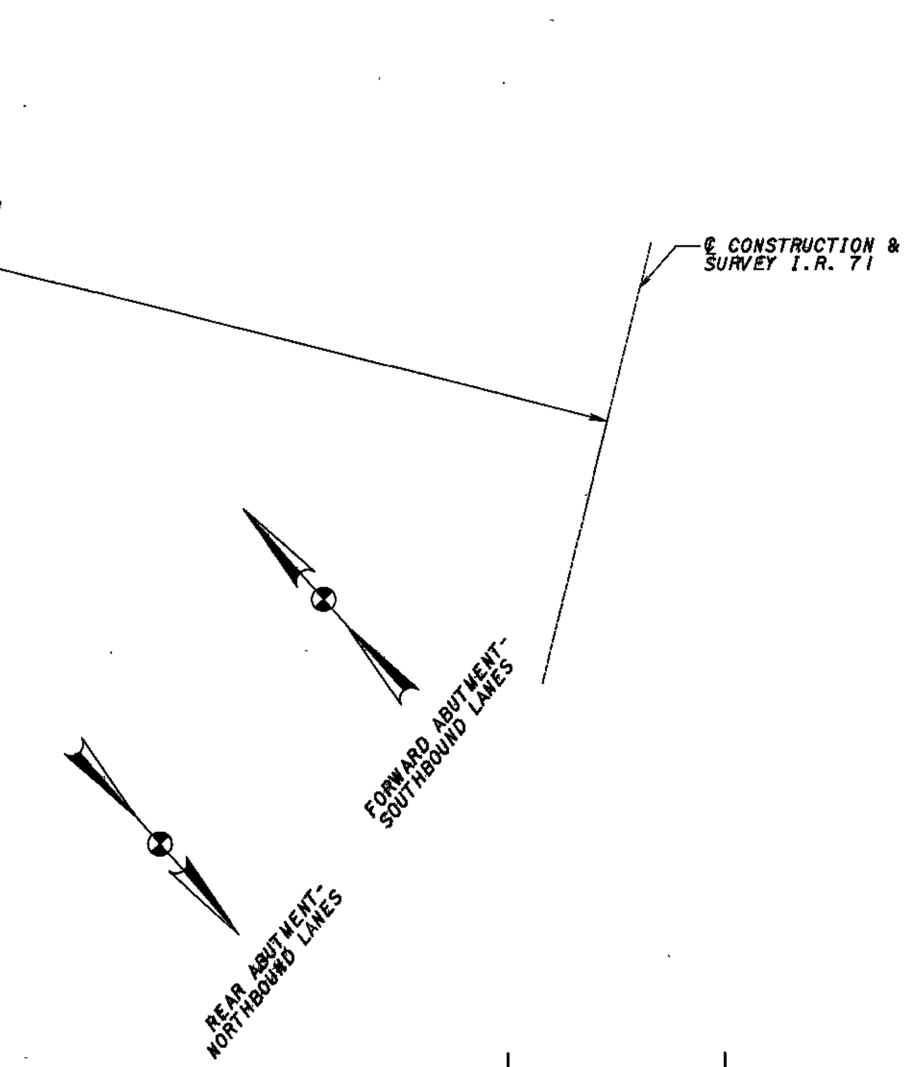
MOODY/NOLAN INC.
Architecture–Engineering–Planning–Interior Design
300 Spruce Street, Columbus, Ohio 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
PHB	PC	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RM		5202671 - LEFT 5202701 - RIGHT	

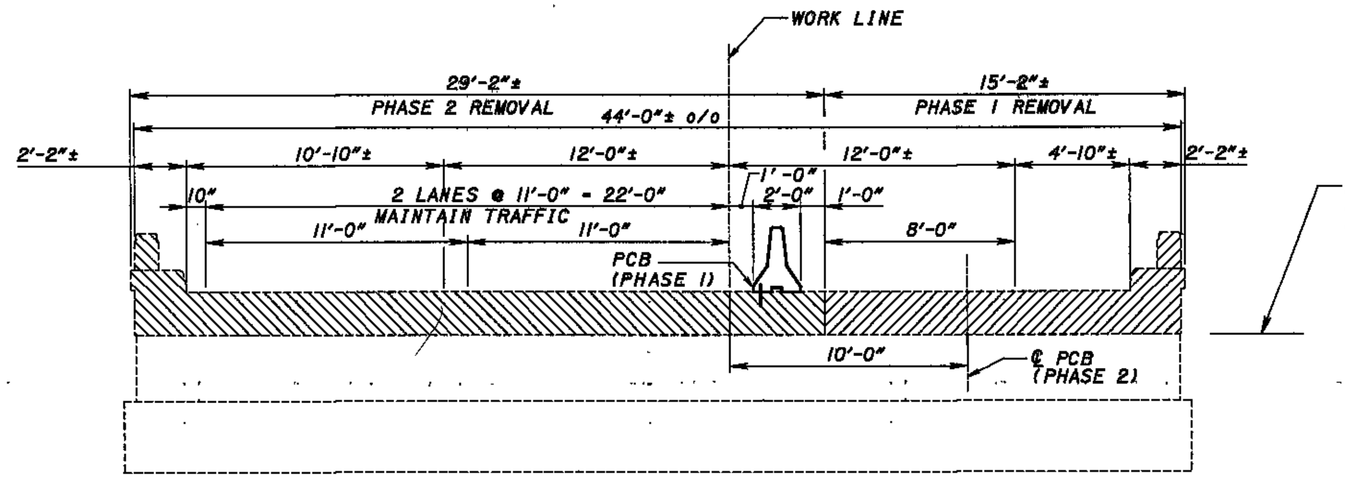
PHASE CONSTRUCTION DETAILS - 2
BRIDGE NO. MED-71-0539 R
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00



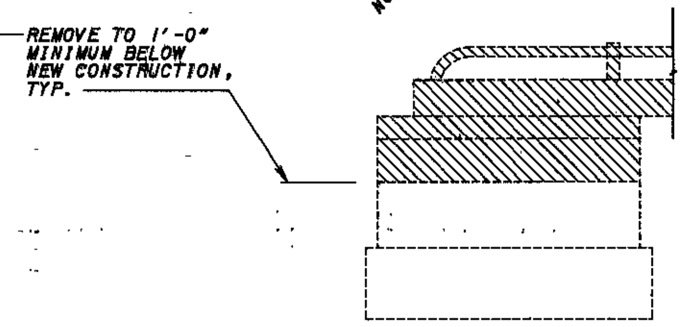

℄ SB LANES OR ℄ NB LANES
℄ CONSTRUCTION & SURVEY I.R. 71
FORWARD ABUTMENT-SOUTHBOUND LANES
REAR ABUTMENT-NORTHBOUND LANES

ABUTMENT PLAN
(FORWARD ABUTMENT-SOUTHBOUND LANES &
REAR ABUTMENT-NORTHBOUND LANES)
REAR ABUTMENT-SOUTHBOUND LANES & FORWARD ABUTMENT NORTHBOUND LANES SIMILAR

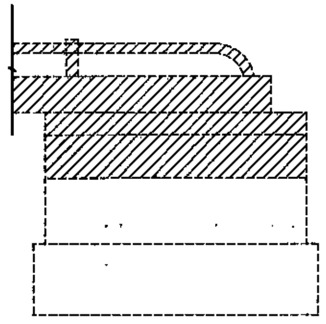


ABUTMENT ELEVATION

NOTE: HORIZONTAL DIMENSIONS ARE NORMAL TO ℄ SOUTHBOUND OR ℄ NORTHBOUND LANES



VIEW A-A



VIEW B-B

LEGEND:

▨ PHASE I REMOVAL

▨ PHASE 2 REMOVAL

F.A. - FORWARD ABUTMENT
R.A. - REAR ABUTMENT
NBL - NORTHBOUND LANES
SBL - SOUTHBOUND LANES
TYP. - TYPICAL
PCB - PORTABLE CONCRETE BARRIER

MOODY/NOLAN LTD., INC.

DESIGNED	DRAWN	REVIEWED	DATE
PHB	PC	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RM		5202671 - LEFT 5202701 - RIGHT	

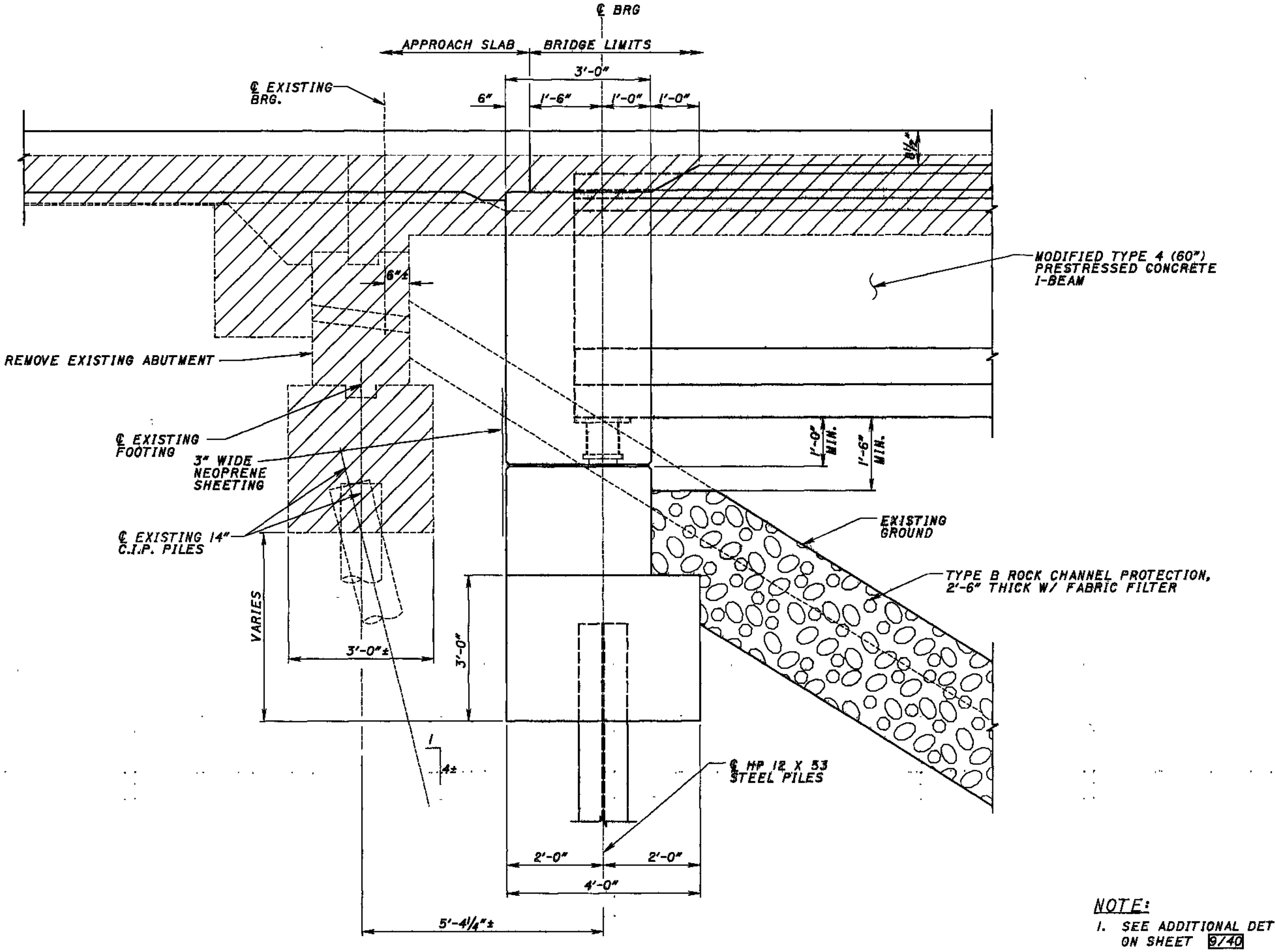
ABUTMENT REMOVAL DETAILS I
BRIDGE NO. MED-71-0539 L/R
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00

9/40

719/785

PLOTTED BY: $(USERNAME) 10/17/03 10:58:36 AM p:#01202 Way-~~Med~~#Bridge#0539 Converted Drawings#ME071PC5.dgn



TYPICAL SECTION THRU PROPOSED ABUTMENT

NOTE:

1. SEE ADDITIONAL DETAILS ON SHEET 9/40

LEGEND:

℄ BRG - CENTERLINE BEARING
C.I.P. - CAST-IN-PLACE
▨ - REMOVAL EXISTING ABUTMENT

PLOTTED BY: $(USERNAME) 10/17/03 10:19:22 AM p:\01202 Way-Med\Bridges\0539 Converted Drawings\ME071PC6.dgn

MOODY NOLAN INC.

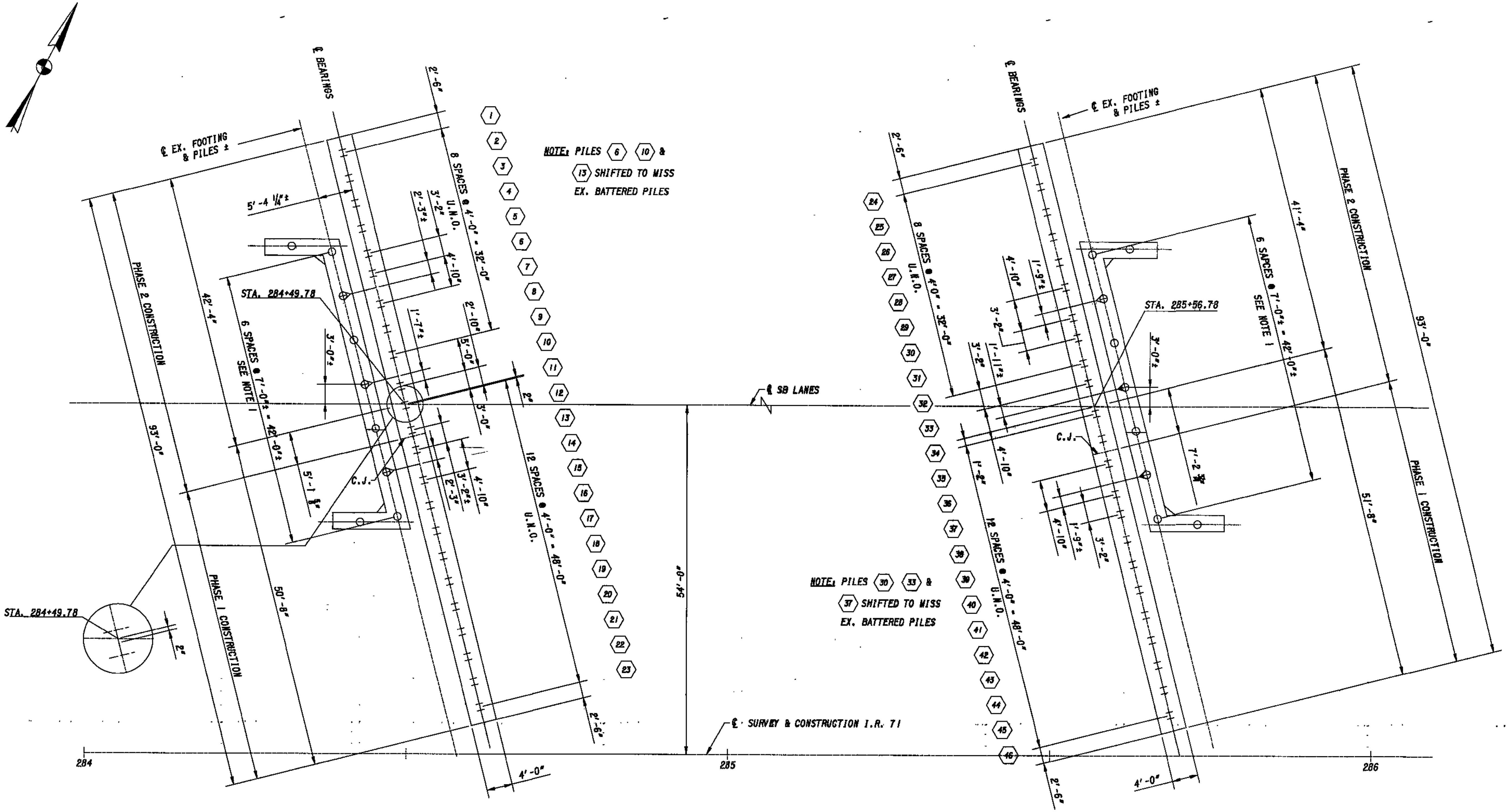
DESIGNED	DRAWN	REVIEWED	DATE
RM	PC	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
PHB		5202671 - LEFT 5202701 - RIGHT	

ABUTMENT REMOVAL DETAILS
BRIDGE NO. MED-71-0539 L/R
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00

10/40

720/785


℄ BEARINGS
℄ EX. FOOTING & PILES ±
NOTE: PILES 6 10 & 13 SHIFTED TO MISS EX. BATTERED PILES
NOTE: PILES 30 33 & 37 SHIFTED TO MISS EX. BATTERED PILES
8 SPACES @ 4'-0" = 32'-0" U.N.O.
12 SPACES @ 4'-0" = 48'-0" U.N.O.
6 SPACES @ 7'-0"± = 42'-0"± SEE NOTE 1
6 SAPCES @ 7'-0"± = 42'-0"± SEE NOTE 1
PHASE 2 CONSTRUCTION
PHASE 1 CONSTRUCTION
STA. 284+49.78
STA. 285+56.78
C.J.
℄ SB LANES
℄ SURVEY & CONSTRUCTION I.R. 71
93'-0"
42'-4"
41'-4"
50'-8"
51'-8"
54'-0"
5'-4 1/4"±
2'-6"
4'-0"
2"
284
285
286
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

PILE LAYOUT - ABUTMENTS

NOTES:

1. THE EXISING FOOTING AND PILES ARE LOCATED USING EXISTING PLAN INFORMATION. ACTUAL CONDITIONS MAY VARY FROM THAT SHOWN ON THE EXISTING PLANS. NOTE PILES ARE SHIFTED TO MISS EXISTING BATTERED PILES

LEGEND:

℄ - CENTERLINE
⬡46 = PILE NUMBER
⌶ = HP12X53 STEEL PILE, VERTICAL
○ = EX. 14" C.I.P. PILE
⊕ = EX. 14" C.I.P. PILE AT 1H ON 4V= BATTER
U.N.O. = UNLESS NOTED OTHERWISE
C.J. = CONTROL JOINT
SB = SOUTH BOUND

MOODY/NOLAN LTD., INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
PHB	PC	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
RW		5208671 - LT	

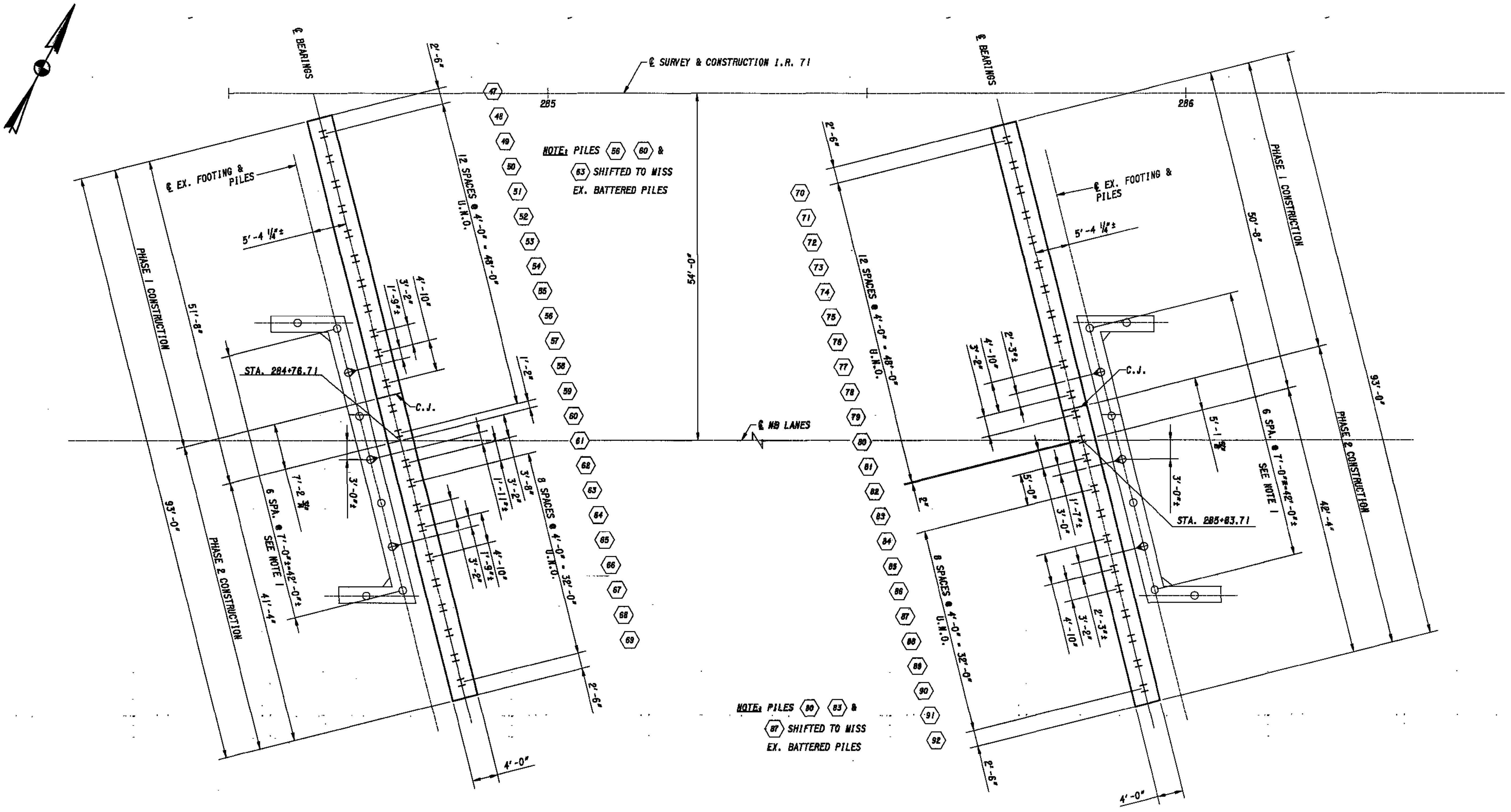
PILE LAYOUT - ABUTMENTS
BRIDGE NO. MED-71-0539L
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00

11/40

721/785

PLOTTED BY: $(USERNAME) 10/17/03 07:20:29 AM p:#01202 Way-Med#Bridges#0539 Converted Drawings#MED71FP1CONVERTED.dgn



PILE LAYOUT - ABUTMENTS

NOTES:

1. THE EXISING FOOTING AND PILES ARE LOCATED USING EXISTING PLAN INFORMATION. ACTUAL CONDITIONS MAY VARY FROM THAT SHOWN ON THE EXISTING PLANS. NOTE PILES ARE SHIFTED TO MISS EXISTING BATTERED PILES

LEGEND:

℄ - CENTERLINE
⬡46 - PILE NUMBER
⌶ - HP 12 X 53 STEEL PILE, VERTICAL
○ - EX. 14" C.I.P. PILE
⊕ - EX. 14" C.I.P. PILE AT 1H ON 4V= BATTER
U.N.O. - UNLESS NOTED OTHERWISE
C.J. - CONTROL JOINT
NB - NORTH BOUND

MOODY NOLAN INC.
FORMS OF INTEGRITY
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
PHB	PC	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
RM		5202701 - RT	

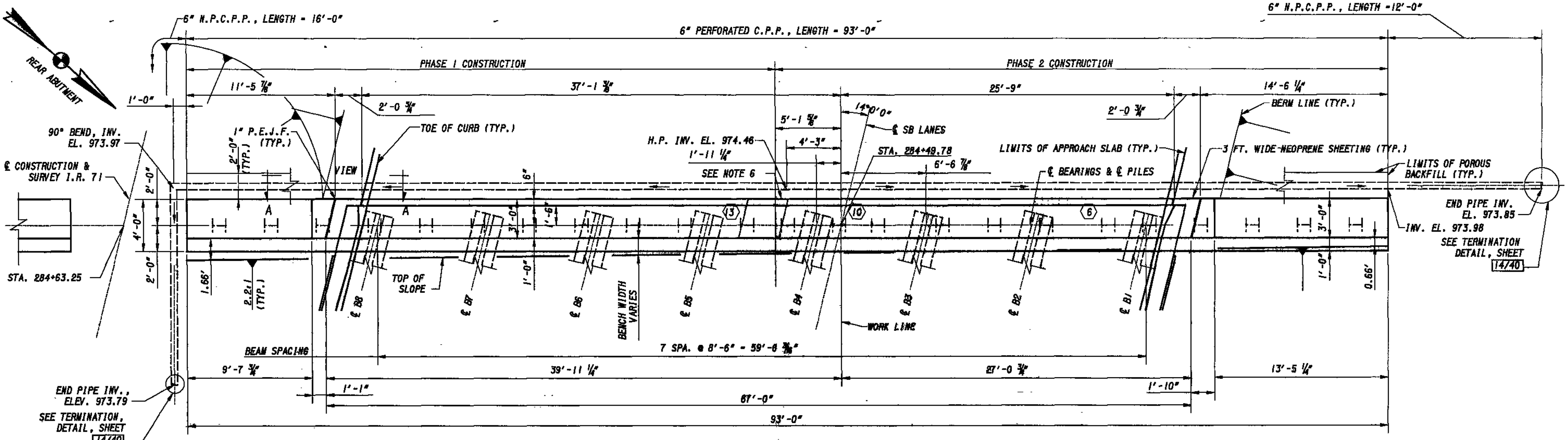
PILE LAYOUT - ABUTMENTS
BRIDGE NO. MED-71-0539R
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00

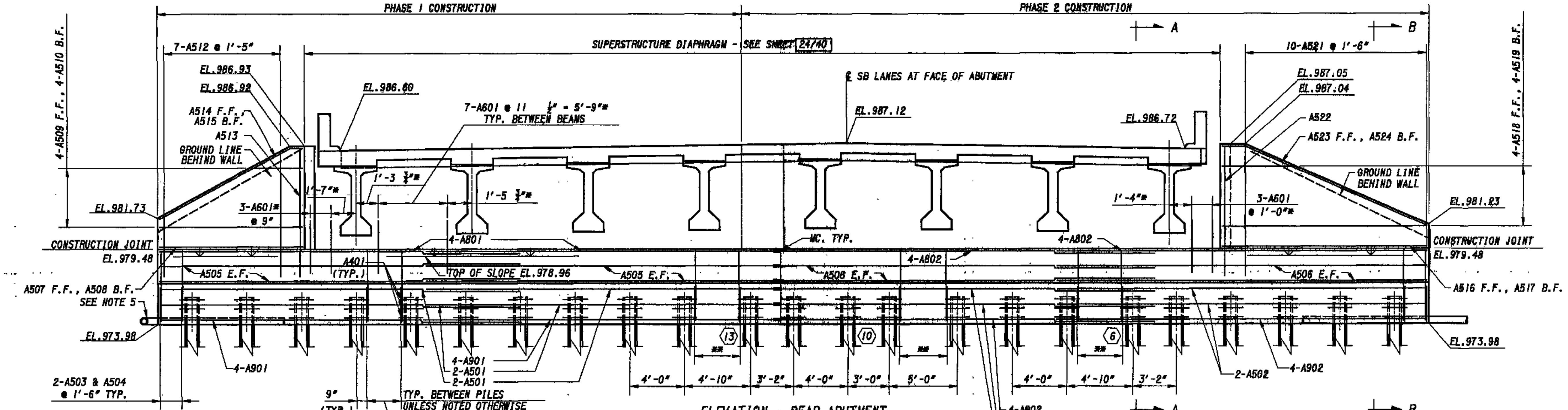
12/40

722/785

PLOTTED BY: $(USERNAME) 10/17/03 07:30:15 AM p:#01202 Way-Med#Bridge#0539 Converted Drawings#MED71FP2CONVERT2D.dgn



PLAN - REAR ABUTMENT



ELEVATION - REAR ABUTMENT

* MEASURED ALONG ℄ BRGS.

** 4-A503 & A504 @ EQUAL SPACES TYP. OF 3

NOTES

1. FOR PILE LAYOUT, SEE SHEET 12/40
2. FOR LEGEND SEE SHEET 14/40
3. FOR SECTIONS A-A & B-B & VIEW A-A SEE SHEET 14/40
4. MINIMUM BAR LAPS:
   LAP NO.5 BARS 2'-11".
   LAP NO.6 BARS 3'-5".
   LAP NO.8 BARS 7'-3".
   LAP NO.9 BARS 6'-2".
5. 6" DIA. N.P.C.P.P. AT ENDS SPLICED TO PERFORATED PIPE AND OUTLET AS SHOWN IN PIPE TERMINATION DETAIL ON SHEET 14/40
6. PLACE TYPE 2 WATER-PROOFING 3' WIDE, CENTERED ON JOINT FROM BOTTOM OF FOOTING TO APPROACH SLAB.

MOODY NOLAN INC.

Architecture • Engineering • Planning • Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE
PMB	RM	RM/PC		GT	6/03

STRUCTURE FILE NO. 5202871 - LT

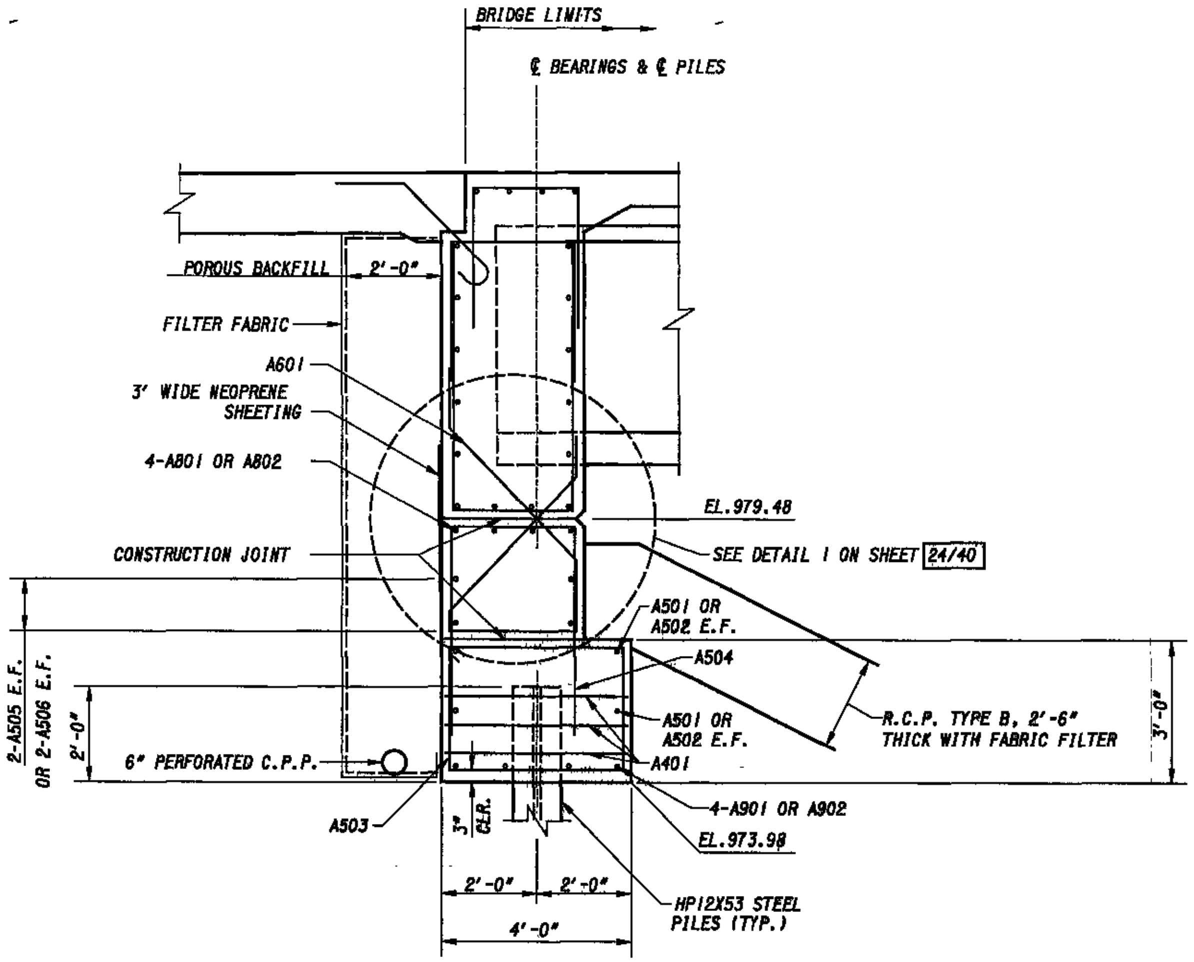
REAR ABUTMENT SOUTHBOUND L DETAILS I
BRIDGE NO. MED-71-0539L
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00

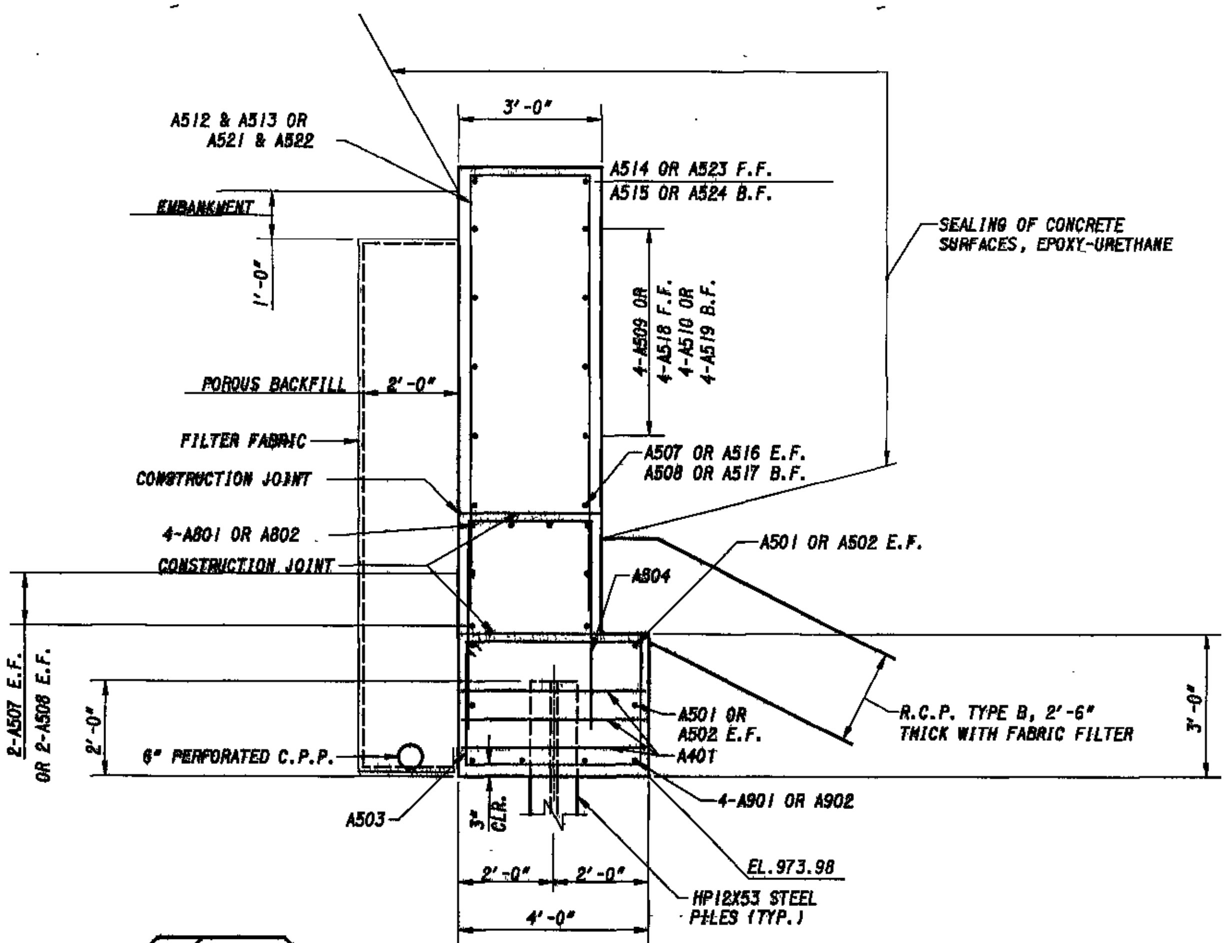
13/40

723/785

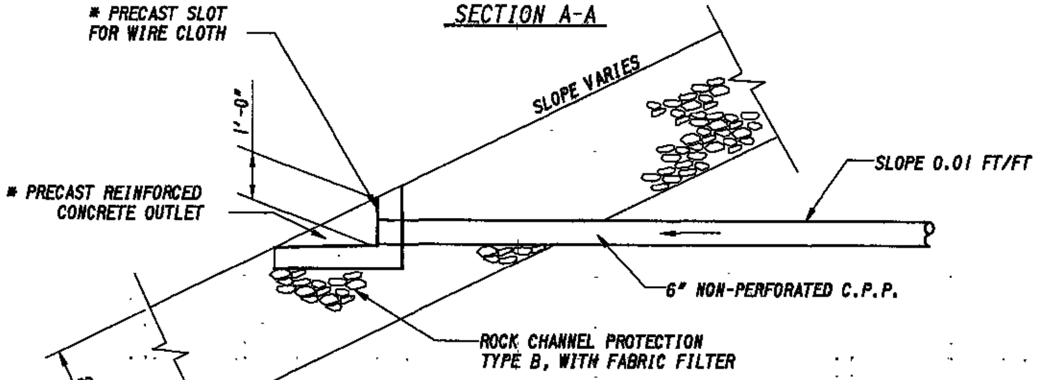
PLOTTED BY: $USERNAME 10/17/03 11:53:09 AM



SECTION A-A

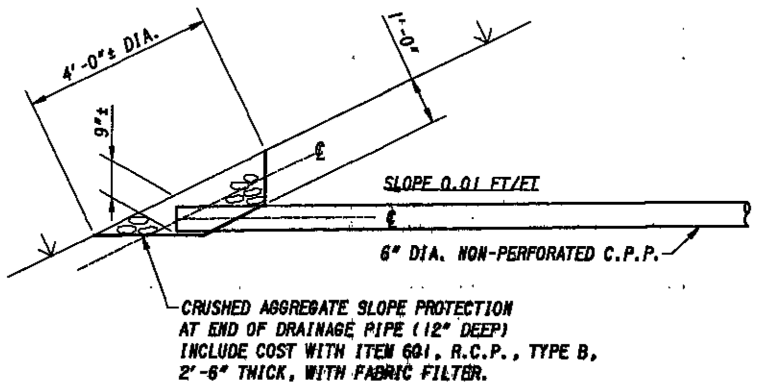


SECTION B-B


* PRECAST SLOT FOR WIRE CLOTH
1'-0"
SLOPE VARIES
* PRECAST REINFORCED CONCRETE OUTLET
SLOPE 0.01 FT/FT
6" NON-PERFORATED C.P.P.
ROCK CHANNEL PROTECTION TYPE B, WITH FABRIC FILTER
2'-6"

AT INSIDE MEDIAN-PHASE 1

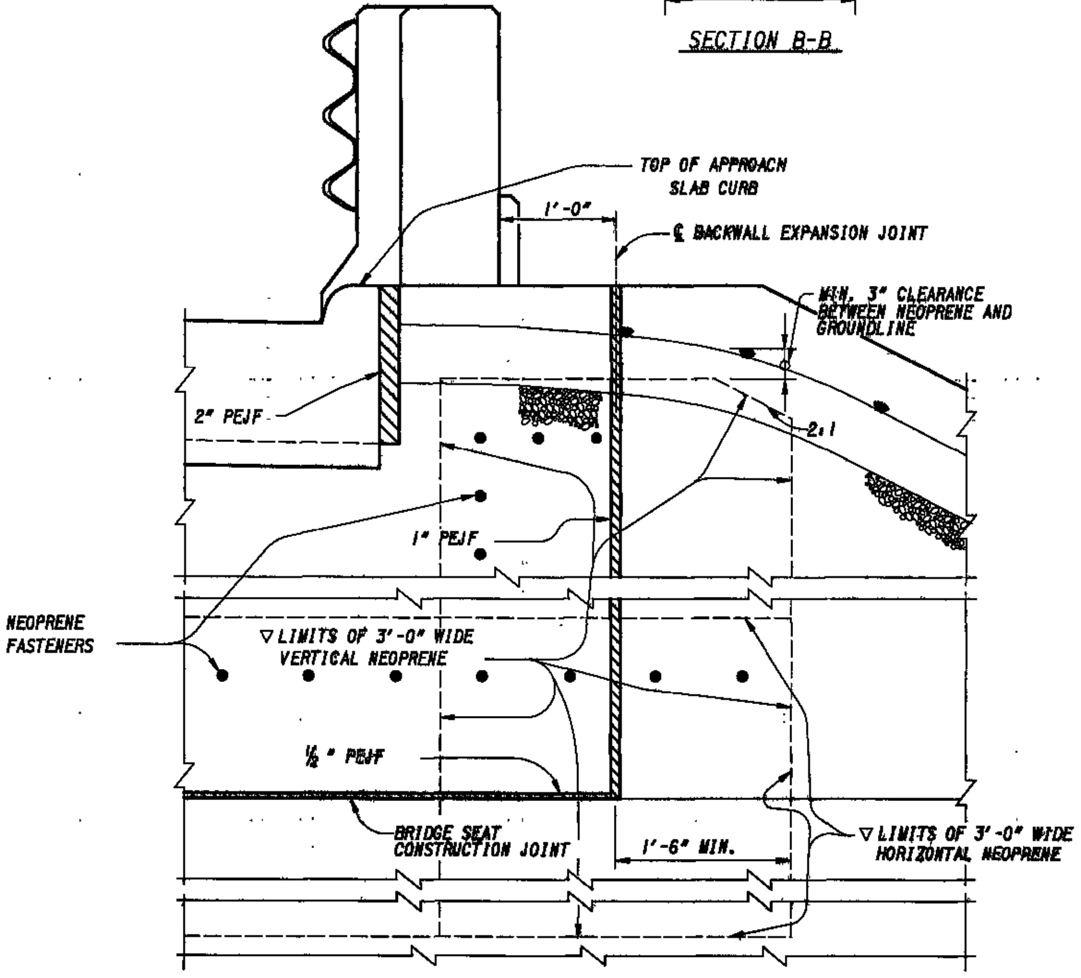
*REFER TO STD. CONSTR. DWG. DM-1.1 FOR PRECAST REINFORCED CONCRETE OUTLET DETAILS AND NOTES. INCLUDE WIRE CLOTH WITH ITEM 604 FOR PAYMENT



CRUSHED AGGREGATE SLOPE PROTECTION AT END OF DRAINAGE PIPE (12" DEEP) INCLUDE COST WITH ITEM 601, R.C.P., TYPE B, 2'-6" THICK, WITH FABRIC FILTER.

AT OUTSIDE EMBANKMENT-PHASE 2

TERMINATION OF 6" N.P.C.P.P. DETAIL


TOP OF APPROACH SLAB CURB
1'-0"
℄ BACKWALL EXPANSION JOINT
MIN. 3" CLEARANCE BETWEEN NEOPRENE AND GROUNDLINE
2" PEJF
2:1
1" PEJF
▽ NEOPRENE FASTENERS
▽ LIMITS OF 3'-0" WIDE VERTICAL NEOPRENE
½" PEJF
BRIDGE SEAT CONSTRUCTION JOINT
1'-6" MIN.
▽ LIMITS OF 3'-0" WIDE HORIZONTAL NEOPRENE

VIEW A-A

▽ SEE GENERAL NOTES SHEET 3/40

NOTES:

1. SEE SHEET 13/40 FOR ADDITIONAL NOTES AND DETAILS

LEGEND:

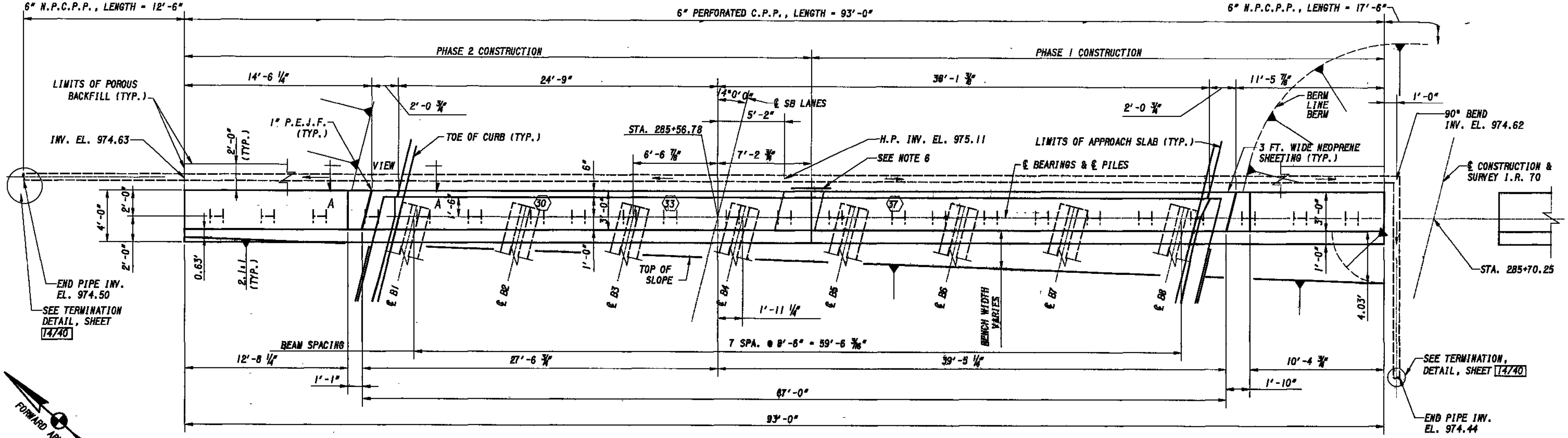
⟨14⟩ - PILE NUMBER
B.F. - BACK FACE
℄ - CENTERLINE OF BEARINGS
C.P.P. - CORRUGATED PLASTIC PIPE
DIA - DIAMETER
E.F. - EACH FACE
F.F. - FRONT FACE
H.P. - HIGH POINT
INV. EL. - INVERT ELEVATION
MC - MECHANICAL CONNECTOR
N.B. - NORTH BOUND
N.P.C.P.P. - NON-PERFORATED CORRUGATED PLASTIC PIPE
R.C.P. - ROCK CHANNEL PROTECTION
S.B. - SOUTHBOUND
TYP. - TYPICAL

MOODY/NOLAN INC.

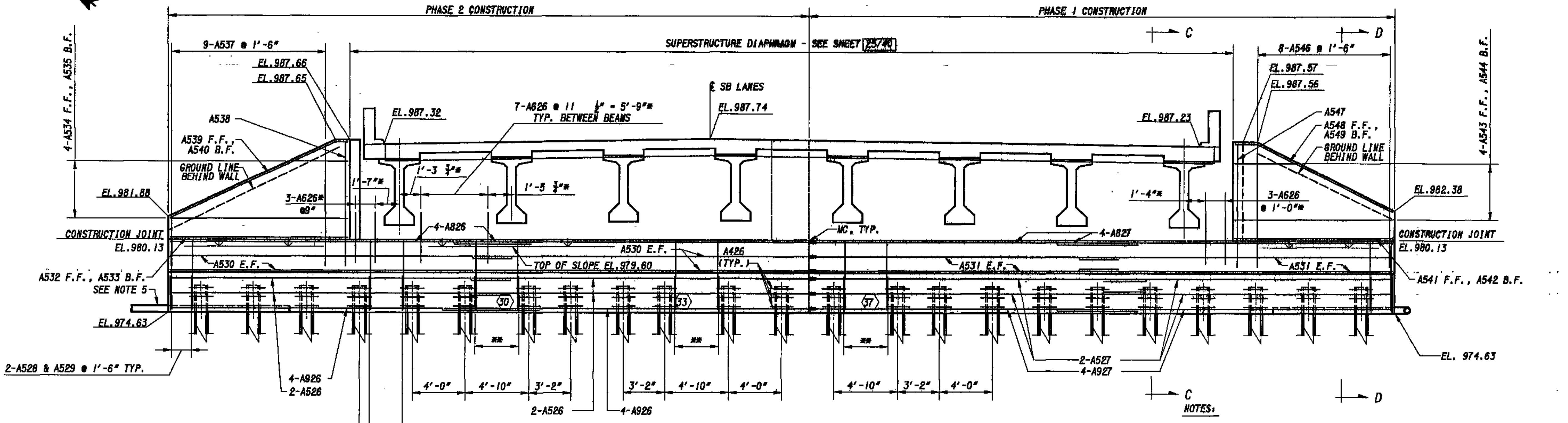
DESIGNED	DRAWN	REVIEWED	DATE
PHB	PC	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
RM		5202671 - LT	

REAR ABUTMENT SOUTHBOUND L DETAILS 2
BRIDGE NO. MED-71-0539L
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00



PLAN - FORWARD ABUTMENT



ELEVATION - FORWARD ABUTMENT

* MEASURED ALONG ℄ BRGS.
** 4-A528 & A529 @ EQUAL SPACES TYP. OF 3

NOTES:

1. FOR PILE LAYOUT SEE SHEET 11/40
2. FOR LEGEND SEE SHEET 14/40
3. FOR NOTES AND SECTIONS C-C & D-D SEE SHEET 16/40
   FOR VIEW A-A SEE SHEET 14/40
4. MINIMUM BAR LAPS: LAP #5 BAR 2'-11"
   LAP #6 BAR 3'-5"
   LAP #8 BAR 7'-3"
   LAP #9 BAR 6'-2"
5. 6" DIA. N.P.C.P.P. AT ENDS SPLICED TO PERFORATED PIPE AND OUTLET AS SHOWN IN PIPE TERMINATION DETAIL ON SHEET 14/40
6. PLACE TYPE 2 WATER PROOFING 3' WIDE, CENTERED ON JOINT FROM BOTTOM OF FOOTING TO APPROACH SLAB.

MOODY NOLAN INC.

DESIGNED	DRAWN	REVIEWED	DATE
PHB	RM/PC	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
RM		5202671 - LT	

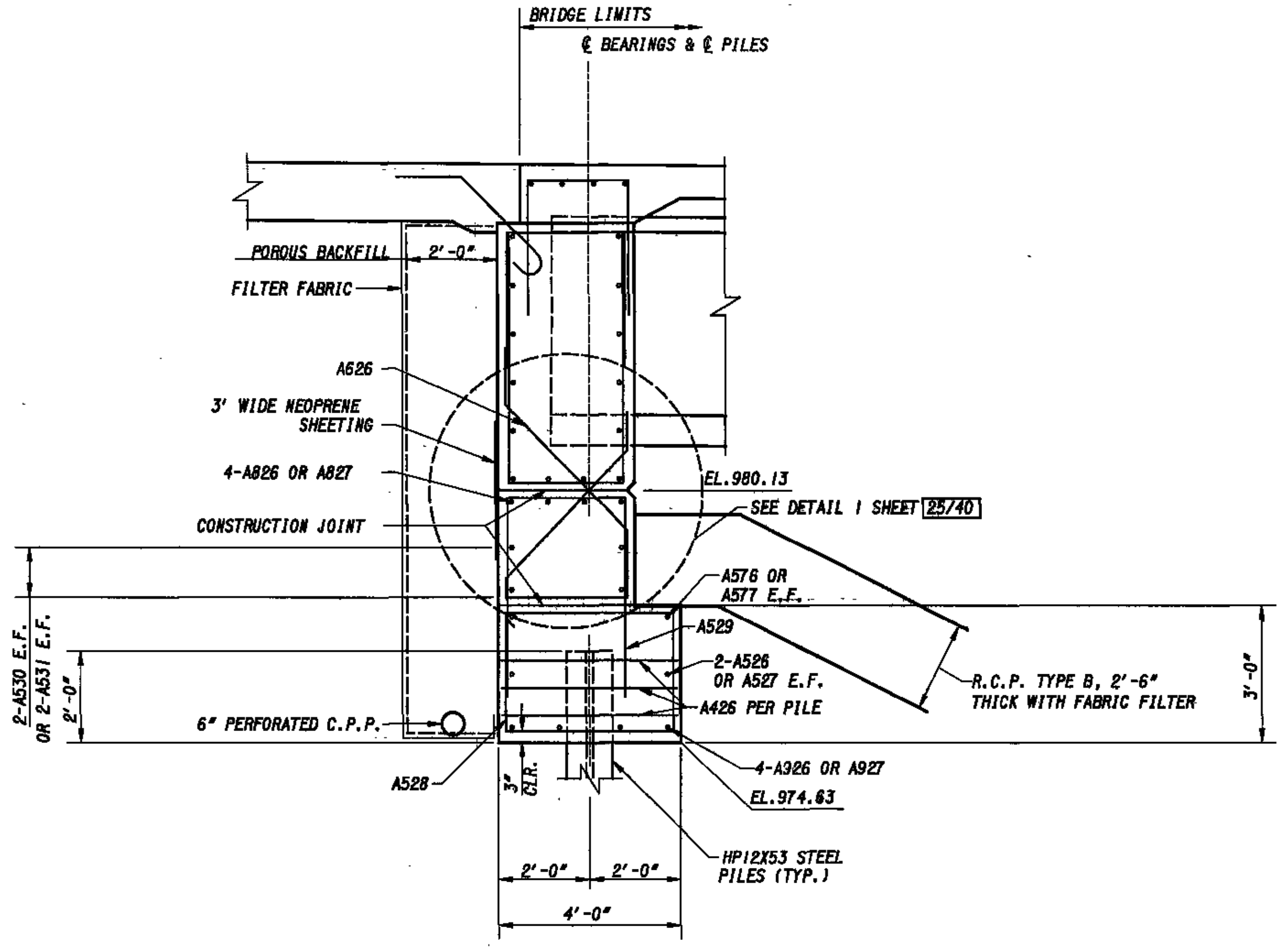
FORWARD ABUTMENT SOUTHBOUND L DETAILS I
BRIDGE NO. MED-71-0539L
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00

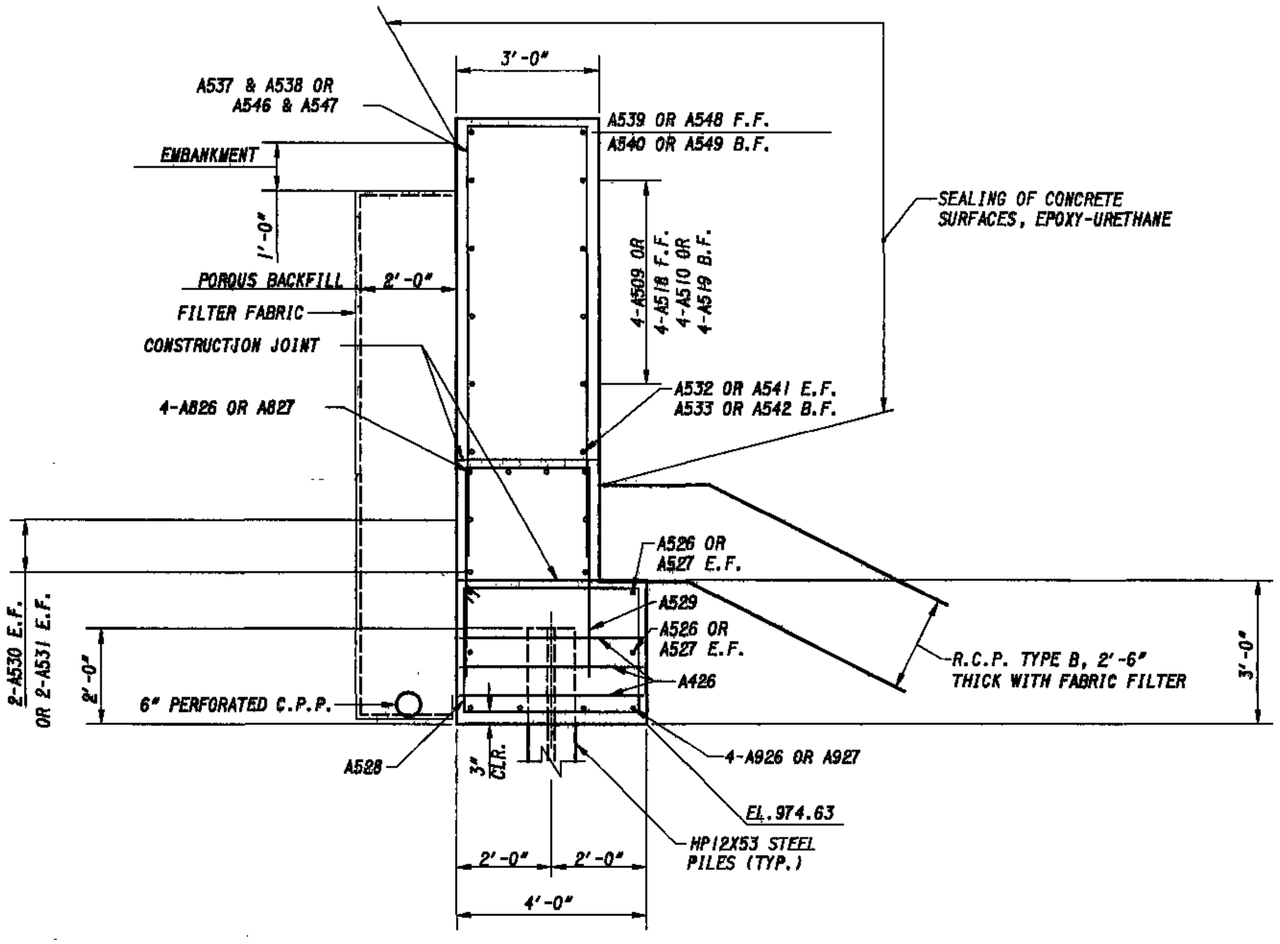
15/40

725
785

PLOTTED BY: $(USERNAME) 10/17/03 11:54:05 AM



SECTION C-C



SECTION D-D

NOTE:

1. SEE SHEET 15/40 FOR ADDITIONAL NOTES AND DETAILS

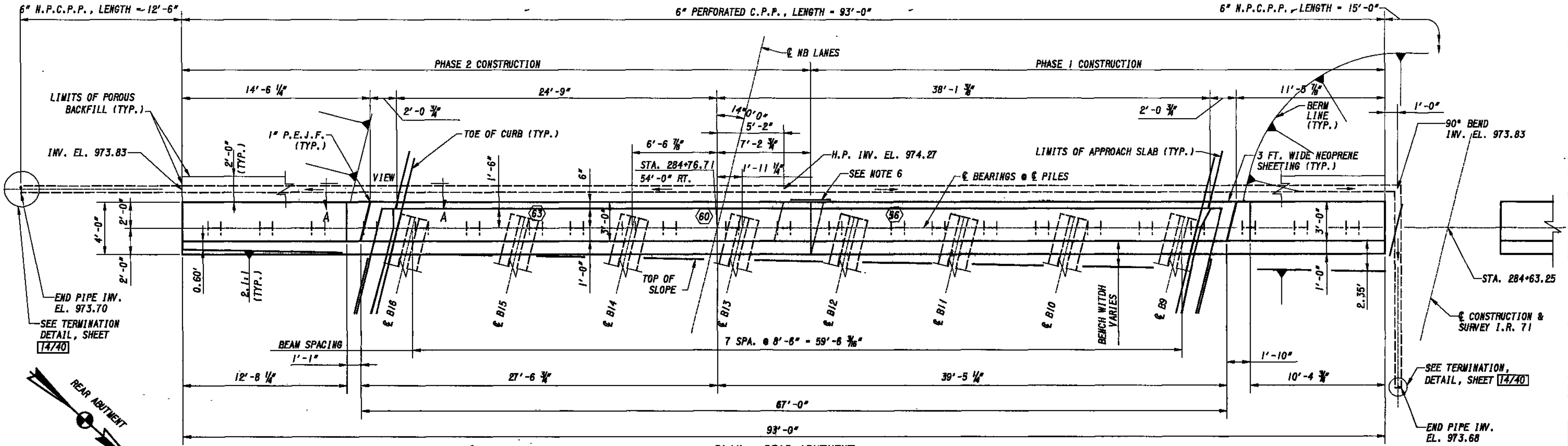
MOODY NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
PHB	PC	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
RM		5202671 - LT	

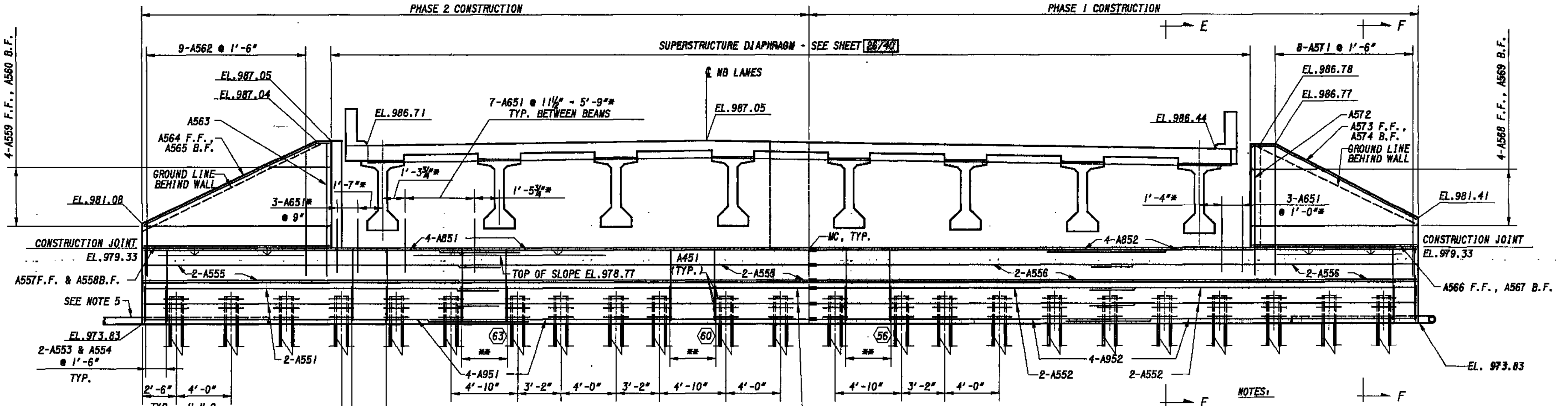
FORWARD ABUTMENT SOUTHBOUND L DETAILS 2
BRIDGE NO. MED-71-0539L
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00

PLOTTED BY: $(USERNAME) 10/17/03 08:14:47 AM pt#01202 Way-Med#Bridge#0539 Converted Drawings#MED71FA2CONVERT20.dgn



PLAN - REAR ABUTMENT



ELEVATION - REAR ABUTMENT

* MEASURED ALONG ℄ BRGS.

** 4-A553 & A554 @ EQUAL SPACES TYP. OF 3

NOTES:

1. FOR PILE LAYOUT SEE SHEET 12/40
2. FOR LEGEND SEE SHEET 14/40
3. FOR SECTIONS E-E & F-F SEE SHEET 20/40
   FOR VIEW A-A SEE SHEET 14/40
4. MINIMUM BAR LAPS: LAP #5 BAR 2'-11"
   LAP #6 BAR 3'-5"
   LAP #8 BAR 7'-3"
   LAP #9 BAR 6'-2"
5. 6" DIA. N.P.C.P.P. AT ENDS SPLICED TO PERFORATED PIPE AND OUTLET AS SHOWN IN PIPE TERMINATION DETAIL ON SHEET 14/40
6. PLACE TYPE 2 WATER PROOFING 3' WIDE, CENTERED ON JOINT FROM BOTTOM OF FOOTING TO BOTTOM OF APPROACH SLAB.

MOODY NOLAN INC

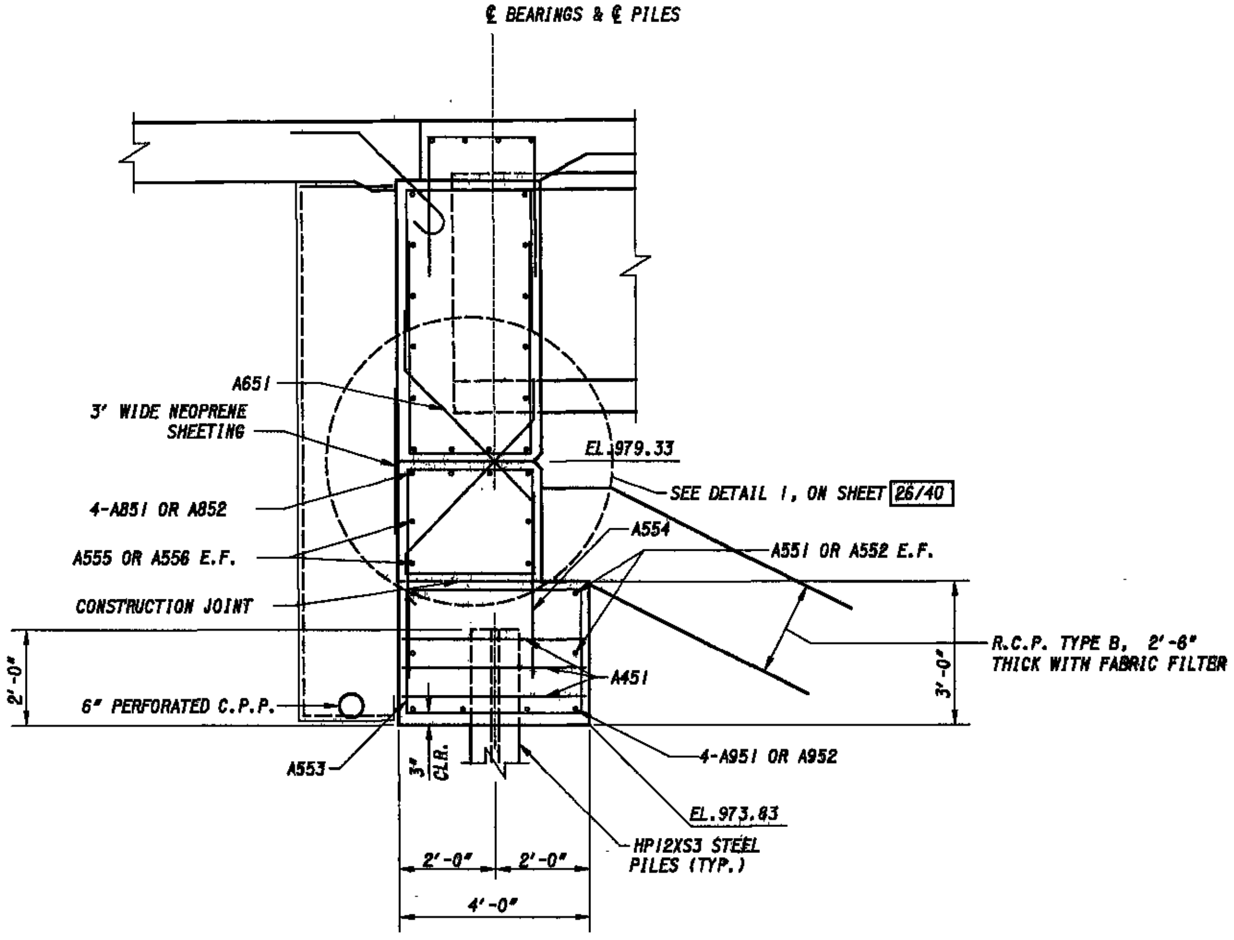
DESIGNED	DRAWN	REVIEWED	DATE
PHB	RM/PC	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
RM		5202701 - LT	

REAR ABUTMENT NORTHBOUND R DETAILS I
BRIDGE NO. MED-71-0539R
OVER CAMEL CREEK

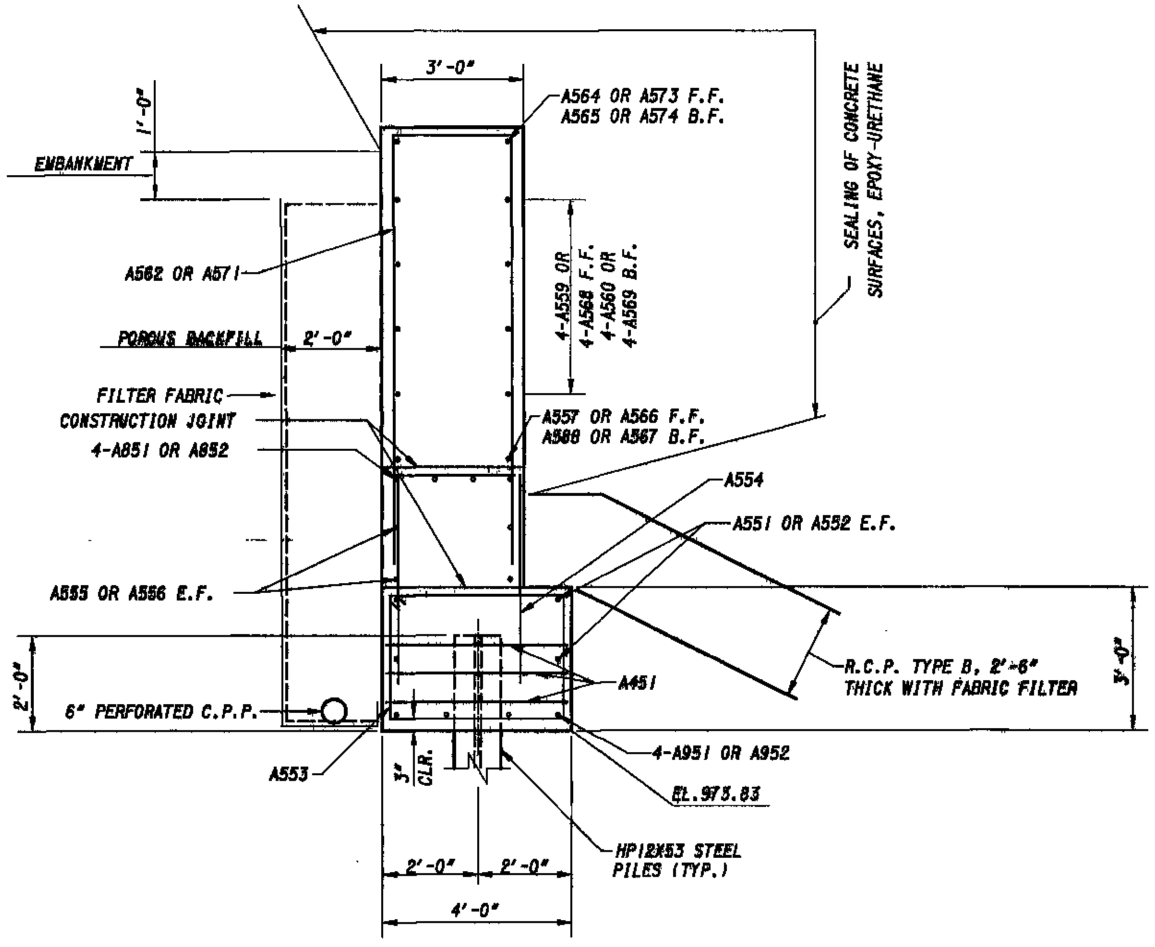
WAY/MED-71-7.04/0.00

17/40

727/785



SECTION E-E



SECTION F-F

NOTE:

1. SEE SHEET 17/40 FOR ADDITIONAL NOTES AND DETAILS.

MOODY/NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
PHB	RM/PC	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
RM		5202701 - RT	

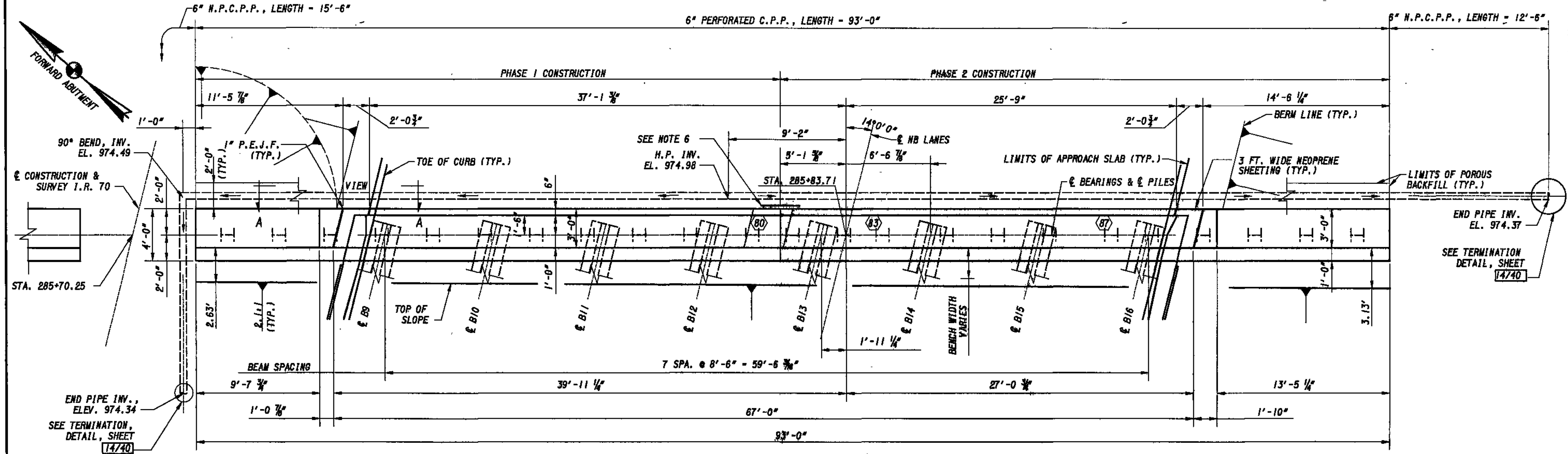
REAR ABUTMENT NORTHBOUND R DETAILS 2
BRIDGE NO. MED-71-0539R
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00

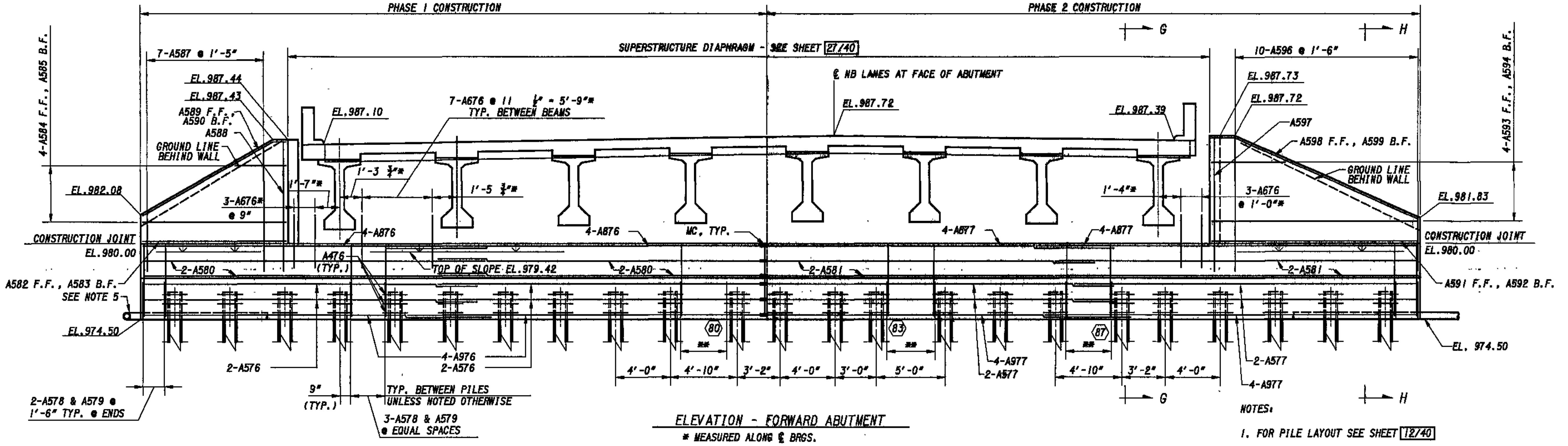
18/40

728/785

PLOTTED BY: $(USERNAME) 10/17/03 08:23:35 AM pt#01202 Way-Med\Bridge\0539 Converted Drawings\MED71RA4CONVERT2D.dgn



PLAN - FORWARD ABUTMENT



ELEVATION - FORWARD ABUTMENT

* MEASURED ALONG ℄ BRGS.

** 4-A578 & A579 @ EQUAL SPACES TYP. OF 3

NOTES:

1. FOR PILE LAYOUT SEE SHEET 12/40
2. FOR LEGEND SEE SHEET 14/40
3. FOR SECTIONS G-G & H-H SEE SHEET 20/40
   FOR VIEW A-A SEE SHEET 14/40
4. MINIMUM BAR LAPS: LAP #5 BAR 2'-11"
   LAP #6 BAR 3'-5"
   LAP #8 BAR 7'-3"
   LAP #9 BAR 6'-2"
5. 6" DIA. N.P.C.P.P. AT ENDS SPLICED TO PERFORATED PIPE AND OUTLET AS SHOWN IN PIPE TERMINATION DETAIL ON SHEET 14/40
6. PLACE TYPE 2 WATERPROOFING 3' WIDE, CENTERED ON JOINT FROM BOTTOM OF FOOTING TO BOTTOM OF APPROACH SLAB SEAT.

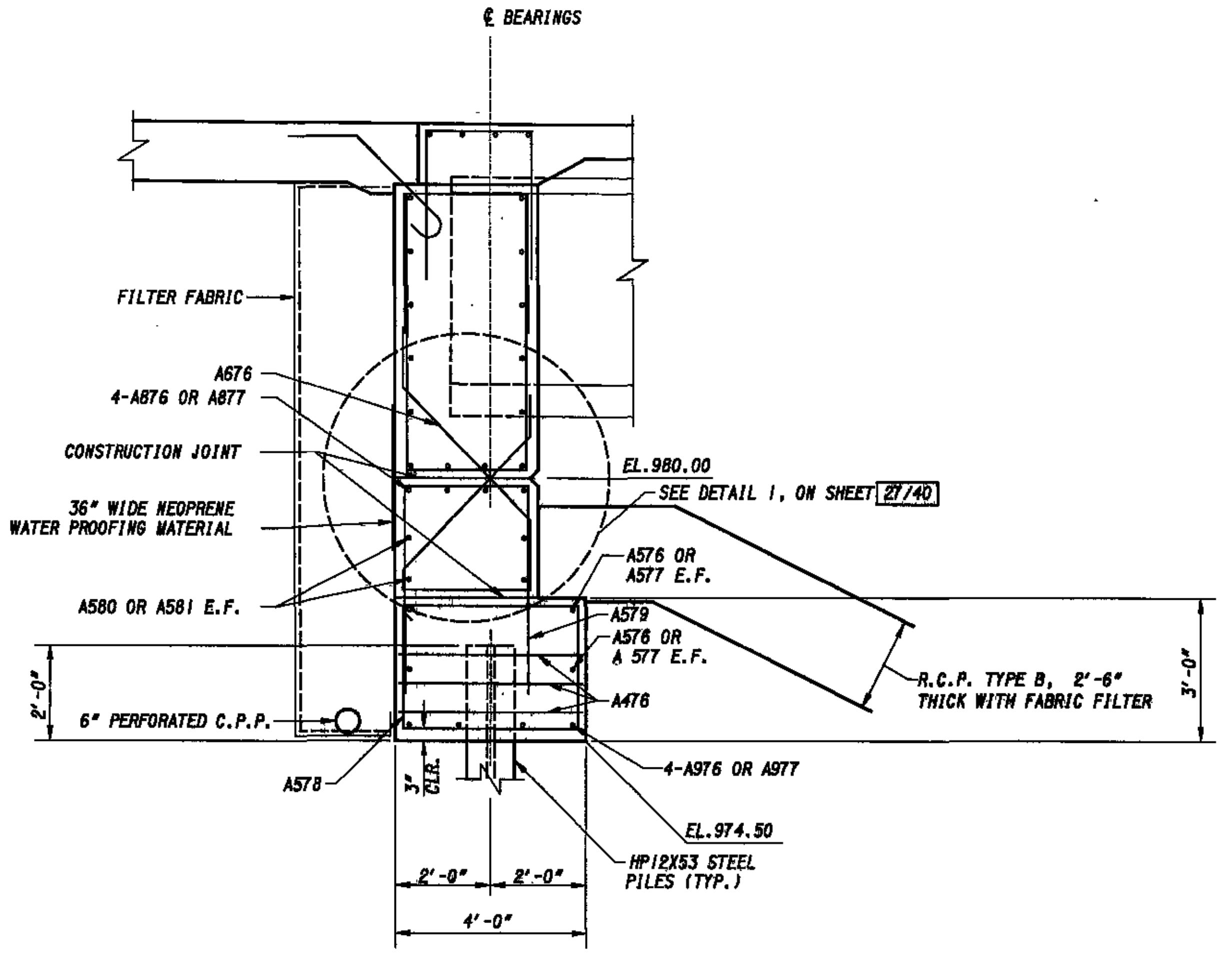
MOODY NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
PHB	RM/PC	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
RM		5202701 - RT	

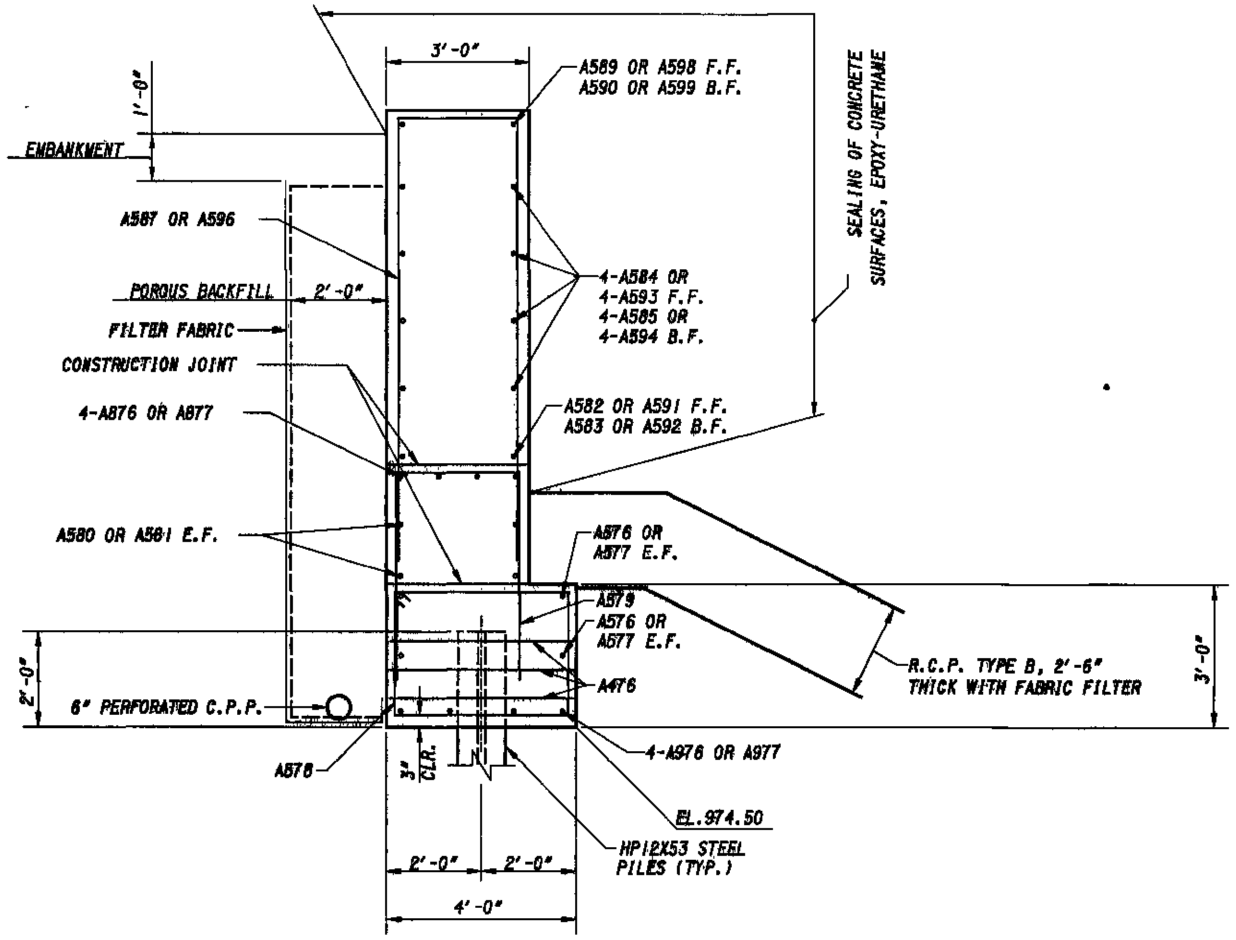
FORWARD ABUTMENT NORTHBOUND R DETAILS 1
BRIDGE NO. MED-71-0539R
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00

PLOTTED BY: $USERNAME$ 10/17/03 08:51:01 AM p:\40202 Way-Med\Bridges\0539 Converted Drawings\MED71FASCONVERT2D.dgn



SECTION G-G



SECTION H-H

NOTE:

1. SEE SHEET 21/40 FOR ADDITIONAL NOTES AND DETAILS.

MOODY NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
PMB	RM/PC	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
RM		5202701	

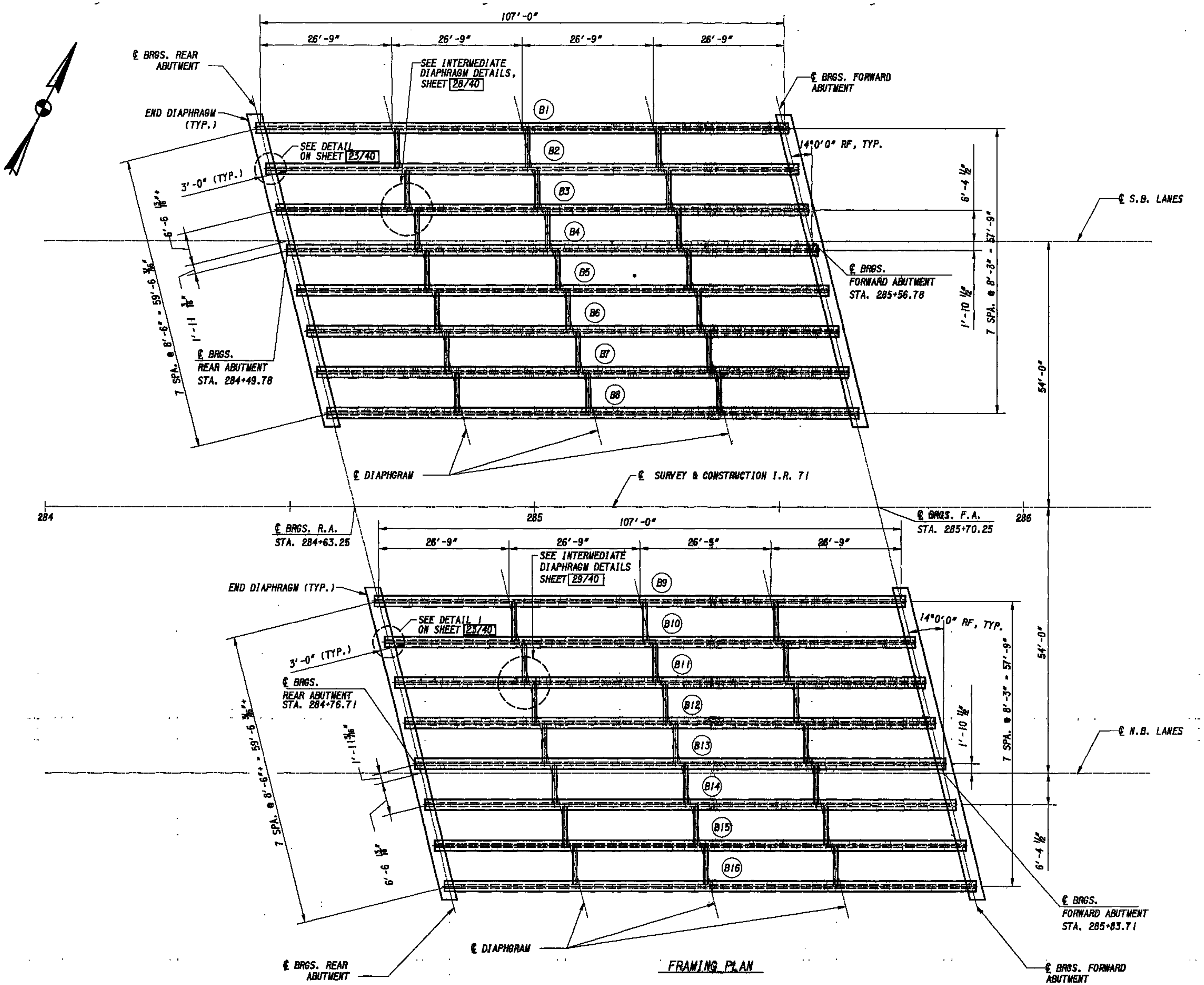
FORWARD ABUTMENT NORTHBOUND R DETAILS 2
BRIDGE NO. MED-71-0539R
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00

20/40

730/785

PLOTTED BY: $USERNAME 10/17/03 08:51:49 AM pl401202 Way-Med\Bridges\0539 Converted Drawings\MED71FA4CONVERTED.dgn



FRAMING PLAN

LEGEND:
NB = NORTHBOUND
SB = SOUTHBOUND
FA = FORWARD ABUTMENT
RA = REAR ABUTMENT
RF = RIGHT FORWARD
(B7) = BEAM NUMBER

MOODY/NOLAN INC
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
RW	RW/PC	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
PHB		5202671-LT 5202701-RT	

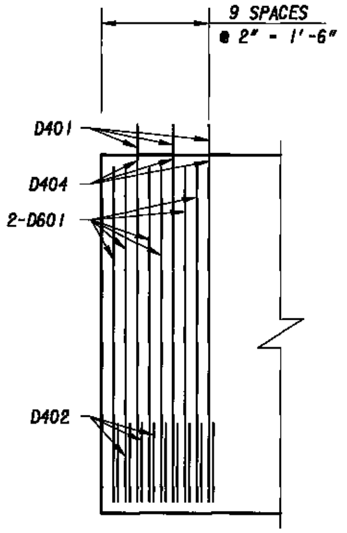
FRAMING PLAN
BRIDGE NO. MED-71-0539L/R
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00

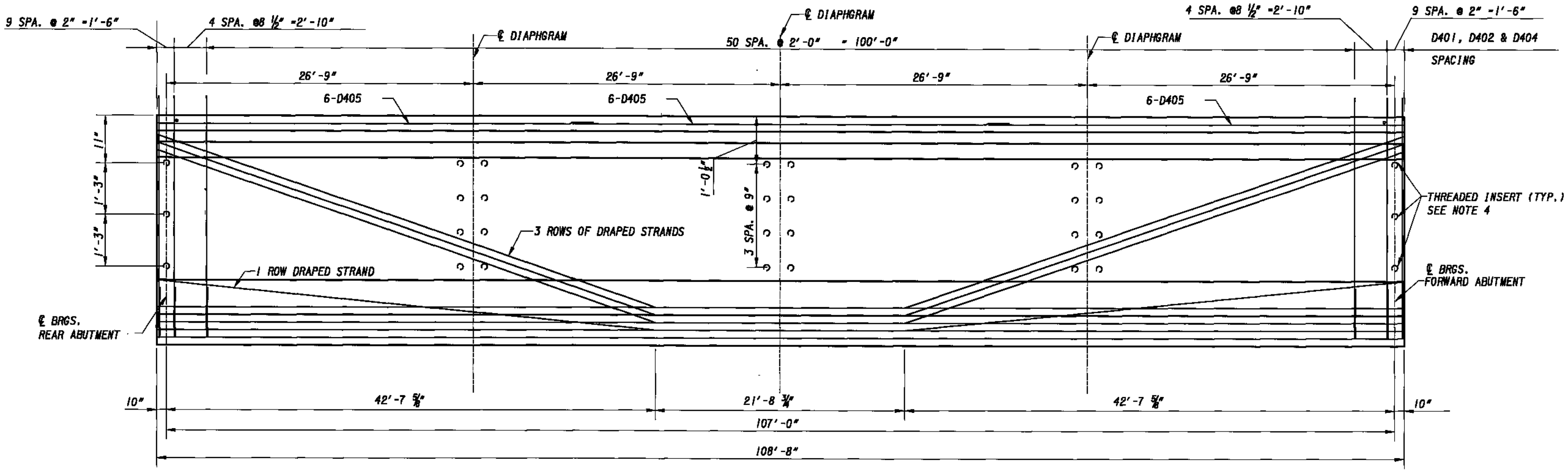
21/40

731/785

PLOTTED BY: $(USERNAME) 10/17/03 08:53:52 AM pt#01202 Way-Med\Bridge#0539 Converted Drawings\MED71SD1CONVERT2D.dgn

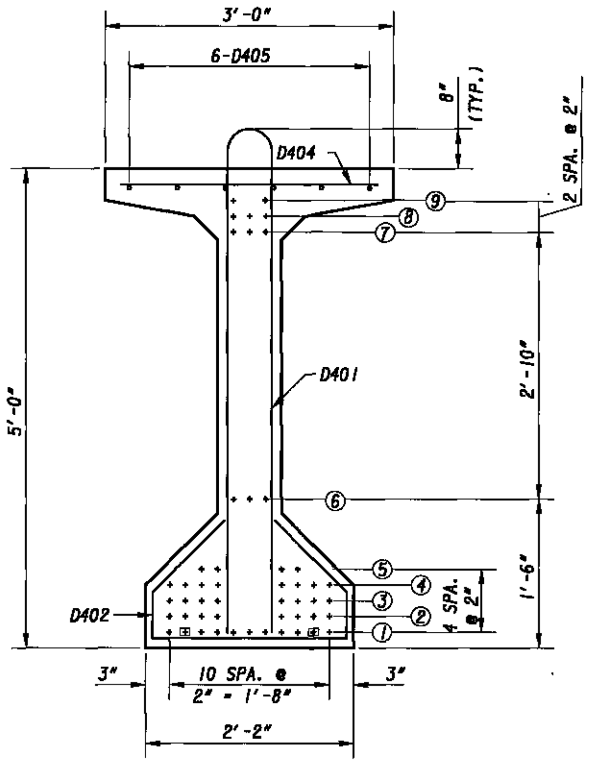


ANCHORAGE REINFORCEMENT
TYP. AT BEAM ENDS



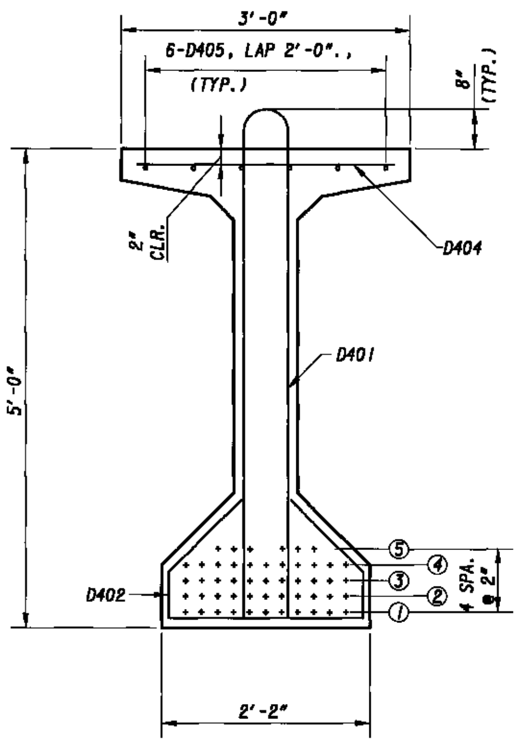
BEAM ELEVATION

(B1)-(B16)

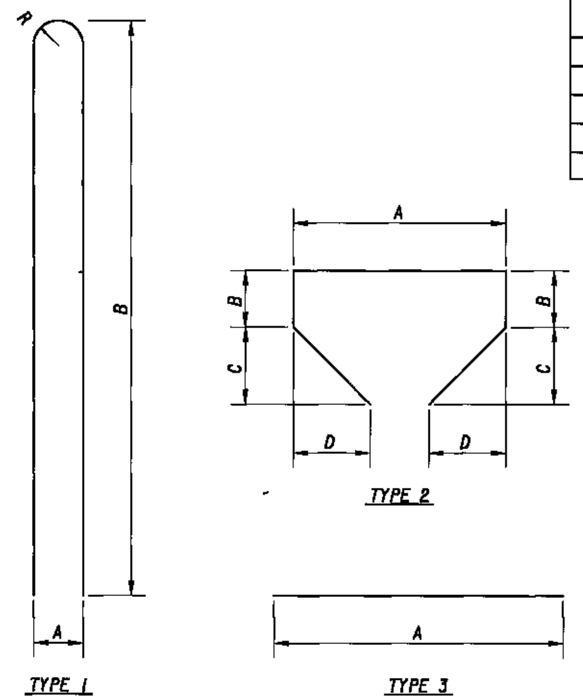


MODIFIED AASHTO TYPE 4 (60") - SPAN 1
END PATTERN (B1-B16)

⊠ = DEBONDED STRAND 2'-0"
EACH BEAM END



MODIFIED AASHTO TYPE 4 (60") - SPAN 1
MID-SPAN PATTERN (B1-B16)



BENDING DIAGRAMS
(ALL DIMENSIONS ARE OUT TO OUT. "R" IS INSIDE RADIUS)

MARK	TYPE	LENGTH	A	B	C	D	R
D401	1	11'-4"	5 ½"	5'-7"			2 ¼"
D402	2	4'-9"	1'-11 ½"	6 ¼"	8 ½"	8 ½"	
D404	3	2'-8"	2'-8"				
D405	3	38'-0"	38'-0"				
D601	3	4'-8"	4'-8"				

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST LETTER IDENTIFIES THE BAR LOCATION. THE NEXT DIGIT INDICATES THE INCH-POUND BAR SIZE AND THE REMAINING DIGITS ITS SEQUENCE NUMBER. ALL STEEL SHALL BE EPOXY COATED.

CAMBER VALUES DUE TO PRESTRESS FORCE AND BEAM WEIGHT
B = ANTICIPATED MIDSPAN CAMBER DUE TO DESIGN PRESTRESSING FORCE AT TIME OF RELEASE C = MIDSPAN DEFLECTION DUE TO SELF WEIGHT OF BEAM
CAMBER AT RELEASE = B - C = 2⅜"
CAMBER AT ERECTION = 1.8B - 1.85C = 4⅛"
LONG TERM CAMBER = 2.45B - 2.40C = 5⅞"

NOTES:

1. FOR ABUTMENT DIAPHRAGM DETAILS, SEE SHEET 24-27/40.
2. FOR INTERMEDIATE DIAPHRAGM DETAILS, SEE SHEET 28 & 29/40.
3. SEE STD. DWG. PSID-1-99 FOR BEAM DETAILS NOT SHOWN.
4. FOR INSERT LOCATIONS FOR THREADED RODS, SEE ABUTMENT PLAN ON SHEET 28/40.

NUMBER OF STRANDS PER ROW																						
	END									MIDSPAN						CONCRETE STRENGTHS		D401 BARS REQ'D PER BEAM	D402 BARS REQ'D PER BEAM	D404 BARS REQ'D PER BEAM	D405 BARS REQ'D PER BEAM	D601 BARS REQ'D PER BEAM
BEAM MARK	①	②	③	④	⑤	⑥	⑦	⑧	⑨	①	②	③	④	⑤	TOTAL STRANDS	f'ci	f'c					
B1-B8	11	8	8	8	4	3*	3*	3*	2*	11	11	11	11	6	50	5500	7000	63	75	63	18	24
B9-B16	11	8	8	8	4	3*	3*	3*	2*	11	11	11	11	6	50	5500	7000	63	75	63	18	24

* DRAPED STRANDS

MOODY NOLAN INC.
Architecture•Engineering•Planning•Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED RW
DRAWN PC
REVIEWED GT
DATE 6/03
CHECKED PHB
REVISED
STRUCTURE FILE NO. 5202701 - RT

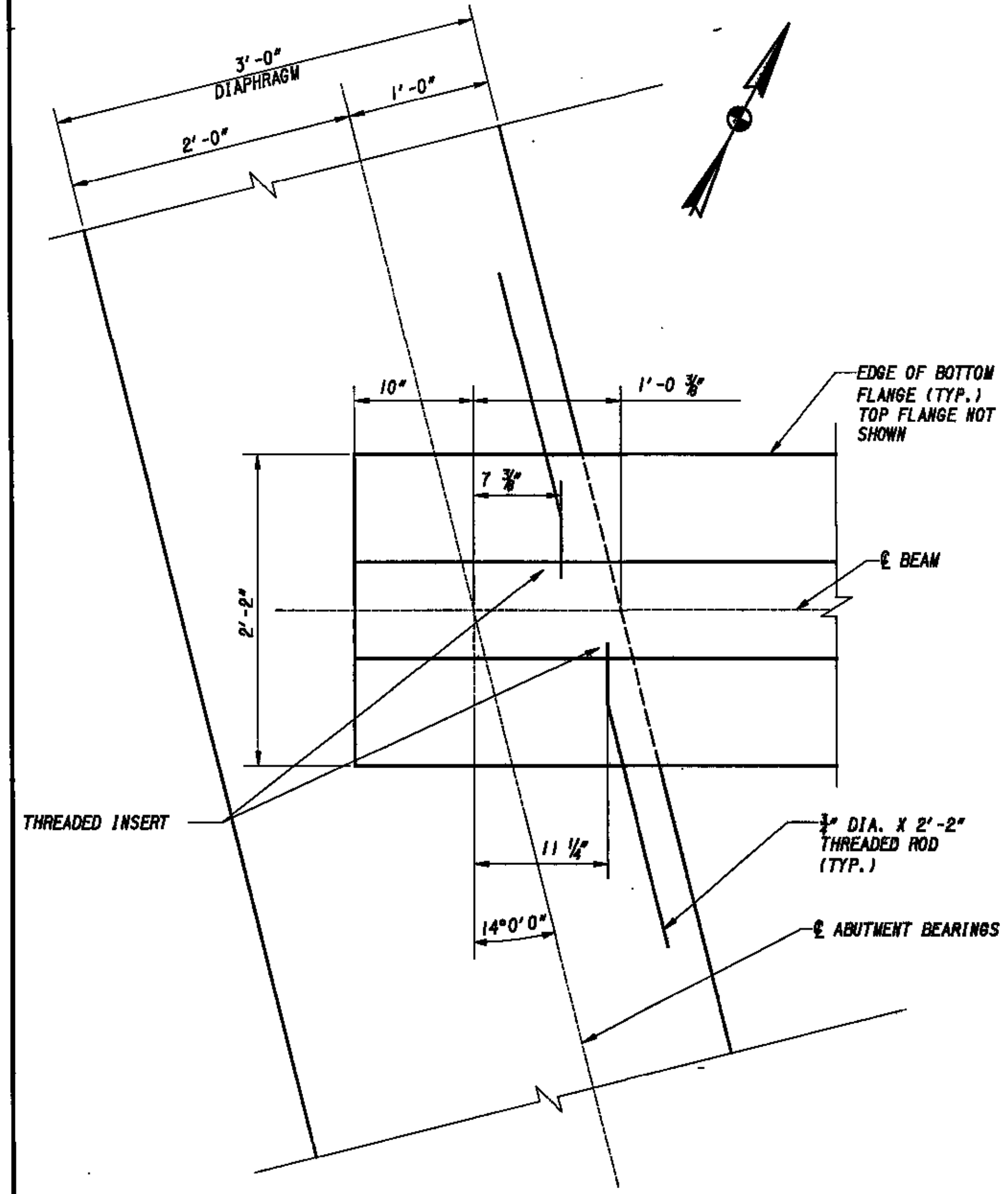
BEAM DETAILS I
BRIDGE NO. MED-71-0539L/R
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00

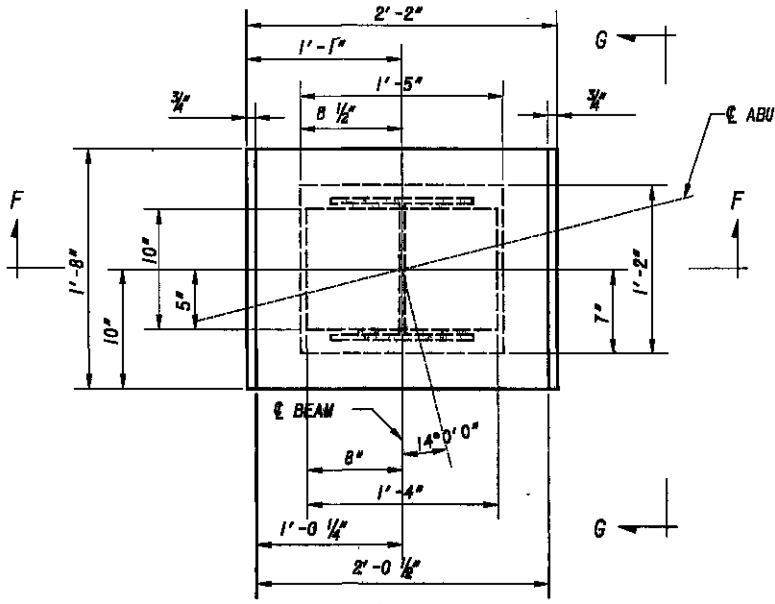
22/40

732/785

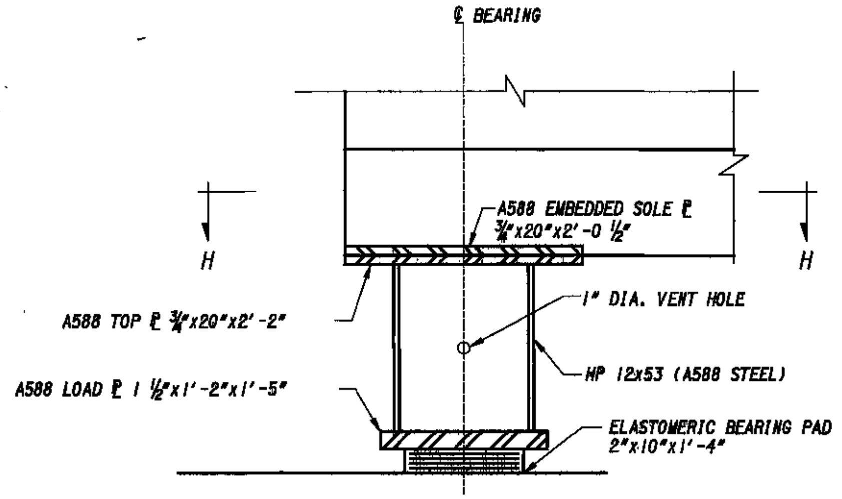
PLOTTED BY: #USER# #DATE# #TIME# #FILE#



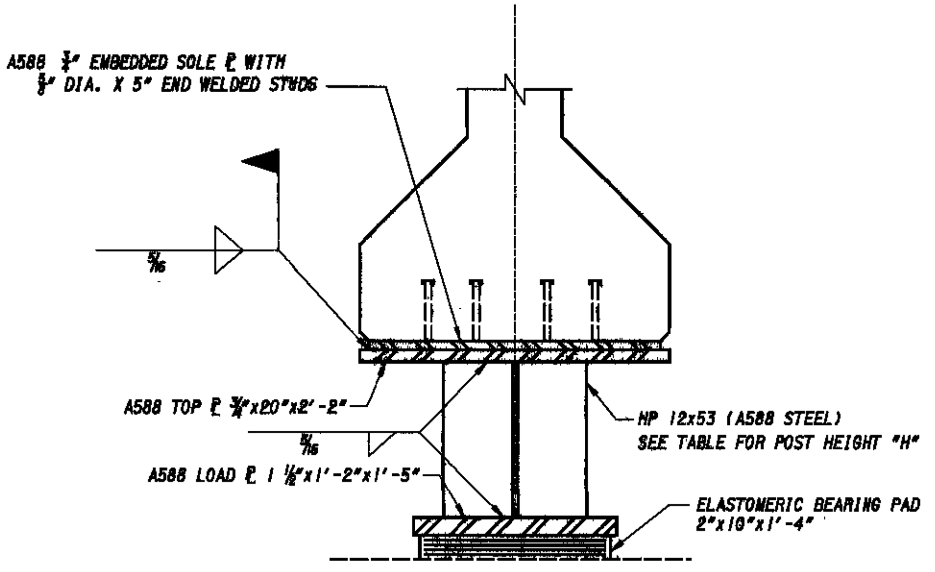
ABUTMENT PLAN - DETAIL 1
(REAR ABUTMENT SHOWN, FORWARD ABUTMENT OPPOSITE HAND)



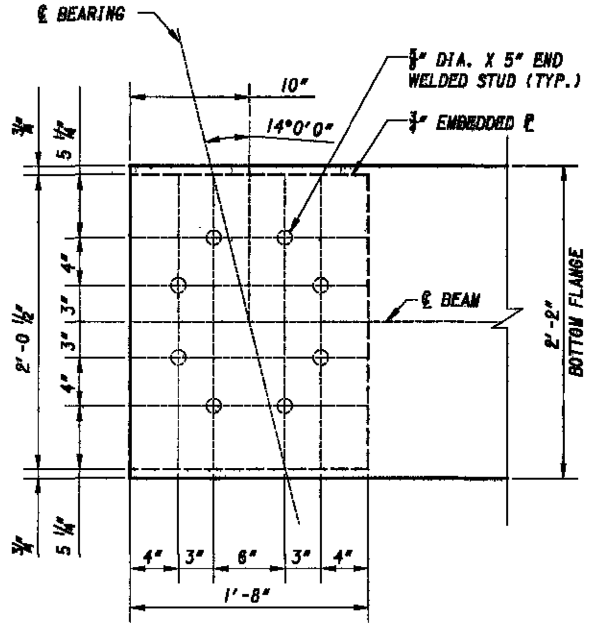
ABUTMENT BEARING PLAN


℄ BEARING
A588 EMBEDDED SOLE Ᵽ 3/4"x20"x2'-0 1/2"
H
H
1" DIA. VENT HOLE
A588 TOP Ᵽ 3/4"x20"x2'-2"
HP 12x53 (A588 STEEL)
A588 LOAD Ᵽ 1 1/2"x1'-2"x1'-5"
ELASTOMERIC BEARING PAD 2"x10"x1'-4"

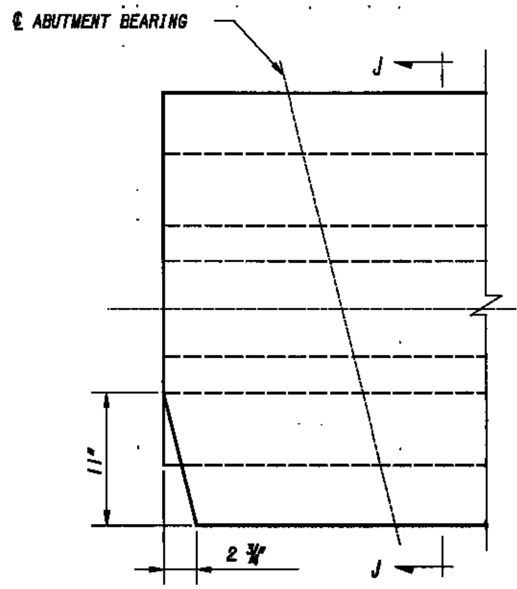
VIEW G-G


A588 3/4" EMBEDDED SOLE Ᵽ WITH 5/8" DIA. X 5" END WELDED STUDS
5/16
A588 TOP Ᵽ 3/4"x20"x2'-2"
5/16
A588 LOAD Ᵽ 1 1/2"x1'-2"x1'-5"
HP 12x53 (A588 STEEL) SEE TABLE FOR POST HEIGHT "H"
ELASTOMERIC BEARING PAD 2"x10"x1'-4"

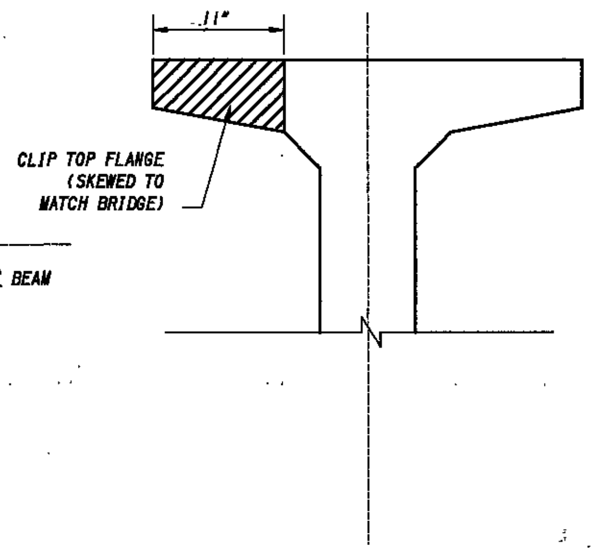
SECTION F-F



SECTION H-H



TOP FLANGE CLIP DETAIL
(TYPICAL)



SECTION J-J

NOTES:

LOAD PLATE:
THE STEEL LOAD PLATE SHALL BE THE SAME MATERIAL AS THE ATTACHED STRUCTURAL STEEL AND BE SIMILARLY CLEANED AND COATED. SURFACE PREPARATION AND PRIMING SHALL BE DONE IN THE SHOP AND BE INCLUDED IN THE PRICE BID FOR THE BEARINGS. FIELD COATS SHALL BE INCLUDED IN THE PRICE BID FOR PAINTING MAIN STRUCTURAL STEEL.

THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.

WELDING:
CONTROL WELDING SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300°F AS DETERMINED BY USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

BEARING REPOSITIONING:
IF THE BEAMS ARE ERECTED AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40±F AND THE BEARING SHEAR DEFLECTION EXCEEDS 1/6 OF THE BEARING HEIGHT AT 60±F (+/-) 10±F, RAISE THE BEAMS OR GIRDERS TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60±F (+/-) 10±F.

ELASTOMERIC BEARINGS:
THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

BASIS OF PAYMENT:
THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELSATOMERIC BEARINGS EITHER FIXED OR EXPANSION. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516, EACH, ELSATOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE.

