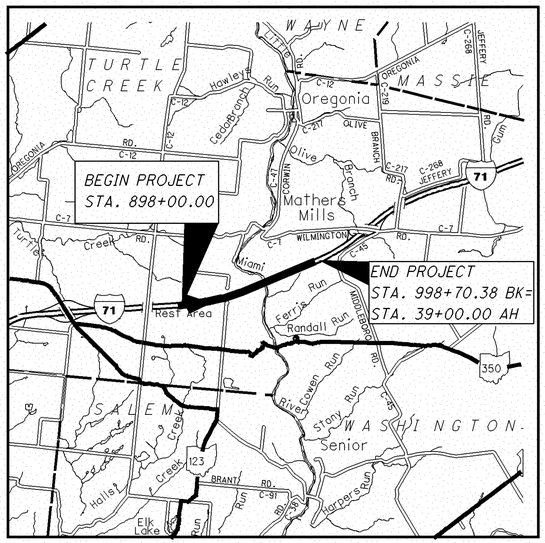
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
WAR-71-14.20
TURTLE CREEK & WASHINGTON TOWNSHIP
WARREN COUNTY



LOCATION MAP

LATITUDE: N 39°25'00" LONGITUDE: W 84°06'00"

SCALE IN MILES
0 1 2 3 4

PORTION TO BE IMPROVED
INTERSTATE & DIVIDED HIGHWAY
UNDIVIDED STATE & FEDERAL ROUTES
OTHER ROADS

DESIGN DESIGNATION

CURRENT ADT (2009)	49,820
DESIGN YEAR ADT (2029)	70,190
DESIGN HOURLY VOLUME (2029)	6317
DIRECTIONAL DISTRIBUTION	58 %
TRUCKS (24 HOUR B&C)	37 %
DESIGN SPEED	65 MPH
LEGAL SPEED	65 MPH
DESIGN FUNCTIONAL CLASSIFICATION: RURAL INTERSTATE	
NHS PROJECT	YES

DESIGN EXCEPTIONS

NONE REQUIRED

UNDERGROUND UTILITIES
CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG
CALL
1-800-362-2764
(TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY
OIL & GAS PRODUCERS PROTECTIVE SERVICE CALL: 1-800-925-0988

PLAN PREPARED BY:

HNTB 1100 SUPERIOR, SUITE 1330
CLEVELAND, OH 44114

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		GEOHAZARD EXPLORATION	
		SHEETS NOT USED	102-105, 112E,

PROJECT DESCRIPTION

IMPROVEMENT OF 1.91 MILES OF INTERSTATE 71 BY REPLACEMENT OF TWO TWIN STRUCTURES (JEREMIAH MORROW BRIDGE) OVER THE LITTLE MIAMI RIVER INCLUDING APPROACH ROADWAY REALIGNMENT AND RECONSTRUCTION.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	58.79 ACRES
ESTIMATED CONTRACTOR EARTH DISTRUBED AREA:	2.00 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	60.79 ACRES

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.

2008 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 THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

UNDER AUTHORITY OF SECTION 4511.21, DIVISION (H) 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 _____
DATE 12/8/08 DISTRICT DEPUTY DIRECTOR

APPROVED _____
DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

ENGINEERS SEAL: ROADWAY
STATE OF OHIO — ZOLTAN S. SZABO — E-55985 — REGISTERED PROFESSIONAL ENGINEER
SIGNED: _____
DATE: 11-26-08

ENGINEERS SEAL: SUPERSTRUCTURE
STATE OF OHIO — KENNETH D. PRICE — E-64675 — REGISTERED PROFESSIONAL ENGINEER
SIGNED: Kenneth D. Price
DATE: 12-01-08

ENGINEERS SEAL: SUBSTRUCTURE EXCLUDING ABUTMENTS
STATE OF OHIO — CHARLES A. CVITKOVICH — E-60897 — REGISTERED PROFESSIONAL ENGINEER
SIGNED: _____
DATE: 11-26-08

ENGINEERS SEAL: SUBSTRUCTURE ABUTMENTS
STATE OF OHIO — DAVID F. TRAINI — E-46751 — REGISTERED PROFESSIONAL ENGINEER
SIGNED: David F. Traini
DATE: 11-26-08

ENGINEERS SEAL: LIGHTING
STATE OF OHIO — BRIAN BURKHARD — E-72512 — REGISTERED PROFESSIONAL ENGINEER
SIGNED: _____
DATE: 12-03-08

ENGINEERS SEAL: TRAFFIC CONTROL AND M.O.T.
STATE OF OHIO — KAISSAR SITAR — E-59251 — REGISTERED PROFESSIONAL ENGINEER
SIGNED: Kaissar Sitar
DATE: 12-1-2008

STANDARD CONSTRUCTION DRAWINGS

												SUPPLEMENTAL SPECIFICATIONS	
BP-3.1	10/19/07	DM-1.4	4/21/06	GR-4.2	1/19/07	RM-4.5	10/16/09	MT-98.10	7/17/09	TC-42.10	1/19/07	800	1/15/10
BP-5.1	7/28/00	DM-4.1	7/19/02	GR-5.2	1/16/04	RM-4.6	10/16/09	MT-98.11	7/17/09	TC-42.20	7/16/04	802	1/16/09
BP-6.1	7/28/00	DM-4.2	1/21/05	GR-5.3	1/16/04			MT-98.20	7/17/09	TC-51.11	4/20/01	832	5/5/09
BP-9.1	4/15/05	DM-4.4	7/19/09	GR-6.1	4/18/03	WQ-1.2	10/17/09	MT-98.22	7/17/09	TC-51.12	4/20/01	835	4/18/08
								MT-98.28	7/17/09	TC-52.10	1/19/07	836	4/15/05
CB-2.1	7/15/05	F-1.1	7/16/04	HW-2.1	4/21/06	AS-1-81	7/19/02	MT-98.29	7/17/09	TC-52.20	1/19/07	847	4/16/10
CB-2.2	7/15/05	F-2.1	7/28/00	HW-2.2	4/21/06	SBR-1-99	7/19/02	MT-100.00	1/16/09	TC-61.10	1/19/01	878	4/18/09
CB-3.1	7/15/05	F-3.1	7/28/00					MT-101.60	4/17/09	TC-65.10	1/21/05	880	7/18/08
CB-3.2	7/15/05	F-3.2	7/18/08	I-2.1	7/15/05	HL-30.11	10/16/09	MT-101.70	1/16/09	TC-65.11	1/21/05		
CB-3.3	7/15/05	F-3.3	7/28/00	I-2.2	7/15/05	HL-30.22	4/17/09	MT-102.10	7/17/09	TC-72.20	10/16/09	953	4/15/05
CB-4.1	7/19/02	F-3.4	7/28/00	I-2.3	7/15/05	HL-40.10	1/19/07	MT-102.20	4/17/09	TC-73.10	1/19/01		
CB-4.2	7/19/02					HL-40.20	1/19/07	MT-102.30	4/17/09				
		GR-1.1	7/16/04	RM-4.1	10/20/06			MT-105.10	1/16/09				
DM-1.1	4/21/06	GR-2.1	1/16/04	RM-4.2	10/19/07	MT-95.30	7/17/09						
DM-1.2	10/21/05	GR-3.1	10/16/09	RM-4.3	10/16/09	MT-95.71	7/17/09	TC-41.10	10/19/07				
DM-1.3	7/20/01	GR-3.2	10/16/09	RM-4.4	10/16/09	MT-95.82	9/05/06	TC-41.20	1/19/01				

SPECIAL PROVISIONS

404 PERMIT - WATERWAY PERMITS	5/17/2010	SPECIALIZED MULTI ROTATIONAL (SMR) BEARINGS	APRIL 2010
QC/QA CONCRETE FOR STRUCTURES	APRIL 2010	MODULAR EXPANSION JOINTS	JULY 2008
CONCRETE BOX GIRDER CONSTRUCTION	APRIL 2010	POST-TENSIONING SYSTEM	MAY 2010
CROSSHOLE SONIC LOGGING (CSL) TESTING FOR DRILLED SHAFTS	JULY 2008	SHAFT INSPECTION DEVICE (SID)	JULY 2008
MASS CONCRETE	JULY 2008	TIE-BACKS	JULY 2008

REV. BY	DATE	DESCRIPTION
CWW	2/26/10	SCD,SS, AND SP DATES WERE REVISED
CWW	4/22/10	REVISED SS 847 DATE
CWW	4/27/10	REVISED SPECIAL PROVISIONS
CWW	5/7/10	REVISED SPECIAL PROVISIONS
CWW	5/13/10	REVISED INDEX OF SHEETS

FEDERAL PROJECT NO. E060(923)
PID NO. 22950
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
WAR-71-14.20
1 / 470

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CURVE #1 - IR 71 SB	CURVE #2 - IR 71 SB	CURVE #3 - IR 71 NB	CURVE #4 - IR 71 NB	CURVE #5 - IR 71 NB	CURVE #6 - REL. IR 71	CURVE #7 - REL. IR 71	CURVE #8 - EX. IR 71
P.I. STA. 922+83.45	P.I. STA. 977+76.04	P.I. STA. 921+81.25	P.I. STA. 977+53.20	P.I. STA. 982+99.65	P.I. STA. 922+32.35	P.I. STA. 984+92.48	P.I. STA. 921+33.63
Δ = 18° 36′ 29″ (LT)	Δ = 1° 28′ 49″ (LT)	Δ = 18° 36′ 29″ (LT)	Δ = 1° 21′ 47″ (LT)	Δ = 1° 21′ 47″ (RT)	Δ = 18° 36′ 29″ (LT)	Δ = 1° 28′ 49″ (LT)	Δ = 18° 36′ 29″ (LT)
Dc = 0° 28′ 53″	Dc = 0° 15′ 00″	Dc = 0° 27′ 9.66″	Dc = 0° 14′ 58″	Dc = 0° 14′ 58″	Dc = 0° 27′ 59.74″	Dc = 0° 04′ 23.16″	Dc = 0° 28′ 00″
R = 11,902.18′	R = 22,918.31′	R = 12,656.96′	R = 22,969.35′	R = 22,969.35′	R = 12,279.57′	R = 78,379.36′	R = 12,277.67′
T = 1,949.92′	T = 296.09′	T = 2,073.57′	T = 273.24′	T = 273.24′	T = 2,011.74′	T = 1,012.53′	T = 2,011.43′
L = 3,865.49′	L = 592.14′	L = 4,110.62′	L = 546.46′	L = 546.46′	L = 3,988.06′	L = 2,024.94′	L = 3,987.44′
E = 158.67′	E = 1.91′	E = 168.73′	E = 1.63′	E = 1.63′	E = 163.70′	E = 6.54′	E = 163.67′
e_{max} = 0.019	e_{max} = N.C.	e_{max} = 0.019	e_{max} = N.C.	e_{max} = N.C.			

CURVE #9 - EX. IR 71	CURVE #10 - RAMP B	CURVE #11 - RAMP B	CURVE #12 - RAMP B	CURVE #13 - RAMP D
P.I. STA. 52+93.32	P.I. STA. 206+47.21	P.I. STA. 209+01.68	P.I. STA. 214+91.67	P.I. STA. 502+96.92
Δ = 15° 51′ 46″ (LT)	Δ = 11° 25′ 39″ (RT)	Δ = 7° 46′ 09″ (LT)	Δ = 9° 52′ 38″ (LT)	Δ = 4° 47′ 49″ (RT)
Dc = 0° 28′ 00″	Dc = 9° 30′ 00″	Dc = 2° 00′ 00″	Dc = 1° 15′ 00″	Dc = 2° 00′ 00″
R = 12,277.67′	R = 603.11′	R = 2,864.79′	R = 4,583.66′	R = 2,864.79′
T = 1,710.51′	T = 60.35′	T = 194.53′	T = 396.06′	T = 120.00′
L = 3,399.15′	L = 120.29′	L = 388.46′	L = 790.17′	L = 239.85′
E = 118.58′	E = 3.01′	E = 6.60′	E = 17.08′	E = 2.51′
			e_{max} = 0.035	e_{max} = 0.027

HORIZONTAL SCALE IN FEET 0 100 200 400

CALCULATED RAT CHECKED BBD

SCHEMATIC PLAN

WAR-71-14.20

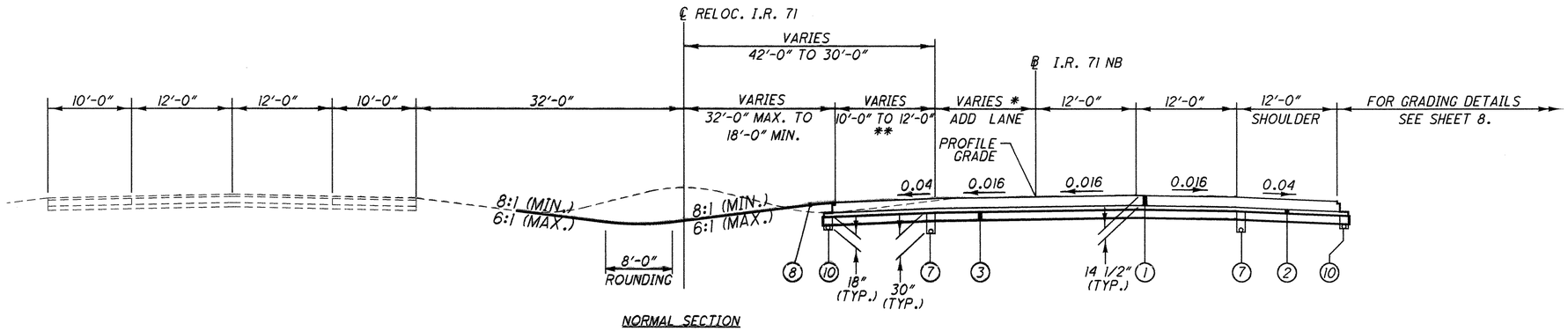
2 / 470

NOTES:
1. There are no landscape areas within the Work Limits.
2. The coordinate values shown herein are based on project specific centerline monuments with published ODOT state plane coordinate values. The values were established with an applied project state plane to ground scale factor of 1.000104002 derived from Ohio State Plane Coordinate System, South Zone, NAD1983 (1995 Adjustment).

Centerline Reference, Sta. 898+00.00	Centerline Reference, Sta. 902+20.61	Centerline Reference, Sta. 942+08.67	Centerline Reference, Sta. 974+79.95	Centerline Reference, Sta. 995+04.92	Centerline Reference, Sta. 998+70.38
℄ I.R. 71 SB 898	℄ I.R. 71 SB 902 903	M.N.S. 78.22′ Station Equation 77.30′ M.N.S.	M.N.S. 67.11′	℄ I.R. 71 SB 995 M.N.S. 41.30′	℄ I.R. 71 SB 998 39 M.N.S. End Project 35.36′
M.N.S. 53.26′ 57.05′ M.N.S.	M.N.S. 51.69′ 52.89′ M.N.S.	℄ I.R. 71 SB	974 ℄ I.R. 71 SB 975	℄ Const. Reloc. I.R. 71 I.P.S 995	℄ Const. Reloc. I.R. 71 998 I.P.S 39 ℄ Ex. I.R. 71
℄ Const. Reloc. I.R. 71 I.P.S 898 37.30′ M.N.S. 898	℄ Const. Reloc. I.R. 71 902 I.P.S 36.06′ 902 M.N.S. 903	℄ Const. Reloc. I.R. 71 942 I.P.S 40.53′ M.N.S.	974 I.P.S 975 ℄ Const. Reloc. I.R. 71 60.84′ 67.59′	50.92′ 49.45′ M.N.S. 995 M.N.S.	55.41′ 52.08′ M.N.S. M.N.S.
℄ I.R. 71 NB	℄ I.R. 71 NB	℄ I.R. 71 NB	℄ I.R. 71 NB M.N.S. M.N.S.	℄ I.R. 71 NB	

SPIRAL #1 - RAMP D
P.I. STA. 512+72.61
Δ = 0° 27′ 03″ (LT)
Dc = 0° 27′ 03″
R = 12705.96′
Ls = 200.00′
θ s = 0° 27′ 03″
LT = 133.33′
ST = 66.67′
Ts = 133.33′
Lc = 0.00′
e_{max} = 0.019

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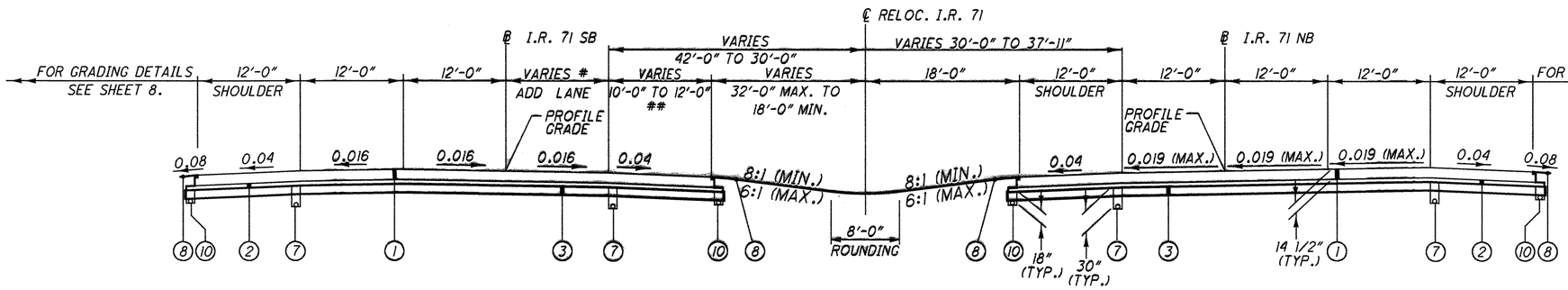
NORMAL SECTION

I.R. 71 SOUTHBOUND
STA. 898+00.00 TO STA. 900+00.00

I.R. 71 NORTHBOUND
STA. 898+00.00 TO STA. 899+15.68

* TAPER LANE FROM 0'-0" AT STA. 898+00.00
TO 12'-0" AT STA. 899+00.00, 12'-0" FROM STA. 899+00.00 TO STA. 899+15.68

** WIDTH VARIES FROM 10'-0" AT STA. 898+00.00 TO 12'-0" AT
STA. 899+00.00, 12'-0" FROM STA. 899+00.00 TO STA. 899+15.68

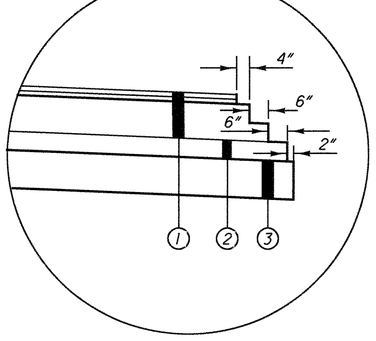


I.R. 71 SOUTHBOUND NORMAL SECTION
STA. 900+00.00 TO STA. 901+41.53

\# TAPER LANE FROM 0'-0" AT STA. 900+00.00
TO 12'-0" AT STA. 901+00.00, 12'-0" FROM STA. 901+00.00 TO STA. 901+41.53

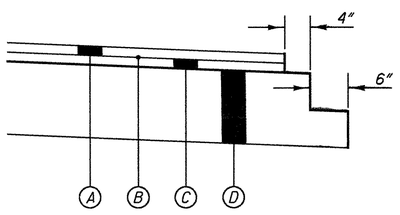
WIDTH VARIES FROM 10'-0" AT STA. 900+00.00 TO 12'-0" AT
STA. 901+00.00, 12'-0" FROM STA. 901+00.00 TO STA. 901+41.53

I.R. 71 NORTHBOUND SUPERELEVATED SECTION
STA. 899+15.68 TO STA. 906+49.96

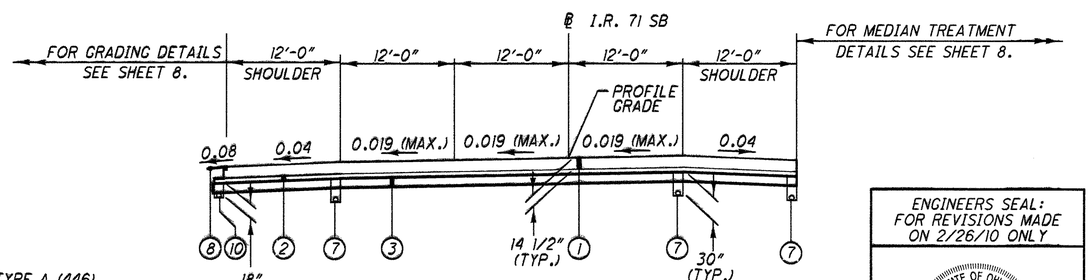


EDGE COURSE DESIGN DETAIL

PAVEMENT COMPOSITION



Ⓐ ITEM 442 - 1 1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5 mm, TYPE A (446)
Ⓑ ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE
Ⓒ ITEM 442 - 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 mm, TYPE A (446)
Ⓓ ITEM 302 - 11 1/4" ASPHALT CONCRETE BASE, PG 64-22



I.R. 71 SOUTHBOUND SUPERELEVATED SECTION
STA. 901+41.53 TO STA. 912+44.05

LEGEND

(1) ASPHALT CONCRETE. SEE PAVEMENT COMPOSITION THIS SHEET.
(2) ITEM 304 - 6" AGGREGATE BASE
(3) ITEM 206 - LIME STABILIZED SUBGRADE, 12" DEEP
(4) ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE B1
(5) ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE C1
(6) ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D
(7) ITEM 605 - 6" SHALLOW PIPE UNDERDRAINS
(8) ITEM 659 - SEEDING AND MULCHING
(9) ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=15")
(10) ITEM 605 - 6" BASE PIPE UNDERDRAINS
(11) ITEM 606 - GUARDRAIL, TYPE 5
(12) ITEM 605 - 6" UNCLASSIFIED PIPE UNDERDRAIN
(13) ITEM 609 - Curb, Type 4-C

REV. BY	DATE	DESCRIPTION
CCW	2/26/10	REMOVED WARRANTY PAVEMENT
CCW	2/26/10	ADDED ITEMS FOR CONVENTIONAL PAVEMENT

ENGINEERS SEAL:
FOR REVISIONS MADE
ON 2/26/10 ONLY

STATE OF OHIO
STEFAN C. SPINOSA
E-58950
REGISTERED PROFESSIONAL ENGINEER

SIGNED:
DATE: 2/26/10

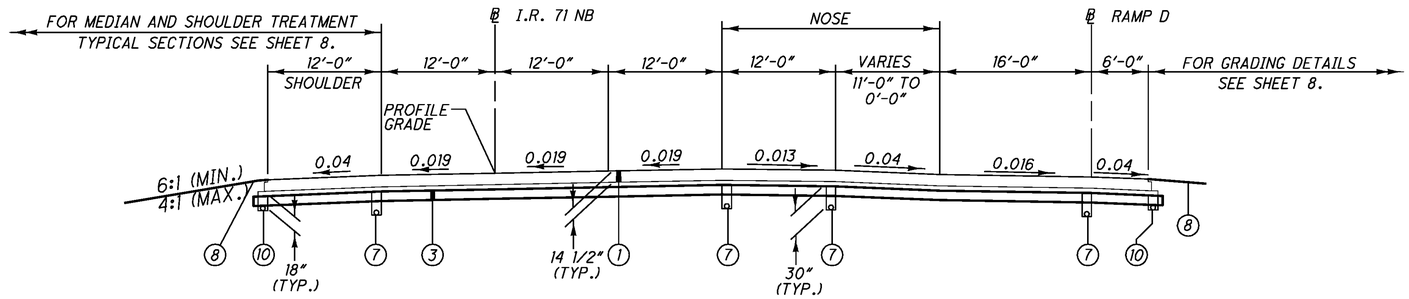
CALCULATED RAT
CHECKED RWK

TYPICAL SECTIONS

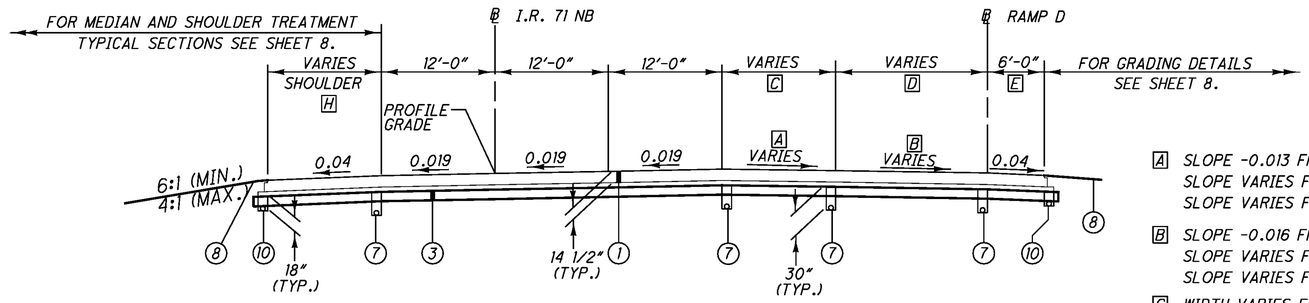
WAR-71-14.20

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470

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I.R. 71 NORTHBOUND
STA. 906+49.96 TO STA. 909+72.33



I.R. 71 NORTHBOUND
STA. 909+72.33 TO STA. 925+91.05

A SLOPE -0.013 FROM STA. 909+72.33 TO STA. 911+41.82
SLOPE VARIES FROM -0.013 AT STA. 911+41.82 TO 0.000 AT STA. 912+41.31
SLOPE VARIES FROM 0.000 AT STA. 912+41.31 TO +0.019 AT STA. 913+41.05

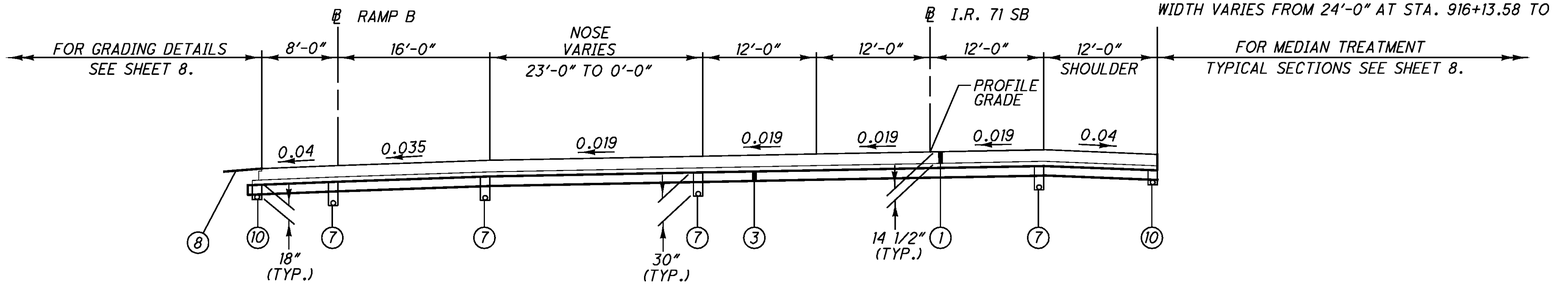
B SLOPE -0.016 FROM STA. 909+72.33 TO STA. 911+41.82
SLOPE VARIES FROM -0.016 AT STA. 911+41.82 TO 0.000 AT STA. 912+41.31
SLOPE VARIES FROM 0.000 AT STA. 912+41.31 TO +0.019 AT STA. 913+41.05

C WIDTH VARIES FROM 12'-0" AT STA. 909+72.33 TO 0'-0" AT STA. 917+81.91

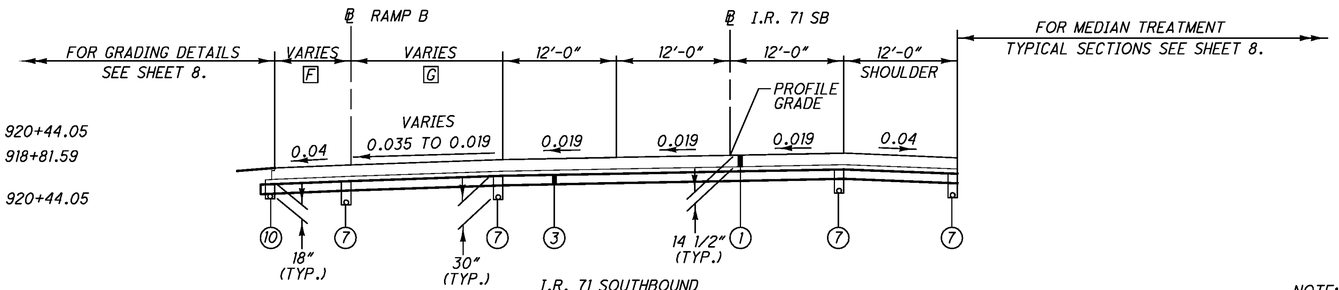
D 16'-0" FROM STA. 909+72.33 TO STA. 917+81.91
WIDTH VARIES FROM 16'-0" AT STA. 917+81.91 TO 0'-0" AT STA. 925+91.05

E 6'-0" FROM STA. 909+72.33 TO STA. 912+41.05
WIDTH VARIES FROM 6'-0" AT STA. 912+41.05 TO 8'-0" AT STA. 913+41.05
8'-0" FROM STA. 913+41.05 TO STA. 923+91.05
WIDTH VARIES FROM 8'-0" AT STA. 923+91.05 TO 12'-0" AT STA. 925+91.05

H 12'-0" FROM STA. 909+72.33 TO STA. 916+13.58
WIDTH VARIES FROM 12'-0" AT STA. 916+13.58 TO 24'-0" AT STA. 916+13.58
WIDTH VARIES FROM 24'-0" AT STA. 916+13.58 TO 14'-6" AT STA. 925+91.05



I.R. 71 SOUTHBOUND
STA. 912+44.05 TO STA. 916+36.16



I.R. 71 SOUTHBOUND
STA. 916+36.16 TO STA. 920+44.05

F 8'-0" FROM STA. 916+36.16 TO STA. 919+44.05
WIDTH VARIES FROM 8'-0" AT STA. 919+44.05 TO 12'-0" AT STA. 920+44.05

G WIDTH VARIES FROM 16'-0" AT STA. 916+36.16 TO 12'-0" AT STA. 918+81.59
12'-0" FROM STA. 918+81.59 TO STA. 919+44.05
WIDTH VARIES FROM 12'-0" AT STA. 919+44.05 TO 0'-0" AT STA. 920+44.05

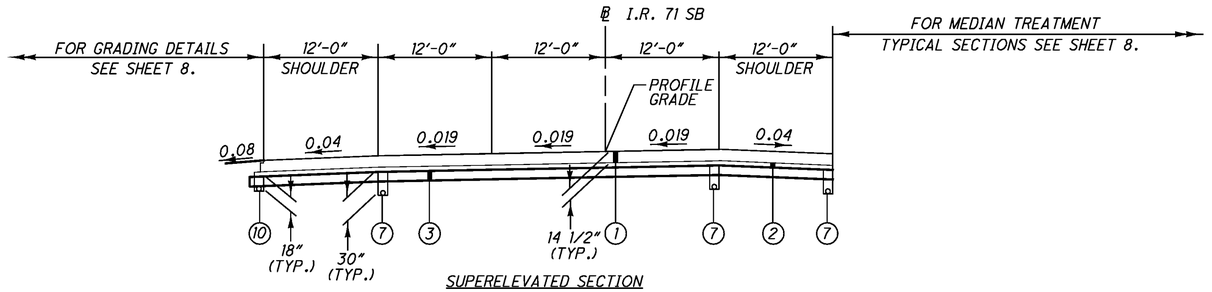
NOTE:
1. FOR PAVEMENT LEGEND, SEE SHEET 3.

CALCULATED RAT
CHECKED RWK

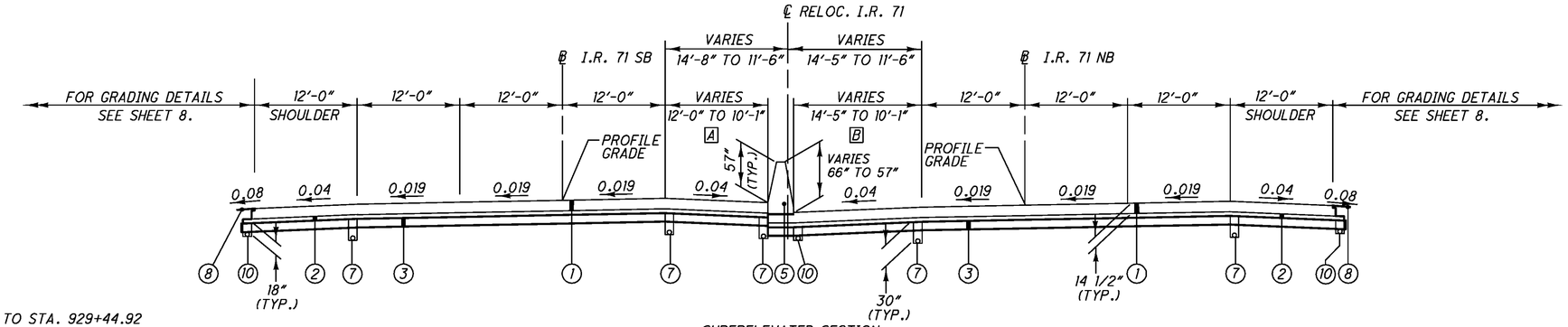
TYPICAL SECTIONS

WAR-71-14.20

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SUPERELEVATED SECTION
I.R. 71 SOUTHBOUND
STA. 920+44.05 TO STA. 925+78.26



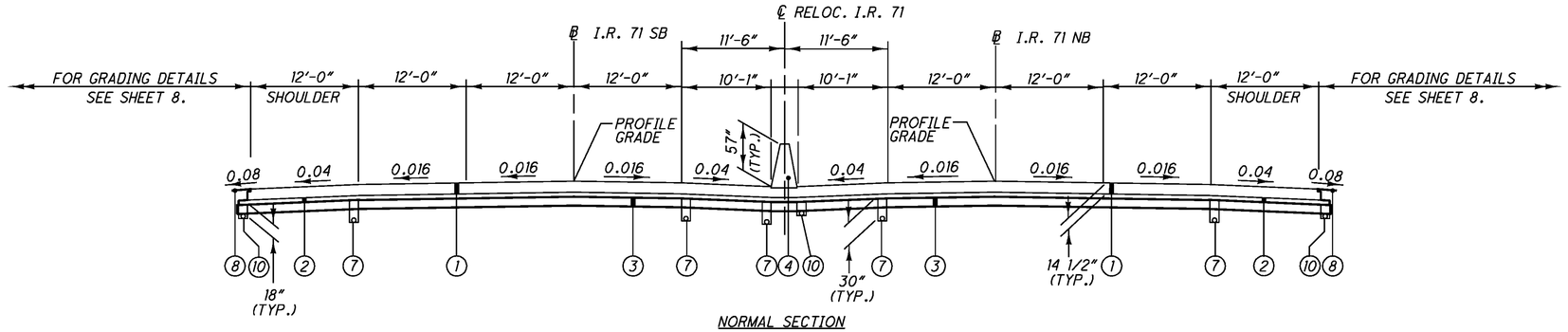
SUPERELEVATED SECTION

A 12'-0" FROM STA. 925+78.26 TO STA. 929+44.92
WIDTH VARIES FROM 12'-0" AT STA. 929+44.92 TO 10'-1" AT STA. 941+99.02
10'-1" FROM STA. 942+03.51 TO STA. 943+95.51

B WIDTH VARIES FROM 14'-5" AT STA. 925+91.05 TO 10'-1" AT STA. 942+18.31
10'-1" FROM STA. 942+03.51 TO STA. 943+95.51

I.R. 71 SOUTHBOUND
STA. 925+78.26 TO STA. 943+95.51
STATION EQUATION:
STA. 941+99.02 ℄ I.R. 71 SB (BACK) =
STA. 942+03.51 ℄ I.R. 71 SB (AHEAD)

I.R. 71 NORTHBOUND
STA. 925+91.05 TO STA. 943+95.51
STATION EQUATION:
STA. 942+18.31 ℄ I.R. 71 NB (BACK) =
STA. 942+03.51 ℄ I.R. 71 NB (AHEAD)



NORMAL SECTION

I.R. 71 SOUTHBOUND
STA. 943+95.51 TO STA. 946+86.00

I.R. 71 NORTHBOUND
STA. 943+95.51 TO STA. 946+86.00

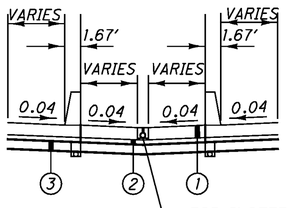
FOR PAVEMENT LEGEND SEE SHEET 3.

CALCULATED RAT
CHECKED RWK

TYPICAL SECTIONS

WAR-71-14.20

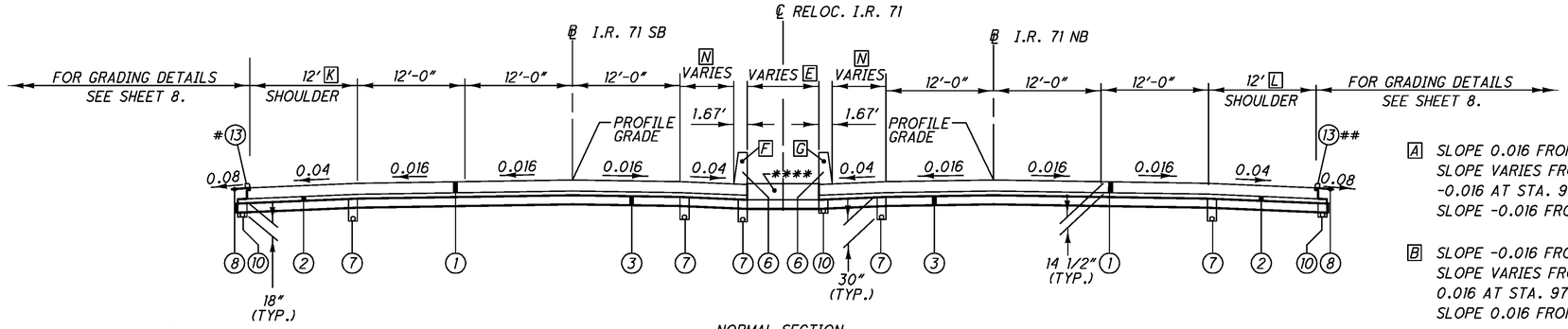
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FOR SLOTTED DRAINS DETAIL SEE STANDARD HYDRAULIC CONSTRUCTION DRAWING DM - 1.3

**** = 12" SLOTTED DRAIN, TYPE 2
I.R. 71NB STA. 947+44.40 TO STA. 948+25.00
I.R. 71NB STA. 948+25.00 TO STA. 948+66.00
I.R. 71SB STA. 971+19.00 TO STA. 971+60.00
I.R. 71NB STA. 971+69.97 TO STA. 972+50.00

⑬# STA. 948+16.00 TO STA. 948+36.00
⑬## STA. 948+01.00 TO STA. 948+21.00



NORMAL SECTION

I.R. 71 SOUTHBOUND

STA. 946+86.00 TO STA. 948+36.00

* TAPER SHOULDER FROM 10'-1" AT STA. 946+86.00 TO 6'-0" AT STA. 948+36.00

I.R. 71 NORTHBOUND

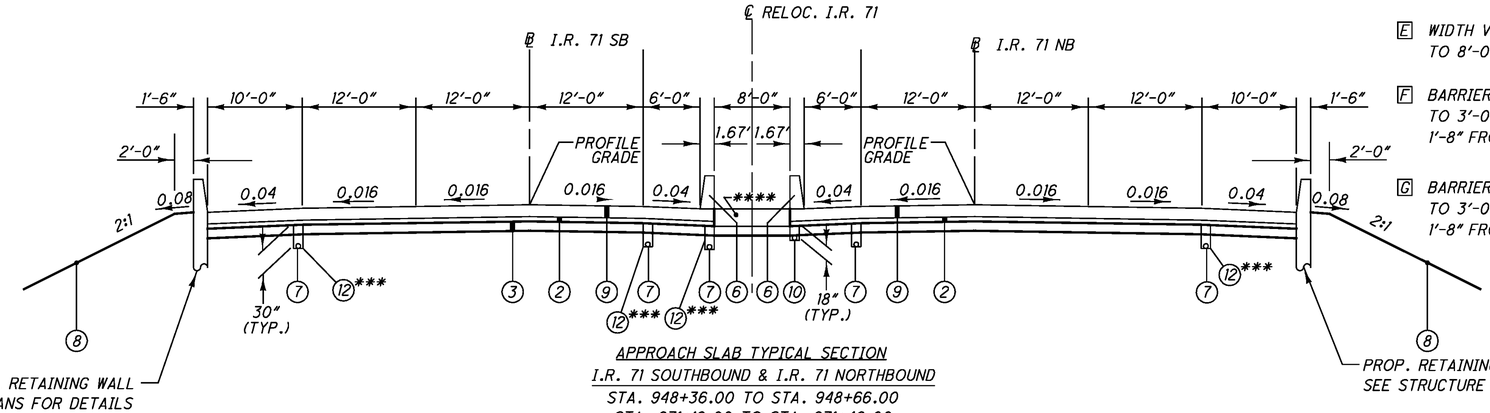
STA. 946+86.00 TO STA. 948+36.00

A SLOPE 0.016 FROM STA. 971+49.00 TO STA. 972+00.00
SLOPE VARIES FROM 0.016 AT STA. 972+00.00 TO -0.016 AT STA. 973+92.00
SLOPE -0.016 FROM STA. 973+92.00 TO STA. 974+79.95

B SLOPE -0.016 FROM STA. 971+49.00 TO STA. 972+00.00
SLOPE VARIES FROM -0.016 AT STA. 972+00.00 TO 0.016 AT STA. 973+92.00
SLOPE 0.016 FROM STA. 973+92.00 TO STA. 974+79.95

C WIDTH VARIES FROM 6'-0" AT STA. 971+49.00 TO 10'-1" AT STA. 973+73.96

D 10'-0" FROM STA. 971+49.00 TO STA. 971+78.14
WIDTH VARIES FROM 10'-0" AT STA. 971+78.14 TO 12'-0" AT STA. 972+28.15
12'-0" FROM STA. 972+28.14 TO STA. 973+73.96



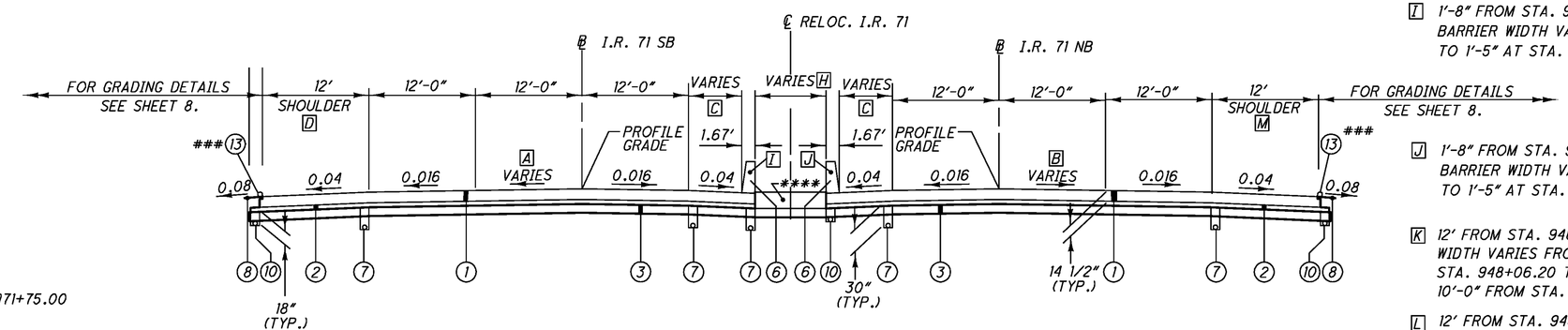
APPROACH SLAB TYPICAL SECTION
I.R. 71 SOUTHBOUND & I.R. 71 NORTHBOUND
STA. 948+36.00 TO STA. 948+66.00
STA. 971+19.00 TO STA. 971+49.00

*** = 6" UNCLASSIFIED PIPE UNDERDRAIN STA. 947+75 TO STA. 948+66.00 LT. & RT.

E WIDTH VARIES FROM 2'-8" AT STA. 947+44.40 TO 8'-0" STA. 948+36.00

F BARRIER WIDTH VARIES FROM 1'-5" AT STA. 946+86.00 TO 3'-0" AT STA. 947+44.40
1'-8" FROM STA. 947+44.40 TO STA. 948+36.00

G BARRIER WIDTH VARIES FROM 1'-5" AT STA. 946+86.00 TO 3'-0" AT STA. 947+44.40
1'-8" FROM STA. 947+44.40 TO STA. 948+36.00



⑬### STA. 971+49.00 TO STA. 971+75.00

NORMAL SECTION

I.R. 71 SOUTHBOUND

STA. 971+49.00 TO STA. 973+73.96

I.R. 71 NORTHBOUND

STA. 971+49.00 TO STA. 973+73.96

H WIDTH VARIES FROM 8'-0" AT STA. 971+49.00 TO 2'-8" STA. 972+40.60

I 1'-8" FROM STA. 971+49.00 TO STA. 972+40.60
BARRIER WIDTH VARIES FROM 3'-10" AT STA. 972+40.60 TO 1'-5" AT STA. 973+73.96

J 1'-8" FROM STA. 971+49.00 TO STA. 972+40.60
BARRIER WIDTH VARIES FROM 3'-10" AT STA. 972+40.60 TO 1'-5" AT STA. 973+73.96

K 12' FROM STA. 946+86.00 TO STA. 948+06.20
WIDTH VARIES FROM 12'-0" AT STA. 948+06.20 TO 10'-0" AT STA. 948+16.00
10'-0" FROM STA. 948+16.00 TO STA. 948+36.00

L 12' FROM STA. 946+86.00 TO STA. 947+41.85
WIDTH VARIES FROM 12'-0" AT STA. 947+41.85 TO 10'-0" AT STA. 947+91.85
10'-0" FROM STA. 947+91.85 TO STA. 948+36.00

M 10'-0" FROM STA. 971+49.00 TO STA. 971+78.25
WIDTH VARIES FROM 10'-0" AT STA. 971+78.25 TO 12'-0" AT STA. 972+28.25
12'-0" FROM STA. 972+28.25 TO STA. 973+73.96

N WIDTH VARIES FROM 10'-0" AT STA. 946+86 TO 6'-0" AT STA. 948+36

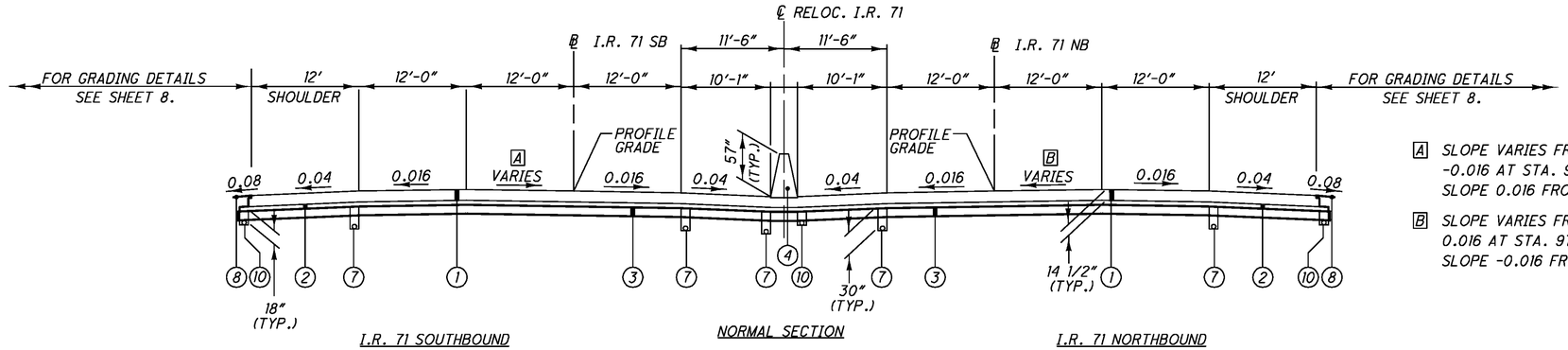
NOTE:
1. FOR PAVEMENT LEGEND, SEE SHEET 3.

CALCULATED RAT
CHECKED RWK

TYPICAL SECTIONS

WAR-71-14.20

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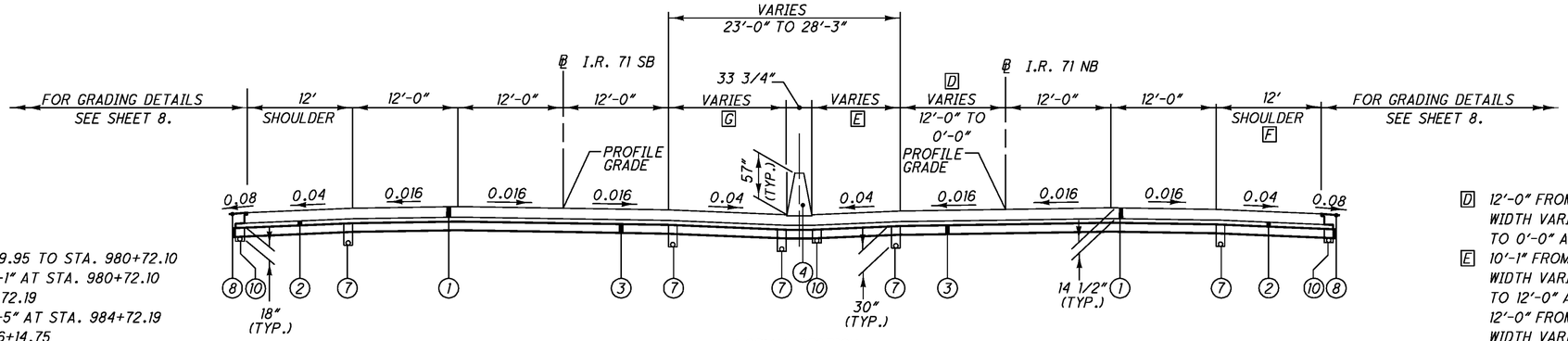
I.R. 71 SOUTHBOUND
STA. 973+73.96 TO STA. 974+79.95

NORMAL SECTION

I.R. 71 NORTHBOUND
STA. 973+73.96 TO STA. 974+79.95

A SLOPE VARIES FROM 0.016 AT STA. 972+00.00 TO -0.016 AT STA. 973+92.00
SLOPE 0.016 FROM STA. 973+92.00 TO STA. 974+79.95

B SLOPE VARIES FROM -0.016 AT STA. 972+00.00 TO 0.016 AT STA. 973+92.00
SLOPE -0.016 FROM STA. 973+92.00 TO STA. 974+79.95



G 10'-1" FROM STA. 974+79.95 TO STA. 980+72.10
WIDTH VARIES FROM 10'-1" AT STA. 980+72.10 TO 13'-5" AT STA. 984+72.19
WIDTH VARIES FROM 13'-5" AT STA. 984+72.19 TO 24'-00" AT STA. 986+14.75

I.R. 71 SOUTHBOUND
STA. 974+79.95 TO STA. 984+72.19

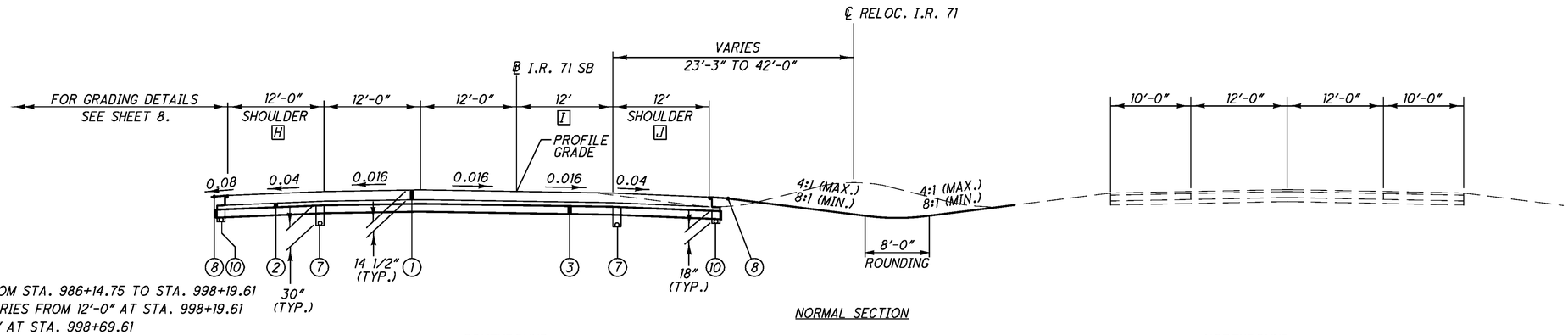
NORMAL SECTION

I.R. 71 NORTHBOUND
STA. 974+79.95 TO STA. 985+72.87

D 12'-0" FROM STA. 974+79.95 TO STA. 984+72.87
WIDTH VARIES FROM 12'-0" AT STA. 984+72.87 TO 0'-0" AT STA. 985+72.87

E 10'-1" FROM STA. 974+79.95 TO STA. 980+26.41
WIDTH VARIES FROM 10'-1" AT STA. 980+26.41 TO 12'-0" AT STA. 984+02.87
12'-0" FROM STA. 984+02.87 TO STA. 984+72.87
WIDTH VARIES FROM 12'-0" AT STA. 984+72.87 TO 18'-11" AT STA. 985+72.87

F 12'-0" FROM STA. 974+79.95 TO STA. 985+22.87
WIDTH VARIES FROM 12'-0" AT STA. 985+22.87 TO 10'-0" AT STA. 985+72.87



NORMAL SECTION

SOUTHBOUND
STA. 984+72.19 TO STA. 998+69.61

NORTHBOUND
STA. 985+72.87 TO STA. 998+70.38

H 12'-0" FROM STA. 986+14.75 TO STA. 998+19.61
WIDTH VARIES FROM 12'-0" AT STA. 998+19.61 TO 10'-0" AT STA. 998+69.61

I 12'-0" FROM STA. 986+14.75 TO STA. 997+69.61
WIDTH VARIES FROM 12'-0" AT STA. 997+69.61 TO 0'-0" AT STA. 998+69.61

J 12'-0" FROM STA. 986+14.75 TO STA. 997+69.61
WIDTH VARIES FROM 12'-0" AT STA. 997+69.61 TO 10'-0" AT STA. 998+69.61

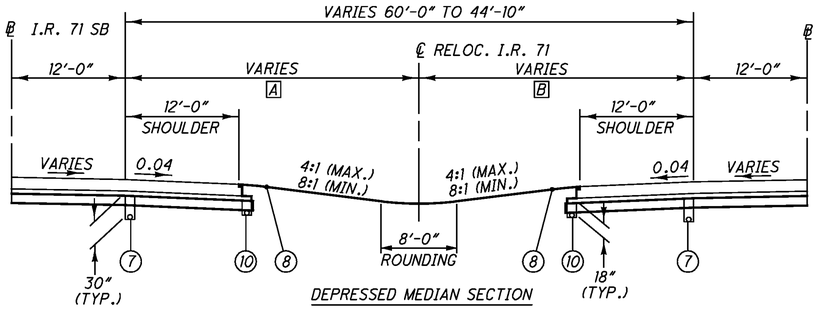
NOTE:
1. FOR PAVEMENT LEGEND, SEE SHEET 3.

CALCULATED RAT
CHECKED RWK

TYPICAL SECTIONS

WAR-71-14.20

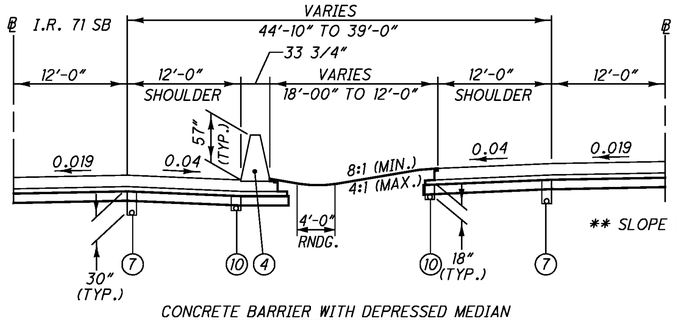
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DEPRESSED MEDIAN SECTION

A I.R. 71 SOUTHBOUND
VARIES FROM 30'-0" AT STA. 900+00.00
TO 22'-9" AT STA. 911+50.00

B I.R. 71 NORTHBOUND
VARIES FROM 30'-0" AT STA. 899+15.68
TO 22'-1" AT STA. 911+56.25

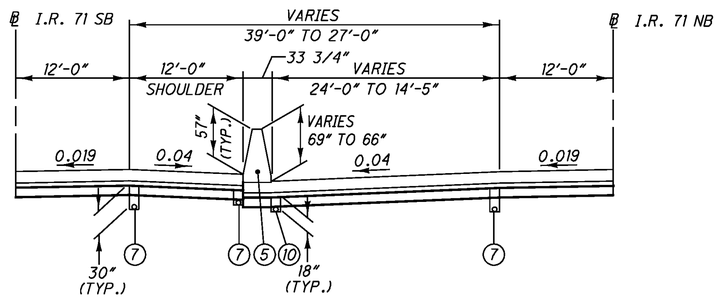


** SLOPE VARIES 8:1 (MIN.) TO 4:1 (MAX.)

CONCRETE BARRIER WITH DEPRESSED MEDIAN

I.R. 71 SOUTHBOUND
STA. 911+50.00 TO STA. 916+05.32

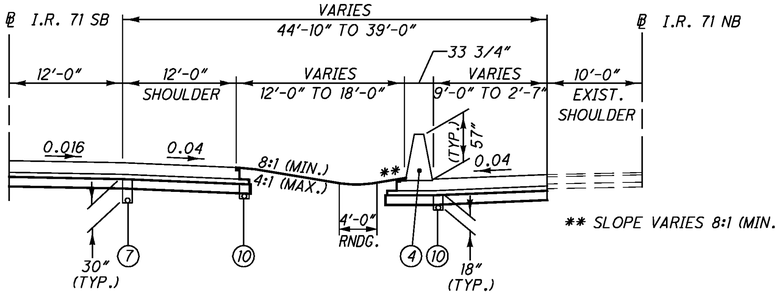
I.R. 71 NORTHBOUND
STA. 911+55.87 TO STA. 916+13.43



CONCRETE BARRIER WITH DEPRESSED MEDIAN

I.R. 71 SOUTHBOUND
STA. 916+05.32 TO STA. 925+78.26

I.R. 71 NORTHBOUND
STA. 916+13.43 TO STA. 925+91.05

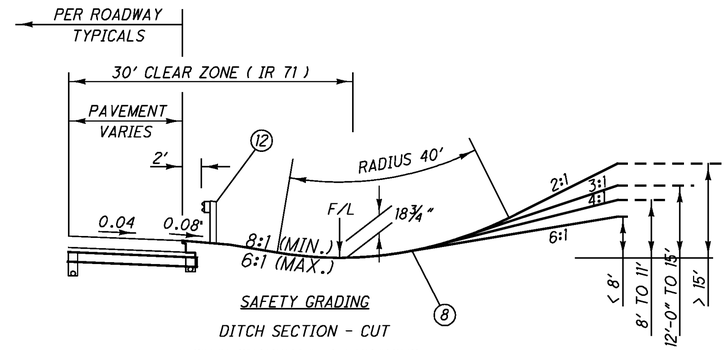


** SLOPE VARIES 8:1 (MIN.) TO 4:1 (MAX.)

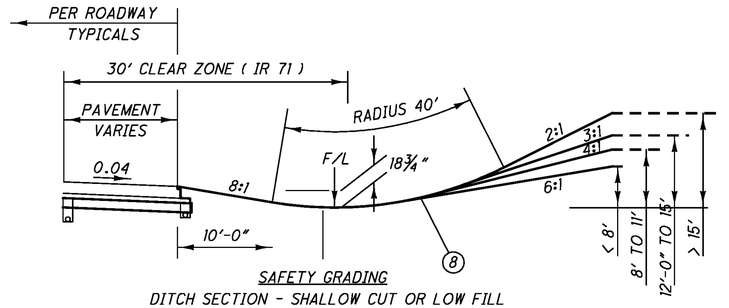
CONCRETE BARRIER WITH DEPRESSED MEDIAN

I.R. 71 SOUTHBOUND
STA. 986+15.49 TO STA. 986+93.76

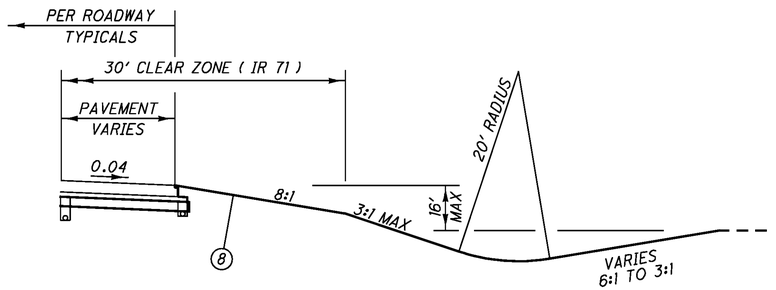
I.R. 71 NORTHBOUND
STA. 985+72.87 TO STA. 986+94.56



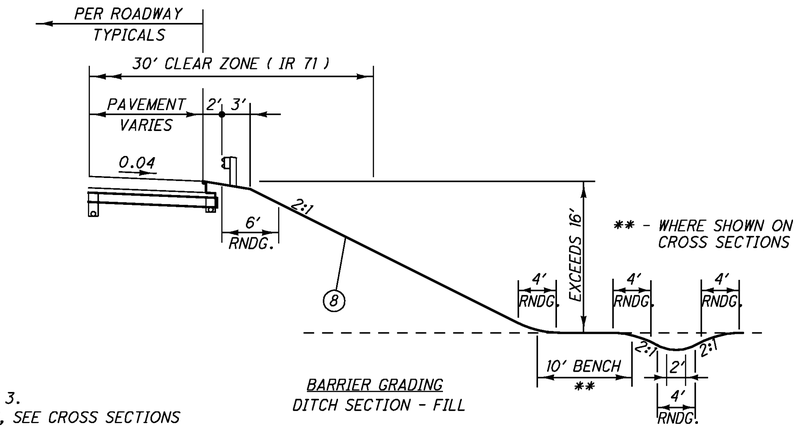
SAFETY GRADING
DITCH SECTION - CUT
WITH GUARDRAIL AT BRIDGES



SAFETY GRADING
DITCH SECTION - SHALLOW CUT OR LOW FILL
W/O GUARDRAIL



SAFETY GRADING
DITCH SECTION - MEDIUM FILL



BARRIER GRADING
DITCH SECTION - FILL

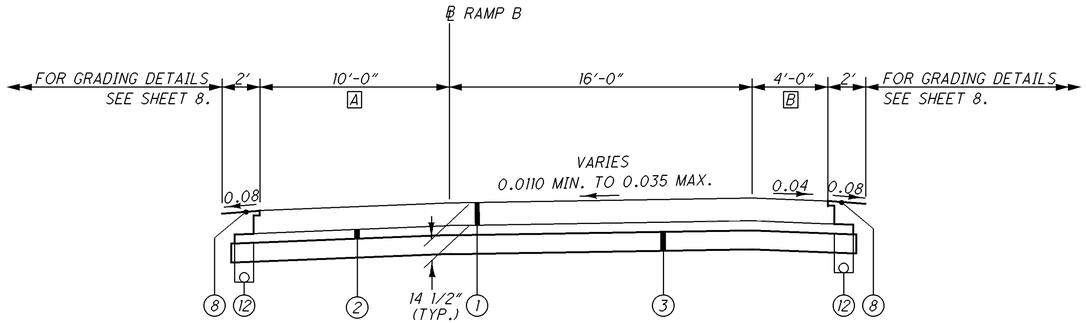
NOTES:
1. FOR PAVEMENT LEGEND, SEE SHEET 3.
2. FOR SPECIFIC GRADING LOCATIONS, SEE CROSS SECTIONS

CALCULATED RAT
CHECKED RWK

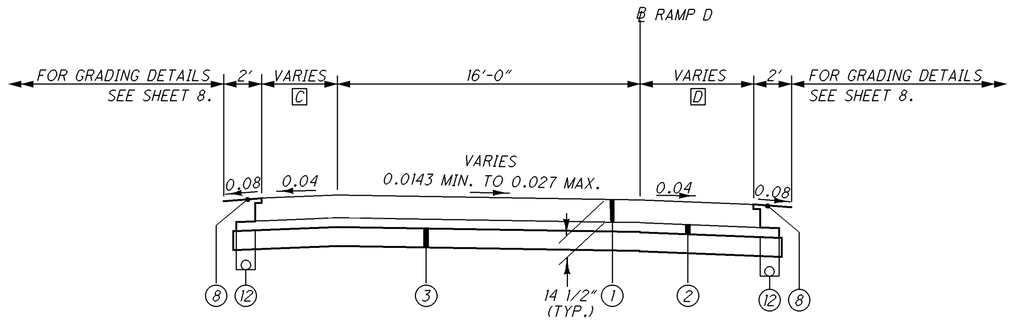
TYPICAL SECTIONS

WAR-71-14.20

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RAMP B
STA. 209+00.00 TO STA. 212+51.24



RAMP D
STA. 503+08.84 TO STA. 506+45.08

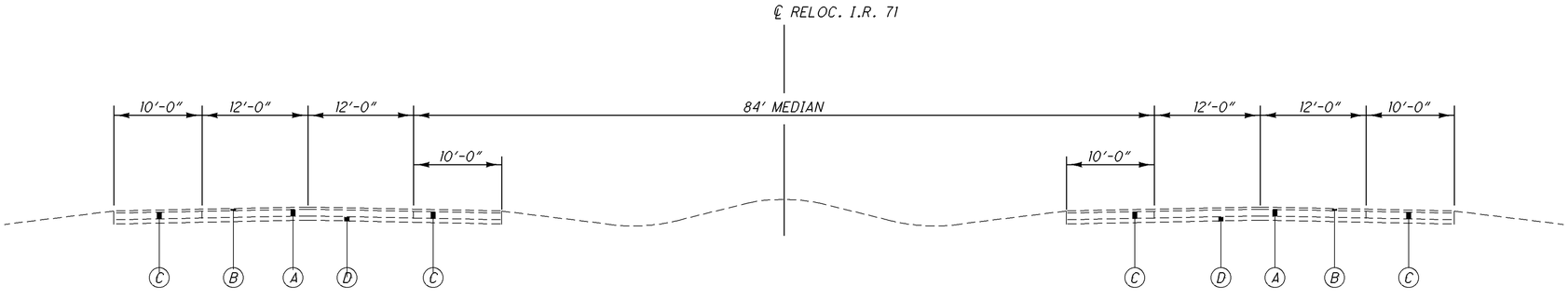
A 10'-0" FROM STA. 209+00.00 TO STA. 212+01.24
WIDTH VARIES FROM 10'-0" AT STA. 212+01.24 TO 8'-0" AT STA. 212+51.24

B WIDTH VARIES FROM 10'-6" AT STA. 209+00.00 TO 4'-0" AT STA. 209+32.50
4'-0" FROM STA. 209+32.50 TO STA. 212+51.24

C WIDTH VARIES FROM 9'-3" AT STA. 503+08.84 TO 4'-0" AT STA. 504+40.09
4'-0" FROM STA. 504+40.09 TO STA. 506+45.08

D 10'-0" FROM STA. 503+08.84 TO STA. 505+45.08
WIDTH VARIES FROM 10'-0" AT STA. 505+45.08 TO 6'-0" AT STA. 506+45.08

NOTE:
1. FOR PAVEMENT LEGEND, SEE SHEET 3.



EXISTING SECTION
INTERSTATE 71

EXISTING LEGEND

(A) ± 12" REINFORCED CONCRETE
(B) ± 6" ASPHALT SURFACE COURSE
(C) ± 9" ASPHALT BASE COURSE
(D) 6" AGGREGATE BASE

CALCULATED RAT
CHECKED RWK

RAMP B, RAMP D, & EXISTING TYPICAL SECTIONS

WAR-71-14.20

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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:

DUKE - ELECTRIC
ATTN: GINNY MEYER
139 E. FOURTH ST.
ROOM 467A
CINCINNATI. OH 45202
PHONE (513) 287-1748

WESTERN WATER COMPANY
ATTN: KURT MEEKER
1775 STATE ROUTE 28
GOSHEN, OH 45122
PHONE (513) 899-3211 X22

SPRINT
ATTN: KEITH SCHNEIDER
20 N. MECHANIC ST.
LEBANON, OH 45036
PHONE (513) 933-3591

DAYTON POWER & LIGHT COMPANY
ATTN: JOHN KENTON
1900 DRYDEN ROAD
DAYTON, OH 45439
PHONE (937) 331-4132

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.

WEATHER STATION

THE EXISTING WEATHER STATION LOCATED IN THE MEDAIN NEAR EXISTING I.R. 71 @ STA. 971+50 WILL BE RELOCATED BY OTHERS. THE CONTRACTOR IS REQUIRED TO NOTIFY THE WEATHER STATION COORDINATOR, ODOT OFFICE OF MAINTENANCE ADMINISTRATION, AT 614-466-3264, 30 DAYS PRIOR TO WORK COMMENCING NEAR THE WEATHER STATION.

ELEVATION DATUM

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

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

CLEARING AND GRUBBING

ALTHOUGH THERE ARE TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATIONS IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. BENCH ALL OTHER SLOPED EMBANKMENT AREAS AS SET FORTH IN 203.05. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF 203.05.

ADDITIONAL SOIL INFORMATION

THE SOIL PROFILE AND/OR STRUCTURE FOUNDATION INVESTIGATIONS SHEETS CONTAIN ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN. ADDITIONAL SUBSURFACE INVESTIGATION INFORMATION IS AVAILABLE FROM ODOT DISTRICT 8, 505 SOUTH S.R. 741, LEBANON, OHIO FOR PROJECTS WAR-I-1514 AND WAR-I-1564.

FENCE LENGTHS

THE LENGTHS OF FENCE SHOWN IN THE PLANS ARE HORIZONTAL DIMENSIONS. MEASUREMENTS OF THE FINAL QUANTITIES WILL BE IN ACCORDANCE WITH ITEM 607.

ITEM 606 - ANCHOR ASSEMBLY, TYPE B-98

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING GUARDRAIL END TERMINALS, OR AN APPROVED EQUAL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE AT WWW.DOT.STATE.OH.US/DRRC/ UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS:

1) THE SRT-350, GUARDRAIL END TERMINAL AS MANUFACTURED BY TRINITY INDUSTRY, 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. NO.	DRAWING NAME	DWG./ REV. DATE	ODOT APPROVAL DATE
SS444	SLOTTED RAIL TERMINAL POST LAYOUT AND	7/12/99 Rev. 1	8/27/99
SS444M	ERECTION DETAILS SRT-350 (12.5, 8 POST)	7/12/99	
SS425M	SLOTTED RAIL TERMINAL SRT-350 POST LAYOUT AND ERECTION DETAILS (12.5, 9 POST)	6/21/97 Rev. 1	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. NO.	DRAWING NAME	DWG./ REV. DATE	ODOT APPROVAL DATE
FLT-M	FLARED ENERGY ABSORBING TERMINAL (FLEAT-350) ASSEMBLY	4/16/98	7/31/98

REFER TO THE MANUFACTURER'S INSTRUCTION REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4-INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 27-3/4-INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

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 606 - ANCHOR ASSEMBLY, TYPE E-98

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING GUARDRAIL END TERMINALS, OR AN APPROVED EQUAL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE AT WWW.DOT.STATE.OH.US/DRRC/ UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS:

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

THE LENGTH OF THE ET-2000 (1997) SYSTEM IS CONSIDERED TO BE 50'-0", INCLUSIVE OF TWO 25'-0" 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. NO.	DRAWING NAME	DWG./ REV. DATE	ODOT APPROVAL DATE
SSS265M	ET-2000 (1997) PLAN, ELEVATION AND SECTIONS	6/20/97	3/6/98
SS142	ET2000 PLUS 50'-0" PLAN, ELEVATION AND SECTION 25'-0" RAIL, SLEEVE W/PL POSTS 1-4	4/12/00	7/31/00
SS141	ET2000 PLUS PLAN, ELEVATION AND SECTION 25'-0" RAIL, HBA POSTS 1-4	2/29/00	7/31/00
SS158	ET2000 PLUS 50'-0" WITH 12'-6" PANELS AND HBA POSTS 1-4 PLAN, ELEVATION AND SECTION	5/22/00	7/31/00

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

THE LENGTH OF THE SKT-350 SYSTEM IS CONSIDERED TO BE 50'-0", 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. NO.	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 18" X 18", OR 12" X 18" IF APPLIED TO A RECTANGULAR ET-2000 "PLUS" EXTRUDER HEAD.

REFER TO THE MANUFACTURER'S INSTRUCTION REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4-INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 27-3/4-INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4-INCHES ABOVE THE GROUND LINE.

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.

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

REV. BY	DATE	DESCRIPTION
CWW	2/26/10	REMOVED ASPHALT WARRANTY NOTE

CALCULATED KOD CHECKED RWK

GENERAL NOTES

WAR-71-14.20

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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.

FARM DRAINS

ALL FARM DRAINS, WHICH ARE ENCOUNTERED DURING CONSTRUCTION, SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS. EXISTING COLLECTORS WHICH ARE LOCATED BELOW THE ROADWAY DITCH ELEVATIONS, AND WHICH CROSS THE ROADWAY, SHALL BE REPLACED WITHIN THE (RIGHT OF WAY) (CONSTRUCTION) LIMITS BY ITEM 603 CONDUIT, TYPE B, ONE COMMERCIAL SIZE LARGER THAN THE EXISTING CONDUIT.

EXISTING COLLECTORS AND ISOLATED FARM DRAINS, WHICH ARE ENCOUNTERED ABOVE THE ELEVATION OF ROADWAY DITCHES, SHALL BE OUTLETTED INTO THE ROADWAY DITCH BY 603 TYPE F CONDUIT. THE OPTIMUM OUTLET ELEVATION SHALL BE ONE FOOT ABOVE THE FLOWLINE ELEVATION OF THE DITCH. LATERAL FIELD TILES WHICH CROSS THE ROADWAY SHALL BE INTERCEPTED BY 603, TYPE E CONDUIT, AND CARRIED IN A LONGITUDINAL DIRECTION TO AN ADEQUATE OUTLET OR ROADWAY CROSSING.

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

EROSION CONTROL PADS AND ANIMAL GUARDS SHALL BE PROVIDED AT THE OUTLET END OF ALL FARM DRAINS AS PER STANDARD CONSTRUCTION DRAWING DM-1.1, EXCEPT WHEN THEY OUTLET INTO A DRAINAGE STRUCTURE. PAYMENT FOR THE EROSION CONTROL PADS AND ANIMAL GUARDS AND ANY NECESSARY BENDS OR BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEMS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

603 6" CONDUIT, TYPE B 50 FT.

603 6" CONDUIT, TYPE E 50 FT.

603 6" CONDUIT, TYPE F 50 FT.

601 ROCK CHANNEL PROTECTION TYPE C WITH FILTER 3 CU. YD.

ITEM 603 - CONDUIT BORED OR JACKED

WHERE IT IS SPECIFIED IN THE MOT PLANS THAT A CONDUIT BE INSTALLED BY THE METHOD OF BORING OR JACKING, NO TRENCH EXCAVATION SHALL BE CLOSER THAN 30 FEET TO THE EDGE OF PAVEMENT. PROVIDE A 0.50 INCH UNGALVANIZED CASING PIPE CONFORMING TO 748.06 THAT HAS JOINTS WITH A CIRCUMFERENCIAL FULLY PENETRATING B-U4B WELD THAT IS PERFORMED BY AN ODOT APPROVED FIELD WELDER. THE INSTALLED CASING PIPE IS THE STORM WATER CONVEYANCE CARRIER UNLESS OTHERWISE SPECIFIED IN THE PLANS. HYDROSTATIC TESTING IS NOT REQUIRED FOR THE CASING PIPE.

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 APPURTENANCE 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.

ITEM 603 - SLOTTED DRAIN: 12", TYPE 2

THIS ITEM SHALL CONSIST OF 12 INCH DIAMETER SLOTTED DRAIN BITUMINOUS COATED STEEL CONDUIT 707.05 (14 GAUGE) WITH 6 INCH BY 3/16 INCH GALVANIZED SOLID BAR GRATE AS APPROVED BY THE ENGINEER. ALL COSTS FOR LABOR AND MATERIALS, INCLUDING TYPE 2 BEDDING, AND BACKFILLING AS DETAILED ON STANDARD CONSTRUCTION DRAWING DM-1.3 SHALL BE INCLUDED IN THE PRICE BID PER FOOT FOR ITEM 603 SLOTTED DRAIN: 12 INCH, TYPE 2.

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

659, SOIL ANALYSIS TEST	2 EACH
659, TOPSOIL	12,632 CU. YD.
659, REPAIR SEEDING AND MULCHING	5,690 SQ. YD
659, INTER-SEEDING	5,690 SQ. YD.
659, COMMERCIAL FERTILIZER	15.87 TON
659, LIME	23.51 ACRES
659, WATER	630 M GAL.
659, MOWING	256 M SQ. FT.

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

SODDING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SODDED AREAS.

659, SOIL ANALYSIS TEST	2 EACH
659, TOPSOIL	268 CU. YD.
659, COMMERCIAL FERTILIZER	0.33 TON
659, LIME	0.50 ACRE
659, WATER	52 M GAL.

TRAFFIC CONTROL GENERAL NOTES

THE PAVEMENT MARKINGS SHALL BE INLAID INTO THE BRIDGE DECK AND BOTH APPROACH SLABS PER OHIO DEPARTMENT OF TRANSPORTATION SPECIFICATIONS (RAISED PAVEMENT MARKERS SHALL BE OMITTED FROM THE DECK/APPROACH SLABS). INLAID PAVEMENT MARKINGS SHALL BE ITEM 645, TYPE A3-PREFORMED PAVEMENT MARKINGS. THE GROOVE WIDTH SHOULD BE HALF AN INCH WIDER ON EACH SIDE AND HALF AN INCH LONGER ON EACH END THAN THE PAVEMENT MARKING AND THE DEPTH SHALL BE 150 MILS OR ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. INSTALLATION OF THE GROOVE, INCLUDING METHODS AND EQUIPMENT, SURFACE PREPARATION, AND MARKING INSTALLATION SHALL BE DONE ACCORDING TO THE MANUFACTURER'S RECOMMENDATION.

THE LOCATION OF THE REFERENCE POSTS 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 OF THE PLAN DATA OF REFERENCE POST INSTALLATION. THE ENGINEER WILL CONTACT THE OFFICE OF TECHNICAL SERVICES WHICH WILL LOCATE THE LONGITUDINAL POSITION OF THE REFERENCE POST BY MEANS OF A PAINT MARK ON THE PAVEMENT EDGE, ALTERNATE MARKS WILL NOT BE PROVIDED ON DIVIDED HIGHWAYS AND THE CONTRACTOR SHALL SET REFERENCE POSTS FOR THE OPPOSITE ROADWAY ACROSS FROM THE PROVIDED MARK. DELINEATORS WHOSE NORMAL POSITION FALLS WITHIN 50 FEET OF A REFERENCE POST SHALL BE OMITTED.

THE LOGO SIGNS, THAT INDICATE FOOD, GAS, AND LODGING, LOCATED AT THE INTERCHANGES, ARE INSTALLED AND MAINTAINED BY ODOT'S DESIGNATED PROGRAM MANAGER. THEREFORE, IF IN THE PLANS, THERE ARE ANY LOGO SIGNS THAT ARE MARKED FOR RELOCATION BY OTHERS, THE REQUIRED WORK FOR THE RELOCATION OF THOSE SIGNS SHALL BE PERFORMED BY THE PROGRAM MANAGER. ODOT SHALL BE NOTIFIED AT (513) 933-6689 SIXTY DAYS PRIOR TO NEEDING THE SIGNS RELOCATED IN ORDER TO SCHEDULE THE RELOCATION WITH THE PROGRAM MANAGER. COORDINATION OF THE REMOVAL, REERECTION, AND POSSIBLE RELOCATION OF THE LOGO SIGNS, SHALL BE MANAGED BY THE PROJECT ENGINEER.

POST CONSTRUCTION STORM WATER TREATMENT

THIS PLAN UTILIZES STRUCTURAL BEST MANAGEMENT PRACTICES (BMP'S) FOR POST CONSTRUCTION STORM WATER TREATMENT.

EXFILTRATION TRENCH

EXFILTRATION TRENCHES WILL BE PLACED AT THE PROPOSED CURB AND MEDIAN BARRIER AS PER SCD WQ-1.2 AT THE FOLLOWING LOCATIONS:

ITEM 835 - EXFILTRATION TRENCH, TYPE B

I-71 NORTHBOUND
STA. 920+75 TO STA. 920+99 = 24 FT.
STA. 925+83 TO STA. 925+99 = 16 FT.
STA. 930+87 TO STA. 930+99 = 12 FT.
STA. 935+87 TO STA. 935+99 = 12 FT.
STA. 940+91 TO STA. 940+99 = 8 FT.
STA. 943+31 TO STA. 943+35 = 4 FT.
STA. 945+81 TO STA. 945+85 = 4 FT.
STA. 948+06 TO STA. 948+10 = 4 FT.
STA. 971+41 TO STA. 971+45 = 4 FT.
STA. 971+54 TO STA. 971+58 = 4 FT.
STA. 973+87 TO STA. 973+91 = 4 FT.
STA. 977+15 TO STA. 977+23 = 8 FT.
STA. 982+15 TO STA. 982+27 = 12 FT.
SUB TOTAL: 116 FT.

I-71 SOUTHBOUND
STA. 920+87 TO STA. 920+99 = 12 FT.
STA. 925+87 TO STA. 925+99 = 12 FT.
STA. 930+87 TO STA. 930+99 = 12 FT.
STA. 935+91 TO STA. 935+99 = 8 FT.
STA. 940+91 TO STA. 940+99 = 8 FT.
STA. 943+27 TO STA. 943+35 = 8 FT.
STA. 945+77 TO STA. 945+85 = 8 FT.
STA. 948+02 TO STA. 948+10 = 8 FT.
STA. 971+41 TO STA. 971+45 = 4 FT.
STA. 973+87 TO STA. 974+03 = 16 FT.
STA. 977+15 TO STA. 977+39 = 24 FT.
STA. 982+15 TO STA. 982+39 = 24 FT.
SUB TOTAL: 144 FT.
TOTAL: 260 FT.

ITEM 835 - EXFILTRATION TRENCH, TYPE C

I-71 NORTHBOUND
STA. 948+00 TO STA. 948+04 = 4 FT.

I-71 SOUTHBOUND
STA. 971+54 TO STA. 971+58 = 4 FT.
TOTAL: 8 FT.

REV. BY	DATE	DESCRIPTION
CWW	4/22/10	REVISED TRAFFIC CONTROL NOTE

CALCULATED KOD CHECKED RWK

GENERAL NOTES

WAR-71-14.20

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ITEM 624 - MOBILIZATION, AS PER PLAN (SOUTHERN VALLEY ACCESS)

THE ACCESS ROAD OFF OF THE SCENIC VIEW DRIVE IN THE NORTHBOUND REST AREA SHALL BE USED BY THE CONTRACTOR TO GAIN ACCESS TO THE SOUTHERN VALLEY FLOOR. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL A DESIGN TO TEMPORARILY MODIFY THE ACCESS ROAD FOR HIS USE. ALL WORK ASSOCIATED WITH TEMPORARY MODIFICATION TO THE ACCESS ROAD SHALL CLEAR SPAN STREAMS AND SHALL NOT INCLUDE ANY WORK OR PIPING WITHIN STREAMS.

LAYDOWN AREAS SHALL BE WITHIN THE RIGHT-OF-WAY OF THE INTERSTATE AND REST AREAS OR AS SHOWN ON THE PLANS. LIMITED ELECTRONIC GROUND SURVEY INFORMATION IS AVAILABLE BY CONTACTING THE ODOT DISTRICT 8 PRODUCTION OFFICE, 513-933-6614. THE COST OF THE ABOVE WORK SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 624 - MOBILIZATION, AS PER PLAN (SOUTHERN VALLEY ACCESS).

ITEM 624 - MOBILIZATION, AS PER PLAN (TEMPORARY CROSSING)

THE CONTRACTOR MAY CONSTRUCT A TEMPORARY CROSSING OVER THE LITTLE MIAMI RIVER DURING CONSTRUCTION OPERATIONS. THE TEMPORARY CROSSING MUST BE A COMPLETE CLEAR SPAN OF THE ORDINARY HIGH WATER MARK ALONG THE RIVER BANKS (ELEVATION 664.0), PROVIDE A MINIMUM WATERWAY OPENING OF 5,000 SF. BELOW LOW STEEL, AND BE LOCATED TO THE LEFT OF THE EXISTING SOUTHBOUND BRIDGE. NO TEMPORARY CROSSING WORK SHALL BE LOCATED LESS THAN 100' LEFT OF THE PROPOSED I-71 CENTERLINE. THE COST OF THE ABOVE WORK SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 624 - MOBILIZATION, AS PER PLAN (TEMPORARY CROSSING).

ITEM 623 - CONSTRUCTION LAYOUT STAKES, AS PER PLAN

ALL OF THE WORK SHALL BE PERFORMED IN ACCORDANCE WITH ITEM 623 EXCEPT WHERE MODIFIED IN THE PLANS.

PRIOR TO CONSTRUCTION, BENCH MARKS SHALL BE REESTABLISHED OUTSIDE THE CONSTRUCTION LIMITS.

AT THE TERMINATION OF THE PROJECT, SET ALL MISSING AND/OR OBLITERATED IRON PINS SHOWN ON THE RIGHT-OF-WAY PLAN. EACH PIN SHALL BE ¾" BY 36" REINFORCING ROD WITH AN ALUMINUM CAP STAMPED WITH THE SURVEYOR'S NAME AND REGISTRATION NUMBER. THE PINS SHALL BE SET UNDER THE SUPERVISION OF A REGISTERED SURVEYOR HIRED BY THE CONTRACTOR.

THE DEPARTMENT WILL PAY FOR ALL LABOR, TOOLS, SERVICES, MATERIAL, EQUIPMENT AND INCIDENTIALS NECESSARY TO COMPLETE THE WORK INCLUDED IN THE ACCEPTABLE QUANTITY AT THE CONTRACT PRICE BY THE LUMP SUM FOR ITEM 623 CONSTRUCTION LAYOUT STAKES, AS PER PLAN.

ITEM 206 - CURING COAT, AS PER PLAN

CURE THE LIME STABILIZED SUBGRADE WITH EMULSIFIED ASPHALT, TYPE RS-1 OR RS-2 PER 702.04 AT A RATE OF 0.3 GALLONS PER SQUARE YARD. NO SUBSTITUTE FOR THE EMULSIFIED ASPHALT CURE SHALL BE PERMITTED. ALL OTHER ITEMS OF ITEM 206, LIME STABILIZED SUBGRADE SHALL APPLY.

CALCULATIONS

<u>SEEDING AND MULCHING</u>

659, SOIL ANALYSIS TEST
1/10 X 1/4,840 X 113,801 = 2 - USE 2 TESTS

659, TOPSOIL
111/1,000 X 113,081 = 12,632 CU. YD.

659, REAPIR SEEDING AND MULCHING
0.05 X 113,801 = 5,690 SQ. YD.

659, INTER-SEEDING
0.05 X 113,801 = 5,690 SQ. YD.

659, COMMERCIAL FERTILIZER
1/7,410 X 113,801 = 15.36 TON
20/1,000 X 9/2,000 X 5,690 = 0.51 TON
TOTAL = 15.87 TON

659, LIME
1/4,840 X 113,801 = 23.51 AC

659, WATER
2 X 300/1,000 X 9/1,000 X 113,801 = 615 M GAL
2 X 300/1,000 X 9/1,000 X 5,690 = 15 M GAL
TOTAL = 630 M GAL

659, MOWING
0.25 X 9/1,000 X 113,801 = 256 M SQ. FT.

<u>SODDING, STAKED</u>

659, SOIL ANALYSIS TEST
1/10 X 1/4,840 X 2,414 = 1 - USE 2 TESTS

659, TOPSOIL
111/1,000 X 2,414 = 268 CU. YD.

659, COMMERCIAL FERTILIZER
1/7,410 X 2,414= 0.33 TON

659, LIME
1/4,840 X 2,414 = 0.50 AC

659, WATER
8 X 300/1,000 X 9 X 1/1,000 X 2,414 = 52 M GAL

ENVIRONMENTAL

THIS PROJECT IS WITHIN THE KNOWN SUMMER BREEDING RANGE OF THE FEDERAL ENDANGERED INDIANA BAT. UNAVOIDABLE CUTTING OF TREES DEFINED AS POTENTIAL HABITAT FOR THE INDIANA BAT (LIVING OR STANDING DEAD TREES OR SNAGS WITH EXFOLIATING, PEELING OR LOOSE BARK, SPLIT TRUNKS AND/OR BRANCHES, OR CAVITIES) WILL BE PERFORMED ONLY BEFORE APRIL 15 OR AFTER SEPTEMBER 15 WHEN THE SPECIES WOULD NOT BE USING SUCH HABITATS.

SECTION 404/401 PERMITS WILL BE OBTAINED BY ODOT PRIOR TO CONSTRUCTION.

CONSTRUCTION ACCESS WOULD BE ALONG THE EXISTING LANE FROM THE SOUTHBOUND OVERLOOK ON THE WEST SIDE OF THE RIVER, AND ALONG THE MEDIAN FROM THE EAST SIDE.

THERE WILL BE NO WORK, INCLUDING TEMPORARY CROSSING STRUCTURES OR PLACEMENT OF DEMOLITION DEBRIS, ANYWHERE WITHIN THE BED AND BANK OF THE LITTLE MIAMI RIVER. WHILE A TEMPORARY CROSSING MAY BE NECESSARY, IT MUST BE A CLEAR SPAN OF THE RIVER, AND IT MUST ALLOW FOR CONTINUED BOAT AND CANOE TRAFFIC ALONG THE RIVER.

WORK IN ANY OTHER STREAMS THAT ARE TRIBUTARY TO THE LITTLE MIAMI RIVER WILL BE AVOIDED.

ALL WETLANDS IDENTIFIED IN THE PROJECT AREA BEYOND THE CONSTRUCTION LIMITS DESIGNATED ON THE PLANS WILL BE AVOIDED.

TEMPORARY CLOSURES OF THE LITTLE MIAMI RIVER AND THE LITTLE MIAMI RIVER TRAIL WILL BE LIMITED TO NO MORE THAN 60 MINUTES AT A TIME. SIGNAGE AND PERSONNEL WILL BE PROVIDED AS NECESSARY TO INSURE THE SAFETY OF BICYCLISTS AND BOATERS. THE ANTICIPATED CLOSING OF THE BIKEWAY AND THE RIVER WILL OCCUR BETWEEN WILMINGTON ROAD (MATHERS MILL) TO THE NORTH (UPSTREAM) AND SR 350 TO THE SOUTH, A LENGTH OF APPROXIMATELY 1.5 TO 2 MILES. ANY CLOSURES DURING THE PERIOD OF APRIL TO OCTOBER WILL BE COORDINATED AS FAR IN ADVANCE AS POSSIBLE WITH STAKEHOLDERS THROUGH THE DISTRICT PIO AND POSTED.

NO RIVER OR BIKEWAY CLOSURES WILL OCCUR DURING THE WEEKENDS.

ANY DISTURBANCE OF THE BIKEWAY, VEGETATION, OR SAFETY BARRIERS ALONG THE BIKEWAY WILL BE RESTORED.

THE CONTRACTOR WILL ADVISE THE PROJECT ENGINEER A MINIMUM OF FOURTEEN (14) DAYS PRIOR TO THE FOLLOWING: THE START OF CONSTRUCTION ACTIVITIES, LANE CLOSURES, AND ROAD CLOSURES. THE PROJECT ENGINEER WILL FORWARD THIS INFORMATION TO THE DISTRICT PUBLIC INFORMATION OFFICER (PIO) BY FAX AT (513) 932-7651 OR EMAIL AT D08.PIO.Form@dot.state.oh.us. THE PIO WILL, IN TURN, NOTIFY THE PUBLIC, THE LOCAL EMERGENCY SERVICES, AFFECTED SCHOOLS AND BUSINESSES, AND ANY OTHER IMPACTED LOCAL PUBLIC AGENCY OF ANY OF THE ABOVE MENTIONED ITEMS, VIA MEDIA SOURCES.

ALL RIVERBANK VEGETATION WITHIN 120 FEET OF THE RIVER SHOULD BE LEFT UNDISTURBED TO THE MAXIMUM EXTENT POSSIBLE. A LANDSCAPING PLAN WILL BE DEVELOPED FOR RESTORATION OF RIPARIAN VEGETATION WITHIN THIS AREA AS A RESULT OF CONSTRUCTION. THE PLAN WILL INCLUDE RESTORATION WITH TREE AND SHRUB SPECIES CONSISTENT WITH THE NATURAL MIXTURE AND DIVERSITY OF THE IMMEDIATE AREA, AND INCLUDE PROVISIONS FOR WATERING AND THE REPLACEMENT OF TREES AND SHRUBS IN THE EVENT OF MORTALITY. PLAN DEVELOPMENT WILL BE COORDINATED WITH THE OHIO STATE DIVISION OF NATURAL AREAS AND PRESERVES, AND THE OHIO STATE SCENIC RIVERS PROGRAM.

THE DEPARTMENT WILL DEVELOP THE LANDSCAPE PLAN FOR COORDINATION BASED ON THE CONTRACTOR'S WORK PLAN. THE LANDSCAPE PLAN SHALL ADDRESS ANY VEGETATION DISTURBANCE WITHIN 120 FEET OF THE RIVER. THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO COVER RESTORATION OF THE VEGETATION:

661	DECIDUOUS SHRUB, 2' HEIGHT, RED OSIER DOGWOOD - CORNUS SERICEA	10 EACH
661	DECIDUOUS SHRUB, 2' HEIGHT, SILKY DOGWOOD - CORNUS AMOMUM	10 EACH
661	DECIDUOUS TREE, 2" CALIPER, EASTERN REDBUD - CERCIS CANADENSIS	10 EACH
661	DECIDUOUS TREE, 2" CALIPER, BOX ELDER - ACER NEGUNDO	20 EACH
661	DECIDUOUS TREE, 2" CALIPER, RED MAPLE - ACER RUBRUM	30 EACH
661	DECIDUOUS TREE, 2" CALIPER, SUGAR MAPLE - ACER SACCHARINUM	30 EACH
661	DECIDUOUS TREE, 2" CALIPER, RED OAK - QUERCUS RUBRA	30 EACH
661	DECIDUOUS TREE, 2" CALIPER, OHIO BUCKEYE - AESCULUS GLABRA	10 EACH
661	DECIDUOUS TREE, 2" CALIPER, BURR OAK - QUERCUS BICOLOR	20 EACH
661	DECIDUOUS TREE, 2" CALIPER, SLIPPERY ELM - ULMAS RUBRA	20 EACH
661	DECIDUOUS TREE, 2" CALIPER, SYCAMORE - PLATANUS OCCIDENTALIS	20 EACH
662	LANDSCAPE WATERING	4,370 GAL

IF DEWATERING IS NECESSARY TO FACILITATE WORK, ALL WASTEWATER WILL BE TREATED APPROPRIATELY IN ACCORDANCE WITH ODOT STORMWATER BEST MANAGEMENT PRACTICES. NO WASTEWATER OF ANY KIND WILL BE DISCHARGED DIRECTLY INTO THE LITTLE MIAMI RIVER OR ANY TRIBUTARY WATERCOURSE.

ANY EXCESS EXCAVATED MATERIALS SHOULD BE REMOVED TO AN APPROPRIATE UPLAND SITE FOR DISPOSAL. NO EXCESS EXCAVATED MATERIALS WILL BE DEPOSITED WITHIN THE 100-YEAR FLOOD PLAIN OF THE LITTLE MIAMI RIVER (STA 954+00 TO STA 959+50).

THE PROJECT AREA CROSSES THE MIAMI BURIED VALLEY AQUIFER SYSTEM, A DESIGNATED SOLE SOURCE AQUIFER. IN ORDER TO MINIMIZE THE POTENTIAL FOR A RELEASE IN THIS SENSITIVE AREA, NO FUEL STORAGE, ASPHALT PLANTS OR PROJECT RELATED REFUELING AND MAINTENANCE ACTIVITIES SHALL BE PERFORMED FROM STA 954+00 TO STA 959+50. SPILLS OF FUELS, OILS, CHEMICALS OR OTHER MATERIALS WHICH COULD POSE A THREAT TO GROUNDWATER SHALL BE CLEANED UP IMMEDIATELY BY THE CONTRACTOR. IF THE SPILL IS A REPORTABLE AMOUNT, THE CONTRACTOR SHOULD CONTACT TURTLE CREEK TWP FIRE DEPT. AT (513) 932-6283 FOR CLEAN UP OF THE SPILL.

SHROUDS, TARPS, AND OTHER CONTAINMENT FEATURES SHOULD BE UTILIZED THROUGHOUT THE DURATION OF THE PROJECT TO PREVENT CONSTRUCTION DEBRIS FROM FALLING INTO THE RIVER DURING DEMOLITION AND CONSTRUCTION ACTIVITIES.

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

UTILITY RELOCATIONS SHALL BE COORDINATED BETWEEN THE CONTRACTOR AND THE UTILITY OWNERS IN SUCH A WAY AS TO AVOID AND/OR MINIMIZE ANY INCONVENIENCE TO POTENTIALLY AFFECTED CUSTOMERS.

ALL UTILITY RELOCATIONS NOT INCLUDED IN THIS CONTRACT SHALL BE PERFORMED BY THE AFFECTED UTILITY OWNER OR ITS CONTRACTOR AND WILL BE COMPLIANT WITH ODOT ROADWAY DESIGN STANDARDS. UTILITY WORK WILL BE ONGOING DURING THE CONSTRUCTION PERIOD. UPON THE CONTRACT AWARD, THE COORDINATION OF ALL NECESSARY RELOCATIONS WITH THE UTILITIES SHALL BECOME THE RESPONSIBILITY OF THE CONTRACTOR.

REV. BY	DATE	DESCRIPTION
CWW	2/26/10	UPDATED PIO NOTE
CWW	4/22/10	REVISED NOTES

CALCULATED KOD
CHECKED RWK

GENERAL NOTES

WAR-71-14.20

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470

ITEM SPECIAL- MISC.: CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION

ALL CONCRETE SHALL BE TESTED. ALL TESTING, INSPECTION AND QUALITY CONTROL FOR CONCRETE, NOT INCLUDED UNDER SUPPLEMENTAL SPECIFICATIONS 888 AND 898, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE A CONCRETE TESTING CONSULTANT WITH PREVIOUS EXPERIENCE AND FAMILIARITY IN ODOT PROCEDURES, CONCRETE TESTING REQUIREMENTS AND CONCRETE TESTING DOCUMENTATION. AT LEAST 30 DAYS PRIOR TO CONCRETE PLACEMENT, SUBMIT TO THE ENGINEER FOR APPROVAL, THE PROPOSED CONCRETE TESTING CONSULTANT ALONG WITH THE RESUMES OF THE PROPOSED TESTING PERSONNEL.

TESTING CONCRETE FOR STRUCTURES AND PORTLAND CEMENT CONCRETE PAVEMENT SHALL BE PERFORMED AS OUTLINED IN SUPPLEMENTAL SPECIFICATIONS 898 AND 888 RESPECTIVELY.

THROUGH THE CONTRACTOR, THE CONSULTANT SHALL BE RESPONSIBLE FOR ENSURING THAT ALL CONCRETE PLACED IS IN ACCORDANCE WITH THE SPECIFICATIONS. SUCH WORK SHALL BE IN ACCORDANCE WITH THE APPLICABLE CONSTRUCTION AND MATERIAL SPECIFICATIONS AND THE ODOT CONSTRUCTION INSPECTION MANUAL OF PROCEDURES FOR CONCRETE. THE CONCRETE CONSULTANT SHALL PROVIDE THE NECESSARY TRAINED TECHNICIAN(S), ALL EQUIPMENT, AND SHALL FURNISH THE PROJECT ENGINEER WITH TWO (2) COPIES OF ALL TEST RESULTS WITHIN 24 HOURS AFTER COMPLETION OF CONCRETE PLACEMENT.

THE TECHNICIAN SHALL BE ACI LEVEL 1 CERTIFIED AND WILL BE REQUIRED TO DEMONSTRATE HIS/HER COMPETENCE AND EXPERIENCE LEVELS TO THE ENGINEER PRIOR TO BEGINNING WORK. THE ENGINEER WILL ORDER THE CONTRACTOR TO REPLACE ANY TECHNICIAN THAT IS NOT VERSED IN THE REQUIRED TESTING PROCEDURE.

THE TECHNICIAN SHALL VERBALLY NOTIFY THE ODOT PROJECT ENGINEER OF ANY FAILING TEST AND SHALL SUBMIT FOLLOW-UP WRITTEN NOTIFICATION TO THE PROJECT ENGINEER OF REMEDIAL ACTION(S) TAKEN. TESTS SHALL BE TAKEN AS SPECIFIED WITHIN THE CONSTRUCTION AND MATERIAL SPECIFICATIONS, CONCRETE MANUAL OR APPROPRIATE SUPPLEMENTAL SPECIFICATION AS LISTED IN THE PROPOSAL GOVERNING THE PROJECT. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO MAKE **IMMEDIATE** CORRECTIONS OR ADJUSTMENTS TO THE CONCRETE MIX VIA DIRECT COMMUNICATION WITH THE CONCRETE SUPPLIER'S PLANT PERSONNEL TO MAINTAIN UNINTERRUPTED COMPLIANCE WITH THE SPECIFICATIONS UPON NOTIFICATION OF CONCRETE MIX NON-COMPLIANCE BY THE CONSULTANT TECHNICIAN. THE PROJECT ENGINEER MAY REQUIRE MORE FREQUENT TESTING AS CONDITIONS WARRANT.

UPON COMPLETION OF DAILY CONCRETE PLACEMENT(S), THE CONCRETE CONSULTANT SHALL PROVIDE THE PROJECT ENGINEER WITH DAILY TEST REPORTS, TE-45'S, INSPECTORS DAILY REPORT AND SUPPORTING DOCUMENTATION FOR EACH ITEM OF CONCRETE WORK PERFORMED SEPARATED BY MIX DESIGN. SUBSEQUENTLY, UPON COMPLETION OF AN ENTIRE CONCRETE SPECIFICATION ITEM, THE CONCRETE CONSULTANT SHALL ALSO PROVIDE THE PROJECT ENGINEER WITH TWO (2) COPIES OF AN ADDITIONAL INSPECTION REPORT BY A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO, WHICH CONTAINS THE TESTING-RESULTS SUMMARY FOR EACH ITEM BY CONTRACT REFERENCE NUMBER AND THE CONSULTANT'S CONCLUSIONS RELATIVE TO SPECIFICATION COMPLIANCE FOR ALL CONCRETE-TESTING WORK.

THE ODOT PROJECT ENGINEER RESERVES THE RIGHT TO MAKE UNANNOUNCED QUALITY-CONTROL TESTS TO VERIFY PROCEDURES USED AND RESULTS BEING OBTAINED BY THE CONTRACTOR.

THE CONCRETE TECHNICIAN SHALL WORK UNDER THE DIRECTION OF A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO, WHO WILL MONITOR THE CONCRETE TEST RESULTS. THE FINAL INSPECTION REPORTS FOR EACH COMPLETED ITEM SHALL BE SIGNED BY A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO, CERTIFYING THAT ALL CONCRETE TESTS PROVIDED BY THE CONTRACTOR MET APPLICABLE CONTRACT REQUIREMENTS. A FINAL REPORT ISSUED BY THE CONSULTING FIRM SHALL CONTAIN A CERTIFIED STATEMENT OF COMPLIANCE WITH ODOT SPECIFICATIONS AND ANY OTHER CONCLUSIONS REGARDING THE CONCRETE MATERIALS INCORPORATED INTO THE PROJECT. SUCH STATEMENT SHALL BE SIGNED BY A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO. AND, THE CONCRETE CONSULTANT SHALL BE REQUIRED TO ATTEND MONTHLY PROGRESS MEETINGS AS REQUIRED BY THE PROJECT ENGINEER.

ADDITIONALLY, THE CONTRACTOR SHALL BE REQUIRED TO KEEP A POSTED LIST OF BEAM AND CYLINDER IDENTIFICATION NUMBERS FOR THE PURPOSE OF IDENTIFYING THE CORRESPONDING PLACEMENT LOCATION AND CONCRETE SPECIFICATION ITEM.

PAYMENT SHALL BE BID AS LUMP SUM FOR ITEM SPECIAL MISC.: CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION. THE ITEM WILL BE PAID FOR AS FOLLOWS:

UPON APPROVAL OF CONSULTANT.....20%
PROGRESSIVE EQUIVALENT PAYMENTS.....50%
UPON SUBMISSION OF FINAL REPORT.....30%

PAYMENT FOR TESTING, INSPECTION AND QUALITY CONTROL WILL BE INCLUDED WITH LUMP SUM PRICE BID FOR ITEM 690 - SPECIAL MISC.: CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION.

HABITAT PROTECTION

SEVERAL BAT TREES ARE LOCATED WITHIN THE PROJECT WORK LIMITS AND WILL NEED TO BE PROTECTED. THE LOCATION OF THESE TREES ARE LISTED BELOW.

STATION	OFFSET
913+44.7	166.5 RT
913+48.9	163.3 RT
914+81.4	159.4 RT
946+22.5	145.7 RT
947+06.2	152.2 RT
957+18.5	15.4 LT
958+54.4	59.9 RT
958+69.2	53.5 RT
958+99	92.0 LT

PRIOR TO CONSTRUCTION DISTRICT 8 ENVIRONMENTAL STAFF SHALL MEET WITH THE CONTRACTOR TO LOCATE, IDENTIFY AND MARK TREES FOR PROTECTION. THE TREES DESCRIBED SHALL BE PROTECTED BY INSTALLING WORK LIMIT FENCING AROUND EACH TREE OR GROUP AT A RADIUS OF NOT LESS THAN 20 FEET FROM THE NEAREST POINT OF EACH ROOST TREE TRUNK. THE WORK SHALL BE PERFORMED PER BID ITEM 201, CLEARING AND GRUBBING.

PARTNERING

THE DEPARTMENT AND CONTRACTOR WILL ENTER INTO A COOPERATIVE PARTNERSHIP AGREEMENT IN ACCORDANCE WITH CMS 108.02A. THERE WILL BE ONE INITIAL PARTNERING WORKSHOP FOLLOWED BY TWO SUBSEQUENT WORKSHOPS FOUR AND EIGHT MONTHS AFTER THE INITIAL WORKSHOP. WORKSHOPS WILL THEN CONTINUE EVERY SIX MONTHS UNTIL PROJECT COMPLETION. THE INITIAL WORKSHOP WILL BE TWO DAYS IN LENGTH. ALL SUBSEQUENT WORKSHOPS SHALL BE ONE DAY IN LENGTH. THE COST OF THE PARTNERING WORKSHOPS WILL BE MADE IN ACCORDANCE WITH CMS 108.02A.

BARRIER ANCHORAGE

WE HAVE INCLUDED A QUANTITY FOR ITEM 622 END ANCHORAGE AND ITEM 622 END SECTIONS IN THE THE GENERAL SUMMARY AS REQUIRED PER STD. DRAWINGS.

RM - 4.3
RM - 4.5
RM - 4.6

QUANTITIES HAVE NOT BEEN CARRIED TO THE SUB SUMMARIES.

FIELD OFFICE, TYPE C, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ITEM 619, THE CONTRACTOR SHALL PROVIDE A SUITABLE FIELD OFFICE WITH A MINIMUM OF 2000 S.F. OF USABLE OFFICE SPACE. OFFICE TO INCLUDE A SEPARATE MINIMUM 12' X 36' CONFERENCE ROOM, AND EIGHT (8) SEPERATE OFFICES WITH SHELVING UNITS. FURTHER ITEMS ARE AS FOLLOWS:

1. FURNITURE:
-ELEVEN (11) SETS OF DESK, OFFICE CHAIR, AND 4 DRAWER LEGAL SIZE LOCKABLE FILE CABINETS ☐TWO (2) LOCKABLE CABINETS
-FOURTEEN (14) 2' X 8' COLLAPSIBLE TABLES
-TWENTY (20) FOLDING CHAIRS
2. COPY MACHINE WITH SCAN/PRINT/FAX/INTERNET HOOK UP CAPABILITIES. THE COPIER WILL PRINT 25 PPM AND CAPABLE OF PRINTING SHEETS 8.5"X11", 8.5"X14", AND 11"X17". COPIER PAPER SUPPLIES TO BE INCLUDED.
3. FIVE (5) HIGH SPEED INTERNET SERVICE CONNECTIONS.
4. ONE (1) SEPARATE WATER COOLER AND SERVICE.
5. EIGHT (8) TWO WAY RADIOS.
6. FIELD OFFICE SHALL INCLUDE A SECURE PARKING AREA OF NOT LESS THAN 4000 S.F. CAPABLE OF SUPPLYING 20 EACH ALL WEATHER PARKING SPOTS. PARKING AREA TO BE SURROUNDED BY A 6 F.T. HIGH SECURITY FENCE WITH A LOCKABLE GATE INCLUDING KEYS AND ILLUMINATED BY SECURITY LIGHTING.
7. BI-WEEKLY CLEANING SERVICE.
8. DUMPSTER WITH NECESSARY SERVICE
9. FIVE (5) EACH TELEPHONES.

THE CONTRACTOR SHALL OBTAIN APPROVAL OF THE PROPOSED FACILITY FROM THE ENGINEER PRIOR TO USE. THIS FACILITY SHALL BE AVAILABLE FOR ODOT USE NOT MORE THAN 30 DAYS FROM AWARD OF CONTRACT.

CALCULATED CWW CHECKED

GENERAL NOTES

WAR-71-14.20

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ITEM 614 - MAINTAINING TRAFFIC
A MINIMUM OF TWO LANES OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT, THE COMPLETED PAVEMENT, ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, UNLESS SPECIFIED OTHERWISE IN THE PLANS OR AS OTHERWISE AUTHORIZED BY THE ENGINEER. PERIODIC NIGHTLY LANE CLOSURES MIGHT BE NECESSARY DURING PHASE CHANGES. A PORTABLE CHANGEABLE MESSAGE SIGN SHALL BE PROGRAMMED TO READ:

(NIGHTLY)	(9PM-5AM)	( )
(LANE)	(EXPECT)	( )
(CLOSURES)	(DELAYS)	( )

0.8 SEC 0.8 SEC 0.3 SEC

THE CONTRACTOR SHALL MAINTAIN TRAFFIC AT ALL TIMES IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 614. IT IS THE INTENTION TO PERFORM THE REQUIRED WORK WITH THE LEAST INCONVENIENCE TO, AND THE MAXIMUM SAFETY OF, THE CONTRACTOR AND THE TRAVELING PUBLIC. ANY VARIANCES FROM THE INTENT OF THESE MAINTENANCE OF TRAFFIC NOTES MUST BE APPROVED IN ADVANCE IN WRITING BY THE OHIO DEPARTMENT OF TRANSPORTATION. EXCEPT AS MODIFIED BELOW OR AS SHOWN IN THE MAINTENANCE OF TRAFFIC PLANS, THE REQUIREMENTS FOR MAINTAINING TRAFFIC AS INDICATED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, AND PERTINENT ITEMS OF THE SPECIFICATIONS AND PROPOSAL SHALL APPLY.

THE CONTRACTOR SHALL SUBMIT A WRITTEN SCHEDULE OF OPERATION TO THE PROJECT ENGINEER FOR HIS APPROVAL EVERY MONTH OR AS NECESSARY DUE TO CHANGES IN THE CONSTRUCTION SCHEDULE. THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER, AND THE OHIO DEPARTMENT OF TRANSPORTATION AT LEAST TEN (10) WORKING DAYS PRIOR TO ANY CLOSURE OF THE REST AREA RAMPS. A PORTABLE CHANGEABLE MESSAGE SIGN SHALL BE PLACED ON THE PROJECT AT LEAST (30) CALENDAR DAYS BEFORE REST AREA RAMP CLOSURE IS PUT INTO PLACE, IN THE DIRECTION OF THE RAMP LANE CLOSURE. THE SIGN SHALL BE PROGRAMMED TO READ:

(REST)	(BEGINS)	( )
(AREA)	(JULY 18)	( )
(CLOSED)	( )	( )

0.8 SEC 0.8 SEC 0.8 SEC

THE DATE SHALL BE KEPT CURRENT AT ALL TIMES. BEFORE WORK BEGINS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER THE NAMES AND TELEPHONE NUMBERS OF A PERSON OR PERSONS WHO CAN BE CONTACTED 24 HOURS PER DAY BY THE OHIO DEPARTMENT OF TRANSPORTATION AND ALL INTERESTED POLICE AGENCIES. THIS PERSON OR PERSONS SHALL BE RESPONSIBLE FOR PLACING OR REPLACING NECESSARY TRAFFIC CONTROL DEVICES. IN ORDER TO PROVIDE A SAFE FACILITY FOR THE TRAVELING PUBLIC, HE SHALL HAVE AVAILABLE ALL TOOLS AND MATERIALS NECESSARY TO PERFORM THIS FUNCTION AT ALL TIMES.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN 250 DAYS

ITEM 615 - ROADS FOR MAINTAINING TRAFFIC
THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE PLAN FOR INFORMATION ONLY.

EXCAVATION FOR MAINTAINING TRAFFIC	407 CU. YD.
EMBANKMENT FOR MAINTAINING TRAFFIC	202 CU. YD.

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.

ITEM 604 - INLET, SIDE DITCH, AS PER PLAN
THESE CATCH BASINS ARE CONSTRUCTED IN THE GRASS MEDAIN AND ARE PROVIDED TO PREVENT SURFACE RUNOFF FROM PONDING AND EXPANDING TO THE WORK ZONE AND/OR THE TRAVELLED LANES. THEY SHALL BE CONSTRUCTED IN ACCORDANCE WITH SCD CB-4.2.

PAYMENT SHALL BE INCLUDED WITH PERTINENT ITEM 604. FOR DETAIL, SEE SHEET 13.

OVERNIGHT TRENCH CLOSING
THE BASE WIDENING SHALL BE COMPLETED TO A DEPTH OF NO MORE THAN 12 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.

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

ITEM 616 - WATER 50 M GAL.

ITEM 614 - BARRIER REFLECTORS AND/OR OBJECT MARKERS
BARRIER REFLECTORS AND/OR OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE CONCRETE BARRIER USED FOR TRAFFIC CONTROL. BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO CMS626, EXCEPT THAT THE SPACING SHALL BE 50 FEET.

AN ESTIMATED QUANTITY OF:
245 EACH OF ITEM 614 - BARRIER REFLECTOR, TYPE B
245 EACH OF ITEM 614 - OBJECT MARKER, ONE-WAY
HAVE BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY.

MAINTENANCE OF BOAT TRAFFIC AND CANOE TRAFFIC
CANOE TRAFFIC SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION OF THE PROJECT EITHER THROUGH EXISTING RIVER CHANNEL OR THROUGH PORTAGE TRAIL APPROVED BY THE ENGINEER. ADEQUATE SIGNING BOTH UPSTREAM AND DOWNSTREAM SHALL BE INSTALLED AND MAINTAINED BY THE CONTRACTOR. THE FOLLOWING TYPE SIGNS ARE CONSIDERED TO BE MINIMUM TREATMENT:

1. APPROXIMATELY ONE-QUARTER MILE UPSTREAM, ADVANCED WARNING TYPE SIGNS ON BOTH BANKS;
2. APPROXIMATELY 300 FEET UPSTREAM, SIGNS SPECIFYING ACTIONS REQUIRED OF CANOEIST ON BOTH BANKS;
3. APPROXIMATELY ONE-QUARTER MILE DOWNSTREAM, ADVANCE WARNING TYPE SIGNS ON BOTH BANKS; AND
4. APPROXIMATELY 300 FEET DOWNSTREAM, SIGNS SPECIFYING ACTIONS REQUIRED OF CANOEIST OF BOTH BANKS.

THE ABOVE SIGNING SHALL BE MOUNTED IN SUCH A WAY AS TO BE A MINIMUM OF 4 FEET ABOVE THE WATER LEVEL, UNOBSTRUCTED BY TREE BRANCHES AND PROPERLY ANGLED FOR MAXIMUM VISIBILITY FROM THE MAIN CLEAR CHANNEL. THE METHOD OF SUPPORTING THE SIGNS SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. UPON COMPLETION OF THE PROJECT, THE SIGNS AND SUPPORT SYSTEMS SHALL BE COMPLETELY REMOVED FROM THE RIVER CHANNEL. THE CONTRACTOR SHALL NOTIFY LOCAL CANOE LIVERIES USING THIS PORTION OF THE RIVER AND THE OHIO DEPARTMENT OF NATURAL RESOURCES AT LEAST 10 DAYS PRIOR TO ANY CHANGES AFFECTING CANOE TRAFFIC. PORTAGE TRAILS IF USED SHALL BE CONSTRUCTED AND MAINTAINED BY THE CONTRACTOR WITH THE LEAST POSSIBLE DISTURBANCE TO THE SURROUNDING AREA. THE TRAIL SHALL BE ADEQUATELY MARKED IN BOTH DIRECTIONS.

ODNR SCENIC RIVER MANAGER	513-934-0754
MORGAN'S CANOE LIVERY	513-932-7658
LITTLE MIAMI CANOE RENTAL	513-899-3616

PAYMENT SHALL BE INCLUDED WITH ITEM 614 - MAINTAINING TRAFFIC.

ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN (WORK ZONE PAVEMENT)
PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN SHALL CONSIST OF 2" OF ITEM 448, ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 64-22, AND 10" OF ITEM 301 OR ITEM 302, ASPHALT CONCRETE.

PAYMENT FOR WORK ZONE PAVEMENT IS INCLUDED IN THE GENERAL SUMMARY UNDER ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN.

WORK ZONE INCREASED PENALTIES SIGN (R11-H5A)
R11-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 SHUTDOWNS.

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 INCREASED PENALTIES 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 RE ERECTED 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 - WORK ZONE INCREASED PENALTIES SIGN 6 EACH
WORK ZONE INCREASED PENALTIES SIGNS WILL BE PLACED AT THE FOLLOWING LOCATIONS:

PHASE 1 NB: NONE
PHASE 1 SB: 909+00, 48+00
PHASE 2 NB: 879+50, 985+00
PHASE 2 SB: 909+00, 48+00, 64+50, 8+00
PHASE 3 NB: SAME AS PHASE 2
PHASE 3 SB: SAME AS PHASE 2
PHASE 4 NB: NONE
PHASE 4 SB: SAME AS PHASE 3
PHASE 4A NB: NONE
PHASE 4A SB: SAME AS PHASE 4

EXISTING RUMBLE STRIPS
WHERE TRAFFIC WILL BE REQUIRED TO CROSS EXISTING RUMBLE STRIPS, THE CONTRACTOR SHALL PLANE THE EXISTING RUMBLE STRIPS TO A DEPTH OF 1.75", FROM THE OUTSIDE EDGE OF THE RUMBLE STRIP TO THE LIMITS OF THE ABUTTING EDGE LINE, BUT NOT TO EXCEED 30" IN WIDTH.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE	2150 SQ YD
ITEM 448 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1	105 CU YD

PAVEMENT REPAIRS
PAVEMENT REPAIRS TO IR 71 NORTHBOUND AND SOUTHBOUND SHALL USE THE ESTIMATED QUANTITIES BELOW:

ITEM 519 SPECIAL - PATCHING CONCRETE BRIDGE DECK - TYPE B

AN ESTIMATED QUANTITY OF 500 SY OF ITEM 519 SPECIAL - PATCHING CONCRETE BRIDGE DECK - TYPE B HAVE BEEN CARRIED TO THE THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER.

ITEM 251 PARTIAL DEPTH PAVEMENT REPAIRS

AN ESTIMATED QUANTITY OF 1000 SY OF ITEM 251 PARTIAL DEPTH PAVEMENT REPAIRS HAS BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER. THE MINIMUM THICKNESS OF THE REPAIR SHALL BE 5 INCHES.

THE CONTRACTOR SHALL PERFORM THIS WORK AS SOON AS POSSIBLE TO REPAIR THE DEFICIENT PAVEMENT OR BRIDGE DECK.

REV. BY	DATE	DESCRIPTION
CWW	2/26/10	ADDED PAVEMENT REPAIRS NOTE

CALCULATED TAM CHECKED GKB

MAINTENANCE OF TRAFFIC GENERAL NOTES

WAR-71-14.20

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PERMITTED LANE CLOSURE TIMES

SHORT TERM LANE CLOSURES ARE THOSE WHICH ARE PERMITTED BY THE (PERMITTED LANE CLOSURE(NOTE. THESE TIMES SHALL NOT BE REVISED WITHOUT PRIOR APPROVAL FROM THE DISTRICT 8 WORK ZONE TRAFFIC CONTROL ENGINEER. SHORT TERM LANE CLOSURES SHALL ONLY BE IMPLEMENTED WHEN WORK IS BEING CONTINUOSLY PERFORMED IN THE LANE. THE CLOSURE SHALL BE REMOVED AS SOON AS POSSIBLE AFTER WORK HAS STOPPED. PERMITTED LANE CLOSURES SHALL ONLY BE ALLOWED DURING THE TIMES SPECIFIED IN THE DISTRICT 8, PERMITTED LANE CLOSURE TIMES WHICH IS LOCATED ON ODOT WEBSITE: HTTP://DOTAS201/PLCM/PLCM WEB.JSP THE LATEST REVISION, 14 DAYS PRIOR TO THE BID, SHALL BE IN EFFECT FOR THIS PROJECT. NO LANE OR SHOULDER CLOSURE SHALL BE IN PLACE WHEN NO WORK IS BEING PERFORMED.

DESCRIPTION OF CRITICAL LANE/RAMP TO BE MAINTAINED	RESTRICTED TIME PERIOD	TIME UNIT	DISCENTIVE $ PER TIME UNIT
ALL LANES/RAMPS OPEN TO TRAFFIC	SEE PERMITTED LANE CLOSURE MAP	15 MINUTE PERIOD	$1000

GUARDRAIL DELINEATION

OBJECT MARKERS SHALL BE INSTALLED ON ALL GUARDRAIL LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. GUARDRAIL-MOUNTING OF OBJECT MARKERS SHALL BE MADE BY INSTALLING THE OBJECT MARKERS ON THE EXTENSION BLOCKS RATHER THAN DIRECTLY ONTO THE GUARDRAIL ITSELF. OBJECT MARKER SPACING SHALL BE APPROXIMATELY 50 FEET

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING OBJECT MARKERS.

AN ESTIMATED QUANTITY OF 14 EACH OF ITEM 614 OBJECT MARKERS, ONE-WAY HAS BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY.

CONCRETE BARRIER DELINEATION

OBJECT MARKERS SHALL BE INSTALLED ON ALL PERMANENT CONCRETE BARRIER LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. OBJECT MARKER SPACING SHALL BE 50 FEET

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING OBJECT MARKERS.

AN ESTIMATED QUANTITY OF 250 EACH OF ITEM 614 OBJECT MARKER, ONE-WAY HAS BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY.

MAINTENANCE OF BIKE TRAFFIC

BIKE TRAFFIC SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION OF THE PROJECT EITHER THROUGH EXISTING PATH OR THROUGH TEMPORARY PATH APPROVED BY THE ENGINEER. ADEQUATE SIGNING BOTH NORTH AND SOUTH OF THE PATH SHALL BE INSTALLED AND MAINTAINED BY THE CONTRACTOR. THE FOLLOWING TYPE SIGNS ARE CONSIDERED TO BE MINIMUM TREATMENT:

1. APPROXIMATELY ONE-QUARTER MILE NORTH AND SOUTH OF CONSTRUCTION, ADD ADVANCED WARNING TYPE SIGNS;

2. APPROXIMATELY 100 FEET, ADD "W1-4" ADVANCED WARNING TYPE SIGNS; THE ABOVE SIGNING SHALL BE MOUNTED IN SUCH A WAY AS TO BE A MINIMUM OF 7 FEET ABOVE THE BIKE PATH LEVEL, UNOBSTRUCTED BY TREE BRANCHES AND PROPERLY ANGLED FOR MAXIMUM VISIBILITY AND ERECTED ON TYPE 3 POSTS. THE SIGNS AND ERECTION SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. UPON COMPLETION OF THE PROJECT, THE SIGNS AND SUPPORT SYSTEMS SHALL BE COMPLETELY REMOVED FROM THE BIKE PATH.

PAYMENT SHALL BE INCLUDED WITH ITEM 614.

EXISTING CATCH BASINS

ANY CATCH BASINS IMPACTED BY BUT NOT SPECIFIED IN THE ROADWAY PLANS FOR REMOVAL OR RECONSTRUCTION SHALL BE TEMPORARILY MODIFIED TO FACILITATE ANY CONSTRUCTION REQUIRED. AFTER CONSTRUCTION IS COMPLETED THE CATCH BASIN SHALL BE RECONSTRUCTED TO IT'S ORIGINAL CONDITION.

PAYMENT FOR ANY ADJUSTMENTS AND RECONSTRUCTION SHALL BE INCLUDED UNDER ITEM 614-MAINTAINING TRAFFIC.

TEMPORARY CHAIN LINK FENCE

ERECT TEMPORARY CHAIN LINK FENCE AT THE LOCATION SHOWN ON SHEEETS 36 AND 37 FOR THE REST AREA TO SEPERATE THE PEDESTRIANS FROM THE WORK AREA.

PAYMENT FOR TEMPORARY CHAIN LINK FENCE SOMPLETE IN PLACE INCLUDING ALL INCIDENTALS, ERECTION AND DISMANTLING SHALL BE INCLUDED UNDER ITEM 614 - MAINTAINING TRAFFIC,
MISC.: TEMPORARY CHAIN LINK FENCE 1143 FT.

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 (R2-1) (55 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 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 SHUT-DOWNS. CLEANUP WORK AND OTHER WORK BEYOND THE SHOULDER SUCH AS SEEDING, TO BE PERFORMED AFTER RESTORATION OF ALL FULL-WIDTH LANES AND SHOULDERS TO TRAFFIC, DOES NOT CONSTITUTE A CONDITION WARRANTING A SPEED REDUCTION. THEREFORE, WHEN ACTIVITY IS LIMITED TO SUCH WORK, THE SPEED LIMIT IN EFFECT SHALL BE THE NORMAL SPEED LIMIT FOR THE SITE.

CONSTRUCTION AND MATERIAL SPECIFICATIONS, ITEM 614, PARAGRAPH 614.02(B) INDICATES THAT THE TWO DIRECTIONS OF A DIVIDED HIGHWAY ARE CONSIDERED SEPARATE HIGHWAY SECTIONS. THEREFORE, IF THE WORK ON A MULTI-LANE DIVIDED HIGHWAY IS LIMITED TO ONLY ONE DIRECTION, SPEED REDUCTION IN THE DIRECTION OF THE WORK DOES NOT AUTOMATICALLY CONSTITUTE SPEED REDUCTION IN THE OPPOSITE DIRECTION. SPEED LIMIT REDUCTION IN THE OPPOSITE DIRECTION, IN SUCH CASE, IS APPROPRIATE ONLY IF CONDITIONS ARE EXPECTED TO HAVE AN IMPACT ON THE DIRECTIONAL TRAFFIC FLOW, AS DIRECTED BY THE ENGINEER.

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 A DIRECTIONAL ROADWAY OF DIVIDED HIGHWAYS. THE FIRST WORK ZONE SPEED LIMIT SIGN SHALL BE PLACED APPROXIMATELY 500 FEET IN ADVANCE OF THE LANE REDUCTION OR SHIFT TAPER OR OTHER ROADWAY OR SHOULDER RESTRICTION. ON UNDIVIDED HIGHWAYS THE SIGN SHALL BE MOUNTED ON THE RIGHT SIDE, APPROXIMATELY 250 FEET (75 METERS) IN ADVANCE OF SUCH RESTRICTIONS. THE SIGN SHALL BE REPEATED, ON THE SIDE NEAREST TRAFFIC, EVERY 1 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.

ON PROJECTS FOR WHICH THE ACTIVITY OR ROADWAY RESTRICTION IS LIMITED TO ONE SECTION OF THE PROJECT FOR AT LEAST THIRTY DAYS AND THEN IS MOVED TO ANOTHER SECTION OF THE PROJECT UPON COMPLETION OF WORK IN THE FIRST SECTION, THE SPEED LIMIT REDUCTION SHALL BE LIMITED TO ONLY THE ACTIVE PORTION OF THE PROJECT AT THE GIVEN TIME. SIGNING FOR A SPEED LIMIT REDUCTION, AS WELL AS ALL OTHER ADVANCE CONSTRUCTION SIGNING, SHALL BE RELOCATED WHEN THE CONCENTRATION OF ACTIVITY IS RELOCATED.

ON PROJECTS FOR WHICH SPEED REDUCTION IS CALLED FOR ON MORE THAN ONE ROADWAY, THE DISPLAY OF REDUCED SPEED LIMIT SIGNING ON A GIVEN ROADWAY SHALL BE DEPENDANT ON THE SCHEDULING OF WORK ACTIVITY ON THE GIVEN ROADWAY.

SPEED REDUCTION SIGNS (W 3-5) SHALL BE ERECTED IN ADVANCE OF THE SPEED REDUCTION, APPROXIAMTELY 1250 FEET ON MULTI-LANE HIGHWAYS AND 500 FEET ON TWO-LANE HIGHWAYS.

A SIGN(S) TO INDICATE THE RESUMPTION OF THE STATUTORY SPEED LIMIT SHALL BE ERECTED AT THE END OF ANY REDUCED SPEED ZONE, TYPICALLY AT THE POINT WHERE ROADWAY AND SHOULDER WIDTHS RETURN TO NORMAL. ON UNDIVIDED ROADWAYS, THE R2-1 (SPEED LIMIT) SIGN SHALL BE USED. ON DIVIDED HIGHWAYS WHERE THE SPEED LIMIT VARIES BY VEHICLE TYPE, THE R2-1 (SPEED LIMIT) SIGN AND THE R2-H2A (TRUCK SPEED LIMIT) 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 RETROREFLECTORIZED 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. SPEED LIMIT SIGNING FOR THE POINT OF RESUMPTION OF THE STATUTORY SPEED LIMIT SHALL BE PAID FOR AS WORK ZONE SPEED LIMIT SIGNS. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, SPEED ZONE AHEAD SYMBOL SIGN 4 EACH

ITEM 614, WORK ZONE SPEED LIMIT SIGN 14 EACH

THE SIGNS WILL BE PLACED AT THE LOCATIONS SHOWN IN THE PLANS.

ITEM 614 - REPLACEMENT SIGN

FLATSHEET 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 WHEN ORDERED BY THE ENGINEER. 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 AT THE CONTRACT PRICE PER SQUARE FOOT (SQUARE METER) 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.

AN ESTIMATED QUANTITY OF 20 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

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 WHEN ORDERED BY THE ENGINEER. REPLACEMENT DRUMS SHALL BE NEW.

PAYMENT FOR THE NEW DRUMS SHALL BE MADE AT THE CONTRACT 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.

AN ESTIMATED QUANTITY OF 200 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

ITEM 614 - WORK ZONE CROSSOVER LIGHTING SYSTEM

THIS WORK SHALL CONSIST OF FURNISHING, ERECTING, OPERATING, MAINTAINING AND REMOVING A WORK ZONE LIGHTING SYSTEM FOR A SINGLE CROSSOVER, OR OVERLAPPING A PAIR OF CROSSOVERS. THE SYSTEM SHALL BE AS SHOWN ON SCD MT-100.00. THE CONTRACTOR SHALL ARRANGE FOR AND PAY FOR POWER. ALL MATERIALS AND CONSTRUCTION SHALL COMPLY WITH APPLICABLE PORTIONS OF 625 AND 725 EXCEPT: THE PERFORMANCE TEST OF 625.19F, AND CERTIFIED DRAWING REQUIREMENT OF 625.04, ARE WAIVED AND USED MATERIALS IN GOOD CONDITION ARE ACCEPTABLE.

POLES MAY BE LESS THAN 30 FT FROM THE EDGE OF PAVEMENT WHEN BEHIND GUARDRAIL. ADDITIONAL POLE LINES, CABLES AND APPURTENANCES NECESSARY TO FURNISH POWER TO THE LIGHTING SYSTEM SHALL BE INCLUDED IN THIS ITEM. SERVICE POLES SHALL BE POSITIONED WITH THE SAME CONSTRAINTS AS THE LIGHTING POLES AS A MINIMUM.

PAYMENT WILL BE MADE AT THE UNIT PRICE PER EACH FOR ITEM 614, WORK ZONE CROSSOVER LIGHTING SYSTEM THROUGHOUT ALL PHASES OF WORK WHEN THE CROSSOVER ROADWAYS ARE USED.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

ITEM 614 - WORK ZONE CROSSOVER LIGHTING SYSTEM 2 EACH

CALCULATED TAM CHECKED GKB

MAINTENANCE OF TRAFFIC GENERAL NOTES

WAR-71-14.20

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WORK ZONE MARKINGS AND SIGNS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AT LOCATIONS IDENTIFIED BY THE ENGINEER FOR WORK ZONE PAVEMENT MARKINGS AND SIGNS PER THE REQUIREMENTS OF CMS 614.04 AND 614.11.

WORK ZONE LANE LINE, CLASS 1	5.37 MI
WORK ZONE LANE LINE, CLASS 1, 740.06, TYPE 1	1.63 MI
WORK ZONE EDGE LINE, CLASS 1	10.96 MI
WORK ZONE EDGE LINE, CLASS 1, 740.06, TYPE 1	6.90 MI
WORK ZONE CHANNELIZING LINE, CLASS 1	6355 FT
WORK ZONE CHANNELIZING LINE, CLASS 1, 740.06, TYPE 1	6386 FT

ITEM 614 - WORK ZONE RAISED PAVEMENT MARKERS ON CONCRETE SURFACES

RAISED PAVEMENT MARKERS IN WORK ZONES, INSTALLED ON TO CONCRETE SURFACES, SHALL BE ITEM 614 WORK ZONE RAISED PAVEMENT MARKERS. WZRPMS ARE INTENDED FOR USE ONLY DURING THE NON-SNOWPLOWING SEASON. WZRPMS SHALL NOT BE PROVIDED DURING THE SNOW-PLOWING SEASON.

THE SNOW-PLOWING SEASON SHALL RUN FROM OCTOBER 15 THROUGH APRIL 1.

WHERE A TEMPORARY ALIGNMENT WILL REMAIN IN USE THROUGH THE WINTER, THE WZRPMS SHALL BE REMOVED PRIOR TO THE BEGINNING OF THE SNOW-PLOWING SEASON AND REPLACED APPROXIMATELY APRIL 1, OR AS OTHERWISE DETERMINED BY THE ENGINEER.

THIS ITEM SHALL INCLUDE PURCHASE, INSTALLATION AND REMOVAL OF ITEM 614 WORK ZONE RAISED PAVEMENT MARKERS

AN ESTIMATED QUANTITY OF 100 EACH OF ITEM 614 WORK ZONE RAISED PAVEMENT MARKER HAS BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY.

TRANSITION PAVEMENT RESURFACING

RESURFACING OF THE TRANSITION AREAS SHALL BE PERFORMED AT THE TIME THAT THE SURFACE COURSE IS BEING APPLIED TO THE PROJECT. PRIOR TO APPLICATION OF THE SURFACE COURSE ON THE PROJECT, THE SURFACE COURSE OF THE EXISTING PAVEMENT WITHIN THE TRANSITION AREA SHALL BE REMOVED TO A DEPTH EQUIVALENT TO THE DEPTH OF THE PROPOSED SURFACE COURSE, AS DETERMINED BY THE ENGINEER.

THE FOLLOWING BID ITEMS SHOULD BE INCLUDED IN THE PLANS:

ITEM 254	PAVEMENT PLANING, ASPHALT CONCRETE
ITEM 448	ASPHALT CONCRETE SURFACE COURSE, 12.5mm, TYPE A (446)

PAYMENT FOR RESURFACING WITHIN THE TRANSITION AREA SHALL BE PAID FOR UNDER THE APPROPIATE BID ITEMS FOR THE WORK REQUIRED, AS PROVIDED FOR IN THE PLANS.

ITEM 614 LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

- DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

IN ADDITION TO THE REQUIREMENT OF CMS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

- 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 FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP). IN GENERAL, LEOS SHOULD BE POSITIONED AT THE POINT OF LANE RESTRICTION OR ROAD CLOSURE AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH INTERSECTIONS IN WORK ZONES.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. ONCE THE LEO HAS COMPLETED THE DUTIES DESCRIBED ABOVE AND STILL HAS TIME REMAINING ON HIS/HER SHIFT, THE LEO MAY BE ASKED TO PATROL THROUGH THE WORK ZONE (WITH FLASHING LIGHTS OFF) OR BE PLACED AT A LOCATION TO DETER MOTORISTS FROM SPEEDING. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (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) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	800 HOURS

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

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614,

ITEM 614 MAINTAINING TRAFFIC (LANES OPEN DURING HOLIDAYS OR SPECIAL EVENTS)

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

CHRISTMAS	FOURTH OF JULY
NEW YEARS	LABOR DAY
MEMORIAL DAY	THANKSGIVING
EASTER	(OTHER HOLIDAY OR EVENT)

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 HOLIDAY OR EVENT	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH (6:00 AM OR 12:00N) MONDAY
MONDAY	12:00N FRIDAY THROUGH (6:00 AM OR 12:00N) TUESDAY
TUESDAY	12:00N MONDAY THROUGH (6:00 AM OR 12:00N) WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH (6:00 AM OR 12:00N) THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH (6:00 AM OR 12:00N) FRIDAY
THURSDAY (THANKSGIVING ONLY)	12:00N WEDNESDAY THROUGH (6:00 AM OR 12:00N) MONDAY
FRIDAY	12:00N THURSDAY THROUGH (6:00 AM OR 12:00N) MONDAY
SATURDAY	12:00N FRIDAY THROUGH (6:00 AM OR 12:00N) 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 A DISINCENTIVE IN THE AMOUNT OF $75 FOR EACH MINUTE THE ABOVE DESCRIBED LANE CLOSURE RESTRICTIONS ARE VIOLATED.

DRAINAGE FACILITY CONSTRUCTION, STA. 920+50 TO STA. 940+50

IN ORDER TO MAINTAIN POSITIVE DRAINAGE FOR NEW STORM SEWERS OUTLETTING TO THE LEFT OF CENTERLINE BETWEEN STA. 920+50 AND STA. 940+50, THE CONTRACTOR WILL BE REQUIRED TO CONSTRUCT THE LEFT SIDE DITCH AS NECESSARY IN PHASE 1 IN ORDER TO PROVIDE POSITIVE DRAINAGE AND ACCEPT THE NEW STORM SEWER RUNS. NO ADDITIONAL EXCAVATION OR EMBANKMENT ABOVE PLAN QUANTITY WILL BE PROVIDED FOR THIS ASPECT OF THE WORK. PAYMENT FOR ANY NECESSARY EXCAVATION AND EMBANKMENT TO COMPLETE THIS EFFORT SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 615, ROADS FOR MAINTAINING TRAFFIC.

THE CONTRACTOR SHALL INSTALL PCB, 32" ALONG THE OUTSIDE SHOULDER OF SB I-71 FOR PROTECTION OF THE SLOPES LEFT IN PLACE UNTIL PHASE 4 CONSTRUCTION. THIS BARRIER SHALL BE PLACED NO CLOSER THAN 1" OFF OF THE EXISTING EDGE LINE.

THE CONTRACTOR WILL BE REQUIRED TO CONSTRUCT THE NEW STORM SEWER PIPE UNDER EXISTING SB I-71 DURING PHASE 2. ALL WORK ASSOCIATED WITH CONSTRUCTION OF THE DRAINAGE FACILITIES UNDER EXISTING SB I-71 WILL BE IN ACCORDANCE WITH THE DEPARTMENT'S PERMITTED LANE CLOSURE TIMES. THE CONTRACTOR MAY BACKFILL THE STORM SEWER PIPE UNDER EXISTING SB I-71 WITH LOW STRENGTH MORTAR BACKFILL TO WITHIN 3" OF THE TOP OF EXCAVATION. THE REMAINING 3" SHALL BE BACKFILLED WITH ITEM 448, ASPHALT SURFACE COURSE, TYPE 2 PG64-22.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR COMPLETION OF THIS WORK.

ITEM 448, ASPHALT CONCRETE SURFACE COURSE, TYPE 2 PG64-22	7 CY
ITEM 613, LOW STRENGTH MORTAR BACKFILL, TYPE 1	20 CY
ITEM 622, PORTABLE CONCRETE BARRIER, 32", AS PER PLAN	2550 FT

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SEQUENCE OF CONSTRUCTION

PHASE 1
PRIOR TO CONSTRUCTION THIS PHASE, THE CONTRACTOR SHALL ERECT ALL TEMPORARY TRAFFIC CONTROL DEVICES, COVER/REMOVE/ERECT/ RELOCATE SIGNS EXISTING AND PROPOSED AS SHOWN IN THE MAINTENANCE OF TRAFFIC PLANS, PHASE 1 AND REROUTE THE TRAFFIC AS SHOWN THERIN.

CONSTRUCT WORK ZONE PAVEMENT ALONG THE RIGHT EDGE OF EXISTING PAVEMENT FOR THE SOUTHBOUND TRAFFIC AT THE LOCATIONS SHOWN ON THE MOT PLANS.

PHASE 2
PRIOR TO CONSTRUCTION THIS PHASE, THE CONTRACTOR SHALL ERECT ALL TEMPORARY TRAFFIC CONTROL DEVICES, COVER/REMOVE/ERECT/ RELOCATE SIGNS EXISTING AND PROPOSED AS SHOWN IN THE MAINTENANCE OF TRAFFIC PLANS, PHASE 2 AND REROUTE THE TRAFFIC AS SHOWN THERIN.

DURING ALL PHASES MAINTAIN 2-11 FOOT LANES IN EACH DIRECTION.

NORTHBOUND TRAFFIC: MAINTAIN PRESENT TRAFFIC PATTERN.

SOUTHBOUND TRAFFIC: SHIFT TRAFFIC ONTO EXISTING AND WORK ZONE PAVEMENT AND SHOULDER.

CONSTRUCT THE NORTHBOUND CROSS OVER PAVEMENT BETWEEN STATION 888+00 AND STATION 900+00 ALSO BETWEEN STATION 39+50 AND STATION 52+00 AS SHOWN ON MOT PLANS.

INSTALL THE SIDE DITCH INLET AT STATION 878+50. THE BORING PIT SHALL BE LOCATED IN THE MEDIAN AND SHALL BE PLACED OUTSIDE THE 30' CLEAR ZONE.

CONSTRUCT THE PROPOSED SOUTHBOUND BRIDGE. CONSTRUCT THE PROPOSED SOUTHBOUND PAVEMENT BETWEEN STATION 900+00 AND STATION 948+50 (APPROACH SLAB), CONSTRUCT THE PROPOSED SHOULDERS BETWEEN STATION 923+50 AND STATION 948+50 (APPROACH SLAB) TO THE TOP OF THE INTERMEDIATE COURSE.

CONSTRUCT THE PROPOSED SOUTHBOUND PAVEMENT BETWEEN STATION 971+25 (APPROACH SLAB) AND STATION 39+00, CONSTRUCT THE PROPOSED SHOULDER BETWEEN STATION 971+25 (APPROACH SLAB) AND STATION 978+00 TO THE TOP OF THE INTERMEDIATE COURSE.

PHASE 3
PRIOR TO CONSTRUCTION THIS PHASE, THE CONTRACTOR SHALL ERECT ALL TEMPORARY TRAFFIC CONTROL DEVICES, COVER/REMOVE/ERECT/ RELOCATE SIGNS EXISTING AND PROPOSED AS SHOWN IN THE MAINTENANCE OF TRAFFIC PLANS, PHASE 3 AND REROUTE THE TRAFFIC AS SHOWN THERIN.

SOUTHBOUND TRAFFIC: MAINTAIN TRAFFIC PATTERN AS IN PHASE 2. NORTHBOUND TRAFFIC: CLOSE ACCESS TO REST AREA. SHIFT TRAFFIC PATTERN ONTO CROSSOVERS AND NEWLY CONSTRUCTED PAVEMENT AND BRIDGE. REMOVE EXISTING NORTHBOUND BRIDGE.

CONSTRUCT THE PROPOSED NORTHBOUND BRIDGE.

CONSTRUCT THE PROPOSED NORTHBOUND PAVEMENT AND SHOULDERS BETWEEN STATION 898+00 AND STATION 948+50 (APPROACH SLAB) TO THE TOP OF THE INTERMEDIATE COURSE.

CONSTRUCT THE PROPOSED MEDIAN BARRIER BETWEEN STATION 911+52.50 AND STATION 948+38.33.

CONSTRUCT THE PROPOSED PAVEMENT AND SHOULDERS BETWEEN STATION 971+25 (APPROACH SLAB) AND STATION 985+75 TO THE TOP OF THE INTERMEDIATE COURSE.

CONSTRUCT THE PROPOSED MEDIAN BARRIER BETWEEN STATION 971+46.67 AND STATION 986+94.56.

CONSTRUCT NORTHBOUND REST AREA ENTRANCE RAMP.

PHASE 4
PRIOR TO CONSTRUCTION THIS PHASE, THE CONTRACTOR SHALL ERECT ALL TEMPORARY TRAFFIC CONTROL DEVICES, COVER/REMOVE/ERECT/ RELOCATE SIGNS EXISTING AND PROPOSED AS SHOWN IN THE MAINTENANCE OF TRAFFIC PLANS, PHASE 4 AND REROUTE THE TRAFFIC AS SHOWN THERIN.

NORTHBOUND TRAFFIC: MOVE TRAFFIC ONTO THE NEWLY CONSTRUCTED NORTHBOUND PAVEMENT AND PREVIOUSLY CONSTRUCTED SOUTHBOUND BRIDGE.

SOUTHBOUND TRAFFIC: MOVE TRAFFIC ONTO THE NEWLY CONSTRUCTED SOUTHBOUND PAVEMENT AND BRIDGE.

CONSTRUCT THE SOUTH BOUND SHOULDER AND REST AREA EXIT RAMP FROM STATION 900+00 TO STATION 923+50 IN 45 CONSECUTIVE CALENDAR DAYS TO THE TOP OF THE INTERMEDIATE COURSE.

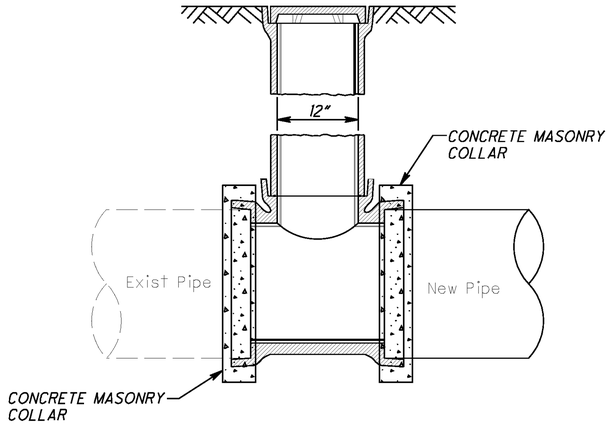
BEGIN REMOVING EXISTING SOUTHBOUND BRIDGE AND OLD PAVEMENT.

PHASE 4A
PRIOR TO CONSTRUCTION THIS PHASE, THE CONTRACTOR SHALL ERECT ALL TEMPORARY TRAFFIC CONTROL DEVICES, COVER/REMOVE/ERECT/ RELOCATE SIGNS EXISTING AND PROPOSED AS SHOWN IN THE MAINTENANCE OF TRAFFIC PLANS, PHASE 4A AND REROUTE THE TRAFFIC AS SHOWN THERIN.

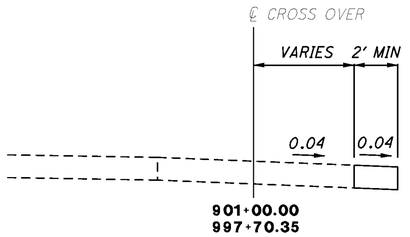
MAINTAIN NORTHBOUND TRAFFIC AS IN PHASE 4. MAINTAIN SOUTHBOUND TRAFFIC AS IN PHASE 4.

OPEN REST AREA EXIT RAMP TO TRAFFIC. REMOVE EXISTING SOUTHBOUND BRIDGE AND PAVEMENT

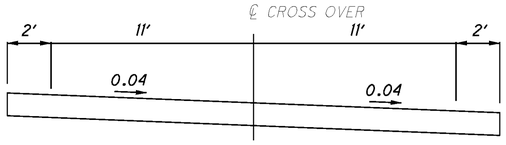
PHASE 5
CONSTRUCT THE SURFACE COURSE AND PLACE THE PERMANENT PAVEMENT MARKINGS AND SIGNING.
SOUTH OF THE RIVER, RECONSTRUCT AND REGRADE THE PARKING AREA AND ACCESS ROAD.



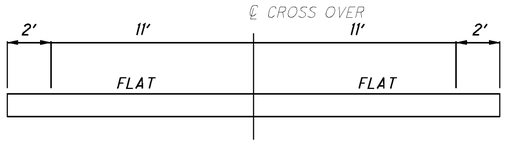
ITEM 604-INLET, SIDE DITCH, AS PER PLAN
PER CB-4.2
W/O CONCRETE CASING



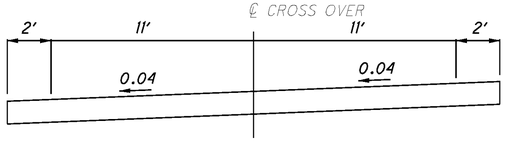
901+00.00
997+70.35



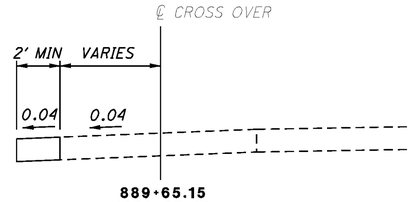
896+89.60 END CROSS SLOPE TRANSITION
1001+28.70 BEGIN CROSS SLOPE TRANSITION



895+15.40
1003+16.60



893+41.10 BEGIN CROSS SLOPE TRANSITION
1005+04.40 END CROSS SLOPE TRANSITION



889+65.15
1009+27.40

CROSS OVER TYPICAL SECTIONS

CALCULATED TAM CHECKED GKB

MAINTENANCE OF TRAFFIC GENERAL NOTES

WAR-71-14.20

GENERAL NOTES

1. It is intended that this drawing be used for treatment of drop-offs that develop during construction operations, and that are not otherwise provided for in the construction plans. The suggested treatments are intended for high volume projects that will last at least seven days and have an active work zone 1 mile [1.6 km] or less in length. For guidance on the use of this sheet, see L&D Manual Volume One, Section 500. Where the plans do not provide specific items for labor, equipment, or materials to implement the drop-off treatments specified hereon, they shall be included for payment in the lump sum bid for Item 614 - Maintaining Traffic.

2. While the need for certain advisory signing is noted hereon, it is not intended that this be indicative of all signing that may be required to advise or warn motorists, and all requirements of the Ohio Manual of Uniform Traffic Control Devices (OMUTCD) must be fulfilled.

3. In urban or otherwise heavily developed areas where pedestrians and/or bicyclists may be present in significant numbers, additional signing and protective measures other than those shown hereon may be required.

4. The drop-off treatment selected for use at any given location shall be as appropriate for the prevailing conditions at the site.

5. Where concrete barrier is specified, it shall be in accordance with Standard Construction Drawing RM-4.2 and Item 622.

6. When drums are specified for a drop-off condition, a minimum number of four drums shall be used. Spacing shall be as indicated in the plans or as specified in the OMUTCD.

7. When W8-9 (Low Shoulder) signs or W8-9a (Shoulder Drop -Off) signs or W8-11 (Uneven Lanes) signs are required, they shall be placed 750 feet [230 m] in advance of the condition, on all intersecting entrance ramps within the limits of the condition and immediately beyond all inter secting roadways within the limits of the condition. When the drop-off condition extends more than 0.5 mile [800 m], additional signs should be erected at intervals of 1.0 mile [1600 m] or less.

8. For locations, such as at ramps, lane shifts, lane closures, etc., where traffic is required to negotiate a difference in elevation between pavements, a 3:1 slope treatment similar to the Optional Wedge Treatment shall be provided.

9. Portable concrete barrier shall be placed on the same level as the traffic surface and shall not encroach on lane width(s) designated as the minimum required for traffic use. Where drums are used, and their presence would reduce traveled lane widths to less than 10 feet [3.0 m], drums may be placed on the opposite level from that of traffic provided the dropoff depth does not exceed 5 inches [125] and approval is granted by the Project Engineer.

10. Pavement Repairs (or similar work):

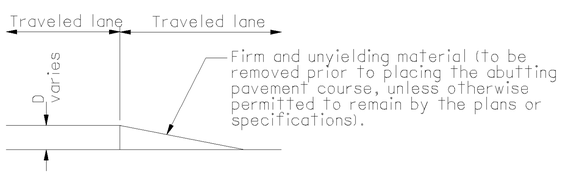
    a. Lengths greater than 60 feet [18 m] - utilize appropriate treatment from Condition I.

    b. Lengths of 60 feet [18 m] or less - repairs shall be effected in accordance with CMS 255.08. Drums may be used as a separtor adjacent to the traveled lane.

OPTIONAL WEDGE TREATMENT
(MILLING OR RESURFACING)

1. This treatment may be used when permitted for Condition I only.

2. W8-11 sign required.



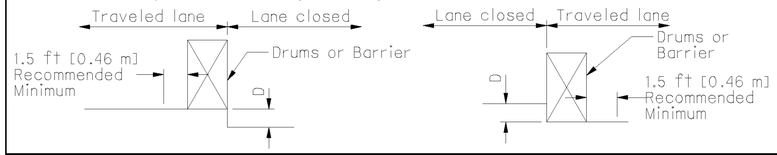
CONDITION I

DROP-OFFS BETWEEN TRAVELED LANES

1. These treatments are to be used for resurfacing, pavement planing, excavation, etc. between or within traveled lanes.

D - inches (mm)	Treatment
<1-1/2 [<40]	Erect W8-11 sign.
1-1/2 - 3 [40-75]	1) Lane closure utilizing drums* as shown below OR 2) Optional Wedge Treatment
> 3 - 5 [>75-125]	Lane closure utilizing drums as shown below.
> 5 [>125]	Lane closure utilizing portable concrete barrier as shown below.

* Cones may be used for daytime only conditions.



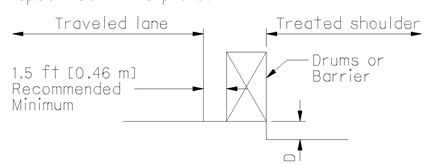
CONDITION II

DROP-OFFS WITHIN GRADED SHOULDER AREA

1. The treatments indicated below are for use in conjunction with resurfacing, planing, or excavations within the graded shoulder area.
2. The graded shoulder area is that flat or gradually sloping area between the edge of a normally Traveled lane and the more steeply sloping ditch foreslope or embankment slope. Its surface may be soil or turf, and/or it may be inclusive of a "treated" area (improved with aggregates, asphaltic materials or concrete). For the purpose herein, its maximum width shall be considered to be 12 feet [3.6 m].

D - inches (mm)	Treatment
< 1-1/2 [<40]	1) Erect W8-9a signs.
> 1-1/2 - 5 [>40-125]	1) If minimum lane width* requirements can be met, maintain lanes utilizing drums as shown below OR 2) If minimum. lane width* requirements cannot be met, close adjacent lane utilizing drums OR 3) Optional Shoulder Treatment.
> 5 -12 [125-305] Daylight only	If minimum lane width* requirements can be met, maintain lanes utilizing drums as shown below.
> 5 - 24 [>125-610]	1) If minimum lane width* requirements can be met, maintain lanes utilizing portable concrete barrier as shown below. OR 2) If minimum lane width* requirements cannot be met, close adjacent lane utilizing drums.
> 24 [> 610]	Lane closure utilizing portable concrete barrier as shown below.

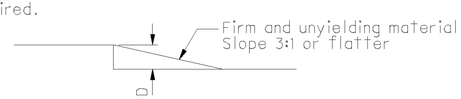
* Minimum lane widths shall be 10 ft [3.0 m] unless otherwise specified in the plans.



OPTIONAL SHOULDER TREATMENT

1. This treatment may not be used within a bitumunos shoulder where a hot longitudnal joint per CMS 401.15 is required.

2. W8-9 signs required.



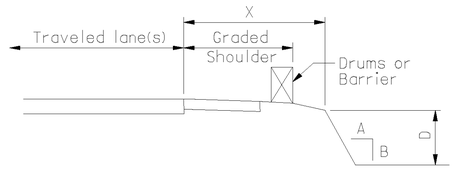
CONDITION III

DROP-OFFS BEYOND GRADED SHOULDER OR BACK OF CURB

1. See Note 2 under Condition II.
2. Use Chart A or B below, as applicable.

CHART A

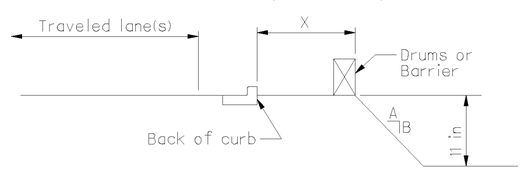
USE FOR: 1. Uncurbed Facilities
2. Curbed Facilities, where:
   a. Curbs are less than 6 inch [150] in height
   b. Curbs are 6 inch [150] or greater in height and the legal speed is greater than 40 mph [70 km/hr].



X feet (m)	D inch (mm)	A/B	Treatment Required	
			Day	Night
0 - 4 [0 - 1.2]	Any	Any	(a)	(a)
4 - 30 [1.2 - 9.1]	Any	3:1 or Flatter	None	None
4 - 12 [1.2 - 3.6]	< 3 [< 75]	Steeper than 3:1	None	None
4 - 12 [1.2 - 3.6]	> 3 - < 12 [> 75 - < 305]	Steeper than 3:1	Drums	Drums
4 - 12 [1.2 - 3.6]	> 12 [> 305]	Steeper than 3:1	Drums	Barrier
> 12 - 20 [> 3.6 - 6.1]	< 12 [< 305]	Steeper than 3:1	None	None
> 12 - 20 [> 3.6 - 6.1]	> 12 - 24 [> 305 - < 610]	Steeper than 3:1	Drums	Drums
> 12 - 20 [> 3.6 - 6.1]	> 24 [> 610]	Steeper than 3:1	Drums	Barrier
> 20 - 30 [> 6.1 - 9.1]	< 24 [< 610]	Steeper than 3:1	None	None
> 20 - 30 [> 6.1 - 9.1]	> 24 [> 610]	Steeper than 3:1	Drums	Barrier
> 30 [> 9.1 m]	Any	Any	None	None
(a) Use treatment specified under Condition II.				

CHART B

USE FOR: Curbed facilities, where the curb is 6 inches [150 mm] or greater in height and the legal speed is 40 mph [70 km/h] or less.



X feet (m)	D inch (mm)	A/B	Treatment Required	
			Day	Night
0 - 10 [0-3.0 m]	< 12 [< 305]	Any	None	Drums
0 - 10 [0-3.0 m]	> 12 [> 305]	Any	Drums	Drums
> 10 [> 3.0 m]	Any	Any	None	None

OFFICE OF TRAFFIC ENGINEERING

DESIGNED | REVIEWED LAM

REVISION DATE 11/27/06 | CHECKED

PID NUMBER 2010190

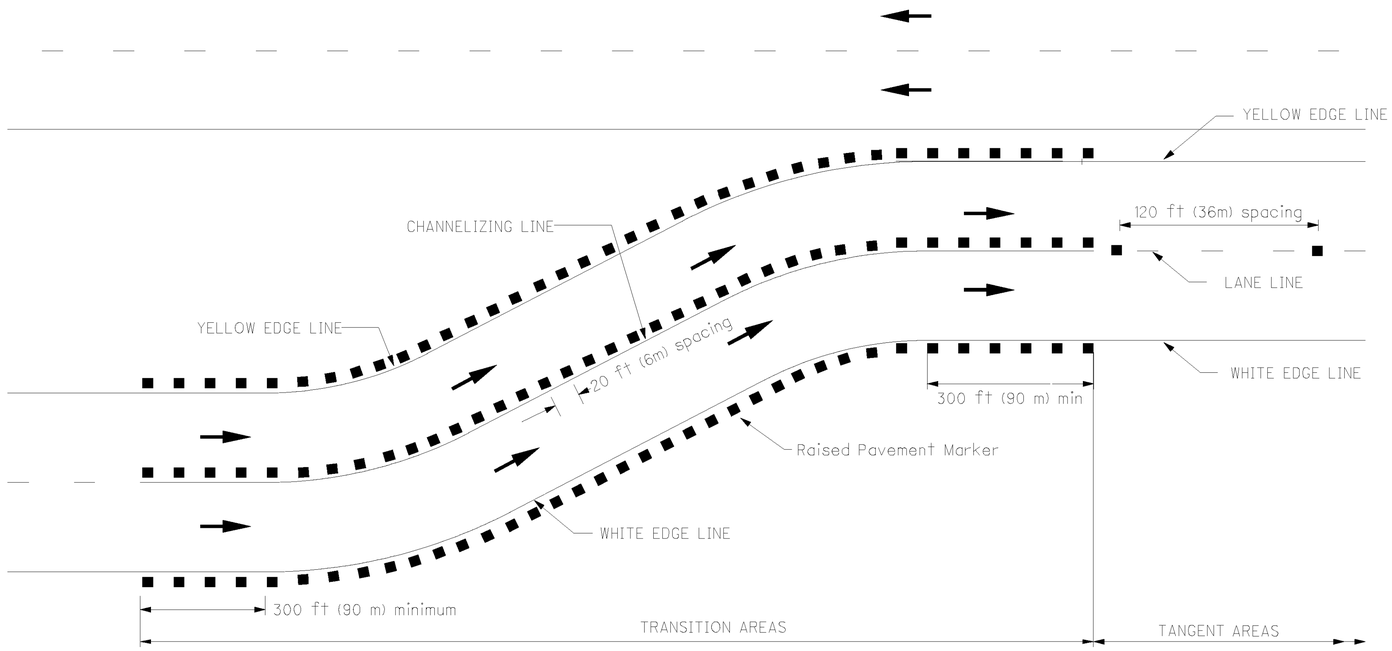
PLAN INSERT SHEET

DROP OFFS IN WORK ZONES

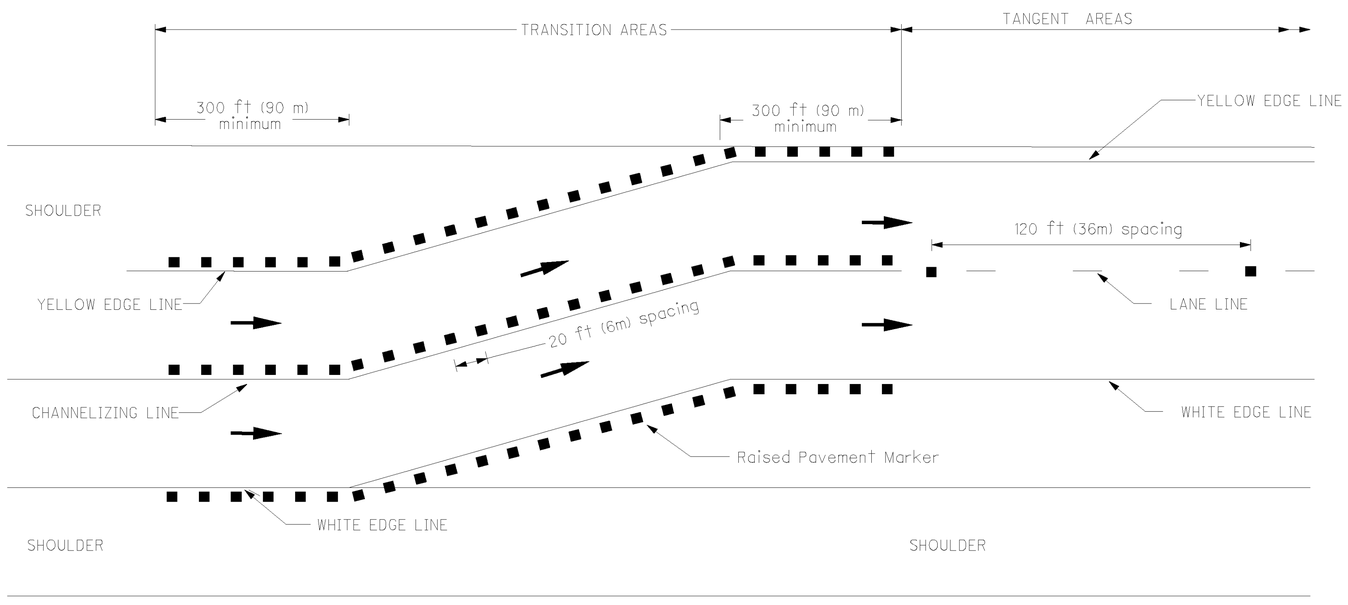
WAR-71-14.20

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WORK ZONE DELINEATION FOR CROSSOVERS



WORK ZONE DELINEATION FOR LANE SHIFTS

LEGEND

- RPM
- DIRECTION OF TRAVEL

NOTES

1. This drawing presents delineation procedures for freeways and expressways on asphalt surfaces. Procedures are provided for transition areas and for tangent areas. The procedures for transition areas apply to crossovers and to lane shifts of 4 feet (1.2 m) or greater. Delineation of transition areas for shifts of less than 4 inches (1.2 m)shall be as per the tangent area delineation.

2. Raised Pavement Markers shall meet the following seasonal specifications:

   a) Raised Pavement Markers in place during the normal construction season may be either 621 Raised Pavement Markers or 614 Work Zone Raised Pavement Markers (WZRPMs). The normal construction season with regard To use of WZRPMs shall be the period from April 1 through October 15.

   b) At locations where it is intended that Raised Pavement Markers will winter over, 621 Raised Pavement Markers shall be provided.

   c) At locations where it is intended that work will continue beyond October 15 but will be completed prior to the beginning of snow-plowing season, 614 WZRPMs may remain in place until such time. Snow-plowing season shall be as specified in the plans. If snow-plowing season is not specified in the plans, it shall be assumed that snow-plowing season runs from October 16 through March 31. If project delays, not the fault of ODOT, cause work to extend into the snow-plowing season, the contractor shall be responsible for replacing WZRPMs with 621 Raised Pavement Markers, as determined by the Engineer, at the contrator's expense.

3. All material furnished shall be listed on the Department's Prequalified Lists.

4. The geometrics of the crossover shall be as shown in the plans. Additional details are provided in Standard Construction Drawing MT-95.70.

5. See Standard Construction Drawings MT-102.10 and MT-102.20 for more details concerning lane shifts.

6. Spacing of raised pavement markers (RPMs) shall be at 20 feet (6 m) center-to-center for all long-line marking within transition areas. Within tangent areas RPMs shall be provided only along the lane lines, spaced at 120 foot (36 m) center-to-center.

7. The RPMs shall be 1-way, facing oncomming traffic, and shall be white or yellow to match the color of the associated line marking.

8. Along the edge lines, the RPMs shall be offset a maximum of 4 inches (100 mm) to the outside of the lines. Along the channelizing lines, the RPMs shall be offset to the left of the lines by no more than 1 inch (25 mm). Along the lane lines the RPMs shall be centered between dashes.

9. The RPMs shall be removed when they are no longer appropriate.

10. Holes resulting from removal of 621 RPMs shall be filledas per 202.10. If removal of the 621 RPMs does not take place immediately after the highlighted alignment becomes invalid, the reflectors within the 621 RPMs shall be removed.

11. Following removal of 621 RPMs resurfacing of the transition shall be performed. The resurfacing shall be performed at the time the surface course is being applied. In preparation for resurfacing, the existing pavement shall be removed to a depth necessary to match the level of the intermediate course of the proposed pavement.

OFFICE OF TRAFFIC ENGINEERING

DESIGNED | REVIEWED LAM

REVISION DATE 7/20/07 | CHECKED

PID NUMBER 209930

PLAN INSERT SHEET

WORK ZONE DELINEATION ON ASPHALT SURFACES

WAR-71-14.20

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14A / 470

REF NO.	SHEET NO.	LOCATION FROM	LOCATION TO	SIDE	614 WORK ZONE IMPACT ATTENUATOR (UNI-DIRECTIONAL)	614 WORK ZONE LANE LINE, CLASS 1	614 WORK ZONE RAISED PAVEMENT MARKERS (YELLOW)	614 WORK ZONE RAISED PAVEMENT MARKERS (WHITE)	614 WORK ZONE EDGE LINE, CLASS 1 (YELLOW)	614 WORK ZONE EDGE LINE, CLASS 1 (WHITE)	614 WORK ZONE EDGE LINE, CLASS 1, 740.06, TYPE1 (YELLOW)	614 WORK ZONE EDGE LINE, CLASS 1, 740.06, TYPE1 (WHITE)	614 WORK ZONE CHANNELIZING LINE, CLASS 1	614 WORK ZONE CHANNELIZING LINE, CLASS 1, 740.06, TYPE 1	615 PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN	622 PORTABLE CONCRETE BARRIER, 32"	622 PORTABLE CONCRETE BARRIER, 50"
					EACH	MILE	EACH	EACH	MILE	MILE	MILE	MILE	FT	FT	SQ YD	FT	FT
		MAINTENANCE OF TRAFFIC															
		PHASE 1															
		896+21	909+27	LT											686		
		994+13	43+35.00	LT											472		
		PHASE 2															
		894+00.00	930+70.00	LT	1												3580
		889+60.00	901+00.00	LT & RT											2262		
		938+50.00	948+80.00	RT	1											1030	
		971+00.00	998+70.00	LT													2760
		39+00.00	47+70.00	LT													870
		997+70.00	50+00.00	LT & RT											2384		
		892+00.00	900+00.00	LT							0.152	0.152					
		39+00.00	52+70.00	LT							0.260	0.260					
		889+00.00	900+00.00	LT										1100			
		39+00.00	52+70.00	LT										1370			
		900+00.00	903+00.00	LT									300				
		938+00.00	950+00.00	LT									1200				
		987+10.00	998+70.00	LT									1160				
		900+00.00	947+00.00	LT					0.890	0.890							
		972+00.00	998+70.00	LT					0.506	0.506							
		903+00.00	938+00.00	LT		1.169											
		972+00.00	987+10.00	LT		0.286											
		889+00.00	903+00.00	LT			70	140									
		938+00.00	950+00.00	LT			60	120									
		903+00.00	938+00.00	LT				30									
			SUB-TOTAL		2	1.455	130	290	1.396	1.396	0.412	0.412	2660	2470	5804	1030	7210
TOTAL CARRIED TO GENERAL SUMMARY					2	1.46	420		2.79		0.82		2660	2470	5804	1030	7210

CALCULATED

CHECKED

MAINTENANCE OF TRAFFIC ESTIMATED QUANTITIES

WAR-71-14.20

14B
470

I:\HIGHWAYS\Data\HNTB\22950\From ODOT Final 04162010\Bid Plans\Dgns\22950\MOT\Sheets\22950-014B.dgn 4/21/2010 10:51:26 AM dbruno

REF NO.	SHEET NO.	LOCATION FROM	LOCATION TO	SIDE		614 WORK ZONE IMPACT ATTENUATOR (UNI-DIRECTIONAL)	614 WORK ZONE RAISED PAVEMENT MARKERS (YELLOW)	614 WORK ZONE RAISED PAVEMENT MARKERS (WHITE)	614 WORK ZONE LANE LINE, CLASS 1	614 WORK ZONE LANE LINE, CLASS 1, 740.06, TYPE 1	614 WORK ZONE EDGE LINE, CLASS 1 (YELLOW)	614 WORK ZONE EDGE LINE, CLASS 1 (WHITE)		614 WORK ZONE EDGE LINE, CLASS 1, 740.06, TYPE1 (YELLOW)	614 WORK ZONE EDGE LINE, CLASS 1, 740.06, TYPE1 (WHITE)		614 WORK ZONE CHANNELIZING LINE, CLASS 1	614 WORK ZONE CHANNELIZING LINE, CLASS 1, 740.06, TYPE 1		615 PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN	622 PORTABLE CONCRETE BARRIER, 32"	622 PORTABLE CONCRETE BARRIER, 50"
						EACH	EACH	EACH	MILE	MILE	MILE	MILE		MILE	MILE		FT	FT		SQ YD	FT	FT
		PHASE 3																				
		883+81.00	904+75.00	LT & RT			212	106														
		994+71.00	998+71.00	LT			40	20														
		39+00.00	54+60.00	LT & RT			158	79														
		904+75.00	994+71.00	LT			74															
		910+87.00		LT		1																
		947+10.00		LT		1																
		910+90.00	948+50.00	LT																	3760	
		940+60.00	948+60.00	LT																	800	
		947+10.00	948+50.00	LT																	140	
		882+40.00	893+00.00	RT											0.200							
		886+80.00	890+30.00	RT										0.067								
		897+40.00	900+00.00	LT										0.049								
		45+80.00	54+60.00	RT											0.167							
		49+50.00	54+60.00	RT										0.097								
		39+00.00	41+20.00	LT										0.042								
		883+80.00	892+00.00	LT & RT														820				
		47+40.00	57+55.00	LT & RT														1015				
		904+75.00	948+50.00						0.829													
		948+50.00	971+50.00	LT						0.436				0.436	0.436							
		971+50.00	994+71.00	LT					0.440													
		890+30.00	897+40.00	LT & RT							0.135											
		900+00.00	948+50.00	LT							0.909											
		971+50.00	998+70.00	LT							0.515											
		41+20.00	49+50.00	LT & RT							0.157											
		893+00.00	948+50.00	LT											1.051							
		971+50.00	998+70.00	LT											0.515							
		39+00.00	45+80.00	LT & RT											0.129							
		892+00.00	904+75.00	LT & RT													1275					
		994+71.00	998+70.00	LT													399					
		39+00.00	47+40.00	LT & RT													840					
			SUB-TOTAL			2	484	205	1.269	0.436	1.716	0.000		0.691	2.498		2514	1835			4700	0
TOTAL CARRIED TO GENERAL SUMMARY						2	689		1.27	0.44	1.72			3.19			2514	1835		0.0	4700	0

CALCULATED

CHECKED

MAINTENANCE OF TRAFFIC ESTIMATED QUANTITIES

WAR-71-14.20

14C
470

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REF NO.	SHEET NO.	LOCATION FROM	LOCATION TO	SIDE	614 WORK ZONE IMPACT ATTENUATOR (UNI-DIRECTIONAL) EACH	614 WORK ZONE RAISED PAVEMENT MARKERS (YELLOW) EACH	614 WORK ZONE RAISED PAVEMENT MARKERS (WHITE) EACH	614 WORK ZONE LANE LINE, CLASS 1 MILE	614 WORK ZONE LANE LINE, CLASS 1, 740.06, TYPE 1 MILE	614 WORK ZONE EDGE LINE, CLASS 1 (YELLOW) MILE	614 WORK ZONE EDGE LINE, CLASS 1 (WHITE) MILE	614 WORK ZONE EDGE LINE, CLASS 1, 740.06, TYPE1 (YELLOW) MILE	614 WORK ZONE EDGE LINE, CLASS 1, 740.06, TYPE1 (WHITE) MILE	614 WORK ZONE CHANNELIZING LINE, CLASS 1 FT	614 WORK ZONE CHANNELIZING LINE, CLASS 1, 740.06, TYPE 1 FT	615 PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN SQ YD	622 PORTABLE CONCRETE BARRIER, 32" FT	622 PORTABLE CONCRETE BARRIER, 50" FT
		PHASE 4																
		891+00.00	900+00.00	LT											900			
		39+00.00	46+70.00	LT											770			
		892+00.00	900+00.00	LT								0.152	0.152					
		948+50.00	971+50.00	LT								0.436	0.436					
		39+00.00	52+70.00	LT					0.436			0.265	0.265					
		971+50.00	998+70.00	LT						0.515	0.515							
		46+70.00	52+70.00	LT					0.114									
		49+00.00	54+61.00	RT				0.106		0.106	0.106							
		884+50.00	887+60.00	RT											311			
		882+13.00	893+00.00	RT								0.206						
		887+61.00	893+00.00	RT									0.102					
		948+50.00	971+50.00	RT					0.436			0.436	0.436					
		882+13.00	893+00.00	RT					0.206									
		900+00.00	903+00.00	LT										300				
		994+90.00	998+70.00	LT										380				
		903+00.00	948+50.00	LT				0.862										
		900+00.00	948+50.00	LT						0.919	0.919							
		971+50.00	994+90.00	LT				0.443										
		898+00.00	948+50.00	RT				0.956		0.956								
		503+10.00	513+40.00	RT						0.195	0.195							
		898+00.00	914+85.00	RT							0.319							
		971+50.00	985+70.00	RT				0.269		0.269	0.269							
		913+40.00	948+50.00	RT							0.665							
		913+40.00	914+86.00	RT						0.028								
		891+00.00	903+00.00	LT		60	120.000											
		994+89.00	46+71.00	LT		58	116.000											
		903+00.00	994+89.00	LT			78.000											
		PHASE 4A																
		209+00.00	216+55.00	RT						0.143	0.143							
		916+55.00	921+56.00	LT										501				
		916+55.00	926+57.00	LT							0.190							
			SUB-TOTAL			118	314	2.636	1.192	3.131	3.321	1.495	1.391	1181	1981			
TOTAL CARRIED TO GENERAL SUMMARY					0.0	432		2.64	1.19	6.45		2.89		1181	1981	0.0	0.0	0.0

CALCULATED

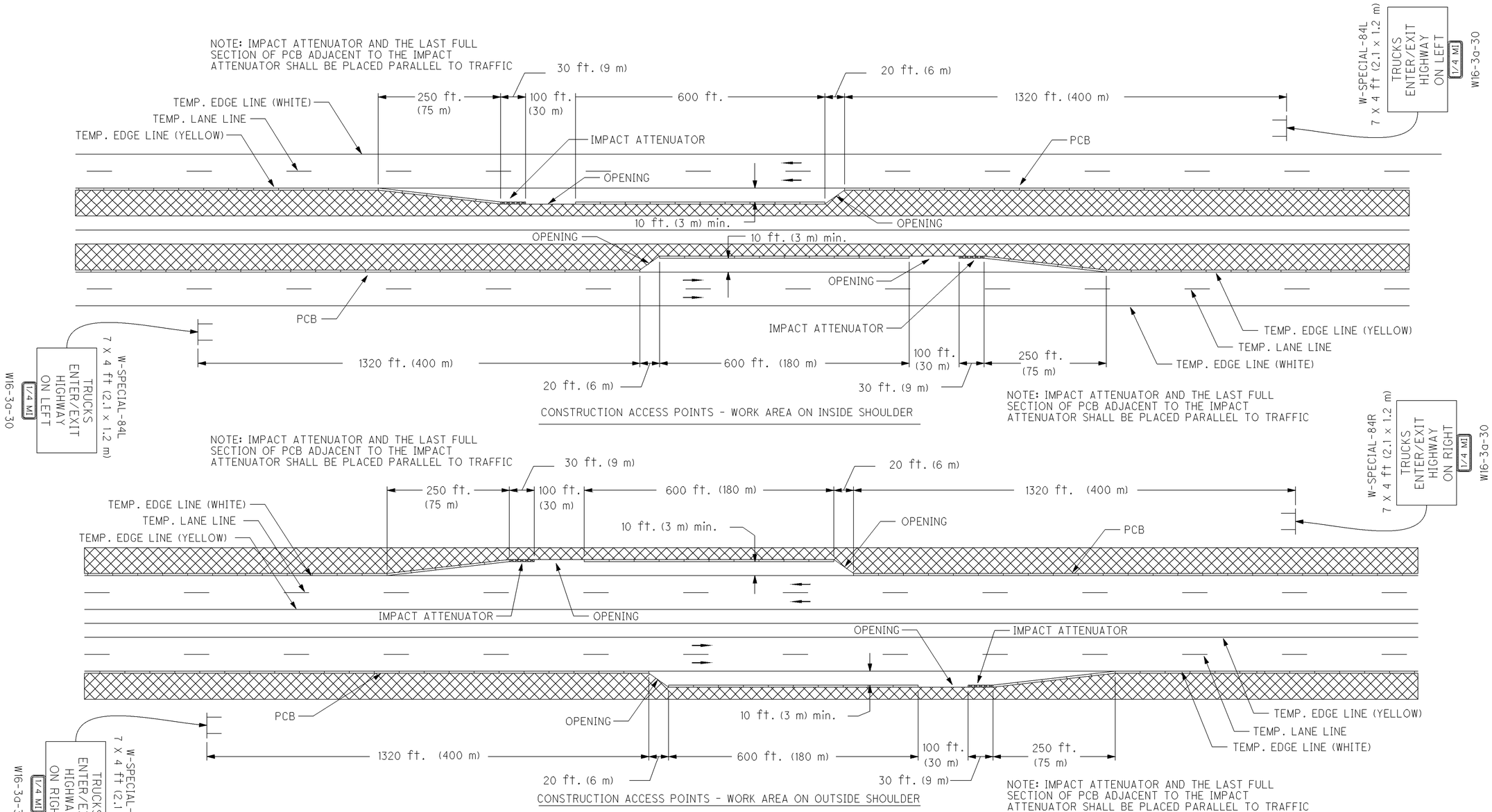
CHECKED

MAINTENANCE OF TRAFFIC ESTIMATED QUANTITIES

WAR-71-14.20

14D
470

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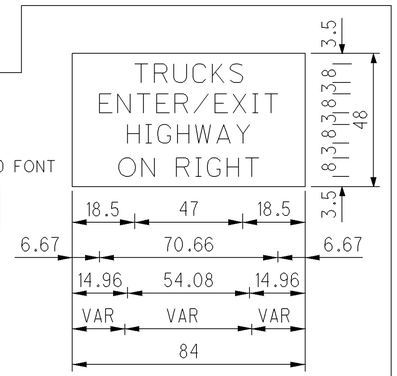


W-SPECIAL-84 (R/L)
(SIGN INFORMATION SHOWN IN ENGLISH UNITS ONLY)

TABLE OF WIDTHS AND SPACES

18.50	T 5.94	1.65	R 6.38	2.05	U 6.37	2.06	C 6.37	1.65	K 6.50	1.65	S 6.38	18.50														
6.67	E 5.94	1.65	N 6.38	1.67	T 5.94	1.65	E 5.94	1.65	R 5.94	0.55	/ 6.47	1.10	E 5.94	1.65	X 6.94	1.65	I 1.60	1.65	T 5.94	6.67						
14.96	H 6.38	2.05	I 1.60	2.05	G 6.38	2.05	H 6.37	1.65	W 8.44	0.56	A 8.00	0.55	Y 8.00	14.96												
13.21	O 6.69	2.05	N 6.37	8.00	R 6.38	2.05	I 1.60	2.05	G 6.38	2.05	H 6.37	1.65	T 5.94	13.21												
15.87	O 6.69	2.05	N 6.37	8.00	L 6.38	1.65	E 5.94	1.65	F 5.94	1.65	T 5.94	15.87														

NO BORDER, BLACK ON ORANGE;E MOD FONT



CONSTRUCTION ACCESS POINTS

Construction access point locations may be selected by the Contractor with the approval of the Engineer. The locations shall be selected for good sight distance and ease of access for entering vehicles (avoid locations just beyond crest vertical curves, on overhead structures, on upgrades, etc.). In the event that the Engineer determines that an access point does not function in a safe manner, he/she shall order it immediately closed at no cost to the State. Access points may be relocated subject to the approval of the Engineer, as necessary to accomplish construction activites.

All costs for relocation of portable concrete barrier, barrels, installation, repair, replacement and removal of impact attenuators, grading for access drives, signing and related costs shall be included in the bid for Item 614 Maintaining Traffic, Misc.: Construction Access Points.

A quantity of 15 each has been carried to the General Summary.

OFFICE OF TRAFFIC ENGINEERING

DESIGNED RAS REVIEWED LAM

REVISION DATE 04/16/10 CHECKED

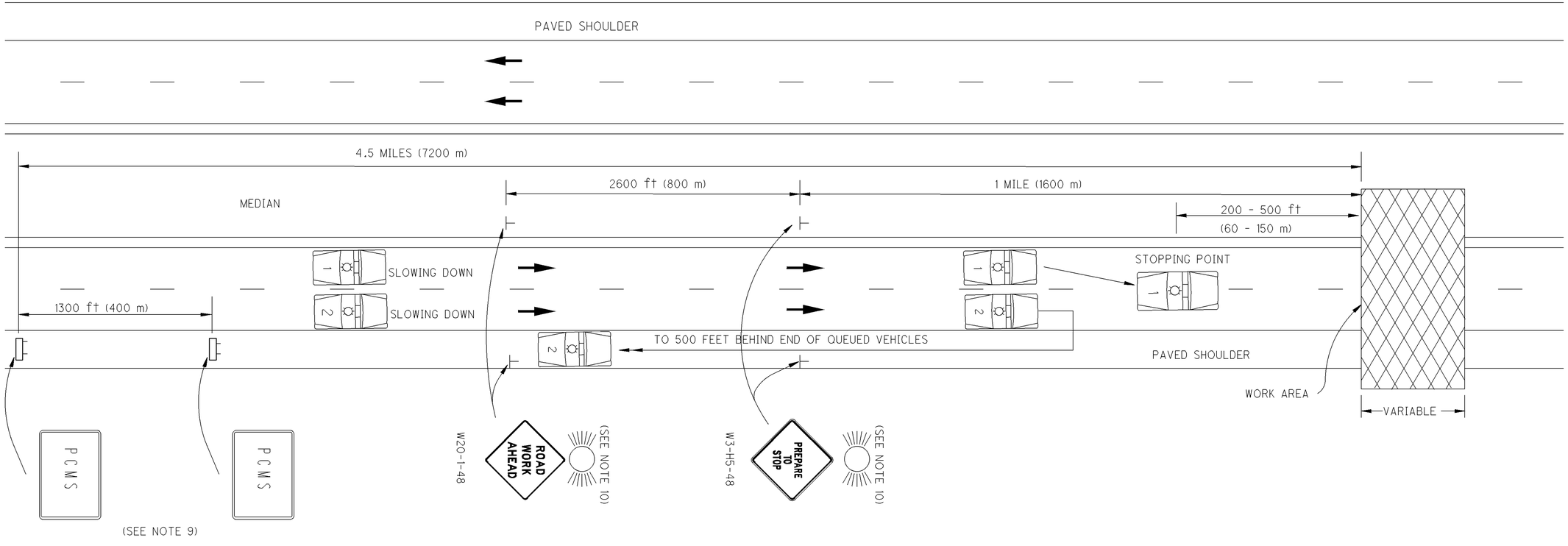
PID NUMBER 209563

PLAN INSERT SHEET

CONSTRUCTION ACCESS POINTS

14E
470

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1. This type of highway closure shall be used for all construction, maintenance and utility operations when the duration of closure will not exceed 15 minutes.

2. A minimum of two Law Enforcement Officers (LEO) with patrol cars per direction shall be provided to block traffic and pace motorists to a stop. The number of patrol cars shall equal the number of lanes closed on the highway.

3. Patrol cars, with lights flashing, should enter the stream of traffic at approximately 3 miles before the point of closure. At approximately 2 miles before the point of closure, they should begin the gradual slow down. Traffic shall be brought to a complete stop a safe distance, between 200 and 500 feet (60 and 150 m), from the work area. This slowing operation shall take no more than 10 minutes. After traffic has been stopped, one patrol car shall travel along the roadway shoulder 500 feet (150 m) behind the end of the queued vehicles.

4. The Contractor shall not begin work until traffic has been brought to a complete stop.

5. All entrance ramps located between the stopped traffic and the work area shall be closed.

6. After the highway has been closed and reopened via this procedure, both of the following requirements shall have been met before implementation of another short duration closure, except with the approval of the Engineer:
   A. A minimum period of 15 minutes shall have elapsed
   B. The queued traffic shall have dissipated

7. Short term duration closures are only allowed when construction activity occurs over live traffic. The time frame for stopping traffic shall be between the hours of 12:00am and 5:00am.

8. The public shall be given advance notice of the upcoming closure by providing Portable Changeable Message signs at the site at least one week in advance of the scheduled closing. Closure information should also be provided through the news media.

9. Two ODOT approved Portable Changeable Message Signs, Class 1, shall be provided. The first message sign shall be placed at approximately 4.5 miles in advance of the closure or as directed by the Engineer. The second message sign shall be placed at approximately one-quarter mile beyond the first message sign. The first message sign shall read ROAD CLOSED AHEAD (0.8 sec.), PREPARE TO STOP (0.8 sec.), (Black screen for 0.3 sec.) The second message sign shall read ROAD CLOSED AHEAD (0.8 sec.), "EXPECT 30 MIN. DELAY" (0.8 sec.), (Black screen for 0.3 sec.)

10. The Contractor shall erect and maintian 48 inch "ROAD WORK AHEAD" and "PREPARE TO STOP" signs on each side of the highway. During night operations, each sign shall be illuminated with one Type A flashing warning light or two flares. The flares shall be replaced if they burn out.

OFFICE OF TRAFFIC ENGINEERING

DESIGNED SHB
REVIEWED LAM

REVISION DATE 07/18/08
CHECKED

PID NUMBER 209960

PLAN INSERT SHEET

SHORT-DURATION CLOSURE OF MULTI-LANE DIVIDED HIGHWAY

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P.I. STA. 890+36.57
Δ = 6° 48′ 11″ (LT)
Dc = 0° 57′ 25″
R = 5,988.00′
T = 355.91′
L = 710.98′
E = 10.57′

PC STA. 886+80.66 =
STA. 886+80.66, 53.32′ RT.

PRC STA. 893+91.64

+38.96

+85.53

+03.37

2′

700′ - 12″ TYPE B @ 0.80%

℄ EX. INTERSTATE 71

+64.35

+41.35

STA. 895+00, 22.0′RT
CB-7
GRATE=964.60
℄ 12″ W=962.00

Exist. CB
℄ S = 956.61
℄ N = 956.13
PROP. ℄ 12″ E=956.40

P.I. STA. 897+47.55
Δ = 6° 48′ 11″ (RT)
Dc = 0° 57′ 25″
R = 5,988.00′
T = 355.91′
L = 710.98′
E = 10.57′

PT STA. 901+02.62 =
STA. 899+99.28, 31.00′ LT

NOTE:
1. WORK ZONE CROSSOVER LIGHTING SYSTEM SHALL BE CONSTRUCTED IN ACCORDANCE WITH MT-100.00

+0.42 %

+0.62 %

+0.66 %

STA. 892+00

STA. 893+25

STA. 897+00

STA. 900+00

VERTICAL GRAPHIC GRADE

VERTICAL GRAPHIC GRADE

HORIZONTAL SCALE IN FEET
0 25 50 100

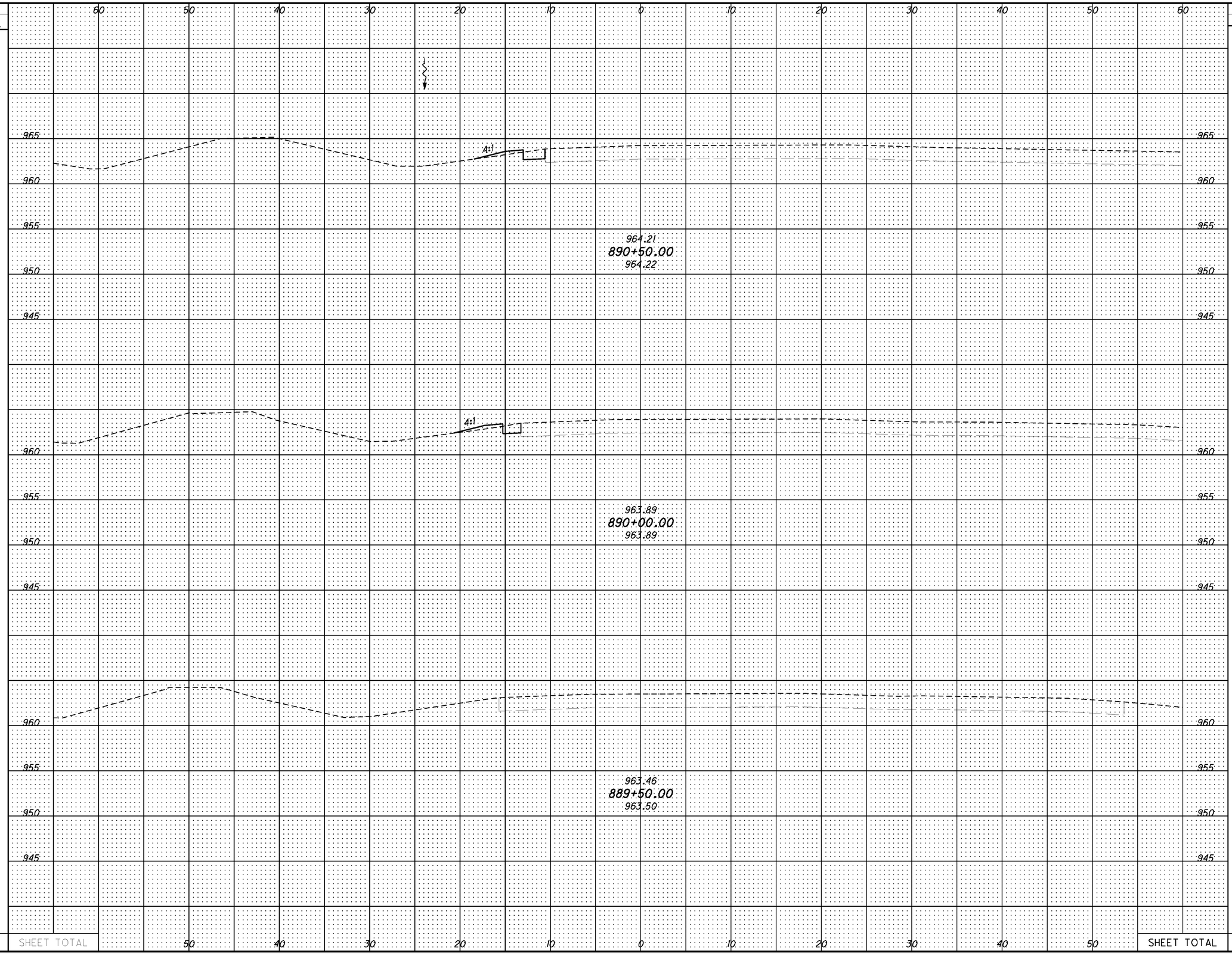
CALCULATED TAM
CHECKED GKB

PLAN AND PROFILE-NORTHBOUND CROSSOVER STA. 886+50 TO STA. 901+50

WAR-71-14.20

15
470

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
		2	1		
				4	2
		2	1		
				2	1
		0	0		
SHEET TOTAL				6	3



CALCULATED TAM

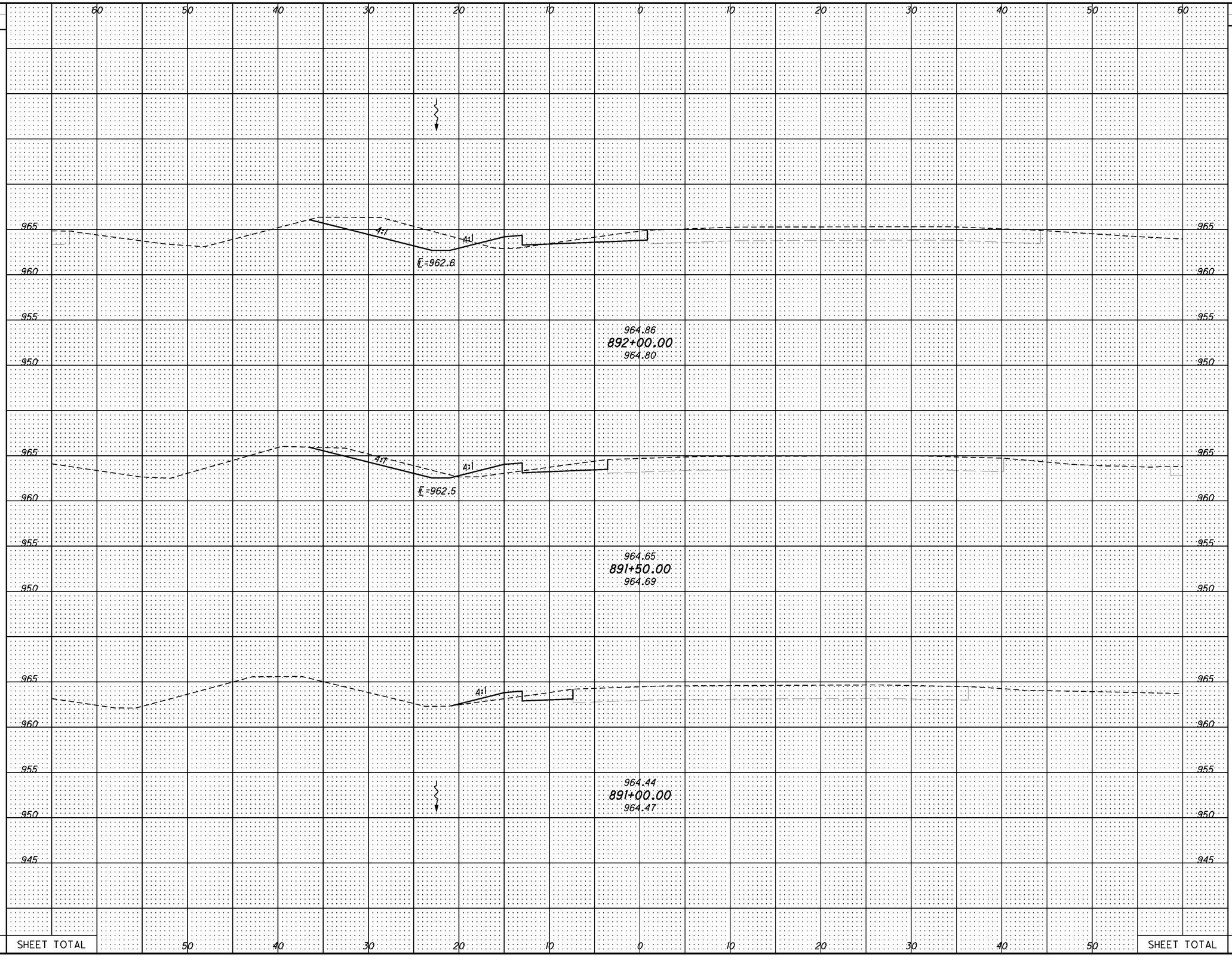
CHECKED GKB

MAINTENANCE OF TRAFFIC CROSS SECTIONS
NORTHBOUND CROSSOVER STA. 889+50.00 TO STA. 890+50.00

WAR-71-14.20

16
470

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
		34	5	48	9
		18	5	20	7
		4	3	6	4
SHEET TOTAL				74	20



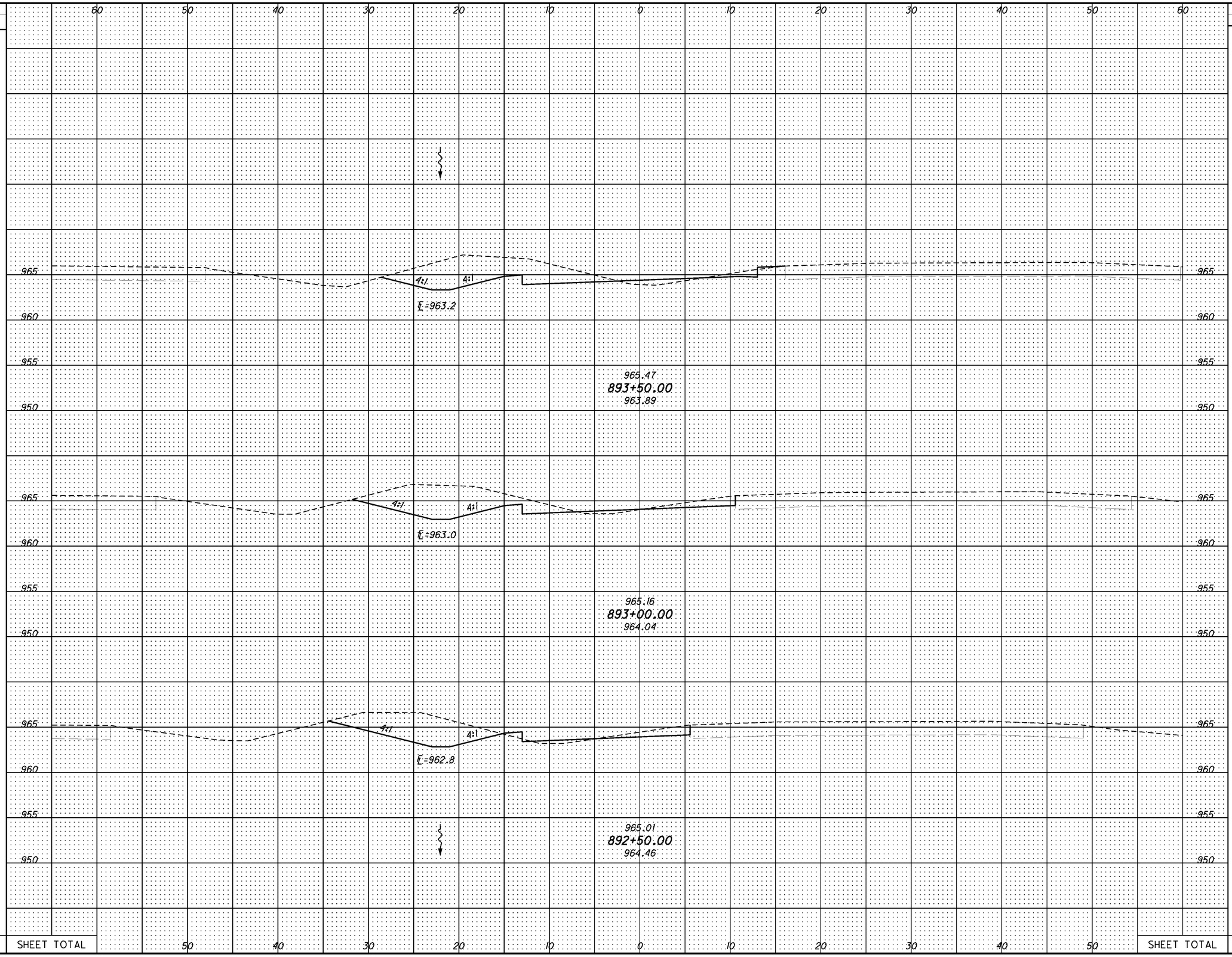
CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC CROSS SECTIONS
NORTHBOUND CROSSOVER STA. 891+00.00 TO STA. 892+00.00

WAR-71-14.20

17
470

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
		52	4		
				100	6
		56	2		
				94	5
		46	3		
				74	7
SHEET TOTAL				268	18



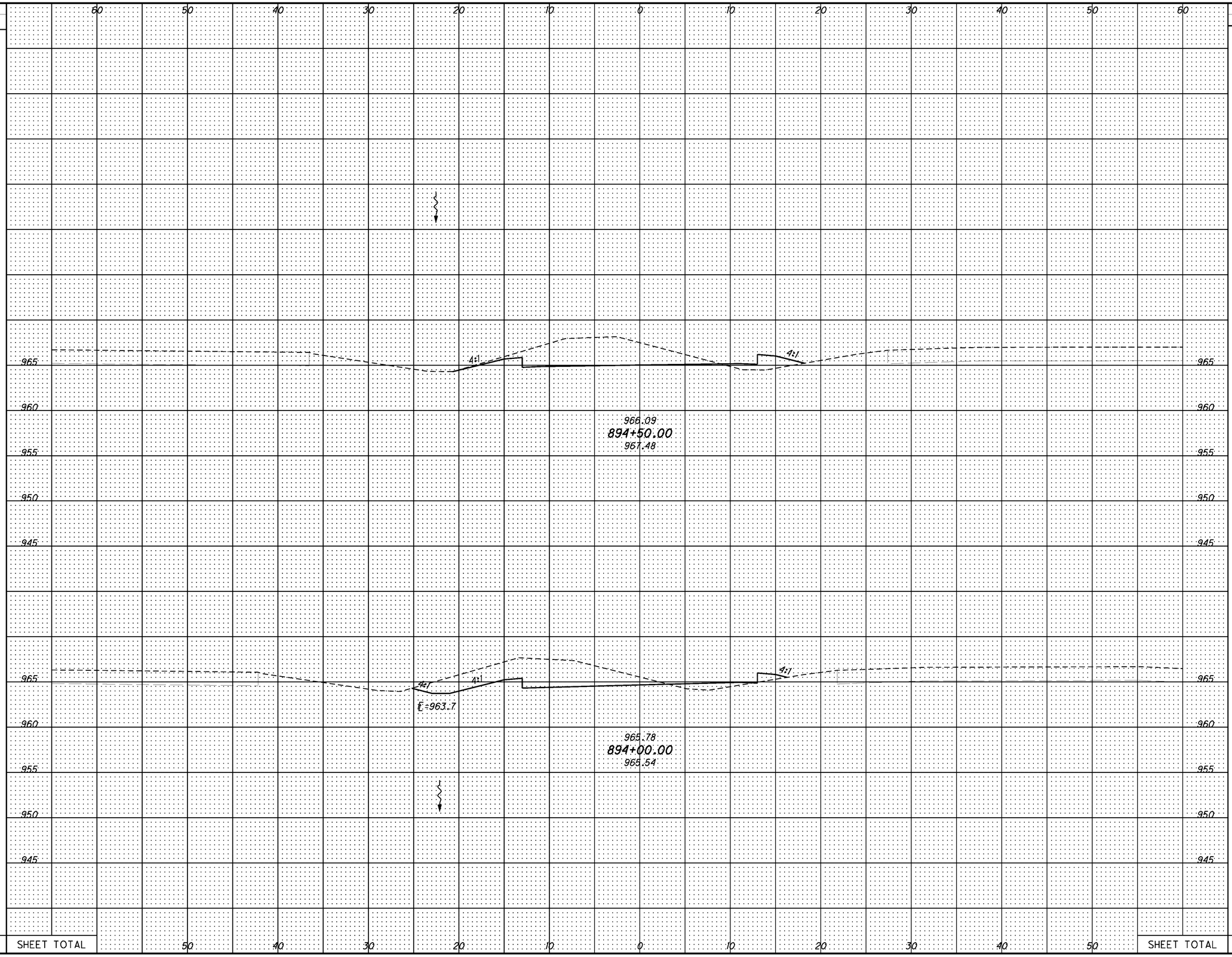
CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC CROSS SECTIONS
NORTHBOUND CROSSOVER STA. 892+50.00 TO STA. 893+50.00

WAR-71-14.20

18
470

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
		49	7		
		53	6		
SHEET TOTAL				94	12
				97	9
SHEET TOTAL				191	21



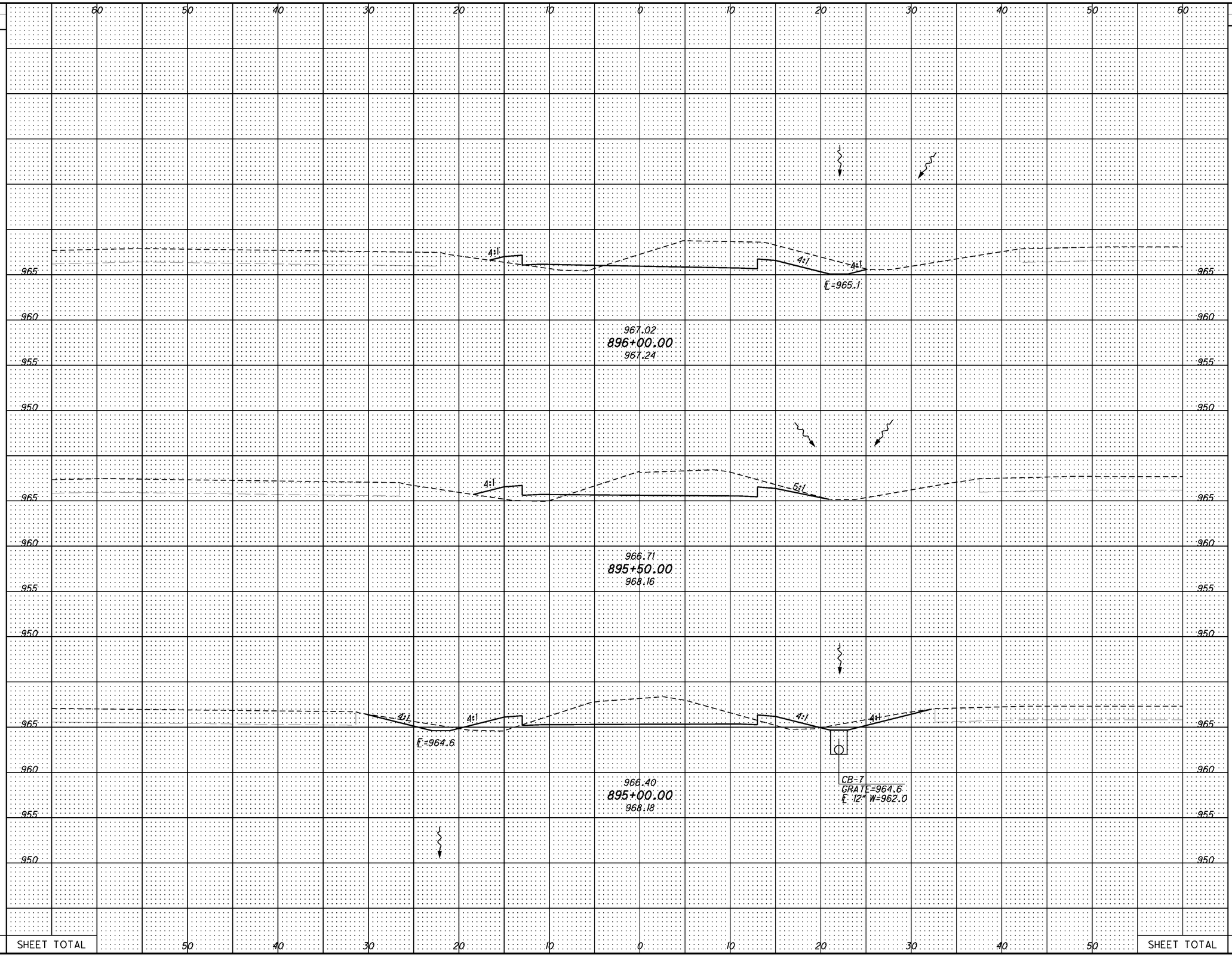
CALCULATED TAM

CHECKED GKB

MAINTENANCE OF TRAFFIC CROSS SECTIONS
NORTHBOUND CROSSOVER STA. 894+00.00 TO STA. 894+50.00

WAR-71-14.20

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
		54	6	94	13
		47	8	99	19
		60	12	101	18
SHEET TOTAL				294	50

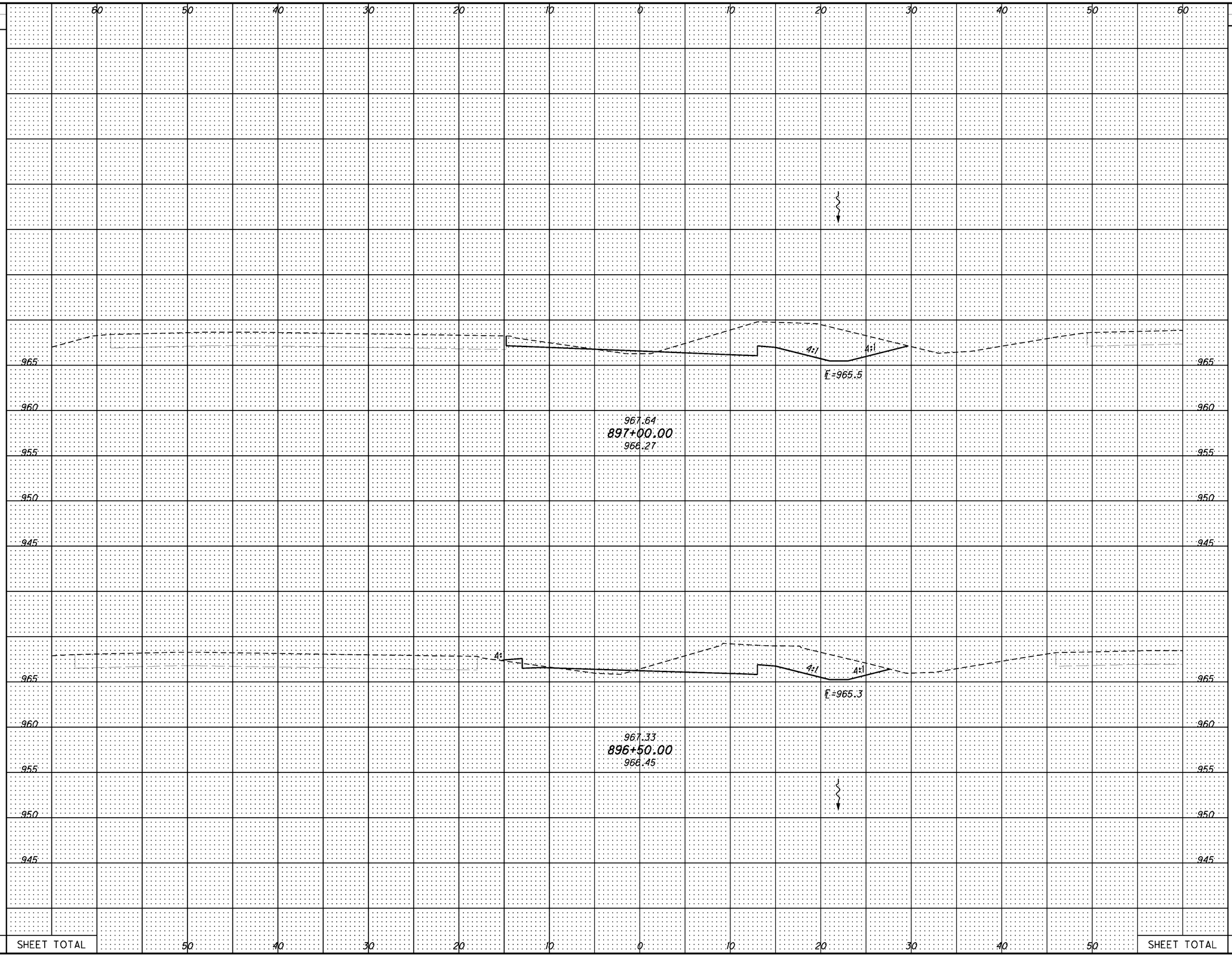


CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC CROSS SECTIONS
NORTHBOUND CROSSOVER STA. 895+00.00 TO STA. 896+00.00

WAR-71-14.20

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
		70	2		
				120	5
		60	3		
				106	8
SHEET TOTAL				226	13



CALCULATED TAM

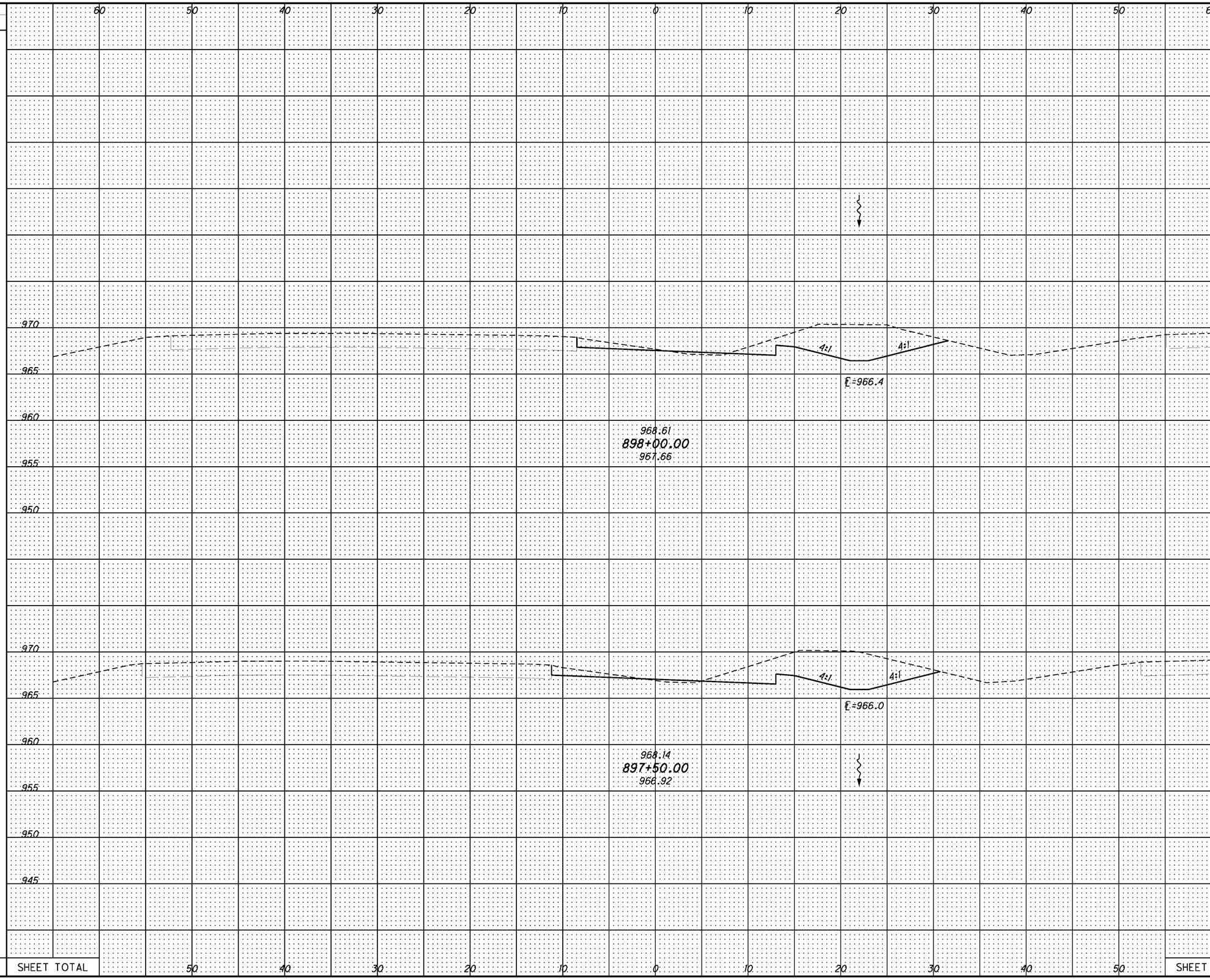
CHECKED GKB

MAINTENANCE OF TRAFFIC CROSS SECTIONS

NORTHBOUND CROSSOVER STA. 896+50.00 TO STA. 897+00.00

WAR-71-14.20

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
		56	1		
		64	1	111	2
				124	3
SHEET TOTAL				235	5



CALCULATED TAM

CHECKED GKB

MAINTENANCE OF TRAFFIC CROSS SECTIONS
NORTHBOUND CROSSOVER STA. 897+50.00 TO STA. 898+00.00

WAR-71-14.20

SEEDING			END AREA		VOLUME	
END WIDTH	SQ. YDS.		CUT	FILL	CUT	FILL
		899+50.00	37	5		
		899+00.00	41	4	72	8
		898+50.00	47	2	82	6
					95	3
SHEET TOTAL					249	17

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC CROSS SECTIONS
NORTHBOUND CROSSOVER STA. 898+50.00 TO STA. 899+50.00

WAR-71-14.20

SEEDING	
END WIDTH	SQ. YDS.

60 50 40 30 20 10 0 10 20 30 40 50 60

INTERSTATE 71 NORTHBOUND CROSSOVER
WORK ZONE QUANTITIES (FOR INFORMATION ONLY)

ITEM 203 - EXCAVATION	1694 CU. YD.
ITEM 203 - EMBANKMENT	173 CU. YD.

970
965
970.95
901+00.00
970.96

970
965
970.62
900+50.00
970.49
4:1
4:1
℄=968.4

970
965
960
955
970.29
900+00.00
970.07
4:1
4:1
℄=968.1

SHEET TOTAL

END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0		
		26	7
28	8		
		58	11
35	4		
		67	8
		151	26

SHEET TOTAL

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC CROSS SECTIONS
NORTHBOUND CROSSOVER STA. 900+00.00 TO STA. 901+00.00

WAR-71-14.20

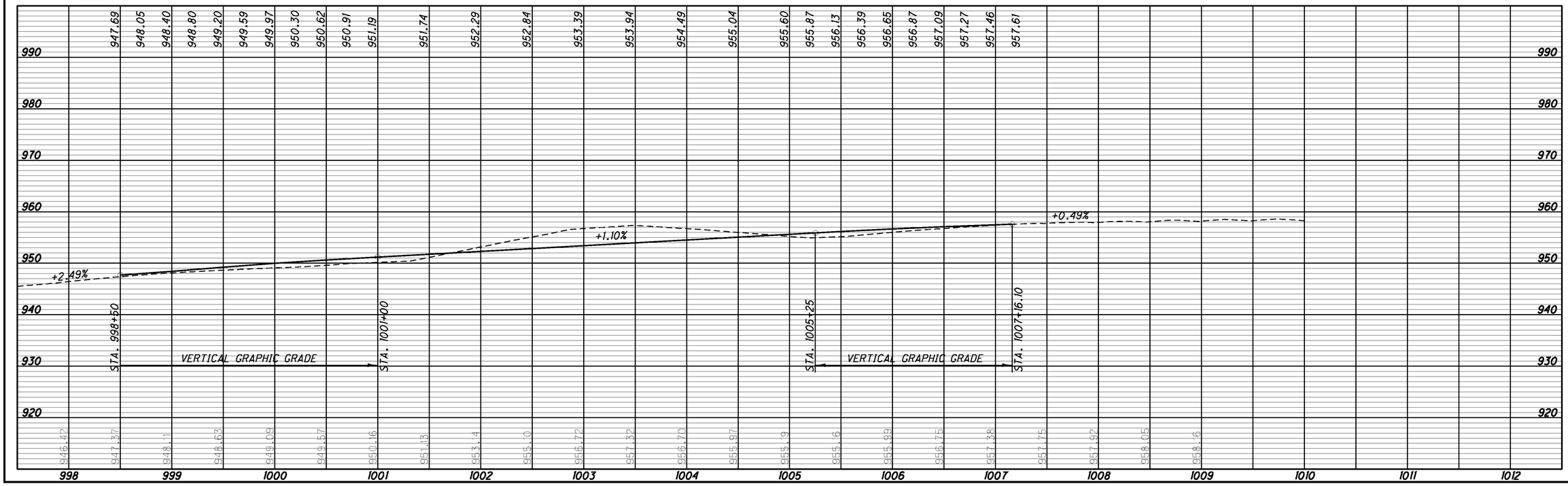
P.I. STA. 999+95.75
Δ = 4° 18′ 43″ (RT)
Dc = 0° 57′ 25″
R = 5,988.00′
T = 225.43′
L = 450.64′
E = 4.24′

P.I. STA. 1008+30.54
Δ = 11° 37′ 31″ (LT)
Dc = 0° 57′ 25″
R = 5,988.00′
T = 609.57′
L = 1,214.95′
E = 30.95′

STA. 1003+50, 22.0′LT
CB-7
GRATE=952.00
℄ 12″ W=948.14

+59.65
2′
998
999
1000
1001
1002
1003
1004
1005
1006
1007
1008
1009
1010
1011
1014
38
39
40
41
42
43
44
45
46
47
48
49
50
51
+60.50
℄ EX. INTERSTATE 71
PT STA. 1014+35.92 =
STA. 54+55.44 , 95.69′ RT
Exist. CB
Grate = 943.62
℄ = 940.47
PROP. ℄ 12″ E=940.60
580′ - 12″ TYPE B @ 1.30%
26′
2′
+32.33
2′
+04.88
PC STA. 997+70.33 =
STA. 997+70.33 , 31.00′ LT
PRC STA. 1002+20.97

NOTE:
1. WORK ZONE CROSSOVER LIGHTING SYSTEM SHALL BE CONSTRUCTED IN ACCORDANCE WITH MT-100.00



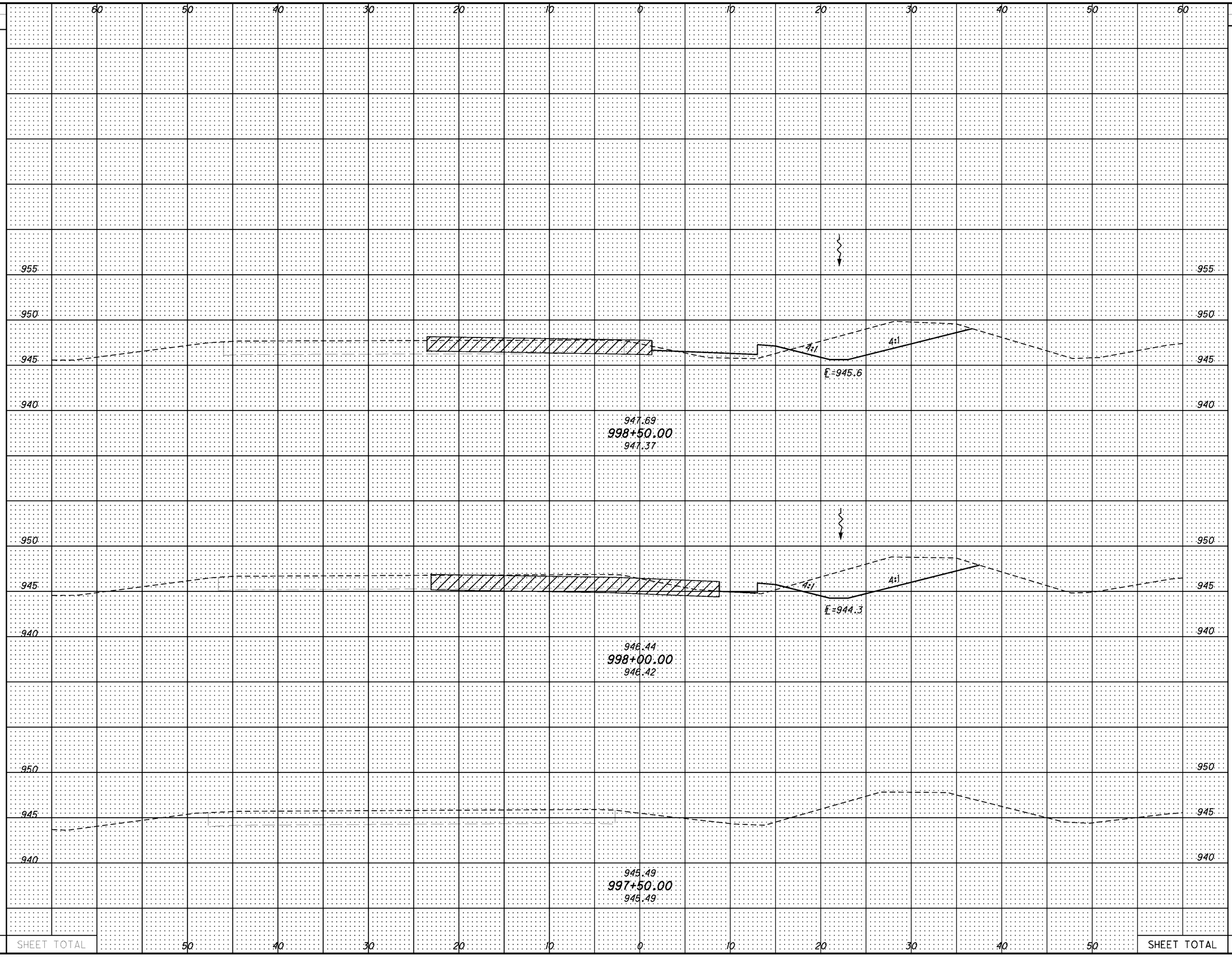
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED TAM
CHECKED GKB

PLAN AND PROFILE-NORTHBOUND CROSSOVER STA. 998+00 TO STA. 55+00

WAR-71-14.20

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
		40	7		
				81	8
		47	2		
				44	2
		0	0		
SHEET TOTAL				125	10



CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC CROSS SECTIONS
NORTHBOUND CROSSOVER STA. 997+50.00 TO STA. 998+50.00

WAR-71-14.20

SEEDING	
END WIDTH	SQ. YDS.