LEGEND:

℄ - CENTERLINE
Ᵽ - PLATE
DIA. - DIAMETER
TYP. - TYPICAL
RA - REAR ABUTMENT
FA - FORWARD ABUTMENT

POST HEIGHT "H"		
BEAM	RA	FA
1	0'-9 11/16"	0'-8 1/4"
2	0'-10 11/16"	0'-10"
3	1'-0 1/2"	0'-11 3/4"
4	1'-0 7/16"	1'-0 3/4"
5	1'-0"	0'-11 3/8"
6	0'-10 5/8"	0'-10"
7	0'-9 3/16"	0'-8 5/8"
8	0'-7 3/4"	0'-7 1/4"
9	0'-7 1/4"	0'-7 1/4"
10	0'-8 15/16"	0'-9"
11	0'-10 5/8"	0'-10 11/16"
12	1'-0 1/4"	1'-0 7/16"
13	1'-1 15/16"	1'-2 1/8"
14	1'-1 1/4"	1'-1 1/2"
15	0'-11 15/16"	1'-0 1/8"
16	0'-10 7/16"	0'-10 3/4"

BEARING DESIGN SUMMARY:

ELASTOMERIC:	EXTERNAL	INTERNAL	ELASTOMER	STEEL	TOTAL
NO. OF LAYERS	2	3	5	4	9
THICKNESS/ LAYER, IN.	0.273	0.390	0.663	0.0747	2.015

DESIGN LOAD:
DEAD LOAD - 104.0 K
LIVE LOAD - 26.0 K
TOTAL LOAD - 130.0 K

MOODY NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
PHB	RC	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
RM		5202871-LT	5202701-RT

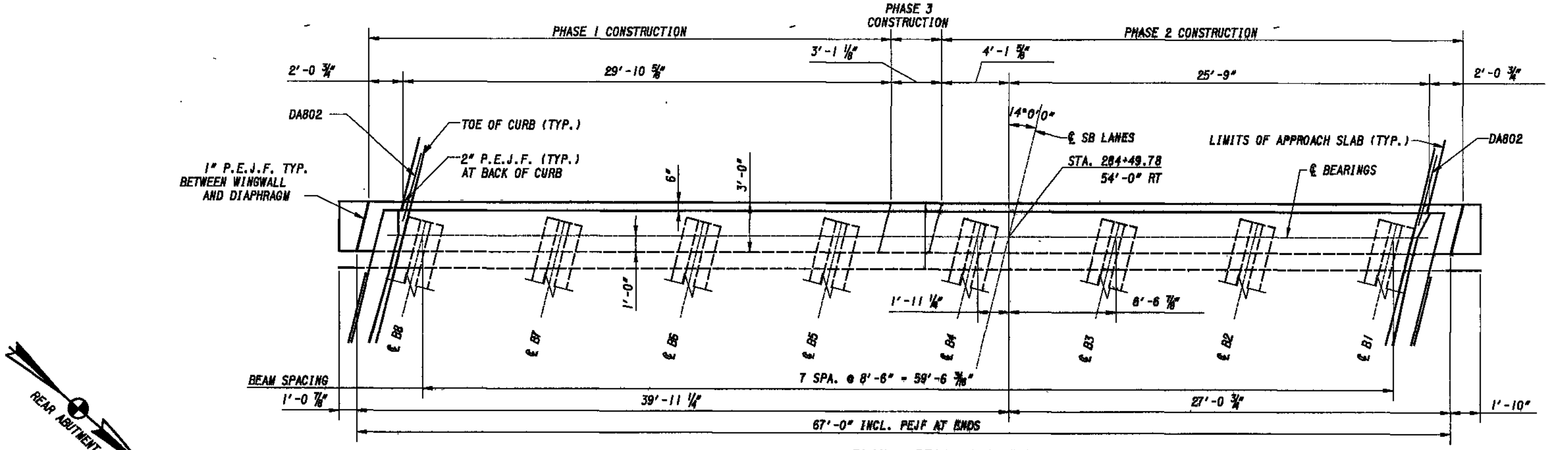
BEAM DETAILS 2
BRIDGE NO. MED-71-0539L/R
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00

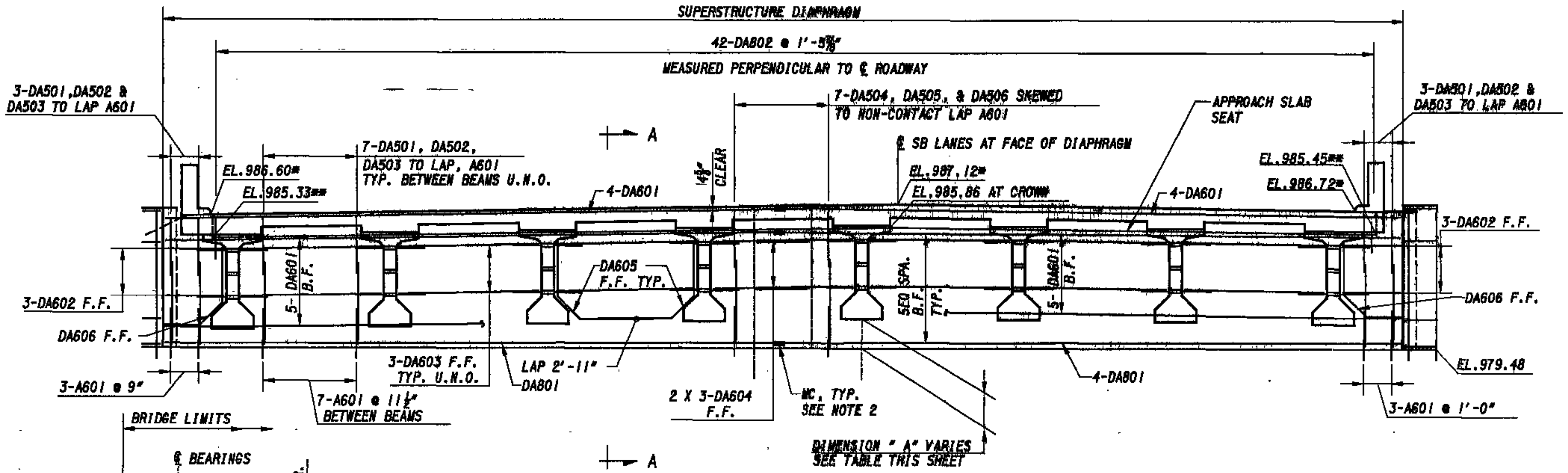
23/40

733/785

PLOTTED BY: $(USERNAME) 10/17/03 09:08:43 AM pw:\01202 Way-Med\Bridges\0539 Converted Drawings\MED71S03CONVERT2D.dgn

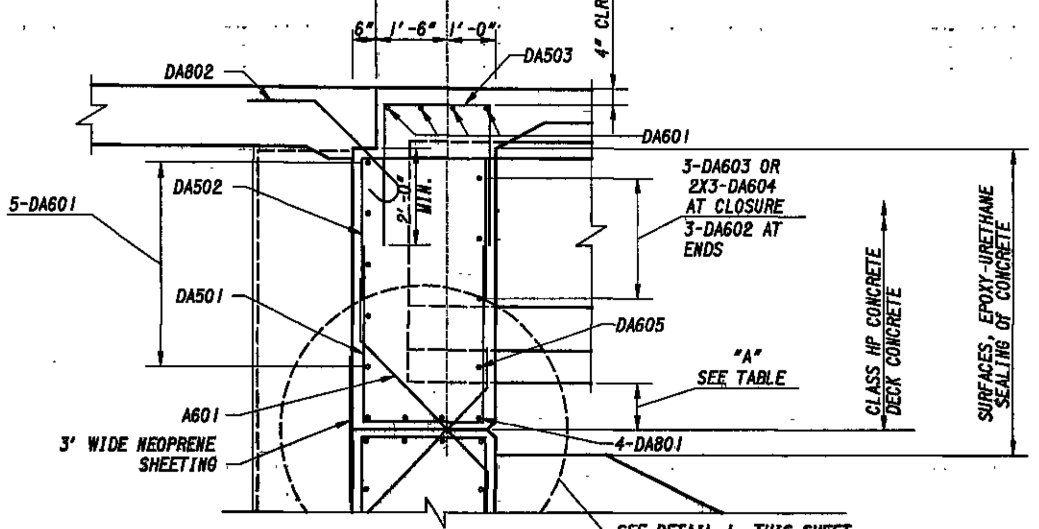


PLAN - REAR ABUTMENT

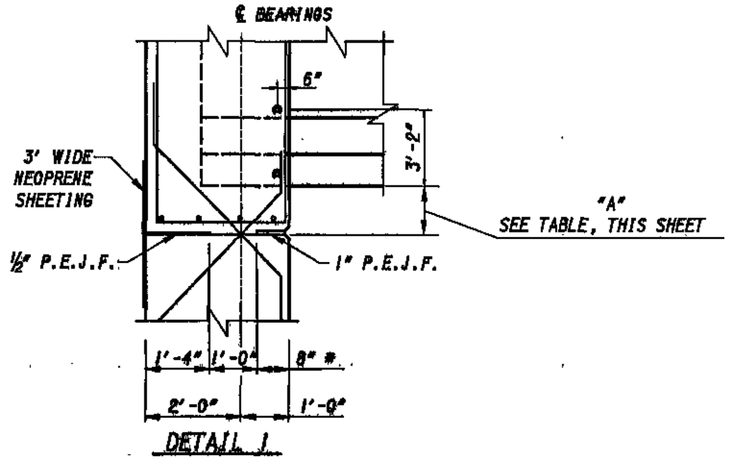


ELEVATION - REAR ABUTMENT

* AT FACE OF DIAPHRAGM
** AT APPROACH SLAB SEAT



SECTION A-A



DETAIL 1

* PROVIDE 6" AT ELASTOMERIC
BEARINGS TO AVOID OVERLAP SEAT

DIMENSION "A" TABLE

	BEAM NO. 8	BEAM NO. 7	BEAM NO. 6	BEAM NO. 5	BEAM NO. 4	BEAM NO. 3	BEAM NO. 2	BEAM NO. 1
REAR ABUTMENT	1'-0"	1'-1 7/16"	1'-2 7/8"	1'-4 1/4"	1'-5 11/16"	1'-4 3/4"	1'-3 1/16"	1'-1 7/16"

NOTES:

1. FOR LEGEND SEE SHEET 14/40
2. SEE MECHANICAL CONNECTOR NOTE ON SHEET 3/40
3. PHASED CONSTRUCTION ABUTMENT DIAPHRAGM CONCRETE, PRESTRESSED I-BEAM SUPERSTRUCTURE: PLACE ABUTMENT DIAPHRAGM CONCRETE ENCASING PRESTRESSED I-BEAM MEMBERS AT THE SAME TIME AS THE DECK CONCRETE OF AN INDIVIDUAL CONSTRUCTION PHASE TO ALLOW FOR EXPECTED DEAD LOAD ROTATION AT THE ABUTMENTS.
4. MINIMUM STEEL LAP LENGTHS
   - #5 BAR = 1'-11"
   - #6 BAR = 2'-11"

MOODY/NOLAN INC.
Architecture·Engineering·Planning·Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
PHB	RM/PC	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
RM		5202671-LT	

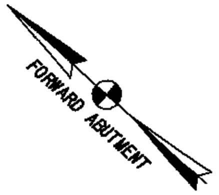
REAR ABUTMENT-END DIAPHRAGM SOUTHBOUND L DETAILS
BRIDGE NO. MED-71-0539L
OVER CAMEL CREEK

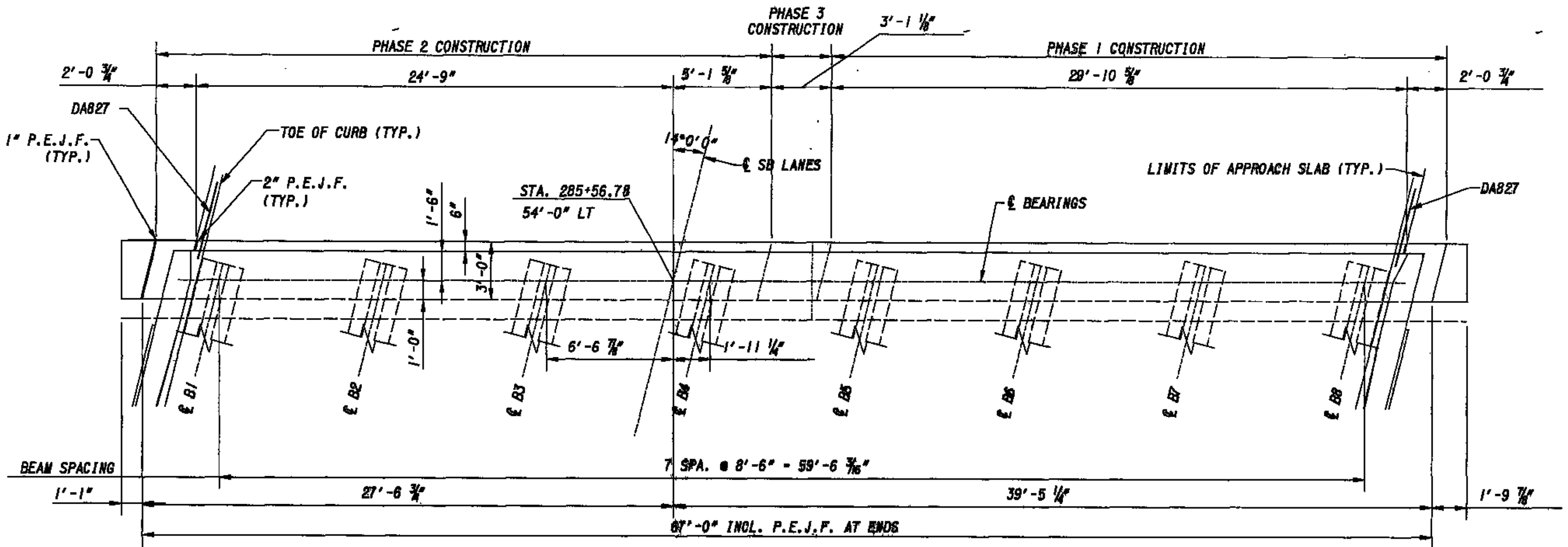
WAY/MED-71-7.04/0.00

24/40

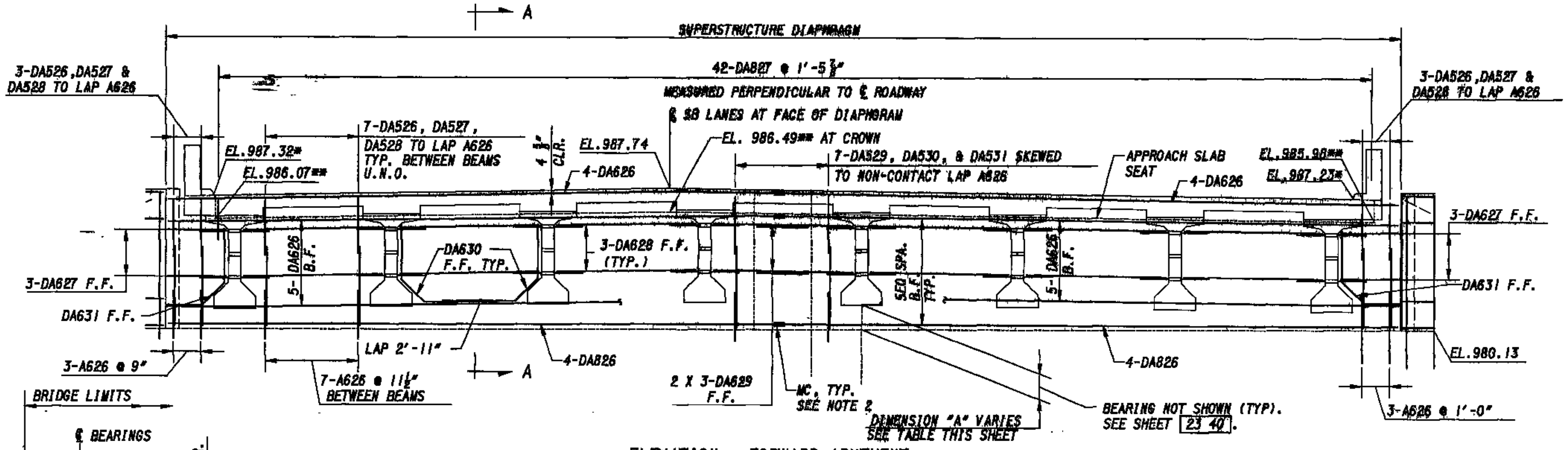
734
785

PLOTTED BY: $(USERNAME) 10/17/03 09:23:03 AM

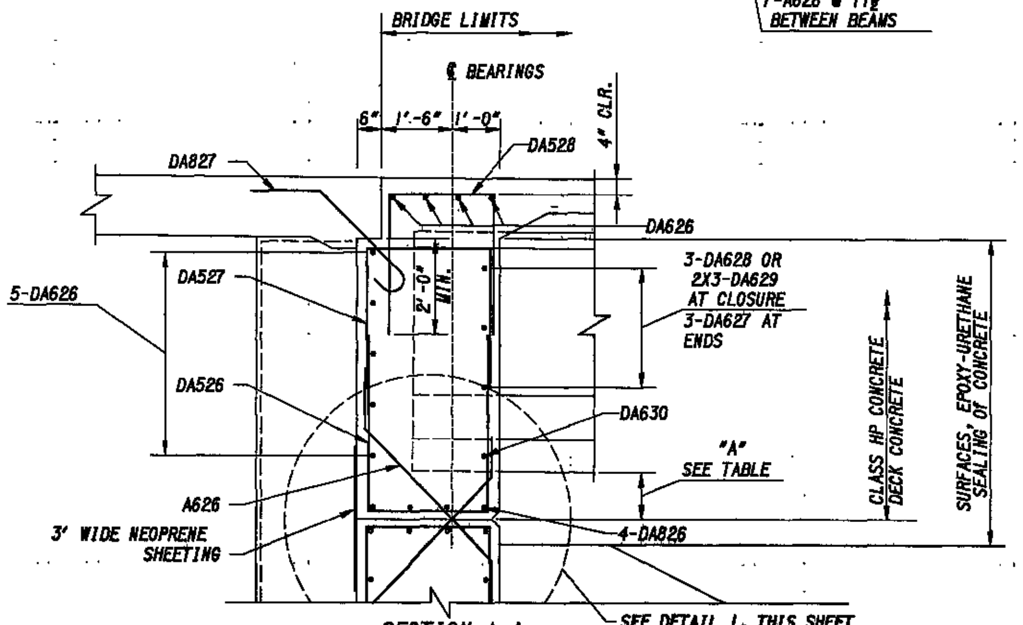




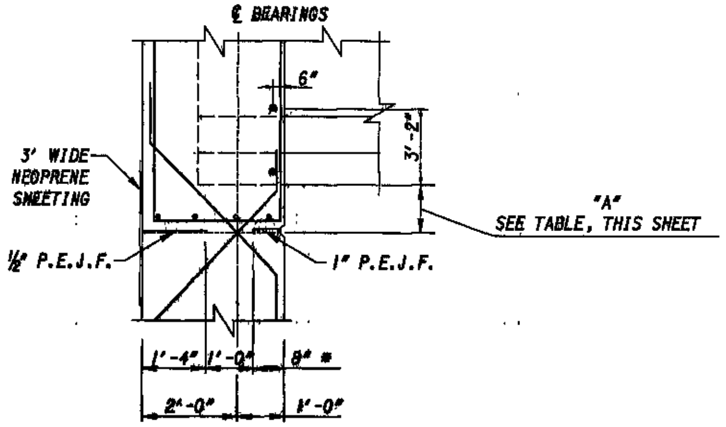
PLAN - FORWARD ABUTMENT



ELEVATION - FORWARD ABUTMENT
* AT FACE OF DIAPHRAGM
** AT APPROACH SLAB SEAT



SECTION A-A



DETAIL 1
* PROVIDE 6" AT ELASTOMERIC BEARINGS TO AVOID OVERLAP SEAT

DIMENSION "A" TABLE

	BEAM NO. 1	BEAM NO. 2	BEAM NO. 3	BEAM NO. 4	BEAM NO. 5	BEAM NO. 6	BEAM NO. 7	BEAM NO. 8
FORWARD ABUTMENT	1'-1"	1'-2 3/4"	1'-4 1/8"	1'-5 1/8"	1'-4 1/8"	1'-2 3/4"	1'-1 3/8"	1'-0"

NOTES:

1. FOR LEGEND SEE SHEET 14/40
2. SEE MECHANICAL CONNECTOR NOTE ON SHEET 3/40
3. PHASED CONSTRUCTION ABUTMENT DIAPHRAGM CONCRETE, PRESTRESSED I-BEAM SUPERSTRUCTURE: PLACE ABUTMENT DIAPHRAGM CONCRETE ENCASING PRESTRESSED I-BEAM MEMBERS AT THE SAME TIME AS THE DECK CONCRETE OF AN INDIVIDUAL CONSTRUCTION PHASE TO ALLOW FOR EXPECTED DEAD LOAD ROTATION AT THE ABUTMENTS.
4. MINIMUM STEEL LAP LENGTHS
   #5 BAR = 1'-11"
   #6 BAR = 2'-11"

MOODY NOLAN INC.
Architecture • Engineering • Planning • Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED PHB
DRAWN RM/PC
REVIEWED GT
DATE 6/03
CHECKED RM
REVISED
STRUCTURE FILE NO. 5202671-LT

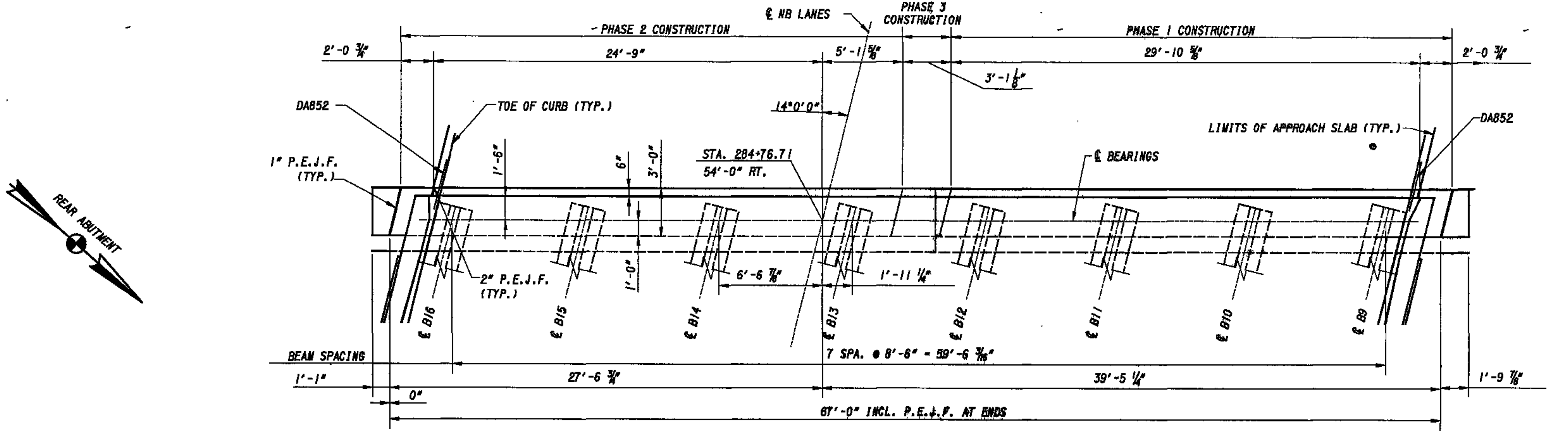
FORWARD ABUTMENT-END DIAPHRAGM SB L DETAILS
BRIDGE NO. MED-71-0539L
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00

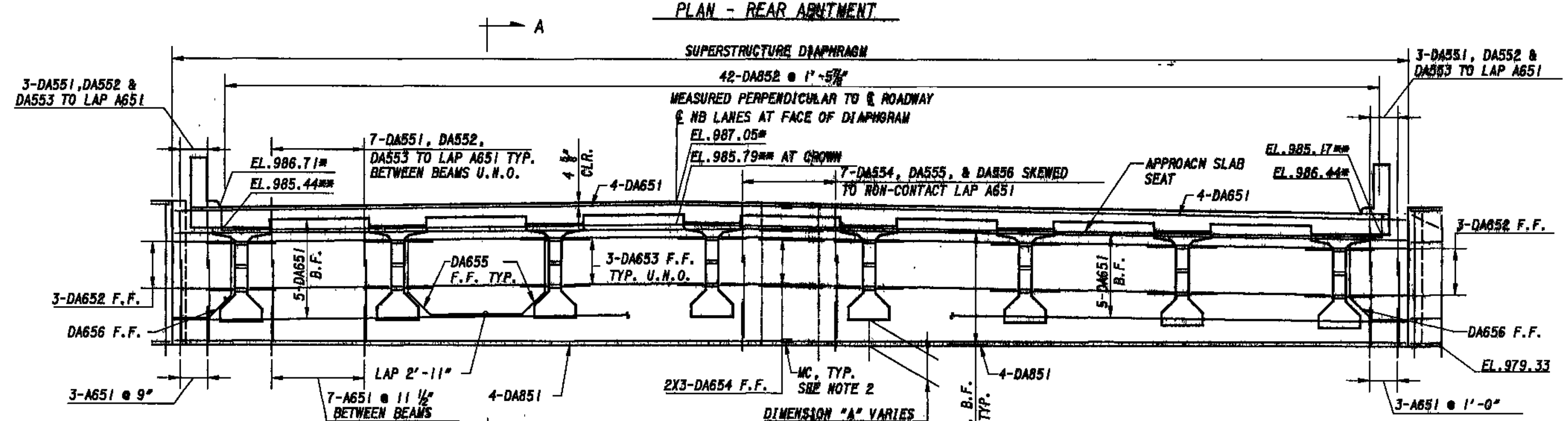
25/40

735/785

PLOTTED BY: $(USERNAME) 10/17/03 12:03:20 PM pi401202 Way-Med\Bridges\0539 Converted Drawings\MED71S05CONVERT2D.dgn

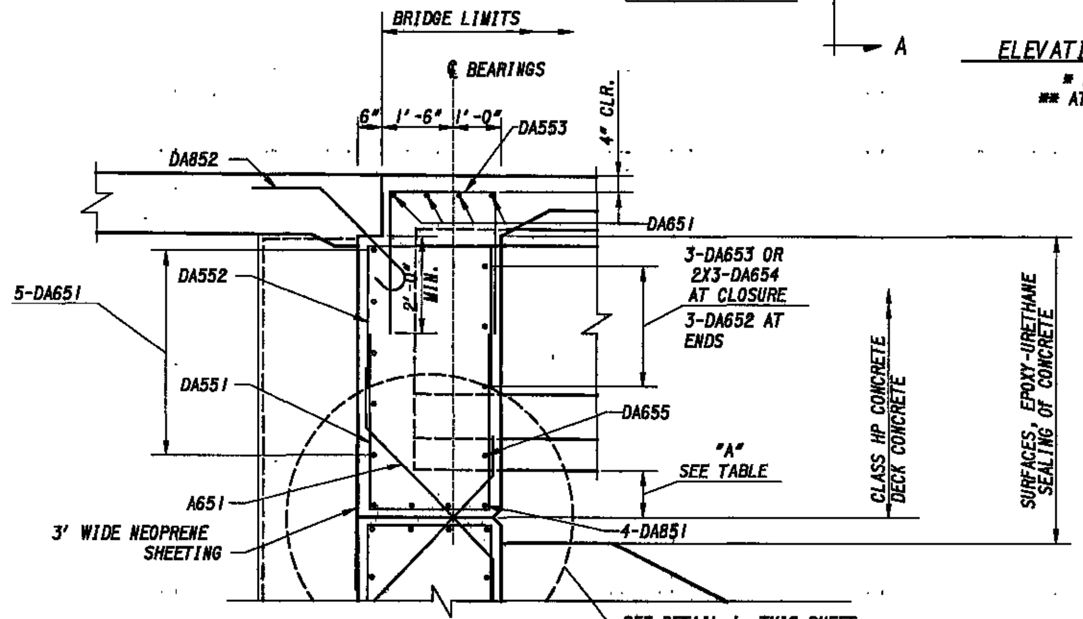


PLAN - REAR ABUTMENT



ELEVATION - REAR ABUTMENT

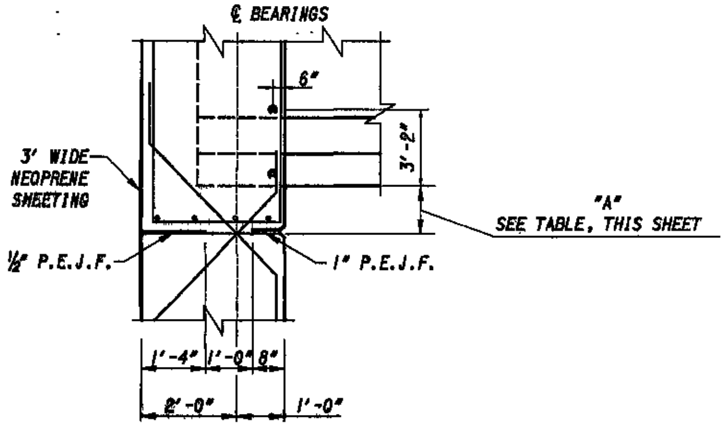
* AT FACE OF DIAPHRAGM
** AT APPROACH SLAB SEAT



BRIDGE LIMITS
℄ BEARINGS
6"
1'-6"
1'-0"
DA553
4" CLR.
DA852
DA651
5-DA651
DA552
2'-0" MIN.
3-DA653 OR 2X3-DA654 AT CLOSURE
3-DA652 AT ENDS
DA551
DA655
"A" SEE TABLE
CLASS HP CONCRETE DECK CONCRETE
SURFACES, EPOXY-URETHANE SEALING OF CONCRETE
A651
3' WIDE NEOPRENE SHEETING
4-DA851

SECTION A-A

SEE DETAIL 1, THIS SHEET



DETAIL 1

NOTES:

1. FOR LEGEND SEE SHEET 14/40
2. SEE MECHANICAL CONNECTOR NOTE ON SHEET 3/40
3. PHASED CONSTRUCTION ABUTMENT DIAPHRAGM CONCRETE, PRESTRESSED I-BEAM SUPERSTRUCTURE: PLACE ABUTMENT DIAPHRAGM CONCRETE ENCASING PRESTRESSED I-BEAM MEMBERS AT THE SAME TIME AS THE DECK CONCRETE OF AN INDIVIDUAL CONSTRUCTION PHASE TO ALLOW FOR EXPECTED DEAD LOAD ROTATION AT THE ABUTMENTS.
4. MINIMUM STEEL LAP LENGTHS
   #5 BAR = 1'-11"
   #6 BAR = 2'-11"

DIMENSION "A" TABLE

	BEAM NO. 16	BEAM NO. 15	BEAM NO. 14	BEAM NO. 13	BEAM NO. 12	BEAM NO. 11	BEAM NO. 10	BEAM NO. 9
REAR ABUTMENT	1'-3 7/16"	1'-4 9/16"	1'-6"	1'-6 11/16"	1'-5"	1'-3 3/8"	1'-1 11/16"	1'-0"

PLOTTED BY: $(USERNAME) 10/17/03 12:03:55 PM

MOODY NOLAN INC

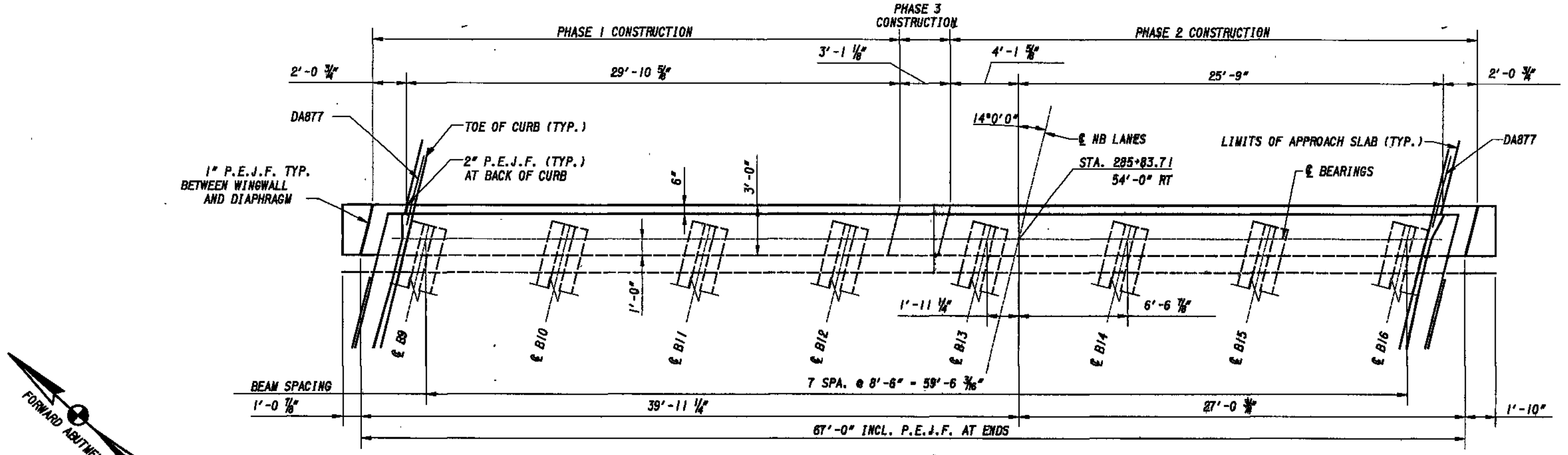
DESIGNED	DRAWN	REVIEWED	DATE
PHB	RM/PC	BT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
RN		5202701 - RT	

REAR ABUTMENT-END DIAPHRAGM NORTHBOUND R DETAILS
BRIDGE NO. MED-71-0539R
OVER CAMEL CREEK

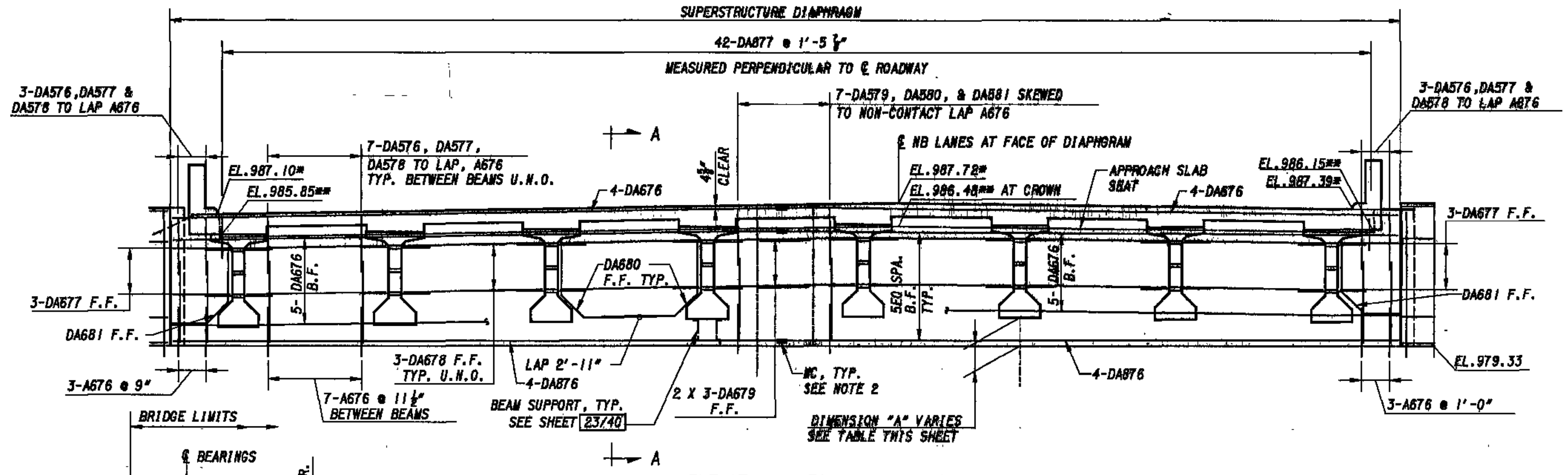
WAY/MED-71-7.04/0.00

26/40

736/785

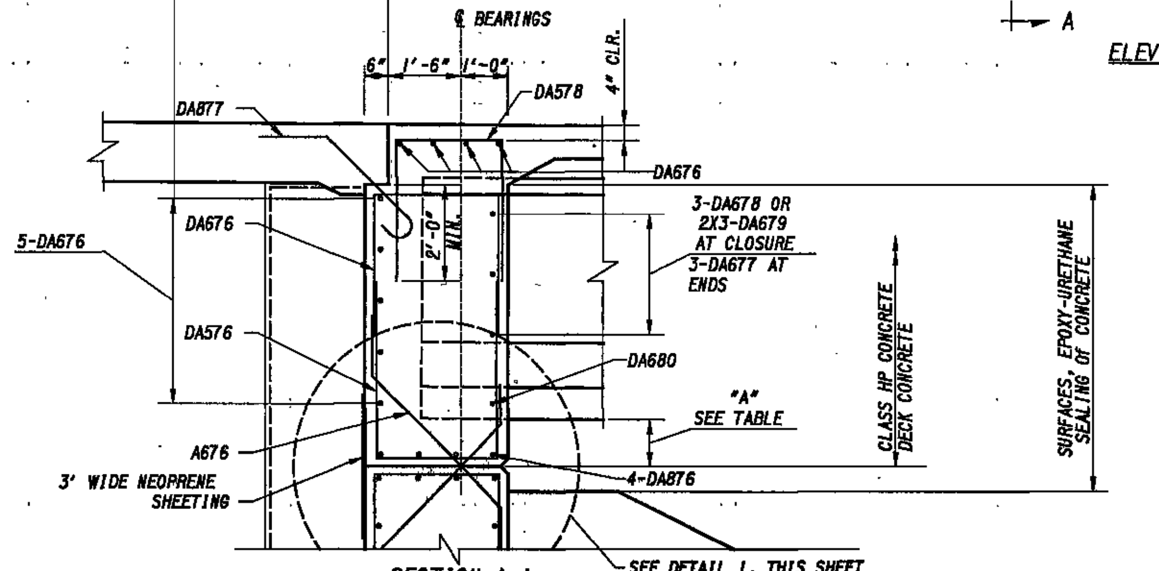


PLAN - FORWARD ABUTMENT

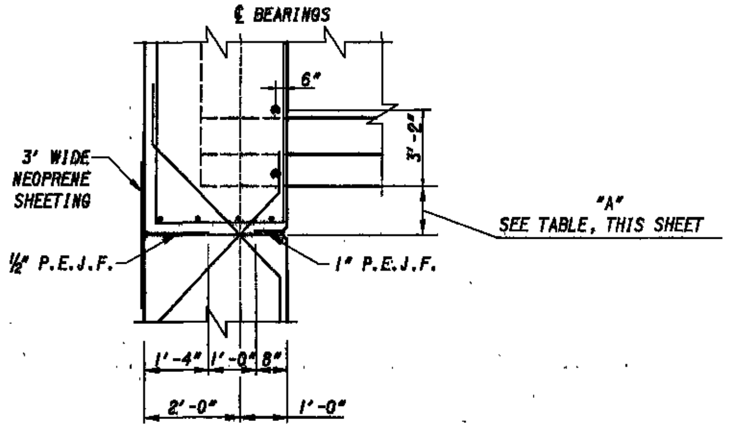


ELEVATION - FORWARD ABUTMENT

* AT FACE OF DIAPHRAGM
** AT APPROACH SLAB SEAT


℄ BEARINGS
6"
1'-6"
1'-0"
4" CLR.
DA578
DA877
DA676
DA676
5-DA676
3-DA678 OR 2X3-DA679 AT CLOSURE 3-DA677 AT ENDS
2'-0" MIN.
DA576
DA680
"A" SEE TABLE
CLASS HP CONCRETE DECK CONCRETE
SURFACES, EPOXY-URETHANE SEALING OF CONCRETE
A676
3' WIDE NEOPRENE SHEETING
4-DA876
SEE DETAIL 1, THIS SHEET

SECTION A-A



DETAIL 1

NOTES:

1. FOR LEGEND SEE SHEET 14/40
2. SEE MECHANICAL CONNECTOR NOTE ON SHEET 3/40
3. PHASED CONSTRUCTION ABUTMENT DIAPHRAGM CONCRETE, PRESTRESSED I-BEAM SUPERSTRUCTURE: PLACE ABUTMENT DIAPHRAGM CONCRETE ENCASING PRESTRESSED I-BEAM MEMBERS AT THE SAME TIME AS THE DECK CONCRETE OF AN INDIVIDUAL CONSTRUCTION PHASE TO ALLOW FOR EXPECTED DEAD LOAD ROTATION AT THE ABUTMENTS.
4. MINIMUM STEEL LAP LENGTHS
   - #5 BAR = 1'-11"
   - #6 BAR = 2'-11"

DIMENSION "A" TABLE

	BEAM NO. 9	BEAM NO. 10	BEAM NO. 11	BEAM NO. 12	BEAM NO. 13	BEAM NO. 14	BEAM NO. 15	BEAM NO. 16
FORWARD ABUTMENT	1'-0"	1'-1 3/4"	1'-3 7/16"	1'-5 3/16"	1'-6 7/8"	1'-6 1/4"	1'-4 7/8"	1'-3 1/2"

MOODY/NOLAN LTD., INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664

DESIGNED	DRAWN	REVIEWED	DATE
PHB	RM/PC	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
RM		5202701-RT	

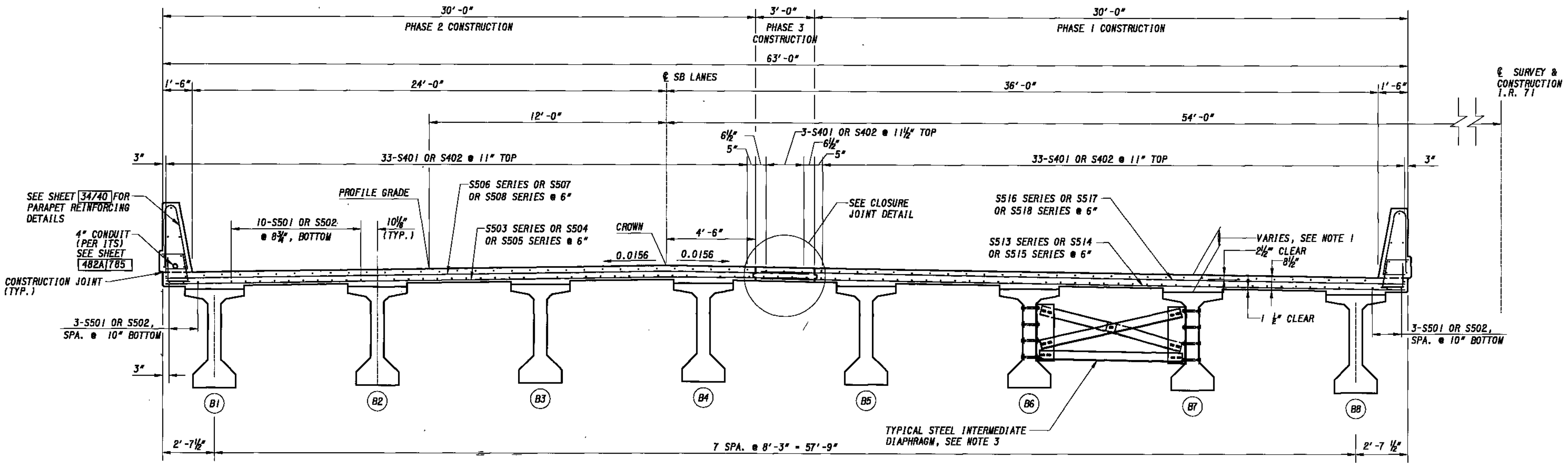
FORWARD ABUTMENT-END DIAPHRAGM NB R DETAILS
BRIDGE NO. MED-71-0539R
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00

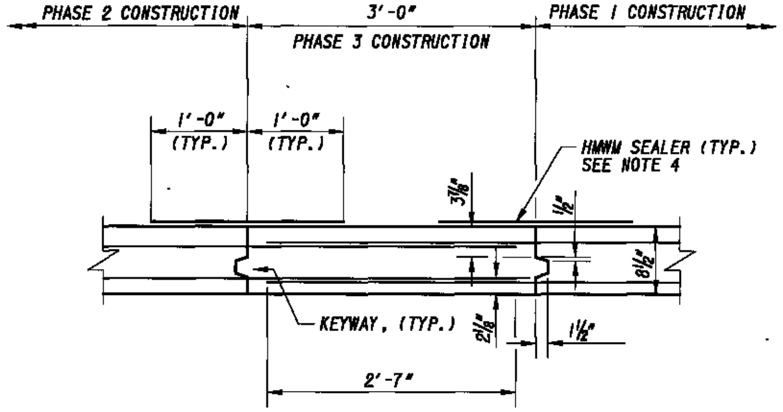
27/40

737/785

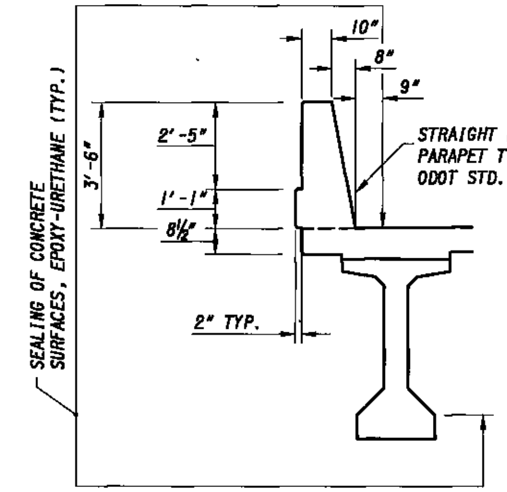
PLOTTED BY: $(USERNAME) 10/17/03 12:02:44 PM


30'-0"
PHASE 2 CONSTRUCTION
3'-0"
PHASE 3 CONSTRUCTION
30'-0"
PHASE 1 CONSTRUCTION
63'-0"
℄ SB LANES
1'-6"
24'-0"
36'-0"
1'-6"
℄ SURVEY & CONSTRUCTION I.R. 71
12'-0"
54'-0"
6 1/2"
5"
3-S401 OR S402 @ 11 1/2" TOP
6 1/2"
5"
3"
33-S401 OR S402 @ 11" TOP
33-S401 OR S402 @ 11" TOP
3"
SEE SHEET 34/40 FOR PARAPET REINFORCING DETAILS
PROFILE GRADE
S506 SERIES OR S507 OR S508 SERIES @ 6"
SEE CLOSURE JOINT DETAIL
S516 SERIES OR S517 OR S518 SERIES @ 6"
4" CONDUIT (PER ITS) SEE SHEET 482A/785
10-S501 OR S502 @ 8 3/4", BOTTOM
10 1/8" (TYP.)
S503 SERIES OR S504 OR S505 SERIES @ 6"
CROWN
4'-6"
0.0156
0.0156
S513 SERIES OR S514 OR S515 SERIES @ 6"
VARIES, SEE NOTE 1
2 1/2" CLEAR
8 1/2"
CONSTRUCTION JOINT (TYP.)
1 1/2" CLEAR
3-S501 OR S502, SPA. @ 10" BOTTOM
3-S501 OR S502, SPA. @ 10" BOTTOM
3"
B1
B2
B3
B4
B5
B6
B7
B8
TYPICAL STEEL INTERMEDIATE DIAPHRAGM, SEE NOTE 3
2'-7 1/2"
7 SPA. @ 8'-3" = 57'-9"
2'-7 1/2"

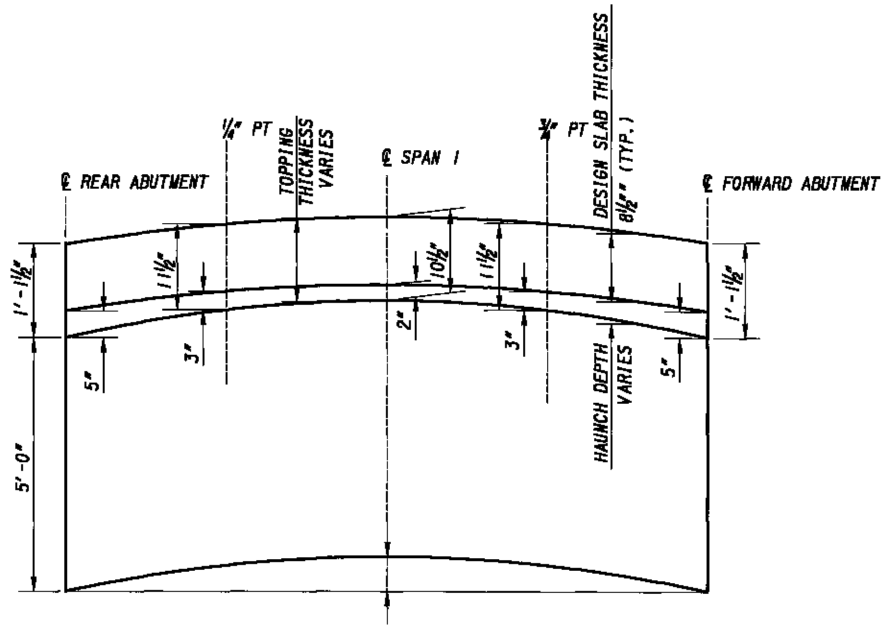
LEFT TRANSVERSE SECTION
(MODIFIED AASHTO TYPE 4 CONCRETE BEAMS)



CLOSURE JOINT DETAIL
LONGITUDINAL BARS NOT SHOWN.


10"
8"
9"
SEALING OF CONCRETE SURFACES, EPOXY-URETHANE (TYP.)
3'-6"
2'-5"
STRAIGHT FACE DEFLECTOR PARAPET TYPE 42" PER ODOT STD. DWG. SBR-1-99
1'-1"
8 1/2"
2" TYP.

PARAPET DETAIL

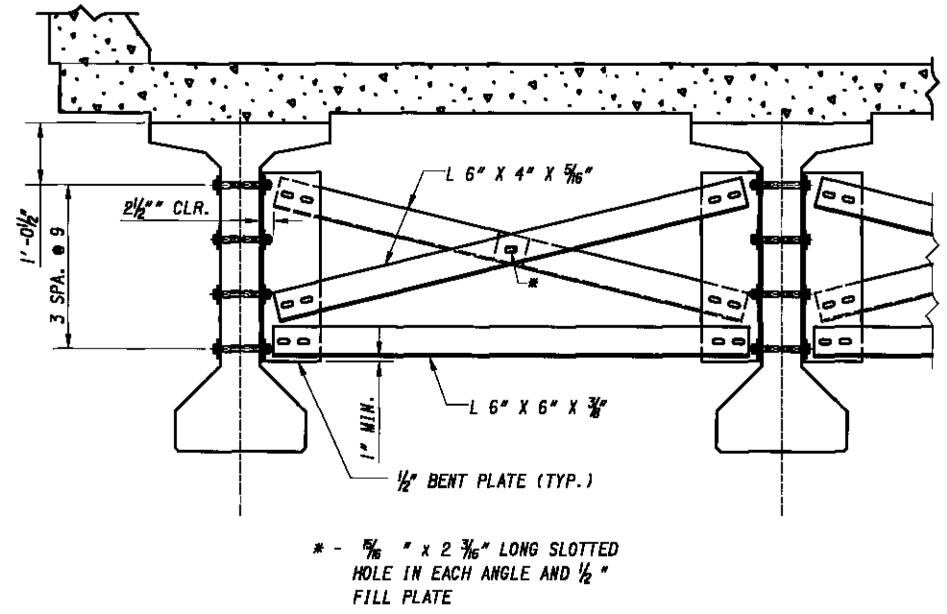


TYPICAL BEAM TOPPING THICKNESS
N.T.S.

NOTES:

1. DECK SLAB THICKNESS FOR CONCRETE QUANTITY: THE TOPPING THICKNESSES SHOWN FROM THE TOP OF THE DECK SLAB TO THE TOP OF THE TOP FLANGE ALONG THE CENTERLINE OF THE I-BEAM ARE THEORETICAL DIMENSIONS. THE HAUNCH DEPTH IS THE TOPPING THICKNESS MINUS THE DESIGN SLAB THICKNESS. THE DEPARTMENT WILL PAY FOR SUPERSTRUCTURE CONCRETE BASED ON THE DESIGN SLAB THICKNESS AND THE AVERAGE OF THE THEORETICAL HAUNCH DEPTHS AT MID-SPAN AND AT EACH BEAM BEARING EVEN THOUGH DEVIATION FROM THE DIMENSIONS SHOWN MAY BE NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. ONCE ALL BEAMS ARE SET IN THEIR FINAL POSITION, THE ACTUAL CAMBER FOR EACH MEMBER WILL BE THE TOP OF BEAM ELEVATION AT MID-SPAN MINUS THE AVERAGE TOP OF BEAM ELEVATION AT EACH BEARING. THE ACTUAL TOPPING THICKNESS AT MID-SPAN WILL BE THE THEORETICAL DIMENSION PLUS OR MINUS THE DIFFERENCE BETWEEN THE ACTUAL AND ANTICIPATED CAMBER.

2. CAMBER: THE CALCULATED NET CAMBER DUE TO THE PRESTRESSING AND BEAM WEIGHT AT TIME OF ERECTION IS 4 1/8".



INTERMEDIATE DIAPHRAGM (TYP)

3. PROVIDE STEEL INTERMEDIATE DIAPHRAGM. SEE GENERAL NOTES, SHEET 3/40 .

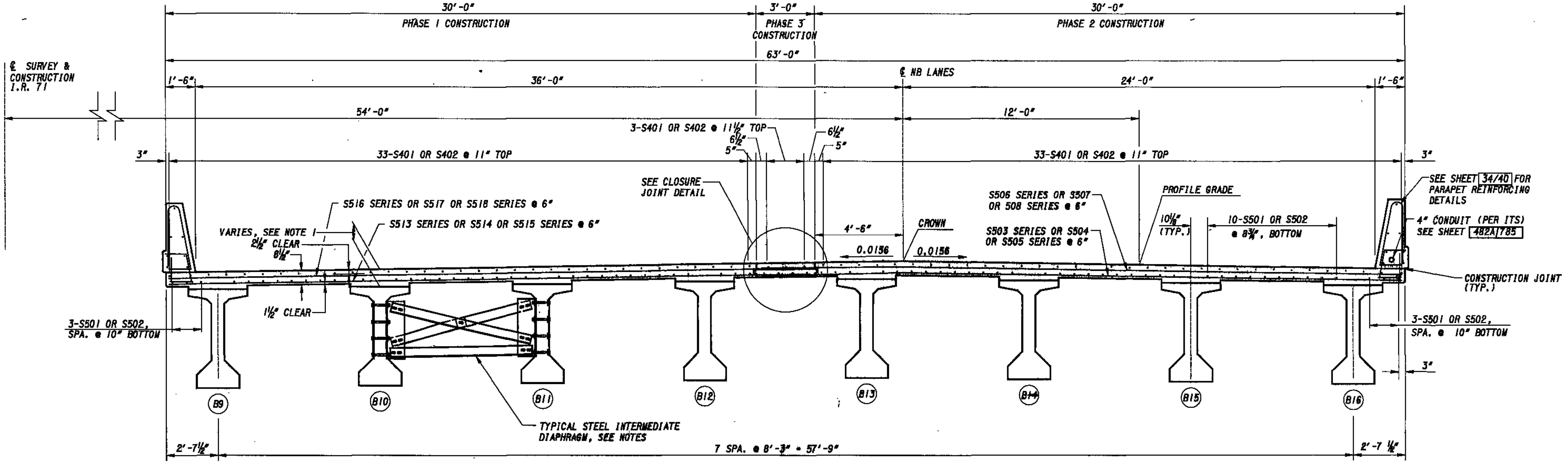
4. SEALING WITH HMWM RESIN: AFTER THE APPLICATION OF THE MEMBRANE CURE, AND THE DECK HAS THOROUGHLY DRIED, VERTICAL CONSTRUCTION JOINTS (TRANSVERSE & LONGITUDINAL) IN THE DECK SLAB, HORIZONTAL JOINTS (AT THE BASE OF PARAPETS) AND CRACKS IN THE ROADWAY SURFACE THAT ARE VISIBLE TO THE UNAIDED EYE, SHALL BE SEALED WITH A HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM) RESIN AS DESCRIBED IN SUPPLEMENTAL SPECIFICATIONS 846 & 954. SEALANT SHALL BE APPLIED BY BRUSH, SPRAY OR OTHER SUITABLE APPLICATOR ALONG THE SURFACE OF JOINTS AND CRACKS. IF NECESSARY, MULTIPLE APPLICATIONS SHALL BE MADE UNTIL COMPLETE PENETRATION HAS BEEN ACHIEVED. AFTER SEALANT HAS CURED, IT SHALL BE SANDED AS SPECIFIED TO ROUGHEN THE SEALANT SURFACE AND RESTORE ITS SUITABILITY FOR VEHICULAR TRAFFIC. FOR OVERCOATING WITH A CONCRETE SURFACE SEALANT, TREATED SURFACES SHALL BE ROUGHENED BY ABRASIVE BLASTING AND OTHERWISE CLEANED AS SPECIFIED FOR THE SUBSEQUENT APPLICATION. SEALING CONSTRUCTION JOINTS AND CRACKS, AS DESCRIBED ABOVE, SHALL BE INCLUDED WITH THE DECK SLAB CONCRETE FOR PAYMENT.

MOODY NOLAN INC.
Architecture•Engineering•Planning•Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

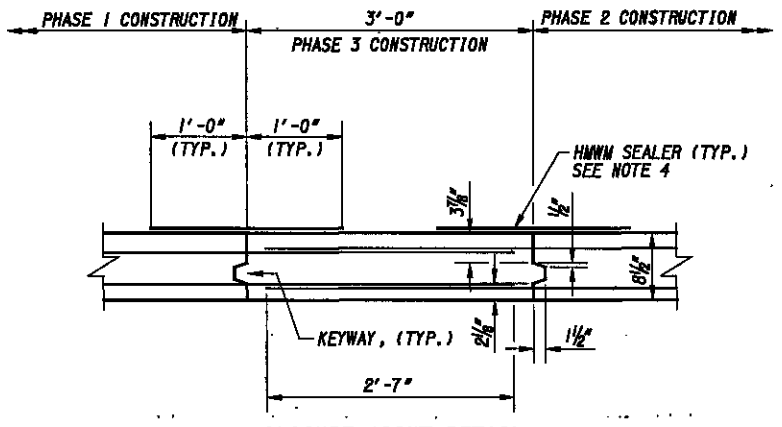
DESIGNED	DRAWN	REVIEWED	DATE
RM	RM/PC	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
PHB		5202671 - LT	

SUPERSTRUCTURE DETAILS
BRIDGE NO. MED-71-0539L
OVER CAMEL CREEK

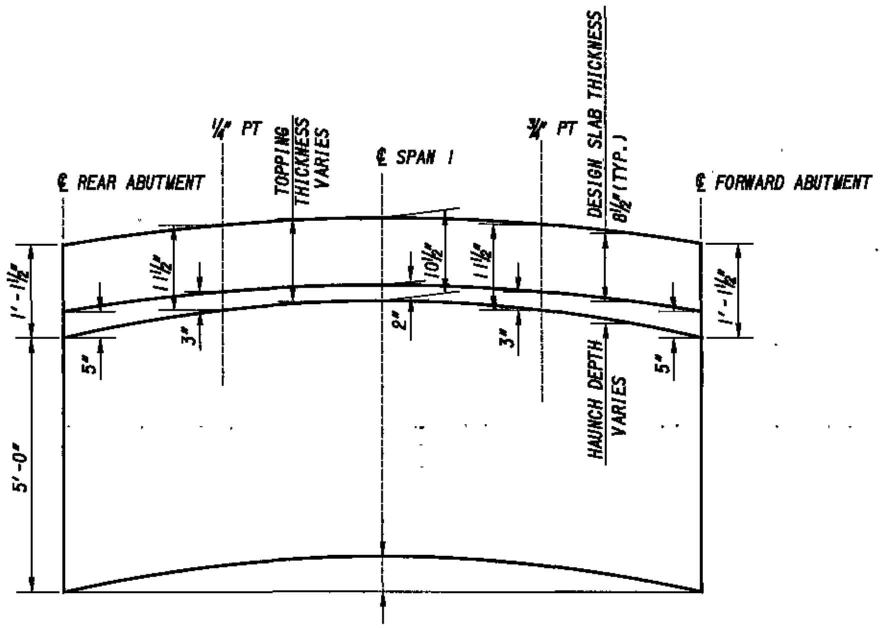
WAY/MED-71-7.04/0.00


30'-0"
PHASE 1 CONSTRUCTION
3'-0"
PHASE 3 CONSTRUCTION
30'-0"
PHASE 2 CONSTRUCTION
63'-0"
℄ SURVEY & CONSTRUCTION I.R. 71
1'-6"
36'-0"
℄ NB LANES
24'-0"
1'-6"
54'-0"
12'-0"
3-S401 OR S402 @ 11½" TOP
6½"
5"
3"
33-S401 OR S402 @ 11" TOP
33-S401 OR S402 @ 11" TOP
3"
SEE CLOSURE JOINT DETAIL
S516 SERIES OR S517 OR S518 SERIES @ 6"
S513 SERIES OR S514 OR S515 SERIES @ 6"
VARIES, SEE NOTE 1
2½" CLEAR
8½"
1½" CLEAR
4'-6"
CROWN
0.0156
0.0156
S506 SERIES OR S507 OR 508 SERIES @ 6"
S503 SERIES OR S504 OR S505 SERIES @ 6"
PROFILE GRADE
10⅞" (TYP.)
10-S501 OR S502 @ 8¾", BOTTOM
SEE SHEET 34/40 FOR PARAPET REINFORCING DETAILS
4" CONDUIT (PER ITS) SEE SHEET 482A/785
CONSTRUCTION JOINT (TYP.)
3-S501 OR S502, SPA. @ 10" BOTTOM
3-S501 OR S502, SPA. @ 10" BOTTOM
3"
B9
B10
B11
B12
B13
B14
B15
B16
TYPICAL STEEL INTERMEDIATE DIAPHRAGM, SEE NOTES
2'-7½"
7 SPA. @ 8'-3" = 57'-9"
2'-7½"

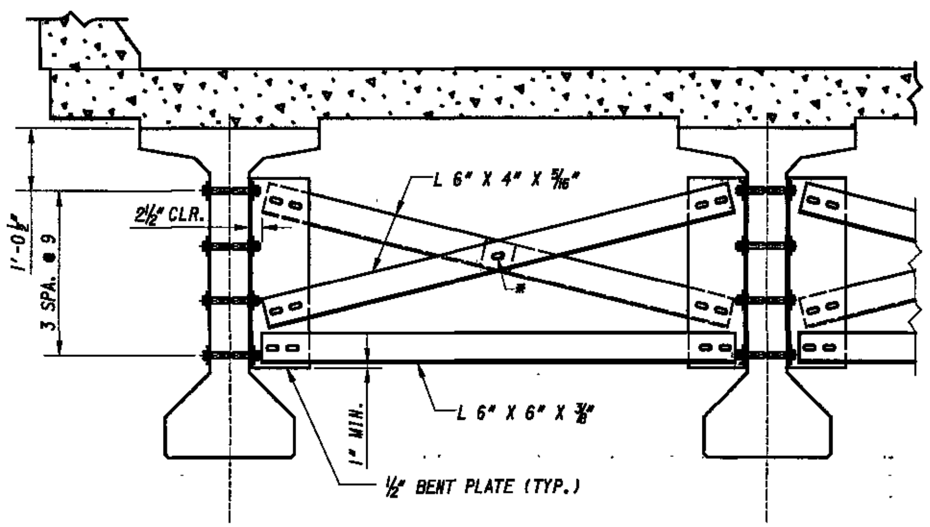
RIGHT TRANSVERSE SECTION
(MODIFIED AASHTO TYPE 4 CONCRETE BEAM)



CLOSURE JOINT DETAIL
LONGITUDINAL BARS NOT SHOWN.

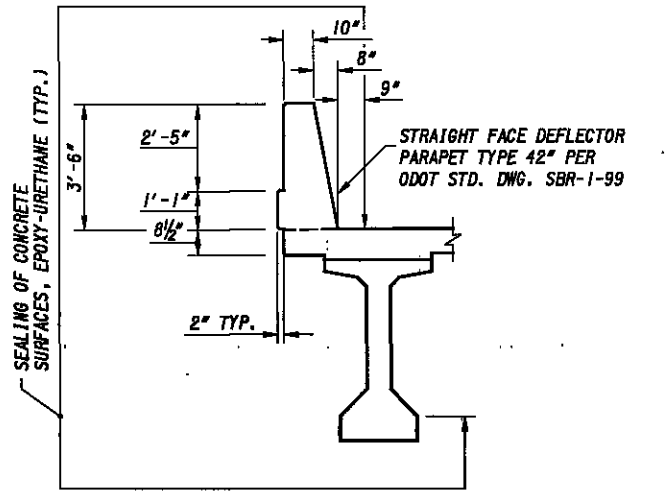


TYPICAL BEAM TOPPING THICKNESS
N.T.S.



* - 5/16 " x 2 3/16 " LONG SLOTTED HOLE IN EACH ANGLE AND ½ " FILL PLATE

INTERMEDIATE DIAPHRAGM (TYP)


10"
8"
9"
STRAIGHT FACE DEFLECTOR PARAPET TYPE 42" PER ODOT STD. DWG. SBR-1-99
3'-6"
2'-5"
1'-1"
8½"
2" TYP.
SEALING OF CONCRETE SURFACES, EPOXY-URETHANE (TYP.)

PARAPET DETAIL

NOTES:

1. DECK SLAB THICKNESS FOR CONCRETE QUANTITY: THE TOPPING THICKNESSES SHOWN FROM THE TOP OF THE DECK SLAB TO THE TOP OF THE TOP FLANGE ALONG THE CENTERLINE OF THE I-BEAM ARE THEORETICAL DIMENSIONS. THE HAUNCH DEPTH IS THE TOPPING THICKNESS MINUS THE DESIGN SLAB THICKNESS. THE DEPARTMENT WILL PAY FOR SUPERSTRUCTURE CONCRETE BASED ON THE DESIGN SLAB THICKNESS AND THE AVERAGE OF THE THEORETICAL HAUNCH DEPTHS AT MID-SPAN AND AT EACH BEAM BEARING EVEN THOUGH DEVIATION FROM THE DIMENSIONS SHOWN MAY BE NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. ONCE ALL BEAMS ARE SET IN THEIR FINAL POSITION, THE ACTUAL CAMBER FOR EACH MEMBER WILL BE THE TOP OF BEAM ELEVATION AT MID-SPAN MINUS THE AVERAGE TOP OF BEAM ELEVATION AT EACH BEARING. THE ACTUAL TOPPING THICKNESS AT MID-SPAN WILL BE THE THEORETICAL DIMENSION PLUS OR MINUS THE DIFFERENCE BETWEEN THE ACTUAL AND ANTICIPATED CAMBER.

2. CAMBER: THE CALCULATED NET CAMBER DUE TO THE PRESTRESSING AND BEAM WEIGHT AT TIME OF ERECTION IS 4⅞".

3. PROVIDE STEEL INTERMEDIATE DIAPHRAGM. SEE GENERAL NOTES, SHEET 3/40.

4. SEALING WITH HMWM RESIN: AFTER THE APPLICATION OF THE MEMBRANE CURE, AND THE DECK HAS THOROUGHLY DRIED, VERTICAL CONSTRUCTION JOINTS (TRANSVERSE & LONGITUDINAL) IN THE DECK SLAB, HORIZONTAL JOINTS (AT THE BASE OF PARAPETS) AND CRACKS IN THE ROADWAY SURFACE THAT ARE VISIBLE TO THE UNAIDED EYE, SHALL BE SEALED WITH A HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM) RESIN AS DESCRIBED IN SUPPLEMENTAL SPECIFICATIONS 846 & 954. SEALANT SHALL BE APPLIED BY BRUSH, SPRAY OR OTHER SUITABLE APPLICATOR ALONG THE SURFACE OF JOINTS AND CRACKS. IF NECESSARY, MULTIPLE APPLICATIONS SHALL BE MADE UNTIL COMPLETE PENETRATION HAS BEEN ACHIEVED. AFTER SEALANT HAS CURED, IT SHALL BE SANDED AS SPECIFIED TO ROUGHEN THE SEALANT SURFACE AND RESTORE ITS SUITABILITY FOR VEHICULAR TRAFFIC. FOR OVERCOATING WITH A CONCRETE SURFACE SEALANT, TREATED SURFACES SHALL BE ROUGHENED BY ABRASIVE BLASTING AND OTHERWISE CLEANED AS SPECIFIED FOR THE SUBSEQUENT APPLICATION. SEALING CONSTRUCTION JOINTS AND CRACKS, AS DESCRIBED ABOVE, SHALL BE INCLUDED WITH THE DECK SLAB CONCRETE FOR PAYMENT.

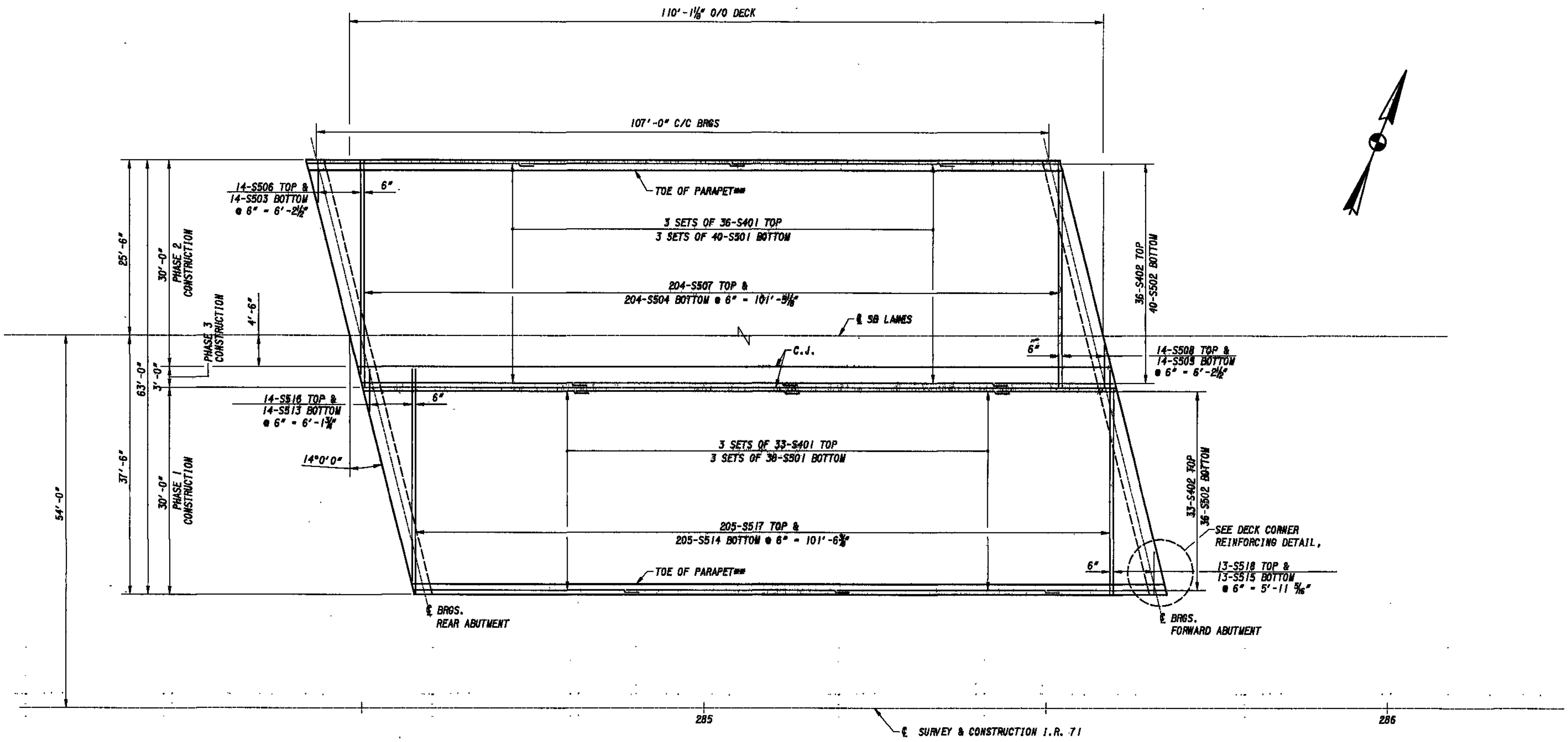
MOODY/NOLAN INC.
Architecture•Engineering•Planning•Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
RM	RM/PC	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
PHB		5202701 - RT	

SUPERSTRUCTURE DETAILS
BRIDGE NO. MED-71-0539R
OVER CAMEL CREEK

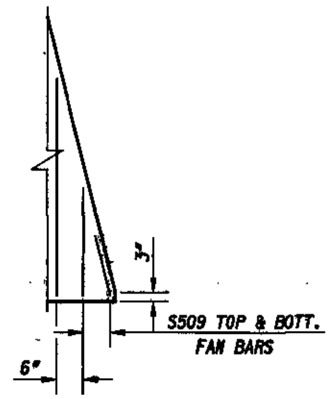
WAY/MED-71-7.04/0.00

PLOTTED BY: MBrooke 10/21/2003 11:22:25 AM



LEFT DECK REINFORCING PLAN

** PARAPET REINFORCING NOT SHOWN
SEE NOTE 4



DECK CORNER REINFORCING
(TYPICAL @ 2 LOCATIONS)

NOTES:

1. CONCRETE DECK SLAB DEPTH:
   FOR CAMBER AND DECK THICKNESS DIAGRAM
   AND TRANSVERSE SECTION SEE SHEET 28/40 .
2. MINIMUM LAP LENGTHS:
   LAP NO.4 BARS 1'-11".
   LAP NO.5 BARS 2'-7".
3. FOR DETAILS AT END OF DECK, SEE SHEETS 24 & 25/40 .
4. FOR PARAPET DETAILS, SEE SHEET 34/40 .
5. FOR PHASE CONSTRUCTION NOTES SEE SHEET 5/40 .

MOODY NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
RW	RW	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
PHB	PC	5202671 - LT	

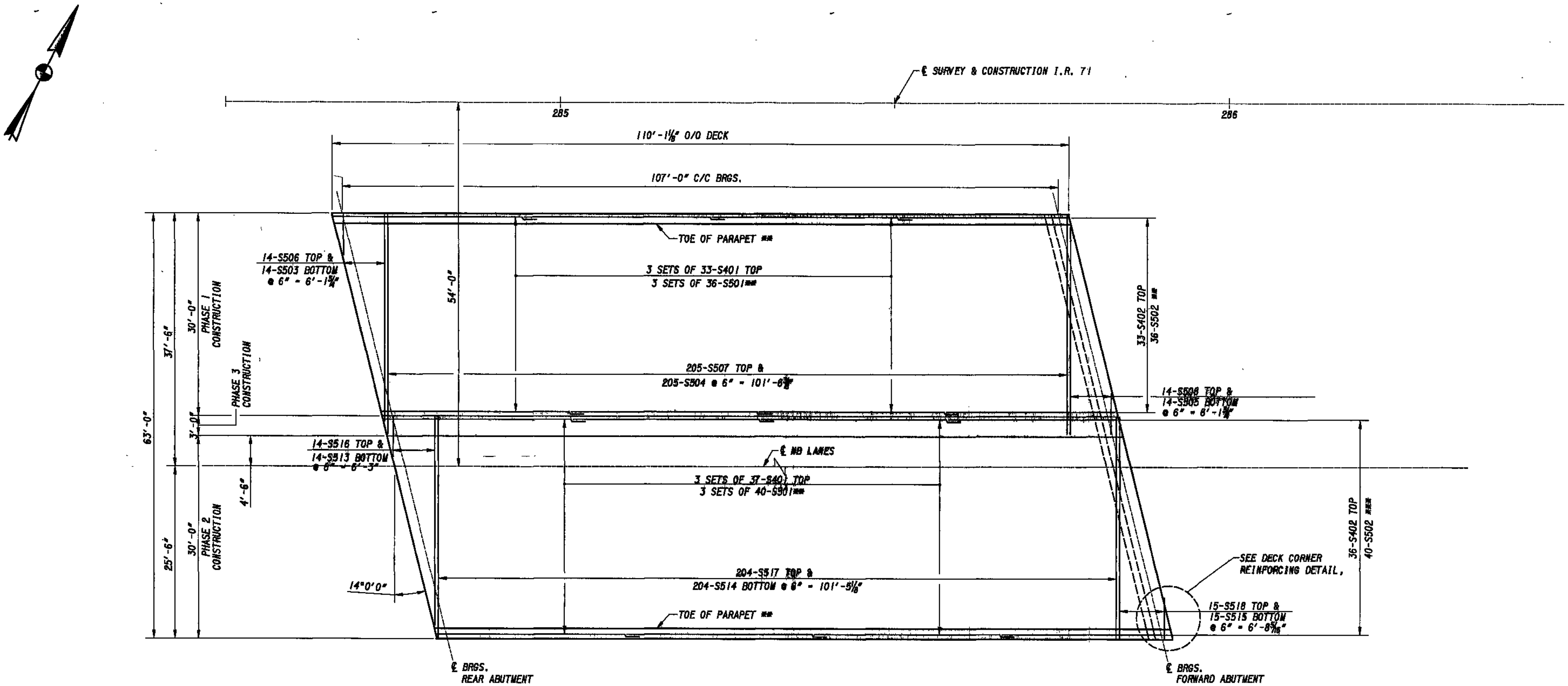
LEFT DECK REINFORCING PLAN
BRIDGE NO. MED-71-0539L
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00

30/40

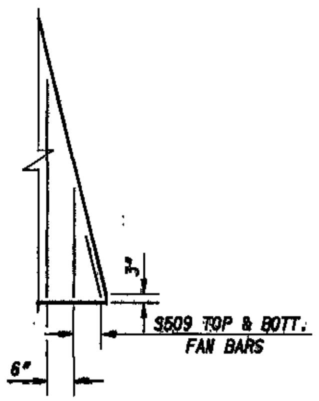
740/785

PLOTTED BY: CCarlisle 10/17/2003 10:50:04 AM p:\01202 Way-Med\Bridges\0539 Converted Drawings\MED71508CONVERT20.dgn



RIGHT DECK REINFORCING PLAN

** PARAPET REINFORCING NOT SHOWN SEE NOTE 4



DECK CORNER REINFORCING

(TYPICAL @ 2 LOCATIONS)

NOTES:

1. CONCRETE DECK SLAB DEPTH:
FOR CAMBER AND DECK THICKNESS DIAGRAM
AND TRANSVERSE SECTION SEE SHEET 29/40 .

2. MINIMUM LAP LENGTHS:
LAP NO.4 BARS 1'-11".
LAP NO.5 BARS 2'-7".

3. FOR DETAILS AT END OF DECK, SEE SHEETS 24 & 25/40 .

4. FOR PARAPET DETAILS, SEE SHEET 34/40

5. FOR PHASE CONSTRUCTION NOTES SEE SHEET 5/40 .

MOODY NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
RW	RW	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
PHB	PC	5202701 - RT	

RIGHT DECK REINFORCING PLAN
BRIDGE NO. MED-71-0539R
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00

PLOTTED BY: CCarlisle 10/17/2003 10:50:23 AM Dx401202 Way-Med\Bridge0539 Converted Drawings\MED71SD9CONVERT2D.dgn

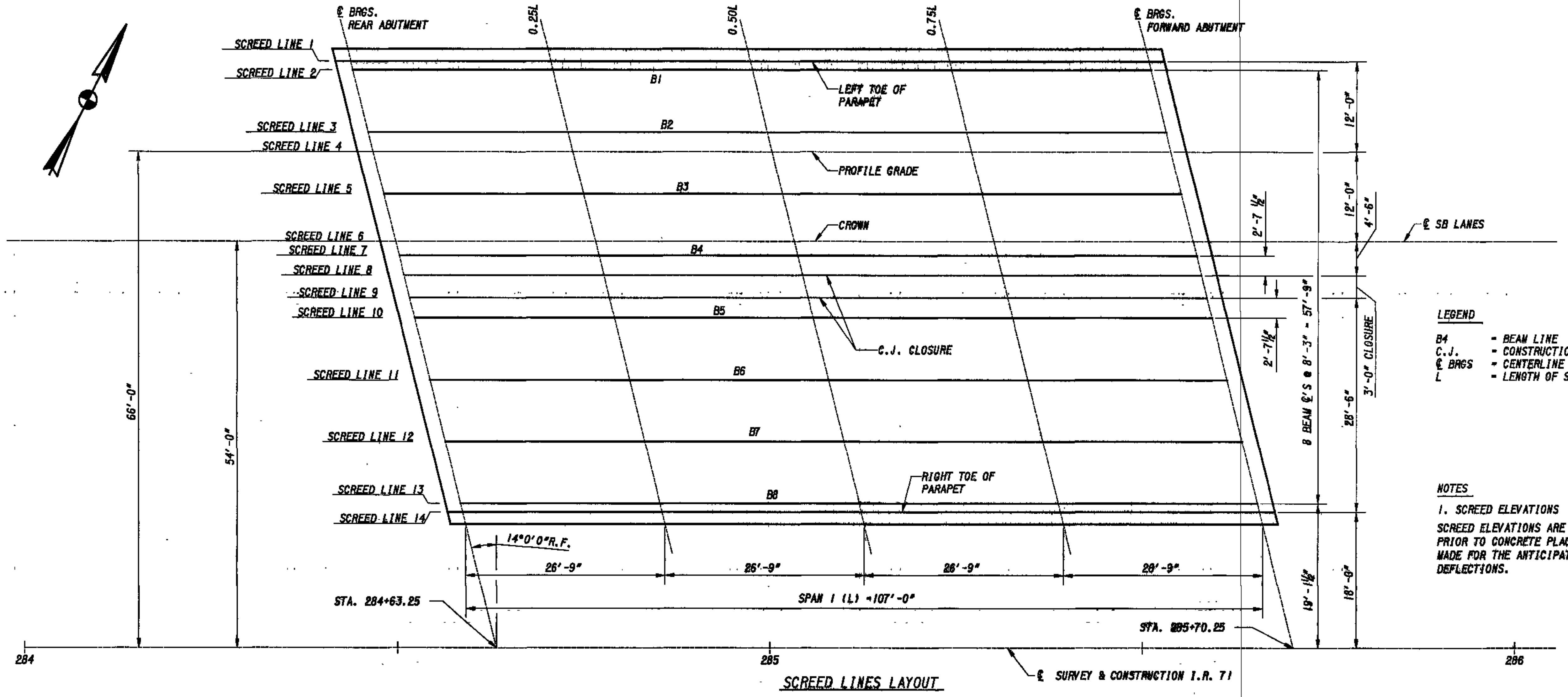
SCREED ELEVATIONS TABLE

		SCREED LINE 1		SCREED LINE 2		SCREED LINE 3		SCREED LINE 4		SCREED LINE 5		SCREED LINE 6		SCREED LINE 7	
SPAN NO.	LOCATION*	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION
1	0.00 L	284+43.80	986.71	284+44.08	986.73	284+46.13	986.87	284+46.79	986.91	284+48.19	987.00	284+49.78	987.11	284+50.25	987.08
	0.25 L	284+70.55	986.93	284+70.83	986.94	284+72.88	987.09	284+73.54	987.14	284+74.94	987.23	284+76.53	987.34	284+77.00	987.32
	0.50 L	284+97.30	987.11	284+97.58	987.13	284+99.63	987.28	285+00.29	987.33	285+01.69	987.42	285+03.28	987.53	285+03.75	987.51
	0.75 L	285+24.05	987.23	285+24.33	987.25	285+26.38	987.40	285+27.04	987.45	285+28.44	987.55	285+30.03	987.66	285+30.50	987.63
	1.00 L	285+50.80	987.32	285+51.08	987.34	285+53.13	987.49	285+53.79	987.53	285+55.19	987.63	285+56.78	987.74	285+57.25	987.71

SCREED ELEVATIONS TABLE

		SCREED LINE 8		SCREED LINE 9		SCREED LINE 10		SCREED LINE 11		SCREED LINE 12		SCREED LINE 13		SCREED LINE 14	
SPAN NO.	LOCATION*	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION
1	0.00 L	284+50.90	987.05	284+51.65	987.00	284+52.30	986.97	284+54.36	986.85	284+56.42	986.73	284+58.48	986.61	284+58.76	986.59
	0.25 L	284+77.65	987.28	284+78.40	987.23	284+79.05	987.20	284+81.11	987.08	284+83.17	986.96	284+85.23	986.84	284+85.51	986.82
	0.50 L	285+04.40	987.47	285+05.15	987.43	285+05.80	987.39	285+07.86	987.27	285+09.92	987.16	285+11.98	987.03	285+12.26	987.01
	0.75 L	285+31.15	987.59	285+31.90	987.55	285+32.55	987.51	285+34.61	987.40	285+36.67	987.28	285+38.73	987.16	285+39.01	987.14
	1.00 L	285+57.90	987.68	285+58.65	987.63	285+59.30	987.60	285+61.36	987.48	285+63.42	987.37	285+65.48	987.26	285+65.76	987.24

* REFER TO LAYOUT FOR STATION OFFSETS



SCREED LINES LAYOUT

LEGEND

B4 - BEAM LINE
C.J. - CONSTRUCTION JOINT
℄ BRGS - CENTERLINE OF BEARINGS
L - LENGTH OF SPAN

NOTES

1. SCREED ELEVATIONS

SCREED ELEVATIONS ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR THE ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.

MOODY NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664

DESIGNED	DRAWN	REVIEWED	DATE
RM	RM/PC	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
PHB		5202671 - LT	

SCREED LAYOUT-SOUTHBOUND L
BRIDGE NO. MED-71-0539L
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00

32/40

742/785

PLOTTED BY: CCarlisle 10/17/2003 10:50:46 AM pt401202 Way-Med\Bridge\0539 Converted Drawings\MED71SDACONVERT2D.dgn

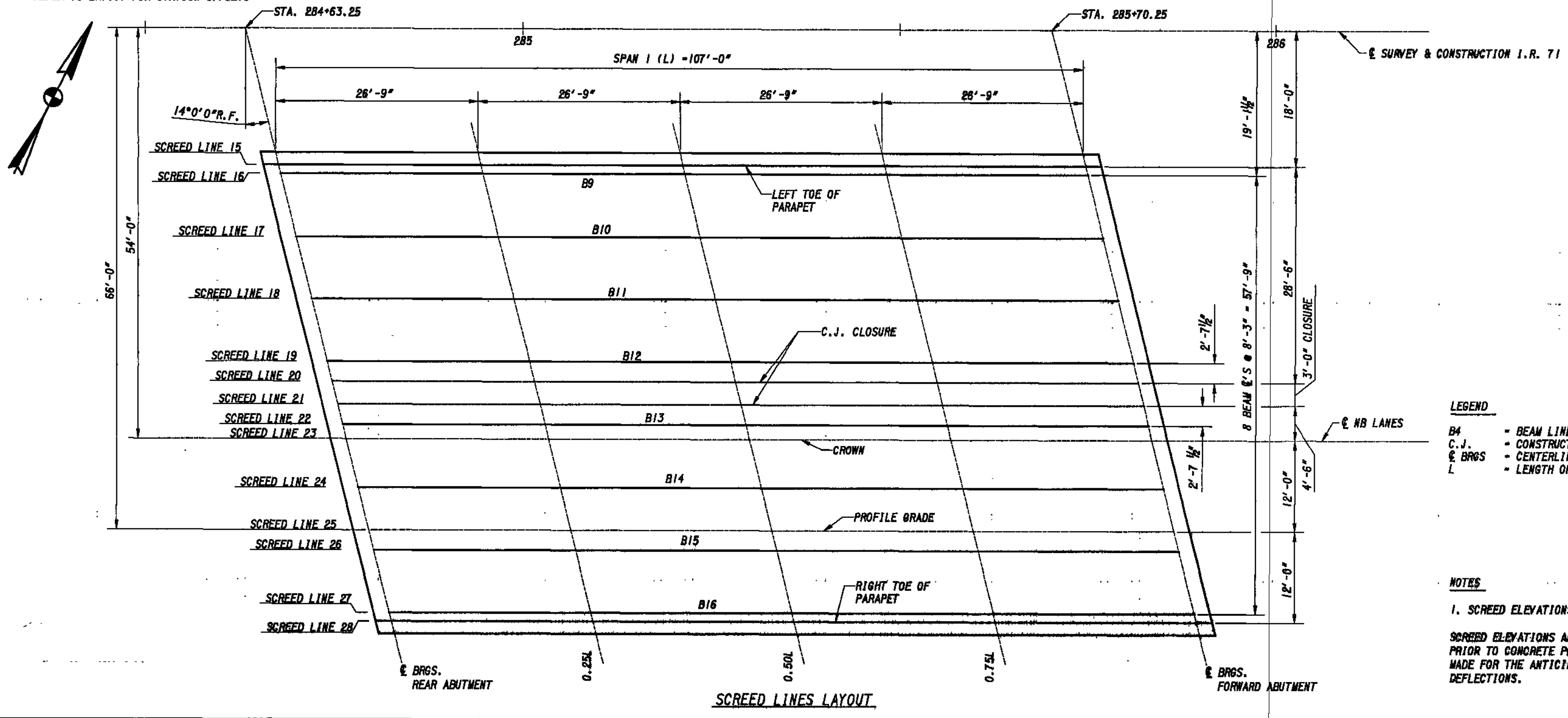
SCREED ELEVATIONS TABLE

		SCREED LINE 15		SCREED LINE 16		SCREED LINE 17		SCREED LINE 18		SCREED LINE 19		SCREED LINE 20		SCREED LINE 21	
SPAN NO.	LOCATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION
1	0.00 L	284+67.73	986.44	284+68.01	986.46	284+70.07	986.60	284+72.13	986.74	284+74.19	986.88	284+74.84	986.92	284+75.59	986.97
	0.25 L	284+94.48	986.68	284+94.76	986.70	284+96.82	986.85	284+98.88	986.99	285+00.94	987.13	285+01.59	987.17	285+02.34	987.23
	0.50 L	285+21.23	986.88	285+21.51	986.89	285+23.57	987.05	285+25.63	987.19	285+27.69	987.34	285+28.34	987.38	285+29.09	987.43
	0.75 L	285+47.98	987.01	285+48.26	987.03	285+50.32	987.18	285+52.38	987.33	285+54.44	987.47	285+55.09	987.51	285+55.84	987.57
	1.00 L	285+74.73	987.10	285+75.01	987.12	285+77.07	987.27	285+79.13	987.41	285+81.19	987.55	285+81.84	987.60	285+82.59	987.65

SCREED ELEVATIONS TABLE

		SCREED LINE 22		SCREED LINE 23		SCREED LINE 24		SCREED LINE 25		SCREED LINE 26		SCREED LINE 27		SCREED LINE 28	
SPAN NO.	LOCATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION
1	0.00 L	284+76.24	987.02	284+76.71	987.05	284+78.30	986.96	284+79.70	986.88	284+80.36	986.84	284+82.41	986.72	284+82.69	986.71
	0.25 L	285+02.99	987.27	285+03.46	987.30	285+05.05	987.21	285+06.45	987.13	285+07.11	987.10	285+09.16	986.97	285+09.44	986.95
	0.50 L	285+29.74	987.48	285+30.21	987.51	285+31.80	987.42	285+33.20	987.34	285+33.86	987.31	285+35.91	987.17	285+36.19	987.16
	0.75 L	285+56.49	987.61	285+56.96	987.64	285+58.55	987.56	285+59.95	987.48	285+60.61	987.44	285+62.66	987.32	285+62.94	987.30
	1.00 L	285+83.24	987.70	285+83.71	987.73	285+85.30	987.64	285+86.70	987.57	285+87.36	987.53	285+89.41	987.42	285+89.69	987.40

* REFER TO LAYOUT FOR STATION OFFSETS



SCREED LINES LAYOUT

LEGEND

B4	- BEAM LINE
C.J.	- CONSTRUCTION JOINT
€ BRGS	- CENTERLINE OF BEARINGS
L	- LENGTH OF SPAN

NOTES

1. SCREED ELEVATIONS

SCREED ELEVATIONS ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR THE ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.

MOODY NOLAN INC.
Architecture-Engineering-Planning-Interior Design

DESIGNED	DRAWN	REVIEWED	DATE
RW	RW/PC	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
PHB		5202701 - RT	

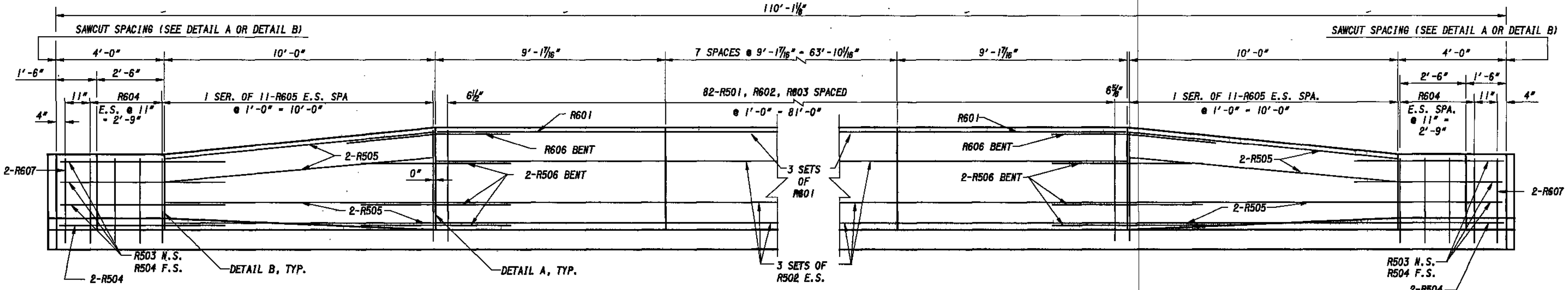
SCREED LAYOUT-NORTHBOUND R
BRIDGE NO. MED-71-0539R
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00

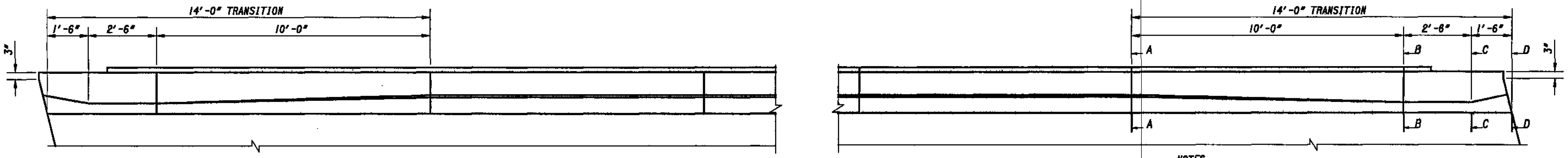
33/40

743/785

PLOTTED BY: CCarlisle 10/17/2003 10:51:01 AM

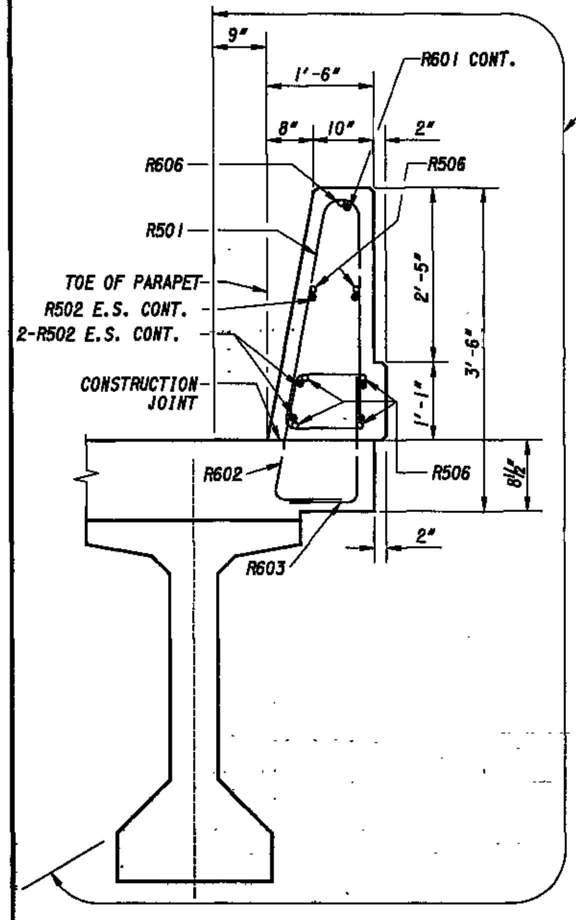


PARAPET ELEVATION



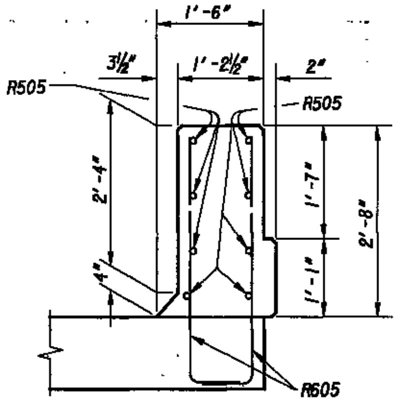
PARAPET PART PLAN
(NOTE: LEFT PARAPET SHOWN, RIGHT PARAPET SIMILAR)

NOTES:
1. ALL CONCRETE, REINFORCING STEEL, DEFLECTION JOINT SAWCUT AND CAULKING MATERIAL FOR PARAPET ARE INCLUDED WITH ITEM 511, CLASS HP CONCRETE BRIDGE DECK (PARAPET) FOR PAYMENT.
2. MINIMUM LAP LENGTHS:
   NO. 5 BARS = 2'-9"
   NO. 6 BARS = 3'-3"
3. N.S. = NEAR SIDE
   F.S. = FAR SIDE
   E.S. = EACH SIDE
2. CONT. = CONTINUOUS

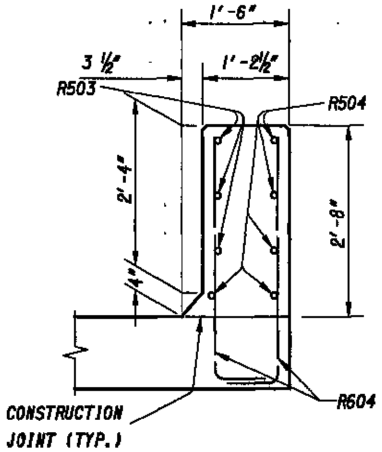


SEAL CONCRETE SURFACES WITH EPOXY-URETHANE SEALER (TYP.)

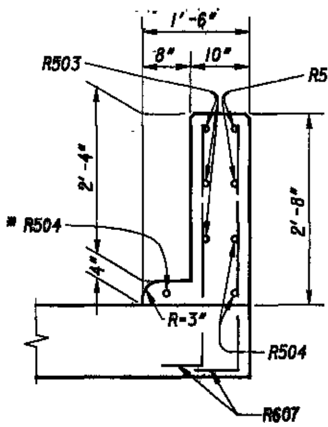
SECTION A-A



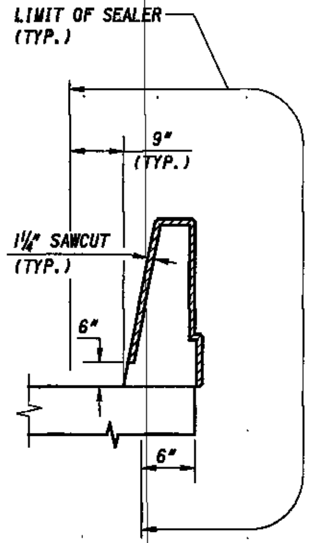
SECTION B-B



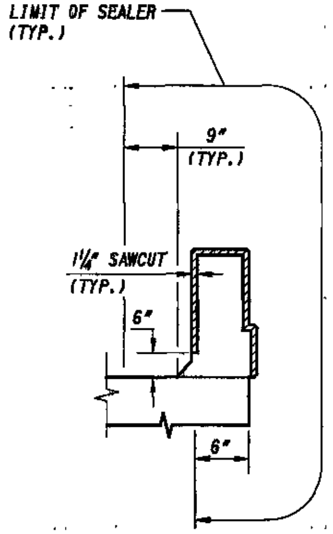
SECTION C-C



SECTION D-D



DETAIL A
(SECTION THROUGH SAWCUT)



DETAIL B
(SECTION THROUGH SAWCUT)

* FIELD BEND IF NECESSARY

PLOTTED BY: CCarlisle 10/17/2003 10:51:42 AM pl401202 Roy-Med\Bridges\0539 Converted Drawings\MED71530CONVERT20.dgn

MOODY NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

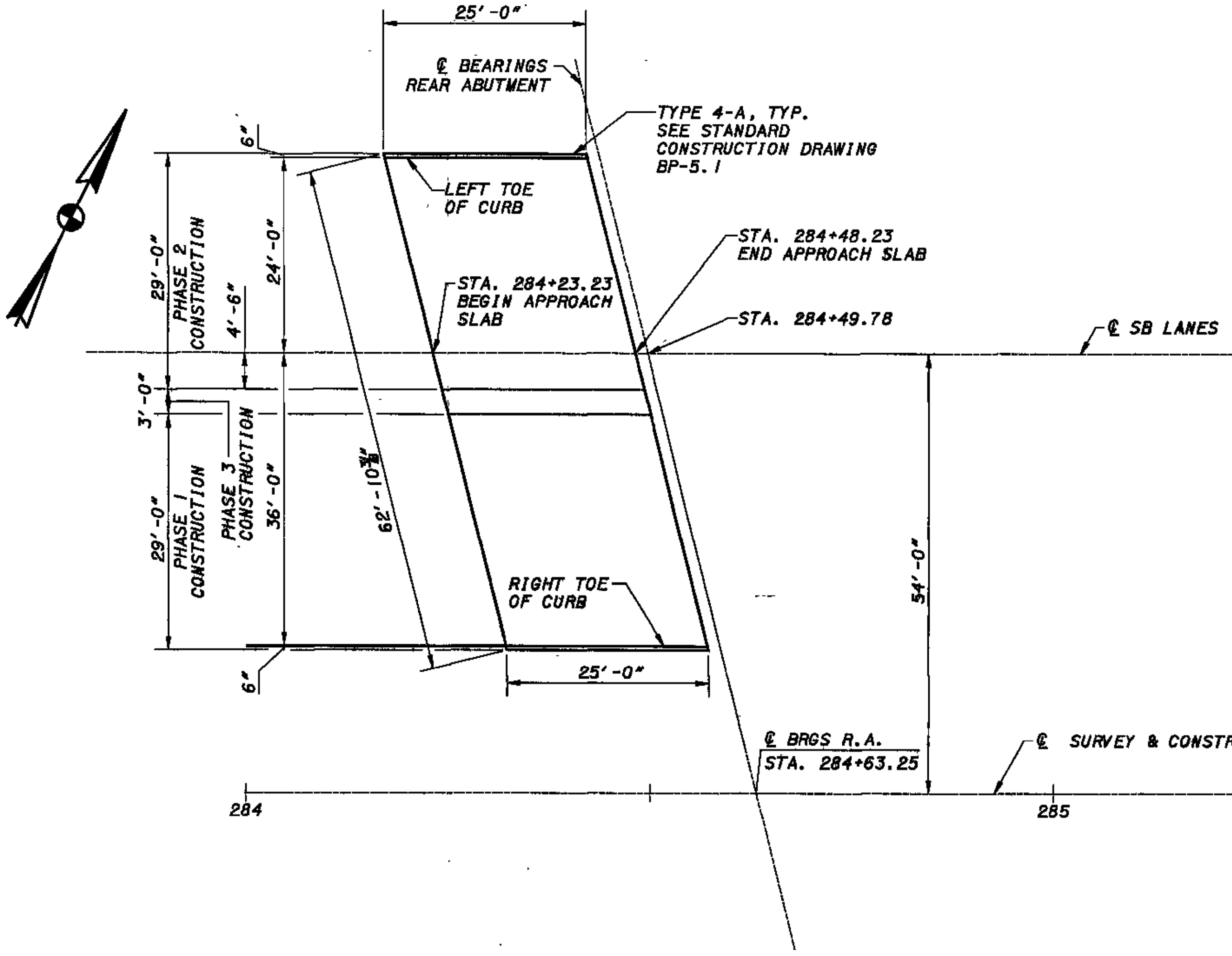
DESIGNED	DRAWN	REVIEWED	DATE
PHB	PC	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
RM		5202671 - LT	

PARAPET DETAILS
BRIDGE NO. MED-71-0539L
OVER CAMEL CREEK

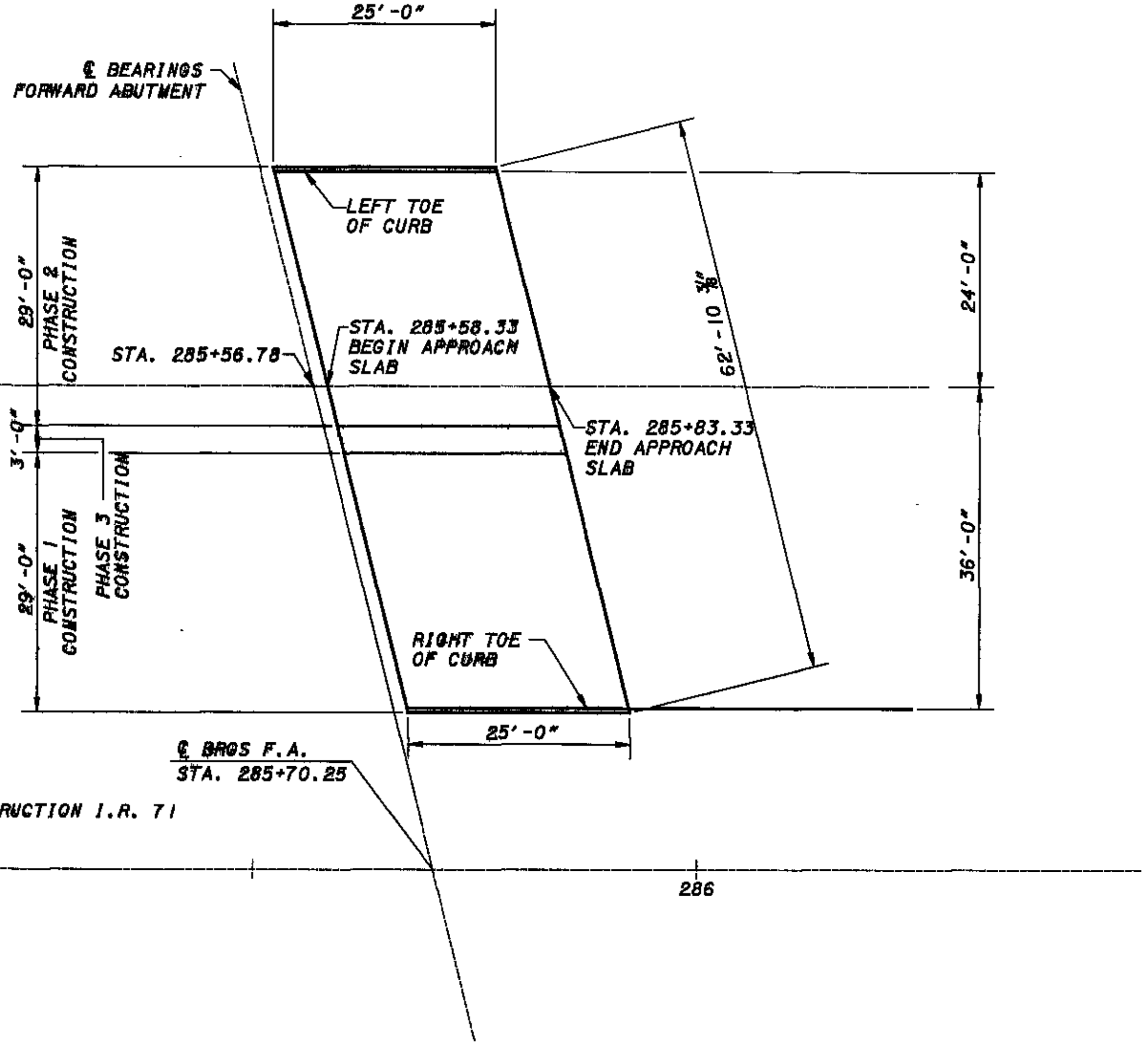
WAY/MED-71-7.04/0.00

34/40

744/785



REAR APPROACH SLAB PLAN



FORWARD APPROACH SLAB PLAN

NOTES:

1. FOR ADDITIONAL DETAILS NOTES & APPROACH SLAB REINFORCING, REFERENCE IS MADE TO STD. DRAWING AS-1-81.

TOP OF APPROACH SLAB ELEVATIONS

APPROACH SLAB	LOCATION	LEFT TOE OF CURB		℄ SB LANES, CROWN		RIGHT TOE OF CURB	
		STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
REAR	0.0 L	284+17.25	986.59	284+23.23	986.99	284+32.21	986.47
	0.5 L	284+29.75	986.65	284+35.73	987.05	284+44.71	986.53
	1.0 L	284+42.25	986.70	284+48.23	987.11	284+57.21	986.59
FORWARD	0.00 L	285+52.34	987.34	285+58.33	987.75	285+67.30	987.25
	0.5 L	285+64.84	987.42	285+70.83	987.84	285+79.80	987.34
	1.0 L	285+77.34	987.51	285+83.33	987.93	285+92.30	987.44

L=25'-0"

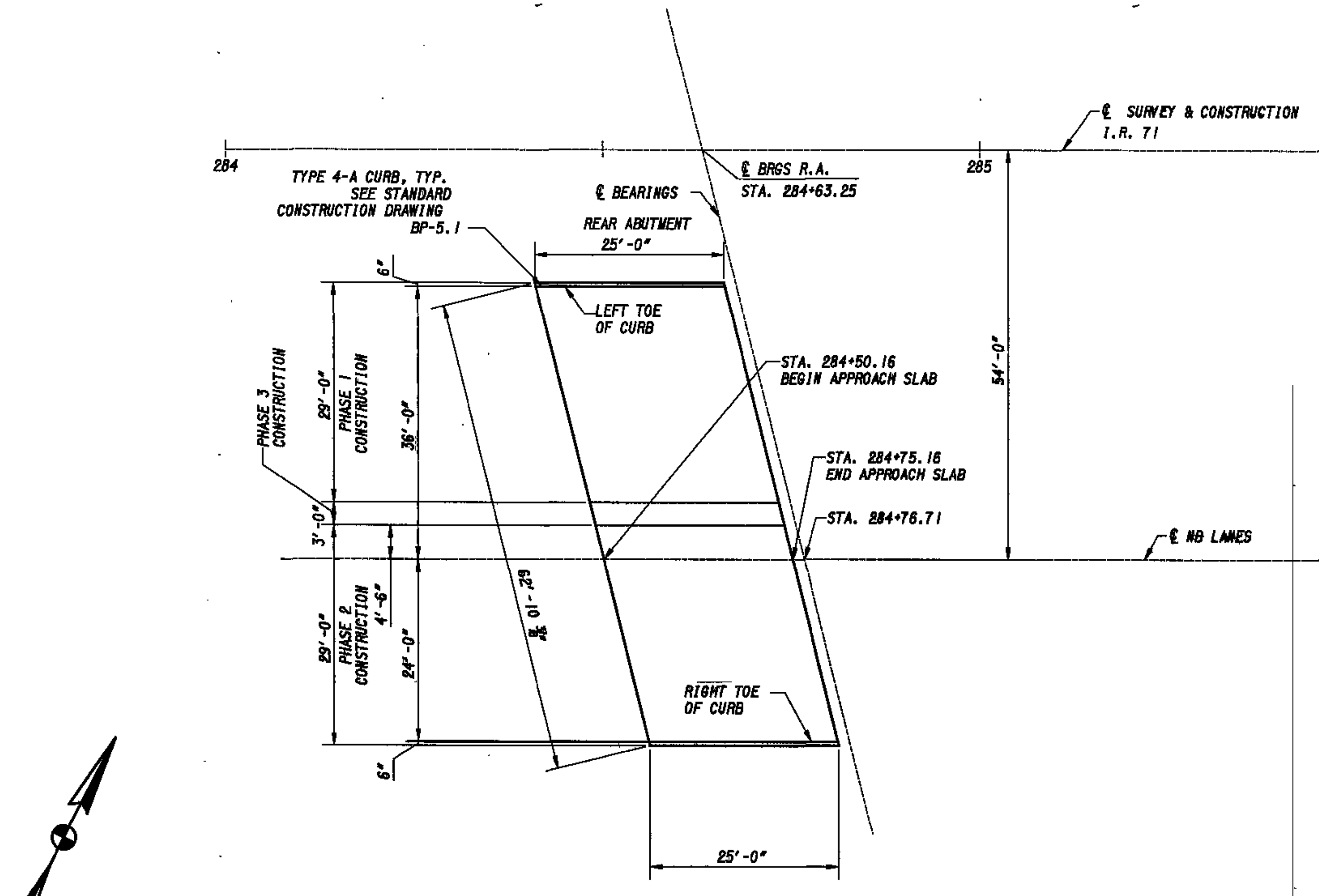
MOODY NOLAN INC.

Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

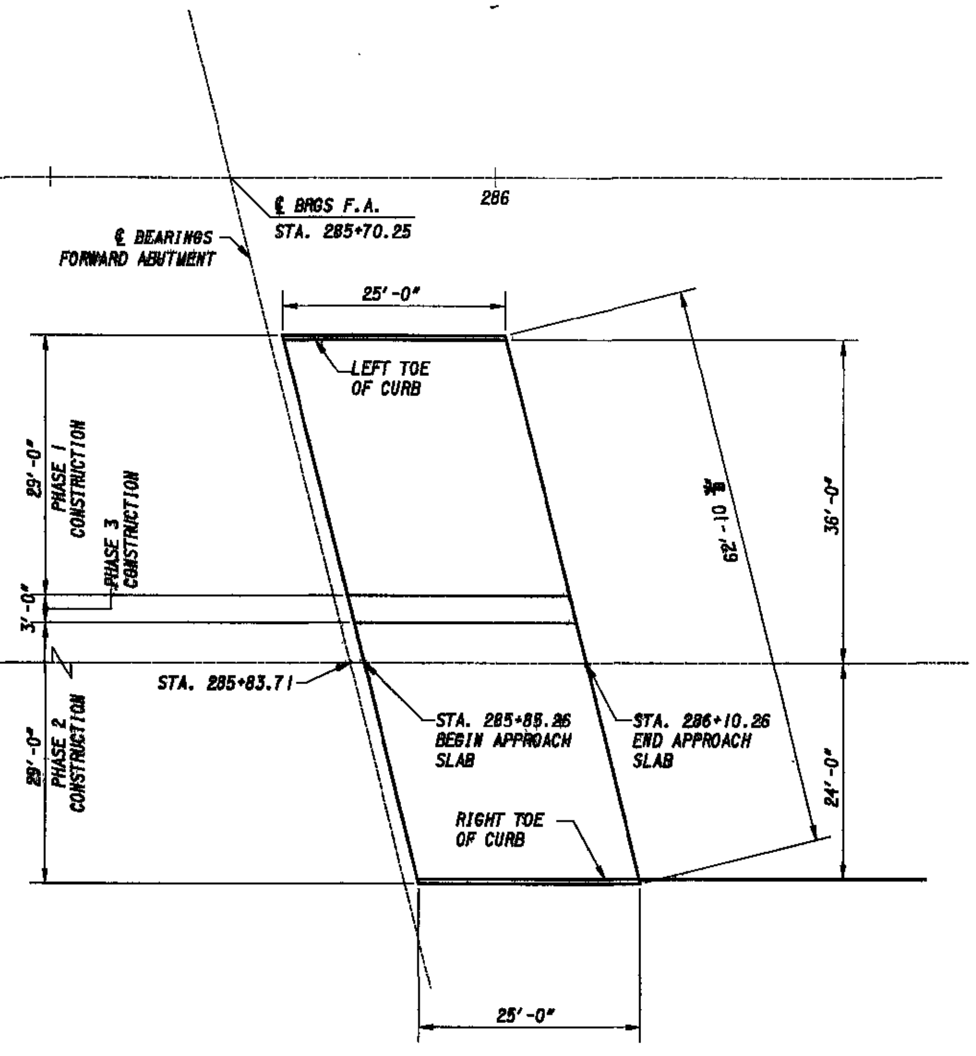
DESIGNED	DRAWN	REVIEWED	DATE
RW	RW/PC	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
PHB		5202671 - LT	

APPROACH SLAB DETAILS-1
BRIDGE NO. MED-71-0539 L
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00



REAR APPROACH SLAB PLAN



FORWARD APPROACH SLAB PLAN

NOTES:

1. FOR ADDITIONAL DETAILS NOTES & APPROACH SLAB REINFORCING, REFERENCE IS MADE TO STD. DRAWING AS-1-81.

TOP OF APPROACH SLAB ELEVATIONS

APPROACH SLAB	LOCATION	LEFT TOE OF CURB		℄ NB LANES, CROWN		RIGHT TOE OF PARAPET	
		STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
REAR	0.0 L	284+41.19	986.31	284+50.16	986.91	284+56.15	986.57
	0.5 L	284+53.69	986.37	284+62.66	986.97	284+68.65	986.63
	1.0 L	284+66.19	986.43	284+75.16	987.04	284+81.15	986.70
FORWARD	0.00 L	285+76.28	987.12	285+85.26	987.74	285+91.24	987.41
	0.5 L	285+88.78	987.21	285+97.76	987.84	286+03.74	987.51
	1.0 L	286+01.28	987.30	286+10.26	987.94	286+16.24	987.61

L=25'-0"

PLOTTED BY: Carlisle 10/17/2003 10:51:24 AM

MOODY NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
RM	RM/PC	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
PMB		5202671 - LT	

APPROACH SLAB DETAILS - 2
BRIDGE NO. MED-71-0539 R
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00

36/40

746/785

REINFORCING STEEL LIST

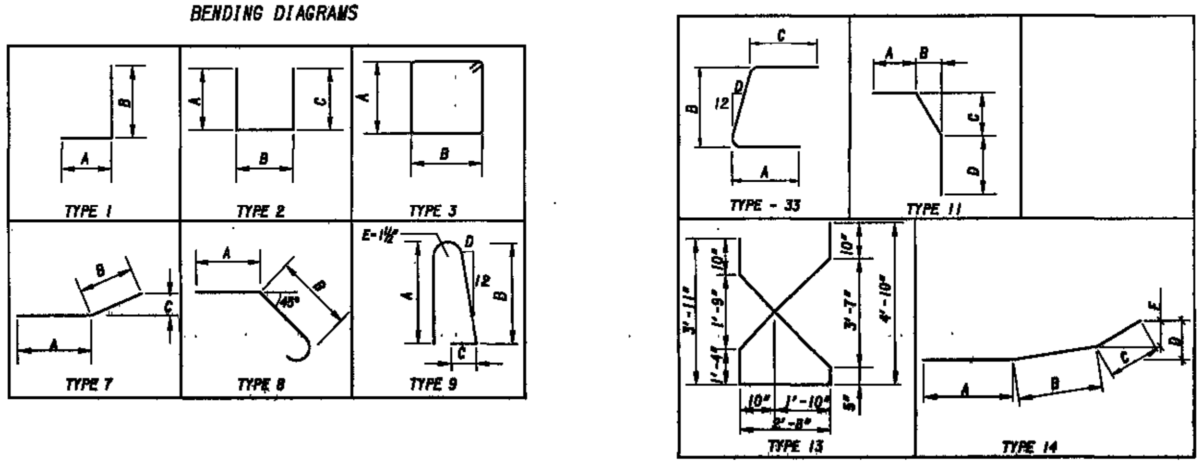
ABUTMENTS - LEFT BRIDGE

MARK	NUMBER REAR	FWD.	TOTAL	LENGTH	WEIGHT	TYPE	DIMENSION A	B	C	D	E	F	G	INC
A401	69		69	9'-0"	415	3	1'-9"	2'-6"						
A501	8		8	24'-3"	202	ST								
A502	8		8	25'-3"	211	ST								
A503	70		70	13'-0"	949	3	2'-7"	3'-8"						
A504	69		69	12'-7"	906	2	5'-1"	2'-8"	5'-1"					
A505	8		8	24'-3"	202	ST								
A506	8		8	25'-3"	211	ST								
A507	1		1	10'-4"	11	ST								
A508	1		1	11'-1"	12	ST								
	1		1	3'-7"										
A509	SER		SER	TO	32	ST								2'-8"
	4		4	11'-7"										
	1		1	2'-10"										
A510	SER		SER	TO	29	ST								2'-10⅝"
	4		4	11'-6"										
A511	NOT	USED												
	1		1	10'-7"			4'-1"		4'-1"					
A512	SER		SER	TO	115	2	TO	2'-8"	TO			DIM A & C VARY BY		10⅜"
	7		7	20'-11"			9'-3"		9'-3"					
A513	1		1	20'-11"	22	2	9'-3"	2'-8"	9'-3"					
A514	1		1	11'-6"	12	7	0'-10"	10'-8"	5'-2"					
A515	1		1	12'-3"	13	7	1'-7"	10'-8"	5'-2"					
A516	1		1	14'-11"	16	ST								
A517	1		1	14'-2"	15	ST								
	1		1	5'-2"										
A518	SER		SER	TO	36	ST								3'-4"
	4		4	15'-2"										
	1		1	5'-11"										
A519	SER		SER	TO	46	ST								3'-4"
	4		4	15'-11"										
A520	NOT	USED												
	1		1	9'-7"			3'-7"		3'-7"					
A521	SER		SER	TO	160	2	TO	2'-8"	TO			DIM A & C VARY BY		7¾"
	10		10	21'-2"			9'-5"		9'-5"					
A522	1		1	21'-2"	22	2	9'-3"	2'-8"	9'-3"					
A601	49		49	13'-0"	957	13								
A801	8		8	26'-4"	562	ST								
A802	8		8	27'-4"	584	ST								
A901	8		8	25'-10"	703	ST								
A902	8		8	26'-10"	730	ST								
				TOTAL =	7173									

ABUTMENTS - LEFT BRIDGE

MARK	NUMBER REAR	FWD.	TOTAL	LENGTH	WEIGHT	TYPE	DIMENSION A	B	C	D	E	F	G	INC
A426		69	69	9'-0"	415	3	1'-9"	2'-6"						
A526		8	8	25'-9"	215	ST								
A527		8	8	23'-8"	197	ST								
A528		70	70	13'-0"	949	3	2'-7"	3'-8"						
A529		69	69	12'-7"	906	2	5'-1"	2'-8"	5'-1"					
A530		8	8	25'-9"	215	ST								
A531		8	8	23'-8"	197	ST								
A532		1	1	13'-5"	14	ST								
A533		1	1	14'-2"	15	ST								
		1	1	4'-2"										
A534		SER	SER	TO	37	ST								3'-2"
		4	4	13'-8"										
		1	1	3'-5"										
A535		SER	SER	TO	34	ST								3'-2"
		4	4	12'-11"										
A536	NOT	USED												
		1	1	9'-7"			3'-7"		3'-7"					
A537		SER	SER	TO	144	2	TO	2'-8"	TO			DIM A & C VARY BY		11½"
		7	7	21'-1"			9'-4"		9'-4"					
A538		1	1	21'-1"	22	2	9'-4"	2'-8"	9'-4"					
A539		1	1	14'-6"	12	7	0'-10"	10'-9"	5'-4"					
A540		1	1	15'-3"	16	7	1'-7"	13'-8"	5'-9"					
A541		1	1	11'-11"	12	ST								
A542		1	1	11'-2"	12	ST								
		1	1	4'-7"										
A543		SER	SER	TO	37	ST								2'-10¾"
		4	4	13'-2"										
		1	1	5'-4"										
A544		SER	SER	TO	46	ST								2'-10¾"
		4	4	13'-11"										
A545	NOT	USED												
		1	1	10'-7"			3'-8"		3'-8"					
A546		SER	SER	TO	131	2	TO	2'-8"	TO			DIM A & C VARY BY		7⅝"
		10	10	20'-11"			9'-7"		9'-7"					
A547		1	1	20'-11"	23	2	9'-7"	2'-8"	9'-7"					
A626		49	49	13'-0"	957	13								
A826		8	8	28'-0"	598	ST								
A827		8	8	25'-10"	552	ST								
A926		8	8	27'-4"	743	ST								
A927		8	8	25'-4"	689	ST								
				TOTAL =	7188									

BENDING DIAGRAMS



NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, S501 IS A NO. 5 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.

2. ALL REINFORCING STEEL SHALL BE EPOXY COATED.

3. "ST" IN THE TYPE COLUMN INDICATES STRAIGHT BARS.

4. "SER" DENOTES SERIES OF.

5. REFER TO C.M.S. SECTION 509.05 FOR STANDARD BEND DIMENSIONS.

MOODY NOLAN INC
FORMS OF INTEGRITY
Architecture•Engineering•Planning•Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DATE 6/03
REVIEWED GT
STRUCTURE FILE NO. 5202671 - LT
DRAWN RW
REVISED
DESIGNED PHB
CHECKED RW

REINFORCING STEEL LIST I
BRIDGE NO. MED-71-0539L
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00

37/40

747
785

PLOTTED BY: ccarlisle 10/17/2003 10:49:00 AM pt401202 Moy-Med\Bridges\0539 Converted Drawings\MED71RL1CONVERT20.dgn

REINFORCING STEEL LIST

SUPERSTRUCTURE - LEFT BRIDGE

MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSION							
					A	B	C	D	E	F	G	INC
S401	207	30'-0"	4148	ST								
S402	69	25'-6"	1175	ST								
S501	228	30'-0"	7134	ST								
S502	76	27'-6"	2180	ST								
	1	6'-0"										
S503	SER	TO	270	ST								1'-11"
	14	30'-11"										
S504	204	32'-8"	6951	ST								
	1	6'-0"										
S505	SER	TO	270	ST								1'-11"
	14	30'-11"										
	1	6'-0"										
S506	SER	TO	270	ST								1'-11"
	14	30'-11"										
S507	204	32'-8"	6951	ST								
	1	6'-0"										
S508	SER	TO	270	ST								1'-11"
	14	30'-11"										
	4	1'-8"										
S509	SER	TO	20	ST								1'-4"
	2	3'-0"										
	1	30'-8"										
S513	SER	TO	268	ST								1'-10¾"
	14	6'-0"										
S514	205	32'-8"	6985	ST								
	1	29'-10"										
S515	SER	TO	243	ST								1'-11⅜"
	13	6'-0"										
	1	30'-8"										
S516	SER	TO	268	ST								1'-10¾"
	14	6'-0"										
S517	205	32'-8"	6985	ST								
	1	29'-10"										
S518	SER	TO	243	ST								1'-11⅜"
	13	6'-0"										
		TOTAL =	44631									

DIAPHRAGMS - LEFT BRIDGE

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSION							
	REAR	FWD.	TOTAL				A	B	C	D	E	F	G	INC
D501	48		48	10'-11"	547	2	4'-3"	2'-8"	4'-3"					
D502	48		48	8'-3"	413	2	2'-11"	2'-8"	2'-11"					
D503	48		48	7'-9"	388	2	2'-11"	2'-2"	2'-11"					
D504	7		7	11'-0"	80	2	4'-3"	2'-9"	4'-3"					
D505	7		7	8'-4"	61	2	2'-11"	2'-9"	2'-11"					
D506	7		7	8'-4"	61	2	2'-11"	2'-9"	2'-11"					
D601	18		18	33'-3"	899	ST								
D602	6		6	3'-1"	28	ST								
D603	18		18	7'-6"	203	ST								
D604	6		6	5'-3"	47	ST								
D605	14		14	8'-7"	180	11	2'-9"	1'-6"	1'-6"	3'-9"				
D606	2		2	6'-10"	21	11	2'-9"	1'-6"	1'-6"	2'-0"				
D801	8		8	33'-3"	710	ST								
D802	42		42	4'-11"	551	8	1'-5"	2'-8"						
D526		48	48	10'-11"	547	2	4'-3"	2'-8"	4'-3"					
D527		48	48	8'-3"	413	2	2'-11"	2'-8"	2'-11"					
D528		48	48	7'-9"	388	2	2'-11"	2'-2"	2'-11"					
D529		7	7	11'-0"	80	2	4'-3"	2'-9"	4'-3"					
D530		7	7	8'-4"	61	2	2'-11"	2'-9"	2'-11"					
D531		7	7	8'-4"	61	2	2'-11"	2'-9"	2'-11"					
D626		18	18	33'-3"	899	ST								
D627		6	6	3'-1"	28	ST								
D628		18	18	7'-6"	203	ST								
D629		6	6	5'-3"	47	ST								
D630		14	14	8'-7"	180	11	2'-9"	1'-6"	1'-6"	3'-9"				
D631		2	2	6'-10"	21	11	2'-9"	1'-6"	1'-6"	2'-0"				
D826		8	8	33'-3"	710	ST								
D827		42	42	4'-11"	551	8	1'-5"	2'-8"						
				TOTAL =	8378									

PARAPETS - LEFT BRIDGE

MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSION							
					A	B	C	D	E	F	G	INC
R501	164	7'-5"	1269	9	3'-0"	3'-2"	1'-2"	0'-2.25"	0'-1.5"			
R502	36	29'-3"	1098	ST								
R503	12	5'-6"	69	14	1'-8"	2'-5"	1'-5"	0'-6.5"	0'-5"			
R504	20	5'-6"	115	ST								
R505	32	10'-0"	334	ST								
R506	24	5'-6"	138	7	2'-9"	2'-9"	0'-1"					
R601	6	29'-6"	266	ST								
R602	164	3'-6"	862	33	1'-3"	1'-6"	1'-0"	0'-2.25"				
R603	164	2'-7"	636	1	1'-2"	1'-7"						
R604	32	3'-8"	176	1	0'-10"	3'-0"						
	8	3'-8"				3'-0"						
R605	SER	TO	430	1	0'-10"	TO				DIM A & C VARY BY		0'-1"
	11	2'-10"				2'-2"						
R606	4	6'-6"	39	7	3'-3"	3'-3"	0'-3.25"					
R607	8	3'-8"	44	1	0'-10"	3'-0"						
		TOTAL =	5476									

NOTE:
1. FOR NOTES AND BAR BENDING DIAGRAMS SEE SHEET 37/40

MOODY NOLAN INC
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED PMB
DRAWN RW
REVIEWED GT
DATE 6/03
CHECKED [illegible]
REVISED
STRUCTURE FILE NO. 5202671 - LT.