60 50 40 30 20 10 0 10 20 30 40 50 60

955 950 945 940

949.97
1000+00.00
949.09

℄=947.8

955 950 945 940

949.20
999+50.00
948.63

℄=947.0

955 950 945 940

948.40
999+00.00
948.11

℄=946.2

4:1

END AREA		VOLUME	
CUT	FILL	CUT	FILL
62	1		
57	2	110	3
50	3	99	5
		83	9
SHEET TOTAL		292	17

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC CROSS SECTIONS
NORTHBOUND CROSSOVER STA. 999+00.00 TO STA. 1000+00.00

WAR-71-14.20

SEEDING			END AREA		VOLUME	
END WIDTH	SQ. YDS.		CUT	FILL	CUT	FILL
		60 50 40 30 20 10 0 10 20 30 40 50 60				
		955 950 945				
		4:1 4:1 E=949.6				
		951.74 1001+50.00 951.13	89	1		
		955 950 945				
		4:1 4:1 E=949.0				
		951.19 1001+00.00 950.16	84	0	160	1
		955 950 945				
		4:1 4:1 E=948.4				
		950.62 1000+50.00 949.57	72	0	144	0
		940				
					124	1
SHEET TOTAL		60 50 40 30 20 10 0 10 20 30 40 50 60 SHEET TOTAL			428	2

CALCULATED TAM

CHECKED GKB

MAINTENANCE OF TRAFFIC CROSS SECTIONS
NORTHBOUND CROSSOVER STA. 1000+50.00 TO STA. 1001+50.00

WAR-71-14.20

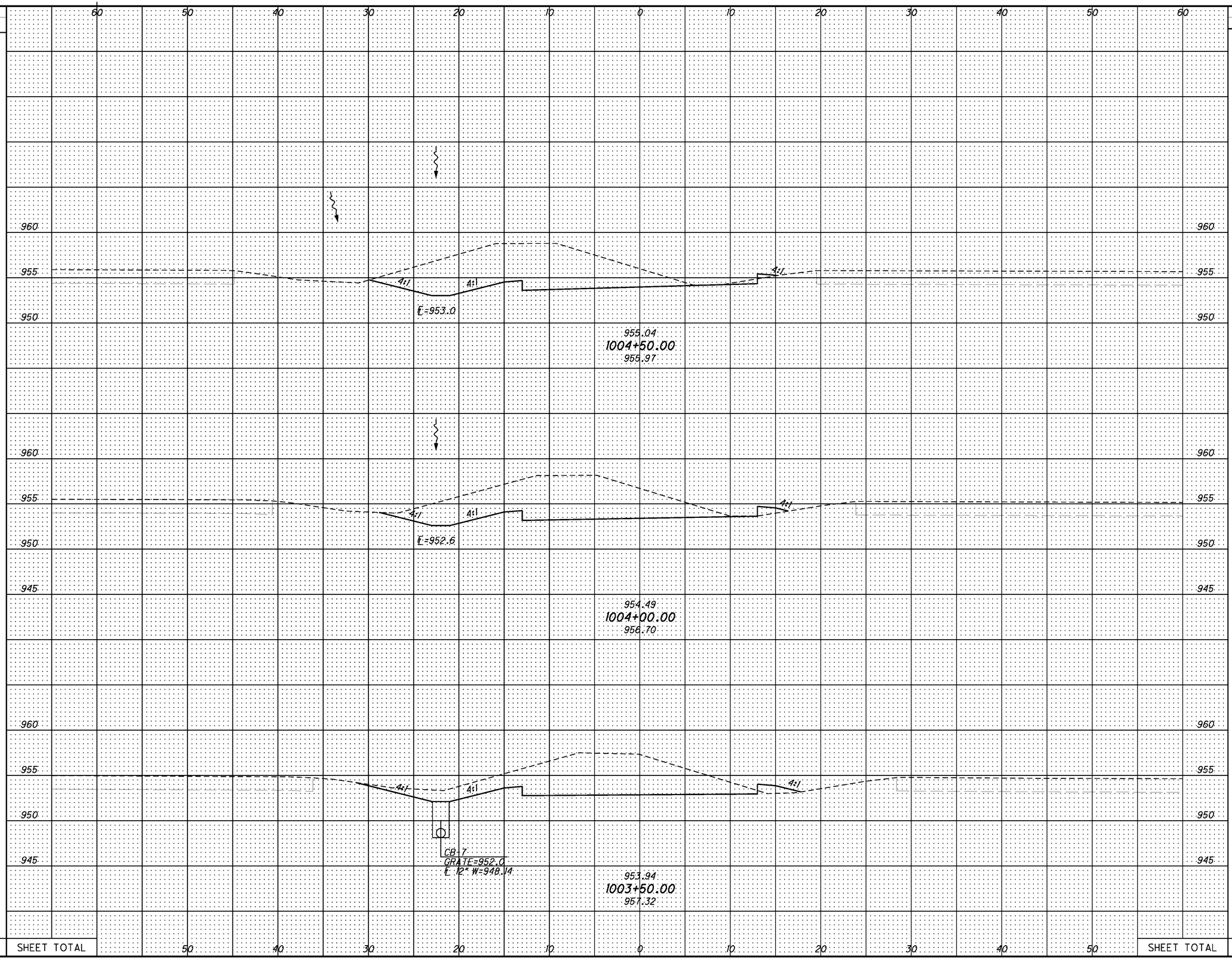
SEEDING				END AREA		VOLUME	
END WIDTH	SQ. YDS.			CUT	FILL	CUT	FILL
		60 50 40 30 20 10 0 10 20 30 40 50 60					
		960 / 955 / 950 / 945	4:1 5:1 953.39 1003+00.00 956.72	87	0	164	3
		960 / 955 / 950 / 945	4:1 4:1 4:1 E=953.9 952.84 1002+50.00 955.10	90	3	167	5
		960 / 955 / 950 / 945	4:1 4:1 4:1 E=950.3 952.29 1002+00.00 953.14	90	2	166	3
SHEET TOTAL		50 40 30 20 10 0 10 20 30 40 50				497	11

CALCULATED TAM | CHECKED GKB

MAINTENANCE OF TRAFFIC CROSS SECTIONS
NORTHBOUND CROSSOVER STA. 1002+00.00 TO STA. 1003+00.00

WAR-71-14.20

SEEDING	
END WIDTH	SQ. YDS.
SHEET TOTAL	



END AREA		VOLUME	
CUT	FILL	CUT	FILL
115	1		
		210	3
112	2		
		202	5
106	3		
		179	3
		591	11

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC CROSS SECTIONS
NORTHBOUND CROSSOVER STA. 1003+50.00 TO STA. 1004+50.00

WAR-71-14.20

SEEDING			END AREA		VOLUME	
END WIDTH	SQ. YDS.		CUT	FILL	CUT	FILL
		1006+50.00	70	0		
		1006+00.00	84	0	143	0
		1005+50.00	101	0	171	0
		1005+00.00	113	0	198	0
					211	1
SHEET TOTAL					723	1

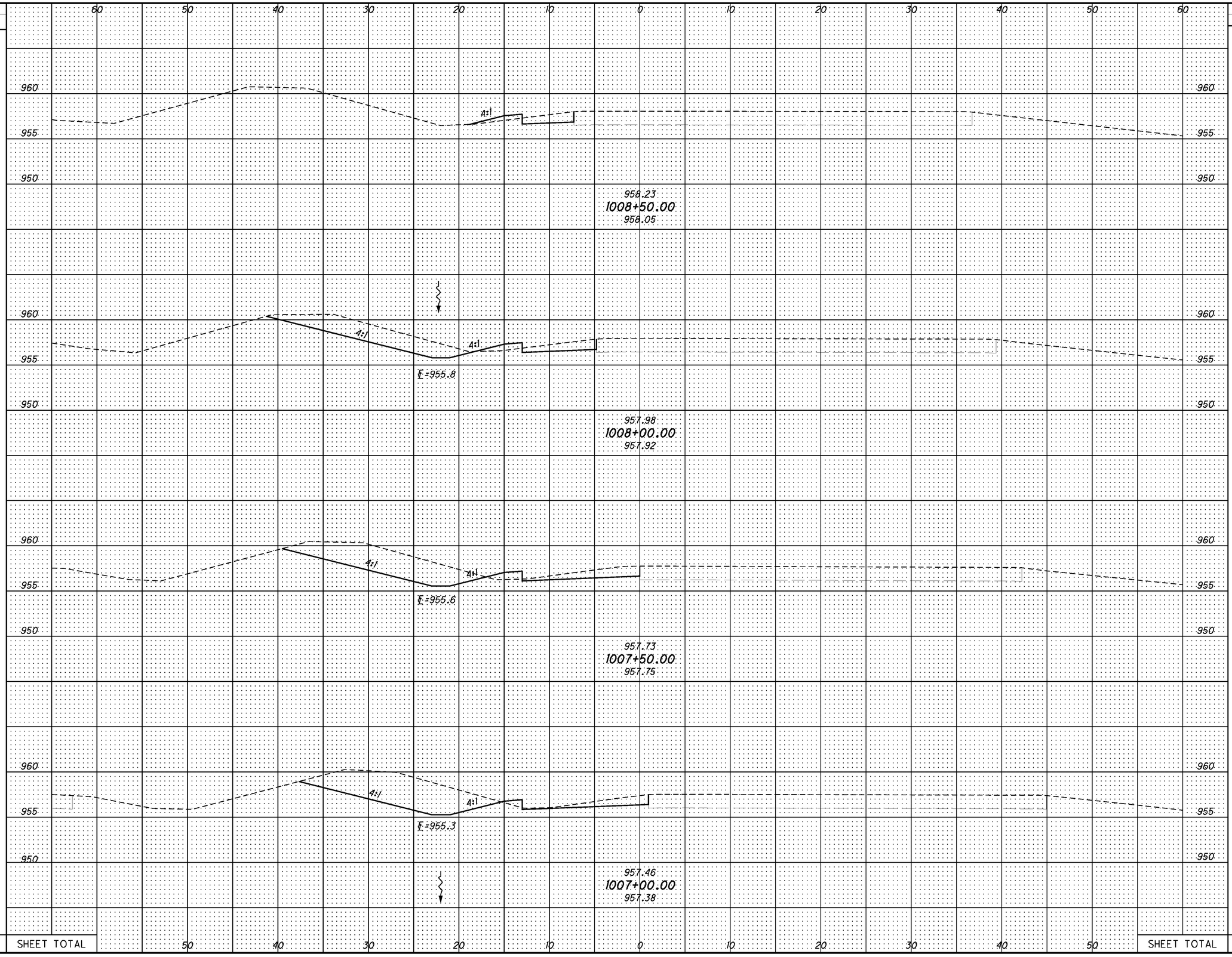
CALCULATED TAM

CHECKED GKB

MAINTENANCE OF TRAFFIC CROSS SECTIONS
NORTHBOUND CROSSOVER STA. 1005+0.00 TO STA. 1006+50.00

WAR-71-14.20

SEEDING			END AREA		VOLUME	
END WIDTH	SQ. YDS.		CUT	FILL	CUT	FILL
		958.23 1008+50.00 958.05	5	2	43	5
		957.98 1008+00.00 957.92	41	3	89	6
		957.73 1007+50.00 957.75	55	3	107	4
		957.46 1007+00.00 957.38	61	1	121	1
SHEET TOTAL					360	16



CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC CROSS SECTIONS
NORTHBOUND CROSSOVER STA. 1007+00.00 TO STA. 1008+50.00

WAR-71-14.20

32
470

SEEDING	
END WIDTH	SQ. YDS.

INTERSTATE 71 NORTHBOUND CROSSOVER
WORK ZONE QUANTITIES (FOR INFORMATION ONLY)

ITEM 203 - EXCAVATION	3025 CU. YD.
ITEM 203 - EMBANKMENT	77 CU. YD.

60 50 40 30 20 10 0 10 20 30 40 50 60

960 955 950

958.48
1010+00.00
958.28

960 955 950

4:1

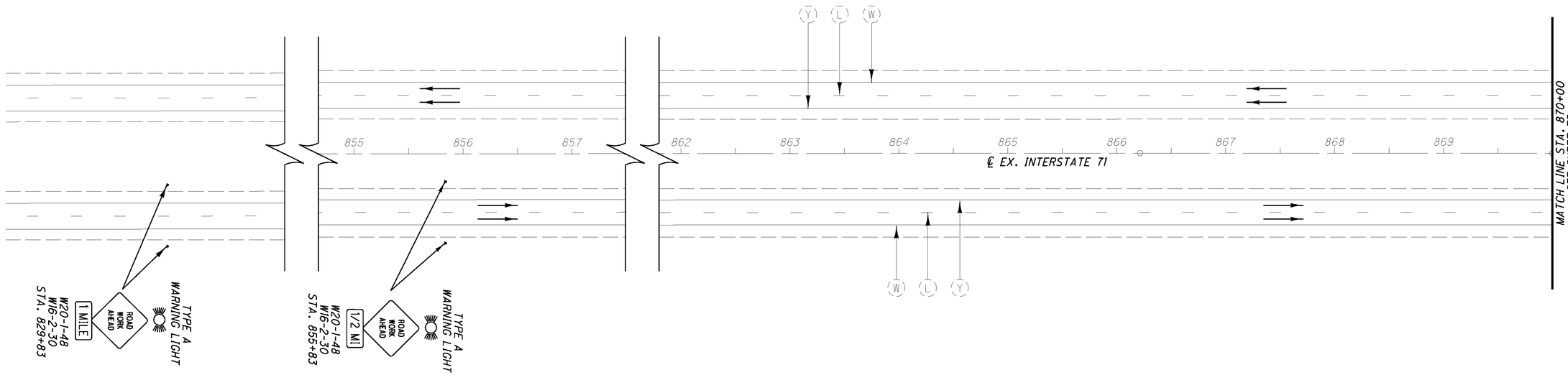
958.48
1009+50.00
958.25

960 955 950

4:1

958.48
1009+00.00
958.16

| SHEET TOTAL | | |



PAVEMENT MARKING LEGEND

- (Y) - EXISTING EDGE LINE (YELLOW)
- (W) - EXISTING EDGE LINE (WHITE)
- (L) - EXISTING LANE LINE
- (CH) - EXISTING CHANNELIZING LINE
- *(Y) - WORK ZONE EDGE LINE (YELLOW)*
- *(W) - WORK ZONE EDGE LINE (WHITE)*
- *(L) - WORK ZONE LANE LINE*
- *(CH) - WORK ZONE CHANNELIZING LINE*
- *(Y) - WORK ZONE EDGE LINE (YELLOW) (PLACED IN PREVIOUS PHASE)*
- *(W) - WORK ZONE EDGE LINE (WHITE) (PLACED IN PREVIOUS PHASE)*
- *(L) - WORK ZONE LANE LINE (PLACED IN PREVIOUS PHASE)*
- *(CH) - WORK ZONE CHANNELIZING LINE (PLACED IN PREVIOUS PHASE)*

LEGEND

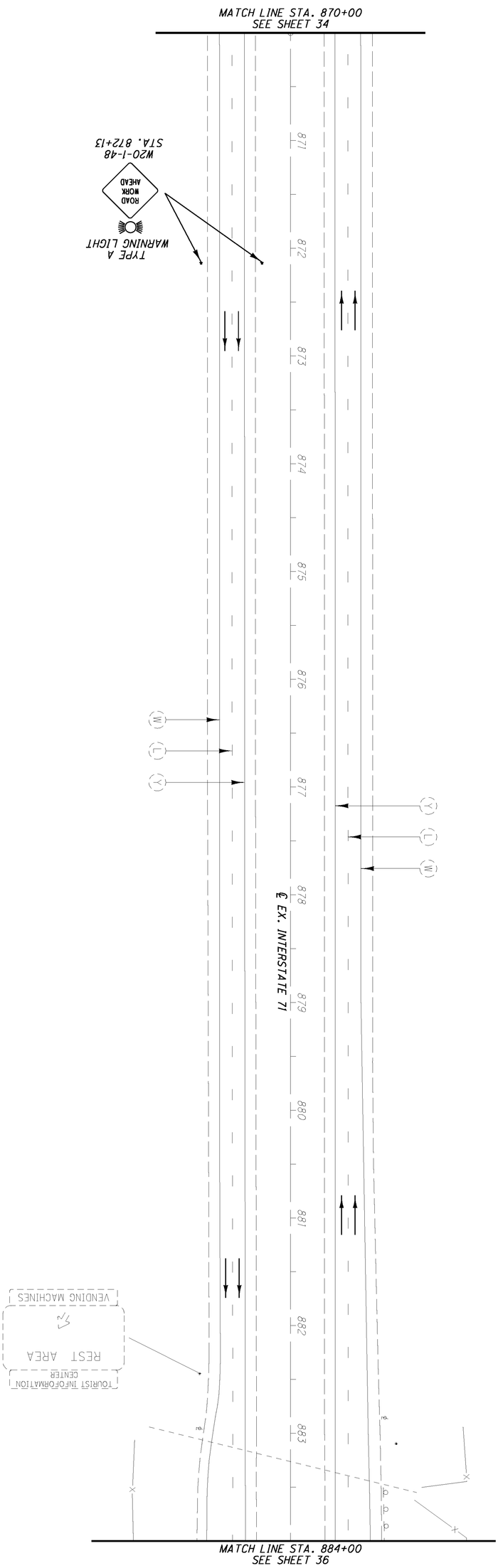
- UNDER CONSTRUCTION (PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN)

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 1
STA. 856+00 TO STA. 870+00

WAR-71-14.20



LEGEND

- UNDER CONSTRUCTION (PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN)

FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

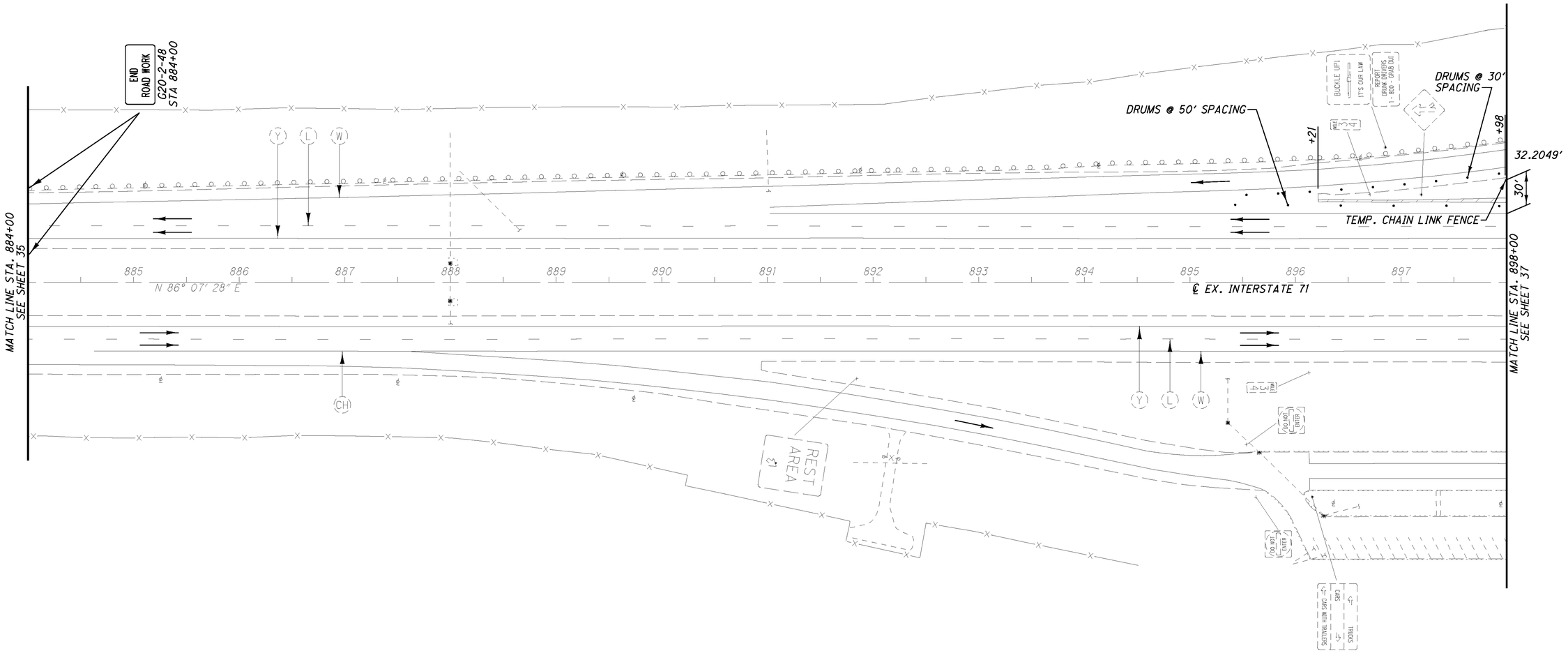
35
470

WAR-71-14.20

MAINTENANCE OF TRAFFIC - PHASE 1
STA. 870+00 TO STA. 884+00

CALCULATED TAM
CHECKED GKB

0 25 50 100
HORIZONTAL SCALE IN FEET



LEGEND

- UNDER CONSTRUCTION (PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN)

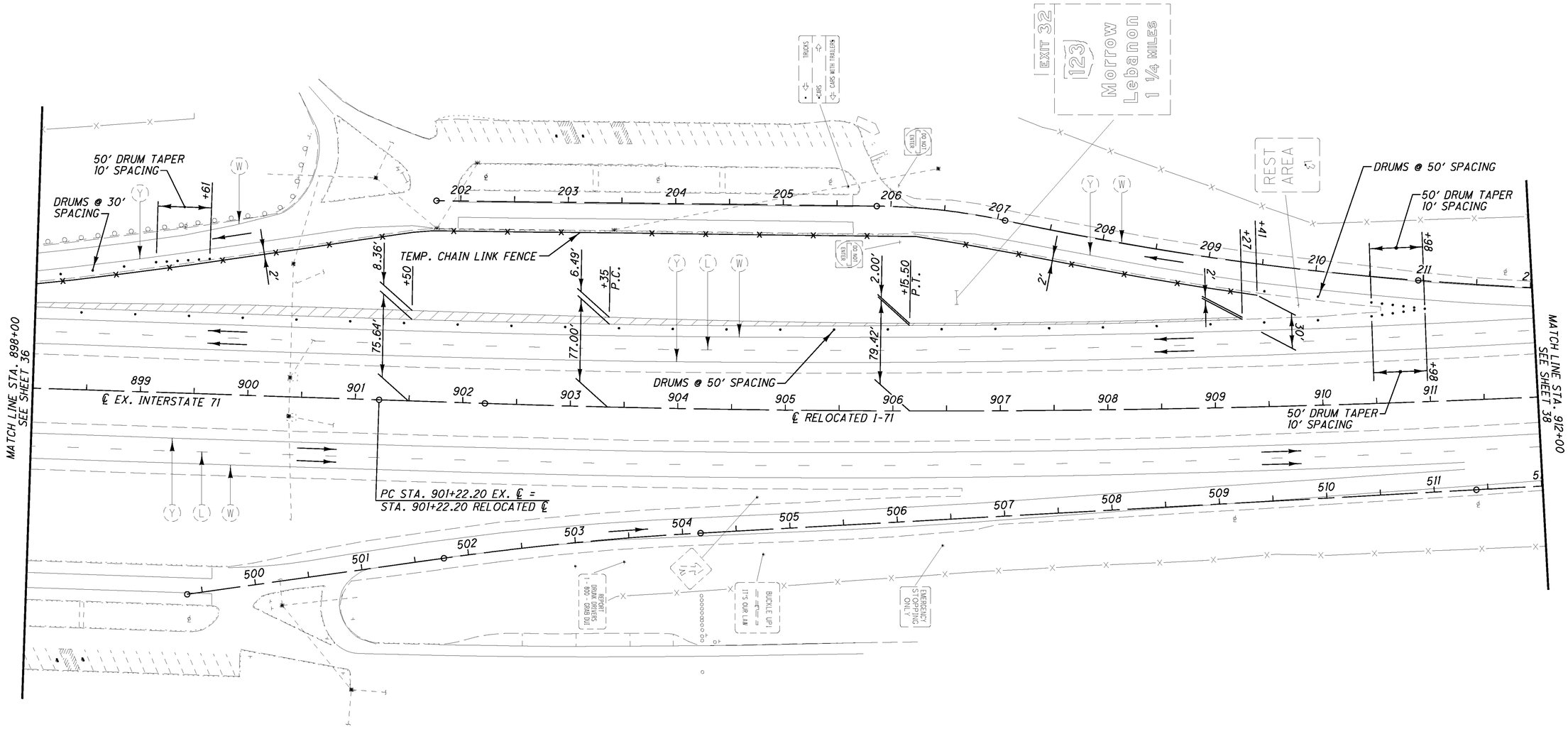
FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 1
STA. 884+00 TO STA. 898+00

WAR-71-14.20



LEGEND

- UNDER CONSTRUCTION (PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN)

FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

NOTE:
1. FOR WORK ZONE PAVEMENT DETAILS, SEE SHEETS 50 AND 51

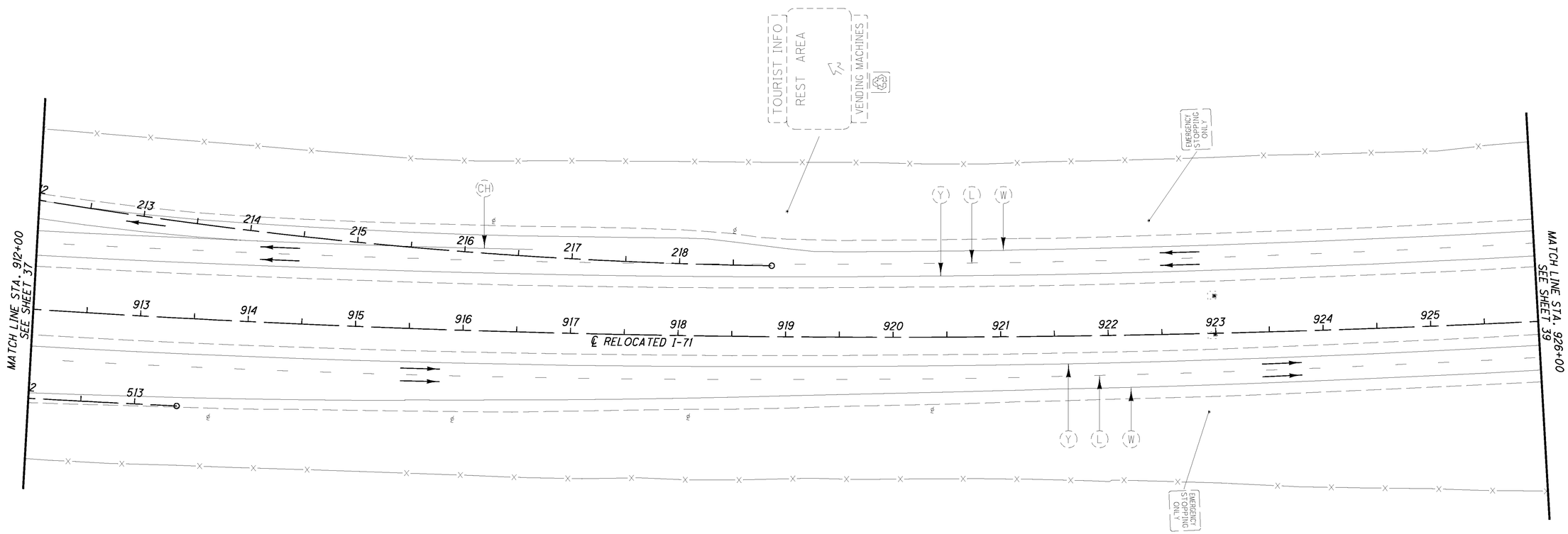
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 1
STA. 898+00 TO STA. 912+00

WAR-71-14.20

37
470



LEGEND

- UNDER CONSTRUCTION (PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN)

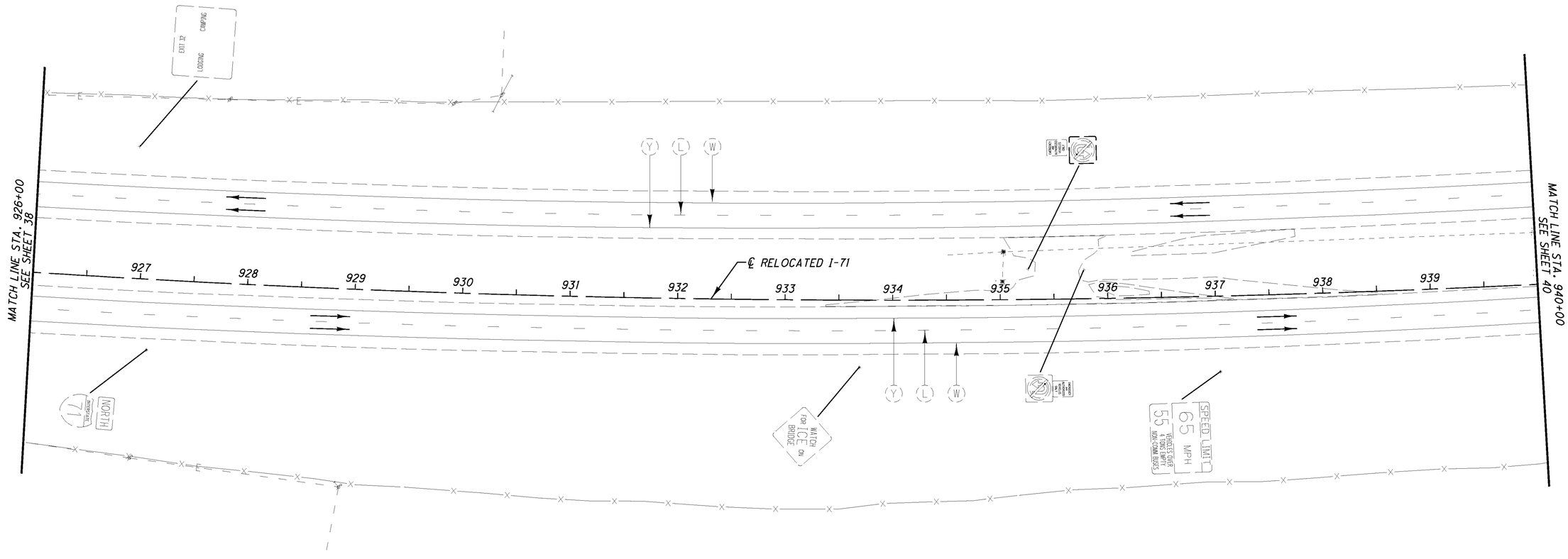
FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 1
STA. 912+00 TO STA. 926+00

WAR-71-14.20



LEGEND

- *UNDER CONSTRUCTION (PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN)*

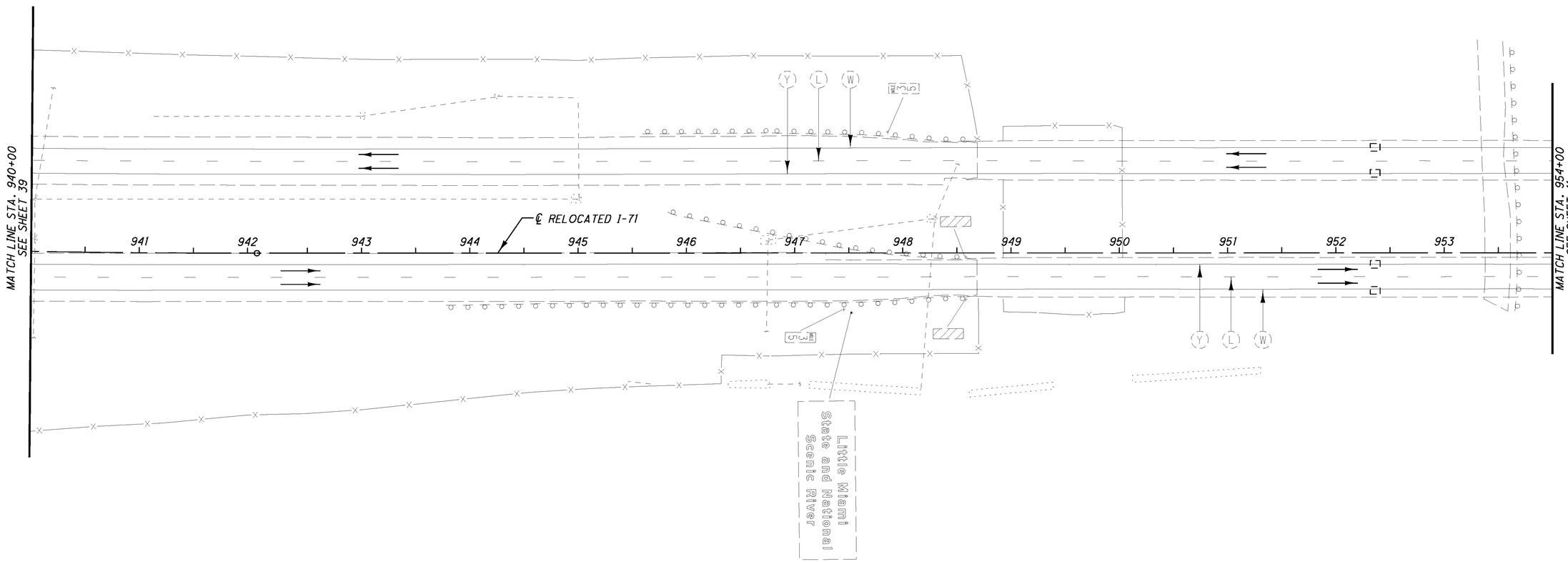
FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 1
STA. 926+00 TO STA. 940+00

WAR-71-14.20



LEGEND

- UNDER CONSTRUCTION (PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN)

FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

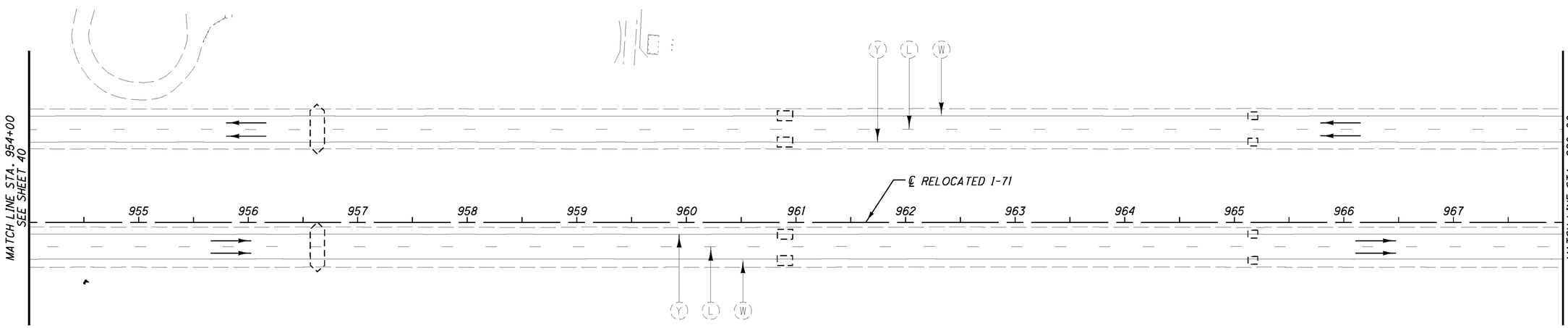
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 1
STA. 940+00 TO STA. 954+00

WAR-71-14.20

40
470



LEGEND

- UNDER CONSTRUCTION (PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN)

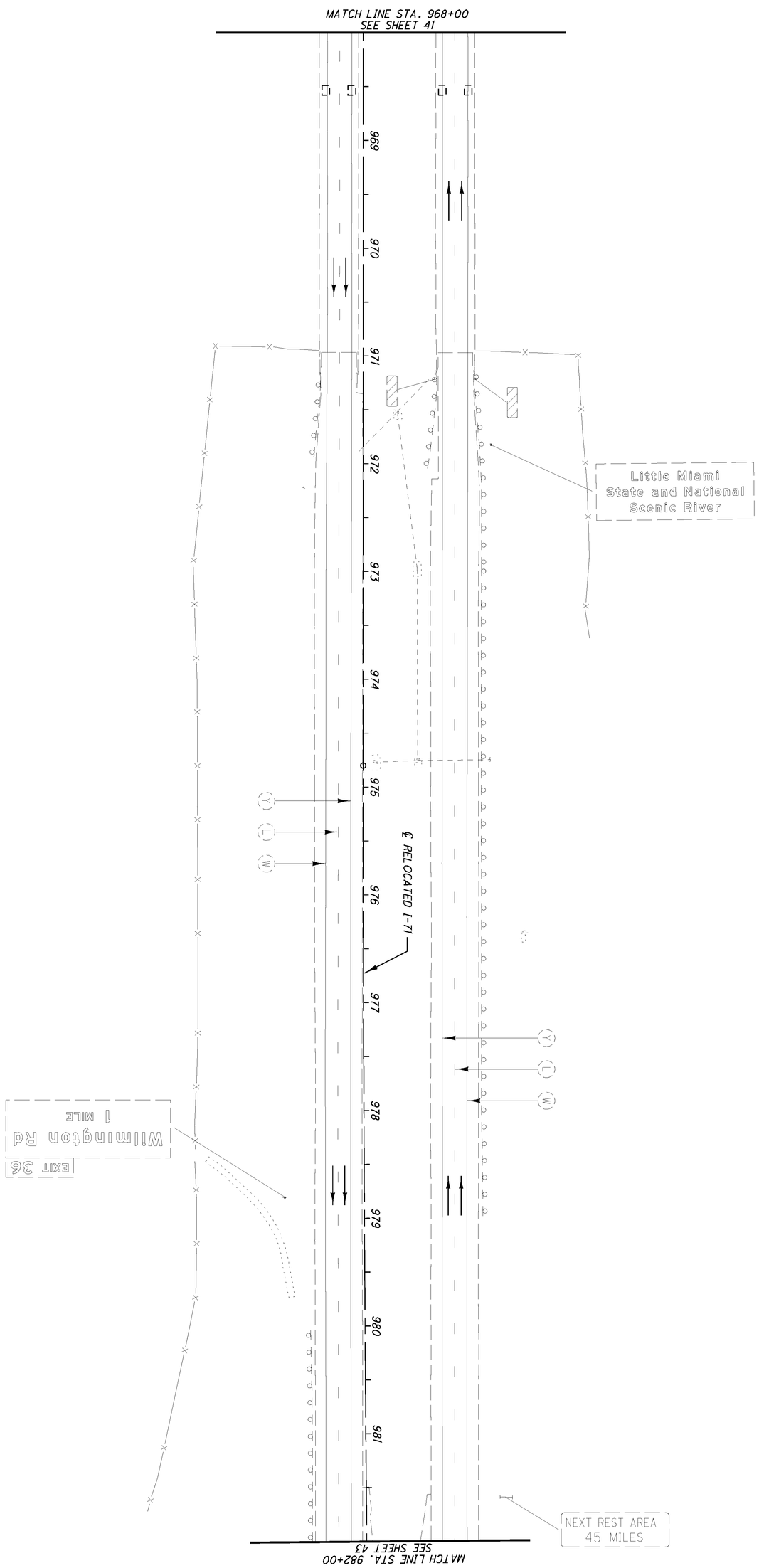
FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 1
STA. 954+00 TO STA. 968+00

WAR-71-14.20

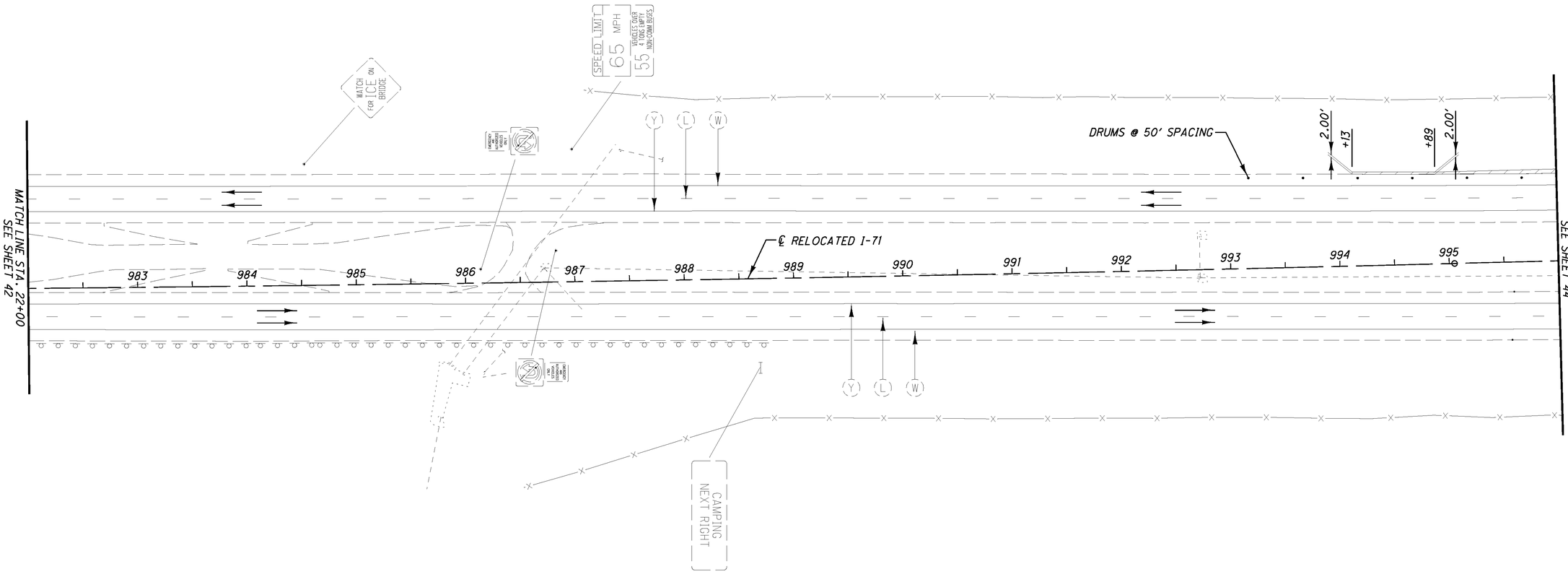


LEGEND

- UNDER CONSTRUCTION (PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN)

FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

42 / 470	WAR-71-14.20	MAINTENANCE OF TRAFFIC - PHASE 1 STA. 968+00 TO STA. 982+00	CALCULATED TAM CHECKED GKB	0 50 25 100 HORIZONTAL SCALE IN FEET



LEGEND

- UNDER CONSTRUCTION (PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN)

FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

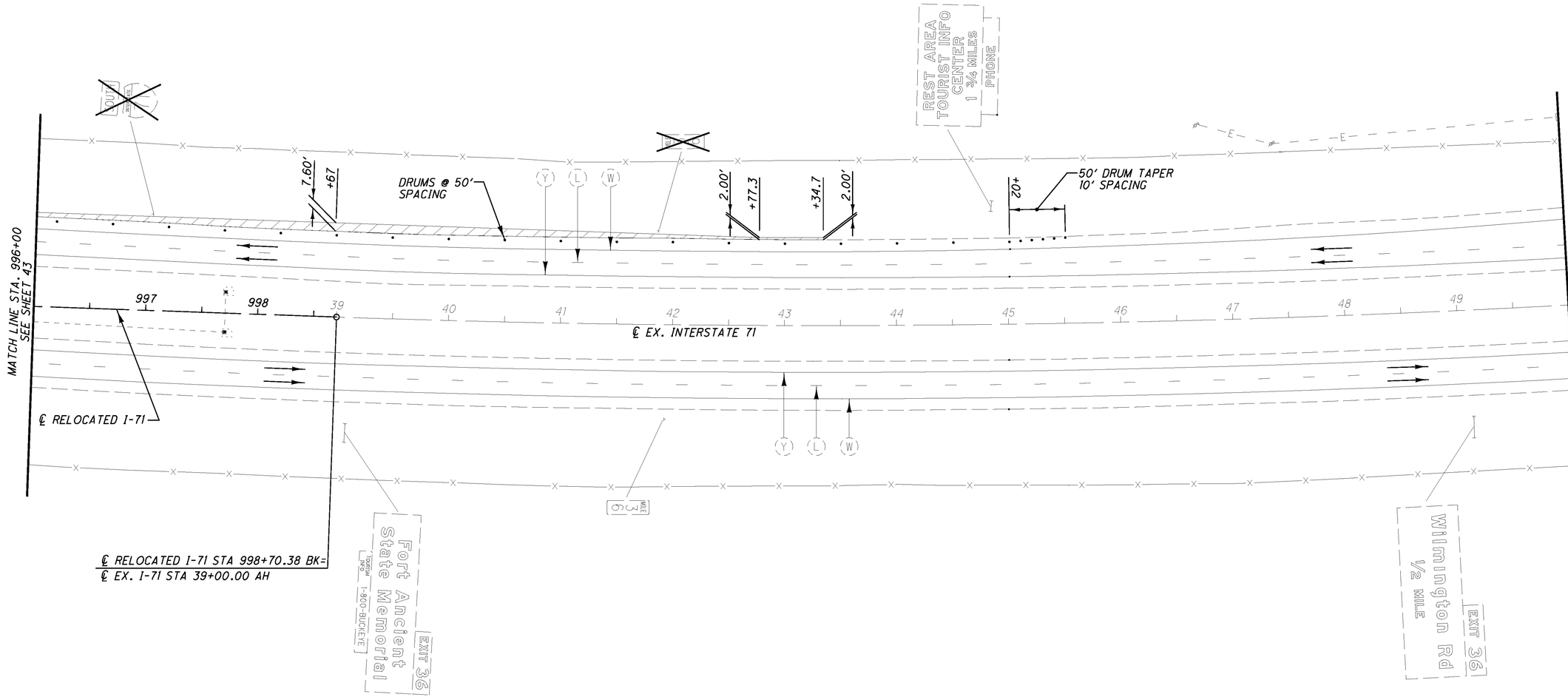
NOTE:
1. FOR PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN DETAILS, SEE SHEET 57, 58

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 1
STA. 982+00 TO STA. 996+00

WAR-71-14.20



NOTES:
1. FOR PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN DETAILS, SEE SHEETS 57 AND 58
2. FOR CROSS OVER DETAILS, SEE SHEETS 15 AND 25
3. CROSS OVER LIGHTING PER SCD MT-100.00

LEGEND

- UNDER CONSTRUCTION (PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN)

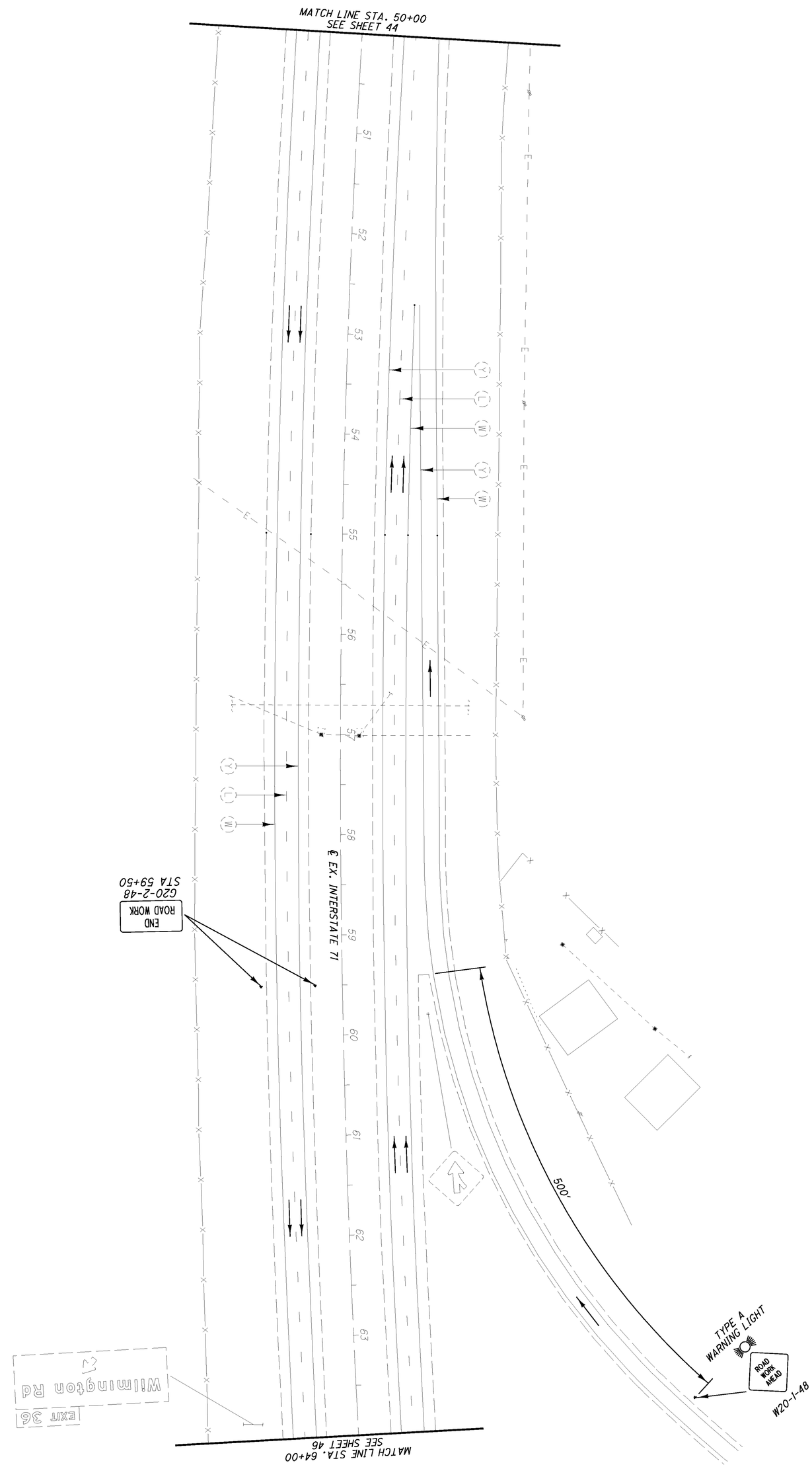
FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 1
STA. 996+00 TO STA. 50+00

WAR-71-14.20



LEGEND

- UNDER CONSTRUCTION (PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN)

FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

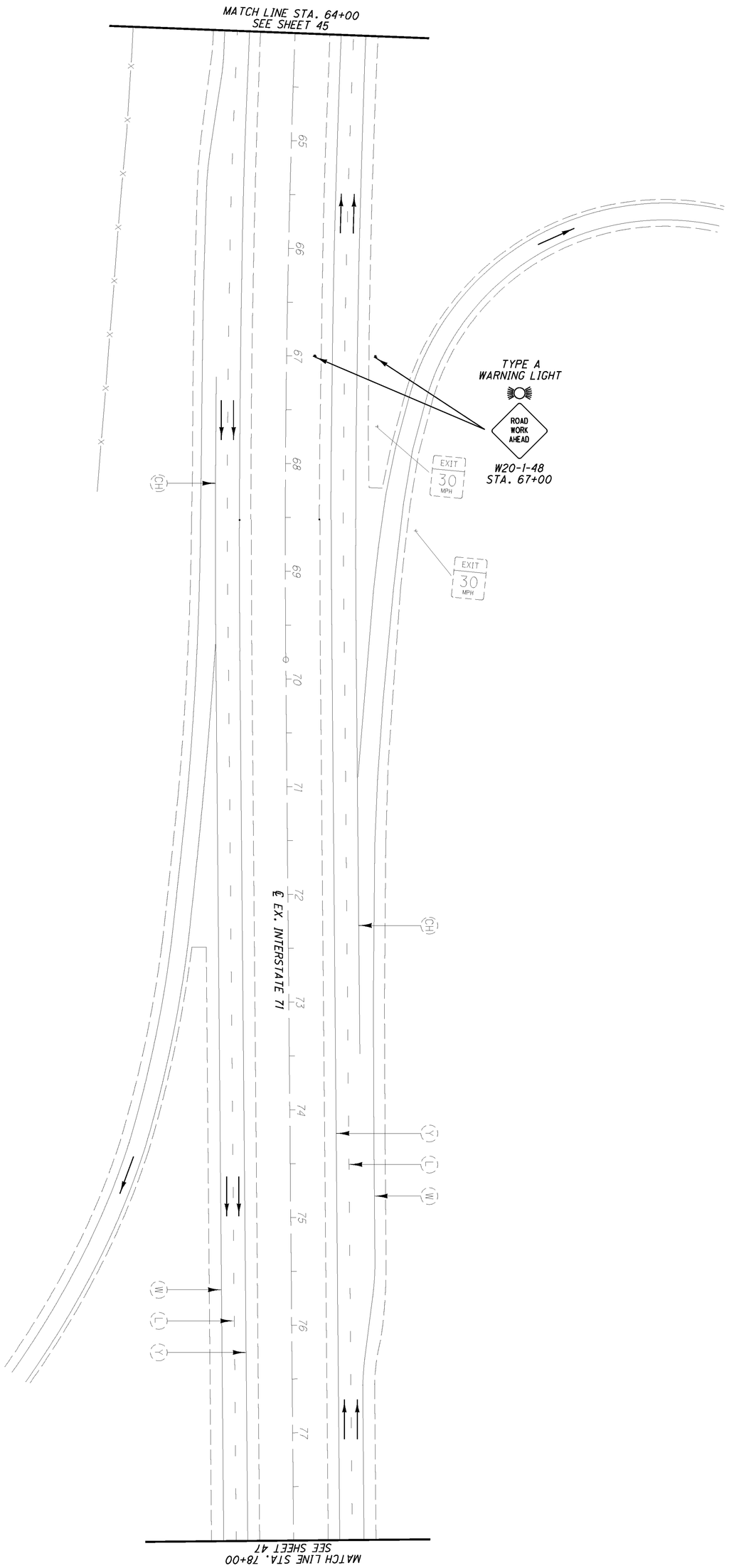
45
470

WAR-71-14.20

MAINTENANCE OF TRAFFIC - PHASE 1
STA. 50+00 TO STA. 64+00

CALCULATED TAM
CHECKED GKB

0 50
25 100
HORIZONTAL SCALE IN FEET

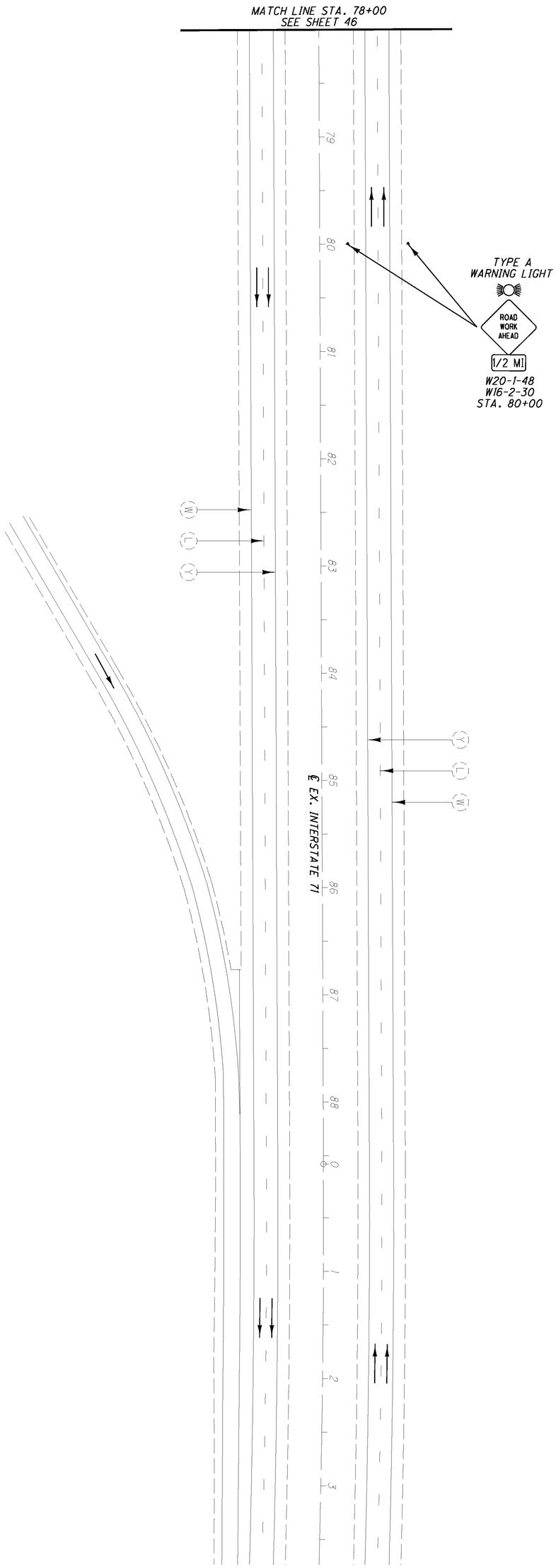


LEGEND

- UNDER CONSTRUCTION (PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN)

FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

46 / 470	WAR-71-14.20	MAINTENANCE OF TRAFFIC - PHASE 1 STA. 64+00 TO STA. 78+00	CALCULATED TAM CHECKED GKB	0 50 / 25 100 HORIZONTAL SCALE IN FEET



LEGEND

- UNDER CONSTRUCTION (PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN)

FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

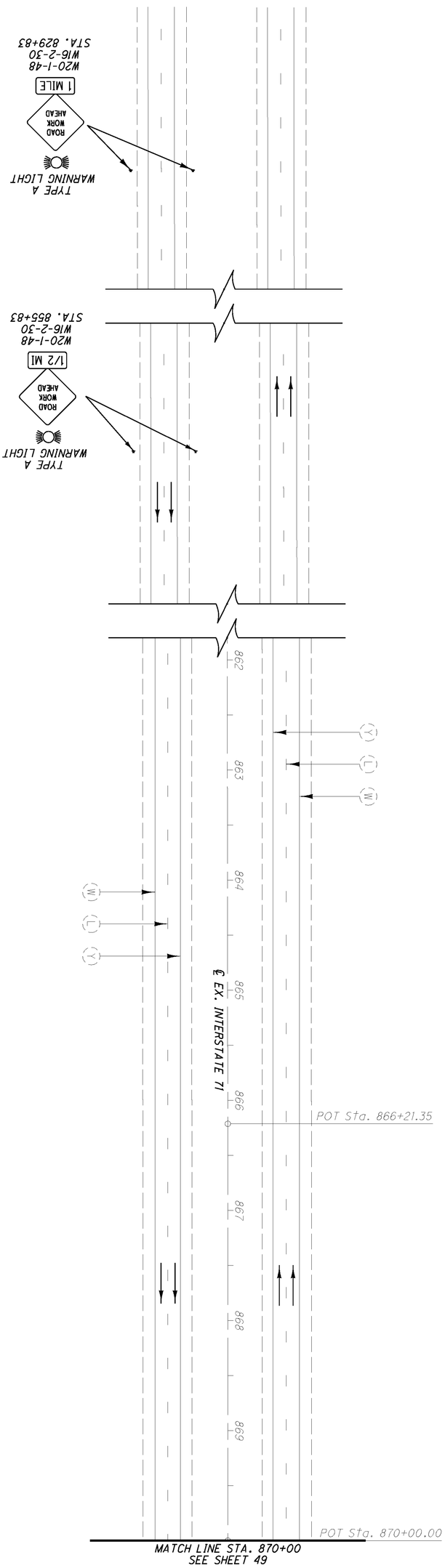
47
470

WAR-71-14.20

MAINTENANCE OF TRAFFIC - PHASE 1
STA. 78+00 TO STA. 3+75

CALCULATED TAM
CHECKED GKB

0 25 50 100
HORIZONTAL SCALE IN FEET



LEGEND

- UNDER CONSTRUCTION
- PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN

FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

48
470

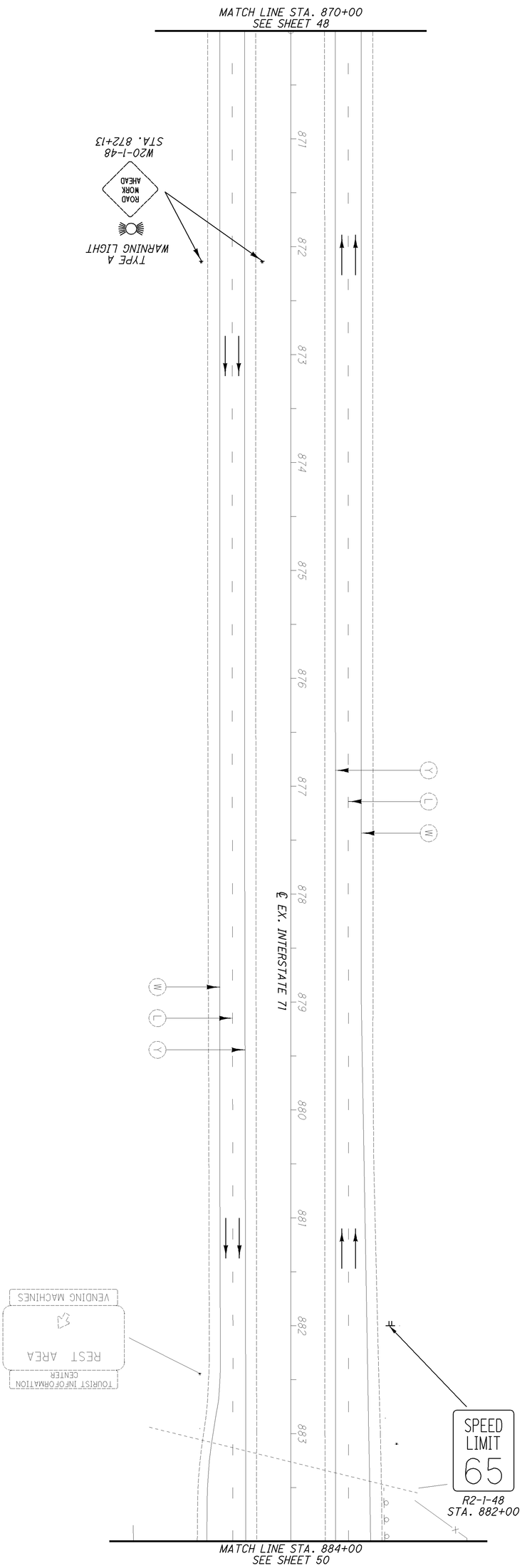
WAR-71-14.20

MAINTENANCE OF TRAFFIC - PHASE 2
STA. 856+00 TO STA. 870+00

CALCULATED TAM
CHECKED GKB

0 50
25 100
HORIZONTAL SCALE IN FEET

N



LEGEND

- UNDER CONSTRUCTION
- PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN

FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

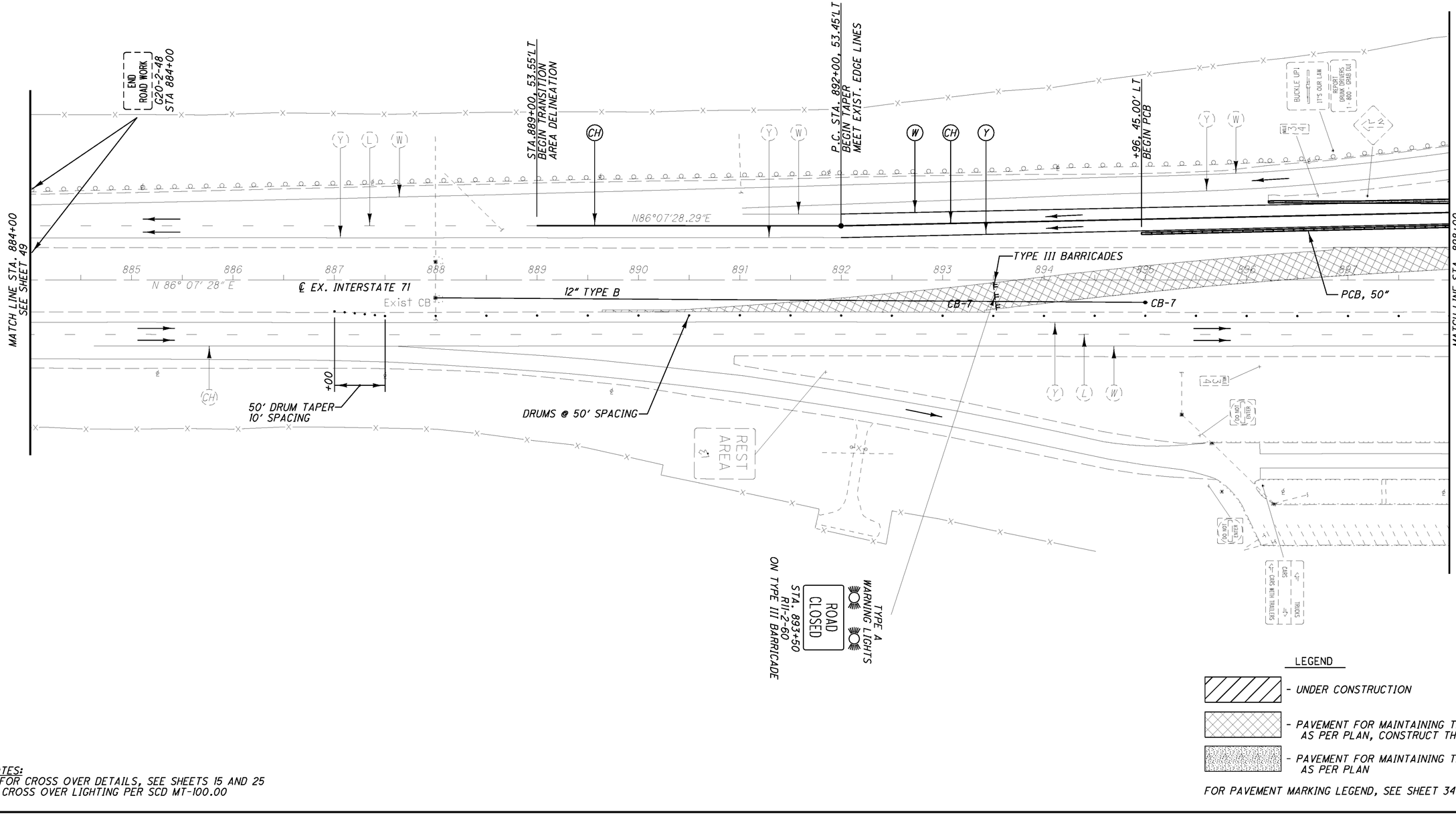
WAR-71-14.20

MAINTENANCE OF TRAFFIC - PHASE 2
STA. 870+00 TO STA. 884+00

CALCULATED TAM
CHECKED GKB

0 50
25 100
HORIZONTAL SCALE IN FEET

N



FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

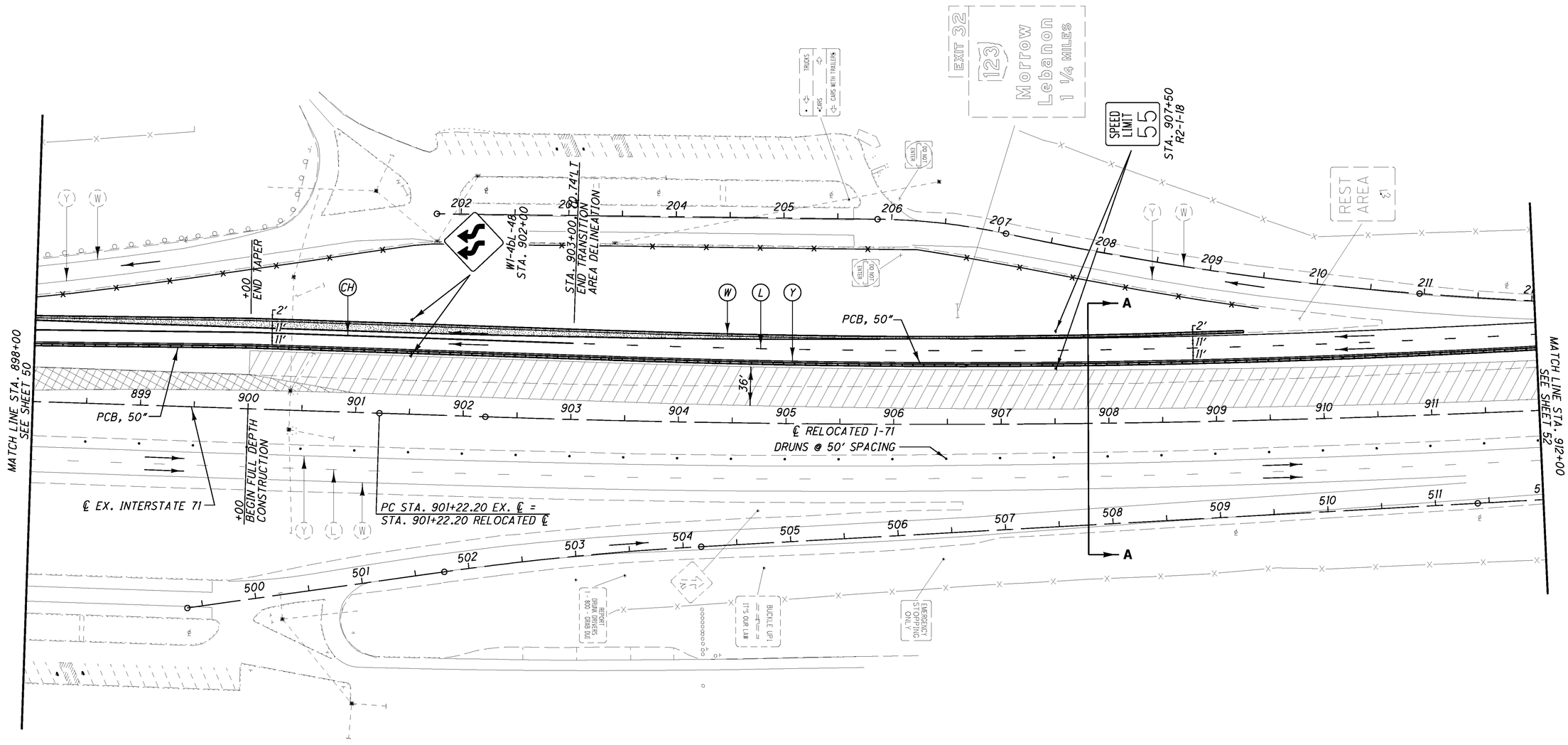
NOTES:
1. FOR CROSS OVER DETAILS, SEE SHEETS 15 AND 25
2. CROSS OVER LIGHTING PER SCD MT-100.00

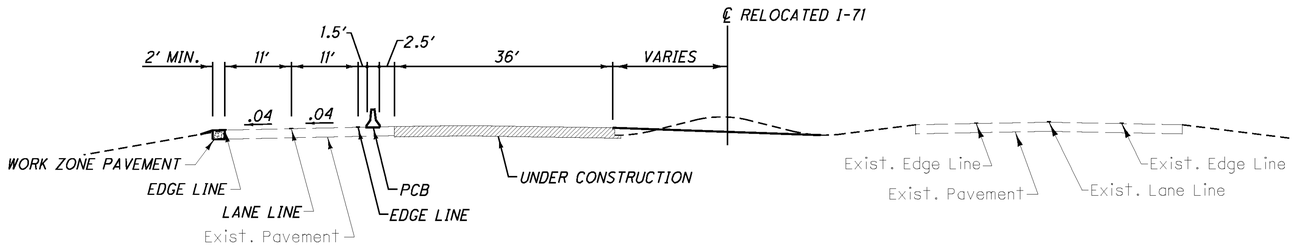
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 2
STA. 884+00 TO STA. 898+00

WAR-71-14.20





MAINTENANCE OF TRAFFIC - PHASE 2 TYPICAL SECTION A-A

LEGEND

- UNDER CONSTRUCTION
- PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN, CONSTRUCT THIS PHASE
- PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN

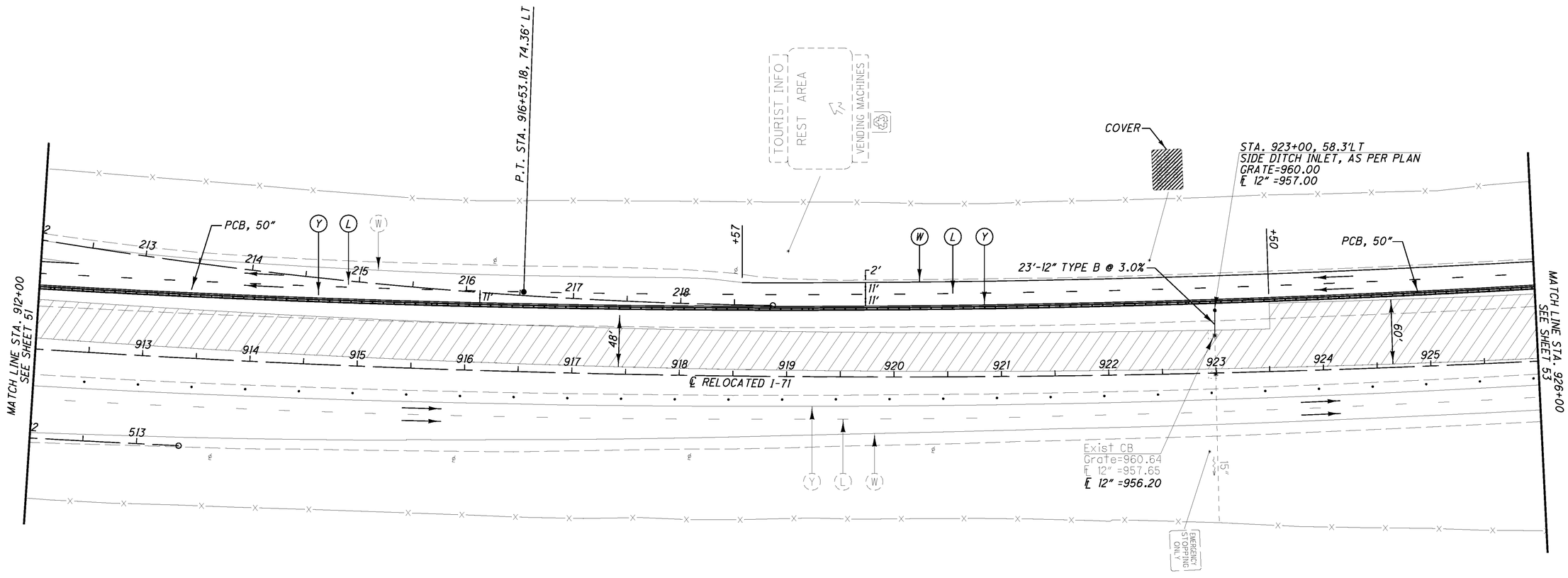
FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 2
STA. 898+00 TO STA. 912+00

WAR-71-14.20



LEGEND

- UNDER CONSTRUCTION
- PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN

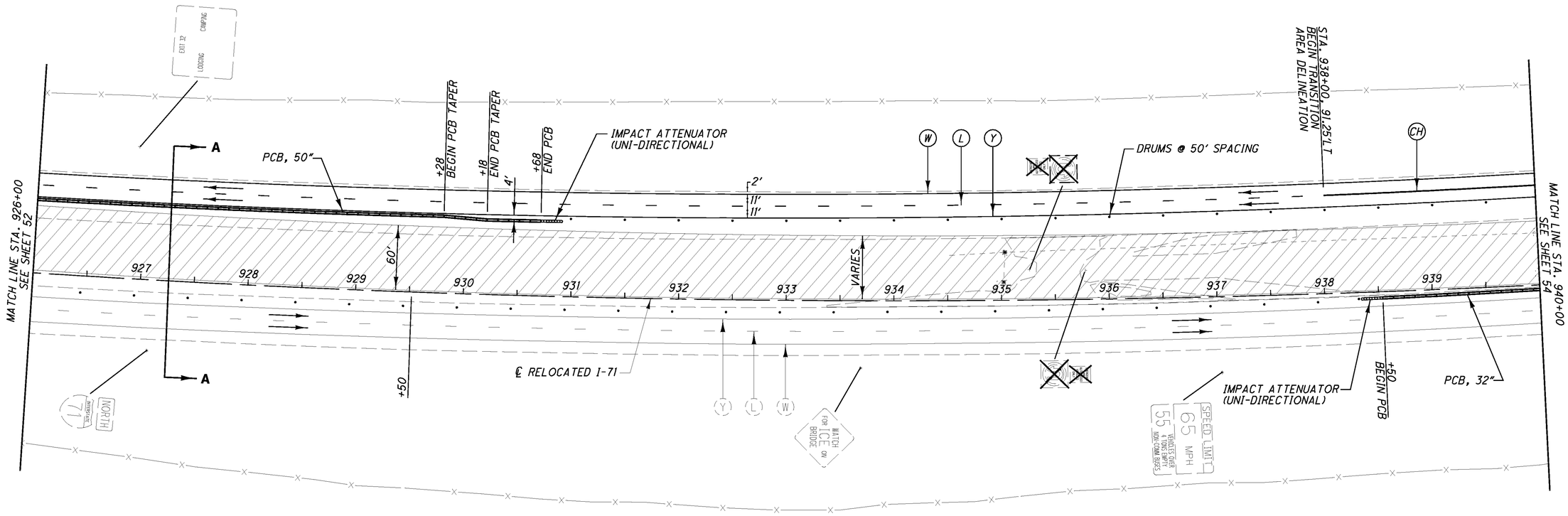
FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

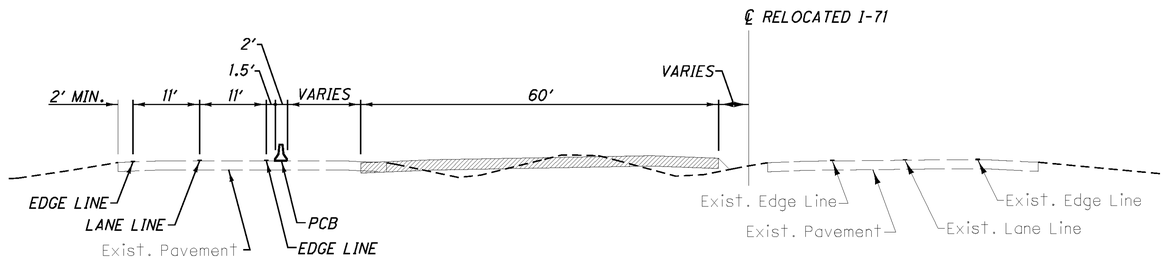
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 2
STA. 912+00 TO STA. 926+00

WAR-71-14.20





MAINTENANCE OF TRAFFIC - PHASE 2 TYPICAL SECTION A-A

LEGEND

- UNDER CONSTRUCTION
- PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN

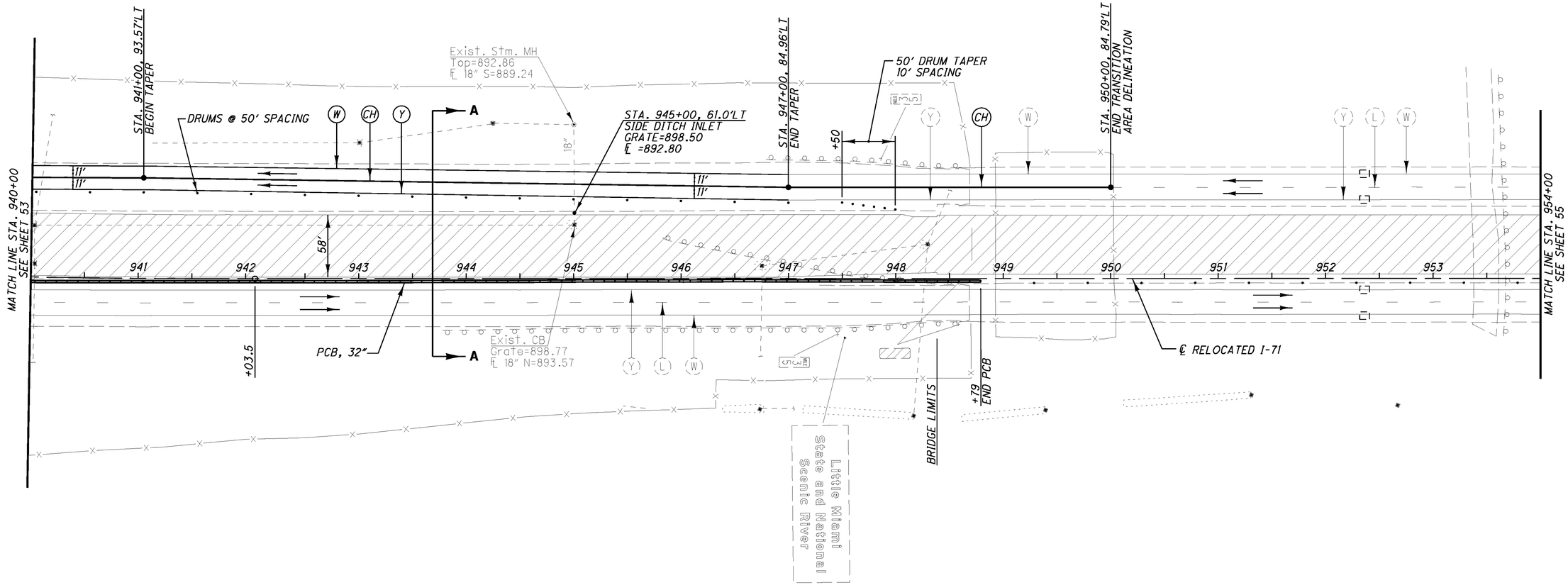
FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

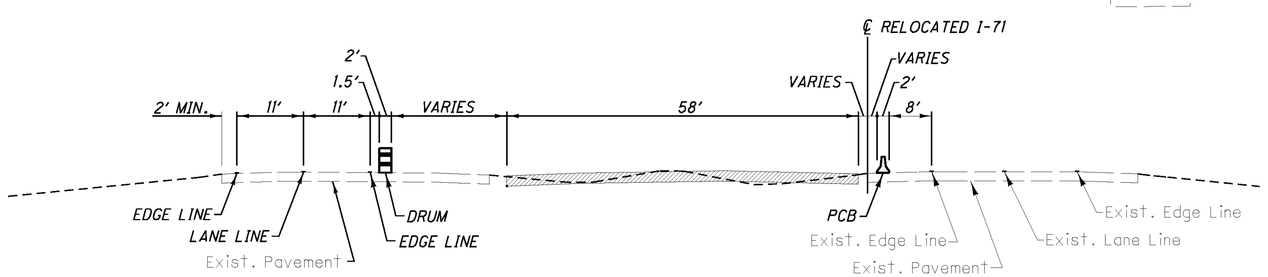
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 2
STA. 926+00 TO STA. 940+00

WAR-71-14.20





MAINTENANCE OF TRAFFIC - PHASE 2 TYPICAL SECTION A-A

LEGEND

- UNDER CONSTRUCTION
- PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN

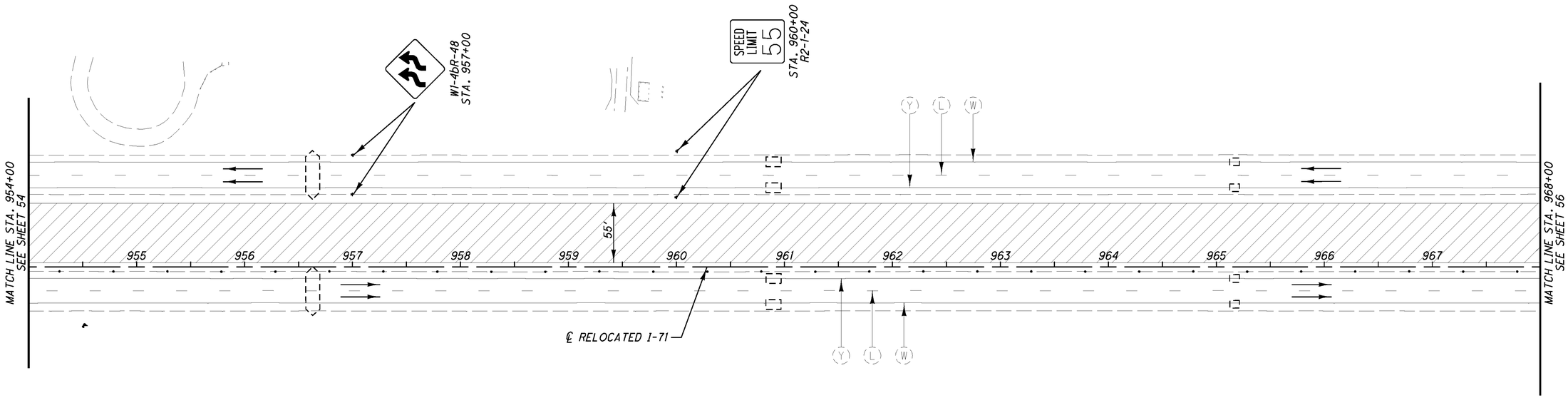
FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 2
STA. 940+00 TO STA. 954+00

WAR-71-14.20



LEGEND

- UNDER CONSTRUCTION
- PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN

FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

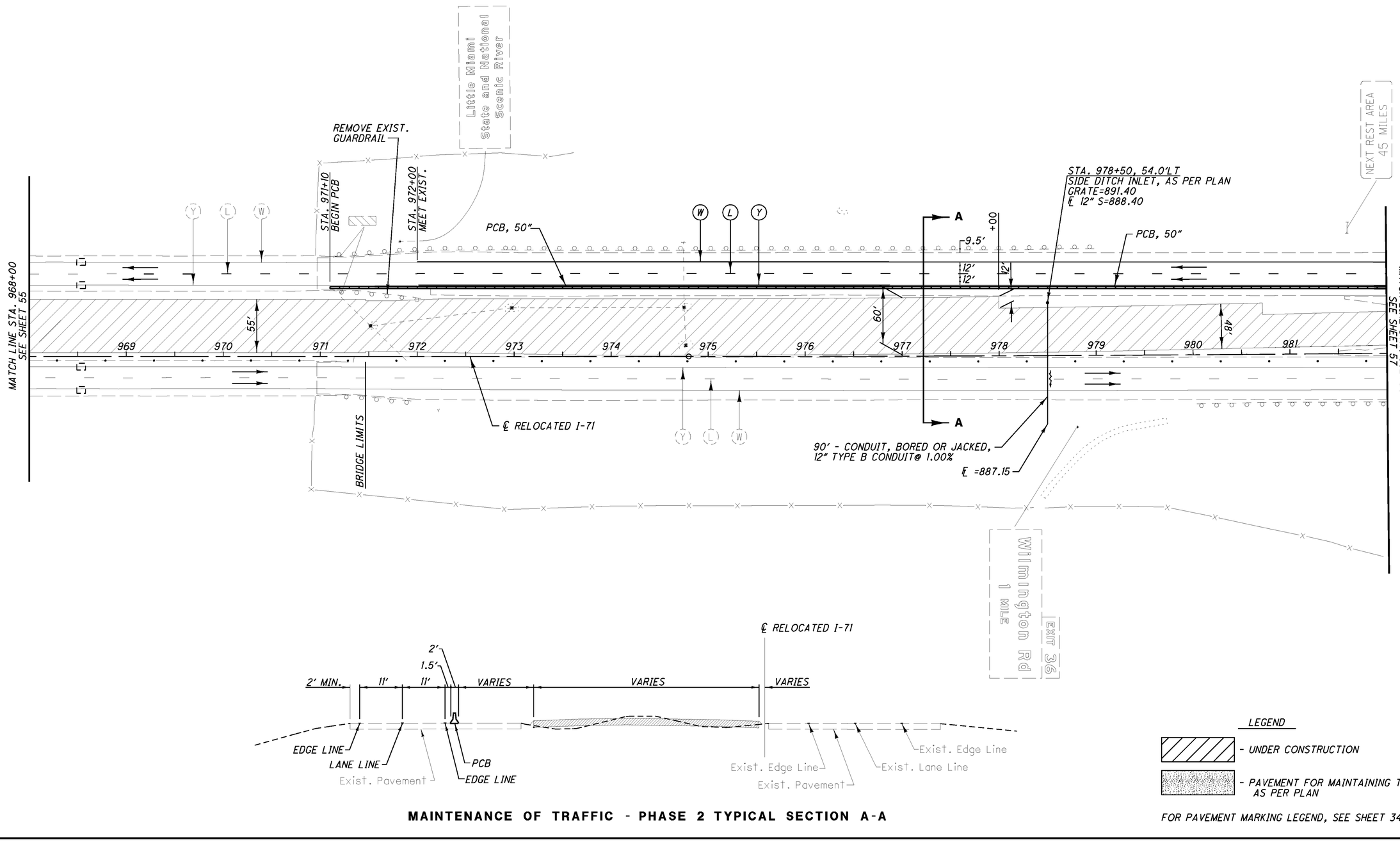
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 2
STA. 954+00 TO STA. 968+00

WAR-71-14.20

55
470



MAINTENANCE OF TRAFFIC - PHASE 2 TYPICAL SECTION A-A

LEGEND

- UNDER CONSTRUCTION
- PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN

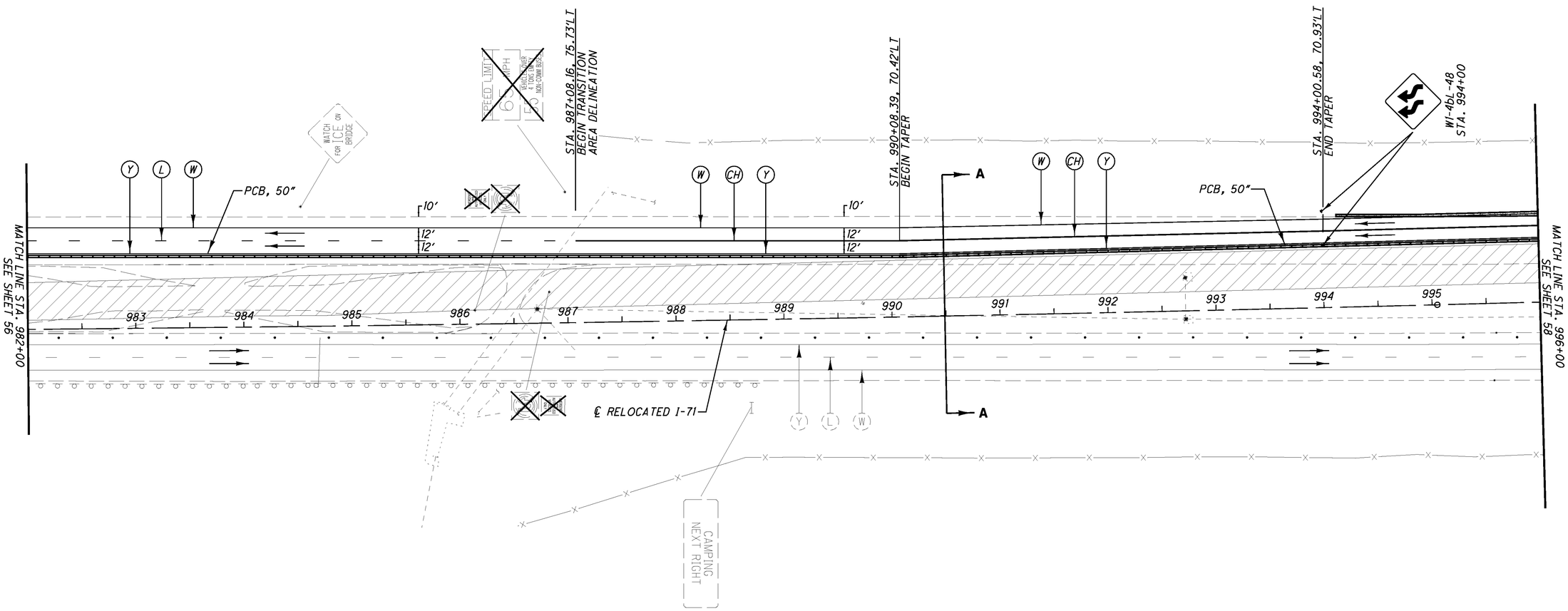
FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

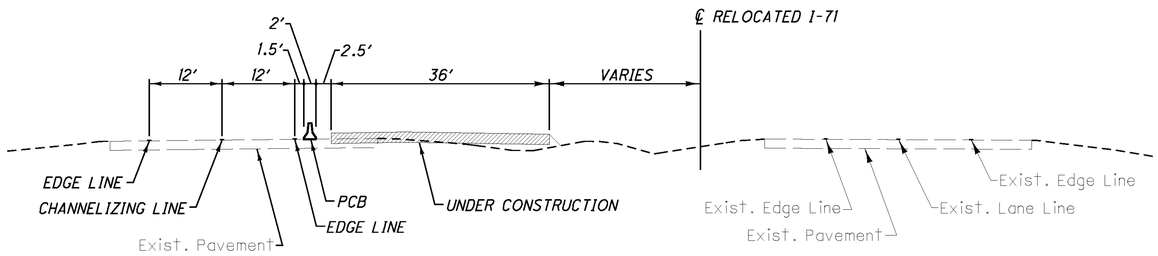
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 2
STA. 968+00 TO STA. 982+00

WAR-71-14.20





MAINTENANCE OF TRAFFIC - PHASE 2 TYPICAL SECTION A-A

LEGEND

- UNDER CONSTRUCTION
- PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN

FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

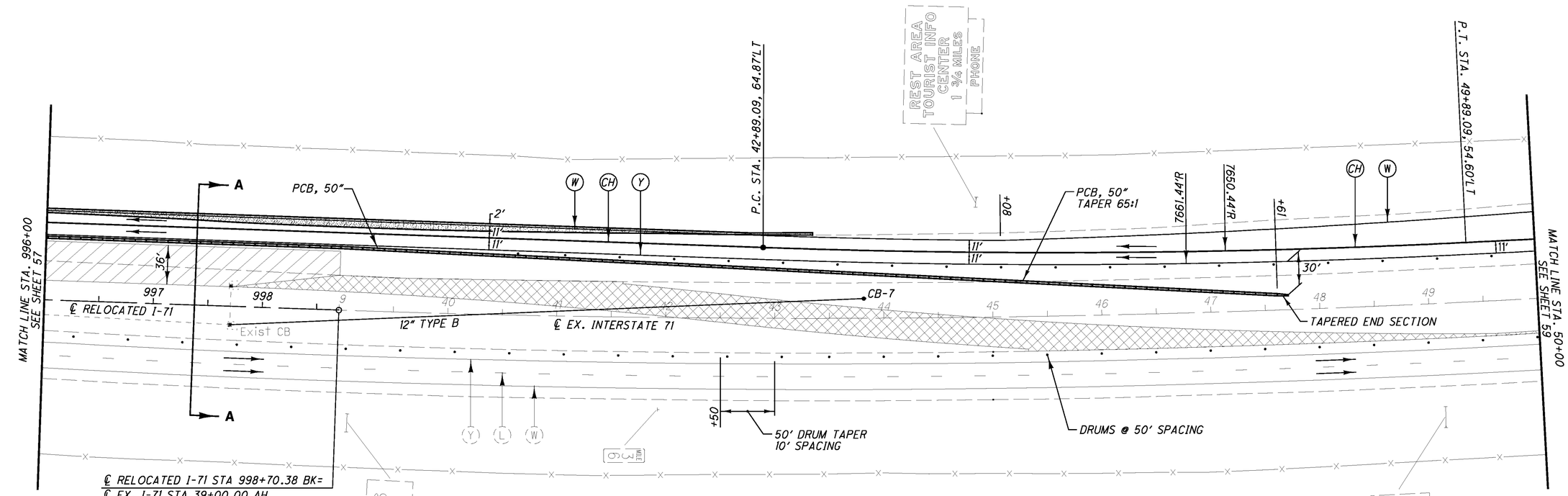
HORIZONTAL SCALE IN FEET
0 25 50 100

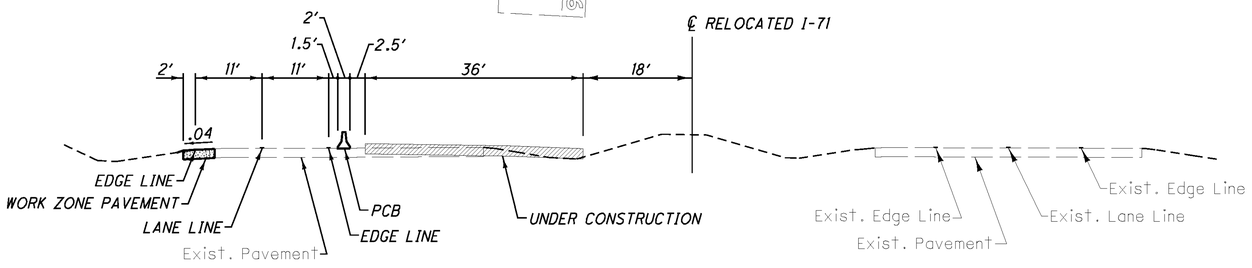
CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 2
STA. 982+00 TO STA. 996+00

WAR-71-14.20

CURVE DATA
P.I. STA. 47+85.57, 51.00'LT
R = 5729.578'
Dc = 1°00'00"
DELTA = 5°24'57"
L = 541.572'
T = 270.988'
Ch = 541.370'
E = 6.405





MAINTENANCE OF TRAFFIC - PHASE 2 TYPICAL SECTION A-A

LEGEND
- UNDER CONSTRUCTION
- PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN

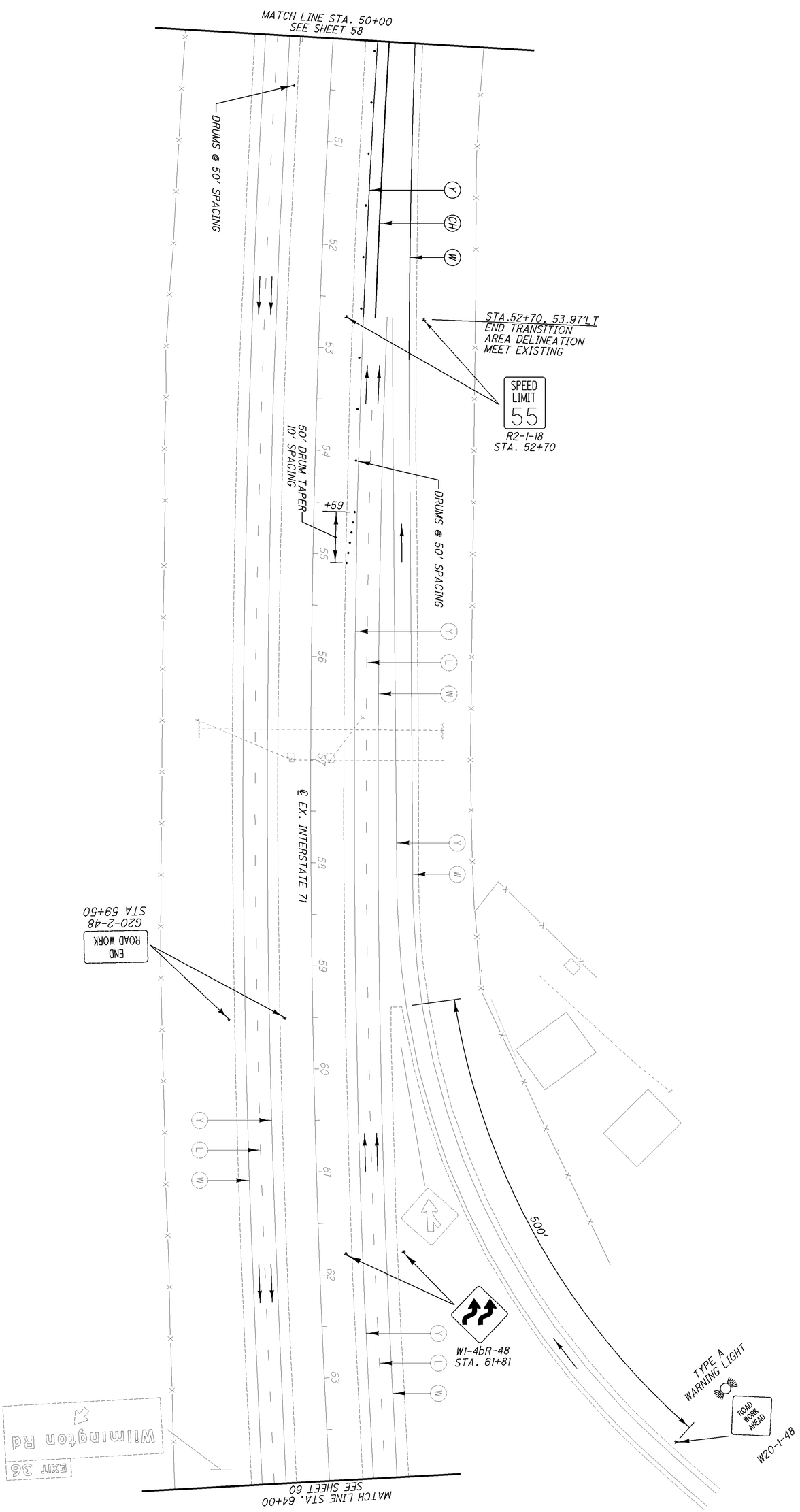
FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 2
STA. 996+00 TO STA. 50+00

WAR-71-14.20

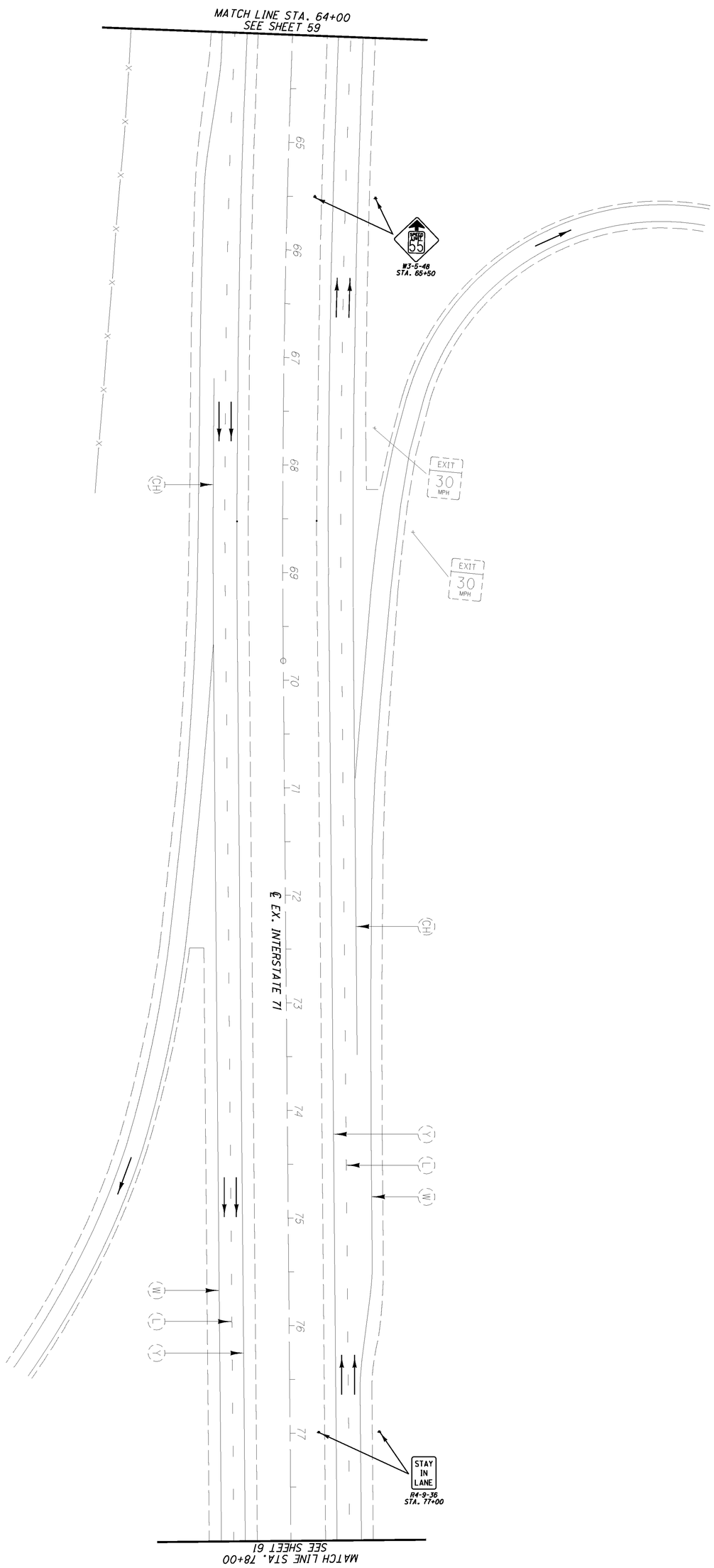


LEGEND

- UNDER CONSTRUCTION
- PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN

FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

59 / 470	WAR-71-14.20	MAINTENANCE OF TRAFFIC - PHASE 2 STA. 50+00 TO STA. 64+00	CALCULATED TAM CHECKED GKB	0 50 / 25 100 HORIZONTAL SCALE IN FEET



LEGEND

- UNDER CONSTRUCTION

- PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN

FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

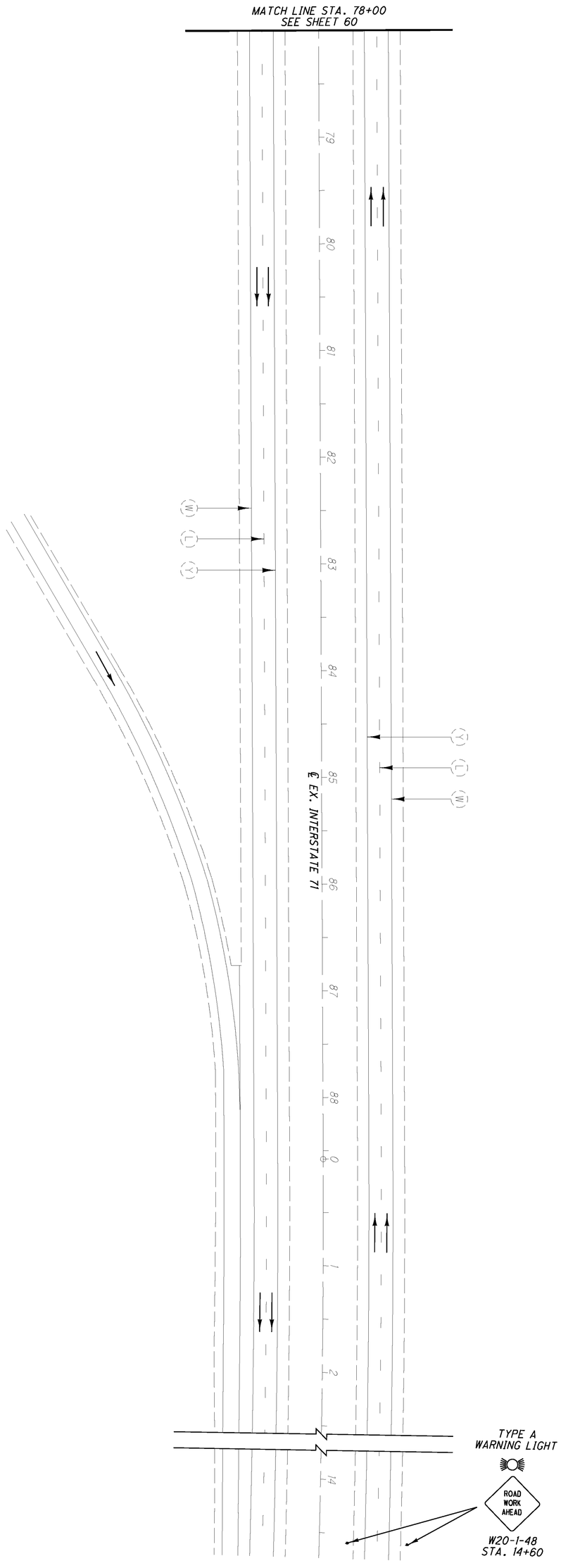
60
470

WAR-71-14.20

MAINTENANCE OF TRAFFIC - PHASE 2
STA. 64+00 TO STA. 78+00

CALCULATED TAM
CHECKED GKB

0 50
25 100
HORIZONTAL SCALE IN FEET



LEGEND

- UNDER CONSTRUCTION

- PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN

FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

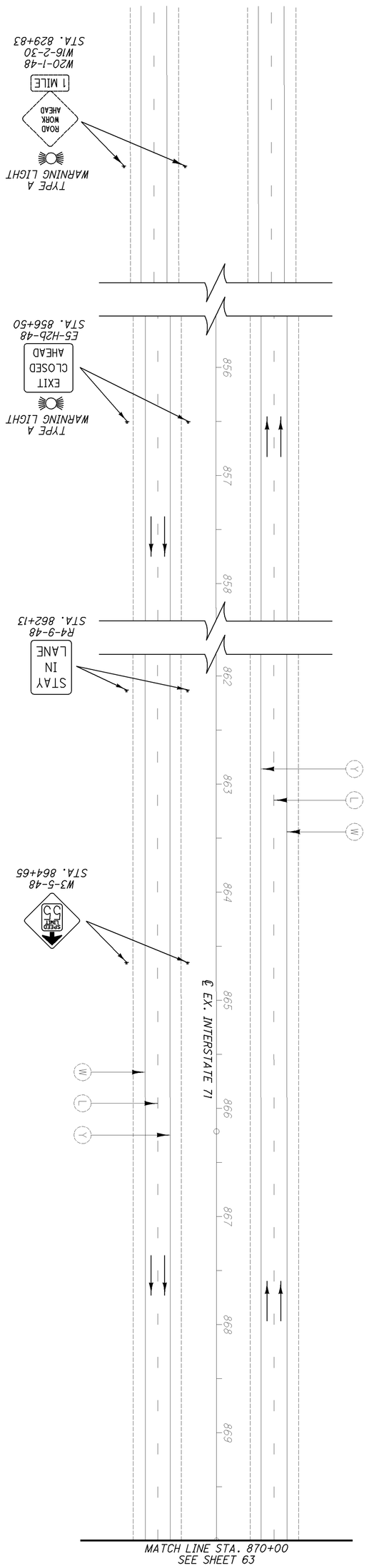
61
470

WAR-71-14.20

MAINTENANCE OF TRAFFIC - PHASE 2
STA. 78+00 TO STA. 14+60

CALCULATED TAM
CHECKED GKB

0 50
25 100
HORIZONTAL SCALE IN FEET

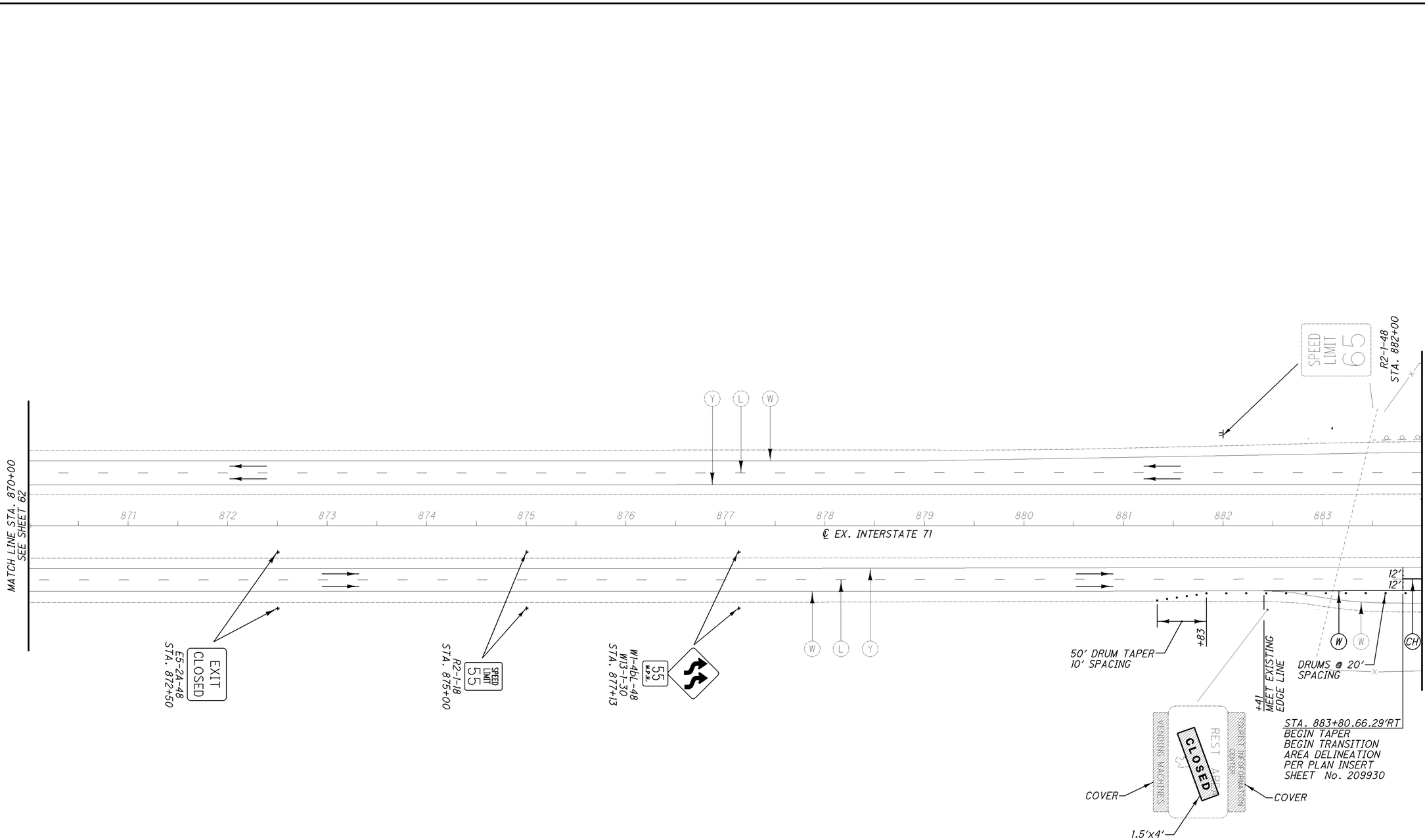


LEGEND

- UNDER CONSTRUCTION
- PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN

FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

62 / 470	WAR-71-14.20	MAINTENANCE OF TRAFFIC - PHASE 3 STA. 856+00 TO STA. 870+00	CALCULATED TAM CHECKED GKB	0 50 25 100 HORIZONTAL SCALE IN FEET



HORIZONTAL SCALE IN FEET
0 25 50 100

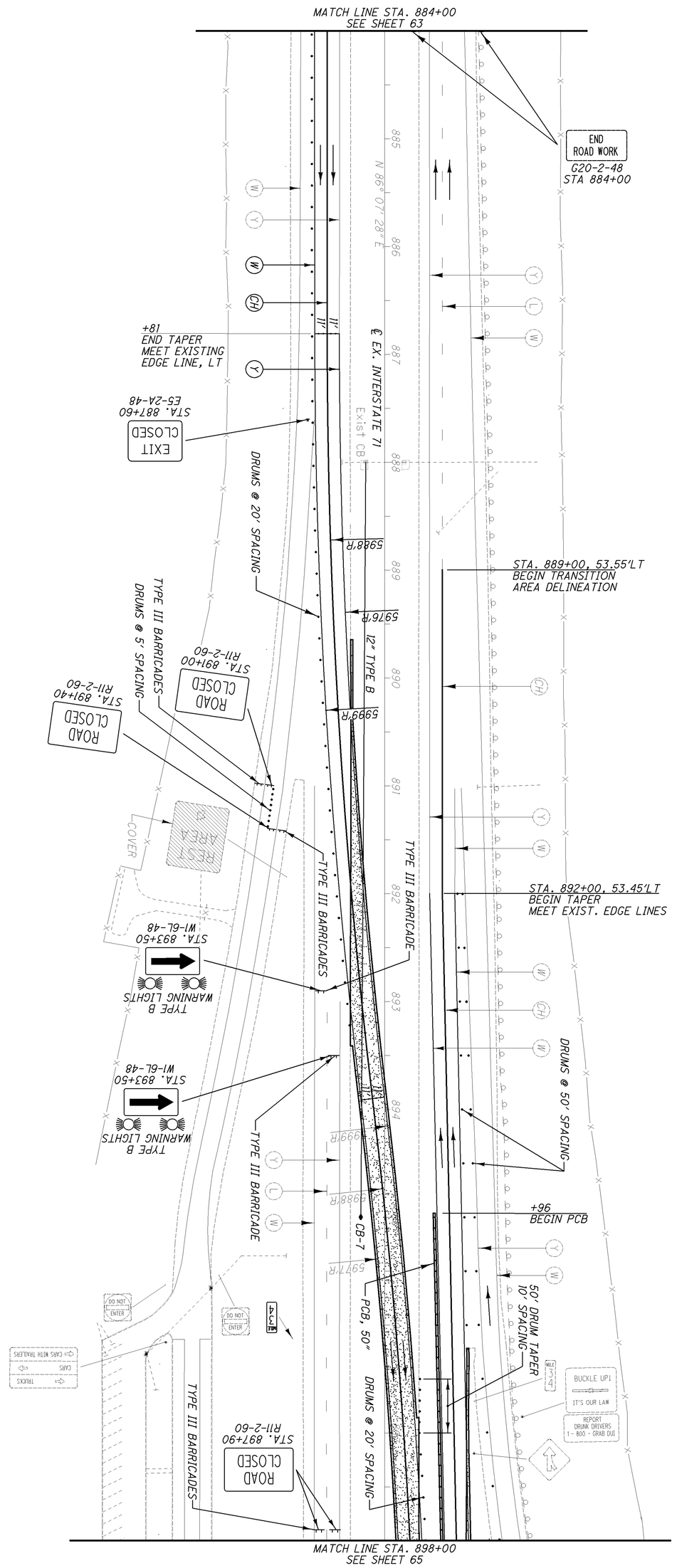
CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 3
STA. 870+00 TO STA. 884+00

WAR-71-14.20

63
470

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LEGEND

- UNDER CONSTRUCTION
- PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN

FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

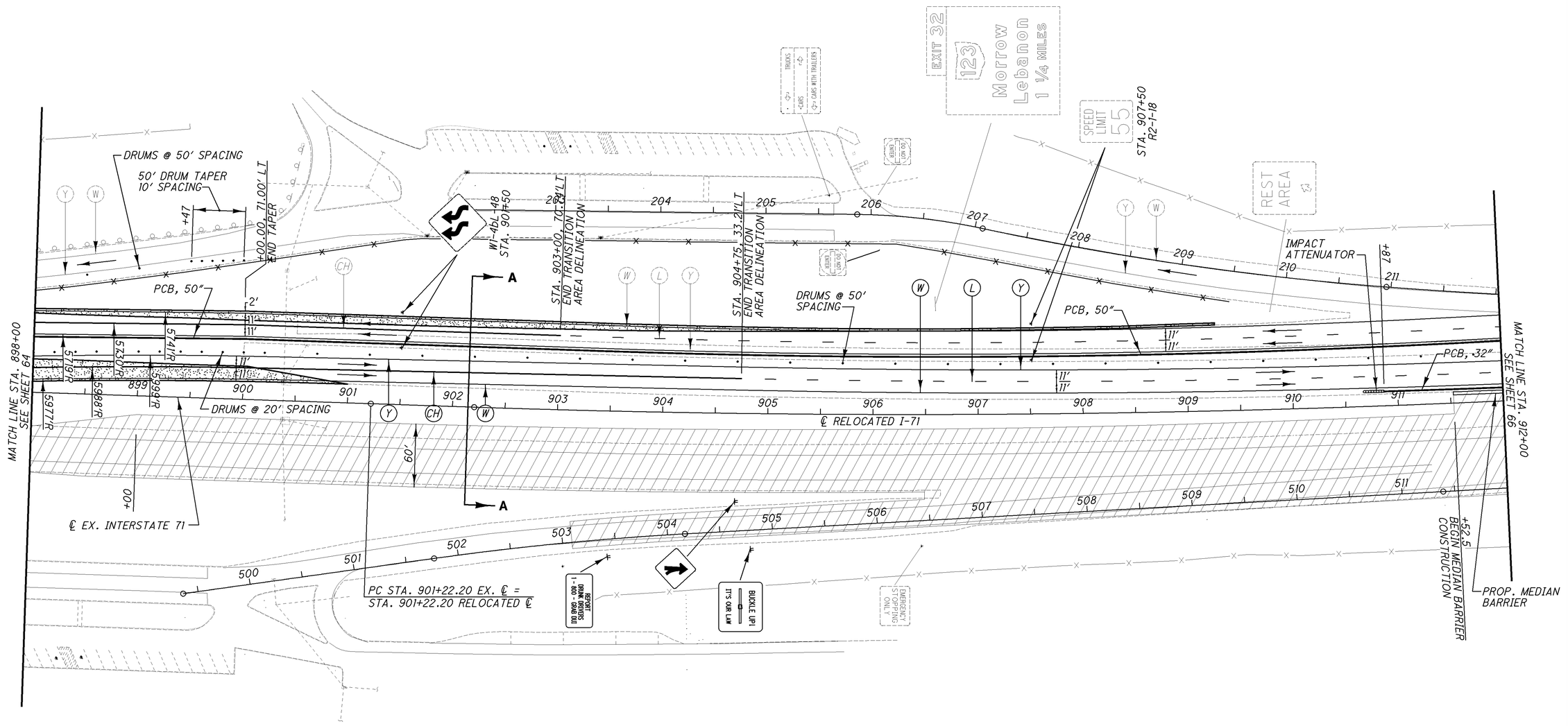
64
470

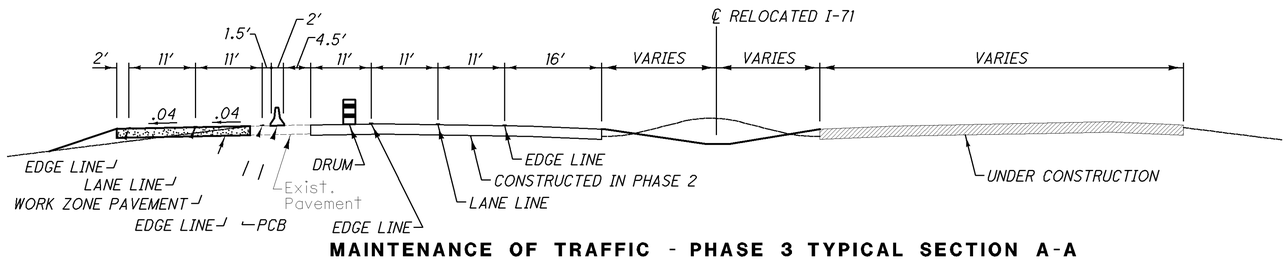
WAR-71-14.20

MAINTENANCE OF TRAFFIC - PHASE 3
STA. 884+00 TO STA. 898+00

CALCULATED TAM
CHECKED GKB

0 25 50 100
HORIZONTAL SCALE IN FEET





MAINTENANCE OF TRAFFIC - PHASE 3 TYPICAL SECTION A-A

LEGEND

- UNDER CONSTRUCTION
- PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN

FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

HORIZONTAL SCALE IN FEET
0 25 50 100

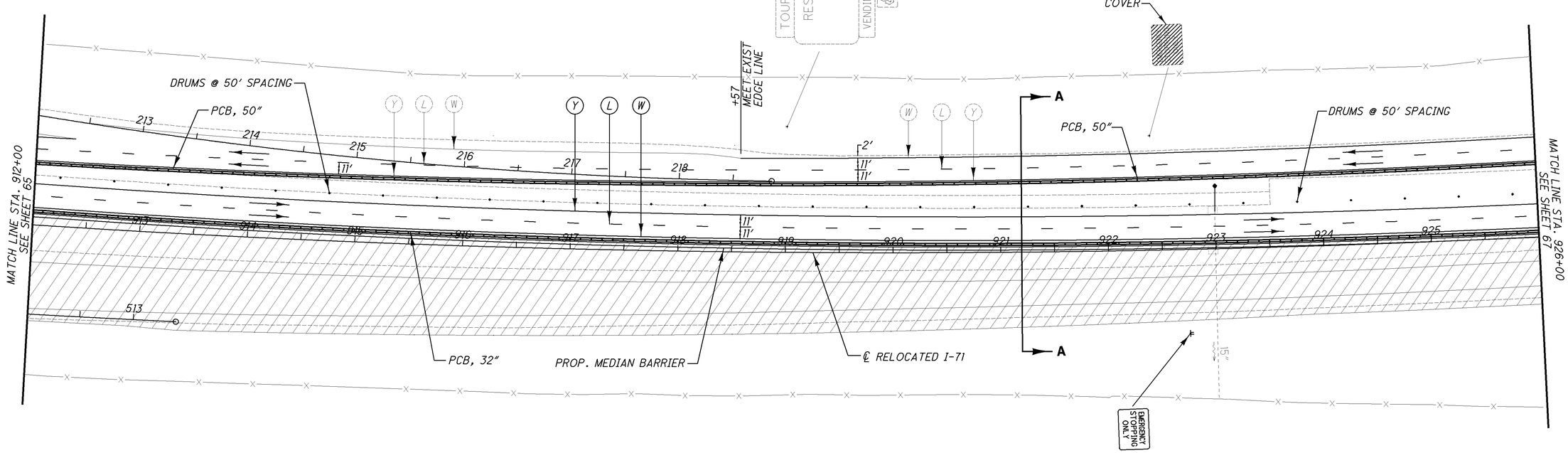
CALCULATED TAM
CHECKED GKB

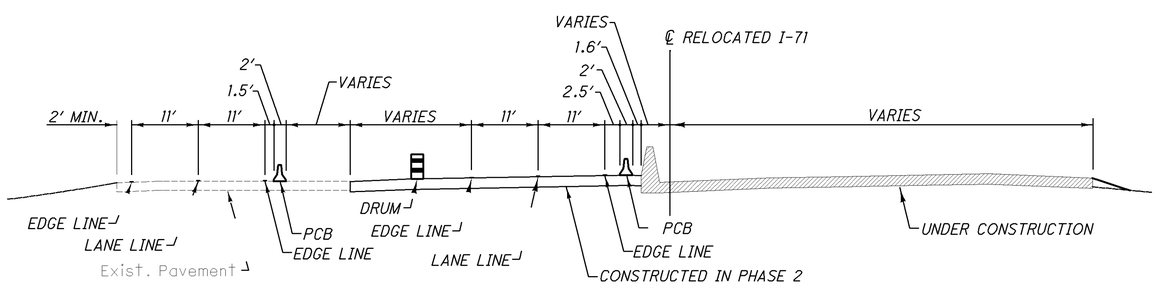
MAINTENANCE OF TRAFFIC - PHASE 3
STA. 898+00 TO STA. 912+00

WAR-71-14.20

65
470

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MAINTENANCE OF TRAFFIC - PHASE 3 TYPICAL SECTION A-A

LEGEND

- UNDER CONSTRUCTION
- PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN

FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

HORIZONTAL SCALE IN FEET
0 25 50 100

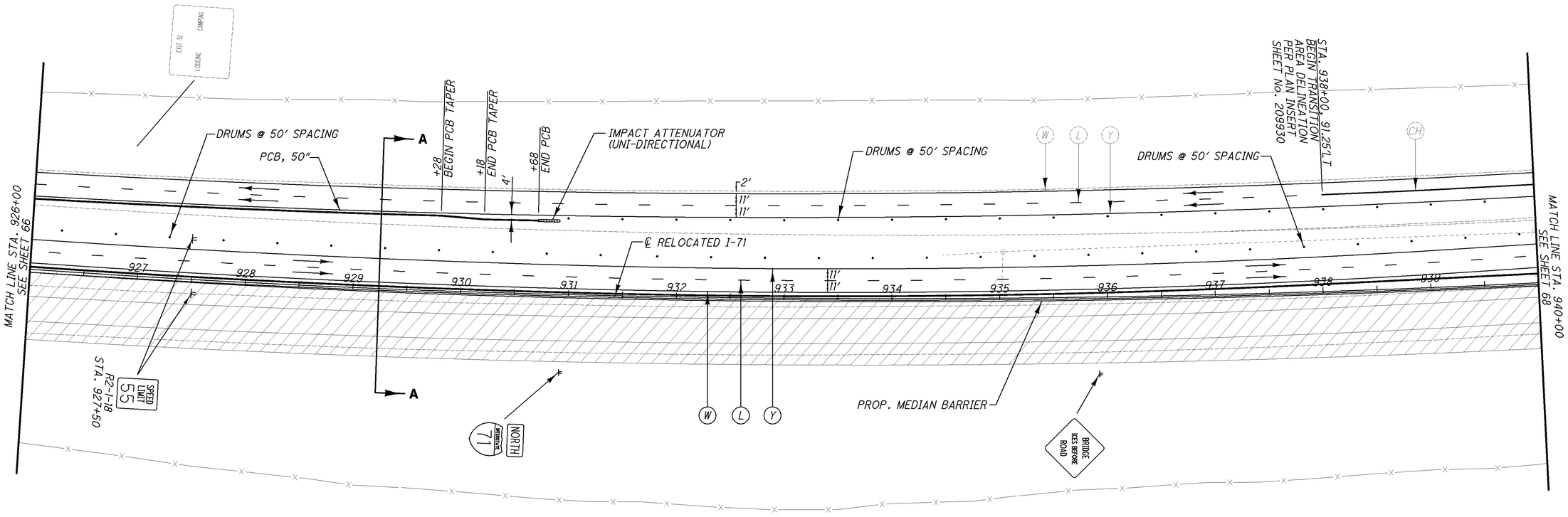
CALCULATED TAM
CHECKED GKB

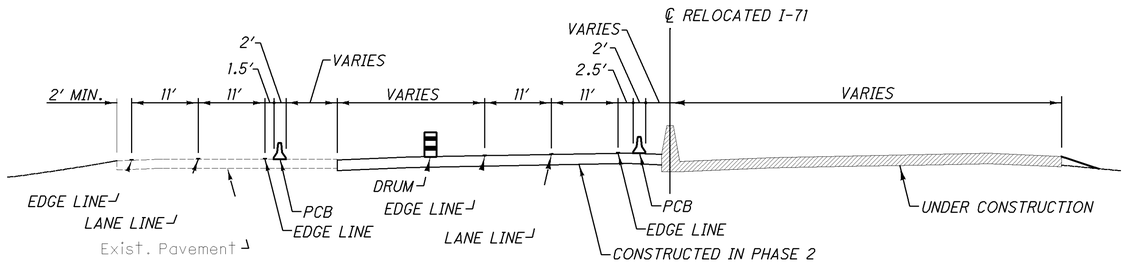
MAINTENANCE OF TRAFFIC - PHASE 3
STA. 912+00 TO STA. 926+00

WAR-71-14.20

66
470

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MAINTENANCE OF TRAFFIC - PHASE 3 TYPICAL SECTION A-A

LEGEND

- UNDER CONSTRUCTION
- PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN

FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

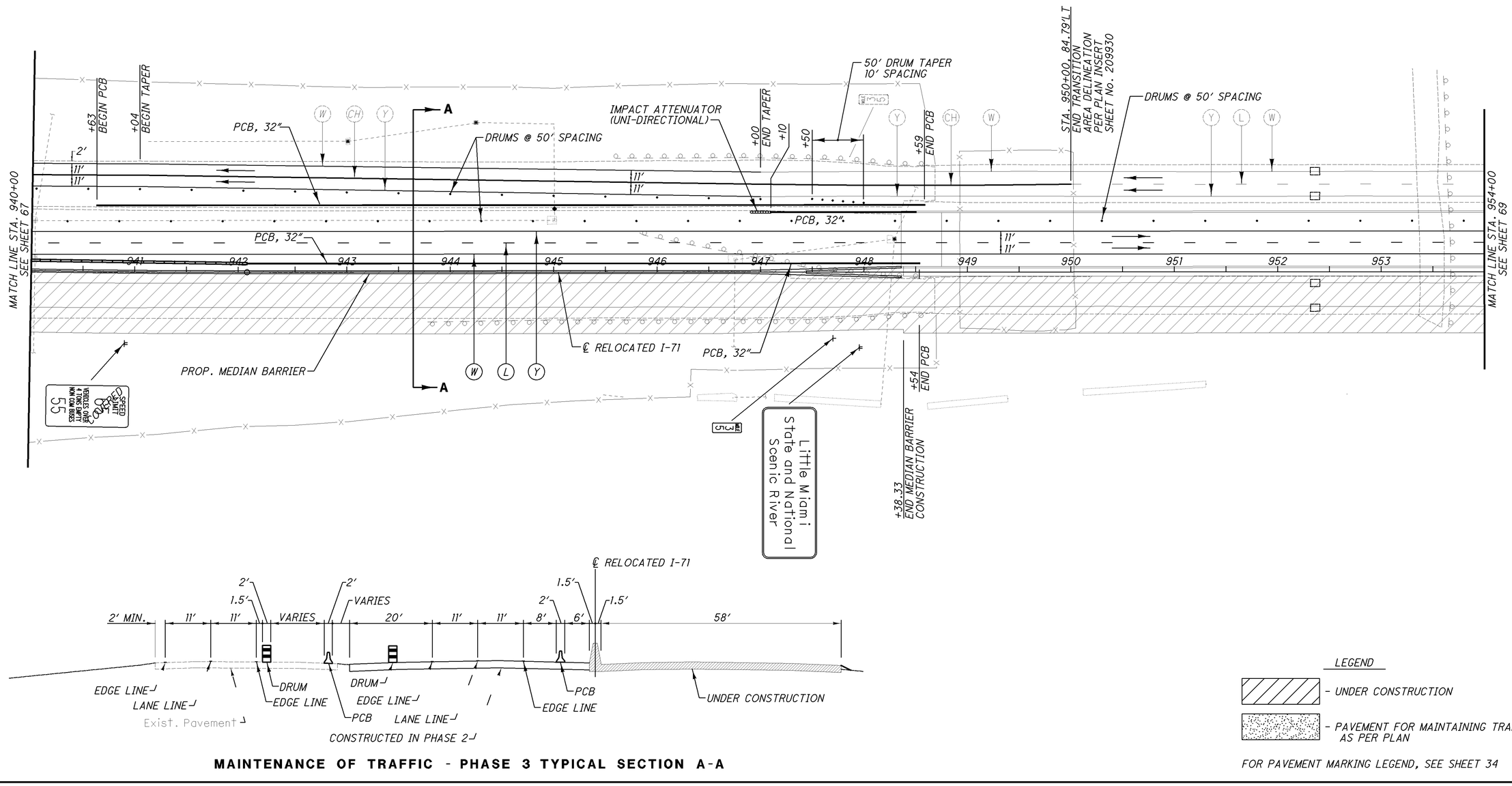
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 3
STA. 926+00 TO STA. 940+00

WAR-71-14.20

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MAINTENANCE OF TRAFFIC - PHASE 3 TYPICAL SECTION A-A

LEGEND

- UNDER CONSTRUCTION
- PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN

FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

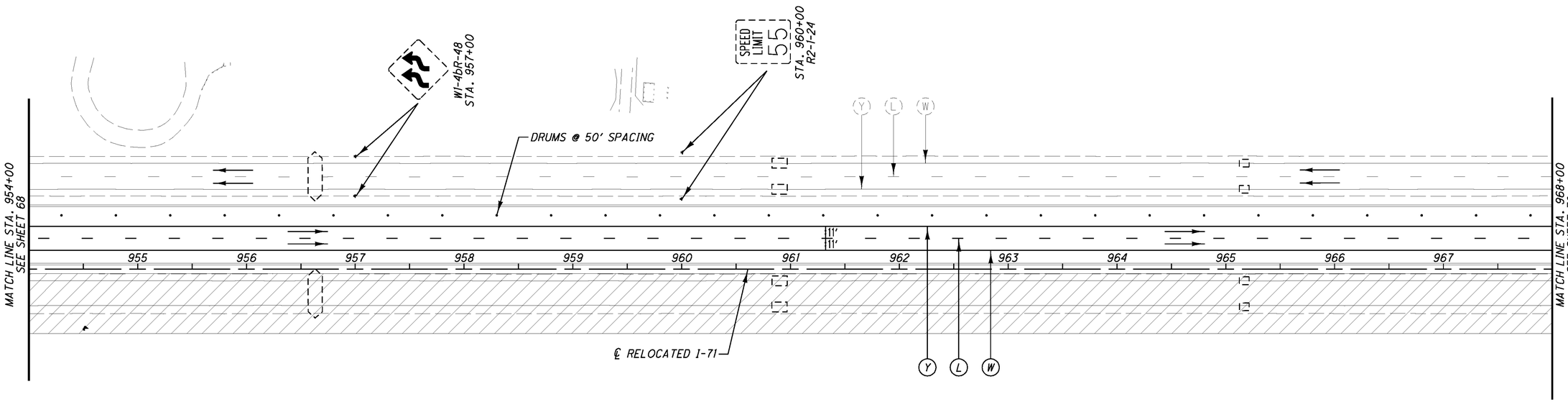
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 3
STA. 940+00 TO STA. 954+00

WAR-71-14.20

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LEGEND

- UNDER CONSTRUCTION
- PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN

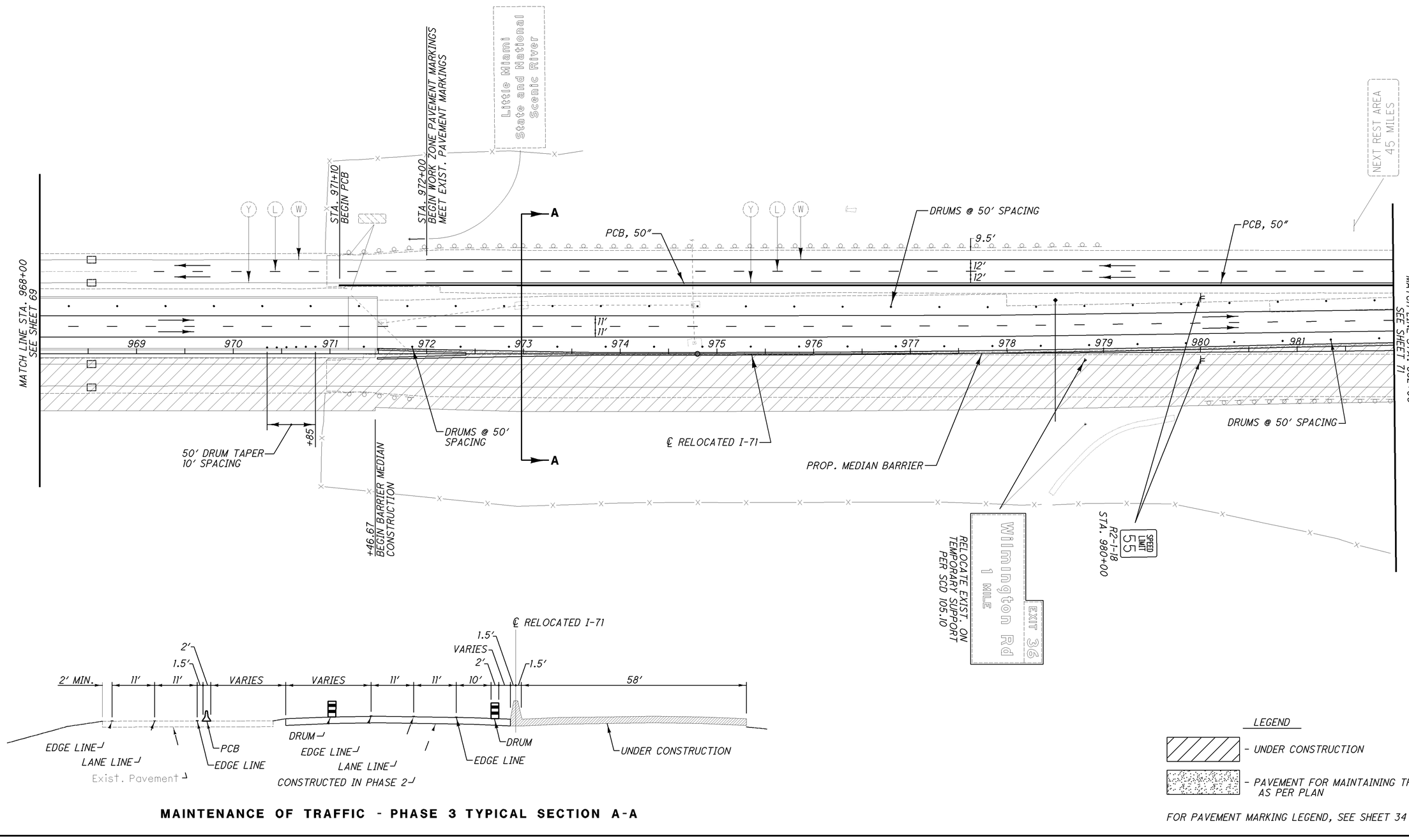
FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 3
STA. 954+00 TO STA. 968+00

WAR-71-14.20



MAINTENANCE OF TRAFFIC - PHASE 3 TYPICAL SECTION A-A

LEGEND

- *UNDER CONSTRUCTION*
- *PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN*

FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

HORIZONTAL SCALE IN FEET
0 25 50 100

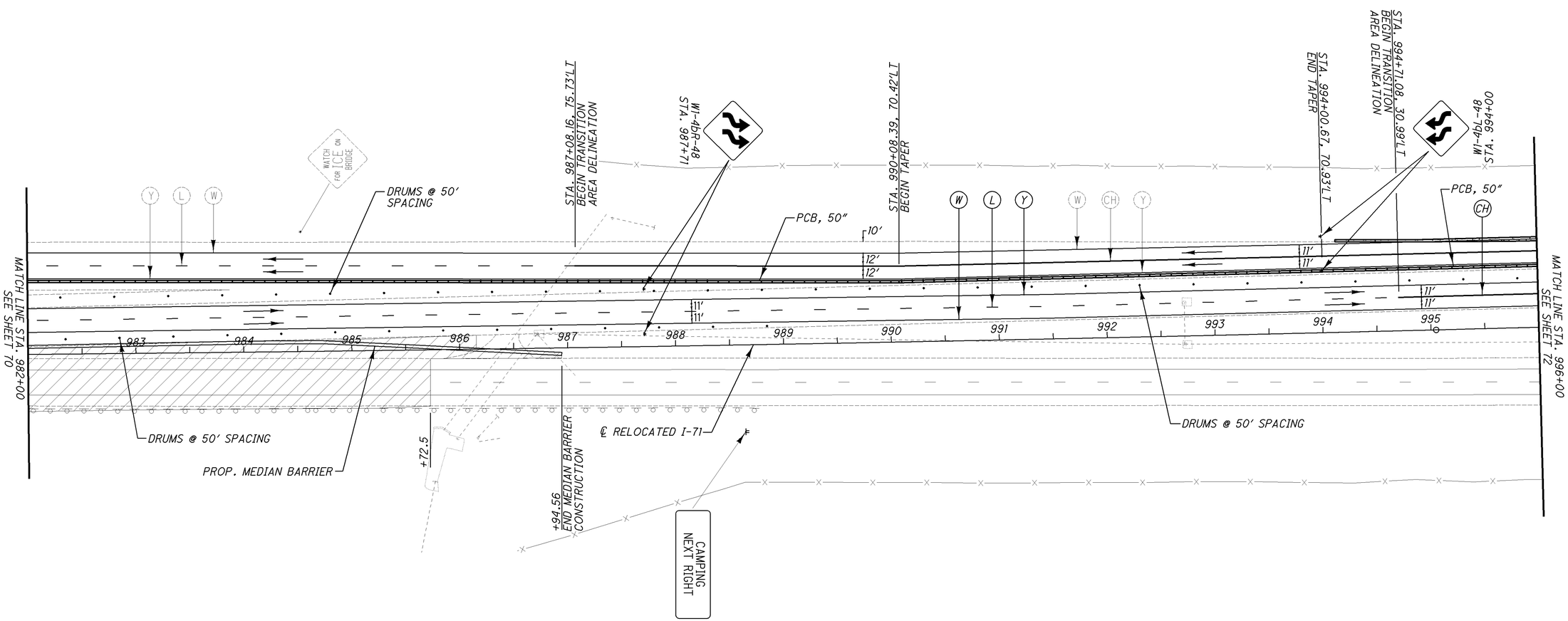
CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 3
STA. 968+00 TO STA. 982+00

WAR-71-14.20

70
470

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LEGEND

- UNDER CONSTRUCTION
- PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN

FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 3
STA. 982+00 TO STA. 996+00

WAR-71-14.20

71
470

I:\HIGHWAYS\Data\HNTB\22950\From ODOT Final 04162010\Bid Plans\Dgns\22950\MOT\Sheets\22950MP038.dgn 4/21/2010 8:22:42 AM dbruno

CURVE DATA
P.I. STA. 47+85.57, 51.00'LT
R = 5729.578'
Dc = 1°00'00"
DELTA = 5°24'57"
L = 541.572'
T = 270.988'
Ch = 541.370'
E = 6.405

℄ RELOCATED I-71 STA 998+70.38 BK=
℄ EX. I-71 STA 39+00.00 AH

DRUMS @ 50' SPACING

A

PCB, 50"

W1-6R-48
STA. 43+73

TYPE B WARNING LIGHTS

P.C. STA. 42+89.09, 64.87'LT

REST AREA
TOURIST INFO CENTER
1 3/4 MILES
PHONE

DRUMS @ 50' SPACING

PCB, 50"

7661.44'R

+62

7650.44'R

P.T. STA. 49+89.09, 54.60'LT

MATCH LINE STA. 996+00
SEE SHEET 71

TYPE III BARRICADE

997

998

Exist CB

12" TYPE B
DRUMS @ 20' SPACING

5977'R

5988'R

5999'R

+51.19
SCC

CB-7

TAPERED END SECTION

℄ EX. INTERSTATE 71

MATCH LINE STA. 50+00
SEE SHEET 73

℄ RELOCATED I-71

P.C. STA. 997+71.09, 31.00'LT

A

50' DRUM TAPER
10' SPACING

DRUMS @ 50' SPACING

Fort Ancient
State Memorial
TOURISM INFO
1-800-BUCKEYE
EXIT 36

Wilmington Rd
1/2 MILE
EXIT 36

℄ RELOCATED I-71

VARIES 2' 11' 11' 1.5' 2' 10.5' 2' 2.5' 11' 11' VARIES 2' VARIES
.04

EDGE LINE
WORK ZONE PAVEMENT
CHANNELIZING LINE
Exist. Pavement
DRUM
PCB
EDGE LINE
EDGE LINE
EDGE LINE
WORK ZONE PAVEMENT
CHANNELIZING LINE
Exist. Edge Line
Exist. Pavement
Exist. Edge Line
Exist. Lane Line

MAINTENANCE OF TRAFFIC - PHASE 3 TYPICAL SECTION A-A

LEGEND
- UNDER CONSTRUCTION
- PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN

FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

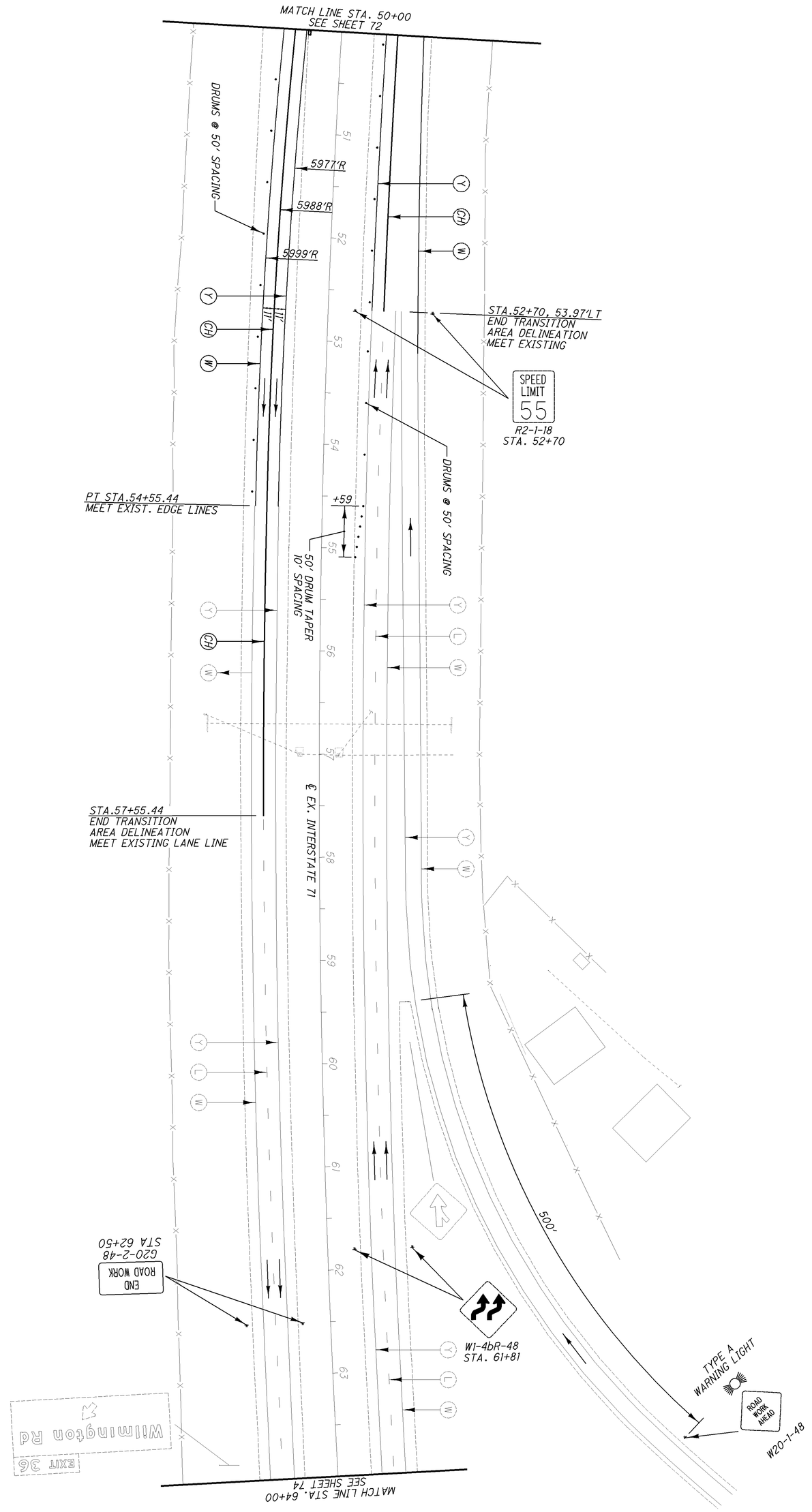
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 3
STA. 996+00 TO STA. 50+00

WAR-71-14.20

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LEGEND

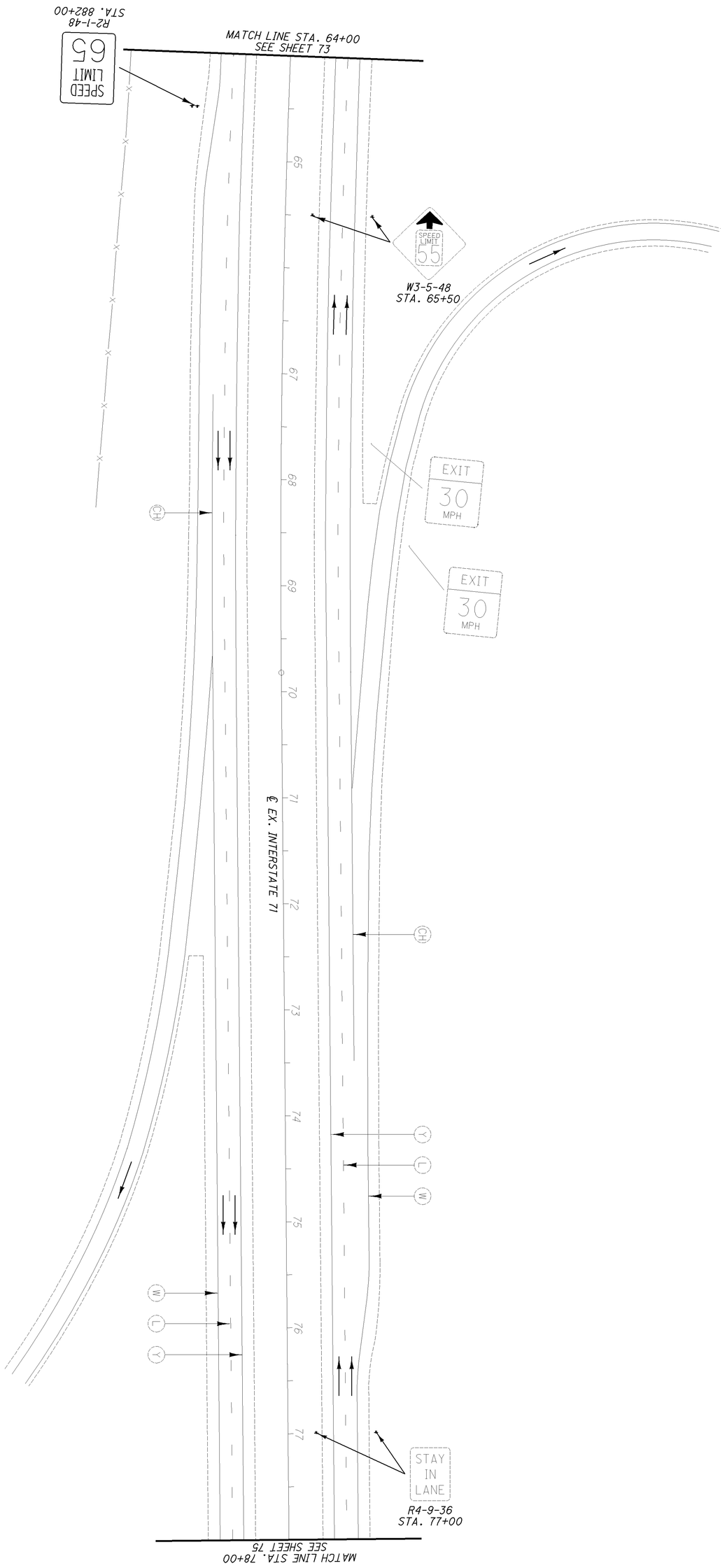
- UNDER CONSTRUCTION
- PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN

FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

MAINTENANCE OF TRAFFIC - PHASE 3
STA. 50+00 TO STA. 64+00

CALCULATED TAM
CHECKED GKB

0 50
25 100
HORIZONTAL SCALE IN FEET



LEGEND

- UNDER CONSTRUCTION

- PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN

FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

74
470

WAR-71-14.20

MAINTENANCE OF TRAFFIC - PHASE 3
STA. 64+00 TO STA. 78+00

CALCULATED TAM
CHECKED GKB

0 50
25 100
HORIZONTAL SCALE IN FEET

LEGEND

- UNDER CONSTRUCTION
- PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN

FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

HORIZONTAL SCALE IN FEET
0 25 50 100

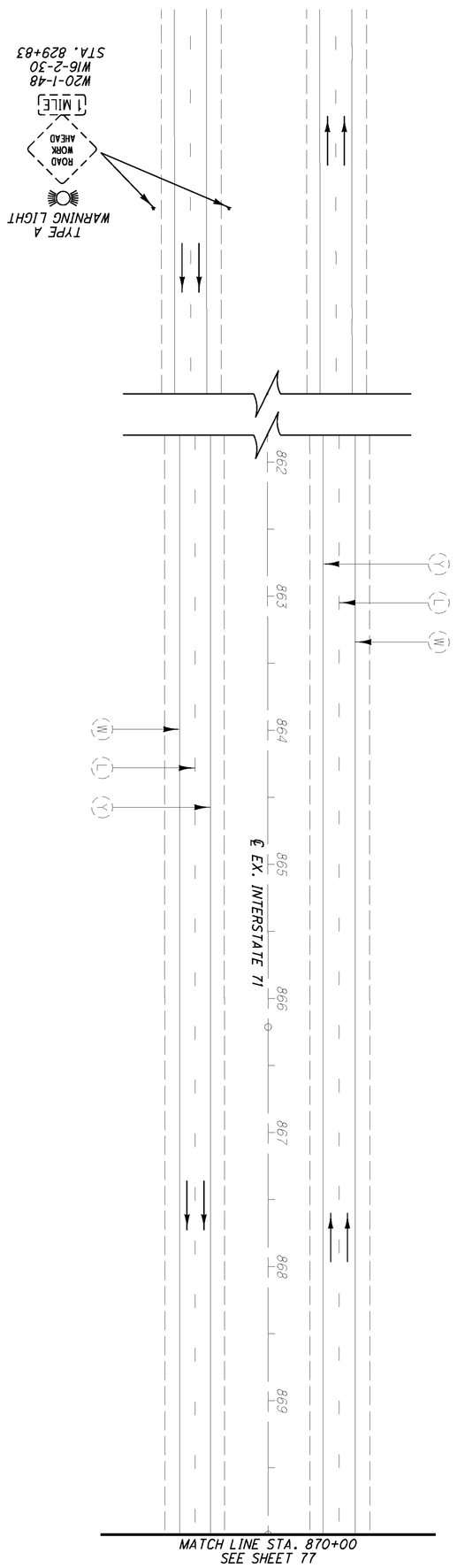
CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 3
STA. 78+00 TO STA. 3+75

WAR-71-14.20

75
470

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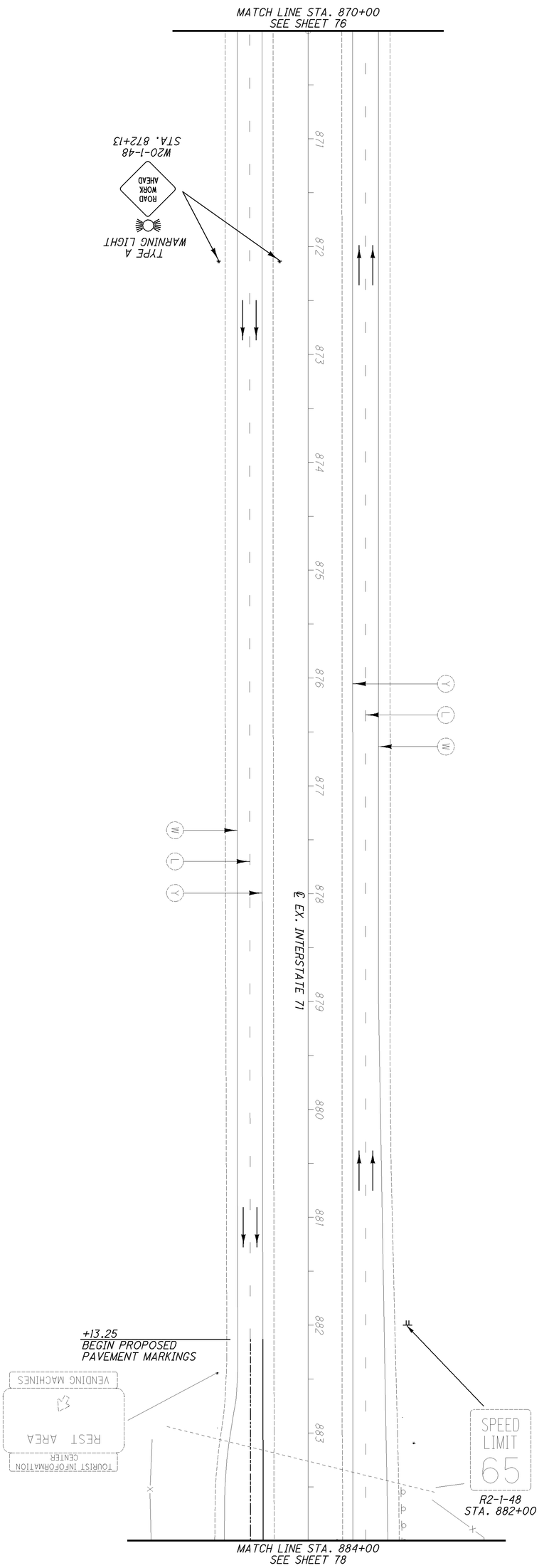
LEGEND

- UNDER CONSTRUCTION

- REMOVAL OF EXISTING

FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

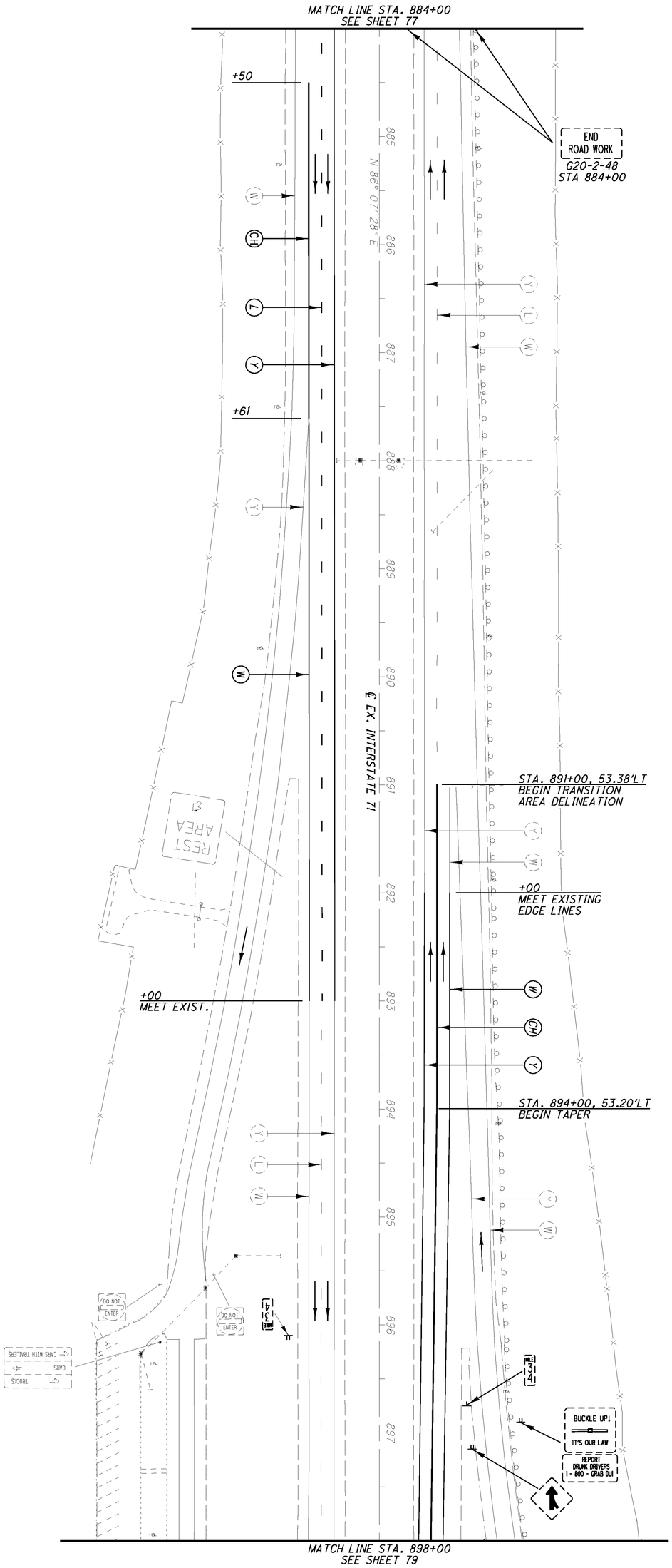
76 / 470	WAR-71-14.20	MAINTENANCE OF TRAFFIC - PHASE 4 STA. 856+00 TO STA. 870+00	CALCULATED TAM CHECKED GKB	0 50 25 100 HORIZONTAL SCALE IN FEET



LEGEND

- UNDER CONSTRUCTION
- REMOVAL OF EXISTING

FOR PAVEMENT MARKING LEGEND, SEE SHEET 34



LEGEND

- UNDER CONSTRUCTION

- REMOVAL OF EXISTING

FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

78
470

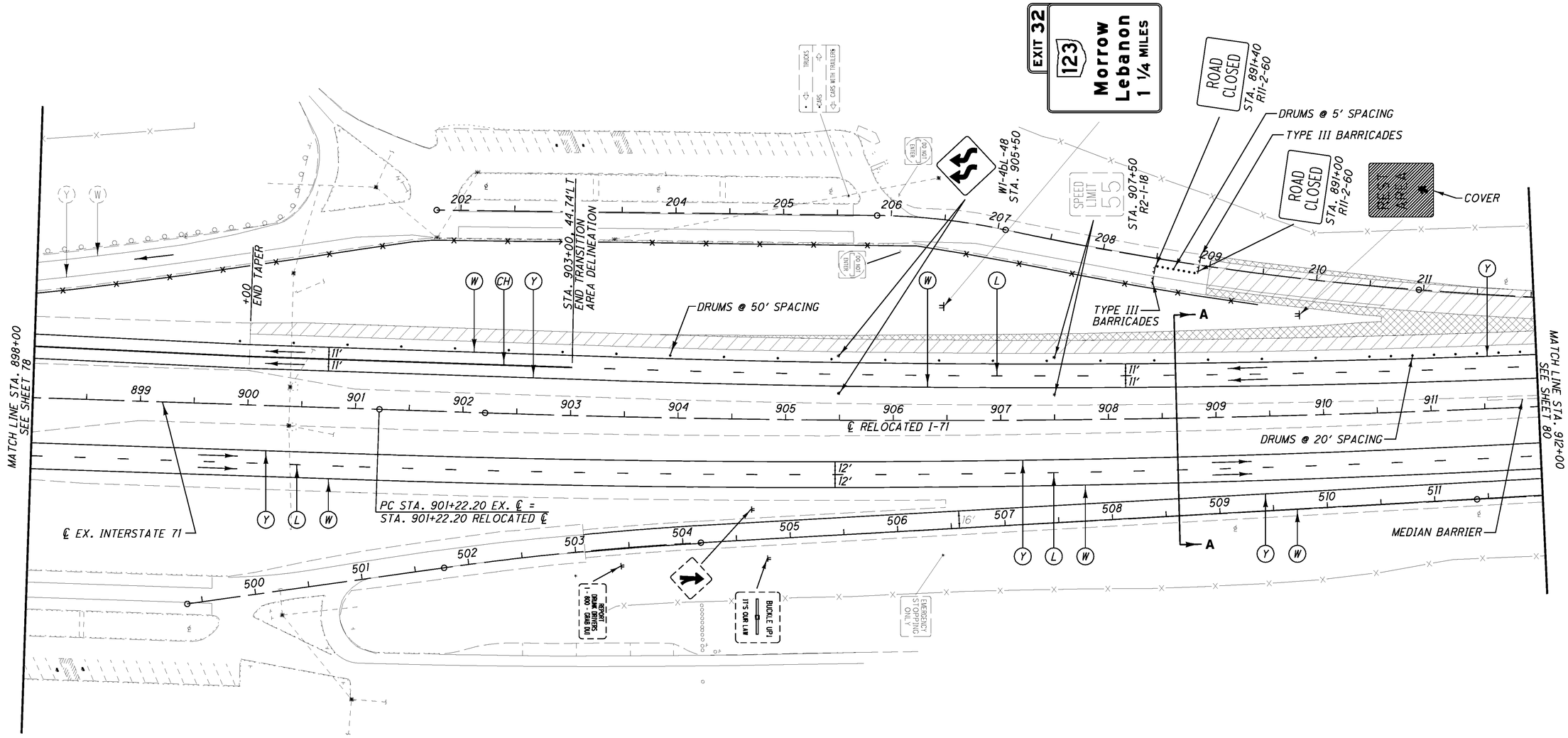
WAR-71-14.20

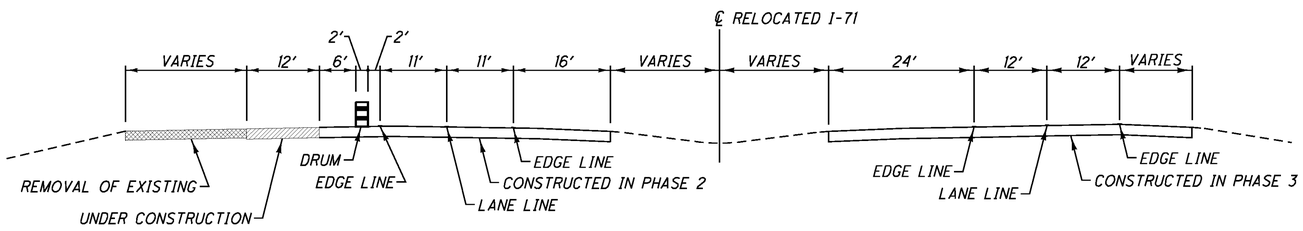
MAINTENANCE OF TRAFFIC - PHASE 4
STA. 884+00 TO STA. 898+00

CALCULATED TAM
CHECKED GKB

0 50
25 100
HORIZONTAL SCALE IN FEET

N





MAINTENANCE OF TRAFFIC - PHASE 4 TYPICAL SECTION A-A

LEGEND

- UNDER CONSTRUCTION
- REMOVAL OF EXISTING

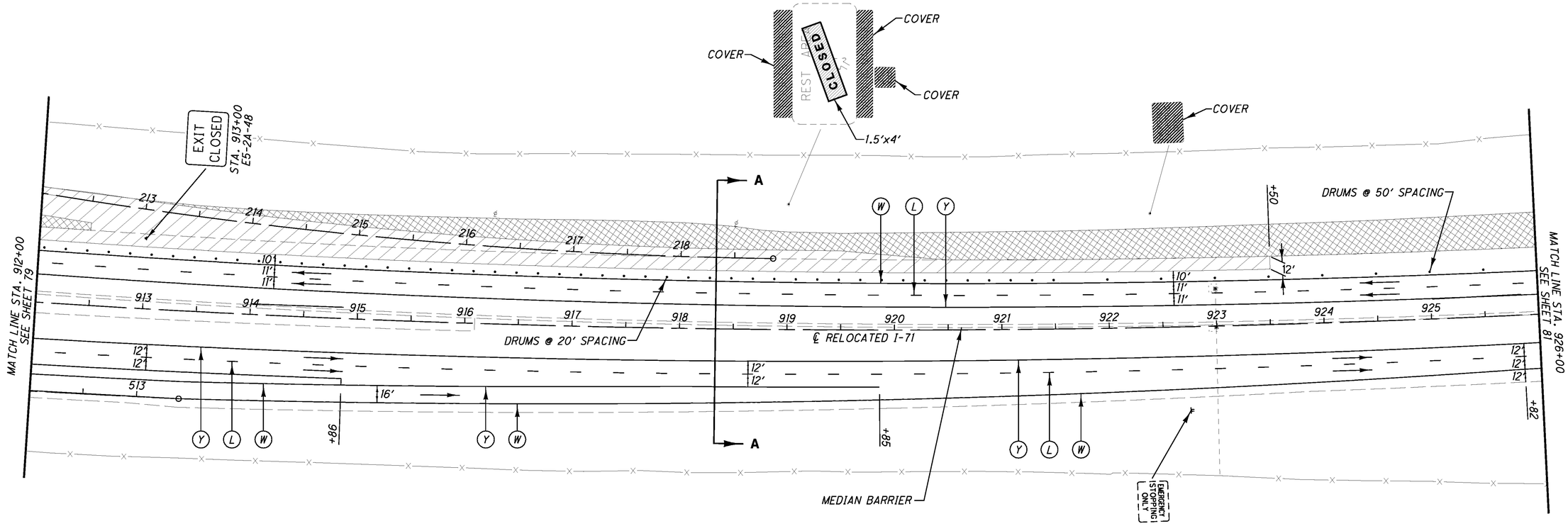
FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

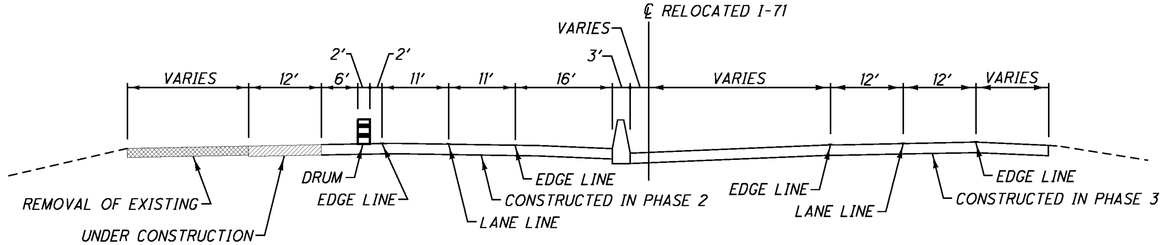
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 4
STA. 898+00 TO STA. 912+00

WAR-71-14.20





MAINTENANCE OF TRAFFIC - PHASE 4 TYPICAL SECTION A-A

LEGEND

- UNDER CONSTRUCTION
- REMOVAL OF EXISTING

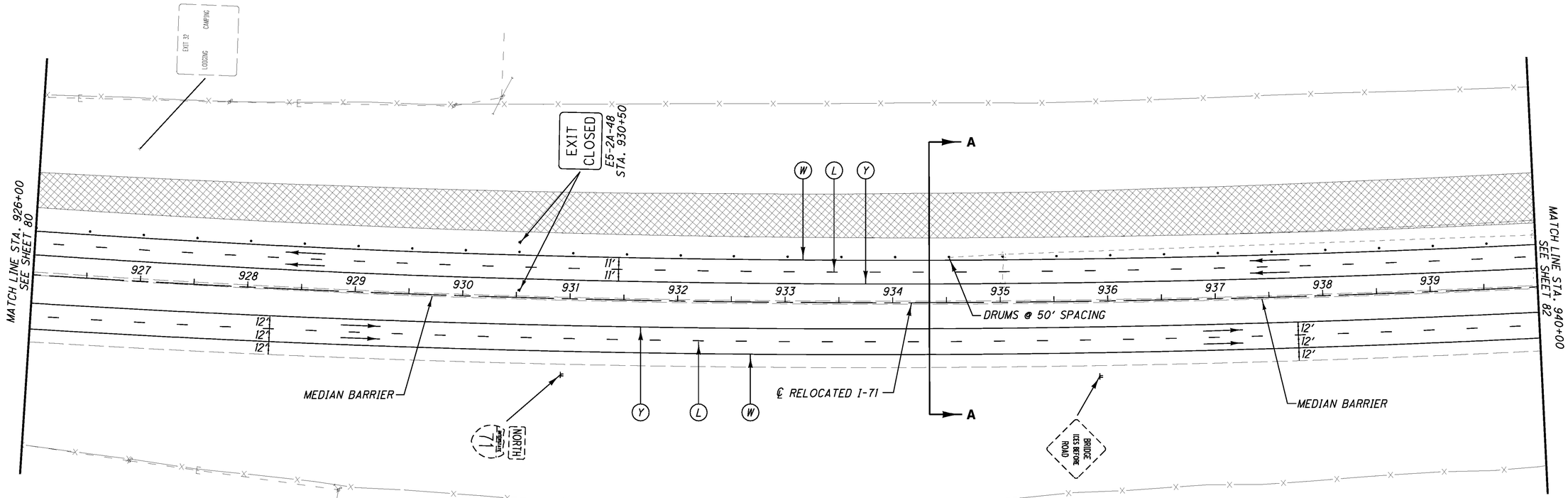
FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

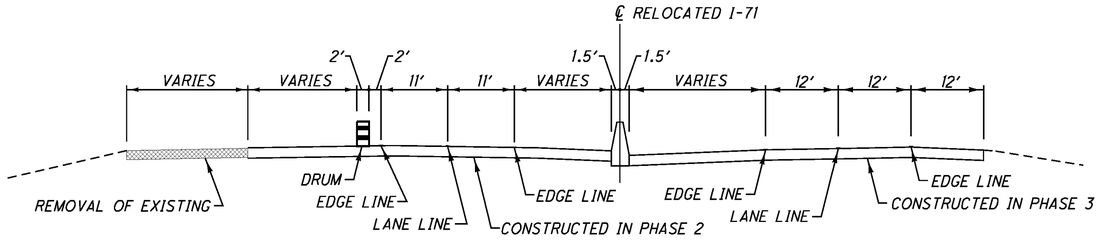
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 4
STA. 912+00 TO STA. 926+00

WAR-71-14.20





MAINTENANCE OF TRAFFIC - PHASE 4 TYPICAL SECTION A-A

LEGEND

- UNDER CONSTRUCTION
- REMOVAL OF EXISTING

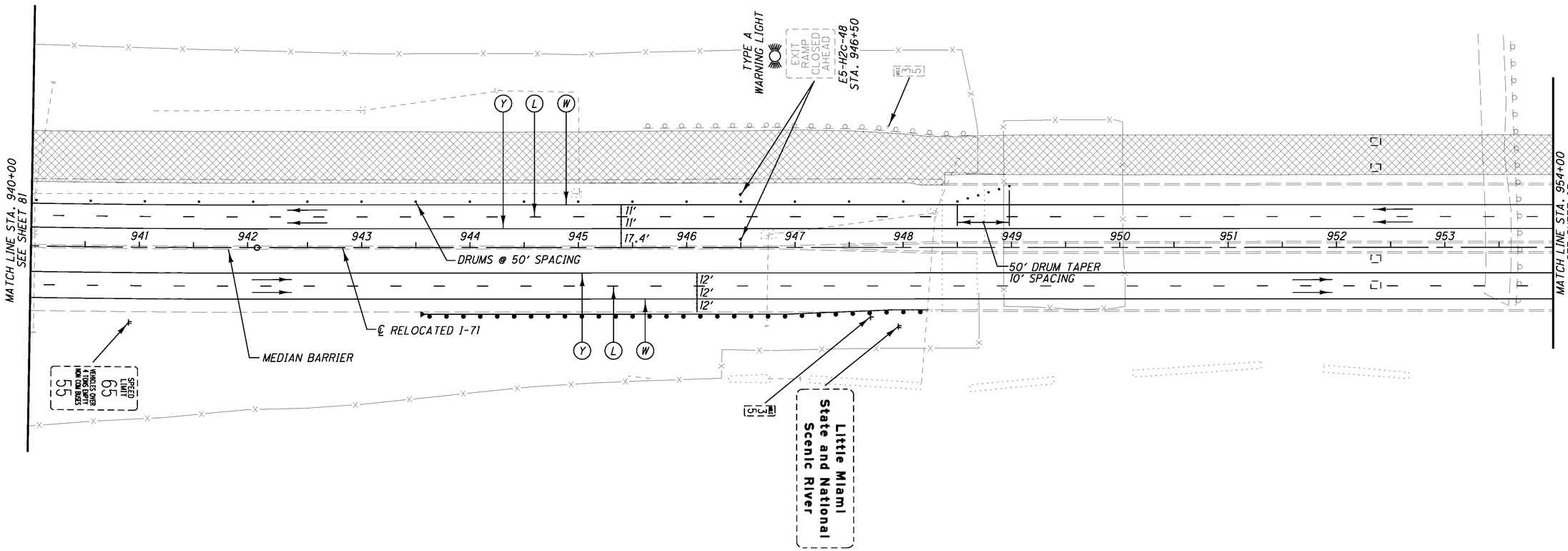
FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 4
STA. 926+00 TO STA. 940+00

WAR-71-14.20



LEGEND

- UNDER CONSTRUCTION
- REMOVAL OF EXISTING

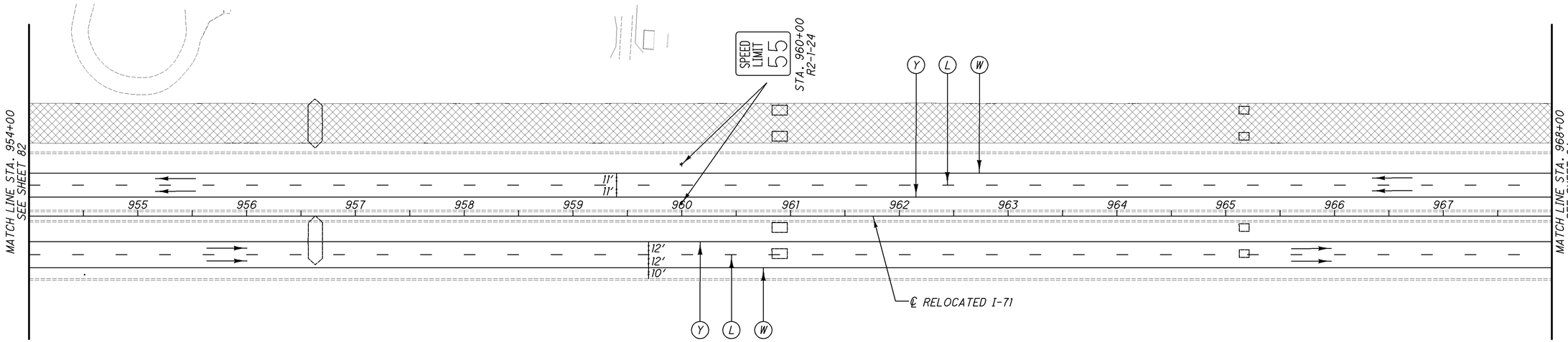
FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 4
STA. 940+00 TO STA. 954+00

WAR-71-14.20



LEGEND

- UNDER CONSTRUCTION
- REMOVAL OF EXISTING

FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

MAINTENANCE OF TRAFFIC - PHASE 4
STA. 954+00 TO STA. 968+00

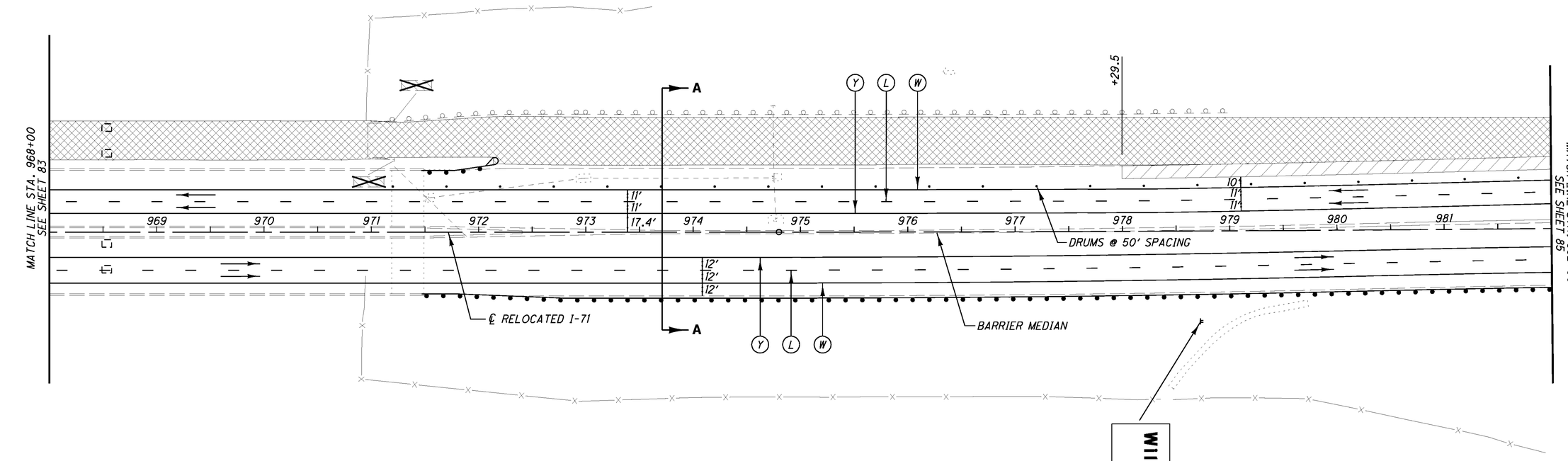
CALCULATED TAM
CHECKED GKB

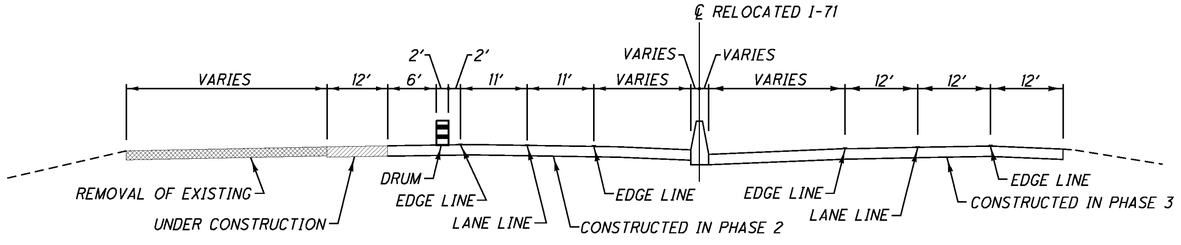
HORIZONTAL SCALE IN FEET
0 25 50 100

WAR-71-14.20

83
470

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MAINTENANCE OF TRAFFIC - PHASE 4 TYPICAL SECTION A-A

LEGEND

- UNDER CONSTRUCTION
- REMOVAL OF EXISTING

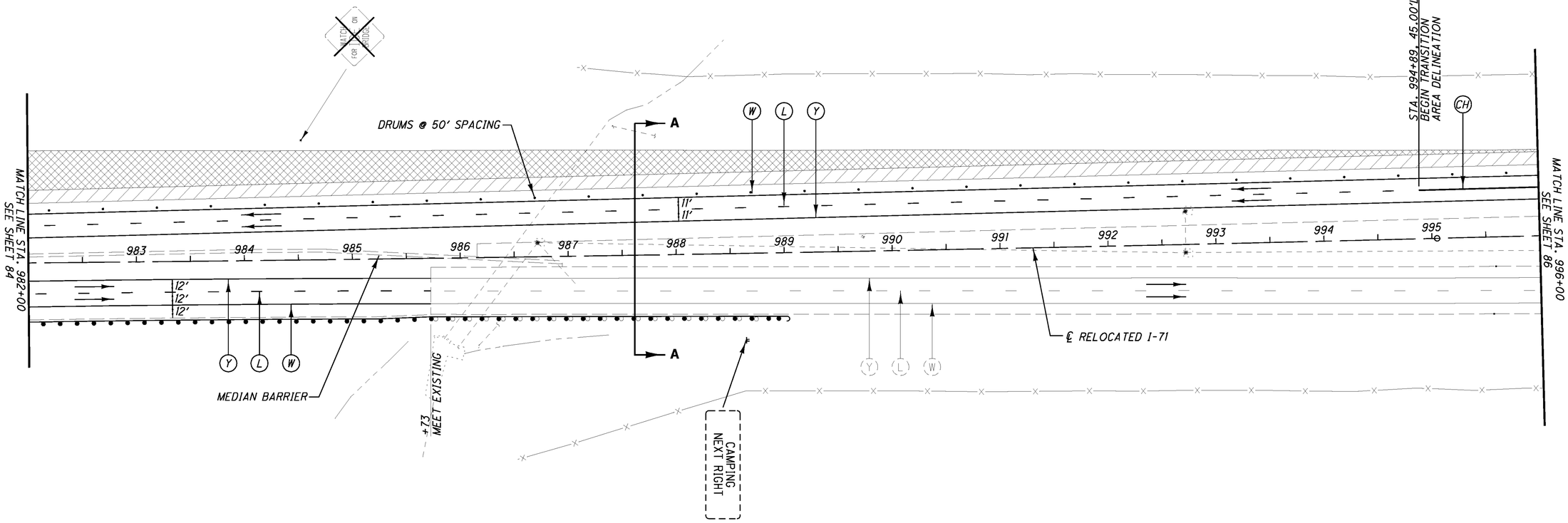
FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

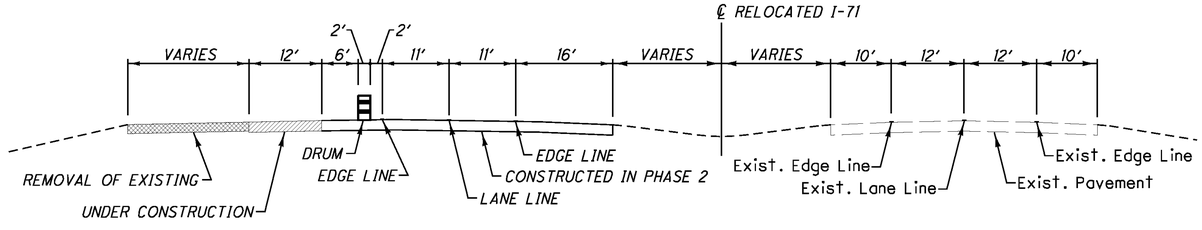
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 4
STA. 968+00 TO STA. 982+00

WAR-71-14.20





MAINTENANCE OF TRAFFIC - PHASE 4 TYPICAL SECTION A-A

LEGEND

- UNDER CONSTRUCTION
- REMOVAL OF EXISTING

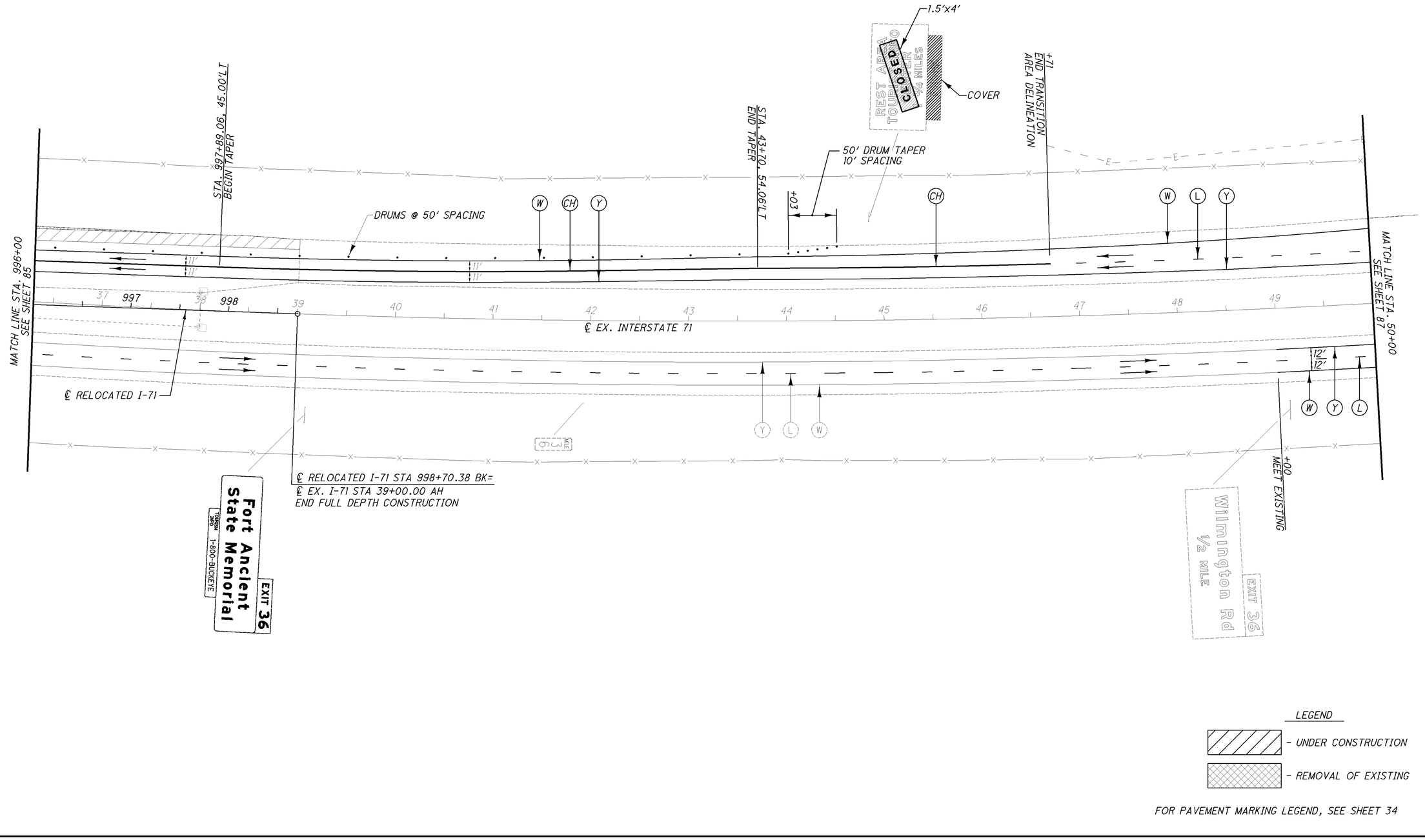
FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 4
STA. 982+00 TO STA. 996+00

WAR-71-14.20



FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

HORIZONTAL SCALE IN FEET
0 25 50 100

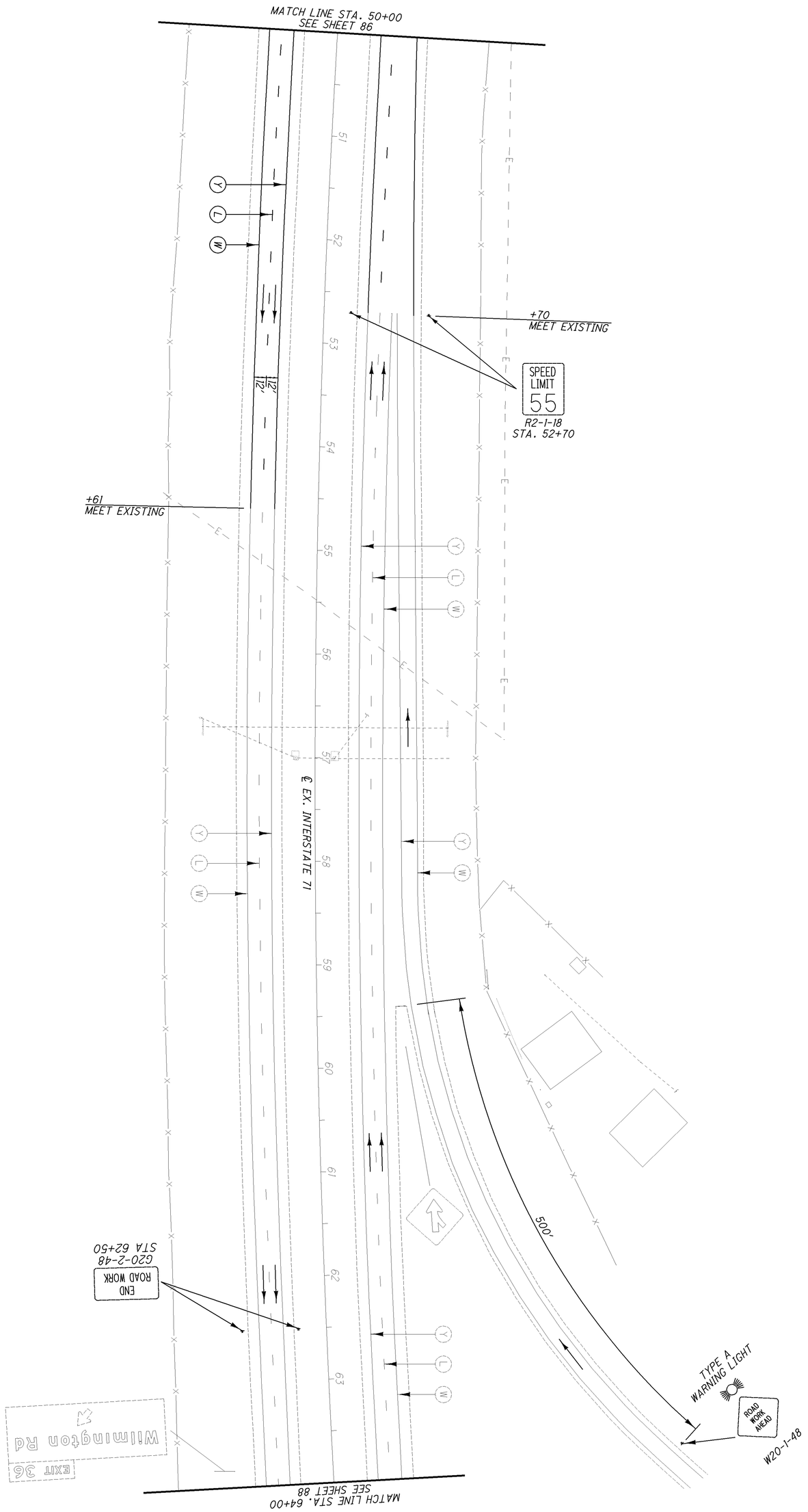
CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 4
STA. 996+00 TO STA. 50+00

WAR-71-14.20

86
470

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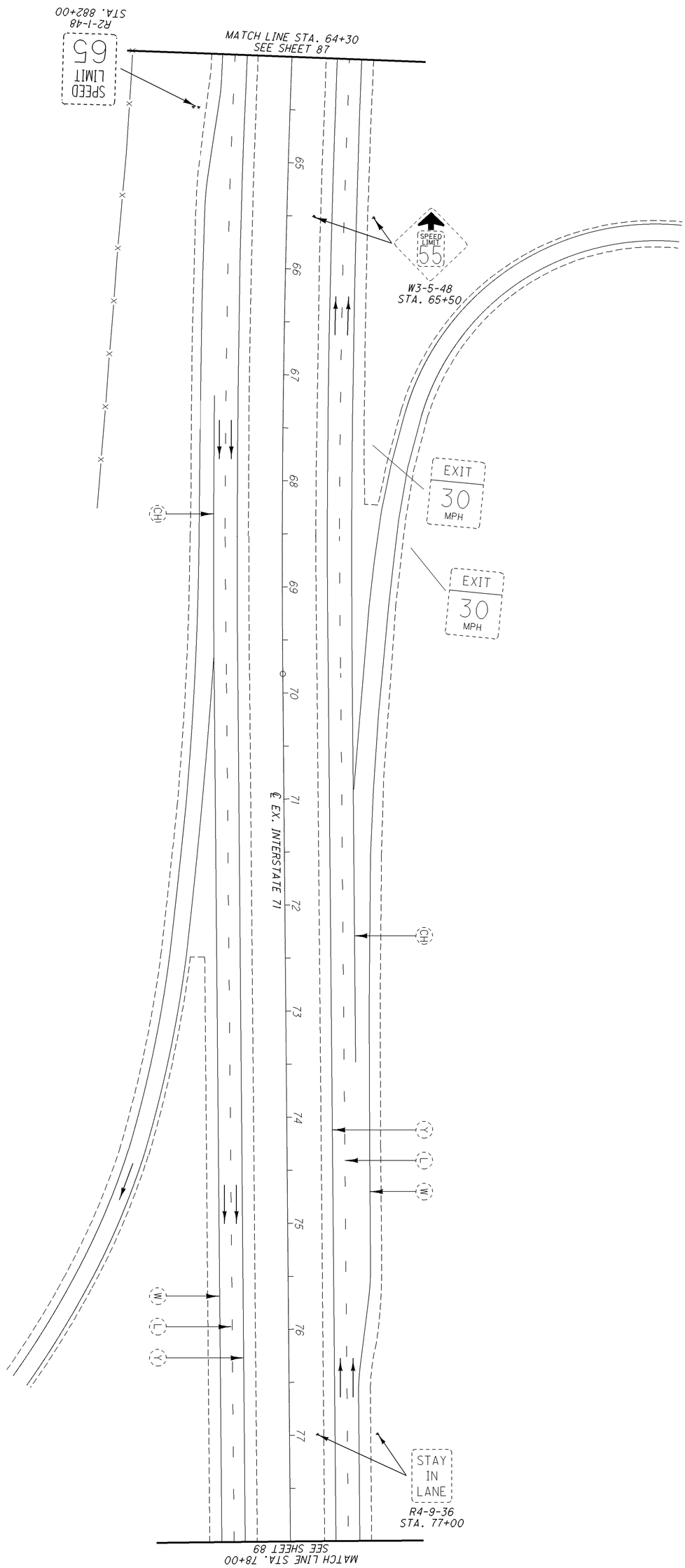


WAR-71-14.20

MAINTENANCE OF TRAFFIC - PHASE 4
STA. 50+00 TO STA. 64+00

CALCULATED TAM
CHECKED GKB

0 50
25 100
HORIZONTAL SCALE IN FEET



LEGEND

- UNDER CONSTRUCTION
- REMOVAL OF EXISTING

FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

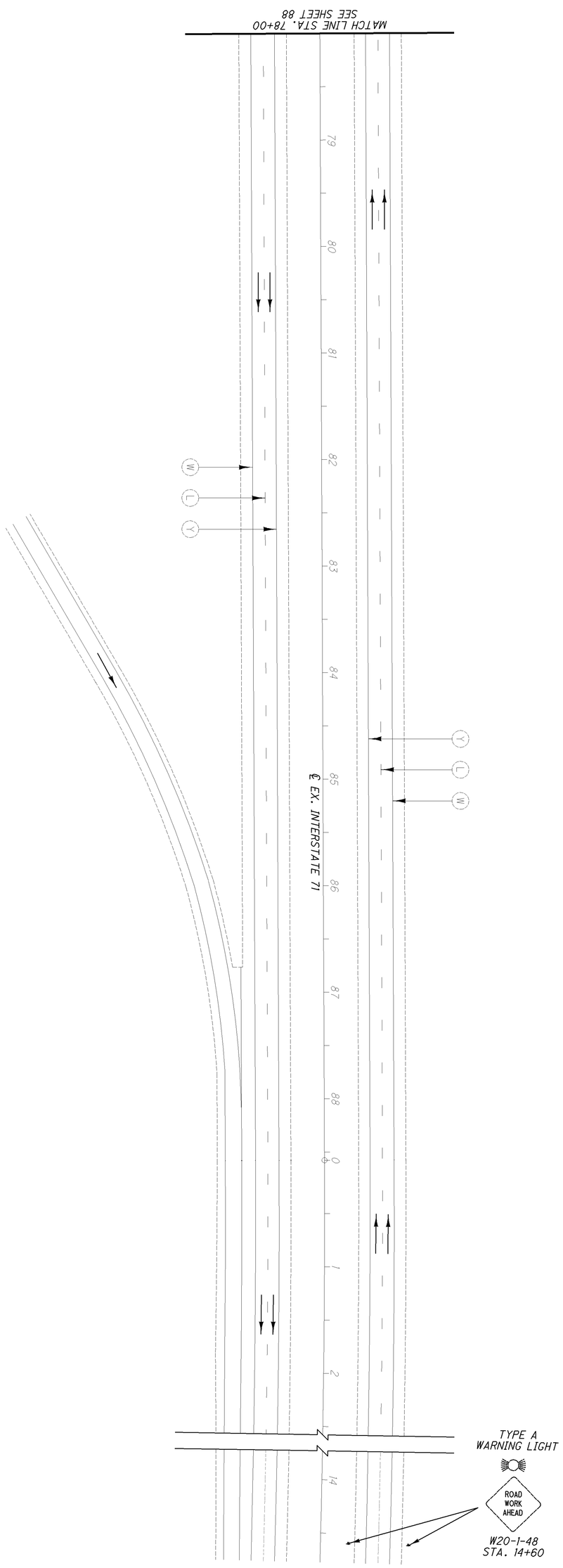
WAR-71-14.20

MAINTENANCE OF TRAFFIC - PHASE 4
STA. 64+00 TO STA. 78+00

CALCULATED TAM
CHECKED GKB

0 25 50 100
HORIZONTAL SCALE IN FEET

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LEGEND

- UNDER CONSTRUCTION

- REMOVAL OF EXISTING

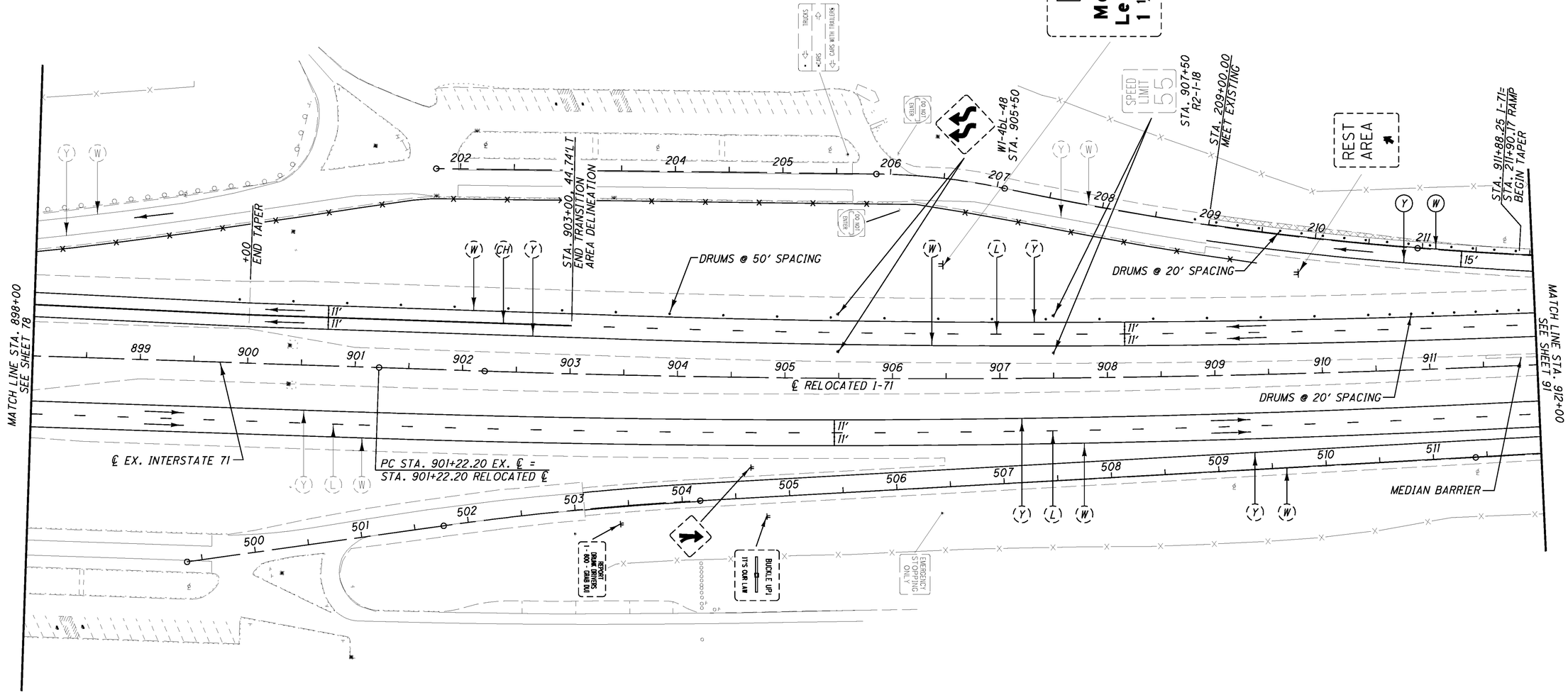
FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

WAR-71-14.20

MAINTENANCE OF TRAFFIC - PHASE 4
STA. 78+00 TO STA. 3+75

CALCULATED TAM
CHECKED GKB

0 50
25 100
HORIZONTAL SCALE IN FEET



LEGEND

- UNDER CONSTRUCTION
- REMOVAL OF EXISTING

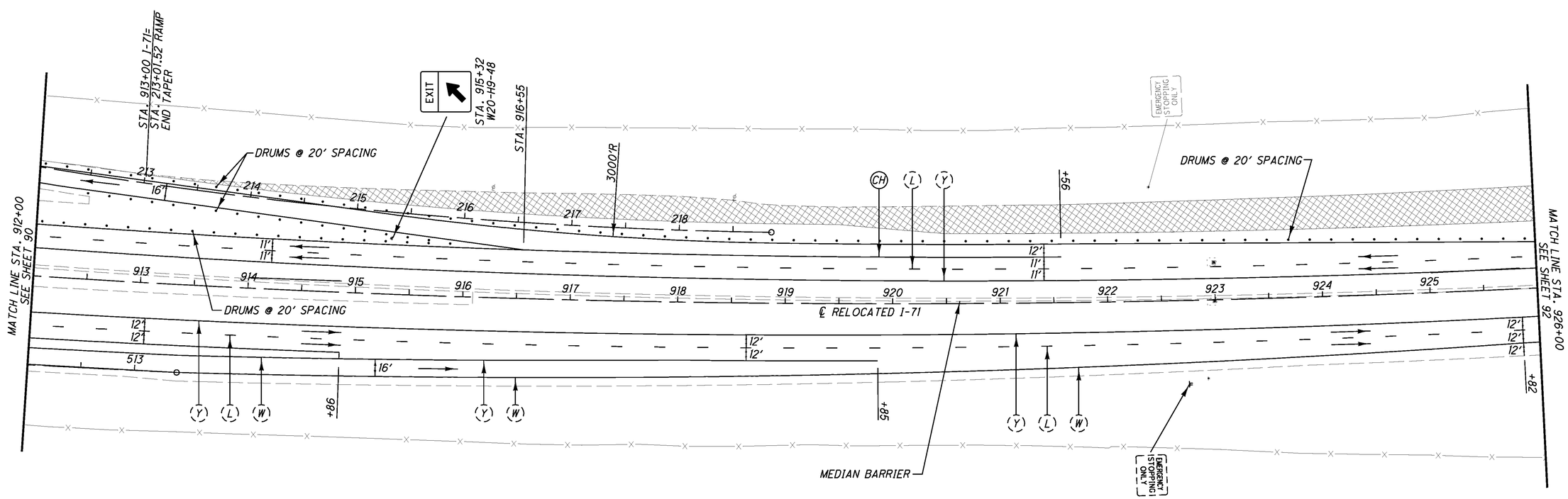
FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 4A
STA. 898+00 TO STA. 912+00

WAR-71-14.20



LEGEND

- UNDER CONSTRUCTION
- REMOVAL OF EXISTING

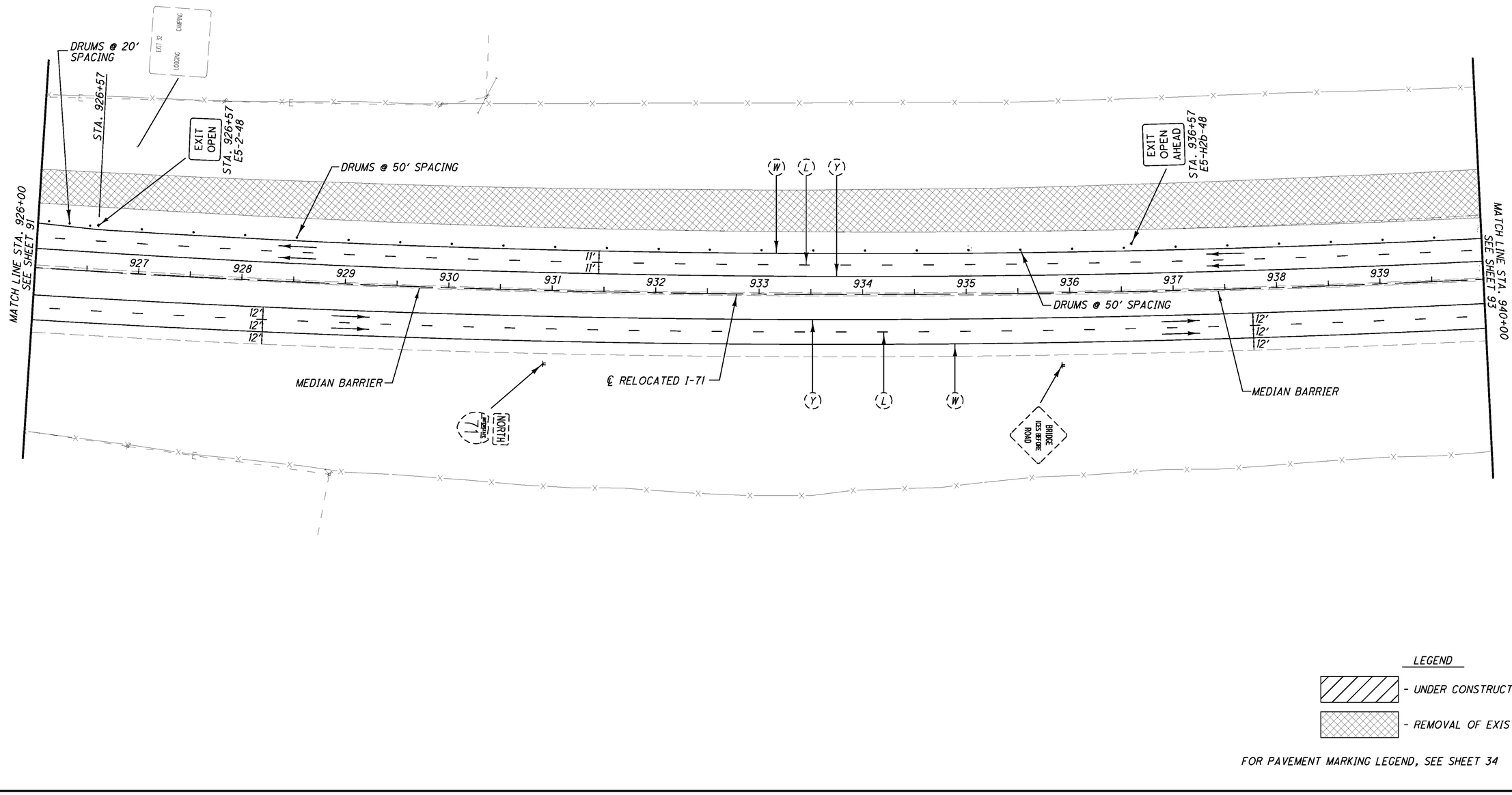
FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

HORIZONTAL SCALE IN FEET

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 4A
STA. 912+00 TO STA. 926+00

WAR-71-14.20



LEGEND

- UNDER CONSTRUCTION
- REMOVAL OF EXISTING

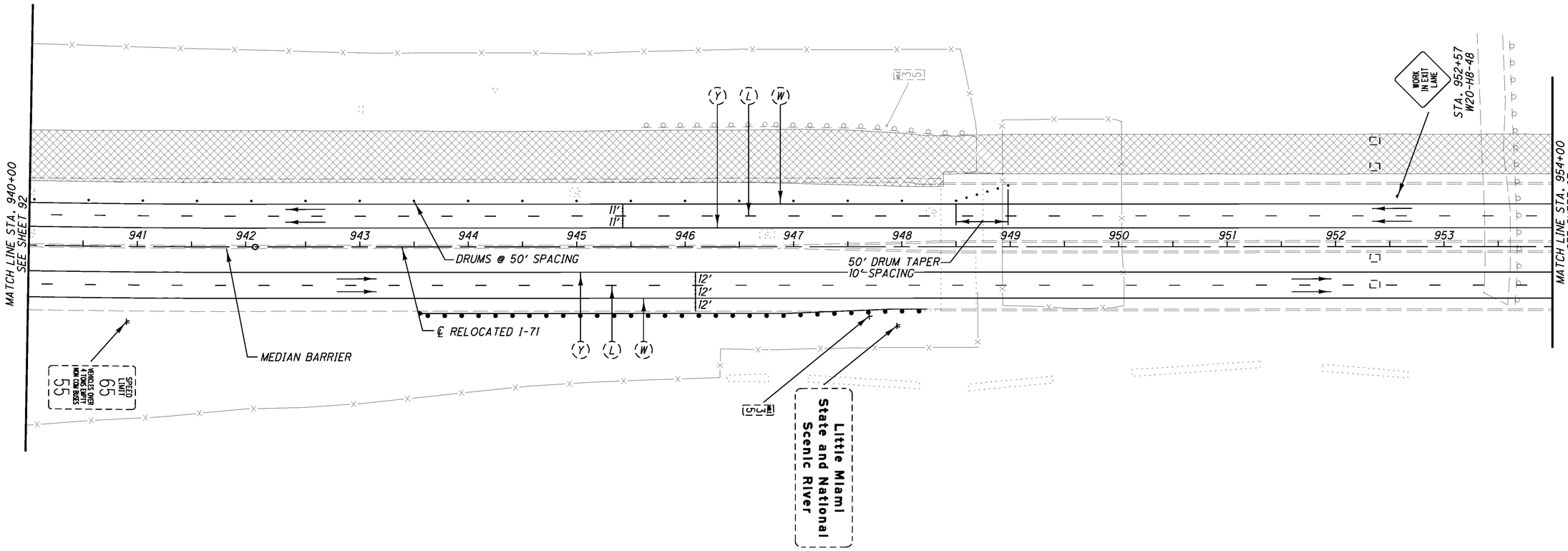
FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 4A
STA. 926+00 TO STA. 940+00

WAR-71-14.20



LEGEND

- UNDER CONSTRUCTION
- REMOVAL OF EXISTING

FOR PAVEMENT MARKING LEGEND, SEE SHEET 34

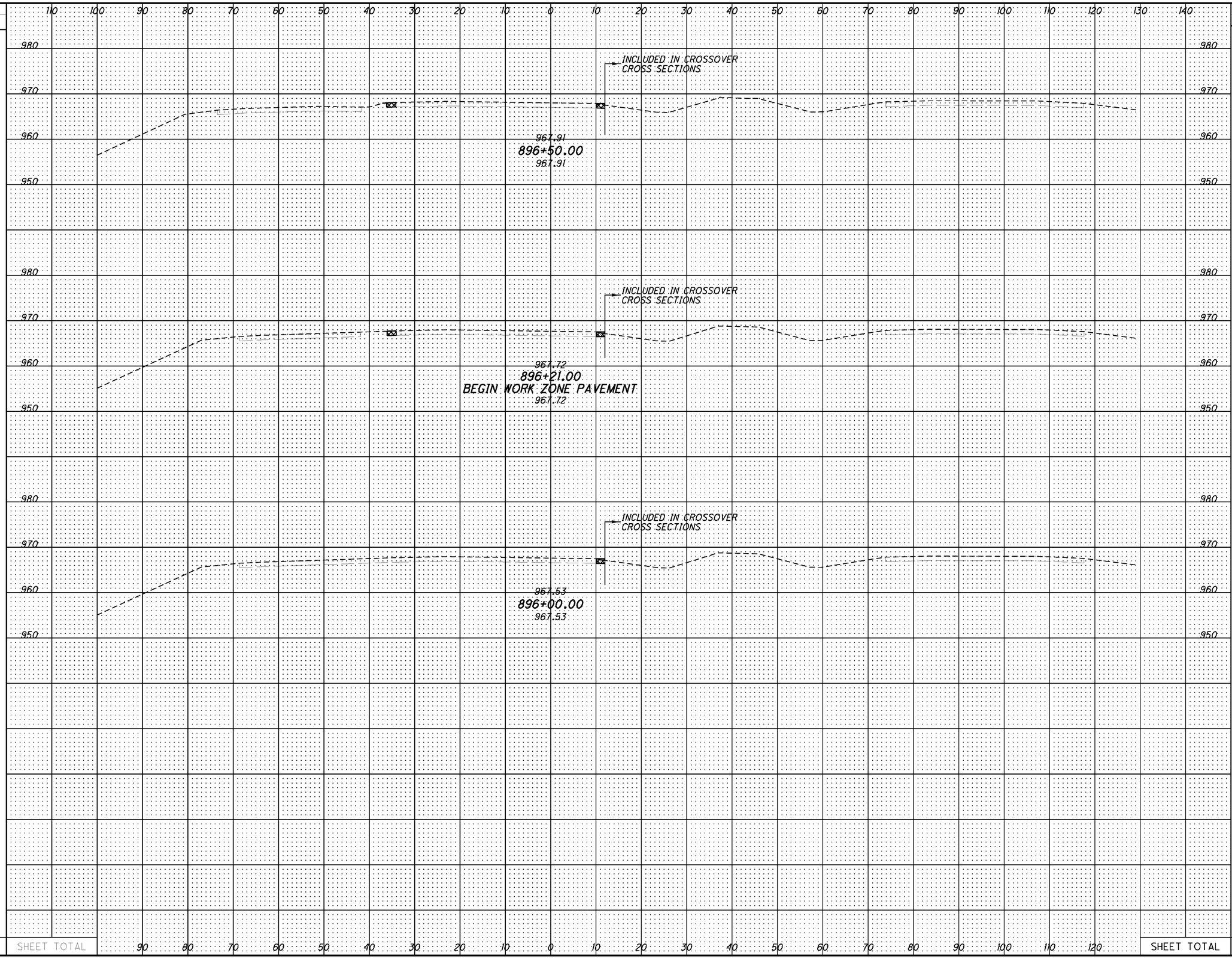
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC - PHASE 4A
STA. 940+00 TO STA. 954+00

WAR-71-14.20

SEEDING	
END WIDTH	SQ. YDS.



	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
	1	0	4	1
	2	0	2	0
SHEET TOTAL			6	1

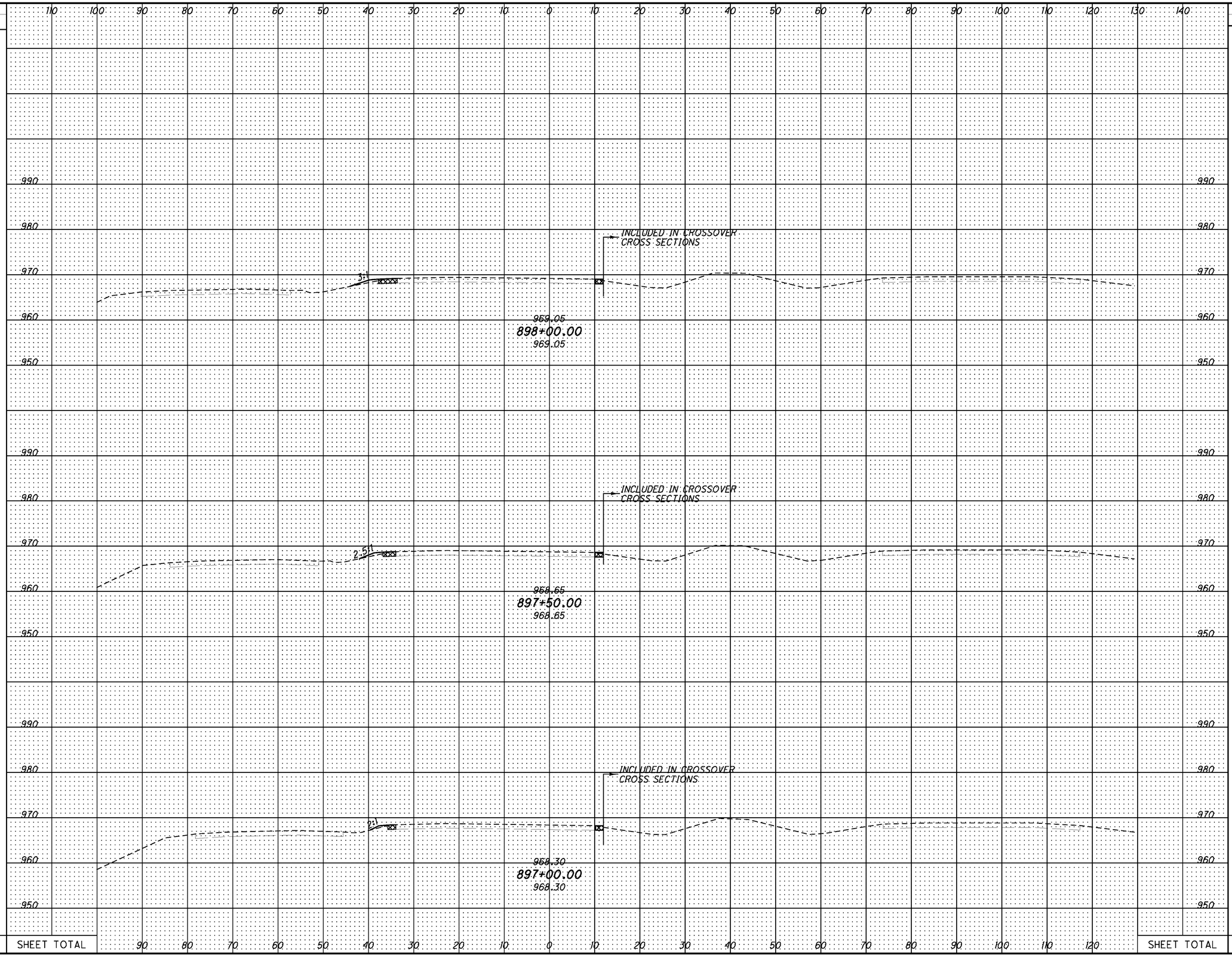
CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC CROSS SECTIONS
STA. 896+00.00 TO STA. 896+50.00

WAR-71-14.20

94
470

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
		6	2	11	8
		4	2	10	4
		3	1	7	3
SHEET TOTAL				28	15
				SHEET TOTAL	



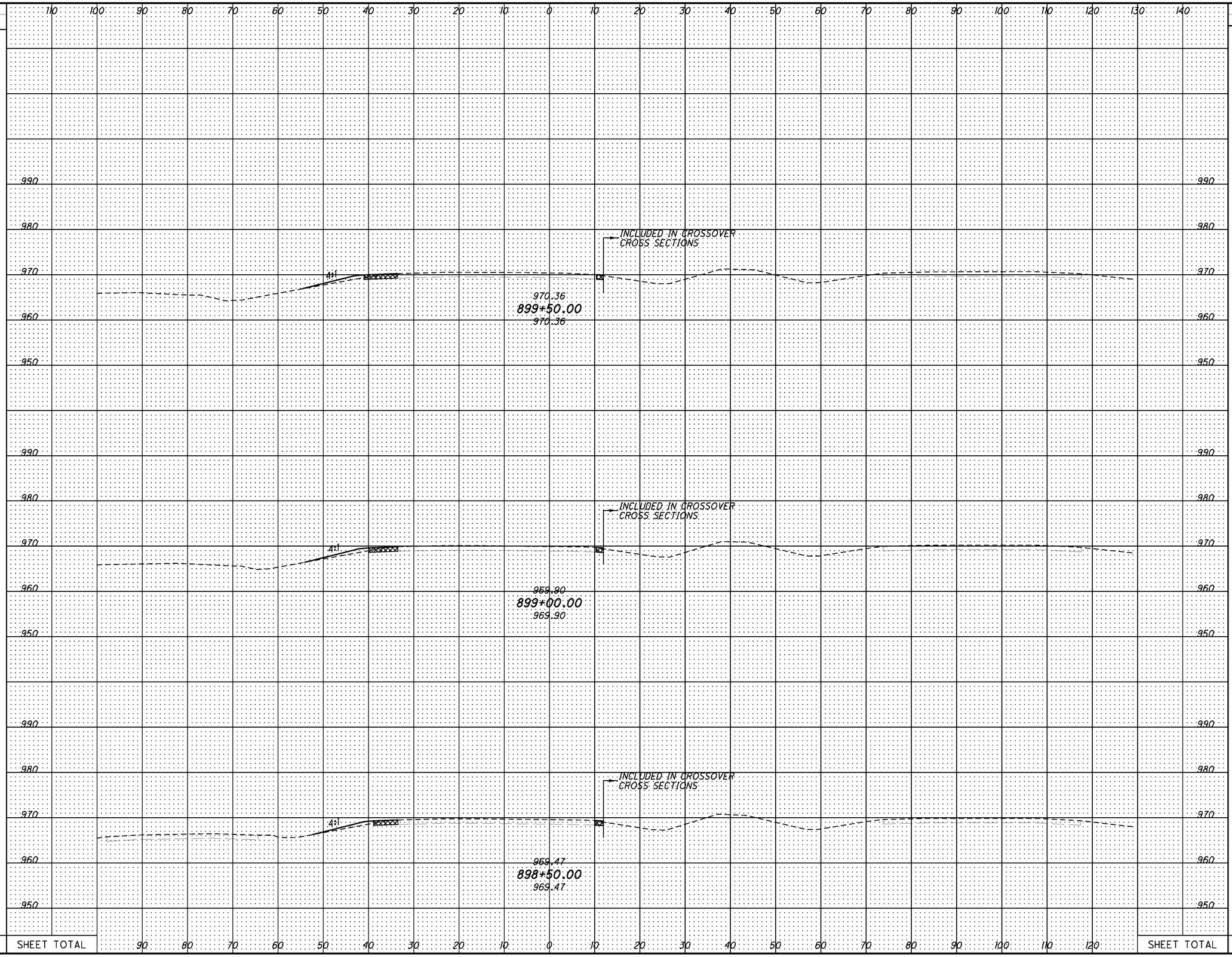
CALCULATED TAM

DRAWN GKB

MAINTENANCE OF TRAFFIC CROSS SECTIONS STA. 897+00.00 TO STA. 898+00.00

WAR-71-14.20

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
				12	15
		7	7		
				13	13
		7	7		
				12	12
		6	6		
SHEET TOTAL				37	40



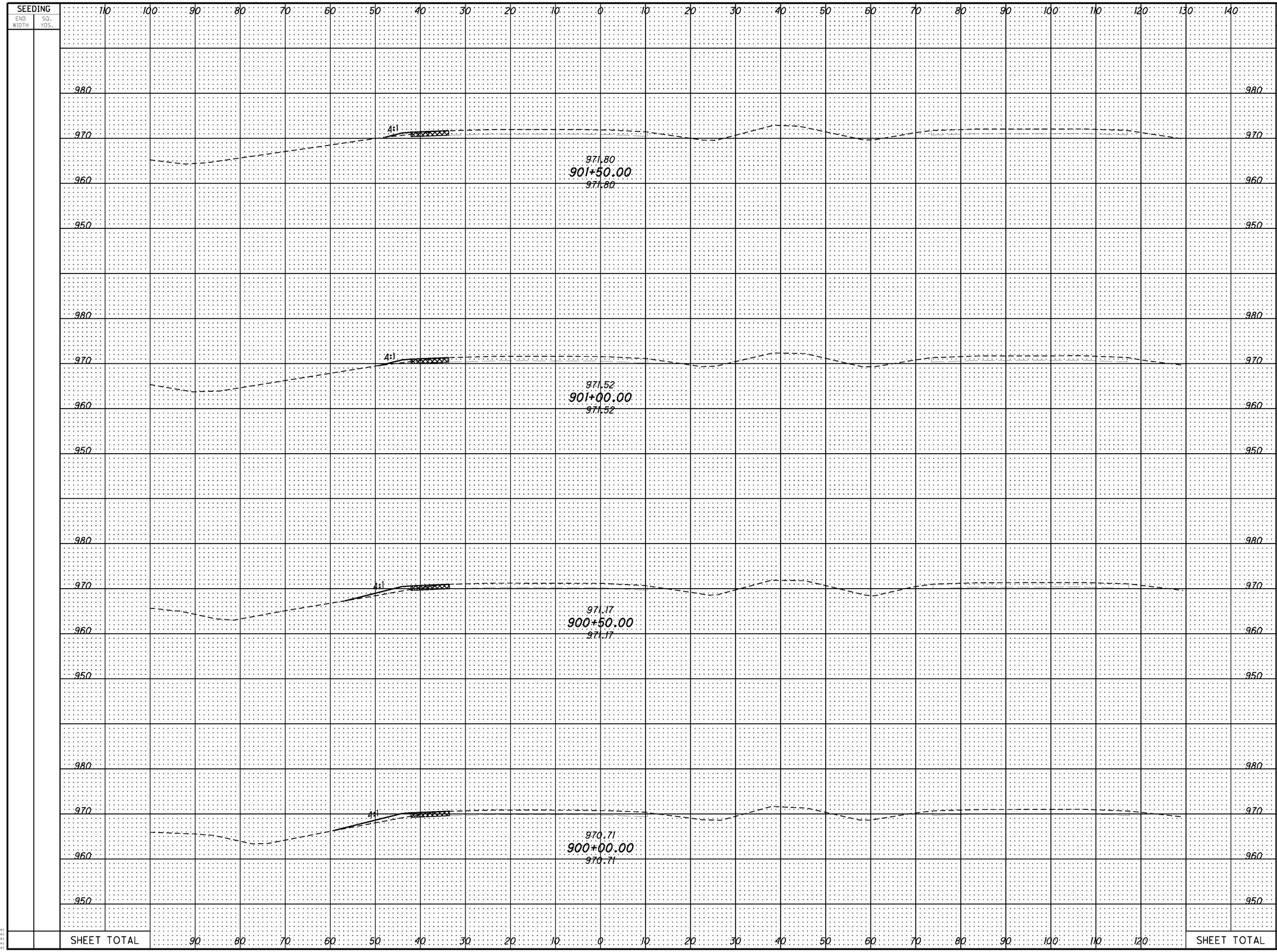
CALCULATED TAM

DRAWN GKB

MAINTENANCE OF TRAFFIC CROSS SECTIONS STA. 898+50.00 TO STA. 899+50.00

WAR-71-14.20

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
		7	2	13	4
				13	5
		7	3		
				12	10
		6	8		
				11	16
		6	9		
SHEET TOTAL				49	35



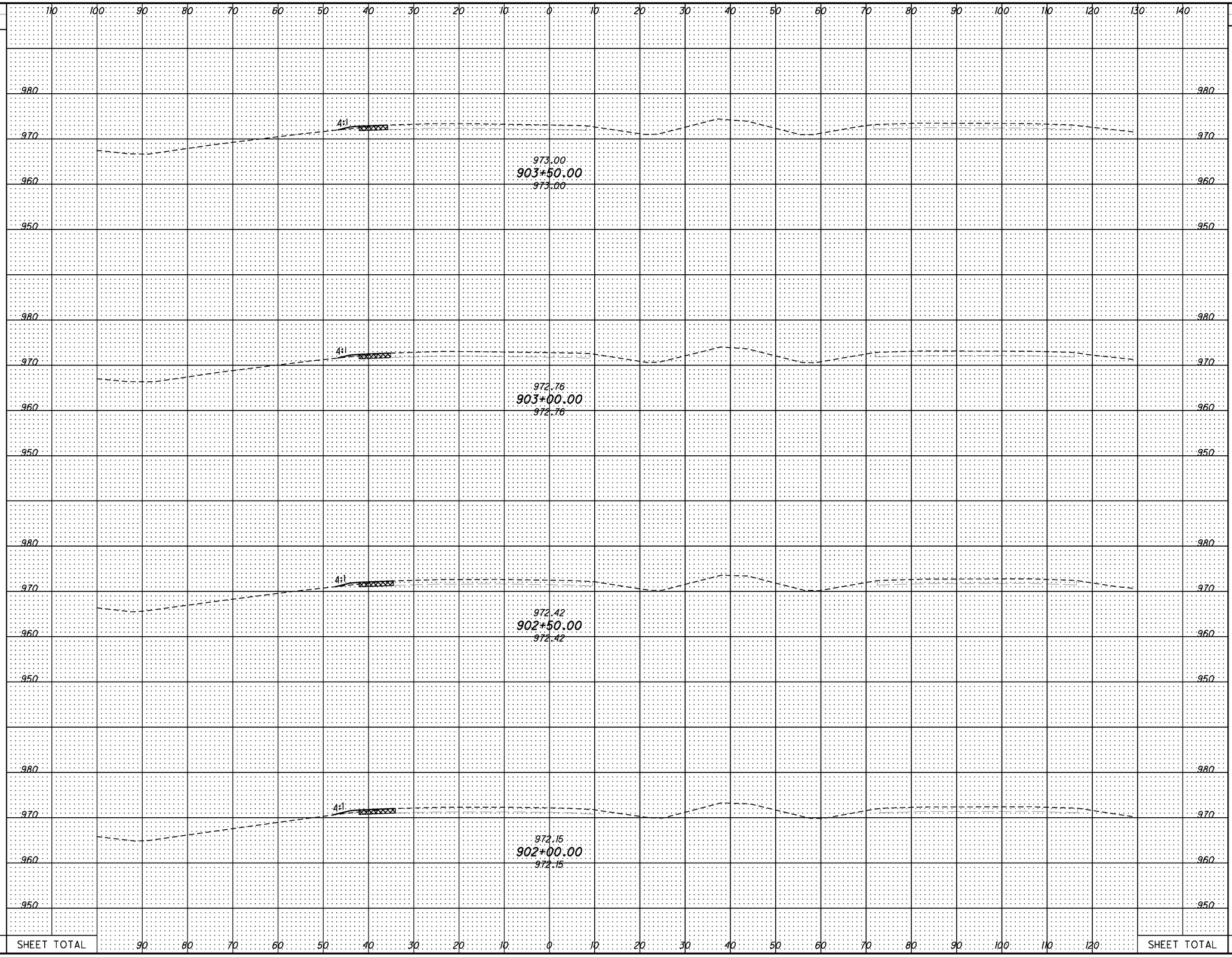
CALCULATED TAM
DRAWN GKB

MAINTENANCE OF TRAFFIC CROSS SECTIONS STA. 900+00.00 TO STA. 901+50.00

WAR-71-14.20

97
470

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
				11	4
		6	2		
				11	4
		6	2		
				12	4
		7	2		
				13	4
		7	2		
SHEET TOTAL				47	16