REINFORCING STEEL LIST 2
BRIDGE NO. MED-71-0539L
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00

PLOTTED BY: CCarlisle 10/17/2003 10:49:14 AM P:\01202 Way-Med\Bridges\0539 Converted Drawings\MED71RL2CONVERT2D.dgn

REINFORCING STEEL LIST

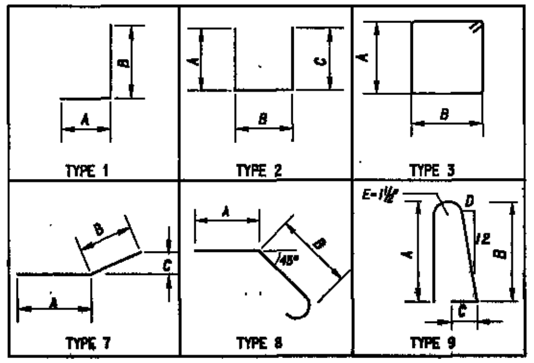
ABUTMENTS - RIGHT BRIDGE

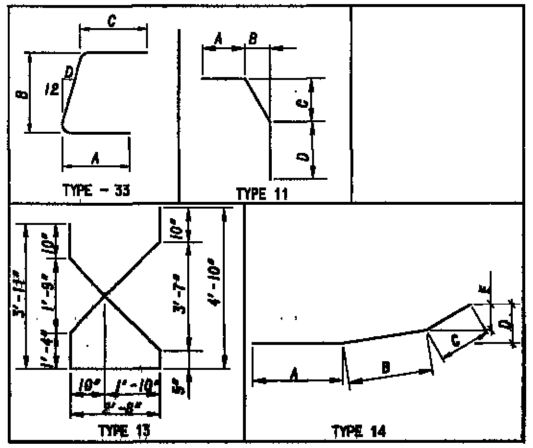
MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSION							INC
	REAR	FWD.	TOTAL				A	B	C	D	E	F	G	
A451	69		69	9'-0"	415	3	1'-9"	2'-6"						
A551	8		8	25'-9"	215	ST								
A552	8		8	23'-8"	197	ST								
A553	70		70	13'-0"	949	3	2'-7"	3'-8"						
A554	69		69	12'-7"	906	2	5'-1"	2'-8"	5'-1"					
A555	8		8	25'-9"	215	ST								
A556	8		8	28'-0"	234	ST								
A557	1		1	13'-5"	14	ST								
A558	1		1	14'-2"	15	ST								
	1		1	4'-2"										
A559	SER		SER	TO	37	ST								3'-1 5/8"
	4		4	13'-7"										
	1		1	3'-5"										
A560	SER		SER	TO	34	ST								3'-1 5/8"
	4		4	12'-10"										
A561	NOT	USED												
	1		1	9'-7"			3'-7"		3'-7"					
A562	SER		SER	TO	146	2	TO	2'-8"	TO			DIM A & C	VARY BY	9"
	9		9	21'-6"			9'-7"		9'-7"					
A563	1		1	21'-7"	23	2	9'-7"	2'-8"	9'-7"					
A564	1		1	14'-7"	15	7	0'-10"	13'-9"	6'-0"					
A565	1		1	15'-4"	16	7	1'-7"	13'-9"	6'-0"					
A566	1		1	11'-11"	12	ST								
A567	1		1	11'-2"	12	ST								
	1		1	4'-6"										
A568	SER		SER	TO	36	ST								2'-9"
	4		4	12'-9"										
	1		1	5'-3"										
A569	SER		SER	TO	39	ST								2'-9"
	4		4	13'-6"										
A570	NOT	USED												
	1		1	10'-3"			3'-11"		3'-11"					
A571	SER		SER	TO	130	2	TO	2'-8"	TO			DIM A & C	VARY BY	9 1/8"
	8		8	20'-11"			9'-3"		9'-3"					
A572	1		1	20'-11"	22	2	9'-3"	2'-8"	9'-3"					
A651	49		49	13'-0"	957	13								
A851	8		8	28'-0"	598	ST								
A852	8		8	25'-10"	552	ST								
A951	8		8	27'-4"	743	ST								
A952	8		8	25'-4"	689	ST								
				TOTAL =	7221									

ABUTMENTS - RIGHT BRIDGE

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSION							INC
	REAR	FWD.	TOTAL				A	B	C	D	E	F	G	
A476		69	69	9'-0"	415	3	1'-9"	2'-6"						
A576		8	8	25'-4"	211	ST								
A577		8	8	25'-3"	211	ST								
A578		70	70	13'-0"	949	3	2'-7"	3'-8"						
A579		69	69	12'-7"	906	2	5'-1"	2'-8"	5'-1"					
A580		8	8	24'-3"	202	ST								
A581		8	8	25'-3"	211	ST								
A582		1	1	10'-4"	11	ST								
A583		1	1	11'-1"	12	ST								
		1	1	3'-6"										
A584		SER	SER	TO	31	ST								2'-7"
		4	4	11'-3"										
		1	1	2'-9"										
A585		SER	SER	TO	28	ST								2'-7"
		4	4	10'-6"										
A586	NOT	USED												
		1	1	10'-3"			3'-11"		3'-11"					
A587		SER	SER	TO	114	2	TO	2'-8"	TO			DIM A & C	VARY BY	10 5/8"
		7	7	20'-11"			9'-3"		9'-3"					
A588		1	1	20'-11"	22	2	9'-3"	2'-8"	9'-3"					
A589		1	1	11'-7"	12	7	0'-10"	10'-9"	5'-4"					
A590		1	1	12'-4"	13	7	1'-7"	10'-9"	5'-4"					
A591		1	1	14'-11"	16	ST								
A592		1	1	14'-2"	15	ST								
		1	1	5'-2"										
A593		SER	SER	TO	43	ST								3'-4 3/8"
		4	4	15'-3"										
		1	1	5'-11"										
A594		SER	SER	TO	46	ST								3'-4 3/8"
		4	4	16'-0"										
A595	NOT	USED												
		1	1	9'-9"			3'-8"		3'-8"					
A596		SER	SER	TO	163	2	TO	2'-8"	TO			DIM A & C	VARY BY	7 7/8"
		10	10	21'-6"			9'-7"		9'-7"					
A597		1	1	21'-7"	23	2	9'-7"	2'-8"	9'-7"					
A676		49	49	13'-0"	957	13								
A876		8	8	26'-4"	562	ST								
A877		8	8	27'-4"	584	ST								
A976		8	8	25'-10"	703	ST								
A977		8	8	26'-10"	730	ST								
				TOTAL =	7190									

BENDING DIAGRAMS





NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, S501 IS A NO. 5 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.

2. ALL REINFORCING STEEL SHALL BE EPOXY COATED.

3. "ST" IN THE TYPE COLUMN INDICATES STRAIGHT BARS.

4. "SER" DENOTES SERIES OF.

5. REFER TO C.M.S. SECTION 509.05 FOR STANDARD BEND DIMENSIONS.

MOODY/NOLAN LTD. INC
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 . Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
PHB	RW	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
RW		5202701 - RT	

REINFORCING STEEL LIST 3
BRIDGE NO. MED-71-0539R
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00

PLOTTED BY: CCarlisle 10/17/2003 10:49:29 AM p:\01202 Way-Med\Bridge\0539 Converted Drawings\MED071RL3CONVERT20.dgn

REINFORCING STEEL LIST

SUPERSTRUCTURE - RIGHT BRIDGE

					DIMENSION							
MARK	NUMBER	LENGTH	WEIGHT	TYPE	A	B	C	D	E	F	G	INC
S401	207	30'-0"	4148	ST								
S402	69	25'-6"	1175	ST								
S501	228	30'-0"	7134	ST								
S502	76	27'-6"	2180	ST								
	1	6'-0"										
S503	SER	TO	270	ST								1'-11"
	14	30'-11"										
S504	204	32'-8"	6951	ST								
	1	6'-0"										
S505	SER	TO	270	ST								1'-11"
	14	30'-11"										
	1	6'-0"										
S506	SER	TO	270	ST								1'-11"
	14	30'-11"										
S507	204	32'-8"	6951	ST								
	1	6'-0"										
S508	SER	TO	270	ST								1'-11"
	14	30'-11"										
	4	1'-8"										
S509	SER	TO	20	ST								1'-4"
	2	3'-0"										
	1	30'-8"										
S513	SER	TO	268	ST								1'-10¾"
	14	6'-0"										
S514	205	32'-8"	6985	ST								
	1	29'-10"										
S515	SER	TO	243	ST								1'-11¾"
	13	6'-0"										
	1	30'-8"										
S516	SER	TO	268	ST								1'-10¾"
	14	6'-0"										
S517	205	32'-8"	6985	ST								
	1	29'-10"										
S518	SER	TO	243	ST								1'-11¾"
	13	6'-0"										
		TOTAL =	44631									

PARAPETS - RIGHT BRIDGE

					DIMENSION							
MARK	NUMBER	LENGTH	WEIGHT	TYPE	A	B	C	D	E	F	G	INC
R501	164	7'-5"	1269	9	3'-0"	3'-2"	1'-2"	0'-2.25"	0'-1.5"			
R502	36	29'-3"	1098	ST								
R503	12	5'-6"	69	14	1'-8"	2'-5"	1'-5"	0'-6.5"	0'-5"			
R504	20	5'-6"	115	ST								
R505	32	10'-0"	334	ST								
R506	24	5'-6"	138	7	2'-9"	2'-9"	0'-1"					
R601	6	29'-6"	266	ST								
R602	164	3'-6"	862	33	1'-3"	1'-6"	1'-0"	0'-2.25"				
R603	164	2'-7"	636	1	1'-2"	1'-7"						
R604	32	3'-8"	176	1	0'-10"	3'-0"						
	8	3'-8"				3'-0"						
R605	SER	TO	430	1	0'-10"	TO				DIM B VARIES BY		0'-1"
	11	2'-10"				2'-2"						
R606	4	6'-6"	39	7	3'-3"	3'-3"	0'-3.25"					
R607	8	3'-8"	44	1	0'-10"	3'-0"						
		TOTAL =	5476									

DIAPHRAGMS - RIGHT BRIDGE

	NUMBER						DIMENSION							
MARK	REAR	FWD.	TOTAL	LENGTH	WEIGHT	TYPE	A	B	C	D	E	F	G	INC
D551	48		48	10'-11"	547	2	4'-3"	2'-8"	4'-3"					
D552	48		48	8'-3"	413	2	2'-11"	2'-8"	2'-11"					
D553	48		48	7'-9"	388	2	2'-11"	2'-2"	2'-11"					
D554	7		7	11'-0"	80	2	4'-3"	2'-9"	4'-3"					
D555	7		7	8'-4"	61	2	2'-11"	2'-9"	2'-11"					
D556	7		7	8'-4"	61	2	2'-11"	2'-9"	2'-11"					
D651	18		18	33'-3"	899	ST								
D652	6		6	3'-1"	28	ST								
D653	18		18	7'-6"	203	ST								
D654	6		6	5'-3"	47	ST								
D655	14		14	8'-7"	180	11	2'-9"	1'-6"	1'-6"	3'-9"				
D656	2		2	6'-10"	21	11	2'-9"	1'-6"	1'-6"	2'-0"				
D851	8		8	33'-3"	710	ST								
D852	42		42	4'-11"	581	8	1'-5"	2'-8"						
D576		48	48	10'-11"	547	2	4'-3"	2'-8"	4'-3"					
D577		48	48	8'-3"	413	2	2'-11"	2'-8"	2'-11"					
D578		48	48	7'-9"	388	2	2'-11"	2'-2"	2'-11"					
D579		7	7	11'-6"	80	2	4'-3"	2'-9"	4'-3"					
D580		7	7	8'-4"	61	2	2'-11"	2'-9"	2'-11"					
D581		7	7	8'-4"	61	2	2'-11"	2'-9"	2'-11"					
D676		18	18	33'-3"	899	ST								
D677		6	6	3'-1"	28	ST								
D678		18	18	7'-6"	203	ST								
D679		6	6	5'-3"	47	ST								
D680		14	14	8'-7"	180	11	2'-9"	1'-6"	1'-6"	3'-9"				
D681		2	2	6'-10"	21	11	2'-9"	1'-6"	1'-6"	2'-0"				
D876		8	8	33'-3"	710	ST								
D877		42	42	4'-11"	581	8	1'-5"	2'-8"						
				TOTAL =	8378									

NOTE:
1. FOR NOTES AND BAR BENDING DIAGRAMS SEE SHEET $\boxed{39/40}$.

MOODY/NOLAN INC.
Architecture-Engineering-Planning-Interior Design
300 Spruce Street, Suite 300, Columbus, OH 43215
Phone: (614) 461-4664 Fax: (614) 280-8881

DESIGNED	DRAWN	REVIEWED	DATE
PHB	RM	GT	6/03
CHECKED	REVISED	STRUCTURE FILE NO.	
RM		5202701 - RT	

REINFORCING STEEL LIST 4
BRIDGE NO. MED-71-0539R
OVER CAMEL CREEK

WAY/MED-71-7.04/0.00

PLOTTED BY: Ccarlisle 10/17/2003 10:49:47 AM p:\ND1202 Way-Med\Bridges\0539 Converted Drawings\MED71RL4CONVERTED.dgn

WAY/MED-71-7.04/0.00

TOWNSHIP 1 NORTH RANGE 16 WEST
CONNECTICUT WESTERN RESERVE
LOTS 138, 139, 148, 149, 158 & 159
HARRISVILLE TOWNSHIP
MEDINA COUNTY, OHIO

BASIS FOR BEARINGS:

THE BASIS OF BEARINGS FOR THESE PLANS ARE RELATIVE TO GRID NORTH OF THE OHIO STATE PLANE COORDINATE SYSTEM, NORTH ZONE, AND THE NORTH AMERICAN DATUM OF 1983 (1995 ADJUSTMENT) FROM GPS OBERSVATIONS BY ODOT DATE: ______

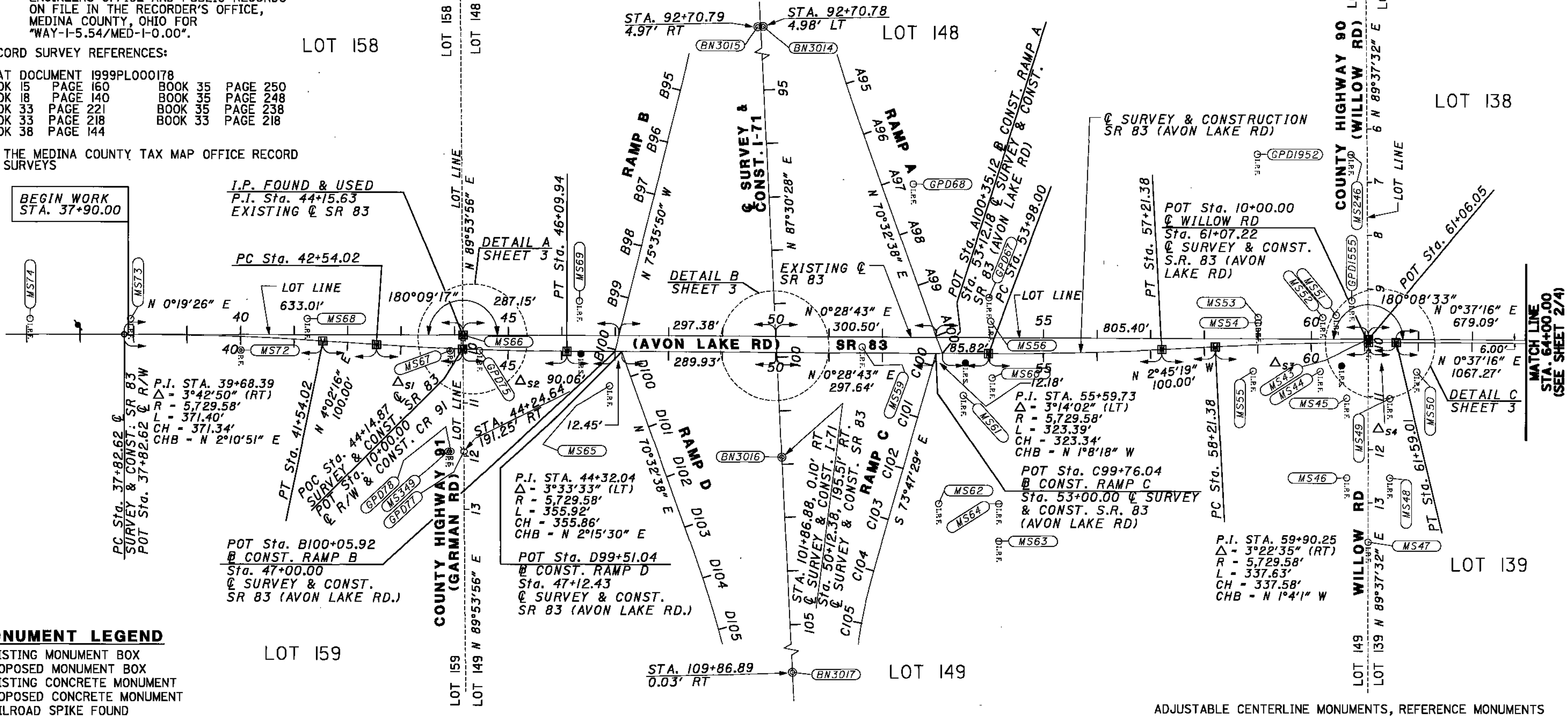
NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING DOCUMENTATION ON FILE FROM THE MEDINA COUNTY ENGINEERS OFFICE AND PUBLIC RECORDS ON FILE IN THE RECORDER'S OFFICE, MEDINA COUNTY, OHIO FOR "WAY-I-5.54/MED-I-0.00".

RECORD SURVEY REFERENCES:

PLAT DOCUMENT 1999PL000178

BOOK 15 PAGE 160		BOOK 35	PAGE 250
BOOK 18 PAGE 140		BOOK 35	PAGE 248
BOOK 33 PAGE 221		BOOK 35	PAGE 238
BOOK 33 PAGE 218		BOOK 33	PAGE 218
BOOK 38 PAGE 144			

OF THE MEDINA COUNTY TAX MAP OFFICE RECORD OF SURVEYS



LOT 158
LOT 148
LOT 138
LOT 139
LOT 149
LOT 159
BEGIN WORK STA. 37+90.00
I.P. FOUND & USED P.I. Sta. 44+15.63 EXISTING ℄ SR 83
PC Sta. 42+54.02
LOT LINE 633.01'
N 0°19'26" E
180°09'17"
287.15'
DETAIL A SHEET 3
PT Sta. 46+09.94
N 89°53'56" E
LOT LINE
STA. 92+70.79 4.97' RT
STA. 92+70.78 4.98' LT
BN3015
BN3014
RAMP B
B95 B96 B97 B98 B99 B100
N 75°35'50" W
℄ SURVEY & CONST. I-71
N 87°30'28" E
RAMP A
A95 A96 A97 A98 A99 A100
N 70°32'38" E
GPD68
POT Sta. A100+35.12 ℄ CONST. RAMP A ℄ SURVEY & CONST. SR 83 (AVON LAKE RD) Sta. 53+12.18
PC Sta. 53+98.00
DETAIL B SHEET 3
EXISTING ℄ SR 83
N 0°28'43" E 300.50'
297.38'
289.93'
(AVON LAKE RD)
SR 83
N 0°28'43" E 297.64'
85.82'
LOT LINE
55
805.40'
PT Sta. 57+21.38
℄ SURVEY & CONSTRUCTION SR 83 (AVON LAKE RD)
POT Sta. 10+00.00 ℄ WILLOW RD Sta. 61+07.22 ℄ SURVEY & CONST. S.R. 83 (AVON LAKE RD)
GPD1952
GPD1555
COUNTY HIGHWAY 90 (WILLOW RD)
N 89°37'32" E
POT Sta. 61+06.05
180°08'33"
N 0°37'16" E 679.09'
6.00'
N 0°37'16" E 1067.27'
DETAIL C SHEET 3
MATCH LINE STA. 64+00.00 (SEE SHEET 2/4)
MS74 MS73 MS68 MS72 MS66 MS67 GPD75 MS69 MS65 MS53 MS54 MS56 MS60 MS55 MS43 MS44 MS45 MS50 MS51 MS52 MS246 MS49 MS46 MS48 MS47 MS59 MS61 MS62 MS64 MS63 GPD67 GPD78 MS349 GPD77
40 45 50 55 60
P.I. STA. 39+68.39 Δ = 3°42'50" (RT) R = 5,729.58' L = 371.40' CH = 371.34' CHB = N 2°10'51" E
PT Sta. 41+54.02
N 4°02'16" E 100.00'
PC Sta. 37+82.62 ℄ SURVEY & CONST. SR 83 POT Sta. 37+82.62 ℄ R/W
POC Sta. 44+14.87 ℄ SR 83 SURVEY & CONST. Sta. 10+00.00 ℄ R/W & CONST. CR 91
COUNTY HIGHWAY 91 (GARMAN RD)
STA. 44+24.64 12.45' RT
191.25'
Δs1 Δs2 Δs3 Δs4
90.06'
12.45'
POT Sta. B100+05.92 ℄ CONST. RAMP B Sta. 47+00.00 ℄ SURVEY & CONST. SR 83 (AVON LAKE RD.)
P.I. STA. 44+32.04 Δ = 3°33'33" (LT) R = 5,729.58' L = 355.92' CH = 355.86' CHB = N 2°15'30" E
POT Sta. D99+51.04 ℄ CONST. RAMP D Sta. 47+12.43 ℄ SURVEY & CONST. SR 83 (AVON LAKE RD.)
RAMP D
D100 D101 D102 D103 D104 D105
N 70°32'38" E
BN3016
STA. 101+86.88, 0.10' RT ℄ SURVEY & CONST. I-71 Sta. 50+12.38, 195.51' RT ℄ SURVEY & CONST. SR 83
RAMP C
C100 C101 C102 C103 C104 C105
S 73°47'29" E
P.I. STA. 55+59.73 Δ = 3°14'02" (LT) R = 5,729.58' L = 323.39' CH = 323.34' CHB = N 1°8'18" W
12.18'
N 2°45'19" W 100.00'
POT Sta. C99+76.04 ℄ CONST. RAMP C Sta. 53+00.00 ℄ SURVEY & CONST. S.R. 83 (AVON LAKE RD)
PC Sta. 58+21.38
P.I. STA. 59+90.25 Δ = 3°22'35" (RT) R = 5,729.58' L = 337.63' CH = 337.58' CHB = N 1°4'1" W
PT Sta. 61+59.01
WILLOW RD
STA. 109+86.89 0.03' RT
BN3017
I.R.F.

MONUMENT LEGEND

- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- ◎ EXISTING CONCRETE MONUMENT
- ● PROPOSED CONCRETE MONUMENT
- RAILROAD SPIKE FOUND
- RAILROAD SPIKE SET
- ○I.R.F. IRON PIN FOUND, AS NOTED
- ⦶I.R.F. IRON PIN FOUND W/ ID CAP, AS NOTED
- ▲I.R.S. IRON PIN SET -¾" DIAMETER x 36" LONG REINFORCING BARS WITH A PLASTIC CAP, STAMPED "7159 - MS CONSULTANTS"
- ●I.R.S. IRON PIN SET -¾" DIAMETER x 36" LONG REINFORCING BARS WITH A 1½" DIAMETER ALUMINUM CAP, STAMPED "ODOT RIGHT-OF-WAY - MS CONSULTANTS - 7159"
- ◎P.F. IRON PIPE FOUND, AS NOTED
- ◎P.S. IRON PIPE SET
- ○P.K.F. P.K. NAIL FOUND
- •P.K.S. P.K. NAIL SET
- ▭ STONE FOUND

SUB DELTAS

MARK	DELTA	RADIUS	LENGTH	CHORD	CHORD BEARING
Δ_{S1}	1°36'31"	5,729.58'	160.85'	160.85'	N 3°14'01" E
Δ_{S2}	1°57'02"	5,729.58'	195.06'	195.06'	N 1°27'15" E
Δ_{S3}	2°51'30"	5,729.58'	285.83'	285.80'	N 1°19'34" W
Δ_{S4}	0°31'05"	5,729.58'	51.80'	51.80'	N 0°21'44" E

I HEREBY CERTIFY THAT THIS PLAT IS A TRUE DELINIATION OF A SURVEY MADE FOR THE OHIO DEPARTMENT OF TRANSPORTATION IN 1999 AND 2000 BY MS CONSULTANTS, INC.

THE ESTABLISHMENT OF THE PROPERTY LINES AND EXISTING RIGHT OF WAY LINES SHOWN ON THIS PLAN AS OF THIS DATE WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION.

BY ______________________
JOHN L. PRICE
SURVEYOR NO. 7159 DATE ________

ADJUSTABLE CENTERLINE MONUMENTS, REFERENCE MONUMENTS AND RIGHT-OF-WAY MONUMENTS ARE SHOWN ON STANDARD CONSTRUCTION DRAWING RM 1.1 (REV. 4-18-03) OF THE OHIO DEPARTMENT OF TRANSPORTATION. THE PLACING OF THE MONUMENTS SHALL BE UNDER THE DIRECTION OF A SURVEYOR REGISTERED IN THE STATE OF OHIO AND ARE TO BE SET, AS SHOWN HERE BY THE HIGHWAY CONTRACTOR AT THE TIME OF CONSTRUCTION. ANY ALTERATIONS, WITH PRIOR APPROVAL OF THE OHIO DEPARTMENT OF TRANSPORTATION, SHALL BE NOTED AND O.D.O.T. SHALL BE NOTIFIED OF THE NEW LOCATIONS.

RECEIVED ____________, 20___
RECORDED ____________, 20___
DOCUMENT NUMBER ____________

____
COUNTY RECORDER

0 50 100 200
SCALE IN FEET

PID NO. 14017

R/W DESIGNER JLP
R/W REVIEWER JPV

CENTERLINE PLAT

WAY/MED-71-7.04/0.00

1/4

1/35

WAY/MED-71-7.04/0.00

TOWNSHIP 1 NORTH RANGE 16 WEST
CONNECTICUT WESTERN RESERVE
LOTS 138, 139, 148, 149, 158 & 159
HARRISVILLE TOWNSHIP
MEDINA COUNTY, OHIO

BASIS FOR BEARINGS:

THE BASIS OF BEARINGS FOR THESE PLANS ARE RELATIVE TO GRID NORTH OF THE OHIO STATE PLANE COORDINATE SYSTEM, NORTH ZONE, AND THE NORTH AMERICAN DATUM OF 1983 (1995 ADJUSTMENT) FROM GPS OBERSVATIONS BY ODOT

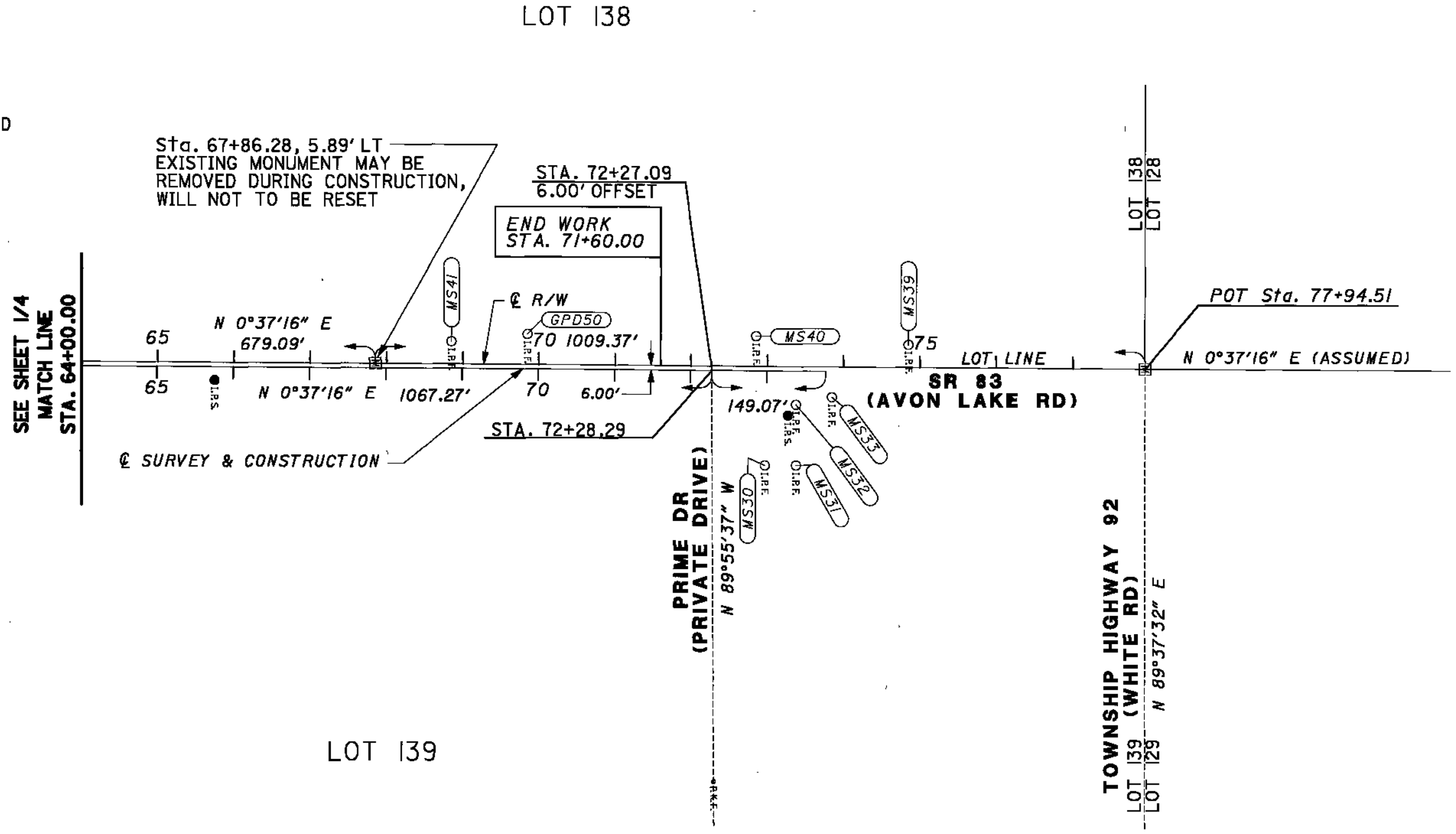
NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING DOCUMENTATION ON FILE FROM THE MEDINA COUNTY ENGINEERS OFFICE AND PUBLIC RECORDS ON FILE IN THE RECORDER'S OFFICE, MEDINA COUNTY, OHIO FOR "WAY-1-5.54/MED-1-0.00".

RECORD SURVEY REFERENCES:

PLAT DOCUMENT 1999PL000178

BOOK 15	PAGE 160	BOOK 35	PAGE 250
BOOK 18	PAGE 140	BOOK 35	PAGE 248
BOOK 33	PAGE 221	BOOK 35	PAGE 238
BOOK 33	PAGE 218	BOOK 33	PAGE 218
BOOK 38	PAGE 144		

OF THE MEDINA COUNTY TAX MAP OFFICE RECORD OF SURVEYS



MONUMENT LEGEND

- ⊠ EXISTING MONUMENT BOX
- ⊠ PROPOSED MONUMENT BOX
- ◎ EXISTING CONCRETE MONUMENT
- ● PROPOSED CONCRETE MONUMENT
- ☆ RAILROAD SPIKE FOUND
- ★ RAILROAD SPIKE SET
- ○I.R.F. IRON PIN FOUND, AS NOTED
- ⊙I.R.F. IRON PIN FOUND W/ ID CAP, AS NOTED
- ▲I.R.S. IRON PIN SET -3/4" DIAMETER x 36" LONG REINFORCING BARS WITH A PLASTIC CAP, STAMPED "7159 - MS CONSULTANTS"
- ●I.R.S. IRON PIN SET -3/4" DIAMETER x 36" LONG REINFORCING BARS WITH A 1½" DIAMETER ALUMINUM CAP, STAMPED "ODOT RIGHT-OF-WAY - MS CONSULTANTS - 7159"
- ◎P.F. IRON PIPE FOUND, AS NOTED
- ◎P.S. IRON PIPE SET
- ∘P.K.F. P.K. NAIL FOUND
- •P.K.S. P.K. NAIL SET
- △ STONE FOUND

ADJUSTABLE CENTERLINE MONUMENTS, REFERENCE MONUMENTS AND RIGHT-OF-WAY MONUMENTS ARE SHOWN ON STANDARD CONSTRUCTION DRAWING RM 1.1 (REV. 4-18-03) OF THE OHIO DEPARTMENT OF TRANSPORTATION. THE PLACING OF THE MONUMENTS SHALL BE UNDER THE DIRECTION OF A SURVEYOR REGISTERED IN THE STATE OF OHIO AND ARE TO BE SET, AS SHOWN HERE BY THE HIGHWAY CONTRACTOR AT THE TIME OF CONSTRUCTION. ANY ALTERATIONS, WITH PRIOR APPROVAL OF THE OHIO DEPARTMENT OF TRANSPORTATION, SHALL BE NOTED AND O.D.O.T. SHALL BE NOTIFIED OF THE NEW LOCATIONS.

RECEIVED ____________, 20____
RECORDED ____________, 20____
DOCUMENT NUMBER ____________
____
COUNTY RECORDER

N
0 50 100 200
SCALE IN FEET

PID NO. 14017

R/W DESIGNER JLP
R/W REVIEWER JPV

CENTERLINE PLAT

WAY/MED-71-7.04/0.00

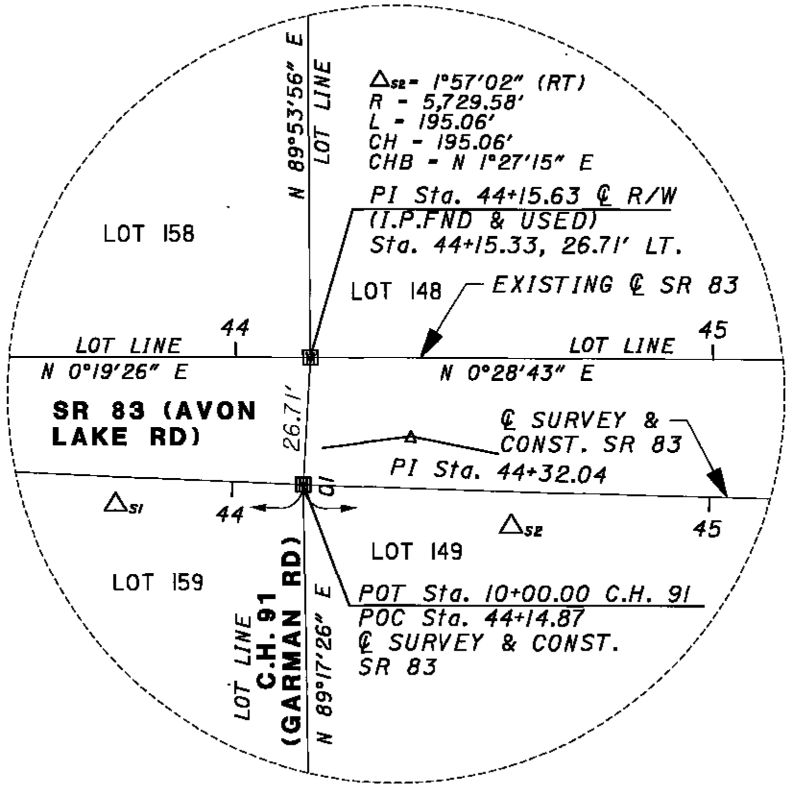
2/4
2/35

752/785

DATE: $DATE$ $TIME$
FILENAME: $FILE$

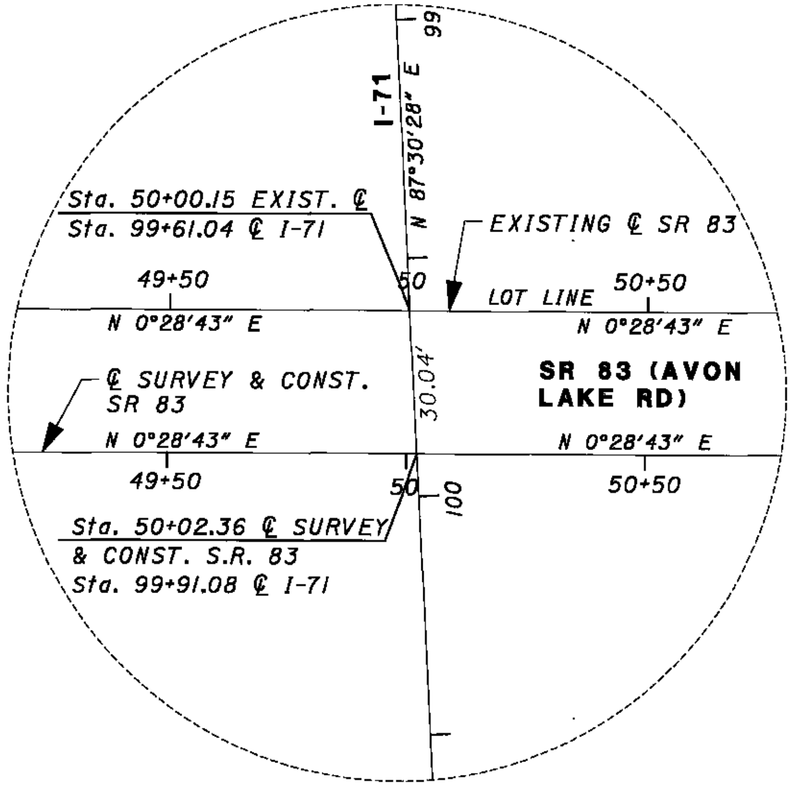
WAY/ MED-71-7.04/ 0.00

TOWNSHIP 1 NORTH RANGE 16 WEST
CONNECTICUT WESTERN RESERVE
LOTS 138, 139, 148, 149, 158 & 159
HARRISVILLE TOWNSHIP
MEDINA COUNTY, OHIO

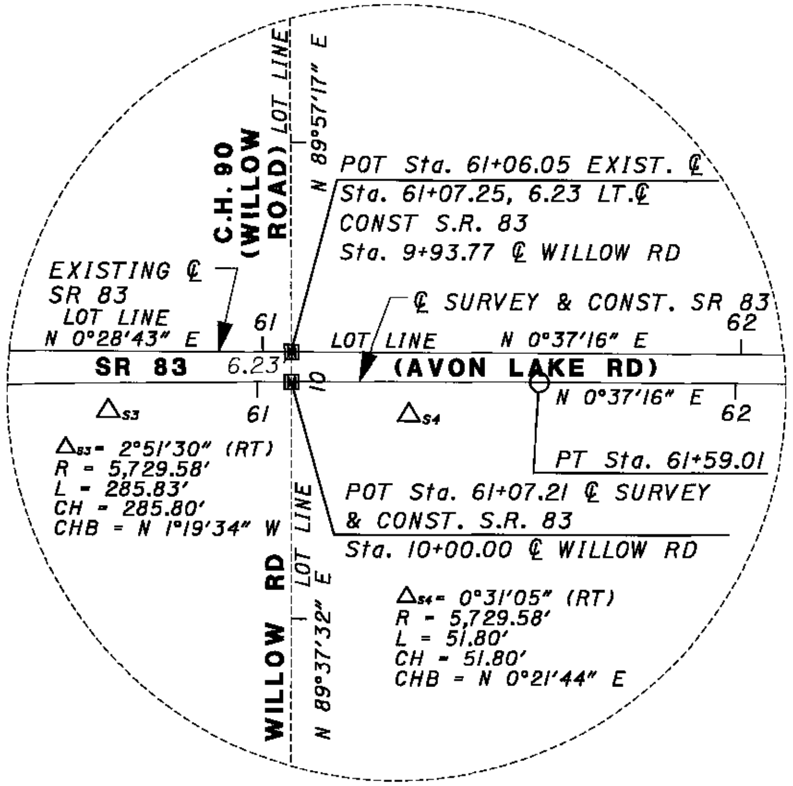


Δs1 = 1°36′31″ (RT)
R = 5,729.58′
L = 160.85′
CH = 160.85′
CHB = N 3°14′01″ E

DETAIL A
SCALE : 1″=20′



DETAIL B
SCALE : 1″=20′



DETAIL C
SCALE : 1″=20′

RECEIVED ____________, 20____
RECORDED ____________, 20____
DOCUMENT NUMBER ____________

COUNTY RECORDER

SCALE IN FEET 0 10 20 40

PID NO. 14017

R/W DESIGNER JLP
R/W REVIEWER JPV

CENTERLINE PLAT

WAY/MED-71-7.04/0.00

3/4

3/35

DATE: $DATE$ $TIME$
FILENAME: $FILE$

WAY/MED-71-7.04/0.00

TOWNSHIP 1 NORTH RANGE 16 WEST
CONNECTICUT WESTERN RESERVE
LOTS 138, 139, 148, 149, 158, & 159
HARRISVILLE TOWNSHIP
MEDINA COUNTY, OHIO

ODOT-RIGHT-OF-WAY
7159
MS CONSULTANTS

ALL STATIONS AND OFFSET ARE FROM
℄ SURVEY & CONSTRUCTION

PROJECT CONTROL MONUMENTS 'GROUND COORDINATES' U.S. SURVEY FOOT (PROJECT ADJUSTMENT FACTOR=3.28119859557)						PROJECT CONTROL MONUMENTS STATE PLANE COORDINATES - OH NORTH ZONE NAD83(1995 ADJUSTMENT) (METRIC)	
PT.	STATION	OFFSET	NORTHING	EASTING	DESCRIPTION	NORTHING	EASTING
CENTERLINE OF SURVEY I-71							
BN3002	13+62.27	0.43' LT	483459.24	2099478.48	½" REBAR IN CONCRETE	147342.2672	639851.0847
BN3003	23+62.24	0.72' LT	483949.61	2100349.65	½" REBAR IN CONCRETE	147491.7156	640116.5882
BN3012	86+23.30	4.90' LT	485240.2741	2106414.931	½" REBAR IN CONCRETE	147885.06699	641965.08369
BN3013	86+23.27	5.09' RT	485230.2908	2106415.333	½" REBAR IN CONCRETE	147882.02441	641965.20620
BN3014	92+70.78	4.98 LT	485268.5549	2107061.798	½" REBAR IN CONCRETE	147893.67079	642162.22719
BN3015	92+70.79	4.97' RT	485258.5718	2107062.239	½" REBAR IN CONCRETE	147890.64352	642162.36160
BN3016	101+86.88	0.10' RT	485303.2643	2107977.250	½" REBAR IN CONCRETE	147904.26430	642441.22646
BN3017	109+86.89	0.03' RT	485338.1264	2108776.504	½" REBAR IN CONCRETE	147914.88911	642684.81245
BN3025	174+85.84	0.19' RT	486316.64	2115159.49	½" REBAR IN CONCRETE	148213.1075	644630.1340
BN3026	192+90.97	0.02' RT	487097.37	2116786.05	½" REBAR IN CONCRETE	148451.0480	645125.8553
BN3030	227+93.39	0.03' LT	488710.39	2119894.93	½" REBAR IN CONCRETE	148942.6427	646073.3383
BN3031	241+54.07	0.11' LT	489337.09	2121102.69	½" REBAR IN CONCRETE	149133.6400	646441.4233
CENTERLINE OF SURVEY & CONSTRUCTION S.R. 83							
MS25	36+96.08	17.23' LT	483989.6072	2107725.437	TRANSVERSE	147503.90539	642364.48225
MS30	72+98.27	123.90' RT	487589.0615	2107903.665	IRON PIN FOUND ⅝" REBAR WITH "B"	148600.88541	642418.80020
MS31	73+39.44	123.49' RT	487630.1847	2107903.697	IRON PIN FOUND NO CAP	148613.43210	642418.80996
MS32	73+39.18	44.03' RT	487630.7863	2107824.240	IRON PIN FOUND NO CAP	148613.61545	642394.59411
MS33	73+86.13	34.08' RT	487677.8462	2107814.798	IRON PIN FOUND ⅝" REBAR WITH "A"	148627.95774	642391.71650
MS39	77+94.51	C/L OF R/W	487778.8429	2107745.633	MON BOX WITH "A" AT WHITE ROAD	148658.73817	642370.63732
MS40	72+86.35	46.09' LT	487578.9370	2107733.556	IRON PIN FOUND ⅝" REBAR WITH "A"	148597.81351	642366.95665
MS41	68+86.31	35.88' LT	487178.8090	2107739.425	IRON PIN FOUND ⅝" REBAR WITH "A"	148475.86807	642368.74533
MS42	67+86.28	5.89' LT	487078.4630	2107768.331	MONUMENT BOX WITH "A"	148445.28571	642377.55490
MS43	61+7.25	6.23' LT	486399.4115	2107760.856	IRON PIN FOUND½" REBAR NO CAP	148238.33344	642375.27678
MS44	60+16.27	54.49' RT	486309.1652	2107820.129	IRON PIN FOUND ⅝" REBAR WITH "C"	148210.82938	642393.34122
MS45	60+65.96	103.36' RT	486358.6690	2107870.519	IRON PIN FOUND ⅝" REBAR WITH "C"	148225.91649	642408.69841
MS46	60+64.07	253.33' RT	486357.6748	2108020.501	IRON PIN FOUND ⅝" REBAR WITH "C"	148225.61349	642454.40792
MS47	61+5.16	373.74' RT	486396.7786	2108140.827	IRON PIN FOUND ⅝" REBAR WITH "C"	148237.53102	642491.07928
MS48	61+47.85	253.79' RT	486437.7442	2108021.091	IRON PIN FOUND ⅝" REBAR WITH "C"	148250.01597	642454.58774
MS49	61+47.45	104.40' RT	486438.6817	2107871.702	IRON PIN FOUND ⅝" REBAR WITH "C"	148250.30169	642409.05895
MS50	61+97.70	54.02' RT	486489.2678	2107821.852	IRON PIN FOUND ⅝" REBAR WITH "C"	148265.71865	642393.86633
MS51	60+48.01	51.99' LT	486339.7237	2107715.301	IRON PIN FOUND ⅝" REBAR WITH "D"	148220.14259	642361.39313
MS52	60+23.10	48.05' LT	486314.6382	2107719.507	IRON PIN FOUND ⅝" REBAR WITH "E"	148212.49737	642362.67498
MS53	59+3.78	51.52' LT	486194.2377	2107718.843	IRON PIN FOUND ⅝" REBAR WITH "E"	148175.80330	642362.47262
MS54	59+3.40	41.56' LT	486194.1831	2107728.815	IRON PIN FOUND ⅝" REBAR WITH "E"	148175.78666	642365.51175
MS55	58+90.11	48.31' RT	486184.0528	2107819.094	IRON PIN FOUND ⅝" REBAR WITH "C"	148172.69929	642393.02578
MS56	54+2.46	60.95' LT	485695.4023	2107724.017	IRON PIN FOUND ⅝" REBAR WITH "C"	148023.77490	642364.04948
MS59	51+61.96	11.05' LT	485454.5451	2107771.914	IRON PIN FOUND NO CAP	147950.36965	642378.64689
MS60	54+5.13	44.97' RT	485697.2919	2107829.956	IRON PIN FOUND ⅝" REBAR WITH "C"	148024.35078	642396.33616
MS61	53+51.72	77.91' RT	485643.5578	2107862.454	IRON PIN FOUND ⅝" REBAR WITH "C"	148007.97442	642406.24047
MS62	53+6.32	281.09' RT	485596.4540	2108065.244	IRON PIN FOUND ⅝" REBAR WITH "C"	147993.61875	642468.04410
MS63	54+17.11	350.98' RT	485707.8261	2108136.038	IRON PIN FOUND ⅝" REBAR WITH "C"	148027.56126	642489.61945
MS64	54+17.23	281.01' RT	485708.3045	2108066.070	IRON PIN FOUND ⅝" REBAR WITH "C"	148027.70706	642468.29584
MS65	46+90.17	63.66' RT	484982.1436	2107842.673	IRON PIN FOUND NO CAP - BENT	147806.39741	642400.21187
MS66	44+15.33	26.71' LT	484709.0467	2107746.732	IRON PIN FND. 1" SOLID STEEL BAR	147723.16658	642370.97226
MS67	43+91.69	4.37' RT	484684.0955	2107776.733	IRON PIPE FOUND 1" NO CAP	147715.56228	642380.11556
MS68	41+22.28	40.02' LT	484418.0394	2107715.202	IRON PIN FOUND 1" NO CAP	147634.47725	642361.36296
MS69	46+33.25	94.30' LT	484926.5429	2107684.250	IRON PIN FOUND 1" NO CAP	147789.45217	642351.92982
MS72	40+0.94	25.85' RT	484293.1519	2107774.369	IRON PIPE FOUND 1" NO CAP	147596.41570	642379.39509
MS73	37+94.57	29.45' LT	484088.2366	2107713.787	IRON PIN FOUND 1" NO CAP	147533.96434	642360.93172
MS74	36+6.45	29.43' LT	483900.0448	2107712.727	IRON PIN FOUND NO CAP	147476.60975	642360.60866
MS246	60+78.13	351.54' LT	486369.1676	2107415.590	IRON PIN FOUND WITH CAP "D"	148229.11611	642270.05121
MS349	43+95.70	192.25' RT	484679.4997	2107964.576	IRON PIPE FOUND	147714.16163	642437.36685
GPD50	69+86.31	46.08' LT	487278.9149	2107730.309	IRON PIN FOUND	148506.37677	642365.96707
GPD67	54+0.84	104.92' LT	485692.1799	2107680.090	IRON PIN FOUND WITH CAP "F"	148022.79282	642350.66199
GPD68	52+57.03	316.98' LT	485552.1640	2107466.782	IRON PIN FOUND	147980.12064	642285.65282
GPD75	44+46.82	2.05' RT	484739.3035	2107776.708	IRON PIN FOUND	147732.38784	642380.10794
GPD77	44+24.64	191.25' RT	484709.4312	2107964.900	RAILROAD SPIKE FOUND	147723.28376	642437.46259
GPD78	44+1.35	192.01' RT	484684.4512	2107964.647	IRON PIPE FOUND	147715.67069	642437.47692
GPD1555	60+77.45	78.20' LT	486369.3363	2107688.915	IRON PIN FOUND	148229.16752	642353.35156
GPD1952	59+13.23	356.21' LT	486193.9949	2107413.998	IRON PIN FOUND	148175.72931	642269.56602

MONUMENTS TO BE SET DURING CONSTRUCTION			'GROUND COORDINATES' U.S. SURVEY FOOT (PROJECT ADJUSTMENT FACTOR= 3.28119859557)		STATE PLANE COORDINATES - OH NORTH ZONE NAD83(1995 ADJUSTMENT) (METRIC)	
STATION	ADJUSTABLE MONUMENT ASSEMLIES	REFERENCE MONUMENTS	NORTHING	EASTING	NORTHING	EASTING
41+54.02	X		484447.1146	2107757.2848	147643.33840	642374.18840
42+54.02	X		484546.8659	2107764.3263	147673.73927	642376.33441
44+14.87	X		484707.4578	2107773.3994	147722.68233	642379.09959
44+15.33, 26.71' LT	X	LOT CORNER	484709.0467	2107746.7320	147723.16658	642370.97226
46+09.94	X		484902.4504	2107778.3490	147782.10958	642380.60806
53+98.00	X		485690.4788	2107784.9334	148022.27438	642382.61477
57+21.38	X		486013.7600	2107778.5104	148120.79972	642380.65725
58+21.38	X		486113.6440	2107773.7037	148151.24103	642379.19233
61+07.22	X		486399.3708	2107767.0899	148238.32104	642377.17667
61+07.25, 6.23' LT	X	LOT CORNER	486399.4115	2107760.8560	148238.33344	642375.27678
61+59.01	X		486451.1653	2107767.4174	148254.10628	642377.27648
TOTAL	11		QUANTITIES CARRIED TO GENERAL SUMMARY			

ADJUSTABLE CENTERLINE MONUMENTS, REFERENCE MONUMENTS AND RIGHT-OF-WAY MONUMENTS ARE SHOWN ON STANDARD CONSTRUCTION DRAWING RM 1.1 (REV. 4-18-03) OF THE OHIO DEPARTMENT OF TRANSPORTATION. THE PLACING OF THE MONUMENTS SHALL BE UNDER THE DIRECTION OF A SURVEYOR REGISTERED IN THE STATE OF OHIO AND ARE TO BE SET, AS SHOWN HERE BY THE HIGHWAY CONTRACTOR AT THE TIME OF CONSTRUCTION. ANY ALTERATIONS, WITH PRIOR APPROVAL OF THE OHIO DEPARTMENT OF TRANSPORTATION, SHALL BE NOTED AND O.D.O.T. SHALL BE NOTIFIED OF THE NEW LOCATIONS.

MARK	I.D. ON CAPS
A	WOOLPERT
B	5274-CUNNINGHAM
C	ENGINEERING ASSOCIATES
D	C.W. COURTNEY-5309
E	(D.G. BOHNING ASSOC.)
F	ELG #6349

RECEIVED ____________, 20____
RECORDED ____________, 20____
DOCUMENT NUMBER ____________
____
COUNTY RECORDER

PID NO.
14017

R/W DESIGNER
JLP
R/W REVIEWER
JPV

CENTERLINE PLAT

WAY/MED-71-7.04/0.00

4/4
4/35

WAY/MED-71-7.04/0.00

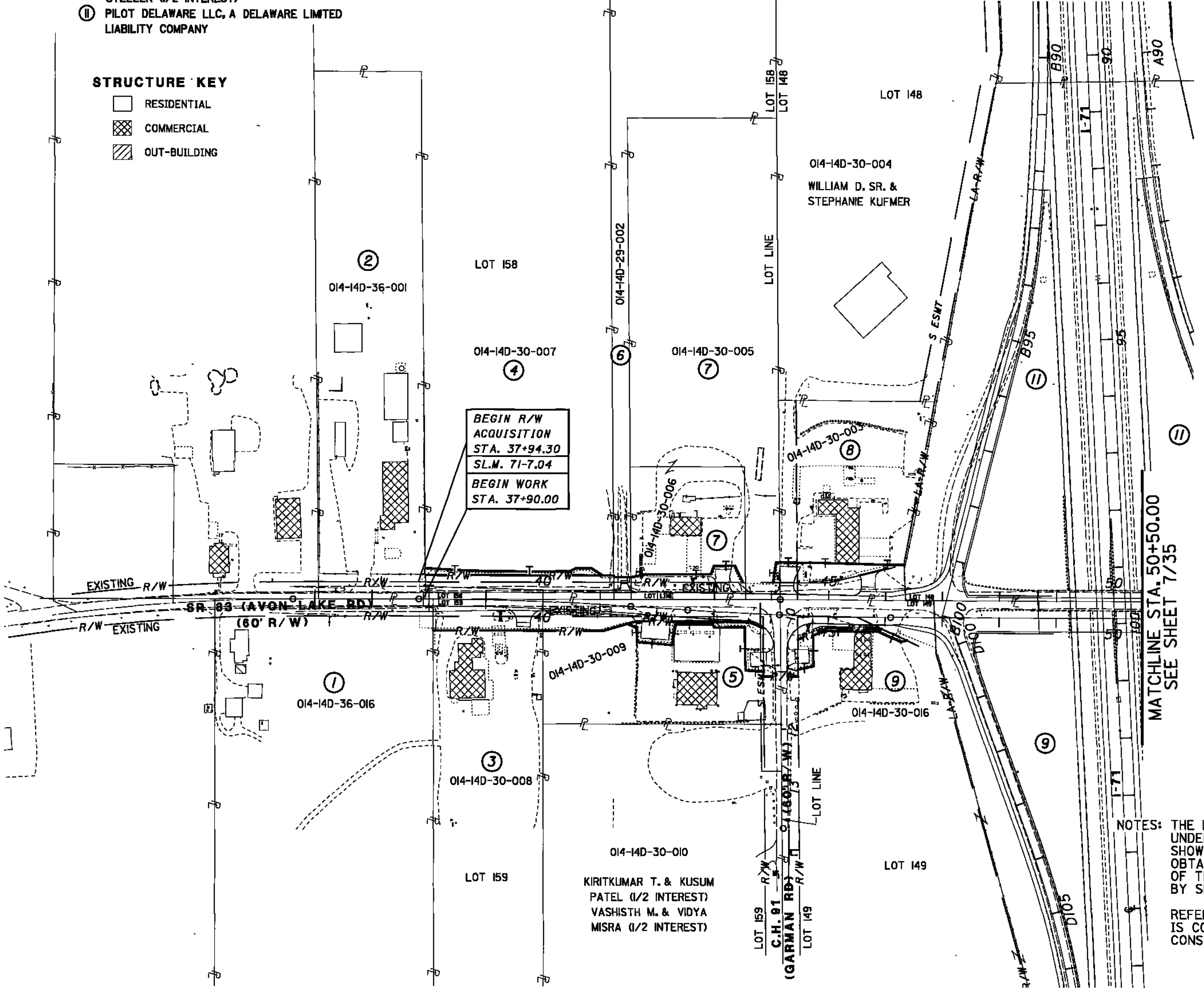
TOWNSHIP 1 NORTH RANGE 16 WEST
CONNECTICUT WESTERN RESERVE
LOTS 148, 149, 158 & 159
HARRISVILLE TOWNSHIP
MEDINA COUNTY, OHIO

PROPERTY OWNERS

① MARY SHEARER
② STATE OF OHIO
③ RAMESH K. SYAL
④ STEPHEN J. BROWN, TRUSTEE
⑤ B.B.C. CO.
⑥ RANDALL W. KELLER AND MARK A. KELLER
⑦ NOUBAR KOUYOUMDJIAN, TRUSTEE UNDER TRUST AGREEMENT DATED 3-20-92
⑧ BP EXPLORATION & OIL INC., AN OHIO CORPORATION
⑨ ORPHA B. STELZER (1/2 INTEREST), WILBUR STELZER (1/2 INTEREST)
⑪ PILOT DELAWARE LLC, A DELAWARE LIMITED LIABILITY COMPANY

STRUCTURE KEY

☐ RESIDENTIAL
▩ COMMERCIAL
▨ OUT-BUILDING



UTILITY OWNERS & ADDRESSES

GAS:

Columbia Gas of Ohio
7080 Fry Road
Middleburg Heights, OH 44130
Phone: (440) 891-2428

Columbia Gas Transmission
589 North State Road
Medina, OH 44256
Phone: (330) 721-4163

Gatherco Inc.
6273 Frank Ave. NW
North Canton, OH 44720
Phone: (330) 498-9553

ELECTRIC:

Lorain Medina Rural Electric
Coorperative, Inc.
P.O. Box 158
Wellington, OH 44090
Phone: (800) 222-5673

TELEPHONE:

Verizon
6223 Norwalk Road
Medina, OH 44256
Phone: (330) 722-9580

CABLE TV:

Time-Warner Cable
1575 Lexington Avenue
P.O. Box 576
Mansfield, OH 44901
Phone: (419) 756-6091

SANITARY & WATER:

Village of Lodi
P.O. Box 95
Lodi, OH 44254
Phone: (330) 948-1099

SEE SHEET 6 FOR BEARINGS AND DISTANCES FOR PROPERTY LINES

CONVENTIONAL SIGNS

Township Line
Section Line
Corporation Line or
Fence Line (existing) (proposed)
Center Line & Lot Line
Trees, Stumps (to be removed)
Utility Poles: Telephone, Power, Light
Limited Access (only) —— LA ——
Right of Way (only) —— R/W ——
Limited Access & Right of Way —— LA-R/W ——
Exist. Right of Way EXISTING —— R/W ——
Temp. Right of Way —— T ESMT ——
Slope Easement —— SL ESMT ——
Utility Easement —— U ESMT ——
Property Line —— (in existing fence)
Railroad or
Guardrail (existing) (proposed)
Construction Limits Construction Limits

NOTES: THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE OBTAINED FROM THE OWNER OF THE UTILITIES AS REQUIRED BY SECTION 153.64 O.R.C.

REFERENCE POINT INFORMATION IS CONTAINED IN THE CONSTRUCTION PLAN.

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		OCT. 8, 2003

SCALE IN FEET 0 50 100 200

PID NO. 14017

R/W DESIGNER JLP
R/W REVIEWER JPV

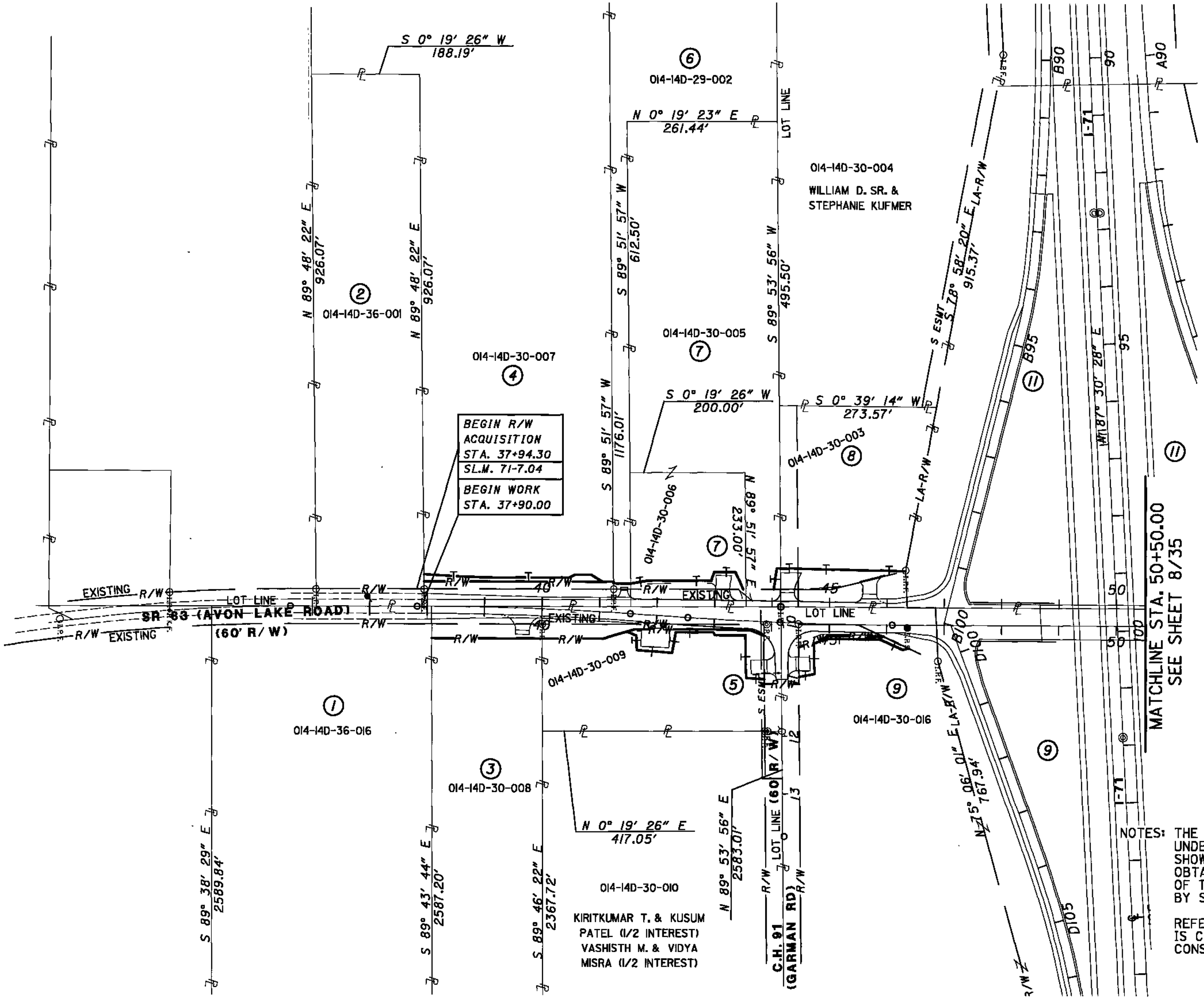
PROPERTY MAP

WAY/MED-71-7.04/0.00

DATE: $DATE$ FILENAME: $FILE$ $TIME$

WAY/ MED-71-7.04/ 0.00

TOWNSHIP 1 NORTH RANGE 16 WEST
CONNECTICUT WESTERN RESERVE
LOTS 148, 149, 158 & 159
HARRISVILLE TOWNSHIP
MEDINA COUNTY, OHIO



NOTES: THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE OBTAINED FROM THE OWNER OF THE UTILITIES AS REQUIRED BY SECTION 153.64 O.R.C.

REFERENCE POINT INFORMATION IS CONTAINED IN THE CONSTRUCTION PLAN.

PROPERTY OWNERS

① MARY SHEARER
② STATE OF OHIO
③ RAMESH K. SYAL
④ STEPHEN J. BROWN, TRUSTEE
⑤ B.B.C. CO.
⑥ RANDALL W. KELLER AND MARK A. KELLER
⑦ NOUBAR KOUYOUMDJIAN, TRUSTEE
UNDER TRUST AGREEMENT DATE 3-20-92
⑧ BP EXPLORATION & OIL INC., AN OHIO CORPORATION
⑨ ORPHA B. STELZER (1/2 INTEREST), WILBUR
STELZER (1/2 INTEREST)
⑪ PILOT DELAWARE LLC, A DELAWARE LIMITED
LIABILITY COMPANY

CONVENTIONAL SIGNS

Township Line
Section Line
Corporation Line
Fence Line (existing) (proposed)
Center Line & Lot Line
Trees, Stumps (to be removed)
Utility Poles: Telephone, Power, Light
Limited Access (only) LA
Right of Way (only) R/W
Limited Access & Right of Way LA-R/W
Exist. Right of Way EXISTING R/W
Temp. Right of Way T ESMT
Slope Easement SL ESMT
Utility Easement U ESMT
Property Line ℞ (in existing fence)
Railroad or
Guardrail (existing) (proposed)
Construction Limits Construction Limits

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		OCT. 8, 2003

SCALE IN FEET 0 50 100 200

PID NO. 14017

R/W DESIGNER JLP

R/W REVIEWER JPV

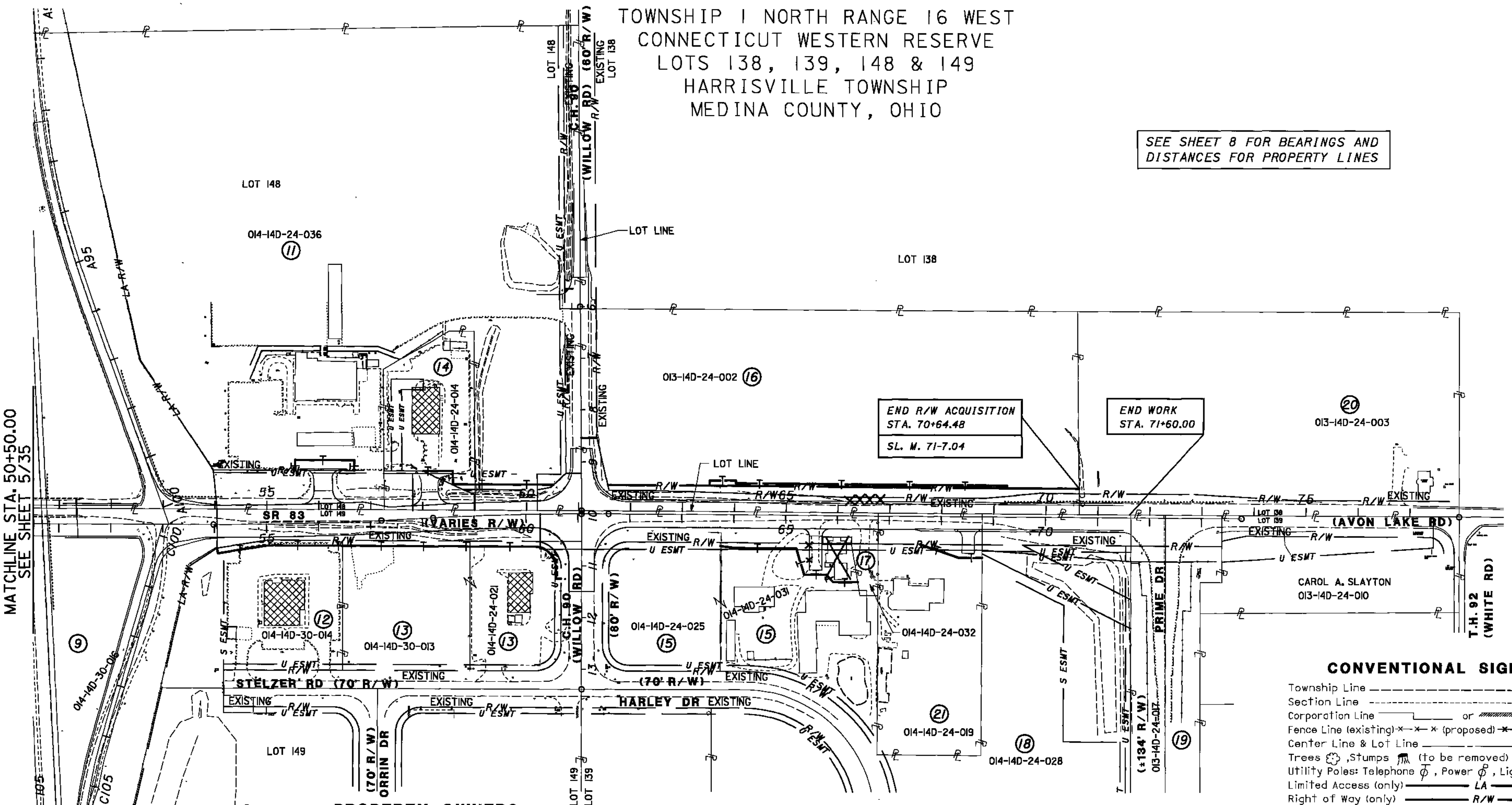
PROPERTY MAP

WAY/MED-71-7.04/0.00

WAY/MED-71-7.04/0.00

TOWNSHIP 1 NORTH RANGE 16 WEST
CONNECTICUT WESTERN RESERVE
LOTS 138, 139, 148 & 149
HARRISVILLE TOWNSHIP
MEDINA COUNTY, OHIO

SEE SHEET 8 FOR BEARINGS AND DISTANCES FOR PROPERTY LINES



PROPERTY OWNERS

⑨ ORPHA B. STELZER (1/2 INTEREST), WILBUR STELZER (1/2 INTEREST)
⑪ PILOT DELAWARE LLC, A DELAWARE LIMITED LIABILITY COMPANY
⑫ BEF REIT, INC., AN OHIO CORPORATION
⑬ ORPHA B. STELZER (1/2 INTEREST), WILBUR STELZER (1/2 INTEREST)
⑭ SYSTEM CAPITAL REAL PROPERTY CORPORATION, A DELAWARE CORPORATION
⑮ HARLEY FAMILY LAND INVESTMENT LTD.,
AN OHIO LIMITED LIABILITY COMPANY
⑯ BOBLIEN, INC., AN OHIO CORPORATION
⑰ DON HARLEY AND MARYANNA HARLEY, TRUSTEES
⑱ HARLEY FAMILY LAND INVESTMENT LTD.,
AN OHIO LIMITED LIABILITY COMPANY
⑲ LODI OUTLETS LLC
⑳ ORPHA STELZER (1/2 INTEREST), MIRIAM STELZER
BLAZEWICK (1/2 INTEREST)
㉑ DON AND MARYANNA HARLEY, TRUSTEES

STRUCTURE KEY

☐	RESIDENTIAL
▩	COMMERCIAL
▨	OUT-BUILDING

NOTES: THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE OBTAINED FROM THE OWNER OF THE UTILITIES AS REQUIRED BY SECTION 153.64 O.R.C.

REFERENCE POINT INFORMATION IS CONTAINED IN THE CONSTRUCTION PLAN.

CONVENTIONAL SIGNS

Township Line
Section Line
Corporation Line or
Fence Line (existing) (proposed)
Center Line & Lot Line
Trees, Stumps (to be removed)
Utility Poles: Telephone, Power, Light
Limited Access (only) LA
Right of Way (only) R/W
Limited Access & Right of Way LA-R/W
Exist. Right of Way EXISTING R/W
Temp. Right of Way T ESMT
Slope Easement SL ESMT
Utility Easement U ESMT
Property Line ℙ (in existing fence)
Railroad or
Guardrail (existing) (proposed)
Construction Limits Construction Limits

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		OCT. 8, 2003

SCALE IN FEET 0 50 100 200

PID NO. 14017

R/W DESIGNER JLP

R/W REVIEWER JPV

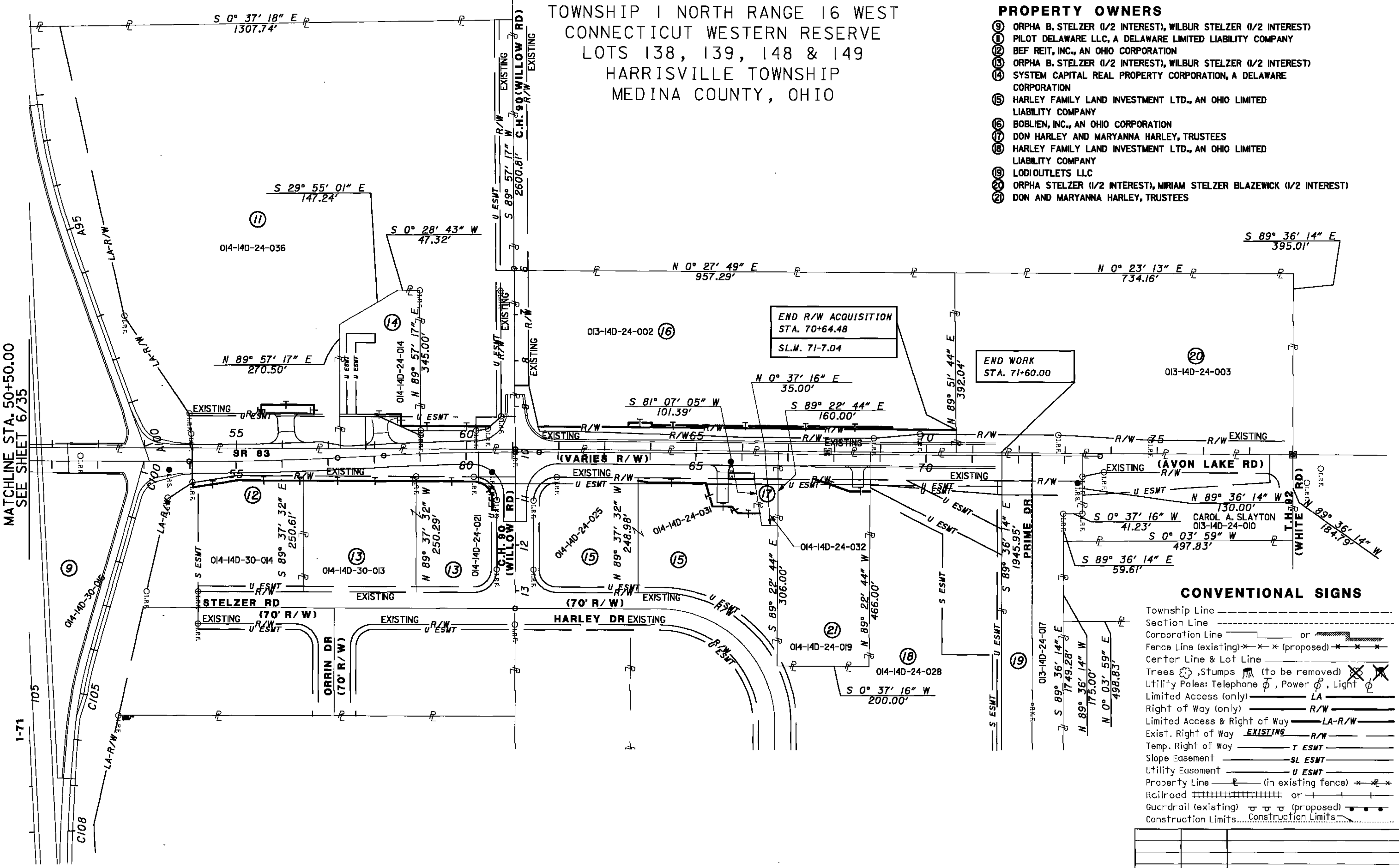
PROPERTY MAP

WAY/MED-71-7.04/0.00

DATE $DATE$ FILENAME $FILE$ $TIME$

WAY/MED-71-7.04/0.00

TOWNSHIP 1 NORTH RANGE 16 WEST
CONNECTICUT WESTERN RESERVE
LOTS 138, 139, 148 & 149
HARRISVILLE TOWNSHIP
MEDINA COUNTY, OHIO



PROPERTY OWNERS

⑨ ORPHA B. STELZER (1/2 INTEREST), WILBUR STELZER (1/2 INTEREST)
⑪ PILOT DELAWARE LLC, A DELAWARE LIMITED LIABILITY COMPANY
⑫ BEF REIT, INC., AN OHIO CORPORATION
⑬ ORPHA B. STELZER (1/2 INTEREST), WILBUR STELZER (1/2 INTEREST)
⑭ SYSTEM CAPITAL REAL PROPERTY CORPORATION, A DELAWARE CORPORATION
⑮ HARLEY FAMILY LAND INVESTMENT LTD., AN OHIO LIMITED LIABILITY COMPANY
⑯ BOBLIEN, INC., AN OHIO CORPORATION
⑰ DON HARLEY AND MARYANNA HARLEY, TRUSTEES
⑱ HARLEY FAMILY LAND INVESTMENT LTD., AN OHIO LIMITED LIABILITY COMPANY
⑲ LODI OUTLETS LLC
⑳ ORPHA STELZER (1/2 INTEREST), MIRIAM STELZER BLAZEWICK (1/2 INTEREST)
㉑ DON AND MARYANNA HARLEY, TRUSTEES

CONVENTIONAL SIGNS

Township Line
Section Line
Corporation Line or
Fence Line (existing) (proposed)
Center Line & Lot Line
Trees, Stumps (to be removed)
Utility Poles: Telephone, Power, Light
Limited Access (only) LA
Right of Way (only) R/W
Limited Access & Right of Way LA-R/W
Exist. Right of Way EXISTING R/W
Temp. Right of Way T ESMT
Slope Easement SL ESMT
Utility Easement U ESMT
Property Line (in existing fence)
Railroad or
Guardrail (existing) (proposed)
Construction Limits Construction Limits

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		OCT. 8, 2003

SCALE IN FEET 0 50 100 200

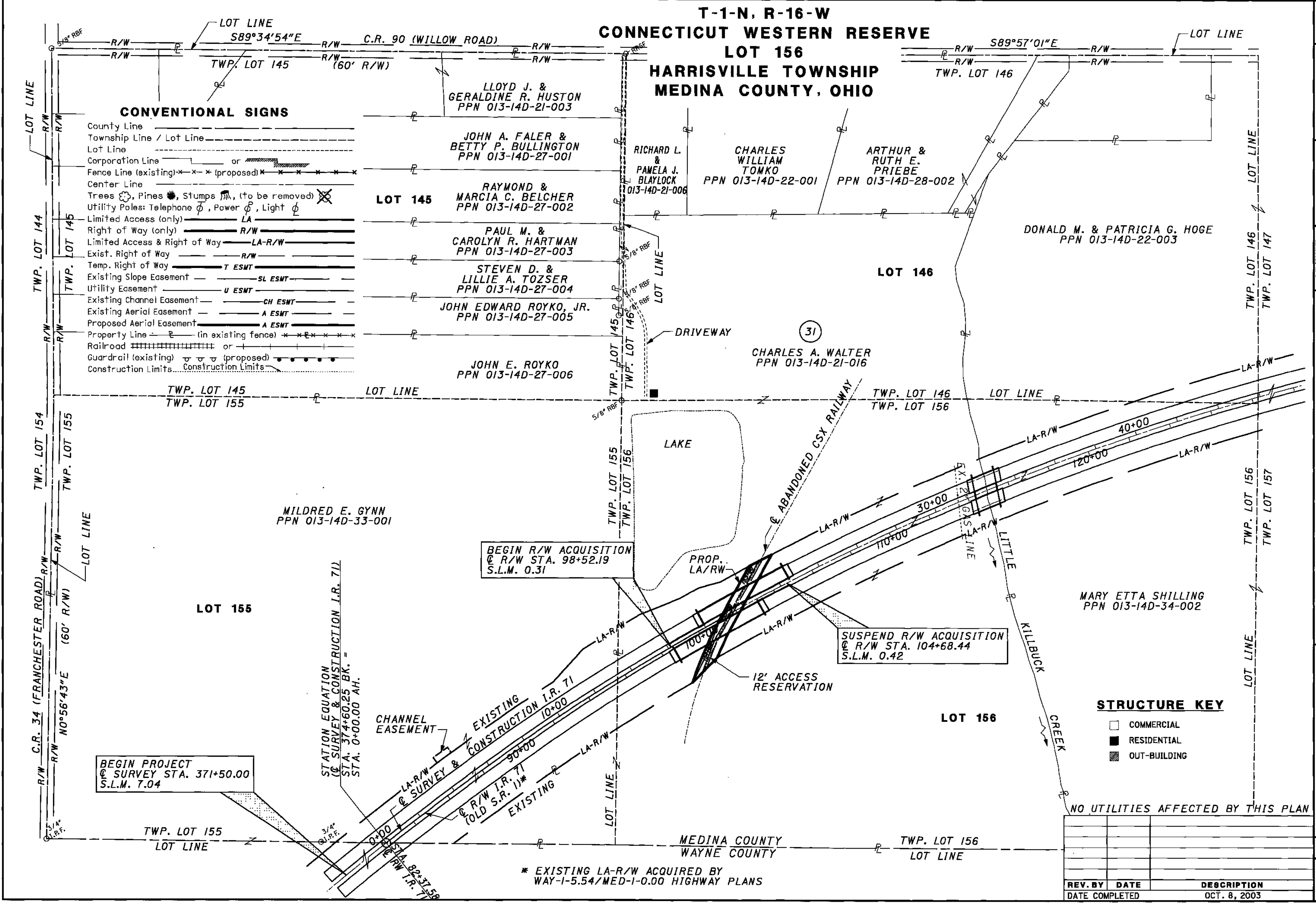
PID NO. 14017

R/W DESIGNER JLP
R/W REVIEWER JPV

PROPERTY MAP

WAY/MED-71-7.04/0.00

DATE: $DATE$ $TIME$
FILENAME: $FILE$


T-1-N, R-16-W
CONNECTICUT WESTERN RESERVE
LOT 156
HARRISVILLE TOWNSHIP
MEDINA COUNTY, OHIO
LOT LINE
S89°34'54"E
R/W
C.R. 90 (WILLOW ROAD)
(60' R/W)
TWP. LOT 145
5/8" RBF
S89°57'01"E
TWP. LOT 146
LOT LINE
CONVENTIONAL SIGNS
County Line
Township Line / Lot Line
Lot Line
Corporation Line or
Fence Line (existing) (proposed)
Center Line
Trees, Pines, Stumps, (to be removed)
Utility Poles: Telephone, Power, Light
Limited Access (only) LA
Right of Way (only) R/W
Limited Access & Right of Way LA-R/W
Exist. Right of Way R/W
Temp. Right of Way T ESMT
Existing Slope Easement SL ESMT
Utility Easement U ESMT
Existing Channel Easement CH ESMT
Existing Aerial Easement A ESMT
Proposed Aerial Easement A ESMT
Property Line (in existing fence)
Railroad or
Guardrail (existing) (proposed)
Construction Limits Construction Limits
LLOYD J. & GERALDINE R. HUSTON PPN 013-14D-21-003
JOHN A. FALER & BETTY P. BULLINGTON PPN 013-14D-27-001
RAYMOND & MARCIA C. BELCHER PPN 013-14D-27-002
PAUL M. & CAROLYN R. HARTMAN PPN 013-14D-27-003
STEVEN D. & LILLIE A. TOZSER PPN 013-14D-27-004
JOHN EDWARD ROYKO, JR. PPN 013-14D-27-005
JOHN E. ROYKO PPN 013-14D-27-006
LOT 145
RICHARD L. & PAMELA J. BLAYLOCK 013-14D-21-006
CHARLES WILLIAM TOMKO PPN 013-14D-22-001
ARTHUR & RUTH E. PRIEBE PPN 013-14D-28-002
DONALD M. & PATRICIA G. HOGE PPN 013-14D-22-003
LOT 146
31
CHARLES A. WALTER PPN 013-14D-21-016
DRIVEWAY
LOT LINE
TWP. LOT 145
TWP. LOT 146
TWP. LOT 144
TWP. LOT 145
TWP. LOT 146
TWP. LOT 147
TWP. LOT 145
TWP. LOT 155
LOT LINE
TWP. LOT 146
TWP. LOT 156
TWP. LOT 154
TWP. LOT 155
TWP. LOT 155
TWP. LOT 156
TWP. LOT 156
TWP. LOT 157
LAKE
℄ ABANDONED CSX RAILWAY
LA-R/W
40+00
120+00
30+00
110+00
100+00
EX. 2" GAS LINE
LITTLE KILLBUCK CREEK
MILDRED E. GYNN PPN 013-14D-33-001
MARY ETTA SHILLING PPN 013-14D-34-002
BEGIN R/W ACQUISITION ℄ R/W STA. 98+52.19 S.L.M. 0.31
PROP. LA/RW
SUSPEND R/W ACQUISITION ℄ R/W STA. 104+68.44 S.L.M. 0.42
12' ACCESS RESERVATION
LOT 155
LOT 156
C.R. 34 (FRANCHESTER ROAD)
(60' R/W)
N0°56'43"E
LOT LINE
STATION EQUATION (℄ SURVEY & CONSTRUCTION I.R. 71) STA. 374+60.25 BK. = STA. 0+00.00 AH.
CHANNEL EASEMENT
EXISTING
℄ SURVEY & CONSTRUCTION I.R. 71
10+00
90+00
0+00
℄ R/W I.R. 71 (OLD S.R. 1)*
EXISTING
BEGIN PROJECT ℄ SURVEY STA. 371+50.00 S.L.M. 7.04
3/4" I.P.F.
℄ STA. 82+37.58 ℄ RW I.R. 71
TWP. LOT 155
LOT LINE
MEDINA COUNTY
WAYNE COUNTY
TWP. LOT 156
LOT LINE
STRUCTURE KEY
☐ COMMERCIAL
■ RESIDENTIAL
▨ OUT-BUILDING

* EXISTING LA-R/W ACQUIRED BY WAY-1-5.54/MED-1-0.00 HIGHWAY PLANS

NO UTILITIES AFFECTED BY THIS PLAN

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		OCT. 8, 2003

N

0 100 200 400 SCALE IN FEET

PID NO. **14017**

R/W DESIGNER JEL

R/W REVIEWER MAH

PROPERTY MAP

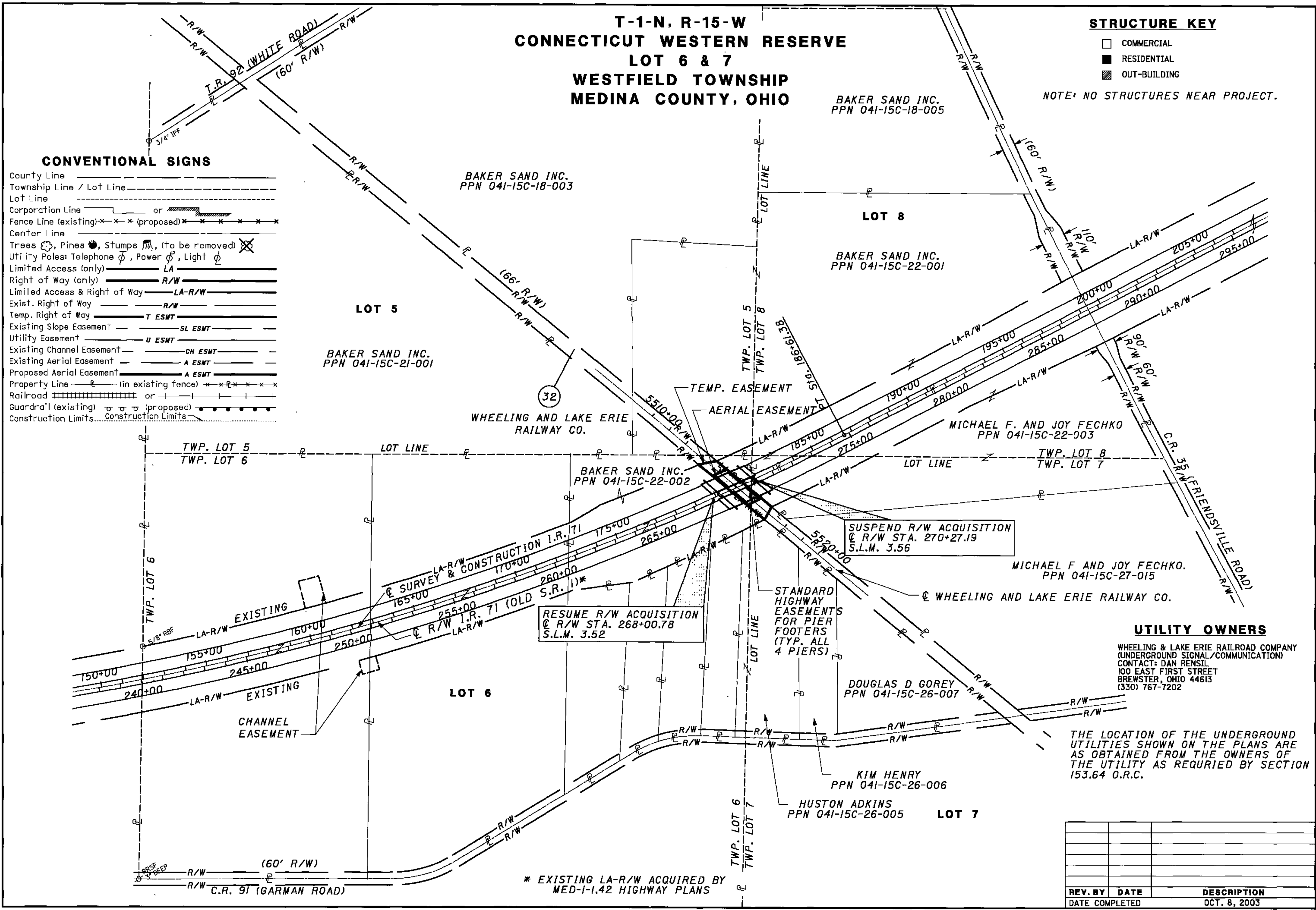
BRIDGE NO. MED-71-0031 L/R
OVER CSX TRANSPORTATION CO.

WAY/MED-71-7.04/0.00

9/35

759/785

T-1-N, R-15-W
CONNECTICUT WESTERN RESERVE
LOT 6 & 7
WESTFIELD TOWNSHIP
MEDINA COUNTY, OHIO



CONVENTIONAL SIGNS

County Line
Township Line / Lot Line
Lot Line
Corporation Line or
Fence Line (existing) —×—× (proposed) ×—×—×
Center Line
Trees, Pines, Stumps, (to be removed)
Utility Poles: Telephone, Power, Light
Limited Access (only) LA
Right of Way (only) R/W
Limited Access & Right of Way LA-R/W
Exist. Right of Way R/W
Temp. Right of Way T ESMT
Existing Slope Easement SL ESMT
Utility Easement U ESMT
Existing Channel Easement CH ESMT
Existing Aerial Easement A ESMT
Proposed Aerial Easement A ESMT
Property Line ℄ (in existing fence)
Railroad or
Guardrail (existing) (proposed)
Construction Limits Construction Limits

STRUCTURE KEY

☐ COMMERCIAL
■ RESIDENTIAL
▨ OUT-BUILDING

NOTE: NO STRUCTURES NEAR PROJECT.

UTILITY OWNERS

WHEELING & LAKE ERIE RAILROAD COMPANY
(UNDERGROUND SIGNAL/COMMUNICATION)
CONTACT: DAN RENSIL
100 EAST FIRST STREET
BREWSTER, OHIO 44613
(330) 767-7202

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITY AS REQURIED BY SECTION 153.64 O.R.C.

** EXISTING LA-R/W ACQUIRED BY MED-1-1.42 HIGHWAY PLANS*

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		OCT. 8, 2003

N
SCALE IN FEET 0 100 200 400

PID NO.
14017

R/W DESIGNER TRH
R/W REVIEWER MAH

PROPERTY MAP
BRIDGE NO. MED-71-0342 L/R
OVER WHEELING & LAKE ERIE RAILWAY COMPANY

WAY/MED-71-7.04/0.00

10/35

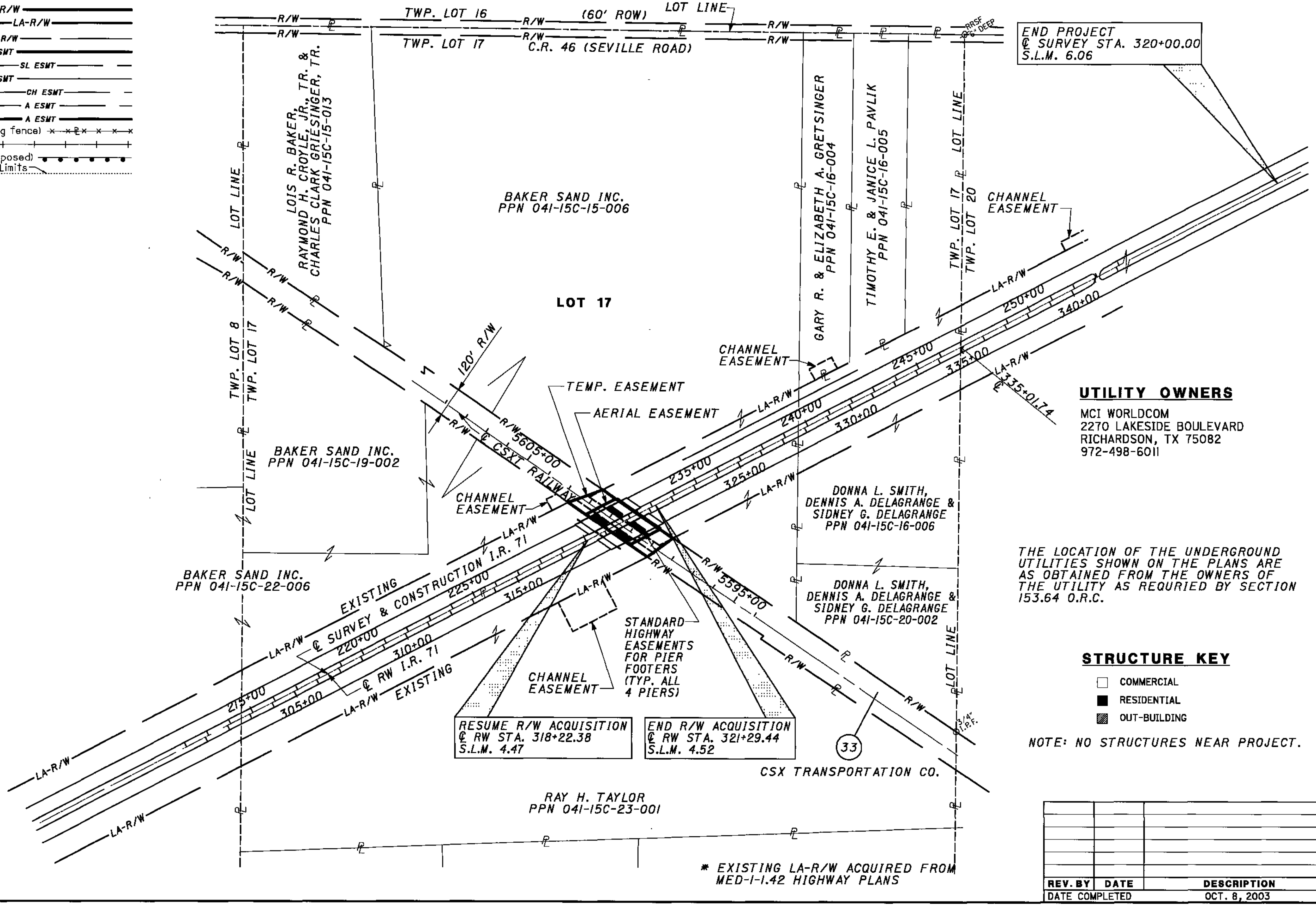
760/785

R:\...\14017RM02.DGN

CONVENTIONAL SIGNS

County Line
Township Line / Lot Line
Lot Line
Corporation Line or
Fence Line (existing) (proposed)
Center Line
Trees, Pines, Stumps, (to be removed)
Utility Poles: Telephone, Power, Light
Limited Access (only) — LA
Right of Way (only) — R/W
Limited Access & Right of Way — LA-R/W
Exist. Right of Way — R/W
Temp. Right of Way — T ESMT
Existing Slope Easement — SL ESMT
Utility Easement — U ESMT
Existing Channel Easement — CH ESMT
Existing Aerial Easement — A ESMT
Proposed Aerial Easement — A ESMT
Property Line — ℙ — (in existing fence)
Railroad or
Guardrail (existing) (proposed)
Construction Limits — Construction Limits

T-1-N, R-15-W
CONNECTICUT WESTERN RESERVE
LOT 17
WESTFIELD TOWNSHIP
MEDINA COUNTY, OHIO



* EXISTING LA-R/W ACQUIRED FROM MED-1-1.42 HIGHWAY PLANS

UTILITY OWNERS

MCI WORLDCOM
2270 LAKESIDE BOULEVARD
RICHARDSON, TX 75082
972-498-6011

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITY AS REQURIED BY SECTION 153.64 O.R.C.

STRUCTURE KEY

☐ COMMERCIAL
■ RESIDENTIAL
▨ OUT-BUILDING

NOTE: NO STRUCTURES NEAR PROJECT.

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		OCT. 8, 2003

N
0 100 200 400
SCALE IN FEET

PID NO.
14017

R/W DESIGNER JEL
R/W REVIEWER MAH

PROPERTY MAP
BRIDGE NO. MED-71-0437 L/R
OVER CSX TRANSPORTATION CO.

WAY/MED-71-7.04/0.00

11/35

761/785

P:/PR30895/CADD/14017RM03.DGN

TOTAL NUMBER OF :
17 OWNERSHIPS
35 PARCELS
0 TOTAL TAKES

2 OWNERSHIPS WITH "STRUCTURES" INVOLVED
1 OWNERSHIPS WITH "PERSONAL" ITEMS

NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE
ALL AREAS IN ACRES

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD	AUDITOR'S PARCEL	AUDITOR'S RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED BOOK	AS ACQUIRED PAGE
1	MARY SHEARER	15,16	D.N. 20020R051967	014-14D-36-016	22.8600	0.4366	0.0000	0.0000	0.0000			22.4234	STATE	LOT 159, NO R/W TAKE REQUIRED		
2	STATE OF OHIO	15,16	O.R. 263 PG. 352	014-14D-36-001	4.0000	0.1858	0.0000	0.0000	0.0000		3.8142			LOT 158, NO R/W TAKE REQUIRED		
3-WD	RAMESH K. SYAL	15-18	D.N. 20020R049332	014-14D-30-008	11.4400	0.1323	0.2425	0.1323	0.1102			11.1975		**SIGN, LOT 159, **LANDSCAPE AREA		
4-WD	STEPHEN J. BROWN, TRUSTEE	15-18	O.R. 502 PG. 916	014-14D-30-007	10.0000	0.2271	0.3255	0.2271	0.0984		9.6745			LOT 158		
4-T		17,18					0.0591	0.0000	0.0591					FOR GRADING PURPOSES		
5-WD	B. B. C. CO.	17-20	O.R. 1295 PG. 46,47 O.R. 1283 PG. 613	014-14D-30-009	2.0800	0.4160	0.4911	0.3587	0.1324			1.5316		MONITORING WELLS ON SITE, STEEL POSTS W/CABLE		
5-T		17-20					0.1413	0.0000	0.1413					MONITORING WELLS ON SITE-REPLACE DRIVE		
6-T	RANDALL W. KELLER AND MARK A. KELLER	17,18	O.R. 552 PG. 541	014-14D-29-002	23.8640	0.3540	0.0069	0.0000	0.0069		23.5100			FOR REPLACING DRIVEWAY, MONITORING WELL ON SITE, LOT 158		
7-T	NOUBAR KOUYOUMDJIAN, TRUSTEE, UNDER TRUST AGREEMENT DATED 3-20-92	17,18	O.R. 818 PG. 872	014-14D-30-006	1.0700	0.1377	0.0792	0.0000	0.0792					BILLBOARD-DO NOT DISTURB, REPLACING DRIVEWAY, ** SIGN		
7-T1		19,20		014-14D-30-005	4.0000	0.0420	0.0078	0.0000	0.0078							
	GRAND TOTAL				5.0700	0.1797	0.0870	0.0000	0.0870		4.8903					
8-T	BP EXPLORATION & OIL INC., AN OHIO CORPORATION	19,20	O.R. 1304 PG. 74	014-14D-30-003	1.9300	0.2020	0.1232	0.0000	0.1232	S,P	1.7280			MONITORING WELLS, AIR PUMP, SIGN, LANDSCAPING AREA, LOT 148		
9-WD	ORPHA B. STELZER (1/2 INTEREST) WILBUR STELZER (1/2 INTEREST)	19,20	D.V. 187 PG. 375 O.R. 1135 PG. 153	014-14D-30-016	33.8624	17.8297	0.4282	0.3582	0.0700	S		15.9627		REMAINDER OF 69.1 ACRE TRACT, SIGN, LOT 149		
9-T		19,20					0.0540	0.0000	0.0540					REMAINDER OF 69.1 ACRE TRACT		
10	NOT USED															
11-T	PILOT DELAWARE LLC, A DELAWARE LIMITED LIABILITY COMPANY	21,22	D.N. 20030R019587	014-14D-24-036	28.2802	12.4627	0.0525	0.0000	0.0525					REPLACING DRIVEWAY		
11-T1		23,24					0.0323	0.0000	0.0323							
	GRAND TOTAL				28.2802	12.4627	0.0848	0.0000	0.0848		15.8175					
12-T	BEF REIT, INC., AN OHIO CORPORATION	21,22	D.N. 20010R028733	014-14D-30-014	1.7506	0.0000	0.0556	0.0000	0.0556			1.7506		SUBLOT 3, STELZER COMMERICAL SUBDIVISION NUMBER 1, D.N. 1999PL000164; EX. TREES, LOT 149		
13-T	ORPHA B. STELZER (1/2 INTEREST) WILBUR STELZER (1/2 INTEREST)	21-24	D.V. 187 PG. 375 O.R. 1135 PG. 153	014-14D-30-013	1.4082	0.0000	0.0563	0.0000	0.0563					SUBLOT 2, STELZER COMMERICAL SUBDIVISION NUMBER 1, D.N. 1999PL000164; **WATER WELL		
13-T1		23,24	D.V. 187 PG. 375 O.R. 1135 PG. 153	014-14D-24-021	0.9800	0.0000	0.0498	0.0000	0.0498					SUBLOT 1, STELZER COMMERICAL SUBDIVISION NUMBER 1, D.N. 1999PL000164; **LANDSCAPING		
	GRAND TOTAL				2.3882	0.0000	0.1061	0.0000	0.1061			2.3882	STATE	EXISTING TREES, LOT 149		

D.V. = DEED VOLUME
O.R. = OFFICIAL RECORD
P.B. = PLAT BOOK
D.N. = DOCUMENT NUMBER

** DENOTES R/W ENCROACHMENT

NOTE: UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR UNLESS NOTED OTHERWISE.

GRANTEE:

ALL RIGHT OF WAY ACQUIRED IN THE NAME OF "STATE OF OHIO" UNLESS OTHERWISE SHOWN. PERMANENT TAKES DESIGNATED AS "V" PARCELS ARE TO BE ACQUIRED IN THE NAME OF "MEDINA COUNTY COMMISSIONERS".

NOTES: ALL TEMPORARY PARCELS TO BE OF 24 MONTH DURATION.
OWNER NAMES VERIFIED 10/7/03.

REV. BY	DATE	DESCRIPTION
FIELD REVIEW BY:		DATE:
OWNERSHIP VERIFIED BY:		DATE: 10/7/03
DATE COMPLETED		OCT. 8, 2003

FEDERAL PROJECT NO.
PID NO. 14017
STATE JOB NO. 03087(0)
R/W DESIGNER JLP
R/W REVIEWER JPV

SUMMARY OF ADDITIONAL RIGHT OF WAY

WAY/MED-71-7.04/0.00

12/35

762
785

DATE: $DATE$ FILENAME: $FILE$ $TIME$

NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE
ALL AREAS IN ACRES

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD	AUDITOR'S PARCEL	AUDITOR'S RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED BOOK	AS ACQUIRED PAGE
14-T	SYSTEM CAPITAL REAL PROPERTY CORPORATION, A DELAWARE CORPORATION	23,24	D.N. 1999OR029589	014-14D-24-014	1.2768	0.2520	0.0249	0.0000	0.0249		1.0248		STATE	GRADING & DRIVEWAY REPLACEMENT, ** BOLLARDS, LOT 148		
15	HARLEY FAMILY LAND INVESTMENT LTD AN OHIO LIMITED LIABILITY COMPANY	23-26	D.N. 1999PL000178	014-14D-24-025	1.2750	0.0000						1.2750		NO RIGHT-OF-WAY TAKE REQUIRED, SUBLOT 1, HARLEY SUBDIVISION PHASE 1, D.N. 1999PL000178 LOT 139		
15-WD		25,26	D.N. 1999OR037444	014-14D-24-031	1.9163	0.0160	0.0160	0.0000	0.0160	YES		1.8843		EXISTING 2-STORY WOOD FRAME HOUSE TO BE DEMOLISHED		
15-T		25,26		014-14D-24-031			0.1945	0.0000	0.1945	YES						
16-WD	BOBLIEN, INC., AN OHIO CORPORATION	23-28	D.N. 1999OR031302	013-14D-24-002	8.5890	1.0284	1.1825	0.8567	0.3258		7.2348			EXISTING GUARDRAIL, TREES, LOT 138		
16-T		25,26					0.0715	0.0000	0.0715					DRAINAGE DITCH		
17	DON HARLEY AND MARYANNA HARLEY, TRUSTEES	25,26	D.N. 2001OR028591	014-14D-24-032	0.0996	0.0000						0.0996		NO RIGHT-OF-WAY TAKE REQUIRED, (3) ROCKS, LOT 139		
18	HARLEY FAMILY LAND INVESTMENT LTD AN OHIO LIMITED LIABILITY COMPANY	27,28	D.N. 1999PL000178	014-14D-24-028	5.4351	0.3928						5.0423		LOT 139, BLOCK A, HARLEY SUBDIVISION PHASE 1 D.N. 1999PL000178, NO R/W TAKE REQUIRED		
19	LODI OUTLETS LLC	29,30	D.N. 2002OR029635	013-14D-24-017	26.6636	0.2410						26.4226		SUBLOT ONE, BUCKEYE FACTORY SHOPS SUBDIVISION, NO R/W TAKE REQUIRED LOT 139, ** ROCKS		
20	ORPHA STELZER (1/2 INTEREST) MIRIAM STELZER BLAZEWICK (1/2 INTEREST)	27-30	D.V. 277 PG. 241 O.R. 1142 PG. 231	013-14D-24-003	6.5200	0.5770					5.9430			NO R/W TAKE REQUIRED, LOT 138		
21-T	DON HARLEY AND MARYANNA HARLEY, TRUSTEES	27,28	O.R. 851 PG. 722	014-14D-24-019	1.8645	0.0000	0.0474	0.0000	0.0474			1.8645	STATE	LOT 139		

D.V. = DEED VOLUME
O.R. = OFFICIAL RECORD
P.B. = PLAT BOOK
D.N. = DOCUMENT NUMBER

NOTE: UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR UNLESS NOTED OTHERWISE.

GRANTEE:

ALL RIGHT OF WAY ACQUIRED IN THE NAME OF "STATE OF OHIO" UNLESS OTHERWISE SHOWN. PERMANENT TAKES DESIGNATED AS "V" PARCELS ARE TO BE ACQUIRED IN THE NAME OF "MEDINA COUNTY COMMISSIONERS".

NOTES: ALL TEMPORARY PARCELS TO BE OF 24 MONTH DURATION.
OWNER NAMES VERIFIED 10/7/03.

** DENOTES R/W ENCROACHMENT

REV. BY	DATE	DESCRIPTION

FIELD REVIEW BY: DATE:
OWNERSHIP VERIFIED BY: DATE: 10/7/03
DATE COMPLETED OCT. 8, 2003

FEDERAL PROJECT NO.
PID NO. 14017
STATE JOB NO. 03087(0)
R/W DESIGNER JLP
R/W REVIEWER JPV

SUMMARY OF ADDITIONAL RIGHT OF WAY

WAY/MED-71-7.04/0.00

GRANTEE:
ALL RIGHT OF WAY ACQUIRED IN THE NAME OF
STATE OF OHIO UNLESS OTHERWISE SHOWN.

NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE

ALL AREAS IN ACRES UNLESS OTHERWISE SHOWN

NO RIGHT OF WAY ENCROACHMENTS ON PROJECT

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD DOCUMENT NO.	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED BOOK	AS ACQUIRED PAGE
22	NOT USED															
23	NOT USED															
24	NOT USED															
25	NOT USED															
26	NOT USED															
27	NOT USED															
28	NOT USED															
29	NOT USED															
30	NOT USED															
31-LA	CHARLES A. WALTER	31	2002 OR047066	013-14D-21-016	126.3122	13.4142	0.8748	0.0242	0.8506		57.0901	54.9573	STATE	INCLUDES EXISTING EASEMENTS FOR PIER FOOTINGS		
														(71-7-A-1, 71-7-A-2, 71-7-A-3, 71-7-A-4, 71-7-B-1,		
														71-7-B-2, 71-7-B-3, 71-7-B-4) AS ACQUIRED PREVIOUSLY		
														BY DEED VOLUME 257, PAGE 613.		
														RIGHT OF INGRESS AND EGRESS UNDER HIGHWAY BRIDGE		
														PERMITTED TO GRANTOR.		
32-1	WHEELING & LAKE ERIE RAILWAY COMPANY	32	L.V. 1 PG. 410	NON DEFINED	1.2581*	0.0144	0.0100	0.0036	0.0064					OVERLAPPING EXISTING EASEMENTS FOR PIER FOOTINGS		
32-2		32					0.0101	0.0036	0.0065					(72-8A, 72-8B, 72-8C, 72-8D) AS ACQUIRED PREVIOUSLY		
32-3		32					0.0096	0.0036	0.0060					BY DEED VOLUME 262, PAGE 259.		
32-4		32					0.0097	0.0036	0.0061							
	GRAND TOTAL				1.2581*	0.0144	0.0394	0.0144	0.0250		0.3321	0.8866				
32-A		32					0.3190		0.3190					COVERING GAP BETWEEN EXISTING AERIAL EASEMENTS		
														FOR STRUCTURE WIDENING		
32-T		32					0.5542		0.5542					CONSTRUCT NEW PIERS & WIDEN BRIDGE		
33-1	CSX TRANSPORTATION CO.	33	D.V. 53 PG. 217	NON DEFINED	4.390	0.0260	0.0201	0.0065	0.0136					OVERLAPPING EXISTING EASEMENTS FOR PIER FOOTINGS		
33-2		33	D.V. 76 PG. 197		2.623		0.0201	0.0065	0.0136					AS ACQUIRED PREVIOUSLY BY DEED VOLUME 257,		
33-3		33	D.V. 86 PG. 361		0.608		0.0201	0.0065	0.0136					PAGE 506.		
33-4		33					0.0201	0.0065	0.0136							
	GRAND TOTAL				7.6210	0.0260	0.0804	0.0260	0.0544		2.7177	4.8229				
33-A		33					0.5903		0.5903					COVERING GAP BETWEEN EXISTING AERIAL EASEMENTS		
														FOR STRUCTURE WIDENING		
33-T		33					0.9995		0.9995				STATE	CONSTRUCT NEW PIERS & WIDEN BRIDGE		

* CALC. AREA OF THIS DEED IN LOTS 6 & 7

NOTE:
ALL TEMPORARY PARCELS TO BE OF
24 MONTHS DURATION.

NOTE:
OR = OFFICIAL RECORD
D.V. = DEED VOLUME
L.V. = LEASE VOLUME

NOTE:
UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS
TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT
BY THE CONTRACTOR UNLESS NOTED OTHERWISE.

REV. BY	DATE	DESCRIPTION

FIELD REVIEW BY: DATE:
OWNERSHIP VERIFIED BY: DATE:
DATE COMPLETED OCT. 8, 2003

FEDERAL PROJECT NO.

PID NO. 14017

STATE JOB NO. 03087(0)

R/W DESIGNER JEL
R/W REVIEWER MAH

SUMMARY OF ADDITIONAL RIGHT OF WAY

OWNERSHIPS 31 THRU 33

WAY/MED-71-7.04/0.00

P:/PR30895/CADD/14017RS01.DGN

MONUMENT LEGEND

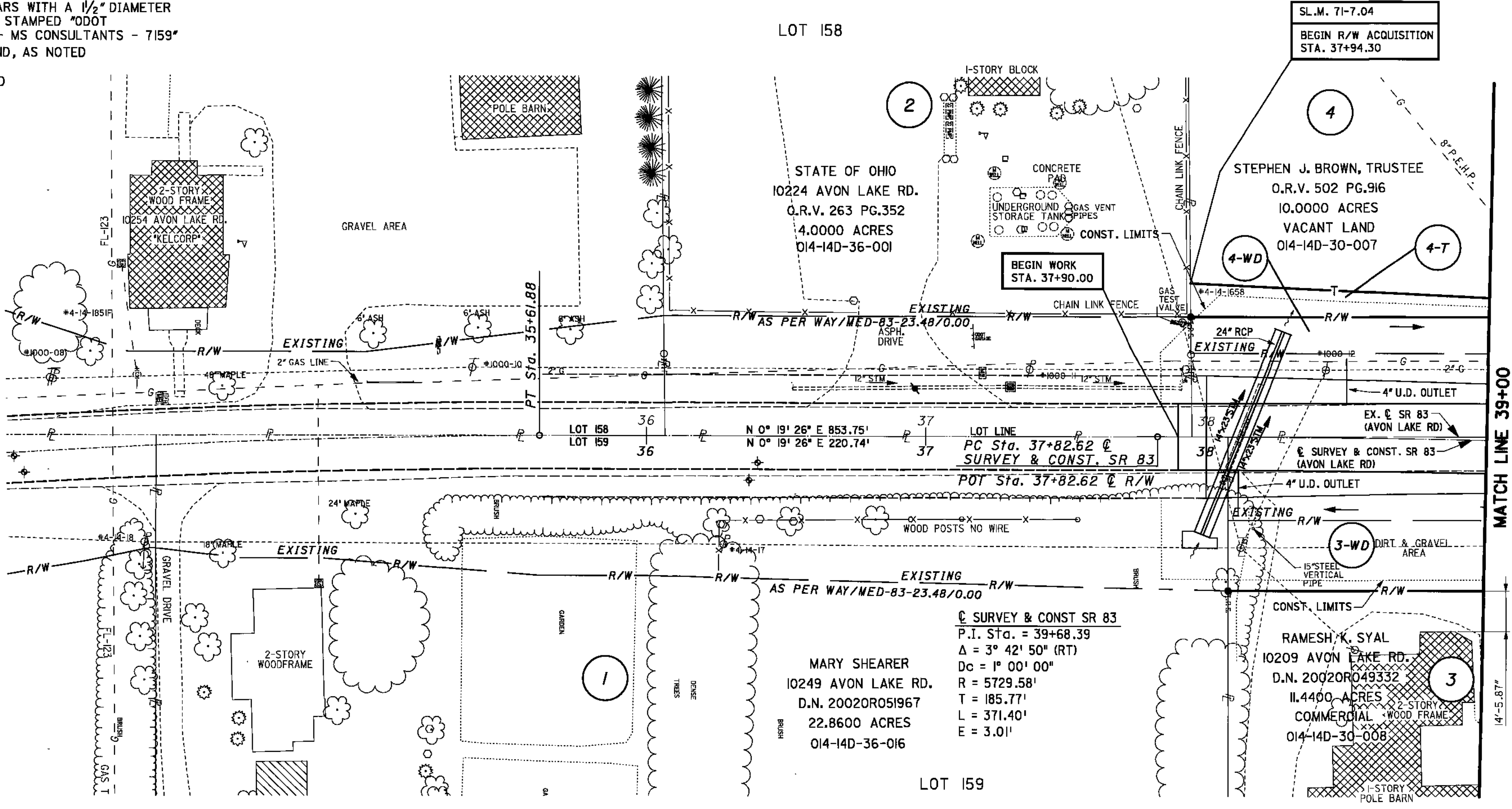
- ▣ EXISTING R/W MONUMENT BOX
- ■ PROPOSED R/W MONUMENT BOX
- ◎ EXISTING CONCRETE MONUMENT
- ● PROPOSED CONCRETE MONUMENT
- ⌀ RAILROAD SPIKE FOUND
- ⌀ RAILROAD SPIKE SET
- ○I.P.F. IRON PIN FOUND, AS NOTED
- ⦶I.P.F. IRON PIN FOUND W/ ID CAP, AS NOTED
- ●I.P.S. IRON PIN SET -3/4" DIAMETER x 36" LONG REINFORCING BARS WITH A 1 1/2" DIAMETER ALUMINUM CAP, STAMPED "ODOT RIGHT-OF-WAY - MS CONSULTANTS - 7159"
- ◎P.F. IRON PIPE FOUND, AS NOTED
- ◉P.S. IRON PIPE SET
- ◦P.K.F. P.K. NAIL FOUND
- •P.K.S. P.K. NAIL SET
- △ STONE FOUND

TOWNSHIP 1 NORTH RANGE 16 WEST
CONNECTICUT WESTERN RESERVE
LOTS 158 & 159
HARRISVILLE TOWNSHIP
MEDINA COUNTY, OHIO

RECORD SURVEY REFERENCES:

BOOK 15 PAGE 160
BOOK 18 PAGE 140
BOOK 33 PAGE 221

OF THE MEDINA COUNTY TAX MAP OFFICE RECORD OF SURVEYS



℄ SURVEY & CONST SR 83
P.I. Sta. = 39+68.39
Δ = 3° 42' 50" (RT)
Dc = 1° 00' 00"
R = 5729.58'
T = 185.77'
L = 371.40'
E = 3.01'

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING DOCUMENTATION ON FILE FROM THE MEDINA COUNTY ENGINEERS OFFICE AND PUBLIC RECORDS ON FILE IN THE RECORDERS OFFICE, MEDINA COUNTY, OHIO FOR "WAY-1-5.54/MED-1-0.00"

ALL STATIONS AND OFFSETS ARE FROM THE CENTERLINE OF SURVEY OF S.R. 83 (AVON LAKE ROAD) UNLESS OTHERWISE NOTED.

NOTE:
ALL PROPOSED CURBS ARE TYPE 2-A

STRUCTURE KEY

- ☐ RESIDENTIAL
- ▩ COMMERCIAL
- ▨ OUT-BUILDING

NOTE: ALL MONITORING WELLS ARE NOT TO BE DAMAGED LIDS TO BE ADJUSTED TO GRADE.

* DENOTES R/W ENCROACHMENT

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		OCT. 8, 2003

N

SCALE IN FEET 0 20 40

PID NO. 14017

R/W DESIGNER JLP

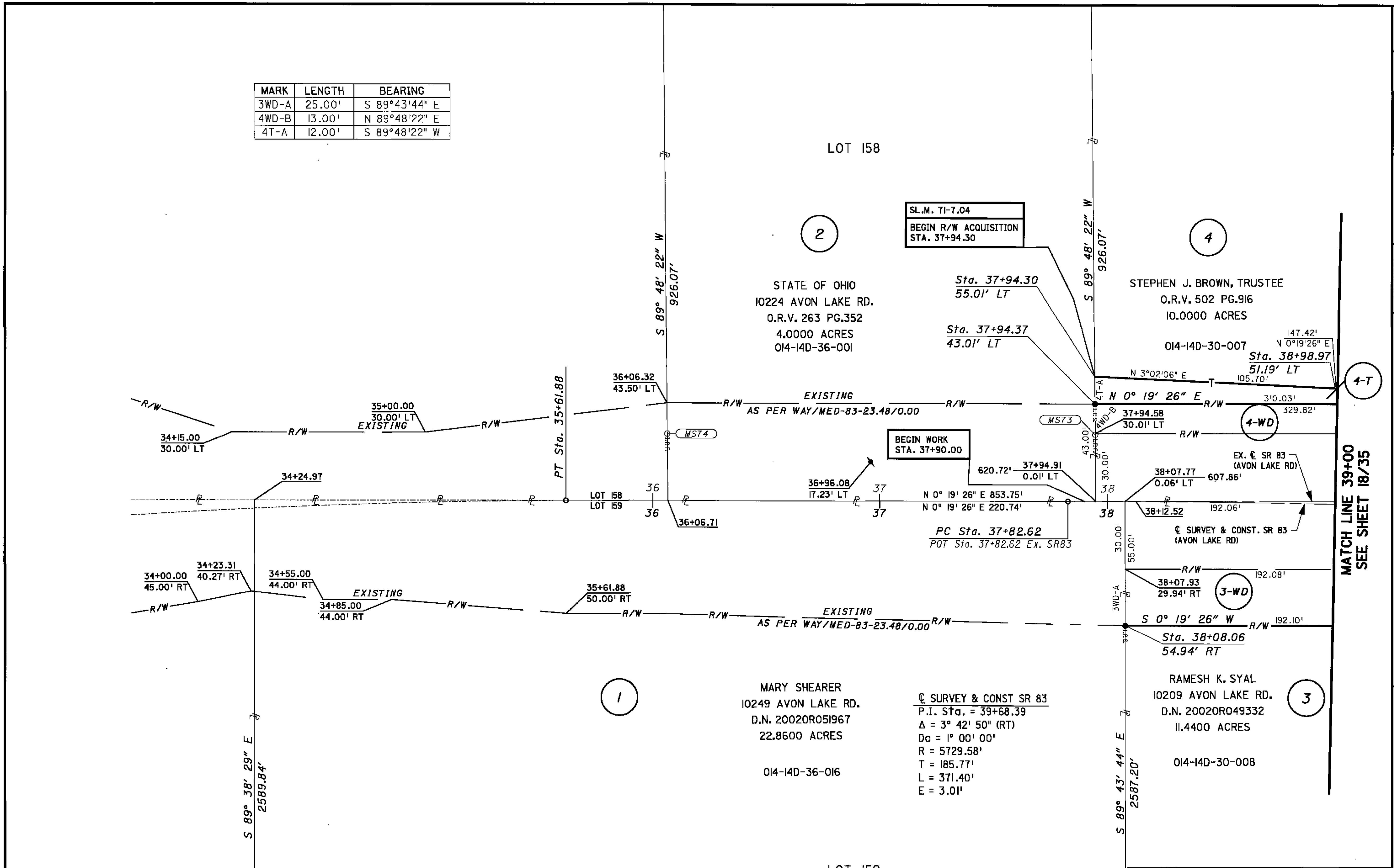
R/W REVIEWER JPV

RIGHT OF WAY PLAN
BEGIN WORK TO STA. 39+00.00

WAY/MED-71-7.04/0.00

DATE: $DATE$ $TIME$
FILENAME: $FILE$

MARK	LENGTH	BEARING
3WD-A	25.00'	S 89°43'44" E
4WD-B	13.00'	N 89°48'22" E
4T-A	12.00'	S 89°48'22" W



℄ SURVEY & CONST SR 83
P.I. Sta. = 39+68.39
Δ = 3° 42' 50" (RT)
Dc = 1° 00' 00"
R = 5729.58'
T = 185.77'
L = 371.40'
E = 3.01'

NOTE: FOR STATION AND OFFSETS OF MONUMENTATION, SEE SHEET 4/35.