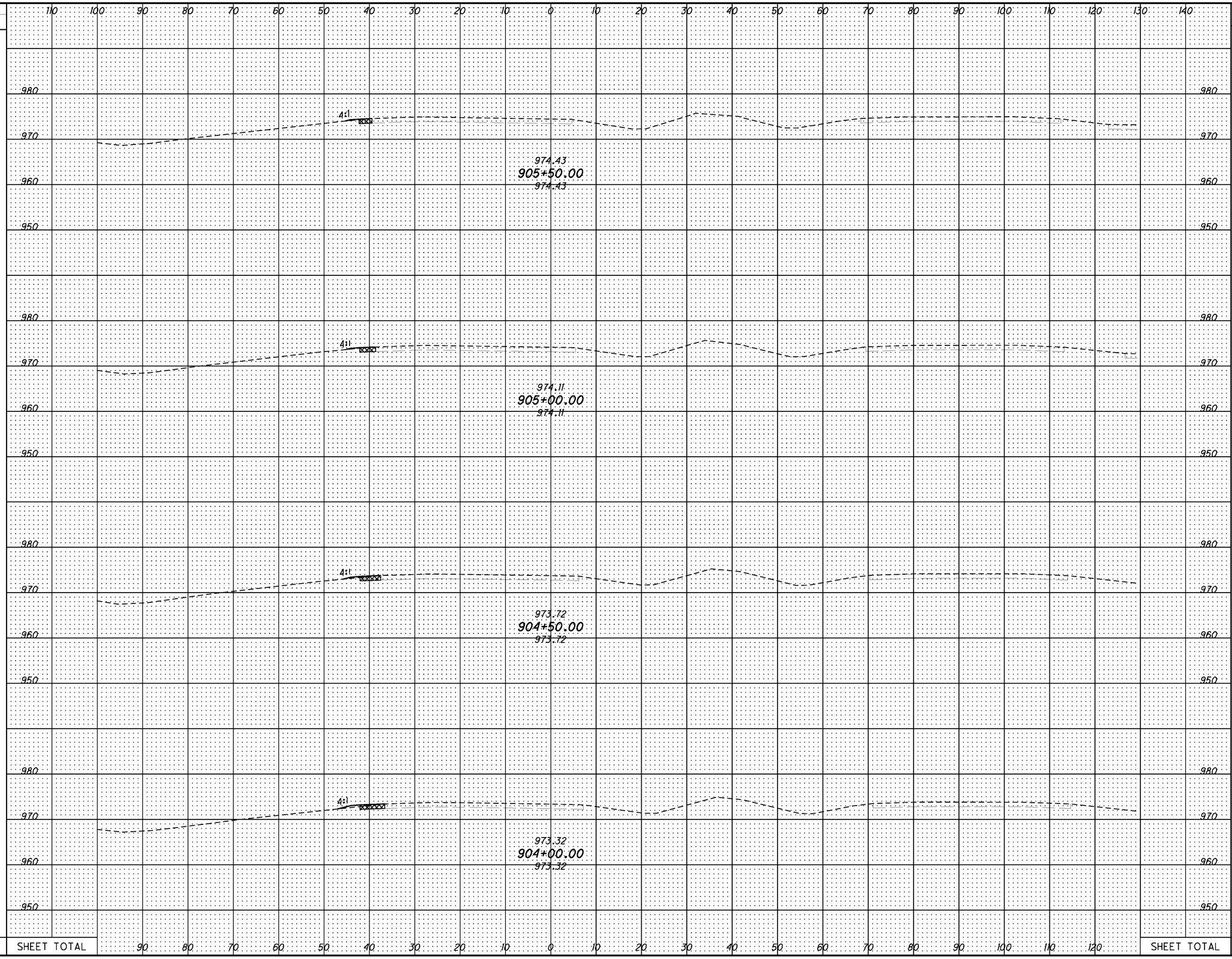
CALCULATED TAM

DRAWN GKB

MAINTENANCE OF TRAFFIC CROSS SECTIONS STA. 902+00.00 TO STA. 903+50.00

WAR-71-14.20

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
				5	2
		3	1		
				6	2
		4	1		
				8	2
		4	1		
				9	3
		5	2		
SHEET TOTAL				28	9



CALCULATED TAM

DRAWN GKB

MAINTENANCE OF TRAFFIC CROSS SECTIONS STA. 904+00.00 TO STA. 905+50.00

WAR-71-14.20

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
		2	1	4	2
		2	1	4	2
		2	1	4	2
		2	1	4	2
		2	1	4	2
SHEET TOTAL				20	10

CALCULATED TAM

DRAWN GKB

MAINTENANCE OF TRAFFIC CROSS SECTIONS STA. 906+00.00 TO STA. 908+00.00

WAR-71-14.20

100
470

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
		0	0		
				2	1
		2	1		
				4	2
		2	1		
				4	2
		2	1		
SHEET TOTAL				10	5

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC CROSS SECTIONS
STA. 908+50.00 TO STA. 909+50.00

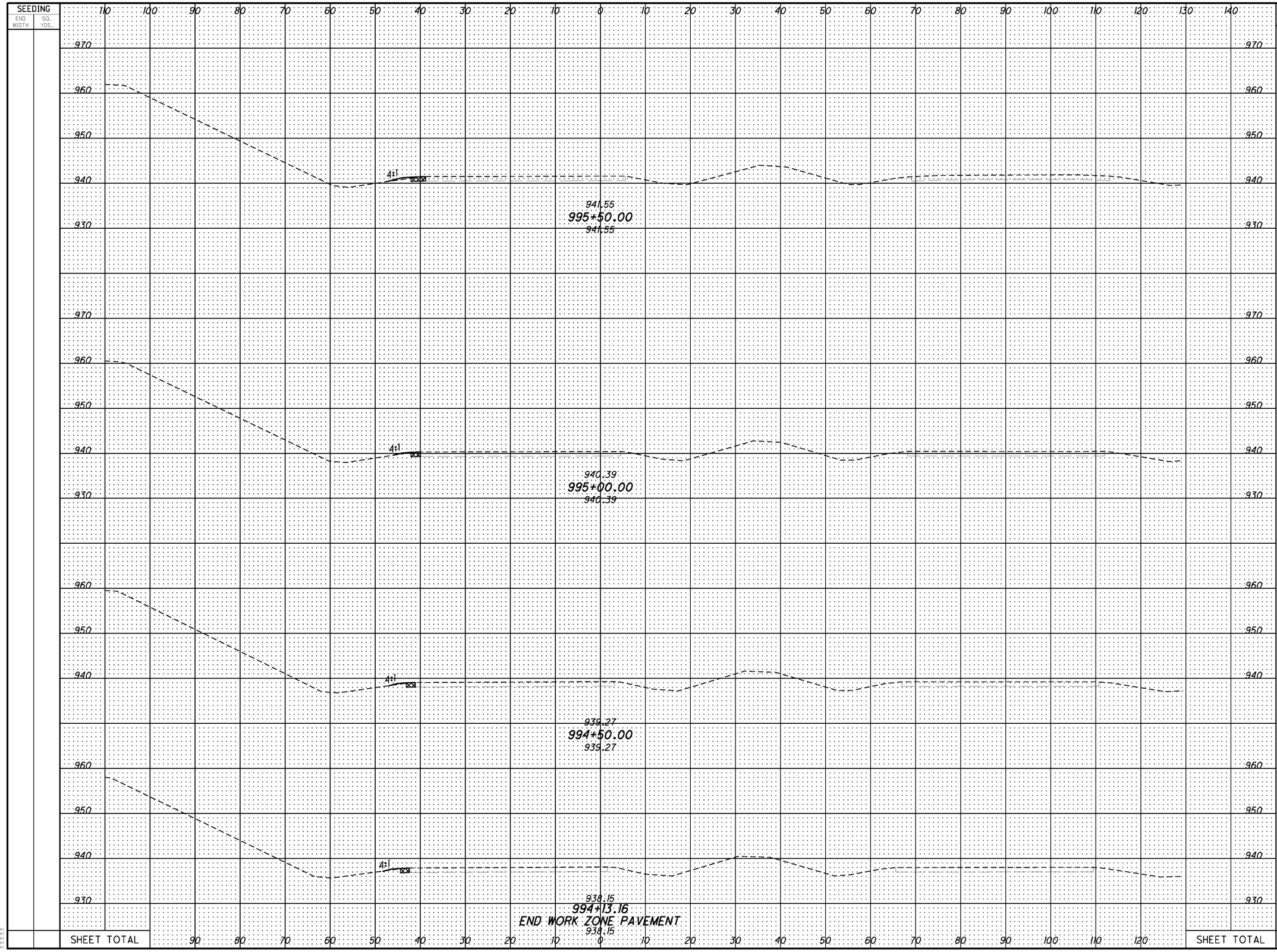
WAR-71-14.20

101
470

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
				7	3
		3	2		
				5	3
		2	1		
				4	2
		2	1		
				3	2
		2	1		
SHEET TOTAL				19	10

CALCULATED TAM

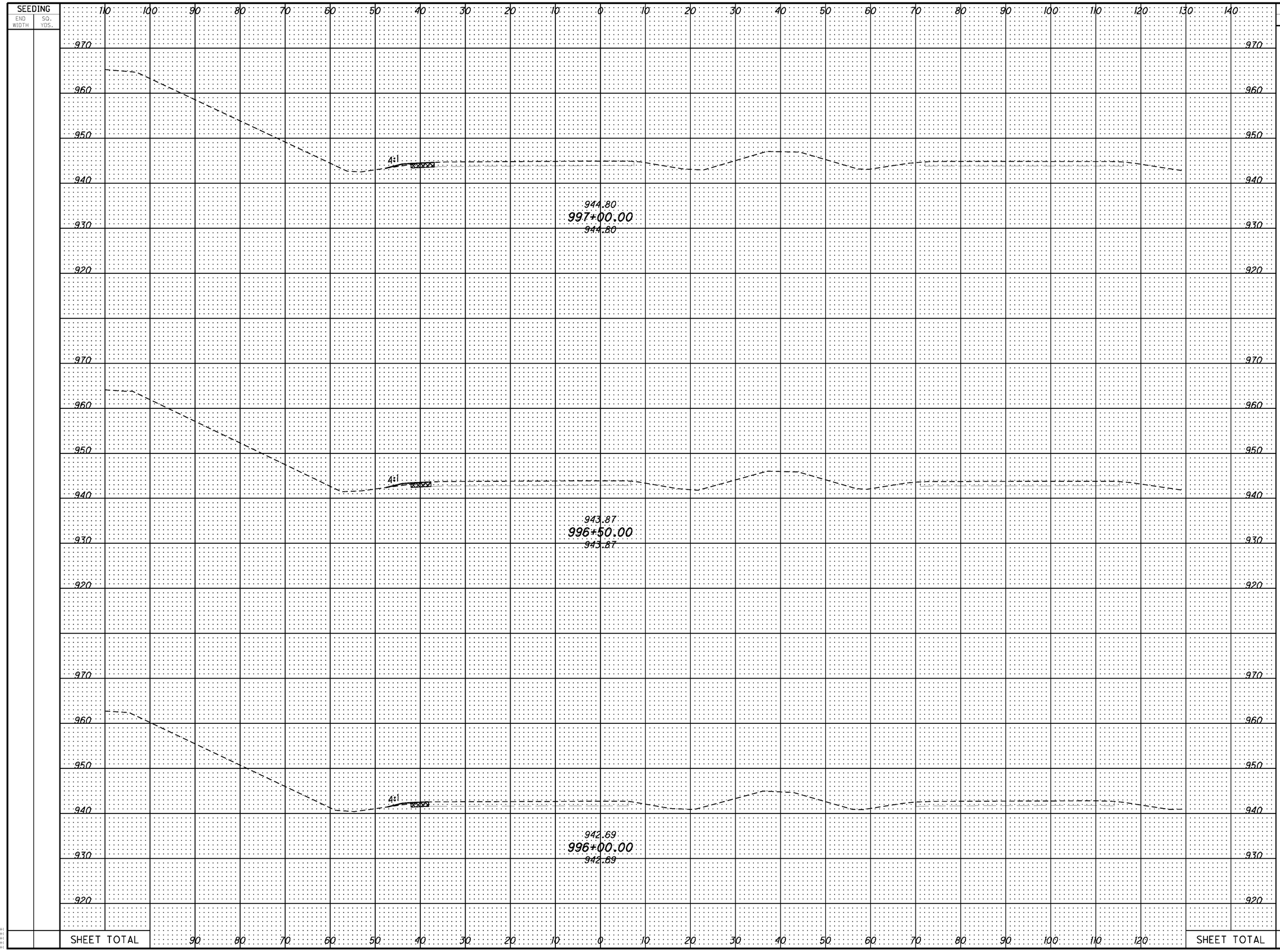
CHECKED GKB



MAINTENANCE OF TRAFFIC CROSS SECTIONS STA. 994+13.16 TO STA. 995+50.00

WAR-71-14.20

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
		5	2	11	4
				9	4
		4	2		
				8	3
		4	1		
SHEET TOTAL				2	11



CALCULATED TAM

CHECKED GKB

MAINTENANCE OF TRAFFIC CROSS SECTIONS STA. 996+00.00 TO 997+00.00

WAR-71-14.20

SEEDING		110	100	90	80	70	60	50	40	30	20	10	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	END AREA		VOLUME	
END WIDTH	SQ. YDS.																											CUT	FILL	CUT	FILL
																														11	6
																												6	3		
																														11	6
																												6	3		
																														11	5
																												6	2		
SHEET TOTAL																												SHEET TOTAL		33	17

970
960
950
940
930

4:1

947.75
998+50.00
947.75

946.83
998+00.00
946.83

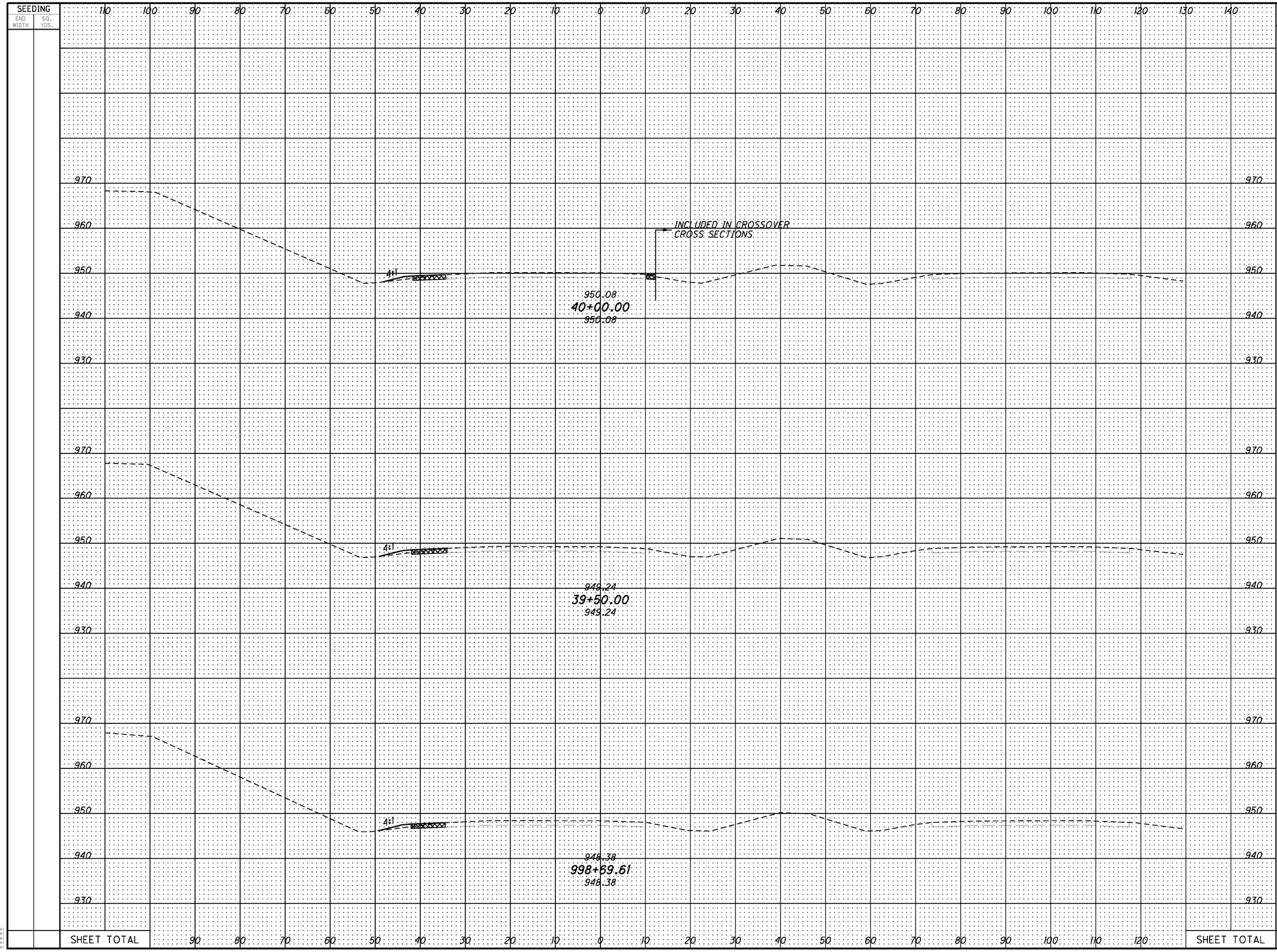
945.88
997+50.00
945.88

CALCULATED TAM
CHECKED GKB

MAINTENANCE OF TRAFFIC CROSS SECTIONS
STA. 997+50.00 TO 998+50.00

WAR-71-14.20

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
				13	6
		7	3		
				12	6
		6	3		
				11	6
		6	3		
SHEET TOTAL				36	18



CALCULATED TAM

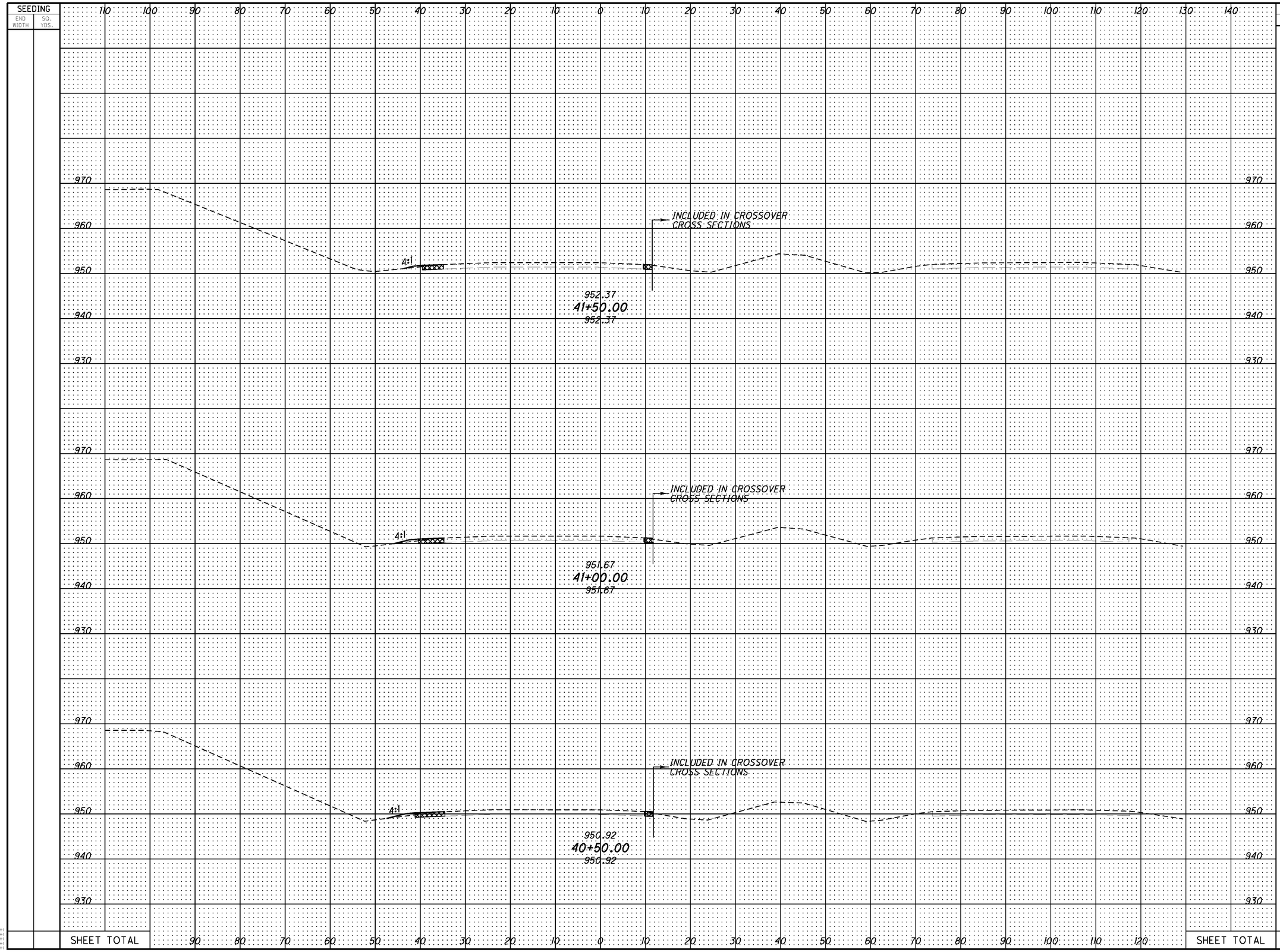
CHECKED GKB

PROFILE OF TRAFFIC CROSS SECTIONS
STA. 998+69.61 TO STA. 40+00.00

MAINTENANCE OF TRAFFIC

WAR-71-14.20

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
		6	1	11	2
		6	2	12	5
		7	3	11	3
SHEET TOTAL				34	10



CALCULATED TAM

CHECKED GKB

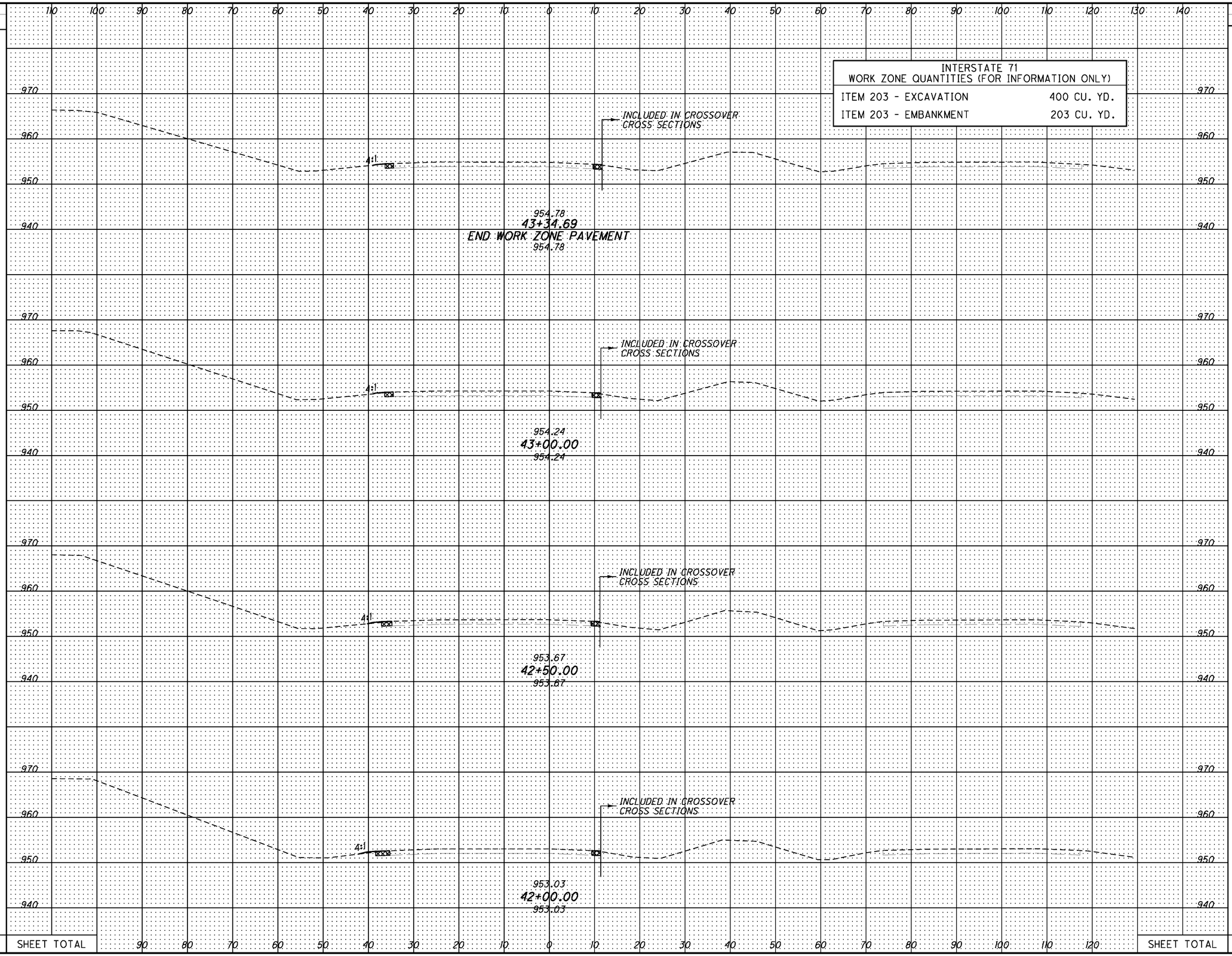
MAINTENANCE OF TRAFFIC CROSS SECTIONS STA. 40+50.00 TO STA. 41+50.00

WAR-71-14.20

110
470

SEEDING	
END WIDTH	SQ. YDS.

INTERSTATE 71 WORK ZONE QUANTITIES (FOR INFORMATION ONLY)	
ITEM 203 - EXCAVATION	400 CU. YD.
ITEM 203 - EMBANKMENT	203 CU. YD.



END AREA		VOLUME	
CUT	FILL	CUT	FILL
4	1		
4	1	8	2
4	1	9	2
5	1		
		25	6

CALCULATED TAM

CHECKED GKB

MAINTENANCE OF TRAFFIC CROSS SECTIONS
STA. 42+00.00 TO STA. 43+00.00

WAR-71-14.20

CALCS.	SHEET NUMBER												ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
	10	10A	112C	112D	112F	112G	112H	1121	112J	112K	112L	113A						
																	ROADWAY	
	LUMP												201	11000	LUMP		CLEARING AND GRUBBING	
76372													202	23000	76372	SQ YD	PAVEMENT REMOVED	
			93										202	32700	93	SQ YD	GUTTER REMOVED	
			2980										202	35100	2980	FT	PIPE REMOVED, 24" AND UNDER	
			2578										202	38000	2578	FT	GUARDRAIL REMOVED	
			21										202	58100	21	EACH	CATCH BASIN REMOVED	
			4153										202	75000	4153	FT	FENCE REMOVED	
				76695									203	10000	76695	CU YD	EXCAVATION	
				9751									203	20000	9751	CU YD	EMBANKMENT	
105060													206	10000	105060	SQ YD	LIME STABILIZED SUBGRADE, 12" DEEP	
2604													206	10300	2604	TON	LIME	
105060													206	11001	105060	SQ YD	CURING COAT, AS PER PLAN	
													206	30000	LUMP		CONTRACTOR DESIGNED CHEMICALLY STABILIZED SUBGRADE	
					2768.75								606	13000	2768.75	FT	GUARDRAIL, TYPE 5	10B
					1								606	22000	1	EACH	ANCHOR ASSEMBLY, TYPE B-98	
					1								606	22010	1	EACH	ANCHOR ASSEMBLY, TYPE E-98	
					1								606	26500	1	EACH	ANCHOR ASSEMBLY, TYPE T	
					2								606	35000	2	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
					1								606	35100	1	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 2	
					3673								607	15000	3673	FT	FENCE, TYPE 47	
					92								609	24510	92	FT	CURB, TYPE 4-C	
					271								622	10100	271	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE B1	
					4403								622	10140	4403	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE C1	
					610								622	10160	610	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE D	
													622	24850	2	EACH	CONCRETE BARRIER, END SECTION, TYPE B1	
													622	25006	10	EACH	CONCRETE BARRIER END ANCHORAGE, REINFORCED, TYPE B1	
													622	25014	14	EACH	CONCRETE BARRIER END ANCHORAGE, REINFORCED, TYPE C1	
													622	25052	20	EACH	CONCRETE BARRIER END ANCHORAGE, REINFORCED, TYPE D	
													SPECIAL	69098400	LUMP		MISC.: CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION	10B
													878	25000	LUMP		INSPECTION AND COMPACTION TESTING OF UNBOUND MATERIALS	
																	EROSION CONTROL	
		3					2						601	32200	5	CU YD	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	
						131							601	32300	131	CU YD	ROCK CHANNEL PROTECTION, TYPE D WITH FILTER	
		4											659	00100	4	EACH	SOIL ANALYSIS TEST	
		12900											659	00300	12900	CU YD	TOPSOIL	
				109182									659	10000	109182	SQ YD	SEEDING AND MULCHING	
		5690											659	14000	5690	SQ YD	REPAIR SEEDING AND MULCHING	
		5690											659	15000	5690	SQ YD	INTER-SEEDING	
		16.2											659	20000	16.2	TON	COMMERCIAL FERTILIZER	
		24.01											659	31000	24.01	ACRE	LIME	
		0.7											659	35000	0.7	M GAL	WATER	
		0.26											659	40000	0.26	M SQ FT	MOWING	
						1356							660	25000	1356	SQ YD	SODDING STAKED	
						6930							670	00700	6930	SQ YD	DITCH EROSION PROTECTION	
												LUMP	832	15000	LUMP		STORM WATER POLLUTION PREVENTION PLAN	
												300000	832	30000	300000	EACH	EROSION CONTROL	
						79							836	10000	79	SQ YD	SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1	
																	DRAINAGE	
							2.9						602	20000	2.9	CU YD	CONCRETE MASONRY	
								647	581	454	341		603	00510	2023	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	
		50											603	00900	50	FT	6" CONDUIT, TYPE B	
		50											603	01400	50	FT	6" CONDUIT, TYPE E	
		50											603	01500	50	FT	6" CONDUIT, TYPE F	

CALCULATED KOD
CHECKED RWK

GENERAL SUMMARY

WAR-71-14.20

112
470

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CALCS.	SHEET NUMBER													ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
	10A	112H	112I	112J	112K	112L	11	12	12A	14B	14C	14D	14E						
																		DRAINAGE (CONTINUED).	
		1338												603	04400	1338	FT	12" CONDUIT, TYPE B	
		1917												603	05900	1917	FT	15" CONDUIT, TYPE B	
		870												603	06100	870	FT	15" CONDUIT, TYPE C	
		205												603	07400	205	FT	18" CONDUIT, TYPE B	
		45												603	08900	45	FT	21" CONDUIT, TYPE B	
		59												603	10600	59	FT	24" CONDUIT, TYPE C	
		90												603	96600	90	FT	CONDUIT, BORED OR JACKED: TYPE B 12"	
		248												603	97010	248	FT	12" SLOTTED DRAIN, TYPE 2	
		3												604	00800	3	EACH	CATCH BASIN, NO. 3A	
		5												604	01200	5	EACH	CATCH BASIN, NO. 4	
		3												604	01600	3	EACH	CATCH BASIN, NO. 5	
		2												604	02400	2	EACH	CATCH BASIN, NO. 7	
		1												604	02800	1	EACH	CATCH BASIN, NO. 8	
		2												604	10101	2	EACH	INLET, SIDE DITCH, AS PER PLAN	11
		3												604	20514	3	EACH	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE B1	
		6												604	20524	6	EACH	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE C1	
		7												604	20530	7	EACH	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE D	
			7	8	3	4								604	36600	22	EACH	PRECAST REINFORCED CONCRETE OUTLET	
			9693	10131	3605	7951								605	11100	31380	FT	6" SHALLOW PIPE UNDERDRAINS	
			702		260	50								605	13300	1012	FT	6" UNCLASSIFIED PIPE UNDERDRAINS	
			8114	9067	2028	6429								605	14000	25638	FT	6" BASE PIPE UNDERDRAINS	
									20					613	41300	20	CU YD	LOW STRENGTH MORTAR BACKFILL, TYPE 2	
	260													835	10010	260	FT	EXFILTRATION TRENCH, TYPE B	
	8													835	10020	8	FT	EXFILTRATION TRENCH, TYPE C	
																		PAVEMENT	
							2150		23910					254	01000	26060	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE	
31998														302	46000	31998	CU YD	ASPHALT CONCRETE BASE, PG 64-22	
17403														304	20000	17403	CU YD	AGGREGATE BASE	
7591														407	14000	7591	GAL	TACK COAT FOR INTERMEDIATE COURSE	
4145									997					442	10000	5142	CU YD	ASPHALT CONCRETE SURFACE COURSE, 12.5mm, TYPE A (446)	
4921														442	10100	4921	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, 19mm, TYPE A (446)	
							105							448	47020	105	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22	
									7					448	47050	7	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 2, PG64-22	
28039														618	40100	28039	FT	RUMBLE STRIPS, (ASPHALT CONCRETE)	
																		FOR TRAFFIC CONTROL GENERAL SUMMARY	258
																		FOR WAR-71-1514 L/R	275, 276
																		MAINTENANCE OF TRAFFIC	
							1000							251	01000	1000	SQ YD	PARTIAL DEPTH PAVEMENT REPAIR	11
							500							519	12300	500	SQ YD	SPECIAL - PATCHING CONCRETE BRIDGE DECK - TYPE B	11
									800					614	11110	800	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
										2	2			614	12336	4	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	
								4						614	12410	4	EACH	SPEED ZONE AHEAD SYMBOL SIGN	
								14						614	12470	14	EACH	WORK ZONE SPEED LIMIT SIGN	
							11							614	12484	11	EACH	WORK ZONE INCREASED PENALTIES SIGN	
								20						614	12500	20	EACH	REPLACEMENT SIGN	
								200						614	12600	200	EACH	REPLACEMENT DRUM	
								2						614	12756	2	EACH	WORK ZONE CROSSOVER LIGHTING SYSTEM	
									100	420	689	432		614	12800	1641	EACH	WORK ZONE RAISED PAVEMENT MARKER	
							245							614	13300	245	EACH	BARRIER REFLECTOR, TYPE B	
							245	264						614	13350	509	EACH	OBJECT MARKER, ONE WAY	
													15	614	18000	15	EACH	MAINTAINING TRAFFIC, MISC.: CONSTRUCTION ACCESS POINTS	
								1143						614	18030	1143	FT	MAINTAINING TRAFFIC, MISC.: TEMPORARY CHAIN LINK FENCE	
									5.37	1.46	1.27	2.64		614	20000	10.74	MILE	WORK ZONE LANE LINE, CLASS I	
									1.63		0.44	1.19		614	20200	3.26	MILE	WORK ZONE LANE LINE, CLASS I, 740.06, TYPE I	
									10.96	2.79	1.7	6.45		614	22000	21.92	MILE	WORK ZONE EDGE LINE, CLASS I	
									6.9	0.82	3.19	2.89		614	22200	13.80	MILE	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I	
									6355	2660	2514	1181		614	23000	12710	FT	WORK ZONE CHANNELIZING LINE, CLASS I	

ENGINEERS SEAL:
FOR REVISIONS MADE
ON 2/26/10 ONLY

STATE OF OHIO
STEFAN
C.
SPINOSA
E-58950
REGISTERED
PROFESSIONAL ENGINEER

SIGNED:
DATE: 2/26/10

REV. BY	DATE	DESCRIPTION
CWW	2/26/10	ADDED PAVEMENT REPAIR ITEMS
CWW	2/26/10	REMOVED WARRANTY PAVEMENT
CWW	2/26/10	ADDED CONVENTIONAL PAVEMENT ITEMS
CWW	4/22/10	REVISED M.O.T. QUANTITIES.
CWW	4/27/10	ADDED M.O.T. PAY ITEMS

CALCULATED KOD
CHECKED RWK

GENERAL SUMMARY

WAR-71-14.20

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CALCS.	SHEET NUMBER											ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
	11	12A	14B	14C	14D												
																MAINTENANCE OF TRAFFIC (CONTINUED)	
	250											614	18400	250	DAY	PORTABLE CHANGEABLE MESSAGE SIGN	
		6386	2470	1935	1981							614	23400	12772	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 740.06, TYPE I	
												615	10000	LUMP		ROADS FOR MAINTAINING TRAFFIC	
			5804									615	35001	5804	SQ YD	PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN	11
	50											616	10000	50	M GAL	WATER	
			1030	4700								622	40020	5730	FT	PORTABLE CONCRETE BARRIER, 32"	
		2550										622	40021	2550	FT	PORTABLE CONCRETE BARRIER, 32", AS PER PLAN	
			7210									622	40030	7210	FT	PORTABLE CONCRETE BARRIER, 50"	
																LANDSCAPING	
												661	20040	10	EACH	DECIDUOUS SHRUB, 2' HEIGHT, RED OSIER DOGWOOD-CORNUS SERICEA	10B
												661	20040	10	EACH	DECIDUOUS SHRUB, 2' HEIGHT, SILKY DOGWOOD-CORNUS AMOMUM	10B
												661	40080	10	EACH	DECIDUOUS TREE, 2" CALIPER, EASTERN REDBUD-CERCIS CANADENSIS	10B
												661	40080	20	EACH	DECIDUOUS TREE 2" CALIPER, BOX ELDER-ACER NEGUNDO	10B
												661	40080	30	EACH	DECIDUOUS TREE 2" CALIPER, RED MAPLE-ACER RUBRUM	10B
												661	40080	30	EACH	DECIDUOUS TREE 2" CALIPER, SUGAR MAPLE-ACER SACCHARINUM	10B
												661	40080	30	EACH	DECIDUOUS TREE 2" CALIPER, RED OAK-QUERCUS RUBRA	10B
												661	40080	10	EACH	DECIDUOUS TREE 2" CALIPER, OHIO BUCKEYE-AESCULUS GLABRA	10B
												661	40080	20	EACH	DECIDUOUS TREE 2" CALIPER, BURR OAK-QUERCUS BICOLOR	10B
												661	40080	20	EACH	DECIDUOUS TREE 2" CALIPER, SLIPPERY ELM-ULMAS RUBRA	10B
												661	40080	10	EACH	DECIDUOUS TREE 2" CALIPER, SYCAMORE-PLATANUS OCCIDENTALIS	10B
												662	31000	4370	GAL	LANDSCAPE WATER	10B
												614	11000	LUMP		MAINTAINING TRAFFIC	
												619	16021	66	MONTH	FIELD OFFICE, TYPE C, AS PER PLAN	10C
												623	10001	LUMP		CONSTRUCTION LAYOUT STAKES, AS PER PLAN	10B
												624	10000	LUMP		MOBILIZATION	
												624	10001	LUMP		MOBILIZATION, AS PER PLAN (TEMPORARY CROSSING)	10B
												624	10001	LUMP		MOBILIZATION, AS PER PLAN (SOUTHERN VALLEY ACCESS)	10B

CALCULATED KOD
CHECKED RWK

GENERAL SUMMARY

WAR-71-14.20

112B
470

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REF NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	ALIGNMENT	202 GUTTER REMOVED SQ YD	202 PIPE REMOVED, 24" AND UNDER FT	202 GUARDRAIL REMOVED FT	202 CATCH BASIN REMOVED EACH	202 FENCE REMOVED FT
R-1	114	900+38.69		LT	71 NB		36		1	
R-2	114	900+38.81		RT	71 SB				1	
R-3	114, 115, 116	904+59.49	921+58.32	RT	71 NB					1715
R-4	115	909+65.45	916+96.64	LT	71 SB					725
R-5	116	922+93.72		LT	71 SB		36		1	
R-6	116	923+05.39		LT	71 NB		89		1	
R-7	117	934+93.94	934+95.11	LT/RT	71 SB		36		1	
R-8	117	934+95.11	939+93.68	LT	71 SB		498		1	
R-9	117	939+94.19	939+93.68	LT/RT	71 SB		36		1	
R-10	117, 118	939+93.68	945+00.85	LT	71 SB		502		1	
R-11	117, 118	941+02.96	943+00.96	LT	71 SB		192			
R-12	118	943+00.96	944+24.97	LT	71 SB		125		1	
R-13	118	945+59.82	948+59.94	LT	71 SB			301		
R-14	118	943+35.75	948+69.80	RT	71 NB					612
R-15	118	948+15.18	948+69.18	LT	71 SB					119
R-16	118	945+82.91	948+58.70	LT/RT	71 SB			259		
R-17	118	946+75.43		RT	71 SB				1	
R-18	118	948+29.50		LT	71 SB				1	
R-19	118	943+78.16	948+57.60	RT	71 NB			480		
R-20	120	970+95.34	971+38.99	LT	71 SB					121
R-21	120	970+94.93	971+50.66	RT	71 NB					300
R-22	120	971+15.55	978+99.43	LT	71 SB			782		
R-23	120	971+17.51	973+90.81	LT	71 SB			273		
R-24	120	971+51.78	972+97.60	LT	71 SB		147		1	
R-25	120	971+15.44	971+93.80	RT	71 NB			79		
R-26	120	974+76.90		RT	71 SB				1	
R-27	120	978+41.23	979+71.30	RT	71 NB	93				
R-28	121	980+03.42	988+81.85	RT	71 NB			404		
R-29	121	986+51.31	986+71.61	LT/RT	71 NB		34			
R-30	121, 122	986+71.14	992+71.18	LT/RT	71 SB		601		1	
R-31	122	992+71.47	992+71.03	RT	71 SB		38		1	
R-32	122	992+71.03		RT	71 SB				1	
R-33	122	997+70.17	997+70.00	RT	71 SB		36		1	
R-34	120	972+97.60		LT	71 SB				1	
R-35	120	974+75.33		LT	71 SB				1	
R-36	122	997+70.02	992+71.03	RT	71 SB		499		1	
R-37	118	948+92.70	950+04.27	LT/RT	71 NB					561
R-38	118	944+25.48	945+00.35	LT	71 SB		75		1	
TOTALS CARRIED TO GENERAL SUMMARY						93	2980	2578	21	4153

CALCULATED KOD
CHECKED RWK

REMOVAL SUBSUMMARY

WAR-71-14.20

112C
470

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REF NO.	SHEET NO.	STATION FROM	STATION TO	ALIGNMENT		203 EXCAVATION CU YD	203 EMBANKMENT CU YD		659 SEEDING AND MULCHING SQ YD													
	133-184	899+00.00	39+50.00	71 SB		52461	3236		59233													
	186-232	896+00.00	987+00.00	71 NB		62981	6152		48944													
	233-234	209+00.00	212+00.00	RAMP B		965	1		1035													
	235-237	501+00.00	506+00.00	RAMP D		1474	15		2384													

REF NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	ALIGNMENT	606 GUARDRAIL, TYPE 5 FT	606 ANCHOR ASSEMBLY, TYPE B-98 EACH	606 ANCHOR ASSEMBLY, TYPE E-98 EACH	606 ANCHOR ASSEMBLY, TYPE T EACH	606 BRIDGE TERMINAL ASSEMBLY, TYPE 1 EACH	606 BRIDGE TERMINAL ASSEMBLY, TYPE 2 EACH		609 CURB, TYPE 4-C FT	622 CONCRETE BARRIER, SINGLE SLOPE TYPE B1 FT	622 CONCRETE BARRIER, SINGLE SLOPE TYPE C1 FT	622 CONCRETE BARRIER, SINGLE SLOPE TYPE D FT		607 FENCE, TYPE 47 FT	FOR INFORMATION ONLY CORNER POST ASSEMBLY FT	FOR INFORMATION ONLY ABUTMENT CONNECTION FT	FOR INFORMATION ONLY INTERMEDIATE ANCHOR POST ASSEMBLY FT	
G-1	117, 118	937+91.85	948+23.10	RT	I.R. 71 NB	981.25		1		1												
G-2	120	971+46.89	972+21.89	LT	I.R. 71 SB	37.5	1			1												
G-3	120, 121	971+47.00	988+96.87	RT	I.R. 71 NB	1750			1		1											
C-1	118	948+01.00	948+21.00	RT	I.R. 71 NB								20									
C-2	118	948+16.00	948+36.00	LT	I.R. 71 SB								20									
C-3	120	971+49.00	971+75.00	RT	I.R. 71 NB								26									
C-4	120	971+49.00	971+75.00	LT	I.R. 71 SB								26									
F-1	114, 115, 116	904+59.49	921+58.32	RT	I.R. 71 NB													1722			5	
F-2	115	909+65.45	916+96.64	LT	I.R. 71 SB													723	1		2	
F-3	118	943+35.81	948+66.00	RT	I.R. 71 NB													633	2	1	1	
F-4	118	948+15.18	948+66.00	LT	I.R. 71 SB													175	1	1	1	
F-5	120	971+19.00	972+93.65	RT	I.R. 71 NB													274	1	1		
F-6	120	971+19.00	971+24.00	LT	I.R. 71 SB													146	1	1		
BR-1	115	911+55.87	916+13.43		I.R. 71 NB									458								
BR-1	115-118	916+13.43	943+95.51	LT	I.R. 71 NB										2782							
BR-2	118	943+95.51	946+86.00	LT	I.R. 71 NB									291								
BR-3	118	946+86.00	948+36.00	LT	I.R. 71 NB											150						
BR-4	118	946+86.00	948+36.00	RT	I.R. 71 SB											150						
BR-5	120	971+49.00	973+73.96	LT	I.R. 71 NB											225						
BR-6	120	971+49.00	973+73.96	RT	I.R. 71 SB											225						
BR-7	120-121	973+73.96	986+94.54	LT	I.R. 71 NB									1321								
D-4	116	921+03.35	921+03.35	LT & RT	I.R. 71 SB										-20							
D-5	116	926+01.13	926+01.13	LT & RT	I.R. 71 SB										-20							
D-6	117	930+99.04	930+99.04	LT & RT	I.R. 71SB										-20							
D-7	117	935+97.05	930+99.04	LT & RT	I.R. 71SB										-20							
D-8	117	940+95.12	940+95.12	LT & RT	I.R. 71SB										-20							
D-9	118	943+50.00	943+50.00	LT & RT	I.R. 71NB										-20							
D-10	118	946+00.00	946+00.00	LT & RT	I.R. 71NB									-20								
D-11	118	948+25.00	946+00.00	LT & RT	I.R. 71NB											-20						
D-12	118	948+25.00	948+25.00	RT	I.R. 71SB											-20						
D-15	120	971+60.00	971+60.00	RT	I.R. 71 SB											-20						
D-16	120	971+60.00	971+60.00	LT	I.R. 71 NB											-20						
D-18	120	971+60.00	972+50.00	LT	I.R. 71 NB											-40						
D-19	120	972+50.00	973+72.00	LT &RT	I.R. 71 NB											-20						
D-20	120	973+72.00	977+00.00	LT	I.R. 71 NB									-20								
D-21	121	982+00.00	982+00.00	LT & RT	I.R. 71 NB									-20								
TOTALS CARRIED TO GENERAL SUMMARY						2768.75	1	1	1	2	1		92	2010	2662	610		3673				

CALCULATED AAB CHECKED RWK

ROADWAY SUBSUMMARY

WAR-71-14.20

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REF NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	ALIGNMENT		601 ROCK CHANNEL PROTECTION, TYPE D WITH FILTER CU YD	660 SODDING STAKED SQ YD	670 DITCH EROSION PROTECTION SQ YD	836 SEEDING AND EROSION CONTROL WITH TURF REINF. MAT, TYPE I SQ YD
E-1	114	900+45	901+95	LT & RT	RE. I.R. 71				125	
E-2	115	907+07	908+57	LT & RT	RE. I.R. 71				125	
E-3	115	911+50	912+50	LT	RAMP B			117		
E-4	115	914+47	915+97	LT & RT	RE. I.R. 71				125	
E-5	116	919+50	924+00	LT	I.R. 71 SB			775		
E-6	116,117,118	924+00	944+48	LT	I.R. 71 SB				3868	
E-7	115, 116	916+00	921+00	RT	I.R. 71 NB			280		
E-8	116, 117	924+50	942+00	RT	I.R. 71 NB				1294	
E-21	117	942+00	942+50	RT	I.R. 71 NB					34
E-22	118	942+50	944+00	RT	I.R. 71 NB				102	
E-23	118	944+00	944+50	RT	I.R. 71 NB			34		
E-9	120	979+00.00	979+50.00	RT	I.R. 71 NB					45
E-10	120	972+50.00	973+00.00	RT	I.R. 71 NB		27			
E-11	120	973+00.00	974+50.00	RT	I.R. 71 NB			150		
E-12	120	978+50.00	979+00.00	RT	I.R. 71 NB		25			
E-13	121	986+73.00	988+23.00	LT & RT	RE. I.R. 71				150	
E-14	121	989+73.00	991+23.00	LT & RT	RE. I.R. 71				150	
E-15	121	992+07.00	994+98.00	LT & RT	RE. I.R. 71				422	
E-16	121	987+50.00	988+00.00	LT	I.R. 71 SB		26			
E-17	122	995+08.00	997+69.00	LT & RT	RE. I.R. 71				392	
E-18	122	997+78.00	39+59.00	LT & RT	RE. I.R. 71				177	
E-19	114	900+42	900+92	LT	I.R. 71 SB		26			
E-20	114	500+90	501+40	RT	RAMP D		27			
TOTALS CARRIED TO GENERAL SUMMARY							131	1356	6930	79

CALCULATED LAB
CHECKED RWK

EROSION CONTROL SUBSUMMARY

WAR-71-14.20

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REF NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	ALIGNMENT	601 ROCK CHANNEL PROTECTION, TYPE C WITH FILTER CU YD	602 CONCRETE MASONRY CU YD	603 12" CONDUIT, TYPE B FT	603 15" CONDUIT, TYPE B FT	603 15" CONDUIT, TYPE C FT	603 18" CONDUIT, TYPE B FT	603 21" CONDUIT, TYPE B FT	603 24" CONDUIT, TYPE C FT	603 CONDUIT, BORED OR JACKED: 12" CONDUIT, TYPE B FT	603 12" SLOTTED DRAIN, TYPE 2 FT	604 INLET, SIDE DITCH, AS PER PLAN EACH	604 CATCH BASIN, NO. 3A EACH	604 CATCH BASIN, NO. 4 EACH	604 CATCH BASIN, NO. 5 EACH	604 CATCH BASIN, NO. 7 EACH	604 CATCH BASIN, NO. 8 EACH	604 INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE B1 EACH	604 INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE C1 EACH	604 INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE D EACH
D-1	114	900+38.76	900+38.76	LT & RT	RE. I.R.71							45							1					
D-2	115	907+00.00	907+00.00	LT & RT	I.R. 71 NB		0.25		134										1					
D-3	115	916+08.00	916+08.00	LT & RT	I.R. 71 NB		0.25		116												1			
D-4	116	921+03.35	921+03.35	LT & RT	I.R. 71 SB	1	0.25		103														1	
D-5	116	926+01.13	926+01.13	LT & RT	I.R. 71 SB		0.31				105												1	
D-6	117	930+99.04	930+99.04	LT & RT	I.R. 71SB		0.25		112														1	
D-7	117	935+97.05	930+99.04	LT & RT	I.R. 71SB		0.25		109														1	
D-8	117	940+95.12	940+95.12	LT & RT	I.R. 71SB		0.25		113														1	
D-9	118	943+50.00	943+50.00	LT & RT	I.R. 71NB		0.25		76														1	
D-10	118	946+00.00	946+00.00	LT & RT	I.R. 71NB	1	0.25		110													1		
D-11	118	948+25.00	946+00.00	LT & RT	I.R. 71NB				225															1
D-12	118	948+25.00	948+25.00	RT	I.R. 71SB				15															1
D-13	118	944+50.00	944+50.00	LT	I.R. 71SB								59						1					
D-14	120	971+73.25	971+60.00	LT & RT	I.R. 71 SB				52								1							
D-15	120	971+60.00	971+60.00	RT	I.R. 71 SB				14															1
D-16	120	971+60.00	971+60.00	LT	I.R. 71 NB																			1
D-17	120	971+73.25	971+60.00	LT &RT	I.R. 71 NB				52								1							
D-18	120	971+60.00	972+50.00	LT	I.R. 71 NB				101															2
D-19	120	972+50.00	973+72.00	LT &RT	I.R. 71 NB		0.31		122		75													1
D-20	120	973+72.00	977+00.00	LT	I.R. 71 NB				328														1	
D-21	121	982+00.00	982+00.00	LT & RT	I.R. 71 NB		0.25		84														1	
D-22	121	986+65.00	989+65.00	LT & RT	RE. I.R.71					300	25							2						
D-23	121, 122	989+65.00	995+00.00	LT & RT	RE. I.R.71					300								2						
D-24	122	995+00.00	997+70.00	RT	RE. I.R.71					270								1						
D-25	118	948+19.25	948+25.00	LT & RT	I.R. 71NB				51								1							
D-26	118	947+44.40	948+25.00	LT	I.R. 71NB										82									
D-27	118	948+25.00	948+66.00	LT	I.R. 71NB										43									
D-28	120	971+19.00	971+60.00	RT	I.R. 71SB										43									
D-29	120	971+69.97	972+50.00	LT	I.R. 71NB										80									
	15 *	888+00.00	895+00.00	RT	EX. I.R.71			700												1				
	25 *	997+00.00	1003+50.00	LT & RT	EX. I.R.71			580												1				
	52 *	923+00.00		LT	RE I.R.71			23								1								
	56 *	978+50.00		LT & RT	RE I.R.71			35						90		1								
TOTALS CARRIED TO GEN. SUMMARY						2	2.9	1338	1917	870	205	45	59	90	248	2	3	5	3	2	1	3	6	7

* CARRIED FROM MOT PLANS

CALCULATED AAB CHECKED RWK

DRAINAGE SUBSUMMARY

WAR-71-14.20

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REF NO.	SHEET NO.	STATION BEGIN	STATION END	ALIGNMENT	LOCATION CODE	BEGINING INVERT ELEVATION	ENDING INVERT ELEVATION	603 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET FT	604 PRECAST REINFORCED CONCRETE OUTLET EACH	605 6" SHALLOW PIPE UNDERDRAINS FT	605 6" UNCLASSIFIED PIPE UNDERDRAINS FT	605 6" BASE PIPE UNDERDRAINS FT		FOR INFORMATION ONLY: OUTLETS INTO ANOTHER UNDERDRAIN	OUTLETS INTO CATCH BASIN	END CAP	TEE CONNECTION	WYE CONNECTION	45° ELL CONNECTION	90° ELL CONNECTION	CROSS CONNECTION	OUTLET STATION	OUTLET INVERT ELEVATION	OUTLET OFFSET FROM CENTERLINE	NOTES
U-1	247, 248	906+98.78	900+50.00	71 SB	OS	971.29	967.45					647		1				1		1					Outlets into U-2
U-2	247, 248	906+98.78	900+50.00	71 SB	OL	970.77	966.93	37	1	648										1		900+50.	966.56	60.97 LT	
U-3	247, 248	906+98.78	900+69.83	71 SB	IL	971.46	966.93	44		630					1				1			900+38.76	965.37	39.68 RT	
U-4	247, 248	906+98.78	900+59.84	71 SB	IS	971.98	966.43					640		1				1	1						Outlets into U-4
U-5	247	900+35.	898+00.	71 NB	IS	967.21	965.93					236		1											Outlets into exisiting UD
U-6	247	900+35.	898+00.72	71 NB	IL	966.69	965.33			235				1											Outlets into exisiting UD
U-7	247, 248	906+95.	900+59.22	71 NB	IS	971.52	967.37					635		1				1	1						Outlets into U-8
U-8	247, 248	906+95.	900+71.31	71 NB	IL	971	966.93	46		623					1				1			900+38.76	965.37	44.32 LT	
U-9	247	900+35.	898+00.	71 NB	OL	967.12	965.33	43	1	250							1			1		898+00.	964.9	67.00 RT	
U-10	247	900+35.	898+00.	71 NB	OS	967.64	964.93					250		1			1	1							Outlets into U-9
U-11	247, 248	906+95.	900+50.	71 NB	OL	971.69	967.25	45	1	654												900+50.	966.79	69.11 RT	
U-12	247, 248	906+95.	900+50.	71 NB	OS	972.21	967.77					654		1				1		1					Outlets into U-12
U-13	247, 248			Ramp D																					
U-14	247, 248			Ramp D																					
U-15	248	209+00.	212+49.16	Ramp B	RT	972.56	971.86				354			1			1								Outlets into U-27
U-16	248	209+00.	212+51.58	Ramp B	LT	971.72	971.02				348			1			1								Outlets into U-27
U-17	248	911+29.59	906+98.24	71 SB	OL	972.62	970.76			430				1		1	1								Outlets into U-8
U-18	248	911+29.59	906+98.14	71 SB	OS	973.13	971.29	76				430			1	1				1		906+98.78	970.12	40.03 RT	
U-19	248	911+29.59	906+98.64	71 SB	IS	973.82	971.98					432		1		1		1							
U-20	248	911+29.59	906+98.54	71 SB	IL	973.3	971.46			432				1		1		1		1					
U-21	248	911+30.33	907+13.23	71 NB	IS	973.39	971.64					416		1		1		1	1						Outlets into U-22
U-22	248	911+30.33	907+24.9	71 NB	IL	972.87	971.19	33		405					1	1			1			907+01.84	970.86		
U-23	248	911+30.33	907+05.	71 NB	OL	973.56	971.75	72	1	426						1				1		907+05.	970.65	95.91 RT	
U-24	248	911+30.33	907+05.	71 NB	OS	973.43	971.6			427				1		1	1								Outlets into U-23
U-25	248	911+30.33	907+05.	71 NB	OL	973.17	971			427				1		1	1								Outlets into U-23
U-26	248	911+30.33	907+05.	71 NB	OS	973.93	971.76					428		1		1		1		1					Outlets into U-23
U-27	248	911+31.59	912+44.05	71 SB	OS	973.13	972.99	66	1			112				1				1		912+44.05	970.46	100.90 LT	
U-28	248, 249	911+31.59	920+95.	71 SB	OL	972.62	962.54	38	1	961						1				1		920+95.	961.14	62.00 LT	
U-29	248	911+31.59	916+00.	71 SB	IS	973.82	971.44					470		1		1		1		1					Outlets into U-30
U-30	248	911+31.59	916+00.	71 SB	IL	973.3	970.92	20		469												916+00.	971.24	31.67 RT	
U-31	248	911+32.33	916+00.72	71 NB	IS	973.39	971.02					468		1		1		1	1						Outlets into U-32
U-32	248	911+32.33	915+88.35	71 NB	IL	972.87	970.62	28		456					1	1			1			916+08.	970.41	31.21 LT	
U-33	248	911+32.33	916+00.	71 NB	OL	973.56	971.19	58	1	469						1				1		916+00.	970.61	81.80 RT	
U-34	248	911+32.33	916+00.	71 NB	OL	973.17	971.56			469				1		1		1		1					Outlets into U-33
U-35	248	911+32.33	916+00.	71 NB	OS	973.93	972.24					470		1		1		1		1					Outlets into U-33
U-36	248,249	912+45.75	920+95.	71 SB	OS	972.16	963.06					846		1		1		1		1					Outlets into U-28
U-37	248, 249	912+45.75	920+44.05	71 SB	OL	971.48	963.58			797				1		1		1							Outlets into U-28
U-38	248, 249	916+05.	920+89.32	71 SB	IL	970.86	963.35	21		485					1	1			1			921+03.35	963.14	28.56 RT	
U-39	248, 249	916+05.	921+03.35	71 SB	IS	970.38	962.57	10				490			1	1						921+03.35	962.57	28.56 RT	
U-40	248, 249	916+13.	921+14.	71 NB	IS	970.41	962.74	10				490			1							921+14.	962.74	28.77 LT	
TOTALS CARRIED TO GENERAL SUMMARY								647	7	9693	702	8114													

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UNDERDRAIN SUBSUMMARY

WAR-71-14.20

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REF NO.	SHEET NO.	STATION BEGIN	STATION END	ALIGNMENT	LOCATION CODE	BEGINING INVERT ELEVATION	ENDING INVERT ELEVATION	603 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET FT	604 PRECAST REINFORCED CONCRETE OUTLET EACH	605 6" SHALLOW PIPE UNDERDRAINS FT	605 6" UNCLASSIFIED PIPE UNDERDRAINS FT	605 6" BASE PIPE UNDERDRAINS FT		FOR INFORMATION ONLY: OUTLETS INTO ANOTHER UNDERDRAIN	OUTLETS INTO CATCH BASIN	END CAP	TEE CONNECTION	WYE CONNECTION	45° ELL CONNECTION	90° ELL CONNECTION	CROSS CONNECTION	OUTLET STATION	OUTLET INVERT ELEVATION	OUTLET OFFSET FROM CENTERLINE	NOTES
U-41	248, 248	916+13.	921+14.	71 NB	IL	970.37	962.48	17		500					1	1				1		921+14.	962.31	28.77 LT	
U-42	248, 249	916+15.	920+50.	71 NB	OL	971.04	964.47	49	1	436						1				1		920+50.	963.98	72.86 RT	
U-43	248, 249	916+15.	920+50.	71 NB	OL	971.41	964.68			436				1			1	1							Outlets into u-42
U-44	248, 249	916+15.	920+50.	71 NB	OS	972.09	965.36					437		1			1	1							Outlets into u-42
U-45	249	921+10.	925+95.	71 SB	OS	962.75	949.69					484		1		1		1		1					Outlets into U-46
U-46	249	921+10.	925+95.	71 SB	OL	962.23	949.44	28	1	484						1				1		925+95.	949.16	51.55 LT	
U-47	249	921+10.	925+87.02	71 SB	IL	962.91	950.37	22		478					1	1			1			926+01.13	950.15	28.56 RT	
U-48	249	921+16.25	926+01.13	71 SB	IS	962.3	949.46	10				466			1	1						926+01.13	949.46	28.56 RT	
U-49	249	921+27.	926+14.	71 NB	IS	962.46	949.56	10				466			1	1						926+14.	949.56	24.45 LT	
U-50	249	921+19.	926+14.	71 NB	IL	962.37	949.3	13		495					1	1				1		926+14.	949.18	24.45 LT	
U-51	249, 250	926+05.	930+95.	71 SB	OS	949.66	934.85					489		1		1		1		1					Outlets into U-52
U-52	249, 250	926+05.	930+95.	71 SB	OL	949.14	934.33	55	1	489						1				1		930+95.	930.21	79.38 LT	
U-53	249, 250	926+05.	930+86.	71 SB	IL	949.82	935.29	21		482					1	1			1			930+99.04	935.06	28.12 RT	
U-54	249, 250	926+13.8	930+99.04	71 SB	IS	949.08	934.44	10				476			1	1						930+99.04	934.44	28.12 RT	
U-55	249, 250	926+26.89	931+14.	71 NB	IS	949.35	934.84	10				476			1	1						931+14.	934.84	21.72 LT	
U-56	249, 250	926+19.	931+14.	71 NB	IL	949.15	934.3	10		495					1	1			1			931+14.	934.2	21.72 LT	
U-57	249, 250	926+00.	931+00.	71 NB	OL	950.4	935.4		1	501							1					931+00.	935.03	61.37 RT	
U-58	249, 250	926+00.	931+00.	71 NB	OS	950.92	935.92					501		1			1	1							Outlets into U-57
U-59	250	931+05.	935+90.	71 SB	OS	934.55	919.9					484		1		1		1		1					Outlets into U-60
U-60	250	931+05.	935+90.	71 SB	OL	934.03	919.38	51	1	484						1				1		935+90.	918.87	75.00 LT	
U-61	250	931+05.	935+85.14	71 SB	IL	934.72	920.21	20		481					1	1			1			935+97.05	920.01	27.09 RT	
U-62	250	931+11.	935+97.05	71 SB	IS	934.08	919.43	10				477			1	1						935+97.05	919.43	27.09 RT	
U-63	250	931+26.	936+14.	71 NB	IS	934.48	919.88	10				477			1	1						936+14.	919.88	20.75 LT	
U-64	250	931+19.	936+14.	71 NB	IL	934.15	919.3	9		495					1	1				1		936+14.	919.21	20.75 LT	
U-65	250	931+00.	936+00.	71 NB	OL	935.4	920.4	37	1	501							1					936+00.	920.03	61.37 RT	
U-66	250	931+00.	936+00.	71 NB	OS	935.92	920.92					501		1			1	1							Outlets into U-65
U-67	250	936+00.	940+90.	71 SB	OS	919.59	904.94					489		1		1		1		1					Outlets into U-68
U-68	250	936+00.	940+90.	71 SB	OL	919.08	904.42	55	1	489						1				1		940+90.	903.87	79.00 LT	
U-69	250	936+05.	940+83.46	71 SB	IL	919.61	905.28	19		479					1	1			1			940+95.12	905.09	26.66 RT	
U-70	250	936+09.	940+95.12	71 SB	IS	919.07	904.56	10				477			1	1						940+95.12	904.56	26.66 RT	
U-71	250	936+26.	941+14.	71 NB	IS	919.52	905.05	10				477			1	1						941+14.	905.05	20.35 LT	
U-72	250	936+19.	941+14.	71 NB	IL	919.15	904.45	8		495					1	1						941+14.	904.37	20.35 LT	
U-73	250	936+00.	943+45.	71 NB	OL	920.4	898.84	37	1	761							1					943+45.	898.47	61.38 RT	
U-74	250	936+00.	943+45.	71 NB	OS	920.92	899.36					762		1			1	1							Outlets into U-73
U-75	250	941+00.	947+75.	71 SB	OS	904.67	893.85					670		1		1									Outlets into U-147
U-76	250	941+00.	947+75.	71 SB	OL	904.15	893.33			670				1		1									Outlets into U-148
U-77	250	941+00.	943+50.	71 SB	IL	904.83	898.86	15		246					1	1	1					943+50.	898.71	26.65 RT	
U-78	250	941+07.	943+50.	71 SB	IS	904.24	898.46	10				229			1	1						943+50.	898.46	26.65 RT	
U-79	250	941+26.	943+50.	71 NB	IS	904.73	899.34	10				229			1	1						943+50.	899.34	20.34 LT	
U-80	250	941+19.	943+38.44	71 SB	IL	904.32	898.96	15		234					1	1			1			943+50.	898.81	20.34 LT	
TOTALS CARRIED TO GENERAL SUMMARY								581	8	10131		9067													

CALCULATED KOD
CHECKED RWK

UNDERDRAIN SUBSUMMARY

WAR-71-14.20

112J
470

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REF NO.	SHEET NO.	STATION BEGIN	STATION END	ALIGNMENT	LOCATION CODE	BEGINING INVERT ELEVATION	ENDING INVERT ELEVATION	603 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET FT	604 PRECAST REINFORCED CONCRETE OUTLET EACH	605 6" SHALLOW PIPE UNDERDRAINS FT	605 6" UNCLASSIFIED PIPE UNDERDRAINS FT	605 6" BASE PIPE UNDERDRAINS FT		FOR INFORMATION ONLY: OUTLETS INTO ANOTHER UNDERDRAIN	OUTLETS INTO CATCH BASIN	END CAP	TEE CONNECTION	WYE CONNECTION	45° ELL CONNECTION	90° ELL CONNECTION	CROSS CONNECTION	OUTLET STATION	OUTLET INVERT ELEVATION	OUTLET OFFSET FROM CENTERLINE	NOTES
U-81	250	943+50.	946+00.	71 SB	IL	898.86	894.98	14		250					1		1					946+00.	894.84	26.25 RT	
U-82	250	943+61.	946+00.	71 SB	IS	898.23	894.58	14				250			1		1					946+00.	894.44	26.25 RT	
U-83	250	943+61.	946+00.	71 NB	IS	899.13	895.58	10				229			1	1						946+00.	895.58	20.75 LT	
U-84	250	943+55.	945+91.53	71 NB	IL	898.64	895.07	12		237					1	1				1		946+00.	894.95	20.75 LT	
U-85	250	943+55.	945+95.	71 NB	OL	898.61	894.84	10	1	230						1					1	945+95.	894.43	64.5 RT	
U-86	250	943+55.	945+95.	71 NB	OS	899.13	895.36					240		1		1		1		1					Outlets into U-85
U-87	250	946+00.	948+08.55	71 SB	IL	894.98	893.35	17		209					1					1		948+25.	893.18	16.71 RT	
U-88	250	946+11.	948+25.	71 SB	IS	894.46	892.6	10				204			1	1						948+25.	892.6	16.71 RT	
U-89	250	946+11.	948+25.	71 NB	IS	895.46	894.08	10				204			1	1						948+25.	894.08	16.71 LT	
U-90	250	946+05.	948+09.08	71 NB	IL	894.92	893.34	17		204					1	1						948+25.	893.17	16.71 LT	
U-91	250	946+05.	948+09.83	71 NB	OL	894.73	892.15	14		205					1	1				1		948+19.25	892.15	34.00 RT	
U-92	250	946+05.	948+19.25	71 NB	OS	895.25	893.62	10				221			1	1						948+19.25	893.62	34.00 RT	
U-93	250	948+36.	948+00.	71 SB	OS	893.62	893.44				36			1		1	1	1							Outlets into U-94
U-94	250	948+66.	948+00.	71 SB	OL	892.83	892.5	60	1		66					1	1					948+00.	891.9	84.00 LT	
U-95	250	948+66.	948+25.	71 SB	IL	893.07	892.94	16			26				1	1				1		948+25.	892.78	16.71 RT	
U-96	250	948+66.	948+25.	71 SB	IS	892.83	892.63	10			31				1	1						948+25.	892.63	16.71 RT	
U-97	250	948+66.	948+25.	71 NB	IS	893.83	893.42	10			31				1	1						948+25.	893.42	16.71 LT	
U-98	250	948+66.	948+40.	71 NB	IL	893.07	892.94	16			26				1	1				1		948+25.	892.78	16.71 LT	
U-99	250	948+66.	948+29.	71 NB	OL	892.88	892.7	14			37				1	1				1		948+19.25	892.56	34.00 RT	
U-100	250	948+36.	948+19.25	71 NB	OS	893.62	893.45	10			7				1	1						948+19.25	893.45	34.00 RT	
U-101	251	971+19.	971+73.25	71 SB	OS	882.67	882.42	10				44			1	1						971+73.25	882.42	34.00 LT	
U-102	251	971+19.	971+65.08	71 SB	OL	882.07	881.85	13		46					1	1				1		971+73.25	881.72	34.00 LT	
U-103	251	971+19.	971+55.28	71 SB	IL	882.26	882.08	7		36					1	1				1		971+60.	882.01	16.71 RT	
U-104	251	971+19.	971+55.28	71 NB	IL	882.26	882.08	7		36					1	1				1		971+60.	882.01	16.71 LT	
U-105	251	971+19.	971+66.01	71 NB	OL	882.07	881.85	12		47					1	1				1		971+73.25	881.73	34.00 RT	
U-106	251	971+19.	971+73.25	71 NB	OS	882.67	882.42	10				44			1	1						971+73.25	882.42	34.00 RT	
U-107	251	971+78.25	972+56.	71 SB	OS	882.4	882.37	55				78			1	1	1					972+56.	881.34	19.19 RT	
U-108	251	971+78.25	972+56.	71 SB	OL	881.8	881.77			78				1		1					1				Outlets into U-107
U-109	251	971+75.	972+56.	71 SB	IL	882	881.85			81				1		1	1	1							Outlets into U-107
U-110	251	971+75.	972+42.91	71 NB	IL	882	881.85	10		68					1	1				1		972+50.	881.74	19.08 LT	
U-111	251	971+78.25	972+63.14	71 NB	OL	881.8	881.77	24	1	85						1	1					972+63.14	881.54	48.12 RT	
U-112	251	971+78.25	972+63.14	71 NB	OS	882.37	882.37					85		1											Outlets into U-110
U-113	251	976+85.	972+56.	71 SB	OS	886.74	882.37					429		1		1									Outlets into U-107
U-114	251	976+85.	972+56.	71 SB	OL	886.22	881.77			429				1		1									Outlets into U-107
U-115	251	976+85.	972+56.	71 SB	IL	886.03	881.85			429				1		1									Outlets into U-107
U-116	251	973+00.	972+57.09	71 NB	IL	882.07	881.84	10		110					1	1						972+50.	881.74	19.08 LT	
U-117	251	973+67.	972+63.14	71 NB	OL	881.8	881.77			104				1		1									Outlets into U-111
U-118	251	973+67.	972+63.14	71 NB	OS	882.73	882.29			104				1		1									Outlets into U-111
U-119	251	976+85.	973+72.	71 SB	IS	885.63	881.76	10		303					1	1						973+72.	881.76	26.24 RT	
U-120	251	976+95.	973+80.75	71 NB	IL	885.79	882.13	12		314					1	1				1		973+72.	882.01	20.75 LT	
TOTALS CARRIED TO GENERAL SUMMARY								454	3	3605	260	2028													

CALCULATED KOD
CHECKED RWK

UNDERDRAIN SUBSUMMARY

WAR-71-14.20

112K
470

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REF NO.	SHEET NO.	STATION BEGIN	STATION END	ALIGNMENT	LOCATION CODE	BEGINING INVERT ELEVATION	ENDING INVERT ELEVATION	603 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET FT	604 PRECAST REINFORCED CONCRETE OUTLET EACH	605 6" SHALLOW PIPE UNDERDRAINS FT	605 6" UNCLASSIFIED PIPE UNDERDRAINS FT	605 6" BASE PIPE UNDERDRAINS FT		FOR INFORMATION ONLY: OUTLETS INTO ANOTHER UNDERDRAIN	OUTLETS INTO CATCH BASIN	END CAP	TEE CONNECTION	WYE CONNECTION	45° ELL CONNECTION	90° ELL CONNECTION	CROSS CONNECTION	OUTLET STATION	OUTLET INVERT ELEVATION	OUTLET OFFSET FROM CENTERLINE	NOTES
U-121	251, 252	981+95.	973+87.	71 NB	OL	898.6	882.34		1	809										1		973+87.	882.87	56.00 RT	
U-122	251, 252	981+95.	973+87.	71 NB	OS	899.12	899.12					809		1		1		1		1					Outlets into U-121
U-123	251, 252	981+95.4	976+99.89	71 SB	OS	900.61	887.04	62				495			1	1				1		976+99.55	886.19	26.24 RT	
U-124	251, 252	981+95.4	976+99.89	71 SB	OL	900.09	886.52			495				1		1	1								Outlets into U-123
U-125	251, 252	981+95.4	976+99.83	71 SB	IL	899.9	886.33			496				1			1								Outlets into U-123
U-126	251, 252	981+87.38	976+99.55	71 SB	IS	899.24	885.89	10		478					1	1						976+99.55	885.89	26.24 RT	
U-127	251, 252	981+88.19	977+00.	71 NB	IS	898.81	886.47	10				478			1	1						977+00.	886.47	20.75 LT	
U-128	251, 252	971+95.	977+00.	71 NB	IL	898.41	885.89	9		495					1	1						977+00.	885.8	20.75 LT	
U-129	252	987+45.	981+98.98	71 SB	OS	916.67	900.72	15				546			1	1						981+98.98	899.85	26.98 RT	
U-130	252	987+45.	981+98.98	71 SB	OL	916.15	900.2			495				1			1								Outlets into U-129
U-131	252	986+60.	981+98.98	71 SB	IL	912.48	900			461				1			1								Outlets into U-129
U-132	252	986+14.75	981+98.98	71 SB	IS	911.19	899.56	10		406					1	1						981+98.98	899.56	26.98 RT	
U-133	252	986+15.58	982+00.	71 NB	IS	912.08	899.14	10				406			1	1						982+00.	899.14	20.98 LT	
U-134	252	985+72.87	982+09.34	71 NB	IL	910.02	898.8	13		364					1	1			1			982+00.	898.67	20.98 LT	
U-135	252	985+72.87	982+05.	71 NB	OL	910.02	898.87	34	1	367						1			1			982+05.	898.53	57.90 RT	
U-136	252	985+72.87	982+05.	71 NB	OS	910.62	899.39					367		1		1		1	1						Outlets into U-135
U-137	252	991+95.	987+50.	71 SB	OS	929.71	916.82					445		1		1	1								Outlets into U-138
U-138	252	991+95.	987+50.	71 SB	OL	929.19	916.3		1	445						1				1		987+50.	915.73	76.13 LT	
U-139	252	991+95.	986+65.23	71 SB	IL	928.99	913.63	19		530					1	1				1		986+65.	913.44	31.00 RT	
U-140	252	991+95.	986+65.23	71 SB	IS	929.51	914.15					530		1		1		1		1					Outlets into U-139
U-141	252	998+70.38	992+00.	71 SB	OS	944.81	929.84	79				670			1	1				1		992+00.		43.08 RT	
U-142	252	998+70.38	992+00.	71 SB	OL	944.21	929.32			670															Outlets into U-141
U-143	252	998+70.38	992+00.	71 SB	IL	944.21	929.13			670															Outlets into U-141
U-144	252	998+70.38	992+00.	71 SB	IS	944.81	929.65					671													Outlets into U-141
U-145	249	920+50.	926+00.	71 NB	OL	964.68	950.4		1	546							1					926+00.	950.03	61.37 RT	
U-146	249	920+50.	926+00.	71 NB	OS	965.36	950.92					547		1			1	1							Outlets into U-146
U-147	250	947+75.	948+00.	71 SB	OS	893.85	893.44				25			1											Outlets into U-94
U-148	250	947+75.	248+00.	71 SB	OL	893.33	892.5				25			1											Outlets into U-94
U-149	251	971+19.	971+60.	71 SB	IS	882.02	881.82	10		31					1	1						971+60.	881.82	16.71 RT	
U-150	251	971+19.	971+60.	71 NB	IS	882.02	881.82	10		31					1	1						971+60.	881.82	16.71 LT	
U-151	251	971+75.	972+56.	71 SB	IS	881.74	881.53	10		71					1							972+56.	881.53	19.19 RT	
U-152	251	971+75.	972+50.	71 NB	IS	882.74	882.53	10				65			1	1						972+50.	882.53	19.08 LT	
U-153	251	973+57.	972+56.	71 SB	IS	881.7	881.53	10		91					1							972+56.	881.53	19.19 RT	
U-154	251	973+57.	972+50.	71 NB	IS	881.63	881.53	10				97			1							972+50.	882.53	19.08 LT	
U-155	251	976+85.	973+72.	71 NB	IS	886.21	882.69	10				303			1	1						973+72.	882.69	20.75 LT	
TOTALS CARRIED TO GENERAL SUMMARY								341	4	7951	50	6429													

CALCULATED KOD
CHECKED RWK

UNDERDRAIN SUBSUMMARY

WAR-71-14.20

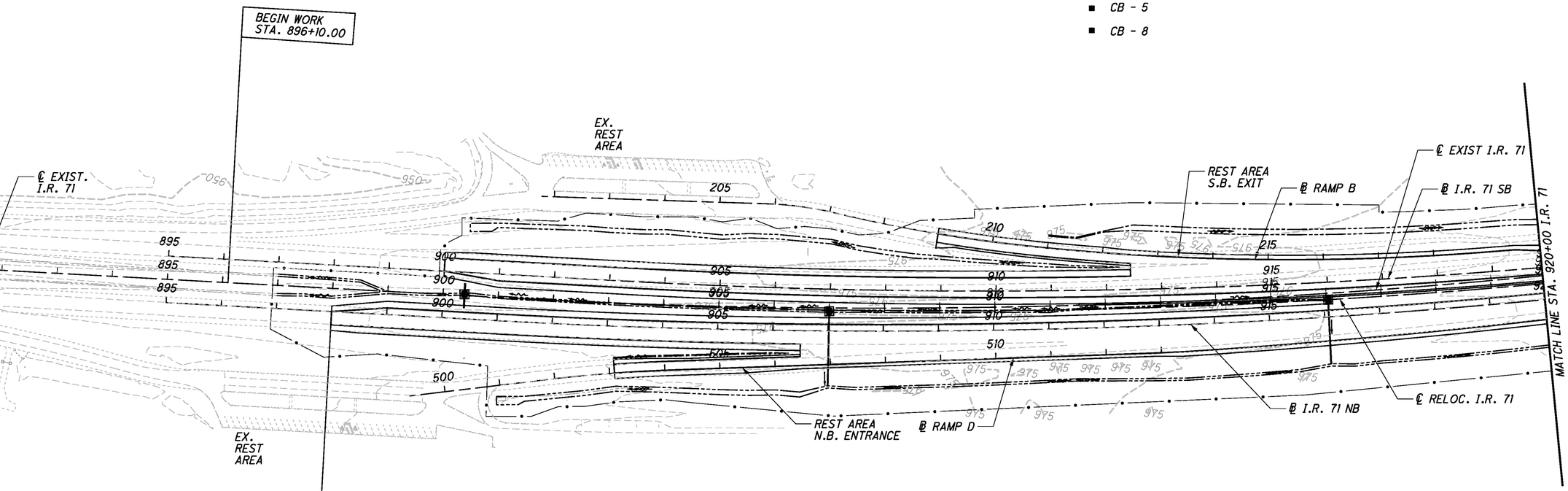
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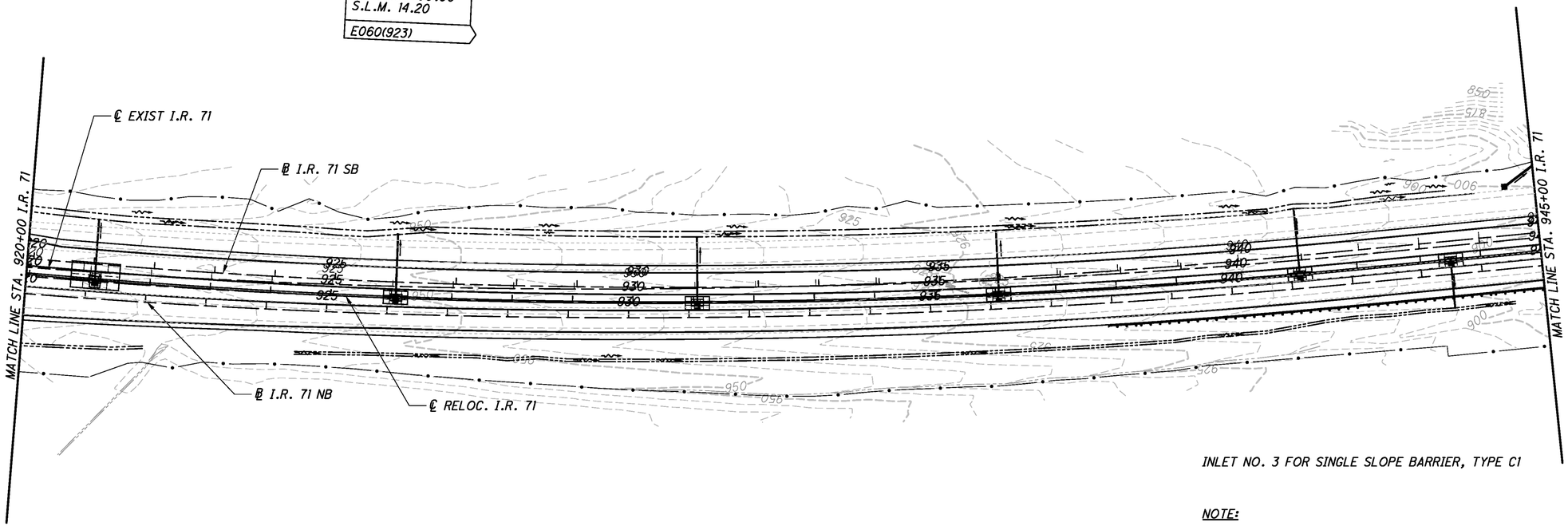
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LEGEND

INLET NO. 3 FOR SINGLE SLOPE BARRIER, TYPE C1

- CB - 5
- CB - 8





INLET NO. 3 FOR SINGLE SLOPE BARRIER, TYPE C1

NOTE:

1. FOR POST CONSTRUCTION BMP'S, SEE SHEET 10A

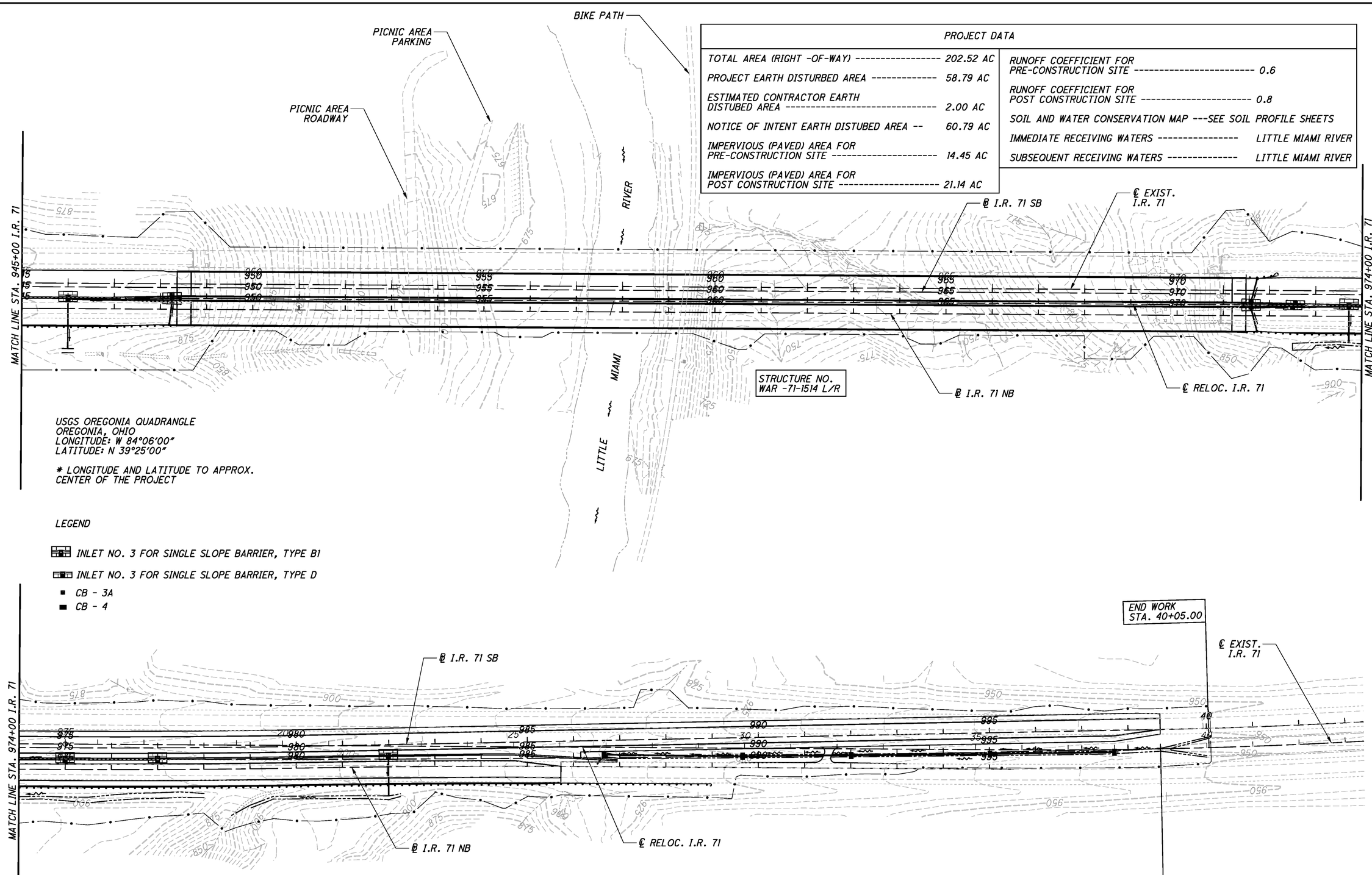
HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED AAB
CHECKED RWK

PROJECT SITE PLAN
STA. 898+00.00 TO STA. 945+00.00

WAR-71-14.20

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PROJECT DATA			
TOTAL AREA (RIGHT -OF-WAY)	202.52 AC	RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE	0.6
PROJECT EARTH DISTURBED AREA	58.79 AC	RUNOFF COEFFICIENT FOR POST CONSTRUCTION SITE	0.8
ESTIMATED CONTRACTOR EARTH DISTUBED AREA	2.00 AC	SOIL AND WATER CONSERVATION MAP	---SEE SOIL PROFILE SHEETS
NOTICE OF INTENT EARTH DISTUBED AREA	60.79 AC	IMMEDIATE RECEIVING WATERS	LITTLE MIAMI RIVER
IMPERVIOUS (PAVED) AREA FOR PRE-CONSTRUCTION SITE	14.45 AC	SUBSEQUENT RECEIVING WATERS	LITTLE MIAMI RIVER
IMPERVIOUS (PAVED) AREA FOR POST CONSTRUCTION SITE	21.14 AC		

USGS OREGONIA QUADRANGLE
OREGONIA, OHIO
LONGITUDE: W 84°06'00"
LATITUDE: N 39°25'00"

* LONGITUDE AND LATITUDE TO APPROX. CENTER OF THE PROJECT

LEGEND

INLET NO. 3 FOR SINGLE SLOPE BARRIER, TYPE B1

INLET NO. 3 FOR SINGLE SLOPE BARRIER, TYPE D

CB - 3A

CB - 4

NOTES:

1. FOR POST CONSTRUCTION BMP'S, SEE SHEET 10A
2. THE FOLLOWING ITEMS HAVE BEEN INCLUDED IN THE GENERAL SUMMARY:
   - ITEM 832, STORM WATER POLUTION PREVENTION PLAN — LUMP
   - ITEM 832, EROSION CONTROL — 300,000 EACH
3. FOR LOCATION MAP, SEE SHEET 1 (TITLE SHEET)

PROJECT DESCRIPTION

IMPROVEMENT OF 1.91 MILES OF INTERSTATE 71 BY REPLACEMENT OF TWO TWIN STRUCTURES (JEREMIAH MORROW BRIDGE) OVER THE LITTLE MIAMI RIVER INCLUDING APPROACH ROADWAY REALIGNMENT AND RECONSTRUCTION.

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED AAB
CHECKED RWK

PROJECT SITE PLAN
STA. 945+00.00 TO STA. 998+70.38
WAR-71-14.20

113A
470

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Curve 8 - Ex. I.R. 71
P.I. Sta. 921+33.63
D = 18° 36' 29" (Lt.
Dc = 0° 28' 00"
R = 12,277.67'
T = 2,011.43'
L = 3,987.44'
E = 163.67'

Curve 1 - I.R. 71 SB
P.I. Sta. 922+83.45
Δ = 18° 36' 29" (Lt.
Dc = 0° 28' 53"
R = 11,902.18'
T = 1,949.92'
L = 3,865.49'
E = 158.67'
emax= 0.019

Curve 6 - RELOC. I.R. 71
P.I. Sta. 922+32.35
Δ = 18° 36' 29" (Lt.
Dc = 0° 27' 59.74"
R = 12,279.57'
T = 2,011.74'
L = 3,988.06'
E = 163.70'

Curve 3 - I.R. 71 NB
P.I. Sta. 921+81.25
Δ = 18° 36' 29" (Lt.
Dc = 0° 27' 9.66"
R = 12,656.96'
T = 2,073.57'
L = 4,110.62'
E = 168.73'
emax= 0.019

Ex LA-R/W

E060(923)
Begin Project
Sta. 898+00.00
S.L.M. 14.20

Sta. 895+00.00 IR 71 42' Lt. & Rt.=
Sta. 895+00.00 IR 71 SB & NB

Begin Work
Sta. 896+10.00

V = (713SF*1')÷27 = 26 CY
E-19

End Pavement and Shoulder Taper
I.R. 71 SB Sta. 901+00,
12.0' Rt. & 24.0' Rt.

POT Sta. 201+77.44

℄ Ramp B
N 84° 53' 28" E

Begin Pavement and Shoulder Taper
I.R. 71 SB Sta. 900+00
0' Rt. & 10.0' Rt.

Ex. 21" Conc
Ex. 21" RCP
Ex. CB
Ex. 15" RCP
Ex. 21" RCP (To Remain)
Ex. 15" RCP
Ex. 18" Conc
Ex. 21" RCP
Ex. 12" RCP
Ex. 15" Conc
Ex. 12" Conc
Ex. 24" RCP
Ex. 18" RCP
Ex. 12" Conc
Ex. 15" Conc
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Ex. 15" Conc
Ex. 15" Conc
Ex. 15" Conc
Ex. 12" Conc
Ex. 12" Conc
Ex. 12

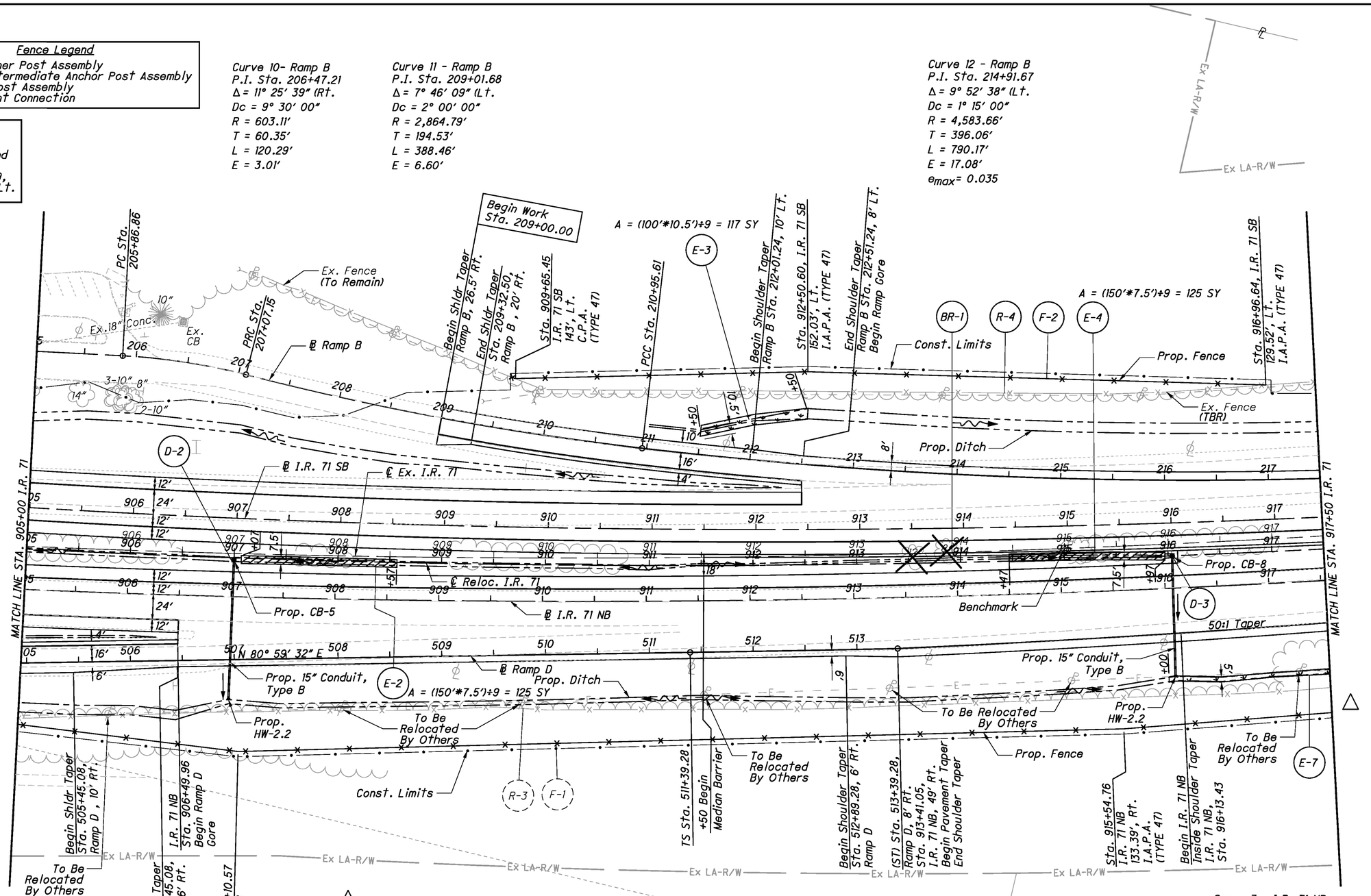
Fence Legend
C.P.A. - Corner Post Assembly
I.A.P.A. - Intermediate Anchor Post Assembly
E.P.A. - End Post Assembly
A.C. - Abutment Connection

BENCHMARK:
Concrete Monument Found
Elev. 976.86,
Sta. 915+00.89,
Offset 10.41' Lt.

Curve 10- Ramp B
P.I. Sta. 206+47.21
Δ = 11° 25' 39" (Rt.
Dc = 9° 30' 00"
R = 603.11'
T = 60.35'
L = 120.29'
E = 3.01'

Curve 11 - Ramp B
P.I. Sta. 209+01.68
Δ = 7° 46' 09" (Lt.
Dc = 2° 00' 00"
R = 2,864.79'
T = 194.53'
L = 388.46'
E = 6.60'

Curve 12 - Ramp B
P.I. Sta. 214+91.67
Δ = 9° 52' 38" (Lt.
Dc = 1° 15' 00"
R = 4,583.66'
T = 396.06'
L = 790.17'
E = 17.08'
e_{max} = 0.035



Item 660 - Sodding Staked

Item 670- Ditch Erosion Protection

(TBR) = To Be Removed
FOR PAVEMENT DETAILS SEE SHEETS 238 - 240.
FOR SUPERELEVATION DETAILS SEE SHEETS 242 & 244.
FOR UNDERDRAIN DETAILS SEE SHEET 248.
FOR TRANSVERSE SEWER PROFILES SEE X-SECTION SHEETS 193 & 198.

Curve 8 - Ex. I.R. 71
P.I. Sta. 921+33.63
D = 18° 36' 29" (Lt.
Dc = 0° 28' 00"
R = 12,277.67'
T = 2,011.43'
L = 3,987.44'
E = 163.67'

Curve 6 - Reloc. I.R. 71
P.I. Sta. 922+32.35
Δ = 18° 36' 29" (Lt.
Dc = 0° 27' 59.74"
R = 12,279.57'
T = 2,011.74'
L = 3,988.06'
E = 163.70'

Curve 1 - I.R. 71 SB
P.I. Sta. 922+83.45
Δ = 18° 36' 29" (Lt.
Dc = 0° 28' 53"
R = 11,902.18'
T = 1,949.92'
L = 3,865.49'
E = 158.67'
e_{max} = 0.019

Curve 3 - I.R. 71 NB
P.I. Sta. 921+81.25
Δ = 18° 36' 29" (Lt.
Dc = 0° 27' 9.66"
R = 12,656.96'
T = 2,073.57'
L = 4,110.62'
E = 168.73'
e_{max} = 0.019

HORIZONTAL SCALE IN FEET
0 25 50 100

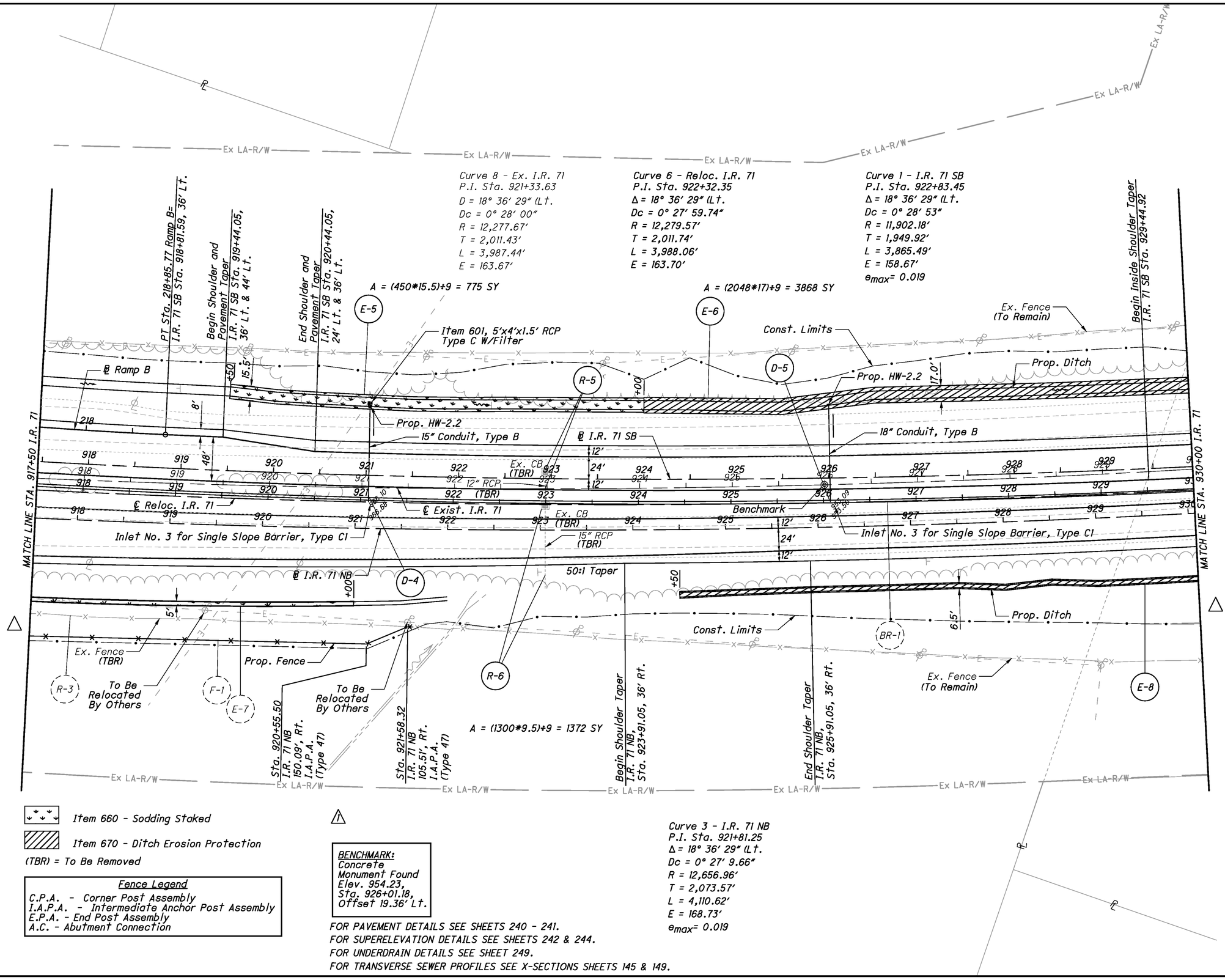
CALCULATED JSU CHECKED BBD

PLAN - I.R. 71
STA. 905+00.00 TO STA. 917+50.00

WAR-71-14.20

115
470

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HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED JSU
CHECKED BBD

PLAN - I.R. 71
STA. 917+50.00 TO STA. 930+00.00

WAR-71-14.20

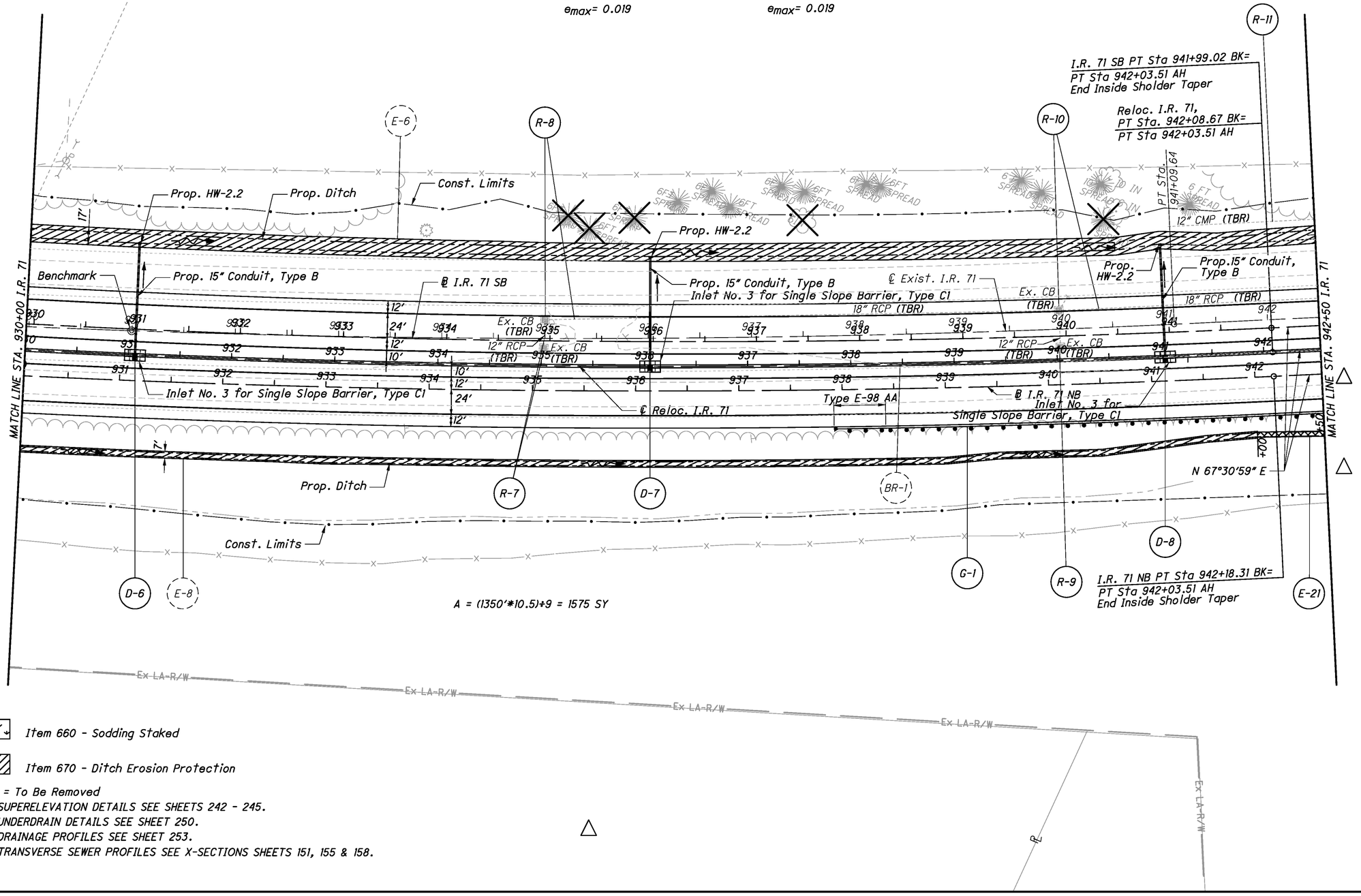
BENCHMARK:
Concrete Monument Found
Elev. 939.23,
Sta. 931+02.22,
Offset 23.23' Lt.

Curve 6 - Reloc. I.R. 71
P.I. Sta. 922+32.35
Δ = 18° 36' 29" (Lt.
Dc = 0° 27' 59.74"
R = 12,279.57'
T = 2,011.74'
L = 3,988.06'
E = 163.70'

Curve 1 - I.R. 71 SB
P.I. Sta. 922+83.45
Δ = 18° 36' 29" (Lt.
Dc = 0° 28' 53"
R = 11,902.18'
T = 1,949.92'
L = 3,865.49'
E = 158.67'
emax= 0.019

Curve 3 - I.R. 71 NB
P.I. Sta. 921+81.25
Δ = 18° 36' 29" (Lt.
Dc = 0° 27' 9.66"
R = 12,656.96'
T = 2,073.57'
L = 4,110.62'
E = 168.73'
emax= 0.019

Curve 8 - Ex. I.R. 71
P.I. Sta. 921+33.63
D = 18° 36' 29" (Lt.
Dc = 0° 28' 00"
R = 12,277.67'
T = 2,011.43'
L = 3,987.44'
E = 163.67'



Item 660 - Sodding Staked

Item 670 - Ditch Erosion Protection

(TBR) = To Be Removed
FOR SUPERELEVATION DETAILS SEE SHEETS 242 - 245.
FOR UNDERDRAIN DETAILS SEE SHEET 250.
FOR DRAINAGE PROFILES SEE SHEET 253.
FOR TRANSVERSE SEWER PROFILES SEE X-SECTIONS SHEETS 151, 155 & 158.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED JSU
CHECKED BBD

PLAN - I.R. 71
STA. 930+00.00 TO STA. 942+50.00

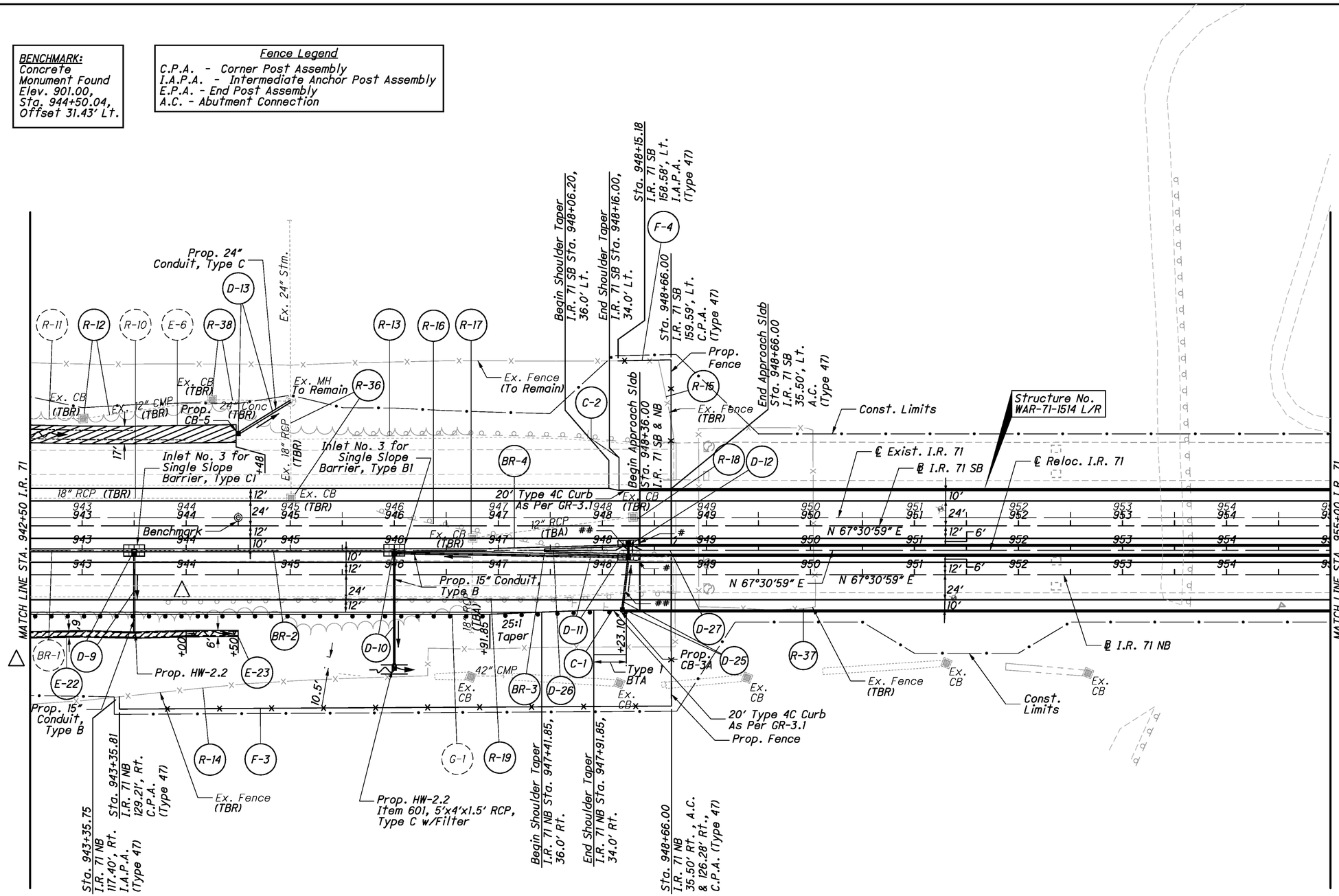
WAR-71-14.20

117
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BENCHMARK:
Concrete Monument Found
Elev. 901.00,
Sta. 944+50.04,
Offset 31.43' Lt.

Fence Legend
C.P.A. - Corner Post Assembly
I.A.P.A. - Intermediate Anchor Post Assembly
E.P.A. - End Post Assembly
A.C. - Abutment Connection



Item 601 - 12" Rock Channel Protection, Type D with Filter

Item 660 - Sodding Staked

Item 670 - Ditch Erosion Protection

(TBA) = To Be Abandoned
(TBR) = To Be Removed
FOR SUPERELEVATION DETAILS SEE SHEETS 243 - 245.
FOR UNDERDRAIN DETAILS SEE SHEET 250.
FOR DRAINAGE PROFILES SEE SHEET 253.
FOR TRANSVERSE SEWER PROFILES SEE X-SECTION SHEETS 215, 217 & 218

\# Inlet No. 3 for Single Slope Barrier, Type D
Prop. 15" Conduit, Type B

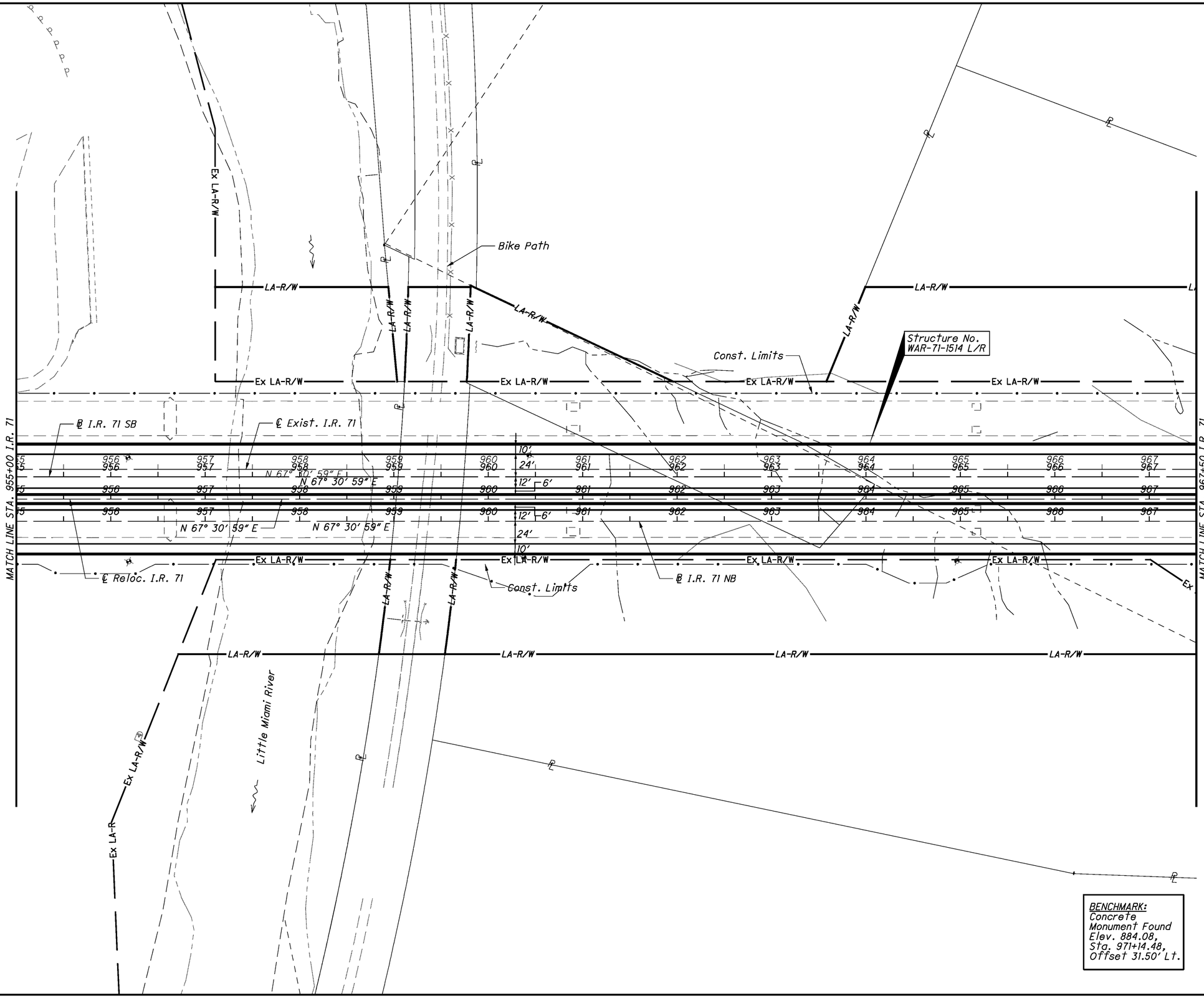
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED JSU
CHECKED BBD

PLAN - I.R. 71
STA. 942+50.00 TO STA. 955+00.00

WAR-71-14.20

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HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED JSU
CHECKED BBD

PLAN & PROFILE - I.R. 71
STA. 955+00.00 TO STA. 967+50.00

WAR-71-14.20

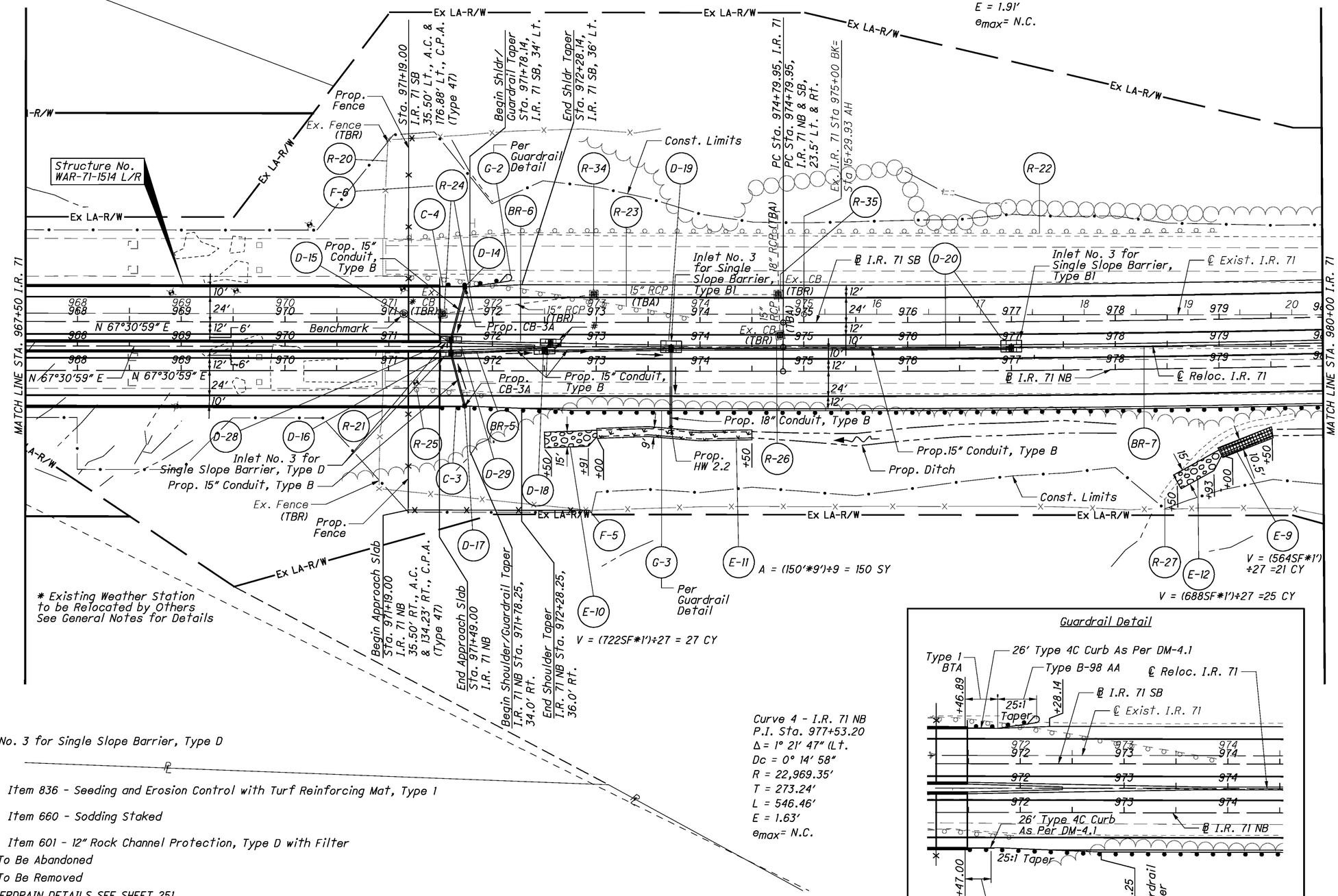
119
470

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Fence Legend
C.P.A. - Corner Post Assembly
I.A.P.A. - Intermediate Anchor Post Assembly
E.P.A. - End Post Assembly
A.C. - Abutment Connection

Curve 2 - I.R. 71 SB
P.I. Sta. 977+76.04
Δ = 1° 28′ 49″ (Lt.
Dc = 0° 15′ 00″
R = 22,918.31′
T = 296.09′
L = 592.14′
E = 1.91′
e_{max} = N.C.