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		OCT. 8, 2003

PID NO. **14017**

R/W DESIGNER JLP
R/W REVIEWER JPV

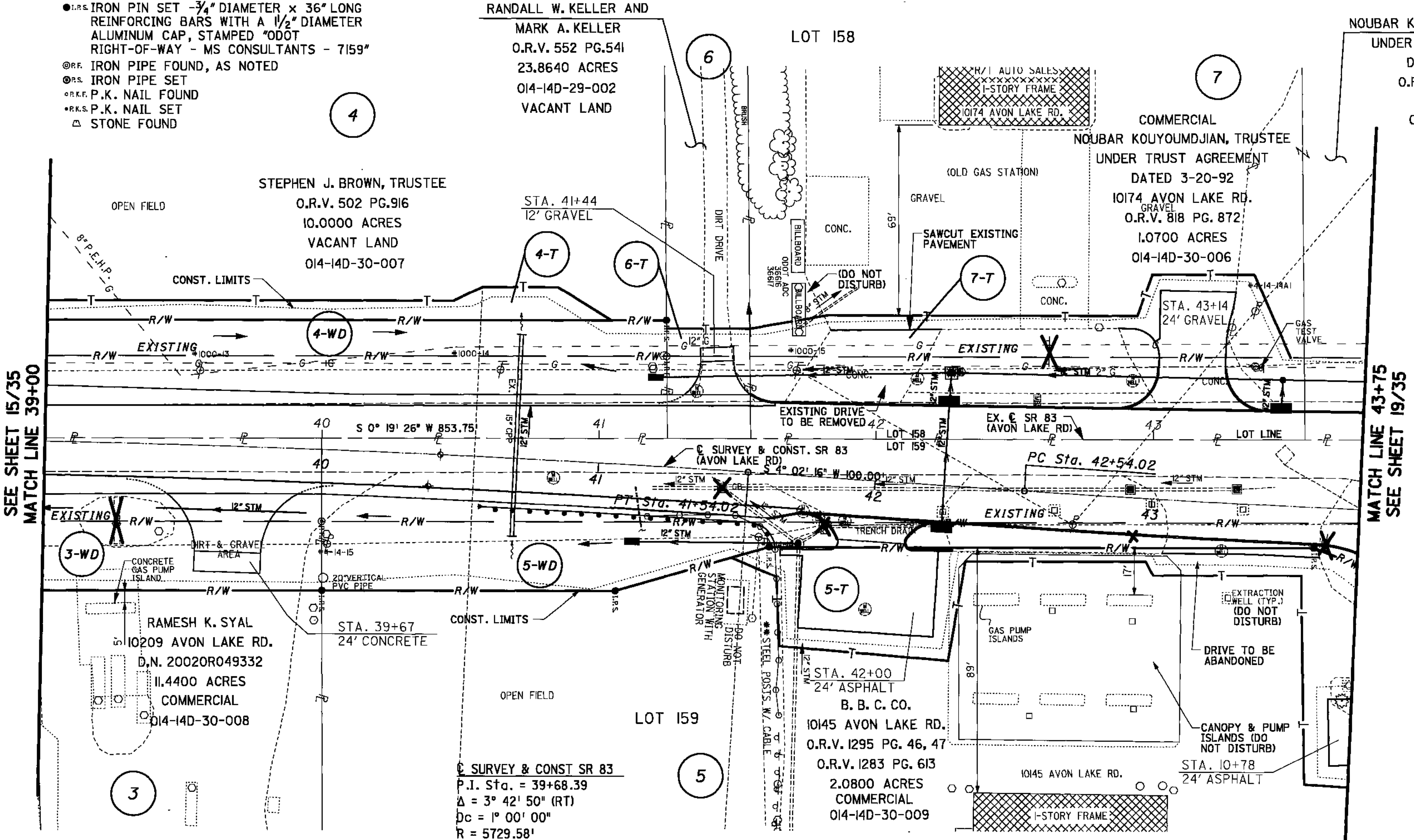
RIGHT OF WAY PLAN
BEGIN WORK TO STA. 39+00.00

WAY/MED-71-7.04/0.00

TOWNSHIP 1 NORTH RANGE 16 WEST
CONNECTICUT WESTERN RESERVE
LOTS 158 & 159
HARRISVILLE TOWNSHIP
MEDINA COUNTY, OHIO

MONUMENT LEGEND

- M EXISTING R/W MONUMENT BOX
- ▣ PROPOSED R/W MONUMENT BOX
- ◎ EXISTING CONCRETE MONUMENT
- ● PROPOSED CONCRETE MONUMENT
- RAILROAD SPIKE FOUND
- RAILROAD SPIKE SET
- ○I.P.F. IRON PIN FOUND, AS NOTED
- ◐I.P.F. IRON PIN FOUND W/ ID CAP, AS NOTED
- ●I.P.S. IRON PIN SET -3/4" DIAMETER × 36" LONG REINFORCING BARS WITH A 1 1/2" DIAMETER ALUMINUM CAP, STAMPED "ODOT RIGHT-OF-WAY - MS CONSULTANTS - 7159"
- ◎P.F. IRON PIPE FOUND, AS NOTED
- ◉P.S. IRON PIPE SET
- ○P.K.F. P.K. NAIL FOUND
- •P.K.S. P.K. NAIL SET
- △ STONE FOUND



NOTE: ALL MONITORING WELLS ARE NOT TO BE DAMAGED LIDS TO BE ADJUSTED TO GRADE.

STRUCTURE KEY

☐	RESIDENTIAL
▩	COMMERCIAL
▨	OUT-BUILDING

℄ SURVEY & CONST SR 83
P.I. Sta. = 39+68.39
Δ = 3° 42' 50" (RT)
Dc = 1° 00' 00"
R = 5729.58'
T = 185.77'
L = 371.40'
E = 3.01'

℄ SURVEY & CONST. SR 83
P.I. Sta. = 44+32.04
Δ = 3° 33' 33" (LT)
Dc = 1° 00' 00"
R = 5,729.58'
T = 178.02'
L = 355.92'
E = 2.76'

⑤ REMOVE 52 FT OF STEEL POST WITH CABLE FENCE OF WHICH 50 FT OF THE FENCE ENCROACHES IN THE EXISTING RIGHT-OF-WAY.

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING DOCUMENTATION ON FILE FROM THE MEDINA COUNTY ENGINEERS OFFICE AND PUBLIC RECORDS ON FILE IN THE RECORDERS OFFICE, MEDINA COUNTY, OHIO FOR "WAY-1-5.54/MED-1-0.00"

ALL STATIONS AND OFFSETS ARE FROM THE CENTERLINE OF SURVEY OF S.R. 83 (AVON LAKE ROAD) UNLESS OTHERWISE NOTED.

NOTE:
ALL PROPOSED CURBS ARE TYPE 2-A

** DENOTES R/W ENCROACHMENT

RECORD SURVEY REFERENCES:

BOOK 15 PAGE 160
BOOK 18 PAGE 140
BOOK 33 PAGE 221

OF THE MEDINA COUNTY TAX MAP OFFICE RECORD OF SURVEYS

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		OCT. 8, 2003

N

SCALE IN FEET 0 10 20 40

PID NO. 14017

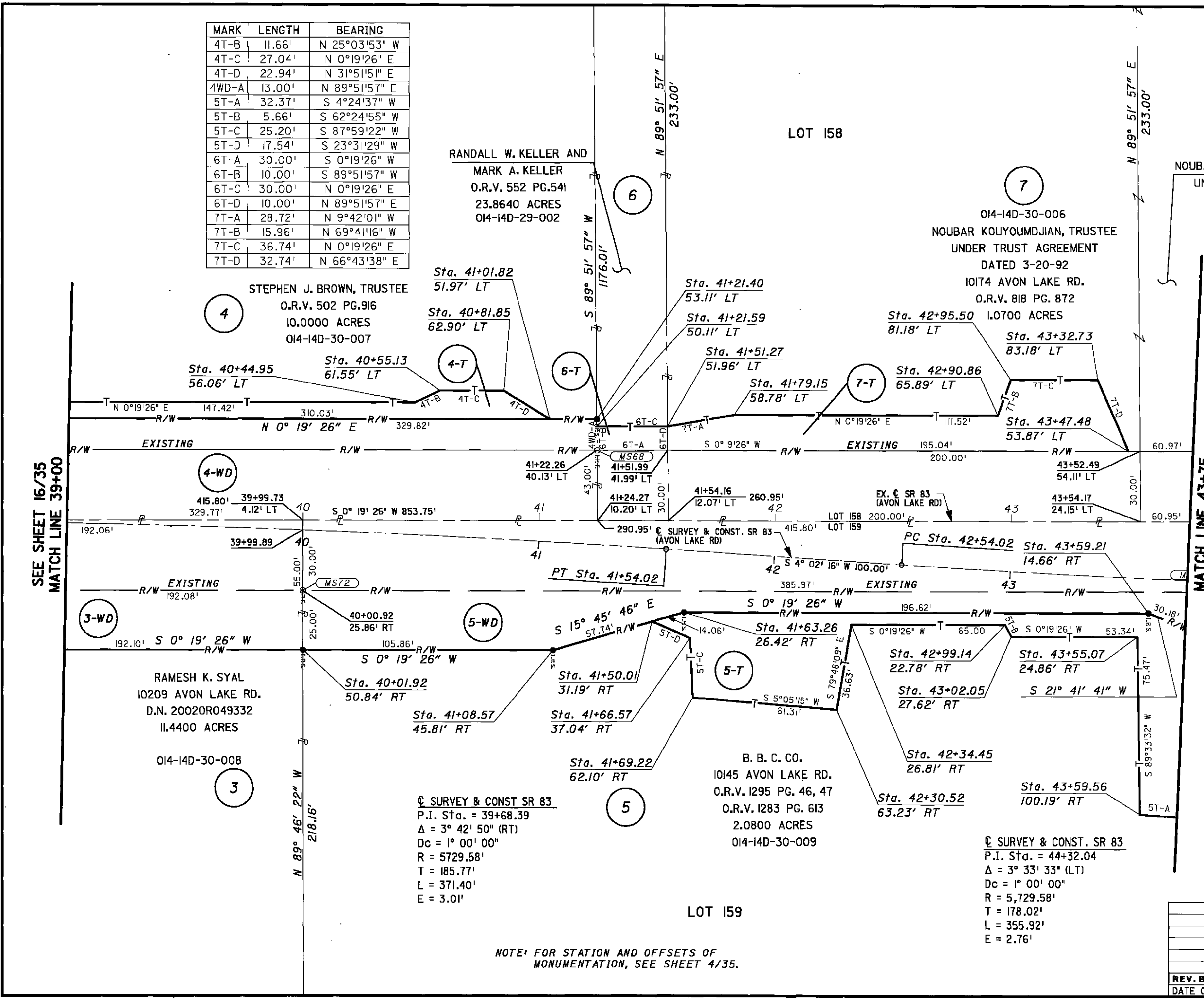
R/W DESIGNER JLP
R/W REVIEWER JPV

RIGHT OF WAY PLAN
STA. 39+00.00 TO STA. 43+75.00

WAY/MED-71-7.04/0.00

DATE: $DATE$ $TIME$
FILENAME: $FILE$

MARK	LENGTH	BEARING
4T-B	11.66'	N 25°03'53" W
4T-C	27.04'	N 0°19'26" E
4T-D	22.94'	N 31°51'51" E
4WD-A	13.00'	N 89°51'57" E
5T-A	32.37'	S 4°24'37" W
5T-B	5.66'	S 62°24'55" W
5T-C	25.20'	S 87°59'22" W
5T-D	17.54'	S 23°31'29" W
6T-A	30.00'	S 0°19'26" W
6T-B	10.00'	S 89°51'57" W
6T-C	30.00'	N 0°19'26" E
6T-D	10.00'	N 89°51'57" E
7T-A	28.72'	N 9°42'01" W
7T-B	15.96'	N 69°41'16" W
7T-C	36.74'	N 0°19'26" E
7T-D	32.74'	N 66°43'38" E



℄ SURVEY & CONST SR 83
P.I. Sta. = 39+68.39
Δ = 3° 42' 50" (RT)
Dc = 1° 00' 00"
R = 5729.58'
T = 185.77'
L = 371.40'
E = 3.01'

℄ SURVEY & CONST. SR 83
P.I. Sta. = 44+32.04
Δ = 3° 33' 33" (LT)
Dc = 1° 00' 00"
R = 5,729.58'
T = 178.02'
L = 355.92'
E = 2.76'

NOTE: FOR STATION AND OFFSETS OF MONUMENTATION, SEE SHEET 4/35.

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		OCT. 8, 2003

SCALE IN FEET 0 10 20 40

PID NO. 14017

R/W DESIGNER JLP

R/W REVIEWER JPV

RIGHT OF WAY PLAN
STA. 39+00.00 TO STA. 43+75.00

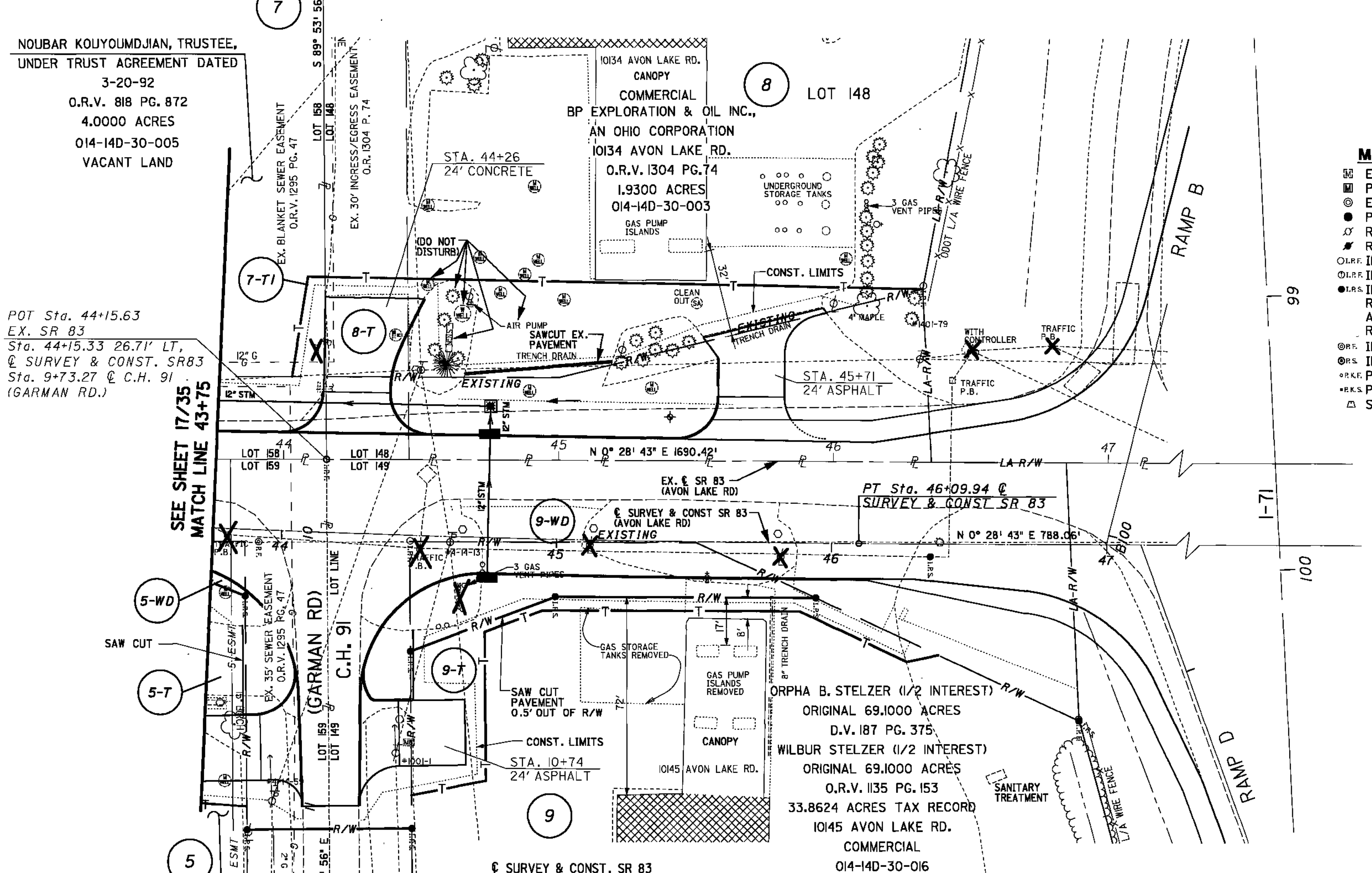
WAY/MED-71-7.04/0.00

DATE: $DATE$ $TIME$
FILENAME: $FILE$

TOWNSHIP 1 NORTH RANGE 16 WEST
CONNECTICUT WESTERN RESERVE
LOTS 148, 149, 158 & 159
HARRISVILLE TOWNSHIP
MEDINA COUNTY, OHIO

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING DOCUMENTATION ON FILE FROM THE MEDINA COUNTY ENGINEERS OFFICE AND PUBLIC RECORDS ON FILE IN THE RECORDERS OFFICE, MEDINA COUNTY, OHIO FOR "WAY-1-5.54/MED-1-0.00"

ALL STATIONS AND OFFSETS ARE FROM THE CENTERLINE OF SURVEY OF S.R. 83 (AVON LAKE ROAD) UNLESS OTHERWISE NOTED.



B. B. C. CO.
O.R.V. 1295 PG. 46
O.R.V. 1285 PG. 613
2.0800 ACRES
10145 AVON LAKE RD.
COMMERCIAL
014-14D-30-009

℄ SURVEY & CONST. SR 83
P.I. Sta. = 44+32.04
Δ = 3° 33' 33" (LT)
Dc = 1° 00' 00"
R = 5,729.58'
T = 178.02'
L = 355.92'
E = 2.76'

NOTE: ALL MONITORING WELLS ARE NOT TO BE DAMAGED LIDS TO BE ADJUSTED TO GRADE.

MONUMENT LEGEND

- ▣ EXISTING R/W MONUMENT BOX
- ■ PROPOSED R/W MONUMENT BOX
- ◎ EXISTING CONCRETE MONUMENT
- ● PROPOSED CONCRETE MONUMENT
- RAILROAD SPIKE FOUND
- RAILROAD SPIKE SET
- ○ I.P.F. IRON PIN FOUND, AS NOTED
- I.P.F. IRON PIN FOUND W/ ID CAP, AS NOTED
- ● I.P.S. IRON PIN SET -3/4" DIAMETER x 36" LONG REINFORCING BARS WITH A 1 1/2" DIAMETER ALUMINUM CAP, STAMPED "ODOT RIGHT-OF-WAY - MS CONSULTANTS - 7159"
- ◎ P.F. IRON PIPE FOUND, AS NOTED
- ◉ P.S. IRON PIPE SET
- ○ P.K.F. P.K. NAIL FOUND
- ■ P.K.S. P.K. NAIL SET
- △ STONE FOUND

STRUCTURE KEY

☐	RESIDENTIAL
▩	COMMERCIAL
▨	OUT-BUILDING

NOTE:
ALL PROPOSED CURBS ARE TYPE 2-A

RECORD SURVEY REFERENCES:

BOOK 15 PAGE 160
BOOK 18 PAGE 140
BOOK 33 PAGE 221

OF THE MEDINA COUNTY TAX MAP OFFICE RECORD OF SURVEYS

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		OCT. 8, 2003

N

SCALE IN FEET 0 10 20 40

PID NO. 14017

R/W DESIGNER JLP
R/W REVIEWER JPV

RIGHT OF WAY PLAN
STA. 43+75.00 TO STA. 47+00.00

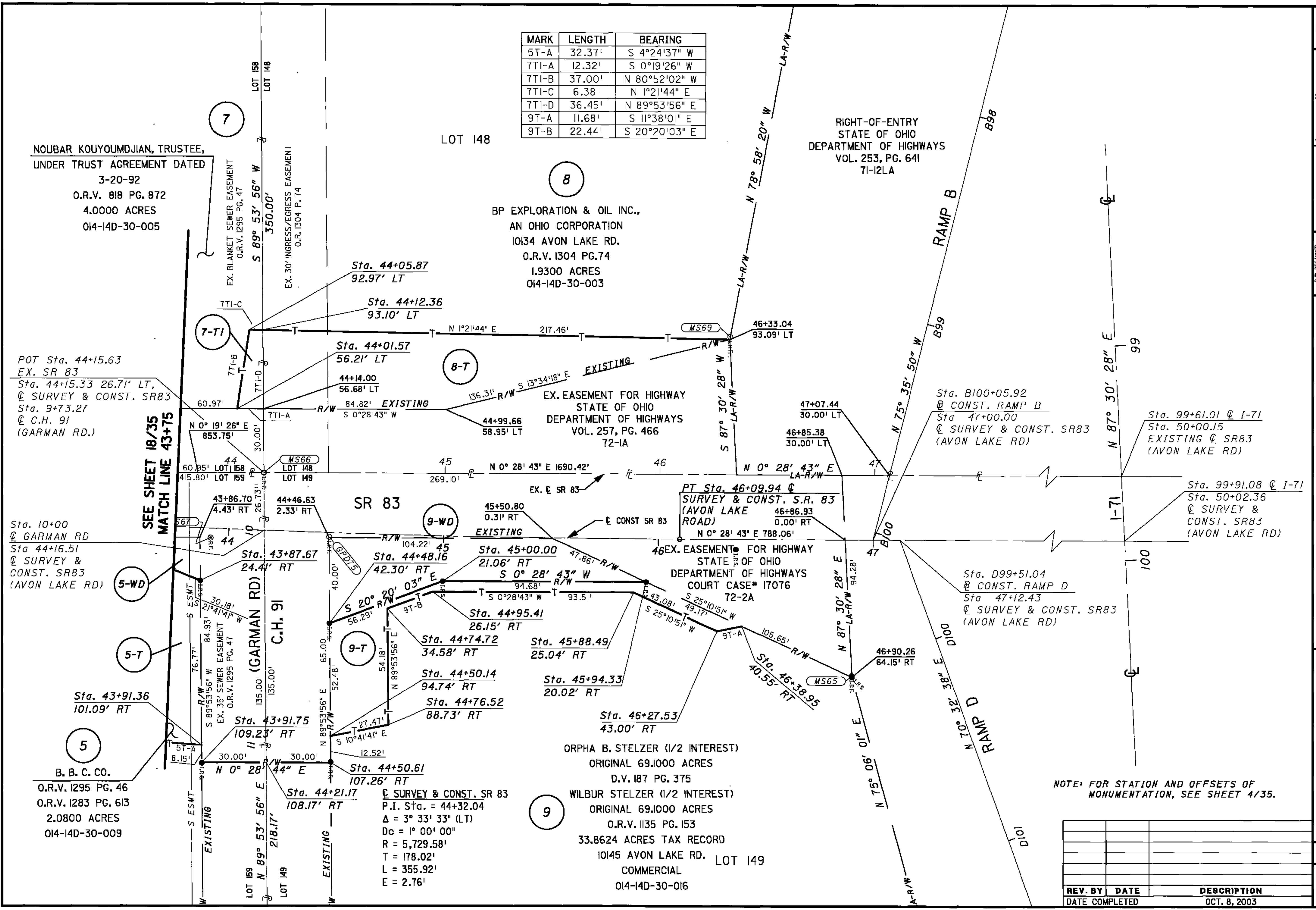
WAY/MED-71-7.04/0.00

19/35

769/785

DATE: $DATE$ $TIME$
FILENAME: $FILE$

WAY/MED-71-7.04/0.00



MARK	LENGTH	BEARING
5T-A	32.37'	S 4°24'37" W
7T1-A	12.32'	S 0°19'26" W
7T1-B	37.00'	N 80°52'02" W
7T1-C	6.38'	N 1°21'44" E
7T1-D	36.45'	N 89°53'56" E
9T-A	11.68'	S 11°38'01" E
9T-B	22.44'	S 20°20'03" E

NOTE: FOR STATION AND OFFSETS OF MONUMENTATION, SEE SHEET 4/35.

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		OCT. 8, 2003

PID NO. 14017

R/W DESIGNER JLP

R/W REVIEWER JPV

RIGHT OF WAY PLAN
STA. 43+75.00 TO STA. 47+00.00

WAY/MED-71-7.04/0.00

20/35

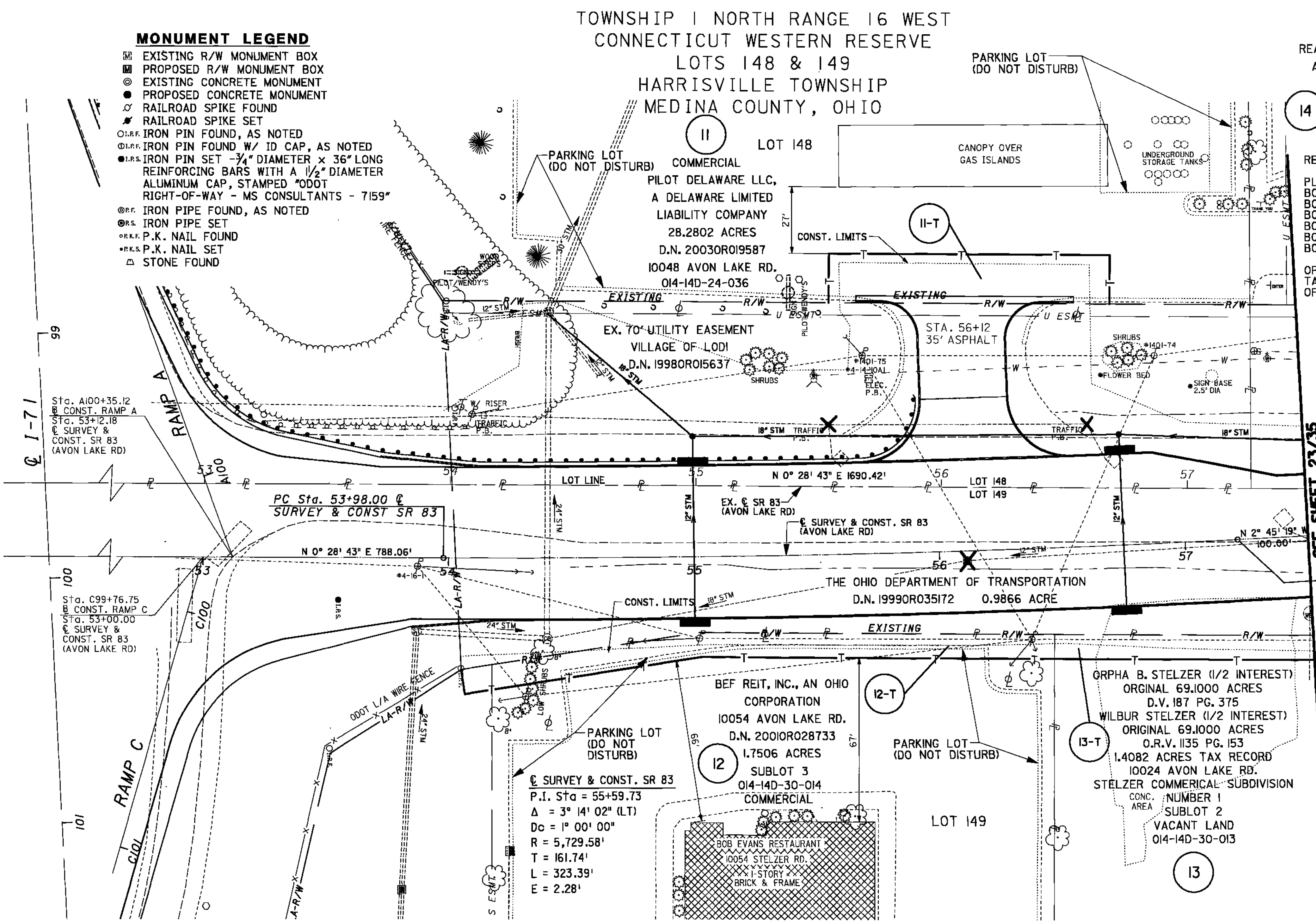
770/785

DATE: $DATE$ FILENAME: $FILE$ $TIME$

TOWNSHIP 1 NORTH RANGE 16 WEST
CONNECTICUT WESTERN RESERVE
LOTS 148 & 149
HARRISVILLE TOWNSHIP
MEDINA COUNTY, OHIO

MONUMENT LEGEND

- M EXISTING R/W MONUMENT BOX
- ■ PROPOSED R/W MONUMENT BOX
- ◎ EXISTING CONCRETE MONUMENT
- ● PROPOSED CONCRETE MONUMENT
- ⌀ RAILROAD SPIKE FOUND
- ● RAILROAD SPIKE SET
- ○ I.P.F. IRON PIN FOUND, AS NOTED
- ⦶ I.P.F. IRON PIN FOUND W/ ID CAP, AS NOTED
- ● I.P.S. IRON PIN SET -3/4" DIAMETER x 36" LONG REINFORCING BARS WITH A 1 1/2" DIAMETER ALUMINUM CAP, STAMPED "ODOT RIGHT-OF-WAY - MS CONSULTANTS - 7159"
- ◎ P.F. IRON PIPE FOUND, AS NOTED
- ◉ P.S. IRON PIPE SET
- ○ P.K.F. P.K. NAIL FOUND
- • P.K.S. P.K. NAIL SET
- △ STONE FOUND



℄ SURVEY & CONST. SR 83
P.I. Sta = 55+59.73
Δ = 3° 14' 02" (LT)
Dc = 1° 00' 00"
R = 5,729.58'
T = 161.74'
L = 323.39'
E = 2.28'

SYSTEM CAPITAL
REAL PROPERTY CORPORATION,
A DELAWARE CORPORATION
10020 AVON LAKE RD.
INST: 19990R029589
1.2768 ACRES
COMMERCIAL
14

RECORD SURVEY REFERENCES:

PLAT DOCUMENT 1999PL000178	
BOOK 33	PAGE 218
BOOK 38	PAGE 144
BOOK 35	PAGE 250
BOOK 35	PAGE 248
BOOK 35	PAGE 238
BOOK 33	PAGE 218

OF THE MEDINA COUNTY
TAX MAP OFFICE RECORD
OF SURVEYS

STRUCTURE KEY

☐	RESIDENTIAL
▩	COMMERCIAL
▨	OUT-BUILDING

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING DOCUMENTATION ON FILE FROM THE MEDINA COUNTY ENGINEERS OFFICE AND PUBLIC RECORDS ON FILE IN THE RECORDERS OFFICE, MEDINA COUNTY, OHIO FOR "WAY-1-5.54/MED-1-0.00"

ALL STATIONS AND OFFSETS ARE FROM THE CENTERLINE OF SURVEY OF S.R. 83 (AVON LAKE ROAD) UNLESS OTHERWISE NOTED.

NOTE: ALL MONITORING WELLS ARE NOT TO BE DAMAGED LIDS TO BE ADJUSTED TO GRADE.

NOTE:
ALL PROPOSED CURBS ARE TYPE 2-A

* DENOTES R/W ENCROACHMENT

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		OCT. 8, 2003

SCALE IN FEET 0 10 20 40

PID NO. 14017

R/W DESIGNER JLP
R/W REVIEWER JPV

RIGHT OF WAY PLAN
STA. 53+00.00 TO STA. 57+50.00

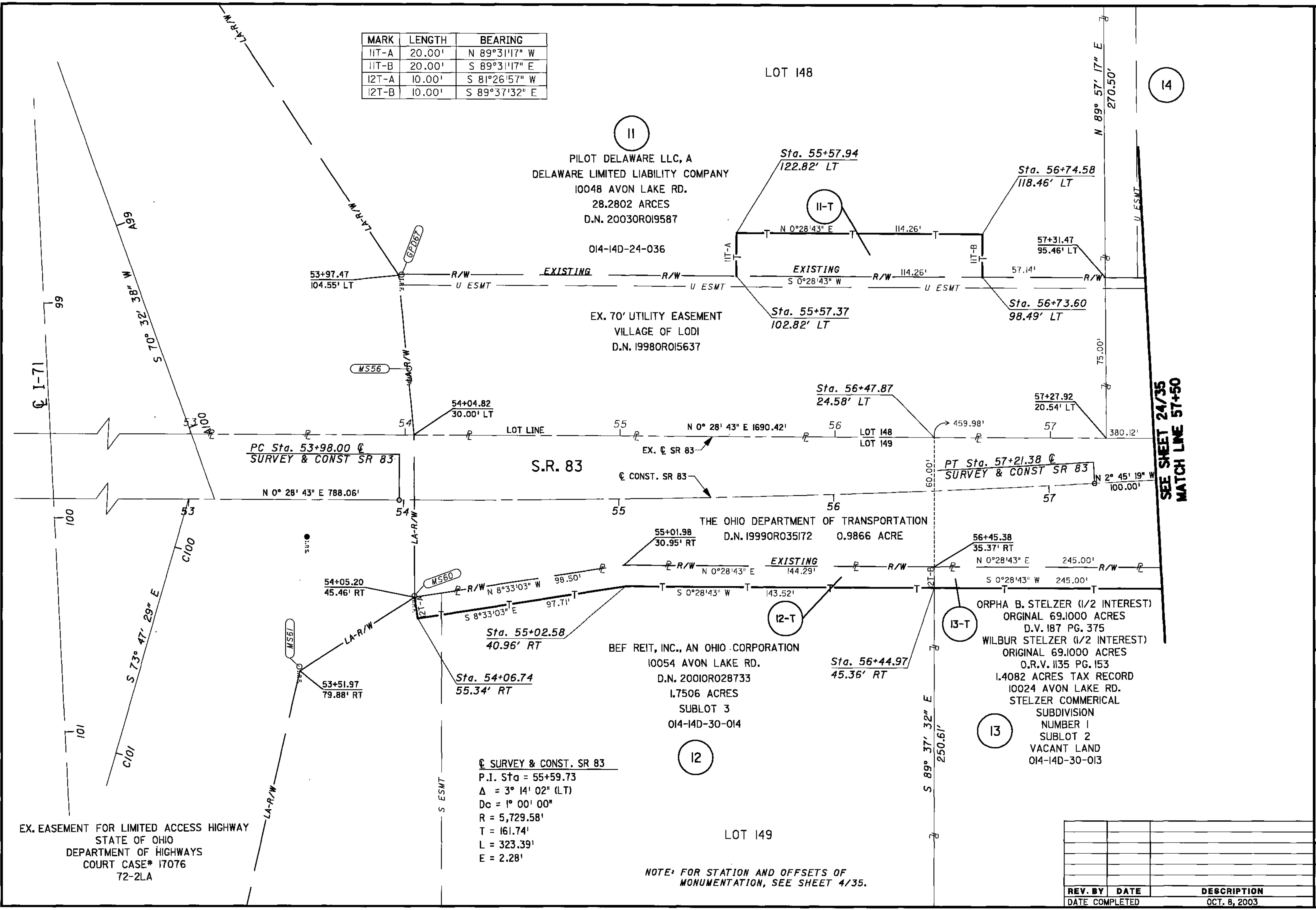
WAY/MED-71-7.04/0.00

21/35

771/785

DATE: $DATE$ $TIME$
FILENAME: $FILE$

MARK	LENGTH	BEARING
11T-A	20.00'	N 89°31'17" W
11T-B	20.00'	S 89°31'17" E
12T-A	10.00'	S 81°26'57" W
12T-B	10.00'	S 89°37'32" E



℄ SURVEY & CONST. SR 83
P.I. Sta = 55+59.73
Δ = 3° 14' 02" (LT)
Dc = 1° 00' 00"
R = 5,729.58'
T = 161.74'
L = 323.39'
E = 2.28'

NOTE: FOR STATION AND OFFSETS OF MONUMENTATION, SEE SHEET 4/35.

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		OCT. 8, 2003

PID NO. 14017

R/W DESIGNER JLP

R/W REVIEWER JPV

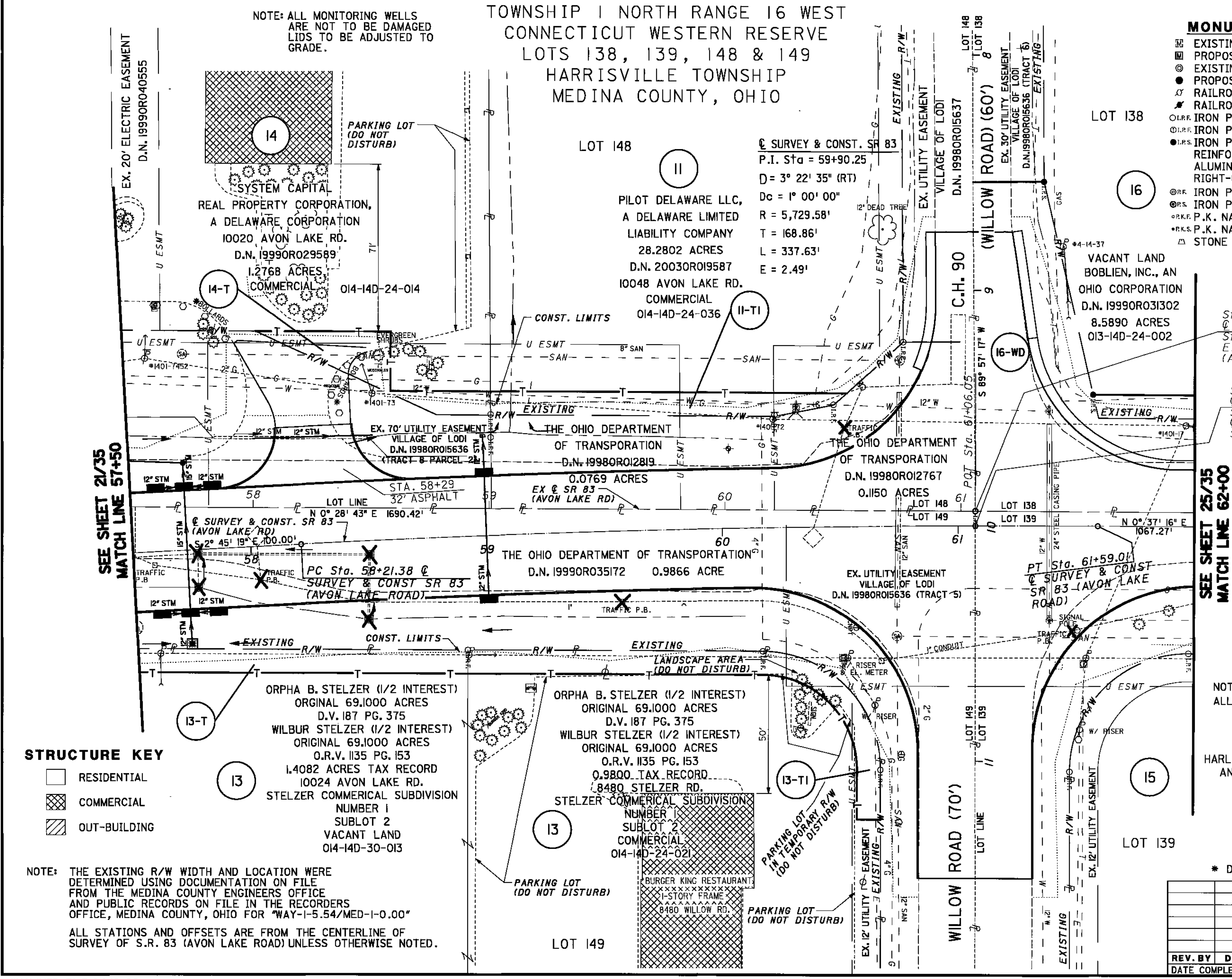
0 10 20 40 SCALE IN FEET

RIGHT OF WAY PLAN
STA. 53+00.00 TO STA. 57+50.00

WAY/MED-71-7.04/0.00

TOWNSHIP 1 NORTH RANGE 16 WEST
CONNECTICUT WESTERN RESERVE
LOTS 138, 139, 148 & 149
HARRISVILLE TOWNSHIP
MEDINA COUNTY, OHIO

NOTE: ALL MONITORING WELLS ARE NOT TO BE DAMAGED LIDS TO BE ADJUSTED TO GRADE.



EX. 20' ELECTRIC EASEMENT
D.N. 1999OR040555
14
PARKING LOT (DO NOT DISTURB)
SYSTEM CAPITAL REAL PROPERTY CORPORATION, A DELAWARE CORPORATION
10020 AVON LAKE RD.
D.N. 1999OR029589
1.2768 ACRES
COMMERCIAL
014-14D-24-014
14-T
LOT 148
11
PILOT DELAWARE LLC, A DELAWARE LIMITED LIABILITY COMPANY
28.2802 ACRES
D.N. 2003OR019587
10048 AVON LAKE RD.
COMMERCIAL
014-14D-24-036
11-T1
℄ SURVEY & CONST. SR 83
P.I. Sta = 59+90.25
D = 3° 22' 35" (RT)
Dc = 1° 00' 00"
R = 5,729.58'
T = 168.86'
L = 337.63'
E = 2.49'
12" DEAD TREE
EX. UTILITY EASEMENT VILLAGE OF LODI D.N. 1998OR015637
(WILLOW ROAD (60')
C.H. 90
EX. 30' UTILITY EASEMENT VILLAGE OF LODI D.N.1998OR015636 (TRACT 6)
LOT 148
LOT 138
LOT 138
16
VACANT LAND
BOBLIEN, INC., AN OHIO CORPORATION
D.N. 1999OR031302
8.5890 ACRES
013-14D-24-002
16-WD
Sta. 9+93.77 ℄ WILLOW ROAD
Sta. 61+06.05 EX. ℄ SR 83 (AVON LAKE RD)
Sta. 10+00.00 ℄ WILLOW ROAD
Sta. 61+07.22 ℄ SURVEY & CONST. SR 83 (AVON LAKE RD)
S 89° 57' 17" W
POT Sta. 61+06.05
CONST. LIMITS
U ESMT
SAN
8" SAN
12" W
EVERGREEN SHRUBS
BOLLARDS
*1401-1452
*1401-73
*1401-72
*1401-17
EXISTING R/W
EX. 70' UTILITY EASEMENT VILLAGE OF LODI D.N. 1998OR015636 (TRACT 8 PARCEL 2)
THE OHIO DEPARTMENT OF TRANSPORATION
D.N. 1998OR012819
0.0769 ACRES
THE OHIO DEPARTMENT OF TRANSPORATION
D.N. 1998OR012767
0.1150 ACRES
STA. 58+29 32' ASPHALT
EX ℄ SR 83 (AVON LAKE RD)
LOT LINE
N 0° 28' 43" E 1690.42'
N 0° 37' 16" E 1067.27'
LOT 148
LOT 149
LOT 138
LOT 139
12" STM
15" STM
℄ SURVEY & CONST. SR 83 (AVON LAKE RD)
S 2° 45' 19" E 100.00'
TRAFFIC P.B.
PC Sta. 58+21.38 ℄ SURVEY & CONST SR 83 (AVON LAKE ROAD)
THE OHIO DEPARTMENT OF TRANSPORTATION
D.N. 1999OR035172 0.9866 ACRE
EX. UTILITY EASEMENT VILLAGE OF LODI D.N. 1998OR015636 (TRACT 5)
12" SAN
24" STEEL CASING PIPE
PT Sta. 61+59.01 ℄ SURVEY & CONST SR 83 (AVON LAKE ROAD)
SIGNAL POLE
1" CONDUIT
RISER & EL. METER
W/ RISER
LANDSCAPE AREA (DO NOT DISTURB)
SEE SHEET 21/35 MATCH LINE 57+50
SEE SHEET 25/35 MATCH LINE 62+00
13-T
13
ORPHA B. STELZER (1/2 INTEREST)
ORGINAL 69.1000 ACRES
D.V. 187 PG. 375
WILBUR STELZER (1/2 INTEREST)
ORIGINAL 69.1000 ACRES
O.R.V. 1135 PG. 153
1.4082 ACRES TAX RECORD
10024 AVON LAKE RD.
STELZER COMMERICAL SUBDIVISION NUMBER 1
SUBLOT 2
VACANT LAND
014-14D-30-013
13
ORPHA B. STELZER (1/2 INTEREST)
ORIGINAL 69.1000 ACRES
D.V. 187 PG. 375
WILBUR STELZER (1/2 INTEREST)
ORIGINAL 69.1000 ACRES
O.R.V. 1135 PG. 153
0.9800 TAX RECORD
8480 STELZER RD.
STELZER COMMERICAL SUBDIVISION NUMBER 1
SUBLOT 2
COMMERCIAL
014-14D-24-021
BURGER KING RESTAURANT 1-STORY FRAME 8480 WILLOW RD.
PARKING LOT (DO NOT DISTURB)
PARKING LOT IN TEMPORARY R/W (DO NOT DISTURB)
13-T1
50'
71'
WILLOW ROAD (70')
LOT 149
LOT 139
LOT LINE
EX. 12' UTILITY EASEMENT
15
LOT 139
LOT 149
58
59
60
61

MONUMENT LEGEND

- ▣ EXISTING R/W MONUMENT BOX
- ■ PROPOSED R/W MONUMENT BOX
- ◎ EXISTING CONCRETE MONUMENT
- ● PROPOSED CONCRETE MONUMENT
- RAILROAD SPIKE FOUND
- RAILROAD SPIKE SET
- ○I.P.F. IRON PIN FOUND, AS NOTED
- ⦶I.P.F. IRON PIN FOUND W/ ID CAP, AS NOTED
- ●I.P.S. IRON PIN SET -3/4" DIAMETER x 36" LONG REINFORCING BARS WITH A 1 1/2" DIAMETER ALUMINUM CAP, STAMPED "ODOT RIGHT-OF-WAY - MS CONSULTANTS - 7159"
- ◎P.F. IRON PIPE FOUND, AS NOTED
- ◉P.S. IRON PIPE SET
- ∘P.K.F. P.K. NAIL FOUND
- •P.K.S. P.K. NAIL SET
- △ STONE FOUND

RECORD SURVEY REFERENCES:

PLAT DOCUMENT 1999PL000178
BOOK 33 PAGE 218
BOOK 38 PAGE 144
BOOK 35 PAGE 250
BOOK 35 PAGE 248
BOOK 35 PAGE 238
BOOK 33 PAGE 218

OF THE MEDINA COUNTY TAX MAP OFFICE RECORD OF SURVEYS

NOTE:
ALL PROPOSED CURBS ARE TYPE 2-A

HARLEY FAMILY LAND INVESTMENT, LTD., AN OHIO LIMITD LIABILITY COMPANY
9937-9955 AVON LAKE RD
D.N. 1999PL000178
1.275 ACRES
SUBLOT 1
014-14D-24-025
RESIDENTIAL

* DENOTES R/W ENCROACHMENT

STRUCTURE KEY

- ☐ RESIDENTIAL
- ▩ COMMERCIAL
- ▨ OUT-BUILDING

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING DOCUMENTATION ON FILE FROM THE MEDINA COUNTY ENGINEERS OFFICE AND PUBLIC RECORDS ON FILE IN THE RECORDERS OFFICE, MEDINA COUNTY, OHIO FOR "WAY-1-5.54/MED-1-0.00"

ALL STATIONS AND OFFSETS ARE FROM THE CENTERLINE OF SURVEY OF S.R. 83 (AVON LAKE ROAD) UNLESS OTHERWISE NOTED.

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		OCT. 8, 2003

SCALE IN FEET 0 20 40

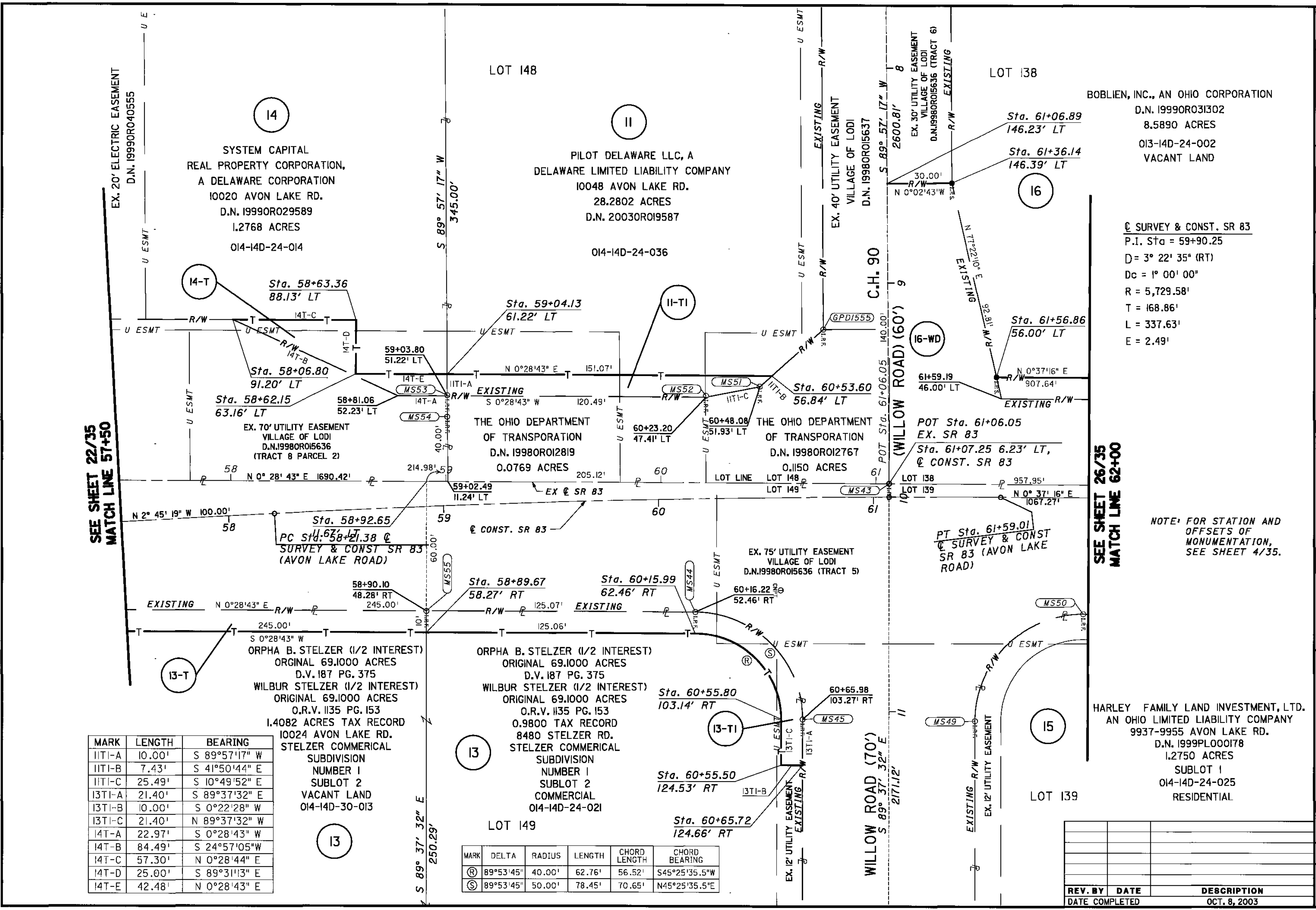
PID NO. 14017

R/W DESIGNER JLP
R/W REVIEWER JPV

RIGHT OF WAY PLAN
STA. 57+50.00 TO STA. 62+00.00

WAY/MED-71-7.04/0.00

DATE: $DATE$ #TIME#
FILENAME: $FILE$



℄ SURVEY & CONST. SR 83
P.I. Sta = 59+90.25
D= 3° 22' 35" (RT)
Dc = 1° 00' 00"
R = 5,729.58'
T = 168.86'
L = 337.63'
E = 2.49'

NOTE: FOR STATION AND OFFSETS OF MONUMENTATION, SEE SHEET 4/35.

MARK	LENGTH	BEARING
11T1-A	10.00'	S 89°57'17" W
11T1-B	7.43'	S 41°50'44" E
11T1-C	25.49'	S 10°49'52" E
13T1-A	21.40'	S 89°37'32" E
13T1-B	10.00'	S 0°22'28" W
13T1-C	21.40'	N 89°37'32" W
14T-A	22.97'	S 0°28'43" W
14T-B	84.49'	S 24°57'05"W
14T-C	57.30'	N 0°28'44" E
14T-D	25.00'	S 89°31'13" E
14T-E	42.48'	N 0°28'43" E

MARK	DELTA	RADIUS	LENGTH	CHORD LENGTH	CHORD BEARING
Ⓡ	89°53'45"	40.00'	62.76'	56.52'	S45°25'35.5"W
Ⓢ	89°53'45"	50.00'	78.45'	70.65'	N45°25'35.5"E

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		OCT. 8, 2003

RIGHT OF WAY PLAN
STA. 57+50.00 TO STA. 62+00.00

WAY/MED-71-7.04/0.00

PID NO. 14017

R/W DESIGNER JLP
R/W REVIEWER JPV

24/35

DATE: $DATE$ #TIME#
FILENAME: #FILE#

TOWNSHIP 1 NORTH RANGE 16 WEST
CONNECTICUT WESTERN RESERVE
LOTS 138 & 139
HARRISVILLE TOWNSHIP
MEDINA COUNTY, OHIO

RECORD SURVEY REFERENCES:

PLAT DOCUMENT 1999PL000178
BOOK 33 PAGE 218
BOOK 38 PAGE 144
BOOK 35 PAGE 250
BOOK 35 PAGE 248
BOOK 35 PAGE 238
BOOK 33 PAGE 218

OF THE MEDINA COUNTY
TAX MAP OFFICE RECORD
OF SURVEYS

NOTE: ALL MONITORING WELLS ARE NOT TO BE DAMAGED LIDS TO BE ADJUSTED TO GRADE.

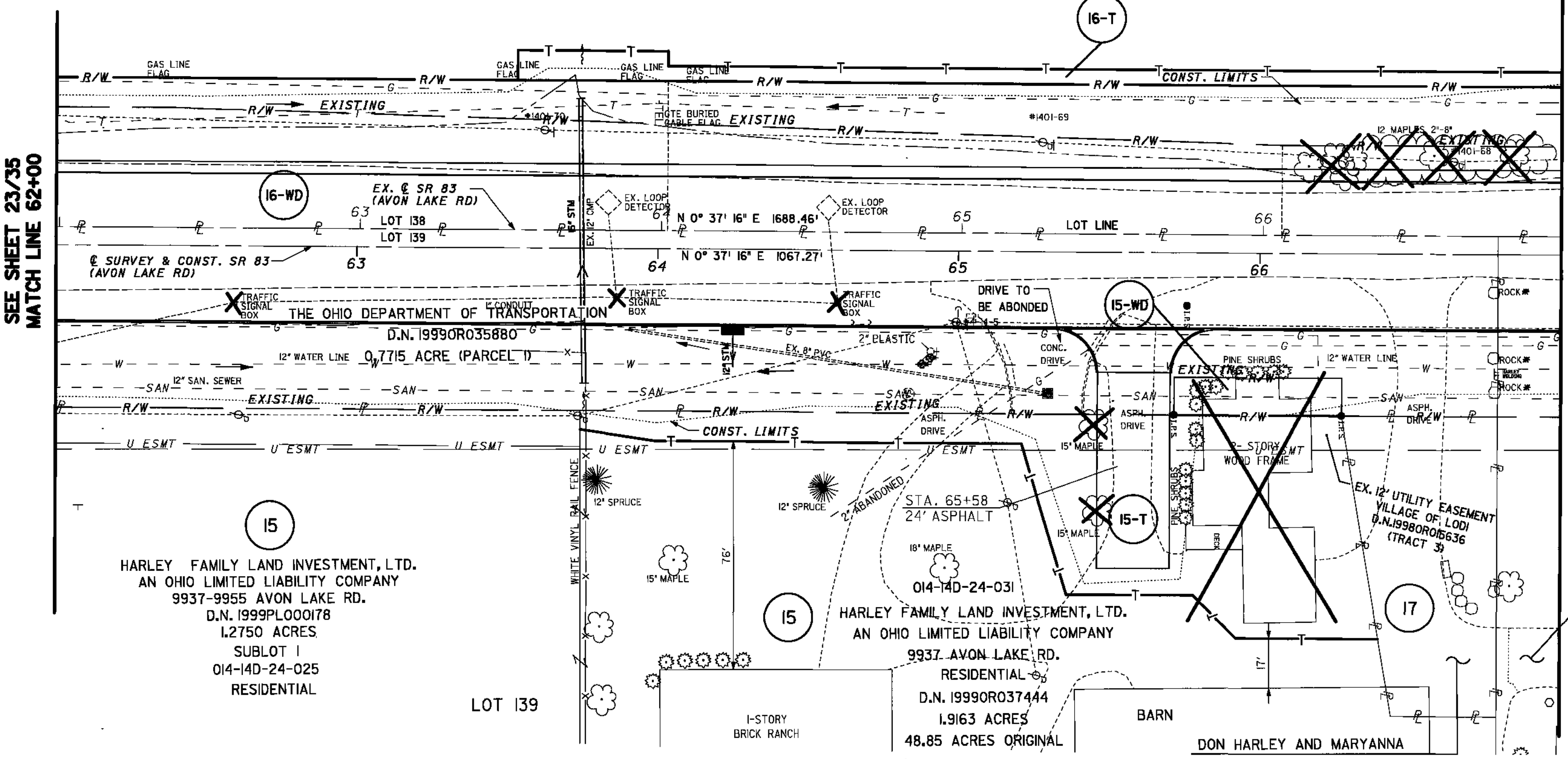
LOT 138

⑯

BOBLIEN, INC., AN OHIO CORPORATION
D.N. 1999OR031302
8.5890 ACRES
013-14D-24-002
VACANT LAND

MONUMENT LEGEND

- ▣ EXISTING R/W MONUMENT BOX
- ■ PROPOSED R/W MONUMENT BOX
- ◎ EXISTING CONCRETE MONUMENT
- ● PROPOSED CONCRETE MONUMENT
- RAILROAD SPIKE FOUND
- RAILROAD SPIKE SET
- ○I.P.F. IRON PIN FOUND, AS NOTED
- I.P.F. IRON PIN FOUND W/ ID CAP, AS NOTED
- ●I.P.S. IRON PIN SET -3/4" DIAMETER × 36" LONG REINFORCING BARS WITH A 1 1/2" DIAMETER ALUMINUM CAP, STAMPED "ODOT RIGHT-OF-WAY - MS CONSULTANTS - 7159"
- P.F. IRON PIPE FOUND, AS NOTED
- P.S. IRON PIPE SET
- P.K.F. P.K. NAIL FOUND
- P.K.S. P.K. NAIL SET
- STONE FOUND



DON HARLEY AND MARYANNA
HARLEY, TRUSTEES.
D.N. 2001OR028591
0.0996 ACRE
014-14D-24-032
VACANT LAND

DON HARLEY AND
MARYANNA HARLEY,
TRUSTEES.
9923 AVON LAKE RD.
O.R.V. 851 PG. 722
1.8645 ACRE
014-14D-24-019
RESIDENTIAL (FARM)

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING DOCUMENTATION ON FILE FROM THE MEDINA COUNTY ENGINEERS OFFICE AND PUBLIC RECORDS ON FILE IN THE RECORDERS OFFICE, MEDINA COUNTY, OHIO FOR "WAY-1-5.54/MED-1-0.00"

ALL STATIONS AND OFFSETS ARE FROM THE CENTERLINE OF SURVEY OF S.R. 83 (AVON LAKE ROAD) UNLESS OTHERWISE NOTED.

STRUCTURE KEY

☐	RESIDENTIAL
▩	COMMERCIAL
▨	OUT-BUILDING

⑮ BASED ON THE CONSTRUCTION PLANS REMOVE 25 FT OF WHITE VINYL RAIL FENCE OF WHICH 69 FT OF THE FENCE ENCROACHES IN THE EXISTING RIGHT-OF-WAY.

* DENOTES R/W ENCROACHMENT

NOTE: ALL PROPOSED CURBS ARE TYPE 2-A

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		OCT. 8, 2003

SCALE IN FEET 0 10 20 40

PID NO. 14017

R/W DESIGNER JLP
R/W REVIEWER JPV

RIGHT OF WAY PLAN
STA. 62+00.00 TO STA. 67+00.00

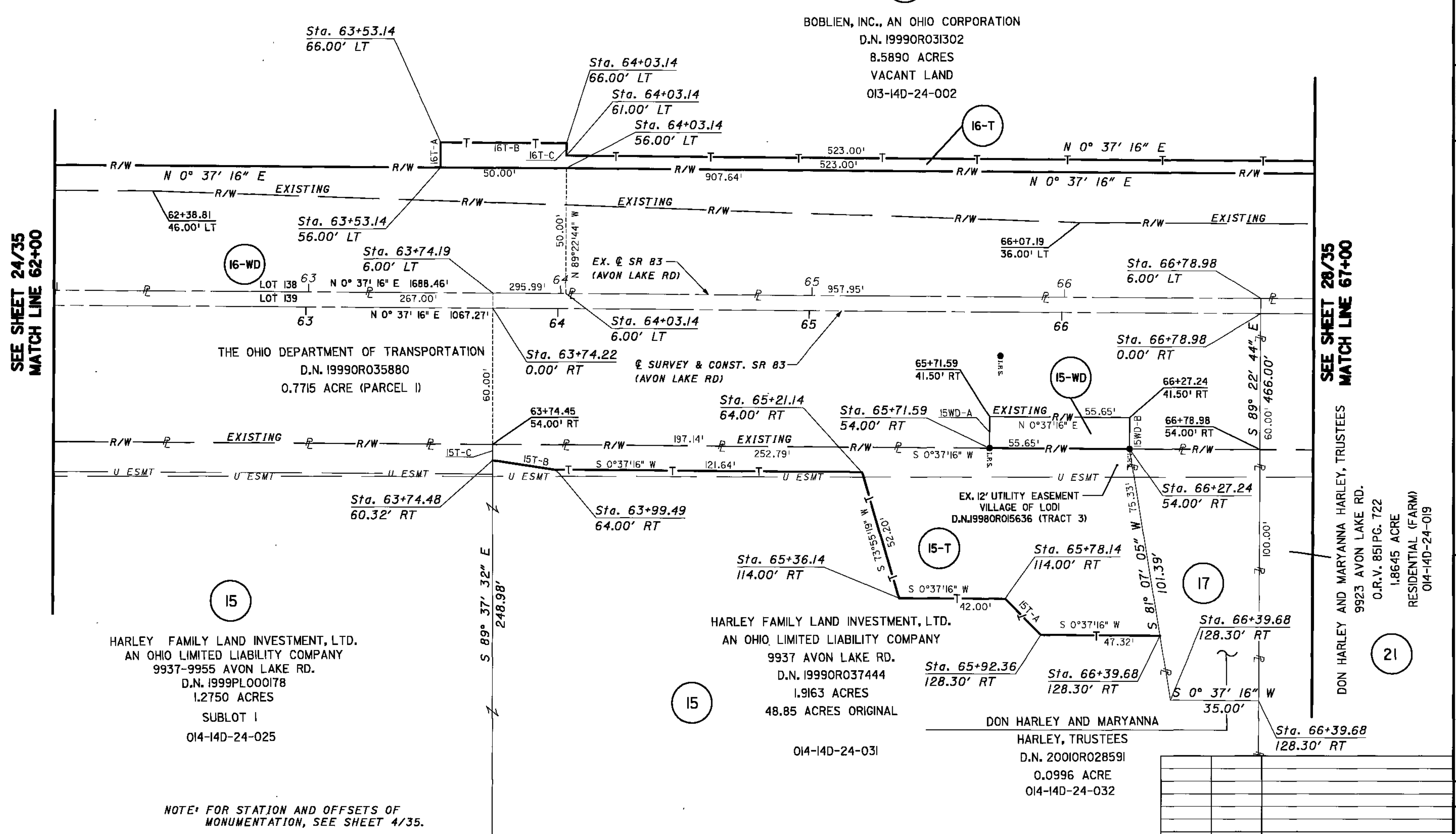
WAY/MED-71-7.04/0.00

25/35

775/785

DATE: $DATE$ FILENAME: $FILE$ $TIME$

MARK	LENGTH	BEARING
15WD-A	12.50'	N 89°22'44" W
15WD-B	12.50'	S 89°22'44" E
15T-A	20.17'	S 45°46'03" W
15T-B	25.28'	S 8°59'02" W
15T-C	6.32'	N 89°37'32" W
16T-A	10.00'	N 89°22'44" W
16T-B	50.00'	N 0°37'16" E
16T-C	5.00'	S 89°22'44" E



NOTE: FOR STATION AND OFFSETS OF MONUMENTATION, SEE SHEET 4/35.

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		OCT. 8, 2003

PID NO. **14017**

R/W DESIGNER JLP

R/W REVIEWER JPV

RIGHT OF WAY PLAN
STA. 62+00.00 TO STA. 67+00.00

WAY/MED-71-7.04/0.00

26/35

776/785

DATE: $DATE$
FILENAME: $FILE$
$TIME$

MONUMENT LEGEND

- ▣ EXISTING R/W MONUMENT BOX
- ▣ PROPOSED R/W MONUMENT BOX
- ◎ EXISTING CONCRETE MONUMENT
- ● PROPOSED CONCRETE MONUMENT
- RAILROAD SPIKE FOUND
- RAILROAD SPIKE SET
- ○I.P.F. IRON PIN FOUND, AS NOTED
- ◎I.P.F. IRON PIN FOUND W/ ID CAP, AS NOTED
- ●I.P.S. IRON PIN SET -3/4" DIAMETER x 36" LONG REINFORCING BARS WITH A 1 1/2" DIAMETER ALUMINUM CAP, STAMPED "ODOT RIGHT-OF-WAY - MS CONSULTANTS - 7159"
- ◎P.F. IRON PIPE FOUND, AS NOTED
- ◎P.S. IRON PIPE SET
- ○P.K.F. P.K. NAIL FOUND
- •P.K.S. P.K. NAIL SET
- △ STONE FOUND

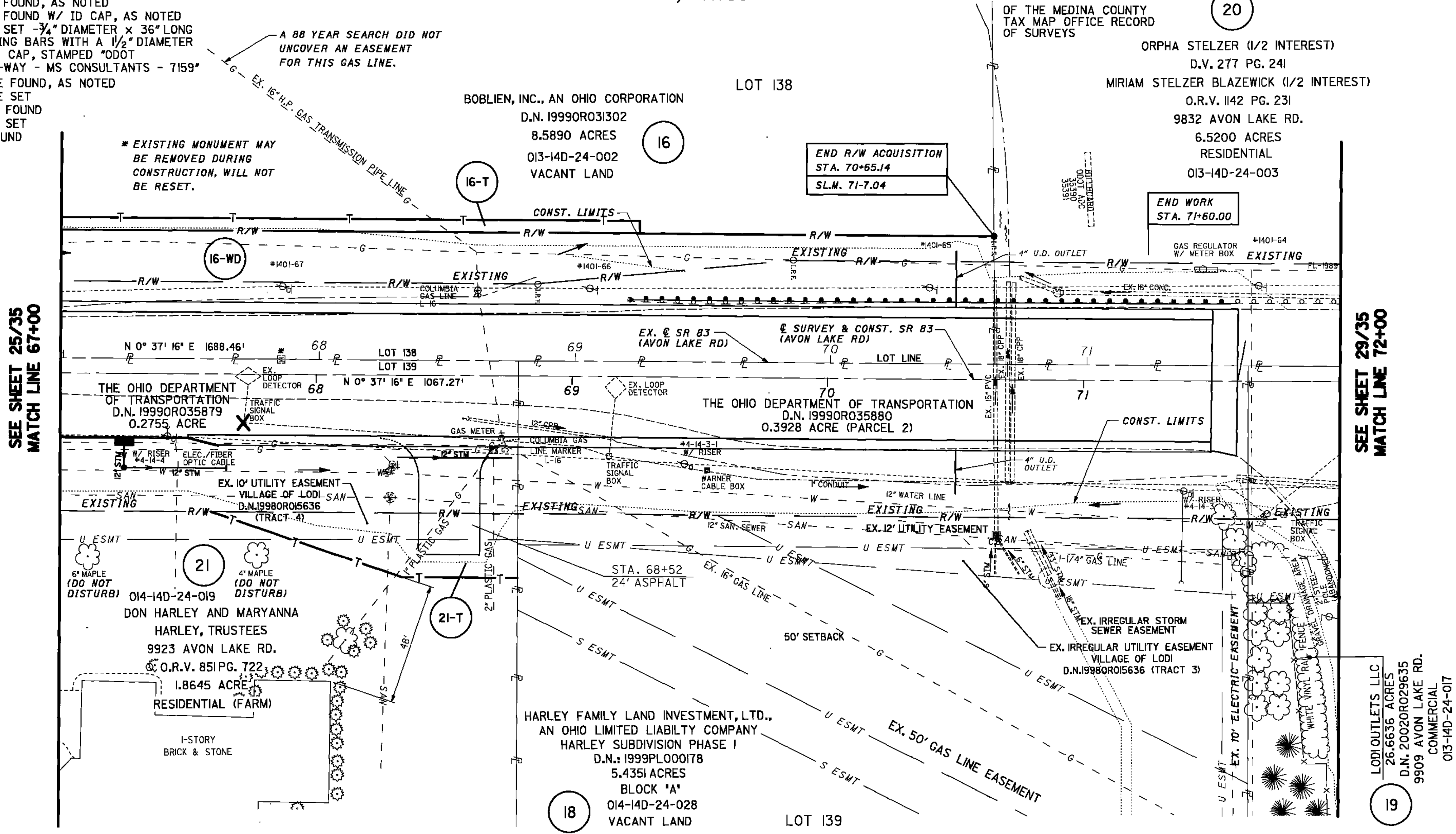
TOWNSHIP 1 NORTH RANGE 16 WEST
CONNECTICUT WESTERN RESERVE
LOTS 138 & 139
HARRISVILLE TOWNSHIP
MEDINA COUNTY, OHIO

RECORD SURVEY REFERENCES:

PLAT DOCUMENT 1999PL000178

BOOK	PAGE
BOOK 33	PAGE 218
BOOK 38	PAGE 144
BOOK 35	PAGE 250
BOOK 35	PAGE 248
BOOK 35	PAGE 238
BOOK 33	PAGE 218

OF THE MEDINA COUNTY TAX MAP OFFICE RECORD OF SURVEYS



NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING DOCUMENTATION ON FILE FROM THE MEDINA COUNTY ENGINEERS OFFICE AND PUBLIC RECORDS ON FILE IN THE RECORDERS OFFICE, MEDINA COUNTY, OHIO FOR "WAY-1-5.54/MED-1-0.00"

ALL STATIONS AND OFFSETS ARE FROM THE CENTERLINE OF SURVEY OF S.R. 83 (AVON LAKE ROAD) UNLESS OTHERWISE NOTED.

STRUCTURE KEY

- ☐ RESIDENTIAL
- ▩ COMMERCIAL
- ▨ OUT-BUILDING

NOTE:
ALL PROPOSED CURBS ARE TYPE 2-A

NOTE: ALL MONITORING WELLS ARE NOT TO BE DAMAGED LIDS TO BE ADJUSTED TO GRADE.

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		OCT. 8, 2003

SCALE IN FEET
0 10 20 40

PID NO. 14017

R/W DESIGNER JLP

R/W REVIEWER JPV

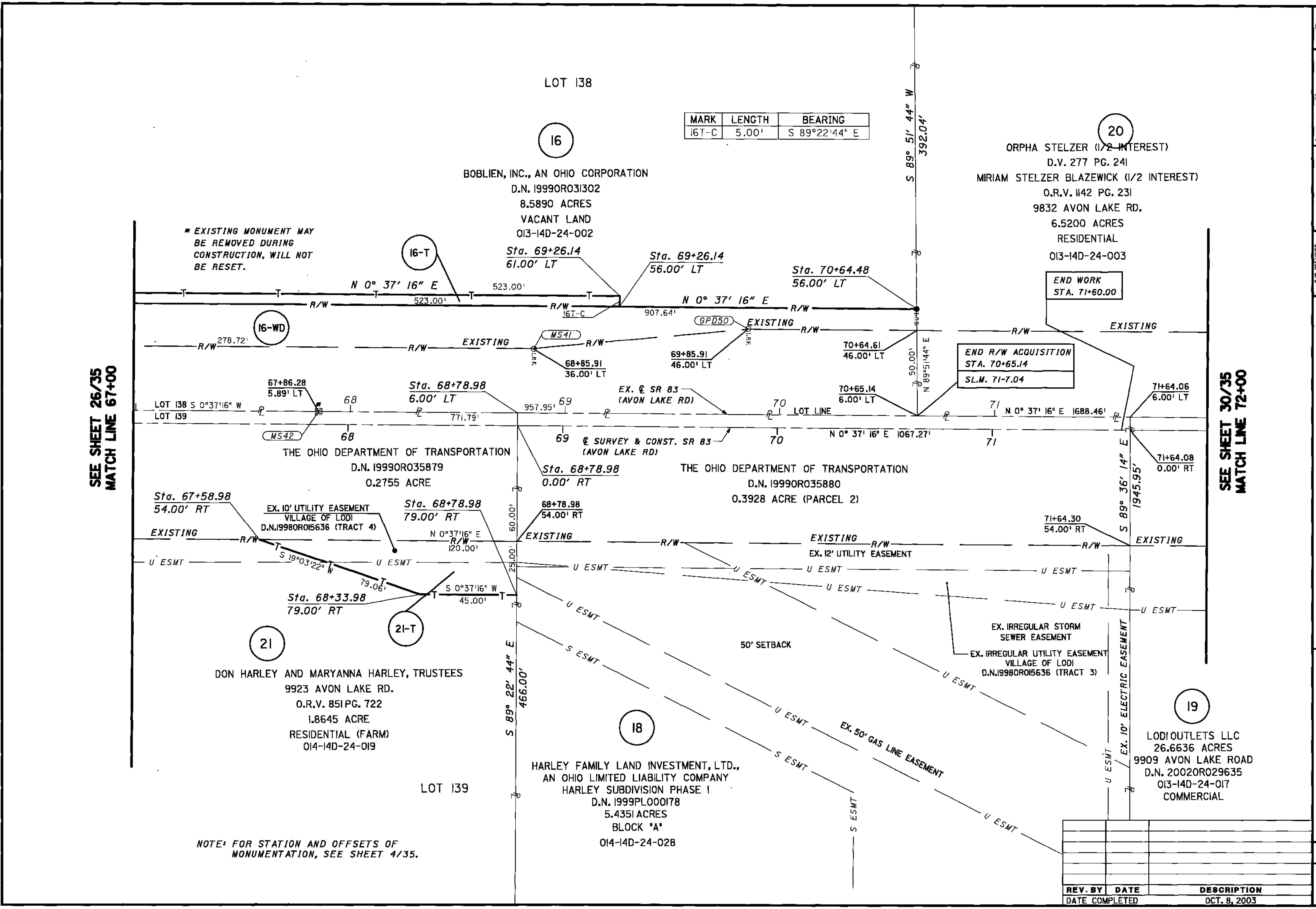
RIGHT OF WAY PLAN
STA. 67+00.00 TO STA. 72+00.00

WAY/MED-71-7.04/0.00

27/35

777/785

DATE: $DATE$ $TIME$
FILENAME: $FILE$



N

0 10 20 40 SCALE IN FEET

PID NO. 14017

R/W DESIGNER JLP

R/W REVIEWER JPV

RIGHT OF WAY PLAN
STA. 67+00.00 TO STA. 72+00.00

WAY/MED-71-7.04/0.00

TOWNSHIP 1 NORTH RANGE 16 WEST
CONNECTICUT WESTERN RESERVE
LOTS 138 & 139
HARRISVILLE TOWNSHIP
MEDINA COUNTY, OHIO

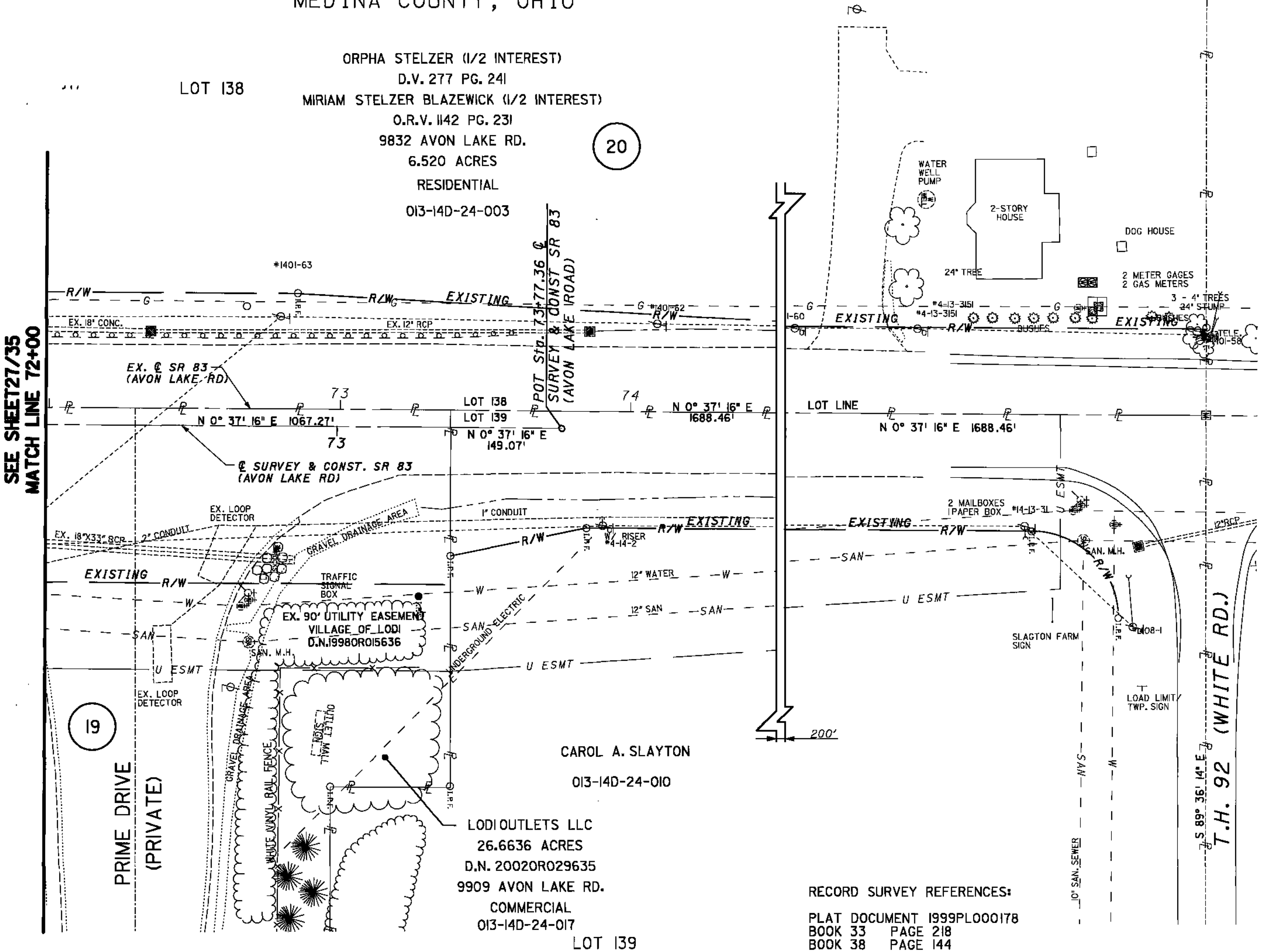
MONUMENT LEGEND

- ▣ EXISTING R/W MONUMENT BOX
- ■ PROPOSED R/W MONUMENT BOX
- ◎ EXISTING CONCRETE MONUMENT
- ● PROPOSED CONCRETE MONUMENT
- ⌀ RAILROAD SPIKE FOUND
- ✗ RAILROAD SPIKE SET
- ○I.P.F. IRON PIN FOUND, AS NOTED
- ◑I.P.F. IRON PIN FOUND W/ ID CAP, AS NOTED
- ●I.P.S. IRON PIN SET -3/4" DIAMETER x 36" LONG REINFORCING BARS WITH A 1 1/2" DIAMETER ALUMINUM CAP, STAMPED "ODOT RIGHT-OF-WAY - MS CONSULTANTS - 7159"
- ◎P.F. IRON PIPE FOUND, AS NOTED
- ◉P.S. IRON PIPE SET
- ∘P.K.F. P.K. NAIL FOUND
- •P.K.S. P.K. NAIL SET
- ▢ STONE FOUND

STRUCTURE KEY

- ☐ RESIDENTIAL
- ▩ COMMERCIAL
- ▨ OUT-BUILDING

NOTE: ALL MONITORING WELLS ARE NOT TO BE DAMAGED LIDS TO BE ADJUSTED TO GRADE.



NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING DOCUMENTATION ON FILE FROM THE MEDINA COUNTY ENGINEERS OFFICE AND PUBLIC RECORDS ON FILE IN THE RECORDERS OFFICE, MEDINA COUNTY, OHIO FOR "WAY-1-5.54/MED-1-0.00"

ALL STATIONS AND OFFSETS ARE FROM THE CENTERLINE OF SURVEY OF S.R. 83 (AVON LAKE ROAD) UNLESS OTHERWISE NOTED.

NOTE:
ALL PROPOSED CURBS ARE TYPE 2-A

* DENOTES R/W ENCROACHMENT

RECORD SURVEY REFERENCES:

PLAT DOCUMENT 1999PL000178

BOOK 33	PAGE 218
BOOK 38	PAGE 144
BOOK 35	PAGE 250
BOOK 35	PAGE 248
BOOK 35	PAGE 238
BOOK 33	PAGE 218

OF THE MEDINA COUNTY TAX MAP OFFICE RECORD OF SURVEYS

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		OCT. 8, 2003

SCALE IN FEET 0 10 20 40

PID NO. 14017

R/W DESIGNER JLP

R/W REVIEWER JPV

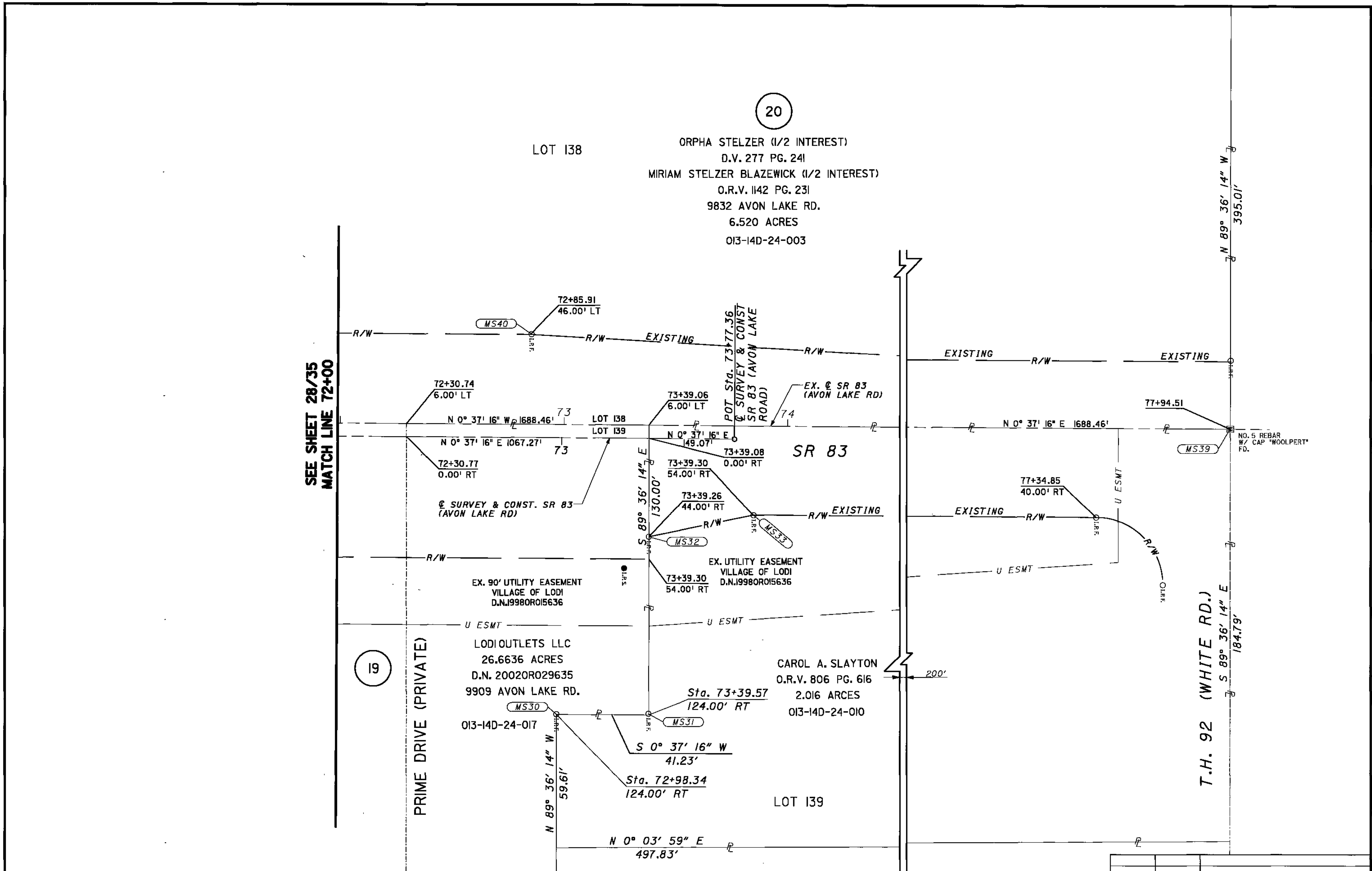
RIGHT OF WAY PLAN
STA. 72+00.00 TO STA. 78+00

WAY/MED-71-7.04/0.00

29/35

779/785

DATE: $DATE$ $TIME$
FILENAME: $FILE$



NOTE: FOR STATION AND OFFSETS OF MONUMENTATION, SEE SHEET 4/35.

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		OCT. 8, 2003

PID NO. **14017**

R/W DESIGNER JLP

R/W REVIEWER JPV

RIGHT OF WAY PLAN
STA. 72+00.00 TO STA. 78+00

WAY/MED-71-7.04/0.00

30/35

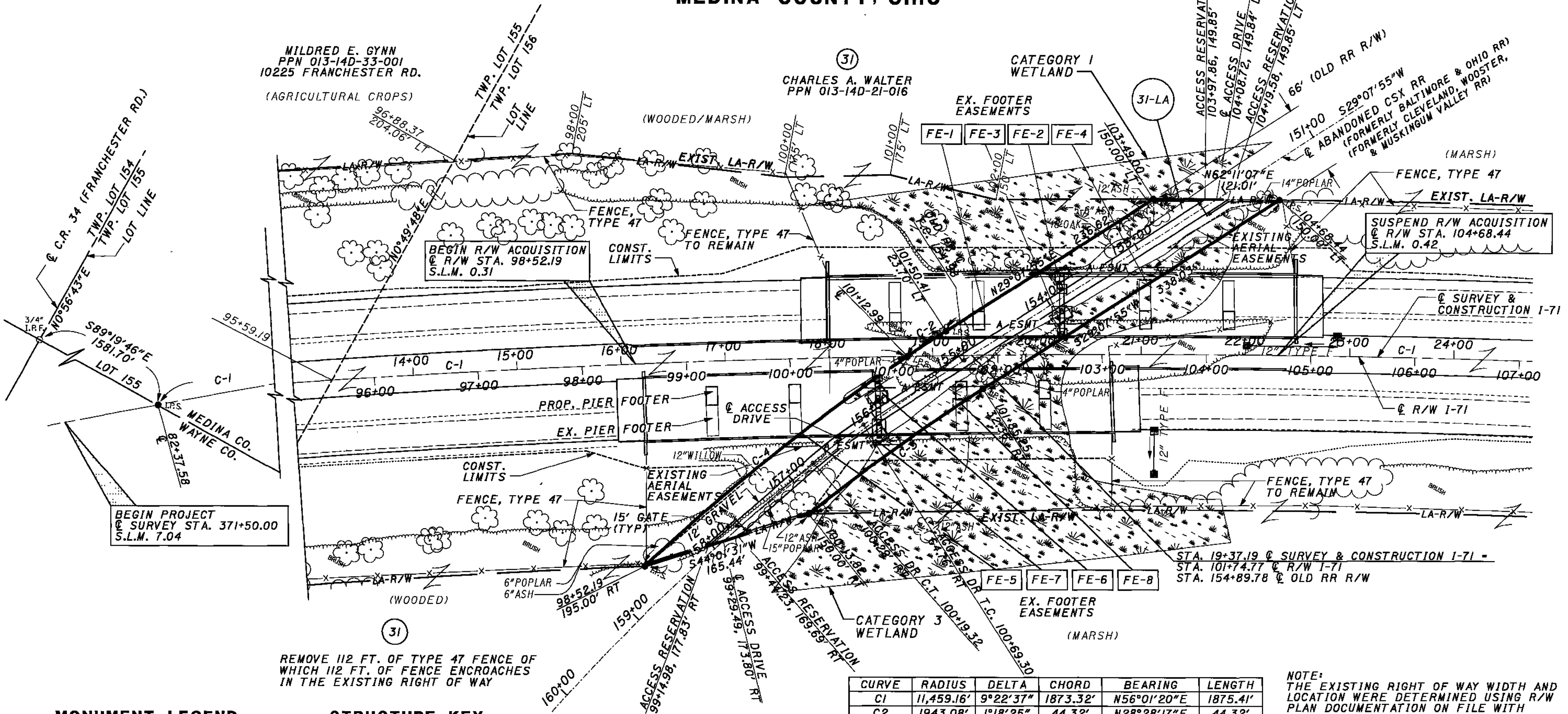
780/785

DATE: $DATE$ $TIME$
FILENAME: $FILE$

T-1-N, R-16-W
CONNECTICUT WESTERN RESERVE
LOT 156
HARRISVILLE TOWNSHIP
MEDINA COUNTY, OHIO

(31)

REMOVE 70 FT. OF TYPE 47 FENCE OF WHICH 70 FT. OF FENCE ENCROACHES IN THE EXISTING RIGHT OF WAY



REMOVE 112 FT. OF TYPE 47 FENCE OF WHICH 112 FT. OF FENCE ENCROACHES IN THE EXISTING RIGHT OF WAY

CURVE	RADIUS	DELTA	CHORD	BEARING	LENGTH
C1	11,459.16'	9°22'37"	1873.32'	N56°01'20"E	1875.41'
C2	1943.08'	1°18'25"	44.32'	N28°28'17"E	44.32'
C3	1877.08	6°18'55"	206.79'	S25°58'02"W	206.89'
C4	1943.08'	9°33'39"	323.86'	N23°02'15"E	324.24'

NOTE:
THE EXISTING RIGHT OF WAY WIDTH AND LOCATION WERE DETERMINED USING R/W PLAN DOCUMENTATION ON FILE WITH OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 3 OFFICE, ASHLAND, OHIO FOR "WAY-1-5.54/MED-1-0.00"

MONUMENT LEGEND

- EXISTING R/W MONUMENT BOX
- ADJUSTABLE MONUMENT ASSEMBLY
- ● EXISTING CONCRETE MONUMENT
- ◎ CONCRETE MONUMENT
- RAILROAD SPIKE FOUND
- RAILROAD SPIKE SET
- ○I.P.F. IRON PIN FOUND, AS NOTED
- I.P.F. IRON PIN FOUND W/ ID CAP, AS NOTED
- ●I.P.S. IRON PIN SET W/ ID CAP (3/4" DIA. STEEL ROD 36" LONG WITH 1-1/2" ALUMINUM CAP STAMPED ODOT R/W, COMPTON SURVEYING CO. INC., #5669)
- ◎P.F. IRON PIPE FOUND, AS NOTED
- ◎P.S. IRON PIPE SET
- ○P.K.F. P.K. NAIL FOUND
- •P.K.S. P.K. NAIL SET

STRUCTURE KEY

- ☐ COMMERCIAL
- ■ RESIDENTIAL
- ▨ OUT-BUILDING

℄ R/W I.R. 71 CURVE DATA
P.I. Sta - 105+34.33
Δ - 53° 43' 40" (RT)
Dc - 0° 30' 00"
R - 11,459.16'
T - 5804.48'
L - 10745.55'
E - 1386.24'

℄ OLD RR CURVE DATA
Δ - 24° 07' (RT)
Dc - 3° 00' 00"
R - 1910.08'

℄ SURVEY & CONSTRUCTION I.R. 71 CURVE DATA
P.I. Sta - 37+44.62
Δ - 36° 10' 16" (RT)
Dc - 0° 29' 59"
R - 11,466.42'
T - 3,744.62'
L - 7,238.83'
E - 595.96'

℄ CURVE DATA FOR 12' ACCESS DRIVE
PI - 100+42.98, 80.65' RT
Δ - 08°45' (LT)
R - 400.00'
T - 30.60'
L - 61.09'

EX. FOOTER EASEMENTS	AREA (AC.)
FE-1	0.0006
FE-2	0.0049
FE-3	0.0050
FE-4	0.0021
FE-5	0.00002
FE-6	0.0050
FE-7	0.0050
FE-8	0.0016
TOTAL	0.02422

BASIS FOR BEARINGS:

THE BASIS OF BEARINGS FOR THESE PLANS ARE RELATIVE TO GRID NORTH OF THE OHIO STATE PLANE COORDINATE SYSTEM, NORTH ZONE, AND THE NORTH AMERICAN DATUM OF 1983 (1995 ADJUSTMENT) FROM GPS OBSERVATIONS BY ODOT

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		OCT. 8, 2003

0 25 50 100
SCALE IN FEET

PID NO. 14017

R/W DESIGNER JEL
R/W REVIEWER WAH

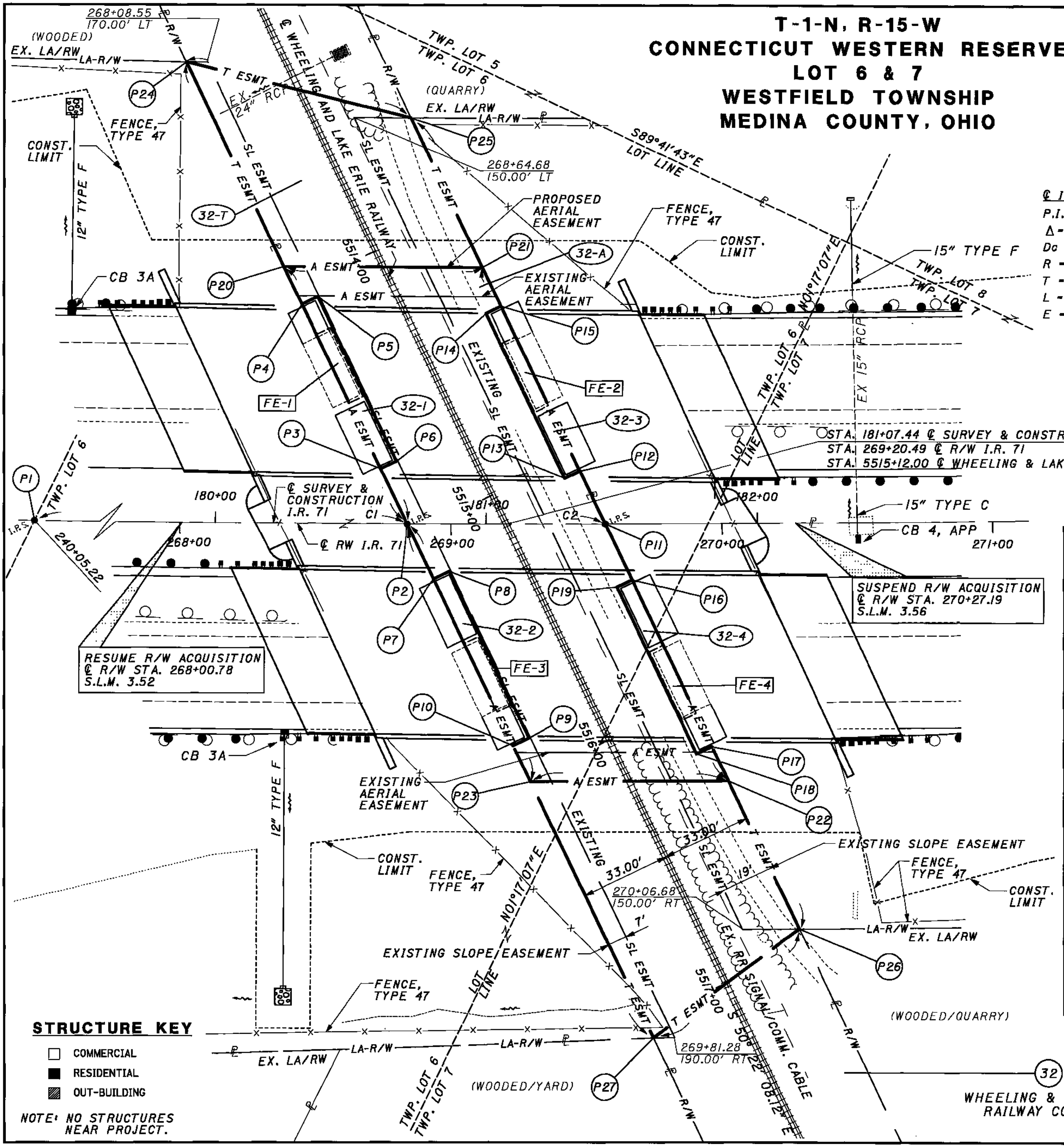
RIGHT OF WAY PLAN

BRIDGE NO. MED-71-0031 L/R
OVER CSX TRANSPORTATION CO.

WAY/MED-71-7.04/0.00

P:/PR30895/CADD/14017RP01.DGN

T-1-N, R-15-W
CONNECTICUT WESTERN RESERVE
LOT 6 & 7
WESTFIELD TOWNSHIP
MEDINA COUNTY, OHIO



STRUCTURE KEY

☐ COMMERCIAL
■ RESIDENTIAL
▨ OUT-BUILDING

NOTE: NO STRUCTURES NEAR PROJECT.

© I.R. 71 CURVE DATA

P.I. Sta - 160+33.35
Δ - 24° 55' 45" (LT)
Dc - 0° 28' 00"
R - 12,277.67'
T - 2,713.93'
L - 5,341.96'
E - 296.38'

BASIS FOR BEARINGS:

THE BASIS OF BEARINGS FOR THESE PLANS ARE RELATIVE TO GRID NORTH OF THE OHIO STATE PLANE COORDINATE SYSTEM, NORTH ZONE, AND THE NORTH AMERICAN DATUM OF 1983 (1995 ADJUSTMENT) FROM GPS OBSERVATIONS BY ODOT

NOTE:
THE EXISTING RIGHT OF WAY WIDTH AND LOCATION WERE DETERMINED USING R/W PLAN DOCUMENTATION ON FILE WITH OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 3 OFFICE, ASHLAND, OHIO FOR "MED-1-1.42".

MONUMENT LEGEND

- EXISTING R/W MONUMENT BOX
- ADJUSTABLE MONUMENT ASSEMBLY
- ● EXISTING CONCRETE MONUMENT
- ◎ CONCRETE MONUMENT
- RAILROAD SPIKE FOUND
- RAILROAD SPIKE SET
- ○ I.P.F. IRON PIN FOUND, AS NOTED
- I.P.F. IRON PIN FOUND W/ ID CAP, AS NOTED
- ● I.P.S. IRON PIN SET W/ ID CAP, (3/4" DIA. STEEL ROD 36" LONG WITH 1-1/2" ALUMINUM CAP STAMPED ODOT R/W, COMPTON SURVEYING CO. INC., #5669)
- ◎ P.F. IRON PIPE FOUND, AS NOTED
- ◎ P.S. IRON PIPE SET
- ○ P.K.F. P.K. NAIL FOUND
- ● P.K.S. P.K. NAIL SET

CURVE	RADIUS	DELTA	CHORD	BEARING	LENGTH
C1	12277.67'	13°26'02"	2872.09'	N 72°03'05" E	2878.67'
C2	12277.67'	13°46'31"	2944.71'	N 71°52'50" E	2951.82'

PROPOSED EASEMENTS							
		POINTS	R/W STA.	OFFSET	COURSE	BEARING	LENGTH
FOOTER EASEMENT	32-1	P2	268+83.89	©	P2-P3	N 50°22'08" W	22.75'
		P3	268+74.01	20.50' LT	P3-P4	N 50°22'08" W	67.33'
		P4	268+44.57	81.10' LT	P4-P5	N 39°37'52" E	6.50'
		P5	268+50.45	83.94' LT	P5-P6	S 50°22'08" E	67.33'
		P6	268+79.88	23.32' LT	P6-P2	S 39°37'52" W	6.50'
	32-2	P2	268+83.89	©	P2-P7	S 50°22'08" E	22.59'
		P7	268+93.67	20.36 RT	P7-P8	N 39°37'52" E	6.50'
		P8	268+99.52	17.54' RT	P8-P9	S 50°22'08" E	68.00'
		P9	269+28.75	78.89' RT	P9-P10	S 39°37'52" W	6.50'
		P10	269+22.92	81.69' RT	P10-P2	N 50°22'08" W	68.00'
	32-3	P11	269+57.04	©	P11-P12	N 50°22'08" W	21.90'
		P12	269+47.64	19.79' LT	P12-P13	S 39°37'52" W	6.20'
		P13	269+42.03	17.13' LT	P13-P14	N 50°22'08" W	67.32'
		P14	269+12.94	77.89' LT	P14-P15	N 39°37'52" E	6.20'
		P15	269+18.57	80.57' LT	P15-P11	S 50°22'08" E	67.32'
	32-4	P11	269+57.04	©	P11-P16	S 50°22'08" E	22.89'
		P16	269+66.83	20.69' RT	P16-P17	S 50°22'08" E	68.08'
		P17	269+95.75	82.27' RT	P17-P18	S 39°37'52" W	6.20'
		P18	269+90.17	84.91' RT	P18-P19	N 50°22'08" W	68.08'
		P19	269+61.23	23.34' RT	P19-P11	N 39°37'52" E	6.20'
AERIAL EASEMENT	32-A	P2	268+83.89	©	P2-P20	N 50°22'08" W	105.53'
		P20	268+37.77	95.00' LT	P20-P21	N 65°22'39" E	73.27'
		P21	269+11.61	95.00' LT	P21-P22	S 50°22'08" E	210.27'
		P22	270+01.69	95.00' RT	P22-P23	S 64°57'14" W	73.02'
		P23	269+29.23	95.00' RT	P23-P2	N 50°22'08" W	105.34'
TEMPORARY EASEMENT	32-T	P2	268+83.89	©	P2-P24	N 50°22'08" W	188.98'
		P24	268+00.78	170.00' LT	P24-P25	N 79°03'43" E	85.45'
		P25	268+84.95	150.00' LT	P25-P26	S 50°22'08" E	332.01'
		P26	270+27.19	150.00' RT	P26-P27	S 28°19'39" W	67.31'
		P27	269+73.80	190.00' RT	P27-P2	N 50°22'08" W	210.49'

EX. FOOTER EASEMENTS	AREA (AC.)
FE-1	0.0036
FE-2	0.0036
FE-3	0.0036
FE-4	0.0036
TOTAL	0.0144

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		OCT. 8, 2003

SCALE IN FEET 0 10 20 40

PID NO. **14017**

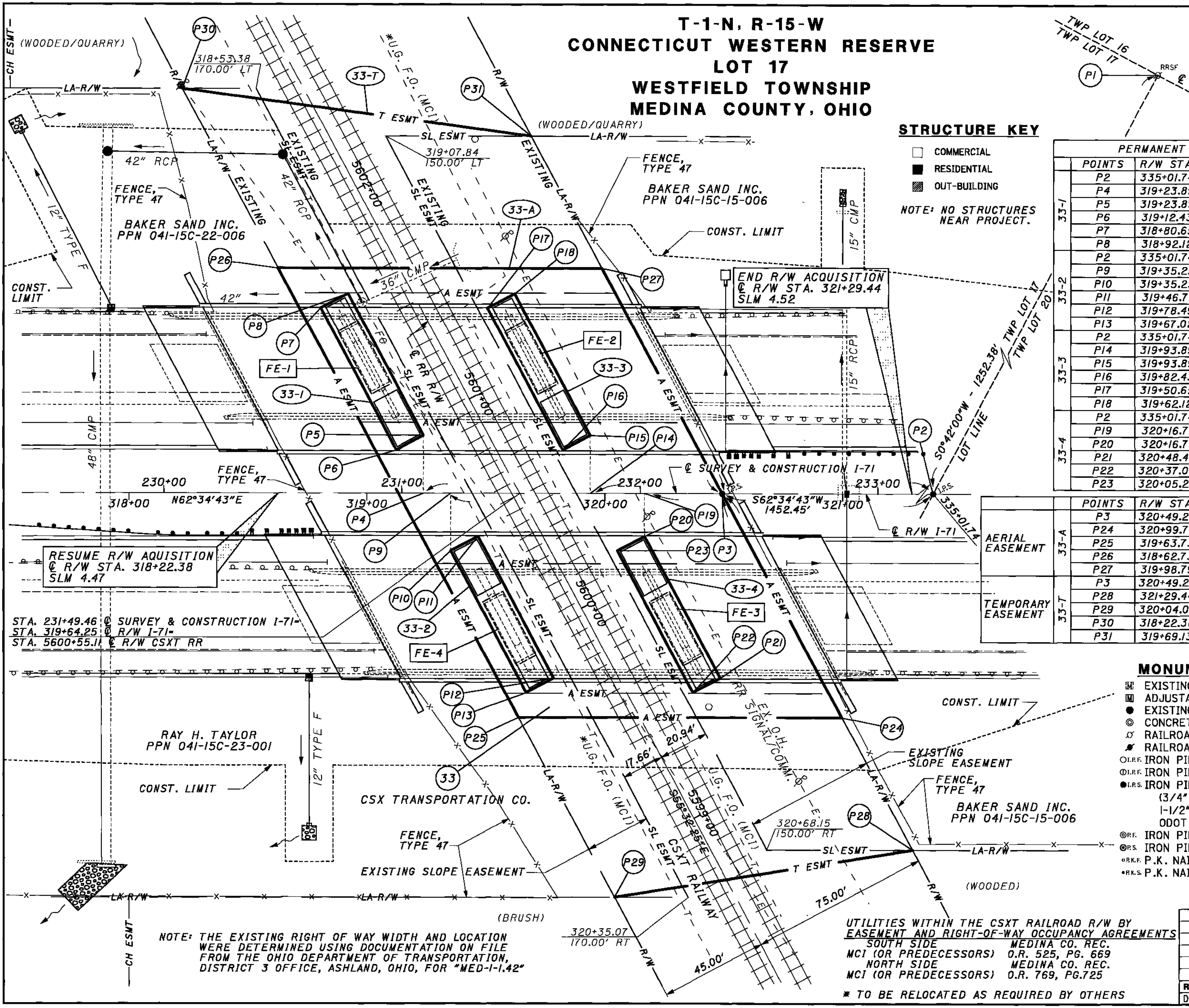
R/W DESIGNER TRH
R/W REVIEWER MAH

RIGHT OF WAY PLAN

BRIDGE NO. MED-71-0342 L/R
OVER WHEELING & LAKE ERIE RAILWAY COMPANY

WAY/MED-71-7.04/0.00

T-1-N, R-15-W
CONNECTICUT WESTERN RESERVE
LOT 17
WESTFIELD TOWNSHIP
MEDINA COUNTY, OHIO



EX. FOOTER EASEMENTS	AREA (AC.)
FE-1	0.0065
FE-2	0.0065
FE-3	0.0065
FE-4	0.0065
TOTAL	0.0270

STRUCTURE KEY

- ☐ COMMERCIAL
- ■ RESIDENTIAL
- ▨ OUT-BUILDING

NOTE: NO STRUCTURES NEAR PROJECT.

PERMANENT EASEMENTS FOR PIER FOOTERS

	POINTS	R/W STA.	OFFSET	COURSE	BEARING	DIST.
33-1	P2	335+01.74	℄	P2-P4	S62°34'43"W	1577.85'
	P4	319+23.89	℄	P4-P5	N27°25'17"W	24.42'
	P5	319+23.89	24.42' LT	P5-P6	S34°27'35"W	13.00'
	P6	319+12.43	18.29' LT	P6-P7	N55°32'25"W	67.42'
	P7	318+80.65	77.75' LT	P7-P8	N34°27'35"E	13.00'
	P8	318+92.12	83.88' LT	P8-P5	S55°32'25"E	67.42'
33-2	P2	335+01.74	℄	P2-P9	S62°34'43"W	1566.49'
	P9	319+35.25	℄	P9-P10	S27°25'17"E	24.42'
	P10	319+35.25	24.42' RT	P10-P11	N34°27'35"E	13.00'
	P11	319+46.71	18.29' RT	P11-P12	S55°32'25"E	67.42'
	P12	319+78.49	77.75' RT	P12-P13	S34°27'35"W	13.00'
	P13	319+67.02	83.88' RT	P13-P10	N55°32'25"W	67.42'
33-3	P2	335+01.74	℄	P2-P14	S62°34'43"W	1507.85'
	P14	319+93.89	℄	P14-P15	N27°25'17"W	24.42'
	P15	319+93.89	24.42' LT	P15-P16	S34°27'35"W	13.00'
	P16	319+82.43	18.29' LT	P16-P17	N55°32'25"W	67.42'
	P17	319+50.65	77.75' LT	P17-P18	N34°27'35"E	13.00'
	P18	319+62.12	83.88' LT	P18-P15	S55°32'25"E	67.42'
33-4	P2	335+01.74	℄	P2-P19	S62°34'43"W	1485.03'
	P19	320+16.71	℄	P19-P20	S27°25'17"E	18.29'
	P20	320+16.71	18.29' RT	P20-P21	S55°32'25"E	67.42'
	P21	320+48.49	77.75' RT	P21-P22	S34°27'35"W	13.00'
	P22	320+37.02	83.88' RT	P22-P23	N55°32'25"W	67.42'
	P23	320+05.25	24.42' RT	P23-P20	N34°27'35"E	13.00'

		POINTS	R/W STA.	OFFSET	COURSE	BEARING	DIST.
AERIAL EASEMENT	33-A	P3	320+49.29	℄	P3-P24	S55°32'25"E	107.15'
		P24	320+99.79	94.50' RT	P24-P25	S62°34'43"W	136.06'
		P25	319+63.73	94.50' RT	P25-P26	N55°32'25"W	214.29'
		P26	318+62.73	94.50' LT	P26-P27	N62°34'43"E	136.06'
		P27	319+98.79	94.50' LT	P27-P3	S55°32'25"E	107.14'
TEMPORARY EASEMENT	33-T	P3	320+49.29	℄	P3-P28	S55°32'25"E	170.07'
		P28	321+29.44	150.00' RT	P28-P29	S53°30'53"W	126.96'
		P29	320+04.07	170.00' RT	P29-P30	N55°32'25"W	385.50'
		P30	318+22.38	170.00' LT	P30-P31	N70°20'23"E	148.10'
		P31	319+69.13	150.00' LT	P31-P3	S55°32'25"E	170.07'

MONUMENT LEGEND

- ▣ EXISTING R/W MONUMENT BOX
- ▣ ADJUSTABLE MONUMENT ASSEMBLY
- ● EXISTING CONCRETE MONUMENT
- ◎ CONCRETE MONUMENT
- RAILROAD SPIKE FOUND
- RAILROAD SPIKE SET
- ○I.P.F. IRON PIN FOUND, AS NOTED
- ◎I.P.F. IRON PIN FOUND W/ ID CAP, AS NOTED
- ●I.P.S. IRON PIN SET W/ ID CAP
  (3/4" DIA. STEEL ROD 36" LONG WITH
  1-1/2" ALUMINUM CAP STAMPED
  ODOT R/W, COMPTON SURVEYING CO. INC., #5669)
- ◎P.F. IRON PIPE FOUND, AS NOTED
- ◎P.S. IRON PIPE SET
- ○P.K.F. P.K. NAIL FOUND
- ●P.K.S. P.K. NAIL SET

NOTE: THE EXISTING RIGHT OF WAY WIDTH AND LOCATION WERE DETERMINED USING DOCUMENTATION ON FILE FROM THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 3 OFFICE, ASHLAND, OHIO, FOR "MED-1-1.42"

UTILITIES WITHIN THE CSXT RAILROAD R/W BY EASEMENT AND RIGHT-OF-WAY OCCUPANCY AGREEMENTS

SOUTH SIDE MCI (OR PREDECESSORS)	MEDINA CO. REC. O.R. 525, PG. 669
NORTH SIDE MCI (OR PREDECESSORS)	MEDINA CO. REC. O.R. 769, PG.725

* TO BE RELOCATED AS REQUIRED BY OTHERS

REV. BY	DATE	DESCRIPTION
JEL	10-14-03	ADDED NOTE REGARDING MCI F.O. RELOC.
DATE COMPLETED		OCT. 8, 2003

SCALE IN FEET 0 10 20 40

PID NO. 14017

R/W DESIGNER JEL

R/W REVIEWER MAH

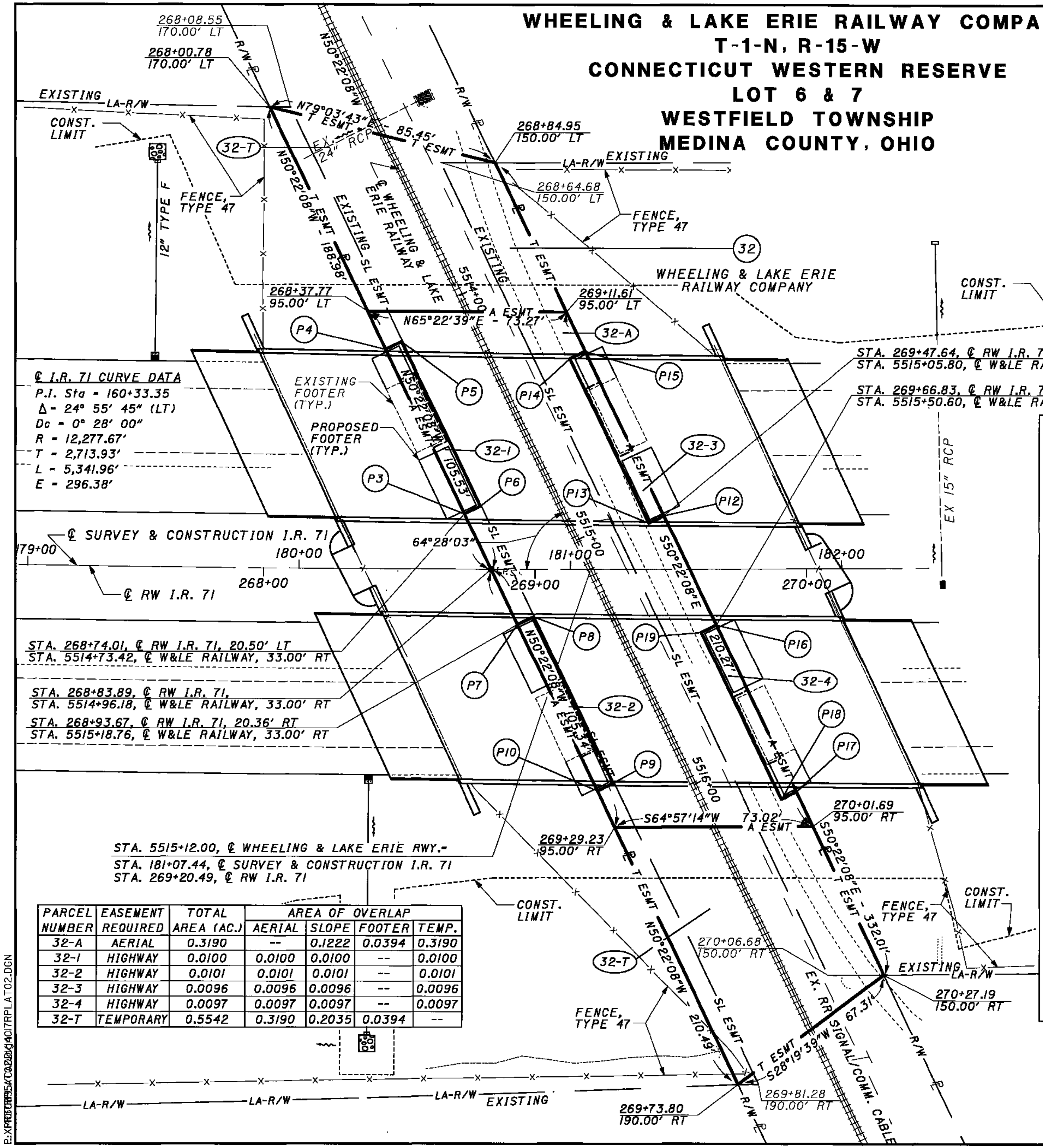
RIGHT OF WAY PLAN

BRIDGE NO. MED-71-0437 L/R
OVER CSX TRANSPORTATION CO.

WAY/MED-71-7.04/0.00

P:/PR30895/CADD/14017RP03.DGN

WHEELING & LAKE ERIE RAILWAY COMPANY
T-1-N, R-15-W
CONNECTICUT WESTERN RESERVE
LOT 6 & 7
WESTFIELD TOWNSHIP
MEDINA COUNTY, OHIO



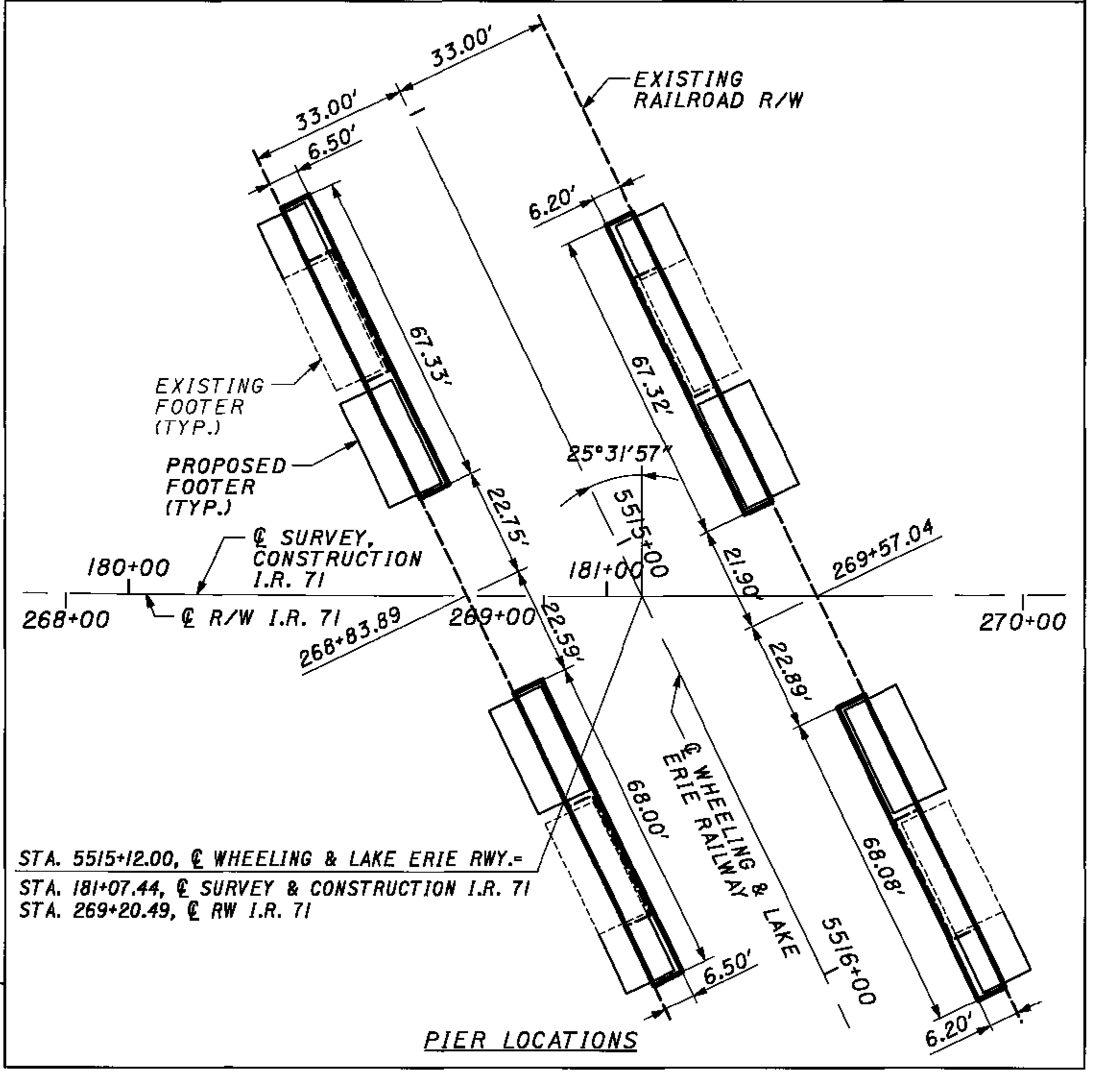
PARCEL NUMBER	EASEMENT REQUIRED	TOTAL AREA (AC.)	AREA OF OVERLAP			
			AERIAL	SLOPE	FOOTER	TEMP.
32-A	AERIAL	0.3190	--	0.1222	0.0394	0.3190
32-1	HIGHWAY	0.0100	0.0100	0.0100	--	0.0100
32-2	HIGHWAY	0.0101	0.0101	0.0101	--	0.0101
32-3	HIGHWAY	0.0096	0.0096	0.0096	--	0.0096
32-4	HIGHWAY	0.0097	0.0097	0.0097	--	0.0097
32-T	TEMPORARY	0.5542	0.3190	0.2035	0.0394	--

PERMANENT EASEMENTS FOR PIER FOOTERS

PARCEL	POINTS	R/W STA.	OFFSET	COURSE	BEARING	DIST.
32-1	P3	268+74.01	20.50′ LT	P3-P4	N50°22′08″W	67.33′
	P4	268+44.57	81.10′ LT	P4-P5	N39°37′52″E	6.50′
	P5	268+50.45	83.94′ LT	P5-P6	S50°22′08″E	67.33′
	P6	268+79.88	23.32′ LT	P6-P3	S39°37′52″W	6.50′
32-2	P7	268+93.67	20.36 RT	P7-P8	N39°37′52″E	6.50′
	P8	268+99.52	17.54′ RT	P8-P9	S50°22′08″E	68.00′
	P9	269+28.75	78.89′ RT	P9-P10	S39°37′52″W	6.50′
	P10	269+22.92	81.69′ RT	P10-P7	N50°22′08″W	68.00′
32-3	P12	269+47.64	19.79′ LT	P12-P13	S39°37′52″W	6.20′
	P13	269+42.03	17.13′ LT	P13-P14	N50°22′08″W	67.32′
	P14	269+12.94	77.89′ RT	P14-P15	N39°37′52″E	6.20′
	P15	269+18.57	80.57′ RT	P15-P12	S50°22′08″E	67.32′
32-4	P16	269+66.83	20.69′ RT	P16-P17	S50°22′08″E	68.08′
	P17	269+95.75	82.27′ RT	P17-P18	S39°37′52″W	6.20′
	P18	269+90.17	84.91′ RT	P18-P19	N50°22′08″W	68.08′
	P19	269+61.23	23.34′ RT	P19-P16	N39°37′52″E	6.20′

NOTE: RIGHT OF WAY TO BE OBTAINED FOR PIER FOOTERS IS THE OVERALL WIDTH OF FOOTER PLUS ONE FOOT ON ALL SIDES.

RAILWAY STATIONING OBTAINED FROM THE VALUATION MAP FOR THE WHEELING & LAKE ERIE RAILWAY COMPANY V8/100.



PIER LOCATIONS

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		OCT. 8, 2003

SCALE IN FEET 0 10 20 40

PID NO. 14017

R/W DESIGNER LAM

R/W REVIEWER MAH

RAILROAD PLAT
BRIDGE NO. MED-71-0342 L/R
OVER WHEELING & LAKE ERIE RAILWAY COMPANY

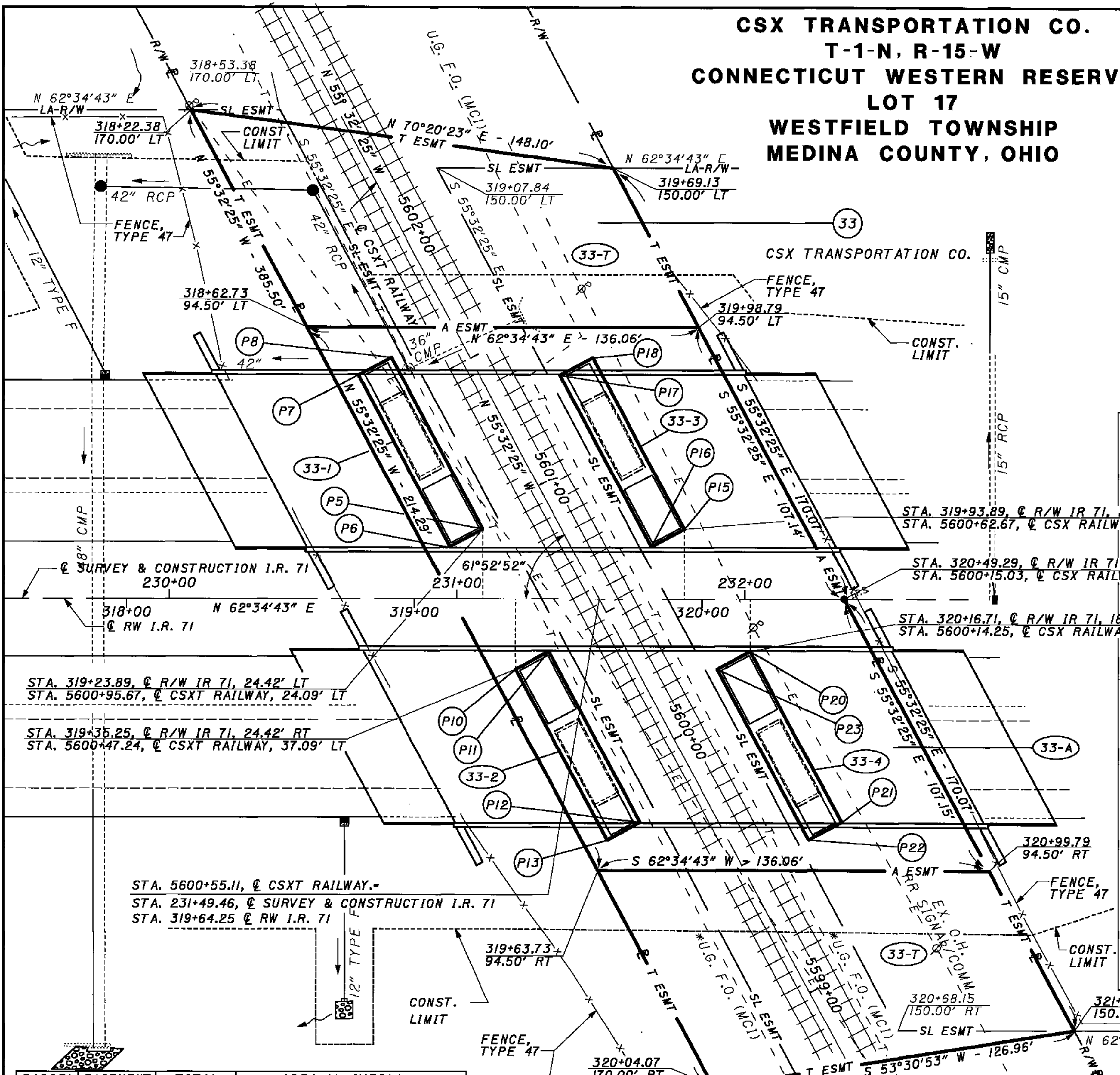
WAY/MED-71-7.04/0.00

34/35

784/785

B:\P403B954\C02\14017RPLAT02.DGN

CSX TRANSPORTATION CO.
T-1-N, R-15-W
CONNECTICUT WESTERN RESERVE
LOT 17
WESTFIELD TOWNSHIP
MEDINA COUNTY, OHIO



PARCEL NUMBER	EASEMENT REQUIRED	TOTAL AREA (AC.)	AREA OF OVERLAP			
			AERIAL	SLOPE	FOOTER	TEMP.
33-A	AERIAL	0.5903	--	0.4004	0.0868	0.5903
33-1	HIGHWAY	0.0217	0.0217	0.0217	--	0.0217
33-2	HIGHWAY	0.0217	0.0217	0.0217	--	0.0217
33-3	HIGHWAY	0.0217	0.0217	0.0217	--	0.0217
33-4	HIGHWAY	0.0217	0.0217	0.0217	--	0.0217
33-T	TEMPORARY	0.9995	0.5903	0.6609	0.0868	--

UTILITIES WITHIN THE CSXT RAILROAD R/W BY
EASEMENT AND RIGHT-OF-WAY OCCUPANCY AGREEMENTS

SOUTH SIDE	MEDINA CO. REC.
MCI (OR PREDECESSORS)	O.R. 525, PG. 669
NORTH SIDE	MEDINA CO. REC.
MCI (OR PREDECESSORS)	O.R. 769, PG.725

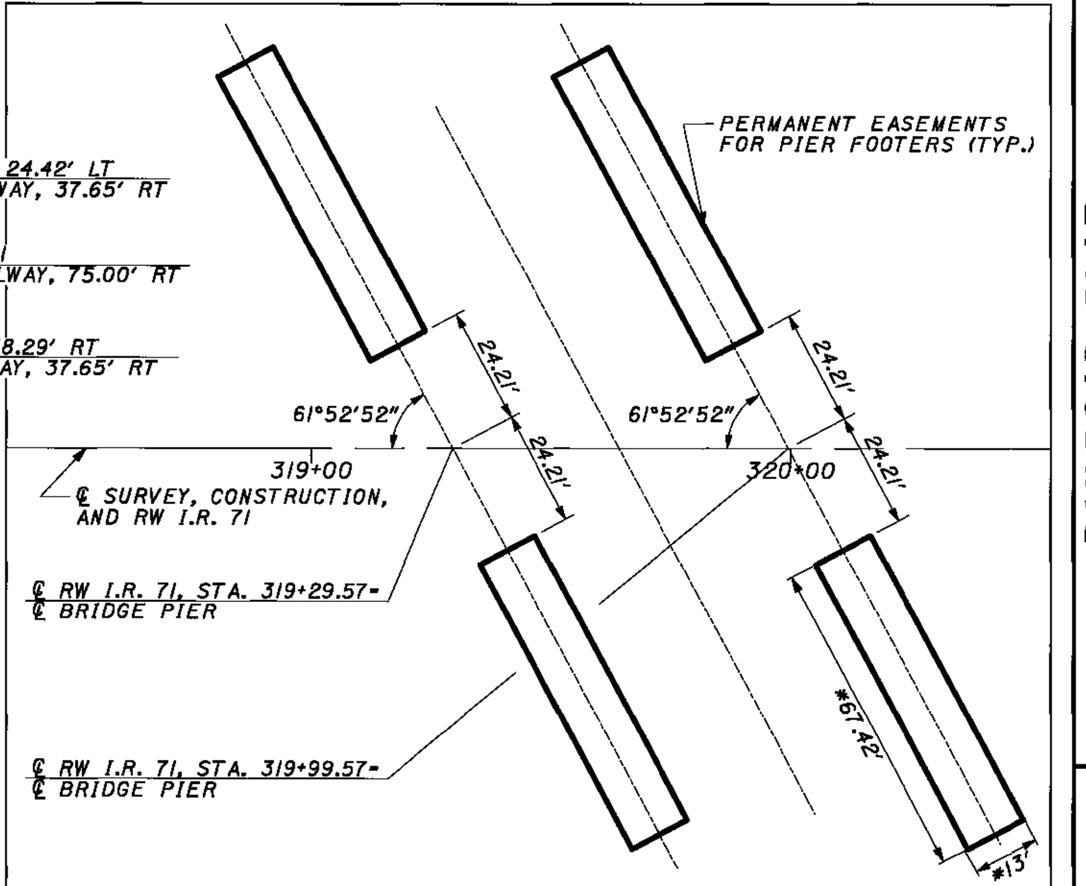
* TO BE RELOCATED AS REQUIRED BY OTHERS

PERMANENT EASEMENTS FOR PIER FOOTERS

PARCEL	POINTS	R/W STA.	OFFSET	COURSE	BEARING	DIST.
33-1	P5	319+23.89	24.42' LT	P5-P6	S34°27'35"W	13.00'
	P6	319+12.43	18.29' LT	P6-P7	N55°32'25"W	67.42'
	P7	318+80.65	77.75' LT	P7-P8	N34°27'35"E	13.00'
	P8	318+92.12	83.88' LT	P8-P5	S55°32'25"E	67.42'
33-2	P10	319+35.25	24.42' RT	P10-P11	N34°27'35"E	13.00'
	P11	319+46.71	18.29' RT	P11-P12	S55°32'25"E	67.42'
	P12	319+78.49	77.75' RT	P12-P13	S34°27'35"W	13.00'
	P13	319+67.02	83.88' RT	P13-P10	N55°32'25"W	67.42'
33-3	P15	319+93.89	24.42' LT	P15-P16	S34°27'35"W	13.00'
	P16	319+82.43	18.29' LT	P16-P17	N55°32'25"W	67.42'
	P17	319+50.65	77.75' LT	P17-P18	N34°27'35"E	13.00'
	P18	319+62.12	83.88' LT	P18-P15	S55°32'25"E	67.42'
33-4	P20	320+16.71	18.29' RT	P20-P21	S55°32'25"E	67.42'
	P21	320+48.49	77.75' RT	P21-P22	S34°27'35"W	13.00'
	P22	320+37.02	83.88' RT	P22-P23	N55°32'25"W	67.42'
	P23	320+05.25	24.42' RT	P23-P20	N34°27'35"E	13.00'

NOTE: RIGHT OF WAY TO BE OBTAINED FOR PIER FOOTERS IS THE OVERALL WIDTH OF FOOTER PLUS ONE FOOT ON ALL SIDES.

RAILWAY STATIONING OBTAINED FROM THE VALUATION MAP FOR THE CSX TRANSPORTATION CO. V07503.


PERMANENT EASEMENTS FOR PIER FOOTERS (TYP.)
24.21'
24.21'
61°52'52"
61°52'52"
24.21'
24.21'
319+00
320+00
℄ SURVEY, CONSTRUCTION, AND RW I.R. 71
℄ RW I.R. 71, STA. 319+29.57-
℄ BRIDGE PIER
*67.42'
℄ RW I.R. 71, STA. 319+99.57-
℄ BRIDGE PIER
*13'

PIER LOCATIONS

*DIMENSIONS TYPICAL FOR ALL PIER FOOTER EASEMENTS

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		OCT 8, 2003

SCALE IN FEET 0 10 20 40

PID NO. 14017

R/W DESIGNER LAM
R/W REVIEWER MAH

RAILROAD PLAT
BRIDGE NO. MED-71-0437 L/R
OVER CSX TRANSPORTATION CO.

WAY/MED-71-7.04/0.00

SPECIAL PROVISIONS

WATERWAY PERMITS
FOR
CRS: MED-71-7.04, PID: 14017

U.S. ARMY CORPS OF ENGINEERS
PERMIT NUMBER: 3 & 14

OHIO EPA
PERMIT NUMBER: NA

EFFECTIVE DATE: August 8, 2003

NATIONWIDE PERMIT #3 - MAINTENANCE
and
NATIONWIDE PERMIT #14 - LINEAR TRANSPORTATION PROJECTS

NATIONWIDE PERMIT #3 - MAINTENANCE

Activities related to:
(i) The repair, rehabilitation, or replacement of any previously authorized, currently serviceable, structure or fill, or of any currently serviceable structure or fill authorized by 33 CFR 330.3, provided that the structure or fill is not to be put to uses differing from those uses specified or contemplated for it in the original permit or the most recently authorized modification. Minor deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, or current construction codes or safety standards which are necessary to make repair, rehabilitation, or replacement, are permitted, provided the adverse environmental effects resulting from such repair, rehabilitation, or replacement are minimal. Currently serviceable means useable as is or with some maintenance, but not so degraded as to essentially require reconstruction. This NWP authorizes the repair, rehabilitation, or replacement of those structures or fills destroyed by storms, floods, fire or other discrete events, provided the repair, rehabilitation, or replacement is commenced, or under contract to commence, within two years of the date of their destruction or damage. In cases of catastrophic events, such as hurricanes or tornadoes, this two-year limit may be waived by the District Engineer, provided the permittee can demonstrate funding, contract, or other similar delays.

(ii) Discharges of dredged or fill material, including excavation, into all waters of the United States to remove accumulated sediments and debris in the vicinity of, and within, existing structures (e.g., bridges, culverted road crossings, water intake structures, etc.) and the placement of new or additional rip rap to protect the structure, provided the permittee notifies the District Engineer in accordance with General Condition 13. The removal of sediment is limited to the minimum necessary to restore the waterway in the immediate vicinity of the structure to the approximate dimensions that existed when the structure was built, but cannot extend further than 200 feet in any direction from the structure. The placement of rip rap must be the minimum necessary to protect the structure or to ensure the safety of the structure. All excavated materials must be deposited and retained in an upland area unless otherwise specifically approved by the District Engineer under separate authorization. Any bank stabilization measures not directly associated with the structure will require a separate authorization from the District Engineer.

(iii) Discharges of dredged or fill material, including excavation, into all waters of the United States for activities associated with the restoration of upland areas damaged by a storm, flood, or other discrete event, including the construction, placement, or installation of upland protection structures and minor dredging to remove obstructions in water of the US. (Uplands lost as a result of a storm, flood, or other discrete event can be replaced without a Section 404 permit provided the uplands are restored to their original pre-event location. This NWP is for the activities in waters of the US associated with the replacements of the uplands.) The permittee must notify the District Engineer, in accordance with General Condition 13, within 12 months of the date of the damage and the work must commence, or be under contract to commence, within two years of the date of the damage. The permittee should provide evidence, such as a recent topographic survey or photographs, to justify the extent of the proposed restoration. The restoration of the damaged areas cannot exceed the contours, or ordinary high water mark, that existed before the damage. The District Engineer retains the right to determine the extent of the pre-existing conditions and the extent of any restoration work authorized by this permit. Minor dredging to remove obstructions from the adjacent waterbody is limited to 50 cubic yards below the plane of the ordinary high water mark, and is limited to the amount necessary to restore the pre-existing bottom contours of the waterbody. The dredging may not be done primarily to obtain fill for any restoration activities. The discharge of dredged or fill material and all related work needed to restore the upland must be part of a single and complete project. This permit cannot be used in conjunction with NWP 18 or NWP 19 to restore damaged upland areas. This permit cannot be used to reclaim historic lands lost, over an extended period, to normal erosion processes.

This permit does not authorize maintenance dredging for the primary purpose of navigation and beach restoration. This permit does not authorize new stream channelization or stream relocation projects. Any work authorized by this permit must not cause more than minimal degradation of water quality, more than minimal changes to the flow characteristics of the stream, or increase flooding (See General Conditions 9 and 21).

Note: This NWP authorizes the repair, rehabilitation, or replacement of any previously authorized structure of fill that does not qualify for the Section 404(f) exemption for maintenance.

Nationwide 3 Specific Regional Conditions

i. Notification required prior to the use of vertical sheet piling and closed structures in the special habitat waters of Lake Erie (See General Conditions, Critical Resource waters (1)).

ii. The Pre-Construction Notification (PCN) for activities involving the removal of accumulated sediments and debris in the vicinity of existing structures, to restore the waterway to the approximate dimensions that existed when the structure was built, must include evidence of such dimensions. If this information is not available, the PCN must include evidence of the existing depths immediately outside the proposed work area.

WATER QUALITY CERTIFICATION

Pursuant to Section 401 of the Clean Water Act, the Ohio Environmental Protection Agency hereby certifies that activities authorized by these Permits, undertaken in accordance with all of the special and general conditions listed below, will comply with the applicable provisions of the Clean Water Act and applicable Ohio water quality standards. Those NWPs with no special Water Quality Certification (WQC) conditions remain subject to general WQC conditions unless otherwise

indicated (Reference 1 below).

Water Quality Certification – Special Conditions:

The Ohio State Certification General Limitations and Conditions apply to this nationwide permit.

Ohio State Water Quality Certification Special Conditions and Limitations:

1. Total surface water and vegetation impacts on either side of the replacement structure shall be limited to the greater of 25 feet beyond the structure, or 25 feet beyond the toe of the slope of the structure's approach embankment. [Where the use of a crane is necessary to conduct a maintenance activity, total impacts shall not exceed 50 feet on either side of the structure or approach embankment]. In either case, total impacts, including the structure, shall not exceed 200 feet [except for stabilization projects]. Width shall be measured at the structure's narrowest point as it crosses the waterbody, and be measured parallel to stream flow.

2. Culvert replacement:

a. This Certification shall only authorize minor deviations from the existing structure's centerline and minor deviations in culvert dimensions, unless these deviations are necessary to follow current safety standards.

3. Bridge Replacement:

a. This Certification shall only authorize minor deviations from the existing structure's centerline, unless these deviations are necessary to follow current safety standards.

b. Bridge replacements shall not result in additional lanes unless necessary to follow current safety standards.

4. Maintenance or repair of existing fills (stabilization projects):

a. Impacts from maintenance or repair of existing fills shall not exceed the dimensions of the fill prior to the damage; and

b. This nationwide shall not authorize the replacement of existing structures that are open to the flow of water with structures that are not open to the flow of water.

5. For replacement vertical bulkheads, the following conditions apply:

a. For ship channels and harbors adjacent to federal navigation channels within the following harbors: Sandusky Harbor, Huron Harbor, Vermilion Harbor, Lorain Harbor, Conneaut Harbor, Port Clinton Harbor, Rocky River Harbor, Cleveland Harbor, Fairport Harbor, Ashtabula Harbor, and Toledo Harbor, 1,000 feet of existing vertical bulkheads may be replaced if recessed areas for aquatic habitat, or other aquatic habitat improvements, are incorporated within the design and construction of the replacement vertical bulkhead;

b. For all other areas, except Lake Erie, Lake Erie Islands, or Sandusky Bay, up to 1,000 feet of existing vertical bulkheads may be replaced. Toe stone shall be placed at the base of these replacement vertical bulkheads except in areas where the shoreline is composed of bedrock and slopes are predominately greater than 75 percent;

c. Replacement vertical bulkheads are not to be placed more than one foot waterward of the intersection of the ordinary high water level of the waterbody and the existing shoreline;

d. Minor dredging necessary for the installation of the replacement vertical bulkhead is authorized;

e. Placement of fill between the replacement vertical bulkhead and existing shoreline is authorized; and

f. Toe stone shall be placed at the base of these replacement vertical bulkheads except in areas where the original shoreline is composed of bedrock and slopes are predominately greater than 75 percent or where the placement of toe stone would interfere with shipping activity. When required, toe stone shall be placed at an average rate of one-third the total height of the replacement vertical bulkhead at a 2:1 slope.

6. Removal of accumulated sediment:

a. Removal of accumulated sediment shall occur only once per year, except in cases of emergency situations which threaten life of property.

B. Removal of accumulated sediments shall be limited to low-flow conditions whenever practicable, except in cases of emergency situations which threaten life or property.

NATIONWIDE PERMIT #14 - LINEAR TRANSPORTATION PROJECTS

Activities required for the construction, expansion, modification, or improvement of linear transportation crossings (e.g., highways, railways, trails, airport runways, and taxiways) in waters of the US, including wetlands, if the activity meets the following criteria:

a. This NWP is subject to the following acreage limits:
    (1) For linear transportation projects in non-tidal waters, provided the discharge does not cause the loss of greater than 1/2-acre of waters of the US; or
    (2) For linear transportation projects in tidal waters, provided the discharge does not cause the loss of greater than 1/3-acre of waters of the US.
b. The permittee must notify the District Engineer in accordance with General Condition 13 if any of the following criteria are met:
    (1) The discharge causes the loss of greater than 1/10-acre of waters of the US; or
    (2) There is a discharge in a special aquatic site, including wetlands;
c. The notification must include a compensatory mitigation proposal to offset permanent losses of waters of the US to ensure that those losses result only in minimal adverse effects to the aquatic environment and a statement describing how temporary losses will be minimized to the maximum extent practicable;
d. For discharges in special aquatic sites, including wetlands, and stream riffle and pool complexes, the notification must include a delineation of the affected special aquatic sites;
e. The width of the fill is limited to the minimum necessary for the crossing;
f. This permit does not authorize stream channelization, and the authorized activities must not cause more than minimal changes to the hydraulic flow characteristics of the stream, increase flooding, or cause morethan minimal degradation of water quality of any stream (see General Conditions 9 and 21);
g. This permit cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars; and
h. The crossing is a single and complete project for crossing waters of the US. Where a road segment (i.e., the shortest segment of a road with independent utility that is part of a larger project) has multiple crossings of streams (several single and complete projects) the Corps will consider whether it should use its discretionary authority to require an Individual Permit. **(Sections 10 and 404)**

Note: Some discharges for the construction of farm roads, forest roads, or temporary roads for moving mining equipment may be eligible for an exemption from the need for a Section 404 permit (see 33 CFR 323.4).

Nationwide 14 Specific Regional Conditions:

i. Notification is required for activities in Section 10 waters.

ii. Notification is required for all perennial and intermittent stream impacts greater than 200 feet and all ephemeral stream impacts greater than 300 feet.

WATER QUALITY CERTIFICATION

Pursuant to Section 401 of the Clean Water Act, the Ohio Environmental Protection Agency hereby certifies that activities authorized by these Permits, undertaken in accordance with all of the special and general conditions listed below, will comply with the applicable provisions of the Clean Water Act and applicable Ohio water quality standards. Those NWPs with no special Water Quality Certification (WQC) conditions remain subject to general WQC conditions unless otherwise indicated (Reference 1 below).

Water Quality Certification – Special Conditions:

The Ohio State Certification General Limitations and Conditions apply to this nationwide permit.

Ohio State Certification Special Conditions and Limitations:

1) Total surface water and vegetation impacts on either side of the structure shall be limited to the greater of 25 feet beyond the structure, or 25 feet beyond the toe of the slope of the structure's approach embankment. [Where the use of a crane is necessary to construct a linear transportation project, total width of the impacts

shall not exceed 50 feet on either side of the structure or approach embankment]. In either case, total impacts, including the structure, shall not exceed 200 feet. Width shall be measured at the structure's narrowest point as it crosses the waterbody, and be measured parallel to stream flow.

2) Stream crossings shall not exceed a total of three (3) per stream mile per stream.

3) Culverts [except for ephemeral streams]

   a) At least the lower 10% of all culvert bottoms shall be buried below the existing stream grade. Hydraulic design shall be based upon the remaining open portion of the culvert.

   b) Additional flood plain culverts shall be installed where the flood prone area is greater than twice the width of the stream at Ordinary High Water Mark (OHWM).

NATIONWIDE PERMIT CONDITIONS

GENERAL CONDITIONS:
The following general conditions must be followed in order for any authorization by a NWP to be valid:

1. Navigation. No activity may cause more than a minimal adverse effect on navigation.

2. Proper Maintenance. Any structure or fill authorized shall be properly maintained, including maintenance to ensure public safety.

3. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

4. Aquatic Life Movements. No activity may substantially disrupt the necessary life-cycle movements of those species of aquatic life indigenous to the waterbody, including those species which normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts placed in streams must be installed to maintain low flow conditions.

5. Equipment. Heavy equipment working in wetlands must be placed on mats, or other measures must be taken to minimize soil disturbance.

6. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions which may have been added by the division engineer (see 33 CFR 330.4(e) and with any case specific conditions added by the Corps or by the State or tribe in its section 401 Water Quality Certification and Coastal Zone management Act consistency determination.

7. Wild and Scenic Rivers. No activity may occur in a component of the National Wild and Scenic River System; or in a river officially designated by Congress as a "study river" for possible inclusion in the system, while the river is in an official study status; unless the appropriate Federal agency, with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation, or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency in the area (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

8. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

9. Water Quality.

(a) In certain States and tribal lands an individual Section 401 water quality certification must be obtained or waived (see 33 CFR 330.4(c)).

(b) For NWPs 12, 14, 17, 18, 32, 39, 40, 42, 43, and 44, where the State or tribal 401 certification (either generically or individually) does not require or approve water quality management measures, the permittee must provide water quality management measures that will ensure that the authorized work does not result in more than minimal degradation of water quality (or the Corps determines that compliance with state or local standards, where applicable, will ensure no more than minimal adverse effect on water quality). An important component of water quality management includes stormwater management that minimizes degradation of the downstream aquatic system, including water quality (refer to General Condition 21 for stormwater management requirements). Another important component of water quality management is the establishment and maintenance of vegetated buffers next to open waters, including streams (refer to General Condition 19 for vegetated buffer requirements for the NWPs). This condition is only applicable to projects that have the potential to affect water quality. While appropriate measures must be taken, in most cases it is not necessary to conduct detailed studies to identify such measures or to require monitoring.

10. Coastal Zone Management. In certain states, an individual state coastal zone management consistency concurrence must be obtained or waived (see Section 330.4(d)).

11. Endangered Species.

(a) No activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which is likely to destroy or adversely modify the critical habitat of such species. Non-federal permittees shall notify the District Engineer if any listed species or critical habitat might be affected or is in the vicinity of the project, or is located in the designated critical habitat and shall not begin work on the activity until notified by the District Engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that may affect Federally-listed endangered or threatened species or designated critical habitat, the notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. As a result of formal or informal consultation with the FWS or NMFS, the District Engineer may add species-specific regional endangered species conditions to the NWPs.

(b) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the USFWS or the National Marine Fisheries Service (NMFS), both lethal and non-lethal "takes" of protected species are in violation of the ESA. Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the USFWS and NMFS or their World Wide Web pages at http://www.fws.gov/r9endspp/endspp.html and http://www nmfs.noaa.gov/prot_res/overview/es.html, respectively.

12. Historic properties. No activity which may affect historic properties listed, or eligible for listing, in the National Register of Historic Places is authorized, until the District Engineer has complied with the provisions of 33 CFR Part 325, Appendix C. The prospective permittee must notify the District Engineer if the authorized activity may affect any historic properties listed, determined to be eligible, or which the prospective permittee has reason to believe may be eligible for listing on the National Register of Historic Places, and shall not begin the activity until notified by the District Engineer that the requirements of the National Historic Preservation Act have been satisfied and that the activity is authorized. Information on the location and existence of historic resources can be obtained from the State Historic Preservation Office and the National Register of Historic Places (see 33 CFR 330.4(g)). For activities that may affect historic properties listed in, or eligible for listing in, the National Register of Historic Places, the notification must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property.

13. Notification.

(a) Timing: where required by the terms of the NWP, the prospective permittee must notify the District Engineer with a preconstruction notification (PCN) as early as possible. The District Engineer must determine if the PCN is complete within 30 days of the date of receipt and can request the additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the District Engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the District Engineer. The prospective permittee shall not begin the activity:

(1) Until notified in writing by the District Engineer that the activity may proceed under the NWP with any special conditions imposed by the District or Division Engineer; or
(2) If notified in writing by the District or Division Engineer that an individual

permit is required; or
(3) Unless 45 days have passed from the District Engineer's receipt of the complete notification and the prospective permittee has not received written notice from the District or Division Engineer. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Notification: The notification must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;
(2) Location of the proposed project;
(3) Brief description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWP(s), Regional General Permit(s), or Individual Permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP (Sketches usually clarify the project and when provided result in a quicker decision.);
(4) For NWPs 7, 12, 14, 18, 21, 34, 38, 39, 40, 41, 42, and 43, the PCN must also include a delineation of affected special aquatic sites, including wetlands, vegetated shallows (e.g., submerged aquatic vegetation, seagrass beds), and riffle and pool complexes (see paragraph 13(f));
(5) For NWP 7 (Outfall Structures and Maintenance), the PCN must include information regarding the original design capacities and configurations of those areas of the facility where maintenance dredging or excavation is proposed.
(6) For NWP 14 (Linear Transportation Crossings), the PCN must include a compensatory mitigation proposal to offset permanent losses of waters of the US and a statement describing how temporary losses of waters of the US will be minimized to the maximum extent practicable;
(7) For NWP 21 (Surface Coal Mining Activities), the PCN must include an Office of Surface Mining (OSM) or state-approved mitigation plan, if applicable. To be authorized by this NWP, the District Engineer must determine that the activity complies with the terms and conditions of the NWP and that the adverse environmental effects are minimal both individually and cumulatively and must notify the project sponsor of this determination in writing;
(8) For NWP 27 (Stream and Wetland Restoration Activities), the PCN must include documentation of the prior condition of the site that will be reverted by the permittee.
(9) For NWP 29 (Single-Family Housing), the PCN must also include:
    (i) Any past use of this NWP by the individual permittee and/or the permittee's spouse;
    (ii) A statement that the single-family housing activity is for a personal residence of the permittee;
    (iii) A description of the entire parcel, including its size, and a delineation

of wetlands. For the purpose of this NWP, parcels of land measuring 1/4 acre or less will not require a formal on-site delineation. However, the applicant shall provide an indication of where the wetlands are and the amount of wetlands that exists on the property. For parcels greater than 1/4 acre in size, formal wetland delineation must be prepared in accordance with the current method required by the Corps. (See paragraph 13(f));

(iv) A written description of all land (including, if available, legal descriptions) owned by the prospective permittee and/or the prospective permittee's spouse, within a one mile radius of the parcel, in any form of ownership (including any land owned as a partner, corporation, joint tenant, co-tenant, or as a tenant-by-the-entirety) and any land on which a purchase and sale agreement or other contract for sale or purchase has been executed;

(10) For NWP 31 (Maintenance of Existing Flood Control Facilities), the prospective permittee must either notify the District Engineer with a PCN prior to each maintenance activity or submit a five year (or less) maintenance plan. In addition, the PCN must include all of the following:

(i) Sufficient baseline information identifying the approved channel depths and configurations and existing facilities. Minor deviations are authorized, provided that the approved flood control protection or drainage is not increased;

(ii) A delineation of any affected special aquatic sites, including wetlands; and,

(iii) Location of the dredged material disposal site;

(11) For NWP 33 (Temporary Construction, Access, and Dewatering), the PCN must also include a restoration plan of reasonable measures to avoid and minimize adverse effects to aquatic resources;

(12) For NWPs 39, 43, and 44, the PCN must also include a written statement to the District Engineer explaining how avoidance and minimization for losses of waters of the US were achieved on the project site;

(13) For NWP 39 and NWP 42, the PCN must include a compensatory mitigation proposal to offset losses of waters of the US or justification explaining why compensatory mitigation should not be required. For discharges that cause the loss of greater than 300 linear feet of an intermittent stream bed, to be authorized, the District Engineer must determine that the activity complies with the other terms and conditions of the NWP, determine adverse environmental effects are minimal both individually and cumulatively, and waive the limitation on stream impacts in writing before the permittee may proceed;

(14) For NWP 40 (Agricultural Activities), the PCN must include a compensatory mitigation proposal to offset losses of waters of the US. This NWP does not authorize the relocation of greater than 300 linear-feet of existing serviceable drainage ditches constructed in non-tidal streams unless, for drainage ditches constructed in intermittent non-tidal streams, the District Engineer, waives this criterion in writing, and the District Engineer has determined that the project

complies with all terms and conditions of this NWP, and that any adverse impacts of the project on the aquatic environment are minimal, both individually and cumulatively;

(15) For NWP 43 (Stormwater Management Facilities), the PCN must include, for the construction of new stormwater management facilities, a maintenance plan (in accordance with state and local requirements, if applicable) and a compensatory mitigation proposal to offset losses of waters of the US. For discharges that cause the loss of greater than 300 linear feet of an intermittent stream bed, to be authorized, the District Engineer must determine that the activity complies with the other terms and conditions of the NWP, determine adverse environmental effects are minimal both individually and cumulatively, and waive the limitation on stream impacts in writing before the permittee may proceed;

(16) For NWP 44 (Mining Activities), the PCN must include a description of all waters of the US adversely affected by the project, a description of measures taken to minimize adverse effects to waters of the US, a description of measures taken to comply with the criteria of the NWP, and a reclamation plan (for all aggregate mining activities in isolated waters and non-tidal wetlands adjacent to headwaters and any hard rock/mineral mining activities);

(17) For activities that may adversely affect Federally-listed endangered or threatened species, the PCN must include the name(s) of those endangered or threatened species that may be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work; and

(18) For activities that may affect historic properties listed in, or eligible for listing in, the National Register of Historic Places, the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property.

(c) Form of Notification: The standard Individual Permit application form (Form ENG 4345) may be used as the notification but must clearly indicate that it is a PCN and must include all of the information required in (b) (1)-(18) of General Condition 13. A letter containing the requisite information may also be used.

(d) District Engineer's Decision: In reviewing the PCN for the proposed activity, the District Engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. The prospective permittee may submit a proposed mitigation plan with the PCN to expedite the process. The District Engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. If the District Engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the District Engineer will notify the permittee and include any conditions the District Engineer deems necessary. The District Engineer must approve any compensatory mitigation proposal before the permittee commences work. If the prospective permittee is required to submit a compensatory mitigation proposal with the PCN, the proposal may be either conceptual or detailed. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the District Engineer will expeditiously review the proposed mitigation plan. The District Engineer must review the plan within 45 days of receiving a complete PCN and determine whether the conceptual or specific proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the District Engineer to be minimal, the District Engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP. If the District Engineer determines that the adverse effects of the proposed work are more than minimal, then the District Engineer will notify the applicant either:

(1) That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an Individual Permit;
(2) that the project is authorized under the NWP subject to the applicant's submission of a mitigation proposal that would reduce the adverse effects on the aquatic environment to the minimal level; or
(3) that the project is authorized under the NWP with specific modifications or conditions.

Where the District Engineer determines that mitigation is required in order to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period. The authorization will include the necessary conceptual or specific mitigation or a requirement that the applicant submit a mitigation proposal that would reduce the adverse effects on the aquatic environment to the minimal level. When conceptual mitigation is included, or a mitgation plan is required under item (2) above, no work in waters of the US will occur until the District Engineer has approved a specific mitigation plan.

(e) Agency Coordination: The District Engineer will consider any comments from Federal and State agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level. For activities requiring notification to the District Engineer that result in the loss of greater than ½ acre of waters of the US, the District Engineer will provide immediately (e.g., via facsimile transmission, overnight mail, or other expeditious manner) a copy to the appropriate Federal or state offices (USFWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will then have 10 calendar days from the date the material is transmitted to telephone or fax the District Engineer notice that they intend to provide substantive, site-specific comments. If so contacted by an agency, the District Engineer will wait an additional 15 calendar days before making a decision on the notification. The District Engineer will fully consider agency comments received within the specified time frame, but will provide no response to the resource agency, except as provided below. The District Engineer will indicate in the administrative record associated with each notification that the resource agencies' concerns were considered. As required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act, the District Engineer will provide a response to NMFS within 30 days of receipt of any Essential Fish Habitat conservation recommendations. Applicants are encouraged to provide the Corps multiple copies of notifications to expedite agency notification.

(f) Wetland Delineations: Wetland Delineations must be prepared in accordance with the current method required by the Corps (For NWP 29 see paragraph (b)(9)(iii) for parcels less than 1/4-acre in size). The permittee may ask the Corps to delineate the special aquatic site. There may be some delay if the Corps does the delineation. Furthermore, the 45-day period will not start until the wetland delineation has been completed and submitted to the Corps, where appropriate.

14. Compliance Certification. Every permittee who has received NWP verification from the Corps will submit a signed certification regarding the completed work and any required mitigation. The certification will be forwarded by the Corps with the authorization letter and will include:

(a) A statement that the authorized work was done in accordance with the Corps authorization, including any general or specific conditions;
(b) A statement that any required mitigation was completed in accordance with the permit conditions; and
(c) The signature of the permittee certifying the completion of the work and mitigation .

15. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the US authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit (e.g. if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the US for the total project cannot exceed 1/3-acre).

16. Water Supply Intakes. No activity, including structures and work in navigable waters of the US or discharges of dredged or fill material, may occur in the proximity of a public water supply intake except where the activity is for repair of the public water supply intake structures or adjacent bank stabilization.

17. Shellfish Beds. No activity, including structures and work in navigable waters of the US or discharges of dredged or fill material, may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWP 4.

18. Suitable Material. No activity, including structures and work in navigable waters of the US discharges of dredged or fill material, may consist of unsuitable material (e.g. trash, debris, car bodies, asphalt, etc.) and material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the CWA).

19. Mitigation. The District Engineer will consider the factors discussed below when determining the acceptability of appropriate and practicable mitigation necessary to offset adverse affects on the aquatic environment that are more than minimal.

(a) The project must be designed and constructed to avoid and minimize adverse effects to waters of the US to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland impacts requiring a PCN, unless the District Engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a project-specific waiver of this requirement. Consistent with National policy, the District Engineer will establish a preference for restoration of wetlands as compensatory mitigation, with preservation used only in exceptional circumstances.

(d) Compensatory mitigation (i.e., replacement or substitution of aquatic resources for those impacted) will not be used to increase the acreage losses allowed by the acreage limits of some of the NWPs. For example, 1/4-acre of wetlands cannot be created to change a 3/4-acre loss of wetlands to a ½-acre loss associated with NWP 39 verification. However, ½-acre of created wetlands can be used to reduce the impacts of a ½-acre loss of wetlands to the minimum impact level in order to meet the minimal impact requirement associated with NWPs.

(e) To be practicable, the mitigation must be available and capable of being done considering costs, existing technology, and logistics in light of the overall project purposes. Examples of mitigation that may be appropriate and practicable include, but are not limited to: reducing the size of the project; establishing and maintaining wetland or upland vegetated buffers to protect open waters such as streams; and replacing losses of aquatic resource functions and values by creating, restoring, enhancing, or preserving similar functions and values, preferably in the same watershed;

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the establishment, maintenance, and legal protection (e.g., easements, deed restrictions) of vegetated buffers to open waters. In many cases, vegetated buffers will be the only compensatory mitigation required. Vegetated buffers should consist of native species. The width of the vegetated buffers required will address documented water quality or aquatic habitat loss concerns. Normally, the vegetated buffer will be 25 to 50 feet wide on each side of the stream, but the District Engineer may require slightly wider vegetated buffers to address documented water quality or habitat loss concerns. Where both wetlands and open waters exist on the project site, the Corps will determine the appropriate compensatory mitigation (e.g., stream buffers or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where vegetated buffers are determined to be the most appropriate form of compensatory mitigation, the District Engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland impacts.

(g) Compensatory mitigation proposals submitted with the "notification" may be either conceptual or detailed. If conceptual plans are approved under the verification, then the Corps will condition the verification to require detailed plans be submitted and approved by the Corps prior to construction of the authorized activity in waters of the US.

(h) Permittees may propose the use of mitigation banks, in-lieu fee arrangements or separate activity-specific compensatory mitigation. In all cases that require compensatory mitigation, the mitigation provisions will specify the party responsible for accomplishing and/or complying with the mitigation plan.

20. Spawning Areas. Activities, including structures and work in navigable waters of the US or discharges of dredged or fill material, in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., excavate, fill, or smother downstream by substantial turbidity) of an important spawning area are not authorized.

21. Management of Water Flows. To the maximum extent practicable, the activity must be designed to maintain preconstruction downstream flow conditions (e.g., location, capacity, and flow rates). Furthermore, the activity must not permanently restrict or impede the passage of normal or expected high flows (unless the primary purpose of the fill is to impound waters) and the structure or discharge of dredged or fill material must withstand expected high flows. The activity must, to the maximum extent practicable, provide for retaining excess flows from the site, provide for maintaining surface flow rates from the site similar to preconstruction conditions, and provide for not increasing water flows from the project site, relocating water, or redirecting water flow beyond preconstruction conditions. Stream channelizing will be reduced to the minimal amount necessary, and the activity must, to the maximum extent practicable, reduce adverse effects such as flooding or erosion downstream and upstream of the project site, unless the activity is part of a larger system designed to manage water flows. In most cases, it will not be a requirement to conduct detailed studies and monitoring of water flow. This condition is only applicable to projects that have the potential to affect waterflows. While appropriate measures must be taken, it is not necessary to conduct detailed studies to identify such measures or require monitoring to ensure their effectiveness. Normally, the Corps will defer to state and local authorities regarding management of water flow.

22. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to the acceleration of the passage of water, and/or the restricting its flow shall be minimized to the maximum extent practicable. This includes structures and work in navigable waters of the US, or discharges of dredged or fill material.

23. Waterfowl Breeding Areas. Activities, including structures and work in navigable waters of the US or discharges of dredged or fill material, into breeding areas for migratory waterfowl must be avoided to the maximum extent practicable.

24. Removal of Temporary Fills. Any temporary fills must be removed in their entirety and the affected areas returned to their preexisting elevation.

25. Designated Critical Resource Waters. Critical resource waters include, NOAA-designated marine sanctuaries, National Estuarine Research Reserves, National Wild and Scenic Rivers, critical habitat for Federally listed threatened and endangered species, coral reefs, state natural heritage sites, and outstanding national resource waters or other waters officially designated by a state as having particular environmental or ecological significance and identified by the District

Engineer after notice and opportunity for public comment. The District Engineer may also designate additional critical resource waters after notice and opportunity for comment.

(a) Except as noted below, discharges of dredged or fill material into waters of the US are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, and 44 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters. Discharges of dredged or fill materials into waters of the US may be authorized by the above NWPs in National Wild and Scenic Rivers if the activity complies with General Condition 7. Further, such discharges may be authorized in designated critical habitat for Federally listed threatened or endangered species if the activity complies with General Condition 11 and the USFWS or the NMFS has concurred in a determination of compliance with this condition.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with General Condition 13, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The District Engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

26. Fills Within 100-Year Floodplains. For purposes of this General Condition, 100-year floodplains will be identified through the existing Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps or FEMA-approved local floodplain maps.

(a) Discharges in Floodplain; Below Headwaters. Discharges of dredged or fill material into waters of the US within the mapped 100-year floodplain, below headwaters (i.e., five cfs), resulting in permanent above-grade fills, are not authorized by NWPs 39, 40, 42, 43, and 44.

(b) Discharges in Floodway; Above Headwaters. Discharges of dredged or fill material into waters of the US within the FEMA or locally mapped floodway, resulting in permanent above-grade fills, are not authorized by NWPs 39, 40, 42, and 44.

(c) The permittee must comply with any applicable FEMA-approved state or local floodplain management requirements.

27. Construction Period. For activities that have not been verified by the Corps and the project was commenced or under contract to commence by the expiration date of the NWP (or modification or revocation date), the work must be completed within 12-months after such date (including any modification that affects the project). For activities that have been verified and the project was commenced or under contract to commence within the verification period, the work must be completed by the date determined by the Corps. For projects that have been verified by the Corps, an extension of a Corps approved completion date may be requested. This request must be submitted at least one month before the previously approved completion date.

FURTHER INFORMATION

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other Federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project.

DEFINITIONS

Best Management Practices (BMPs): BMPs are policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural. A BMP policy may affect the limits on a development.

Compensatory Mitigation: For purposes of Section 10/404, compensatory mitigation is the restoration, creation, enhancement, or in exceptional circumstances, preservation of wetlands and/or other aquatic resources for the purpose of compensating for unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Creation: The establishment of a wetland or other aquatic resource where one did not formerly exist.

Enhancement: Activities conducted in existing wetlands or other aquatic resources that increase one or more aquatic functions.

Ephemeral Stream: An ephemeral stream has flowing water only during and for a short duration after, precipitation events in a typical year. Ephemeral streambeds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Farm Tract: A unit of contiguous land under one ownership that is operated as a farm or part of a farm.

Flood Fringe: That portion of the 100-year floodplain outside of the floodway (often referred to as "floodway fringe").

Floodway: The area regulated by Federal, state, or local requirements to provide for the discharge of the base flood so the cumulative increase in water surface elevation is no more than a designated amount (not to exceed one foot as set by the National Flood Insurance Program) within the 100-year floodplain.

Independent Utility: A test to determine what constitutes a single and complete project in the Corps regulatory program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Intermittent Stream: An intermittent stream has flowing water during certain times of the year, when groundwater provides water from stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

Loss of Waters of the US: Waters of the US that include the filled area and other waters that are permanently adversely affected by flooding, excavation, or drainage because of the regulated activity. Permanent adverse effects include permanent above-grade, at-grade, or below-grade fills that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the US is the threshold measurement of the impact to existing waters for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and values. The loss of stream bed includes the linear feet of stream bed that is filled or excavated. Impacts to ephemeral streams are not included in the linear foot measurement of loss of stream bed for the purpose of determining compliance with the linear foot limits of NWPs 39, 40, 42, and 43. Water of the US temporarily filled, flooded, excavated, or drained, but restored to preconstruction contours and elevations after construction, are not included in the measurement of loss of waters of the US.

Non-tidal Wetland: A non-tidal wetland is a wetland (i.e., a water of the US) that is not subject to the ebb and flow of tidal waters. The definition of a wetland can be found at 33 CFR 328.3(b). Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Open Water: An area that, during a year with normal patterns of precipitation, has standing or flowing water for sufficient duration to establish an ordinary high water mark. Aquatic vegetation within the area of standing or flowing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. The term "open water" includes rivers, streams, lakes, and ponds. For the purposes of the NWPs, this term does not include ephemeral waters.

Perennial Stream: A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

Permanent Above-grade Fill: A discharge of dredged or fill material into waters of the US, including wetlands, that results in a substantial increase in ground elevation and permanently converts part or all of the waterbody to dry land. Structural fills authorized by NWPs 3, 25, 36,

etc. are not included.

Preservation: The protection of ecologically important wetlands or other aquatic resources in perpetuity through the implementation of appropriate legal and physical mechanisms. Preservation may include protection of upland areas adjacent to wetlands as necessary to ensure protection and/or enhancement of the overall aquatic ecosystem.

Restoration: Re-establishment of wetland and/or other aquatic resource characteristics and function(s) at a site where they have ceased to exist, or exist in a substantially degraded state.

Riffle and Pool Complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a course substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Single and Complete Project: The term single and complete project is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers (see definition of independent utility). For linear projects, the single and complete project (i.e., a single and complete crossing) will apply to each crossing of a separate water of the US (i.e., a single waterbody) at that location. An exception is for linear projects crossing a single waterbody several times at separate and distant locations: each crossing is considered a single and complete project. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies.

Stormwater Management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater Management Facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and BMPs, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream Bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream Channelization: The manipulation of a stream channel to increase the rate of water flow through the stream channel. Manipulation may include deepening, widening, straightening, armoring, or other activities that change the stream cross-section or other aspects of stream channel geometry to increase the rate of water flow through the stream channel. A channelized stream remains a water of the US, despite the modifications to increase the rate of water flow.

Tidal Wetland: A tidal wetland is a wetland (i.e., water of the US) that is inundated by tidal waters. The definition of a wetland and tidal waters can be found at 33 CFR 328.3(b) and 33 CFR 328.3(f), respectively. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line (i.e., spring high tide line) and are inundated by tidal waters two times per lunar month, during spring high tides.

Vegetated Buffer: A vegetated upland or wetland area next to rivers, streams, lakes, or other open waters which separates the open water from developed areas, including agricultural land. Vegetated buffers provide a variety of aquatic habitat functions and values (e.g., aquatic habitat for fish and other aquatic organisms, moderation of water temperature changes, and detritus for aquatic food webs) and help improve or maintain local water quality. A vegetated buffer can be established by maintaining an existing vegetated area or planting native trees, shrubs, and herbaceous plants on land next to open-waters. Mowed lawns are not considered vegetated buffers because they provide little or no aquatic habitat functions and values. The establishment and maintenance of vegetated buffers is a method of compensatory mitigation that can be used in conjunction with te restoration, creation, enhancement, or preservation of aquatic habitats to ensure that activities authorized by NWPs result in minimal adverse effects to the aquatic environment. (See General Condition 19.)

Vegetated Shallows: Vegetated shallows are special aquatic sties under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: A waterbody is any area that in a normal year has water flowing or standing above ground to the extent that evidence of an ordinary high water mark is established. Wetlands contiguous to the waterbody are considered part of the waterbody.

REGIONAL GENERAL CONDITIONS

1. Notifications for all Nationwide permits should include a location map (USGS topographical map) and project drawings on 8.5" x 11" paper.

2. Nationwide Permits shall not authorize any activity which impact bogs and/or fens.

3. No Nationwide permit may be used in Lake Erie for purposes of diverting water from the Great Lakes.

4. In order to determine if a project meets the terms and conditions of the Ohio EPA's 401 water quality certification, two copies of the following information is necessary:

(a) All wetland delineations must include the latest approved version of the Ohio Rapid Assessment Method (ORAM) for wetland evaluation, long form. (This will assist OEPA in determining the category of wetland the applicant proposes to impact.)

(b) Photographs of the wetland.
NOTE: This information is in addition to the required information listed under General Condition 13 (Notification) of the NWP.

5. Notification is required for all work in the following designated Critical Resource Waters:

Special Habitat water of Lake Erie: Special habitat waters of Lake Erie including the shoreline, off shore islands, rock outcrops, and adjacent waters within the boundaries defined as 82 22' 30" West Longitude, 83 07' 30" West Longitude, 41 33' 00" North Latitude and 42 00' 00" North Latitude.

Piping Plover Critical Habitat: In Ohio, two areas have been designated critical habitat for the piping plover (Charadrius melodus) and are defined as lands 0.62 miles inland from normal high water line. Unit OH-1, extends from the mouth of Sawmill Creek to the western property boundary of Sheldon Marsh State Natural Area, Erie County, encompassing approximately 2.0 miles. Unit OH-2, extends from the eastern boundary line of Headland Dunes Nature Preserve to the western boundary of the Nature Preserve and Headland Dunes State Park, Lake County, encompassing approximately 0.5 mile.

Big and Little Darby Creeks (National Wild and Scenic River System): Big Darby Creek from Champaign-Union County line downstream to the Conrail railroad trestle and from the confluence with the Little Darby Creek downstream to the Scioto River. Little Darby Creek from the Lafayette-Plain City Road Bridge downstream to within 0.8 mile from the confluence with Big Darby Creek. Total designation is approximately 82 miles.

Little Beaver Creek (National Wild and Scenic River System): Little Beaver Creek main stem, from the confluence of West Fork with Middle Fork near Williamsport to mouth; North Fork from confluence of Brush Run and North Fork to confluence of North Fork with main stem at Fredericktown; Middle Fork from vicinity of Co. Rd. 901 (Elkton Road) bridge crossing to confluence of Middle Fork with West Fork near Williamsport; West Form from vicinity of Co. Rd. 914 (Y-Camp Road) bridge crossing east to confluence of West Fork with Middle Fork near Williamsport. Total designation is 33 miles

Little Miami River: (Scenic component of the National System from Clifton to Foster) The portion from Foster to the Ohio River was designated a Recreational component of the National System. Total designation is 92 miles.

6. Notification is required for all activities in state Wild and Scenic Rivers (see list below). The following are **State Wild and Scenic Rivers**:

Little Miami River - Clermont County line at Loveland to headwaters, including North Fork, Clermont County line at Loveland to confluence with East Fork and from the confluence with East Fork to Ohio River. Miles designated (approximate): 105

Sandusky River - US Rt. 30 in Upper Sandusky to Roger Young Memorial Park in Fremont. Miles designated (approximate): 65

Olentangy River - Delaware Dam to Old Wilson Road in Worthington. Miles designated (approximate): 22

Little Beaver Creek - Wild segments - West Fork from 1/4 mile downstream from Twp. Rd. 914 to confluence with Middle Fork. North Fork from Twp. Rd. 952 to confluence with Little Beaver Creek. Little Beaver Creek from confluence of West and Middle Forks downstream to 3/4 mile north of Grimm's Bridge. Scenic segments - North Fork from Ohio-Pennsylvania line downstream to Jackman Road. Middle Fork from Elkton Rd. (Twp. Rd. 901) downstream to confluence with West Fork. Little Beaver Creek from 3/4 mile north of Grimm's Bridge downstream to the Ohio-Pennsylvania line. Miles designated (approximate): Wild 20, Scenic 16

Grand River - Wild segment - from Harpersfield covered bridge downstream to Norfolk and Western Railroad trestle south of Painesville. Scenic segment - from St. Rt. 322 bridge in Ashtabula County downstream to Harpersfield covered bridge. Miles designated (approximate): Scenic 33, Wild 23

Upper Cuyagoga River - Troy-Burton Township line in Geauga County to US Rt. 14. Miles designated (approximate): 25

Maumee River - Scenic segment - Ohio-Indiana line to St. Rt. 24 bridge west of Defiance. Recreational segment - St. Rt. 24 bridge west of Defiance to US Rt. 25 bridge near Perrysburg. Miles designated (approximate): Scenic 43, Recreational 53

Stillwater River System - Recreational segment - Englewood dam to confluence with Great Miami River. Scenic segments - Stillwater River from Riffle Road bridge in Darke Co. to Englewood dam. Greenville Creek from the Ohio-Indiana state line to the confluence with the Stillwater. Miles designated (approximate): Scenic 83, Recreational 10

Chagrin River - Aurora Branch from St. Rt. 82 bridge downstream to confluence with Chagrin. Chagrin River from confluence with Aurora Branch downstream to St. Rt. 6 bridge. East Branch from Heath Road bridge downstream to confluence with Chagrin. Miles designated (approximate): 49

Big and Little Darby Creeks - Big Darby Creek from the Champaign-Union County line downstream to the U.S. Rt. 40 Bridge, from the northern boundary of Battelle-Darby Creek Metro Park to the confluence with the Little Darby Creek downstream to the Scioto River. Little Darby Creek from the Lafayette-Plain City Road Bridge downstream to the confluence with Big Darby Creek. Miles designated (approximate): 84

Kokosing River - Knox/Morrow County line to confluence with Mohican River. North Branch of Kokosing from confluence with East Branch downstream to confluence with main stem. Miles designated (approximate): 48

OHIO STATE CERTIFICATION GENERAL LIMITATIONS AND CONDITIONS (WATER QUALITY CERTIFICATION)

1. Streams

a) Temporary or permanent impacts to intermittent and perennial streams for any single and complete project are limited to a maximum of two hundred (200) linear feet [except for NWPs 3, 12, 21, 27, and 41];

b) Temporary or permanent impacts to ephemeral streams for any single and complete project are limited to a maximum of three hundred (300) linear feet [except for NWPs 3, 12, 21, 27, and 41];

c) Temporary or permanent impacts to Exceptional Warmwater Habitat (EWH), Cold Water Habitat (CWH), Seasonal Salmonid (SS), or any equivalent designation, or with an antidegradation category of State Resource Water, Superior High Quality Water (except as it applies to Lake Erie), Outstanding National Resource Waters, or Outstanding High Quality Waters are prohibited [except for NWP 3 and maintenance activities covered under NWP 7, 12, and 33];

d) Temporary or permanent impacts to the designated portions of national or state scenic rivers are prohibited [except for NWP 3 and maintenance activities under NWP 12];

e) Stream reconstruction activities shall adhere to natural channel design techniques;

f) Off-site stream or buffer improvements and/or mitigative measures required by the Corps:

i. In order of priority, these measures shall focus on 1) the stream segment being impacted, 2) upstream segments and tributaries, 3) the receiving stream. The

measures should, to the extent practicable, consider the causes and sources of impairment of the stream where the measures would be undertaken if the stream is listed as impaired in the most recent final report submitted to the United States environmental protection agency by the director of Ohio EPA to fulfill the requirements of Section 303(d) of the Clean Water Act. The current list of impaired streams, as of the date of this certification, can be found on the Ohio EPA web site at (Tables 1 through 6):
http://www.epa.state.oh.us/dsw/tmdl/303dnotc.html

ii. If the applicant cannot find appropriate mitigation on streams listed in section a) above, mitigation shall be in the Ohio EPA 8-digit watershed.

g) On-site stream or buffer improvements and/or mitigative measures required by the Corps:
i. Vegetative buffers on both stream banks an appropriate length; and

ii. A minimum width of 25 feet for preservation of existing vegetative buffers; or
iii. A minimum width of 50 feet for re-vegetating buffers cleared during construction.

h) Compensatory mitigation for linear projects (e.g., highways) in streams may be mitigated for by the following, in descending order of practicability:
i. Stream impacts associated with a linear project may be mitigated on-site, defined as within one mile of the linear project, in each Ohio EPA 8-digit watershed as shown in OAC 3745-1-54(F)(2); or
ii. Stream impacts associated with a linear project may be mitigated at a single stream mitigation location or stream mitigation bank (if and when such a bank is established), acceptable to the director, within each Ohio EPA 8-digit watershed in which the impacts occur; or
iii. If no stream mitigation bank, acceptable to the director, is located within the Ohio EPA 8-digit watershed in which the impact occurs, then mitigation may occur in another Ohio EPA 8-digit watershed impacted by the linear project; at a single stream mitigation location, or a stream mitigation bank acceptable to the director; or
iv. In no stream mitigation bank exists within any of the watersheds connected with the linear project, then mitigation should occur within the watershed in which the largest impacts (in terms of area) occur.

2. Wetlands

a) Temporary or permanent impacts to Category 3 wetlands are prohibited.

b) Temporary or permanent impacts to Category 1 and 2 wetlands for any single and complete project are limited to a maximum total of ½ acre [except for NWP 21 & 27].

c) Wetland mitigation shall adhere to the requirements set forth in Ohio EPA's Wetland Water Quality Standards (OAC 3745-1-50 through 54). [In the event that suitable mitigation cannot be located on-site (within one mile) or within the watershed, mitigation may be located outside of the watershed if there are significant ecological reasons to do so].

3. General

a) Impacts shall be measured linearly from upstream to downstream, including the length of stream impoundments, when calculating the total length of stream impacts [except for NWP 12, for which impacts shall be measured bank-to-bank].

b) NWPs cannot be combined to increase any of the aforementioned limitations.

c) Authorization under this Certification does not relieve the permittee from the responsibility of obtaining any other federal, state or local permits, approvals or authorizations required by law including without limitation, National Pollutant Discharge Elimination System (NPDES) permits or Permits to install (PTIs).

d) In order to control pollution of public waters by soil sediment from accelerated stream channel erosion and flood plain erosion caused by accelerated stormwater runoff from development areas, permittees shall comply with Ohio Administrative Code 1501:15-1-05 Stream Channel and Floodplain Erosion, or successor rule, as applicable to the project pursuant to OAC 1501:15-1-02.

e) OAC 1501:15-1-05 states that the peak rates of runoff from an area after development may be no greater than the peak rates of runoff from the same area before development for all twenty-four-hour storms from one to one-hundred-year frequency.

f) Locally required post development stormwater ponds shall incorporate specific design features for water quality such as those listed in Chapter One of the Ohio Department of Natural Resource's *Rainwater and Land Development: Ohio's Standards for Stormwater Management, Land Development and Urban Stream Protection, 2nd Ed. Mecklenburg, Dan. Ohio Department of Natural Resources, Division of Soil and Water Conservation. 1996* (or successor document), to the extent allowed by local stormwater requirements. These features include: infiltration trenches, extended detention, wet pools, forebays, aquatic benches and wetlands, optimum flow length, reverse flow pipe, optimum pool depth, shading and buffer plants, and runoff reuse.

g) The Best Management Practices (BMPs) listed below shall be utilized with all NWPs when applicable.
i. The filling of, and discharge of dredged material into, Category 3 wetlands is prohibited under this permit;
ii. Only suitable material, free of toxic contaminants in other than trace quantities, shall be used as fill material;

iii. The use of asphalt and rubber tires as fill is prohibited under this permit;
iv. All hydric topsoil removed from a trench shall be separated and saved for later placement as the topmost backfill layer when the trench is refilled;
v. The stockpiling of side-cast dredged material in wetlands in excess of three (3) months is prohibited;
vi. The applicant will comply with all requirements for final stabilization of the site contained in applicable NPDES construction stormwater permits for the site;
vii. Vegetated buffer strips extending to the top of both stream banks and beyond as stipulated by the Corps or Ohio EPA, using native tree and shrub species with rapid growth characteristics, shall be planted as soon as practicable after impacting stream channel slopes;
viii. Impacts to surface water buffer vegetation shall be minimized to the maximum extent practicable;

ix. Excavating equipment shall not be placed below the Ordinary High Water Mark (OHWM) of any surface water, except when no other alternative is practicable. When no other alternative is practicable to placing excavating equipment below the OHWM, entry to surface waters shall be through a single point of access per stream bank whenever practicable to minimize disturbance to buffer vegetation;
x. In-stream activities shall not result in the permanent destabilization of the stream banks or stream bed so that aquatic habitat from turbidity, erosion or scouring is minimized;
xi. In-stream work shall be conducted during low-flow conditions whenever practicable in order to minimize adverse impacts to water quality away from the project site, except in cases of emergency situations which threaten life or property;
xii. All dredged material placed at an upland site shall be controlled so that sediment runoff to remaining streams and wetlands is minimized to the maximum extent practicable; and
xiii. Disturbed areas shall be controlled so that sediment runoff to remaining streams and wetlands is minimized to the maximum extent practicable.

INFORMATION ON NATIONWIDE PERMIT VERIFICATION

Verification of the applicability of this Nationwide permit is valid for two years from the date of affirmation unless the Nationwide permit is modified, suspended or revoked. This verification will remain valid for two years if during this two year period the Nationwide permit is reissued without modification or your activity complies with any subsequent permit modification. Please note that if you commence or are under contract to commence this activity in reliance of your permit prior to the date this Nationwide permit is suspended or revoked, or is modified such that your activity no longer complies with the terms and conditions, you have twelve months from the date of permit modification, expiration, or revocation to complete the activity under the present terms and conditions of this permit, unless this permit has been subject to the provisions of discretionary authority.

It is your responsibility to remain informed of changes to the Nationwide Permit program. A public notice announcing any changes will be issued when they occur. Finally, note that if your activity is not undertaken within the two year period or the project specifications have changed, you must immediately notify this office to determine the need for further approval or reverification.

Possession of this permit does not obviate you of the need to contact all appropriate state and/or local government officials to insure that the project complies with their requirements.

SPECIAL PROVISIONS

RETAINED EARTH WALLS

CO-RT-SEC

WAY/MED-71-7.04/0.00
PID: 14017

DATE: 5-03

RETAINED EARTH WALLS (DESIGN B)

1.0 Description

This work consists of the design and construction of Foster Geotechnical Retained Earth walls in accordance with this specification. See Section 7.0 for Foster Geotechnical Retained Earth Wall Design requirements. The design submittal shall include detailed design calculations and a set of drawings describing the proposed retaining wall. The contractor submittal will include a site plan, an elevation drawing of the full length of the retaining wall and representative cross-sections at each design change. Drainage details are to be included as well as detailed construction specifications.

2.0 Materials

The Contractor shall make arrangements to acquire the reinforced concrete face panels, galvanized reinforcing mesh, attachment devices, joint materials, alignment pins and all necessary incidentals from the Foster Geotechnical, P.O. Box 866, 8006 Haute Court, Springfield, Virginia 22150 (Telephone: 703-451-4300).

The Contractor shall provide certification of the above Retained Earth wall components as per CMS 101.03. Certification shall be provided for the concrete, reinforcing steel, coil embed, coil bolt, galvanized reinforcing mesh, attachment devices, joint materials and alignment pins which are components of the Retained Earth wall. (Refer to the section of the proposal concerning steel produced in the United States.)

2.1 Reinforced Concrete Face Panels

Material used in concrete for face panels shall conform to the requirements of CMS Item 499.02 except as stated in this document. Cement shall be Type I, II, or III and shall conform to the requirements of AASHTO M 85-96. Concrete shall have a compressive strength at 28 days in accordance with Section 2.1.7 Compressive Strength. Concrete shall contain 6 ±2 percent air. Air entraining admixture shall conform to AASHTO M 154-89. Retarding agents, accelerating agents or any additive containing chloride shall not be used without approval from the Foster Geotechnical Engineer.

Reinforcing steel and lifting devices shall be set in place to the dimensions and tolerances shown on the wall company plans prior to casting.

2.1.1. Testing and Inspection

Acceptability of the concrete for the precast panels will be determined on the basis of compression tests, certifications and visual inspection. The concrete strength requirements for the precast panels shall be considered attained regardless of curing age when compression test results indicate strengths conform to 28-day strength specifications.

The Supplier shall furnish facilities and perform all necessary sampling and testing in an expeditious and satisfactory manner. Panels utilizing Type I or II cement shall be considered acceptable for placement in the wall when 7-day initial strengths exceed 85 percent of 28-day requirements. Panels utilizing Type III cement shall be considered acceptable for placement in the wall prior to 28 days only when compressive strength test results indicate that the strength exceeds the 28 day specification.

2.1.2. Casting

The panels shall be cast on a flat area with the front face down. Coil loop inserts, reinforcing steel, PVC pipe, and lifting devices shall be set in place to the dimensions and tolerance shown on the drawings prior to casting. The PVC pipe shall be placed in such a manner as to ensure that it is straight; not bent or bowed. Coil loop inserts shall be set on the rear face. The concrete in each unit shall be placed without interruption and shall be consolidated by the use of a concrete vibrator, supplemented by such hand- tamping as may be necessary to force the concrete into the corners of the forms and prevent the formation of stone pockets, air bubbles or cleavage planes. Clear form oil of the same manufacturer shall be used throughout the casting operation as approved by the Foster Geotechnical Engineer.

Special care shall be given to the coil loop inserts: All coil loop inserts must be attached to the alignment templates using the bolts provided with the forms. The vertical and horizontal alignment of the coil loop inserts shall be within 1/8 inch (± 3 mm) of the plan dimension. The holes inside the coil loop inserts must be 2-3/8 inch (60 mm) deep in the finished panel and must be free of all concrete and debris, loose or otherwise. No concrete or other debris shall be on the interior surfaces of the coils of the coil loop inserts in the finished panels. Immediately after the alignment template is removed, duct tape or equal approved by the Foster Geotechnical Engineer shall be placed over the coil loop insert holes in order to prevent debris from entering the holes. This duct tape shall not be removed except by the crew that is assembling the wall. Care shall be taken to ensure that the duct tape is not removed during shipping.

2.1.3. Curing

The curing method will be dependent on the concrete precaster's capabilities and shall be as per instructions by the Foster Geotechnical. The reinforced concrete panels shall be cured for a sufficient length of time so that the concrete will develop the specified compressive strength. Any production lot which does not conform to the strength requirements of Section 2.1.7-Compressive Strength, shall be rejected.

2.1.4. Removal of Forms

The forms shall remain in place until they can be removed without damage to the panel.

2.1.5. Concrete Finish and Tolerances

The front face of the reinforced concrete panels shall have an architectural surface finish treatment as shown on the plans. The backside of the reinforced concrete panels shall have an unformed surface finish and shall be rough screeded to eliminate open pockets of aggregate and surface distortions in excess of 1/4 inch (6 mm). All panels, barriers and coping shall be sealed with an epoxy sealer in conformance with Special "Sealing of Concrete Surfaces, Epoxy Urethane" (see plans).

2.1.6. Tolerances

All panels shall be manufactured within the following tolerances:

a. Panel Dimensions

All dimensions within 0.2 inch (5 mm).

b. Panel Squareness

Squareness as determined by the difference between the two diagonals shall not exceed ½ inch (13 mm).

c. Panel Surface Finish

Surface defects on smooth formed surfaces measured on a length of 5 feet (1500 mm) shall not exceed 0.12 inch (3 mm). Surface defects on textured surfaces measured on a length of 5 feet (1500 mm) shall not exceed 0.312 inch (8 mm).

2.1.7. Compressive Strength

Acceptance of the concrete panels with respect to compressive strength will be determined on the basis of production lots. A production lot is defined as a group of panels that will be represented by a single compressive strength sample and will consist of either 40 panels or a single day's production, whichever is less.

During the production of the concrete panels, the manufacturer will randomly sample the concrete in accordance with AASHTO T 141-93. A single compressive strength sample, consisting of a minimum of four cylinders, will be randomly selected for every production lot.

Cylinders for compressive strength tests shall be 6 inches (150 mm) by 12 inches (300 mm) specimens prepared in accordance with AASHTO T 23-93. For every compressive strength sample, a minimum of two cylinders will be cured in the same manner as the panels and tested at approximately 7 days. The average compressive strength of these cylinders, when tested in accordance with AASHTO T 22-92, will provide a test result which will determine the initial strength of the concrete. In addition, two cylinders shall be cured in accordance with AASHTO T 23-93 and tested at 28 days. The average compressive strength of these two cylinders, when tested in accordance with AASHTO T 22-92, will provide a compressive strength test result which will determine the compressive strength of the production lot.

If the initial strength test results indicate a compressive strength in excess of 4000 psi (27.5 MPa), then these test results will be utilized as the compressive strength test result for the production lot and the requirement for testing at 28 days will be waived for that particular production lot.

Acceptance of a production lot will be made if the compressive strength test result is greater than or equal to 4000 psi (27.5 MPa). If the compressive strength test result is less than 4000 psi (27.5 MPa), the acceptance of the production lot will be based on its meeting the following acceptance criteria in its entirety:

a. Ninety percent of the compressive strength test results for the overall production shall exceed 4000 psi (27.5 MPa).

b. The average of any six consecutive compressive strength test results shall exceed 4000 psi (27.5 MPa).

c. No individual compressive strength test result shall fall below 3600 psi (24.8 MPa).

In the event that a production lot fails to meet the specified compressive strength requirements, the production lot shall be rejected. Such rejection shall prevail unless the Manufacturer, at his own expense, obtains and submits evidence acceptable to the Engineer that the strength and quality of the concrete placed within the panels of the production lot is acceptable. If such evidence consists of tests made on cores taken from the panels within the production lot, the cores shall be obtained and tested in accordance with the specifications of AASHTO T 24-93.

2.1.8. Rejection

Panels shall be subject to rejection because of failure to meet any of the requirements specified above. In addition, any or all of the following defects may be sufficient cause for rejection:

a. Defects that indicate imperfect molding.

b. Defects indicating honeycombed or open textured concrete.

c. Defects in the physical characteristics of the concrete, such as broken or chipped concrete.

d. Stained form face, due to excess form oil or other contaminations.

e. Signs of aggregate segregation.

f. Broken or cracked corners.

g. Lifting inserts not usable.

h. Exposed reinforcing steel.

i. Cracks at the PVC pipe or pin.

j. Insufficient concrete compressive strength.

k. Panel thickness in excess of 3/16 inch (5 mm) plus or minus from that shown on the plans.

The Engineer will decide if an attempt may be made to repair a defective panel. The Contractor or supplier shall make the repairs at his own expense. If the repairs are made to the Engineer's satisfaction, the panel will be acceptable.

2.1.9. Marking

The date of manufacture, the production lot number and the piece-mark shall be clearly scribed on the back surface of each panel.

2.1.10. Handling, Storage and Shipping

All panels shall be handled, stored, and shipped in such a manner as to avoid chipping, cracking, fracturing, and excessive bending stresses. Panels shall be supported on firm blocking while in storage.

2.1.11. Reinforcing Steel

All reinforcing steel shall be Grade 60 (Grade 420) epoxy coated and shall satisfy all applicable requirements of CMS 509, reinforcing steel.

2.2 Reinforcing Mesh

The reinforcing mesh shall be shop fabricated of cold drawn steel wire conforming to the requirements of ASTM A82 and shall be welded into the finished mesh fabric in accordance with ASTM A 185. The reinforcing mesh shall be galvanized in conformance with ASTM A123.

2.3 Attachment Devices

2.3.1. Loop Embed

Loop embeds shall be fabricated from cold drawn steel rod conforming to ASTM-510M or ASTM-82. Loop embeds shall be welded in accordance with ASTM A-185. Loop embeds shall be galvanized in accordance with ASTM A123.

2.3.2. Connector Bar

Connector Bars shall be fabricated of cold drawn steel wire conforming to the requirements of ASTM A82 and shall be galvanized in accordance with ASTM A123.

2.4 Joint Materials

2.4.1. Inclined, Vertical and Horizontal Joints

The material to be attached to the rear side of the facing panels covering the vertical and horizontal joints between facing panels, shall be a geotextile meeting the minimum requirements for filtration applications as specified by AASHTO M-288. The adhesive used to attach the geotextile material to the rear of the facing panel shall be Pliobond 5001, as manufactured by Goodyear Rubber Company, or equal as approved by the Foster Geotechnical Engineer.

2.4.2. Bearing Pads

The material to be used in the horizontal joints between facing panels shall be high density polyethylene panel pads, 13/16 inch (20 mm) x 2-3/4 inch (70 mm) x 11-7/16 inch (290 mm), 2 per panel or equivalent as approved by the Engineer.

2.5 Alignment Pins

The pins used to align the face panels during construction shall be round, smooth number 5 bars made of mild steel or smooth 3/4 inch (19 mm) diameter PVC rod.

2.6 Select Granular Embankment Material

The select granular embankment material used in the reinforced structure volume shall be Item 304 Aggregate Base or Item 703.11 Granular Material, Type 2; deviations from these are as follows:

1) No slag shall be allowed.

2) The total percent passing the Number 200 (0.075 mm) sieve shall be 0 to 7 percent prior to the placement operation. The acceptance samples shall be taken from the stockpile. The Contractor shall transport and handle the material to minimize the segregation of the material prior to the placement.

The select granular embankment material shall also conform to the requirements listed below:

1) AASHTO T 289-91 The pH range of the material shall be between 5.0 and 10.0.

2) AASHTO T 288-91 The resistivity of the material shall be greater than 3,000 ohm-cm. If the resistivity is found to be greater than 5,000 ohm-cm, then AASHTO Test T 290-95 and T 291-94 may be waived.

3) AASHTO T 291-94 The chloride levels of the material shall be less than 100 ppm.

4) AASHTO T 290-95 The sulfate levels of the material shall be less than 200 ppm.

The Contractor or supplier, as his agent, shall furnish the Engineer a Certificate of Compliance from an independent Testing Laboratory, certifying that the above materials comply with the applicable contract specifications. A copy of all test results performed by the contractor or his supplier necessary to assure contract compliance shall also be furnished to the Engineer.

Acceptance will be based on a letter of certification that the material to be utilized is within the parameters of the applicable contract notes and specifications. This letter shall be submitted along with the accompanying test reports to the Project Engineer. The Engineer shall provide

written acceptance of material upon review of accompanying test reports, and visual inspection of the material by the Engineer.

2.7 Leveling Pad Concrete

The leveling pad concrete shall be a maximum 6 inches (150 mm) thick, having a strength that is not less than 2500 psi (17.2 MPa) and shall have sufficient strength to adequately support the panels at the bottom of the wall in a level position during installation. The leveling pad may be constructed of precast concrete. Precast concrete leveling pads can be advantageous when many short segment leveling pad steps are required.

2.8 Filter Fabric and Porous Backfill

Filter Fabric and Porous Backfill is not used for the walls in this project.

3.0 Construction Requirements

3.1 Wall Excavation

Unclassified excavation shall be in accordance with ODOT Item 503 except that the limits of excavation shall be as shown in the plans.

3.2 Foundation Preparation

The foundation for support of the reinforced select granular embankment volume shall be graded level for a width equal to or exceeding the length of reinforcing mesh. Prior to wall construction, the foundation shall be level and rolled with a smooth wheel vibratory roller and the exposed soil compacted to at least 95% Standard Proctor density. Any foundation soils found to be unsuitable shall be removed and replaced, as directed by the Engineer.

The unreinforced concrete leveling pad shall be provided as shown on the plans. The pad shall be cured a minimum of 12 hours before placement of wall facing panels.

3.3 Wall Erection

Precast panels are handled by means of a lifting device connected to the lifting insert which is cast into the upper edge of the panels. Panels shall be set in successive horizontal lifts in the sequence shown on the plans as embankment fill placement proceeds. As embankment material is placed behind panels, the panels shall be maintained in vertical position by means of temporary wooden wedges placed in the panel joints on the external side of the wall. External bracing is required for the initial lift for vertical walls, vertical tolerance (plumbness) and horizontal alignment tolerance shall not exceed 3/4 inch (20 mm) when measured along a 10 foot (3000 mm) straight edge. The maximum allowable offset in any panel joint shall be 3/4 inch (20 mm). The overall vertical tolerance of the wall (plumbness from top to bottom) shall not exceed ½ inch (13 mm) per 10 feet (3000 mm) of wall height.

Reinforcing mesh shall be placed normal to the face of the wall, unless otherwise shown on the plans or directed by the Engineer. Prior to placement of the reinforcing mesh, the embankment backfill shall be compacted in accordance with Section 3.4.

3.4 Select Granular Embankment Material Placement

Select granular embankment material placement shall closely follow the erection of each lift of panels. At each reinforcing mesh level, the select granular embankment material should be roughly leveled before placing and attaching the mesh. The reinforcing mesh shall be placed normal to the face of the wall unless the plans show that the reinforcing mesh must avoid an obstruction. The maximum select granular embankment lift thickness shall not exceed 8 inches (200 mm) loose and shall closely follow panel erection. The Contractor shall decrease the select granular embankment lift thickness if necessary to obtain the specified density.

At the end of each day's operations, the Contractor shall shape the last level of embankment to rapidly direct runoff of rainwater away from the wall face. The contractor shall not allow surface runoff from adjacent areas to enter the wall construction site.

Compaction of the select granular embankment material shall be in accordance with all pertinent requirements of Item 203.07.B. The moisture content of the select granular embankment material prior to and during compaction shall be uniformly distributed throughout each layer and shall conform to requirements of Item 203.07.A.

Embankment compaction shall be accomplished without disturbance or distortion of reinforcing mesh or face panels. Compaction of the reinforced volume of fill shall not be accomplished by any type of equipment employing a foot, which in the opinion of the Foster Geotechnical Engineer, could penetrate the embankment material and damage the reinforcing mesh. Compaction within 3 feet (1000 mm) of the backside of the wall panels shall be achieved by at least 3 passes of a light mechanical tamper. The select granular embankment material placed within 3 feet (1000 mm) of the backside of the wall panels does not have to satisfy density test requirements, but must be placed in 6 inch (150 mm) to 8 inch (200 mm) thick lifts which are compacted per above.

4.0 Inspection

The Foster Geotechnical shall provide a company representative who shall monitor the precast operation sufficiently to ensure that the operation complies with all the above requirements and the representative shall submit documentation to this effect to the Engineer.

Documentation shall be furnished by the company representative for any panel which he deems acceptable but which is subject to rejection under 2.1.8.

The Foster Geotechnical shall provide sufficient on-site technical assistance by a company representative to ensure that the Contractor and the Engineer fully understand the proper construction procedures and operations of the Foster Geotechnical Retained Earth Wall System.

The Contractor shall provide a soils consultant who shall, through the Engineer, be responsible for inspection and field testing to confirm that the select granular embankment material requirements and the placement and compaction requirements are in compliance with these special provisions and specification.

The soils consultant shall provide the Engineer with two copies of all inspection reports which contain the testing results, all pertinent measurements and the soils consultant's conclusions.

The soils consultant's field representative shall be an Ohio Registered Professional Engineer or work under the direction of an Ohio Registered Professional Engineer. The final inspection report shall be signed by an Ohio Registered Professional Engineer.

The Engineer will monitor erection of the structure and placement of the select granular embankment material with technical assistance from the soils consultant and the Foster Geotechnical. Any work not satisfying the requirements of these special provisions is subject to rejection by the Engineer.

5.0 Coping and Traffic Barrier

A cast-in-place coping and traffic barrier shall be provided on top of the wall as shown in the plans. Concrete shall be Class C and shall conform to CMS Item 511. Reinforcing steel shall be epoxy coated and shall conform to CMS Item 509. For payment for the concrete and the reinforcing steel, see 8.1 "Basis of Payment".

6.0 Pile Sleeves

When piles are required, sleeves shall be used to form a void in the select granular embankment so that the proposed piles can be installed after the wall construction is completed. The sleeves shall be made of a material that does not promote corrosion within the select granular embankment and the sleeve material shall be satisfactory to the wall company. Consider using segments of plastic pipe strong enough to maintain the required void. A bentonite slurry shall be placed in the void located between the pile and the sleeve. The slurry shall consist of the following materials with volume ratios of: one part cement, one part bentonite, and ten parts water. The cost of the above described work shall be considered incidental to Item Special "Retained Earth Walls."

7.0 Design Requirements for MSE Panel Walls

The design of the Foster Geotechnical Retained Earth Wall shall be in strict conformance with the 2002 edition of 'AASHTO Standard Specifications for Highway Bridges', except as modified in this document, the latest edition of the Ohio Bridge Design Manual, except as modified in this document, and the design requirements listed below:

1. The design shall meet all plan requirements. The recommendations of the wall system suppliers shall not override the minimum performance requirements shown herein. Other systems offered by the approved supplier shall not be submitted in lieu of the system which is called for in the plans.

2. Where walls or wall sections intersect with an included angle of 130 degrees or less, a vertical corner element separate from the standard panel face shall abut and interact with the opposing standard panels. The corner element shall have steel reinforcing strips connected specifically to that panel and shall be designed to preclude lateral spread of the intersecting panels.

3. One hundred percent of the steel reinforcing strips which are designed and placed in the reinforced earth volume shall extend to and be connected to the facing element through the use of tie strips or another acceptable method. No field cutting of steel reinforcing strips to avoid obstacles, such as abutment piles, shall be allowed. Also, steel reinforcing strips shall not be bent around such obstacles.

4. Under service loads, the minimum factor of safety at the connection between the face panel and the steel reinforcing strips shall be 1.5. The minimum factor of safety against reinforcement pullout shall be1.5 at ½ inch (13 mm) deformation. The maximum allowable reinforcement tension shall not exceed two-thirds of the connection strength determined at ½ inch (13 mm) deformation.

5. The coefficient of lateral earth pressure k_a and the application of the lateral forces to the reinforced soil mass for external stability analysis shall be computed using the Coulomb method, but assuming no wall friction.

6. All walls shall be designed with a coping, as specified in the plans.

7. Soil parameters for use in design are as follows:

Fill Zone	Type of Soil	Soil Unit Weight	Friction Angle	Cohesion
Reinforced Zone	Compacted Select Granular Embankment Material with less than 7% P200 Material	120 lbs/ft^3 (18.9 kN/m^3)	34°	0
Retained Soil	On-site soil varying from sandy lean clay to silty sand	120 lbs/ft^3 (18.9 kN/m^3)	30°	0
Foundation Soil	Variable - ranging from existing uncontrolled fill to natural silty sand	120 lbs/ft^3 (18.9 kN/m^3)	**	**

** Refer to ODOT Bridge Design Manual 303.4.1.1

8. The allowable reinforcement tension of steel (inextensible) reinforcement elements for structural design and connection (pullout) design shall be based on the thickness of the elements at the end of the structure's design life. In essence, the minimum thickness of the reinforcement elements shall be that thickness which will provide for the structural requirement plus the sacrificed thickness at the end of the design life.

9. The design life of the reinforced earth retaining walls shall be 100 years.

10. The minimum depth of embedment, measured from the finished ground line to the top of leveling pad shall be at least 3.0 feet (915 mm) as shown on plan.

11. The internal stability, including definition of failure plane and lateral earth pressure coefficient, for Reinforced Earth walls shall be computed according to AASHTO Section 5.8.4.1.

12. The maximum thickness of the concrete leveling pad shall be 6 inch (150 mm).

13. The connections of the reinforcing strips to the panels shall be in two elevations for standard panels and the connections shall be no more than 2.5 feet (760 mm) apart vertically.

14. The wall height for design purposes shall be measured from the top of the leveling pad to the top of the coping. When the wall is retaining a sloping surcharge then the wall height shall be defined as the equivalent design height (h) as shown in AASHTO Figure 5.8.2B. The minimum reinforcing strip length shall be 70 percent of the wall height, as appropriately defined for either a level or sloping backfill, but no less than 8 feet (2440 mm).

15. The minimum thickness of the precast reinforced concrete face panels shall be 5-1/2 inches (140 mm).

16. The yield stress for the metallic soil reinforcement shall not exceed 65 ksi (450 MPa).

17. The wall system, regardless of the size of panels, shall accommodate up to one percent differential settlement in the longitudinal direction.

18. The vertical stress at each reinforcement level shall be computed by considering local equilibrium of all the forces acting above the level under investigation. The vertical stress (bearing pressure) at each reinforcement level may be computed using the Meyerhof method in the same manner as the bearing pressure computed for the base of the wall.

8.0 Method of Measurement

The Mechanically Stabilized Earth Wall quantity to be paid for shall be Lump Sum.

8.1 Basis of Payment

Item Special "Retained Earth Walls" will be paid for at the contract Lump Sum price. This work shall include the fabrication, furnishing, and erection of the Retained Earth walls, including the reinforced concrete face panels, reinforcing mesh, fasteners, joint material, concrete leveling pad, concrete coping, reinforcing steel, filter fabric, all labor and material required to construct the fabric face required for phase construction within the limits of the MSE wall as shown on the plans, and all incidentals, labor, and equipment necessary to complete this item.

The payment for the following items shall be included with the Lump Sum price of Item Special "Retained Earth Walls."

Item 203 "Select Granular Embankment, as per plan" as defined in section 2.6.

Item 203 "Embankment, as per plan"as shown on the wall plans.

Item 304 "Aggregate Base."

Item 503 "Unclassified Excavation, as per plan" as defined in section 3.1.

Item Special "Sealing of Concrete Surfaces, Epoxy-Urethane." All exposed surfaces of precast panels shall be sealed. Surfaces of the cast-in-place concrete to be sealed are shown on the plans. For sealing of concrete surfaces, see note on the wall plans.

The cost for all work related to any temporary face of Retained Earth Wall including any soil reinforcement and all incidentals for use in phased construction to be included with bridge item 503 "Cofferdams, Cribs, and Sheeting, As Per Plan".

T:\03\08\06419\308_MED-83\MSE wall special provisions\MED_FOST.WPD

SPECIAL PROVISIONS

ARES RETAINING WALL

CO-RT-SEC

WAY/MED-71-7.04/0.00
PID: 14017

DATE: 5-03

ARES RETAINING WALLS BY TENSAR (DESIGN C)

1.1 Description

This work shall consist of the design and construction of Tensar Ares precast panel retaining walls in accordance with this specification. See Section 7.0 for Tensar Ares Retaining Wall design requirements. The design submittal shall include detailed design calculations and a set of drawings describing the proposed retaining wall. The contractor submittal will include a site plan, an elevation drawing of the full length of the retaining wall and representative cross-sections at each design change. Drainage details are to be included as well as detailed construction specifications.

2.0 Materials

The Contractor shall make arrangements to acquire the Tensar Ares Retaining Wall System, which shall include the reinforcing geogrids, precast facing panels, joint materials and all necessary incidentals from Tensar Earth Technologies, Inc., 5883 Glenridge Drive, Suite 200, Atlanta, GA 30328, Phone 404-250-1290.

The Contractor shall provide certification of the above Ares wall components as per CMS Item 101.03. Certification shall also be provided for the concrete, reinforcing steel, and geogrid reinforcement which are components of the Ares Retaining wall. (Refer to section of the proposal concerning steel produced in the United States.)

2.1 Reinforced Concrete Face Panels

Material used in the concrete face panels shall conform to the requirements of CMS Item 499.02 except as stated in this document. Cement shall be Types I, II, or III and shall conform to the requirements of AASHTO M 85-96. Concrete shall have a compressive strength at 28 days in accordance with Section 2.1.7 Compressive Strength. Concrete shall contain 6 +/- 2 percent air. Air entraining admixture shall conform to AASHTO M 154-89. Retarding agents, accelerating agents or any additive containing chlorides shall not be used without the approval of Tensar Earth Technologies Engineer.

Reinforcing steel and lifting devices shall be set in place to the dimensions and tolerances shown on the wall company plans prior to casting.

2.1.1 Testing and Inspection

Acceptability of the concrete for the precast panels will be determined on the basis of compression tests, certifications, and visual inspection. The concrete strength requirements for the precast panels shall be considered attained regardless of curing age when compression test results indicate strengths conform to the 28 day strength specifications.

The Supplier shall furnish facilities and perform all necessary sampling and testing in an expeditious and satisfactory manner. Panels utilizing Type I or II cement shall be considered acceptable for placement in the wall when the 7-day initial strength tests exceed 85 percent of the 28-day requirements. Panels utilizing Type III cement shall be considered acceptable for placement in the wall prior to 28 days only when the compressive strength test results indicate that the strength exceeds the 28 day specification.

2.1.2 Casting

The panels shall be cast on a flat area, with the front face down. The geogrid retention devices, reinforcement, inserts, lifting devices shall be set in place to the dimensions and tolerance shown on the drawings, prior to casting. The concrete in each unit shall be placed without interruption and shall be consolidated by the use of an approved vibrator, supplemented by such hand-tamping as may be necessary to force the concrete into the corners of the forms and prevent the formation of stone pockets, air bubbles or cleavage planes. Clear form oil from the same manufacturer shall be used throughout the casting operation as approved by the Tensar Earth Technologies Engineer.

Special care shall be given to the geogrid retention devices. The geogrid retention devices shall be positioned within 1 inch (25 mm) of their specified locations immediately after placement and consolidation of the concrete using the locator tabs on the side rails. The geogrid retention devices shall be rapped with a rubber mallet or other approved hand compaction method to ensure consolidation in and around the sleeve. No concrete or other debris shall be on the exposed portion of the geogrid retention devices in the finished panels.

2.1.3 Curing

The curing method will be dependent on the precaster's capabilities and shall be per the instructions of Tensar Earth Technologies. The reinforced concrete panels shall be cured for a sufficient length of time so that the concrete will develop the specified compressive strength. Any production lot which does not conform to the strength requirements of Section 2.1.7-Compressive Strength, shall be rejected.

2.1.4 Removal of Forms

The forms, including the geogrid retention devices, shall remain in place until they can be removed without damage to the panel.

2.1.5 Concrete Finish and Tolerances

The front face of the reinforced concrete panels shall have an architectural surface finish treatment as shown on the plans. The rear face of the reinforced concrete panels shall have an unformed surface finish and shall be rough screeded to eliminate open pockets of aggregate and surface distortions in excess of 1/4 inch (6 mm). All panels, barriers and coping shall be sealed with an epoxy sealer in conformance with Item Special "Sealing of Concrete Surfaces, Epoxy-Urethane", (see plans).

2.1.6 Tolerances

All panels shall be manufactured within the following tolerances:

a. Panel Dimensions

Vertical position of the slot - within 1 inch (25 mm). All other dimensions - within 0.2 inch (5 mm).

b. Panel Squareness

Squareness, as determined by the difference between the two diagonals, shall not exceed ½ inch (13 mm).

c. Panel Surface Finish

Surface defects on smooth formed surfaces measured across a length of 5 feet (1500 mm) shall not exceed 0.12 inch (3 mm). Surface defects on textured finished surfaces measured across a length of 5 feet (1500 mm) shall not exceed 0.312 inch (8 mm).

d. Slot Opening

The opening in the slot shall be 0.12 inch (3 mm), and shall be tested for compliance on each panel cast using a feeler gauge supplied to the precaster by Tensar. A deviation which prevent insertion of the geogrid or which permits the feeler gauge to be pulled through the slot shall be cause for rejection of the panel.

2.1.7 Compressive Strength

Acceptance of the concrete panels with respect to compressive strength will be determined on the basis of production lots. A production lot is defined as a group of panels that will be represented by a single compressive strength sample and will consist of either 40 panels or a single day's production, whichever is less.

During the production of the concrete panels, the manufacturer will randomly sample the concrete in accordance with AASHTO T 141-93. A single compressive strength sample, consisting of a minimum of four test cylinders, will be randomly selected for every production lot.

Cylinders for compressive strength tests shall be 6 inches (150 mm) by 12 inches (300 mm) specimens prepared in accordance with AASHTO T 23-93. For every compressive strength sample, a minimum of two cylinders will be cured in the same manner as the panels and tested at approximately 7 days. The average compressive strength of these cylinders, when tested in accordance with AASHTO T 22-92 will provide a test result which will determine the initial strength of the concrete. In addition, two cylinders shall be cured in accordance with AASHTO T 23-93 and tested at 28 days. The average compressive strength of these two cylinders, when tested in accordance with AASHTO T 22-92 will provide a compressive strength test result which will determine the compressive strength of the production lot.

If the initial strength test results indicate a compressive strength in excess of 5000 psi (31.0 MPa), then these test results will be utilized as the compressive strength test result for that production lot and the requirements for testing at 28 days will be waived for that particular production lot.

Acceptance of a production lot will be made if the compressive strength test result is greater than or equal to 5000 psi (31.0 MPa). If the compressive strength test result is less than 5000 psi (31.0 MPa), the acceptance of the production lot will be based on its meeting the following acceptance criteria in its entirety:

a. Ninety percent of the compressive strength test results for the overall production shall exceed 5000 psi (31.0 MPa).

b. The average of any six consecutive compressive strength test results shall exceed 5000 psi (31.0 MPa).

c. No individual compressive strength test result shall fall below 4000 psi (27.5 MPa).

In the event that a production lot fails to meet the specified compressive strength requirements, the production lot shall be rejected. Such rejection shall prevail unless the Manufacturer, at his own expense, obtains and submits evidence acceptable to the Engineer that the strength and quality of the concrete placed within the panels of the production lot is acceptable. If such evidence consists of tests made on cores taken from the panels within the production lot, the cores shall be obtained and tested in accordance with the specifications of AASHTO T 24-93.

2.1.8 Rejection

Panels shall be subject to rejection because of failure to meet any of the requirements specified above. In addition, any of the following defects shall be sufficient cause for rejection:

a. Defects that indicate imperfect molding.

b. Defects indicating honeycombed or open texture concrete.

c. Defects in the physical characteristics of the concrete, such as broken or chipped concrete.

d. Stained form face, due to excess form oil or other contaminants.

e. Signs of aggregate segregation

f. Broken or cracked corners.

g. Slots plugged and unusable or those which failed the width test.

h. Lifting inserts not useable.

i. Exposed reinforcing steel.

j. Cracks at retention devices.

k. Insufficient concrete compressive strength.

l. Panel thickness in excess of 3/16 inch (5 mm) from that shown on the plans.

The Engineer will decide if an attempt may be made to repair a defective panel. The contractor or supplier shall make the repairs at his own expense. If the repairs are made to the Engineer's satisfaction, the panel will be acceptable.

2.1.9 Marking

The date of manufacture, the production lot number and the piece-mark, shall be clearly scribed on the back surface of each panel.

2.1.10 Handling, Storage and Shipping

All panels shall be handled, stored, and shipped in such a manner as to avoid chipping, cracking, fracturing and excessive bending stresses. Panels shall be supported on firm blocking while in storage.

2.1.11 Reinforcing Steel

The reinforcing steel shall be Grade 60 (Grade 420) epoxy coated and shall satisfy all applicable requirements of CMS Item 509, Reinforcing Steel.

2.2 Reinforcing Geogrids

The geogrids shall consist of Tensar structural geogrids formed by uniaxially drawing continuous sheets of select high density polyethylene material and shall have aperture geometry and rib and junction cross-sections sufficient to permit significant mechanical interlock with the material being reinforced and with the connection device embedded in the panels. The geogrid shall have high flexural rigidity, high tensile modulus in relation to the material being reinforced and shall also have high continuity of tensile strength through all ribs and junctions of the grid structure to develop the full long term design strength of the geogrid at the panel connection. The geogrids shall have high resistance to deformation under sustained long term design load while in service and shall also be resistant to ultraviolet degradation, to damage under normal construction practices and to all forms of biological and /or chemical degradation normally encountered in the material being reinforced.

The contractor shall check the geogrid upon delivery to ensure that the proper material has been received, and is free from defects that may impair its strength and durability. The geogrids shall be stored in conditions above -29 degrees C (-20 degrees F) and not greater than 60 degrees C (140 degrees F). The contractor shall prevent excessive mud, wet concrete, epoxy, and like materials from coming into contact with and affixing to the geogrid material. Geogrid rolls may be laid flat or stood on end for storage.

2.3 Joint Materials

2.3.1 Bearing Pads

Elastomeric or EPDM bearing pads shall be the type and grade recommended by Tensar Earth Technologies.

2.3.2 Joint Cover

The material to be attached to the rear side of the facing panels covering the vertical and horizontal joints between facing panels, shall be a geotextile meeting the minimum requirements for filtration applications as specified by AASHTO M-288. The adhesive used to attach the geotextile material to the rear of the facing panel shall be Pliobond 5001, as manufactured by Goodyear Rubber Company, or equal as approved by the Tensar Earth Technologies Engineer.

2.4 Select Granular Embankment Material

The select granular embankment material used in the reinforced structure volume shall be Item 304 Aggregate Base or Item 703.11 Granular Material Type 2; deviations from these are as follows:

1) No slag shall be allowed.

2) The total passing the Number 200 (0.75 mm) sieve shall be 0 to 7 percent prior to the placement operation. The acceptance samples shall be taken from the stockpile. The Contractor shall transport and handle the material to minimize the segregation of the material prior to the placement. No slag shall be allowed.

The select granular embankment materials shall also conform to the requirements listed below:

1) AASHTO T 289-91 - The pH range of the material shall be between 4.5 and 9.0.

The Contractor or supplier, as his agent, shall furnish the Engineer a Certificate of Compliance from an independent Testing Laboratory, certifying that the above materials comply with the applicable contract specifications. A copy of all test results performed by the contractor or his supplier, necessary to assure contract compliance shall be furnished to the Engineer.

Acceptance will be based on a letter of certification that material to be utilized is within the parameters of the applicable contract notes and specifications. This letter shall be submitted along with the accompanying test reports to the Project Engineer. The Engineer shall provide written acceptance of material upon review of the accompanying test reports, and visual inspection of the material by the Engineer.

2.5 Leveling Pad Concrete

The leveling pad shall be constructed of 6 inches (150 mm) thick concrete having a compressive strength not less than 2500 psi (17.2 MPa) and shall have sufficient strength to adequately support the panels at the bottom of the wall in a level position during installation. The leveling pad may be constructed of precast concrete. Precast concrete leveling pads are advantageous to use when many short segment leveling pad steps are required.

2.6 Filter Fabric and Porous Backfill

Filter Fabric and Porous Backfill is not used for the walls in this project.

3.0 Construction Requirements

3.1 Wall Excavation

Unclassified excavation shall be in accordance with ODOT Item 503 except that the limits of excavation shall be shown in the plans.

3.2 Foundation Preparation

The foundation for support of the reinforced select granular embankment volume shall be graded level for a width equal to or exceeding the length of reinforcing geogrid. Prior to wall construction, the foundation soil shall be level and rolled with a smooth wheel vibratory roller and the exposed soil compacted to at least 95% Standard Proctor density. Any foundation soils found to be unsuitable shall be removed and replaced as directed by the Engineer.

The unreinforced concrete leveling pad shall be provided as shown on the plans. The leveling pad shall be cured a minimum of 12 hours before placement of wall facing panels.

3.3 Wall Erection

Precast concrete panels shall be placed as shown on the drawings. For erection, panels shall be handled by means of a lifting device set into the upper edge of the panels. Panels shall be set in successive horizontal lifts in the sequence shown on the plans, as backfill placement proceeds. As backfill material is placed behind the panels, the panels shall be maintained in vertical position by means of temporary wooden wedges placed in the panel joints on the external side of the wall. The wooden wedges shall be removed as soon as the panel above the wedged panel is completely erected and backfilled. External bracing is required for the initial lift. For vertical walls, vertical tolerances (plumbness) and horizontal alignment tolerances shall not exceed 3/4 inch (20 mm) when measured along 10 foot (3000 mm) straight edge. The maximum allowable offset in any panel joint shall be 3/4 inch (20 mm). For vertical walls, the overall vertical tolerance of the wall (plumbness from top to bottom) shall not exceed ½ inch (13 mm) per 10 feet (3000 mm) of wall height.

Reinforcing geogrids shall be placed normal to the wall face, unless otherwise shown on the plans or as directed by the Engineer. The geogrid shall be installed in the slot in strict accordance with the manufacturer's construction guidelines. The reinforcing grid shall be continuous, from wall panel to end of reinforcing zone. No splicing of geogrid will be allowed. Prior to placement of the reinforcing geogrid, backfill shall be compacted in accordance with Section 3.4. Construction equipment shall not operate directly on the geogrid. Before the placement of any backfill over the geogrid, the reinforcing geogrids shall be pulled taut perpendicular to the orientation of the geogrid with enough force to eliminate wrinkles or folds in the geogrid.

3.4 Select Granular Embankment Material Placement

Select granular embankment material placement shall closely follow the erection of each lift of panels. At each geogrid level, the select granular embankment material should be roughly leveled before extending the geogrid over the fill. Reinforcing geogrids shall be installed normal to the wall unless the plans show otherwise to avoid an obstruction. The geogrids shall be pulled taut, by a method approved by the wall supplier, prior to placing the select granular embankment material. The maximum select granular embankment lift thickness shall not exceed 8 inches (200 mm) loose and shall closely follow panel erection. The Contractor shall decrease the select granular embankment lift thickness, if necessary, to obtain the specified density.

At the end of each day's operations, the Contractor shall shape the last level of embankment to rapidly direct rain water runoff away from the wall face. The Contractor shall not allow surface runoff from adjacent areas to enter the wall construction site.

Compaction of the select granular embankment material shall be in accordance with all pertinent requirements of Item 203.07.B. The moisture content of the select granular embankment material prior to and during compaction shall be uniformly distributed throughout each layer and shall conform to requirements of Item 203.07.A.

Embankment compaction of the reinforced zone of fill shall be accomplished without disturbance or distortion of reinforcing geogrids and panels. Compaction within 3 feet (1000 mm) of the backside of the wall panels shall be achieved by at least 3 passes of a light mechanical tamper. The embankment placed within 3 feet (1000 mm) of the backside of the panels does not have to satisfy density test requirements, but must be placed in 6 inch (150 mm) to 8 inch (200 mm) thick lifts which are compacted per above.

4.0 Inspection

Tensar Earth Technologies shall provide a company representative who shall monitor the precast operation to ensure that the operation complies with all the above requirements and the representative shall submit documentation to this effect to the Engineer.

Documentation shall be furnished by the company representative for any panel which he deems acceptable but which is subject to rejection under 2.1.8.

Tensar Earth Technologies shall provide sufficient on-site technical assistance by a company representative to ensure that the Contractor and the Engineer fully understand the proper construction procedures and operations of the Ares Retaining Wall System.

The Contractor shall provide a soils consultant who shall, through the Engineer, be responsible for inspection and testing to confirm that the select granular embankment material, placement and compaction are in compliance with this specification.

The soils consultant shall provide the Engineer with two copies of all inspection reports which contain the testing results, all pertinent measurements and the soil consultant's conclusions.

The soil consultant's field representative shall be an Ohio Registered Professional Engineer or work under the direction of an Ohio Registered Professional Engineer. The final inspection report shall be signed by an Ohio Registered Professional Engineer.

The Engineer will monitor the erection of the structure and placement of the select granular embankment material with the technical assistance from the soils consultant and Tensar Earth Technologies. Any work not satisfying the requirements of this special provision is subject to rejection by the Engineer.

5.0 Coping and Traffic Barrier

A cast-in-place coping and traffic barrier shall be provided on the top of the wall as shown in the plans. Concrete shall be Class C and shall conform to CMS Item 511. Reinforcing steel shall be epoxy coated and shall conform to CMS Item 509. For the payment for the concrete and reinforcing steel, see 8.1 "Basis of Payment ".

6.0 Pile Sleeves

When piles are required, sleeves shall be used to form a void in the select granular embankment material so that the piles can be installed after the wall construction has been completed. The sleeve material shall be satisfactory to the Tensar Earth Technologies. Consider using segments of plastic pipe strong enough to maintain the required void. A bentonite slurry shall be placed in the void located between the pile and the sleeve. The slurry shall consist of the following materials with the volume ratios of one part cement, one part bentonite, and ten parts water. The cost of the above described work shall be considered incidental to Item Special "Ares Retaining Walls."

7.0 Design Requirements of MSE Panel Walls

The design of the Tensar Ares Retaining Wall shall be in strict conformance with the 2002 edition of' AASHTO Standard Specifications for Highways and Bridges', except as modified in this document; the latest edition of the Ohio Bridge Design' Manual, except as modified in this document; and the design requirements listed below:

1. The design shall meet all of the plan requirements. The recommendations of the wall system suppliers shall not override the minimum performance requirements shown herein. Other systems offered by the approved supplier shall not be submitted in lieu of the system which is called for in the plans.

2. Where walls or wall sections intersect with an included angle of 130 degrees or less, a vertical corner element, separate from the standard panel face, shall abut and interact with the opposing standard panels. The corner element shall have geogrid reinforcement connected specifically to that panel and shall be designed to preclude lateral spread of the intersecting panels.

3. One hundred percent of the geogrid reinforcement designed and placed in the reinforced earth volume shall extend to and be connected to the facing element through the use of

sleeve or another acceptable method. Field cutting of the geogrid reinforcement where it interferes with an obstacle is permitted, provided that Tensar and the Engineer approve of the cutting and a detail for the partial removal of the geogrid has been designed and shown in the plans.

4. Under service loads the minimum factor of safety at the connection between the face panel and the geogrid reinforcement shall be 1.5 as defined in the 2002 AASHTO 5.8.7.2. The minimum factor of safety against reinforcement pullout shall be 1.5 at ½ inch (13 mm) deformation. The maximum allowable reinforcement tension shall not exceed the LTDS of the geogrid, using criteria set by the AASHTO Standard Specifications.

5. The coefficient of lateral earth pressure Ka and the application of the lateral forces to the reinforced soil mass for external stability analysis shall be computed using the Coulomb method, but assuming no wall friction.

6. Soil parameters for use in design are as follows:

Fill Zone	Type of Soil	Soil Unit Weight	Friction Angle	Cohesion
Reinforced Zone	Compacted Select Granular Embankment Material with less than 7% P200 Material	120 lbs/ft³ (18.9 kN/m³)	34°	0
Retained Soil	On-site soil varying from sandy lean clay to silty sand	120 lbs/ft³ (18.9 kN/m³)	30°	0
Foundation Soil	Variable - ranging from existing uncontrolled fill to natural silty sand	120 lbs/ft³ (18.9 kN/m³)	**	**

** Refer to ODOT Bridge Design Manual 303.4.1.1

7. All walls shall be designed with coping, as specified in the plans.

8. The allowable reinforcement tension for polymeric (extensible) reinforcement shall be based on AASHTO Section 5.8.7.2. The following reduction factors shall be applied to the Tensar HDPE geogrid soil reinforcements for determination of the allowable long term design strength, T_{al}, based on the type of backfill used in the reinforced zone.

TENSAR STRUCTURAL GEOGRIDS FOR ARES WALLS, AASHTO STANDARD SPECIFICATIONS

	UX1600HS		UX1700HS	
$T_{ALL} = T_{ULT} / RF_{CR} \times RF_{ID} \times R_{FD}$				
Ultimate Strength (kN/m)	131.3	▨	157.6	▨
Calculated Creep Reduction Factor, RF_{CR}	3.1	▨	3.1	▨
Durability, RF_D	1.1	▨	1.1	▨
Installation Damage, RF_{ID}	1.25		1.25	

9. The design life of the Tensar Ares Retaining Wall shall be 100 years.

10. The minimum depth of embedment, measured from the finished ground line to the top of the leveling pad, shall be at least 3.0 feet (915 mm), as shown on plan.

11. The internal stability, including the definition of the failure plane and the lateral earth pressure coefficient, for Tensar Ares retaining walls with extensible reinforcement shall be computed according to AASHTO Section 5.8.4.1.

12. The maximum thickness of the concrete leveling pad shall be 6 inches (150 mm).

13. The connections for the geogrid reinforcement to the panels shall be in two places for standard panels and the connections shall be no more than 2.5 feet (760 mm) apart vertically.

14. The wall height for design purposes shall be measured from the top of the leveling pad to the top of the coping. When the wall is retaining a sloping surcharge then the wall height shall be defined as the equivalent design height (h) as shown in AASHTO Figure 5.8.2B. The minimum geogrid reinforcement length shall be 70 percent of the wall height, as appropriately defined for either a level or sloping backfill, but no less than 8 feet (2440 mm).

15. The minimum thickness for the precast reinforced concrete panels shall be 5-1/2 inches (140 mm).

16. The wall system, regardless of the size of the panels shall accommodate up to one percent differential settlement in the longitudinal direction.

17. The vertical stress at each reinforcement level shall be computed by considering local equilibrium of all the forces acting above the level under investigation. The vertical stress (bearing pressure) at each reinforcement level may be computed using the Meyerhoff method in the same manner that the bearing pressure is computed at the base.

18. Design shall include a dynamic horizontal thrust using an acceleration, A, of 0.06g to simulate earthquake loading in Cincinnati, Ohio.

8.0 Method of Measurement

The Mechanically Stabilized Earth Wall quantity to be paid for shall be Lump Sum.

8.1 Basis of Payment

Item Special "Retaining Wall, Misc.: Ares Retaining Wall by Tensar" will be paid for at the contract Lump Sum price. This work shall include the fabrication, furnishing, and erection of the Ares retaining walls, including the reinforced concrete face panels, reinforcing geogrids, joint material, concrete leveling pad, concrete coping, reinforcing steel, filter fabric, all labor and material required to construct the fabric face required for phase construction within the limits of the MSE wall as shown on the plans, and all incidentals, labor, and equipment necessary to complete this item.

The payment for the following items shall be included with the Lump Sum price of Item Special, "Retaining Wall, Misc.: Ares Retaining Wall by Tensar."

Item 203 "Select Granular Embankment, as per plan" defined in section 2.4.

Item 203 "Embankment, as per plan" as shown on the plans.

Item 304 "Aggregate Base."

Item 503 "Unclassified Excavation, as per plan" defined in section 3.1.

Item Special "Sealing of Concrete Surfaces, Epoxy-Urethane." All exposed surfaces of precast panels shall be sealed. Surfaces of the cast-in-place concrete to be sealed are shown on the plans. For sealing of concrete surfaces, see not on the wall plans.

The cost for all work related to any temporary face of Ares Retaining Wall by Tensar including any soil reinforcement and all incidentals for use in phased construction to be included with bridge item 503 "Cofferdams, Cribs, and Sheeting, As Per Plan".

T:\03\08\06419\308_MED-83\MSE wall special provisions\MED_TENS.WPD

SPECIAL PROVISIONS

REINFORCED EARTH RETAINING WALL

CO-RT-SEC

WAY/MED-71-7.04/0.00
PID: 14017

DATE: 5-03

REINFORCED EARTH WALLS (DESIGN A)

1.0 Description

This work consists of the design and construction of Reinforced Earth Retaining Walls in accordance with this specification. See Section 7.0 for Reinforced Earth Retaining Wall Design requirements. The design submittal shall include detailed design calculations and a set of drawings describing the proposed retaining wall. The contractor submittal will include a site plan, an elevation drawing of the full length of the retaining wall and representative cross-sections at each design change. Drainage details are to be included as well as detailed construction specifications.

2.0 Materials

The Contractor shall make arrangements to acquire the reinforced concrete face panels, galvanized steel reinforcing strips, fasteners, joint materials and all necessary incidentals from the Reinforced Earth Company, 1444 North Farnsworth Avenue, Suite 505, Aurora, IL 60505 (Telephone: 630: 898-3334) or at 8614 Westwood Center Drive, Suite 1100, Vienna, Virginia 22182 (703-749-4325).

The Contractor shall provide certification of the Reinforced Earth wall components as per CMS 101.03. Certification shall also be provided for the concrete, reinforcing steel and tie strips which are components of the Reinforced Earth wall. (Refer to the section of the proposal concerning steel produced in the United States.)

2.1 Reinforced Concrete Face Panels

Material used in concrete for face panels shall conform to the requirements of CMS Item 499.02 except as stated in this document. Cement shall be Types I, II, or III and shall conform to the requirements of AASHTO M 85-96. Concrete shall have a compressive strength at 28 days in accordance with Section 2.1.7 Compressive Strength. Concrete shall contain 6 ± 2 percent air. Air entraining admixture shall conform to AASHTO M 154-89. Retarding agents, accelerating agents or any additive containing chloride shall not be used without approval from the Engineer.

Reinforcing steel, tie strips, 3/4 inch (19 mm) dowels, PVC pipe, and lifting inserts shall be set in place to the dimensions and tolerances shown on the wall company plans prior to casting.

2.1.1. Testing and Inspection

Acceptability of the concrete for the precast panels will be determined on the basis of compression tests, certifications and visual inspection. The concrete strength requirements for the precast panels shall be considered attained regardless of curing age when compression test results indicate that strengths conform to 28-day specifications.

The Supplier shall furnish facilities and perform all necessary sampling and testing in an expeditious and satisfactory manner. Panels utilizing Type I or II cement shall be considered acceptable for placement in the wall when 7-day initial strengths exceed 85 percent of 28-day requirements. Panels utilizing Type III cement shall be considered acceptable for placement in the wall prior to 28 days only when compressive strength test results indicate that the strength exceeds the 28 day specification.

2.1.2. Casting

The panels shall be cast on a flat area with the front face down. Tie strip guides shall be set on the backside. The concrete in each panel shall be placed without interruption and shall be consolidated by the use of a concrete vibrator, supplemented by such hand-tamping as may be necessary to force the concrete into the corners of the forms and prevent the formation of stone pockets, air bubbles or cleavage planes. Clear form oil of the same manufacture shall be used throughout the casting operation and shall be approved by the Reinforced Earth Engineer.

Special care shall be given to the tie strips. The tie strips shall be positioned to within 1 inch (25 mm) of their specified locations. No concrete or debris shall be permitted between the projecting tabs of the tie strips which could interfere with the installation and bolting of the reinforcing strips.

2.1.3. Curing

The curing method will be dependent on the concrete precaster's capabilities and shall be as per instructions by the Reinforced Earth Company. The reinforced concrete panels shall be cured for a sufficient length of time so that the concrete will develop the specified compressive strength.

Any production lot which does not conform to the strength requirements of Section 2.1.7-Compressive Strength, shall be rejected.

2.1.4. Removal of Forms

The forms shall remain in place until they can be removed without damage to the panel.

2.1.5. Concrete Finish and Tolerances

The front face of the reinforced concrete panels shall have an architectural surface finish treatment as shown on the plans. The backside of the reinforced concrete panels shall have an unformed surface finish and shall be rough screeded to eliminate open pockets of aggregate and surface distortions in excess of 1/4-inch (6 mm). All panels, barriers and coping shall be sealed with an epoxy sealer in conformance with Item Special "Sealing of Concrete Surfaces, Epoxy-Urethane", (see plans).

2.1.6. Tolerances

All panels shall be manufactured within the following tolerances:

a. Panel Dimensions

Lateral position of tie strips within 1 inch (25 mm). All other dimensions within 0.2 inch (5 mm).

b. Panel Squareness

Squareness as determined by the difference between the two diagonals shall not exceed ½-inch (13 mm).

c. Panel Surface Finish

Surface defects on smooth formed surfaces measured on a length of 5 feet (1500 mm) shall not exceed 0.12 inch (3 mm). Surface defects on textured finished surfaces measured on a length of 5 feet (1500 mm) shall not exceed 0.312 inch (8 mm).

2.1.7. Compressive Strength

Acceptance of the concrete panels with respect to compressive strength will be determined on the basis of production lots. A production lot is defined as a group of panels that will be represented by a single compressive strength sample and will consist of either 40 panels or a single day's production, whichever is less.

During the production of the concrete panels, the manufacturer will randomly sample the concrete in accordance with AASHTO T 141-93. A single compressive strength sample, consisting of a minimum of four test cylinders, will be randomly selected for every production lot.

Cylinders for compressive strength tests shall be 6 inches (150 mm) by 12 inches (300 mm) specimens prepared in accordance with AASHTO T 23-93. For every compressive strength sample, a minimum of two cylinders will be cured in the same manner as the panels and tested at approximately 7 days. The average compressive strength of these cylinders, when tested in accordance with AASHTO T 22-92, will provide a test result which will determine the initial strength of the concrete. In addition, two cylinders shall be cured in accordance with AASHTO T 23-93 and tested at 28 days. The average compressive strength of these two cylinders, when tested in accordance with AASHTO T 22-92, will provide a compressive strength test result which will determine the compressive strength of the production lot.

If the initial strength test results indicate a compressive strength in excess of 4000 psi (27.5 MPa), then these test results will be utilized as the compressive strength test result for that production lot and the requirement for testing at 28 days will be waived for that particular production lot.

Acceptance of a production lot will be made if the compressive strength test result is greater than or equal to 27.5 MPa (4000 psi). If the compressive strength test result is less than 4000 psi (27.5 MPa), the acceptance of the production lot will be based on its meeting the following acceptance criteria in its entirety:

a. 90% of the compressive strength test results for the overall production shall exceed 4000 psi (27.5 MPa).

b. The average of any six consecutive compressive strength test results shall exceed 4000 psi (27.5 MPa).

c. No individual compressive strength test result shall fall below 3600 psi (24.8 MPa).

In the event that a production lot fails to meet the specified compressive strength requirements, the production lot shall be rejected. Such rejection shall prevail unless the Manufacturer, at his own expense, obtains and submits evidence acceptable to the Engineer that the strength and quality of the concrete placed within the panels of the production lot is acceptable. If such evidence consists of tests made on cores taken from the panels within the production lot, the cores shall be obtained and tested in accordance with the specifications of AASHTO T 24-93.

2.1.8. Rejection

Panels shall be subject to rejection because of failure to meet any of the requirements specified above. In addition, any or all of the following defects may be sufficient cause for rejection:

a. Defects that indicate imperfect molding.

b. Defects indicating honeycombed or open textured concrete.

c. Defects in the physical characteristics of the concrete, such as broken or chipped concrete.

d. Stained form face, due to excess form oil or other contaminations.

e. Signs of aggregate segregation.

f. Broken or cracked corners.

g. Tie strips bent or damaged.

h. Lifting inserts not usable.

i. Exposed reinforcing steel.

j. Cracks at the PVC pipe or pin.

k. Insufficient concrete compressive strength.

l. Panel thickness in excess of 3/16 inch (5 mm) plus or minus from that shown on the plans.

The Engineer will decide if an attempt may be made to repair a defective panel. The contractor or supplier shall make the repairs at his own expense. If the repairs are made to the Engineer's satisfaction, the panel will be acceptable.

2.1.9. Marking

The date of manufacture, the production lot number and the piece mark shall be clearly scribed on the back surface of each panel.

2.1.10. Handling, Storage and Shipping

All panels shall be handled, stored, and shipped in such a manner as to avoid chipping, cracking, fracturing, and excessive bending stresses. To avoid bending the tie strips the panels in storage shall be supported on firm blocking located immediately adjacent to the strips.

2.1.11. Reinforcing Steel

The reinforcing steel shall be Grade 60 (Grade 420) epoxy coated and shall satisfy all applicable requirements of CMS 509, reinforcing steel.

2.2 Reinforcing Strips and Tie Strips

Tie strips shall be shop-fabricated from hot rolled steel conforming to the requirements of ASTM A 570M, Grade 50 (Grade 345) or equivalent.

Reinforcing strips shall be hot rolled from bars to the required shape and dimensions. The physical and mechanical properties of the reinforcing strips shall conform to ASTM A 572M Grade 65 (Grade 450) or equivalent.

Reinforcing strips and tie strips shall be galvanized in conformance with ASTM A 123.

All reinforcing strips and tie strips shall be carefully inspected to ensure they are true to size and free from defects that may impair their strength and durability.

2.3 Fasteners

Fasteners shall be ½ inch (13 mm) diameter, hexagonal cap screw bolts and nuts, which are galvanized and conform to ASTM A325M.