BENCHMARK:
Concrete Monument Found
Elev. 884.08,
Sta. 971+14.48,
Offset 31.50′ Lt.



* Existing Weather Station to be Relocated by Others See General Notes for Details

Curve 4 - I.R. 71 NB
P.I. Sta. 977+53.20
Δ = 1° 21′ 47″ (Lt.
Dc = 0° 14′ 58″
R = 22,969.35′
T = 273.24′
L = 546.46′
E = 1.63′
e_{max} = N.C.

Guardrail Detail

\# Inlet No. 3 for Single Slope Barrier, Type D

Item 836 - Seeding and Erosion Control with Turf Reinforcing Mat, Type 1
Item 660 - Sodding Staked
Item 601 - 12″ Rock Channel Protection, Type D with Filter

(TBA) = To Be Abandoned
(TBR) = To Be Removed
FOR UNDERDRAIN DETAILS SEE SHEET 251.
FOR STORM SEWER PROFILES SEE SHEET 254.
FOR TRANSVERSE SEWER PROFILES SEE X-SECTION SHEET 222.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED JSU
CHECKED BBD

PLAN - I.R. 71
STA. 967+50.00 TO STA. 980+00.00

WAR-71-14.20

120
470

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BENCHMARK:
Concrete Monument Found
Elev. 928.70,
Sta. 989+71.15,
Offset 17.48' Lt.

Curve 7 - Reloc. I.R. 71
P.I. Sta. 984+92.48
Δ = 1° 28' 49" (Lt.
Dc = 0° 04' 23.16"
R = 78,379.36'
T = 1,012.53'
L = 2,024.94'
E = 6.54'

Curve 5 - I.R. 71 NB
P.I. Sta. 982+99.65
Δ = 1° 21' 47" (Rt.
Dc = 0° 14' 58"
R = 22,969.35'
T = 273.24'
L = 546.46'
E = 1.63'
e_{max}= N.C.

Item 670 - Ditch Erosion Protection

Item 601 - Rock Channel Protection, Type D with Filter

FOR UNDERDRAIN DETAILS SEE SHEET 252.
FOR STORM SEWER PROFILES SEE SHEETS 255 - 257.
FOR TRANSVERSE SEWER PROFILES SEE X-SECTION SHEET 228.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED JSU
CHECKED BBD

PLAN - I.R. 71
STA. 980+00.00 TO STA. 992+50.00

WAR-71-14.20

121
470

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Curve 7 - Reloc. I.R. 71
P.I. Sta. 984+92.48
Δ = 1° 28' 49" (Lt.
Dc = 0° 04' 23.16"
R = 78,379.36'
T = 1,012.53'
L = 2,024.94'
E = 6.54'

E060(923)

End Project
S.L.M. 16.11
I.R. 71
Sta 998+70.38 BK=
Sta 39+00.00 AH

End Work
Reloc. I.R. 71
Sta. 40+05.00

A = (92'*7.5')+(60'*7.5')+(60'*7.5')÷9 = 177 SY

A = (261'*13.5')÷9 = 392 SY

E-15 PT Sta. 995+04.90

E-17 PC Sta. 35+82.80

E-18 I.R. 71 SB, Sta. 997+69.61, Begin Pavement and Shoulder Taper 12.0' Rt. & 24.0' Rt.

I.R. 71 SB PC Sta 998+69.61 BK= PC Sta 39+00.00 AH End Pavement and Shoulder Taper 0' Rt. & 10.0' Rt.

Ex LA-R/W

Prop. 15" Conduit, Type C

R-31

Const. Limits

℄ I.R. 71 SB

R-33

12' 24' 12' 12'

10' 2 Ex. 12' Lanes 10'

Ex. Ditch

Ex. CB (TBR)

EX. 15" RCP (TBR)

15" RCP (TBR)

Benchmark

N 66° 02' 10" E

Prop. CB-4

℄ Reloc. I.R. 71

℄ Exist. I.R. 71

℄ I.R. 71 NB

Prop. 15" Conduit, Type C

R-32

R-36

D-23

D-24

MATCH LINE STA. 992+50 I.R. 71

POT Sta. 995+52.98

BENCHMARK:
Concrete Monument Found
Elev. 951.85,
Sta. 40+00.67,
Offset 0.38' Lt.

Item 670 - Ditch Erosion Protection

(TBR) = To Be Removed
FOR UNDERDRAIN DETAILS SEE SHEET 252.
FOR STORM SEWER PROFILES SEE SHEETS 255 TO 257.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED JSU
CHECKED BBD

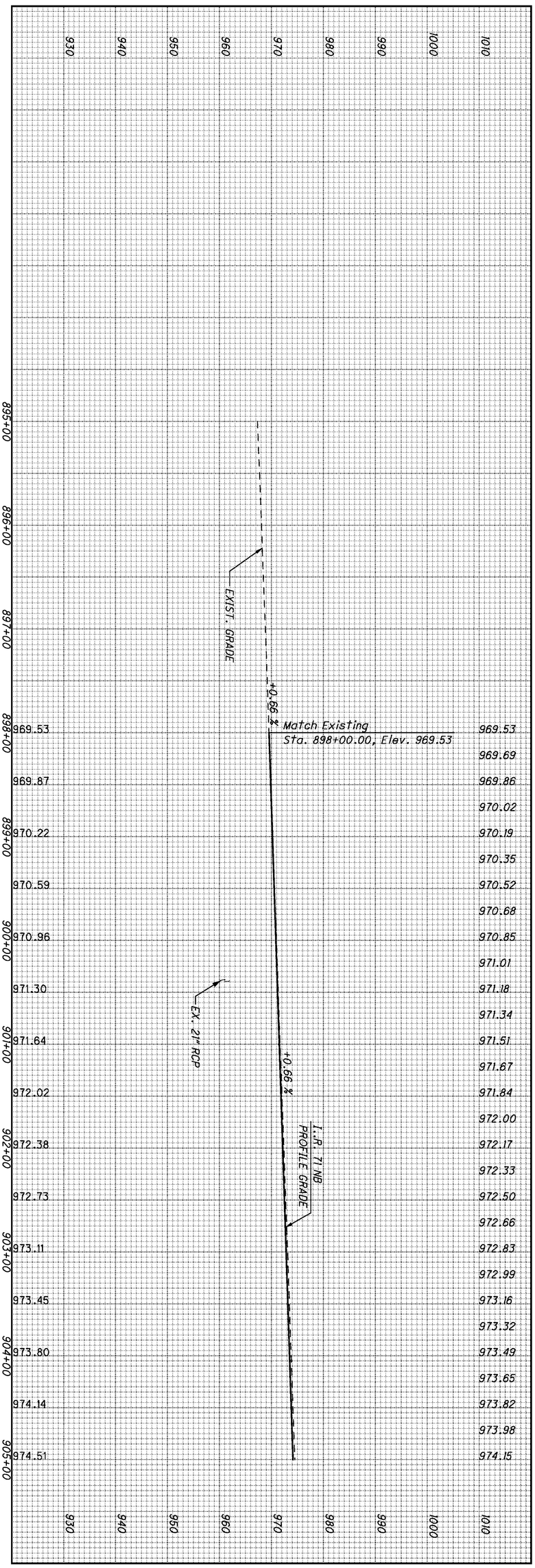
PLAN - I.R. 71
STA. 992+50.00 TO STA. 45+00.00

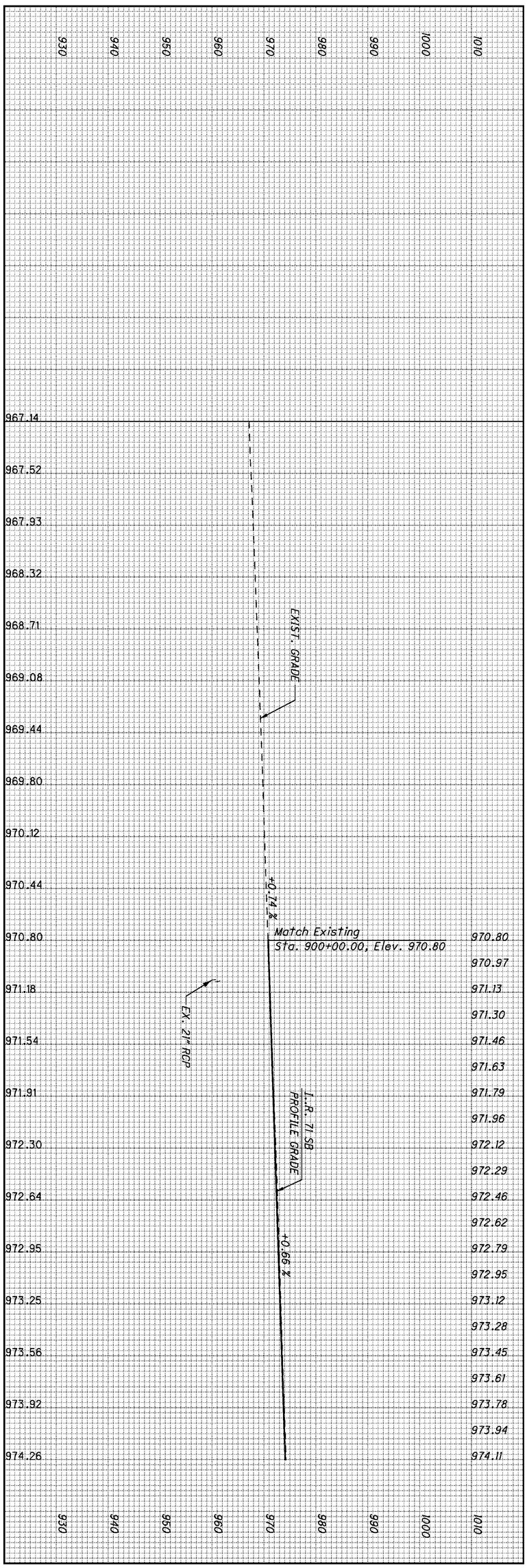
WAR-71-14.20

122
470

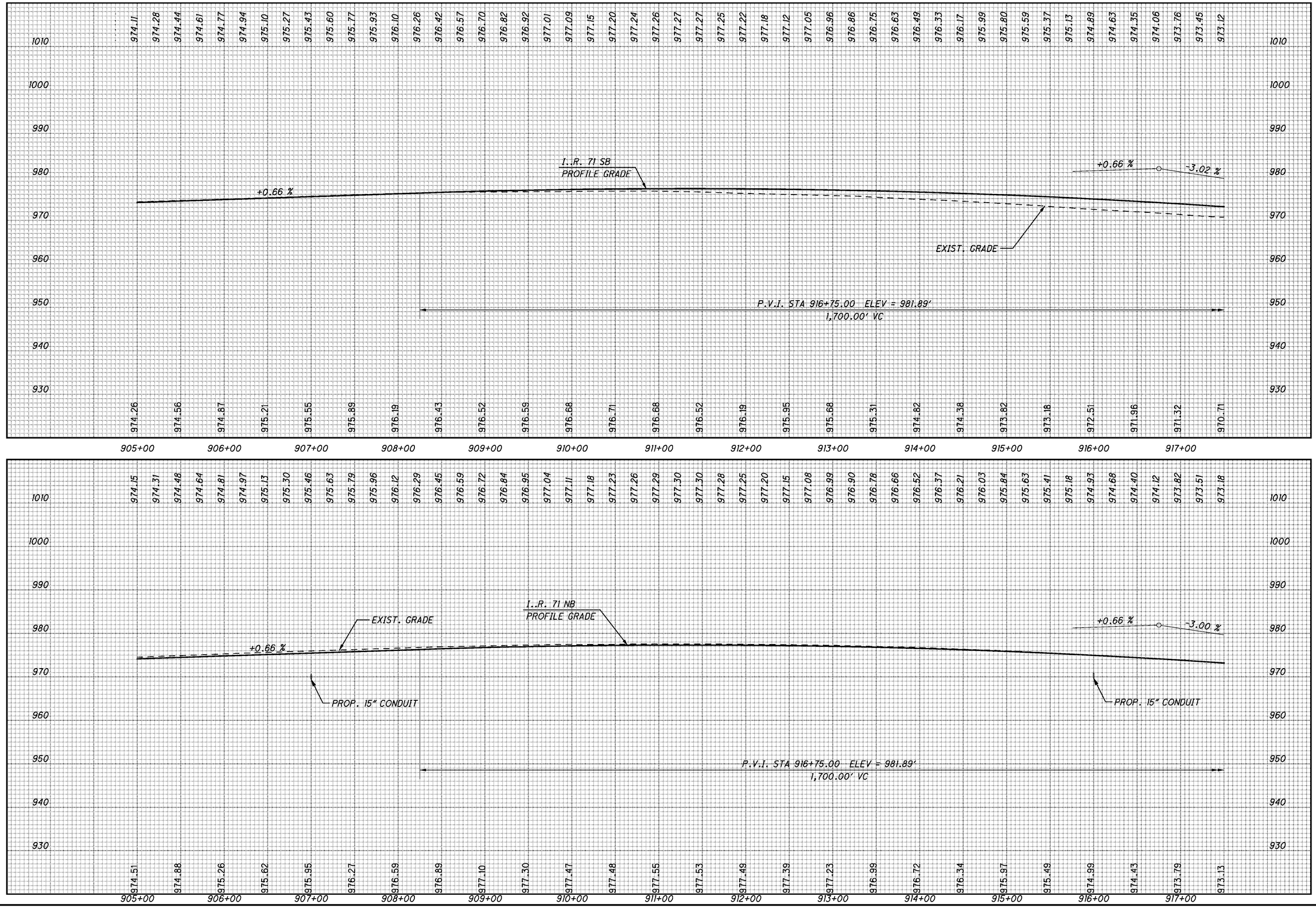
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123 / 470	WAR-71-14.20	PROFILES - I.R. 71 SB & I.R. 71 NB STA. 895+00.00 TO STA. 905+00.00	CALCULATED JSU CHECKED BBD



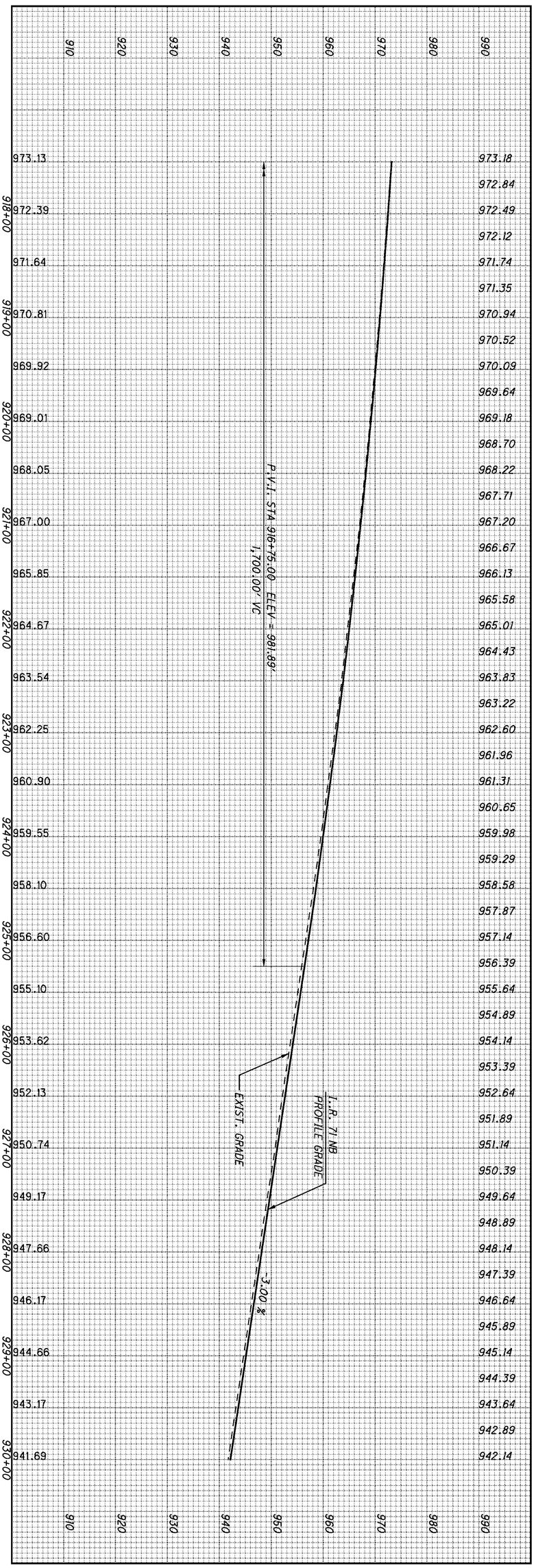
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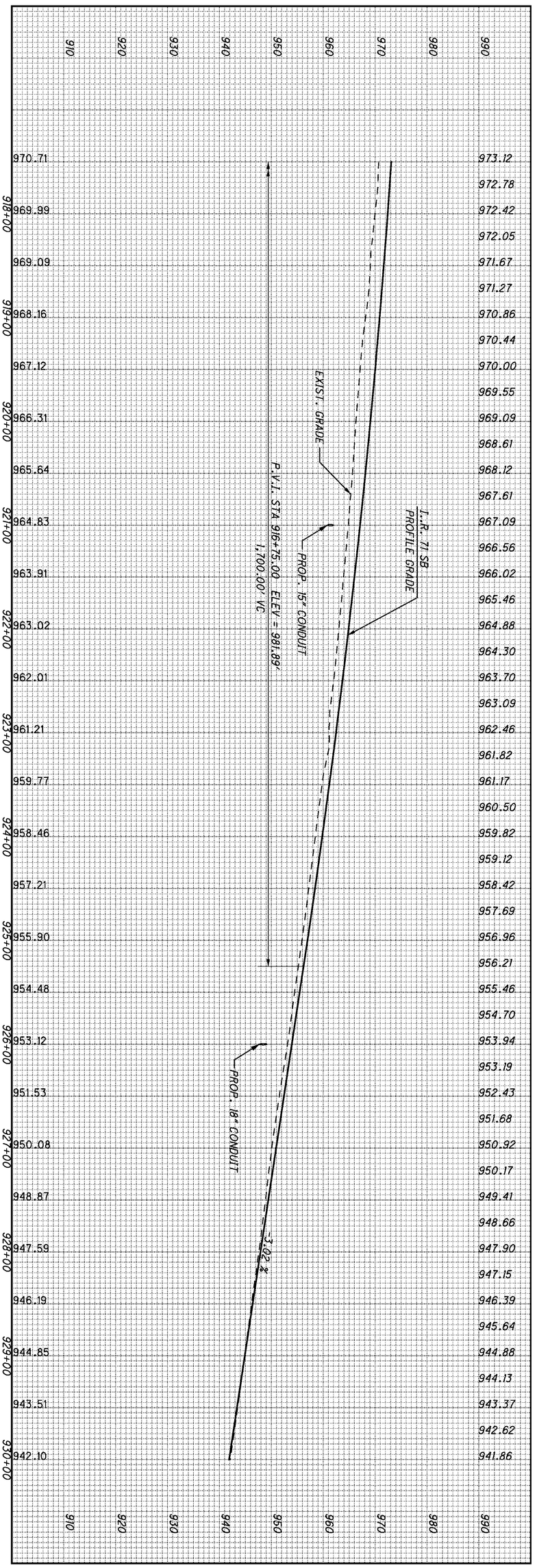
CALCULATED JSU
CHECKED BBD

PROFILES - I.R. 71 SB & I.R. 71 NB
STA. 905+00.00 TO STA. 917+50.00

WAR-71-14.20

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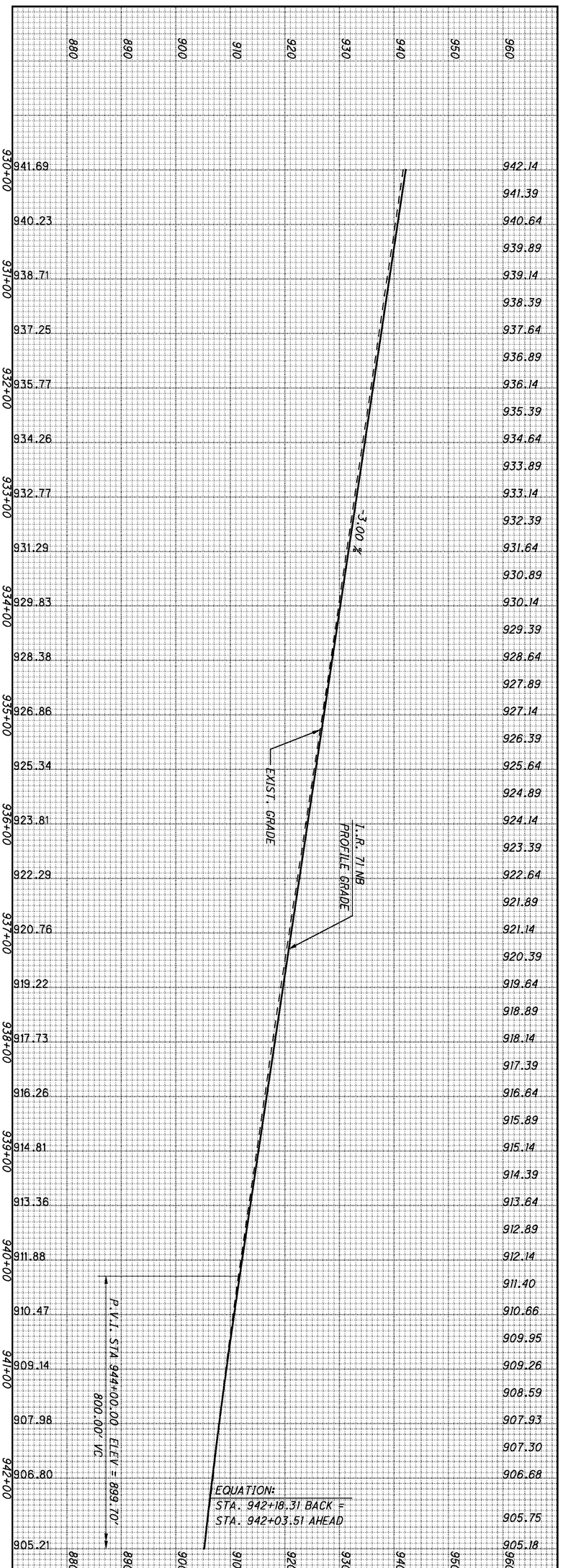
125
470

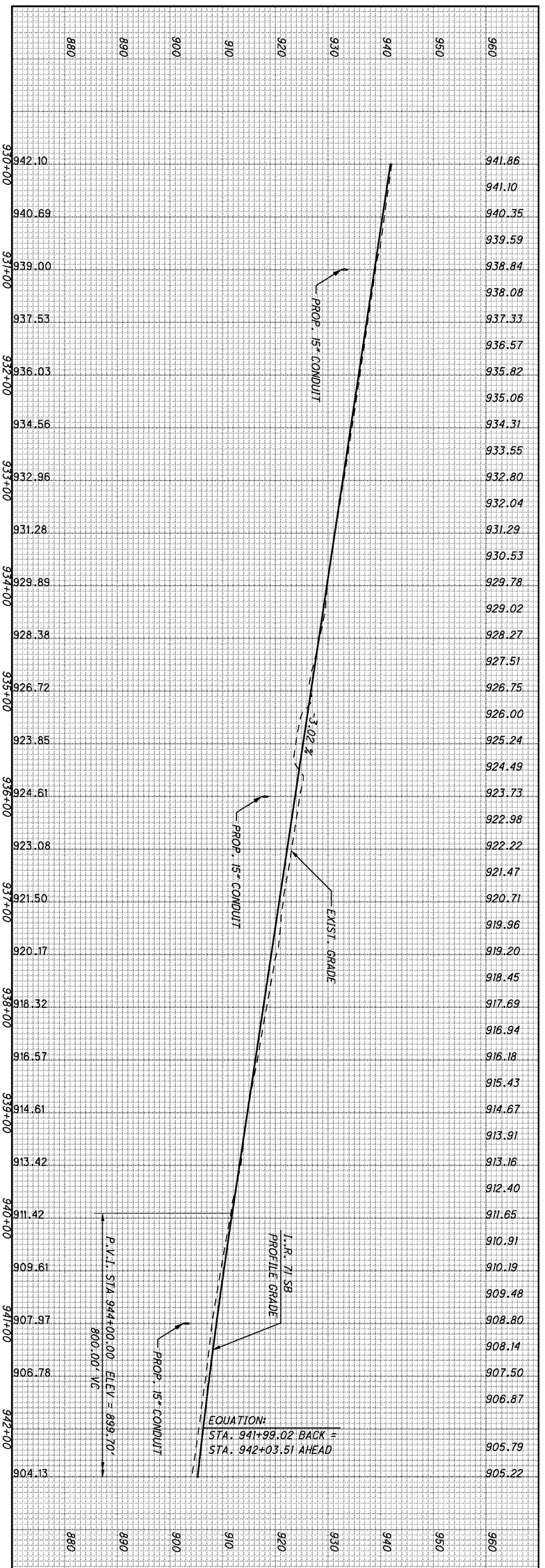
WAR-71-14.20

PROFILES - I.R. 71 SB & I.R. 71 NB
STA. 917+50.00 TO STA. 930+00.00

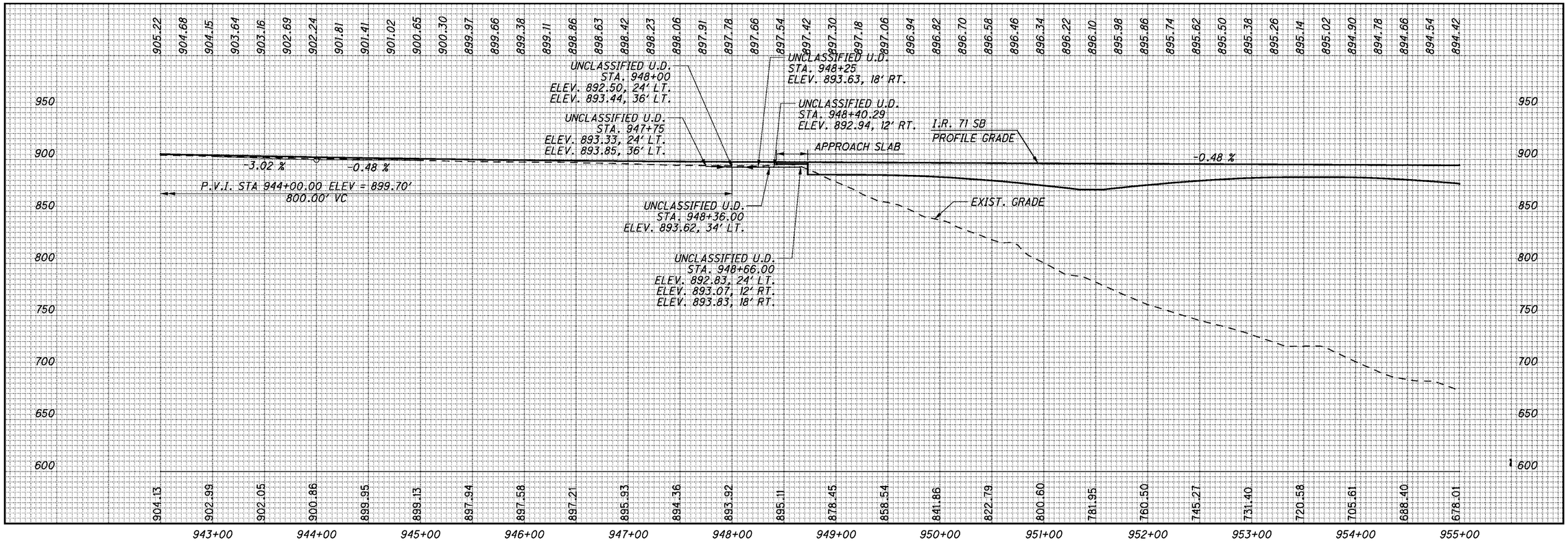
CALCULATED JSU
CHECKED BBD

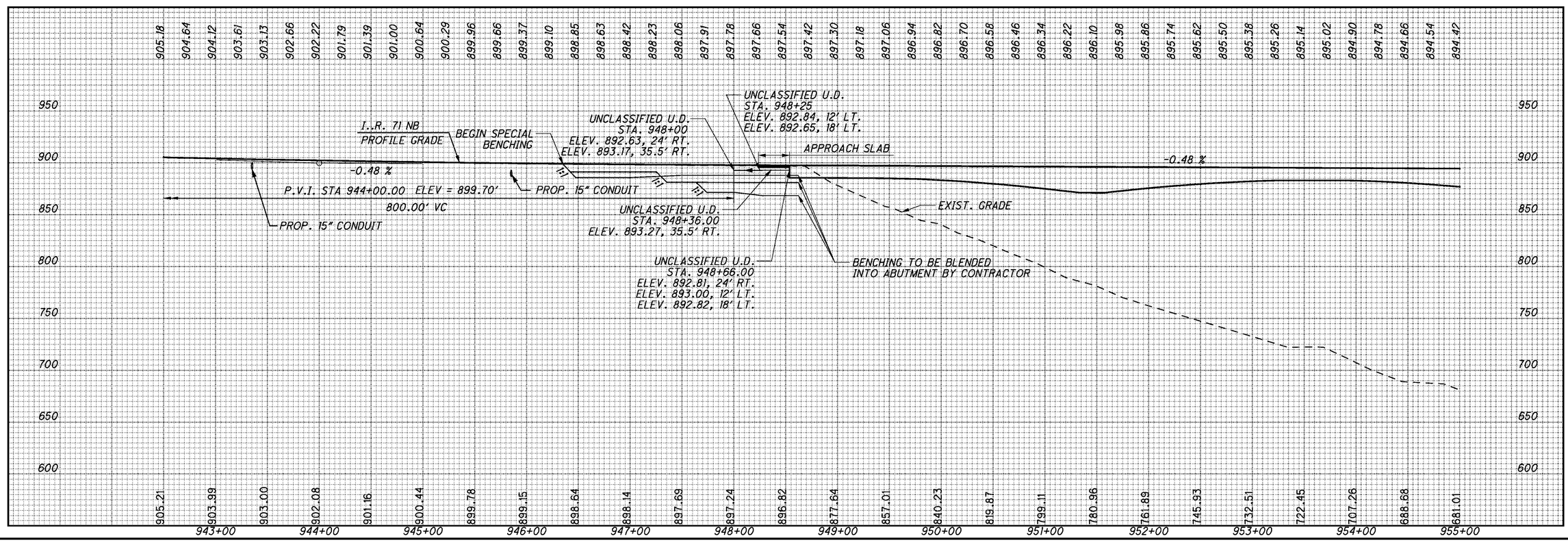
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126 / 470	WAR-71-14.20	PROFILES - I.R. 71 SB & I.R. 71 NB STA. 930+00.00 TO STA. 942+50.00	CALCULATED JSU CHECKED BBD



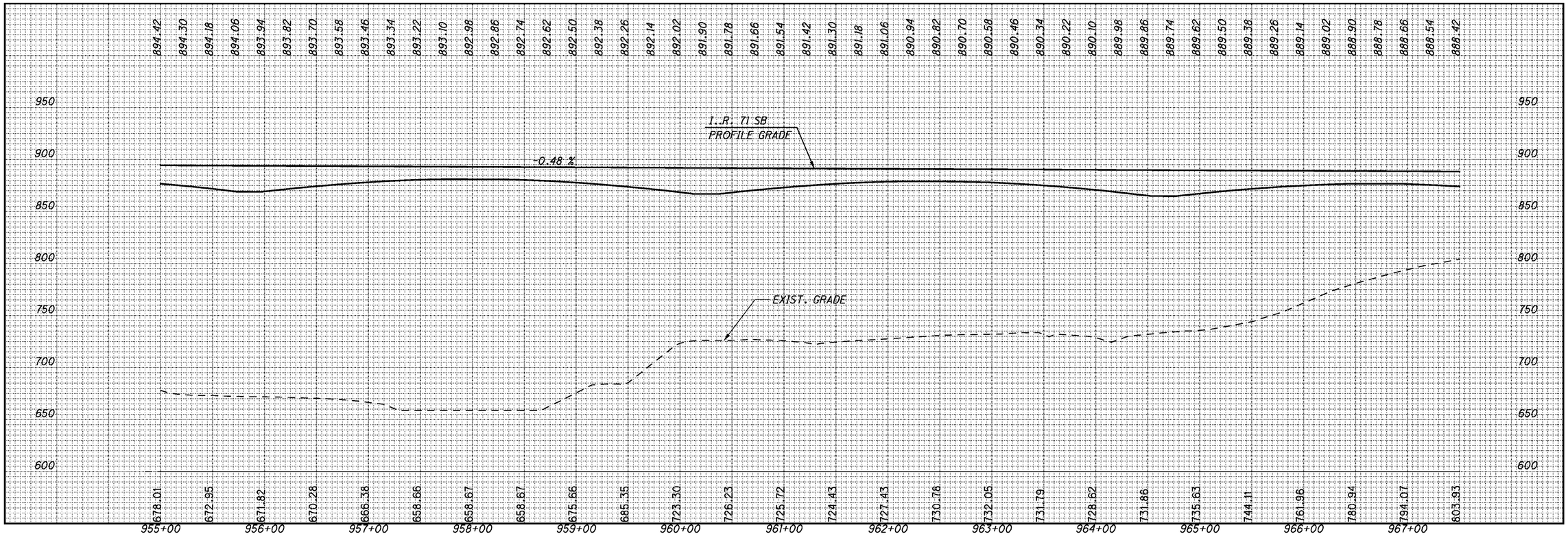


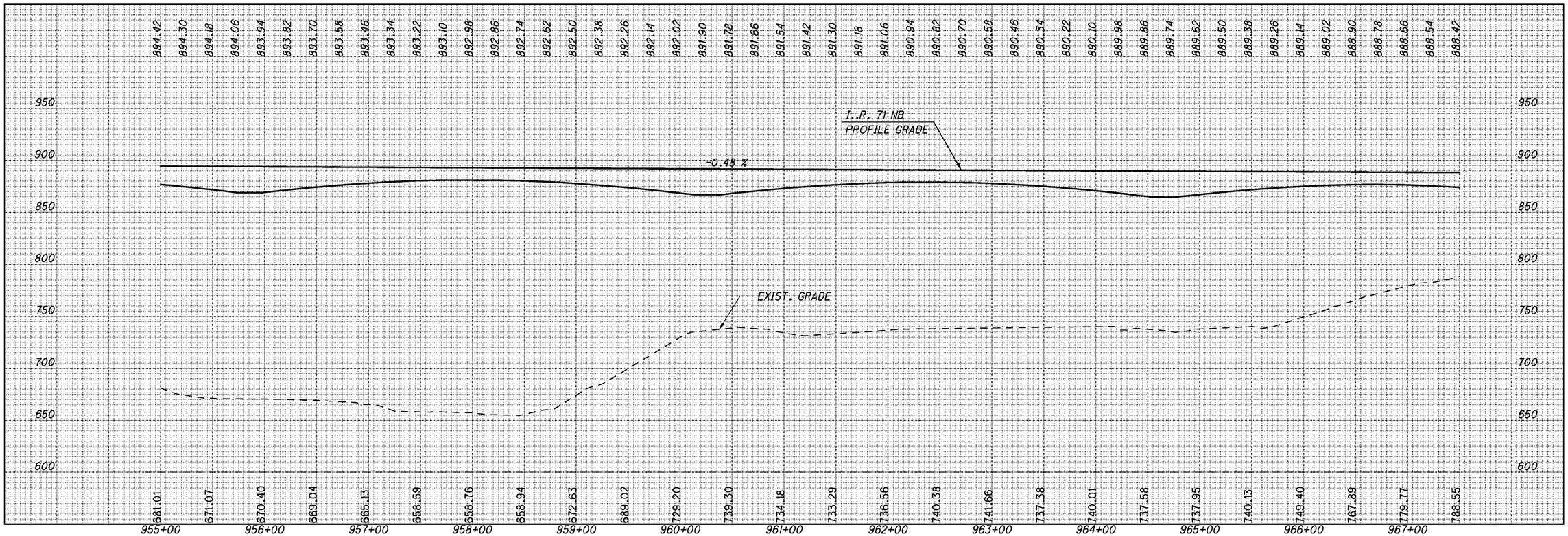
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CALCULATED JSU
CHECKED BBD

PROFILES - I.R. 71 SB & I.R. 71 NB
STA. 942+50.00 TO STA. 955+00.00

WAR-71-14.20





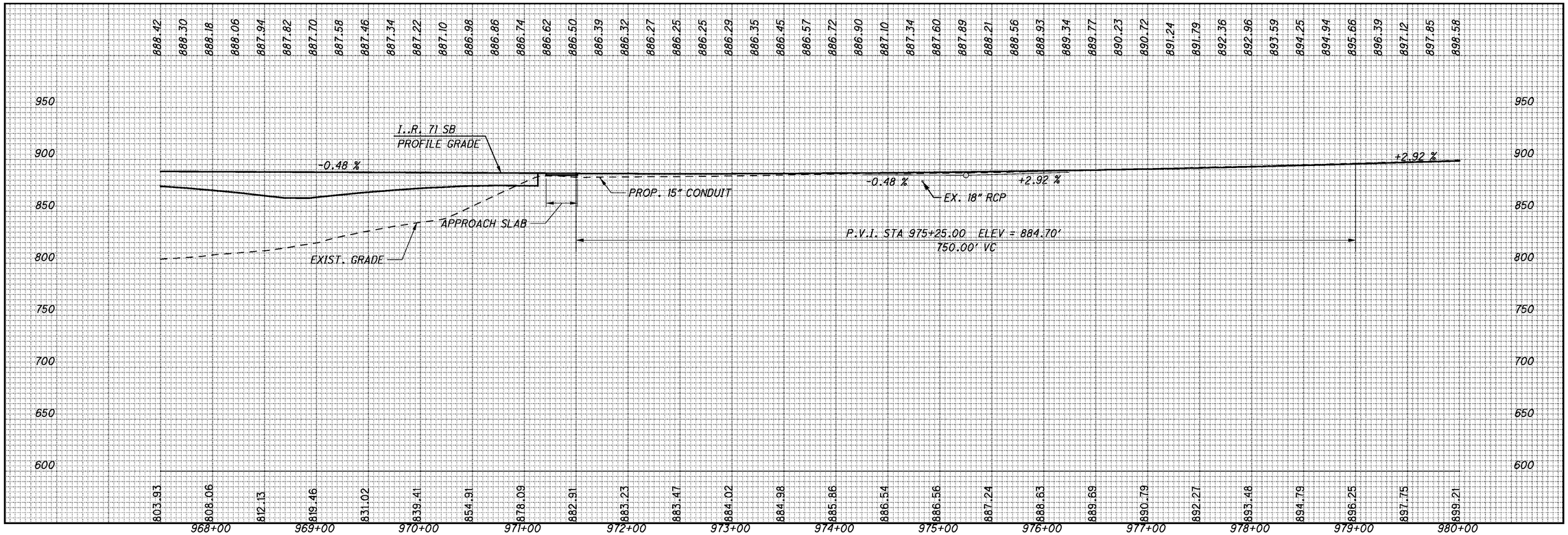
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CHECKED BBD

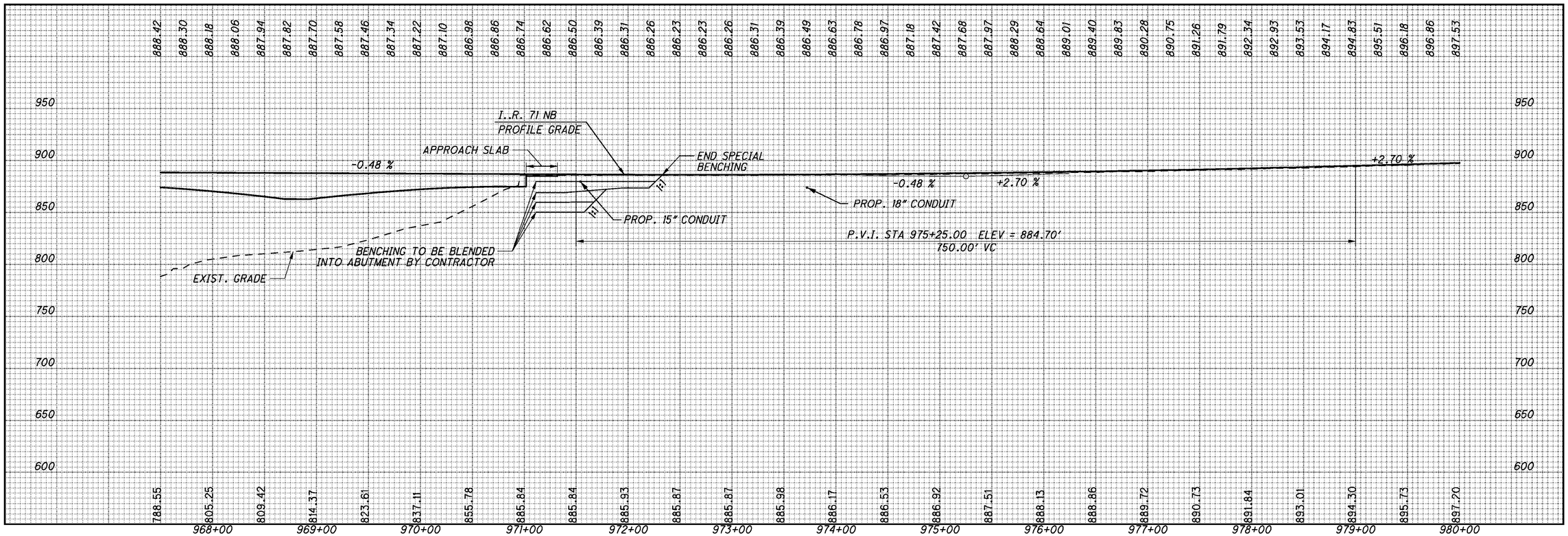
PROFILES - I.R. 71 SB & I.R. 71 NB
STA. 955+00.00 TO STA. 967+50.00

WAR-71-14.20

128
470

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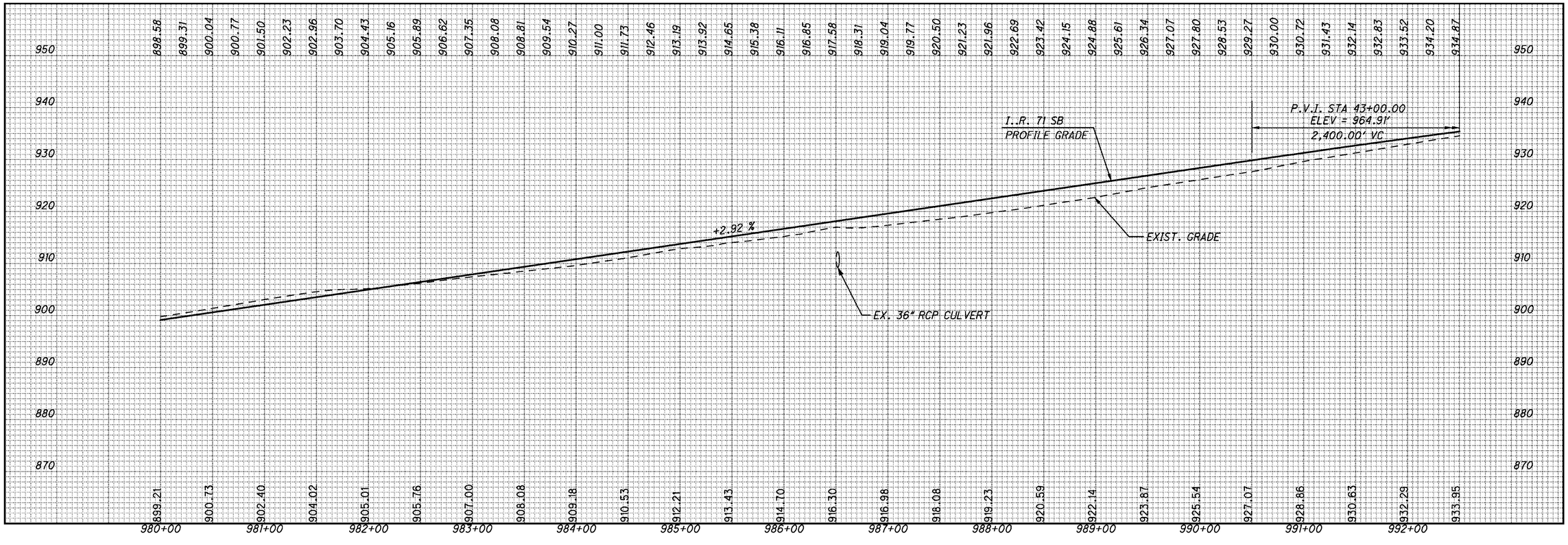


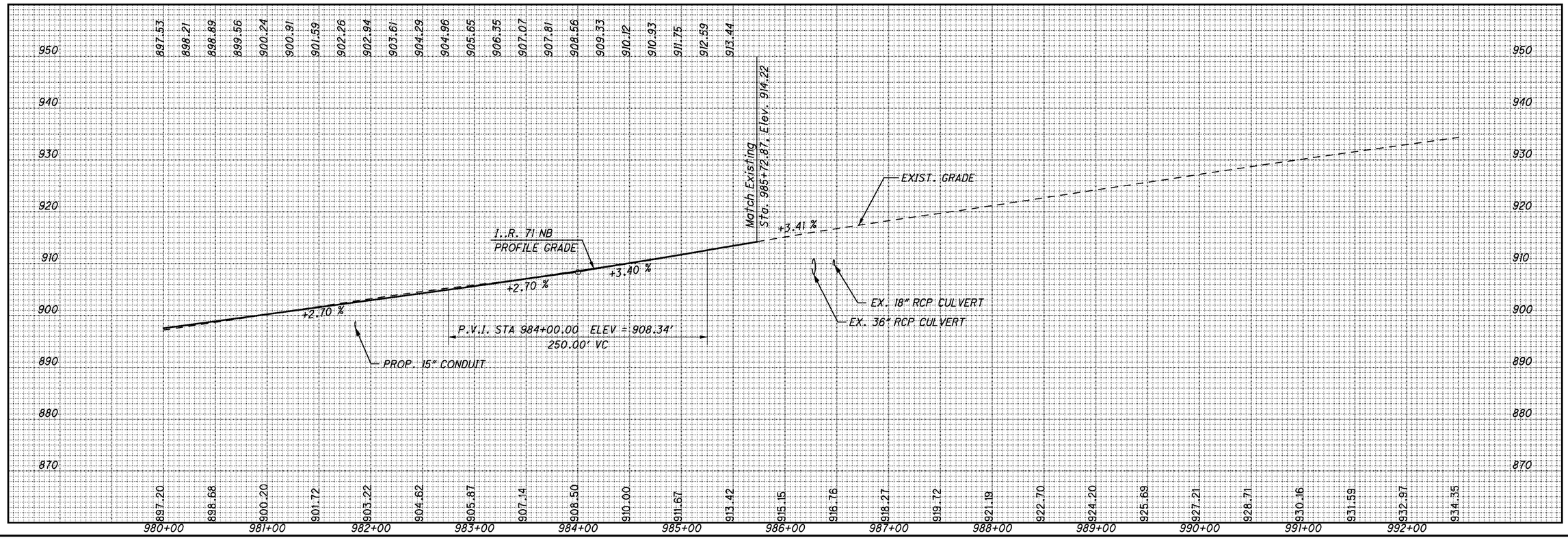
CALCULATED JSU
CHECKED BBD

PROFILES - I.R. 71 SB & I.R. 71 NB
STA. 967+50.00 TO STA. 980+00.00

WAR-71-14.20

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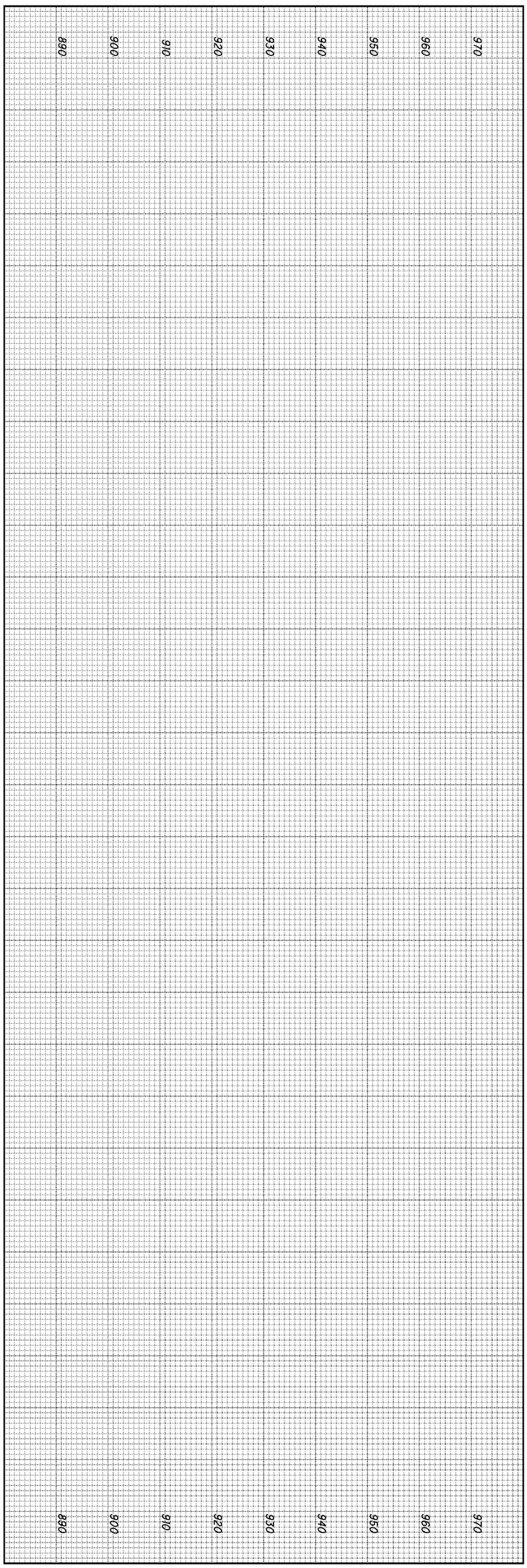
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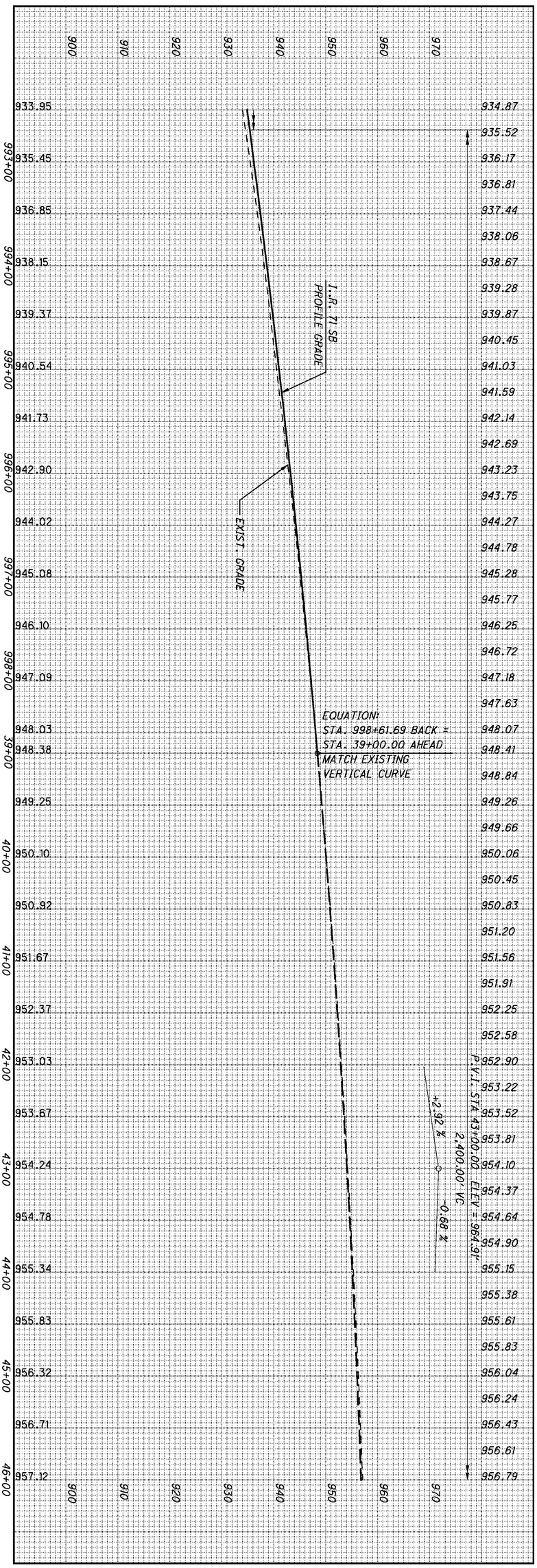
CALCULATED JSU
CHECKED BBD

PROFILES - I.R. 71 SB & I.R. 71 NB
STA. 980+00.00 TO STA. 992+50.00

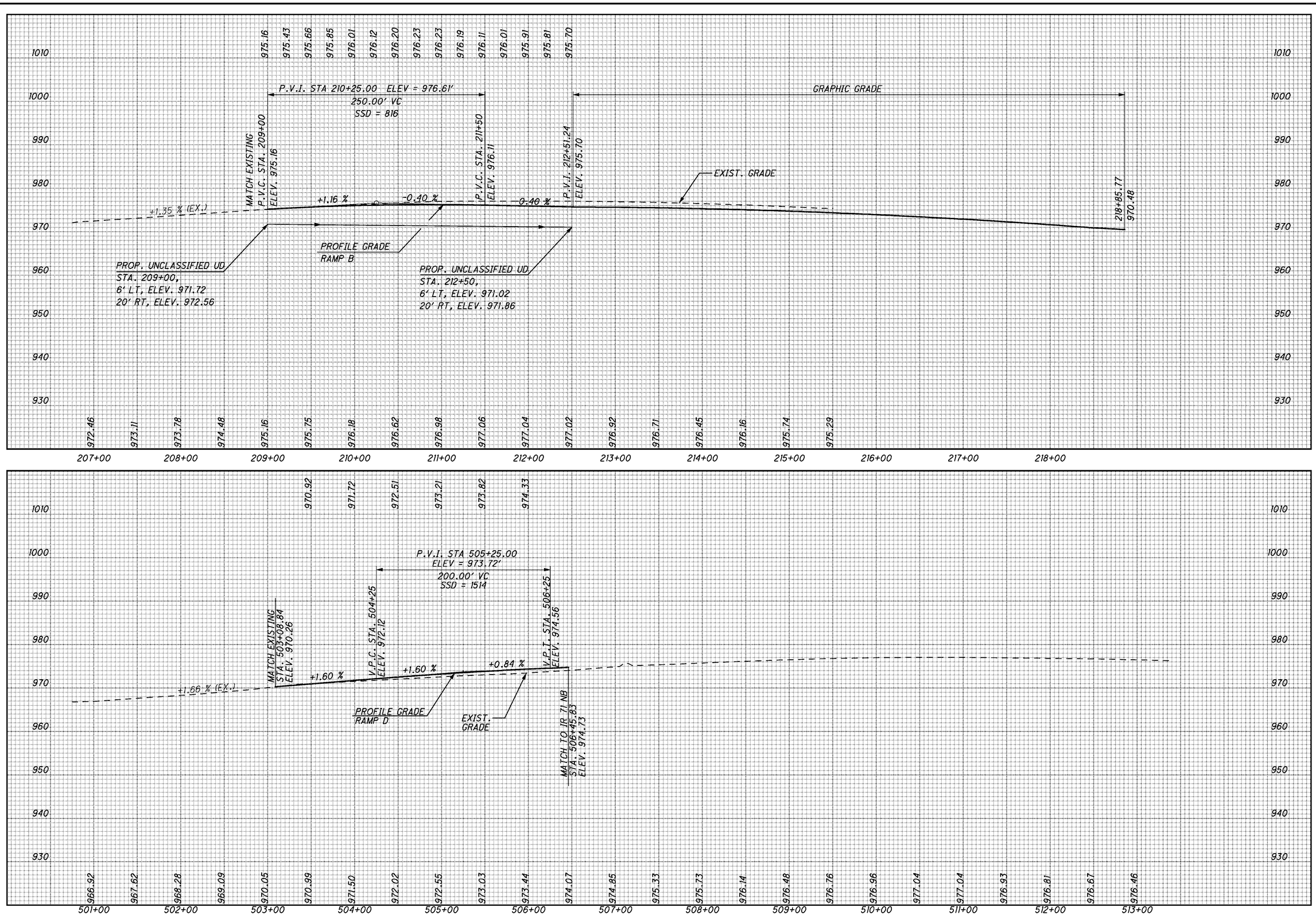
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131 / 470	WAR-71-14.20	PROFILE - I.R. 71 SB STA. 992+50.00 TO STA. 46+00.00	CALCULATED JSU CHECKED BBD



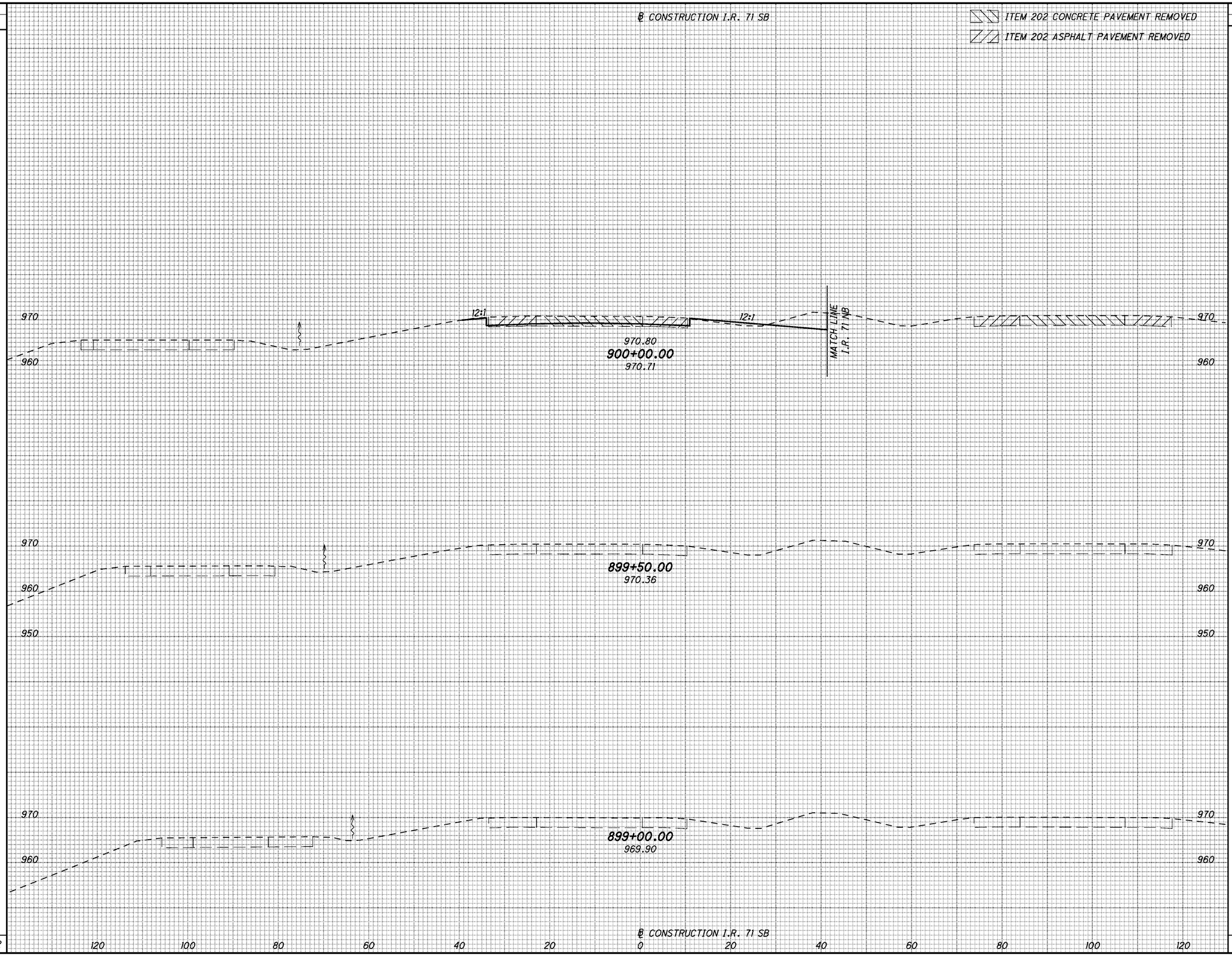
CALCULATED JSU
CHECKED BBD

PROFILES - RAMP B & RAMP D

WAR-71-14.20

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SEEDING	
END WIDTH	SQ. YDS.
	181
40	
	111
0	
	292



END AREA		VOLUME	
CUT	FILL	CUT	FILL
105	7		
		97	6
0	0		
		97	6

CALCULATED MER
CHECKED RWK

CROSS SECTIONS

STA. 899+00.00 TO STA. 900+00.00

WAR-71-14.20

133
470

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SEEDING	
END WIDTH	SQ. YDS.
	306
29	
	144
23	
	133
25	
	583

℄ CONSTRUCTION I.R. 71 SB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED

STA 901+70.46, 118.93' LT
CB-6, GRATE ELEV 966.61
E ELEV NW= 960.66
E ELEV NE=960.76
E ELEV E=960.88

STA 900+38.35, 81.80' LT
EX. CB-2-2A, GRATE ELEV 962.29
E ELEV N,S= UNKNOWN

STA 900+38.81, 24.25' RT
EX. CB-2-2A, GRATE ELEV 968.56
E ELEV N,S,NE= 959.96

971.79
901+50.00
971.80

971.46
901+00.00
971.52

971.13
900+50.00
971.17

MATCH LINE I.R. 71 NB

12:1 6:1

Prop. Masonary Collar

4'

15'-21" Conduit, Type C @ 6.17%±

END AREA		VOLUME	
CUT	FILL	CUT	FILL
119	3		
		218	6
117	3		
		209	11
109	9		
		198	14
		625	31

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 900+50.00 TO STA. 901+50.00

WAR-71-14.20

134
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:43PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
	542
97	
	542
98	
	522
90	
	475
81	
	2,081

℄ CONSTRUCTION I.R. 71 SB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED

STA 903+35.50, 122.64' LT
CB-6, GRATE ELEV 968.07
℄ ELEV E= 957.47
℄ ELEV NE=962.82

980 / 970 / 960

8:1 — 966.6 — 8:1 — 12:1 — 6:1

973.12
903+50.00
973.00

MATCH LINE
I.R. 71 NB

8:1 — 966.1 — 8:1 — 12:1 — 6:1

972.79
903+00.00
972.76

8:1 — 965.6 — 8:1 — 12:1 — 6:1

972.46
902+50.00
972.42

8:1 — 965.2 — 8:1 — 6:1

972.12
902+00.00
972.15

120 100 80 60 40 20 0 20 40 60 80 100 120

℄ CONSTRUCTION I.R. 71 SB

END AREA		VOLUME	
CUT	FILL	CUT	FILL
154	5		
		284	8
153	3		
143	4		
139	4		
		261	8
		238	7
		1,057	30

CALCULATED MER
CHECKED RWK

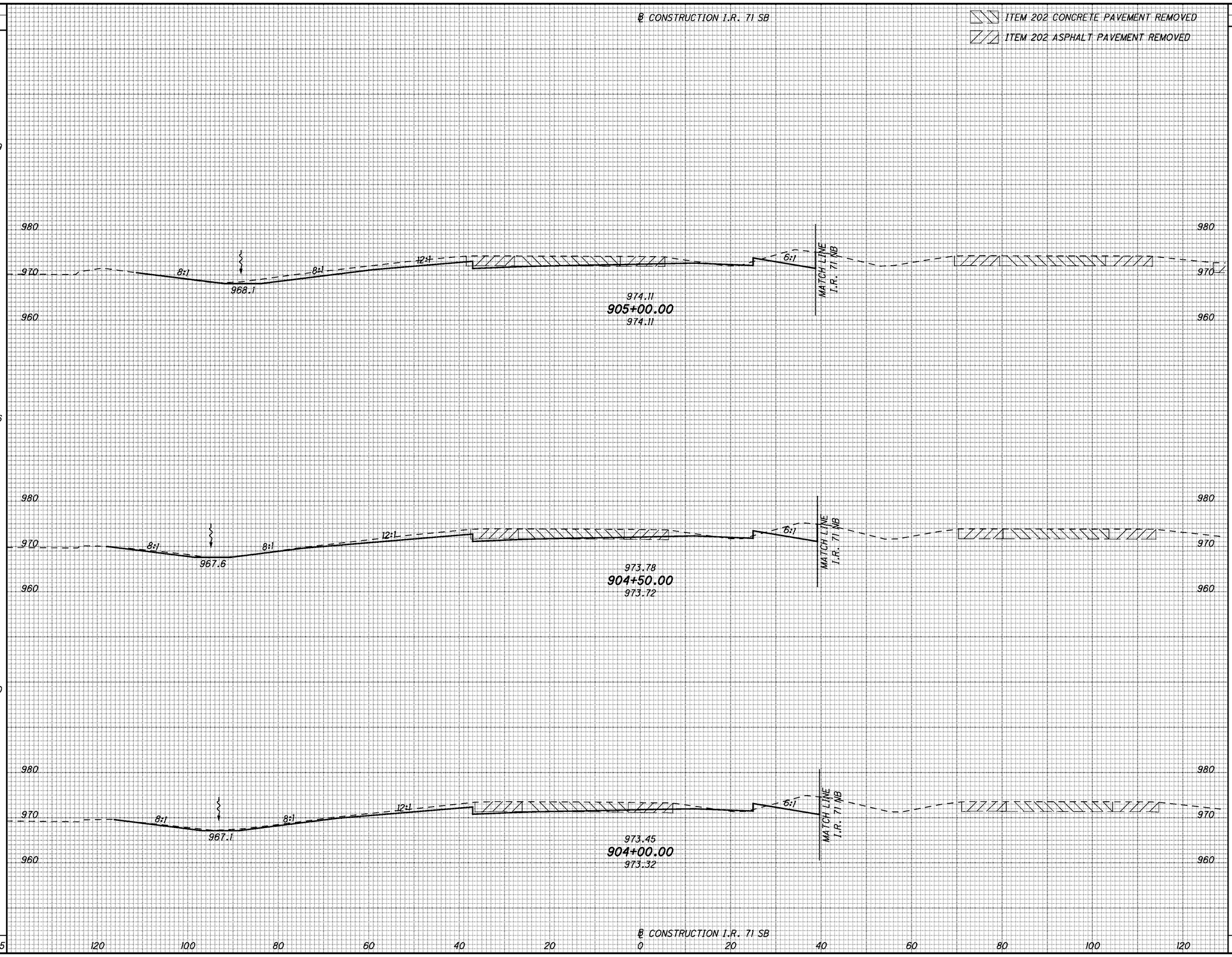
CROSS SECTIONS
STA. 902+00.00 TO STA. 903+50.00

WAR-71-14.20

135
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:44PM Kduffney

SEEDING END WIDTH	SEEDING SQ. YDS.
	539
93	
	536
100	
	550
98	
	1,625



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
181	3		
		315	5
159	3		
		290	5
154	3		
		285	7
		890	17

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 904+00.00 TO STA. 905+00.00

WAR-71-14.20

136
470

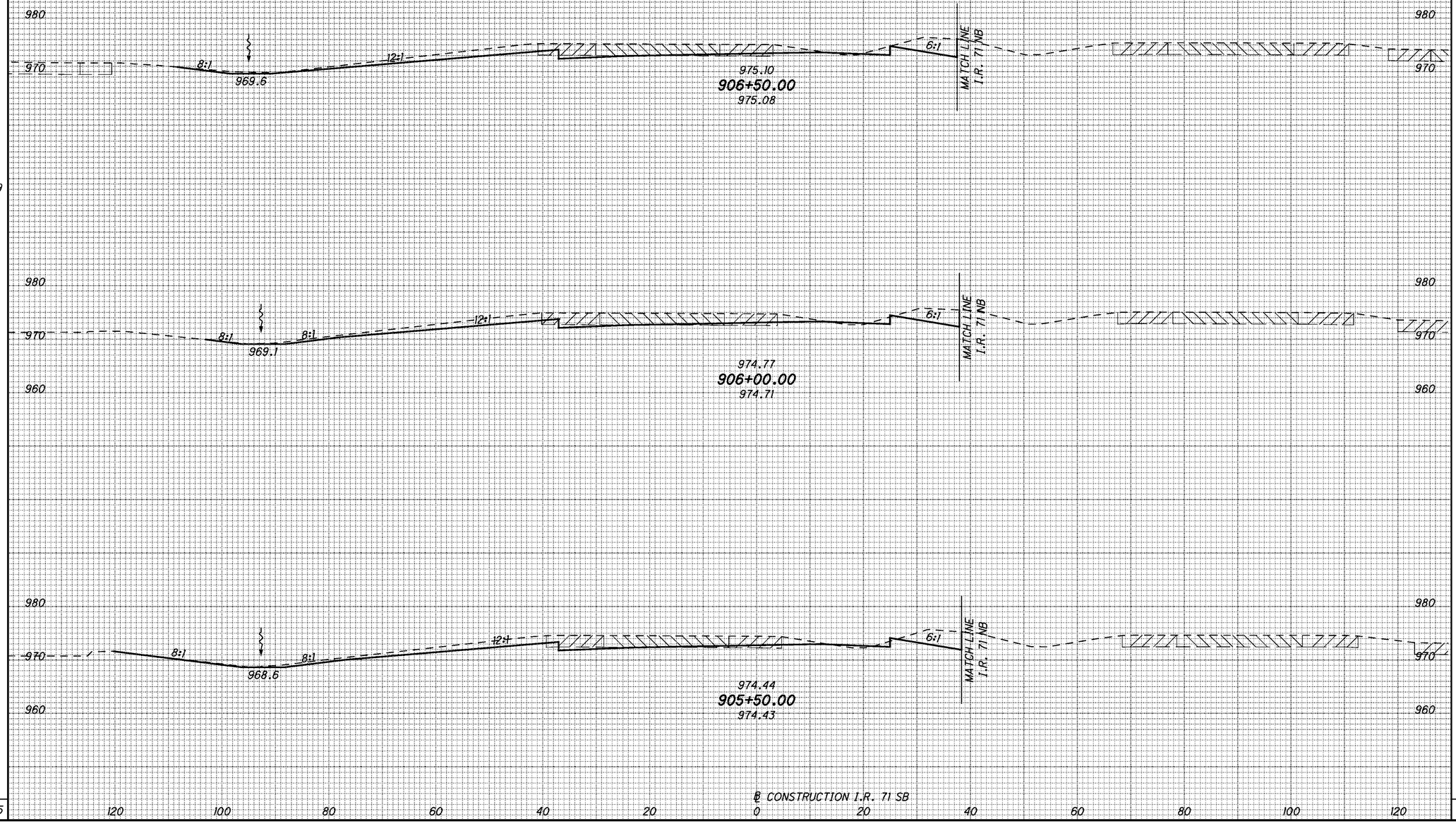
J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 02-SEP-2008 3:21PM Kduffrey

SEEDING END WIDTH	SEEDING SQ. YDS.
	475
86	
	469
83	
	511
101	
	1,455

℄ CONSTRUCTION I.R. 71 SB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
171	1		
		311	3
165	2		
		310	4
170	3		
		325	6
		946	13

CALCULATED MER

CHECKED RWK

CROSS SECTIONS
STA. 905+50.00 TO STA. 906+50.00

WAR-71-14.20

137
470

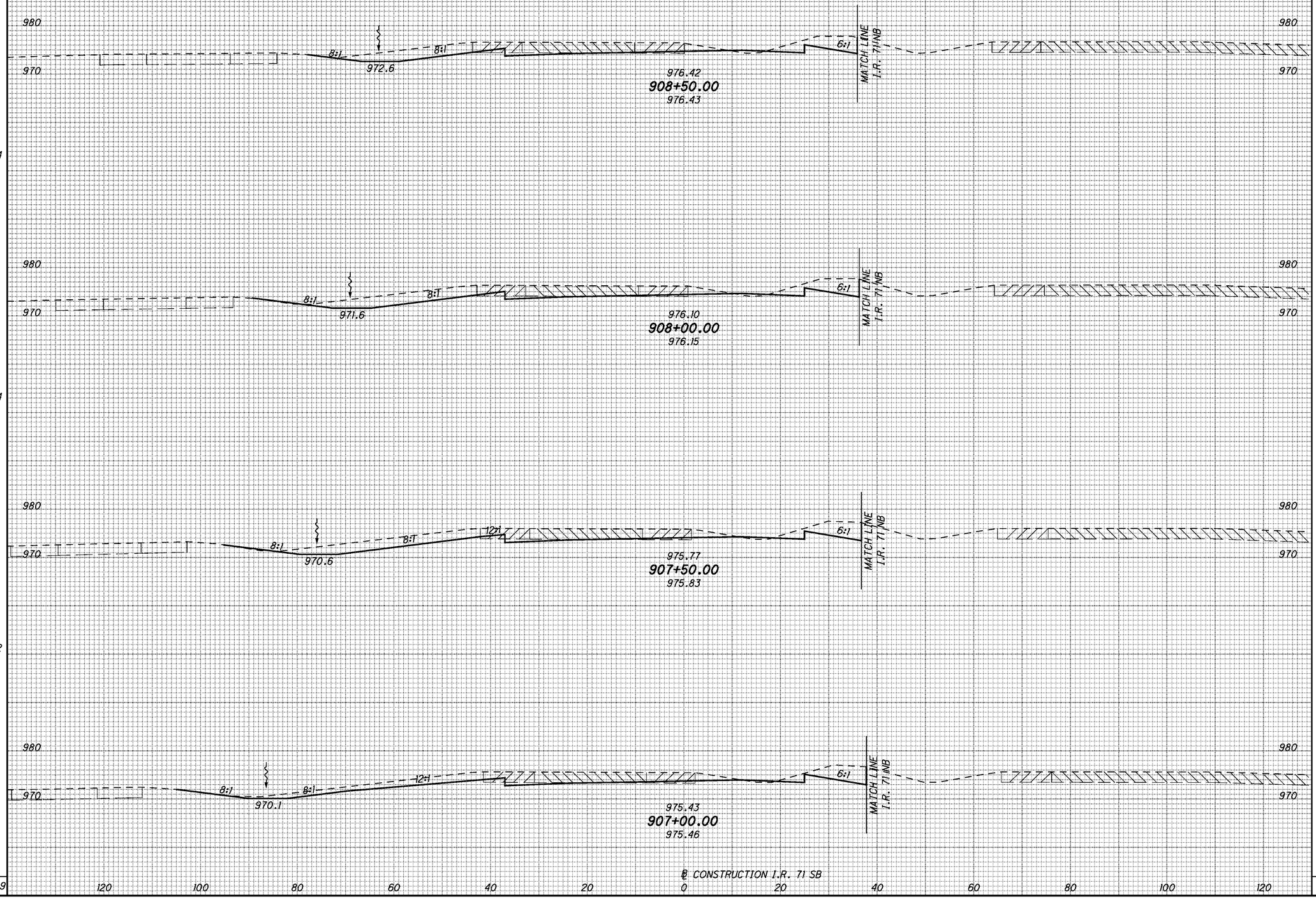
J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:44PM Kduffney

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	269				
56		191	3		
	344			370	5
68		208	3		
	394			391	6
74		213	3		
	442			375	5
85		192	2		
				336	3
1,449				1,472	19

℄ CONSTRUCTION I.R. 71 SB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



CALCULATED MER

CHECKED RWK

CROSS SECTIONS

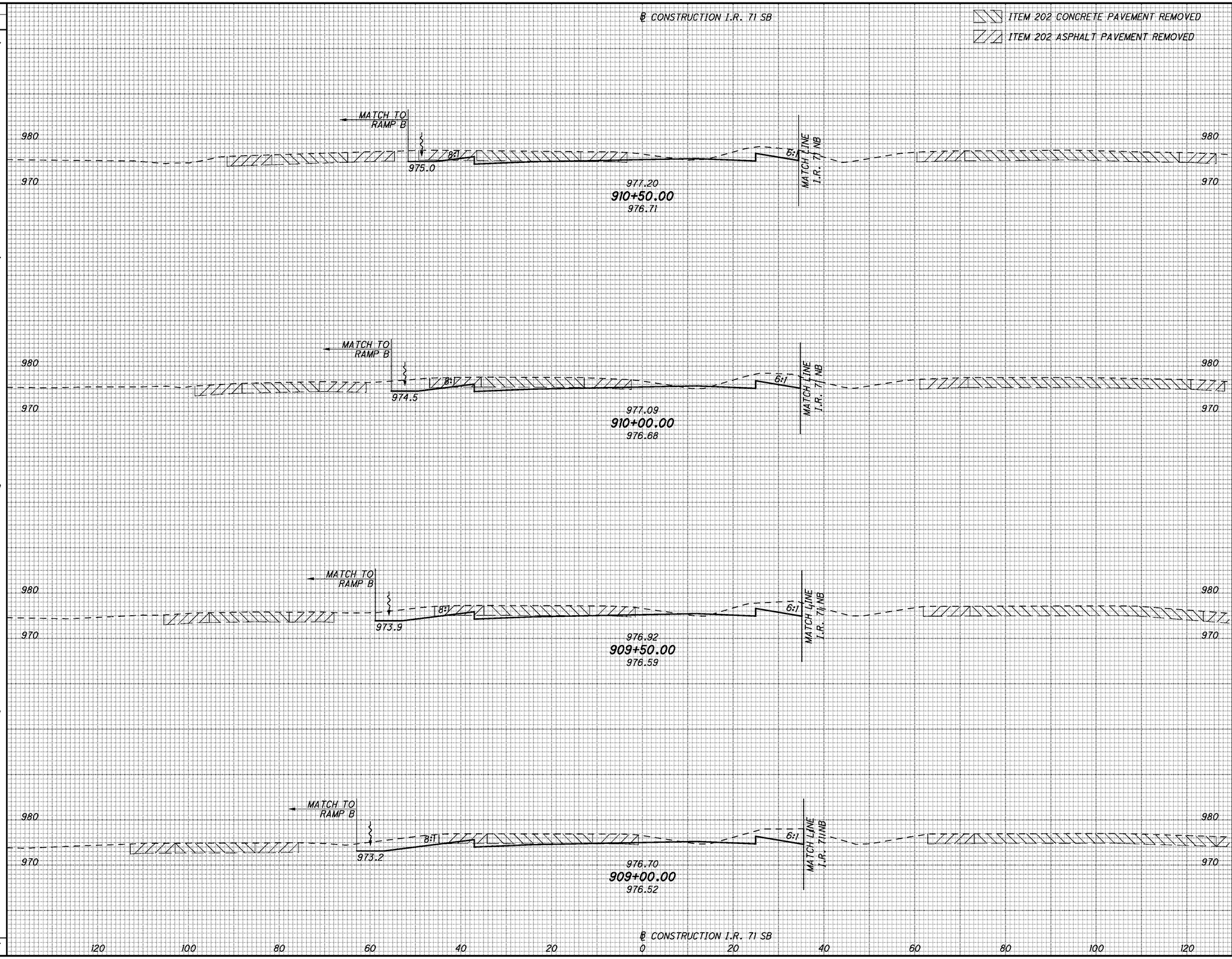
STA. 907+00.00 TO STA. 908+50.00

WAR-71-14.20

138
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:44PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
	147
28	
	167
32	
	189
36	
	214
41	
	717



END AREA		VOLUME	
CUT	FILL	CUT	FILL
153	1		
		303	4
174	3		
		324	4
176	2		
		331	4
181	2		
		345	5
		1,303	17

CALCULATED MER
CHECKED RWK

CROSS SECTIONS

STA. 909+00.00 TO STA. 910+50.00

WAR-71-14.20

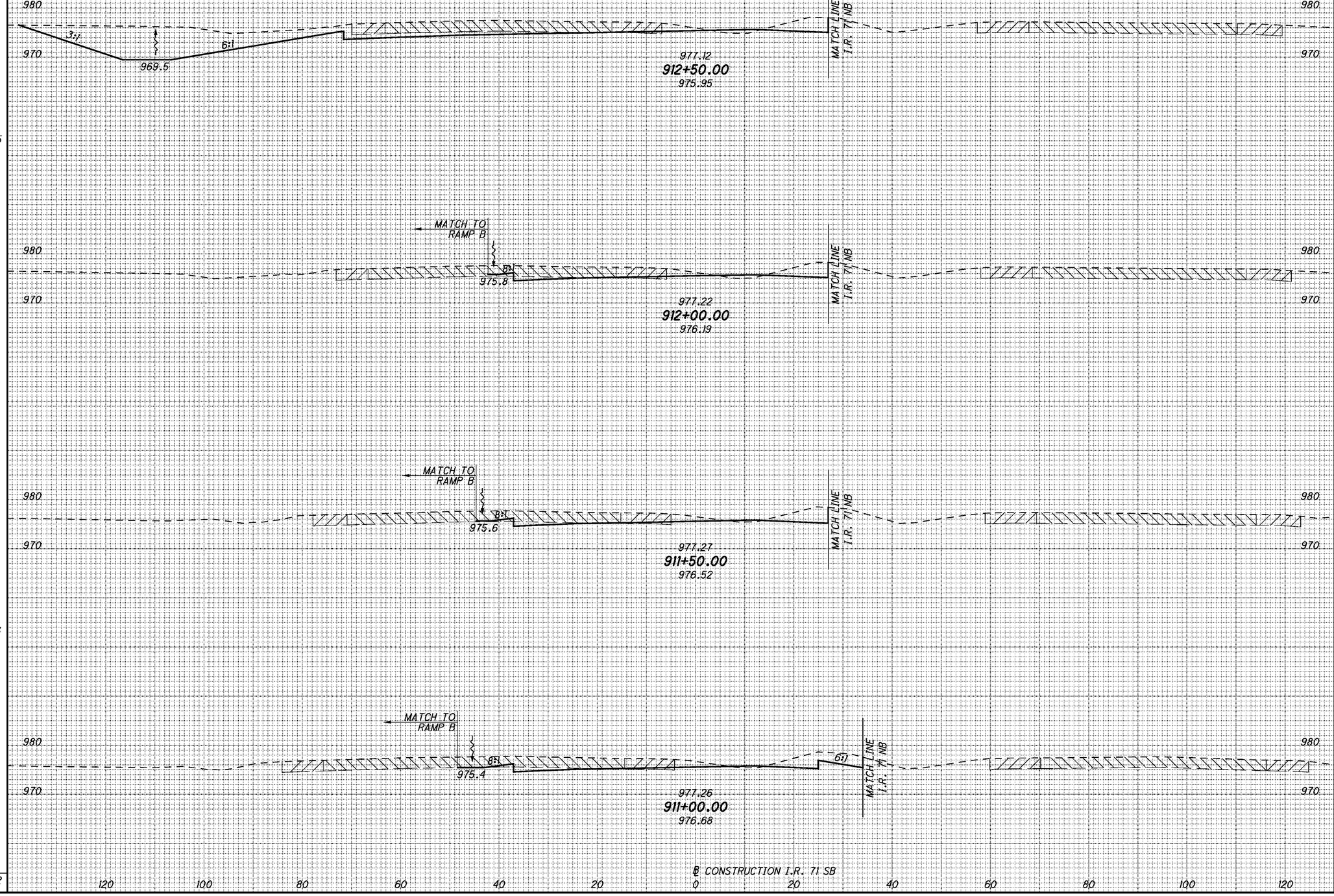
139
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:44PM Kduffney

B CONSTRUCTION I.R. 71 SB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	406				
72		453	5		
	225			523	9
9		112	5		
	58			217	6
12		122	2		
	103			249	3
25		147	2		
				277	3
	792			1,266	21

CALCULATED MER

CHECKED RWK

CROSS SECTIONS

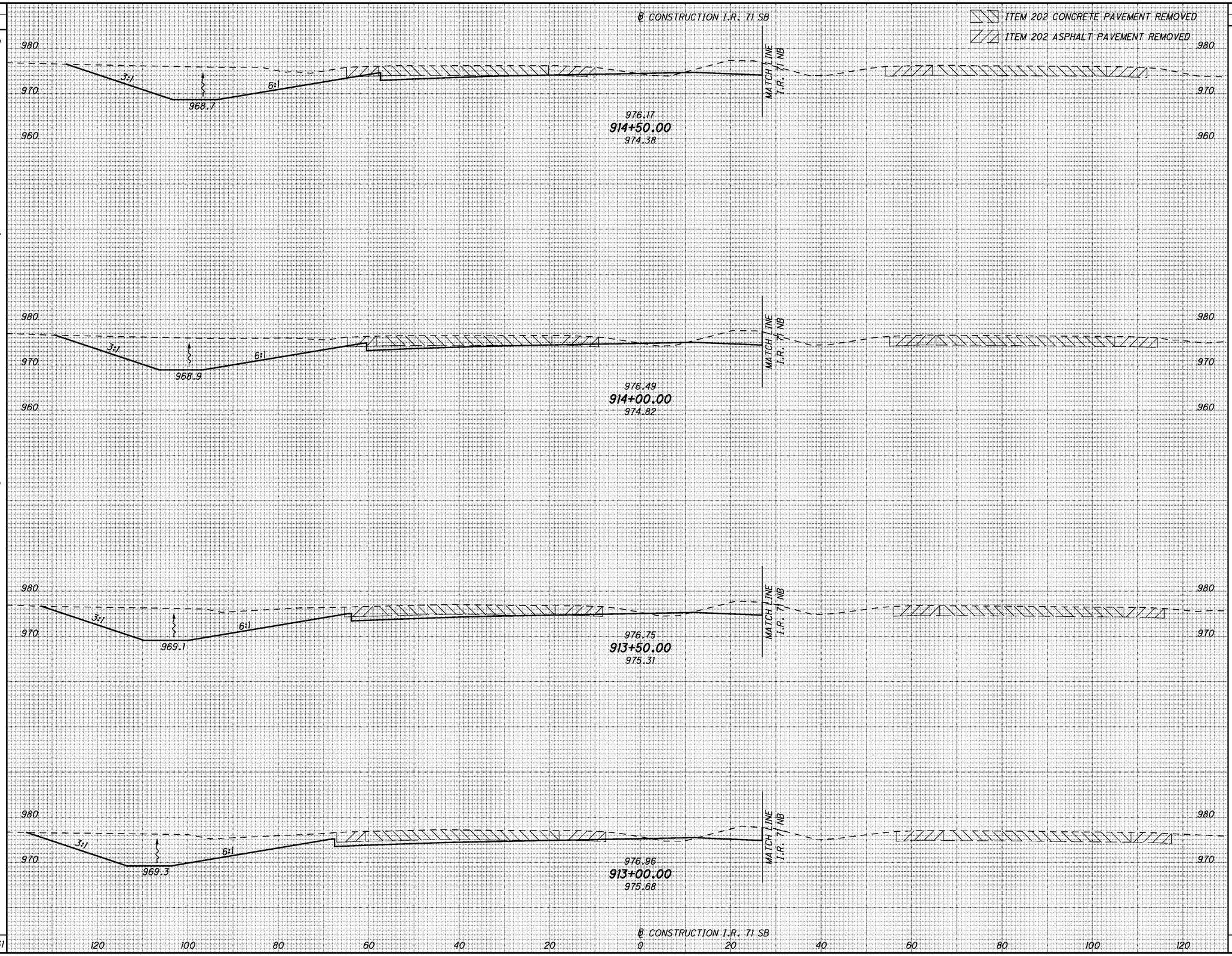
STA. 911+00.00 TO STA. 912+50.00

WAR-71-14.20

140
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:44PM Kduffney

SEEDING END WIDTH	SEEDING SQ. YDS.
	419
75	
	417
75	
	414
74	
	411
74	
	1,661



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
452	4		
		847	8
462	4		
		864	8
471	4		
		870	9
469	5		
		853	9
		3,434	34

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
913+00.00 TO STA. 914+50.00

WAR-71-14.20

141
470

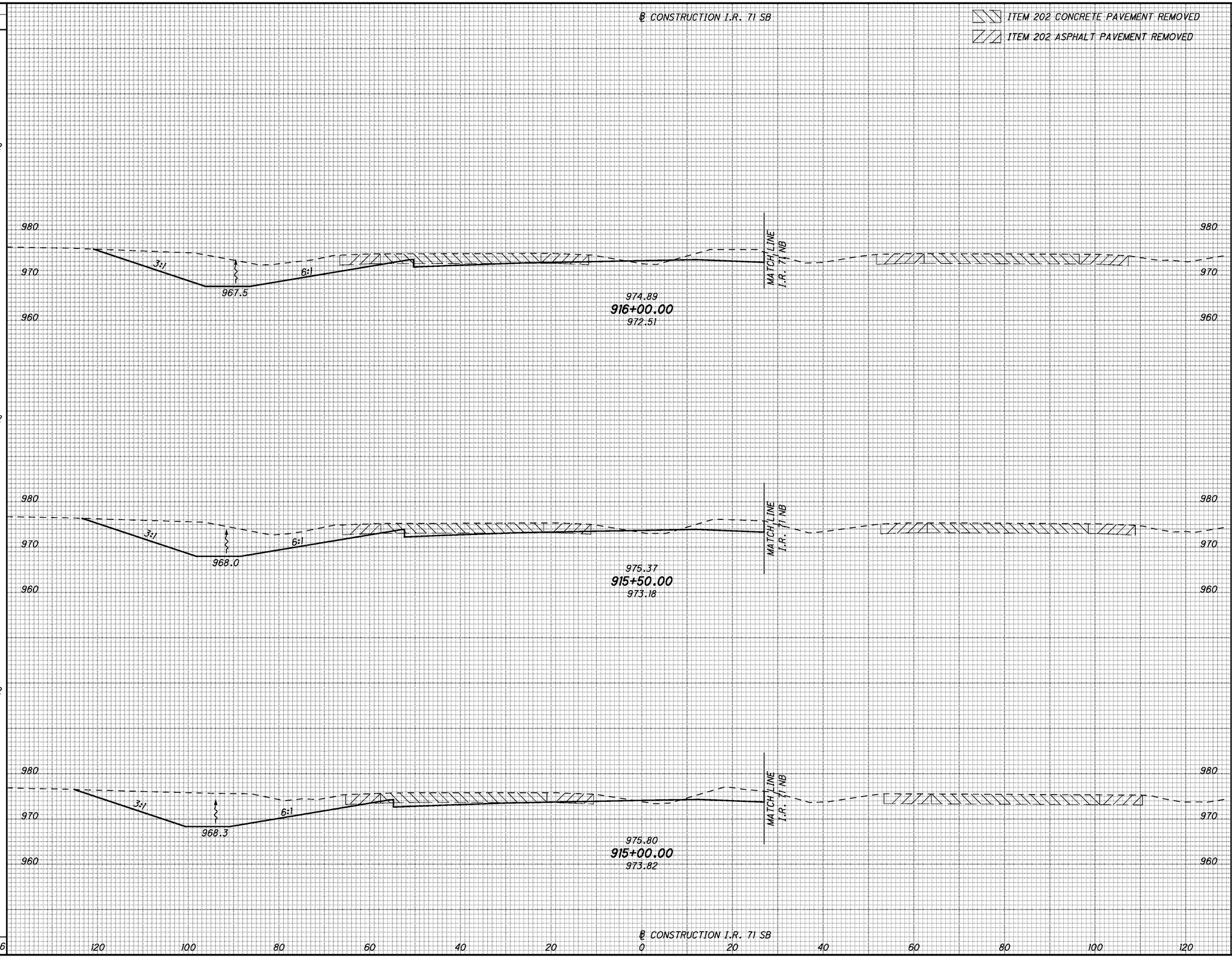
J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:44PM Kduffney

SEEDING END WIDTH	SEEDING SQ. YDS.
76	422
76	422
76	422
	1,266

℄ CONSTRUCTION I.R. 71 SB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
398	5	753	10
415	5	798	10
447	5	833	9
		2,384	29

CALCULATED MER

CHECKED RWK

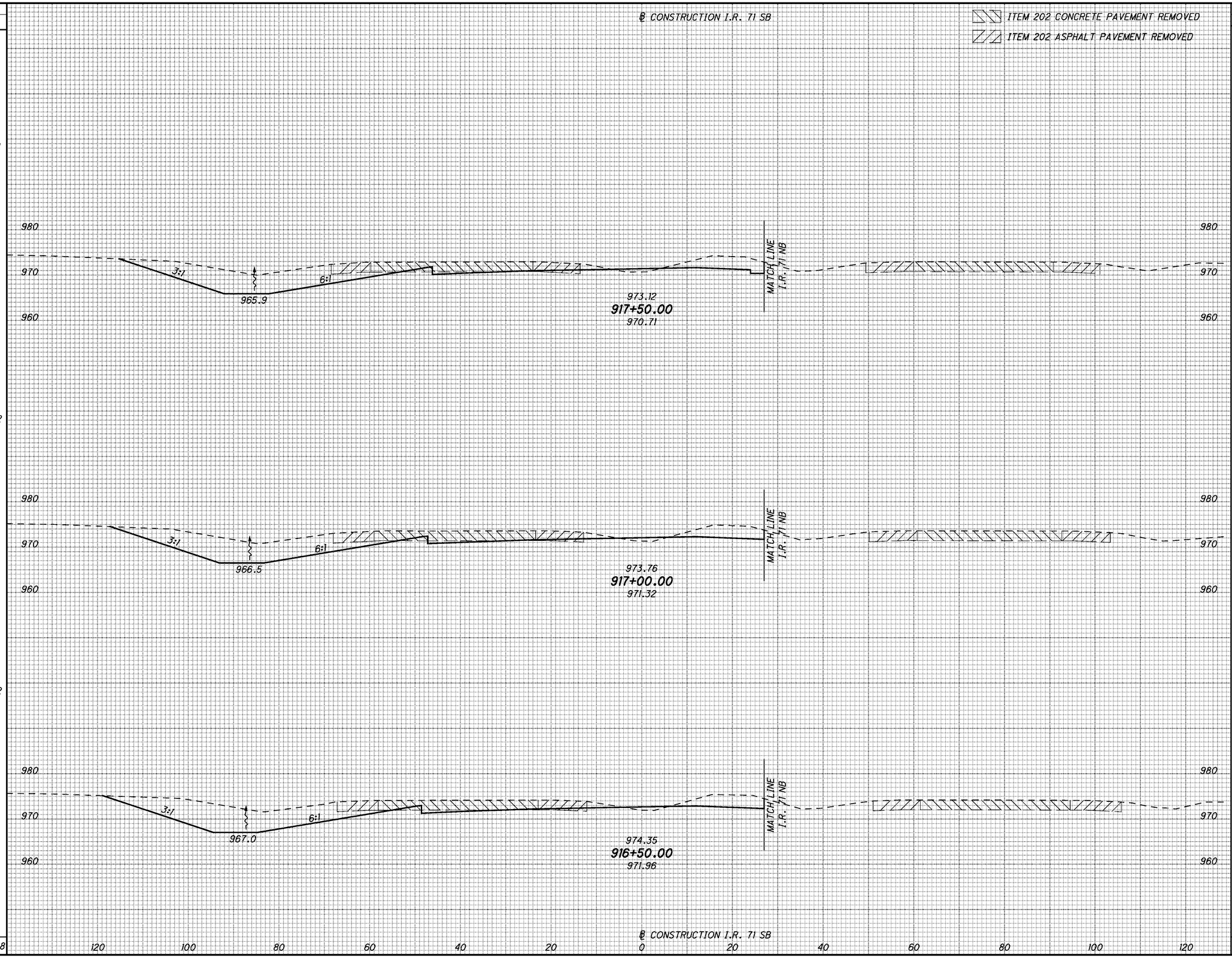
CROSS SECTIONS
915+00.00 TO STA. 916+00.00

WAR-71-14.20

142
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:44PM Kduffney

SEEDING END WIDTH	SEEDING SQ. YDS.
	414
76	
	422
76	
	422
76	
	1,258



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
357	5		
		671	10
367	6		
		697	10
386	5		
		726	9
		2,094	29

CALCULATED MER
CHECKED RWK

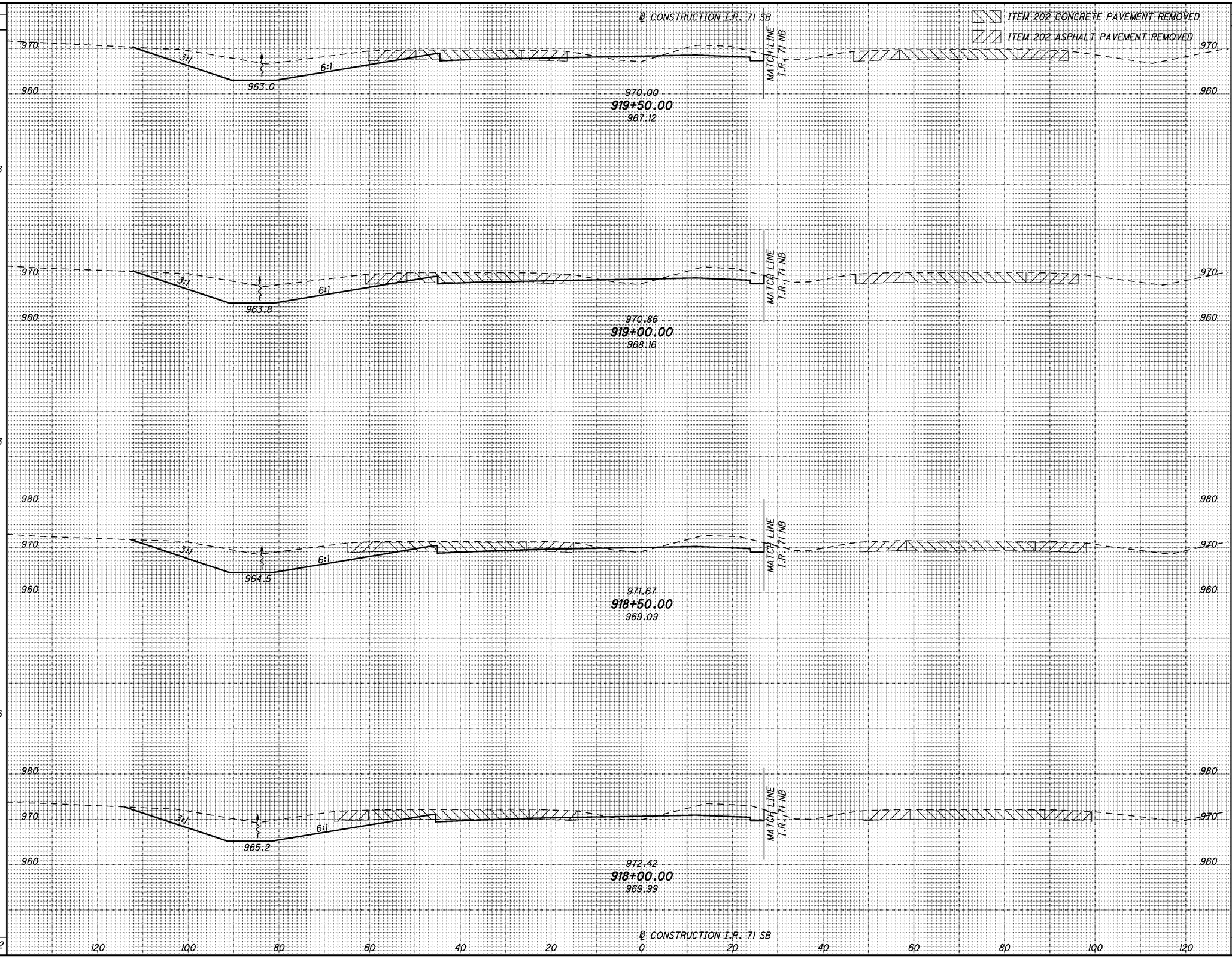
CROSS SECTIONS
916+50.00 TO STA. 917+50.00

WAR-71-14.20

143
470

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SEEDING END WIDTH	SEEDING SQ. YDS.
73	403
72	403
73	406
73	
	1,212



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
297	9		
		556	16
303	8		
		322	14
45	7		
		366	11
351	5		
		656	10
		1,900	51

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
918+00.00 TO STA. 919+50.00

WAR-71-14.20

144
470

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SEEDING END WIDTH	SEEDING SQ. YDS.
	411
74	
	433
82	
	439
76	
	414
	1,697

℄ CONSTRUCTION I.R. 71 SB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED

STA 921+03.35, 28.56' RT
Prop. Inlet No. 3 for
Single Slope Barrier, Type C1
GRATE ELEV 965.03, Y = 9.90"
℄ 15" (W) = 961.07
℄ 6" U.D. (SE) = 962.31
℄ 6" U.D. (SW) = 962.74
℄ 6" U.D. (SW) = 962.57
℄ 6" U.D. (NW) = 963.14

980
970
960
950

3:1
2:1
959.9
℄ ELEV. = 959.90
HW=2.2
ITEM 601, 5' x 4' x 1.5' RCP TYPE C, W/FILTER FABRIC
103' - 15" CONDUIT, TYPE B @ 1.14%
967.09
921+00.00
964.83
MATCH LINE I.R. 71 NB

970
960

3:1
6:1
960.7
968.12
920+50.00
965.64
MATCH LINE I.R. 71 NB

970
960

3:1
6:1
961.5
969.09
920+00.00
966.31
MATCH LINE I.R. 71 NB

℄ CONSTRUCTION I.R. 71 SB

120 100 80 60 40 20 0 20 40 60 80 100 120

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
243	9		
		516	16
314	9		
		560	17
291	9		
		545	17
		1,621	50

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 920+00.00 TO STA. 921+00.00

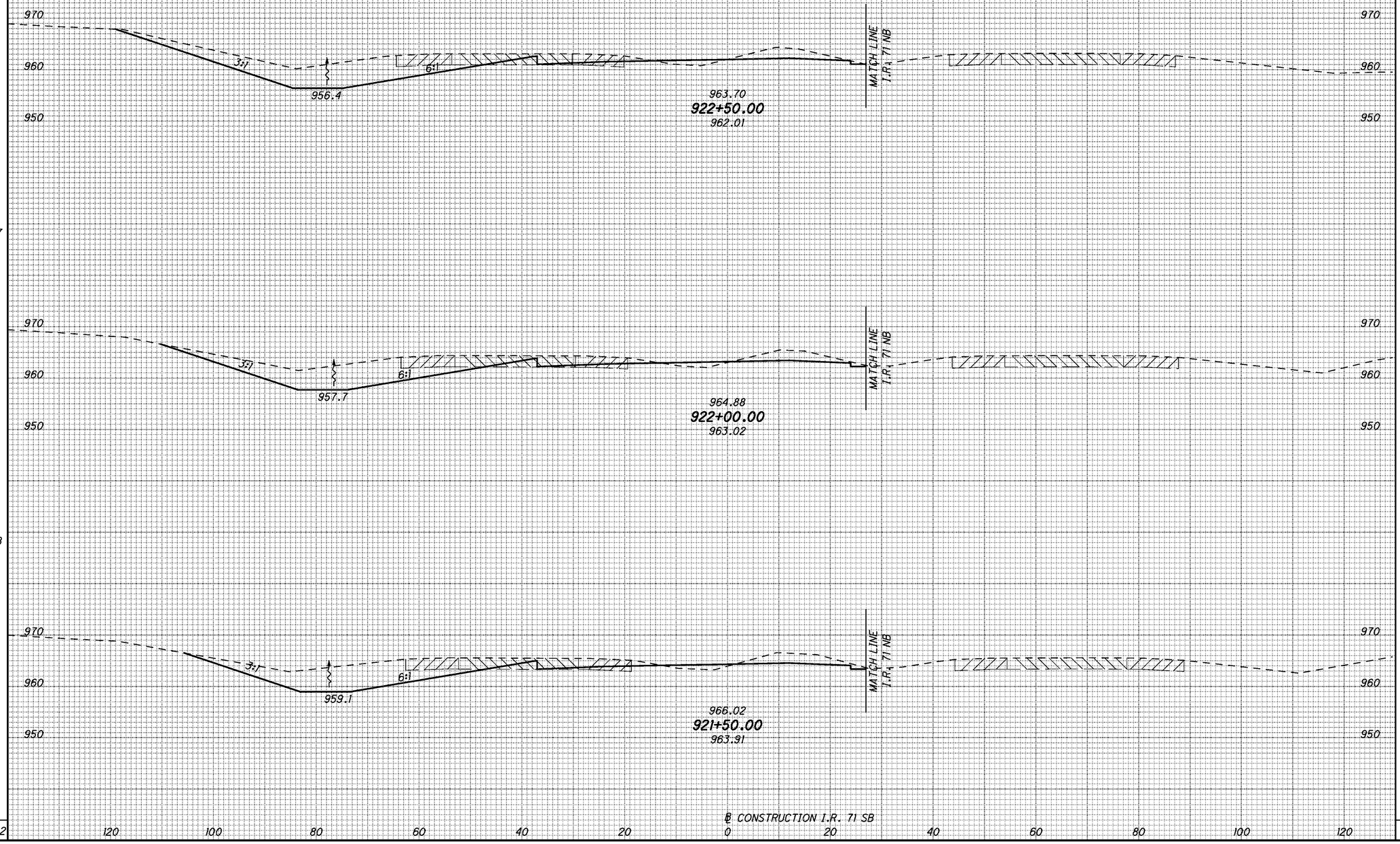
WAR-71-14.20

SEEDING END WIDTH	SEEDING SQ. YDS.
	497
88	
	467
80	
	428
74	
	1,392

Ⓑ CONSTRUCTION I.R. 71 SB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



Ⓑ CONSTRUCTION I.R. 71 SB

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
297	9		
		530	16
276	8		
		506	16
271	9		
		476	16
		1,512	48

CALCULATED MER

CHECKED RWK

CROSS SECTIONS
921+50.00 TO STA. 922+50.00

WAR-71-14.20

146
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:45PM Kduffney

SEEDING END WIDTH	SEEDING SQ. YDS.
97	469
72	453
91	506
91	
	1,428

℄ CONSTRUCTION I.R. 71 SB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED

960 / 950 — 3:1 — 951.1 — 6:1 — 958.42 — **924+50.00** — 957.21 — MATCH LINE I.R. 71 NB

960 / 950 — 3:1 — 952.5 — 6:1 — 959.82 — **924+00.00** — 958.46 — MATCH LINE I.R. 71 NB

970 / 960 / 950 — 3:1 — 953.8 — 6:1 — 961.17 — **923+50.00** — 959.77 — MATCH LINE I.R. 71 NB

970 / 960 / 950 — 3:1 — 955.1 — 6:1 — 962.46 — **923+00.00** — 961.21 — MATCH LINE I.R. 71 NB

STA 922+93.72, 6.99' LT
EX. CB-2-2A, INLET FILLED WITH GRAVEL & STANDING WATER

120 100 80 60 40 20 0 20 40 60 80 100 120

℄ CONSTRUCTION I.R. 71 SB

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
275	12		
		480	23
244	13		
		509	21
306	10		
		570	12
310	2		
		562	11
		2,121	67

CALCULATED MER
CHECKED RWK

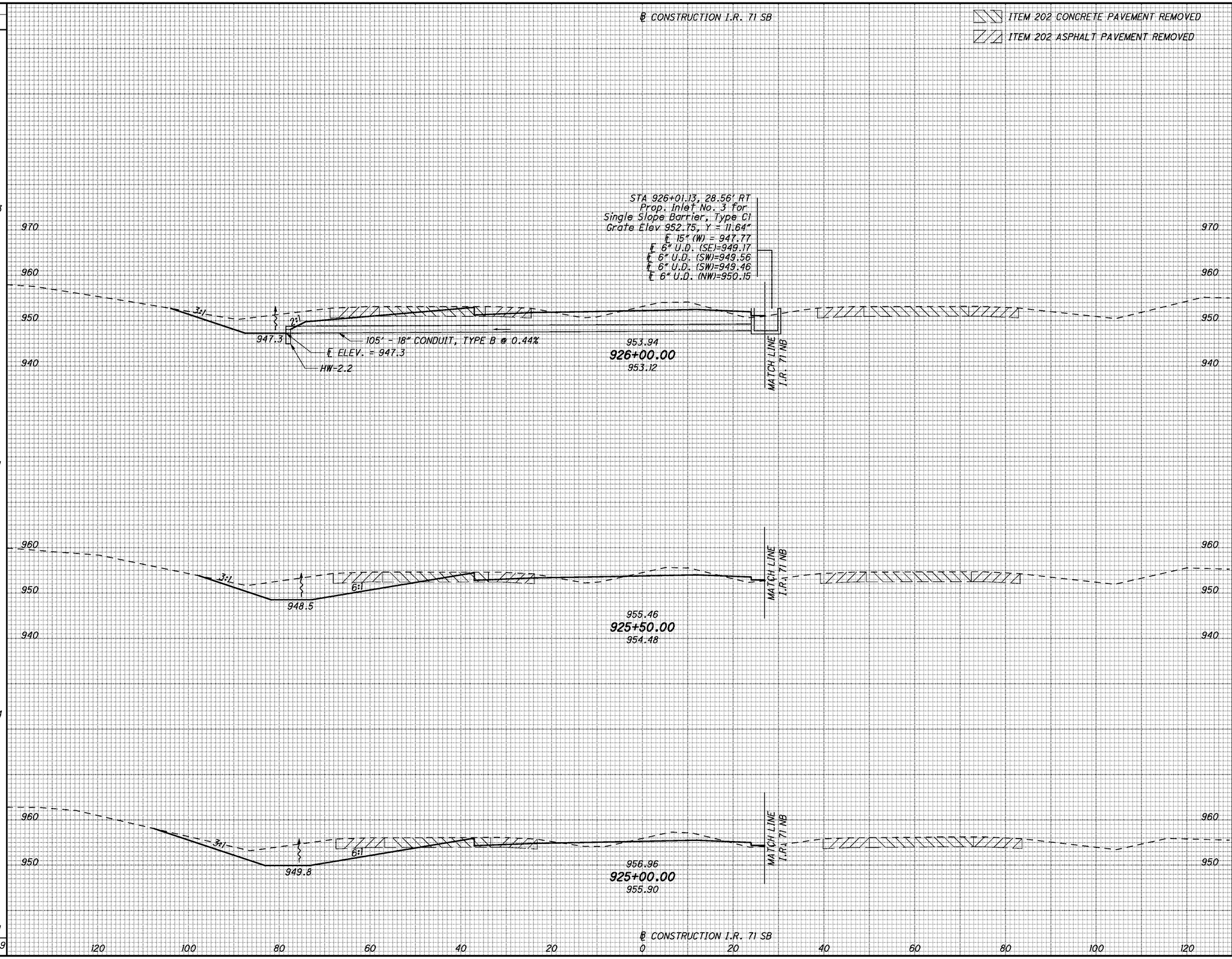
CROSS SECTIONS
923+00.00 TO STA. 924+50.00

WAR-71-14.20

147
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:45PM Kduffney

SEEDING END WIDTH	SEEDING SQ. YDS.
	433
71	
	381
66	
	394
76	
	481
	1,689



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
175	18		
		358	33
211	17		
		408	28
230	13		
		467	23
		1,233	84

CALCULATED MER
CHECKED RWK

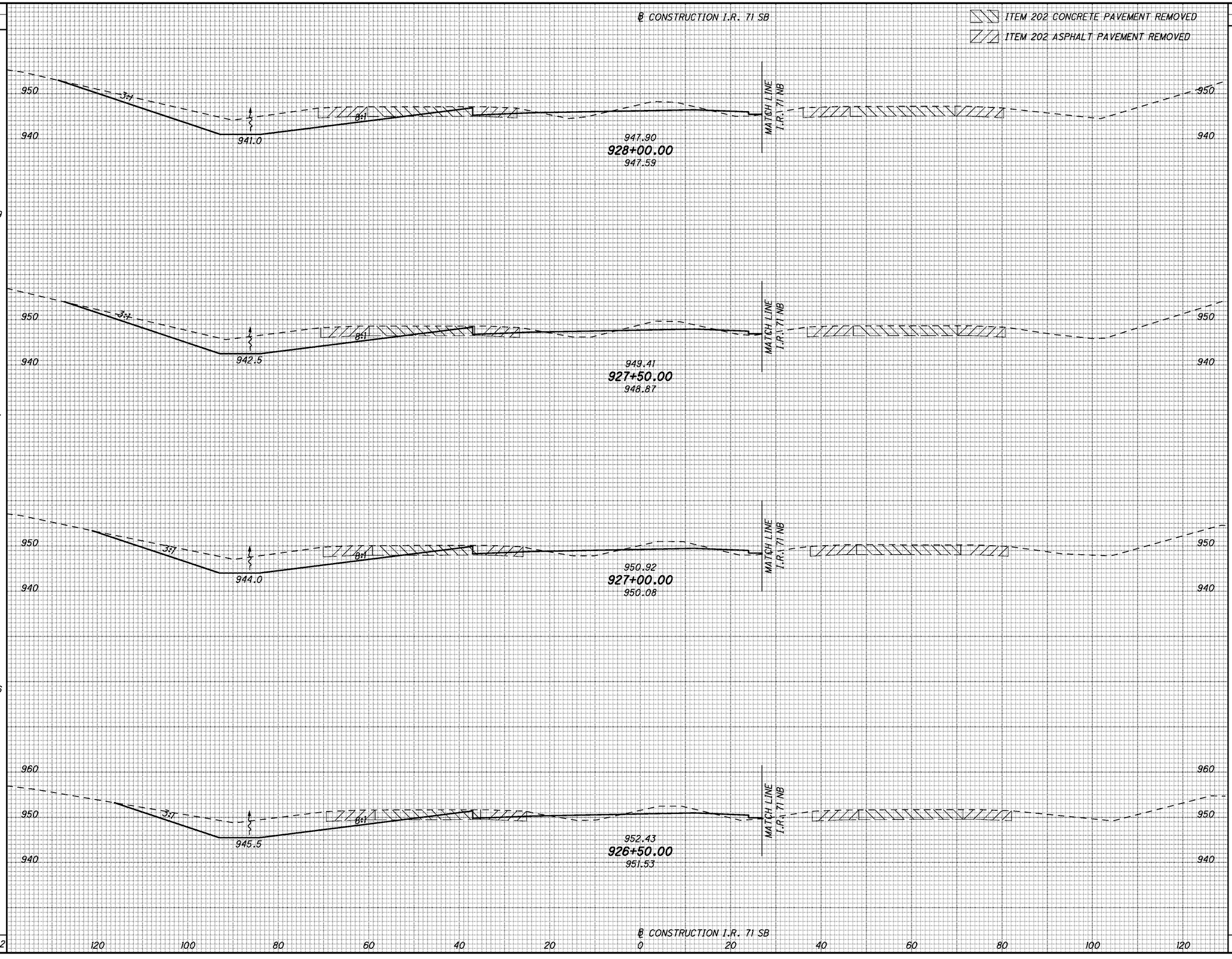
CROSS SECTIONS
STA. 925+00.00 TO STA. 926+00.00