2.4 Joint Materials

2.4.1. Bearing Pads

Rubber bearing pads shall be a type and grade recommended by the Reinforced Earth Company, such as "Bearing Blok" or equivalent.

2.4.2. Inclined, Vertical and Horizontal Joints

The material to be attached to the rear side of the facing panels covering the vertical and horizontal joints between facing panels, shall be a geotextile meeting the minimum requirements for filtration applications as specified by AASHTO M-288. The adhesive used to attach the geotextile material to the rear of the facing panel shall be Pliobond 5001, as manufactured by Goodyear Rubber Company, or equal as approved by the Reinforced Earth Engineer.

2.5 Dowels

The 3/4 inch (19 mm) dowel bars shall be made of a material that is specified by the Reinforced Earth Company.

2.6 Select Granular Embankment Material

The select granular embankment material used in the reinforced structure volume shall be Item 304 Aggregate Base or Item 703.11, Granular Material Type 2; deviations from these are as follows:

1) No slag shall be allowed.

2) The total percent passing the Number 200 (0.075 mm) sieve shall be 0 to 7 percent prior to the placement operation. The acceptance samples shall be taken from the stockpile. The Contractor shall transport and handle the material to minimize the segregation of the material prior to the placement.

The select granular embankment material shall also conform to the requirements listed below:

1) AASHTO T 289-91 The pH range of the material shall be between 5.0 and 10.0.

2) AASHTO T 288-91 The resistivity of the material shall be greater than 3,000 ohm-cm. If the resistivity is found to be greater than 5,000 ohm-cm, then AASHTO Test T 290-95 and T 291-94 may be waived.

3) AASHTO T 291-94 The chloride levels of the material shall be less than 100 ppm.

4) AASHTO T 290-95 The sulfate levels of the material shall be less than 200 ppm.

The Contractor or supplier, as his agent, shall furnish the Engineer a Certificate of Compliance from an independent Testing Laboratory, certifying that the above materials comply with the applicable contract specifications. A copy of all test results performed by the contractor or his supplier necessary to assure contract compliance shall also be furnished to the Engineer.

Acceptance will be based on a letter of certification that the material to be utilized is within the parameters of the applicable contract notes and specifications. This letter shall be submitted along with the accompanying test reports to the Project Engineer. The Engineer shall provide written acceptance of material upon review of accompanying test reports, and visual inspection of the material by the Engineer.

2.7 Leveling Pad Concrete

The leveling pad concrete shall be a maximum 6 inches (150 mm) thick, having a compressive strength not less than 2500 psi (17.2 MPa) and be of sufficient strength to adequately support the panels at the bottom of the wall in a level position during installation. The leveling pad may be constructed of precast concrete. Precast concrete leveling pads are advantageous to use when many short segment leveling pad steps are required.

2.8 Filter Fabric and Porous Backfill

Filter Fabric and Porous Backfill is not used for the walls in this project.

3.0 Construction Requirements

3.1 Wall Excavation

Unclassified excavation shall be in accordance with ODOT Item 503 except that the limits of excavation shall be as shown in the plans.

3.2 Foundation Preparation

The foundation for support of the reinforced select granular embankment volume shall be graded level for a width equal to or exceeding the length of reinforcing strips. Prior to wall construction, the foundation soil shall be leveled, rolled with a smooth wheel vibratory roller and the exposed soil compacted to at least 95% Standard Proctor density. Any foundation soils found to be unsuitable shall be removed and replaced, as directed by the Engineer.

The unreinforced concrete leveling pad shall be provided as shown on the plans. The leveling pad shall be cured a minimum of 12 hours before placement of the wall facing panels.

3.3 Wall Erection

Precast panels are handled by means of a lifting device connected to the lifting insert which is cast into the upper edge of the panels. Panels shall be installed in successive horizontal lifts in the sequence shown on the plans as embankment placement proceeds. As embankment material is placed behind panels, the panels shall be maintained in vertical position by means of temporary wooden wedges placed in the panel joints on the external side of the wall. External bracing may be required for the initial lift. Vertical tolerance (plumbness) and horizontal alignment tolerance shall not exceed 3/4 inch (20 mm) when measured along a 10 foot (3000 mm) straight edge. The maximum allowable offset in any panel joint shall be 3/4 inch (20 mm). The overall vertical tolerance of the wall (plumbness from top to bottom) shall not exceed ½ inch (13 mm) per 10 feet (3000 mm) of wall height.

Reinforcing strips shall be placed normal to the face of the wall, unless otherwise shown on the plans or directed by the Engineer. Prior to placement of the reinforcing strips, embankment shall be compacted in accordance with Section 3.4.

3.4 Select Granular Embankment Material Placement

Select granular embankment material placement shall closely follow the erection of each lift of panels. At each reinforcing strip level, the select granular embankment material should be roughly leveled before placing and bolting the reinforcing strips. Reinforcing strips shall be placed normal to the face of the wall unless the plans show that the reinforcing strips must avoid an obstruction. The maximum select granular embankment lift thickness shall not exceed 8 inches (200 mm) loose and shall closely follow panel erection. The Contractor shall decrease the select granular embankment lift thickness if necessary to obtain the specified density.

At the end of each day's operations, the Contractor shall shape the last level of embankment to rapidly direct rain water runoff away from the wall face. The contractor shall not allow surface runoff from adjacent areas to enter the wall construction site.

Compaction of the select granular embankment material shall be in accordance with all pertinent requirements of Item 203.07.B. The moisture content of the select granular embankment material prior to and during compaction shall be uniformly distributed throughout each layer and shall conform to requirements of Item 203.07.A.

Embankment compaction shall be accomplished without disturbance or distortion of reinforcing strips and panels. Compaction within 3 feet (100 mm) of the backside of the wall panels shall be achieved by at least 3 passes of a light mechanical tamper. The select granular embankment placed within 3 feet (1000 mm) of the backside of the wall panels does not have to satisfy density test requirements, but must be placed in 6 inch (150 mm) to 8 inch (200 mm) thick lifts which are uniformly compacted per above.

4.0 Inspection

The Reinforced Earth Company shall provide a company representative who shall monitor the precast operation sufficiently to ensure that the operation complies with all the above requirements and the representative shall submit documentation to this effect to the Engineer.

Documentation shall be furnished by the company representative for any panel which he deems acceptable but which is subject to rejection under 2.1.8.

The Reinforced Earth Company shall provide sufficient on-site technical assistance by a company representative to ensure that the Contractor and the Engineer fully understand the proper construction procedures and operations of the Reinforced Earth Wall System.

The Contractor shall provide a soils consultant who shall, through the Engineer, be responsible for inspection and field testing to confirm that the select granular embankment material requirements, placement and compaction requirements are in compliance with these special provisions.

The soils consultant shall provide the Engineer with two copies of all inspection reports which contain the testing results, all pertinent measurements and the soils consultant's conclusions.

The soils consultant's field representative shall be a Registered Professional Engineer or work under the direction of an Ohio Registered Professional Engineer. The final inspection report shall be signed by an Ohio Registered Professional Engineer.

The Engineer will monitor erection of the structure and placement of select granular embankment material with technical assistance from the soils consultant and The Reinforced Earth Company. Any work not satisfying the requirements of these special provisions are subject to rejection by the Engineer.

5.0 Coping and Traffic Barrier

A cast-in-place coping and traffic barrier shall be provided on top of the wall as shown in the plans. Concrete shall be Class C and shall conform to CMS Item 511. Reinforcing steel shall be epoxy coated and shall conform to CMS Item 509. For payment for the concrete and the reinforcing, see 8.1, "Basis of Payment".

6.0 Pile Sleeves

When piles are required, sleeves shall be used to form a void in the select granular embankment so that the proposed piles can be installed after the wall construction is completed. The sleeves shall be made of a material that does not promote corrosion within the select granular embankment and the sleeve material shall be satisfactory to the Reinforced Earth Company. Consider using segments of plastic pipe strong enough to maintain the required void. A bentonite slurry shall be placed in the void located between the pile and the sleeve. The slurry shall consist of the following materials with volume ratios of: one part cement, one part bentonite, and ten parts water. The cost of the above described work shall be considered incidental to Item Special "Reinforced Earth Walls."

7.0 Design Requirements for MSE Panel Walls

The design of the Reinforced Earth Wall shall be in strict conformance with the 2002 edition of 'AASHTO Standard Specifications for Highway Bridges', except as modified in this document, the latest edition of the Ohio Bridge Design Manual, except as modified in this document, and the design requirements listed below:

1. The design shall meet all plan requirements. The recommendations of the wall system suppliers shall not override the minimum performance requirements shown herein. Other systems offered by the approved supplier shall not be submitted in lieu of the system which is called for in the plans.

2. Where walls or wall sections intersect with an included angle of 130 degrees or less, a vertical corner element separate from the standard panel face shall abut and interact with the opposing standard panels. The corner element shall have steel reinforcing strips connected specifically to that panel and shall be designed to preclude lateral spread of the intersecting panels.

3. One hundred percent of the steel reinforcing strips which are designed and placed in the reinforced earth volume shall extend to and be connected to the facing element through the use of tie strips or another acceptable method. No field cutting of steel reinforcing strips to avoid obstacles, such as abutment piles, shall be allowed. Also, steel reinforcing strips shall not be bent around such obstacles.

4. Under service loads, the minimum factor of safety at the connection between the face panel and the steel reinforcing strips shall be 1.5. The minimum factor of safety against reinforcement pullout shall be 1.5 at ½ inch (13 mm) deformation. The maximum allowable reinforcement tension shall not exceed two-thirds of the connection strength determined at ½ inch (13 mm) deformation.

5. The coefficient of lateral earth pressure k_a and the application of the lateral forces to the reinforced soil mass for external stability analysis shall be computed using the Coulomb method, but assuming no wall friction.

6. All walls shall be designed with a coping, as specified in the plans.

7. Soil parameters for use in design are as follows:

Fill Zone	Type of Soil	Soil Unit Weight	Friction Angle	Cohesion
Reinforced Zone	Compacted Select Granular Embankment Material with less than 7% P200 Material	120 lbs/ft^3 (18.9 kN/m^3)	34°	0
Retained Soil	On-site soil varying from sandy lean clay to silty sand	120 lbs/ft^3 (18.9 kN/m^3)	30°	0
Foundation Soil	Variable - ranging from existing uncontrolled fill to natural silty sand	120 lbs/ft^3 (18.9 kN/m^3)	**	**

** Refer to ODOT Bridge Design Manual 303.4.1.1.

8. The allowable reinforcement tension of steel (inextensible) reinforcement elements for structural design and connection (pullout) design shall be based on the thickness of the elements at the end of the structure's design life. In essence, the minimum thickness of the reinforcement elements shall be that thickness which will provide for the structural requirement plus the sacrificed thickness at the end of the design life.

9. The design life of the reinforced earth retaining walls shall be 100 years.

10. The minimum depth of embedment, measured from the finished ground line to the top of leveling pad shall be at least 3.0 feet (915 mm) as shown on plan.

11. The internal stability, including definition of failure plane and lateral earth pressure coefficient, for Reinforced Earth walls shall be computed according to AASHTO Section 5.8.4.1.

12. The maximum thickness of the concrete leveling pad shall be 6 inch (150 mm).

13. The connections of the reinforcing strips to the panels shall be in two elevations for standard panels and the connections shall be no more than 2.5 feet (760 mm) apart vertically.

14. The wall height for design purposes shall be measured from the top of the leveling pad to the top of the coping. When the wall is retaining a sloping surcharge then the wall height shall be defined as the equivalent design height (h) as shown in AASHTO Figure 5.8.2B. The minimum reinforcing strip length shall be 70 percent of the wall height, as appropriately defined for either a level or sloping backfill, but no less than 8 feet (2440 mm).

15. The minimum thickness of the precast reinforced concrete face panels shall be 5-1/2 inches (140 mm).

16. The yield stress for the metallic soil reinforcement shall not exceed 65 ksi (450 MPa).

17. The wall system, regardless of the size of panels, shall accommodate up to one percent differential settlement in the longitudinal direction.

18. The vertical stress at each reinforcement level shall be computed by considering local equilibrium of all the forces acting above the level under investigation. The vertical stress (bearing pressure) at each reinforcement level may be computed using the Meyerhof method in the same manner as the bearing pressure computed for the base of the wall.

8.0 Method of Measurement

The Mechanically Stabilized Earth Wall quantity to be paid for shall be Lump Sum.

8.1 Basis of Payment

Item Special "Reinforced Earth Walls" will be paid for at the contract Lump Sum price. This work shall include the fabrication, furnishing, and erection of the Reinforced Earth walls, including the reinforced concrete face panels, reinforcing strips, fasteners, joint material, concrete leveling pad, concrete coping, reinforcing steel, filter fabric, all labor and material required to construct the fabric face required for phase construction within the limits of the MSE wall as shown on the plans, and all incidentals, labor, and equipment necessary to complete this item.

The payment for the following items shall be included with the Lump Sum price of Item Special "Reinforced Earth Walls."

Item 203 "Select Granular Embankment, as per plan" as defined in section 2.6.

Item 203 "Embankment, as per plan" as shown on the wall plans.

Item 304 "Aggregate Base"

Item 503 "Unclassified Excavation, as per plan, as defined in section 3.1.

Item Special "Sealing of Concrete Surfaces, Epoxy-Urethane" All exposed surfaces of precast panels shall be sealed. Surfaces of the cast-in-placed concrete to be sealed are shown on the plans. For sealing of concrete surfaces, see note on the wall plans.

The cost for all work related to any temporary face of Reinforced Earth Wall including any soil reinforcement and all incidentals for use in phased construction to be included with bridge item 503 "Cofferdams, Cribs, and Sheeting, As Per Plan".

T:\03\08\06419\308_MED-83\MSE wall special provisions\MED_RE WPD

SPECIAL PROVISIONS

MSE PLUS RETAINING WALLS

CO-RT-SEC

WAY/MED-71-7.04/0.00
PID: 14017

DATE: 5-03

SPECIAL PROVISIONS

MSE PLUS RETAINING WALLS (DESIGN D)

1.0 Description

This work consists of the design and construction of SSL, **MSE *Plus*** Retaining Walls in accordance with this specification. See Section 7.0 for SSL, **MSE *Plus*** Retaining Wall Design requirements.The design submittal shall include detailed design calculations and a set of drawings describing the proposed retaining wall. The contractor submittal will include a site plan, an elevation drawing of the full length of the retaining wall and representative cross-sections at each design change. Drainage details are to be included as well as detailed construction specifications.

2.0 Materials

The Contractor shall make arrangements to acquire the reinforced concrete face panels, galvanized reinforcing mesh, attachment devices, joint materials, alignment pins and all necessary incidentals from the SSL, LLC, 4740-E Scotts Valley Drive, Scotts Valley, CA 95066 (Ph.: 831-430-9300, Fax. 831-430-9340.)

The Contractor shall provide certification of the above **MSE *Plus*** Retaining wall components as perCMS 101.03. Certification shall be provided for the concrete, reinforcing steel, coil embed, coil bolt, galvanized reinforcing mesh, attachment devices, joint materials and alignment pins which are components of the **MSE *Plus*** Retaining wall. (Refer to the section of the proposal concerning steel produced in the United States.)

2.1 Reinforced Concrete Face Panels

Material used in concrete for face panels shall conform to the requirements of CMS Item 499.02 except as stated in this document. Cement shall be Type I, II, or III and shall conform to the requirements of AASHTO M 85-96. Concrete shall have a compressive strength at 28 days in accordance with Section 2.1.7 Compressive Strength. Concrete shall contain 6 +2 percent air. Air entraining admixture shall conform to AASHTO M 154-89. Retarding agents, accelerating agents or any additive containing chloride shall not be used without approval from the SSL, LLC Engineer.

Reinforcing steel and lifting devices shall be set in place to the dimensions and tolerances shown on the plans prior to casting.

2.1.1. Testing and Inspection

Acceptability of the concrete for the precast panels will be determined on the basis of compression tests, certifications and visual inspection. The concrete strength requirements for the precast panels shall be considered attained regardless of curing age when compression test results indicate strengths conform to 28-day strength specifications.

The Supplier shall furnish facilities and perform all necessary sampling and testing in an expeditious and satisfactory manner. Panels utilizing Type I or II cement shall be considered acceptable for placement in the wall when 7-day initial strengths exceed 85 percent of 28-day requirements. Panels utilizing Type III cement shall be considered acceptable for placement in the wall prior to 28 days only when compressive strength test results indicate that the strength exceeds the 28-day specification.

2.1.2. Casting

The panels shall be cast on a flat area with the front face down. Coil loop inserts, reinforcing steel, PVC pipe, and lifting devices shall be set in place to the dimensions and tolerance shown on the drawings prior to casting. The PVC pipe shall be placed in such a manner as to ensure that it is straight; not bent or bowed. Coil loop inserts shall be set on the rear face. The concrete in each unit shall be placed without interruption and shall be consolidated by the use of a concrete vibrator, supplemented by such hand- tamping as may be necessary to force the concrete into the corners of the forms and prevent the formation of stone pockets, air bubbles or cleavage planes. Clear form oil of the same manufacturer shall be used throughout the casting operation as approved by the SSL, LLC Engineer.

Special care shall be given to the coil loop inserts: All coil loop inserts must be attached to the alignment templates using the bolts provided with the forms. The vertical and horizontal alignment of the coil loop inserts shall be within 1/8 inch (+ 3 mm) of the plan dimension. The holes inside the coil loop inserts must be 2-3/8 inch (60 mm) deep in the finished panel and must be free of all concrete and debris, loose or otherwise. No concrete or other debris shall be on the interior surfaces of the coils of the coil loop inserts in the finished panels. Immediately after the alignment template is removed, duct tape or equal approved by the SSL, LLC Engineer shall be placed over the coil loop insert holes in order to prevent debris from entering the holes. This duct tape shall not be removed except by the crew that is assembling the wall. Care shall be taken to ensure that the duct tape is not removed during shipping.

2.1.3. Curing

The curing method will be dependent on the concrete precaster's capabilities and shall be as per instructions by the SSL, LLC. The reinforced concrete panels shall be cured for a sufficient length of time so that the concrete will develop the specified compressive strength.

Any production lot which does not conform to the strength requirements of Section 2.1.7-Compressive Strength, shall be rejected.

2.1.4. Removal of Forms

The forms shall remain in place until they can be removed without damage to the panel.

2.1.5. Concrete Finish and Tolerances

The front face of the reinforced concrete panels shall have an architectural surface finish treatment as shown on the plans. The backside of the reinforced concrete panels shall have an unformed surface finish and shall be rough screeded to eliminate open pockets of aggregate and surface distortions in excess of 1/4 inch (6 mm). All panels, barriers and coping shall be sealed with an epoxy sealer in conformance with Item Special "Sealing of Concrete Surfaces, Epoxy", unless special sealers have been called for on the plans.

2.1.6. Tolerances

All panels shall be manufactured within the following tolerances:

a. Panel Dimensions

All dimensions within 0.2 inch (5 mm).

b. Panel Squareness

Squareness as determined by the difference between the two diagonals shall not exceed ½-inch (13 mm).

c. Panel Surface Finish

Surface defects on smooth formed surfaces measured on a length of 5 feet (1500 mm) shall not exceed 0.12 inch (3 mm). Surface defects on textured surfaces measured on a length of 5 feet (1500 mm) shall not exceed 0.312 inch (8 mm).

2.1.7. Compressive Strength

Acceptance of the concrete panels with respect to compressive strength will be determined on the basis of production lots. A production lot is defined as a group of panels that will be represented by a single compressive strength sample and will consist of either 40 panels or a single day's production, whichever is less.

During the production of the concrete panels, the manufacturer will randomly sample the concrete in accordance with AASHTO T 141-93. A single compressive strength sample, consisting of a minimum of four cylinders, will be randomly selected for every production lot.

Cylinders for compressive strength tests shall be 6-inch (150 mm) by 12-inch (300 mm) specimens prepared in accordance with AASHTO T 23-93. For every compressive strength sample, a minimum of two cylinders will be cured in the same manner as the panels and tested at approximately 7 days. The average compressive strength of these cylinders, when tested in accordance with AASHTO T 22-92, will provide a test result which will determine the initial strength of the concrete. In addition, two cylinders shall be cured in accordance with AASHTO T 23-93 and tested at 28 days. The average compressive strength of these two cylinders, when tested in accordance with AASHTO T 22-92, will provide a compressive strength test result which will determine the compressive strength of the production lot.

If the initial strength test results indicate a compressive strength in excess of 4000 psi (27.5 Mpa), then these test results will be utilized as the compressive strength test result for the production lot and the requirement for testing at 28 days will be waived for that particular production lot. Acceptance of a production lot will be made if the compressive strength test result is greater than or equal to 4000 psi (27.5 MPa). If the compressive strength test result is less than 4000 psi (27.5 MPa), the acceptance of the production lot will be based on its meeting the following acceptance criteria in its entirety:

a. Ninety percent of the compressive strength test results for the overall production shall exceed 4000 psi (27.5 Mpa).
b. The average of any six consecutive compressive strength test results shall exceed 4000 psi (27.5 Mpa).
c. No individual compressive strength test result shall fall below 3600 psi (24.8 MPa).

In the event that a production lot fails to meet the specified compressive strength requirements, the production lot shall be rejected. Such rejection shall prevail unless the Manufacturer, at his own expense, obtains and submits evidence acceptable to the Engineer that the strength and quality of the concrete placed within the panels of the production lot is acceptable. If such evidence consists of tests made on cores taken from the panels within the production lot, the cores shall be obtained and tested in accordance with the specifications of AASHTO T 24-93.

2.1.8. Rejection

Panels shall be subject to rejection because of failure to meet any of the requirements specified above. In addition, any or all of the following defects may be sufficient cause for rejection:

a. Defects that indicate imperfect molding.

b. Defects indicating honeycombed or open textured concrete.

c. Defects in the physical characteristics of the concrete, such as broken or chipped concrete.

d. Stained form face, due to excess form oil or other contaminations.

e. Signs of aggregate segregation.

f. Broken or cracked corners.

g. Lifting inserts not usable.

h. Exposed reinforcing steel.

i. Cracks at the PVC pipe or pin.

j. Insufficient concrete compressive strength.

k. Panel thickness in excess of 3/16 inch (5 mm) plus or minus from that shown on the plans.

The Engineer will decide if an attempt may be made to repair a defective panel. The Contractor or supplier shall make the repairs at his own expense. If the repairs are made to the Engineer's satisfaction, the panel will be acceptable.

2.1.9. Marking

The date of manufacture, the production lot number and the piece-mark shall be clearly scribed on the back surface of each panel.

2.1.10. Handling, Storage and Shipping

All panels shall be handled, stored, and shipped in such a manner as to avoid chipping, cracking, fracturing, and excessive bending stresses. Panels shall be supported on firm blocking while in storage.

2.1.11. Reinforcing Steel

All reinforcing steel shall be Grade 60 (Grade 420) epoxy coated and shall satisfy all applicable requirements of CMS 509, reinforcing steel.

2.2 Reinforcing Mesh

The reinforcing mesh shall be shop fabricated of cold drawn steel wire conforming to the requirements of ASTM A82 and shall be welded into the finished mesh fabric in accordance with ASTM A 185. The reinforcing mesh shall be galvanized in conformance with ASTM A123.

2.3 Attachment Devices

2.3.1. Loop Embed

Loop embeds shall be fabricated from cold drawn steel rod conforming to ASTM-510M or ASTM-82. Loop embeds shall be welded in accordance with ASTM A-185. Loop embeds shall be galvanized in accordance with ASTM A123.

2.3.2. Connector Bar

Connector Bars shall be fabricated of cold drawn steel wire conforming to the requirements of ASTM A82 and shall be galvanized in accordance with ASTM A123.

2.4. Joint Materials

2.4.1. Inclined, Vertical and Horizontal Joints

The material to be attached to the rear side of the facing panels covering the vertical and horizontal joints between facing panels, shall be a geotextile meeting the minimum requirements for filtration applications as specified by AASHTO M-288. The adhesive used to attach the geotextile material to the rear of the facing panel shall be Pliobond 5001, as manufactured by Goodyear Rubber Company, or equal as approved by the SSL, LLC Engineer.

2.4.2. Bearing Pads

The material to be used in the horizontal joints between facing panels shall be high density polyethylene panel pads, 13/16 inch (20 mm) x 2-3/4 inch (70 mm) x 11-7/16 inch (290 mm), 2 per panel or equivalent as approved by the Engineer.

2.5 Alignment Pins

The pins used to align the face panels during construction shall be round, smooth number 5 bars made of mild steel or smooth 3/4 inch (19 mm) diameter PVC rod.

2.6 Select Granular Embankment Material

The select granular embankment material used in the reinforced structure volume shall be Item 304 Aggregate Base or Item 703.11 Granular Material, Type 2; deviations from these are as follows:

a. No slag shall be allowed.

b. The total percent passing the Number 200 (0.075 mm) sieve shall be 0 to 7 percent prior tothe placement operation. The acceptance samples shall be taken from the stockpile. The Contractor shall transport and handle the material to minimize the segregation of the material prior to the placement.

The select granular embankment material shall also conform to the requirements listed below:

a AASHTO T 289-91 The pH range of the material shall be between 5.0 and 10.0.

b. AASHTO T 288-91 The resistivity of the material shall be greater than 3,000 ohm-cm. If the resistivity is found to be greater than 5,000 ohm-cm, then AASHTO Test T 290-95 and T 291-94 may be waived.

c. AASHTO T 291-94 The chloride levels of the material shall be less than 100 ppm.

d. AASHTO T 290-95 The sulfate levels of the material shall be less than 200 ppm.

The Contractor or supplier, as his agent, shall furnish the Engineer a Certificate of Compliance from an independent Testing Laboratory, certifying that the above materials comply with the applicable contract specifications. A copy of all test results performed by the contractor or his supplier necessary to assure contract compliance shall also be furnished to the Engineer. Acceptance will be based on a letter of certification that the material to be utilized is within the parameters of the applicable contract notes and specifications. This letter shall be submitted along with the accompanying test reports to the Project Engineer. The Engineer shall provide written acceptance of material upon review of accompanying test reports, and visual inspection of the material by the Engineer.

2.7 Leveling Pad Concrete

The leveling pad concrete shall be a maximum 6 inches (150 mm) thick, having a strength that is not less than 2500 psi (17.2 MPa) and shall have sufficient strength to adequately support the panels at the bottom of the wall in a level position during installation. The leveling pad may be constructed of precast concrete. Precast concrete leveling pads can be advantageous when many short segment leveling pad steps are required.

2.8 Filter Fabric and Porous Backfill

Filter fabric and porous backfill is not used for the walls in this project.

3.0 Construction Requirements

3.1 Wall Excavation

Unclassified excavation shall be in accordance with ODOT Item 503 except that the limits of excavation shall be as shown in the plans.

3.2 Foundation Preparation

The foundation for support of the reinforced select granular embankment volume shall be graded level for a width equal to or exceeding the length of reinforcing mesh. Prior to wall construction, the foundation shall be level and rolled with a smooth wheel vibratory roller and the exposed soil compacted to at least 95% Standard Proctor density. Any foundation soils found to be unsuitable shall be removed and replaced, as directed by the Engineer.

The unreinforced concrete leveling pad shall be provided as shown on the plans. The pad shall be cured a minimum of 12 hours before placement of wall facing panels.

3.3 Wall Erection

Precast panels are handled by means of a lifting device connected to the lifting insert which is cast into the upper edge of the panels. Panels shall be set in successive horizontal lifts in the sequence shown on the plans as embankment fill placement proceeds. As embankment material is placed behind panels, the panels shall be maintained in vertical position by means of temporary wooden wedges placed in the panel joints on the external side of the wall. External bracing is required for the initial lift for vertical walls, vertical tolerance (plumbness) and horizontal alignment tolerance shall not exceed 3/4 inch (20 mm) when measured along a 10-foot (3000 mm) straight edge. The maximum allowable offset in any panel joint shall be 3/4 inch (20 mm). The overall vertical tolerance of the wall (plumbness from top to bottom) shall not exceed ½ inch (13 mm) per 10 feet (3000mm) of wall height.

Reinforcing mesh shall be placed normal to the face of the wall, unless otherwise shown on the plans or directed by the Engineer. Prior to placement of the reinforcing mesh, the embankment backfill shall be compacted in accordance with Section 3.4.

3.4 Select Granular Embankment Material Placement

Select granular embankment material placement shall closely follow the erection of each lift of panels. At each reinforcing mesh level, the select granular embankment material should be roughly leveled before placing and attaching the mesh. The reinforcing mesh shall be placed normal to the face of the wall unless the plans show that the reinforcing mesh must avoid an obstruction. The maximum select granular embankment lift thickness shall not exceed 8 inch (200 mm) loose and shall closely follow panel erection. The Contractor shall decrease the select granular embankment lift thickness if necessary to obtain the specified density.

At the end of each day's operations, the Contractor shall shape the last level of embankment to rapidly direct runoff of rainwater away from the wall face. The contractor shall not allow surface runoff from adjacent areas to enter the wall construction site.

Compaction of the select granular embankment material shall be in accordance with all pertinent requirements of Item 203.07B. The moisture content of the select granular embankment material prior to and during compaction shall be uniformly distributed throughout each layer and shall conform to requirements of Item 203.07A.

Embankment compaction shall be accomplished without disturbance or distortion of reinforcing mesh or face panels. Compaction of the reinforced volume of fill shall not be accomplished by any type of equipment employing a foot, which in the opinion of the SSL, LLC Engineer, could penetrate the embankment material and damage the reinforcing mesh. Compaction within 3 feet (1000 mm) of the backside of the wall panels shall be achieved by at least 3 passes of a light mechanical tamper. The select granular embankment material placed within 3 feet (1000 mm) of the backside of the wall panels does not have to satisfy density test requirements, but must be placed in 6 inches (150 mm) to 8-inch (200 mm) thick lifts which are compacted per above.

4.0 Inspection

The SSL, LLC shall provide a company representative who shall monitor the precast operation sufficiently to ensure that the operation complies with all the above requirements and the representative shall submit documentation to this effect to the Engineer.

Documentation shall be furnished by the company representative for any panel which he deems acceptable but which is subject to rejection under 2.1.8.

The SSL, LLC shall provide sufficient on-site technical assistance by a company representative to ensure that the Contractor and the Engineer fully understand the proper construction procedures and operations of the SSL, LLC MSE Plus Wall System.

The Contractor shall provide a soils consultant who shall, through the Engineer, be responsible for inspection and field testing to confirm that the select granular embankment material requirements and the placement and compaction requirements are in compliance with these special provisions and specification.

The soils consultant shall provide the Engineer with two copies of all inspection reports which contain the testing results, all pertinent measurements and the soils consultant's conclusions.

The soils consultant's field representative shall be an Ohio Registered Professional Engineer or work under the direction of an Ohio Registered Professional Engineer. The final inspection report shall be signed by an Ohio Registered Professional Engineer.

The Engineer will monitor erection of the structure and placement of the select granular embankment material with technical assistance from the soils consultant and the SSL, LLC. Any work not satisfying the requirements of these special provisions is subject to rejection by the Engineer.

5.0 Coping and Traffic Barrier

A cast-in-place coping and traffic barrier shall be provided on top of the wall as shown in the plans. Concrete shall be Class C and shall conform to CMS Item 511. Reinforcing steel shall be epoxy coated and shall conform to CMS Item 509. For payment for the concrete and the reinforcing steel, see 8.1 "Basis of Payment".

6.0 Pile Sleeves

When piles are required, sleeves shall be used to form a void in the select granular embankment so that the proposed piles can be installed after the wall construction is completed. The sleeves shall be made of a material that does not promote corrosion within the select granular embankment and the sleeve material shall be satisfactory to the wall company. Consider using segments of plastic pipe strong enough to maintain the required void. A bentonite slurry shall be placed in the void located between the pile and the sleeve. The slurry shall consist of the following materials with volume ratios of: one part cement, one part bentonite, and ten parts water. The cost of the above described work shall be considered incidental to Item Special "MSE Plus Retaining Walls."

7.0 Design Requirements for MSE Panel Walls

The design of the SSL, LLC Retained Earth Wall shall be in strict conformance with the 2002 edition of 'AASHTO Standard Specifications for Highway Bridges', except as modified in this document, the latest edition of the Ohio Bridge Design Manual, except as modified in this document, and the design requirements listed below:

design shall meet all plan requirements. The recommendations of the wall
pliers shall not override the minimum performance requirements shown
ms offered by the approved supplier shall not be submitted in lieu
lled for in the plans.

---

b. Where walls or wall sections
a vertical corner element separate from
with the opposing standard panels. The corn
strips connected specifically to that panel and shall
spread of the intersecting panels.

c. One hundred percent of the steel reinforcing strips which are designed and p
the reinforced earth volume shall extend to and be connected to the facing elemen
through the use of tie strips or another acceptable method. No field cutting of steel reinforcing strips to avoid obstacles, such as abutment piles, shall be allowed. Also, steel reinforcing strips shall not be bent around such obstacles.

d. Under service loads, the minimum factor of safety at the connection between the face panel and the steel reinforcing strips shall be 1.5. The minimum factor of safety against reinforcement pullout shall be 1.5 at ½-inch (13 mm) deformation. The maximum allowable reinforcement tension shall not exceed two-thirds of the connection strength determined at ½-inch (13 mm) deformation.

e. The coefficient of lateral earth pressure k_a and the application of the lateral forces to the reinforced soil mass for external stability analysis shall be computed using the Coulomb method, but assuming no wall friction.

f. All walls shall be designed with a coping or traffic barrier as specified in the plans.

g. Soil parameters for use in design are as follows:

Fill Zone	Type of Soil	Soil Unit Weight	Friction Angle	Cohesion
Reinforced Zone	Compacted Select Granular Embankment Material with less than 7% P200 Material	120 lbs/ft³ (18.9 kN/m³)	34°	0
Retained Soil	On-site soil varying from sandy lean clay to silty sand	120 lbs/ft³ (18.9 kN/m³)	30°	0
Foundation Soil	Variable - ranging from existing uncontrolled fill to natural silty sand	120 lbs/ft³ (18.9 kN/m³)	**	**

**Refer to ODOT Bridge Design Manual 303.4.1.1

h. The allowable reinforcement tension of steel (inextensible) reinforcement elements for structural design and connection (pullout) design shall be based on the thickness of the elements at the end of the structure's design life. In essence, the minimum thickness of the reinforcement elements shall be that thickness which will provide for the structural requirement plus the sacrificed thickness at the end of the design life.

i. The design life of the reinforced earth retaining walls shall be 100 years.

j. The minimum depth of embedment, measured from the finished ground line to the top of leveling pad shall be at least 3.0 feet (915mm) as shown on plan.

k. The internal stability, including definition of failure plane and lateral earth pressure coefficient, for Reinforced Earth walls shall be computed according to AASHTO Section 5.8.4.1.

l. The maximum thickness of the concrete leveling pad shall be 6 inches (150 mm).

m. The connections of the reinforcing strips to the panels shall be in two elevations for standard panels and the connections shall be no more than 2.5 feet (760 mm) apart vertically.

n. The wall height for design purposes shall be measured from the top of the leveling pad to the top of the coping. When the wall is retaining a sloping surcharge then the wall height shall be defined as the equivalent design height (h) as shown in AASHTO Figure 5.8.2B. The minimum reinforcing strip length shall be 70 percent of the wall height, as appropriately defined for either a level or sloping backfill, but no less than 8 feet (2440 mm).

o. The minimum thickness of the precast reinforced concrete face panels shall be 5-1/2 inches (140mm).

p. The yield stress for the metallic soil reinforcement shall not exceed 65 ksi (450 Mpa).

q. The wall system, regardless of the size of panels, shall accommodate up to one percent differential settlement in the longitudinal direction.

r. The vertical stress at each reinforcement level shall be computed by considering local equilibrium of all the forces acting above the level under investigation. The vertical stress (bearing pressure) at each reinforcement level may be computed using the Meyerhof method in the same manner as the bearing pressure computed for the base of the wall.

8.0 Method of Measurement

The Mechanically Stabilized Earth Wall quantity to be paid for shall be Lump Sum.

8.1 Basis of Payment

Item Special "MSE Plus Retaining Walls" will be paid for at the contract Lump Sum price. This work shall include the fabrication, furnishing, and erection of the MSE Plus Retaining Walls, including the reinforced concrete face panels, reinforcing mesh, fasteners, joint material, concrete leveling pad, concrete coping, reinforcing steel, filter fabric, and all incidentals, labor, and equipment necessary to complete this item.

The payment for the following items shall be included with the Lump Sum price of Item Special "MSE Plus Retaining Wall".

Item 203 "Select Granular Embankment, as per plan", as defined in Section 2.6.

Item 203 "Embankment, as per plan", as shown on the wall plans.

Item 304 "Aggregate Base"

Item 503 "Unclassified Excavation, as per plan", as defined in Section 3.1.

Item Special "Sealing of Concrete Surfaces, Epoxy-Urethane". All exposed surfaces of precast panels shall be sealed. Surfaces of the cast-in-place concrete to be sealed are shown on the plans. For sealing of concrete surfaces, see note on the wall plans.

The cost for all work related to any temporary face of MSE Plus Retaining Wall including any soil reinforcement and all incidentals for use in phased construction to be included with bridge item 503 "Cofferdams, Cribs, and Sheeting, As Per Plan".

T:\03\08\06419\308_MED-83\MSE wall special provisions\MED_MSE Plus.wpd

INTRODUCTION

THIS REPORT IS A PRESENTATION OF THE SUBSURFACE INVESTIGATION PERFORMED FOR THE PROPOSED WIDENING OF INTERSTATE 71 (I-71). THE WIDENING IS PART OF THE WAY/MED-71-7.04/0.00 PROJECT, WHICH ENTAILS PROVIDING AN ADDITIONAL SOUTHBOUND LANE AND AN ADDITIONAL NORTHBOUND LANE IN THE MEDIAN OF I-71. THE LIMITS OF THE PROJECT EXTEND FROM MILEPOST 201.90 (WAY-71-7.04) TO MILEPOST 208.02 (MED-71-6.06). THE TOTAL PROJECT LENGTH IS 6.12 MILES.

THE PROPOSED PAVEMENT GRADE FOR A MAJORITY OF THE PROJECT WILL ROUGHLY MATCH THE EXISTING GRADE. HOWEVER, IN ORDER TO INCREASE THE VERTICAL CLEARANCE BENEATH THE FOUR (4) OVERPASS STRUCTURES WITHIN THE PROJECT LIMITS, THE PROFILE GRADE OF I-71 WILL BE LOWERED BENEATH THE OVERPASSES.

GEOLOGY AND OBSERVATIONS OF THE PROJECT

GEOLOGICALLY, THE SITE LIES ON THE BORDERLINE OF THE KILLBUCK-GLACIATED PITTSBURGH PLATEAU AND THE GALION GLACIATED LOW PLATEAU. THE PROJECT TRAVERSES SOIL CLASSIFIED AS HIRAM AND LAKE END MORAINE, LAKE-PLANED MORAINE, GROUND MORAINE, OUTWASH AND KAMES DEPOSITED BY THE LATE WISCONSINAN ICE SHEET. GLACIAL TILL OR MORAINES CONSIST OF DEBRIS DEPOSITED BY THE GLACIER ACROSS THE LAND SURFACE AS THE GLACIERS RETREAT.

OUTWASH DEPOSITS CONSIST OF UNDIFFERENTIATED SAND AND GRAVEL DEPOSITED BY MELTWATER IN FRONT OF GLACIAL ICE, AND OFTEN OCCURS AS VALLEY TERRACES OR LOW PLAINS. KAME DEPOSITS FORM WHERE STREAMS FLOWING UNDERNEATH THE GLACIER EMERGE DEPOSITING THE STREAM LOAD. KAMES ARE HUMMOCKY MOUNDS OF STRATIFIED SAND AND GRAVEL DEPOSITS. MARSH-LIKE AREAS ARE LOCATED ALONG THE KILLBUCK CREEK VALLEY, WHICH RUNS PARALLEL TO I-71 ALONG THE SOUTHERN SECTION OF THE PROJECT. SAND AND GRAVEL QUARRYING OF THE OUTWASH AND KAME DEPOSITS IS EVIDENT ALONG THE MIDDLE SECTION OF THE PROJECT, IN THE VICINITY OF THE LITTLE KILLBUCK CREEK VALLEY.

THE UNDERLYING BEDROCK IS SHALE AND SANDSTONE OF THE LOGAN AND CUYAHOGA FORMATIONS UNDIVIDED. BASED ON THE BEDROCK TOPOGRAPHY MAP OF THE WEST SALEM, CRESTON AND WESTFIELD CENTER QUADRANGLES, OBTAINED FROM THE OHIO DEPARTMENT OF NATURAL RESOURCES (ODNR), THE TOP OF BEDROCK ALONG THIS SECTION OF THE ROADWAY FLUCTUATES SIGNIFICANTLY. IN PARTICULAR, THE TOP OF BEDROCK AT THE SOUTH END OF THE PROJECT, IN THE VICINITY OF THE CONRAIL RR TO THE LITTLE KILLBUCK CREEK VALLEYS, IS BETWEEN ELEVATIONS 850 AND 650 FEET, RESPECTIVELY. THE HIGHEST POINT OF BEDROCK WITHIN THE PROJECT SECTION IS AT APPROXIMATELY ELEVATION 1025 FEET, LOCATED SOUTHEAST OF WESTFIELD CENTER AROUND DANIELS ROAD. THIS TOPOGRAPHIC HIGH AREA DIVIDES THE DRAINAGE OF THE CAMEL CREEK AND CHIPPEWA CREEK VALLEYS. THE TOP OF BEDROCK AT THE NORTH END OF THE PROJECT IN THE VICINITY OF THE CHIPPEWA CREEK VALLEY AND I-76 IS BETWEEN ELEVATIONS 800 AND 900 FEET. THE THICKEST DEPOSITS OF OUTWASH AND GLACIAL OVERBURDEN OCCUR IN THE LITTLE KILLBUCK CREEK, KILLBUCK CREEK, CAMEL CREEK AND CHIPPEWA CREEK VALLEYS FROM APPROX. 110 TO 190+ FEET OF DEPOSITS. OVERBURDEN DEPOSITS APPEAR SHALLOWEST, APPROX. 85 FT THICK, AT THE BEDROCK HIGH AROUND DANIELS ROAD.

RIVER VALLEY FILL, CONSISTING OF INTERBEDDED AND INTERLENSED SAND, GRAVEL, SILT AND CLAY SUPPLY MUCH OF THE WATER TO DOMESTIC WELLS LOCATED IN THE AREA ALONG THE PROJECT. ACCORDING TO THE GROUND WATER POLLUTION POTENTIAL OF MEDINA COUNTY, OHIO, PUBLISHED BY ODNR, DOMESTIC WELLS ARE DEVELOPED ANYWHERE FROM 0 TO 50 FT DEEP IN THE RIVER VALLEY AREAS AND FROM 5 TO 100 FT DEEP IN THE OTHER AREAS ALONG THE PROJECT SITE.

EXPLORATION

A TOTAL OF NINETY FIVE (95) TEST BORINGS, DESIGNATED PB-1 THROUGH PB-48 AND PB-70 THROUGH PB-116, WERE DRILLED FOR THE MAINLINE MEDIAN OF I-71, TO A DEPTH OF 6.0 FEET. AND ARE SHOWN AT THE APPROXIMATE STATIONS AND OFFSETS ILLUSTRATED ON SHEETS 5 THRU 17. HOWEVER, THE MAINLINE MEDIAN BORINGS DRILLED IN THE VICINITY OF THE OVERPASSES WERE PLANNED TO A DEPTH OF 10 FT TO ACCOUNT FOR LOWERING THE PROFILE OF I-71. THE BORINGS WERE SPACED AT APPROX. 400-FT INTERVALS, ALTERNATING 30 FT (OR 45 FT FOR THE MAINLINE MEDIAN BORINGS IN THE VICINITY OF THE OVERPASSES) LEFT AND RIGHT FROM THE CENTERLINE OF THE MEDIAN.

LEGEND FOR PROJECT AVERAGE RESULTS OF TESTS -95 SAMPLES TESTED

DESCRIPTION	ODOT CLASS	% AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
GRAVEL	A-1-A				VISUAL CLASSIFICATION					
GRAVEL WITH SAND	A-1-b	37	30	20	-13-				4	3
FINE SAND	A-3				VISUAL CLASSIFICATION					
COARSE AND FINE SAND	A-3a(0)	10	10	56	-24-				6	7
GRAVEL WITH SAND AND SILT.	A-2-4(0)	29	18	27	-26-		20	6	6	4
GRAVEL WITH SAND, SILT AND CLAY	A-2-6(1)	22	26	23	-29-				2	1
SANDY SILT	A-4a(4)	10	8	24	-58-		26	9	10	18
SILT	A-4b(8)	0	1	10	-89-				22	1
SILT AND CLAY	A-6a(9)	10	7	15	36	32	30	13	12	40
SILTY CLAY	A-6b(11)	9	7	13	36	35	34	18	12	18
CLAY	A-7-6(16)	1	2	6	43	48	43	25	19	3

ASPHALT
SOD AND/OR TOP SOIL
BERM MATERIAL (CINDERS)
BASE MATERIAL
CONCRETE

DRIVE SAMPLE AND/OR CORE BORING - PLAN VIEW

DRIVE SAMPLE AND/OR CORE BORING PLOTTED TO VERTICAL SCALE ONLY

NOTE: FIGURES BESIDE BORINGS INDICATE WATER CONTENT IN PERCENT. e.g. 15

W FREE WATER

STATIC WATER LEVEL

or X/Y/Z NUMBER OF BLOWS FOR STANDARD PENETRATION TEST
X - NUMBER OF BLOWS FOR FIRST 6"
Y - NUMBER OF BLOWS FOR SECOND 6"
Z - NUMBER OF BLOWS FOR THIRD 6"

(CONT'D) EXPLORATION

THE BORING LOCATIONS WERE ESTABLISHED, LOCATED, AND STAKED BY RESOURCE INTERNATIONAL BASED ON ESTABLISHED MILEPOSTS AND LANDMARKS. THE TEST BORINGS WERE DRILLED BETWEEN JULY 10TH AND AUG. 20TH, 2002 USING A TRUCK MOUNTED ROTARY DRILLING MACHINE UTILIZING EITHER 2.25-INCH HOLLOW STEM AUGERS OR 4.0-INCH SOLID FLIGHT AUGERS TO ADVANCE THE HOLES.

INVESTIGATIONAL FINDINGS

THE MAINLINE MEDIAN BORINGS ENCOUNTERED BETWEEN 1 AND 12 INCHES OF TOPSOIL AT THE GROUND SURFACE. THE TOPSOIL IS GENERALLY DESCRIBED AS EITHER BROWN TO DARK BROWN CLAYEY SILT (SILTY CLAY) WITH THE PRESENCE OF ORGANICS, OR AS BROWN SANDY SILT (SILTY SAND) WITH THE PRESENCE OF ORGANICS. FOURTEEN OF THE MAINLINE MEDIAN BORINGS WERE TAKEN THROUGH THE PAVEMENT AND EXHIBITED BETWEEN 5.0 TO 7.0 INCHES OF ASPHALT, OVERLYING BETWEEN 8.0 TO 25.0 INCHES OF CONCRETE, OVER ZERO TO 18 INCHES OF BASE.

THE SUBSURFACE SOIL ALONG THE PROPOSED NORTHBOUND AND SOUTHBOUND LANES (MEDIAN AREA) IS CONSISTENT, COMPRISED PRIMARILY OF COHESIVE GROUND MORAINE AND END MORAINE TILL. THIS COHESIVE SOIL IS PRIMARILY DESCRIBED AS BROWN TO GRAY SILTY CLAY (CLAYEY SILT, SILT AND CLAY) WITH LESSER PERCENTAGES OF SAND AND GRAVEL (ODOT A-6A AND A-6B). OTHER SOIL TYPES ENCOUNTERED ALONG THE PROPOSED ROUTE INCLUDE: SCATTERED LAYERS OF BROWN TO GRAY, MODERATE TO HIGH PLASTICITY, CLAY WITH SOME SILT (ODOT A-7-6) WERE ENCOUNTERED IN SEVERAL OF THE BORINGS ALONG THE PROJECT.

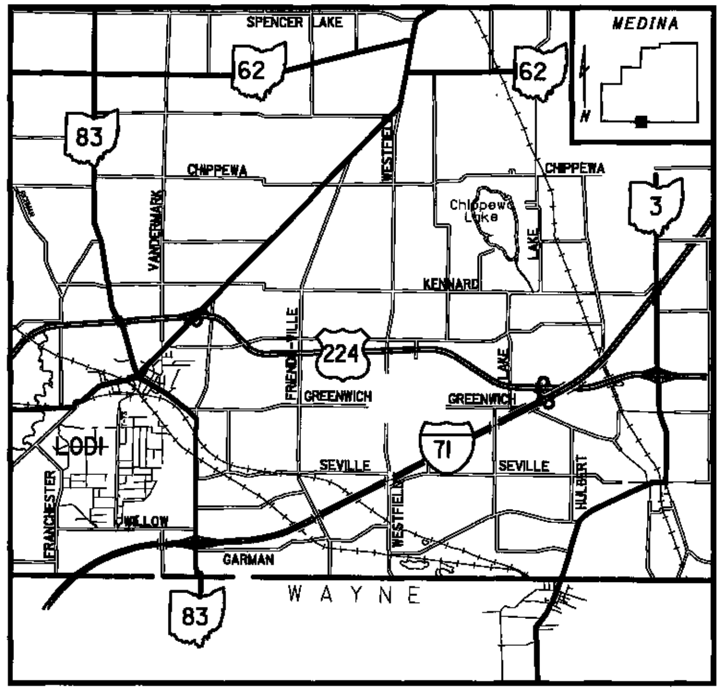
LAYERS OF BROWN SILTY SAND WITH LESSER PERCENTAGES OF GRAVEL (ODOT A-4A) WERE ENCOUNTERED IN SOME OF THE TEST BORINGS ALONG THE PROJECT.

SCATTERED LAYERS OF BROWN, LOW PLASTICITY, SILT WITH SOME CLAY (ODOT A-4B) WERE ENCOUNTERED IN A FEW OF THE BORINGS ALONG THE PROJECT.

LAYERS/LENSES OF GRANULAR SOIL, GENERALLY DESCRIBED AS BROWN COARSE AND FINE SAND AND/OR FINE GRAVEL WITH LESSER PERCENTAGES OF SILT (ODOT A-1-A, A-1-B, A-3A, A-2-4, AND A-2-6), WERE ENCOUNTERED IN SEVERAL OF THE TEST BORINGS.

A MORE COMPREHENSIVE DESCRIPTION OF THE SOILS ENCOUNTERED DURING THE DRILLING PROGRAM CAN BE FOUND ON THE BORING LOGS ON SHEETS 2 THRU 4.

THE NATURAL MOISTURE CONTENTS OF THE SOIL SAMPLES TESTED FOR PLASTICITY INDEX RANGED FROM 13% BELOW TO 6% ABOVE THEIR CORRESPONDING PLASTIC LIMITS, BUT WERE PRIMARILY BELOW THEIR CORRESPONDING PLASTIC LIMITS. OVERALL, THE SOIL IS CONSIDERED TO BE SLIGHTLY BELOW TO SLIGHTLY ABOVE CORRESPONDING OPTIMUM MOISTURE CONTENTS(BASED ON CORRELATION CHARTS).



LOCATION MAP

NOTE

ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVEINIENTLY SHOWN ON THE SOIL PROFILE SHEETS HAS BEEN SO REPORTED. ADDITIONAL SUBSURFACE INVESTIGATIONS, SOIL TESTS, AND BEDROCK MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE OFFICE OF GEOTECHNICAL ENGINEERING, 1600 WEST BROAD STREET OR THE OFFICE OF BRIDGES AT 1980 WEST BROAD STREET, COLUMBUS OHIO.

(CONT'D) INVESTIGATIONAL FINDINGS

GROUNDWATER WAS NOT ENCOUNTERED DURING OR IMMEDIATELY AFTER THE DRILLING PROCESS IN ANY OF THE BORINGS. PLEASE NOTE THAT SHORT-TERM WATER LEVEL READINGS ARE NOT NECESSARILY AN ACCURATE INDICATION OF THE ACTUAL GROUNDWATER LEVEL. IN ADDITION, GROUNDWATER LEVELS AND THE PRESENCE OF GROUNDWATER ARE CONSIDERED TO BE DEPENDENT ON SEASONAL FLUCTUATIONS IN PRECIPITATION.

PROJECT INDEX

STATIONS FROM	STATIONS TO	PLAN SHEET	PROFILE SHEET	SOUTHBOUND CUT (FT)	SOUTHBOUND FILL (FT)	NORTHBOUND CUT (FT)	NORTHBOUND FILL (FT)
371+00	15+00	5	5	0	0	0	0
15+00	41+00	6	6	0	31	0	29
41+00	68+00	7	7	0	0	1	0
68+00	96+00	8	8	2	0	2	0
96+00	121+00	9	9	3	0	3	0
121+00	148+00	10	10	0	0	0	0
148+00	175+00	11	11	0	0	0	1
175+00	201+00	12	12	3	32	2	32
201+00	228+00	13	13	2	0	2	0
228+00	255+00	14	14	0	32	0	32
255+00	281+00	15	15	1	0	2	0
281+00	308+00	16	16	0	23	2	23
308+00	335+00	17	17	0	0	0	0

RESOURCE INTERNATIONAL, INC.
281 ENTERPRISE DRIVE
WESTERVILLE, OHIO 43081 (614)885-1959

CALCULATED	DATE	CHECKED	DATE	REVIEWED	DRAWN
	5/1/03	GPH	5/1/03		KAL

SOIL PROFILE

WAY/MED COUNTY
WAY/MED -71-7.04/0.00

RESOURCE INTERNATIONAL INC. PROJECT NO. W-1169
FILENAME: W-1169-01-CVR.DGN
DATE: 5/1/03

SUMMARY OF SOIL TEST DATA

LOCATION & OFFSET		Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	% W.C.	ODOT Class
			N.B. BORINGS REFERENCED TO CENTERLINE OF I-71								
PB-1	372+00, 30' RT	0-1.5	SAME 4.5-6.0							11	VISUAL
		2.0-3.5	SAME 4.5-6.0							11	VISUAL
		4.5-6.0	4	7	15	42	32	31	12	12	A-6a
PB-2	6+00, 30' RT	0-1.5	SAME 4.5-6.0							9	VISUAL
		2.0-3.5	SAME 4.5-6.0							12	VISUAL
		4.5-6.0	6	9	14	39	32	27	10	13	A-4a
PB-3	14+00, 30' RT	0-1.5	BROWN SANDY SILT, SOME CLAY, TRACE GRAVEL, TRACE ORGANICS.							9	VISUAL
		2.0-3.5	SAME 0-1.5								VISUAL
		4.5-6.0	4	6	13	44	33	32	14	18	A-6a
PB-4	23+00, 30' RT	0-1.5	BROWN SILT, SOME SAND, SOME CLAY, TRACE GRAVEL.							9	VISUAL
		2.0-3.5	7	14	51	-28-				5	VISUAL
		4.5-6.0	SAME 2.0-3.5							8	VISUAL
PB-5	30+00, 30' RT	0-1.5	SAME 2.0-3.0							8	VISUAL
		2.0-3.0	27	10	17	-46-		28	13	7	A-6a
		4.5-6.0	BROWN SANDY SILT, LITTLE GRAVEL, LITTLE CLAY.							9	VISUAL
PB-6	38+00, 30' RT	0-1.5	SAME 2.0-3.0							11	VISUAL
		2.0-3.0	1	3	12	40	44	36	18	14	A-6b
		3.0-3.5	SAME 4.5-6.0								VISUAL
		4.5-6.0	2	5	27	-66-				15	VISUAL
PB-7	46+00, 30' RT	0-1.5	BROWN SILT AND CLAY, SOME SAND, TRACE GRAVEL.							10	VISUAL
		2.0-3.5	SAME 0-1.5							11	VISUAL
		4.5-6.0	1	4	8	40	47	38	18	16	A-6b
PB-8	54+00, 30' RT	0-1.5	SAME 2.0-3.5							11	VISUAL
		2.0-3.5	1	1	4	53	41	29	11	13	A-6a
		4.5-4.8	SAME 2.0-3.5								VISUAL
		4.8-6.0	GRAY SILT AND CLAY, LITTLE SAND, TRACE GRAVEL.							24	VISUAL
PB-9	62+00, 30' RT	0-1.5	BROWN SANDY SILT, SOME CLAY, TRACE GRAVEL, TRACE ORGANICS.							10	VISUAL
		2.0-3.5	BROWN SILT AND CLAY, SOME SAND, TRACE GRAVEL.							14	VISUAL
		4.5-6.0	SAME 2.0-3.5							15	VISUAL
PB-10	70+00, 30' RT	0-1.5	SAME 2.0-3.5							10	VISUAL
		2.0-3.5	2	6	12	42	38	28	11	14	A-6a
		4.5-6.0	5	5	11	47	32	26	10	14	A-4a
PB-11	76+00, 45' RT	1.2-2.8	BROWN SILTY SAND, TRACE GRAVEL.							16	VISUAL
		3.5-5.0	GRAYISH BROWN SILTY CLAY, LITTLE SAND, TRACE GRAVEL.							18	VISUAL
		6.0-7.5	24	16	17	-43-		21	5	9	A-4a
		8.5-10.0	BROWN SILT, SOME SAND, LITTLE CLAY, TRACE GRAVEL.							18	VISUAL
PB-12	78+00, 30' RT	0-1.5	BROWN SILT AND CLAY, LITTLE SAND, TRACE GRAVEL.							10	VISUAL
		2.0-3.5	3	6	13	43	35	31	12	15	A-6a
		4.5-6.0	SAME AS 2.0-3.5							15	VISUAL
PB-13	85+70, 30' RT	0-1.5	BROWN SANDY SILT, LITTLE CLAY, TRACE GRAVEL., TRACE ORGANICS.							10	VISUAL
		2.0-3.5	SAME AS 0-1.5							12	VISUAL
		4.5-6.0	15	4	11	38	30	30	13	15	A-6a
PB-14	94+00, 30' RT	0-1.5	BROWN SILT AND CLAY, LITTLE SAND, LITTLE GRAVEL.							7	VISUAL
		2.0-3.5	12	6	11	39	32	28	11	14	A-6a
		4.5-4.8	SAME AS 2.0-3.5							19	VISUAL
		4.8-6.0	SAME AS 2.0-3.5							17	VISUAL
PB-15	97+00, 45' RT	1.3-2.8	BROWN SANDY SILT, TRACE GRAVEL, TRACE CLAY.							15	VISUAL
		3.5-5.0	3	4	10	41	42	31	15	17	A-6a
		6.0-7.5	SAME AS 3.5-5.0							20	VISUAL
		8.5-9.2	SAME AS 3.5-5.0							14	VISUAL
		9.2-10.0	GRAY SILTY CLAY, SOME SAND, TRACE GRAVEL.								VISUAL
PB-16	102+00, 30' RT	0-1.5	SAME AS 2.0-3.5							9	VISUAL
		2.0-3.5	7	7	12	43	31	27	10	13	A-4a
		4.5-6.0	SAME AS 2.0-3.5							8	VISUAL
			(CONT'D) N.B. BORINGS REFERENCED TO CENTERLINE OF I-71								
PB-17	110+00, 30' RT	0-1.5	BROWN CHANGING TO MOTTLED BROWN AND GRAY SILT AND CLAY, LITTLE SAND, TRACE GRAVEL.							10	VISUAL
		2.0-3.5	7	4	12	45	32	30	12	12	A-6a
		4.5-6.0	SAME AS 2.0-3.5							20	VISUAL
PB-18	118+00, 30' RT	0-1.5	SAME AS 2.0-3.5							5	VISUAL
		2.0-3.5	6	4	13	43	34	30	13	11	A-6a
		4.5-6.0	SAME AS 2.0-3.5							14	VISUAL
PB-19	126+00, 30' RT	0-1.5	SAME AS 2.0-3.5							10	VISUAL
		2.0-3.5	3	4	11	42	40	44	35	13	A-7-6
		4.5-6.0	BROWN SILTY CLAY, LITTLE SAND, TRACE GRAVEL.							19	VISUAL
PB-20	134+00, 30' RT	0-1.5	SAME AS 2.0-3.5							12	VISUAL
		2.0-3.5	1	3	20	46	30			12	VISUAL
		4.5-6.0	BROWN SANDY SILT, SOME CLAY, TRACE GRAVEL.							17	VISUAL
PB-21	142+00, 30' RT	0-1.5	SAME AS 2.0-3.5							4	VISUAL
		2.0-3.5	17	5	11	39	28	30	12	23	A-6a
		4.5-6.0	SAME AS 2.0-3.5							12	VISUAL
PB-22	150+00, 30' RT	0-1.5	BROWN SANDY SILT, LITTLE CLAY, TRACE GRAVEL, TRACE ORGANICS.							5	VISUAL
		2.0-3.5	1	3	78	-18-		NP	NP	8	A-3a
		4.5-6.0	BROWN SILT AND CLAY, SOME SAND, TRACE GRAVEL, TRACE ORGANICS.							7	VISUAL
PB-23	158+00, 30' RT	0-1.5	16	1	17	33	33	32	16	7	A-6b
		2.0-3.5	SAME AS 0-1.5							8	VISUAL
		4.5-6.0	DARK BROWN SANDY SILT, LITTLE CLAY, TRACE GRAVEL.							12	VISUAL
PB-24	166+00, 30' RT	0-1.5	BROWN SILT AND CLAY, SOME SAND, TRACE GRAVEL.							8	VISUAL
		2.0-3.5	7	0	41	-52-		NP	NP	11	VISUAL
		4.5-6.0	SAME AS 0-1.5							14	VISUAL
PB-25	174+00, 30' RT	0-1.5	21	0	14	33	32	33	17	4	A-6b
		2.0-3.5	SAME AS 0-1.5							12	VISUAL
		4.5-6.0	BROWN SANDY SILT, LITTLE CLAY, TRACE GRAVEL.							12	VISUAL
PB-26	182+00, 30' RT	0-1.5	BROWN SAND, SOME GRAVEL. SOME SILT, TRACE ORGANICS.							3	VISUAL
		2.0-3.5	10	11	13	-66-		27	10	13	VISUAL
		4.5-5.0	SAME AS 2.0-3.5							12	VISUAL
		5.0-6.0	BROWN SILT AND CLAY, SOME SAND, LITTLE GRAVEL.								VISUAL
PB-27	190+00, 30' RT	0-1.5	19	13	27	-40-				2	VISUAL
		2.0-3.5	15	9	15	-61-		29	11	11	A-6a
		4.5-6.0	BROWN SILT AND CLAY, SOME SAND, TRACE GRAVEL.							5	VISUAL
PB-28	198+00, 30' RT	0-1.5	BROWN SANDY SILT, LITTLE CLAY. LITTLE GRAVEL.							3	VISUAL
		2.0-3.5	2	2	40	-56-		NP	NP	7	VISUAL
		4.5-6.0	SAME AS 2.0-3.5							8	VISUAL
PB-29	202+00, 43' RT	1.2-2.7	BROWN SAND, SOME SILT, LITTLE GRAVEL.							15	VISUAL
		3.5-5.0	0	1	10	-89-				22	VISUAL
		6.0-7.5	4	3	34	-59-				23	VISUAL
		8.5-10.0	BROWN AND WHITE SANDY SILT, LITTLE CLAY, TRACE GRAVEL.							3	VISUAL
PB-30	206+00, 30' RT	0-1.5	BROWN SANDY SILT, LITTLE CLAY. LITTLE GRAVEL, LITTLE ORGANICS.							4	VISUAL
		2.0-3.5	12	9	54	-25-				7	VISUAL
		4.0-4.8	SAME AS 2.0-3.5							7	VISUAL
		4.8-6.0	BROWN SANDY SILT, TRACE CLAY, TRACE GRAVEL.								VISUAL
PB-31	214+00, 30' RT	0-1.5	23	14	38	-25-				2	VISUAL
		2.0-3.5	4	4	70	-22-				5	VISUAL
		4.5-6.0	BROWN SANDY SILT, SOME CLAY. TRACE GRAVEL.							7	VISUAL
PB-32	222+00, 30' RT	0-1.5	BROWN SANDY SILT, LITTLE CLAY. LITTLE GRAVEL, TRACE ORGANICS.							4	VISUAL
		2.0-3.5	BROWN SAND, SOME SILT, LITTLE CLAY, TRACE GRAVEL, TRACE ORGANICS.							7	VISUAL
		4.5-5.0	SAME AS 2.0-3.5								VISUAL
		5.0-6.0	7	9	44	-40-				13	VISUAL
PB-33	230+00, 30' RT	0-1.5	BROWN SANDY SILT, LITTLE CLAY. LITTLE GRAVEL, TRACE ORGANICS.							3	VISUAL
		2.0-3.5	15	12	29	-44-				5	VISUAL
		4.5-6.0	BROWN SANDY SILT, SOME CLAY, TRACE GRAVEL.							12	VISUAL

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-169
FILENAME: W-169-02-DATA.DGN
DATE: 5/1/03

RESOURCE INTERNATIONAL INC.
281 ENTERPRISE DR.
WESTERVILLE, OHIO 43081
(614) 885-1959

DRAWN	KAL	DATE	5/1/03
REVIEWED	GPH	DATE	5/1/03

SOIL PROFILE

WAYNE-MEDINA COUNTY
WAY-MED-71-7.040/0.00

2/17

2

55

SUMMARY OF SOIL TEST DATA

(CONT'D) N.B. BORINGS REFERENCED TO CENTERLINE OF I-71

LOCATION	& OFFSET	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	% W.C.	ODOT Class
PB-34	238+00, 30' RT	0-1.5	BROWN SANDY SILT, SOME CLAY, TRACE TO LITTLE GRAVEL, TRACE ORGANICS.							8	VISUAL
		2.0-3.0	SAME AS 0-1.5							6	VISUAL
		4.5-6.0	5	7	13	39	36	34	18	13	A-6b
PB-35	246+00, 30' RT	0-1.5	8	11	17	32	32			7	VISUAL
		2.0-3.5	SAME AS 0-1.5							12	VISUAL
		4.5-6.0	9	11	19	-61-		33	16	14	A-6b
PB-36	254+00, 30' RT	0-1.5	SAME AS 2.0-3.5							8	VISUAL
		2.0-3.5	9	7	13	34	37			5	VISUAL
		4.5-6.0	BROWN SILTY CLAY, LITTLE SAND, TRACE GRAVEL.							13	VISUAL
PB-37	262+00, 30' RT	0-1.5	BROWN GRAVEL WITH SAND, LITTLE SILT, TRACE CLAY.							3	VISUAL
		2.0-2.5	38	20	16	17	9			1	VISUAL
		4.5-6.0	BROWN SAND, LITTLE GRAVEL, TRACE SILT.							5	VISUAL
PB-38	265+00, 45' RT	1.3-2.8	BROWN SANDY SILT, LITTLE GRAVEL, TRACE CLAY.								VISUAL
		3.5-5.0	BROWN SAND, LITTLE GRAVEL, LITTLE SILT, TRACE CLAY.								VISUAL
		6.0-7.5	1	39	35	-15-				6	VISUAL
		8.5-10.0	SAME AS 6.0-7.5							5	VISUAL
PB-39	270+00, 30' RT	0-1.5	BROWN SAND, SOME GRAVEL, LITTLE SILT, TRACE CLAY, TRACE ORGANICS.							3	VISUAL
		2.0-3.5	22	26	23	-29-				2	VISUAL
		4.5-6.0	BROWN SAND, LITTLE GRAVEL, LITTLE SILT.							4	VISUAL
PB-40	278+00, 30' RT	0-1.5	BROWN SANDY SILT, LITTLE GRAVEL, TRACE ORGANICS.							4	VISUAL
		2.0-2.5	SAME AS 0-1.5							3	VISUAL
		2.5-3.5	SAME AS 0-1.5								VISUAL
		4.5-6.0	4	12	62	-22-				4	VISUAL
PB-41	286+00, 30' RT	0-1.5	BROWN SAND, SOME SILT, LITTLE GRAVEL, TRACE ORGANICS.							4	VISUAL
		2.0-3.5	BROWN SILT AND CLAY, SOME SAND, TRACE GRAVEL.							5	VISUAL
		4.5-6.0	8	8	16	34	34	32	14	16	A-6a
PB-42	294+00, 30' RT	0-1.5	BROWN SANDY SILT, TRACE GRAVEL.							9	VISUAL
		2.0-3.5	1	7	12	37	33	32	17	12	A-6b
		4.5-6.0	SAME AS 2.0-3.5							13	VISUAL
PB-43	300+00, 45' RT	1.5-3.0	SAND AND GRAVEL BASE.								VISUAL
		3.5-5.0	GRAY SILTY, LITTLE SAND, TRACE GRAVEL.							22	VISUAL
		6.0-7.5	5	7	13	35	40	34	17	16	A-6b
		8.5-10.0	SAME AS 6.0-7.5							21	VISUAL
PB-44	302+00, 30' RT	0-1.5	1	8	13	36	32			4	VISUAL
		2.0-3.5	SAME AS 0-1.5							12	VISUAL
		4.5-6.0	BROWN SILTY CLAY, SOME SAND, TRACE GRAVEL.							15	VISUAL
PB-45	310+00, 30' RT	0-1.5	BROWN SILT AND CLAY, LITTLE SAND, TRACE GRAVEL.							8	VISUAL
		2.0-3.5	1	7	13	37	32	30	12	11	A-6a
		4.5-6.0	BROWN SILT AND CLAY, LITTLE SAND, LITTLE GRAVEL.							14	VISUAL
PB-46	318+00, 30' RT	0-1.5	SAME AS 2.0-3.5							8	VISUAL
		2.0-3.5	14	7	13	35	31	28	11	11	A-6a
		4.5-6.0	BROWN SILT AND CLAY, SOME SAND, LITTLE GRAVEL.							11	VISUAL
PB-47	326+00, 30' RT	0-1.5	BROWN SILTY CLAY, SOME SAND, LITTLE GRAVEL.							6	VISUAL
		2.0-3.5	13	5	17	32	33	37	21	10	A-6b
		4.5-6.0	BROWN SILTY CLAY, SOME SAND, TRACE GRAVEL.							14	VISUAL
PB-48	334+00, 30' RT	0-1.5	12	11	19	35	23			3	VISUAL
		2.0-3.0	SAME AS 0-1.5							4	VISUAL
		4.5-6.0	GRAY SANDY SILT, SOME CLAY, LITTLE GRAVEL.							10	VISUAL

S.B. BORINGS REFERENCED TO CENTERLINE OF I-71

LOCATION	& OFFSET	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	% W.C.	ODOT Class
PB-70	2+00, 30' LT	0-1.5	BROWN SILT AND CLAY, SOME SAND, TRACE GRAVEL.							7	VISUAL
		2.0-3.5	SAME AS 0-1.5							9	VISUAL
		4.5-6.0	1	1	4	51	43	37	17	19	A-6b
PB-71	10+00, 30' LT	0-1.5	SAME AS 2.0-3.5							10	VISUAL
		2.0-3.5	2	3	8	44	43	32	16	13	A-6b
		4.5-5.7	BROWN SILT AND CLAY, LITTLE SAND, TRACE GRAVEL.							12	VISUAL
		5.7-6.0	SAME AS 4.5-5.7							7	VISUAL
PB-72	17+00, 30' LT	0-1.5	BROWN SANDY SILT, SOME CLAY, TRACE GRAVEL, TRACE ORGANICS.								VISUAL
		2.0-3.5	SAME AS 0-1.5							12	VISUAL
		4.5-6.0	5	6	12	39	38	31	13	13	A-6a
PB-73	26+00, 30' LT	0-1.5	BROWN SILT AND CLAY, SOME SAND, TRACE GRAVEL.							4	VISUAL
		2.0-3.5	BROWN SANDY SILT, SOME CLAY, TRACE GRAVEL.							3	VISUAL
		4.5-6.0	16	16	40	-28-				13	VISUAL
PB-74	34+00, 30' LT	0-1.5	BROWN CLAY AND SILT, LITTLE SAND, TRACE GRAVEL.							10	VISUAL
		2.0-3.5	8	4	14	36	38	31	13	13	A-6a
		4.5-6.0	SAME AS 2.0-3.5							17	VISUAL
PB-75	42+00, 30' LT	0-1.5	BROWN SANDY SILT, SOME CLAY, TRACE GRAVEL, TRACE ORGANICS.							10	VISUAL
		2.0-3.5	1	3	19	40	37	30	13	13	A-6a
		4.5-6.0	BROWN AND GRAY SILT AND CLAY, LITTLE SAND, TRACE GRAVEL.							14	VISUAL
PB-76	50+00, 30' LT	0-1.5	BROWN SANDY SILT, LITTLE CLAY, TRACE GRAVEL, TRACE ORGANICS.							11	VISUAL
		2.0-3.5	BROWN SILTY CLAY, LITTLE SAND, TRACE GRAVEL, TRACE ORGANICS.							22	VISUAL
		4.5-6.0	0	1	6	52	41	42	21	22	A-7-6
PB-77	58+00, 30' LT	0-1.5	BROWN SANDY SILT, SOME CLAY, LITTLE GRAVEL, TRACE ORGANICS.							1	VISUAL
		2.0-3.5	BROWN AND GRAY SILT AND CLAY, TRACE SAND.							21	VISUAL
		4.5-6.0	0	0	0	35	65	42	18	21	A-7-6
PB-78	66+00, 30' LT	0-1.5	BROWN SANDY SILT, SOME CLAY, TRACE GRAVEL, TRACE ORGANICS.							12	VISUAL
		2.0-2.5	SAME AS 0-1.5								VISUAL
		2.5-3.5	14	7	13	37	29	23	8	14	A-4a
		4.5-6.0	GRAY SILT AND CLAY, LITTLE SAND, TRACE GRAVEL (SHALE FRAGMENTS).							11	VISUAL
PB-79	73+90, 30' LT	0-1.5	SAME AS 2.0-3.5							11	VISUAL
		2.0-3.5	2	5	11	43	39	30	11	13	A-6a
		4.5-6.0	BROWN SILTY CLAY, SOME SAND, TRACE GRAVEL.							15	VISUAL
PB-80	78+00, 30' LT	1.2-1.5	BROWN SAND, LITTLE GRAVEL, LITTLE SILT.								VISUAL
		1.5-2.7	SAME AS 3.5-5.0							15	VISUAL
		3.5-5.0	4	5	11	41	39	33	13	16	A-6a
		6.0-7.5	3	4	12	-81-		29	11	16	A-6a
		8.5-10.0	SAME AS 6.0-7.5							13	VISUAL
PB-81	82+00, 30' LT	0-1.5	SAME AS 2.0-3.5							10	VISUAL
		2.0-3.5	18	5	12	34	31	30	12	12	A-6a
		4.5-6.0	BROWN SILT AND CLAY, LITTLE SAND, TRACE GRAVEL.							18	VISUAL
PB-82	90+00, 30' LT	0-1.5	BROWN SANDY SILT, LITTLE CLAY, TRACE GRAVEL.							8	VISUAL
		2.0-3.5	4	5	12	44	35	26	9	13	A-4a
		4.5-6.0	SAME AS 2.0-3.5							14	VISUAL

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-1169
FILENAME: W-1169-03-DATA.DGN
DATE: 5/1/03

RESOURCE INTERNATIONAL, IN
281 ENTERPRISE DR.
WESTERVILLE, OHIO 43081
(614) 885-1959

DRAWN	DATE
KAL	5/1/03
REVIEWED	DATE
GPH	5/1/03

SOIL PROFILE

WAYNE-MEDINA COUNTY
WAY-MED-71-7.040/0.00

3 / 17

3
55

SUMMARY OF SOIL TEST DATA

(CONT'D) S.B. BORINGS REFERENCED TO CENTERLINE OF I-71

LOCATION	OFFSET	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	% W.C.	ODOT Class
PB-83	98+00, 30' LT	0-1.5	BROWN SANDY SILT, LITTLE CLAY, TRACE GRAVEL, TRACE ORGANICS.							7	VISUAL
		2.0-3.0	BROWN CHANGING TO BROWN AND GRAY SILT AND CLAY, SOME SAND, TRACE GRAVEL.							12	VISUAL
		4.5-6.0	SAME AS 2.0-3.0							13	VISUAL
PB-84	102+00, 30' LT	1.0-2.5	SAME AS 6.0-7.5							15	VISUAL
		3.5-5.0	SAME AS 6.0-7.5							15	VISUAL
		6.0-7.5	5	6	11	39	39	32	13	15	A-6a
		8.5-10.0	SAME AS 6.0-7.5							16	VISUAL
PB-85	106+00, 30' LT	0-1.5	SAME AS 2.0-3.5							13	VISUAL
		2.0-3.5	0	0	2	50	48	35	15	15	A-6a
		4.5-6.0	BROWN SILT AND CLAY, SOME SAND, TRACE GRAVEL.							18	VISUAL
PB-86	114+00, 30' LT	0-1.5	6	7	18	37	32	30	12	10	A-6a
		2.0-3.5	SAME AS 0-1.5							13	VISUAL
		4.5-6.0	SAME AS 0-1.5							15	VISUAL
PB-87	122+00, 30' LT	0-1.5	20	7	23	-50-		31	8	6	VISUAL
		2.0-3.5	BROWN SILT AND CLAY, LITTLE SAND, TRACE GRAVEL.							15	VISUAL
		4.5-6.0	SAME AS 2.0-3.5							15	VISUAL
PB-88	130+00, 30' LT	0-1.5	BROWN SILT AND CLAY, SOME SAND, TRACE GRAVEL, TRACE ORGANICS.							6	VISUAL
		2.0-3.5	21	4	27	27	21	29	14	11	A-6a
		4.5-6.0	SAME AS 2.0-3.5							22	VISUAL
PB-89	138+00, 30' LT	0-1.5	SAME AS 2.0-3.5							4	VISUAL
		2.0-3.5	5	6	14	46	29	32	15	14	A-6a
		4.5-6.0	BROWN SILT AND CLAY, LITTLE SAND, LITTLE GRAVEL.							11	VISUAL
PB-90	146+00, 30' LT	0-1.5	11	10	26	29	24			3	VISUAL
		2.0-3.5	SAME AS 0-1.5							10	VISUAL
		4.5-6.0	SAME AS 0-1.5							11	VISUAL
PB-91	154+00, 30' LT	0-1.5	11	10	23	32	24	28	13	2	A-6a
		2.0-3.5	BROWN SANDY SILT, SOME CLAY, LITTLE GRAVEL.							9	VISUAL
		4.5-6.0	BROWN SANDY SILT, LITTLE CLAY, LITTLE GRAVEL.							7	VISUAL
PB-92	162+00, 30' LT	0-1.5	11	8	22	28	31			3	VISUAL
		2.0-3.5	SAME AS 0-1.5							7	VISUAL
		4.5-6.0	SAME AS 0-1.5							6	VISUAL
PB-93	170+00, 30' LT	0-1.5	15	8	15	30	32			4	VISUAL
		2.0-3.5	REDDISH BROWN SAND, LITTLE SILT, TRACE CLAY, TRACE GRAVEL.							5	VISUAL
		4.5-6.0	SAME AS 2.0-3.5							12	VISUAL
PB-94	178+00, 30' LT	0-1.5	SAME AS 2.0-3.5							7	VISUAL
		2.0-3.5	8	17	20	36	19	29	14	8	A-6a
		4.5-6.0	BROWN SAND, LITTLE SILT, TRACE CLAY, TRACE GRAVEL.							9	VISUAL
PB-95	186+00, 30' LT	0-1.5	SAME AS 2.0-3.5							5	VISUAL
		2.0-3.5	11	8	14	-67-				8	VISUAL
		4.5-6.0	SAME AS 2.0-3.5							7	VISUAL
PB-96	194+00, 30' LT	0-1.5	GRAY CHANGING TO BROWN SILT AND CLAY, LITTLE SAND, LITTLE GRAVEL.							5	VISUAL
		2.5-4.0	17	7	9	-67-		27	11	7	A-6a
		4.5-6.0	SAME AS 2.5-4.0							8	VISUAL
PB-97	197+00, 45' RT	1.3-2.0	SAND AND GRAVEL BASE.								VISUAL
		2.0-2.8	SAME AS 3.5-5.0							12	VISUAL
		3.5-5.0	18	23	38	-21-				14	VISUAL
		6.0-7.5	15	19	15	27	24	31	11	17	A-6a
		8.5-10.0	REDDISH BROWN SILTY SAND, LITTLE GRAVEL.							13	VISUAL
PB-98	202+00, 30' LT	0-1.5	SAME AS 0-1.5							1	VISUAL
		2.0-3.5	7	4	44	-45-				5	VISUAL
		4.5-6.0	BROWN SAND, LITTLE SILT, TRACE CLAY, TRACE GRAVEL.							10	VISUAL
PB-99	210+00, 30' LT	0-1.5	BROWN SANDY SILT, LITTLE GRAVEL, LITTLE CLAY.							2	VISUAL
		2.0-3.5	14	11	33	-42-				3	VISUAL
		4.5-6.0	SAME AS 2.0-3.5							8	VISUAL
PB-100	218+00, 30' LT	0-1.5	BROWN SANDY SILT, SOME GRAVEL, LITTLE CLAY, TRACE ORGANICS.							3	VISUAL
		2.0-3.5	28	8	35	-29-				5	VISUAL
		4.5-6.0	7	7	42	-44-				10	VISUAL
PB-101	226+00, 30' LT	0-1.5	BROWN SANDY SILT, TRACE GRAVEL, TRACE ORGANICS.							11	VISUAL
		2.0-2.5	23	11	16	21	19	24	8	12	A-4a
		4.5-6.0	15	12	31	-42-				12	VISUAL
PB-102	234+00, 30' LT	0-1.5	BROWN SILT AND CLAY, SOME SAND, LITTLE GRAVEL, TRACE ORGANICS.							3	VISUAL
		2.0-3.5	BROWN SANDY SILT, SOME CLAY, LITTLE GRAVEL.							10	VISUAL
		4.5-6.0	SAME AS 2.0-3.5							11	VISUAL
PB-103	242+00, 30' LT	0-1.5	BROWN SILTY CLAY, SOME SAND, LITTLE GRAVEL.							7	VISUAL
		2.0-3.5	15	9	16	30	30	35	19	11	A-6b
		4.5-6.0	SAME AS 2.0-3.5							13	VISUAL
PB-104	250+00, 30' LT	0-1.5	SAME AS 2.0-3.5							2	VISUAL
		2.0-3.5	9	8	13	37	33	31	13	12	A-6a
		4.5-6.0	SAME AS 2.0-3.5							13	VISUAL
PB-105	258+00, 30' LT	0-1.5	SAME AS 2.0-3.5							2	VISUAL
		2.0-3.5	35	20	18	-27-		20	6	5	A-2-4
		4.5-6.0	SAME AS 2.0-3.5							5	VISUAL
PB-106	261+00, 45' LT	1.5-3.0	SAND AND GRAVEL BASE.							8	VISUAL
		3.5-5.0	47	24	15	-14-				4	VISUAL
		6.0-7.5	SAME AS 3.5-5.0							4	VISUAL
		8.5-10.0	BROWN GRAVEL, SOME SAND, LITTLE SILT.							4	VISUAL
PB-107	266+00, 30' LT	0-1.5	BROWN GRAVEL, SOME SAND, TRACE SILT, TRACE CLAY, TRACE ORGANICS.							1	VISUAL
		2.0-3.5	53	26	11	-10-				2	VISUAL
		4.5-6.0	SAME AS 2.0-3.5								VISUAL
PB-108	274+00, 30' LT	0-1.0	SAME AS 2.0-3.5							4	VISUAL
		2.0-3.5	23	13	19	18	27	28	14	6	A-6a
		4.5-6.0	BROWN SAND, SOME SILT, TRACE GRAVEL.							5	VISUAL
PB-109	282+00, 30' LT	0-1.5	BROWN SILTY CLAY, SOME SAND, LITTLE GRAVEL, TRACE ORGANICS.							8	VISUAL
		2.0-3.5	12	9	15	36	28	27	11	12	A-6a
		4.5-6.0	SAME AS 2.0-3.5							14	VISUAL
PB-110	290+00, 30' LT	0-1.5	15	12	16	31	26	32	16	9	A-6b
		2.0-3.5	SAME AS 0-1.5							11	VISUAL
		4.5-6.0	BROWN SAND, LITTLE SILT, TRACE GRAVEL.							6	VISUAL
PB-111	296+00, 45' LT	1.1-1.6	SAND AND GRAVEL BASE.								VISUAL
		1.6-2.6	BROWN SILT AND CLAY, TRACE SAND, TRACE GRAVEL.							14	VISUAL
		3.5-6.0	6	5	8	45	36	26	9	14	A-4a
		6.0-7.5	SAME AS 4.5-6.0							14	VISUAL
		8.5-10.0	BROWN SANDY SILT, LITTLE CLAY, LITTLE GRAVEL.							14	VISUAL
PB-112	298+00, 30' LT	0-1.5	11	13	18	33	25	37	21	10	A-6b
		2.0-3.5	SAME AS 0-1.5							10	VISUAL
		4.5-6.0	SAME AS 0-1.5							14	VISUAL
PB-113	306+00, 30' LT	0-1.5	BROWN SILTY CLAY, LITTLE SAND, LITTLE GRAVEL, TRACE ORGANICS.							7	VISUAL
		2.0-3.5	16	8	12	33	31	27	11	12	A-6a
		4.5-6.0	SAME AS 2.0-3.5							13	VISUAL
PB-114	314+00, 30' LT	0-1.5	SAME AS 2.0-3.5							8	VISUAL
		2.0-3.5	13	8	13	34	32	32	16	13	A-6b
		4.5-6.0	SAME AS 2.0-3.5							12	VISUAL
PB-115	322+00, 30' LT	0-1.5	SAME AS 2.0-3.5							6	VISUAL
		2.0-3.5	18	8	13	33	28	27	11	10	A-6a
		4.5-6.0	SAME AS 2.0-3.5							12	VISUAL
PB-116	330+00, 30' LT	0-1.5	SAME AS 2.0-3.5							7	VISUAL
		2.0-3.5	8	8	20	-64-		21	7	8	VISUAL
		4.5-6.0	BROWN SILT AND CLAY, SOME SAND, TRACE GRAVEL.							12	VISUAL

RESOURCE INTERNATIONAL, INC.
281 ENTERPRISE DR.
WESTERVILLE, OHIO 43081
(614) 885-1959

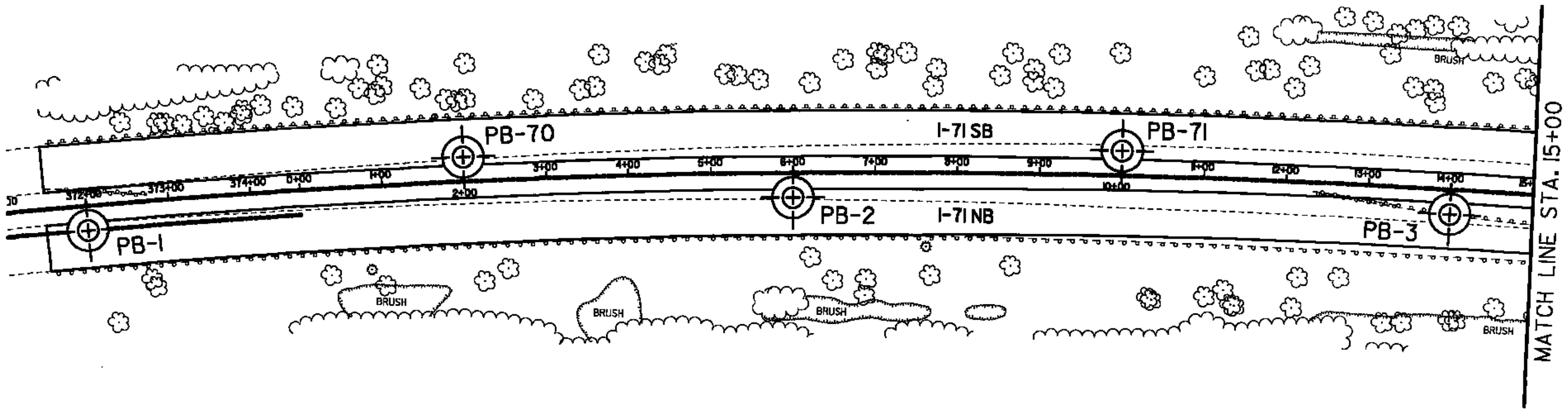
DRAWN	KAL	DATE	5/1/03
REVIEWED	GPH	DATE	5/1/03

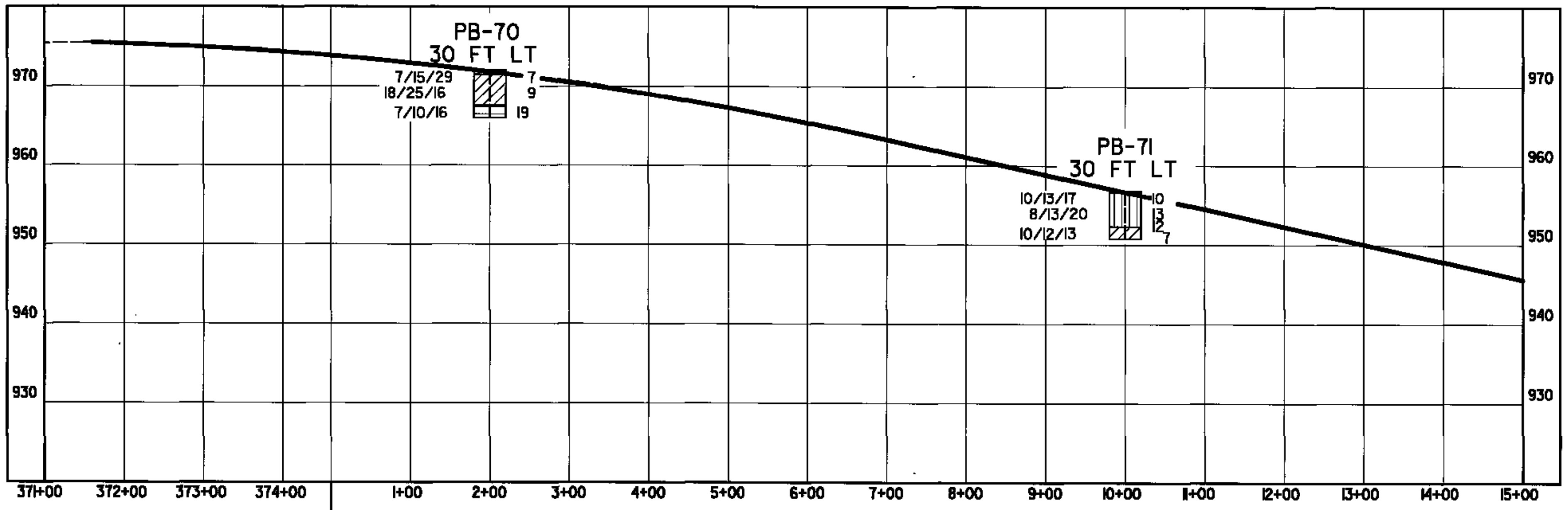
SOIL PROFILE

WAYNE-MEDINA COUNTY
WAY-MED-71-7.040/0.00

4/17

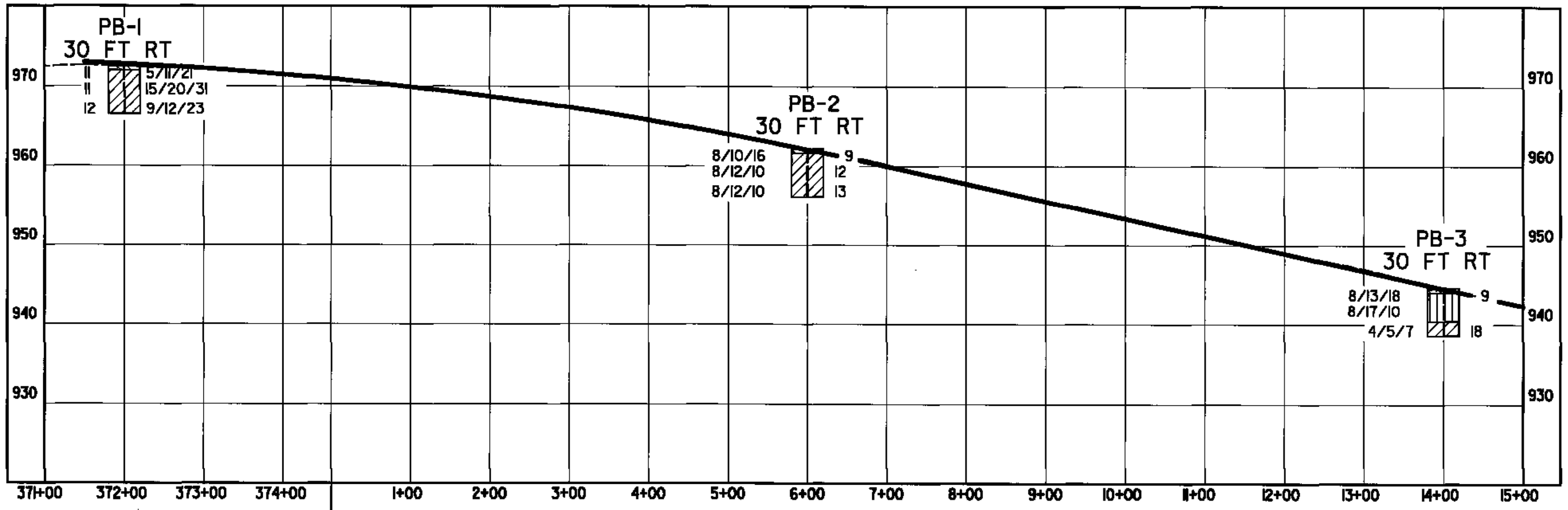
4
55





STATION EQUATION $\frac{374+60.25}{0+00.00}$

SOUTH BOUND PROFILE



STATION EQUATION $\frac{374+60.25}{0+00.00}$

NORTH BOUND PROFILE

RESOURCE INTERNATIONAL, INC.
PROJECT NO. W-1169
FILENAME: W-1169-07-PP.DGN
DATE: 5/1/03

0 100 200
HORIZONTAL SCALE IN FEET

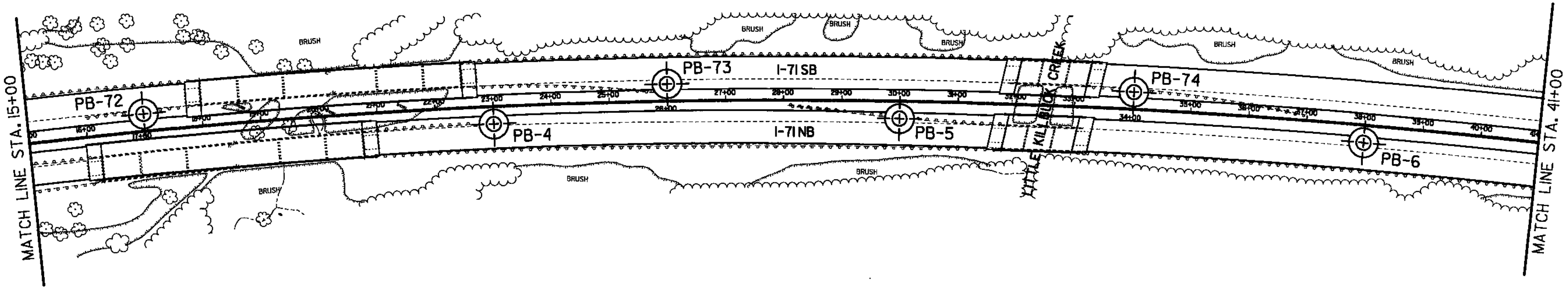
DRAWN	REVIEWED	DATE	DATE
KAL		5/1/03	
		DATE 5/1/03	CHECKED GPH

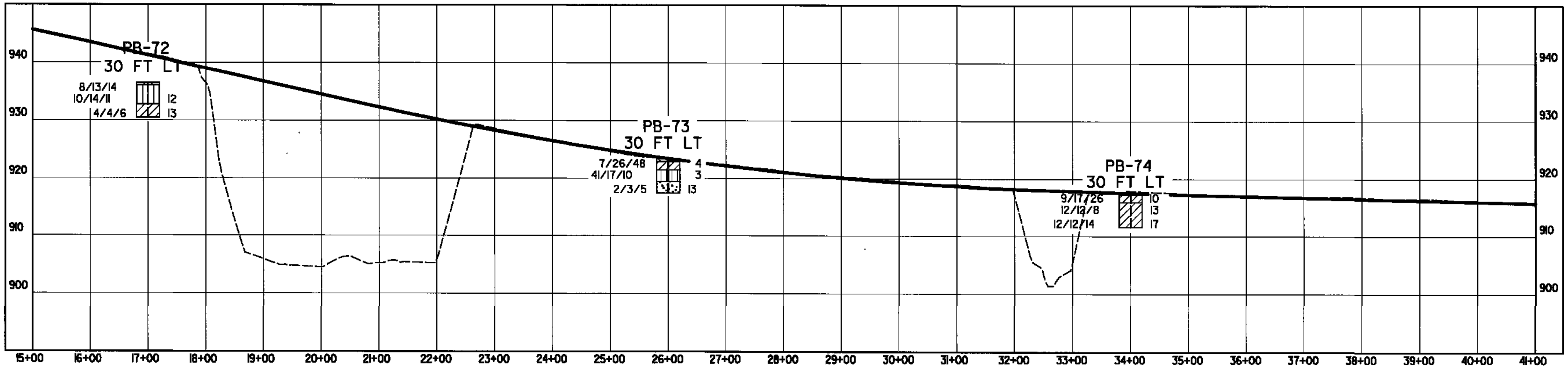
STA. 371+00 TO STA. 15+00
SOIL PROFILE

WAYNE-MEDINA COUNTY
WAY-MED-71-7.040/0.00

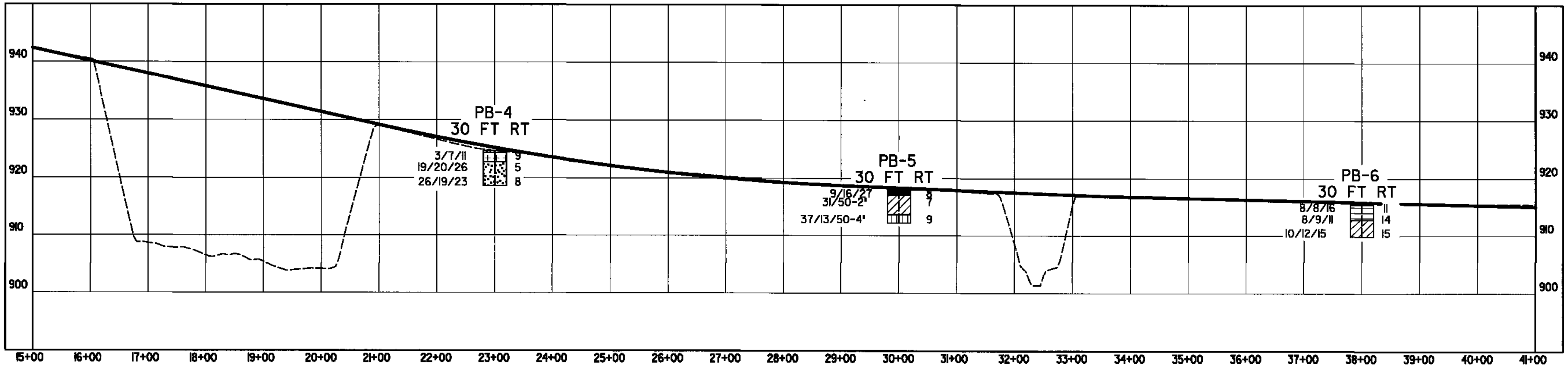
5/17

5
55





SOUTH BOUND PROFILE



NORTH BOUND PROFILE

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-1169
FILENAME: W-1169-08-PP.DGN
DATE: 5/1/03

0 100 200
HORIZONTAL SCALE IN FEET

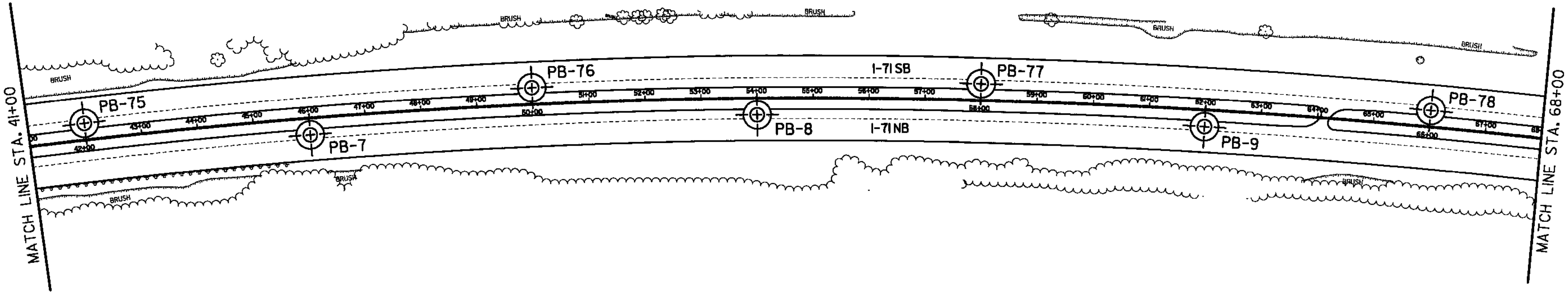
DRAWN	REVIEWED	DATE	DATE
KAL		5/1/03	
		DATE 5/1/03	CHECKED GPH

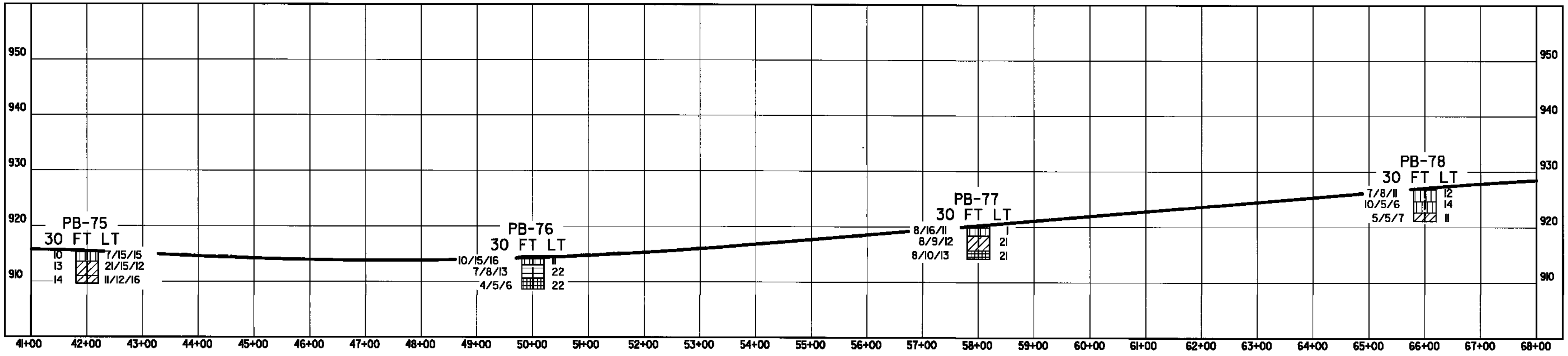
STA. 15+00 TO STA. 41+00
SOIL PROFILE

WAYNE-MEDINA COUNTY
WAY-MED-71-7.040/0.00

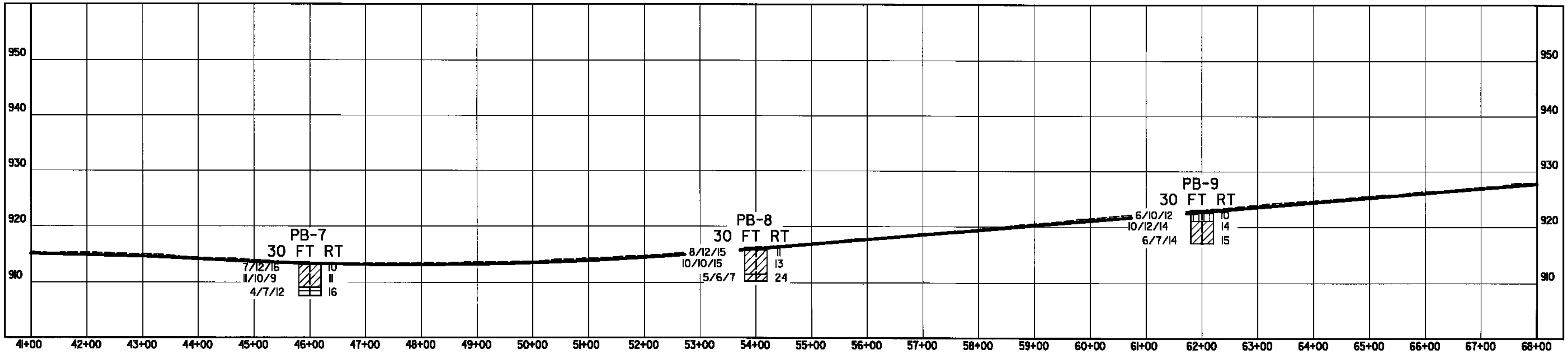
6/17

6
55





SOUTH BOUND PROFILE



NORTH BOUND PROFILE

DRAWN KAL
REVIEWED
DATE X
DATE
CHECKED GPH
DATE X

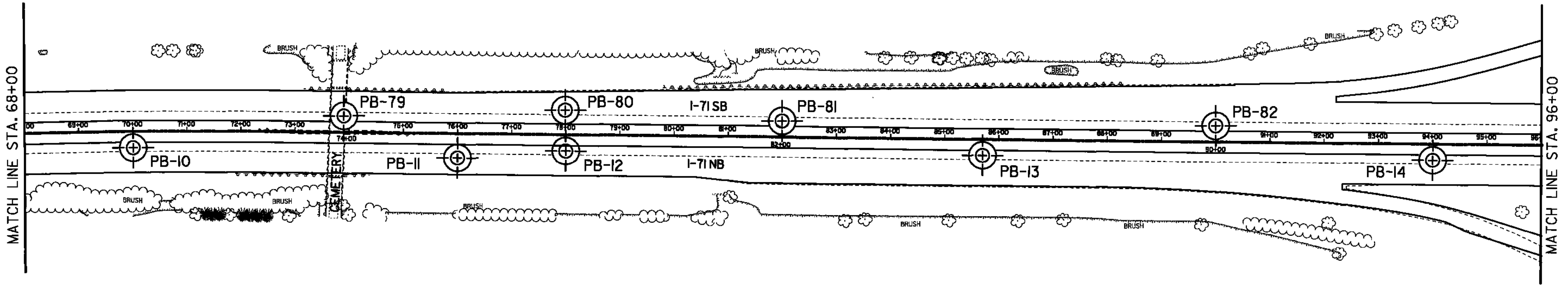
STA. 41+00 TO STA. 68+00
SOIL PROFILE

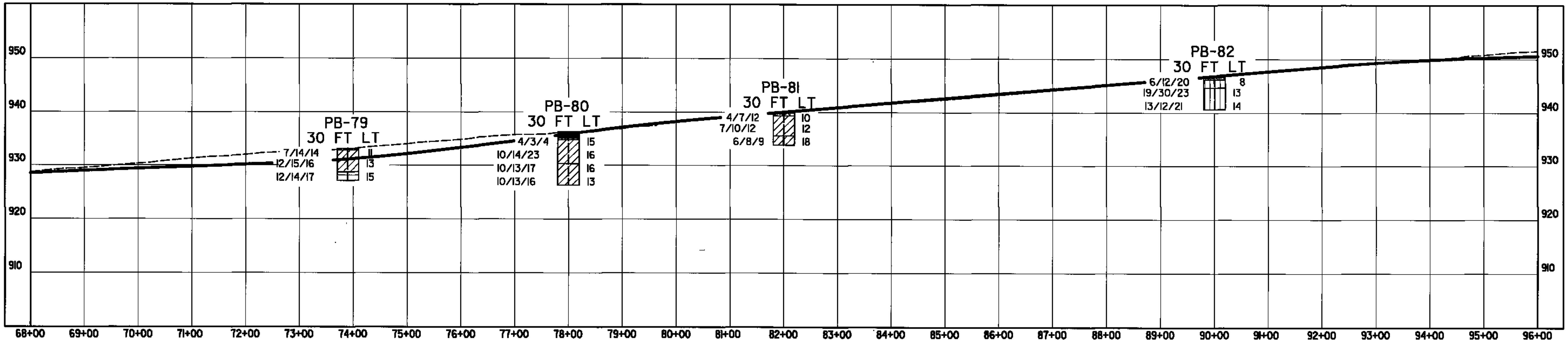
WAYNE-MEDINA COUNTY
WAY-MED-71-7.040/0.00

7/17

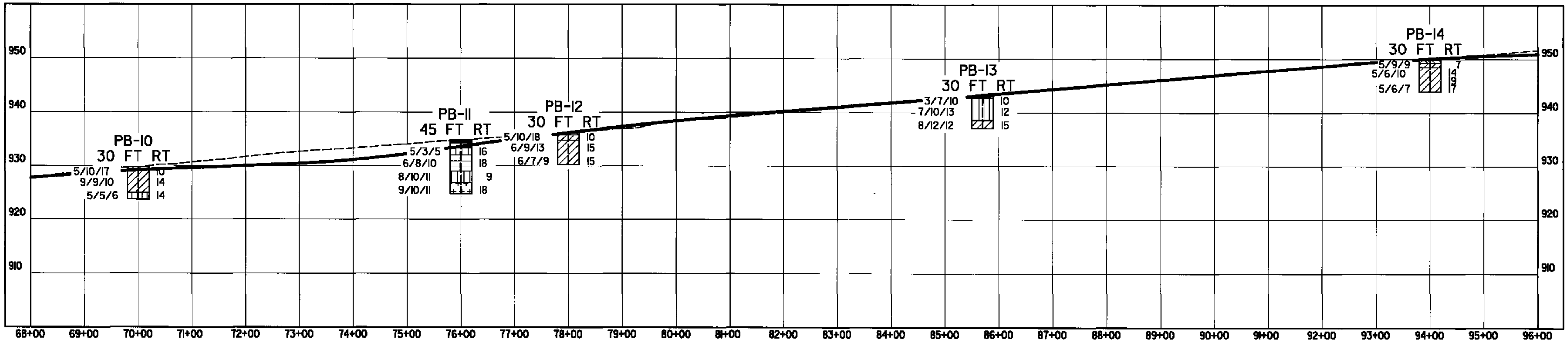
7
55

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-169.
FILENAME: W-169-09-PP.DGN
DATE: 5/1/03





SOUTH BOUND PROFILE



NORTH BOUND PROFILE

FILENAME: W-1169-10-PP.DGN
DATE: 5/1/03

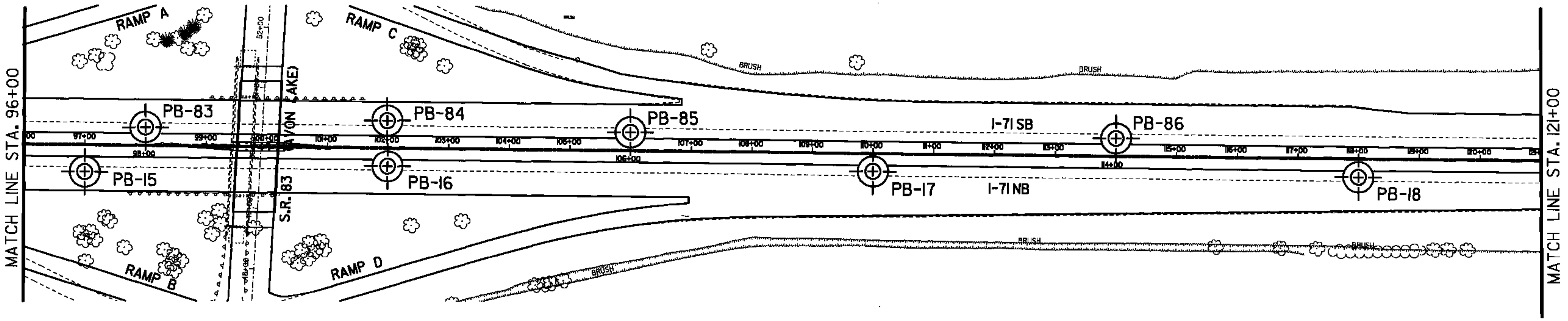
RESOURCE INTERNATIONAL INC.
PROJECT NO. W-1169

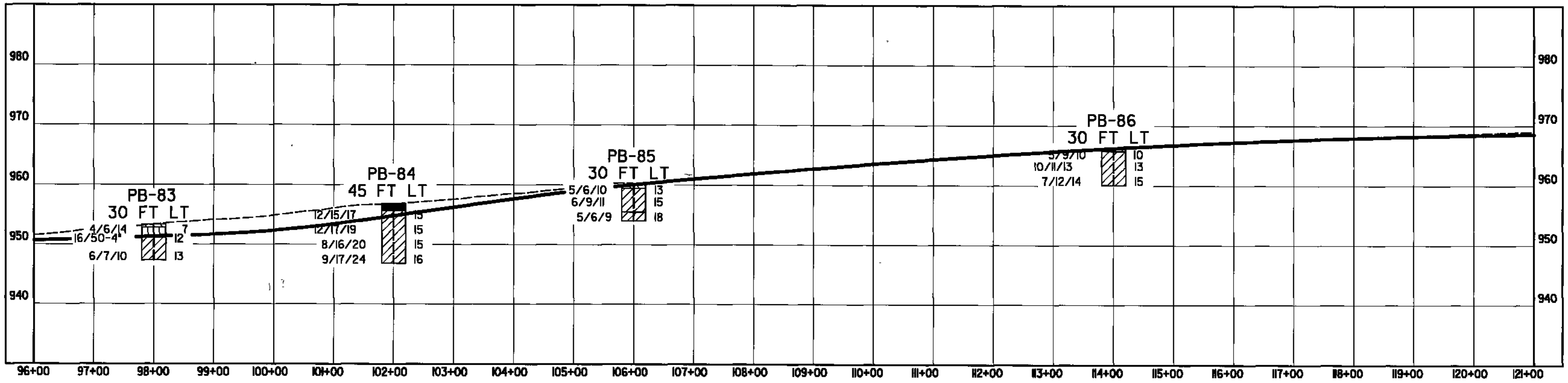
0 100 200
HORIZONTAL SCALE IN FEET

DATE
CHECKED GPH
DATE 5/1/03
DATE 5/1/03
REVIEWED
DRAWN KAL

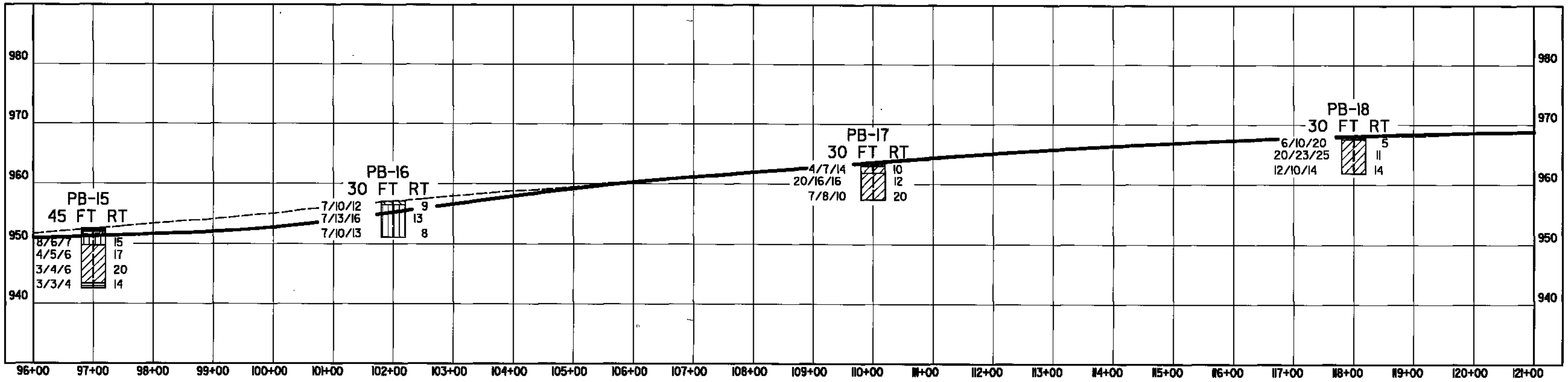
STA. 68+00 TO STA. 96+00
SOIL PROFILE

WAYNE-MEDINA COUNTY
WAY-MED-71-7.040/0.00





SOUTH BOUND PROFILE



NORTH BOUND PROFILE

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-1169
FILENAME: W-1169-II-PP.DGN
DATE: 5/1/03

N

0 100 200
HORIZONTAL SCALE IN FEET

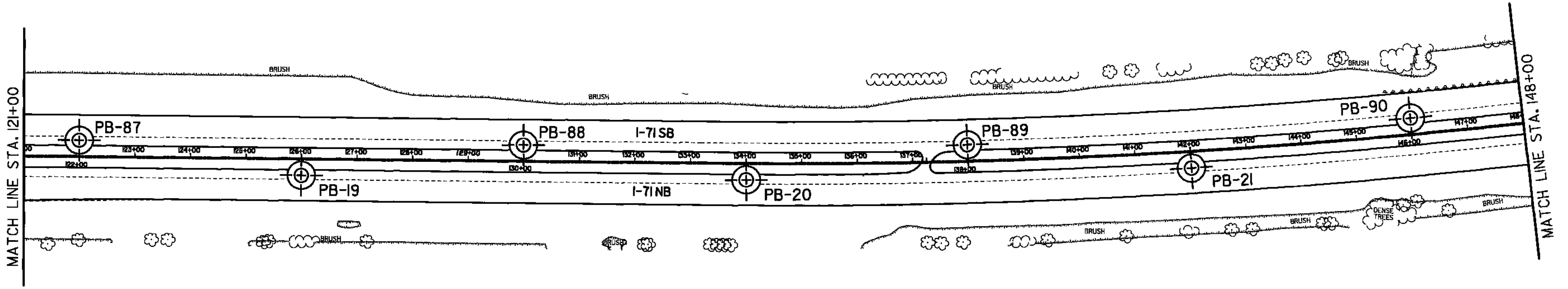
DATE
CHECKED GPH
DATE 5/1/03
DATE 5/1/03
REVIEWED
DRAWN KAL

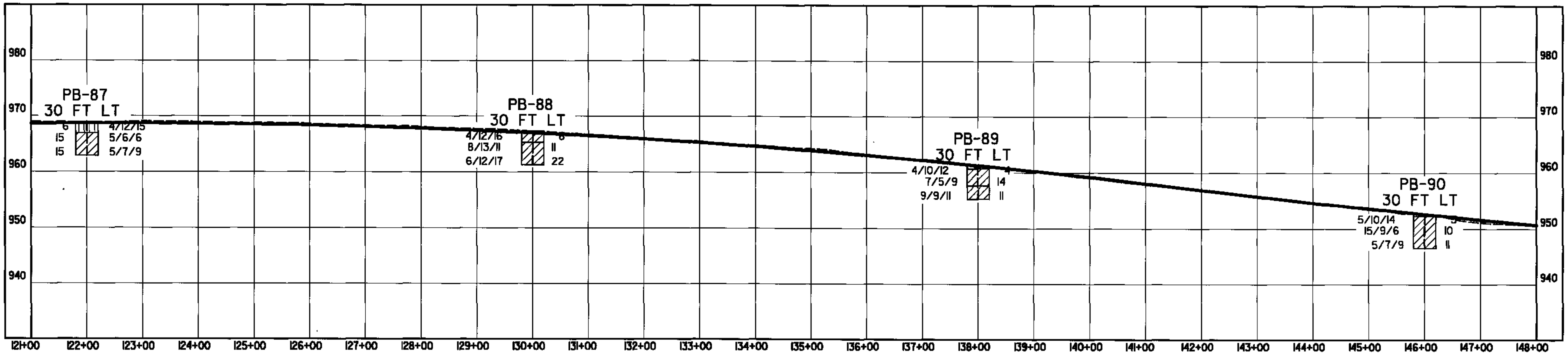
STA. 96+00 TO STA. 121+00
SOIL PROFILE

WAYNE-MEDINA COUNTY
WAY-MED-71-7.040/0.00

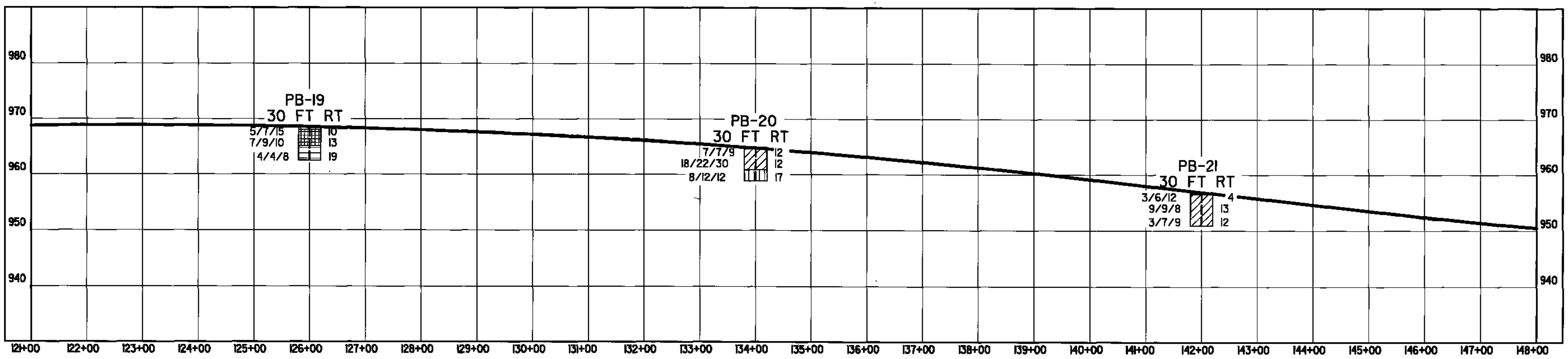
9/17

9
55





SOUTH BOUND PROFILE



NORTH BOUND PROFILE

N

0 100 200
HORIZONTAL SCALE IN FEET

DRAWN KAL	REVIEWED	DATE
	DATE 5/1/03	CHECKED GPH
		DATE 5/1/03

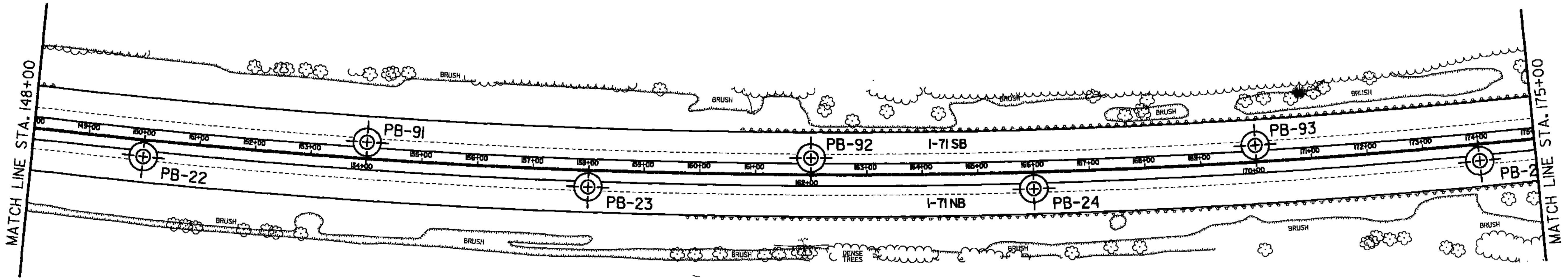
STA. 121+00 TO STA. 148+00
SOIL PROFILE

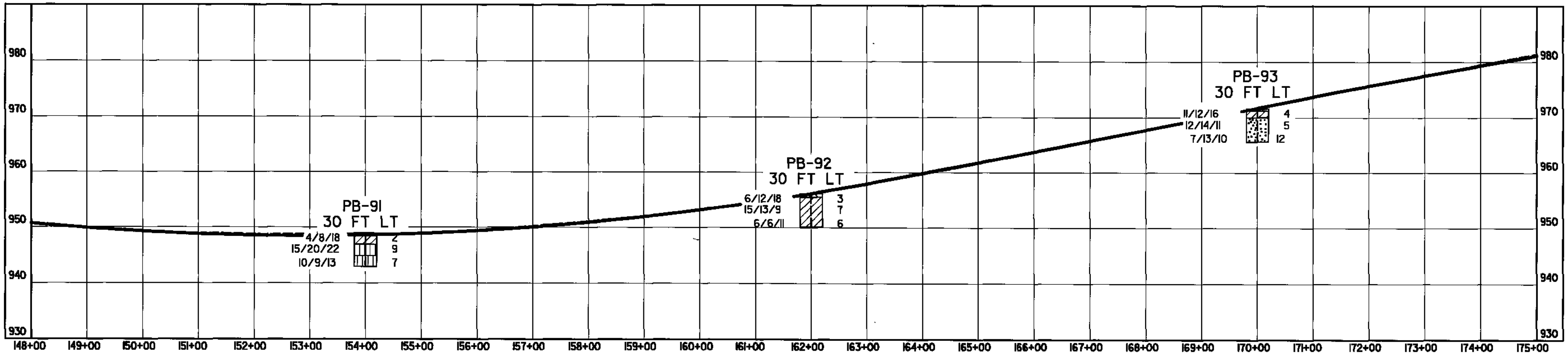
WAYNE-MEDINA COUNTY
WAY-MED-71-7.040/0.00