WAR-71-14.20

148
470

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SEEDING	
END WIDTH	SQ. YDS.
98	539
96	517
90	486
85	
	1,542



END AREA		VOLUME	
CUT	FILL	CUT	FILL
274	12		
		500	28
266	17		
		479	33
251	19		
		461	35
247	19		
		391	34
		1,831	130

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 926+50.00 TO STA. 928+00.00

WAR-71-14.20

149
470

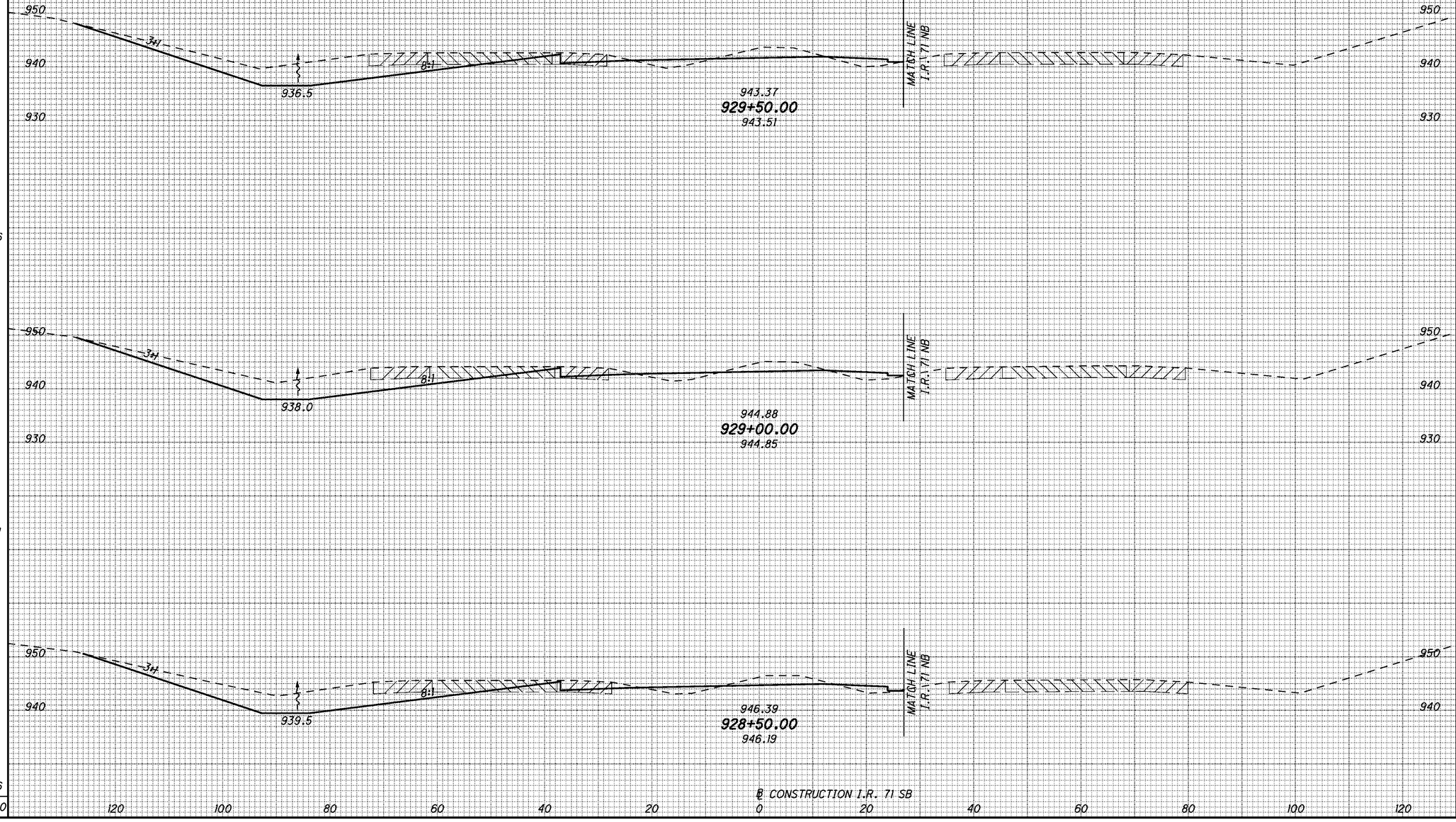
J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:45PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
	517
97	
	536
96	
	531
95	
	536
	2,120

℄ CONSTRUCTION I.R. 71 SB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



END AREA		VOLUME	
CUT	FILL	CUT	FILL
269	25		
		498	47
270	25		
		497	43
267	21		
		501	31
		1,496	121

CALCULATED MER

CHECKED RWK

CROSS SECTIONS

STA. 928+50.00 TO STA. 929+50.00

WAR-71-14.20

150
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:45PM Kduffney

SEEDING END WIDTH	SEEDING SQ. YDS.
	467
83	
	472
87	
	489
89	
	1,428

℄ CONSTRUCTION I.R. 71 SB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED

STA 930+99.04, 28.12' RT
Prop. Inlet No. 3 for
Single Slope Barrier, Type C1
GRATE ELEV 937.86, Y = 7.09'
℄ 15" (W) = 932.68
℄ 6" U.D. (NW) = 935.06
℄ 6" U.D. (SW) = 934.44
℄ 6" U.D. (SW) = 934.84
℄ 6" U.D. (SE) = 934.20

MATCH LINE
I.R. 71 NB

3:1
2%
12.68'
932.1
℄ ELEV. = 932.12
HW=2.2
112' - 15" CONDUIT TYPE B @ 0.50%
938.84
931+00.00
939.00

3:1
8:1
933.5
940.35
930+50.00
940.69

3:1
8:1
935.0
941.86
930+00.00
942.10

960 / 950 / 940 / 930

120 100 80 60 40 20 0 20 40 60 80 100 120

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
204	26		
		430	46
260	24		
		482	44
260	24		
		489	46
		1,401	136

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
930+00.00 TO STA. 931+00.00

WAR-71-14.20

151
470

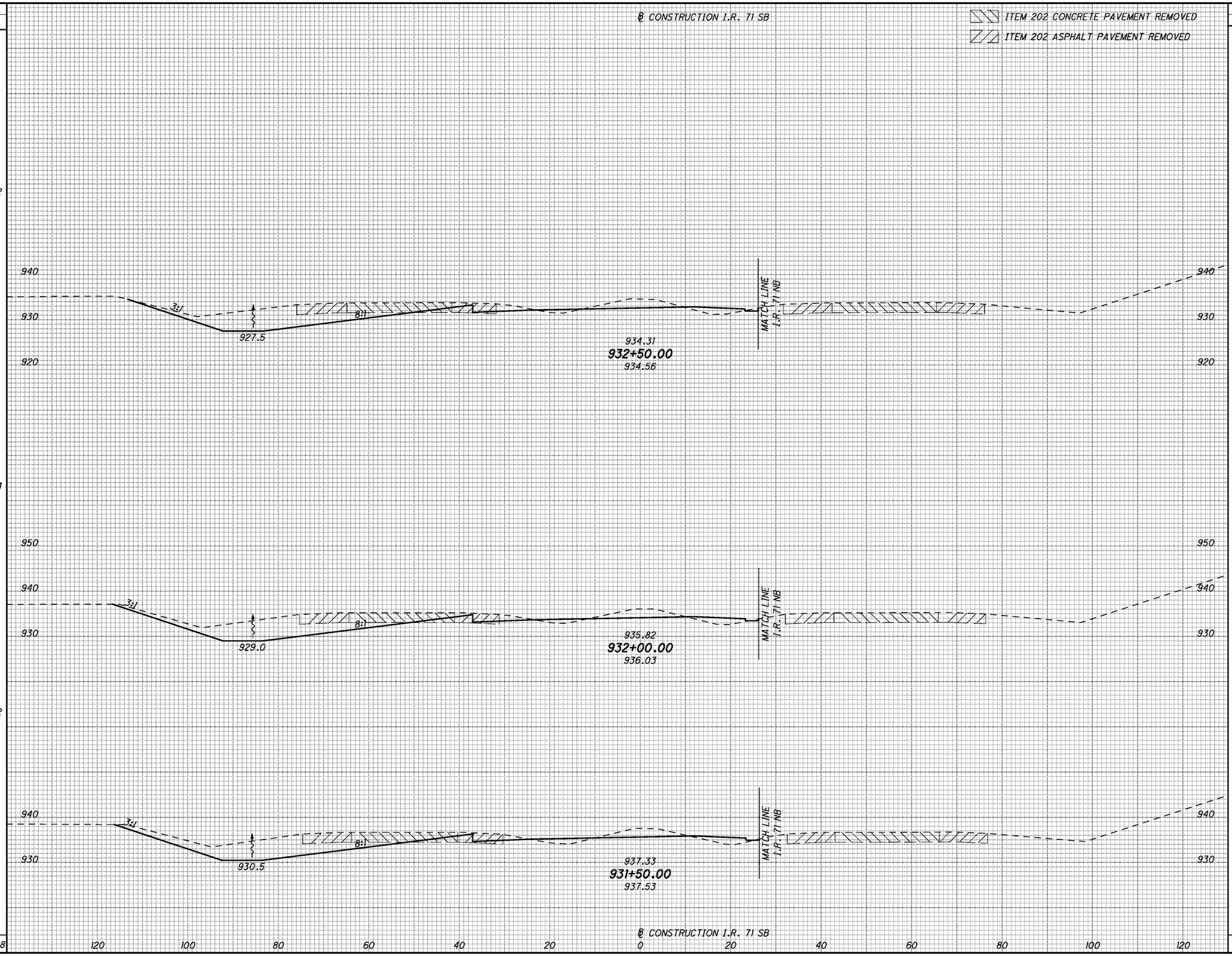
J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:45PM Kduffney

SEEDING END WIDTH	SEEDING SQ. YDS.
	462
82	
	464
85	
	472
85	
	1,398

℄ CONSTRUCTION I.R. 71 SB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
256	18		
		470	35
251	20		
		466	40
251	23		
		421	45
		1,357	120

CALCULATED MER

CHECKED RWK

CROSS SECTIONS

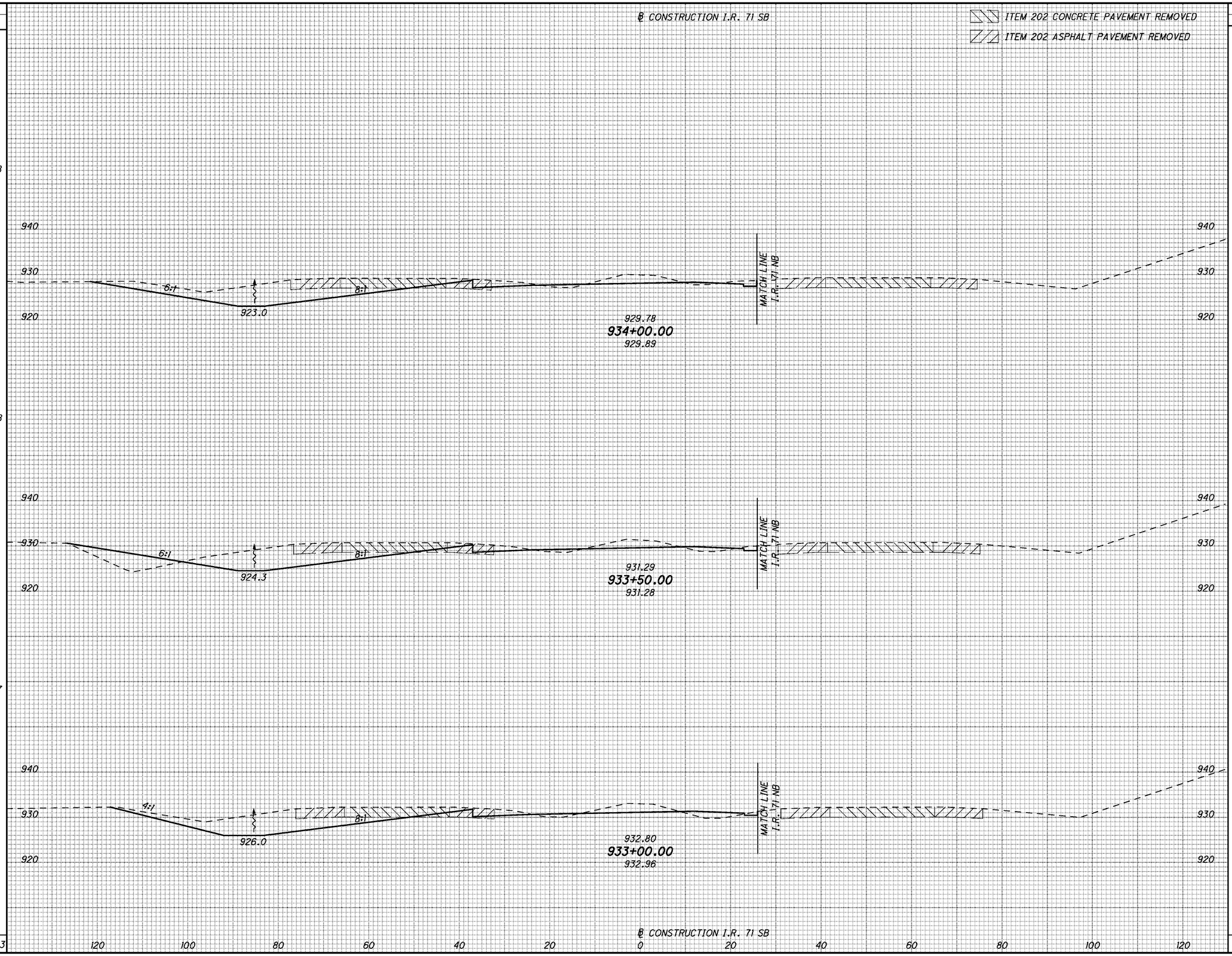
931+50.00 TO STA. 932+50.00

WAR-71-14.20

152
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:45PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
	528
89	
	508
94	
	497
85	
	1,533



END AREA		VOLUME	
CUT	FILL	CUT	FILL
278	7		
		480	67
241	65		
		464	77
260	18		
		478	33
		1,422	177

CALCULATED MER
CHECKED RWK

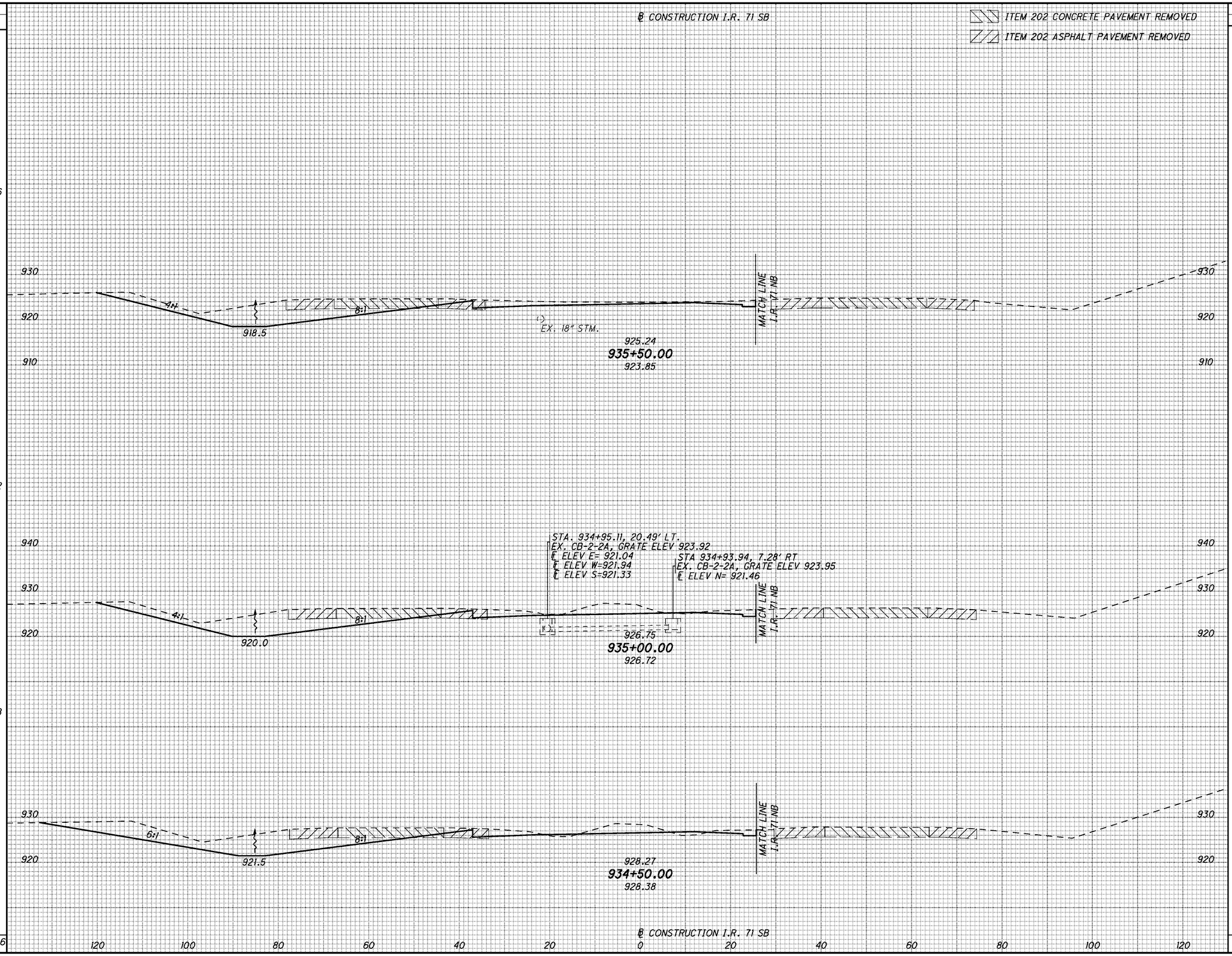
CROSS SECTIONS
933+00.00 TO STA. 934+00.00

WAR-71-14.20

153
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:45PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
	486
88	
	492
89	
	528
101	
	1,506



END AREA		VOLUME	
CUT	FILL	CUT	FILL
272	0		
		526	1
296	1		
		579	7
329	7		
		562	13
		1,667	21

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 934+50.00 TO STA. 935+50.00

WAR-71-14.20

154
470

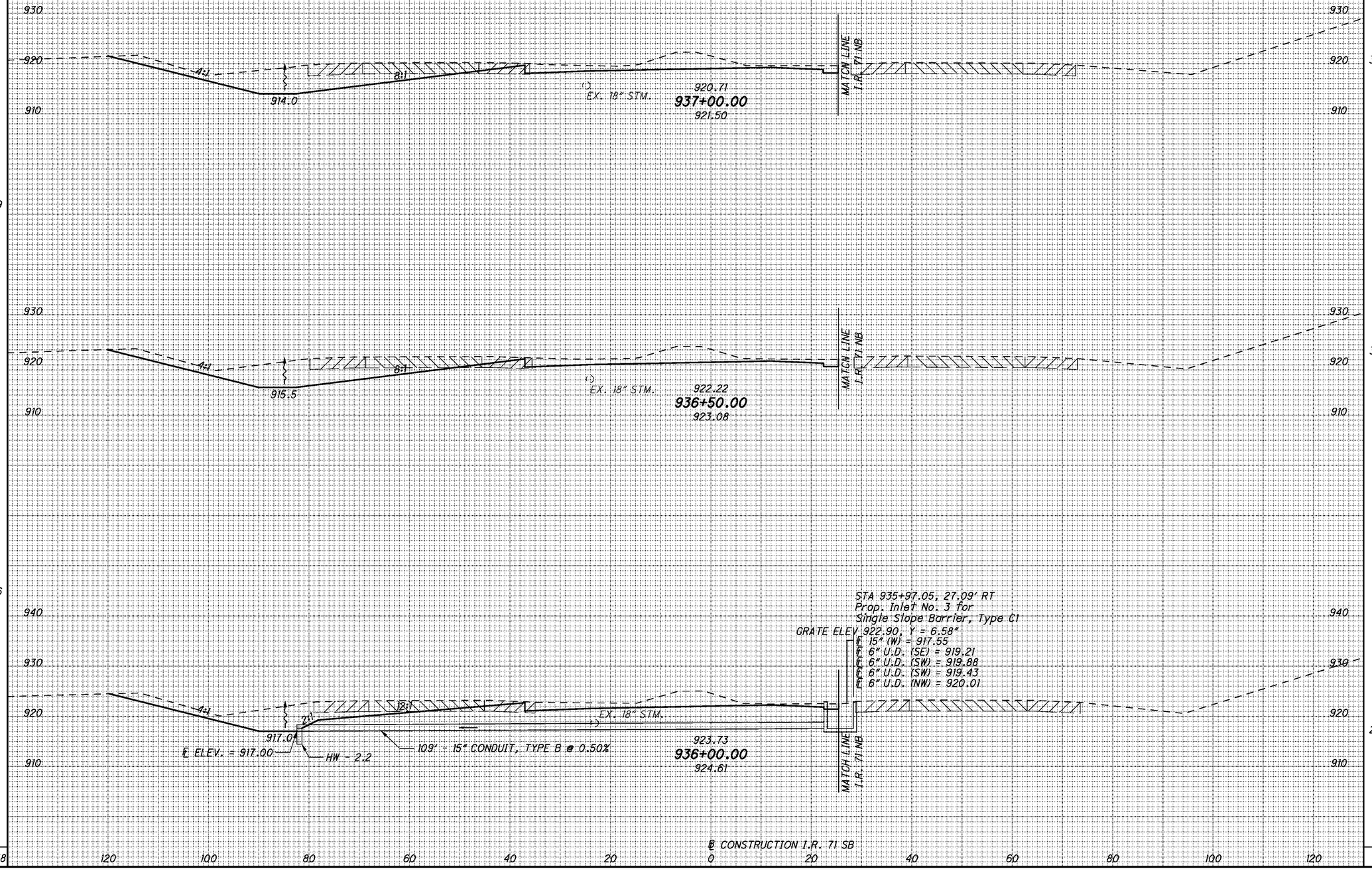
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SEEDING	
END WIDTH	SQ. YDS.
	483
88	
	489
88	
	486
87	
	1,458

℄ CONSTRUCTION I.R. 71 SB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



END AREA		VOLUME	
CUT	FILL	CUT	FILL
326	0		
		602	0
324	0		
		552	0
272	0		
		504	0
		1,658	0

120 100 80 60 40 20 0 20 40 60 80 100 120

℄ CONSTRUCTION I.R. 71 SB

CALCULATED MER

CHECKED RWK

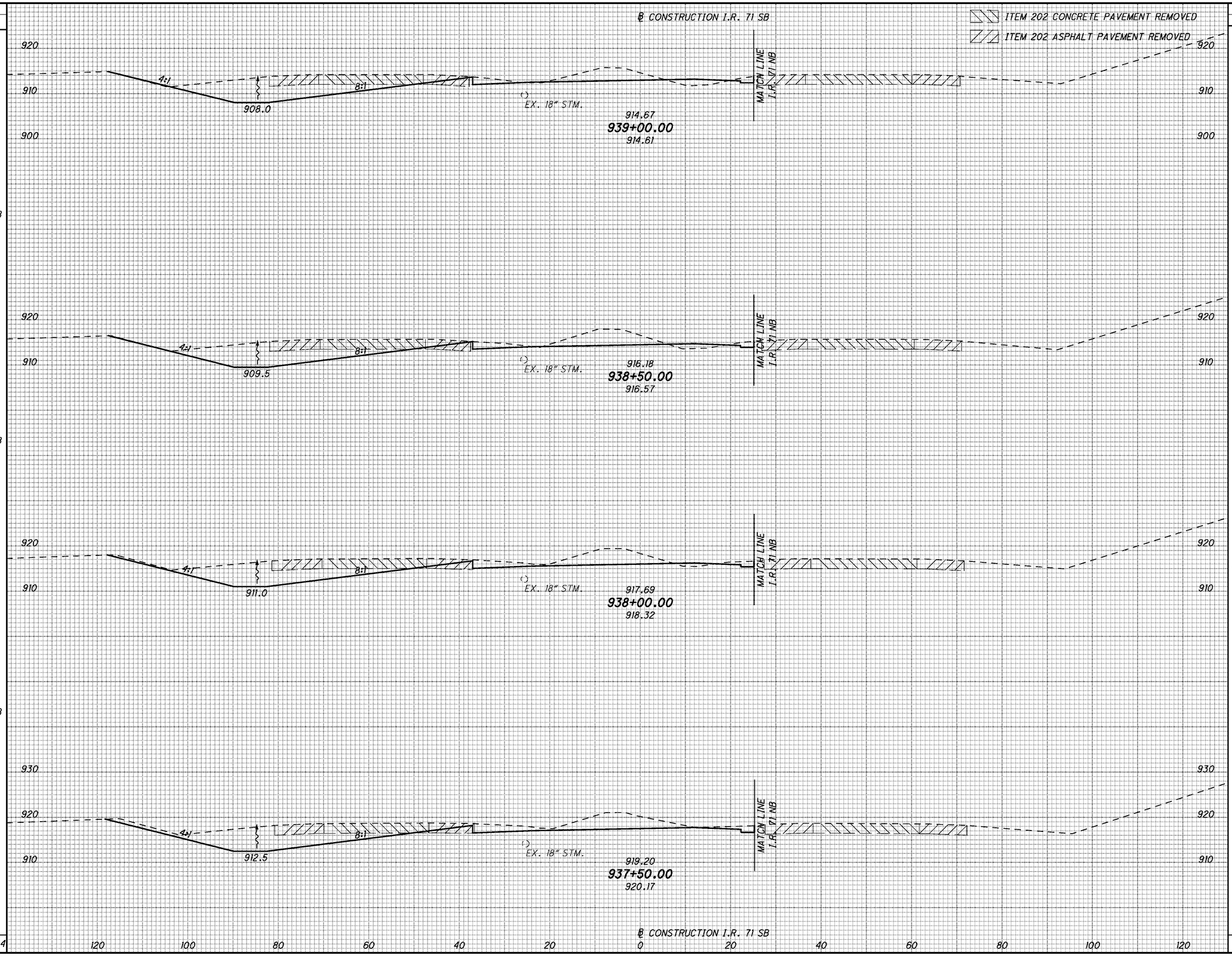
CROSS SECTIONS
STA. 936+00.00 TO STA. 937+00.00

WAR-71-14.20

155
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:46PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
86	478
86	478
86	478
86	478
	1,434



END AREA		VOLUME	
CUT	FILL	CUT	FILL
282	14		
		537	22
298	9		
		560	13
308	4		
		586	4
325	0		
		603	0
		2,286	39

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 937+50.00 TO STA. 939+00.00

WAR-71-14.20

156
470

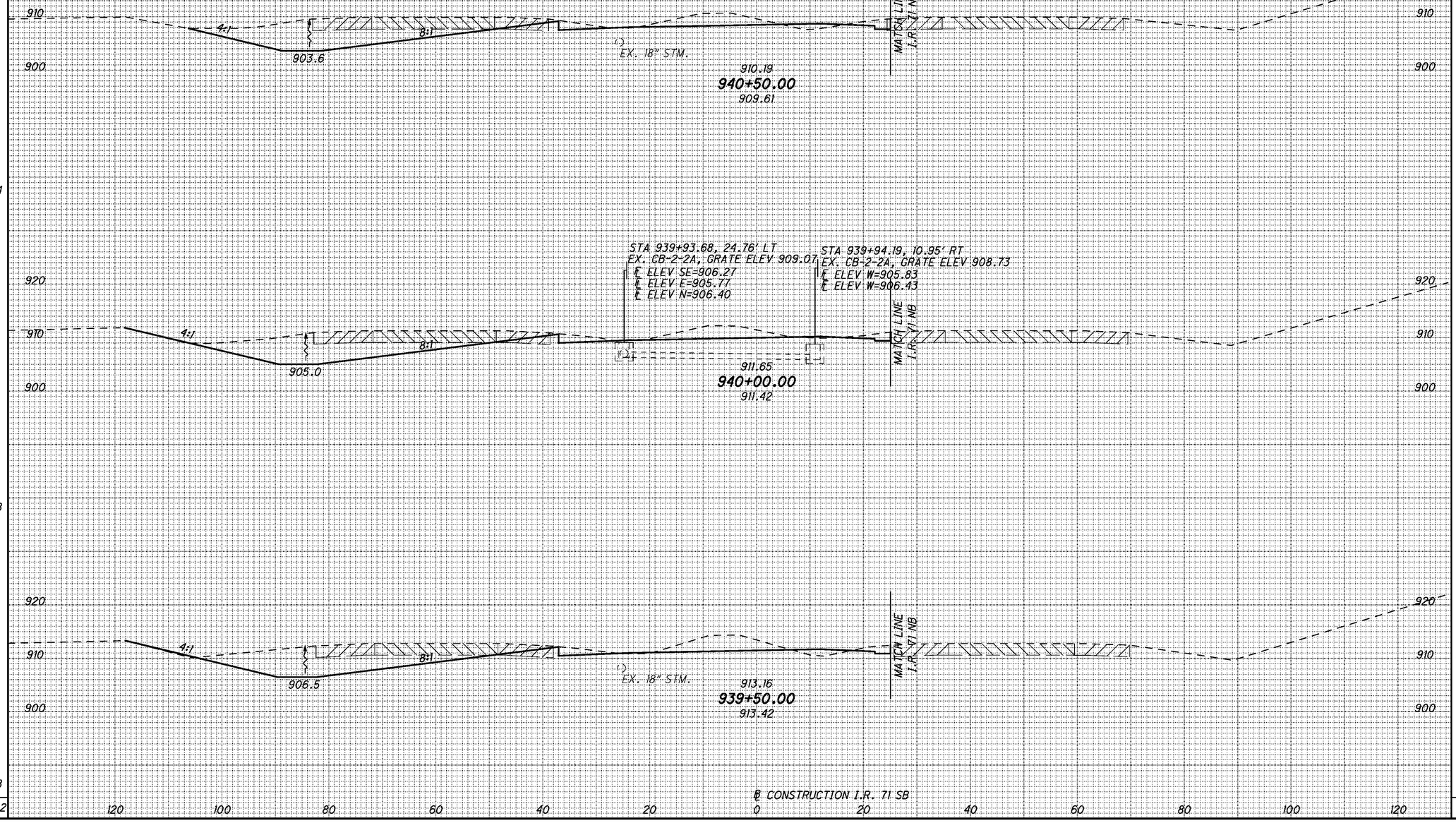
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SEEDING	
END WIDTH	SQ. YDS.
	442
74	
	444
	478
86	
	478
86	
	478
	1,842

℄ CONSTRUCTION I.R. 71 SB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



END AREA		VOLUME	
CUT	FILL	CUT	FILL
287	8		
		530	9
285	2		
		536	12
293	11		
		532	23
		1,598	44

CALCULATED MER

CHECKED RWK

CROSS SECTIONS
STA. 939+50.00 TO STA. 940+50.00

WAR-71-14.20

157
470

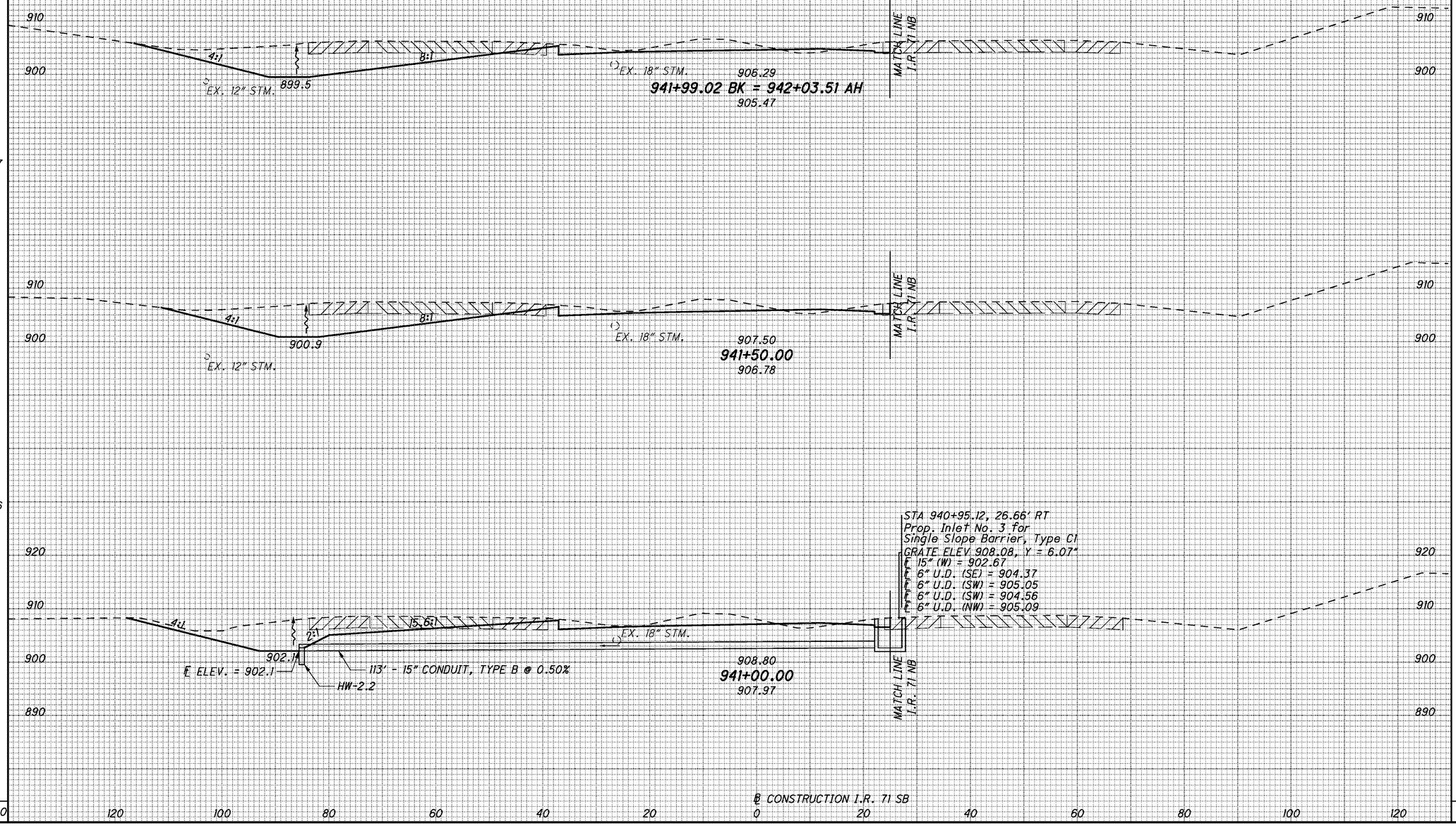
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SEEDING	
END WIDTH	SQ. YDS.
	447
85	
	447
79	
	456
85	
	1,350

℄ CONSTRUCTION I.R. 71 SB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



℄ CONSTRUCTION I.R. 71 SB

END AREA		VOLUME	
CUT	FILL	CUT	FILL
336	5		
		600	9
325	5		
		530	11
247	6		
		495	13
		1,625	33

CALCULATED MER

CHECKED RWK

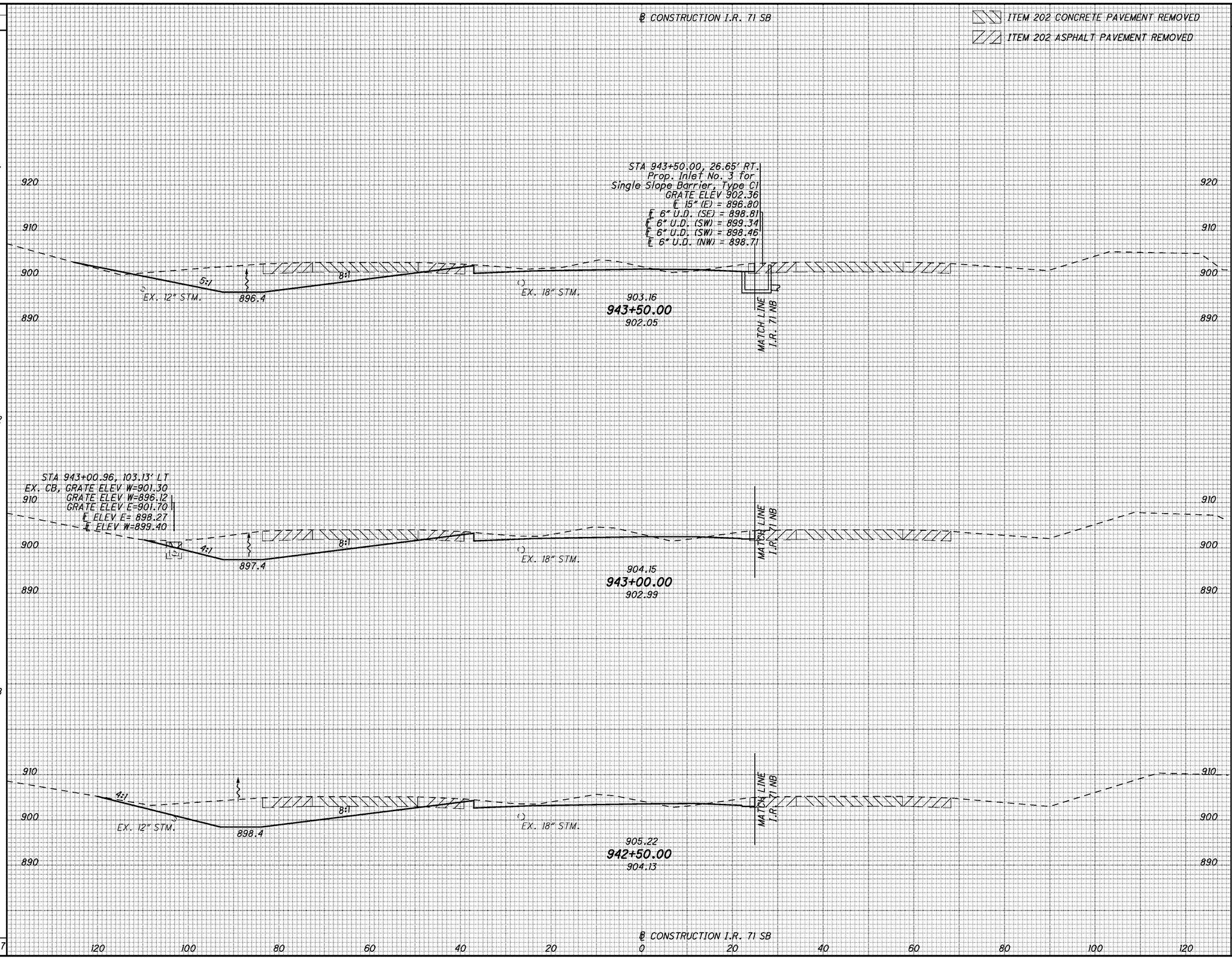
CROSS SECTIONS
941+00.00 TO STA. 942+03.51

WAR-71-14.20

158
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:46PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
	517
93	
	472
77	
	458
88	
	1,447



END AREA		VOLUME	
CUT	FILL	CUT	FILL
328	9		
		594	14
313	6		
		606	10
342	5		
		584	8
		1,784	32

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
942+50.00 TO STA. 943+50.00

WAR-71-14.20

159
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:46PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
	458
88	
	542
107	
	556
93	
	1,556

℄ CONSTRUCTION I.R. 71 SB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED

STA 945+00.35, 119.78' LT
EX. Storm MH, GRATE ELEV 892.86
℄ ELEV N= 886.86
℄ ELEV W=887.51
℄ ELEV S=889.24
℄ 24" (W) 886.86

12:1

59' - 24" CONDUIT, TYPE C @ 3.60%

STA 945+00.85, 26.56' LT
EX. CB-2-2A, GRATE ELEV 898.77
℄ ELEV N= 893.57
℄ ELEV W=894.45

900.65
945+00.00
899.13

MATCH LINE I.R. 71 NB

STA 944+50.00, 88.78' RT.
CB No. 5, GRATE ELEV 894.15
℄ 24" (E) = 888.98

15:1

8:1

894.4

EX. 24" CONC.

EX. 18" STM.

59' - 24" CONDUIT, TYPE C @ 3.60%

901.41
944+50.00
899.95

MATCH LINE I.R. 71 NB

STA 944+24.97, 121.15' LT
EX. CB-2-2A, GRATE ELEV W=896.12
GRATE ELEV E=896.51
℄ ELEV W= 893.95
℄ ELEV E=894.70

10:1

8:1

895.4

EX. 18" STM.

902.24
944+00.00
900.86

MATCH LINE I.R. 71 NB

℄ CONSTRUCTION I.R. 71 SB

120 100 80 60 40 20 0 20 40 60 80 100 120

END AREA		VOLUME	
CUT	FILL	CUT	FILL
242	3		
		518	27
317	26		
		584	32
314	8		
		595	16
		1,697	75

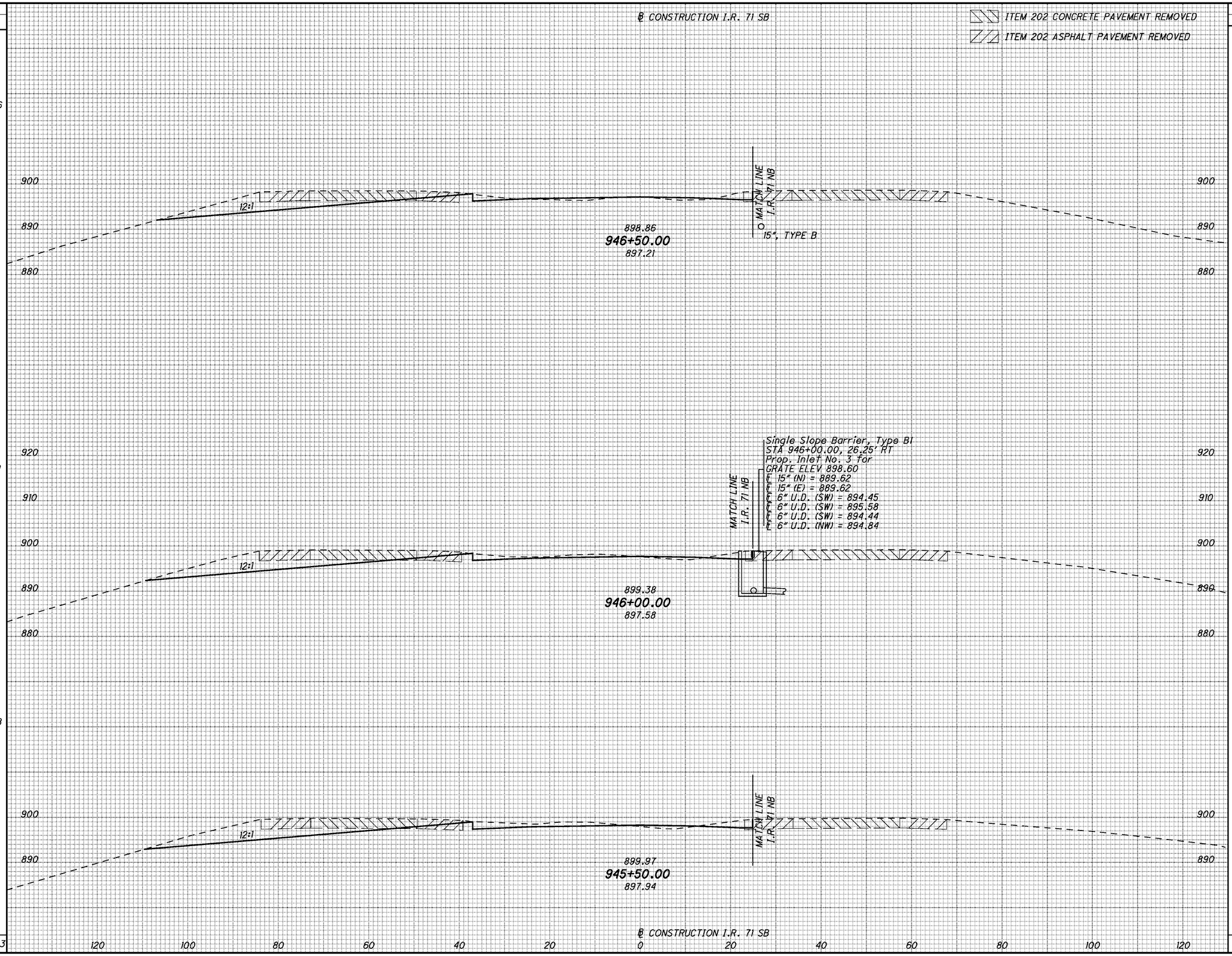
CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 944+00.00 TO STA. 945+00.00

WAR-71-14.20

160
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:46PM Kduffney



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	406				
74		183	12		
				364	16
	419				
77		211	5		
				404	11
	428				
77		226	7		
				434	9
	1,253			1,202	36

CALCULATED MER
CHECKED RWK

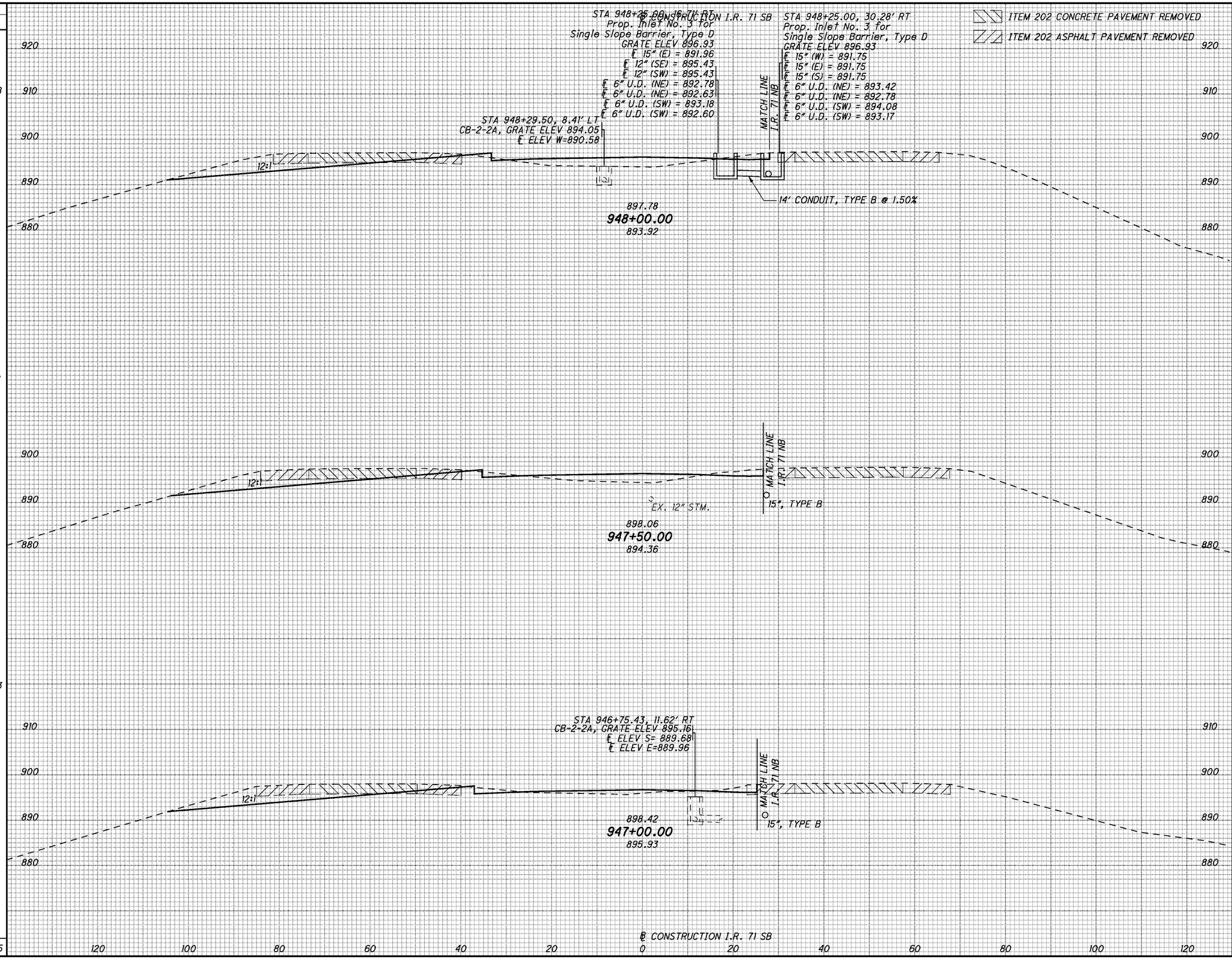
CROSS SECTIONS
STA. 945+50.00 TO STA. 946+50.00

WAR-71-14.20

161
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:46PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
	298
76	
	414
	403
73	
72	
	1,115



END AREA		VOLUME	
CUT	FILL	CUT	FILL
151	70		
		291	110
163	49		
		305	65
166	21		
		324	30
		920	205

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 947+00.00 TO STA. 948+00.00

WAR-71-14.20

162
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:46PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
	273
96	
100	
	288
73	
	561

℄ CONSTRUCTION I.R. 71 SB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED

MATCH LINE I.R. 71 NB

890 880 870 860 850

12:1

886.65
971+19.00
884.05
Begin Approach Slab

(Bridge)

MATCH LINE I.R. 71 NB

900 890 880

12:1

897.46
948+66.00
893.44
End Approach Slab

(Bridge)

MATCH LINE I.R. 71 NB

900 890 880

12:1

897.61
948+36.00
894.36
Begin Approach Slab

℄ CONSTRUCTION I.R. 71 SB

120 100 80 60 40 20 0 20 40 60 80 100 120

END AREA		VOLUME	
CUT	FILL	CUT	FILL
11	48		
		108	78
		108	78

CALCULATED MER

CHECKED RWK

CROSS SECTIONS
STA. 948+36.00 TO STA. 971+19.00

WAR-71-14.20

163
470

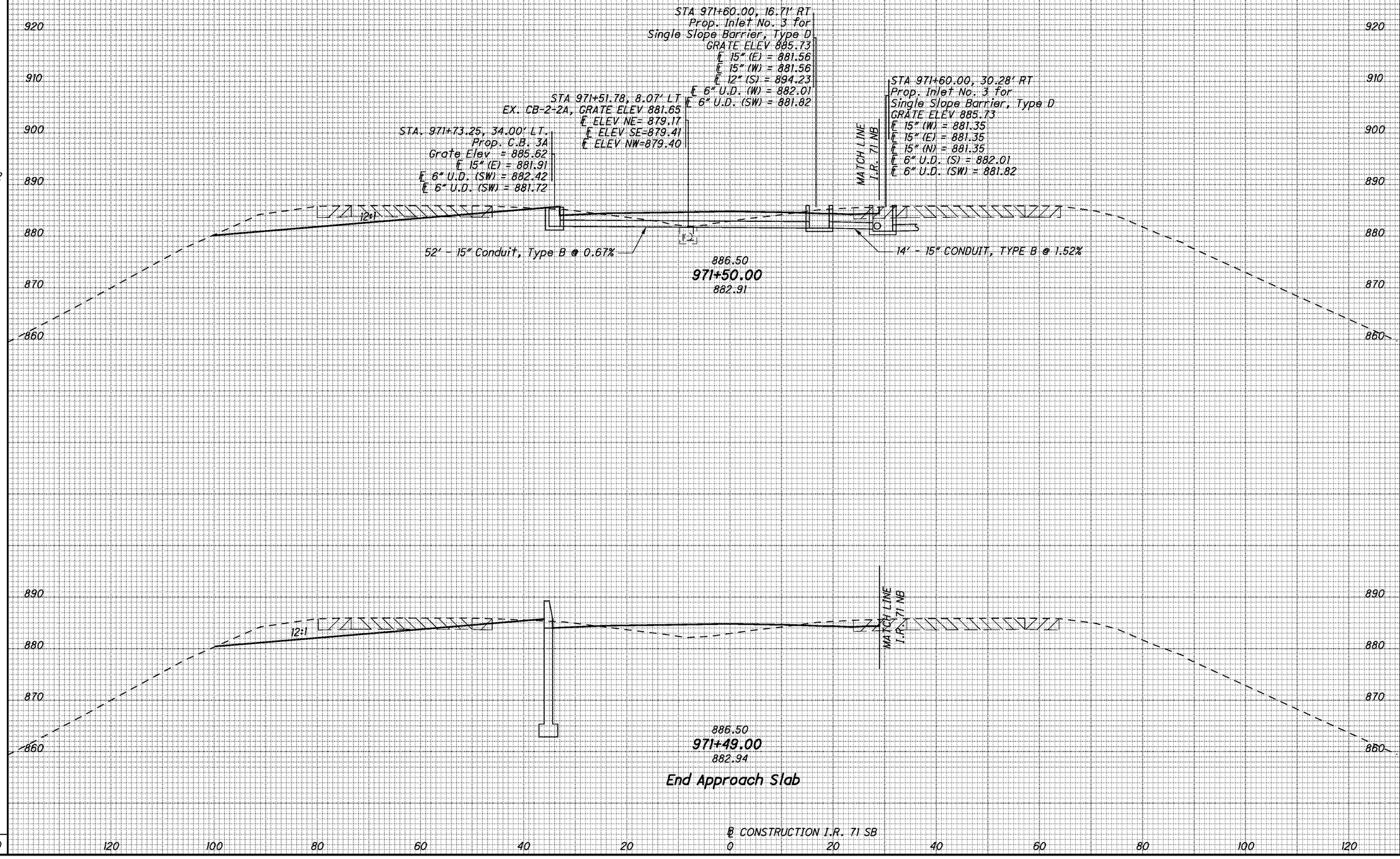
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SEEDING	
END WIDTH	SQ. YDS.
	422
	71
	8
	68
	430

℄ CONSTRUCTION I.R. 71 SB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



END AREA		VOLUME	
CUT	FILL	CUT	FILL
170	56		
		6	2
156	54		
		6	2

CALCULATED MER

CHECKED RWK

CROSS SECTIONS
STA. 971+49.00 TO STA. 971+50.00

WAR-71-14.20

164
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:46PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
	475
91	
	531
100	
	503
81	
	1,509

B CONSTRUCTION I.R. 71 SB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED

STA 972+97.60, 26.63' LT
EX. CB-2-2A, GRATE ELEV 884.00
E ELEV NE=878.60
E ELEV SE=878.60

24:1

℄

15", TYPE B

MATCH LINE I.R. 71 NB

886.29
973+00.00
884.02

STA 972+56.00, 19.19' RT
Prop. Inlet No. 3 for
Single Slope Barrier, Type D
Grate Elev 885.55
E 15" (E) = 880.68
E 6" U.D. (SW, NE) = 881.53
E 6" U.D. (NW) = 881.34

STA 972+50.00, 27.91' RT
Prop. Inlet No. 3 for
Single Slope Barrier, Type D
Grate Elev 885.55
E 15" (W) = 880.48
E 15" (N) = 880.48
E 15" (S) = 880.48
E 12" (W) = 884.05
E 6" U.D. (SW, NE) = 882.53
E 6" U.D. (S, E) = 881.74

24:1

EX. 15" STM.

886.25
972+50.00
883.47

12:1

15", TYPE B

EX. 15" STM.

886.32
972+00.00
883.23

B CONSTRUCTION I.R. 71 SB

END AREA		VOLUME	
CUT	FILL	CUT	FILL
108	18		
		225	38
136	23		
		329	60
220	42		
		361	91
		915	189

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 972+00.00 TO STA. 973+00.00

WAR-71-14.20

165
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:47PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
	325
59	
	347
66	
	406
80	
	1,078

B CONSTRUCTION I.R. 71 SB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED

24H

EX. 15" STM.

887.10
974+50.00
886.54

15", TYPE B

MATCH LINE I.R. 71 NB

24H

EX. 15" STM.

886.72
974+00.00
885.86

15", TYPE B

MATCH LINE I.R. 71 NB

STA 973+72.00, 26.24' RT
Prop. Inlet No. 3 for
Single Slope Barrier, Type B1
Grate Elev 885.78
℄ 15" (S) = 879.87
℄ 15" (N) = 879.87
℄ 18" (E) = 879.62
℄ 6" U.D. (NE) = 882.69
℄ 6" U.D. (E) = 882.01
℄ 6" U.D. (NE) = 881.76

MATCH LINE I.R. 71 NB

24H

EX. 15" STM.

886.45
973+50.00
884.98

900 890 880 870

120 100 80 60 40 20 0 20 40 60 80 100 120

B CONSTRUCTION I.R. 71 SB

END AREA		VOLUME	
CUT	FILL	CUT	FILL
71	13		
		139	22
79	11		
		152	21
85	12		
		179	28
		470	71

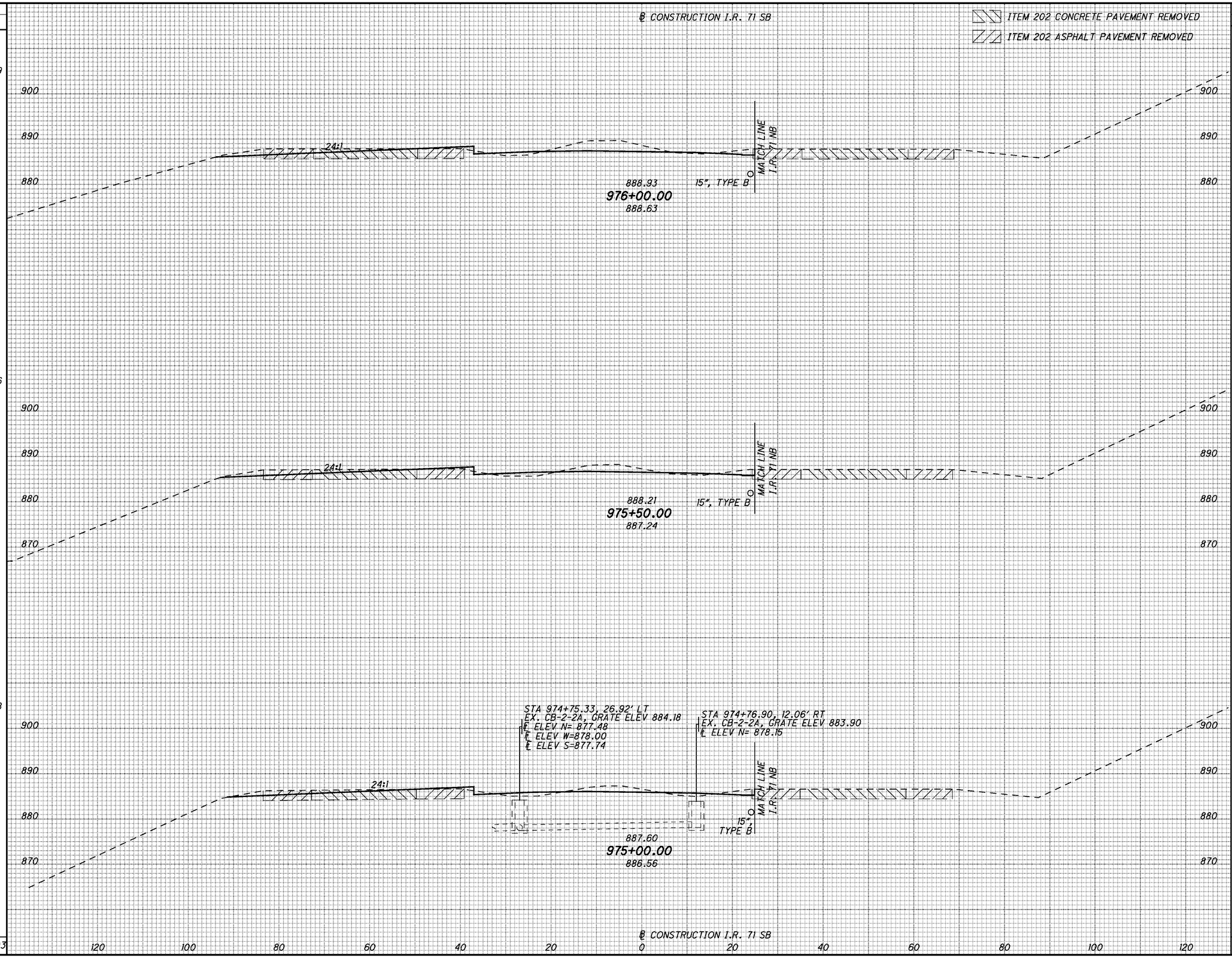
CALCULATED MER
CHECKED RWK

CROSS SECTIONS
973+50.00 TO STA. 974+50.00

WAR-71-14.20

166
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:47PM Kduffney



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	339				
61		79	11		
				126	24
	336				
60		58	15		
	328			98	29
58		48	16		
				111	27
	1,003			335	80

CALCULATED MER
CHECKED RWK

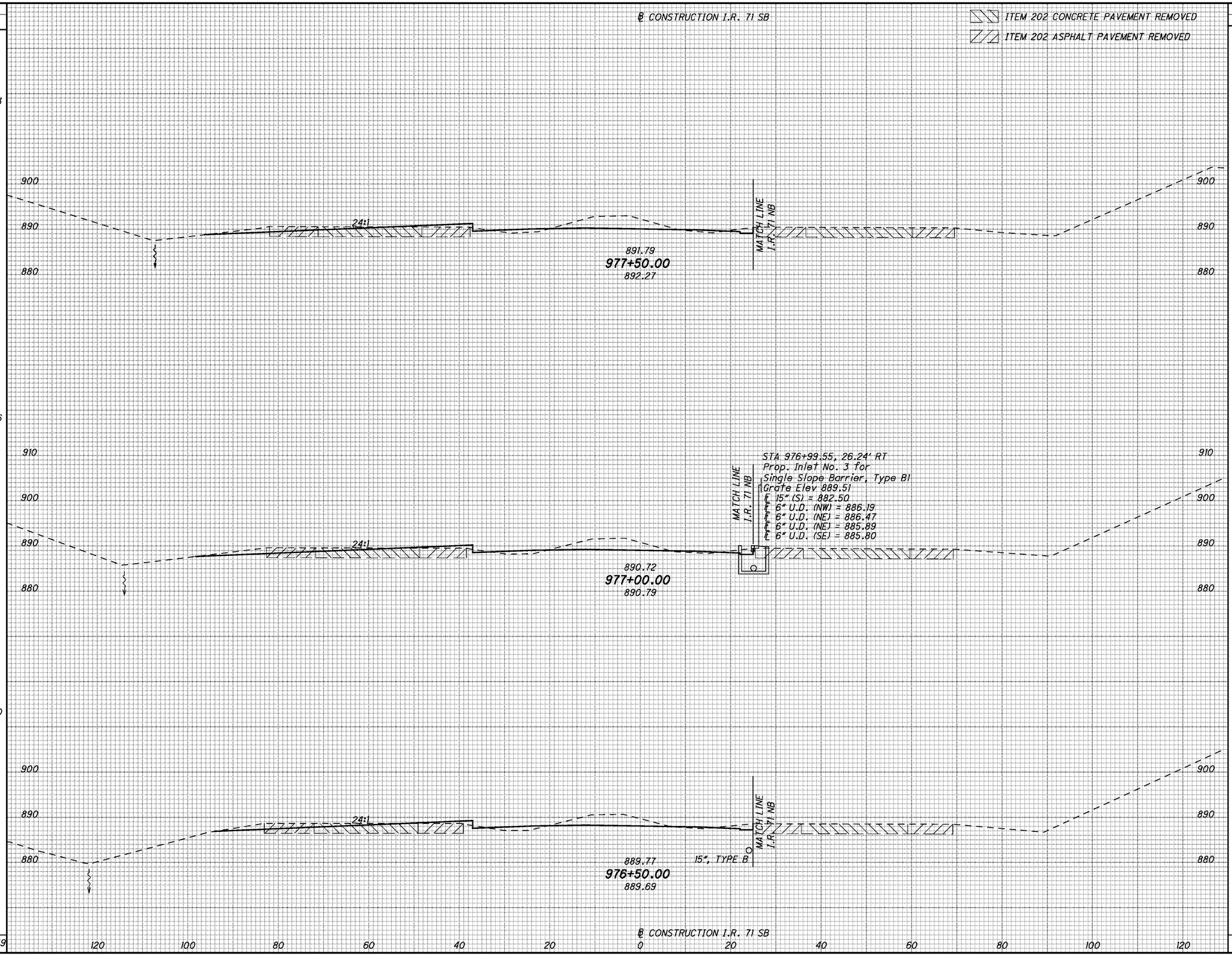
CROSS SECTIONS
975+00.00 TO STA. 976+00.00

WAR-71-14.20

167
470

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SEEDING	
END WIDTH	SQ. YDS.
63	353
65	356
61	350
	1,059



END AREA		VOLUME	
CUT	FILL	CUT	FILL
78	17		
		144	30
78	15		
		142	28
75	15		
		142	24
		428	82

CALCULATED MER
CHECKED RWK

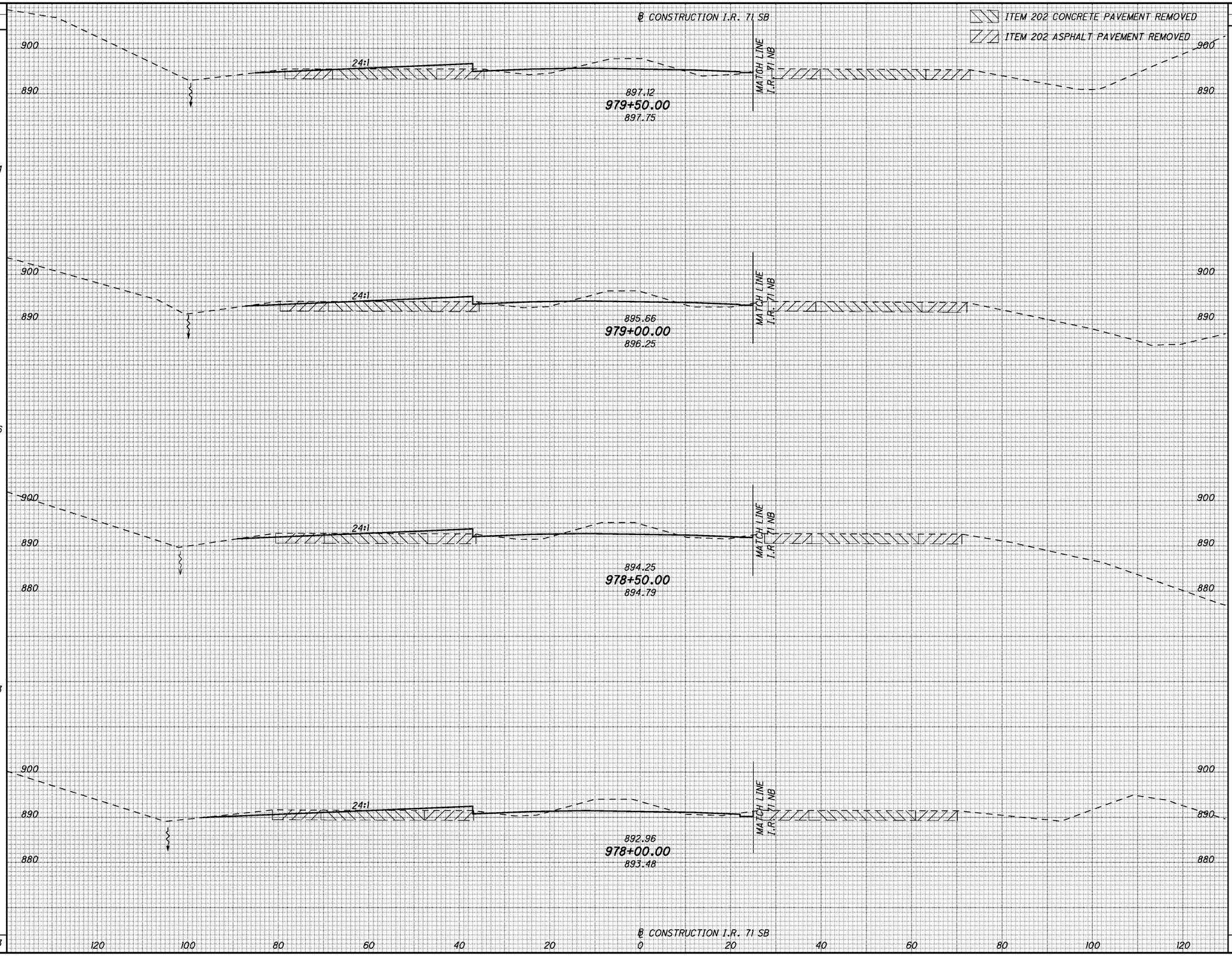
CROSS SECTIONS
976+50.00 TO STA. 977+50.00

WAR-71-14.20

168
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:47PM Kduffney

SEEDING END WIDTH	SEEDING SQ. YDS.
52	294
54	306
56	333
64	
	933



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
42	40		
		81	73
46	39		
		94	64
56	30		
		117	49
71	23		
		138	37
		430	223

CALCULATED MER
CHECKED RWK

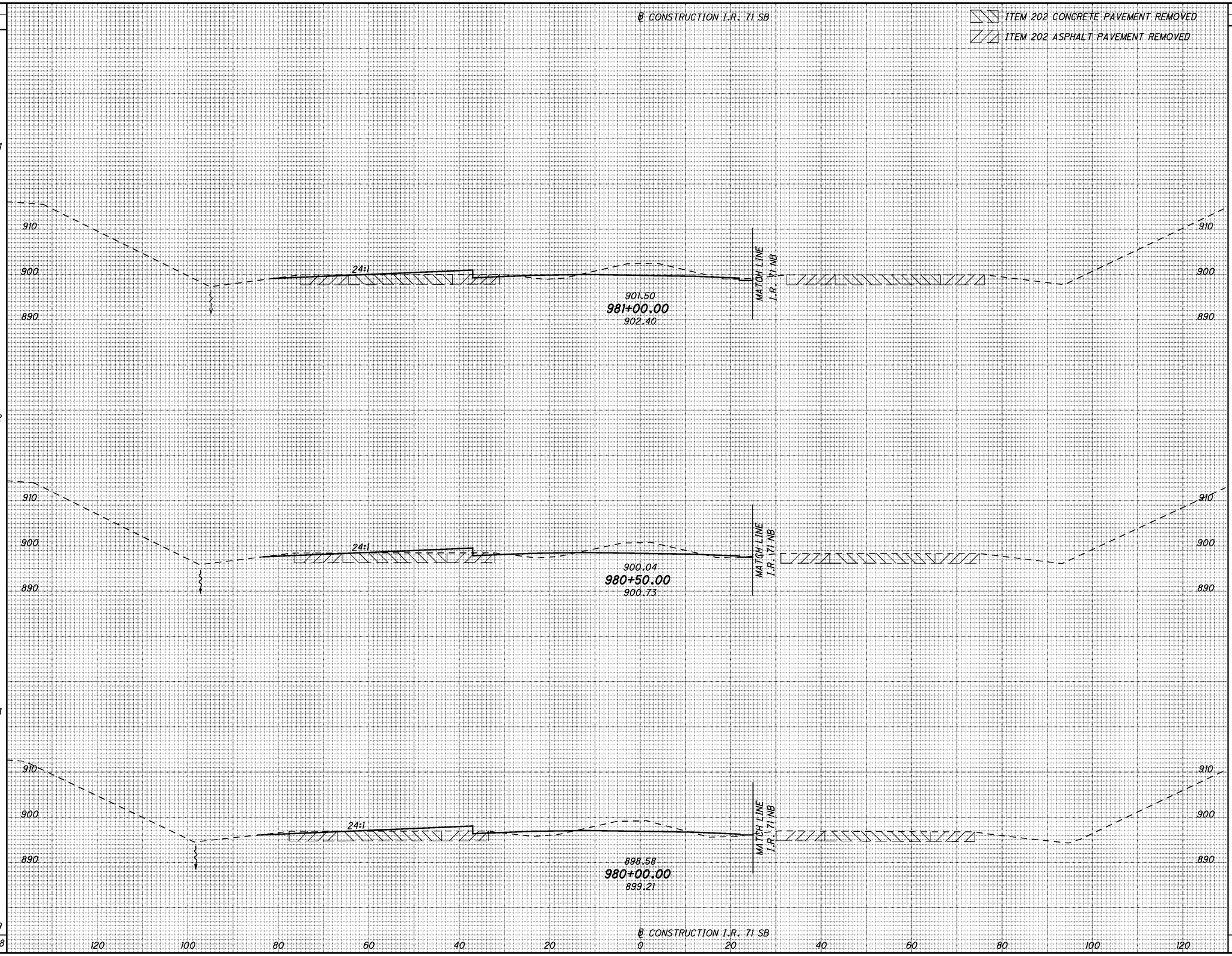
CROSS SECTIONS
978+00.00 TO STA. 979+50.00

WAR-71-14.20

169
470

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SEEDING END WIDTH	SEEDING SQ. YDS.
48	264
50	272
52	283
	289
	1,108



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
58	21		
		100	44
50	26		
		86	55
44	33		
		79	68
		265	167

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 980+00.00 TO STA. 981+00.00

WAR-71-14.20

170
470

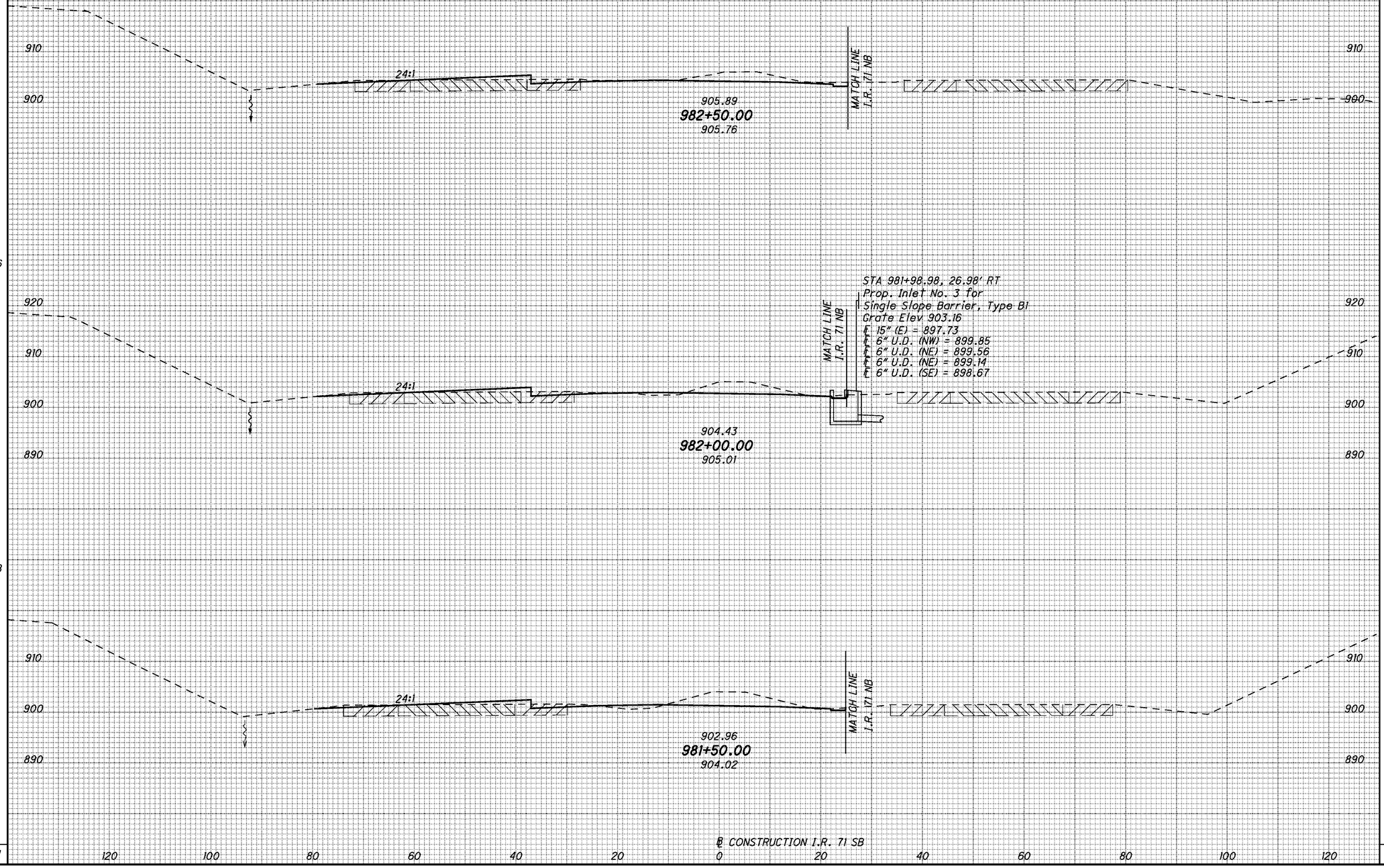
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SEEDING	
END WIDTH	SQ. YDS.
46	247
	256
46	258
47	
	761

℄ CONSTRUCTION I.R. 71 SB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



END AREA		VOLUME	
CUT	FILL	CUT	FILL
46	11		
		87	23
48	15		
		100	30
60	18		
		109	37
		296	90

CALCULATED MER

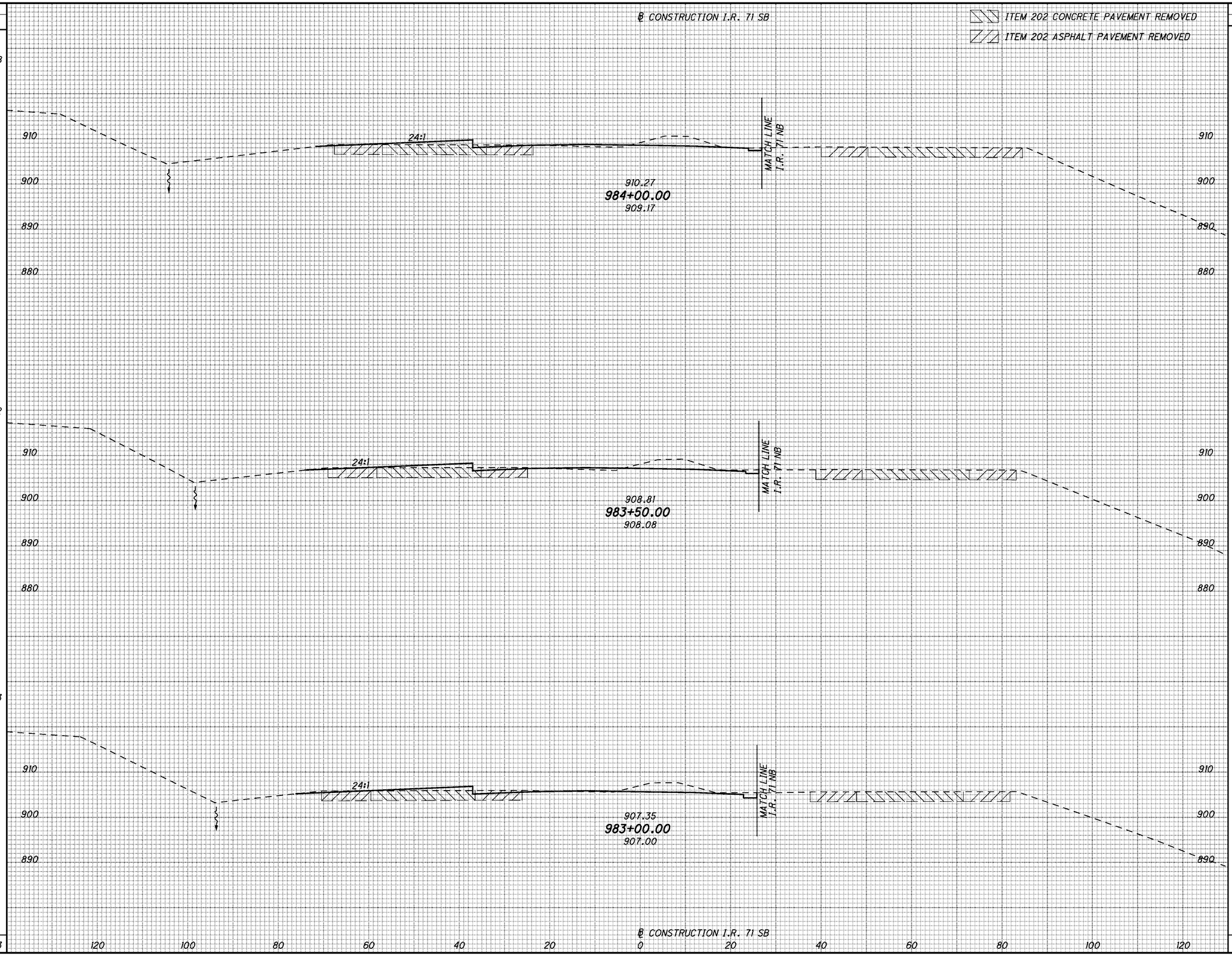
CHECKED RWK

CROSS SECTIONS
981+50.00 TO STA. 982+50.00

WAR-71-14.20

171
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:47PM Kduffney



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	208				
39		34	20	69	35
	222				
41		40	18	79	28
	233				
43		45	13	84	22
	663			232	85

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 983+00.00 TO STA. 984+00.00

WAR-71-14.20

172
470

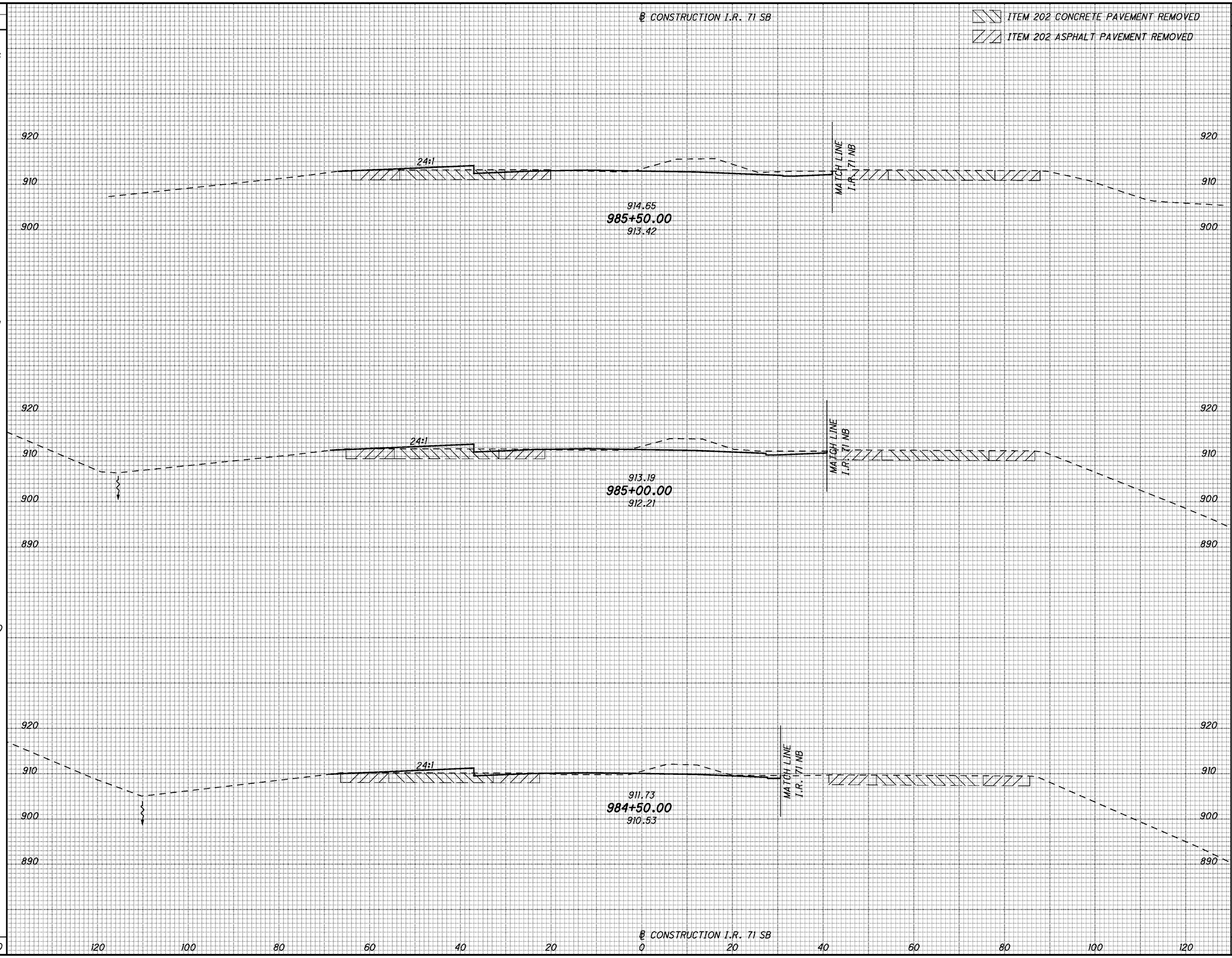
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SEEDING	
END WIDTH	SQ. YDS.
34	186
	194
36	
	200
36	
	580

℄ CONSTRUCTION I.R. 71 SB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



END AREA		VOLUME	
CUT	FILL	CUT	FILL
77	13		
		126	28
59	17		
		93	33
41	19		
		69	36
		288	97

CALCULATED MER

CHECKED RWK

CROSS SECTIONS
STA. 984+50.00 TO STA. 985+50.00

WAR-71-14.20

173
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:47PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
	303
55	
	281
46	
	219
33	
	803

℄ CONSTRUCTION I.R. 71 SB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED

920 910 24:1 919.04 **987+00.00** 916.98 EX. 15" STM. 6:1 6:1 916.8 15", TYPE B

920 910 24:1 917.58 **986+50.00** 916.30 STA 986+71.14, 24.47' RT EX CB-2-2A, GRATE ELEV 913.38 ℄ ELEV S= 909.41 ℄ ELEV NE=910.23 ℄ ELEV SE=911.23 STA 986+65.00, 31.00' RT CB-4, GRATE ELEV 915.55 ℄ 15" (N) = 910.32 ℄ 18" (SE) = 909.41 ℄ 6" U.D. (NW) = 913.44

930 920 910 900 24:1 916.11 **986+00.00** 914.70 EX. 36" CONC.

120 100 80 60 40 20 0 20 40 60 80 100 120

℄ CONSTRUCTION I.R. 71 SB

END AREA		VOLUME	
CUT	FILL	CUT	FILL
30	16		
		80	22
56	8		
		131	15
85	8		
		150	19
		361	56

CALCULATED MER

CHECKED RWK

CROSS SECTIONS

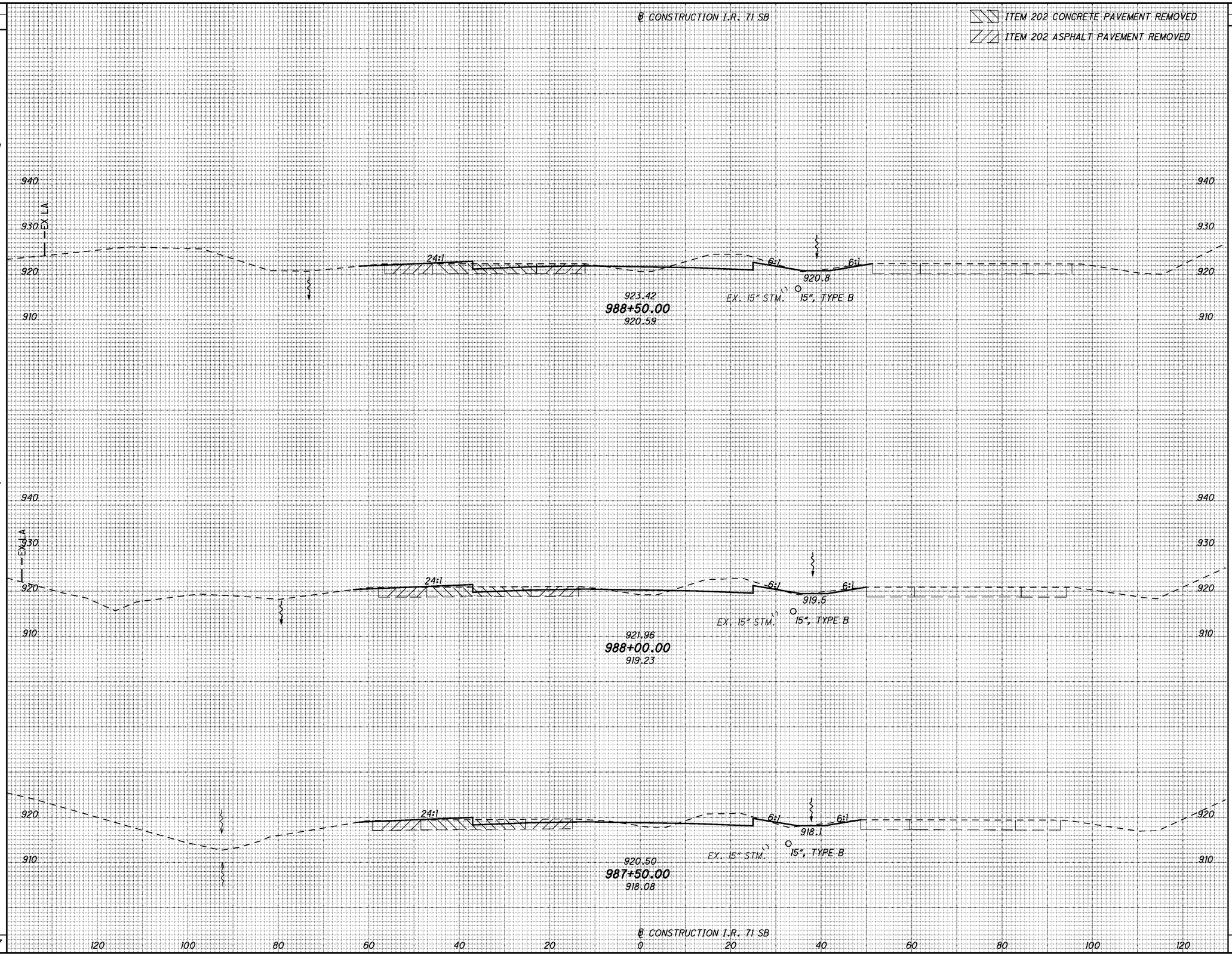
STA. 986+00.00 TO STA. 987+00.00

WAR-71-14.20

174
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:47PM Kduffney

SEEDING END WIDTH	SEEDING SQ. YDS.
	319
57	
	317
57	
	311
54	
	947



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
71	13		
		126	24
66	13		
		113	24
57	13		
		80	26
		319	74

CALCULATED MER
CHECKED RWK

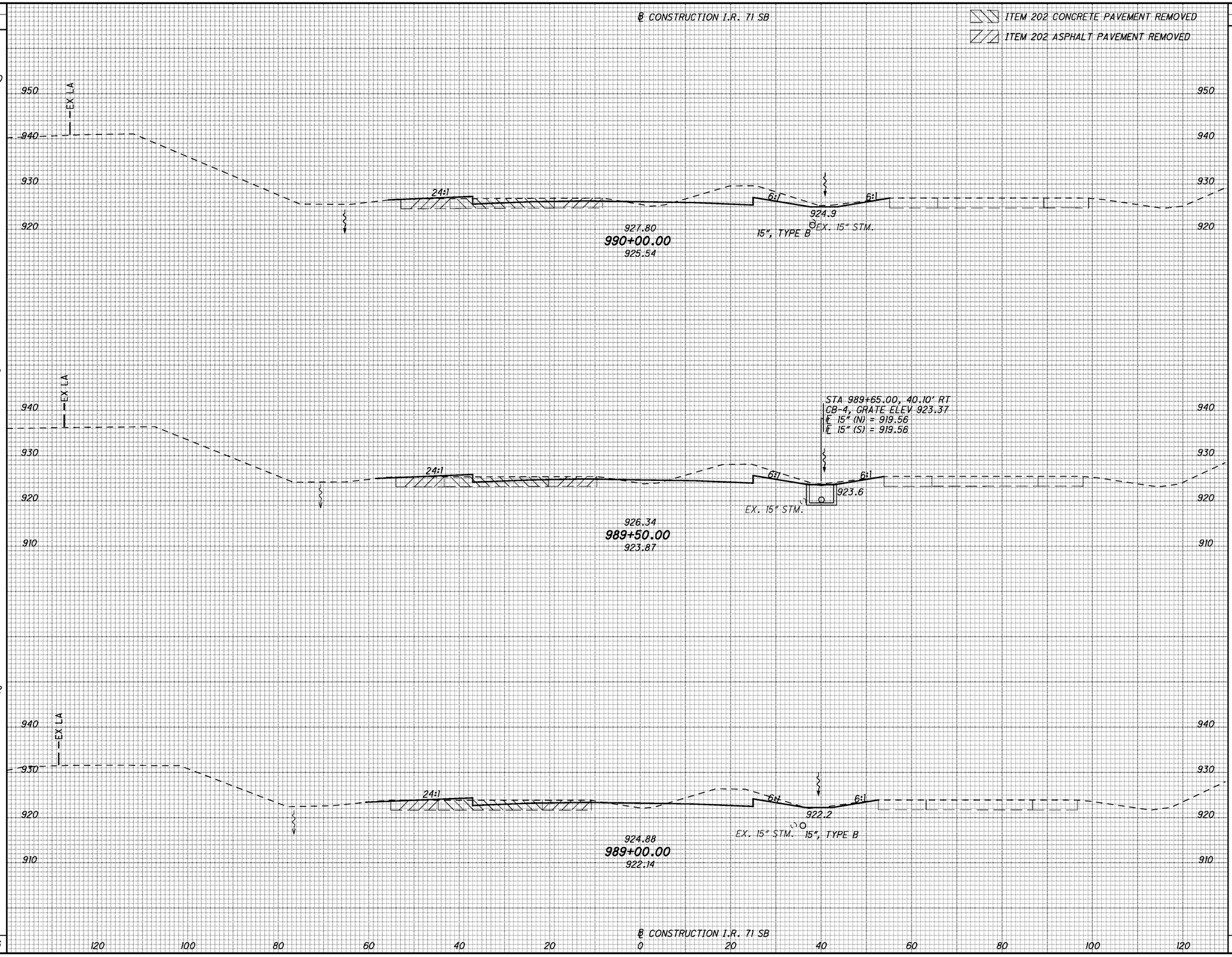
CROSS SECTIONS
STA. 987+50.00 TO STA. 988+50.00

WAR-71-14.20

175
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:48PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
55	300
	314
58	
	322
58	
	936



END AREA		VOLUME	
CUT	FILL	CUT	FILL
25	9		
		45	17
23	9		
		41	19
21	12		
		85	22
		171	58

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 989+00.00 TO STA. 990+00.00

WAR-71-14.20

176
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:48PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
	253
26	
	250
64	
	325
53	
	828

B CONSTRUCTION I.R. 71 SB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED

960 950 940 930 920

EX LA

12:1

932.14
991+50.00
930.63

EX. 15" STM.
15", TYPE B

EX LA

12:1 8:1 8:1

930.72
991+00.00
928.86

928.2
EX. 15" STM.
15", TYPE B

EX LA

24:1 8:1 8:1

929.27
990+50.00
927.07

926.8
EX. 15" STM.
15", TYPE B

120 100 80 60 40 20 0 20 40 60 80 100 120

B CONSTRUCTION I.R. 71 SB

END AREA		VOLUME	
CUT	FILL	CUT	FILL
137	8		
		160	16
35	9		
		56	19
26	11		
		47	19
		263	54

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 990+50.00 TO STA. 991+50.00

WAR-71-14.20

177
470

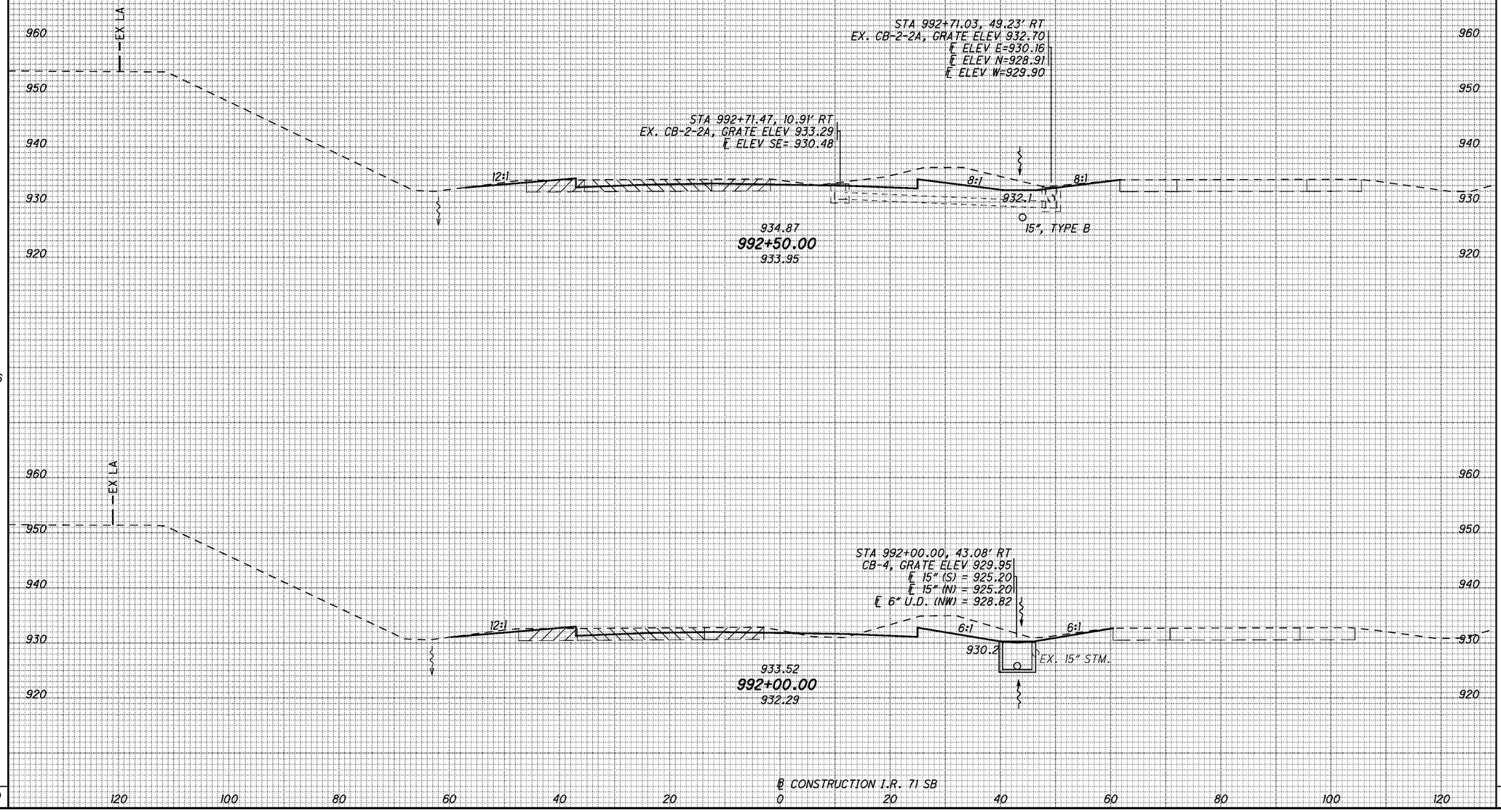
J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:48PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
	344
63	
	356
65	
	700

℄ CONSTRUCTION I.R. 71 SB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



END AREA		VOLUME	
CUT	FILL	CUT	FILL
4	1		
41	6		
40	6		
164	13		
205	19		

CALCULATED MER

CHECKED RWK

CROSS SECTIONS
992+00.00 TO STA. 992+50.00

WAR-71-14.20

178
470

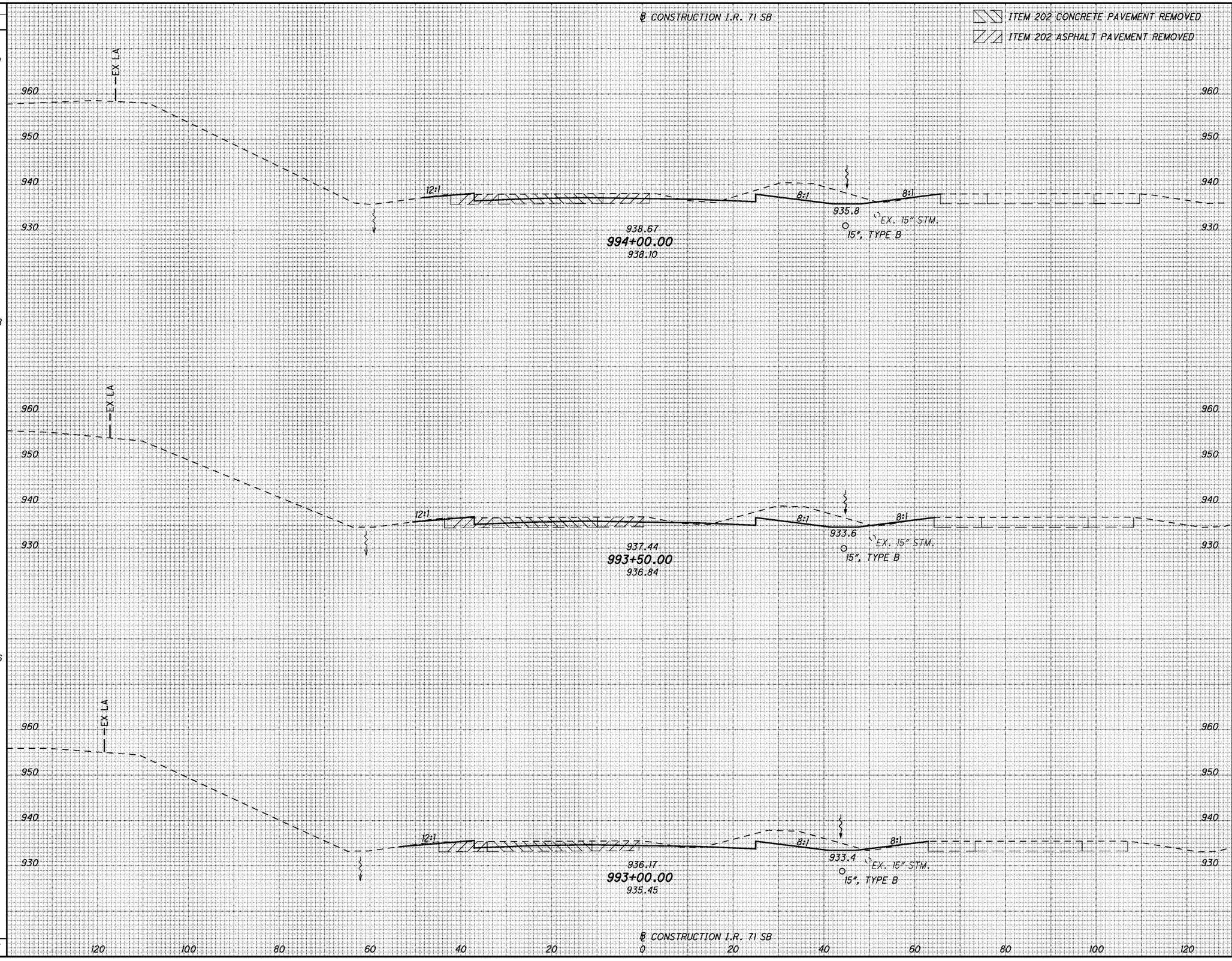
J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:48PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
	319
58	
	328
60	
	336
61	
	983

B CONSTRUCTION I.R. 71 SB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



END AREA		VOLUME	
CUT	FILL	CUT	FILL
47	5		
		85	9
45	4		
		82	7
44	4		
		44	4
		211	20

CALCULATED MER

CHECKED RWK

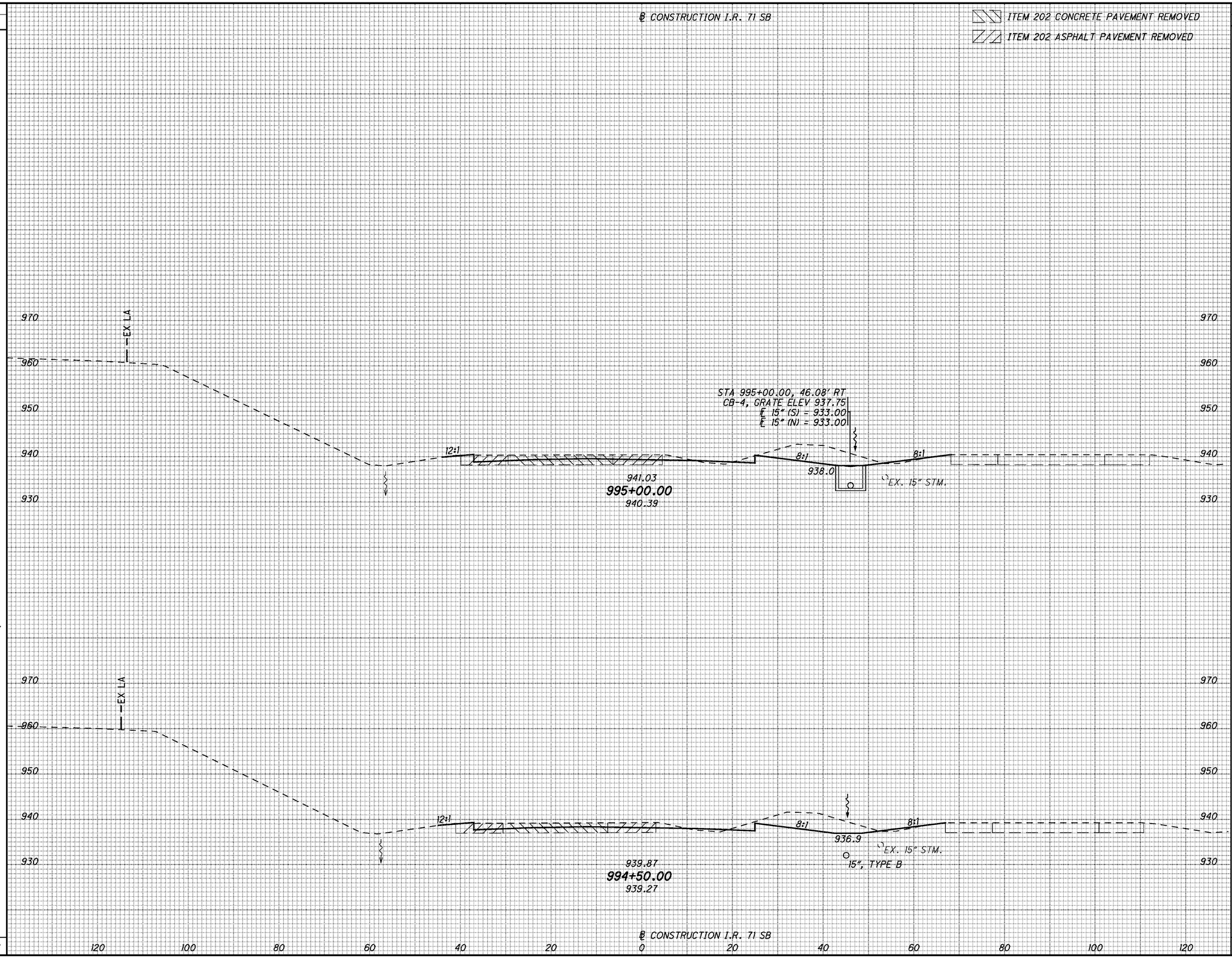
CROSS SECTIONS
STA. 993+00.00 TO STA. 994+00.00

WAR-71-14.20

179
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:48PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
	311
57	
	317
57	
	628



END AREA		VOLUME	
CUT	FILL	CUT	FILL
53	6		
		93	11
48	6		
		88	11
		181	22

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 994+50.00 TO STA. 995+00.00

WAR-71-14.20

180
470

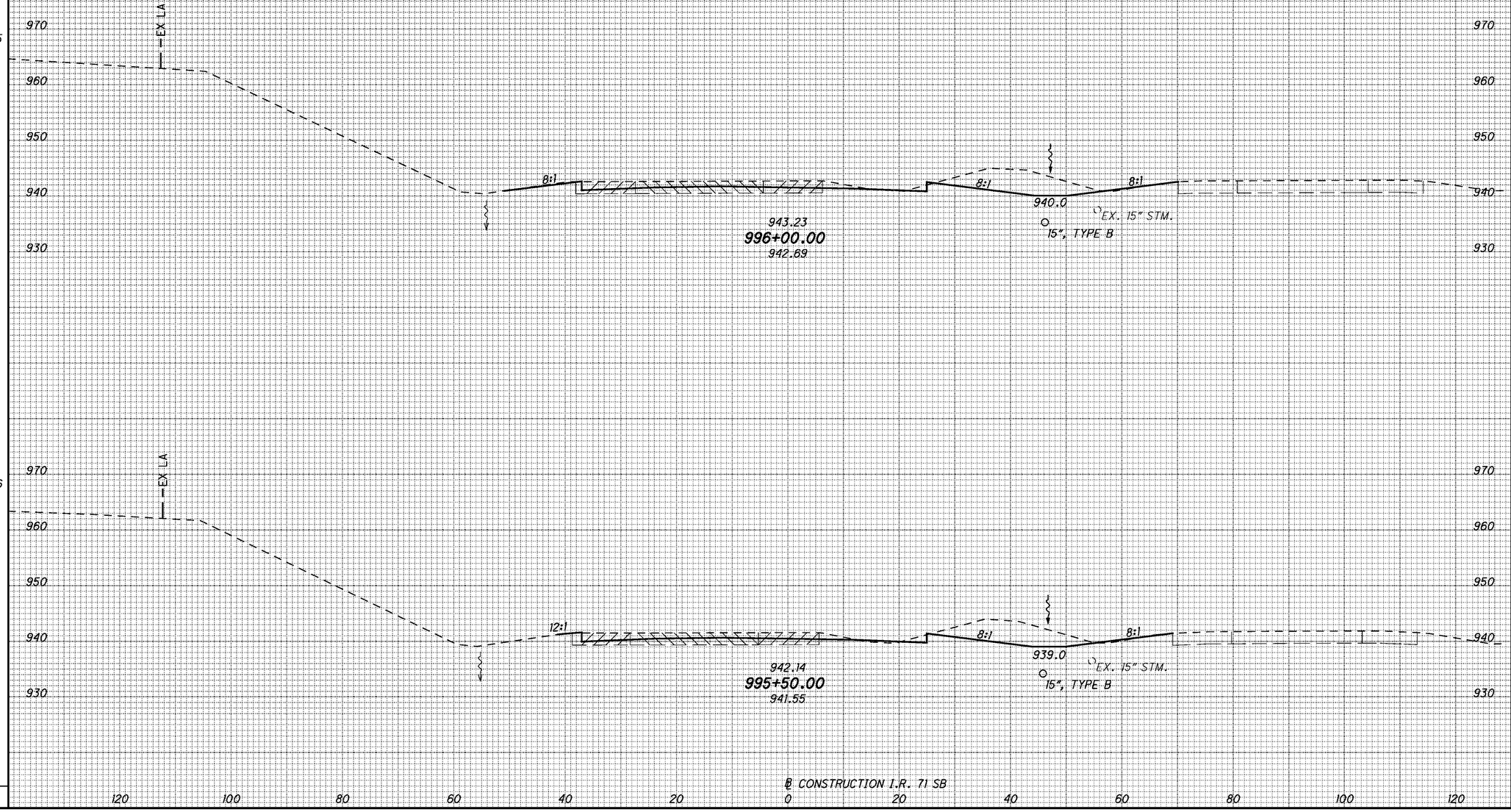
J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:48PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
	375
66	
	336
55	
	711

℄ CONSTRUCTION I.R. 71 SB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



END AREA		VOLUME	
CUT	FILL	CUT	FILL
59	2		
		106	5
56	3		
		100	8
		206	13

CALCULATED MER

CHECKED RWK

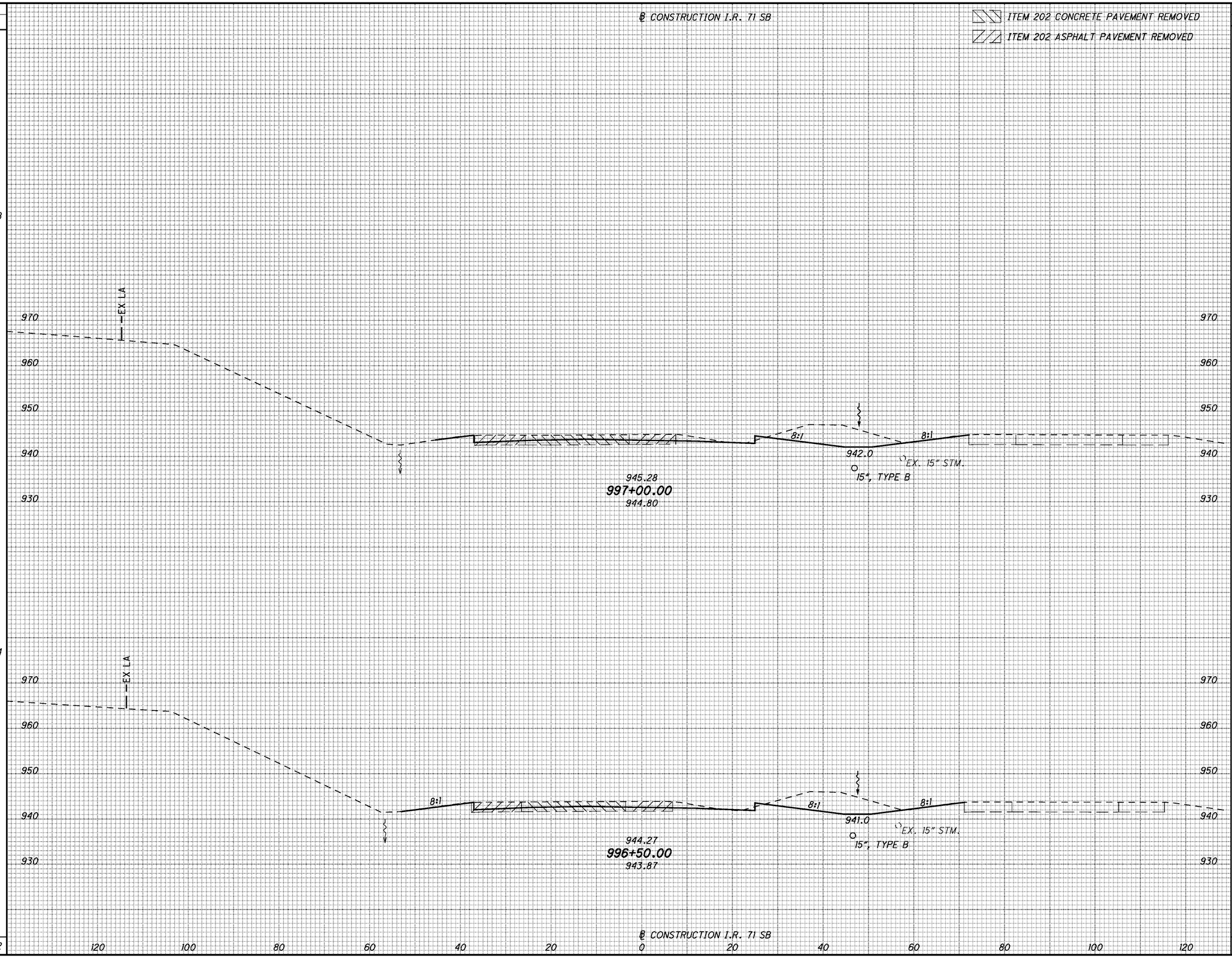
CROSS SECTIONS
995+50.00 TO STA. 996+00.00

WAR-71-14.20

181
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:48PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
	328
62	
	364
69	
	692



END AREA		VOLUME	
CUT	FILL	CUT	FILL
63	2		
		119	3
65	2		
		116	3
		235	6

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
996+50.00 TO STA. 997+00.00

WAR-71-14.20

182
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:48PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
61	66
63	344
56	331
	741

℄ CONSTRUCTION I.R. 71 SB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED

EX LA

970 / 960 / 950 / 940

948.07
998+50.00
947.75

8:1 8:1 944.6

947.18
998+00.00
946.83

8:1 8:1 943.7

STA 997+70.00, 47.44' RT
CB-4, GRATE ELEV 943.28
℄ 15" (S) = 936.78

STA 997+70.17, 23.22' RT
EX. CB-2-2A, GRATE ELEV 943.76
℄ ELEV SE= 940.95

STA 997+70.02, 58.95' RT
EX. CB-2-2A, GRATE ELEV 943.62
℄ ELEV W= 940.44
℄ ELEV N=940.47

8:1 8:1 943.0

946.25
997+50.00
945.88

120 100 80 60 40 20 0 20 40 60 80 100 120

℄ CONSTRUCTION I.R. 71 SB

END AREA		VOLUME	
CUT	FILL	CUT	FILL
69	10		
		126	18
67	9		
		210	10
160	2		
		206	3
		542	31

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 997+50.00 TO STA. 998+50.00

WAR-71-14.20

183
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:48PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.