10/17

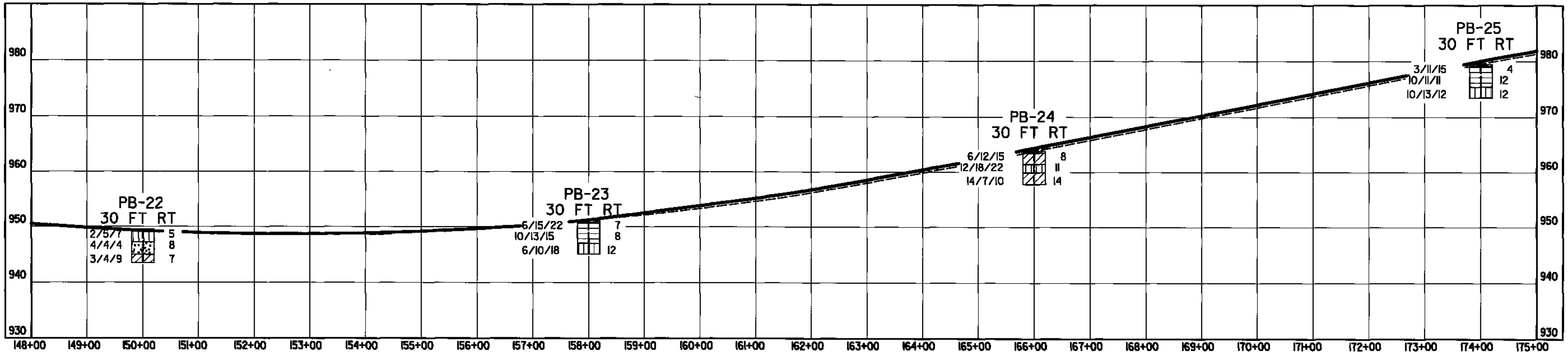
10
55

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-1169
FILENAME: W-1169-12-PP.DGN
DATE: 5/1/03





SOUTH BOUND PROFILE



NORTH BOUND PROFILE

0 100 200
HORIZONTAL SCALE IN FEET

DATE
CHECKED GPH

DATE 5/1/03
DATE 5/1/03

REVIEWED

DRAWN KAL

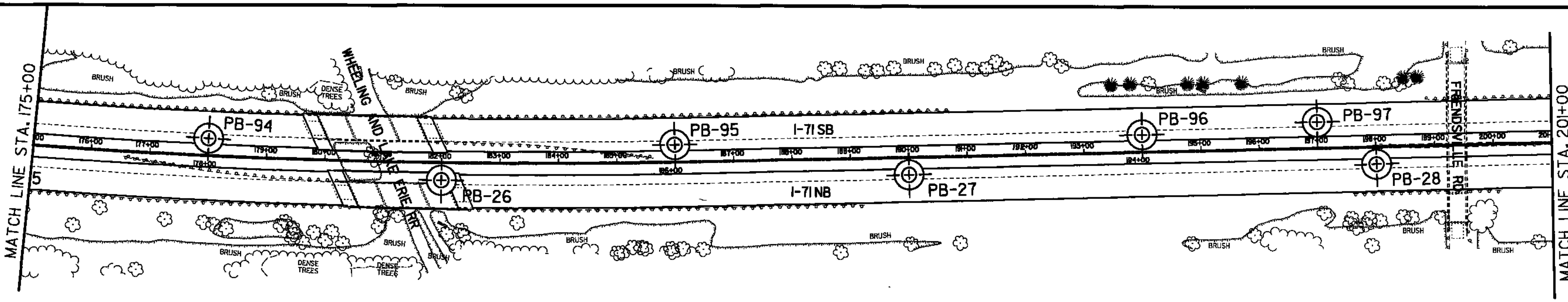
STA. 148+00 TO STA. 175+00
SOIL PROFILE

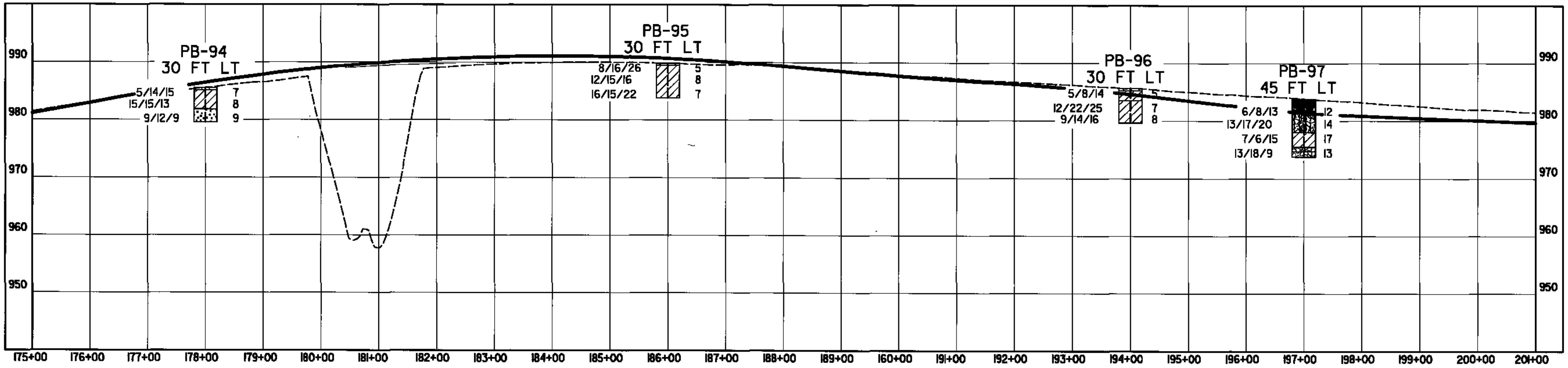
WAYNE-MEDINA COUNTY
WAY-MED-71-7.040/0.00

11/17

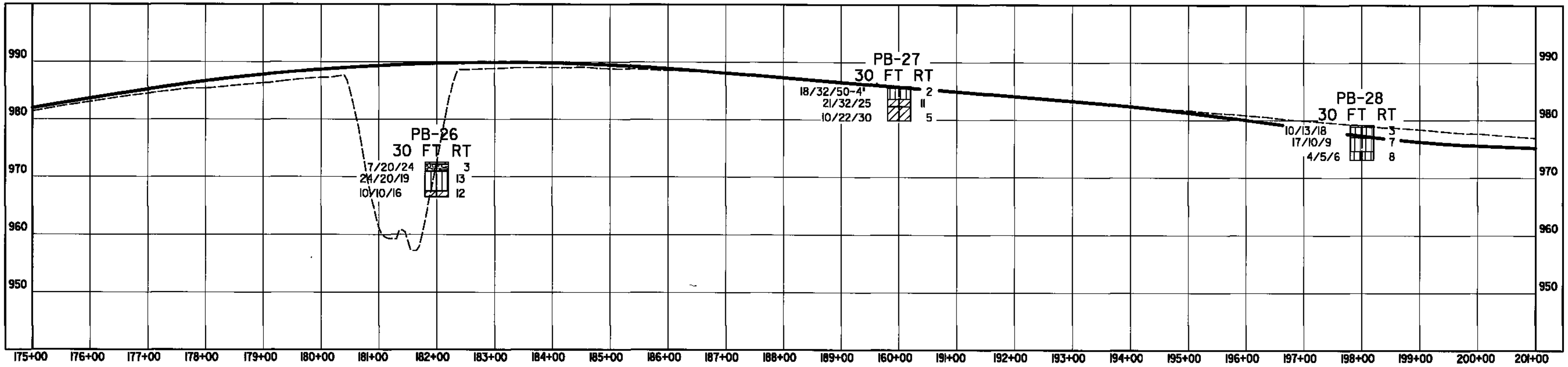
11
55

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-1169
FILENAME: W-1169-13-PP.DGN
DATE: 5/1/03





SOUTH BOUND PROFILE



NORTH BOUND PROFILE

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-1169

FILENAME: W-1169-14-PP.DGN
DATE: 5/1/03

0 100 200
HORIZONTAL SCALE IN FEET

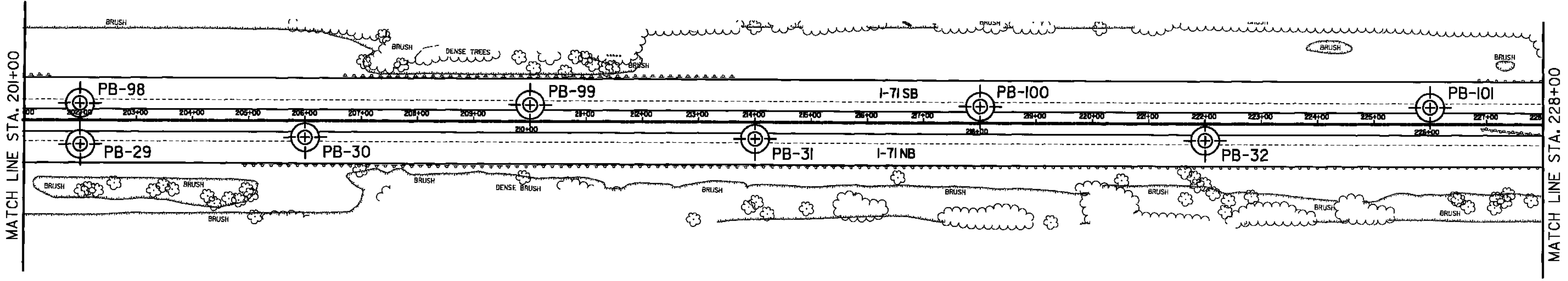
DRAWN KAL	REVIEWED	DATE 5/1/03	DATE
		DATE 5/1/03	CHECKED GPH

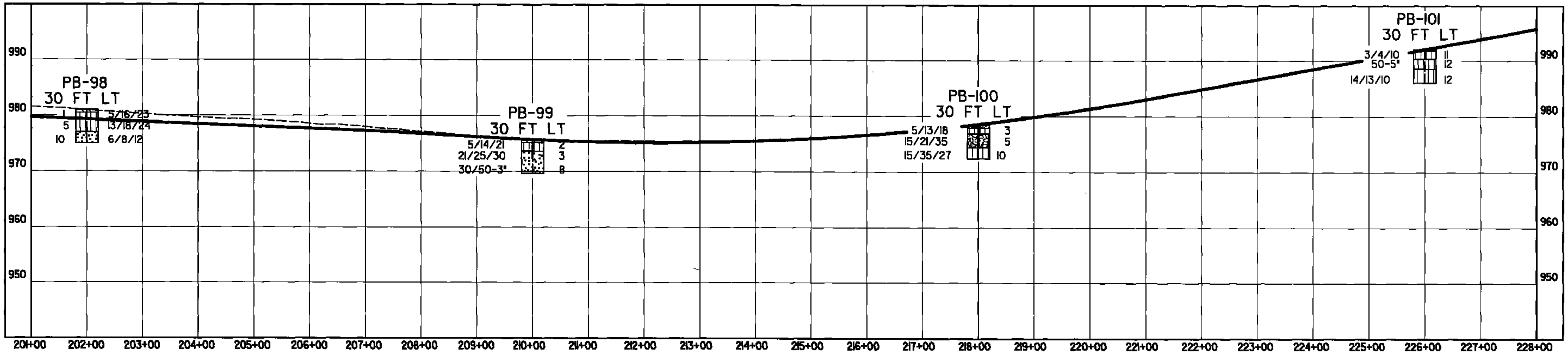
STA. 175+00 TO STA. 201+00
SOIL PROFILE

WAYNE-MEDINA COUNTY
WAY-MED-71-7.040/0.00

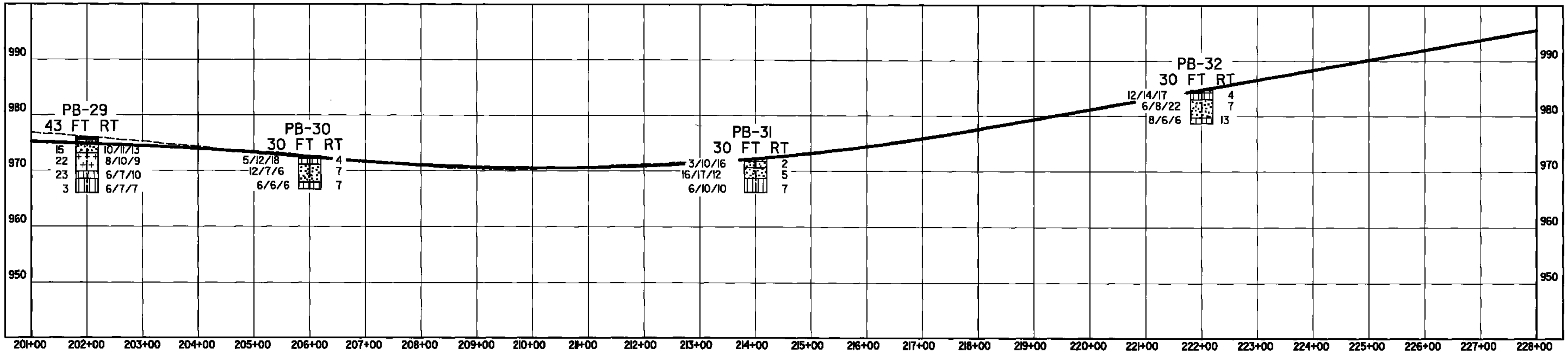
12/17

12
55





SOUTH BOUND PROFILE



NORTH BOUND PROFILE

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-1169
FILENAME: W-1169-15-PP.DGN
DATE: 5/1/03

0 100 200
HORIZONTAL SCALE IN FEET

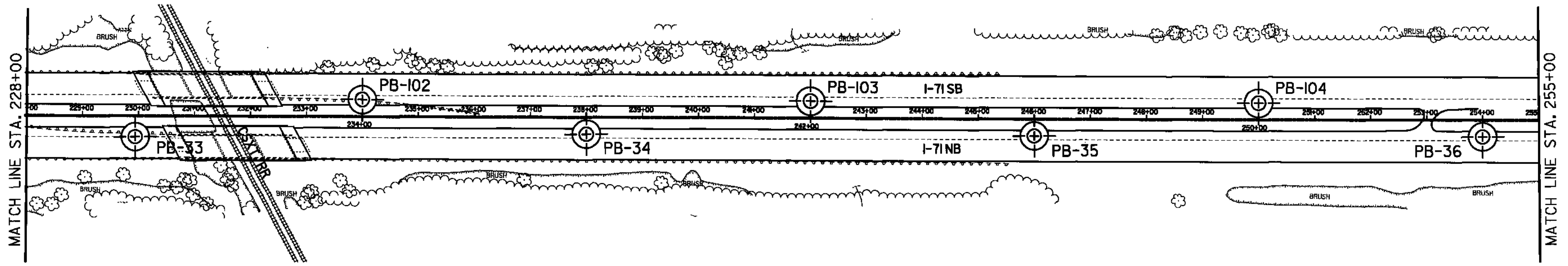
DRAWN	REVIEWED	DATE	DATE
KAL		5/1/03	
		DATE 5/1/03	CHECKED GPH

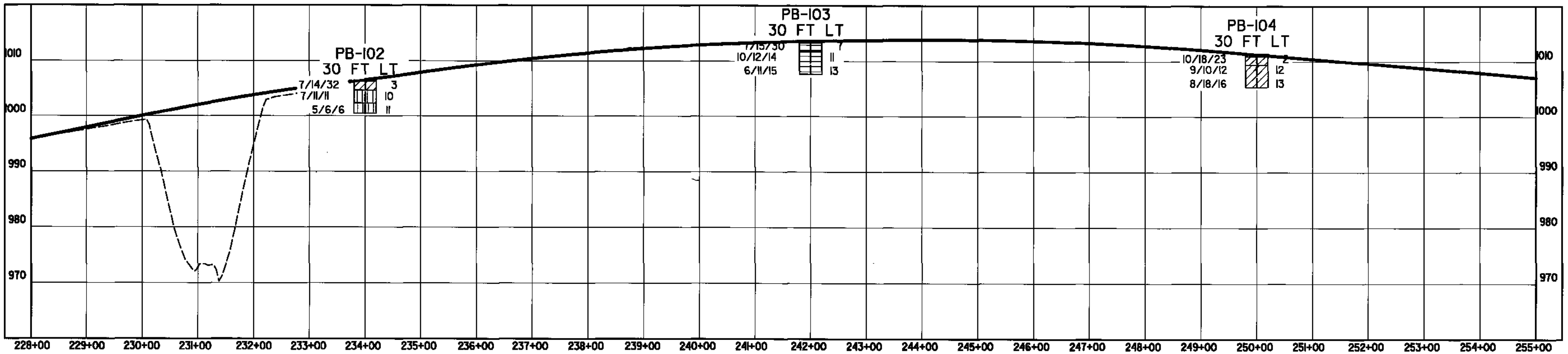
STA. 201+00 TO STA. 228+00
SOIL PROFILE

WAYNE-MEDINA COUNTY
WAY-MED-71-7.040/0.00

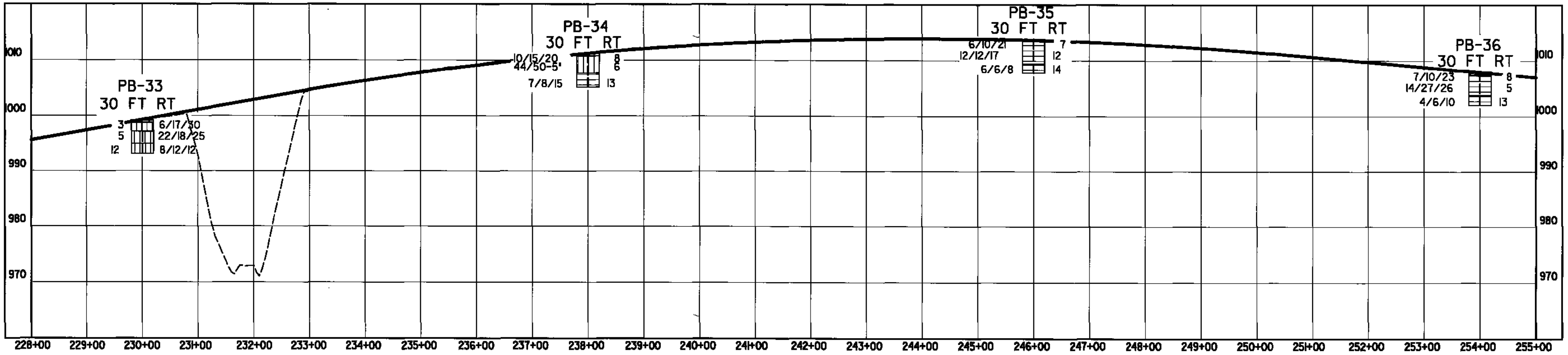
13/17

13
55





SOUTH BOUND PROFILE



NORTH BOUND PROFILE

0 100 200
HORIZONTAL SCALE IN FEET

DATE	CHECKED GPH
DATE 5/1/03	DATE 5/1/03
REVIEWED	
DRAWN KAL	

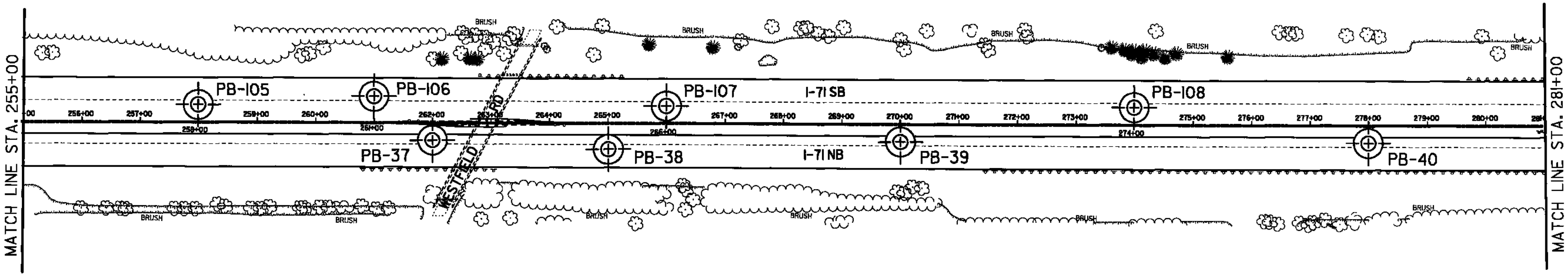
STA. 228+00 TO STA. 255+00
SOIL PROFILE

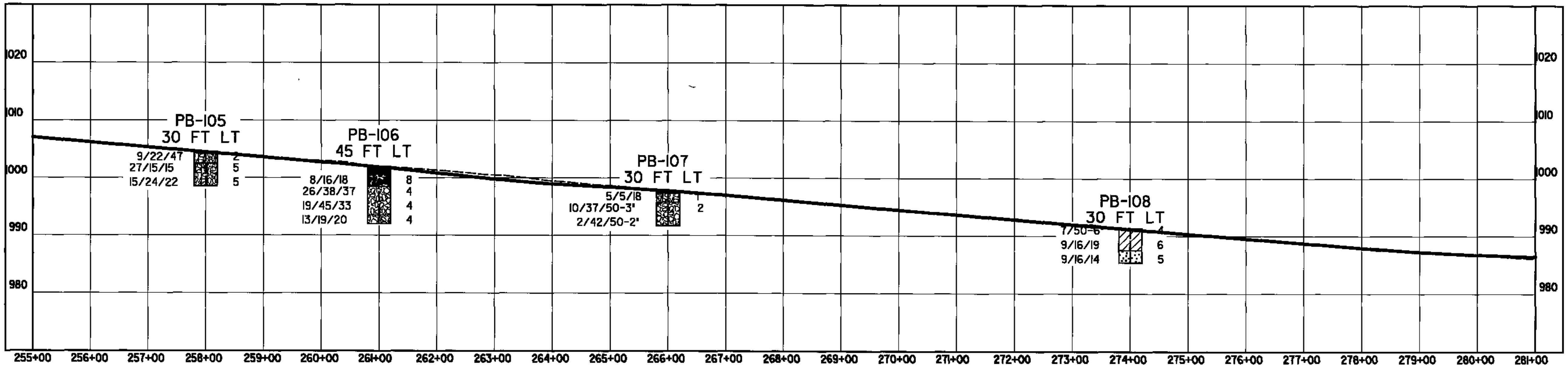
WAYNE-MEDINA COUNTY
WAY-MED-71-7.040/0.00

14/17

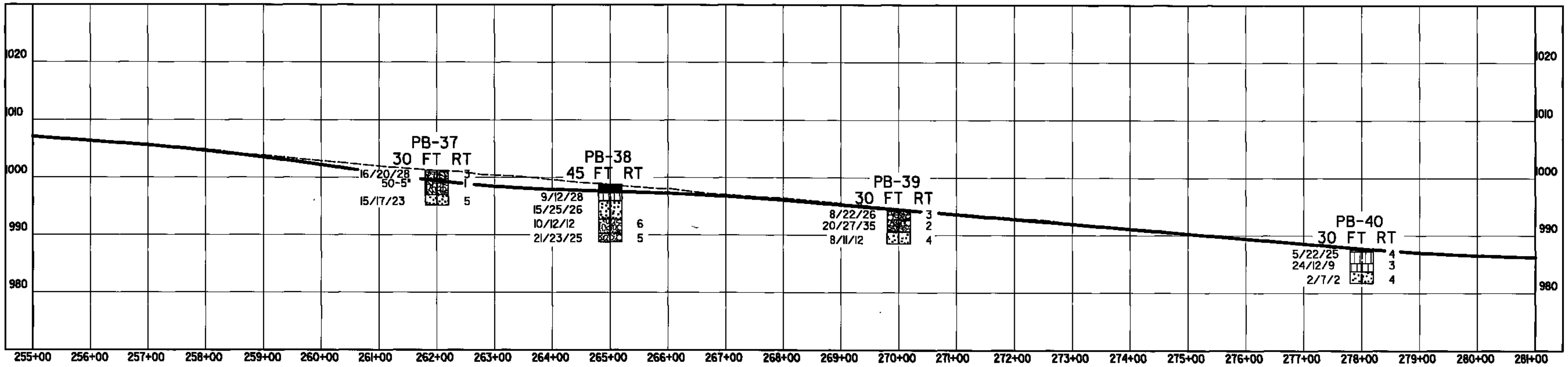
14
55

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-1169
FILENAME: W-1169-16-PP.DGN
DATE: 5/1/03





SOUTH BOUND PROFILE



NORTH BOUND PROFILE

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-1169
FILENAME: W-1169-13-PP.DGN
DATE: 5/1/03

0 100 200
HORIZONTAL SCALE IN FEET

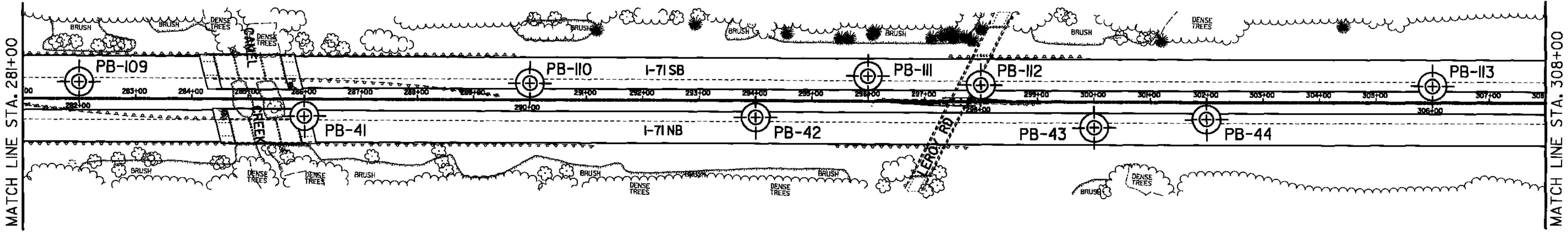
DRAWN	REVIEWED	DATE	DATE
KAL		5/1/03	
		DATE 5/1/03	CHECKED GPH

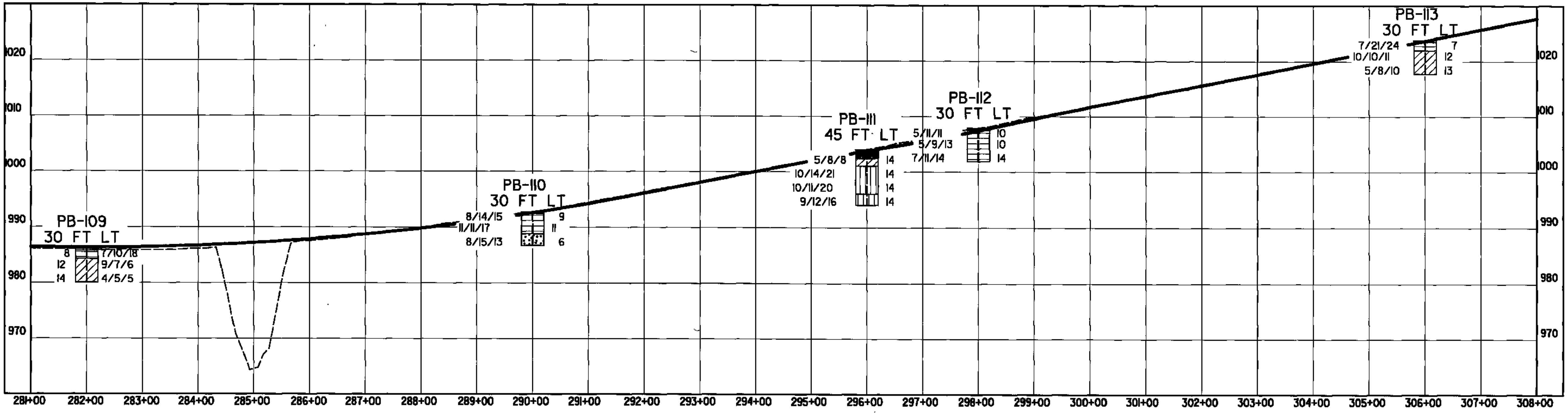
STA. 255+00 TO STA. 281+00
SOIL PROFILE

WAYNE-MEDINA COUNTY
WAY-MED-71-7.040/0.00

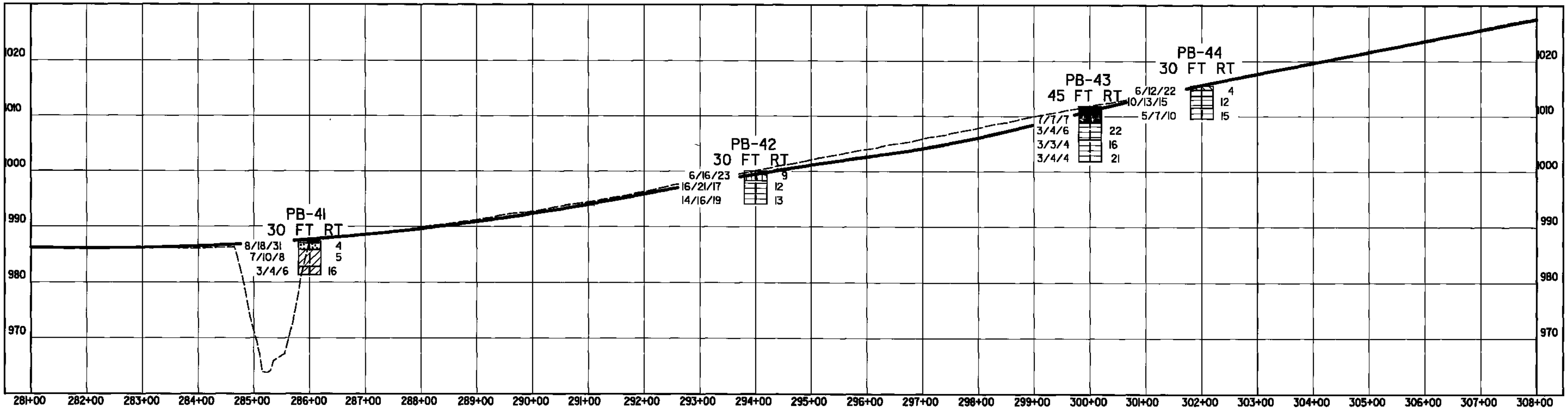
15/17

15
55





SOUTH BOUND PROFILE



NORTH BOUND PROFILE

0 100 200
HORIZONTAL SCALE IN FEET

DRAWN KAL
REVIEWED
DATE 5/1/03
CHECKED GPH
DATE 5/1/03

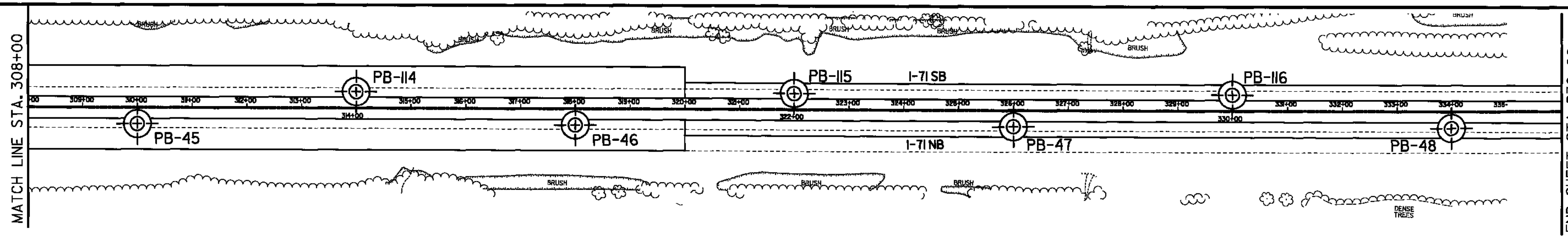
STA. 281+00 TO STA. 308+00
SOIL PROFILE

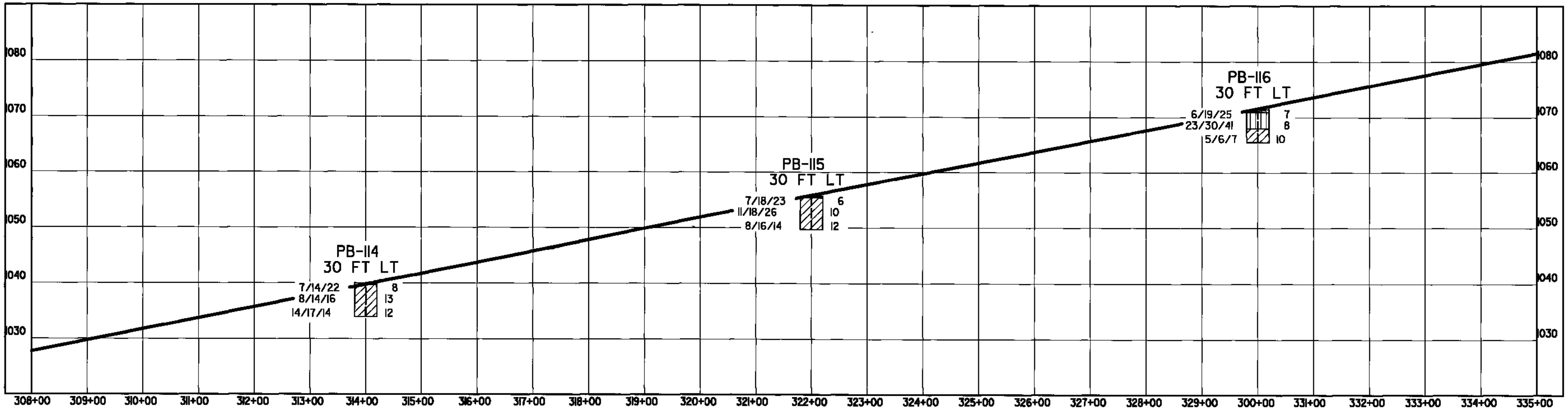
WAYNE-MEDINA COUNTY
WAY-MED-71-7.040/0.00

16/17

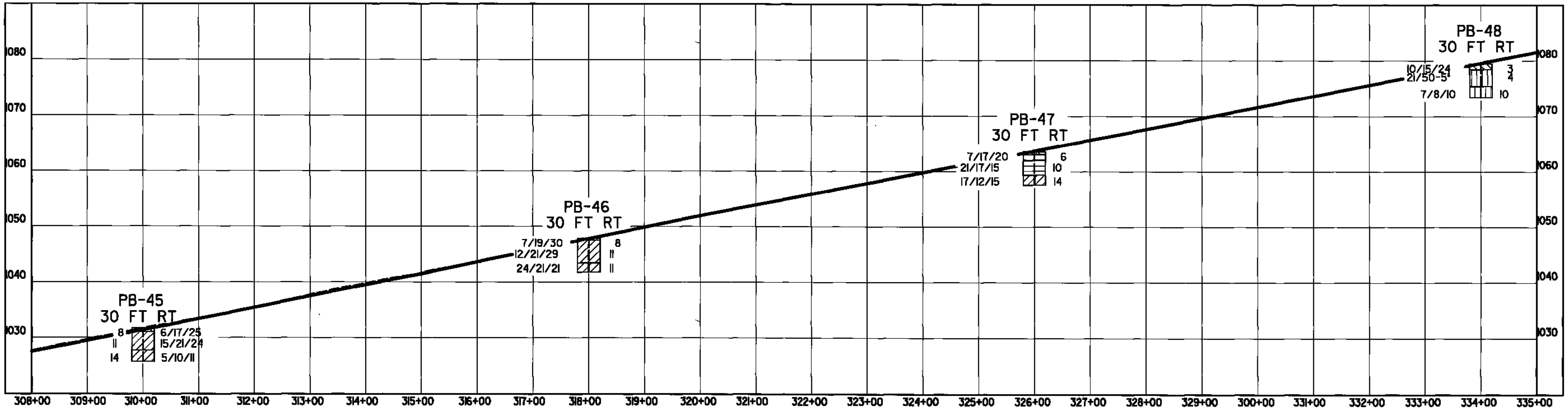
16
55

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-1169
FILENAME: W-1169-18-PP.DGN
DATE: 5/1/03





SOUTH BOUND PROFILE



NORTH BOUND PROFILE

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-1169
FILENAME: W-1169-19-PP.DGN
DATE: 5/1/03

0 100 200
HORIZONTAL SCALE IN FEET

DRAWN	REVIEWED	DATE	CHECKED	DATE
KAL		5/1/03	GPH	5/1/03

STA. 308+00 TO STA. 335+00
SOIL PROFILE

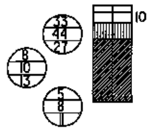
WAYNE-MEDINA COUNTY
WAY-MED-71-7.040/0.00

17/17

17
55

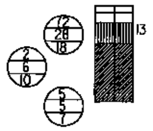
EL. 957.0

B-105
STA 36+38.9
7' Rt.
ASPHALT = 8 INCHES
GRANULAR BASE = 12 INCHES



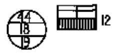
EL. 954.3

B-106
STA 40+43.2
6' Rt.
ASPHALT = 8 INCHES
GRANULAR BASE = 13 INCHES



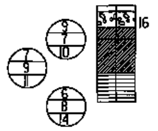
EL. 962.1

P-3
STA 44+18.0
172' Rt.
ASPHALT = 6 INCHES
GRANULAR BASE = 11 INCHES



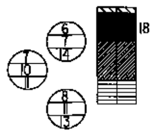
EL. 969.6

B-107
STA 45+40.5
12' Lt.
ASPHALT = 7 INCHES
GRANULAR BASE = 20 INCHES



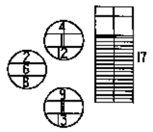
EL. 971.5

R-2
STA 47+25.3
56' Lt.
TOPSOIL/GRANULAR BASE
(FILL) = 7 INCHES



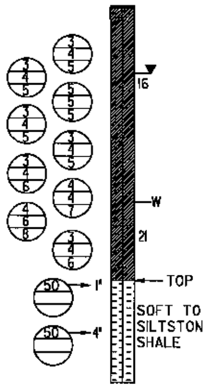
EL. 970.6

R-1
STA 47+50.9
157' Rt.
ASPHALT = 12 INCHES
GRANULAR BASE = 24 INCHES



EL. 953.3

B-1
STA 50+83.0
55' Lt.
TOPSOIL = 2 INCHES

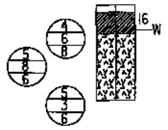


TOP OF BEDROCK

SOFT TO MEDIUM-HARD GRAY
SILTSTONE INTERBEDDED WITH
SHALE

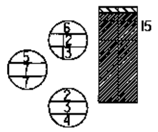
EL. 967.7

R-3
STA 52+35.1
112' Lt.
GRANULAR BASE = 10 INCHES



EL. 968.4

R-4
STA 52+73.3
60' Rt.
TOPSOIL (FILL) = 7 INCHES



CALCULATED
CHECKED
DATE
DATE
REVIEWED
DRAWN

SR 83 - STA. 36+38 TO STA. 52+73
SOIL PROFILE

WAY/MED-71-7.04/0.00

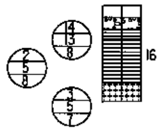
1/2

18
55

SR83BORINGS.DGN

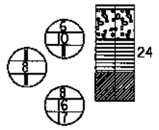
EL. 960.3

B-108
STA 56+22.7
19' Rt.
ASPHALT = 14 INCHES
GRANULAR BASE = 16 INCHES



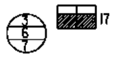
EL. 959.3

B-109
STA 60+00
6' Rt.
ASPHALT = 5 INCHES
GRANULAR BASE/FILL = 37 INCHES



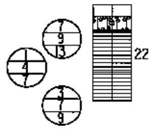
EL. 960.0

P-4
STA 60+72.8
137' Lt.
CONCRETE AND GRANULAR BASE = 11 INCHES



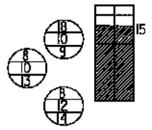
EL. 961.0

B-110
STA 63+98.8
10' Lt.
ASPHALT = 14 INCHES
GRANULAR BASE/FILL 17 INCHES



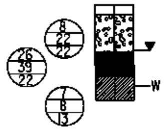
EL. 959.4

B-111
STA 67+06.8
6' Lt.
ASPHALT = 12 INCHES
GRANULAR BASE = 13 INCHES



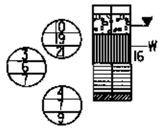
EL. 946.5

B-112
STA 70+48.4
17' Rt.
ASPHALT = 12 INCHES
GRANULAR BASE/FILL = 48 INCHES



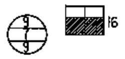
EL. 952.1

B-113
STA 75+47.8
12' Rt.
ASPHALT = 11 INCHES
GRANULAR BASE/FILL = 25 INCHES



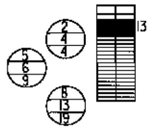
EL. 948.9

P-5
STA 77+94.5
85' Rt.
ASPHALT = 1 INCH
GRANULAR BASE = 13 INCHES



EL. 942.2

B-114
STA 79+40.9
11' Rt.
ASPHALT = 11 INCHES
GRANULAR BASE = 7 INCHES



CALCULATED
CHECKED
DATE
DATE
REVIEWED
DRAWN

WAY/MED-71-7.04/0.00

SR 83 - STA. 56+22 TO STA. 79+40
SOIL PROFILE

SR83BORINGS.DGN

GEOLOGY OF THE SITE

GEOLOGIC REFERENCES INDICATE THE SITE LIES WITHIN THE GLACIATED, GENTLY ROLLING MISSISSIPPI VALLEY PLAIN. IN GENERAL, THE WISCONSIN GLACIER PASSED OVER THE AREA LEAVING A RATHER THICK DEPOSIT OF DRIFT. THE BURIED VALLEY DEPOSITS CAN BE EXPECTED TO CONTAIN LACUSTRINE DEPOSITS OF SILT AND CLAY. THE UNDERLYING BEDROCK IS OF THE CUYAHOGA FORMATION AND CONSISTS OF SHALES AND SANDSTONES.

THE BRIDGE SITE IS LOCATED WITHIN A LOW SWAMPY AREA WITH LITTLE KILLBUCK CREEK PROVIDING IMMEDIATE DRAINAGE OF THE AREA. LITTLE KILLBUCK CREEK JOINS KILLBUCK CREEK APPROXIMATELY 4,000 FEET SOUTH OF THE SITE. IN THE IMMEDIATE VICINITY OF THE BRIDGE SITE, GRADES ARE RELATIVELY FLAT WITH ELEVATIONS CHANGES LESS THAN 10 FEET. THE REAR AND FORWARD APPROACH EMBANKMENTS FOR THE BRIDGE ARE ELEVATED APPROXIMATELY 40 FEET AND 30 FEET RESPECTIVELY ABOVE SURROUNDING GRADES TO TRAVERSE THE LOW SWAMPY AREA AND PROVIDE THE NECESSARY VERTICAL CLEARANCE OVER THE ONCE ACTIVE RAILROAD WHICH HAS SINCE BEEN ABANDONED.

EXPLORATION

DURING THE PERIOD OF NOVEMBER 20, 2001 THROUGH JANUARY 16, 2002, EIGHT TEST BORINGS WERE DRILLED AT THE LOCATIONS SHOWN ON SHEET 2. THE BORINGS WERE DRILLED TO VARIOUS DEPTHS DEPENDING ON THE SUBSURFACE

INVESTIGATIONAL FINDINGS AND OBSERVATIONS

TEST BORINGS B-1 AND B-8 WERE DRILLED IN THE VICINITY OF THE EXISTING ABUTMENTS NEAR EXISTING PAVEMENT GRADES AND BOTH ENCOUNTERED EMBANKMENT FILLS FROM THE GROUND SURFACE TO DEPTHS OF 37 FEET AND 40 FEET RESPECTIVELY. IN B-1, THE FILLS CONSISTED PRIMARILY OF DAMP TO MOIST CLAYEY SILTS WITH CONSISTENCIES OF SOFT TO HARD OVERLYING A 3.5-FOOT LAYER OF DENSE FINE-COARSE SAND. IN BORING B-8 BENEATH A 6-FOOT DEEP SURFICIAL LAYER OF SILTY CLAYS, CLAYEY SILTS, AND SANDY SILTS, THE FILL CONSISTED OF A 34-FOOT THICK STRATUM OF VERY LOOSE TO LOOSE FINE SAND.

BENEATH THE FILLS IN BORINGS B-1 AND B-2 THE NATURAL SOILS CONSISTED PRIMARILY OF CLAYEY SILT SOILS. THE CONSISTENCY OF THESE SOILS WAS TYPICALLY STIFF TO HARD WITH MOISTURE CONTENTS DESCRIBED AS DAMP TO MOIST. BORING B-1 TERMINATED AT A DEPTH OF 105 FEET AND BORING B-8 BORINGS B-2 THROUGH B-7 WERE DRILLED BENEATH THE BRIDGE DECK IN THE VICINITY OF THE PROPOSED PIERS. THESE BORINGS ALL ENCOUNTERED THE EXPECTED ORGANIC SOILS CONSISTING OF WET ORGANIC CLAYS, ORGANIC SILTS, AND ORGANIC CLAYEY SANDS. THE BOTTOM OF THIS LAYER VARIED FROM 8 FEET IN BORING B-2 TO 26 FEET IN BORING B-6 BELOW EXISTING GRADES, AND IN GENERAL THE ORGANIC LAYER BECOMES THICKER FROM THE REAR TO FORWARD PIERS, WHICH IS CONSISTENT WITH THE EXISTING ROADWAY PLANS. IN SOME OF THE BORINGS, IT APPEARS THE ORGANIC SOILS WERE COVERED NEAR THE GROUND SURFACE WITH A THIN LAYER OF FILL POSSIBLY TO PROVIDE A STABLE WORKING SURFACE DURING CONSTRUCTION OF THE EXISTING BRIDGE.

BENEATH THE ORGANIC DEPOSIT EACH TEST BORING ENCOUNTERED A THICK STRATUM OF PRIMARILY CLAYEY SILT, SILT CLAY, AND CLAY SOILS. THESE SOILS WERE PRIMARILY DESCRIBED AS SOFT TO VERY STIFF IN TERMS OF CONSISTENCY WITH MOISTURE CONTENTS TYPICALLY MOIST TO VERY MOIST. THERE WAS ONE RATHER THICK GRANULAR LAYER ENCOUNTERED IN EACH OF THESE TEST BORINGS BUT AT VARYING DEPTHS.TERMINATED AT A DEPTH OF 110 FEET.

GROUNDWATER WAS REPORTED IN ALL OF THE BORINGS DRILLED FOR THIS INVESTIGATION. THE RESULTS OF THE GROUNDWATER OBSERVATIONS ARE CONTAINED ON THE INDIVIDUAL BORING LOGS CONTAINED ON SHEETS 3 THROUGH 11. BECAUSE OF THE NATURE OF THE MATERIALS ENCOUNTERED IN THESE TEST BORINGS, THE GROUNDWATER RESULTS INDICATED DURING DRILLING OPERATIONS MAY BE SOMEWHAT MISLEADING OF SITE CONDITIONS. IT IS BELIEVED THAT THE TRUE GROUNDWATER TABLE AT THIS SITE IS LOCATED NEAR THE GROUND SURFACE OF TEST BORINGS B-2 THROUGH B-7, OR APPROXIMATELY ELEVATION 905.

LEGEND

⊕ PRESS AND/OR DRIVE SAMPLE AND/OR CORE BORING LOCATION-PLAN VIEW.

├─┤ HORIZONTAL BAR ON BORING LOG INDICATES THE DEPTH THE SAMPLE WAS TAKEN.

X/Y/Z FIGURES BESIDE THE BORING LOG IN PROFILE INDICATE THE NUMBER OF BLOWS FOR STANDARD PENETRATION TEST.

X = NUMBER OF BLOWS FOR FIRST 6 INCHES

Y = NUMBER OF BLOWS FOR SECOND 6 INCHES

Z = NUMBER OF BLOWS FOR THIRD 6 INCHES

W ——— INDICATES FREE WATER LEVEL

▼ ——— INDICATES STATIC WATER LEVEL

PARTICLE SIZE DEFINITIONS

8'	3'	2.0mm	0.42mm	0.074mm	0.005mm
BOULDERS | COBBLES	| GRAVEL	| C.SAND	| F.SAND	| SILT	| CLAY
		NO. 10	NO. 40	NO. 200	

GENERAL INFORMATION

DRIVE SAMPLES

DRIVE SAMPLE BORINGS ARE MADE BY MEANS OF A MECHANICALLY-POWERED, ROTARY-TYPE DRILL RIG EMPLOYING A 2.0-INCH O.D., 1.375-INCH I.D., SPLIT-SPOON SAMPLER, AT 1.5-FOOT TO 5.0-FOOT DEPTH INTERVALS, DRIVEN BY MEANS OF A 140-POUND HAMMER WITH A FREE FALL OF 30 INCHES. THE NUMBER OF BLOWS REQUIRED TO DRIVE THE SAMPLER THREE 6.0-INCH INCREMENTS IS CONSIDERED THE STANDARD PENETRATION TEST.

PRESS SAMPLES

PRESS SAMPLES ARE TAKEN BY MEANS OF MECHANICAL-POWERED, ROTARY-TYPE DRILL RIG, EMPLOYING A 3.0-INCH O.D. THIN-WALL PRESS SAMPLING TUBE. THE PRESS SAMPLING TUBE IS ADVANCED BY CONTINOUSUNIFORM PRESSURE APPLIED BY THE DRILL RIG.

CORE BORINGS

CORE BORINGS ARE MADE BY MEANS OF MECHANICALLY-POWERED, ROTARY-TYPE DRILL RIG, EMPLOYING AN NW-PAM CORE BARREL WITH AN INDUSTRIAL DIAMOND CUTTING HEAD.

SAMPLING AND TESTING

THE BORING LOG SHEETS SHOW A GRAPHIC PLOT OF THE INFORMATION OBTAINED, INCLUDING DEPTH AND ELEVATION OF THE SAMPLE, TYPE OF SAMPLE, NUMBER OF BLOWS FOR THE STANDARD PENETRATION TEST IN THREE 6.0 INCH INCREMENTS, AND A SAMPLE DESCRIPTION BASED ON LABORATORY TEST RESULTS, UTILIZING THE ODOT CLASSIFICATION SYSTEM. RESULTS OF STRENGTH AND CONSOLIDATION TESTING, IF PERFORMED ON UNDISTURBED SAMPLES, APPEAR GRAPHICALLY ON SEPARATE ENCLOSURES. ROCK SAMPLES ARE DISPLAYED ON THE LOG SHEETS, INCLUDING DEPTH AND ELEVATION OF THE SAMPLE, AMOUNT OF RECOVERY, AND A VISUAL CLASSIFICATION BASED ON TYPE, COLOR, DEGREE OF HARDNESS, GRAIN SIZE, DETERIORATION, BEDDING, ACID REACTION, AND OTHER QUALIFYING FACTORS.

AT DEPTHS WHERE MATERIALS ARE BOULDERY OR GRAVELLY TO THE EXTENT THAT A SAMPLER CANNOT BE UTILIZED, A WASH SAMPLE IS PROCURED AND VISUALLY CLASSIFIED, IN ORDER TO DETERMINE THE GENERAL CHARACTERISTICS OF THE MATERIAL. THESE SAMPLES ARE NOT CONSIDERED SUFFICIENTLY REPRESENTATIVE TO WARRANT LABORATORY TESTING.

THE STRUCTURE FOUNDATION INVESTIGATION SHEETS CONTAIN ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN. ADDITIONAL SUBSURFACE INVESTIGATIONS MAY HAVE BEEN MADE TO STUDY SOME ASPECT OF THE PROJECT. MORE INFORMATION, IF ANY MAY BE OBTAINED IN DISTRICT 3, THE OFFICE OF MATERIALS MANAGEMENT, 1600 WEST BROAD STREET, COLUMBUS, OHIO 43223, OR THE OFFICE OF STRUCTURAL ENGINEERING AT 1980 WEST BROAD STREET, COLUMBUS, OHIO 43223.

RESOURCE INTERNATIONAL, INC.
281 ENTERPRISE DRIVE
WESTERVILLE, OHIO 43081 (614)885-195

CALCULATED	DATE 5/7/03	REVIEWED	DRAWN KAL
CHECKED GPH	DATE 5/7/03		

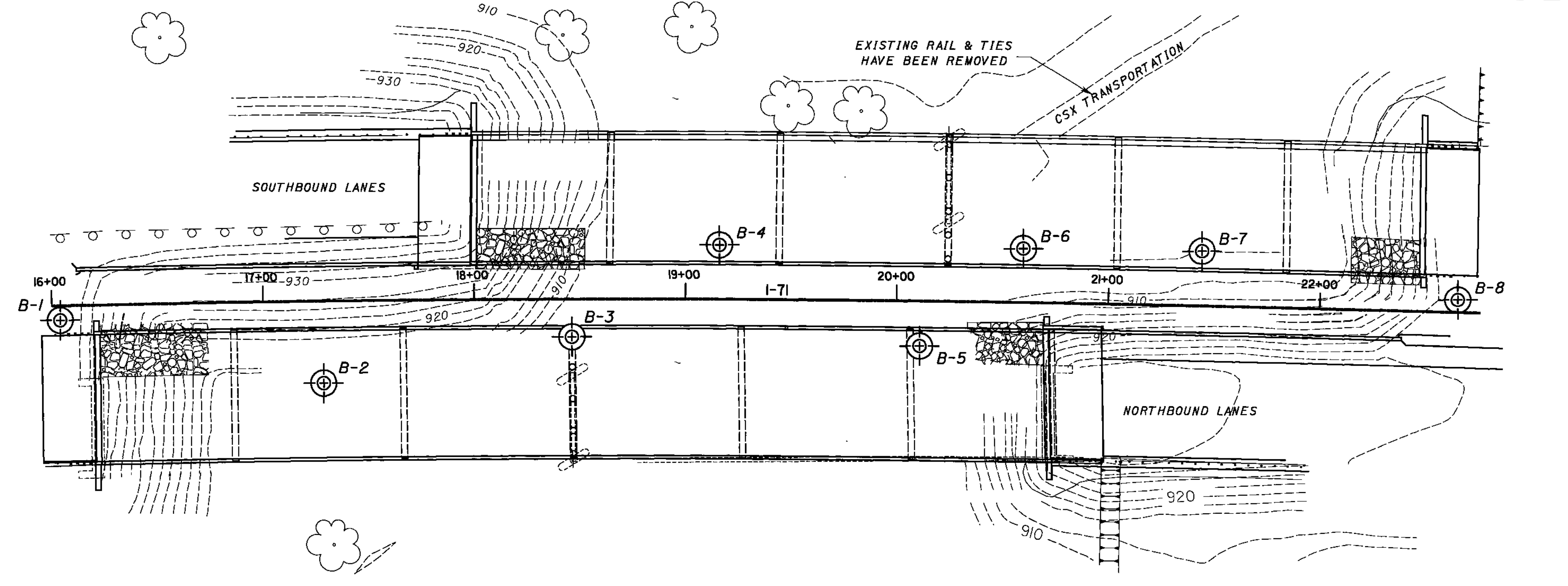
STRUCTURE FOUNDATION INVESTIGATION
MED-71-0031 OVER B&O RR ABANDONED

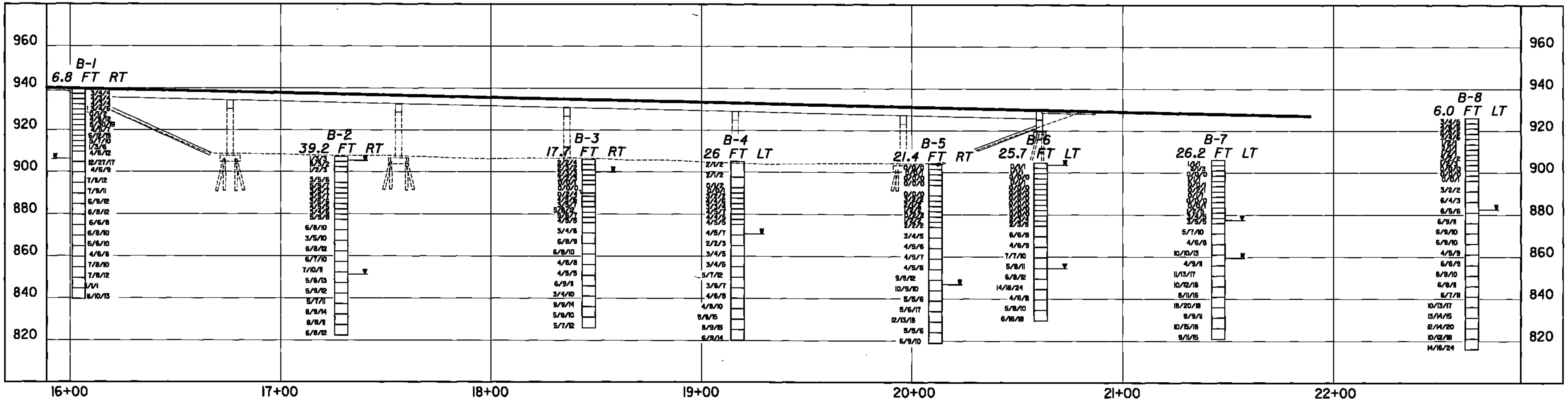
WAYNE-MEDINA COUNTIES
WAY-MED-71-7.040/0.00

1 / 11

20 / 55

RESOURCE INTERNATIONAL INC. FILENAME: 0031-01-CVR.DGN
PROJECT NO. W-1169 DATE: 5/7/03





0 12.5 25
HORIZONTAL SCALE IN FEET

CALCULATED	CHECKED GPH
DATE 5/7/03	DATE 5/7/03
REVIEWED	REVIEWED
DRAWN KAL	DATE

STRUCTURE FOUNDATION INVESTIGATION
MED-71-0031 OVER B&O RR ABANDONED

WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00

2/11

21
55

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-1169

FILENAME: 0031-02-PP.DGN
DATE: 5/7/03

Log of Boring

Date Started: 11/20/01
Sampler's Type 3.75" HSA
Water Elev. Seepage
Date Finished: 01/03/02
Boring No. B-1
Station & Offset 16+04, 6.8' Rt
Surface Elev. 939.70 ft

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.L.	W.C.	ODOT CLASS
						PHYSICAL CHARACTERISTICS								
939.7	0			2" - Topsoil 0.2										
937.2		3 4 4	78	Brown changing to mottled brown and gray CLAYEY SILT, some sand, trace gravel.	SS-1								17	VISUAL
934.7	5.0	4 3 4	83		SS-2								15	VISUAL
932.2		4 3 4	89	-SS-3: ODOT A-4a	SS-3	10	7	14	40	29	28	10	16	A-4a
929.7	10.0	3 4 6	89		SS-4								15	VISUAL
927.2		W 1 2	22		SS-5								17	VISUAL
924.7	15.0	4 9 12	56		SS-6								10	VISUAL
922.2		5 30 19	67		SS-7								12	VISUAL
919.7	20.0	4 5 7	89		SS-8								14	VISUAL
917.2		6 12 18	94	-SS-9: ODOT A-4a	SS-9	7	9	16	39	29	27	10	11	A-4a
914.7	25.0	5 7 10	89		SS-10								13	VISUAL
912.2		1 3 6	83		SS-11								14	VISUAL
909.7	30.0	4 6 12	78		SS-12								21	VISUAL
904.7	35.0	12 27 17	94	-groundwater initially encountered @ 33.5' 33.5 Brown SAND, some silt, trace gravel, trace clay.	SS-13								11	VISUAL
899.7	40.0	4 6 9	89	37.0 Brown changing to gray CLAYEY SILT, some sand, trace gravel.	SS-14								17	VISUAL
895.7			100		SS-15A								15	VISUAL
894.7	45.0	7 11 12	100	-2" sand seam @ 44.6'	SS-15B								15	VISUAL
889.7	50.0	7 9 11	94		SS-16								15	VISUAL

Boring No. B-1 (CONTINUED)

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.L.	W.C.	ODOT CLASS
						PHYSICAL CHARACTERISTICS								
884.7	55.0	6 9 12	100	-SS-17: ODOT A-4a	SS-17	10	7	14	40	29	28	10	12	A-4a
879.7	60.0	6 8 12	83		SS-18								11	VISUAL
874.7	65.0	6 6 8	72		SS-19								15	VISUAL
869.7	70.0	6 8 10	61		SS-20									VISUAL
864.7	75.0	6 6 10	89		SS-21								19	VISUAL
859.7	80.0	4 6 8	94		SS-22									VISUAL
854.7	85.0	7 8 10	89		SS-23								13	VISUAL
849.7	90.0	7 8 12	94		SS-24									VISUAL
844.7	95.0	1 1 1	78	93.5 Gray SAND, little silt, trace gravel, trace clay.	SS-25								27	VISUAL
839.7	100.0	8 10 13	67	Gray CLAYEY SILT, some sand, trace gravel. 98.5 -SS-26: ODOT A-6a 100.0	SS-26	4	8	13	43	32	26	11	14	A-6a

Bottom of Boring = 100.0 feet

RESOURCE INTERNATIONAL, INC.
281 ENTERPRISE DRIVE
WESTERVILLE, OHIO 43081 (614)885-1959

CALCULATED	DATE 5/7/03	REVIEWED	DRAWN KAL
CHECKED GPH	DATE 5/7/03		

STRUCTURE FOUNDATION INVESTIGATION
MED-71-0031 OVER B&O RR ABANDONED

WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00

3/11

22
55

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-1169
FILENAME: 0031-03-DATA.DGN
DATE: 5/7/03

Log of Boring

Date Started: 01/14/02
Sampler's Type 3.75" HSA
Water Elev. 56.0' •
• CAVE-IN @ 61.0'
Date Finished: 01/15/02

Boring No. B-2 Station & Offset 17+28, 39.2' Rt Surface Elev. 907.38 ft

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.L.	W.C.	ODOT CLASS
907.4	0													
				3" - Topsoil 0.3										
904.9		1 3 3	89	Brown SANDY SILT, some clay, trace gravel, trace organics.	SS-1								16	VISUAL
902.4	5.0	8 3 2	61	4.8 -groundwater initially encountered @ 2.0'	SS-2									VISUAL
899.9		1 2 3	72	Dark gray and black organic SILT, some clay, little sand, trace gravel. 8.0	SS-3								48	VISUAL
897.4	10.0		75	Mottled brown, green and gray SILT and CLAY, some sand, trace gravel. -ST-4: ODOT A-6b	ST-4	4	6	16	36	38	36	17	20	A-6b
894.9		3 5 6	83		SS-5								17	VISUAL
893.1				14.3	SS-6A									VISUAL
892.4	15.0	5 5 7	78	Brown SANDY SILT, some clay, trace gravel. 15.0	SS-6B								18	VISUAL
889.9		3 5 7	67	Brown CLAYEY SILT, some sand, little gravel.	SS-7								14	VISUAL
887.4	20.0	3 5 7	67		SS-8								14	VISUAL
884.9		3 5 6	56		SS-9								14	VISUAL
882.4	25.0	4 5 5	67		SS-10								14	VISUAL
879.9		3 4 6	100	-SS-11: ODOT A-4a	SS-11	11	8	15	36	30	24	9	14	A-4a
877.4	30.0	5 5 8	83		SS-12								14	VISUAL
872.4	35.0	6 8 10	89	-SS-13: Visual ODOT A-4a	SS-13								14	VISUAL
867.4	40.0	3 5 10	100		SS-14									VISUAL
862.4	45.0	6 8 12	100		SS-15								14	VISUAL
857.4	50.0	6 7 10	100		SS-16									VISUAL

Boring No. B-2 (CONTINUED)

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.L.	W.C.	ODOT CLASS
852.4	55.0	7 10 11	56	-SS-17: Visual ODOT A-4a	SS-17								13	VISUAL
847.4	60.0	5 8 13	89	63.5	SS-18									VISUAL
842.4	65.0	5 9 12	100	Gray SANDY SILT, some clay, trace gravel. 68.0	SS-19								20	VISUAL
837.4	70.0	5 7 11	83	Gray SILTY CLAY, little sand, trace gravel.	SS-20								14	VISUAL
832.4	75.0	6 9 14	89		SS-21									VISUAL
827.4	80.0	8 8 11	100		SS-22								15	VISUAL
822.4	85.0	6 8 12	100	85.0	SS-23									VISUAL

Bottom of Boring = 100.0 feet

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-1169
FILENAME: 0031-04-DATA.DGN
DATE: 5/7/03

RESOURCE INTERNATIONAL, INC.
281 ENTERPRISE DRIVE
WESTERVILLE, OHIO 43081 (614)885-1959

CALCULATED	DATE	CHECKED	DATE	REVIEWED	DRAWN
	5/7/03	GPH	5/7/03		KAL

STRUCTURE FOUNDATION INVESTIGATION
MED-71-0031 OVER B&O RR ABANDONED

WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00

4/11

23
55

Log of Boring

Date Started: 01/15/02 Sampler's Type 3.75" HSA Water Elev. Seepage

Date Finished: 01/16/02

Boring No. B-3 Station & Offset 18+46, 17.7' Rt Surface Elev. 906.05 ft

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	PHYSICAL CHARACTERISTICS								
						% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
906.1	0													
903.6		2 2 4	61	4" - Topsoil 0.3 Brown SILTY CLAY, some sand, trace gravel, trace organics (Topsoil) 3.5	SS-1								14	VISUAL
901.1	5.0	2 3 2	50	Brown SANDY SILT, some clay little gravel. 6.0 -groundwater initially encountered @ 6.0'	SS-2								14	VISUAL
898.6		2 3 3	56	Brown SILTY SAND, little clay, trace gravel.	SS-3									VISUAL
896.1	10.0	3 2 3	50	11.0	SS-4									VISUAL
				Black and gray organic SILT, some clay, little sand, trace gravel, trace shells.	SS-5								80	VISUAL
892.1		W W 1	67	-ST-6: ODOT A-4b	ST-6	2	13	9	53	23	NP	NP	82	A-4b
	15.0													
890.1		W W W	100	16.0	SS-7								72	VISUAL
888.6		W 2 4	100	Gray SILTY CLAY, little sand, trace gravel. 18.5	SS-8								20	VISUAL
886.1	20.0	4 5 6	50	Brownish gray SILT, some clay, little sand, trace gravel. 21.0	SS-9								14	VISUAL
883.6		3 5 7	78	Gray CLAYEY SILT, some sand, trace gravel.	SS-10								16	VISUAL
881.1	25.0	5 6 12	100		SS-11								12	VISUAL
878.6		5 6 7	100		SS-12								14	VISUAL
876.1	30.0	4 5 5	100	-SS-13: Visual ODOT A-4a	SS-13								14	VISUAL
871.1	35.0	3 4 6	100		SS-14								14	VISUAL
866.1	40.0	6 8 9	67		SS-15									VISUAL
861.1	45.0	6 8 10	72		SS-16									VISUAL
				47.0 Gray SAND, little gravel, trace silt, trace clay.										
856.1	50.0	4 6 8	78		SS-17									VISUAL

Boring No. B-3 (CONTINUED)

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	PHYSICAL CHARACTERISTICS								
						% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
				-heaving sand encountered from 52.0-56.0'										
851.1	55.0	4 5 5	67	56.8	SS-18									VISUAL
				Gray SILTY CLAY, little sand, trace gravel.										
846.1	60.0	6 9 11	56	-SS-19: Visual ODOT A-6b	SS-19								22	VISUAL
842.1			67	63.5 Gray SAND, little gravel, trace silt, trace clay. 64.5	SS-20A									VISUAL
841.1	65.0	3 4 10	33	Gray SILTY CLAY, little sand, trace gravel.	SS-20B								15	VISUAL
836.1	70.0	9 9 14	83		SS-21									VISUAL
831.1	75.0	5 8 10	100		SS-22								13	VISUAL
826.1	80.0	5 7 12	100	80.0	SS-23									VISUAL

Bottom of Boring = 80.0 feet

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-1169
FILENAME: 0031-05-DATA.DGN
DATE 5/7/03

RESOURCE INTERNATIONAL, INC.
281 ENTERPRISE DRIVE
WESTERVILLE, OHIO 43081 (614)885-1959

CALCULATED	DATE 5/7/03	REVIEWED	DRAWN KAL
CHECKED GPH	DATE 5/7/03		

STRUCTURE FOUNDATION INVESTIGATION
MED-71-0031 OVER B&O RR ABANDONED

WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00

5/11

24
55

Log of Boring

Date Started: 01/11/02
Sampler's Type 3.75' HSA
Water Elev. Seepage
Date Finished: 01/14/02
Boring No. B-4
Station & Offset 19+16, 25.9' Lt
Surface Elev. 905.17 ft

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	PHYSICAL CHARACTERISTICS								
						% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.L.	W.C.	ODOT CLASS
905.2	0													
902.7		2 1 2	72	Mottled brown and gray SILTY CLAY, little sand, fine gravel, trace organics. 2.5	SS-1								19	VISUAL
900.2	5.0		50	Gray SILTY SAND, little gravel, little clay. -ST-2A: ODOT A-4a -organic odor 5.0	ST-2A	16	18	25	27	14	29	7	25	A-4a
899.2				Dark brownish black organic CLAYEY SAND, some silt.	ST-2B									VISUAL
897.7		2 1 2	83	-SS-3: ODOT A-7-5	SS-3	0	29	10	29	32	91	33	191	A-7-5
895.2	10.0		50	11.0	ST-4									VISUAL
892.7		W 1 2	100	Gray SANDY SILT, some clay, little gravel. -SS-5: ODOT A-4a	SS-5	10	10	21	35	24	91	9	17	A-4a
890.2	15.0	W W 1	100		SS-6									VISUAL
887.7		3 2 2	83		SS-7								15	VISUAL
885.2	20.0	4 4 6	22		SS-8									VISUAL
882.7		3 3 4	56	23.5	SS-9								12	VISUAL
880.2	25.0	4 5 7	56	Gray CLAYEY SILT, some sand, trace gravel.	SS-10									VISUAL
877.7		4 4 5	56	-SS-11: ODOT A-4a	SS-11	9	8	14	43	26	25	9	14	A-4a
875.2	30.0	4 5 5	44		SS-12									VISUAL
870.7			83	-groundwater initially encountered @ 34.5' 34.5	SS-13A								14	VISUAL
870.2	35.0	4 5 7	33	Gray SAND, little silt, trace clay, trace gravel. -SS-13B: ODOT A-3a	SS-13B	1	36	45	18				17	VISUAL
865.4			100	39.8	SS-14A									VISUAL
865.2	40.0	2 2 3	100	Gray CLAY, some silt, trace sand,	SS-14B									VISUAL
860.2	45.0	3 4 5	100	-SS-15: ODOT A-7-6	SS-15	0	1	2	32	65	41	19	30	A-7-6
855.2	50.0	3 4 5	50		SS-16									VISUAL

Boring No. B-4 (CONTINUED)

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	PHYSICAL CHARACTERISTICS								
						% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.L.	W.C.	ODOT CLASS
850.2	55.0	5 7 12	44		SS-17								28	VISUAL
845.2	60.0	3 6 7	0		SS-18									VISUAL
840.2	65.0	4 6 8	50		SS-19								13	VISUAL
835.2	70.0	4 8 10	56	70.0 Gray SILTY CLAY, little sand, trace gravel.	SS-20									VISUAL
830.2	75.0	8 11 15	67		SS-21									VISUAL
825.2	80.0	8 9 15	83		SS-22									VISUAL
820.2	85.0	6 9 14	100	85.0	SS-23									VISUAL

Bottom of Boring = 85.0 feet

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-1169
FILENAME: 0031-06-DATA.DGN
DATE: 5/7/03

RESOURCE INTERNATIONAL, INC.
281 ENTERPRISE DRIVE
WESTERVILLE, OHIO 43081 (614)885-1959

CALCULATED		CHECKED	GPH
DATE	5/7/03	DATE	5/7/03
REVIEWED			
DRAWN	KAL		

STRUCTURE FOUNDATION INVESTIGATION
MED-71-0031 OVER B&O RR ABANDONED

WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00

6/11

Log of Boring

Date Started: 01/10/02
Sampler's Type 3.75" HSA
Water Elev. Dry •
• CAVE-IN @ 46.0'
Date Finished: 01/11/02
Boring No. B-5
Station & Offset 20+11, 21.4' Rt
Surface Elev. 903.97 ft

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT
904.0	0													
901.5		W W W	83	6" - Topsoil 0.5 Brownish gray organic CLAY, some silt, trace sand. -SS-1: ODOT A-7-5	SS-1	0	0	3	32	65	73	41	68	A-7-5
900.0			17	4.0	SS-2A								129	VISUAL
899.0	5.0	W W 1	8	Brownish black organic CLAYEY SAND, some silt.	SS-2B								273	VISUAL
896.5		W W W	67		SS-3								390	VISUAL
894.0	10.0	W W W	67	10.0	SS-4								276	VISUAL
892.0			100	Brownish black, organic SAND, little silt, trace clay. -ST-5: ODOT A-1-b 13.0	ST-5	0	72	7	21					A-1-b
889.0	15.0	W W W	56	Gray organic CLAYEY SILT, little sand, trace gravel. -SS-6: ODOT A-7-5	SS-6	0	19	0	46	35	52	14	98	A-7-5
886.5		3 2 2	0	18.5	SS-7									VISUAL
884.0	20.0	2 1 2	17	Brown SAND, some silt, little gravel, trace clay. 21.0	SS-8									VISUAL
881.5		1 2 2	72	Gray CLAYEY SILT, little sand, trace gravel. -SS-9: ODOT A-6a	SS-9	1	4	9	86				27	A-6a
879.0	25.0	W 2 2	56	26.0	SS-10									VISUAL
876.5		1 2 2	61	Brown SANDY SILT, some clay, trace gravel. -SS-11: ODOT A-4a	SS-11	3	6	30	41	20	20	5	22	A-4a
874.0	30.0	2 2 2	100		SS-12									VISUAL
869.0	35.0	3 4 5	56	34.5 Gray CLAYEY SILT, little sand, trace gravel.	SS-13									VISUAL
864.0	40.0	4 5 6	33		SS-14								15	VISUAL
859.0	45.0	4 5 7	56		SS-15								11	VISUAL
854.0	50.0	4 5 6	78		SS-16									VISUAL

Boring No. B-5 (CONTINUED)

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
849.0	55.0	9 11 12	56		SS-17									VISUAL
844.0	60.0	10 9 10	44	-groundwater initially encountered @ 57.0' -heaving sand encountered @ 57.0' 57.0 Gray SILTY SAND, some clay, trace gravel.	SS-18								16	VISUAL
839.0	65.0	5 5 6	56	64.0 Gray CLAYEY SILT, little sand, trace gravel.	SS-19									VISUAL
834.0	70.0	5 6 17	78		SS-20								23	VISUAL
830.0 829.0	75.0	12 13 18	50 100	73.5 Gray SAND, little silt, little clay, trace gravel. -SS-21A: ODOT A-3a 74.5 Gray CLAYEY SILT, little sand, trace gravel.	SS-21A SS-21B	0	35	38	27				13	A-3a VISUAL
824.0	80.0	5 5 6	100	78.5 Gray SAND, little silt, little clay, trace gravel. 81.0 Gray SANDY SILT, some clay, trace gravel.	SS-22								12	VISUAL
819.0	85.0	6 9 10	100	-SS-23: ODOT A-4a 85.0	SS-23	10	10	22	58				13	A-4a

Bottom of Boring = 85.0 feet

RESOURCE INTERNATIONAL, INC.
281 ENTERPRISE DRIVE
WESTERVILLE, OHIO 43081 (614)885-195

CALCULATED
CHECKED GPH
DATE 5/7/03
DATE 5/7/03
REVIEWED
DRAWN KAL

STRUCTURE FOUNDATION INVESTIGATION
MED-71-0031 OVER B&O RR ABANDONED

WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00

7/11

26
55

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-1169
FILENAME: 0031-07-DATA.DGN
DATE: 5/7/03

Log of Boring

Date Started: 01/08/02
Date Finished: 01/09/02
Sampler's Type 3.75" HSA
Water Elev. 50.0' •
• CAVE-IN @ 60.0'
Boring No. B-6
Station & Offset 20+60, 25.7' Lt
Surface Elev. 904.62 ft

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
904.6	0													
902.1		W 1 1	22	Dark brownish black organic CLAYEY SILT, some sand, trace gravel. -perched groundwater @ 1.0' 2.5	SS-1								123	VISUAL
900.6			100	Brown CLAYEY SILT, some sand, trace gravel. -SS-2A: ODOT A-6a 4.0	SS-2A	5	9	13	41	32	34	12	28	A-6a
899.6	5.0	1 1 1	42		SS-2B								66	VISUAL
897.1		W W W	100	Black and gray organic CLAY, some silt, little sand. -SS-3: ODOT A-7-5	SS-3								70	VISUAL
894.6	10.0	W 1 1	56		SS-4	0	13	0	29	58	57	23		A-7-5
892.1		W W W	0	13.0	SS-5									VISUAL
889.6	15.0	W W W	72	Gray organic CLAYEY SILT, little sand, trace gravel.	SS-6								144	VISUAL
887.6		W W W	100	17.0	SS-7A									VISUAL
887.1			100	Gray organic SILT, some clay, little sand, trace gravel.	SS-7B									VISUAL
884.6	20.0	W W W	100		SS-8								61	VISUAL
882.1		W W W	83		SS-9									VISUAL
879.6	25.0	W W W	100	26.0	SS-10								27	VISUAL
877.1		2 3 4	67	Gray CLAYEY SILT, some sand, trace gravel. -SS-11: ODOT A-4a	SS-11	5	8	15	72				17	A-4a
874.6	30.0	2 3 5	67		SS-12									VISUAL
869.6	35.0	6 6 8	83	-SS-13: ODOT A-4a	SS-13	5	9	17	41	28	24	9	13	A-4a
864.6	40.0	4 6 9	100		SS-14									VISUAL
859.6	45.0	7 7 10	100		SS-15								14	VISUAL
854.6	50.0	5 8 11	100		SS-16									VISUAL

Boring No. B-6 (CONTINUED)

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
850.1			83	54.5	SS-17A								19	VISUAL
849.6	55.0	6 8 12	83	Gray SAND, little silt, trace clay, trace gravel.	SS-17B									VISUAL
844.6	60.0	14 18 24	100		SS-18									VISUAL
839.6	65.0	4 6 8	83		SS-19								21	VISUAL
834.6	70.0	5 8 10	67	68.0 Gray SILTY CLAY, little sand, trace gravel.	SS-20								24	VISUAL
829.6	75.0	6 16 18	67	73.5 Gray SAND, little silt, trace clay, trace gravel. 75.0	SS-21								16	VISUAL

Bottom of Boring = 75.0 feet

RESOURCE INTERNATIONAL, INC.
281 ENTERPRISE DRIVE
WESTERVILLE, OHIO 43081 (614)885-195

CALCULATED	DATE 5/7/03	REVIEWED	DRAWN KAL
CHECKED GPH	DATE 5/7/03		

STRUCTURE FOUNDATION INVESTIGATION
MED-71-0031 OVER B&O RR ABANDONED

WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00

8/11

RESOURCE INTERNATIONAL INC. PROJECT NO. W-1169 FILENAME: 0031-08-DATA.DGN DATE: 5/7/03

Log of Boring

Date Started: 01/04/02 Sampler's Type 3.75" HSA Water Elev. 46.0'

Date Finished: 01/07/02

Boring No. B-7 Station & Offset 21+44, 26.2' Lt Surface Elev. 906.06 ft

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
906.1	0													
903.6		1 1 1	78	Mottled brown and gray SILTY CLAY, some sand, trace gravel, trace organics. 3.5	SS-1								28	VISUAL
901.1	5.0	2 1 3	72	Gray SILTY SAND, little clay, trace gravel, trace organics. 5.0 Dark brown and gray changing to black organic SILTY CLAY, some sand, trace gravel.	SS-2								21	VISUAL
898.6		W W W	83		SS-3								233	VISUAL
896.1	10.0	1 1 1	56		SS-4								146	VISUAL
893.6		W W 1	67	-SS-5: ODOT A-7-5	SS-5	0	12	8	31	49	57	23	80	A-7-5
891.1	15.0	W 2 1	61		SS-6								141	VISUAL
878.6		W 1 1	0		SS-7									VISUAL
886.1	20.0	W W W	50	20.0 Mottled brown and gray SILTY CLAY, some sand, trace gravel.	SS-8								71	VISUAL
883.6		W W 1	61		SS-9								33	VISUAL
881.1	25.0	1 2 5	44	26.0 Gray SAND, some gravel, little silt, trace clay.	SS-10								18	VISUAL
868.6		3 4 5	50	-SS-11: ODOT A-1-b -groundwater initially encountered @ 28.5' 28.5 Gray SILTY CLAY, little sand, trace gravel.	SS-11	29	36	11	24				12	A-1-b
876.1	30.0	3 5 5	39		SS-12								15	VISUAL
871.1	35.0	5 7 10	50		SS-13									VISUAL
866.1	40.0	4 6 8	56	-SS-14: Visual ODOT A-6b	SS-14								14	VISUAL
861.1	45.0	10 10 13	67		SS-15									VISUAL
856.1	50.0	4 9 11	89		SS-16								18	VISUAL

Boring No. B-7 (CONTINUED)

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
851.1	55.0	11 13 17	100		SS-17									VISUAL
846.1	60.0	10 12 16	94	-SS-18: Visual ODOT A-6b	SS-18								22	VISUAL
841.1	65.0	8 11 16	83	65.0 -heaving sand encountered from 65.0-68.5' Gray SILTY SAND, little clay, trace gravel.	SS-19									VISUAL
836.1	70.0	18 20 18	67	71.0 Gray SILTY CLAY, little sand, trace gravel.	SS-20									VISUAL
831.1	75.0	8 9 11	50		SS-21									VISUAL
826.1	80.0	10 15 18	83		SS-22								12	VISUAL
821.1	85.0	9 11 15	100	85.0	SS-23									VISUAL

Bottom of Boring = 85.0 feet

RESOURCE INTERNATIONAL, INC.
281 ENTERPRISE DRIVE
WESTERVILLE, OHIO 43081 (614)885-1959

CALCULATED	DATE 5/7/03	REVIEWED	DRAWN KAL
CHECKED GPH	DATE 5/7/03		

STRUCTURE FOUNDATION INVESTIGATION
MED-71-0031 OVER B&O RR ABANDONED

WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00

9/11

28
55

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-1169
FILENAME: 0031-09-DATA.DGN
DATE: 5/7/03

Log of Boring

Date Started: 12/31/01 Sampler's Type 3.75" HSA Water Elev. Dry •
Date Finished: 01/03/02 • CAVE-IN @ 12.0'
Boring No. B-8 Station & Offset 22+65, 6.03' Lt Surface Elev. 926.12 ft

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	PHYSICAL CHARACTERISTICS								
						% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.L	W.C.	ODOT CLASS
926.1	0													
				13" - Topsoil 1.1										
923.6		3 4 5	72	Brown CLAYEY SILT, some sand, trace fine gravel. -SS-1: ODOT A-6a 3.5	SS-1	7	7	13	43	30	33	12	18	A-6a
921.1	5.0	4 6 5	39	Brown SANDY SILT, some clay, little gravel. 6.0	SS-2									VISUAL
918.6		5 5 5	83	Brown SAND, some silt, trace gravel, trace clay. -SS-3: ODOT A-3a	SS-3	6	13	55	26				7	VISUAL
916.1	10.0	3 4 6	78		SS-4									VISUAL
913.6		1 2 1	89		SS-5								13	VISUAL
911.1	15.0	2 1 1	94		SS-6									VISUAL
908.6		1 2 1	89		SS-7								12	VISUAL
906.1	20.0	3 2 2	89		SS-8									VISUAL
903.6		1 2 3	0		AS-9								15	VISUAL
901.1	25.0	W W W	89		SS-10									VISUAL
898.6		W W W	56		SS-11								18	VISUAL
896.1	30.0	W W 1	100		SS-12									VISUAL
891.1	35.0	3 2 2	100		SS-13									VISUAL
886.1	40.0	6 4 3	100	40.0 Gray CLAYEY SILT, some sand, trace gravel.	SS-14								17	VISUAL
881.1	45.0	6 5 6	33	-groundwater initially encountered @ 43.5' -SS-15: ODOT A-4a	SS-15	7	7	13	44	29	26	8	17	A-4a
876.1	50.0	6 9 11	78		SS-16									VISUAL

Boring No. B-8 (CONTINUED)

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	PHYSICAL CHARACTERISTICS								
						% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.L	W.C.	ODOT CLASS
871.1	55.0	6 9 10	89		SS-17								14	VISUAL
866.1	60.0	6 9 10	100		SS-18									VISUAL
861.1	65.0	4 5 9	100		SS-19								16	VISUAL
856.1	70.0	6 6 9	100		SS-20									VISUAL
851.1	75.0	8 9 10	100		SS-21								17	VISUAL
846.1	80.0	6 8 11	94	78.5 Gray CLAYEY SILT, little sand, trace gravel. -SS-22: ODOT A-6a	SS-22	5	7	13	41	34	27	11	17	A-6a
841.1	85.0	6 7 8	56		SS-23									VISUAL
836.1	90.0	10 13 17	100		SS-24								14	VISUAL
831.1	95.0	13 14 16	100		SS-25									VISUAL
826.1	100.0	12 14 20	89		SS-26								14	VISUAL

BORING CONTINUED ON NEXT SHEET

RESOURCE INTERNATIONAL, INC.
281 ENTERPRISE DRIVE
WESTERVILLE, OHIO 43081 (614)885-1959

CALCULATED CHECKED GPH
DATE 5/7/03 DATE 5/7/03
REVIEWED
DRAWN KAL

STRUCTURE FOUNDATION INVESTIGATION
MED-71-0031 OVER B&O RR ABANDONED

WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00

10 / 11

29
55

RESOURCE INTERNATIONAL INC. PROJECT NO. W-1169 FILENAME: 0031-10-DATA.DGN DATE: 5/7/03

Boring No. B-8 (CONTINUED)

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	PHYSICAL CHARACTERISTICS								
						% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
821.1	105.0	10 12 18	100		SS-27									VISUAL
816.1	110.0	14 16 24	89	110.0	SS-28								18	VISUAL

Bottom of Boring = 110.0 feet

RESOURCE INTERNATIONAL, INC.
281 ENTERPRISE DRIVE
WESTERVILLE, OHIO 43081 (614)885-195

CALCULATED
CHECKED GPH
DATE 5/7/03
DATE 5/7/03
REVIEWED
DRAWN KAL

STRUCTURE FOUNDATION INVESTIGATION
MED-71-0031 OVER B&O RR ABANDONED

WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00

GEOLOGY OF THE SITE

GEOLOGIC REFERENCES INDICATE THE SITE LIES WITHIN THE GLACIATED, GENTLY ROLLING MISSISSIPPI VALLEY PLAIN. IN GENERAL, THE WISCONSIN GLACIER PASSED OVER THE AREA LEAVING RATHER THICK DEPOSITS OF DRIFT. THE SITE IS LOCATED WITHIN AN ANCIENT BURIED VALLEY WITH DEPTHS ANTICIPATED TO BE GREATER THAN 100 FEET DEEP. THE BURIED VALLEY DEPOSITS CAN BE EXPECTED TO CONTAIN LACUSTRINE DEPOSITS OF SILT AND CLAY. THE UNDERLYING BEDROCK IS OF THE CUYAHOGA FORMATION AND CONSISTS OF SHALES AND SANDSTONES.

THE BRIDGE SITE SPANS LITTLE KILLBUCK CREEK, WHICH PROVIDES IMMEDIATE DRAINAGE OF THE AREA. LITTLE KILLBUCK CREEK JOINS KILLBUCK CREEK APPROXIMATELY 4,000 FEET SOUTH OF THE SITE. IN THE IMMEDIATE VICINITY OF THE BRIDGE SITE, GRADES ARE RELATIVELY FLAT WITH ELEVATION CHANGES LESS THAN 10 FEET. THE REAR AND FORWARD APPROACH EMBANKMENTS FOR THE BRIDGE ARE ELEVATED APPROXIMATELY 15 FEET ABOVE SURROUNDING GRADES TO PROVIDE THE NECESSARY CLEARANCE ABOVE LITTLE KILLBUCK CREEK.

EXPLORATION

DURING THE PERIOD OF JANUARY 21 THROUGH JANUARY 30, 2002, FIVE TEST BORINGS WERE DRILLED AT THE LOCATIONS SHOWN ON SHEET 2. THE BORINGS WERE ACCESSED USING AN ATV DRILLING RIG EQUIPPED WITH AN AUTOMATIC HAMMER AND A TRUCK MOUNTED DRILL RIG EQUIPPED WITH A SAFETY HAMMER. THE BORINGS WERE DRILLED USING 3.75-INCH INSIDE DIAMETER HOLLOW STEM AUGERS TO DEPTHS VARYING FROM 67 TO 86 FEET BELOW GRADE. AT REGULAR INTERVALS, DISTURBED BUT REPRESENTATIVE SOIL SAMPLES WERE OBTAINED USING A 2-INCH OUTSIDE DIAMETER (OD) SPLIT-BARREL SAMPLER DRIVEN INTO THE SOIL BY BLOWS FROM A 140-POUND HAMMER FREE FALLING 30 INCHES (STANDARD PENETRATION TEST - AMERICAN SOCIETY FOR TESTING AND MATERIALS [ASTM] D1586). BEDROCK WAS CORED IN THREE OF THE TEST BORINGS USING AN NX SIZE DOUBLE TUBE CORE BARREL WITH A DIAMOND BIT. SOIL SAMPLES WERE EXAMINED IN THE FIELD, AND REPRESENTATIVE PORTIONS WERE PRESERVED IN AIRTIGHT GLASS JARS. UPON COMPLETION OF DRILLING, ALL BOREHOLES WERE BACKFILLED AND THE SOIL SAMPLES WERE RETURNED TO THE SOILS LABORATORY FOR TESTING. IN THE LABORATORY, ALL SAMPLES WERE VISUALLY IDENTIFIED USING THE ODOT CLASSIFICATION SYSTEM AND, ON SELECTED REPRESENTATIVE SOIL SPECIMENS, NATURAL MOISTURE CONTENT, ATTERBERG LIMITS, AND GRAIN SIZE DETERMINATIONS WERE PERFORMED. THE RESULTS OF THE FIELD AND LABORATORY TESTS ARE CONTAINED ON THE INDIVIDUAL BORING LOGS SHOWN ON SHEETS 3 THROUGH 7.

INVESTIGATIONAL FINDINGS AND OBSERVATIONS

THE SUBSOIL STRATIFICATION ENCOUNTERED BY ALL FIVE TEST BORINGS SHOWED REMARKABLY UNIFORM SOIL CONDITIONS EXIST ACROSS THE SITE EXCLUSIVE OF THE FILL FOR THE APPROACH EMBANKMENTS. BORINGS B-1 AND B-5, LOCATED NEAR THE EXISTING ABUTMENTS, FIRST ENCOUNTERED APPROXIMATELY 15 FEET OF EMBANKMENT FILL, WHICH WAS COMPRISED OF MEDIUM-DENSE TO VERY DENSE SAND AND GRAVEL AT THE LOCATION OF BORING B-1 AND MEDIUM-STIFF TO STIFF CLAY AND SILT AT THE LOCATION OF BORING B-5. BENEATH THE EMBANKMENT FILLS, THE NATURAL SOILS CONSISTED OF AN APPROXIMATE 10- TO 15-FOOT THICK LAYER OF COHESIVE SOIL COMPRISED OF VERY SOFT TO STIFF SILT AND CLAY SOILS WITH ORGANICS NOTED. BENEATH THIS COHESIVE LAYER, AND AT NEARLY THE SAME ELEVATION, A GRANULAR LAYER WAS ENCOUNTERED IN EACH BORING CONSISTING PRIMARILY OF LOOSE TO MEDIUM-DENSE SAND AND GRAVEL. THE THICKNESS OF THIS GRANULAR LAYER WAS NEARLY THE SAME IN EACH BORING, AVERAGING ABOUT 8 FEET IN THICKNESS. BENEATH THIS GRANULAR LAYER WAS A PREDOMINANTLY COHESIVE LAYER OF SOIL IN ALL FIVE BORINGS CONSISTING OF SILTS AND CLAYEY SILTS WITH CONSISTENCIES TYPICALLY STIFF TO VERY STIFF. BENEATH THIS PREDOMINANTLY COHESIVE LAYER, AND AT NEARLY THE SAME ELEVATION, ALL FIVE BORINGS THEN ENCOUNTERED A 25- TO 30-FOOT THICK GRANULAR STRATUM CONSISTING PRIMARILY OF MEDIUM-DENSE TO DENSE SAND AND GRAVEL WITH BOULDERS NOTED NEAR THE TOP OF THIS LAYER IN THREE OF THE FIVE BORINGS. BENEATH THIS GRANULAR STRATUM, SHALE BEDROCK WAS ENCOUNTERED IN EACH BORING AT ELEVATIONS VARYING FROM APPROX. 838 IN BORING B-1 TO APPROX. 843 IN BORING B-5, WITH ROCK CORES OBTAINED IN BORINGS B-2 THROUGH B-4.

GROUNDWATER WAS REPORTED IN ALL OF THE BORINGS DRILLED FOR THIS INVESTIGATION. THE RESULTS OF THE GROUNDWATER OBSERVATIONS ARE CONTAINED ON THE INDIVIDUAL BORING LOGS SHOWN ON SHEETS 3 THROUGH 7. BECAUSE OF THE NATURE OF THE MATERIALS ENCOUNTERED IN THESE TEST BORINGS, THE GROUNDWATER RESULTS INDICATED DURING DRILLING OPERATIONS MAY BE SOMEWHAT MISLEADING OF SITE CONDITIONS. IT IS BELIEVED THAT THE TRUE GROUNDWATER TABLE AT THIS SITE IS LOCATED NEAR THE FLOWLINE OF LITTLE KILLBUCK CREEK, OR APPROXIMATELY ELEVATION 900.

LEGEND

⊕	PRESS AND/OR DRIVE SAMPLE AND/OR CORE BORING LOCATION-PLAN VIEW.
├─┤	HORIZONTAL BAR ON BORING LOG INDICATES THE DEPTH THE SAMPLE WAS TAKEN.
X/Y/Z	FIGURES BESIDE THE BORING LOG IN PROFILE INDICATE THE NUMBER OF BLOWS FOR STANDARD PENETRATION TEST.

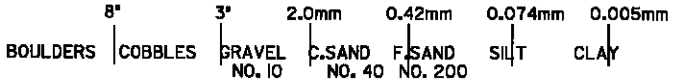
X = NUMBER OF BLOWS FOR FIRST 6 INCHES

Y = NUMBER OF BLOWS FOR SECOND 6 INCHES

Z = NUMBER OF BLOWS FOR THIRD 6 INCHES

W ——	INDICATES FREE WATER LEVEL
TR ——	INDICATES FREE WATER LEVEL
▼ ——	INDICATES STATIC WATER LEVEL

PARTICLE SIZE DEFINITIONS



SYMBOL OF ROCK TYPE

▤	SHALE	▨	WEATHERED SHALE

GENERAL INFORMATION

DRIVE SAMPLES

DRIVE SAMPLE BORINGS ARE MADE BY MEANS OF A MECHANICALLY-POWERED, ROTARY-TYPE DRILL RIG EMPLOYING A 2.0-INCH O.D., 1.375-INCH I.D., SPLIT-SPOON SAMPLER, AT 1.5-FOOT TO 5.0-FOOT DEPTH INTERVALS, DRIVEN BY MEANS OF A 140-POUND HAMMER WITH A FREE FALL OF 30 INCHES. THE NUMBER OF BLOWS REQUIRED TO DRIVE THE SAMPLER THREE 6.0-INCH INCREMENTS IS CONSIDERED THE STANDARD PENETRATION TEST.

PRESS SAMPLES

PRESS SAMPLES ARE TAKEN BY MEANS OF MECHANICAL-POWERED, ROTARY-TYPE DRILL RIG, EMPLOYING A 3.0-INCH O.D. THIN-WALL PRESS SAMPLING TUBE. THE PRESS SAMPLING TUBE IS ADVANCED BY CONTINOUSUNIFORM PRESSURE APPLIED BY THE DRILL RIG.

CORE BORINGS

CORE BORINGS ARE MADE BY MEANS OF MECHANICALLY-POWERED, ROTARY-TYPE DRILL RIG, EMPLOYING AN NW-PAM CORE BARREL WITH AN INDUSTRIAL DIAMOND CUTTING HEAD.

SAMPLING AND TESTING

THE BORING LOG SHEETS SHOW A GRAPHIC PLOT OF THE INFORMATION OBTAINED, INCLUDING DEPTH AND ELEVATION OF THE SAMPLE, TYPE OF SAMPLE, NUMBER OF BLOWS FOR THE STANDARD PENETRATION TEST IN THREE 6.0 INCH INCREMENTS, AND A SAMPLE DESCRIPTION BASED ON LABORATORY TEST RESULTS, UTILIZING THE ODOT CLASSIFICATION SYSTEM. RESULTS OF STRENGTH AND CONSOLIDATION TESTING, IF PERFORMED ON UNDISTURBED SAMPLES, APPEAR GRAPHICALLY ON SEPARATE ENCLOSURES. ROCK SAMPLES ARE DISPLAYED ON THE LOG SHEETS, INCLUDING DEPTH AND ELEVATION OF THE SAMPLE, AMOUNT OF RECOVERY, AND A VISUAL CLASSIFICATION BASED ON TYPE, COLOR, DEGREE OF HARDNESS, GRAIN SIZE, DETERIORATION, BEDDING, ACID REACTION, AND OTHER QUALIFYING FACTORS.

AT DEPTHS WHERE MATERIALS ARE BOULDERY OR GRAVELLY TO THE EXTENT THAT A SAMPLER CANNOT BE UTILIZED, A WASH SAMPLE IS PROCURED AND VISUALLY CLASSIFIED, IN ORDER TO DETERMINE THE GENERAL CHARACTERISTICS OF THE MATERIAL. THESE SAMPLES ARE NOT CONSIDERED SUFFICIENTLY REPRESENTATIVE TO WARRANT LABORATORY TESTING.

THE STRUCTURE FOUNDATION INVESTIGATION SHEETS CONTAIN ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN. ASPECT OF THE PROJECT. MORE INFORMATION, IF ANY MAY BE OBTAINED IN DISTRICT 3, THE OFFICE OF MATERIALS MANAGEMENT, 1600 WEST BROAD STREET, COLUMBUS, OHIO 43223, OR THE OFFICE OF STRUCTURAL ENGINEERING AT 1980 WEST BROAD STREET, COLUMBUS, OHIO 43223.

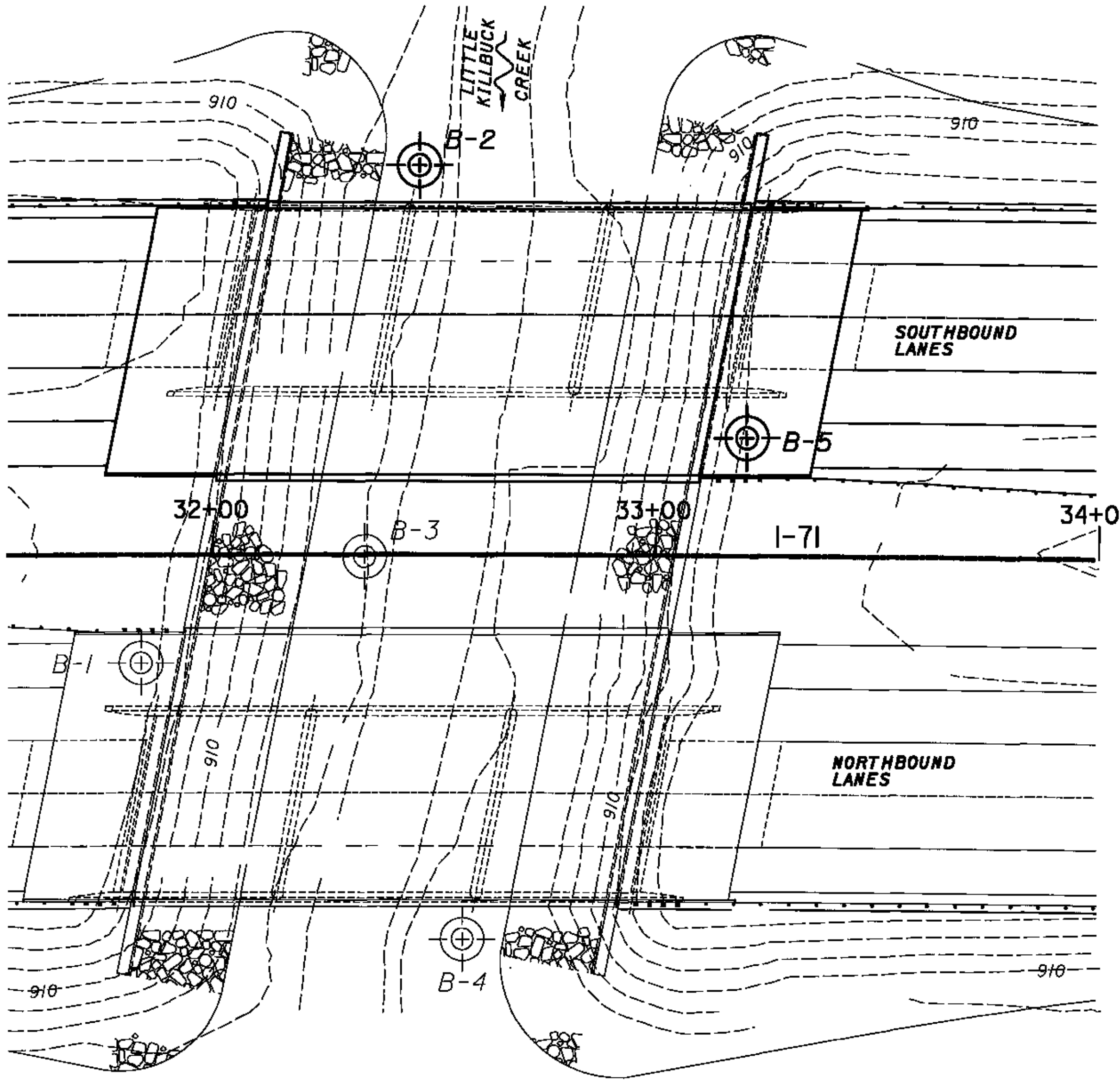
RESOURCE INTERNATIONAL, INC.
281 ENTERPRISE DRIVE
WESTERVILLE, OHIO 43081 (614)885-1959

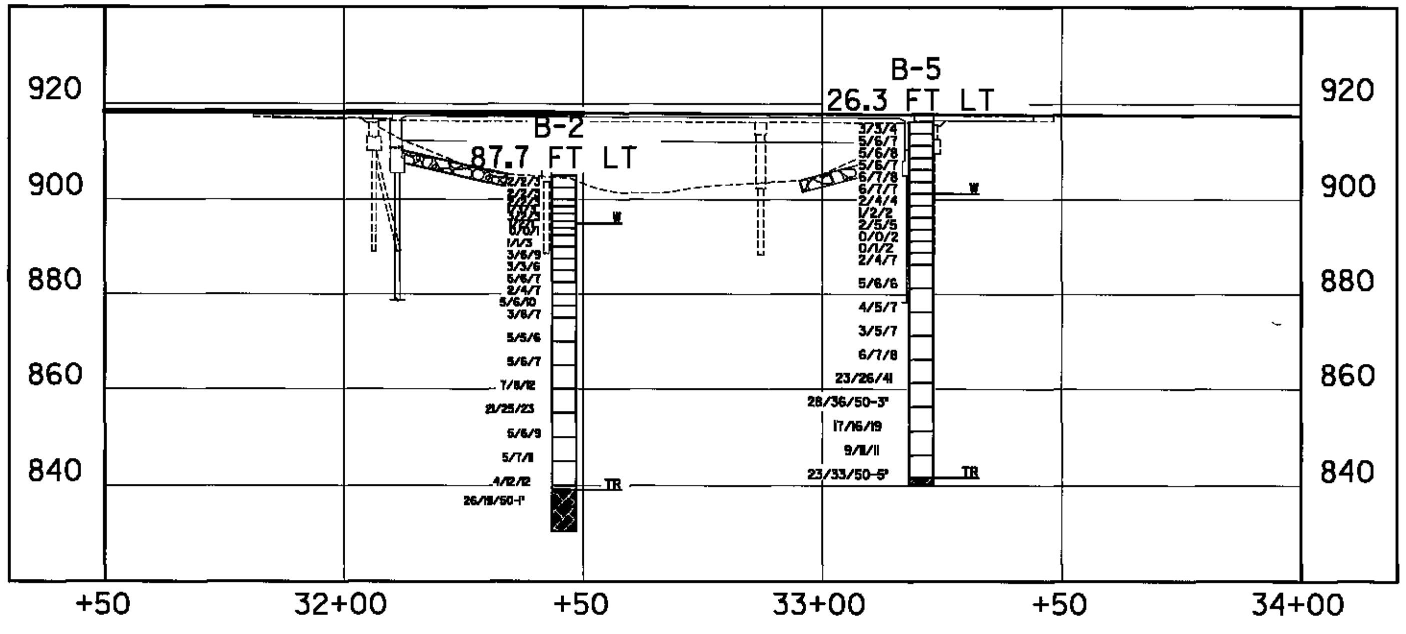
CALCULATED	DATE 5/7/03	REVIEWED	DRAWN KAL
CHECKED GPH	DATE 5/7/03		

STRUCTURE FOUNDATION INVESTIGATION
MED-71-0060 OVER LITTLE KILLBUCK CREEK

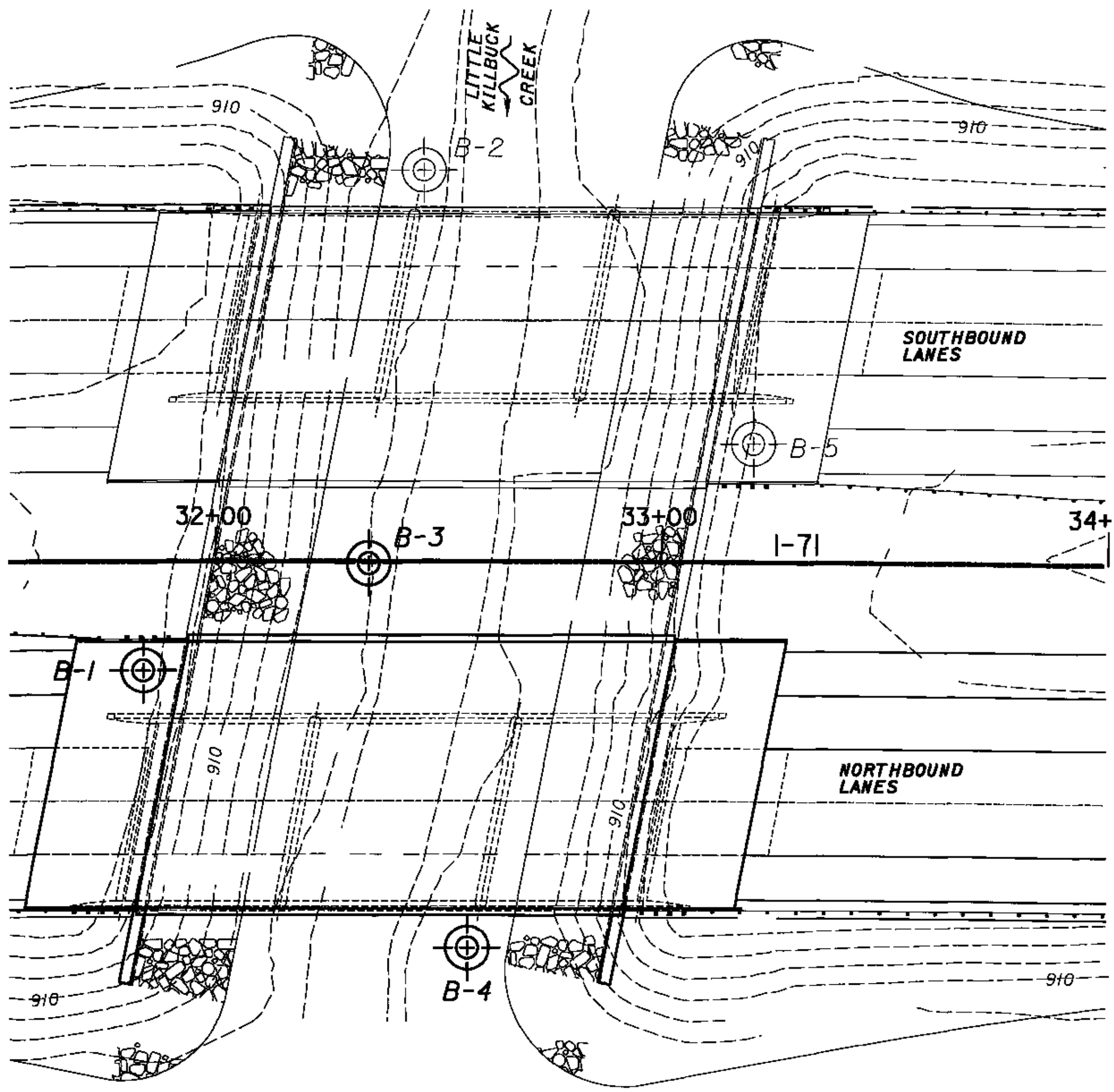
WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00

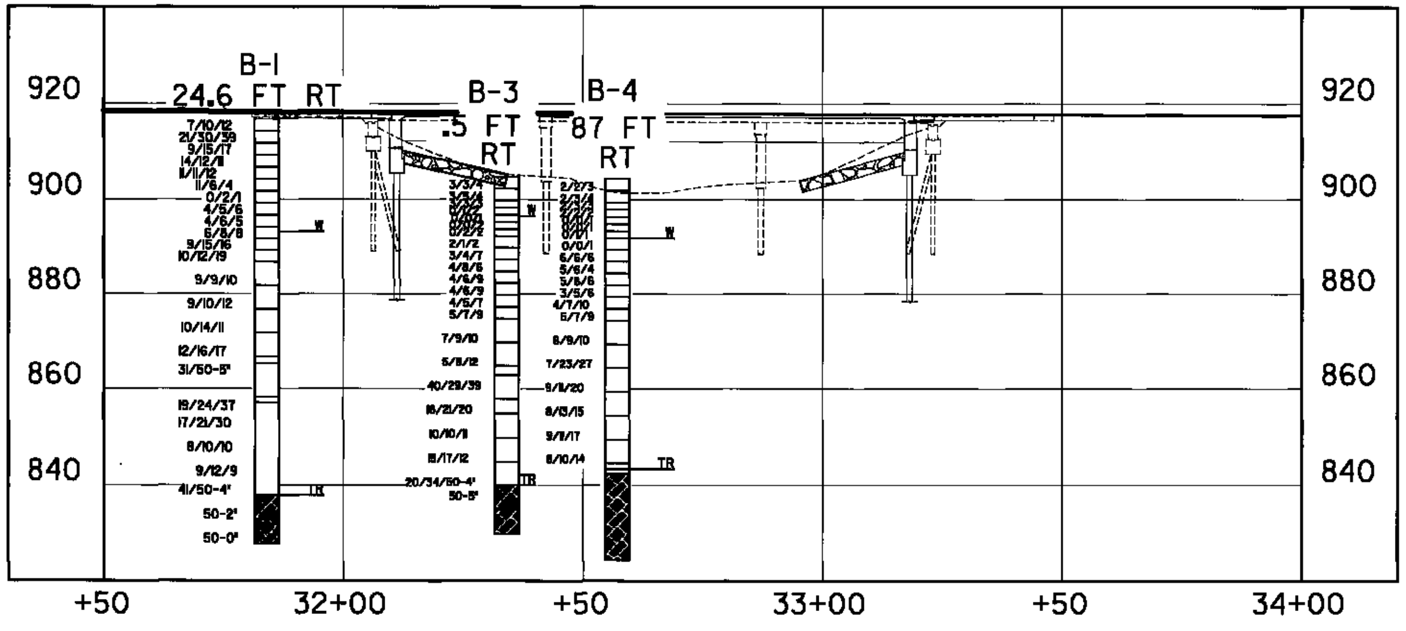
RESOURCE INTERNATIONAL INC. FILENAME: 0060-01-CVR.DGN
PROJECT NO. W-1169 DATE: 5/7/03





PROFILE FOR S.B. BORINGS ALONG C OF I-71 (℄ I-71)





PROFILE FOR N.B. BORINGS ALONG C OF I-71 (℄ I-71)

0 10 20
HORIZONTAL SCALE IN FEET

CALCULATED	DATE 5/7/03	REVIEWED	DRAWN KAL
CHECKED GPH	DATE 5/7/03	REVIEWED	DATE

STRUCTURE FOUNDATION INVESTIGATION
MED-71-0060 OVER LITTLE KILLBUCK CREEK

WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00

2/7

32
55

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-1169
FILENAME: 0060-02-PP.DGN
DATE: 5/7/03

Log of Boring

• WASH WATER USED DURING THE ROCK CORING PROCESS.

Date Started: 01/23/02 Sampler's Type 3.75" HSA/RC Water Elev. N/A •

Date Finished: 01/24/02

Boring No. B-1 Station & Offset 31+84, 24.6' Rt Surface Elev. 916.81 ft

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
916.8	0													
914.3		7 10 12	44	3" - Topsoil 0.3 Brown GRAVEL and SAND, little silt, little clay (Fill).	SS-1								10	
911.8	5.0	21 30 39	94	-SS-2: ODOT A-2-4	SS-2	36	18	18	15	13	22	5	7	A-2-4
909.3		9 15 17	72		SS-3								10	VISUAL
906.8	10.0	14 12 11	78	-SS-4: Visual ODOT A-2-4	SS-4	26	30	21	-23-				9	VISUAL
904.3		11 11 12	78		SS-5								10	VISUAL
901.8	15.0	11 6 4	67	-Increase in sand content in SS-6 16.0	SS-6								14	VISUAL
899.3		W 2 1	33	Gray changing to mottled brown and gray CLAY, some silt, some sand, trace gravel. -SS-7: ODOT A-7-6	SS-7	4	11	12	28	45	51	27	38	A-7-6
896.8	20.0	4 5 6	89		SS-8								28	VISUAL
894.3		4 6 5	83		SS-9								27	VISUAL
891.8	25.0	6 8 8	72	-groundwater initially encountered @ 23.5' -heaving sand encountered @ 23.5' 23.5 Grayish brown changing to gray SAND, some gravel, trace silt, trace clay. -SS-10: ODOT A-1-b	SS-10	21	40	23	-16-				16	VISUAL
889.3		9 15 16	78		SS-11								13	VISUAL
886.8	30.0	10 12 19	67	32.0 Gray CLAYEY SILT, little sand, trace gravel.	SS-12								13	VISUAL
881.8	35.0	9 9 10	39		SS-13									VISUAL
876.8	40.0	9 10 12	83	-SS-14: ODOT A-6a	SS-14	5	7	12	43	33	27	11	19	A-6a
871.8	45.0	10 14 11	60 58	44.0 Gray SILTY SAND, little gravel, little clay.	SS-15A SS-15B								 12	VISUAL VISUAL
866.8	50.0	12 16 17	100	48.5 Gray CLAYEY SILT, some sand, trace gravel. -SS-16: Visual ODOT A-6a	SS-16	7	8	17	-68-				13	VISUAL

Boring No. B-1 (CONTINUED)

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
				51.5 SHALE BOULDER.										
861.8	55.0	31 50/5"	64		SS-17									VISUAL
				58.5 LIMESTONE BOULDER. 59.7										
	60.0		21	Gray SAND and GRAVEL, little silt.										
855.3		19 24 37	94	-SS-19: ODOT A-1-b	SS-19	42	39	8	-11-				9	VISUAL
851.8	65.0	17 21 30	44		SS-20									VISUAL
846.8	70.0	8 10 10	50		SS-21								13	VISUAL
841.8	75.0	9 12 9	33		SS-22									VISUAL
847.3	80.0	41 50/4"	100	79.0 Gray indurated SILTY CLAY, CLAY/weathered SHALE.	SS-23								11	VISUAL
842.8	85.0	50/2"	100		SS-24									VISUAL
827.8		50/0"	0	Auger refusal @ 89.0' 89.0	SS-25									VISUAL

Bottom of Boring = 89.0 feet

RESOURCE INTERNATIONAL, INC.
281 ENTERPRISE DRIVE
WESTERVILLE, OHIO 43081 (614)885-195

CALCULATED	CHECKED GPH
DATE 5/7/03	DATE 5/7/03
REVIEWED	
DRAWN KAL	

STRUCTURE FOUNDATION INVESTIGATION
MED-71-0060 OVER LITTLE KILLBUCK CREEK

WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00

3/7

33
55

RESOURCE INTERNATIONAL INC. FILENAME: 0060-03-DATA.DGN
PROJECT NO. W-1169 DATE: 5/7/03

Log of Boring

• WASH WATER USED DURING THE ROCK CORING PROCESS.

Date Started: 01/24/02 Sampler's Type 3.75" HSA/RC Water Elev. N/A •

Date Finished: 01/24/02

Boring No. B-2 Station & Offset 32+46.44 87.77' Lt Surface Elev. 905.08 ft

ELEV (FT)	DEPTH (FT)	STD. PEN/ ROD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.L.	W.C.	ODOT CLASS
905.1	0			23" - Topsoil 1.9										
902.6		2 2 3	72	Mottled brown and gray SILTY CLAY, little sand, trace gravel. 3.7	SS-1								20	VISUAL
900.1	5.0	2 2 3	100	Black organic CLAY and SILT, little sand. -SS-2A: ODOT A-7-6 4.5	SS-2A								38	VISUAL
					SS-2B								26	VISUAL
898.1		2 2 3	44	Mottled brown and gray CLAYEY SILT, little sand, trace gravel, trace organics. -SS-3: ODOT A-6a 6.5	SS-3	0	0	25	45	28	31	14	27	A-6a
897.6		1 3 3	83		SS-4	0	0	3	54	43	43	20	24	A-7-6
895.6	10.0	3 2 3	100	Mottled brown and gray CLAYEY SILT, trace sand, trace organics. -SS-4: ODOT A-7-6 9.5	SS-5								26	VISUAL
894.1		1 2 1	89		SS-6	2	10	40	-48-		NP	NP	32	A-4a
892.6		W W 1	33	Gray CLAYEY SILT, trace sand, trace organics. -groundwater initially encountered @ 10.0' -SS-6: ODOT A-4a 11.5	SS-7								30	VISUAL
890.1	15.0	1 1 3	67	Gray and black SAND, some gravel, little silt. -SS-8: ODOT A-1-b	SS-8	24	31	34	-11-				18	VISUAL
887.6		3 6 9	100		SS-9									VISUAL
885.1	20.0	3 3 6	100	21.0	SS-10								20	VISUAL
882.6		5 6 7	11	Gray SILT and CLAY, some sand, trace gravel. -SS-11: Visual ODOT A-6a	SS-11	6	8	15	-71-				15	VISUAL
880.1	25.0	2 4 7	56		SS-12									VISUAL
877.6		5 6 10	83	-SS-13: ODOT A-6a	SS-13	6	7	13	39	35	27	11	18	A-6a
875.1	30.0	3 6 7	89	33.7	SS-14									VISUAL
870.1	35.0	5 5 6	100	Gray SILTY SAND, little clay, trace gravel. 34.2	SS-15A									
869.1			100	Gray SILT, little clay, trace sand. -SS-15B: Visual ODOT A-4b 38.0	SS-15B	0	1	3	-97-				24	VISUAL
865.1	40.0	5 6 7	100	Gray SAND and GRAVEL, little silt.	SS-16									VISUAL
860.1	45.0	7 8 12	17	-SS-17: ODOT A-1-b -heaving sand encountered @ 45.0'	SS-17	45	38	7	-10-				12	VISUAL
855.1	50.0	21 25 23	100		SS-18									VISUAL

Boring No. B-2 (CONTINUED)

ELEV (FT)	DEPTH (FT)	STD. PEN/ ROD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.L.	W.C.	ODOT CLASS
850.1	55.0	5 6 9	89		SS-19								17	VISUAL
845.1	60.0	5 7 11	100	62.8	SS-20									VISUAL
840.1	65.0	4 12 12	67	Gray SAND, some gravel, some silt, little clay. -SS-21: ODOT A-2-4 66.0	SS-21	29	18	21	-32-		19	5	10	A-2-4
				Gray weathered SHALE. Auger refusal @ 69.6' 69.6										
835.1	70.0	26 19 50/1"	89	SHALE; gray, soft, highly broken, slightly jointed, slightly weathered, fissile. -limestone bed from 69.6 to 69.9' -RC-1: Core Loss = 10% RQD = 10%	SS-22									VISUAL
834.8			90		RC-1									
830.5				74.6										

Bottom of Boring = 74.6 feet

RESOURCE INTERNATIONAL, INC.
281 ENTERPRISE DRIVE
WESTERVILLE, OHIO 43081 (614)885-19

CALCULATED	DATE	REVIEWED	DRAWN
	5/7/03		KAL
CHECKED GPH	DATE 5/7/03		

STRUCTURE FOUNDATION INVESTIGATION
MED-71-0060 OVER LITTLE KILLBUCK CREEK

WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00

4/7

34
55

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-1169
FILENAME: 0060-04-DATA.DGN
DATE: 5/7/03

Log of Boring

• WASH WATER USED DURING THE ROCK CORING PROCESS.

Date Started: 01/21/02
Sampler's Type: 3.75" HSA/RC
Water Elev.: N/A •
Date Finished: 01/22/02
Boring No.: B-3
Station & Offset: 32+34.34 0.49' Rt
Surface Elev.: 904.83 ft

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
904.8	0													
				3" - Topsoil 0.3										
902.3		3 3 4	83	Brown changing to black SILTY CLAY, little sand, trace gravel, trace organics. 4.0	SS-1								22	VISUAL
899.8	5.0	3 5 4	100	Mottled brown and gray CLAYEY SILT, little sand, trace gravel.	SS-2A								59	VISUAL
898.3		3 3 3	100	-SS-2B: ODOT A-6a 6.1	SS-2B	0	1	7	56	36	34	14	30	A-6a
			100	Mottled brown and gray SANDY SILT, some clay.	SS-3A								29	VISUAL
896.8		W 1 2	100	-SS-3B: ODOT A-4a 8.0	SS-3B	0	1	35	40	24	26	9	28	A-4a
			100	-groundwater initially encountered @ 8.2'	SS-4								29	VISUAL
895.3	10.0	W W 1	56		SS-5								28	VISUAL
893.8		W W 2	72	Mottled brown and gray changing to dark gray SILT, some clay, little sand, trace gravel. 11.9	SS-6	2	3	12	54	29	33	14	30	A-6a
892.3		W 2 2	100	-SS-6: ODOT A-6a	SS-7A								32	VISUAL
891.8			71	Dark gray changing to gray SAND, some gravel, little silt.	SS-7B								27	VISUAL
889.8	15.0	2 1 2	44	-SS-8: ODOT A-1-b	SS-8	23	42	17	-18-				20	VISUAL
887.3		3 4 7	100		SS-9								16	VISUAL
884.8	20.0	4 8 6	78	20.5	SS-10								12	VISUAL
882.3		4 6 9	83	Gray CLAYEY SILT, some sand, trace gravel. -SS-11: ODOT A-6a	SS-11	7	7	14	40	32	27	11	15	A-6a
879.8	25.0	4 6 9	78		SS-12								15	VISUAL
887.3		4 5 7	56	28.5	SS-13								15	VISUAL
874.8	30.0	5 7 9	100	Gray CLAYEY SILT, some sand, trace gravel. -SS-14: ODOT A-4a	SS-14	5	8	13	40	34	26	10	15	A-4a
869.8	35.0	7 9 10	100	-heaving sand encountered @ 35.0' 35.0	SS-15									VISUAL
				Gray SAND, little silt, trace gravel.										
864.8	40.0	5 9 12	83		SS-16								10	VISUAL
				42.0 SHALE BOULDER.										
859.8	45.0	40 29 39	89		SS-17									VISUAL
				47.0 Gray SAND, little gravel, trace silt,										
854.8	50.0	18 21 20	89		SS-18								10	VISUAL

Bottom of Boring = 50.0 feet

Boring No. B-3 (CONTINUED)

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
849.8	55.0	10 10 11	100	-SS-19: ODOT A-1-b	SS-19	17	46	27	-10-				17	VISUAL
844.8	60.0	15 17 12	100		SS-20									VISUAL
				63.5 Brownish gray SANDY SILT, little clay, little gravel.										
839.8	65.0	20 34 50/4"	75	64.8 -SS-21A: ODOT A-4a	SS-21A	13	11	19	-57-		23	7	10	A-4a
838.5			100	Gray weathered SHALE.	SS-21B									VISUAL
834.8	70.0	50/5"	100	70.0	SS-22									VISUAL
833.3			96	SHALE; gray, soft, highly broken, slightly jointed, slightly weathered, fissile. -RC-1: Core Loss = 3% RQD = 14%	RC-1									
829.8	75.0			75.0										

Bottom of Boring = 75.0 feet

RESOURCE INTERNATIONAL, INC.
281 ENTERPRISE DRIVE
WESTERVILLE, OHIO 43081 (614)885-1959

CALCULATED
DATE 5/7/03
CHECKED GPH
DATE 5/7/03
REVIEWED
DRAWN KAL

STRUCTURE FOUNDATION INVESTIGATION
MED-71-0060 OVER LITTLE KILLBUCK CREEK

WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00

5/7

35/55

RESOURCE INTERNATIONAL INC. PROJECT NO. W-1169
FILENAME: 0060-05-DATA.DGN DATE: 5/7/03

Log of Boring

• WASH WATER USED DURING THE ROCK CORING PROCESS.

Date Started: 01/23/02 Sampler's Type 3.75' HSA/RC Water Elev. N/A •

Date Finished: 01/23/02

Boring No. B-4 Station & Offset 32+57.14 86.96' Rt Surface Elev. 904.43 ft

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.L.	W.C.	ODOT CLASS
904.4	0			23" - Topsoil 1.9										
901.9		2 2 3	78	Mottled brown and gray changing to gray SILT, some clay, trace sand, -SS-1: ODOT A-7-6	SS-1	0	1	3	45	50	48	19	45	A-7-6
899.4	5.0	2 3 4	67		SS-2								27	VISUAL
897.9		2 3 3	100	-SS-3: ODOT A-6a	SS-3	0	0	5	64	31	35	15	25	A-6a
896.4		2 2 2	100	9.2	SS-4 SS-5A								28 29	VISUAL VISUAL
894.4	10.0	W W 1	100	Gray changing to dark gray SILT, some sand, some clay, trace gravel.	SS-5B	0	0	25	54	21	26	6	28	A-4b
893.4		W W 1	100	-SS-5B: ODOT A-4b										
892.9			67		SS-6								34	VISUAL
892.4		W 1 1	100	-groundwater initially encountered @ 12.5'	SS-7								39	VISUAL
889.4	15.0	W W 1	83	-SS-8: ODOT A-4b -wood fragments encountered in SS-8 16.0	SS-8	5	8	16	-71-		NP	NP	87	A-4b
886.9		6 6 6	50	Gray GRAVEL and SAND, trace silt, -SS-9: ODOT A-1-a	SS-9	54	30	9	-7-				17	VISUAL
884.4	20.0	5 6 4	100		SS-10								16	VISUAL
881.9		5 6 6	67	-SS-11: ODOT A-6a 22.1 Gray CLAYEY SILT, some sand, trace gravel.	SS-11	6	7	14	38	35	27	12	16	A-6a
879.4	25.0	3 5 6	17		SS-12								16	VISUAL
876.9		4 7 10	94	-SS-13: ODOT A-6a	SS-13	6	6	12	39	37	28	11	15	A-6a
874.4	30.0	5 7 9	100		SS-14								20	VISUAL
869.4	35.0	6 9 10	83	33.5 Gray SAND, little silt, trace gravel. 35.0 Gray SILTY CLAY, little sand, trace gravel.	SS-15									VISUAL
864.4	40.0	7 23 27	73	39.4 SHALE BOULDER. 40.0	SS-16A								14	VISUAL
863.4			57	Gray SAND and GRAVEL, trace silt. -heaving sand encountered @ 43.5'	SS-16B									VISUAL
859.4	45.0	9 11 20	100		SS-17									VISUAL
854.4	50.0	8 13 15	100	-SS-18: ODOT A-1-b	SS-18	37	29	24	-10-				15	VISUAL

Bottom of Boring = 50.0 feet

Boring No. B-4 (CONTINUED)

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.L.	W.C.	ODOT CLASS
				54.5										
849.4	55.0	9 11 17	100	Gray CLAYEY SILT, some sand,	SS-19A									VISUAL
848.4			100	trace gravel. (shale fragments) 56.5 Gray SILTY SAND, little clay, trace gravel. 59.8	SS-19B								12	VISUAL
844.4	60.0	8 10 14	100	Gray CLAYEY SILT, some sand,	SS-20A									VISUAL
842.9			100	trace gravel. 61.5 Gray weathered SILTSTONE. 62.0	SS-20B								10	VISUAL
840.9			90	SHALE; gray, soft, highly broken, slightly jointed, slightly weathered, fissile, with thin interbeds of siltstone.	RC-1									
	65.0			-Core Loss = 10% RQD = 0%										
837.4				67.0										

Bottom of Boring = 67.0 feet

RESOURCE INTERNATIONAL, INC.
281 ENTERPRISE DRIVE
WESTERVILLE, OHIO 43081 (614)885-1959

CALCULATED KAL DATE 5/7/03 CHECKED GPH DATE 5/7/03 REVIEWED DRAWN KAL

STRUCTURE FOUNDATION INVESTIGATION
MED-71-0060 OVER LITTLE KILLBUCK CREEK

WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00

6/7

36
55

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-1169
FILENAME: 0060-06-DATA.DGN
DATE: 5/7/03

Log of Boring

Date Started: 01/30/02　Sampler's Type 3.75" HSA　Water Elev. Seepage

Date Finished: 01/30/02

Boring No. B-5　Station & Offset 33+20.64　26.35' Lt　Surface Elev. 916.31 ft

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
916.3	0													
				3" - Topsoil 0.3										
913.8		3 3 4	78	Brown changing to mottled brown and gray CLAY and SILT, little sand, trace gravel, trace organics.	SS-1								16	VISUAL
911.3	5.0	5 6 7	94		SS-2								20	VISUAL
908.8		5 6 8	100	-SS-3: ODOT A-6b	SS-3	2	10	5	40	43	36	16	17	A-6b
906.3	10.0	5 6 7	100		SS-4								17	VISUAL
903.8		6 7 8	100	12.5	SS-5								18	VISUAL
				Brown SAND, little silt, trace gravel.										
901.3	15.0	6 7 7	94	-groundwater initially encountered @ 15.0'	SS-6								9	VISUAL
898.8		2 4 4	0	18.5	SS-7									VISUAL
896.3	20.0	1 2 2	94	Mottled brown and gray changing to dark gray SILT, some clay, little sand,	SS-8								26	VISUAL
893.8		2 5 5	78	-SS-9: ODOT A-6a 23.5	SS-9	0	0	10	65	25	30	11	31	A-6a
891.3	25.0	W W 2	78	Dark gray SANDY SILT, little clay, trace gravel. -SS-10: ODOT A-4a	SS-10	9	11	28	-52-		NP	NP	20	A-4a
889.8		W 1 2	28	27.0	SS-11									VISUAL
				Dark SAND and GRAVEL, little silt, trace clay.										
886.3	30.0	2 4 7	50	33.5	SS-12									VISUAL
881.3	35.0	5 6 6	67	Gray SILT, some sand, little clay, trace gravel. -heaving sand encountered @ 34.0'	SS-13									VISUAL
876.3	40.0	4 5 7	100	40.0	SS-14								15	VISUAL
				Gray CLAYEY SILT, some sand, trace gravel.										
871.3	45.0	3 5 7	78		SS-15									VISUAL
866.3	50.0	6 7 8	39		SS-16								12	VISUAL

Bottom of Boring = 50.0 feet

Boring No. B-5 (CONTINUED)

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
				52.0										
				Gray SAND and GRAVEL, little silt, trace clay.										
861.3	55.0	23 26 41	22		SS-17									VISUAL
				-heaving sand encountered @ 57.0'										
856.3	60.0	28 3650/3"	100	61.0	SS-18								8	VISUAL
				Gray SAND, little gravel, little silt, trace clay.										
851.3	65.0	17 16 19	83		SS-19									VISUAL
846.3	70.0	9 11 11	67	69.8	SS-20								12	VISUAL
				Gray SILTY CLAY, little sand, trace gravel.										
841.3	75.0	23 3350/5"	76	Gray indurated SILTY CLAY/weathered SHALE. 74.6	SS-21									VISUAL
840.3				Auger refusal @ 76.0' 76.0										

Bottom of Boring = 76.0 feet

RESOURCE INTERNATIONAL, INC.
281 ENTERPRISE DRIVE
WESTERVILLE, OHIO 43081 (614)885-1959

CALCULATED　CHECKED GPH
DATE 5/7/03　DATE 5/7/03
REVIEWED
DRAWN KAL

STRUCTURE FOUNDATION INVESTIGATION
MED-71-0060 OVER LITTLE KILLBUCK CREEK

WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00

7/7

37
55

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-1169
FILENAME: 00260-07-DATA.DGN
DATE: 5/7/03

GEOLOGY OF THE SITE

GEOLOGIC REFERENCES INDICATE THE SITE LIES WITHIN THE GLACIATED, GENTLY ROLLING MISSISSIPPI VALLEY PLAIN. IN GENERAL, THE WISCONSIN GLACIER PASSED OVER THE AREA LEAVING RATHER THICK DEPOSIT OF DRIFT. THE SITE IS LOCATED WITHIN AN ANCIENT BURIED VALLEY WITH DEPTHS ANTICIPATED TO BE GREATER THAN 100 FEET DEEP. THE DRIFT IS EXPECTED TO CONTAIN SUBSTANTIAL DEPOSITS OF GRANULAR MATERIAL. KAMES, KAME TERRACES, AND SAND AND GRAVEL OUTWASH DEPOSITS ARE ANTICIPATED IN THE IMMEDIATE AREA. THE UNDERLYING BEDROCK IS OF THE CUYAHOGA FORMATION AND CONSISTS OF SHALES AND SANDSTONES.

THE BRIDGE SITE IS LOCATED ON THE NORTHERN FRINGE OF THE KILLBUCK CREEK VALLEY WITH KILLBUCK CREEK BEING THE PREDOMINANT DRAINAGE FEATURE IN THE AREA. THE WESTFIELD CENTER, OHIO, USGS QUADRANGLE MAP INDICATES SIGNIFICANT SAND AND GRAVEL MINING OPERATIONS IN THE IMMEDIATE VICINITY OF THE BRIDGE SITE, PRIMARILY TO THE NORTH. THE CRESTON, OHIO USGS QUADRANGLE MAP INDICATES A LOW-LYING WETLAND OR SWAMP AREA IMMEDIATELY SOUTH OF THE BRIDGE SITE. IN THE IMMEDIATE VICINITY OF THE BRIDGE, GRADES ARE RELATIVELY FLAT WITH ELEVATION CHANGES OF ABOUT 20 FEET. THE REAR AND FORWARD APPROACH EMBANKMENTS FOR THE BRIDGE ARE ELEVATED APPROXIMATELY 30 FEET ABOVE THE SURROUNDING GRADES TO PROVIDE THE NECESSARY CLEARANCE ABOVE THE WHEELING AND LAKE ERIE RAILROAD TRACKS.

EXPLORATION

DURING THE PERIOD OF FEBRUARY 15 THROUGH MARCH 5, 2002, FOUR TEST BORINGS WERE DRILLED AT THE LOCATIONS SHOWN ON SHEET 2. THE BORINGS LOCATED AT EACH ABUTMENT WERE ACCESSED USING AN ATV MOUNTED DRILLING RIG EQUIPPED WITH AN AUTOMATIC HAMMER. THE BORINGS DRILLED AT THE PIER LOCATIONS, ADJACENT TO THE RAILROAD TRACKS, WERE ACCESSED WITH A TRUCK MOUNTED DRILL RIG EQUIPPED WITH A SAFETY HAMMER.

INVESTIGATIONAL FINDINGS AND OBSERVATIONS

TEST BORING B-1 WAS DRILLED TO A DEPTH OF 100 FEET IN THE VICINITY OF THE EXISTING REAR ABUTMENT AND FIRST ENCOUNTERED MEDIUM-STIFF TO STIFF SANDY CLAY EMBANKMENT FILL EXTENDING TO A DEPTH OF APPROXIMATELY 25.5 FEET BELOW GRADE. BENEATH THIS LAYER OF SANDY CLAY, AN APPROXIMATE 13-FOOT THICK LAYER OF STIFF TO VERY STIFF SILTY CLAY, OF WHICH THE FIRST 4.5 FEET IS BELIEVED TO BE EMBANKMENT FILL WAS ENCOUNTERED UNDERLAIN BY AN APPROXIMATE 1.5-FOOT THICK LAYER OF MEDIUM DENSE SAND. BENEATH THESE SOILS A THICK DEPOSIT OF STIFF TO VERY STIFF SILTY CLAY WAS ENCOUNTERED TO A DEPTH OF 82.5 FEET UNDERLAIN BY A 2.5-FOOT THICK LAYER OF MEDIUM DENSE SAND AND GRAVEL. AT A DEPTH OF 85 FEET INDURATED HARD CLAYEY SILT OR HIGHLY WEATHERED SILTSTONE WAS ENCOUNTERED WHICH, WAS EASILY PENETRATED BY NORMAL SOIL BORING TECHNIQUES.

TEST BORING B-4 WAS DRILLED TO A DEPTH OF 100 FEET IN THE VICINITY OF THE EXISTING FORWARD ABUTMENT AND FIRST ENCOUNTERED STIFF TO VERY STIFF SANDY SILT EMBANKMENT FILL EXTENDING TO A DEPTH OF APPROXIMATELY 30 FEET BELOW GRADE UNDERLAIN BY AN APPROXIMATE 4-FOOT THICK LAYER OF SIMILAR NATURAL SOIL. BENEATH THIS SANDY SILT LAYER WAS A 47-FOOT THICK LAYER OF GRANULAR SOIL PRIMARILY CONSISTING OF LOOSE TO MEDIUM-DENSE SAND. THIS GRANULAR LAYER WAS UNDERLAIN BY ALTERNATING LAYERS OF VERY STIFF CLAYEY SILTS AND MEDIUM-DENSE SAND TO THE TERMINAL DEPTH OF THE BORING.

BORINGS B-2 AND B-3 WERE DRILLED TO DEPTHS OF 75 FEET EACH AT LOCATIONS BETWEEN THE EXISTING BRIDGES NEAR THE EXISTING PIERS. THESE TWO BORINGS ENCOUNTERED SOMEWHAT SIMILAR SOIL CONDITIONS CONSISTING OF A LAYER OF MEDIUM-STIFF TO STIFF SILTY CLAY TO A DEPTH OF 2.5 FEET IN B-2 AND 6 FEET IN B-3. IN BORING B-2, THIS SILTY CLAY LAYER WAS UNDERLAIN BY A 7-FOOT THICK LAYER OF LOOSE TO MEDIUM-DENSE SAND WITH TRACE ORGANICS. BENEATH THESE SOILS, BOTH BORINGS ENCOUNTERED A WEAK ORGANIC LAYER OF CLAYEY SILT AND SANDY SILT EXTENDING TO DEPTHS OF 15.5 FEET IN BORING B-2 AND 10 FEET IN BORING B-3. BENEATH THE ORGANIC LAYER, BOTH BORINGS ENCOUNTERED LOOSE TO MEDIUM-DENSE SANDS TO A DEPTH OF APPROXIMATELY 25 FEET.

THESE GRANULAR SOILS WERE THEN UNDERLAIN BY ALTERNATING LAYERS OF VERY STIFF TO HARD SILTS, CLAYEY SILTS, SANDY SILTS, SILTY SANDS, AND DENSE TO VERY DENSE SANDS TO THE TERMINAL DEPTHS OF THE BORINGS.

GROUNDWATER WAS REPORTED IN ALL OF THE BORINGS DRILLED FOR THIS INVESTIGATION. THE RESULTS OF THE GROUNDWATER OBSERVATIONS ARE CONTAINED ON THE INDIVIDUAL BORING LOGS CONTAINED ON SHEETS 3 THROUGH 6. GROUNDWATER ELEVATIONS ARE BELIEVED TO BE AT DEPTHS THAT WILL PLACE NO SIGNIFICANT LIMITATIONS ON BRIDGE CONSTRUCTION

LEGEND

⌖	PRESS AND/OR DRIVE SAMPLE AND/OR CORE BORING LOCATION-PLAN VIEW.
├─┤	HORIZONTAL BAR ON BORING LOG INDICATES THE DEPTH THE SAMPLE WAS TAKEN.
X/Y/Z	FIGURES BESIDE THE BORING LOG IN PROFILE INDICATE THE NUMBER OF BLOWS FOR STANDARD PENETRATION TEST.

X = NUMBER OF BLOWS FOR FIRST 6 INCHES

Y = NUMBER OF BLOWS FOR SECOND 6 INCHES

Z = NUMBER OF BLOWS FOR THIRD 6 INCHES

W ——— INDICATES FREE WATER LEVEL

TR ——— INDICATES FREE WATER LEVEL

PARTICLE SIZE DEFINITIONS

	8"		3"		2.0mm		0.42mm		0.074mm		0.005mm	
BOULDERS		COBBLES		GRAVEL	NO. 10	C.SAND	NO. 40	F.SAND	NO. 200	SILT		CLAY

SYMBOL OF ROCK TYPE

☐ WEATHERED SILTSTONE

GENERAL INFORMATION

DRIVE SAMPLES

DRIVE SAMPLE BORINGS ARE MADE BY MEANS OF A MECHANICALLY-POWERED, ROTARY-TYPE DRILL RIG EMPLOYING A 2.0-INCH O.D., 1.375-INCH I.D., SPLIT-SPOON SAMPLER, AT 1.5-FOOT TO 5.0-FOOT DEPTH INTERVALS, DRIVEN BY MEANS OF A 140-POUND HAMMER WITH A FREE FALL OF 30 INCHES. THE NUMBER OF BLOWS REQUIRED TO DRIVE THE SAMPLER THREE 6.0-INCH INCREMENTS IS CONSIDERED THE STANDARD PENETRATION TEST.

PRESS SAMPLES

PRESS SAMPLES ARE TAKEN BY MEANS OF MECHANICAL-POWERED, ROTARY-TYPE DRILL RIG, EMPLOYING A 3.0-INCH O.D. THIN-WALL PRESS SAMPLING TUBE. THE PRESS SAMPLING TUBE IS ADVANCED BY CONTINOUSUNIFORM PRESSURE APPLIED BY THE DRILL RIG.

CORE BORINGS

CORE BORINGS ARE MADE BY MEANS OF MECHANICALLY-POWERED, ROTARY-TYPE DRILL RIG, EMPLOYING AN NW-PAM CORE BARREL WITH AN INDUSTRIAL DIAMOND CUTTING HEAD.

SAMPLING AND TESTING

THE BORING LOG SHEETS SHOW A GRAPHIC PLOT OF THE INFORMATION OBTAINED, INCLUDING DEPTH AND ELEVATION OF THE SAMPLE, TYPE OF SAMPLE, NUMBER OF BLOWS FOR THE STANDARD PENETRATION TEST IN THREE 6.0 INCH INCREMENTS, AND A SAMPLE DESCRIPTION BASED ON LABORATORY TEST RESULTS, UTILIZING THE ODOT CLASSIFICATION SYSTEM. RESULTS OF STRENGTH AND CONSOLIDATION TESTING, IF PERFORMED ON UNDISTURBED SAMPLES, APPEAR GRAPHICALLY ON SEPARATE ENCLOSURES. ROCK SAMPLES ARE DISPLAYED ON THE LOG SHEETS, INCLUDING DEPTH AND ELEVATION OF THE SAMPLE, AMOUNT OF RECOVERY, AND A VISUAL CLASSIFICATION BASED ON TYPE, COLOR, DEGREE OF HARDNESS, GRAIN SIZE, DETERIORATION, BEDDING, ACID REACTION, AND OTHER QUALIFYING FACTORS.

AT DEPTHS WHERE MATERIALS ARE BOULDERY OR GRAVELLY TO THE EXTENT THAT A SAMPLER CANNOT BE UTILIZED, A WASH SAMPLE IS PROCURED AND VISUALLY CLASSIFIED, IN ORDER TO DETERMINE THE GENERAL CHARACTERISTICS OF THE MATERIAL. THESE SAMPLES ARE NOT CONSIDERED SUFFICIENTLY REPRESENTATIVE TO WARRANT LABORATORY TESTING.

THE STRUCTURE FOUNDATION INVESTIGATION SHEETS CONTAIN ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN. ASPECT OF THE PROJECT. MORE INFORMATION, IF ANY MAY BE OBTAINED IN DISTRICT 3, THE OFFICE OF MATERIALS MANAGEMENT, 1600 WEST BROAD STREET, COLUMBUS, OHIO 43223, OR THE OFFICE OF STRUCTURAL ENGINEERING AT 1980 WEST BROAD STREET, COLUMBUS, OHIO 43223.

RESOURCE INTERNATIONAL, INC.
281 ENTERPRISE DRIVE
WESTERVILLE, OHIO 43081 (614)885-195

DRAWN	REVIEWED	DATE	CALCULATED
KAL		5/7/03	
		DATE	CHECKED
		5/7/03	GPH

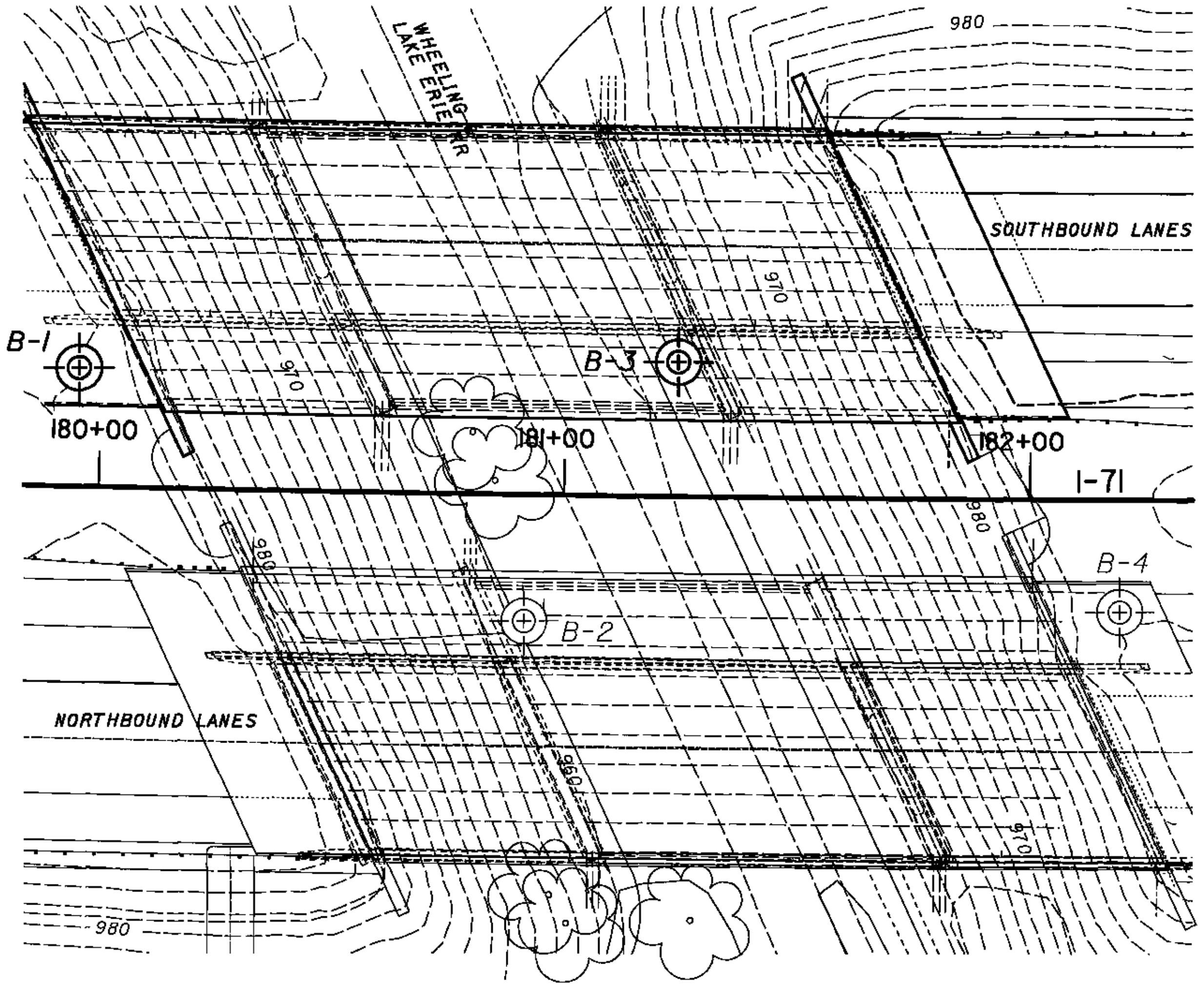
STRUCTURE FOUNDATION INVESTIGATION
MED-71-0342 OVER WHEELING & LAKE ERIE RR

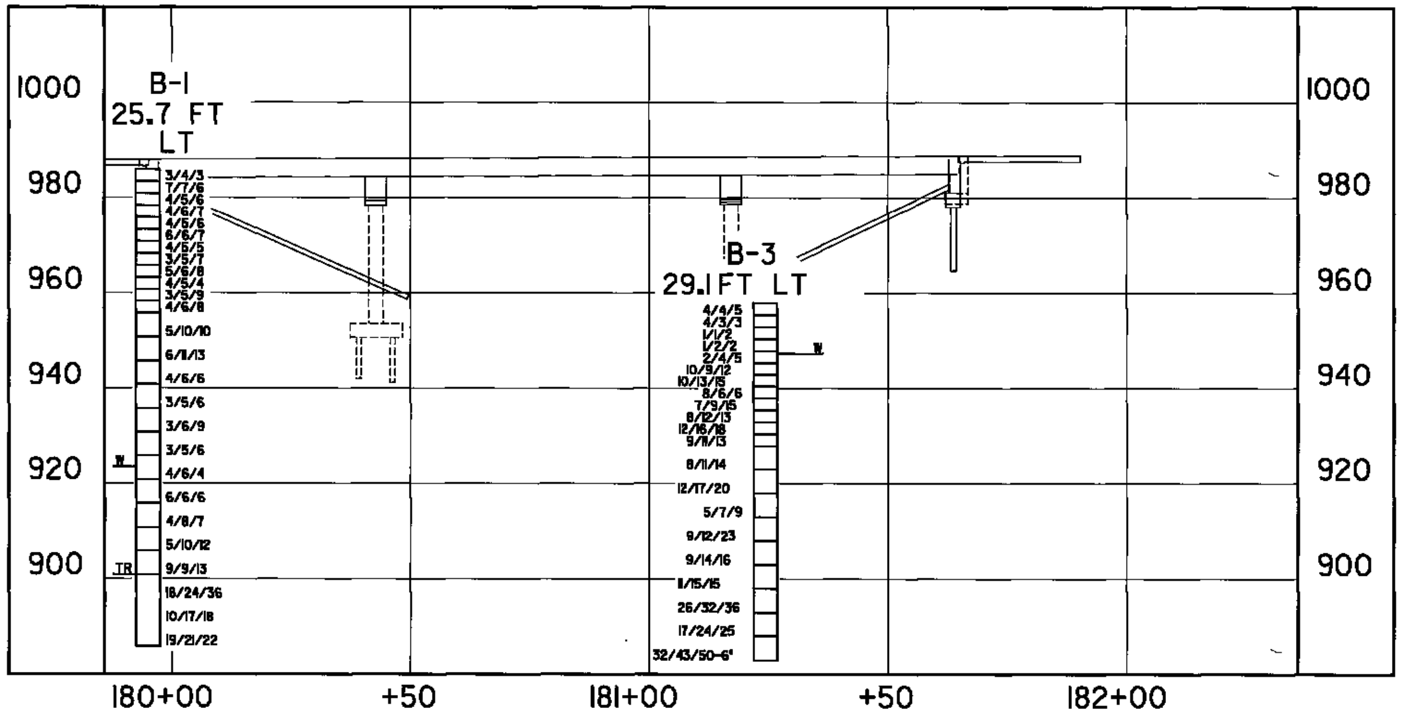
WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00

1/6

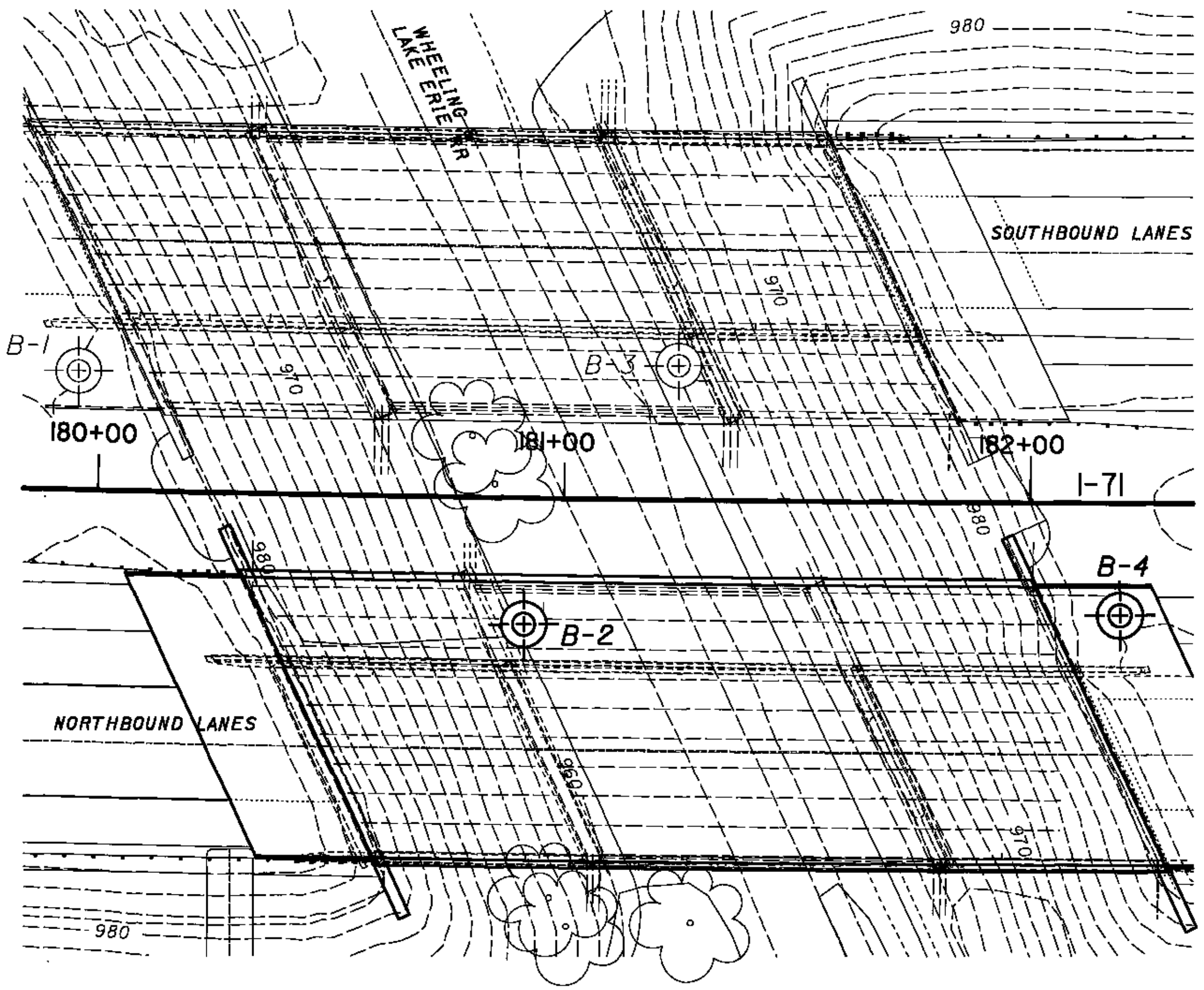
38/55

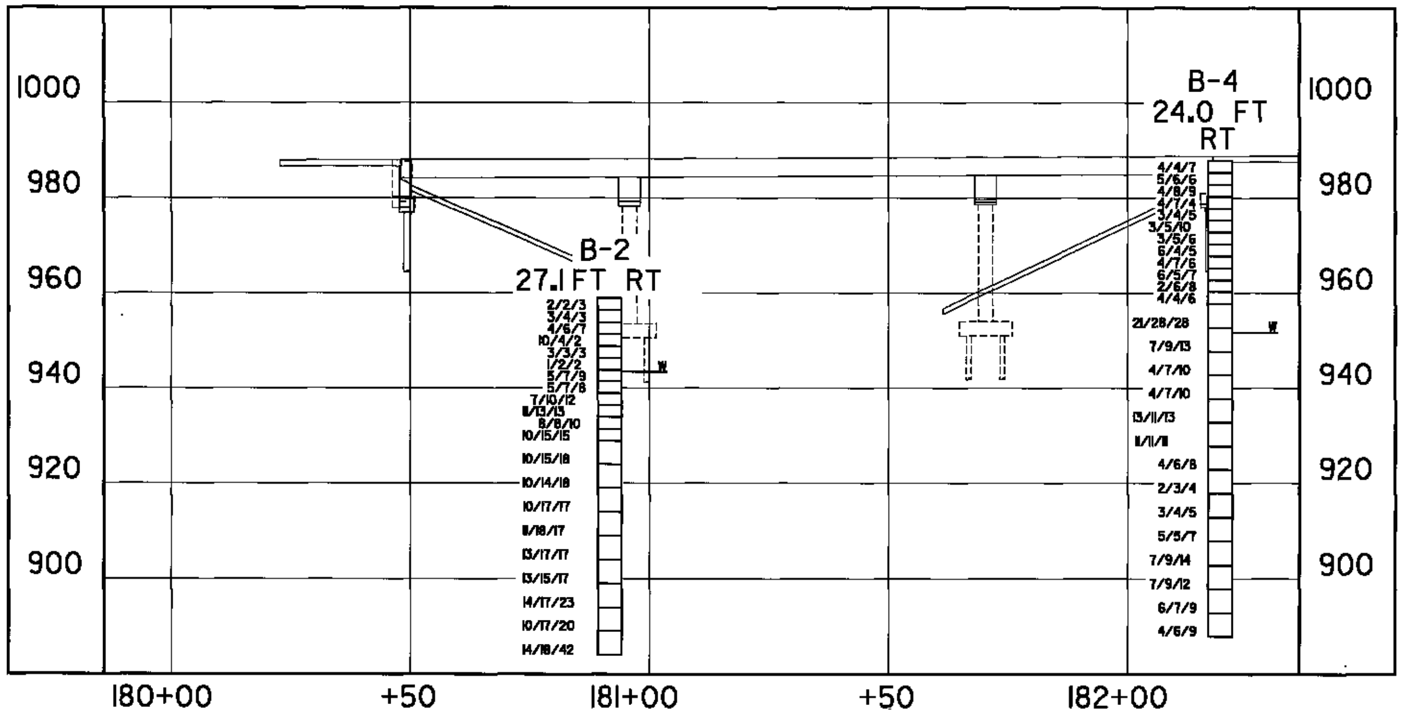
RESOURCE INTERNATIONAL INC. FILENAME: 0342-01-CVR.DGN
PROJECT NO. W-1169 DATE: 5/7/03





PROFILE FOR S.B. BORINGS ALONG ℄ OF I-71





PROFILE FOR N.B. BORINGS ALONG ℄ OF I-71

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-1169
FILENAME: 0342-02-PP.DGN
DATE: 5/7/03

N

0 10 20
HORIZONTAL SCALE IN FEET

CALCULATED	DATE 5/7/03	REVIEWED	DRAWN KAL
CHECKED GPH	DATE 5/7/03	REVIEWED	DATE

STRUCTURE FOUNDATION INVESTIGATION
MED-71-0342 OVER WHEELING & LAKE ERIE RR

WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00

2/6

39
55

Log of Boring

Date Started: 02/15/02 Sampler's Type 3.75" HSA Water Elev. Dry*

* CAVE-IN @ 37'

Date Finished: 02/15/02

Boring No. B-1 Station & Offset 179+95.38 25.70' Lt Surface Elev. 985.90 ft

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
985.9	0													
				2' - Topsoil 0.2 Brown changing to mottled brown and dark gray SANDY CLAY, some gravel, little silt.										
983.4		3 4 3	78		SS-1								13	VISUAL
980.9	5.0	7 7 6	78		SS-2								12	VISUAL
978.4		4 5 6	39		SS-3								13	VISUAL
975.9	10.0	4 6 7	83		SS-4								12	VISUAL
973.4		4 5 6	72		SS-5								12	VISUAL
970.9	15.0	6 6 7	44	-SS-6: ODOT A-6a	SS-6	7	9	14	32	38	24	10	12	A-4a
698.4		4 5 5	89		SS-7								15	VISUAL
965.9	20.0	3 5 7	56		SS-8								14	VISUAL
963.4		5 6 8	100		SS-9								14	VISUAL
960.9	25.0	4 5 4	78	25.5	SS-10								17	VISUAL
				Gray changing to brown SILTY CLAY, some sand, trace gravel.										
958.4		3 5 9	100		SS-11								14	VISUAL
955.9	30.0	4 6 8	22	-SS-12: ODOT A-6b	SS-12	8	7	12	46	27	23	7	18	A-4a
950.9	35.0	5 10 10	100		SS-13								14	VISUAL
				38.5 Gray SAND, little silt, trace gravel. 40.0										
945.9	40.0	6 11 13	61	Gray SILTY CLAY, some sand, trace gravel.	SS-14									VISUAL
940.9	45.0	4 6 6	56		SS-15									VISUAL
935.9	50.0	3 5 6	61		SS-16								15	VISUAL

Boring No. B-1 (CONTINUED)

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
930.9	55.0	3 6 9	100		SS-17									VISUAL
925.9	60.0	3 5 6	50	-SS-18: ODOT A-4a	SS-18	7	9	14	32	38	24	10	15	A-4a
				-groundwater initially encountered @ 62.4'										
920.9	65.0	4 6 4	0		SS-19									VISUAL
915.9	70.0	6 6 6	33		SS-20									VISUAL
910.9	75.0	4 8 7	44		SS-21								12	VISUAL
905.9	80.0	5 10 12	56		SS-22									VISUAL
				82.5 Gray SAND and GRAVEL, little clay, trace silt.										
900.9	85.0	9 9 13	100	85.0 Gray indurated CLAYEY SILT/highly weathered SILTSTONE.	SS-23									VISUAL
895.9	90.0	18 24 36	50		SS-24									VISUAL
890.9	95.0	10 17 18	28		SS-25									VISUAL
885.9	100.0	19 21 22	72	100.0	SS-26									VISUAL

Bottom of Boring = 100.0 feet

RESOURCE INTERNATIONAL, INC.
281 ENTERPRISE DRIVE
WESTERVILLE, OHIO 43081 (614)885-195

CALCULATED	DATE	CHECKED	DATE	REVIEWED	DRAWN
	5/7/03	GPH	5/7/03		KAL

STRUCTURE FOUNDATION INVESTIGATION
MED-71-0342 OVER WHEELING & LAKE ERIE RR

WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00

3 / 6

40 / 55

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-1169
FILENAME: 0342-03-DATA.DGN
DATE: 5/7/03

Log of Boring

Date Started: 03/05/02
Sampler's Type: 3.75" HSA
Water Elev.: Dry*
* CAVE-IN @ 27.5'
Date Finished: 03/05/02
Boring No.: B-2
Station & Offset: 180+91.64 27.09' Rt
Surface Elev.: 958.99 ft

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
959.0	0													
				6" - Topsoil 0.5										
956.5		2 2 3	56	Brown SILTY CLAY, little sand, trace gravel, trace organics. 2.5	SS-1								18	VISUAL
954.0	5.0	3 4 3	22	Black SAND, little silt, trace clay, trace gravel, trace organics (Peat?). 5.0	SS-2								32	VISUAL
951.5		4 6 7	61	Brown SAND, some silt, some gravel, little clay. 9.5	SS-3								13	VISUAL
949.0	10.0	10 4 2	67	Black CLAYEY SILT, little sand, trace gravel, trace organics (Peat)	SS-4A								15	VISUAL
948.0					SS-4B								157	VISUAL
946.5		3 3 3	44		SS-5								160	VISUAL
944.0	15.0	1 2 2	100	-groundwater initially encountered @ 15.5' 15.5	SS-6								108	VISUAL
941.5		5 7 9	78	Gray SAND, little silt, trace clay, trace gravel.	SS-7								21	VISUAL
939.0	20.0	5 7 8	56		SS-8								20	VISUAL
936.5		7 10 12	67		SS-9								19	VISUAL
934.0	25.0	11 13 13	78	25.0	SS-10								17	VISUAL
931.5		8 8 10	72	Mottled brown and gray changing to grayish brown CLAYEY SILT, little sand, trace gravel. -SS-11: ODOT A-4a	SS-11	8	7	12	46	27	23	7	17	A-4a
929.0	30.0	10 15 15	78		SS-12								15	VISUAL
924.0	35.0	10 15 18	39	35.0 Grayish brown SANDY SILT, little clay, trace gravel.	SS-13									VISUAL
919.0	40.0	10 14 18	78	40.0 Gray SANDY SILT, little clay, little gravel.	SS-14								20	VISUAL
914.0	45.0	10 17 17	89		SS-15									VISUAL
909.0	50.0	11 18 17	78	-SS-16: ODOT A-4a 50.0	SS-16	13	7	16	-64-		21	6	11	A-4a

Boring No. B-2 (CONTINUED)

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
				Brown SAND, some silt, little gravel, trace clay.										
904.0	55.0	13 17 17	89		SS-17									VISUAL
899.0	60.0	13 15 17	50	60.0 Gray CLAYEY SILT, some to little sand, trace gravel.	SS-18									VISUAL
894.0	65.0	14 17 23	67		SS-19								22	VISUAL
889.0	70.0	10 17 20	72		SS-20									VISUAL
884.0	75.0	14 18 42	67	75.0	SS-21								11	VISUAL

Bottom of Boring = 75.0 feet

RESOURCE INTERNATIONAL, INC.
281 ENTERPRISE DRIVE
WESTERVILLE, OHIO 43081 (614)885-1959

CALCULATED	CHECKED	DATE	DATE	REVIEWED	DRAWN
	GPH	5/7/03	5/7/03		KAL

STRUCTURE FOUNDATION INVESTIGATION
MED-71-0342 OVER WHEELING & LAKE ERIE RR

WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00

4/6
41
55

RESOURCE INTERNATIONAL INC. PROJECT NO. W-1169
FILENAME: 0342-04-DATA.DGN
DATE: 5/7/03

Log of Boring

Date Started: 03/06/02   Sampler's Type 3.75" HSA   Water Elev. Dry*
Date Finished: 03/06/02   * CAVE-IN @ 27.8'

Boring No. B-3   Station & Offset 181+24.33 29.07' Lt   Surface Elev. 957.94 ft

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.L.	W.C.	ODOT CLASS
957.9	0													
				12" - Topsoil 1.0										
955.4		4 4 5	100	Brown changing to mottled orange, brown and gray SILTY CLAY, little sand, trace gravel.	SS-1								14	VISUAL
952.9	5.0	4 3 3	100	6.0	SS-2								17	VISUAL
950.4		1 1 2	67	Black SANDY SILT, little clay, trace gravel, trace organics (Peat) -SS-3: ODOT A-4a	SS-3	1	13	26	-60-		NP	NP	99	A-4a
947.9	10.0	1 2 2	78	10.0	SS-4								58	VISUAL
945.4		2 4 5	89	Brown SAND, little silt, trace clay, trace gravel. -groundwater initially encountered @ 10.5'	SS-5								22	VISUAL
942.9	15.0	10 9 12	89		SS-6								20	VISUAL
940.4		10 13 15	72		SS-7								15	VISUAL
937.9	20.0	8 6 6	78		SS-8								15	VISUAL
935.4		7 9 15	56		SS-9								13	VISUAL
932.9	25.0	8 12 13	83	26.0	SS-10								15	VISUAL
930.4		12 16 18	72	Gray SILTY SAND, little clay, trace gravel.	SS-11								17	VISUAL
927.9	30.0	9 11 13	78	33.5	SS-12								20	VISUAL
922.9	35.0	8 11 14	100	Gray SILT, some clay, little sand, trace gravel. -SS-13: ODOT A-4b	SS-13	3	4	9	51	33	25	8	13	A-4b
917.9	40.0	12 17 20	72		SS-14									VISUAL
912.9	45.0	5 7 9	100		SS-15								14	VISUAL
907.9	50.0	9 12 23	100		SS-16									VISUAL

Boring No. B-3 (CONTINUED)

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.L.	W.C.	ODOT CLASS
902.9	55.0	9 14 16	78		SS-17								18	VISUAL
897.9	60.0	11 15 15	56	63.5	SS-18									VISUAL
892.9	65.0	26 32 36	100	Gray SAND, little silt, trace clay, trace gravel.	SS-19								20	VISUAL
887.9	70.0	17 24 25	100	73.5	SS-20									VISUAL
882.9	75.0	32 43 50/6"	44	Gray CLAYEY SILT, little sand, trace gravel. 75.0	SS-21								13	VISUAL

Bottom of Boring = 75.0 feet

RESOURCE INTERNATIONAL, INC.
281 ENTERPRISE DRIVE
WESTERVILLE, OHIO 43081 (614)885-195

CALCULATED
CHECKED GPH
DATE 5/7/03
DATE 5/7/03
REVIEWED
DRAWN KAL

STRUCTURE FOUNDATION INVESTIGATION
MED-71-0342 OVER WHEELING & LAKE ERIE RR

WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00

5/6

42
55

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-1169
FILENAME: 0342-05-DATA.DGN
DATE: 5/7/03

Log of Boring

Date Started: 02/18/02 Sampler's Type 3.75" HSA Water Elev. Dry*
Date Finished: 02/18/02 * CAVE-IN @ 40'
Boring No. B-4 Station & Offset 182+19.21 24.07' Rt Surface Elev. 987.88 ft

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
987.9	0													
985.4		4 4 7	72	2" - Topsoil 0.2 Mottled brown and gray changing to brown SANDY SILT, some clay, trace gravel.	SS-1								12	VISUAL
982.9	5.0	5 6 6	67		SS-2								14	VISUAL
980.4		4 8 9	28		SS-3								13	VISUAL
977.9	10.0	4 7 4	39		SS-4								16	VISUAL
975.4		3 4 5	56	-SS-5: ODOT A-4a	SS-5	16	13	23	-48-		25	10	12	A-4a
972.9	15.0	3 5 10	72		SS-6								16	VISUAL
970.4		3 5 6	89		SS-7								10	VISUAL
967.9	20.0	6 4 5	83		SS-8								13	VISUAL
965.4		4 7 6	50		SS-9								12	VISUAL
962.9	25.0	6 5 7	100		SS-10								14	VISUAL
960.4		2 6 8	50		SS-11								16	VISUAL
957.9	30.0	4 4 6	78	-SS-12: ODOT A-4a	SS-12	9	10	25	-56-		26	8	14	A-4a
952.9	35.0	21 28 28	61	34.0 Brown SAND and GRAVEL, little silt, trace clay. -groundwater initially encountered @ 36.0' 36.0 Brown changing to gray SAND, little silt, trace gravel.	SS-13									VISUAL
947.9	40.0	7 9 13	83		SS-14									VISUAL
942.9	45.0	4 7 10	61		SS-15								14	VISUAL
937.9	50.0	4 7 10	100		SS-16									VISUAL

Boring No. B-4 (CONTINUED)

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
				51.0 Gray SAND, little silt, trace gravel. -"heaving" sands encountered @51.0'										
932.9	55.0	13 11 13	22		SS-17									VISUAL
927.9	60.0	11 11 11	17		SS-18								20	VISUAL
922.9	65.0	4 6 8	28		SS-19									VISUAL
917.9	70.0	2 3 4	72		SS-20									VISUAL
912.9	75.0	3 4 5	100		SS-21								19	VISUAL
907.9	80.0	5 5 7	100	81.0 Gray CLAYEY SILT, some sand, trace gravel.	SS-22									VISUAL
902.9	85.0	7 9 14	56	84.5 Gray SILTY SAND, trace gravel. 85.5	SS-23A									VISUAL
901.9				Gray CLAYEY SILT, some sand, trace gravel.	SS-23B									VISUAL
897.9	90.0	7 9 12	44		SS-24									VISUAL
892.9	95.0	6 7 9	44		SS-25								17	VISUAL
887.9	100.0	4 6 9	28	98.0 Gray SAND, some sand, little silt, trace gravel. 100.0	SS-26									VISUAL

Bottom of Boring = 100.0 feet

RESOURCE INTERNATIONAL, INC.
281 ENTERPRISE DRIVE
WESTERVILLE, OHIO 43081 (614)885-1959

CALCULATED	DATE	REVIEWED	DRAWN
	5/7/03		KAL
CHECKED GPH	DATE 5/7/03		

STRUCTURE FOUNDATION INVESTIGATION
MED-71-0342 OVER WHEELING & LAKE ERIE RR

WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00

6 / 6

43
55

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-1169
FILENAME: 0342-06-DATA.DGN
DATE: 5/7/03

GEOLOGY OF THE SITE

GEOLOGIC REFERENCES INDICATE THE SITE LIES WITHIN THE GLACIATED, GENTLY ROLLING MISSISSIPPI VALLEY PLAIN. IN GENERAL, THE WISCONSIN GLACIER PASSED OVER THE AREA LEAVING A RATHER THICK DEPOSIT OF DRIFT. THE SITE IS LOCATED WITHIN AN ANCIENT BURIED VALLEY WITH DEPTHS ANTICIPATED TO BE GREATER THAN 100 FEET DEEP. THE DRIFT IS EXPECTED TO CONTAIN SUBSTANTIAL DEPOSITS OF GRANULAR MATERIAL. KAMES, KAME TERRACES, AND SAND AND GRAVEL OUTWASH DEPOSITS ARE ANTICIPATED IN THE IMMEDIATE AREA. THE UNDERLYING BEDROCK IS OF THE CUYAHOGA FORMATION AND CONSISTS OF SHALES AND SANDSTONES.

THE BRIDGE SITE IS LOCATED ON THE NORTHERN FRINGE OF THE KILLBUCK CREEK VALLEY WITH KILLBUCK CREEK BEING THE PREDOMINANT DRAINAGE FEATURE IN THE AREA. THE WESTFIELD CENTER, OHIO USGS QUADRANGLE MAP INDICATES SIGNIFICANT SAND AND GRAVEL MINING OPERATIONS IN THE IMMEDIATE VICINITY OF THE BRIDGE SITE, PRIMARILY TO THE WEST. THE CRESTON, OHIO USGS QUADRANGLE MAP INDICATES A LOW-LYING ARTIFICIALLY DRAINED AREA IMMEDIATELY SOUTH OF THE BRIDGE SITE. IN THE IMMEDIATE VICINITY OF THE BRIDGE, GRADES ARE SLOPING WITH ELEVATION CHANGES OF ABOUT 40 FEET FROM SOUTH TO NORTH. THE REAR AND FORWARD APPROACH EMBANKMENTS FOR THE BRIDGE ARE ELEVATED APPROXIMATELY 35 FEET AND 20 FEET RESPECTFULLY ABOVE THE SURROUNDING GRADES TO PROVIDE THE NECESSARY CLEARANCE ABOVE THE WHEELING AND LAKE ERIE RAILROAD TRACKS.

EXPLORATION

DURING THE PERIOD OF FEBRUARY 14 THROUGH AUGUST 23, 2002, FOUR TEST BORINGS WERE DRILLED AT THE LOCATIONS SHOWN ON SHEET 2. THE BORINGS LOCATED IN THE VICINITY OF EACH PIER WERE ACCESSED USING AN ATV-MOUNTED DRILLING RIG EQUIPPED WITH AN AUTOMATIC HAMMER. THE BORINGS DRILLED AT THE ABUTMENT LOCATIONS WERE ACCESSED WITH A TRUCK-MOUNTED DRILL RIG EQUIPPED WITH A SAFETY HAMMER. THE BORINGS WERE DRILLED USING 3.75-INCH INSIDE DIAMETER HOLLOW STEM AUGERS. AT REGULAR INTERVALS, DISTURBED BUT REPRESENTATIVE SOIL SAMPLES WERE OBTAINED USING A 2-INCH OUTSIDE DIAMETER (OD) SPLIT-BARREL SAMPLER DRIVEN INTO THE SOIL BY BLOWS FROM A 140-POUND HAMMER FREE FALLING 30 INCHES (STANDARD PENETRATION TEST [SPT]

INVESTIGATIONAL FINDINGS AND OBSERVATIONS

BORING B-1 WAS DRILLED TO A DEPTH OF 95 FEET IN THE VICINITY OF THE EXISTING REAR ABUTMENT. THIS BORING FIRST ENCOUNTERED APPROXIMATELY 35 FEET OF EMBANKMENT FILL CONSISTING PRIMARILY OF VERY STIFF SANDY SILT UNDERDRAIN BY SIMILAR NATURAL SOILS TO A DEPTH OF 37 FEET. BENEATH THESE SANDY SILT SOILS AN APPROXIMATELY 5-FOOT THICK LAYER OF MEDIUM DENSE SAND WAS ENCOUNTERED EXTENDING TO A DEPTH OF 42 FEET. FROM A DEPTH OF 42 FEET UNTIL THE TERMINAL DEPTH OF THE BORING VERY STIFF TO HARD SANDY SILTS WERE PENETRATED

BORING B-4 WAS DRILLED IN THE VICINITY OF THE EXISTING FORWARD ABUTMENT TO A DEPTH OF 100 FEET. THIS BORING FIRST ENCOUNTERED A 32-FOOT THICK LAYER OF VERY STIFF CLAYEY SILT OF WHICH THE FIRST 18 FEET WAS EMBANKMENT FILL. BENEATH THE CLAYEY SILT AND EXTENDING TO A DEPTH OF 46 FEET WAS A LAYER OF STIFF TO VERY STIFF SILTY CLAY UNDERLAIN BY A 21-FOOT THICK LAYER OF GRANULAR SOILS CONSISTING OF MEDIUM DENSE TO DENSE SANDS AND SILTY SANDS. BENEATH THIS GRANULAR STRATUM AND EXTENDING TO THE TERMINAL DEPTH OF THE BORING WAS A LAYER OF VERY STIFF SILTY CLAY.

BORING B-2 FIRST ENCOUNTERED APPROXIMATELY 5.5 FEET OF FILL ASSOCIATED WITH CONSTRUCTION OF THE RAILROAD. BENEATH THIS FILL APPROXIMATELY 10 FEET OF MEDIUM STIFF TO STIFF SANDY SILT WAS ENCOUNTERED UNDERLAIN BY 8 FEET OF MEDIUM STIFF SILTY CLAY. BENEATH THE SILTY CLAY LAYER, AN APPROXIMATE 7-FOOT THICK LAYER OF STIFF CLAYEY SILT WAS ENCOUNTERED UNDERLAIN BY AN APPROXIMATE 32-FOOT THICK LAYER OF PREDOMINANTLY GRANULAR SOIL COMPRISED OF SILTY SAND AND SAND WHICH WAS DESCRIBED AS VERY STIFF OR MEDIUM DENSE. BENEATH THIS GRANULAR LAYER, VERY STIFF CLAYEY SILT AND SANDY SILT SOILS WERE ENCOUNTERED TO THE TERMINAL DEPTH OF THE BORING.

BORING B-3 FIRST ENCOUNTERED AN APPROXIMATE 3-FOOT THICK LAYER OF SAND OVERLYING A 2-FOOT THICK LAYER OF VERY SOFT SILTY CLAY. BENEATH THE VERY SOFT CLAY, A 40-FOOT THICK LAYER OF MEDIUM STIFF TO STIFF COHESIVE SOILS COMPRISED OF CLAYEY SILT, SANDY SILT, AND CLAY AND SILT WAS ENCOUNTERED WHICH WAS UNDERLAIN BY A 23-FOOT THICK LAYER OF VERY STIFF SILT.

THIS SILT LAYER WAS UNDERLAIN BY A 5-FOOT THICK LAYER OF MEDIUM DENSE SAND FOLLOWED BY A 6.5-FOOT THICK LAYER OF VERY STIFF TO HARD SANDY SILT, WHICH EXTENDED TO THE TERMINAL DEPTH OF THE BORING.

GROUNDWATER WAS REPORTED IN ALL OF THE BORINGS DRILLED FOR THIS INVESTIGATION. THE RESULTS OF THE GROUNDWATER OBSERVATIONS ARE CONTAINED ON THE INDIVIDUAL BORING LOGS CONTAINED SHEETS 3 THROUGH 6. GROUNDWATER ELEVATIONS ARE BELIEVED TO BE AT DEPTHS THAT WILL PLACE NO SIGNIFICANT LIMITATIONS ON BRIDGE CONSTRUCTION.

LEGEND

⊕	PRESS AND/OR DRIVE SAMPLE AND/OR CORE BORING LOCATION-PLAN VIEW.
├─┤	HORIZONTAL BAR ON BORING LOG INDICATES THE DEPTH THE SAMPLE WAS TAKEN.
X/Y/Z	FIGURES BESIDE THE BORING LOG IN PROFILE INDICATE THE NUMBER OF BLOWS FOR STANDARD PENETRATION TEST.

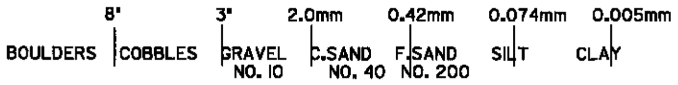
X = NUMBER OF BLOWS FOR FIRST 6 INCHES

Y = NUMBER OF BLOWS FOR SECOND 6 INCHES

Z = NUMBER OF BLOWS FOR THIRD 6 INCHES

W ———	INDICATES FREE WATER LEVEL
▼ ———	INDICATES STATIC WATER LEVEL

PARTICLE SIZE DEFINITIONS



GENERAL INFORMATION

DRIVE SAMPLES

DRIVE SAMPLE BORINGS ARE MADE BY MEANS OF A MECHANICALLY-POWERED, ROTARY-TYPE DRILL RIG EMPLOYING A 2.0-INCH O.D., 1.375-INCH I.D., SPLIT-SPOON SAMPLER, AT 1.5-FOOT TO 5.0-FOOT DEPTH INTERVALS, DRIVEN BY MEANS OF A 140-POUND HAMMER WITH A FREE FALL OF 30 INCHES. THE NUMBER OF BLOWS REQUIRED TO DRIVE THE SAMPLER THREE 6.0-INCH INCREMENTS IS CONSIDERED THE STANDARD PENETRATION TEST.

PRESS SAMPLES

PRESS SAMPLES ARE TAKEN BY MEANS OF MECHANICAL-POWERED, ROTARY-TYPE DRILL RIG, EMPLOYING A 3.0-INCH O.D. THIN-WALL PRESS SAMPLING TUBE. THE PRESS SAMPLING TUBE IS ADVANCED BY CONTINOUSUNIFORM PRESSURE APPLIED BY THE DRILL RIG.

CORE BORINGS

CORE BORINGS ARE MADE BY MEANS OF MECHANICALLY-POWERED, ROTARY-TYPE DRILL RIG, EMPLOYING AN NW-PAM CORE BARREL WITH AN INDUSTRIAL DIAMOND CUTTING HEAD.

SAMPLING AND TESTING

THE BORING LOG SHEETS SHOW A GRAPHIC PLOT OF THE INFORMATION OBTAINED, INCLUDING DEPTH AND ELEVATION OF THE SAMPLE, TYPE OF SAMPLE, NUMBER OF BLOWS FOR THE STANDARD PENETRATION TEST IN THREE 6.0 INCH INCREMENTS, AND A SAMPLE DESCRIPTION BASED ON LABORATORY TEST RESULTS, UTILIZING THE ODOT CLASSIFICATION SYSTEM. RESULTS OF STRENGTH AND CONSOLIDATION TESTING, IF PERFORMED ON UNDISTURBED SAMPLES, APPEAR GRAPHICALLY ON SEPARATE ENCLOSURES. ROCK SAMPLES ARE DISPLAYED ON THE LOG SHEETS, INCLUDING DEPTH AND ELEVATION OF THE SAMPLE, AMOUNT OF RECOVERY, AND A VISUAL CLASSIFICATION BASED ON TYPE, COLOR, DEGREE OF HARDNESS, GRAIN SIZE, DETERIORATION, BEDDING, ACID REACTION, AND OTHER QUALIFYING FACTORS.

AT DEPTHS WHERE MATERIALS ARE BOULDERY OR GRAVELLY TO THE EXTENT THAT A SAMPLER CANNOT BE UTILIZED, A WASH SAMPLE IS PROCURED AND VISUALLY CLASSIFIED, IN ORDER TO DETERMINE THE GENERAL CHARACTERISTICS OF THE MATERIAL. THESE SAMPLES ARE NOT CONSIDERED SUFFICIENTLY REPRESENTATIVE TO WARRANT LABORATORY TESTING.

THE STRUCTURE FOUNDATION INVESTIGATION SHEETS CONTAIN ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN. ASPECT OF THE PROJECT. MORE INFORMATION, IF ANY MAY BE OBTAINED IN DISTRICT 3, THE OFFICE OF MATERIALS MANAGEMENT, 1600 WEST BROAD STREET, COLUMBUS, OHIO 43223, OR THE OFFICE OF STRUCTURAL ENGINEERING AT 1980 WEST BROAD STREET, COLUMBUS, OHIO 43223.

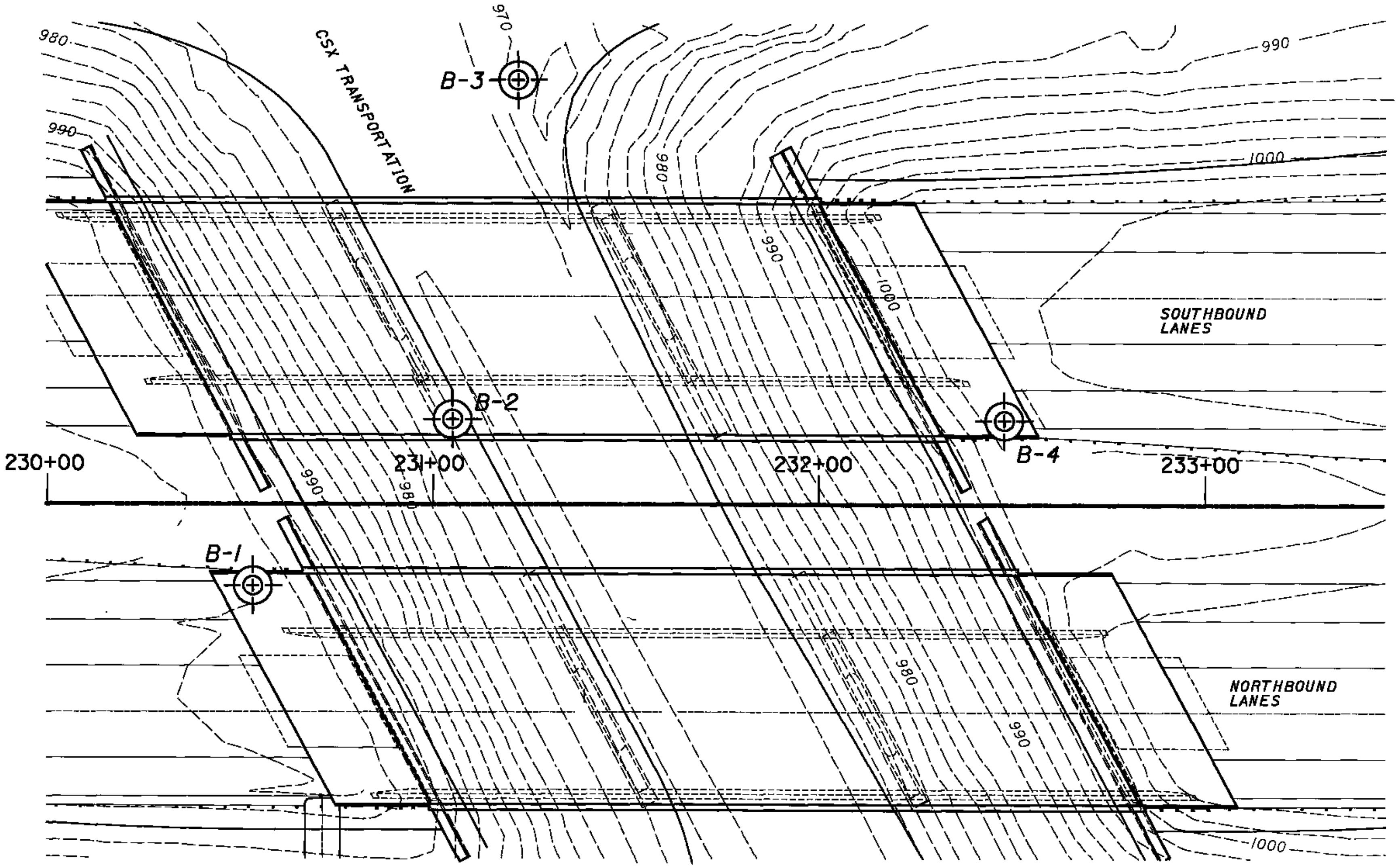
RESOURCE INTERNATIONAL INC.
PROJECT NO. W-1169
FILENAME: 0437-01-CVR.DGN
DATE: 5/7/03

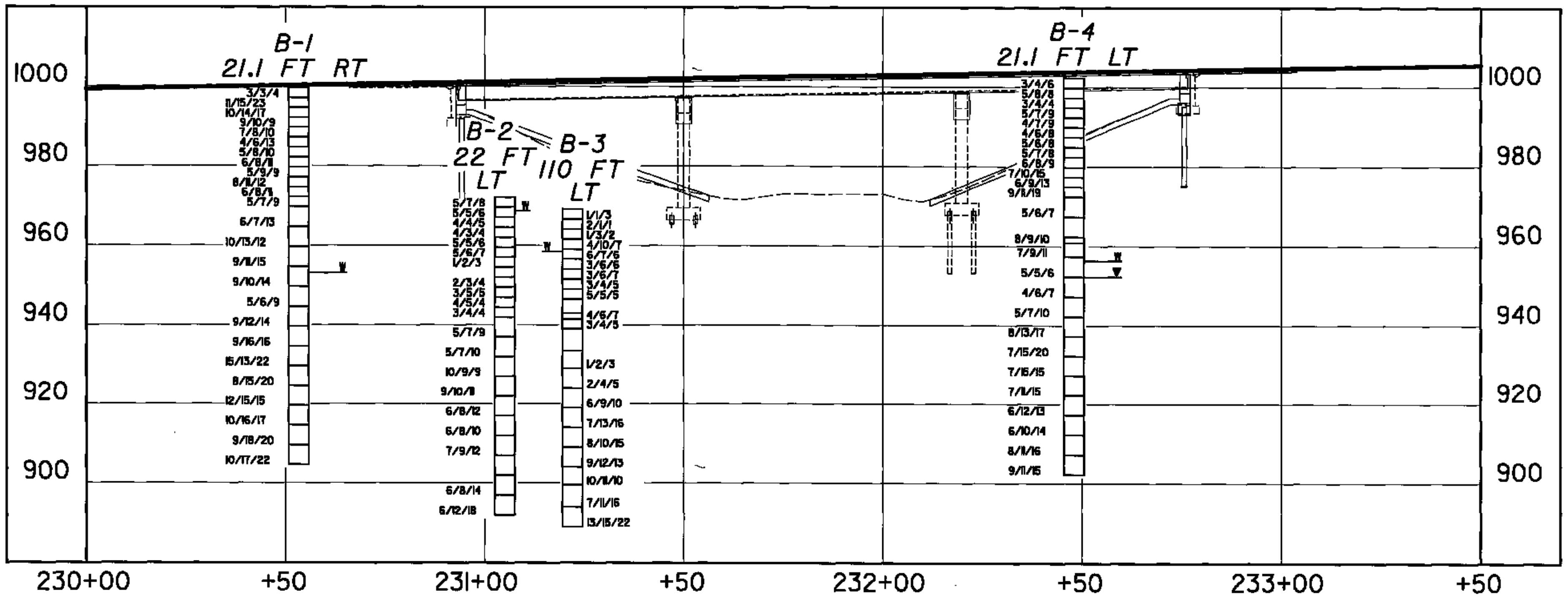
RESOURCE INTERNATIONAL, INC.
281 ENTERPRISE DRIVE
WESTERVILLE, OHIO 43081 (614)885-195

CALCULATED	DATE 5/7/03	REVIEWED	DRAWN KAL
CHECKED GPH	DATE 5/7/03		

STRUCTURE FOUNDATION INVESTIGATION
MED-71-0437 OVER CSX TRANSPORTATION RR

WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00





PROFILE ALONG ℄ OF I-71

CALCULATED

CHECKED GPH

DATE 5/7/03

DATE 5/7/03

REVIEWED

REVIEWED

DRAWN KAL

DATE

STRUCTURE FOUNDATION INVESTIGATION
MED-71-0437 OVER CSX TRANSPORTATION RR

WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00

2/6

45/55

RESOURCE INTERNATIONAL, INC.
PROJECT NO. W-1169

FILENAME: 0437-02-PP.DGN
DATE: 5/7/03

Log of Boring

Date Started: 02/14/02
Date Finished: 02/15/02
Sampler's Type 3.75" HSA
Water Elev. Seepage
* CAVE-IN @ 58.2'
Boring No. B-1
Station & Offset 230+53.28 21.10' Rt
Surface Elev. 999.63 ft

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	PHYSICAL CHARACTERISTICS								
						% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
999.6	0													
				6" - Topsoil 0.5										
997.1		3 3 4	50	Brown SANDY SILT, some clay, trace gravel, trace organics (Fill). -cobbles and gravel enountered to 32.0' 3.5	SS-1								10	VISUAL
994.6	5.0	11 15 23	72	Brown SILTY CLAY, little sand, trace gravel, trace organics (Fill). 6.0	SS-2								13	VISUAL
992.1		10 14 17	67	Orangish brown SILTY SAND, some clay, trace gravel (Fill). 8.5	SS-3								12	VISUAL
989.6	10.0	9 10 9	78	Mottled brown and gray changing to brown SANDY SILT, some clay, little gravel (Fill).	SS-4								12	VISUAL
987.1		7 8 10	56	-SS-5: ODOT A-4a	SS-5	13	10	22	30	25	23	9	13	A-4a
984.6	15.0	4 6 13	72		SS-6								16	VISUAL
982.1		5 8 10	44		SS-7								13	VISUAL
979.6	20.0	6 8 11	83		SS-8								14	VISUAL
977.1		5 9 9	78		SS-9								15	VISUAL
974.6	25.0	8 11 12	44		SS-10								13	VISUAL
972.1		6 8 11	67		SS-11								13	VISUAL
969.6	30.0	5 7 9	72		SS-12								13	VISUAL
				32.0										
964.6	35.0	6 7 13	89	Mottled brown and gray changing to brown SANDY SILT, some clay, little gravel. 37.0	SS-13									VISUAL
959.6	40.0	10 13 12	67	Brown SAND, trace silt, trace gravel. 42.0	SS-14									VISUAL
954.6	45.0	9 11 15	78	Mottled brown and gray changing to gray SANDY SILT, some clay, little gravel.	SS-15								13	VISUAL
				-groundwater initially encountered @ 46.5'										
949.6	50.0	9 10 14	100		SS-16									VISUAL

Boring No. B-1 (CONTINUED)

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	PHYSICAL CHARACTERISTICS								
						% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
946.6	55.0	5 6 9	100	-SS-17: ODOT A-4a	SS-17	15	14	15	32	24	22	8	12	A-4a
939.6	60.0	9 12 14	72		SS-18									VISUAL
				-groundwater encountered @ 62.0'										
934.6	65.0	9 16 16	72		SS-19								10	VISUAL
929.6	70.0	15 13 22	83		SS-20									VISUAL
924.6	75.0	8 15 20	78		SS-21								14	VISUAL
919.6	80.0	12 15 15	78		SS-22									VISUAL
914.6	85.0	10 16 17	83		SS-23								7	VISUAL
909.6	90.0	9 18 20	78		SS-24									VISUAL
904.6	95.0	10 17 22	83	95.0	SS-25								16	VISUAL

Bottom of Boring = 95.0 feet

RESOURCE INTERNATIONAL, INC. PROJECT NO. W-1169
FILENAME: 0437-03-DATA.DGN
DATE: 5/7/03

RESOURCE INTERNATIONAL, INC.
281 ENTERPRISE DRIVE
WESTERVILLE, OHIO 43081 (614)885-1959

CALCULATED	DATE 5/7/03	REVIEWED	DRAWN KAL
CHECKED GPH	DATE 5/7/03		

STRUCTURE FOUNDATION INVESTIGATION
MED-71-0437 OVER CSX TRANSPORTATION RR

WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00

3 / 6

Log of Boring

* THE GROUNDWATER LEVEL UPON COMPLETION OF THE DRILLING PROCESS COULD NOT BE DETERMINED, DUE TO USE OF WASH WATER DURING THE CORING PROCESS.

Date Started: 08/22/02　Sampler's Type 3.75" HSA　Water Elev. N/A*
Date Finished: 08/22/02
Boring No. B-2　Station & Offset 231+05 22' Lt　Surface Elev. 972 ft

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	PHYSICAL CHARACTERISTICS % AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
972.0	0			3" - Topsoil 0.3										
969.5		5 7 8	61	FILL Brown CLAYEY SILT, little sand, trace gravel, trace organics. 3.4 -groundwater initially encountered @ 3.4'	SS-1								11	VISUAL
967.0	5.0	5 5 6	56	FILL 5.6 Black SAND, some gravel, (slag, brick fragments), little silt, trace clay.	SS-2								34	VISUAL
964.5		4 4 5	67	Mottled brown and gray changing to brown SANDY SILT, some clay, trace gravel.	SS-3								21	VISUAL
962.0	10.0	4 3 4	0		SS-4									VISUAL
959.5		5 5 6	83		SS-5								19	VISUAL
957.0	15.0	5 6 7	67	-SS-6: ODOT A-4a 15.5	SS-6	10	13	17	34	26	27	9	16	A-4a
954.5		1 2 3	67	Gray SILTY CLAY, little sand, trace gravel.	SS-7								14	VISUAL
952.5	20.0		100		ST-8									VISUAL
949.5		2 3 4	78	23.5	SS-9								16	VISUAL
947.0	25.0	3 5 5	39	Gray CLAYEY SILT, some sand, trace gravel. -SS-10: ODOT A-4a	SS-10	12	11	16	34	27	20	5	14	A-4a
		4 5 4	56		SS-11								15	VISUAL
942.0	30.0	3 4 4	89	30.6 Gray SILTY SAND, some clay, little gravel.	SS-12								12	VISUAL
937.0	35.0	5 7 9	56		SS-13									VISUAL
932.0	40.0	5 7 10	100		SS-14								11	VISUAL
927.0	45.0	10 9 9	78		SS-15									VISUAL
922.0	50.0	9 10 11	72	-SS-16: ODOT A-4a	SS-16	15	16	23	-47-		18	7	9	A-4a

Boring No. B-2 (CONTINUED)

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	PHYSICAL CHARACTERISTICS % AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
				51.3 Gray SAND, trace silt, trace clay. -"heaving" sands encountered from 51.3' to 57.2'										
917.0	55.0	6 8 12	56		SS-17									VISUAL
				57.2 Gray SILTY SAND, trace clay, trace sand, trace gravel.										
912.0	60.0	6 8 10	44		SS-18								21	VISUAL
				62.5 Gray CLAYEY SILT, some sand, trace gravel.										
907.0	65.0	7 9 12	39		SS-19									VISUAL
				66.6 Gray SANDY SILT, some clay, trace gravel.										
902.5	70.0		67		ST-20									VISUAL
897.0	75.0	6 8 14	39		SS-21								17	VISUAL
892.0	80.0	6 12 18	50	80.0	SS-22									VISUAL

Bottom of Boring = 80.0 feet

RESOURCE INTERNATIONAL, INC.
281 ENTERPRISE DRIVE
WESTERVILLE, OHIO 43081 (614)885-1959

CALCULATED　DATE 5/7/03
CHECKED GPH　DATE 5/7/03
REVIEWED
DRAWN KAL

STRUCTURE FOUNDATION INVESTIGATION
MED-71-0437 OVER CSX TRANSPORTATION RR

WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00

4/6

47
55

RESOURCE INTERNATIONAL INC.　FILENAME: 0437-04-DATA.DGN
PROJECT NO. W-1169　DATE: 5/7/03

Log of Boring

- THE GROUNDWATER LEVEL UPON COMPLETION OF THE DRILLING PROCESS COULD NOT BE DETERMINED, DUE TO USE OF WASH WATER DURING THE CORING PROCESS.

Date Started: 08/23/02 Sampler's Type 3.75" HSA Water Elev. N/A*

Date Finished: 08/23/02

Boring No. B-3 Station & Offset 231+22 10' Lt Surface Elev. 969 ft

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	PHYSICAL CHARACTERISTICS								
						% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
969.0	0													
966.5		1 1 3	56	Black SAND, some gravel trace silt. 3.3	SS-1								15	VISUAL
964.0	5.0	2 1 1	33	Dark brown SILTY CLAY, little sand, trace gravel. 5.5	SS-2								30	VISUAL
961.5		1 3 2	44	Mottled brown and gray CLAYEY SILT, little sand, trace gravel.	SS-3								11	VISUAL
959.0	10.0	4 10 7	61	10.5 -groundwater initially encountered @ 10.5'	SS-4								14	VISUAL
956.5		6 7 6	67	Gray SANDY SILT, some clay, little gravel.	SS-5								11	VISUAL
954.0	15.0	3 6 6	22	-SS-6: ODOT A-4a	SS-6	12	12	17	33	26	21	6	13	A-4a
951.5		3 6 7	94		SS-7								14	VISUAL
949.0	20.0	3 4 5	72		SS-8								15	VISUAL
946.5		5 5 5	50		SS-9								15	VISUAL
944.0	25.0		63		ST-10									VISUAL
941.5		4 6 7	72		SS-11								18	VISUAL
939.0	30.0	3 4 5	78		SS-12								15	VISUAL
934.0	35.0		58	35.3 Gray CLAY and SILT, little sand, trace gravel.	ST-13									VISUAL
929.0	40.0	1 2 3	100	-SS-14: ODOT A-4a	SS-14	5	7	11	38	39	26	10	19	A-4a
924.0	45.0	2 4 5	89	45.2 Gray SILT, some clay, trace sand.	SS-15									VISUAL
919.0	50.0	6 9 10	83	-SS-16: ODOT A-4b	SS-16	0	0	7	62	31	22	6	18	A-4b

Boring No. B-3 (CONTINUED)

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	PHYSICAL CHARACTERISTICS								
						% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
914.0	55.0	7 13 16	100		SS-17									VISUAL
909.0	60.0	8 10 15	56		SS-18								13	VISUAL
904.0	65.0	9 12 13	61		SS-19									VISUAL
899.5	70.0	10 11 10	67	68.5 Gray SILTY SAND, little clay, trace gravel.	SS-20								21	VISUAL
894.0	75.0	7 11 16	83	73.5 Gray SANDY SILT, some clay, trace gravel.	SS-21									VISUAL
889.0	80.0	13 15 22	83	80.0	SS-22								23	VISUAL

Bottom of Boring = 80.0 feet

RESOURCE INTERNATIONAL, INC.
281 ENTERPRISE DRIVE
WESTERVILLE, OHIO 43081 (614)885-1959

CALCULATED | CHECKED GPH
DATE 5/7/03 | DATE 5/7/03
REVIEWED
DRAWN KAL

STRUCTURE FOUNDATION INVESTIGATION
MED-71-0437 OVER CSX TRANSPORTATION RR

WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00

5/6

48
55

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-1169
FILENAME: 0437-05-DATA.DGN
DATE: 5/7/03

Log of Boring

Date Started: 02/18/02　Sampler's Type 3.75" HSA　Water Elev. 50.0 ft*

Date Finished: 02/19/02　* CAVE-IN @ 58.2'

Boring No. B-4　Station & Offset 232+48.01　21.08' Lt　Surface Elev. 1002.30 ft

ELEV (FT)	DEPTH (FT)	STD. PEN/ ROD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
1002.3	0													
				6" - Topsoil 0.5										
997.8		3 4 6	0	Brown and mottled brown and gray CLAYEY SILT, some sand, little gravel (Possible Fill).	AS-1								14	VISUAL
995.3	5.0	5 8 8	33		SS-2								12	VISUAL
992.8		3 4 4	72	-SS-3: ODOT A-6a	SS-3	16	7	13	38	26	28	11	15	A-6a
990.3	10.0	5 7 9	100		SS-4								14	VISUAL
987.8		4 7 9	89		SS-5								14	VISUAL
985.3	15.0	4 6 8	44		SS-6								16	VISUAL
982.8		5 6 8	0		AS-7								15	VISUAL
980.3	20.0	5 7 8	78		SS-8								13	VISUAL
977.8		6 8 9	89		SS-9								16	VISUAL
975.3	25.0	7 10 15	78		SS-10								18	VISUAL
972.8		6 9 13	72	28.5	SS-11								15	VISUAL
970.3	30.0	9 11 19	78	Brown and mottled brown and gray CLAYEY SILT, some sand, little gravel. 32.0	SS-12								14	VISUAL
				Gray SILTY CLAY, little sand, trace gravel.										
965.3	35.0	5 6 7	89		SS-13								17	VISUAL
970.8	40.0				ST-14									VISUAL
958.8		8 9 10	100		SS-15									VISUAL
955.3	45.0	7 9 11	100	-SS-16: ODOT A-6a -groundwater initially encountered @ 46.0' 46.0	SS-16	6	7	11	37	39	27	11	17	A-6a
				Gray SAND, trace gravel, trace to little silt.										
950.3	50.0	5 5 6	72		SS-17									VISUAL

Boring No. B-4 (CONTINUED)

ELEV (FT)	DEPTH (FT)	STD. PEN/ ROD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
945.3	55.0	4 6 7	72		SS-18									VISUAL
				58.5										
940.3	60.0	5 7 10	56	Brown changing to gray SILTY SAND, trace gravel.	SS-19									VISUAL
935.3	65.0	8 13 17	22		SS-20								19	VISUAL
927.3	70.0	7 15 20	56		SS-21									VISUAL
925.3	75.0	7 15 15	78		SS-22									VISUAL
				77.0										
				Gray SILTY CLAY, some sand, trace gravel.										
917.3	80.0	7 11 15	72		SS-23								21	VISUAL
912.3	85.0	6 12 13	89		SS-24									VISUAL
907.3	90.0	6 10 14	83		SS-25									VISUAL
902.3	95.0	8 11 16	89		SS-26								19	VISUAL
897.3	00.0	9 11 15	94	100.0	SS-27									VISUAL

Bottom of Boring = 100.0 feet

RESOURCE INTERNATIONAL, INC.
281 ENTERPRISE DRIVE
WESTERVILLE, OHIO 43081　(614)885-195

CALCULATED	DATE 5/7/03	REVIEWED	DRAWN KAL
CHECKED GPH	DATE 5/7/03		

STRUCTURE FOUNDATION INVESTIGATION
MED-71-0437 OVER CSX TRANSPORTATION RR

WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00

6 / 6

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-1169
FILENAME: 0437-06-DATA.DGN
DATE: 5/7/03

GEOLOGY OF THE SITE

GEOLOGIC REFERENCES INDICATE THE SITE LIES WITHIN THE GLACIATED RATHER GENTLY SLOPING MISSISSIPPI VALLEY PLAIN. IN GENERAL, THE WISCONSIN GLACIER PASSED OVER THE AREA LEAVING RATHER THICK DEPOSITS OF DRIFT AND END MORAIN. THE DEPTH TO BEDROCK IS VARIABLE IN THE AREA BUT CAN BE ANTICIPATED TO BE LESS THAN 100 FEET IN THE IMMEDIATE VICINITY. THE UNDERLYING BEDROCK IS OF THE CUYAHOGA FORMATION AND CONSISTS OF SHALES AND SANDSTONES.

THE BRIDGE SITE SPANS CAMEL CREEK, WHICH PROVIDES IMMEDIATE DRAINAGE OF THE AREA. CAMEL CREEK JOINS KILLBUCK CREEK APPROXIMATELY 9,000 FEET SOUTHWEST OF THE SITE. IN THE IMMEDIATE VICINITY OF THE BRIDGE SITE, GRADES ARE RELATIVELY FLAT WITH ELEVATION CHANGES OF ABOUT 20 FEET. THE REAR AND FORWARD APPROACH EMBANKMENTS FOR THE BRIDGE ARE ELEVATED APPROXIMATELY 15 TO 20 FEET ABOVE SURROUNDING GRADES TO PROVIDE THE NECESSARY CLEARANCE ABOVE CAMEL CREEK.

EXPLORATION

DURING THE PERIOD OF FEBRUARY 1 THROUGH FEBRUARY 11, 2002, FOUR TEST BORINGS WERE DRILLED AT THE LOCATIONS SHOWN ON SHEET 2. THE BORINGS WERE ACCESSED USING AN ATV DRILLING RIG EQUIPPED WITH AN AUTOMATIC HAMMER. THE BORINGS WERE DRILLED USING 3.75-INCH INSIDE DIAMETER HOLLOW STEM AUGERS. AT REGULAR INTERVALS, DISTURBED BUT REPRESENTATIVE SOIL SAMPLES WERE OBTAINED USING A 2-INCH OUTSIDE DIAMETER (OD) SPLIT-BARREL SAMPLER DRIVEN INTO THE SOIL BY BLOWS FROM A 140-POUND HAMMER FREE FALLING 30 INCHES (STANDARD PENETRATION TEST. IN TWO OF THE TEST BORINGS ATTEMPTS WERE MADE TO OBTAIN RELATIVELY UNDISTURBED SAMPLES BY HYDRAULICALLY PUSHING 3-INCH-DIAMETER SEAMLESS STEEL (SHELBY) TUBES INTO THE SOIL. THE RESULTS OF THE FIELD AND LABORATORY TEST ARE CONTAINED ON THE INDIVIDUAL BORING LOGS CONTAINED ON SHEETS 4 THROUGH 6.

INVESTIGATIONAL FINDINGS AND OBSERVATIONS

TEST BORING B-1 WAS DRILLED IN THE VICINITY OF THE EXISTING REAR ABUTMENT AND FIRST ENCOUNTERED MEDIUM-STIFF TO STIFF CLAYEY SILT EMBANKMENT FILL EXTENDING TO A DEPTH OF APPROXIMATELY 18.5 FEET BELOW GRADE. BENEATH THIS LAYER OF CLAYEY SILT, AN APPROXIMATE 4-FOOT THICK LAYER OF SOFT SILT WAS ENCOUNTERED UNDERLAIN BY AN APPROXIMATE 3.5-FOOT THICK LAYER OF LOOSE GRAVEL. BENEATH THESE SOILS ALTERNATING THICK LAYERS OF STIFF CLAYEY SILT AND MEDIUM-DENSE TO DENSE SAND AND GRAVEL WERE ENCOUNTERED TO THE TOP OF HIGHLY WEATHERED SHALE BEDROCK AT A DEPTH OF 78.5 FEET. SHALE BEDROCK WAS CORED FROM A DEPTH OF 86 TO 91 FEET WHERE THE BORING WAS TERMINATED.

TEST BORING B-4 WAS DRILLED IN THE VICINITY OF THE EXISTING FORWARD ABUTMENT AND FIRST ENCOUNTERED MEDIUM STIFF TO VERY STIFF CLAYEY SILT EMBANKMENT FILL EXTENDING TO A DEPTH OF 18 FEET BELOW GRADE. BENEATH THIS CLAYEY SILT LAYER WAS A 2.5-FOOT THICK LAYER OF MEDIUM-STIFF SANDY SILT. THIS SANDY SILT LAYER WAS UNDERLAIN BY THICK ALTERNATING LAYERS OF LOOSE TO DENSE SAND AND STIFF TO HARD LAYERS OF CLAYEY SILT AND SILTY CLAY UNTIL SHALE BEDROCK WAS ENCOUNTERED AT A DEPTH OF 85.5 FEET. SHALE BEDROCK WAS CORED FROM A DEPTH OF 85.5 TO 90.5 FEET WHERE THE BORING WAS TERMINATED.

BORINGS B-2 AND B-3 WERE DRILLED TO DEPTHS OF 66.6 AND 66.5 FEET, RESPECTIVELY, ON THE NORTHWEST AND SOUTHEAST OUTERMOST EDGES OF THE EXISTING PIERS. THESE TWO BORINGS ENCOUNTERED SIMILAR SOIL CONDITIONS CONSISTING OF MEDIUM-DENSE TO DENSE SAND AND GRAVEL NEAR SURFACE UNDERLAIN BY ALTERNATING THICK LAYERS OF MEDIUM-STIFF TO HARD CLAYEY SILT SOILS AND LOOSE TO MEDIUM-DENSE SAND AND GRAVEL LAYERS. BENEATH THESE SOILS, AT A DEPTH OF APPROXIMATELY 65 FEET, REFUSAL ON PRESUMED BEDROCK WAS ENCOUNTERED. THE ELEVATION OF PRESUMED BEDROCK AT THE LOCATION OF BORINGS B-2 AND B-3 IS CONSISTENT WITH THE ELEVATIONS OF BEDROCK ENCOUNTERED IN THE TWO ABUTMENT BORINGS.

GROUNDWATER WAS REPORTED IN ALL OF THE BORINGS DRILLED FOR THIS INVESTIGATION. THE RESULTS OF THE GROUNDWATER OBSERVATIONS ARE CONTAINED ON THE INDIVIDUAL BORING LOGS CONTAINED ON SHEETS 4 THROUGH 6. BECAUSE OF THE NATURE OF THE MATERIALS ENCOUNTERED IN THESE TEST BORINGS, THE GROUNDWATER RESULTS INDICATED DURING DRILLING OPERATIONS MAY BE SOMEWHAT MISLEADING OF SITE CONDITIONS. IT IS BELIEVED THAT THE TRUE GROUNDWATER TABLE AT THIS SITE IS LOCATED NEAR THE FLOWLINE OF CAMEL CREEK, OR APPROXIMATELY ELEVATION 965.

LEGEND

⊕ PRESS AND/OR DRIVE SAMPLE AND/OR CORE BORING LOCATION-PLAN VIEW.

├─┤ HORIZONTAL BAR ON BORING LOG INDICATES THE DEPTH THE SAMPLE WAS TAKEN.

X/Y/Z FIGURES BESIDE THE BORING LOG IN PROFILE INDICATE THE NUMBER OF BLOWS FOR STANDARD PENETRATION TEST.

X = NUMBER OF BLOWS FOR FIRST 6 INCHES

Y = NUMBER OF BLOWS FOR SECOND 6 INCHES

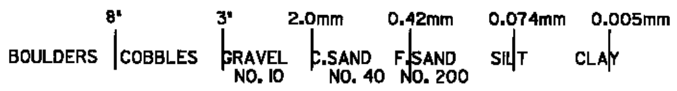
Z = NUMBER OF BLOWS FOR THIRD 6 INCHES

W ——— INDICATES FREE WATER LEVEL

▼ ——— INDICATES STATIC WATER LEVEL

TR ——— INDICATES TOP OF ROCK

PARTICLE SIZE DEFINITIONS



SYMBOL OF ROCK TYPE

▨ SHALE

▨ WEATHERED SHALE

GENERAL INFORMATION

DRIVE SAMPLES

DRIVE SAMPLE BORINGS ARE MADE BY MEANS OF A MECHANICALLY-POWERED, ROTARY-TYPE DRILL RIG EMPLOYING A 2.0-INCH O.D., 1.375-INCH I.D., SPLIT-SPOON SAMPLER, AT 1.5-FOOT TO 5.0-FOOT DEPTH INTERVALS, DRIVEN BY MEANS OF A 140-POUND HAMMER WITH A FREE FALL OF 30 INCHES. THE NUMBER OF BLOWS REQUIRED TO DRIVE THE SAMPLER THREE 6.0-INCH INCREMENTS IS CONSIDERED THE STANDARD PENETRATION TEST.

PRESS SAMPLES

PRESS SAMPLES ARE TAKEN BY MEANS OF MECHANICAL-POWERED, ROTARY-TYPE DRILL RIG, EMPLOYING A 3.0-INCH O.D. THIN-WALL PRESS SAMPLING TUBE. THE PRESS SAMPLING TUBE IS ADVANCED BY CONTINOUSUNIFORM PRESSURE APPLIED BY THE DRILL RIG.

CORE BORINGS

CORE BORINGS ARE MADE BY MEANS OF MECHANICALLY-POWERED, ROTARY-TYPE DRILL RIG, EMPLOYING AN NW-PAM CORE BARREL WITH AN INDUSTRIAL DIAMOND CUTTING HEAD.

SAMPLING AND TESTING

THE BORING LOG SHEETS SHOW A GRAPHIC PLOT OF THE INFORMATION OBTAINED, INCLUDING DEPTH AND ELEVATION OF THE SAMPLE, TYPE OF SAMPLE, NUMBER OF BLOWS FOR THE STANDARD PENETRATION TEST IN THREE 6.0 INCH INCREMENTS, AND A SAMPLE DESCRIPTION BASED ON LABORATORY TEST RESULTS, UTILIZING THE ODOT CLASSIFICATION SYSTEM. RESULTS OF STRENGTH AND CONSOLIDATION TESTING, IF PERFORMED ON UNDISTURBED SAMPLES, APPEAR GRAPHICALLY ON SEPARATE ENCLOSURES. ROCK SAMPLES ARE DISPLAYED ON THE LOG SHEETS, INCLUDING DEPTH AND ELEVATION OF THE SAMPLE, AMOUNT OF RECOVERY, AND A VISUAL CLASSIFICATION BASED ON TYPE, COLOR, DEGREE OF HARDNESS, GRAIN SIZE, DETERIORATION, BEDDING, ACID REACTION, AND OTHER QUALIFYING FACTORS.

AT DEPTHS WHERE MATERIALS ARE BOULDERY OR GRAVELLY TO THE EXTENT THAT A SAMPLER CANNOT BE UTILIZED, A WASH SAMPLE IS PROCURED AND VISUALLY CLASSIFIED, IN ORDER TO DETERMINE THE GENERAL CHARACTERISTICS OF THE MATERIAL. THESE SAMPLES ARE NOT CONSIDERED SUFFICIENTLY REPRESENTATIVE TO WARRANT LABORATORY TESTING.

THE STRUCTURE FOUNDATION INVESTIGATION SHEETS CONTAIN ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN. ASPECT OF THE PROJECT. MORE INFORMATION, IF ANY MAY BE OBTAINED IN DISTRICT 3, THE OFFICE OF MATERIALS MANAGEMENT, 1600 WEST BROAD STREET, COLUMBUS, OHIO 43223, OR THE OFFICE OF STRUCTURAL ENGINEERING AT 1980 WEST BROAD STREET, COLUMBUS, OHIO 43223.

RESOURCE INTERNATIONAL, INC.
281 ENTERPRISE DRIVE
WESTERVILLE, OHIO 43081 (614)885-195

DRAWN	REVIEWED	DATE	CALCULATED
KAL		5/7/03	
		DATE 5/7/03	CHECKED GPH

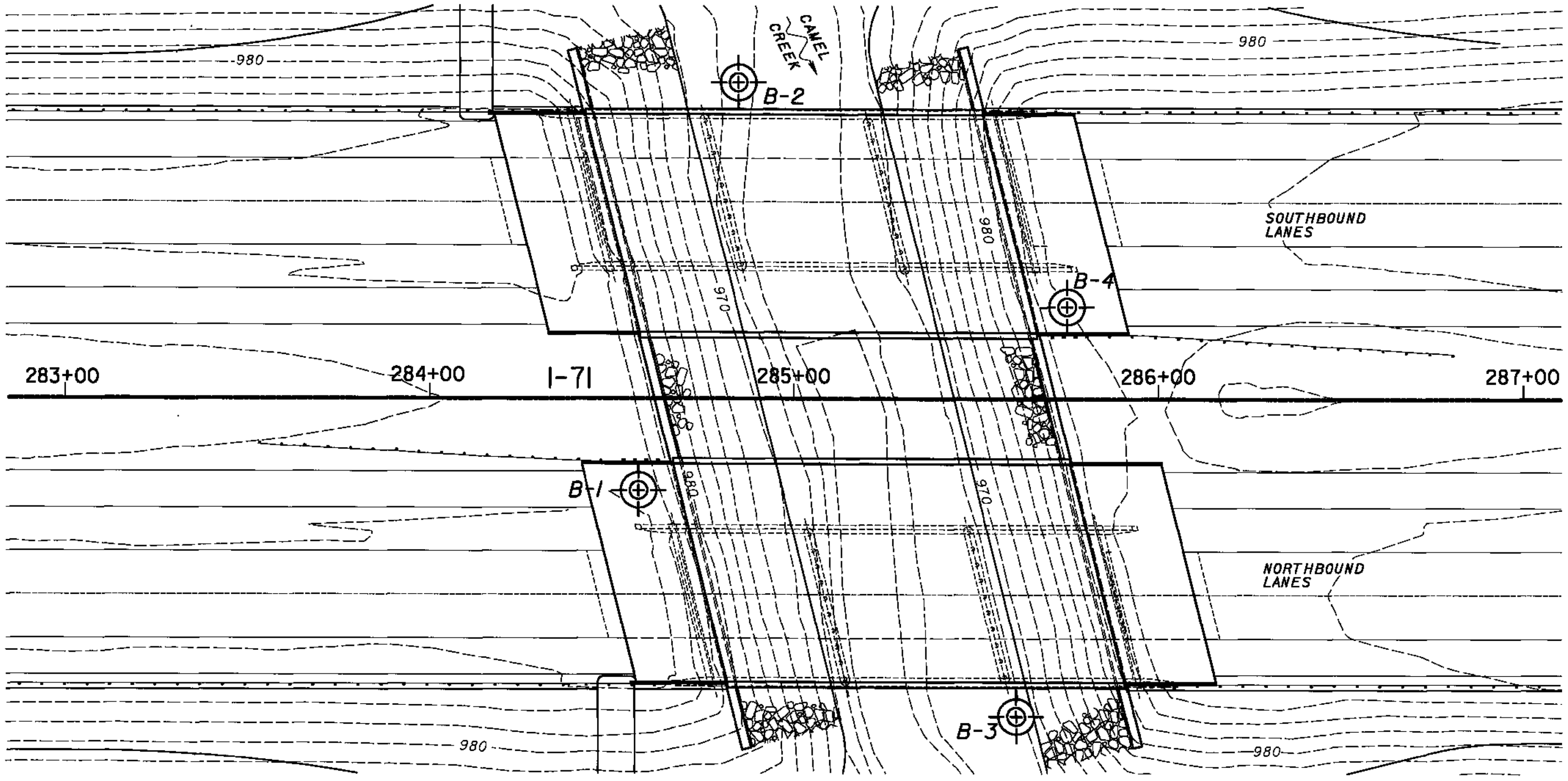
STRUCTURE FOUNDATION INVESTIGATION
MED-71-0540 OVER CAMEL CREEK

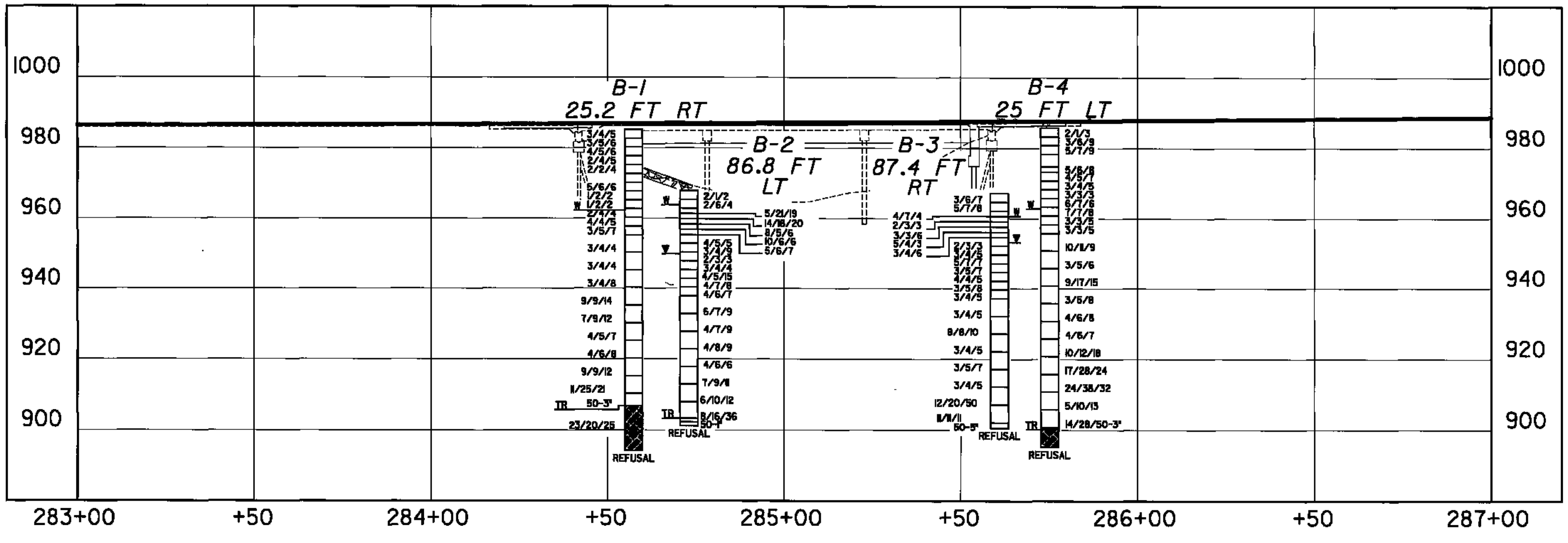
WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00

1/6

50
55

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-1169
FILENAME: 0540-01-CVR.DGN
DATE: 5/7/03





PROFILE ALONG ℄ OF I-71

STRUCTURE FOUNDATION INVESTIGATION
MED-71-0540 OVER CAMEL CREEK

WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00

0 10 20
HORIZONTAL SCALE IN FEET

CALCULATED	DATE 5/7/03	REVIEWED	DRAWN KAL
CHECKED GPH	DATE 5/7/03	REVIEWED	DATE

2/6

51
55

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-169

FILENAME: 0540-02-PP.DGN
DATE: 5/7/03

Log of Boring

Date Started: 02/01/02 Sampler's Type 3.75" HSA/RC/WD Water Elev. N/A *

Date Finished: 02/11/02

Boring No. B-1 Station & Offset 284+57.34 25.20' Rt Surface Elev. 985.26 ft

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
985.3	0			2" - Topsoil 0.2										
982.8		3 4 5	72	Brown changing to mottled brown and gray CLAYEY SILT, some sand, trace to little gravel.	SS-1								12	VISUAL
980.3	5.0	3 5 6	83		SS-2								14	VISUAL
977.8		4 5 6	78	-SS-3: ODOT A-6a	SS-3	14	19	20	30	17	27	11	12	A-6a
975.3	10.0	2 4 5	83		SS-4								13	VISUAL
972.8		2 2 4	67		SS-5								15	VISUAL
970.8	15.0		54		ST-6									VISUAL
967.8		5 6 6	39	18.5	SS-7								15	VISUAL
965.3	20.0	1 2 2	61	Gray SILT, some clay, some to little sand, trace gravel. -SS-8: Visual ODOT A-4b -organics encountered in SS-8	SS-8	0	0	26	-74-				20	VISUAL
962.8		1 2 2	75	-SS-9A: Visual ODOT A-4b 22.3	SS-9A	1	0	17	56	26			38	VISUAL
961.8			100	Gray changing to brownish gray GRAVEL, some sand, little silt, trace clay.	SS-9B									
960.3	25.0	2 4 4	39	-groundwater initially encountered @ 23.0' 26.0 -SS-10: ODOT A-1-b	SS-10	49	14	18	-19-		NP	NP	16	A-1-b
957.8		4 4 5	100	Gray CLAYEY SILT, some sand, trace gravel.	SS-11								22	VISUAL
955.3	30.0	3 5 7	89		SS-12									VISUAL
950.3	35.0	3 4 4	100		SS-13									VISUAL
945.3	40.0	3 4 4	100		SS-14								26	VISUAL
940.3	45.0	3 4 8	100	46.0 Brownish gray SAND, some silt, little gravel, trace clay.	SS-15									VISUAL
935.3	50.0	9 9 14	50		SS-16									VISUAL

* THE GROUNDWATER LEVEL UPON COMPLETION OF THE DRILLING PROCESS COULD NOT BE DETERMINED, DUE TO USE OF WASH WATER DURING THE CORING PROCESS.

Boring No. B-1 (CONTINUED)

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
930.3	55.0	7 9 12	67		SS-17								12	VISUAL
925.3	60.0	4 5 7	78	58.5 Gray CLAYEY SILT, some sand, trace gravel.	SS-18									VISUAL
920.3	65.0	4 6 8	72		SS-19								14	VISUAL
915.3	70.0	9 9 12	67	-silty sand lens from 69.8 to 70.0' 70.0 Brownish gray coarse to fine GRAVEL (limestone fragments), trace sand, trace silt.	SS-20									VISUAL
910.3	75.0	11 25 21	44		SS-21									VISUAL
905.3	80.0	50/3"	67	78.5 Gray indurated SILTY CLAY/highly weathered SHALE. Hard soil/soft bedrock.	SS-22									VISUAL
900.3	85.0	23 20 25	61		SS-23									VISUAL
899.3			90	Auger refusal @ 86.0' 86.0 SHALE; gray, moderately hard to hard, highly broken, jointed, micaceous, fissile, slightly weathered. -RC-1: Core Loss = 10% RQD = 18%	RC-1									
	90.0			91.0										

Bottom of Boring = 91.0 feet

RESOURCE INTERNATIONAL, INC.
281 ENTERPRISE DRIVE
WESTERVILLE, OHIO 43081 (614)885-195

CALCULATED | DATE 5/7/03 | CHECKED GPH | DATE 5/7/03 | REVIEWED | DRAWN KAL

STRUCTURE FOUNDATION INVESTIGATION
MED-71-0540 OVER CAMEL CREEK

WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-1169
FILENAME: 0540-03-DATA.DGN
DATE: 5/7/03

Log of Boring

Date Started: 02/04/02
Date Finished: 02/05/02
Sampler's Type 3.75" HSA
Water Elev. 18.0' •
• CAVE-IN @ 24.0'
Boring No. B-2
Station & Offset 284+75.00 86.77' Lt
Surface Elev. 967.83 ft

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
967.8	0			6" - Topsoil 0.5										
965.3		2 1 2	22	Brown SILTY CLAY, some sand, trace gravel, trace organics.	SS-1								27	VISUAL
962.8	5.0	2 6 4	39	-groundwater initially encountered @ 4.0' 4.0	SS-2A								14	VISUAL
961.8				Brown and gray SAND and GRAVEL, little silt, trace clay.	SS-2B									VISUAL
961.3		5 21 19	33		SS-3								18	VISUAL
959.8		14 18 20	44	-SS-4: ODOT A-1-b	SS-4	52	19	12	-17-				8	A-1-b
958.3	10.0	8 5 6	39	-SS-5: ODOT A-1-b	SS-5	52	18	15	-15-				12	A-1-b
956.8		10 6 6	0	11.0	SS-6									VISUAL
958.8		5 6 7	56	Mottled brown and gray SILT, some clay, trace sand. -SS-7: Visual ODOT A-4b 13.5	SS-7	0	0	3	59	38			18	VISUAL
952.8	15.0	4 5 5	56	Mottled brown and gray changing to gray CLAYEY SILT, little sand, trace gravel. -SS-8: ODOT A-6a	SS-8	9	9	6	42	34	31	13	26	A-6a
950.3		3 4 3	67		SS-9								25	VISUAL
947.8	20.0	2 3 3	100		SS-10								25	VISUAL
945.3		3 4 4	89	23.0	SS-11								27	VISUAL
942.8	25.0	4 5 15	94	Gray SAND, some silt, little gravel, trace clay.	SS-12								21	VISUAL
940.3		4 7 8	100	-trace organics in SS-13	SS-13								13	VISUAL
937.8	30.0	4 6 7	56		SS-14									VISUAL
932.8	35.0	6 7 9	56	36.5	SS-15								11	VISUAL
927.8	40.0	4 7 9	78	Gray CLAYEY SILT, some sand, trace gravel.	SS-16									VISUAL
922.8	45.0	4 8 8	72	-SS-17: ODOT A-6a	SS-17	9	10	12	39	30	26	11	15	A-6a
917.8	50.0	4 6 6	61		SS-18									VISUAL

Boring No. B-2 (CONTINUED)

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
912.8	55.0	7 9 11	100	54.8 Gray SAND and GRAVEL, little silt, trace clay.	SS-19A								16	VISUAL
911.8			100	57.0	SS-19B									VISUAL
907.8	60.0	6 10 12	50	Gray CLAYEY SILT, little sand, trace gravel. -soil slightly indurated below 57.0'	SS-20								12	VISUAL
902.8	65.0	8 16 36	56	Gray weathered SANDSTONE. Very soft bedrock. 64.5 Gray weathered SILTSTONE. Soft bedrock. 65.5	SS-21A									VISUAL
901.8					SS-21B									VISUAL
901.3		50/1"	100	Auger refusal @ 66.6' 66.6	SS-22									VISUAL

Bottom of Boring = 66.6 feet

RESOURCE INTERNATIONAL, INC.
281 ENTERPRISE DRIVE
WESTERVILLE, OHIO 43081 (614)885-195

CALCULATED	CHECKED	DATE	DATE	REVIEWED	DRAWN
	GPH	5/7/03	5/7/03		KAL

STRUCTURE FOUNDATION INVESTIGATION
MED-71-0540 OVER CAMEL CREEK

WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00

4/6

RESOURCE INTERNATIONAL INC. PROJECT NO. W-1169 FILENAME: 0540-04-DATA.DGN DATE: 5/7/03

Log of Boring

Date Started: 02/06/02 Sampler's Type 3.75" HSA Water Elev. 14.0' *

Date Finished: 02/06/02 * CAVE-IN @ 38.0'

Boring No. B-3 Station & Offset 285+61.05 87.36' Rt Surface Elev. 967.23 ft

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
967.2	0													
				8" - Topsoil 0.7										
964.7		3 6 7	56	Reddish brown changing to brown and gray SAND and GRAVEL, little silt.	SS-1								14	VISUAL
962.2	5.0	5 7 8	28	-SS-3: ODOT A-1-b	SS-2								15	VISUAL
960.7		4 7 4	50	-groundwater initially encountered @ 6.5' 6.3	SS-3								11	
959.2		2 3 3	56	Dark brownish gray SAND, some gravel, little silt, trace clay. 8.0	SS-4	33	26	22	-19-				24	A-1-b
957.7		3 3 6	28	-SS-4: ODOT A-1-b	SS-5	1	2	3	-94-				12	VISUAL
	10.0			Gray CLAYEY SILT, trace sand, trace gravel.										
956.2		5 4 3	100	-SS-5: Visual ODOT A-6a	SS-6	1	3	2	55	39	29	11	22	A-6a
954.7		3 4 6	50	-SS-6: ODOT A-6a -SS-7: Visual ODOT A-6a	SS-7	0	1	4	50	45			21	VISUAL
952.2	15.0	2 3 3	78		SS-8								27	VISUAL
949.7		3 4 5	72		SS-9								25	VISUAL
947.2	20.0	5 7 7	72		SS-10								26	VISUAL
947.7		3 5 7	89		SS-11								25	VISUAL
942.2	25.0	4 4 5	33	26.0	SS-12								26	VISUAL
939.7		3 5 8	33	Gray SAND, some gravel, little silt, trace clay.	SS-13								13	VISUAL
937.2	30.0	3 4 5	83		SS-14									VISUAL
932.2	35.0	3 4 5	28		SS-15									VISUAL
				38.0										
				Gray SILTY SAND, little gravel, trace clay. 40.0										
927.2	40.0	8 8 10	39	Gray CLAYEY SILT, some sand, little gravel.	SS-16									VISUAL
922.2	45.0	3 4 5	44	-SS-17: ODOT A-4a	SS-17	14	9	12	39	26	24	9	17	A-4a
917.2	50.0	3 5 7	61		SS-18									VISUAL

Boring No. B-3 (CONTINUED)

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
912.2	55.0	3 4 5	44		SS-19								13	VISUAL
				59.0										
907.2	60.0	12 20 50	39	Gray CLAYEY SILT, little sand, trace gravel.	SS-20A									VISUAL
906.2				-soil slightly indurated below 59.0'	SS-20B									VISUAL
901.2	65.0	11 11 11	67		SS-21								14	VISUAL
899.7		50/5"	100	Auger refusal @ 66.5' 66.5	SS-22									VISUAL

Bottom of Boring = 66.5 feet

RESOURCE INTERNATIONAL, INC.
281 ENTERPRISE DRIVE
WESTERVILLE, OHIO 43081 (614)885-1959

CALCULATED	DATE 5/7/03	REVIEWED	DRAWN KAL
CHECKED GPH	DATE 5/7/03		

STRUCTURE FOUNDATION INVESTIGATION
MED-71-0540 OVER CAMEL CREEK

WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00

5 / 6

54
55

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-1169
FILENAME: 0540-05-DATA.DGN
DATE: 5/7/03

Log of Boring

• THE GROUNDWATER LEVEL UPON COMPLETION OF THE DRILLING PROCESS COULD NOT BE DETERMINED, DUE TO USE OF WASH WATER DURING THE CORING PROCESS.

Date Started: 02/07/02 Sampler's Type 3.75" HSA/RC/WD Water Elev. N/A •

Date Finished: 02/07/02

Boring No. B-4 Station & Offset 285+75.18 25.03' Lt Surface Elev. 985.87 ft

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	PHYSICAL CHARACTERISTICS % AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
985.9	0													
983.4		2 1 3	72	2" - Topsoil 0.2 Brown changing to mottled brown and gray CLAYEY SILT, little sand, trace gravel, trace organics,	SS-1								16	VISUAL
980.9	5.0	3 6 9	94		SS-2								17	VISUAL
978.4		5 7 9	44	-SS-3: ODOT A-6a	SS-3	3	7	12	42	36	31	13	17	A-6a
975.4	10.0		67		ST-4								15	VISUAL
973.4		5 6 8	100		SS-5								15	VISUAL
970.9	15.0	4 5 7	100		SS-6								15	VISUAL
968.4		3 4 5	94	18.0	SS-7								15	VISUAL
965.9	20.0	3 3 3	83	Dark brown SANDY SILT, some clay, trace gravel, trace organics. 20.5	SS-8								20	VISUAL
963.4		6 7 6	94	Brown changing to gray SAND, some gravel, little silt, trace clay. -groundwater initially encountered @ 23.0'	SS-9								12	VISUAL
960.9	25.0	7 7 8	78		SS-10								14	VISUAL
958.4		3 3 5	50		SS-11								9	VISUAL
955.9	30.0	3 3 5	50		SS-12								10	VISUAL
950.9	35.0	10 [illegible] 9	61		SS-13									VISUAL
945.9	40.0	3 5 6	50		SS-14									VISUAL
940.9	45.0	9 17 15	39	42.5 Gray CLAYEY SILT, some sand, trace gravel.	SS-15									VISUAL
935.9	50.0	3 5 8	72	-SS-16: ODOT A-4a	SS-16	8	10	12	37	33	26	10	16	A-4a

Boring No. B-4 (CONTINUED)

ELEV (FT)	DEPTH (FT)	STD. PEN/ RQD	REC. %	DESCRIPTION	SAMPLE NO.	PHYSICAL CHARACTERISTICS % AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	ODOT CLASS
930.9	55.0	4 6 8	56		SS-17									VISUAL
925.9	60.0	4 6 7	33	-heaving sand encountered @ 61.5' 61.5	SS-18									VISUAL
920.9	65.0	10 12 18	56	Gray SAND, some gravel, little silt, trace clay.	SS-19									VISUAL
915.9	70.0	17 28 24	39	68.0 Gray SILTY CLAY, some sand, little gravel. -soil slightly indurated below 68.0'	SS-20									VISUAL
905.9	75.0	24 38 32	67	75.0 Bluish gray SILTY CLAY, little sand, trace gravel.	SS-21								12	VISUAL
900.9	80.0	5 10 13	67		SS-22									VISUAL
895.9 895.4	85.0	14 28 50/3"	60 92	Auger refusal @ 85.5' 85.5 SHALE; gray, hard, highly broken, slightly jointed, micaceous, fissile, slightly weathered. -RC-1: Core Loss = 10% RQD = 9%	SS-23 RC-1								12	VISUAL
	90.0			90.5										

Bottom of Boring = 90.5 feet

RESOURCE INTERNATIONAL, INC.
281 ENTERPRISE DRIVE
WESTERVILLE, OHIO 43081 (614)885-1959

CALCULATED | DATE 5/7/03 | REVIEWED | DRAWN KAL
CHECKED GPH | DATE 5/7/03

STRUCTURE FOUNDATION INVESTIGATION
MED-71-0540 OVER CAMEL CREEK

WAYNE/MEDINA COUNTIES
WAY/MED-71-7.04/0.00

6/6

55
55

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-1169
FILENAME: 0540-06-DATA.DGN
DATE: 5/7/03