SEEDING	
END WIDTH	SQ. YDS.

℄ CONSTRUCTION I.R. 71 SB

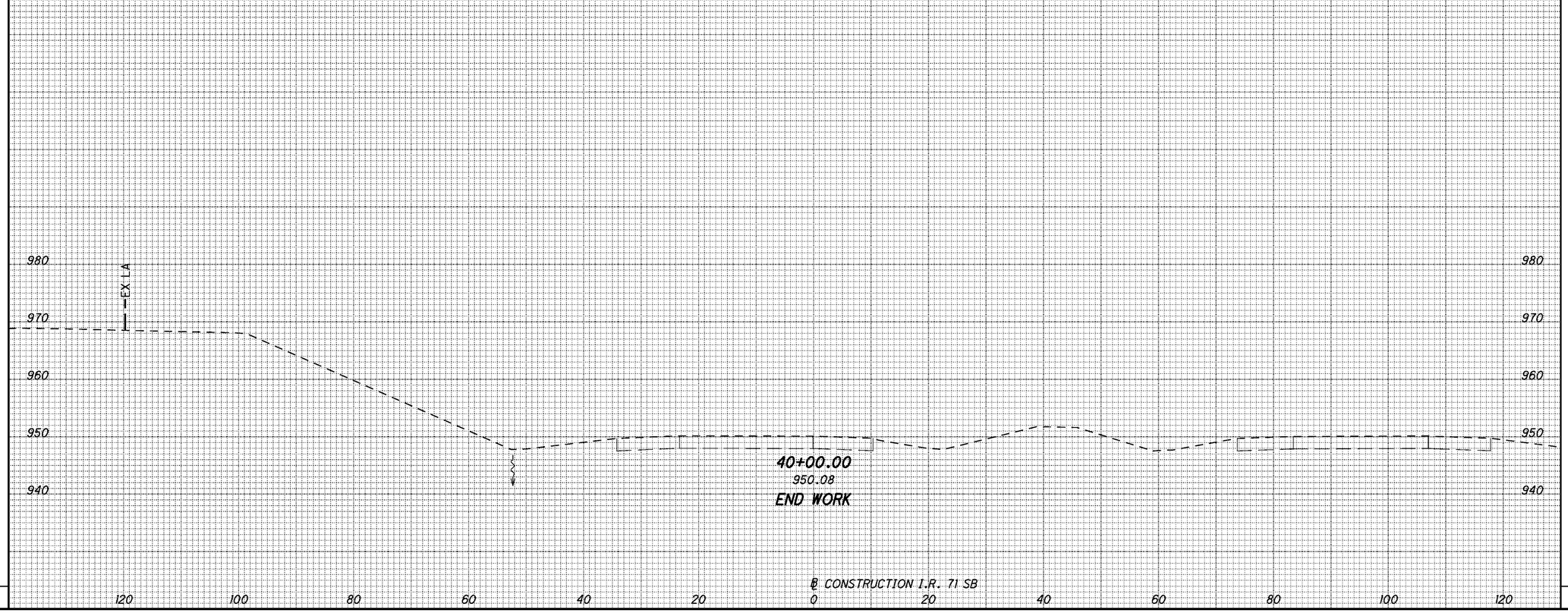
ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED MER

CHECKED RWK



CROSS SECTIONS

STA. 40+00.00 TO STA. 40+00.00

WAR-71-14.20

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS001.dgn 16-SEP-2008 2:49PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
	421
68	
	283
34	
	9
0	
	713

℄ CONSTRUCTION I.R. 71 NB

970
960
6:1
966.5
6:1
6:1
966.5
6:1
970
960
897+50.00
968.86

970
960
6:1
966.3
6:1
970
960
897+00.00
968.52

BEGIN WORK
STA. 896+95.00

950
960
896+50.00
968.45

960
896+00.00
968.07

℄ CONSTRUCTION I.R. 71 NB

120 100 80 60 40 20 0 20 40 60 80 100 120

END AREA	
CUT	FILL
40	0
3	0
0	0

VOLUME	
CUT	FILL
40	0
1	0
41	0

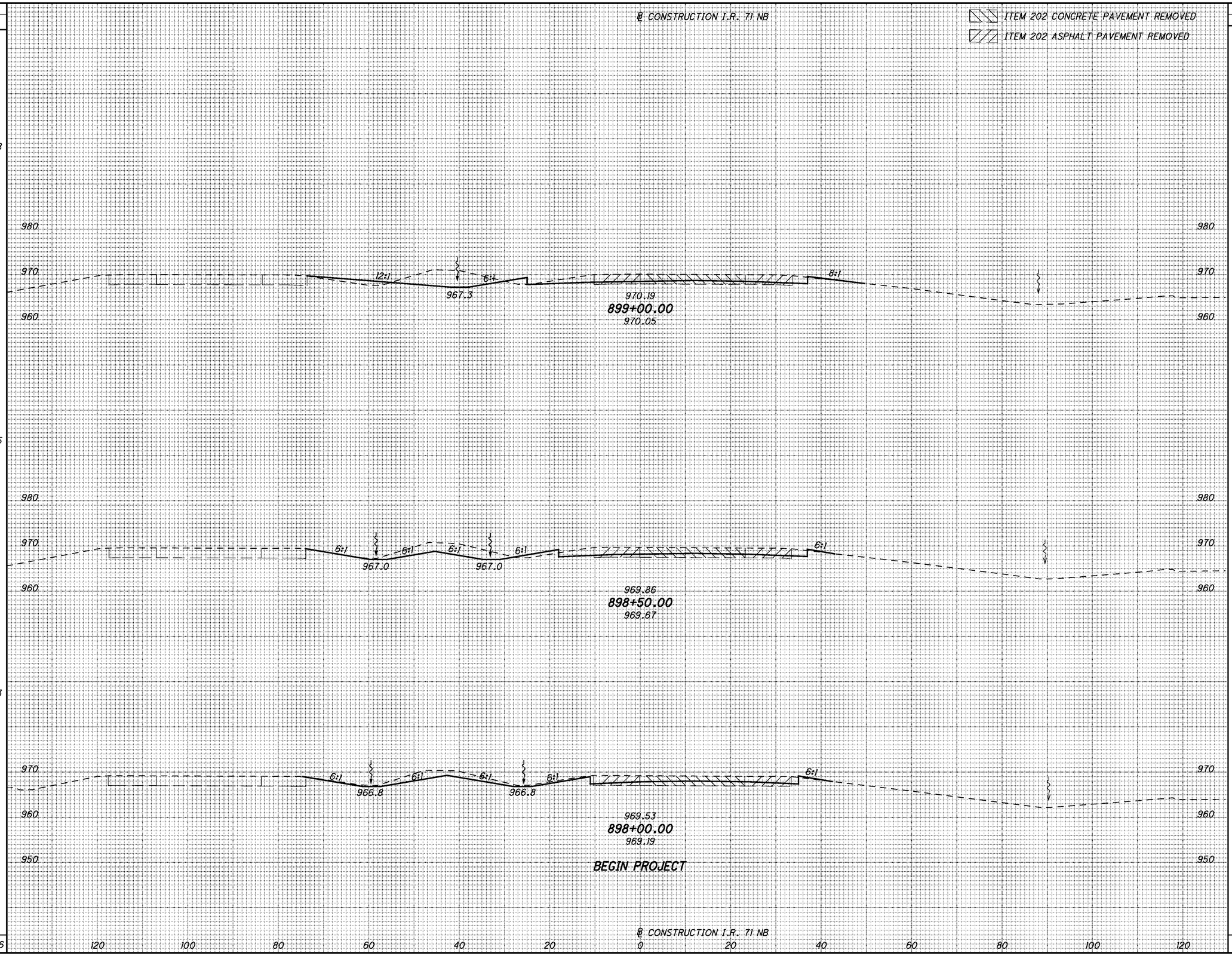
CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 896+00.00 TO STA. 897+50.00

WAR-71-14.20

186
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS002.dgn 16-SEP-2008 2:49PM Kduffney



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	388				
72		141	17		
				252	22
	405				
73		131	7		
				218	7
	433				
83		104	1		
				133	1
	1,226			603	30

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 898+00.00 TO STA. 899+00.00

WAR-71-14.20

187
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS002.dgn 16-SEP-2008 2:49PM Kduffrey

SEEDING END WIDTH	SEEDING SQ. YDS.
	353
47	
	219
32	
	275
67	
	847

℄ CONSTRUCTION I.R. 71 NB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED

STA 900+38.76, 44.32' LT
CB-5, Grate Elev 967.41
℄ 21" (E & W) Elev = 960.98±
℄ 6" U.D. (NE & NW) Elev = 965.37

MATCH LINE I.R. 71 SB

967.5

24" -21" Conduit, Type B @ 6.34 %±

Prop. Masonary Collar

Ex. CB To Be Removed
Sta 900+38.69, 23.96' Lt
EX CB-2-2A, Grate Elev 968.60
℄ Elev S= 960.70
℄ Elev N=960.72
℄ Elev SE=962.40

971.18
900+50.00
971.25

Ex. 21" Conc. Pipe

965.6

MATCH LINE I.R. 71 SB

967.6

970.85
900+00.00
970.88

967.5

970.52
899+50.00
970.47

℄ CONSTRUCTION I.R. 71 NB

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
140	8		
		248	12
129	4		
		255	17
147	14		
		266	29
		769	58

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 899+50.00 TO STA. 900+50.00

WAR-71-14.20

188
470

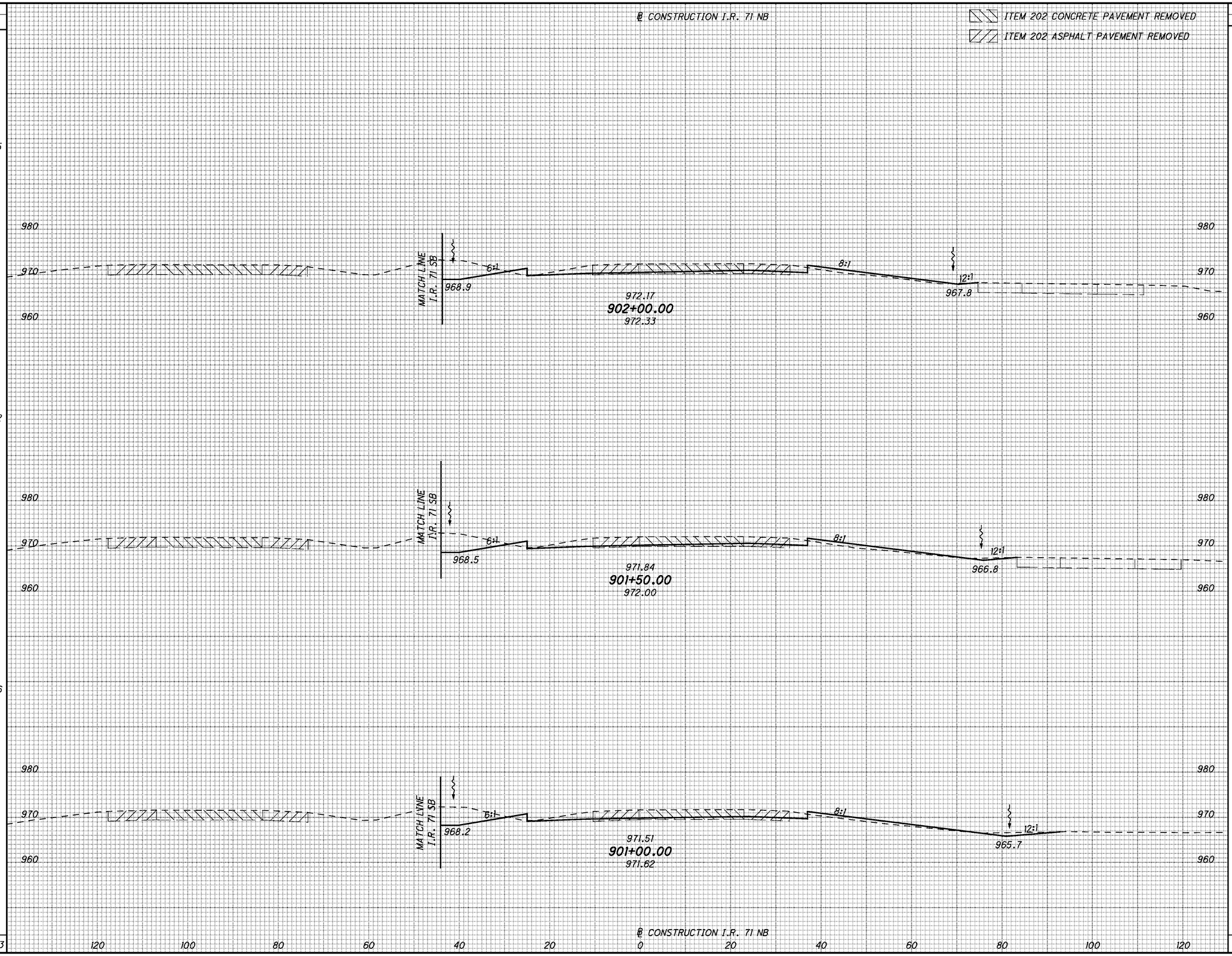
J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS002.dgn 16-SEP-2008 2:49PM Kduffrey

SEEDING	
END WIDTH	SQ. YDS.
	325
57	
	342
66	
	406
80	
	1,073

℄ CONSTRUCTION I.R. 71 NB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



END AREA		VOLUME	
CUT	FILL	CUT	FILL
130	19		
		243	37
132	21		
		248	38
135	20		
		254	26
		745	101

CALCULATED MER

CHECKED RWK

CROSS SECTIONS
901+00.00 TO STA. 902+00.00

WAR-71-14.20

189
470

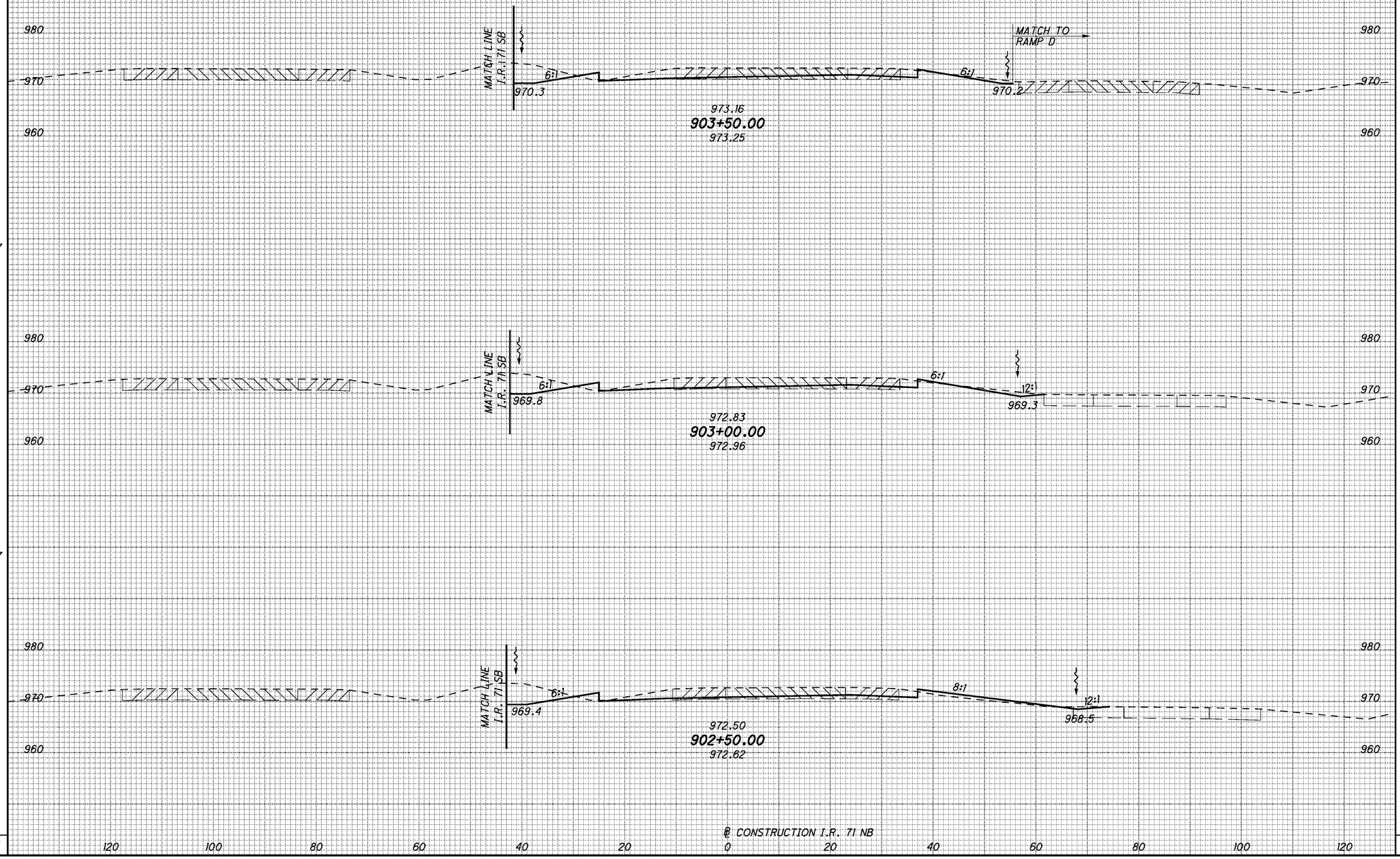
J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS002.dgn 16-SEP-2008 2:49PM Kauffney

SEEDING	
END WIDTH	SQ. YDS.
	231
	42
	247
	47
	297
	60
	775

℄ CONSTRUCTION I.R. 71 NB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



END AREA		VOLUME	
CUT	FILL	CUT	FILL
124	4		
		235	9
130	5		
		238	20
127	16		
		238	32
		711	61

CALCULATED MER

CHECKED RWK

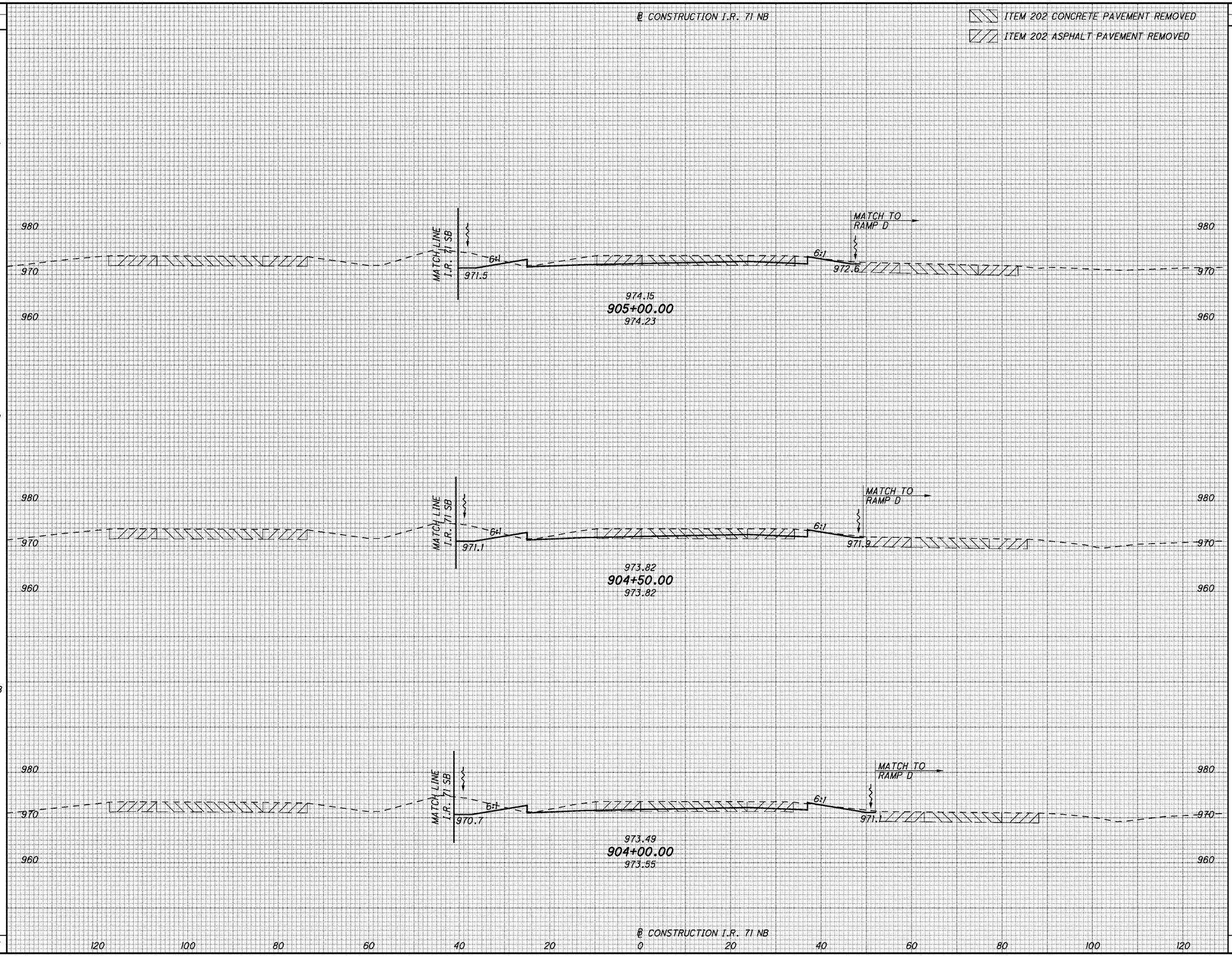
CROSS SECTIONS
STA. 902+50.00 TO STA. 903+50.00

WAR-71-14.20

190
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS002.dgn 16-SEP-2008 2:49PM Kduffney

SEEDING END WIDTH	SEEDING SQ. YDS.
	175
36	
	194
34	
	208
41	
	577



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
117	3	215	6
115	3	218	7
120	4	226	8
		659	21

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 904+00.00 TO STA. 905+00.00

WAR-71-14.20

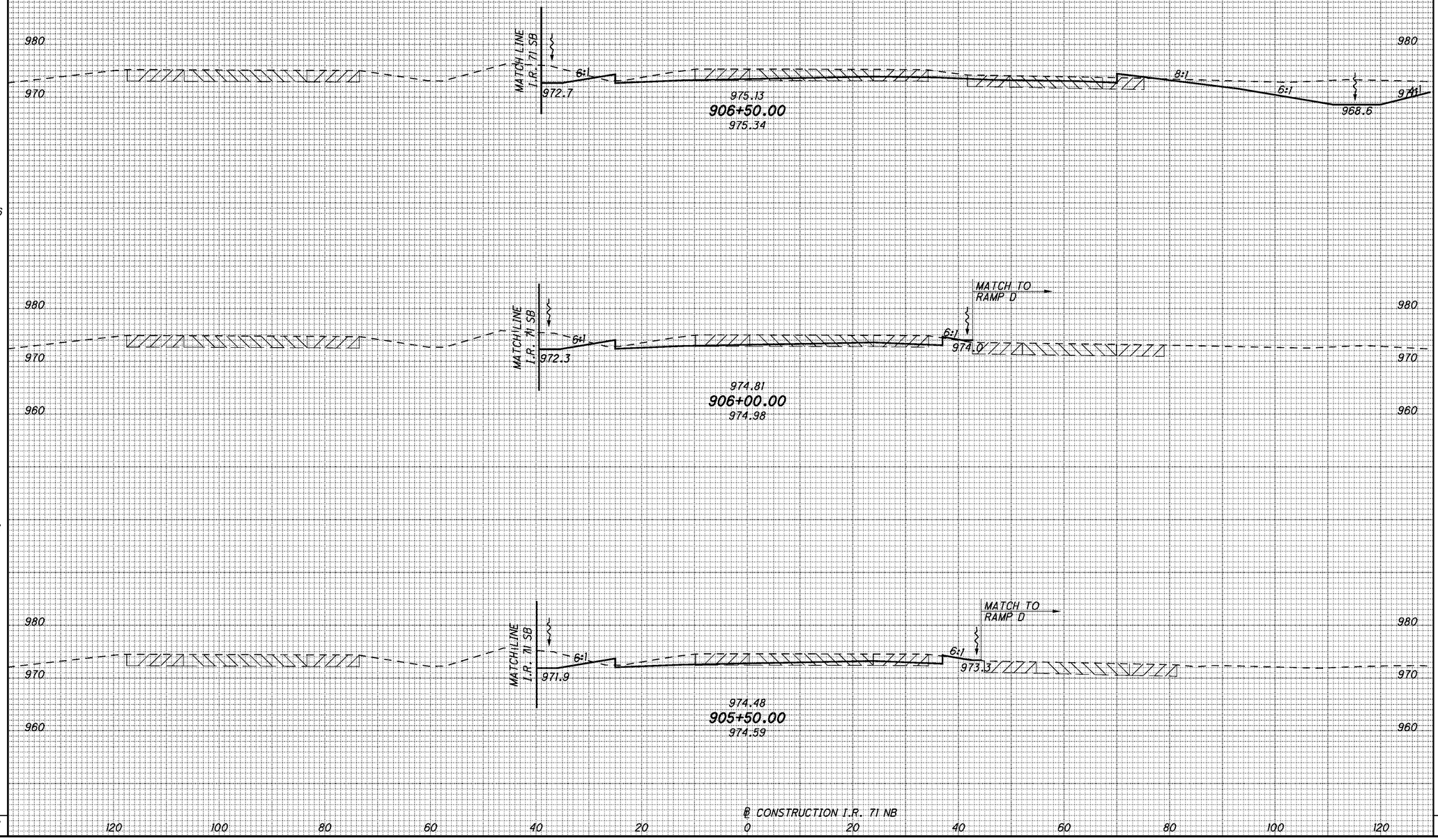
J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS002.dgn 16-SEP-2008 2:49PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
	459
93	
	336
28	
	153
27	
	948

℄ CONSTRUCTION I.R. 71 NB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



END AREA		VOLUME	
CUT	FILL	CUT	FILL
287	5		
		374	9
117	4		
		216	7
116	3		
		216	6
		806	22

CALCULATED MER

CHECKED RWK

CROSS SECTIONS
STA. 905+50.00 TO STA. 906+50.00

WAR-71-14.20

192
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS002.dgn 16-SEP-2008 2:49PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
	431
76	
	436
81	
	450
81	
	425
72	
	1,742

℄ CONSTRUCTION I.R. 71 NB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED

MATCH LINE I.R. 71 SB

990 / 980 / 970

6:1

974.3

976.45

908+50.00

976.69

8:1 4:1 3:1

970.1

MATCH LINE I.R. 71 SB

990 / 980 / 970

6:1

973.9

976.12

908+00.00

976.31

8:1 4:1 3:1

969.7

MATCH LINE I.R. 71 SB

980 / 970

6:1

973.5

975.79

907+50.00

975.95

8:1 4:1 3:1

969.3

MATCH LINE I.R. 71 SB

Sta 907+00.00, 35.89' Lt
CB-5, Grate Elev 972.75
℄ 15" (E) = 969.57
℄ 6" U.D. (SE) = 970.9
℄ 6" U.D. (N) = 970.1

980 / 970

6:1

973.0

975.46

907+00.00

975.62

134' - 15" Conduit, Type B @ 0.50%

8:1 4:1 2:1 3:1

968.9

℄ ELEV. = 968.90

HW-2.2

℄ CONSTRUCTION I.R. 71 NB

120 100 80 60 40 20 0 20 40 60 80 100 120

END AREA		VOLUME	
CUT	FILL	CUT	FILL
254	7		
		487	11
273	4		
		489	9
255	5		
		455	8
236	4		
		484	9
		1,915	37

CALCULATED MER

CHECKED RWK

CROSS SECTIONS

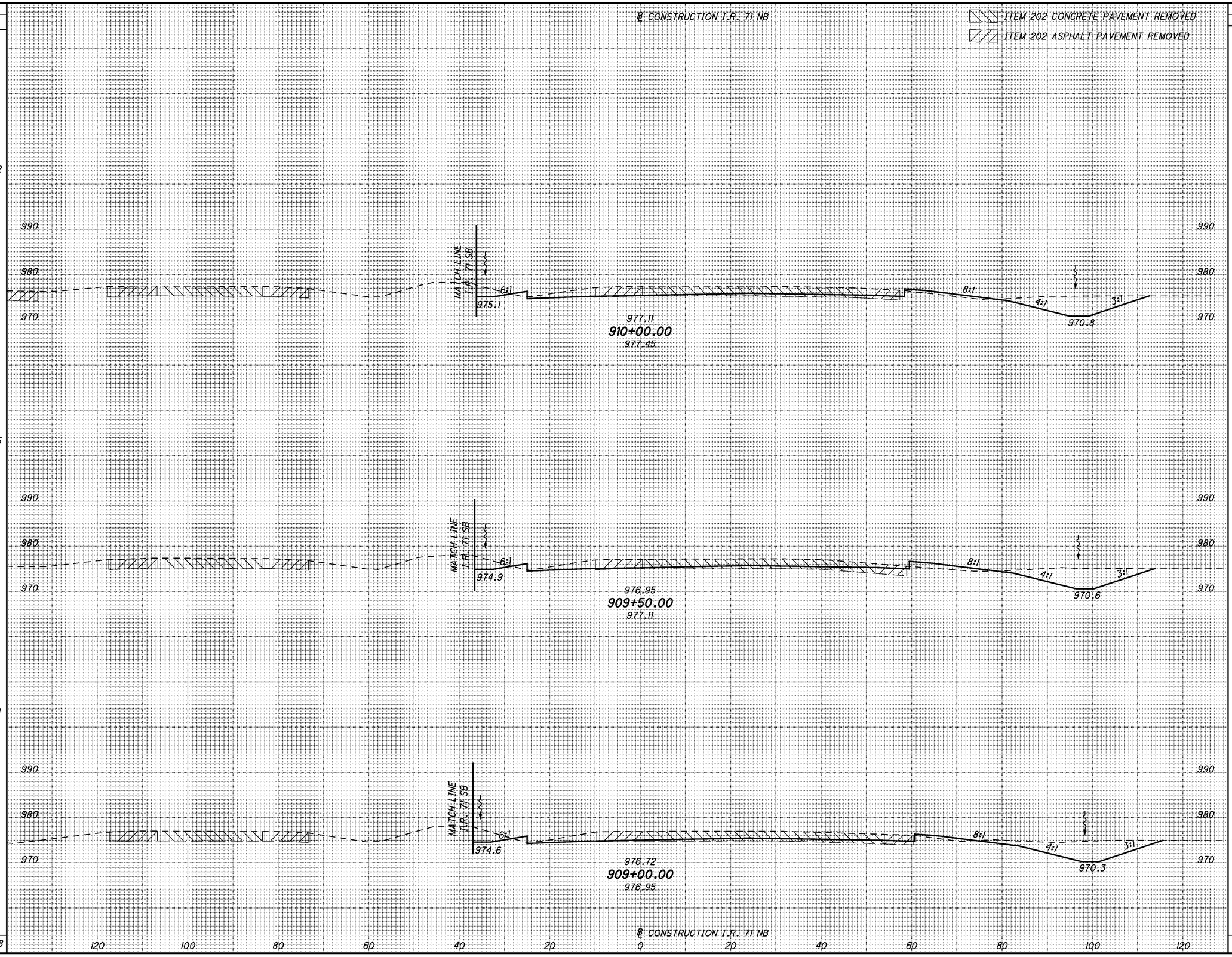
STA. 907+00.00 TO STA. 908+50.00

WAR-71-14.20

193
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS002.dgn 16-SEP-2008 2:49PM Kduffney

SEEDING END WIDTH	SEEDING SQ. YDS.	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	422					
77		910+00.00	228	11		
					416	27
	425					
76		909+50.00	221	18		
					426	24
	431					
79		909+00.00	239	9		
					456	15
1,278					1,298	66



CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 909+00.00 TO STA. 910+00.00

WAR-71-14.20

194
470

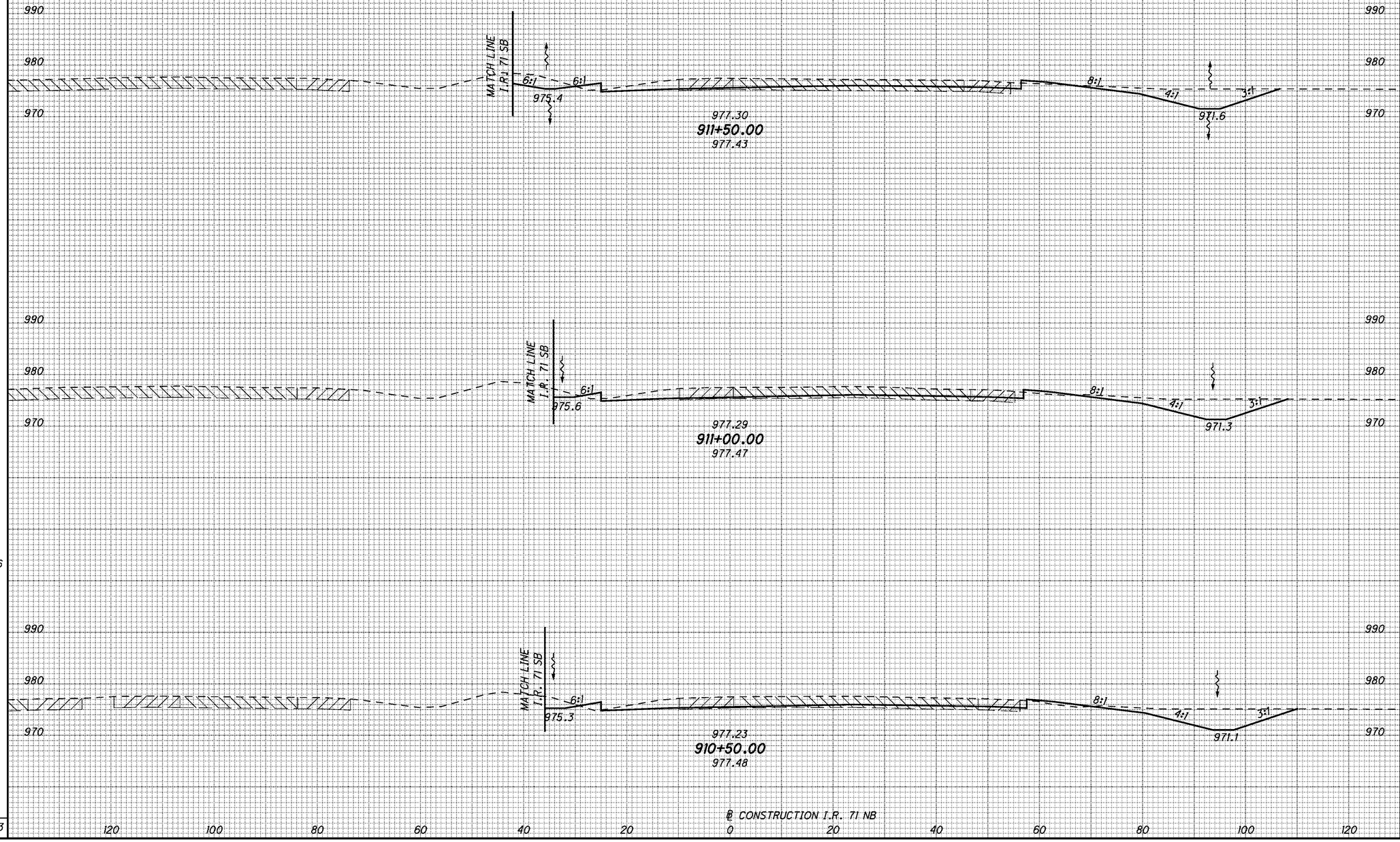
J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS002.dgn 16-SEP-2008 2:49PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
	436
77	
	411
71	
	406
75	
	1,253

℄ CONSTRUCTION I.R. 71 NB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



END AREA		VOLUME	
CUT	FILL	CUT	FILL
205	7		
		381	13
207	7		
		393	15
218	9		
		413	19
		1,187	47

CALCULATED MER

CHECKED RWK

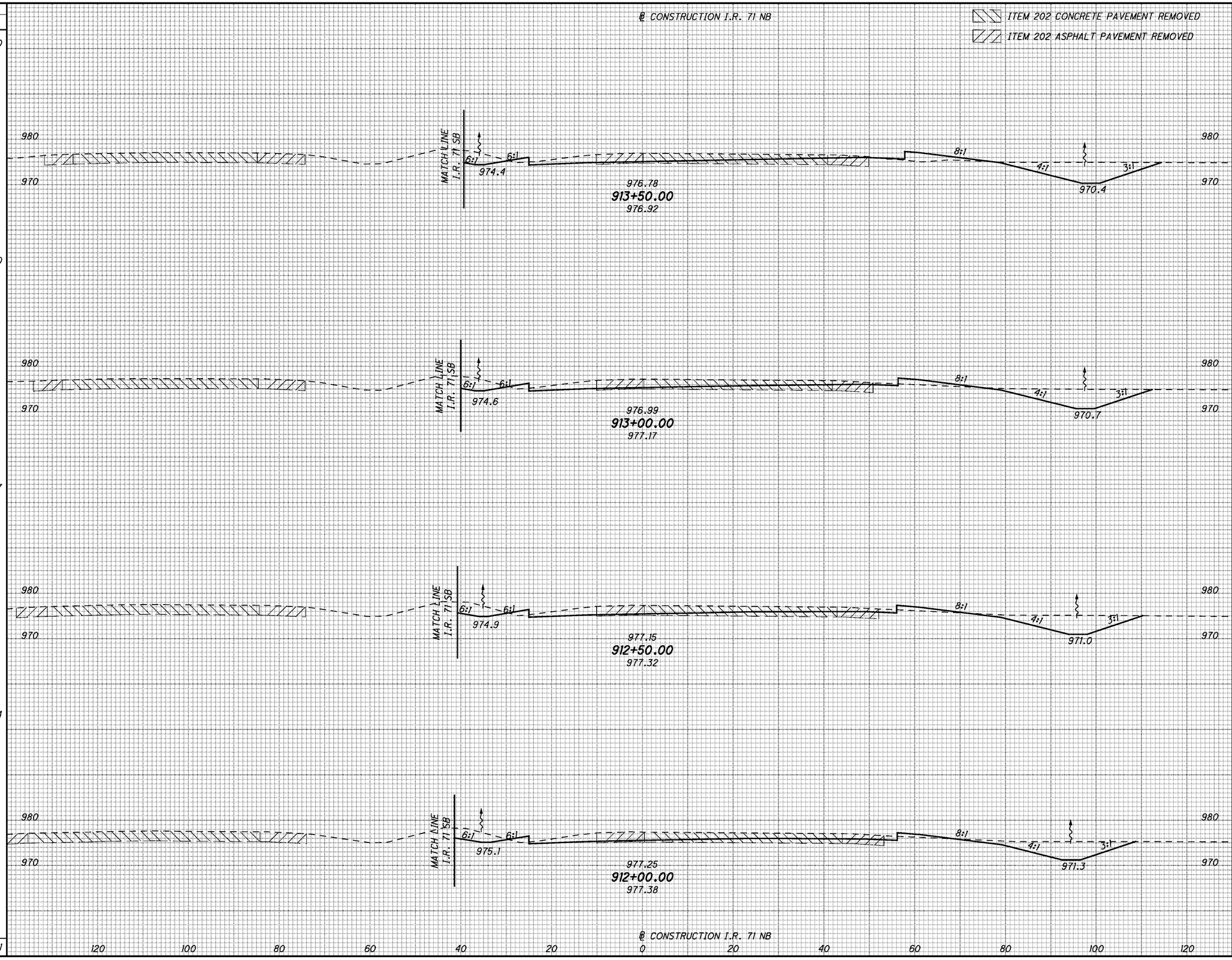
CROSS SECTIONS
910+50.00 TO STA. 911+50.00

WAR-71-14.20

195
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS002.dgn 16-SEP-2008 2:50PM Kauffney

SEEDING	
END WIDTH	SQ. YDS.
	450
81	
	450
81	
	447
80	
	444
80	
	1,791



END AREA		VOLUME	
CUT	FILL	CUT	FILL
203	23		
		377	37
204	16		
		379	27
206	13		
		381	21
205	10		
		379	16
		1,516	101

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 912+00.00 TO STA. 913+50.00

WAR-71-14.20

196
470

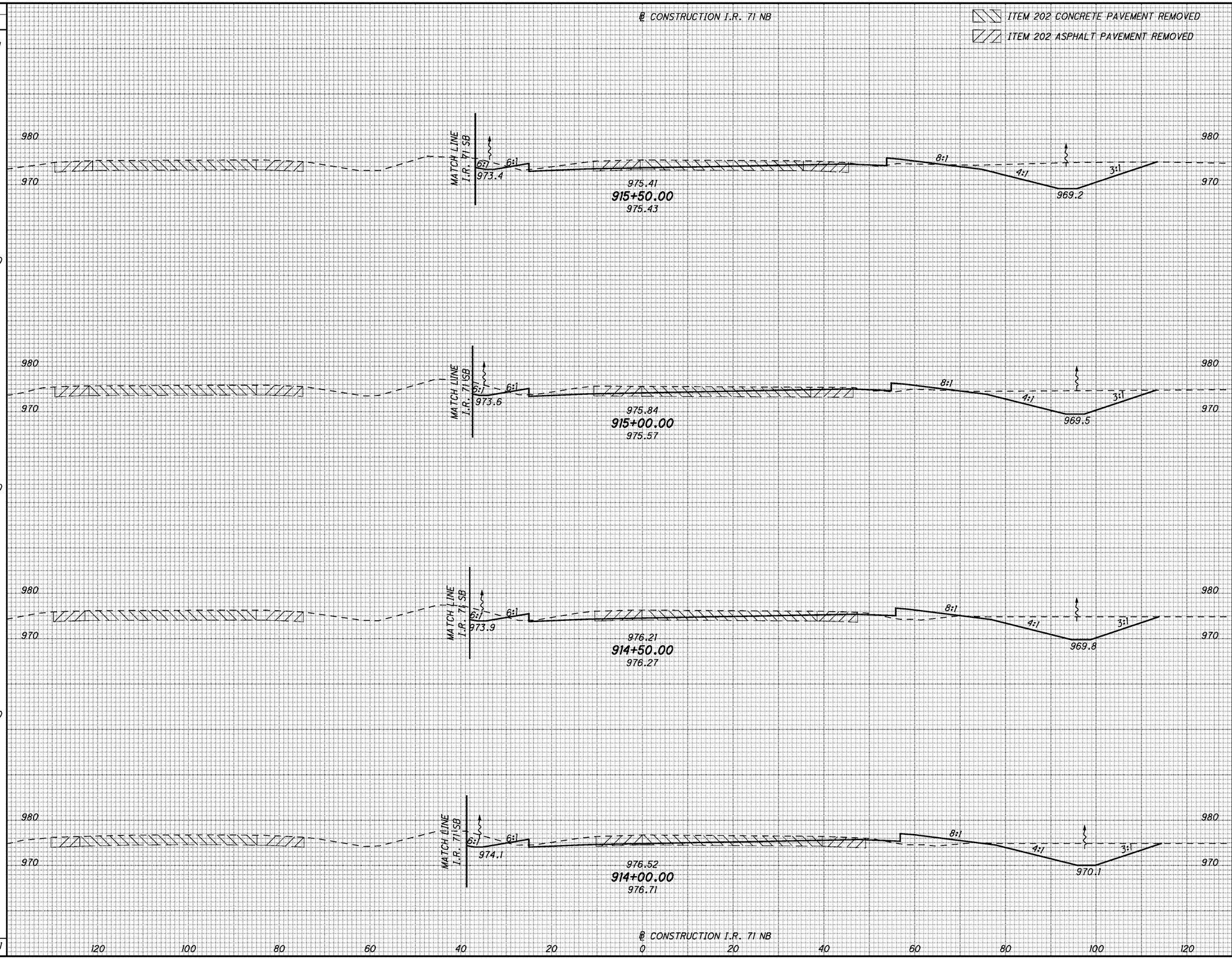
J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS002.dgn 16-SEP-2008 2:50PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
	431
81	
	450
81	
	450
81	
	450
	1,781

℄ CONSTRUCTION I.R. 71 NB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



END AREA		VOLUME	
CUT	FILL	CUT	FILL
228	13		
		397	27
200	16		
		381	40
212	27		
		394	52
214	30		
		387	49
		1,559	168

CALCULATED MER

CHECKED RWK

CROSS SECTIONS

STA. 914+00.00 TO STA. 915+50.00

WAR-71-14.20

197
470

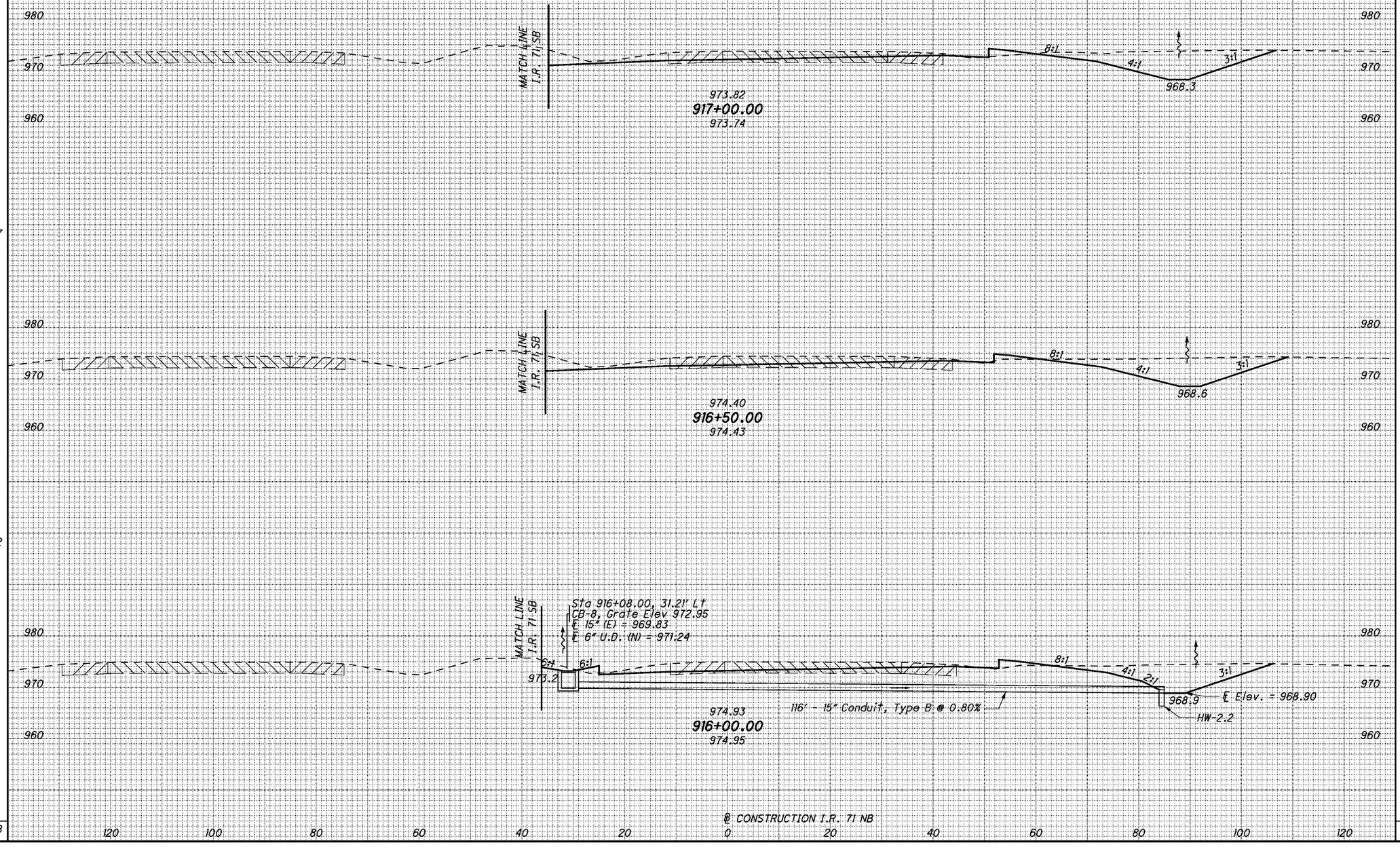
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SEEDING	
END WIDTH	SQ. YDS.
65	369
67	392
74	367
	1,128

℄ CONSTRUCTION I.R. 71 NB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



END AREA		VOLUME	
CUT	FILL	CUT	FILL
225	8		
		422	13
231	6		
		403	16
204	11		
		401	22
		1,226	51

CALCULATED MER

CHECKED RWK

CROSS SECTIONS
916+00.00 TO STA. 917+00.00

WAR-71-14.20

198
470

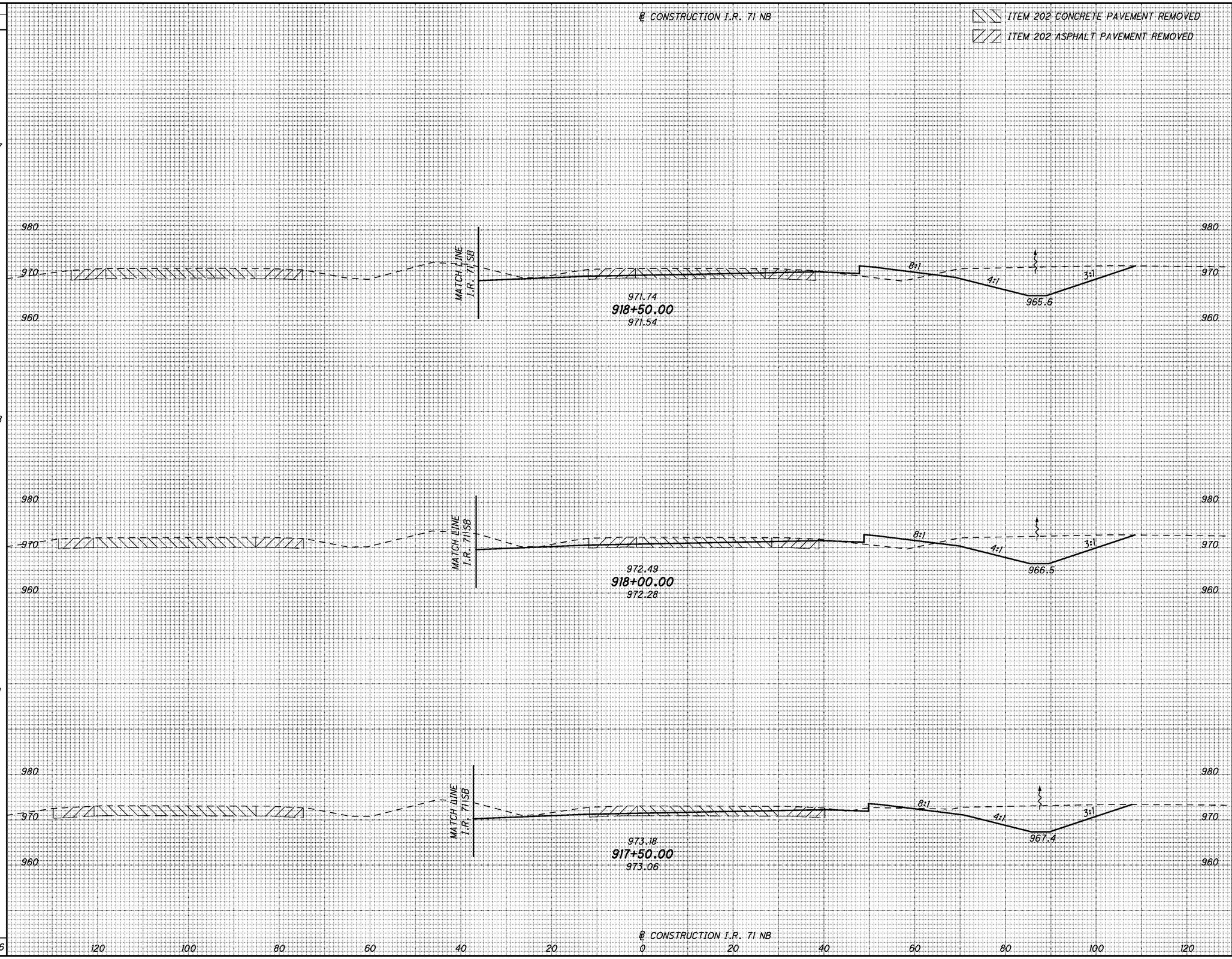
J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS002.dgn 16-SEP-2008 2:50PM Kauffney

SEEDING	
END WIDTH	SQ. YDS.
	397
71	
	388
69	
	381
68	
	1,166

℄ CONSTRUCTION I.R. 71 NB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



END AREA		VOLUME	
CUT	FILL	CUT	FILL
241	31		
		442	55
236	28		
		438	31
237	5		
		428	12
		1,308	98

CALCULATED MER

CHECKED RWK

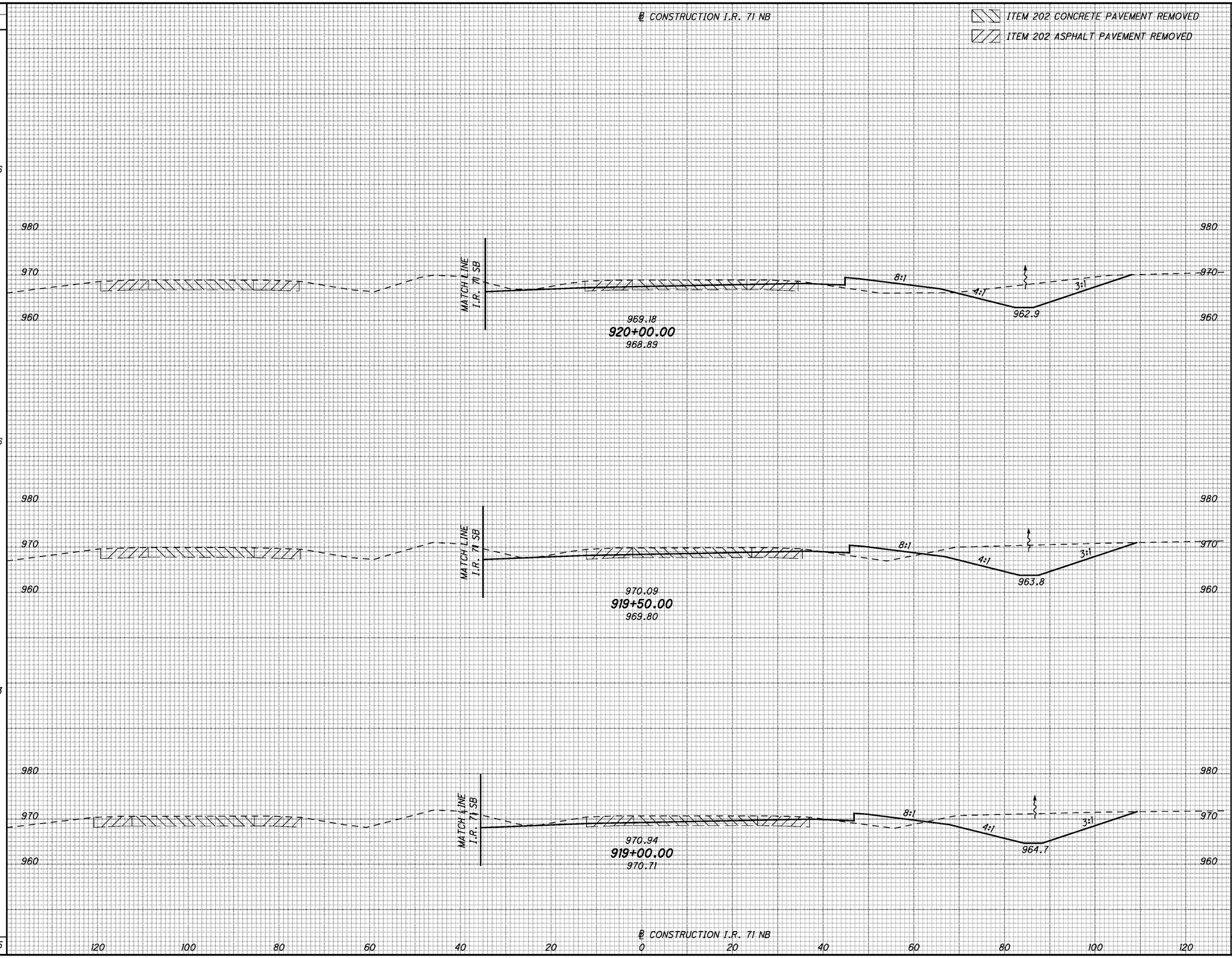
CROSS SECTIONS
917+50.00 TO STA. 918+50.00

WAR-71-14.20

199
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS002.dgn 16-SEP-2008 2:50PM Kauffney

SEEDING	
END WIDTH	SQ. YDS.
	406
73	
	406
73	
	403
72	
	1,215



END AREA		VOLUME	
CUT	FILL	CUT	FILL
185	46		
		403	73
250	33		
		463	58
250	30		
		455	57
		1,321	188

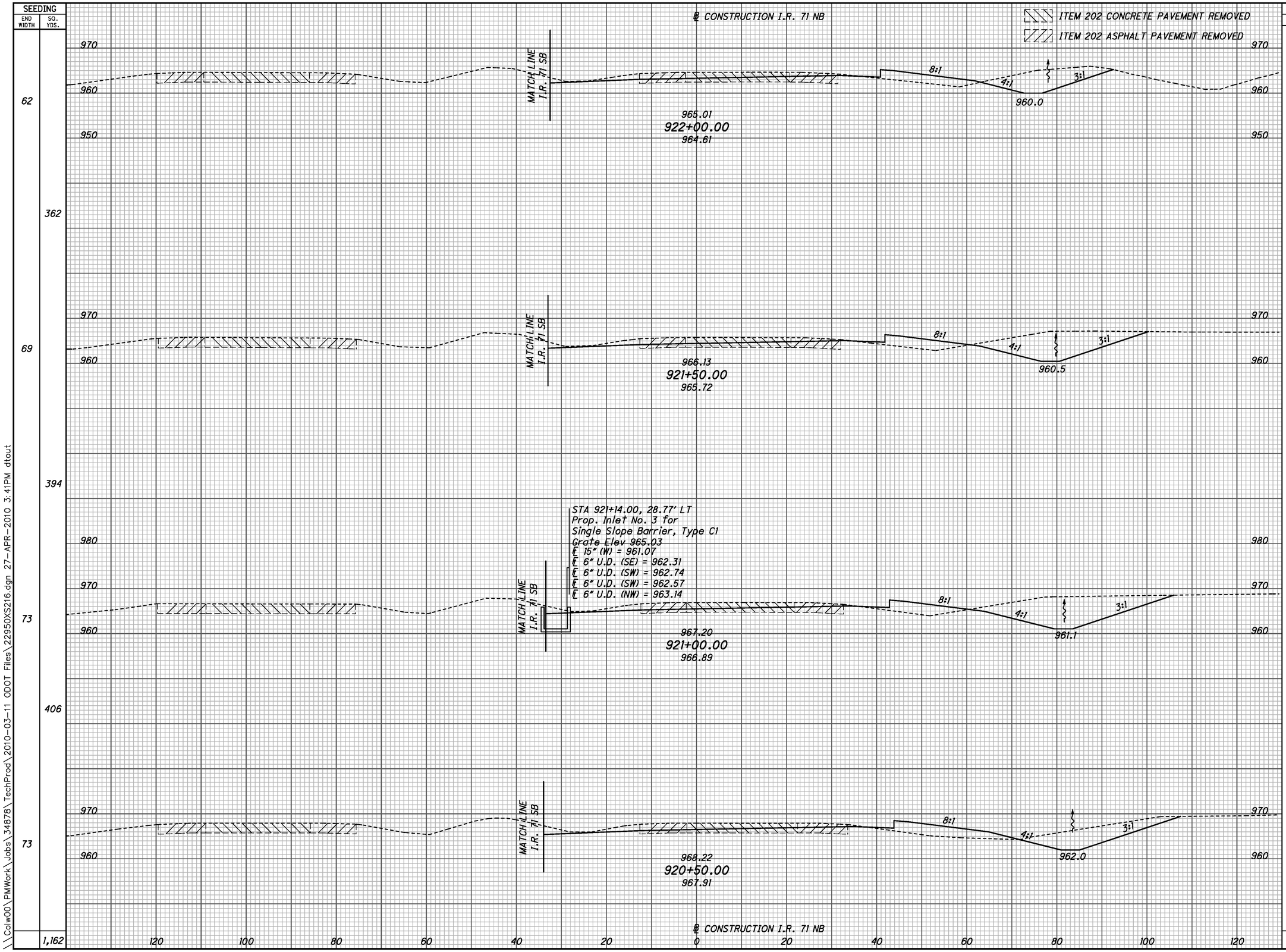
CALCULATED MER
CHECKED RWK

CROSS SECTIONS
919+00.00 TO STA. 920+00.00

WAR-71-14.20

200
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS002.dgn 16-SEP-2008 2:50PM Kauffney



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
62	362	148	39	324	69
69	394	202	36	414	66
73	406	245	35	380	81
73	324	165	53	324	92
	1,162			1,442	308

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 920+50.00 TO STA. 922+00.00

WAR-71-14.20

201
470

\\Colw00\PMWork\Jobs\34878\TechProd\2010-03-11 ODOT Files\22950XS216.dgn 27-APR-2010 3:41PM dtout

SEEDING	
END WIDTH	SQ. YDS.
	1
	182
	34
	200
	38
	206
	36
	273
	860

℄ CONSTRUCTION I.R. 71 NB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED

970
960
950

MATCH LINE I.R. 71 SB

961.31
923+50.00
960.77

8:1
4:1

STA 923+05.39, 26.66' LT
Ex.CB-2-2A, CB Filled With
Gravel & Standing Water

962.60
923+00.00
962.14

8:1
4:1

963.83
922+50.00
963.46

8:1
3:1

1 DLT, 4/23/10, REVISED DITCH/QUANTITIES

END AREA		VOLUME	
CUT	FILL	CUT	FILL
1			
51	29		
		96	67
52	43		
		104	81
60	44		
		193	77
		393	225

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 922+50.00 TO STA. 923+50.00

WAR-71-14.20

202
470

℄ CONSTRUCTION I.R. 71 NB

120 100 80 60 40 20 0 20 40 60 80 100 120

\\Colw00\PMWork\Jobs\34878\TechProd\2010-03-11 ODOT Files\22950XS218.dgn 27-APR-2010 3:41PM dtout

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
54	296	130	27	227	51
53	293	115	29	202	54
53	234	103	30	142	54
31		50	29	94	54
	822			665	213

CALCULATED MER
CHECKED RWK

℄ CONSTRUCTION I.R. 71 NB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED

MATCH LINE I.R. 71 SB

960
950
940

8:1
3:1
2:1

955.64
925+50.00
954.94
949.7

957.14
925+00.00
956.48
951.2

958.58
924+50.00
958.00
952.5

970
960
950

959.98
924+00.00
959.42

120 100 80 60 40 20 0 20 40 60 80 100 120

CROSS SECTIONS
STA. 924+00.00 TO STA. 925+50.00

WAR-71-14.20

203
470

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
60	340	193	25	333	48
58	327	167	27	291	53
55	314	147	31	257	54
	303				
	1,284			881	155

℄ CONSTRUCTION I.R. 71 NB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED

MATCH LINE I.R. 71 SB

960 / 950 / 940

951.14
927+00.00
950.54

8:1 3:1 2:1

945.2

MATCH LINE I.R. 71 SB

960 / 950 / 940

952.64
926+50.00
951.98

8:1 3:1 2:1

946.7

STA 926+14.00, 24.45' LT
Prop. Inlet No. 3 for
Single Slope Barrier, Type C1
Grate Elev 952.75
℄ 15" (W)=947.77
℄ 6" U.D. (SE)=949.17
℄ 6" U.D. (SW)=949.56
℄ 6" U.D. (SW)=949.46
℄ 6" U.D. (NW)=950.15

MATCH LINE I.R. 71 SB

970 / 960 / 950 / 940

954.14
926+00.00
953.45

8:1 3:1 2:1

948.2

℄ CONSTRUCTION I.R. 71 NB

120 100 80 60 40 20 0 20 40 60 80 100 120

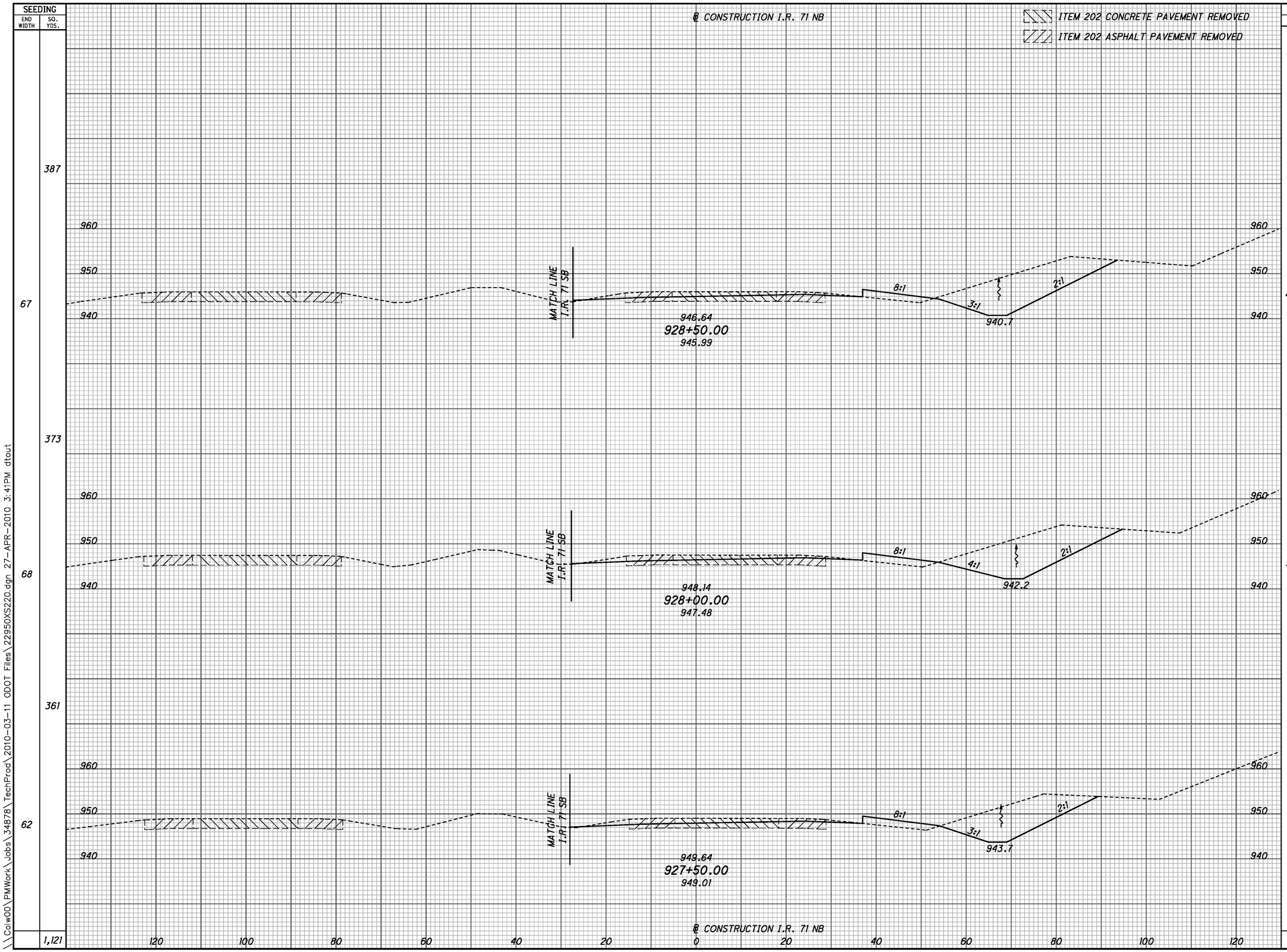
CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 926+00.00 TO STA. 927+00.00

WAR-71-14.20

204
470

\\Colw00\PMWork\Jobs\34878\TechProd\2010-03-11 ODOT Files\22950XS219.dgn 27-APR-2010 3:41PM dtout



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
67	387	260	22	489	42
68	373	268	24	449	44
62	361	216	23	379	45
	1,121			1,317	131

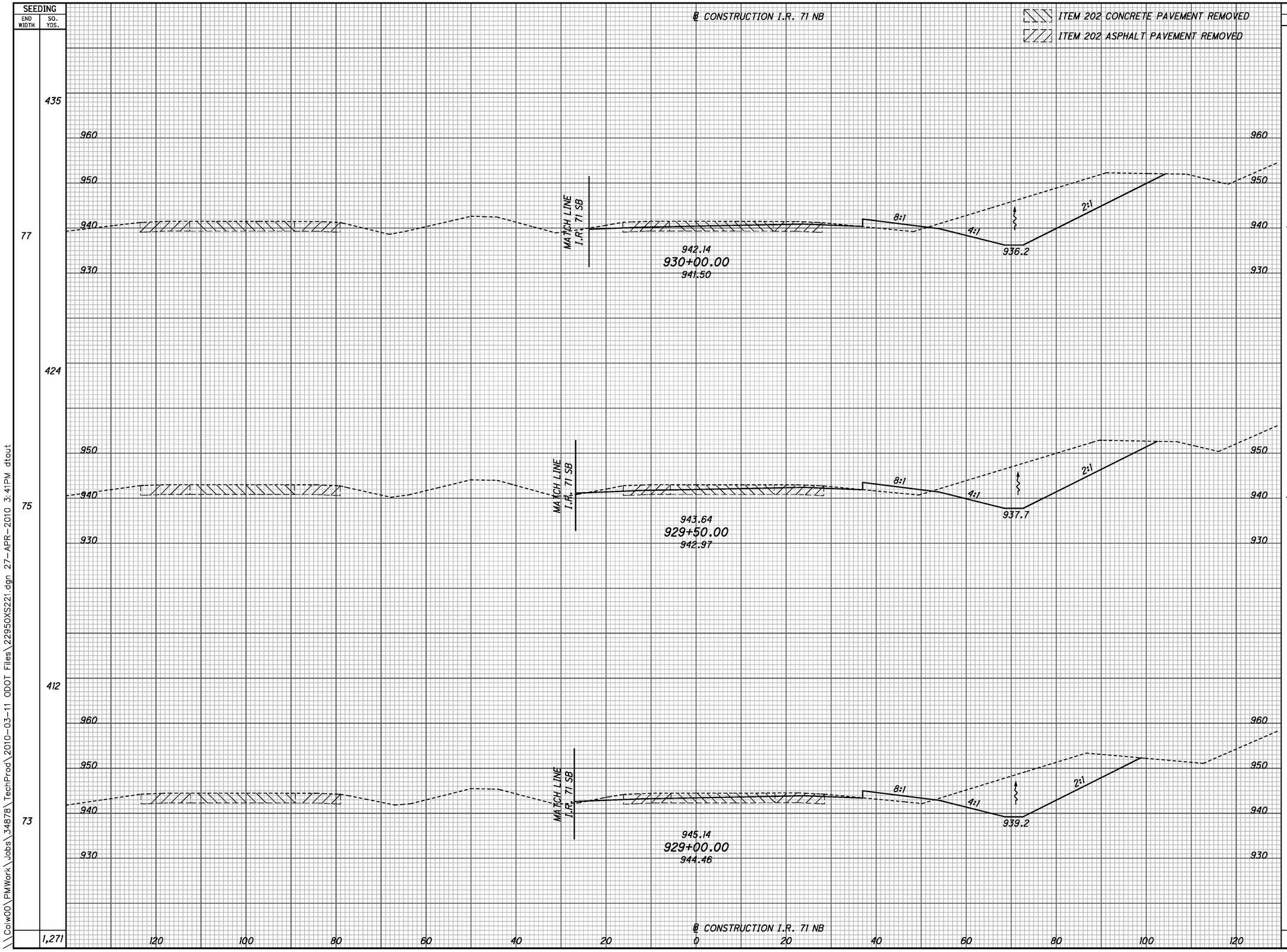
CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 927+50.00 TO STA. 928+50.00

WAR-71-14.20

205
470

\\Colw00\PMWork\Jobs\34878\TechProd\2010-03-11 ODOT Files\22950XS220.dgn 27-APR-2010 3:41PM dtout



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	435				
77		369	19	656	36
	424				
75		339	20	604	37
	412				
73		313	20	531	39
	1,271			1,791	112

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 929+00.00 TO STA. 930+00.00

WAR-71-14.20

206
470

\\Colw00\PMWork\Jobs\34878\TechProd\2010-03-11 ODOT Files\22950XS221.dgn 27-APR-2010 3:41PM dtout

\\Colw00\PMWork\Jobs\34878\TechProd\2010-03-11 ODOT Files\22950XS222.dgn 27-APR-2010 3:41PM dtout

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	466				
83		432	16		
	455			767	32
81		396	19		
	445			725	35
79		387	19		
				700	36
	1,366			2,192	103

℄ CONSTRUCTION I.R. 71 NB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED

960 / 950 / 940 / 930

MATCH LINE I.R. 71 SB

937.64
931+50.00
937.07

8:1 4:1 2:1

931.7

STA 931+14.00, 21.72' LT
Prop. Inlet No. 3 for
Single Slope Barrier, Type C1
Grate Elev 937.86
℄ 15" (W) = 932.66
℄ 15" (W) = 932.66
℄ 6" U.D. (NW) = 935.06
℄ 6" U.D. (SW) = 934.44
℄ 6" U.D. (SW) = 934.84
℄ 6" U.D. (SE) = 934.20

939.14
931+00.00
938.54

933.2

940.64
930+50.00
940.05

934.7

120 100 80 60 40 20 0 20 40 60 80 100 120

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 930+50.00 TO STA. 931+50.00

WAR-71-14.20

207
470

SEEDING			END AREA		VOLUME		
	END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL	
489							
88			496	19			
					897	33	
486							
86			472	17			
					868	30	
476							
85			465	15			
					831	29	
	1,451				2,596	92	

℄ CONSTRUCTION I.R. 71 NB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED

940 930 920

MATCH LINE I.R. 71 SB

933.14
933+00.00
932.53

8:1 4:1 2:1 927.2

940 930 920

934.64
932+50.00
934.04

8:1 4:1 2:1 928.7

940 930 920

936.14
932+00.00
935.53

8:1 4:1 2:1 930.2

950 940 930

120 100 80 60 40 20 0 20 40 60 80 100 120

℄ CONSTRUCTION I.R. 71 NB

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 932+00.00 TO STA. 933+00.00

WAR-71-14.20

208
470

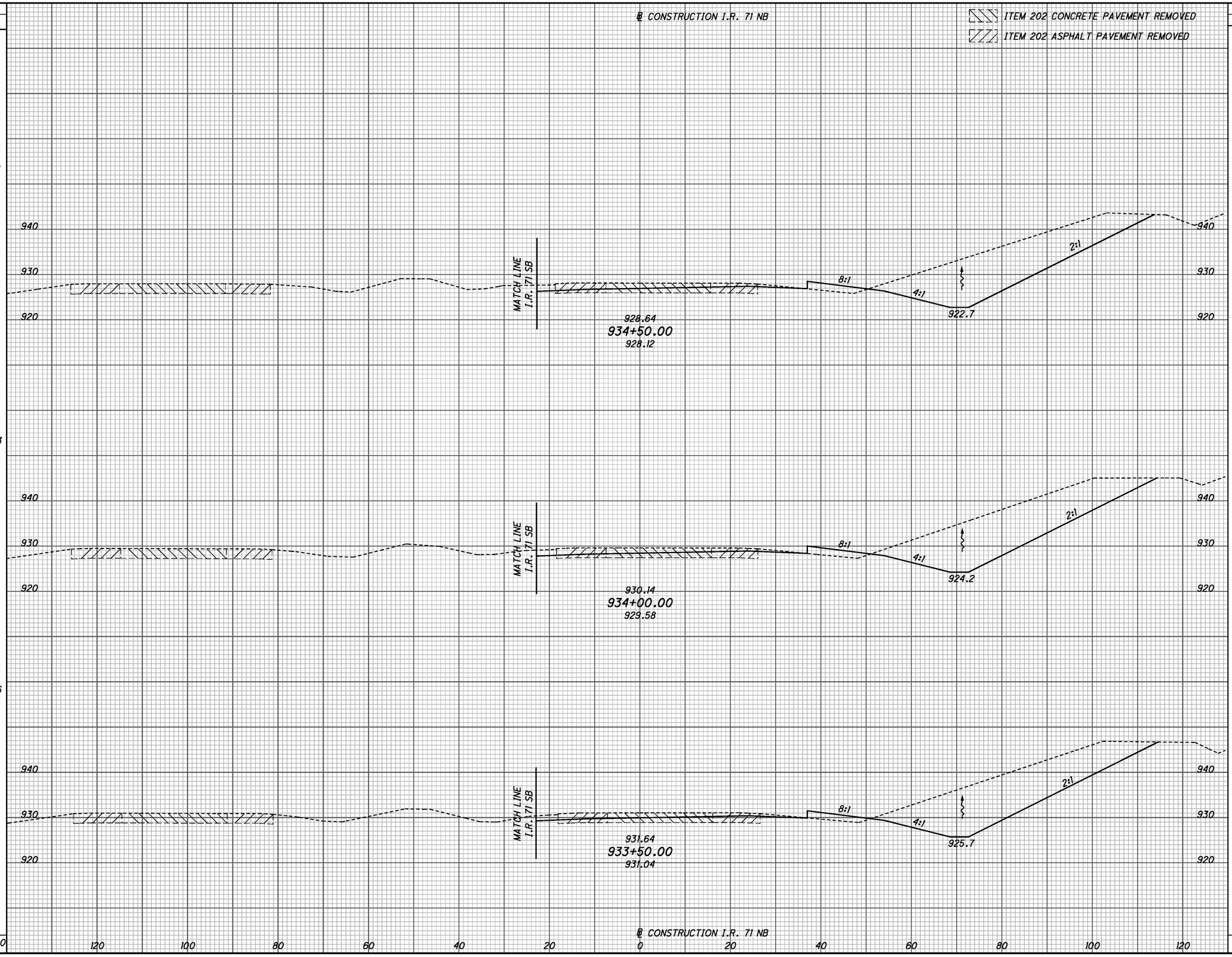
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SEEDING	
END WIDTH	SQ. YDS.
87	481
	483
87	486
88	486
	1,450

℄ CONSTRUCTION I.R. 71 NB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



END AREA		VOLUME	
CUT	FILL	CUT	FILL
473	18	888	34
486	18	894	33
479	17	903	33
		2,685	100

CALCULATED MER

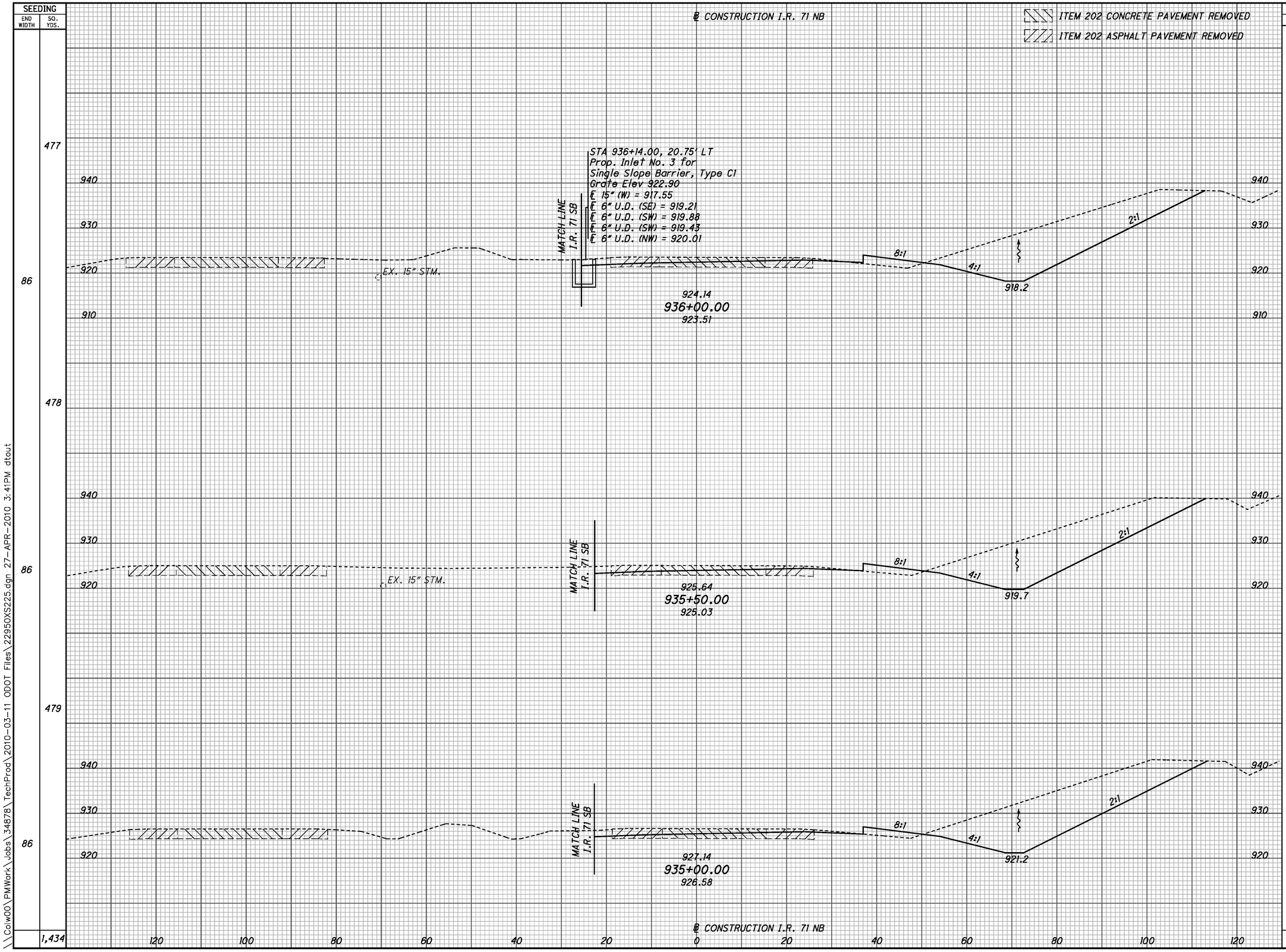
CHECKED RWK

CROSS SECTIONS
STA. 933+50.00 TO STA. 934+50.00

WAR-71-14.20

209
470

\\Colw00\PMWork\Jobs\34878\TechProd\2010-03-11 ODOT Files\22950XS224.dgn 27-APR-2010 3:41PM dtout



SEEDING END WIDTH	SEEDING SQ. YDS.
86	477
86	478
86	479
86	
	1,434

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
451	21		
		845	37
461	18		
		873	32
482	17		
		885	32
		2,603	101

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 935+00.00 TO STA. 936+00.00

WAR-71-14.20

210
470

\\ColW00\PMWork\Jobs\34878\TechProd\2010-03-11 ODOT Files\22950XS225.dgn 27-APR-2010 3:41PM dtout

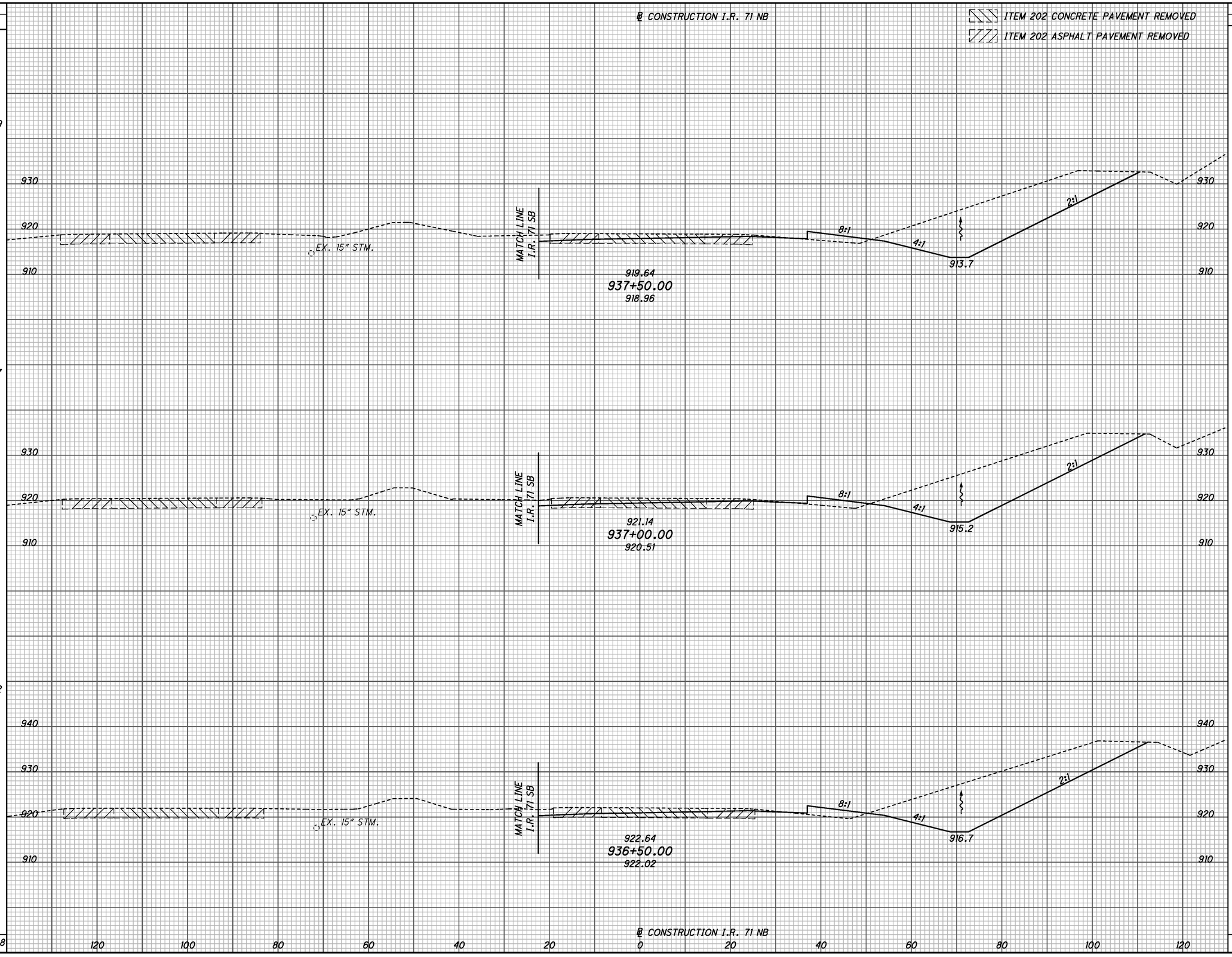
\\Colw00\PMWork\Jobs\34878\TechProd\2010-03-11 ODOT Files\22950XS226.dgn 27-APR-2010 3:41PM dtout

SEEDING END WIDTH	SEEDING SQ. YDS.
84	459
	467
85	472
85	
	1,398

℄ CONSTRUCTION I.R. 71 NB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
443	19		
		827	36
451	20		
		838	38
454	21		
		838	39
		2,503	113

CALCULATED MER

CHECKED RWK

CROSS SECTIONS
STA. 936+50.00 TO STA. 937+50.00

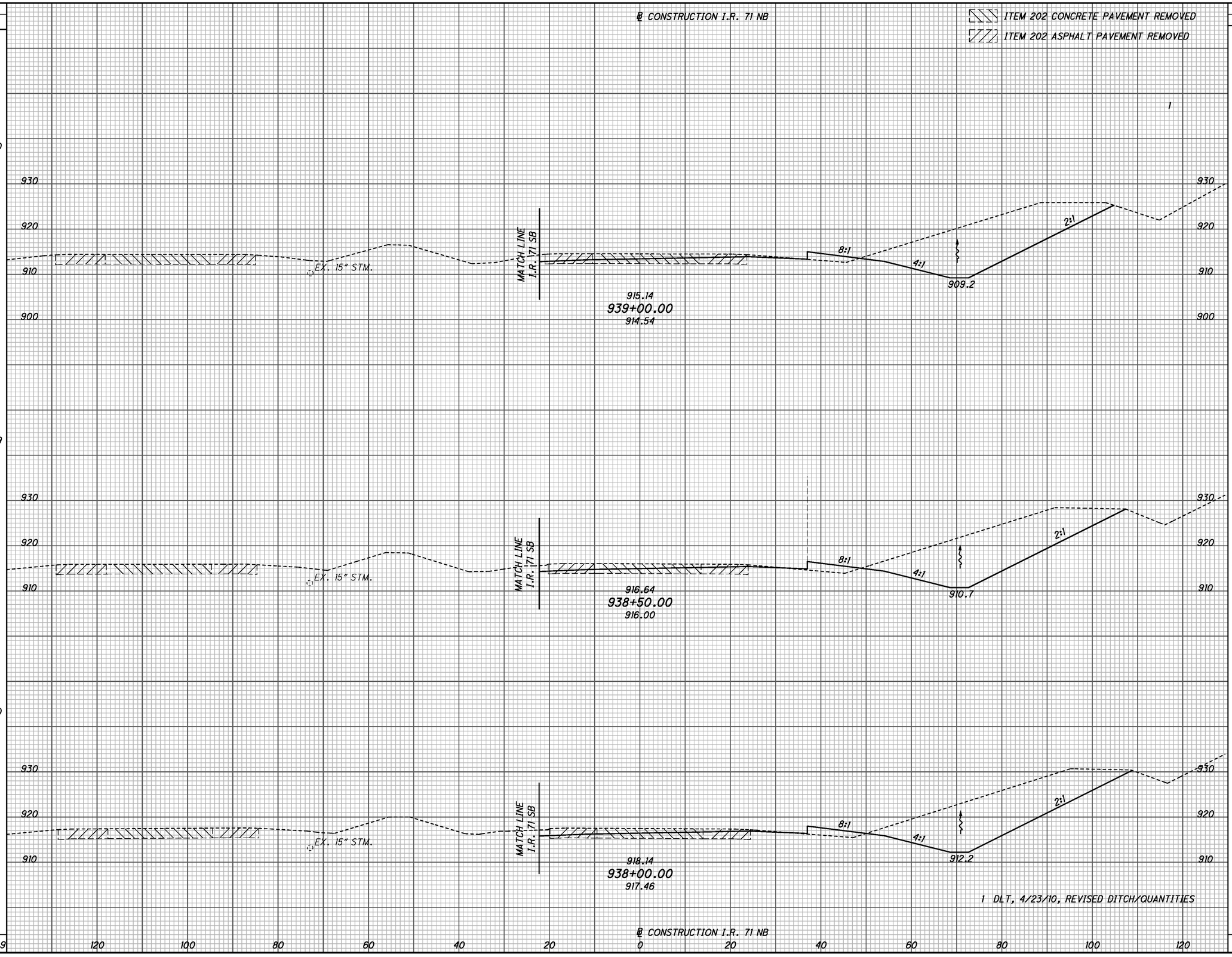
WAR-71-14.20

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
1	420	435	15	816	30
78	439				1
80	450	446	18	819	33
82	439	439	17	816	34
	1,309			2,451	97

CALCULATED MER
CHECKED RWK

℄ CONSTRUCTION I.R. 71 NB

ITEM 202 CONCRETE PAVEMENT REMOVED
ITEM 202 ASPHALT PAVEMENT REMOVED



1 DLT, 4/23/10, REVISED DITCH/QUANTITIES

CROSS SECTIONS
STA. 938+00.00 TO STA. 939+00.00

WAR-71-14.20

212
470

\\Colw00\PMWork\Jobs\34878\TechProd\2010-03-11 ODOT Files\22950XS227.dgn 27-APR-2010 3:41PM dtout

SEEDING	
END WIDTH	SQ. YDS.
	378
71	
	398
72	
	405
73	
	1,181

℄ CONSTRUCTION I.R. 71 NB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED

EX. 18" STM.

MATCH LINE I.R. 71 SB

910.66
940+50.00
910.19

8:1
3:1
2:1
904.7

EX. 15" STM.

MATCH LINE I.R. 71 SB

912.14
940+00.00
911.61

8:1
3:1
2:1
906.2

EX. 15" STM.

MATCH LINE I.R. 71 SB

913.64
939+50.00
913.09

8:1
3:1
2:1
907.7

℄ CONSTRUCTION I.R. 71 NB

120 100 80 60 40 20 0 20 40 60 80 100 120

END AREA		VOLUME	
CUT	FILL	CUT	FILL
376	16		
		693	38
372	24		
		695	42
379	21		
		753	33
		2,141	113

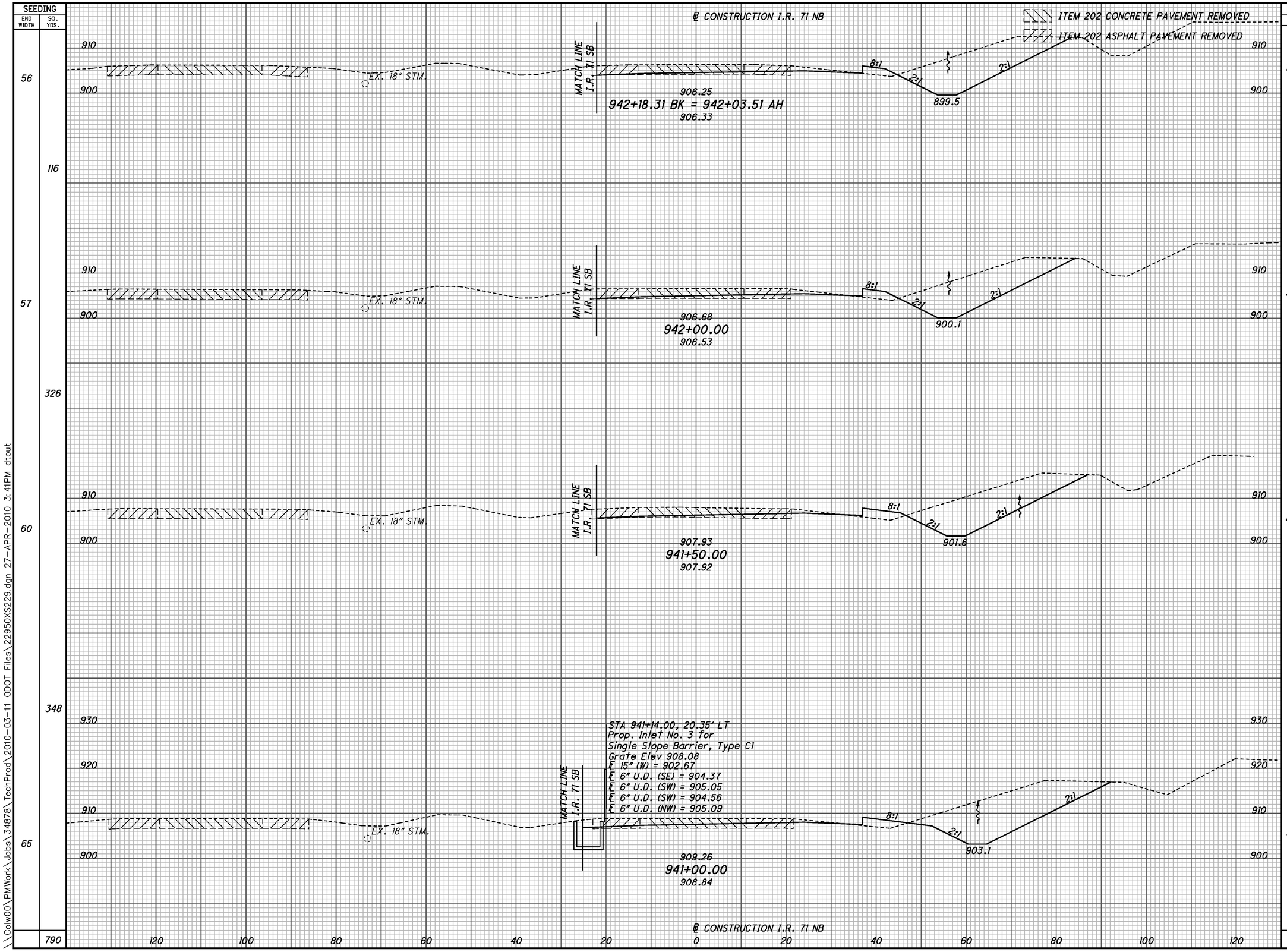
CALCULATED MER
CHECKED RWK

CROSS SECTIONS
939+50.00 TO STA. 940+50.00
STA.

WAR-71-14.20

213
470

V:\0610\00 PMWork\Jobs\34878\TechProd\2000-03-11 ODOT Files\2295xs129.dgn 27-APR-2010 3:47PM dlouk



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
56	116	290	11	193	8
57	326	279	13	526	27
60	348	290	17	573	29
65	790	329	15	653	29
				1,945	93

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 941+00.00 TO STA. 942+03.51

WAR-71-14.20

214
470

\\Colw00\PMWork\Jobs\34878\TechProd\2010-03-11 ODOT Files\22950XS229.dgn 27-APR-2010 3:41PM dtout

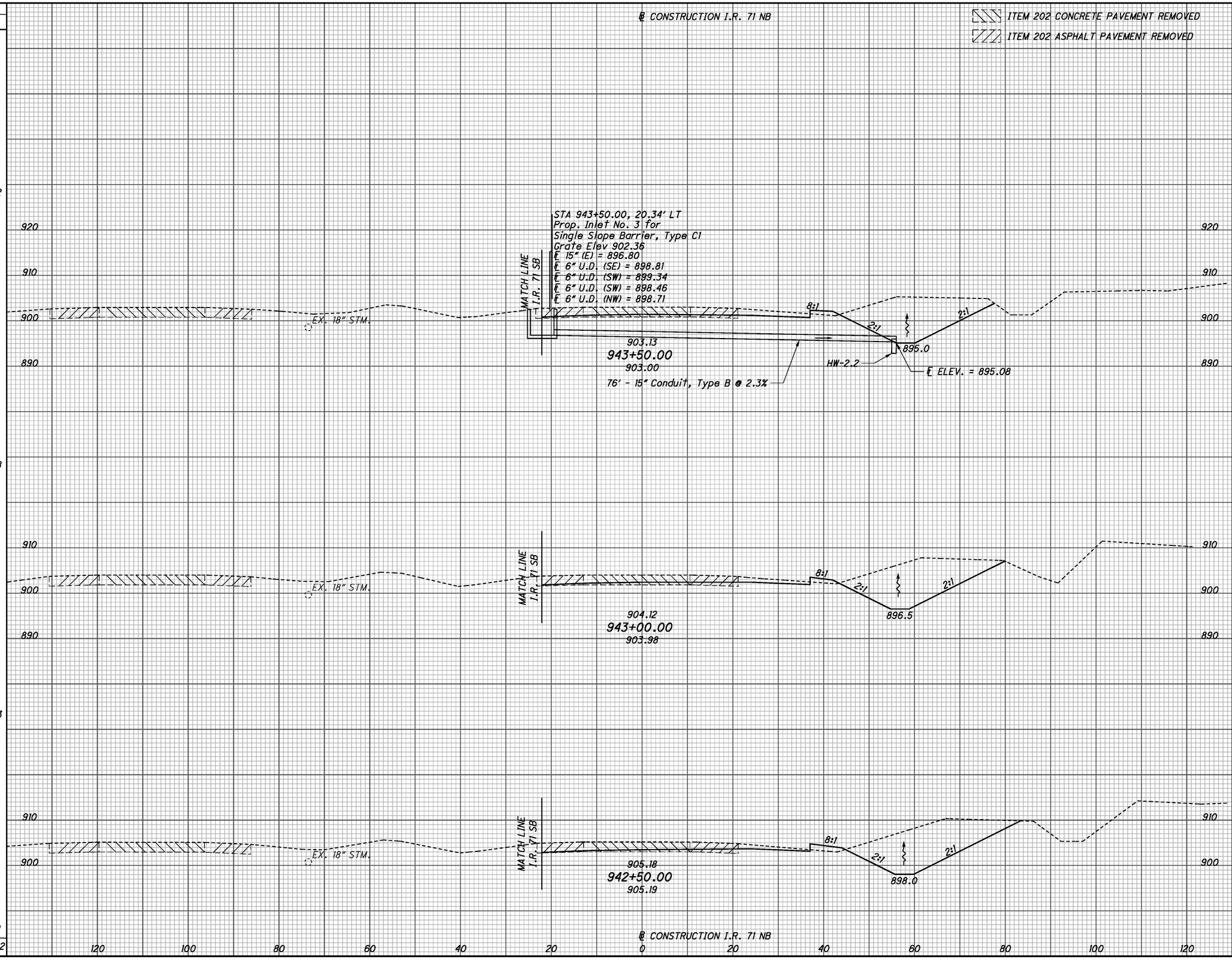
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SEEDING	
END WIDTH	SQ. YDS.
	272
	51
	288
	53
	303
	56
	199
	1,062

℄ CONSTRUCTION I.R. 71 NB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



END AREA		VOLUME	
CUT	FILL	CUT	FILL
293	5	545	9
296	5	563	12
311	8	353	11
		1,461	32

CALCULATED MER

CHECKED RWK

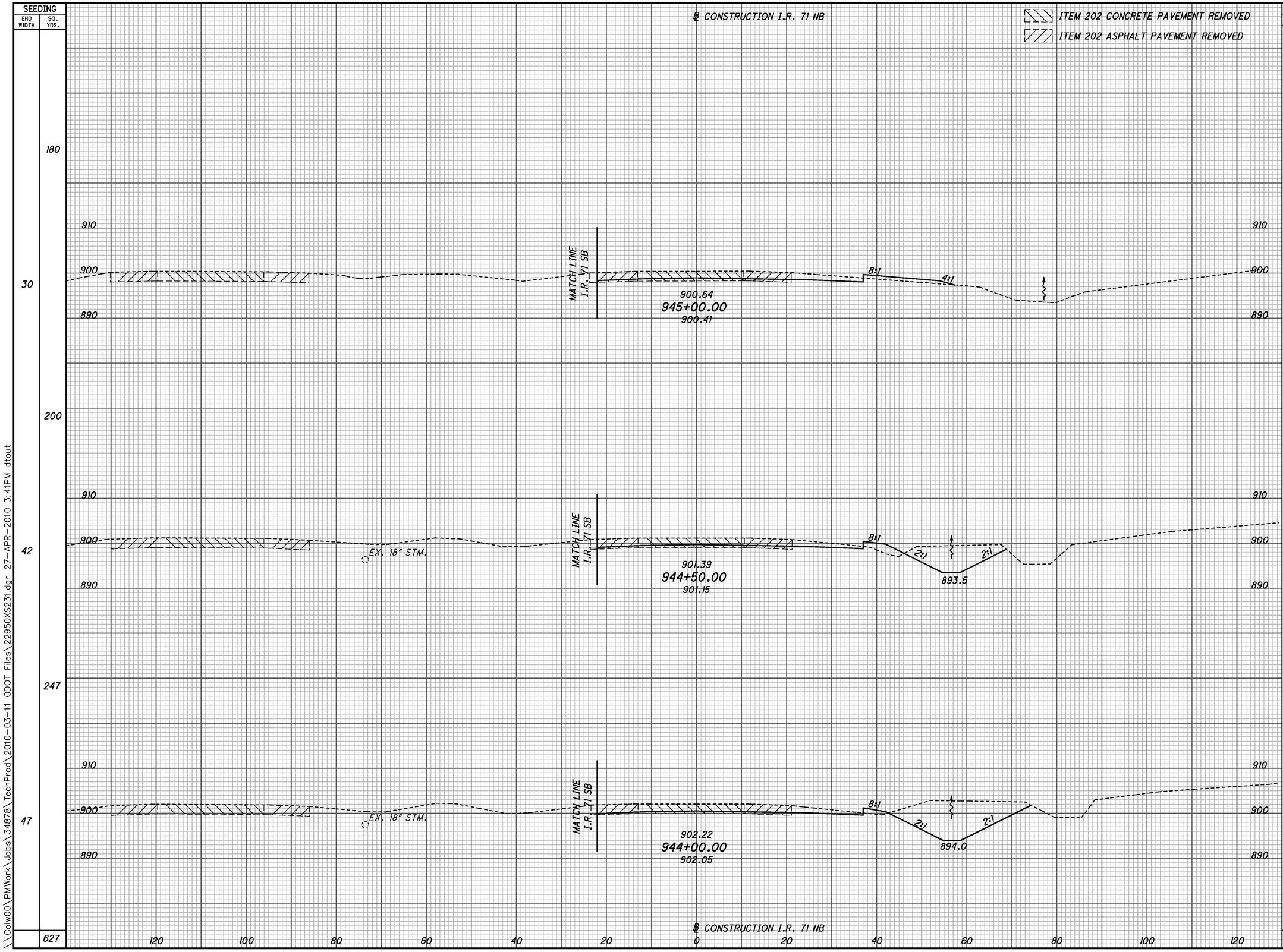
CROSS SECTIONS
STA. 942+50.00 TO STA. 943+50.00

WAR-71-14.20

CROSS SECTIONS
STA. 944+00.00 TO STA. 945+00.00

WAR-71-14.20

CALCULATED MER
CHECKED RWK



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
30	180	88	14	242	25
42	247	173	13	394	17
47	200	253	5	505	9
	627			1,141	51

\\Colw00\PMWork\Jobs\34878\TechProd\2010-03-11 ODOT Files\22950XS231.dgn 27-APR-2010 3:41PM dtout

\\Colw00\PWWork\Jobs\34878\TechProd\2010-03-11 ODOT Files\22950XS232.dgn 27-APR-2010 3:41PM dtout

SEEDING END WIDTH	SEEDING SQ. YDS.
	280
57	
	380
80	
	318
35	
	978

℄ CONSTRUCTION I.R. 71 NB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED

MATCH LINE I.R. 71 SB

15" Type B

898.85

946+50.00

898.61

4:1

STA 946+73.36, 98.12' RT

GRATE ELEV W=884.69

℄ ELEV E= 878.20

STA 946+00.00, 20.75' LT
Prop. Inlet No. 3 for
Single Slope Barrier, Type B1
Grate Elev 898.60
℄ 15" (E) = 889.62
℄ 15" (N) = 889.62
℄ 6" U.D. (SW) = 894.45
℄ 6" U.D. (SW) = 895.58
℄ 6" U.D. (SW) = 894.44
℄ 6" U.D. (NW) = 894.84

MATCH LINE I.R. 71 SB

899.37

946+00.00

899.11

4:1

2:1

3:1

℄ ELEV. = 887.20

887.2

W/FILTER FABRIC

110' - 15" Conduit, Type B @ 2.20%

HW-2.2

MATCH LINE I.R. 71 SB

899.96

945+50.00

899.74

4:1

℄ CONSTRUCTION I.R. 71 NB

120 100 80 60 40 20 0 20 40 60 80 100 120

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
76	88		
		171	135
109	58		
		182	71
88	19		
		163	30
		516	236

CALCULATED MER

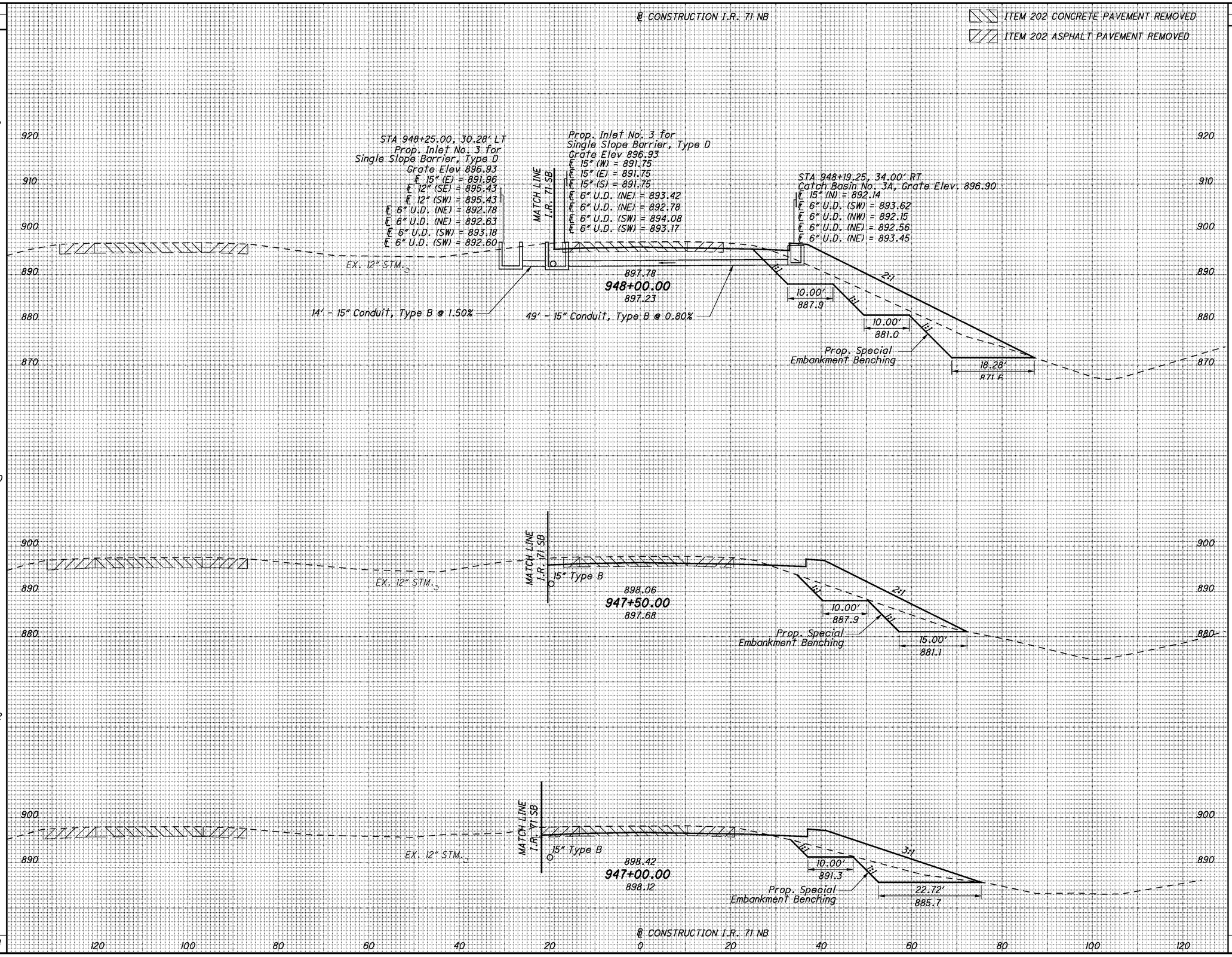
CHECKED RWK

CROSS SECTIONS
STA. 945+50.00 TO STA. 946+50.00

WAR-71-14.20

217
470

SEEDING	
END WIDTH	SQ. YDS.
	192
	64
	300
	43
	242
	44
	734



END AREA		VOLUME	
CUT	FILL	CUT	FILL
57	167		
		114	266
67	121		
		128	215
72	111		
		137	184
		379	665

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 947+00.00 TO STA. 948+00.00

WAR-71-14.20

218
470

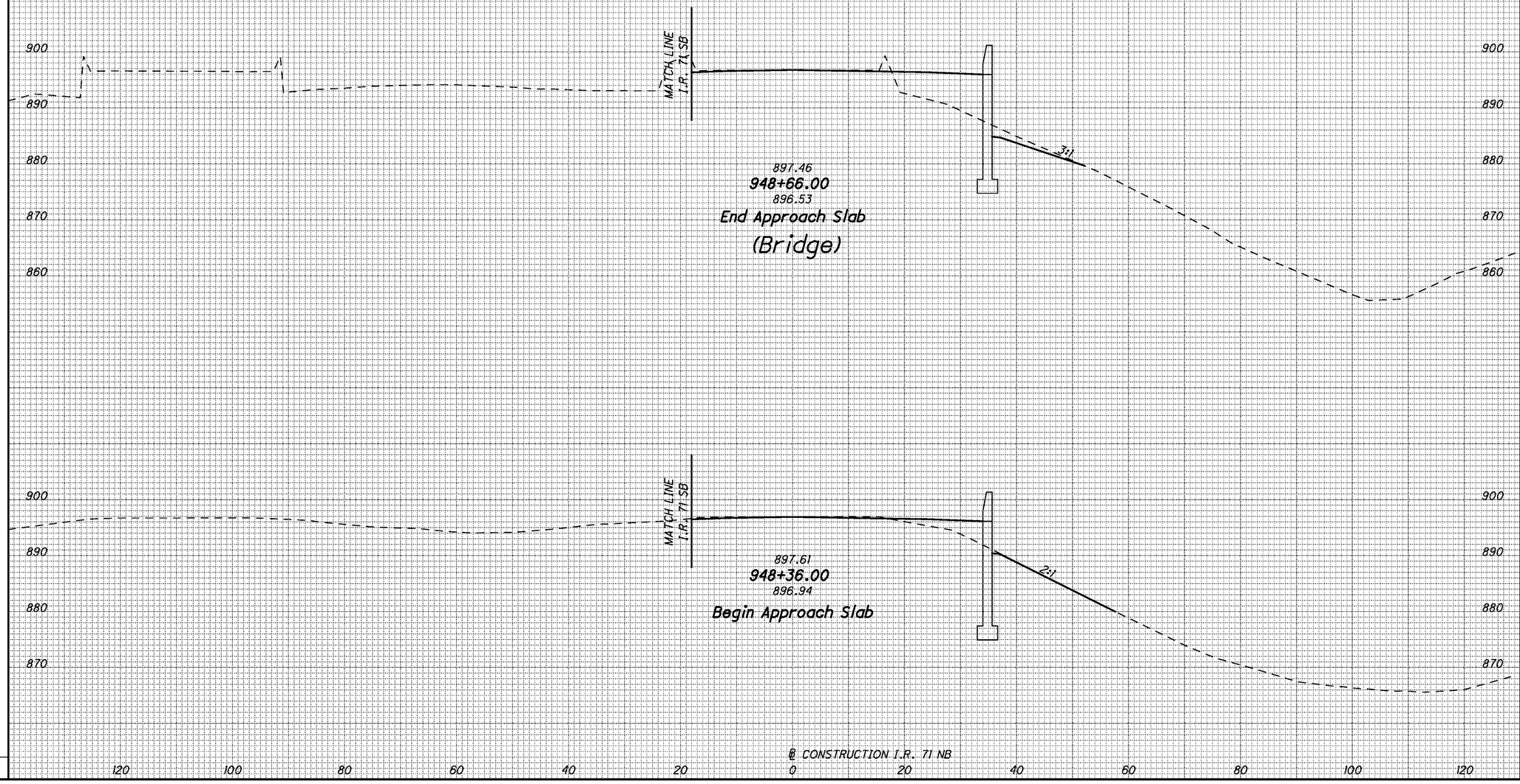
J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS002.dgn 16-SEP-2008 2:52PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
21	88
32	88

℄ CONSTRUCTION I.R. 71 NB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



END AREA		VOLUME	
CUT	FILL	CUT	FILL
6	27		
		42	129
		42	129

CALCULATED MER

CHECKED RWK

CROSS SECTIONS

STA. 948+36.00 TO STA. 948+66.00

WAR-71-14.20

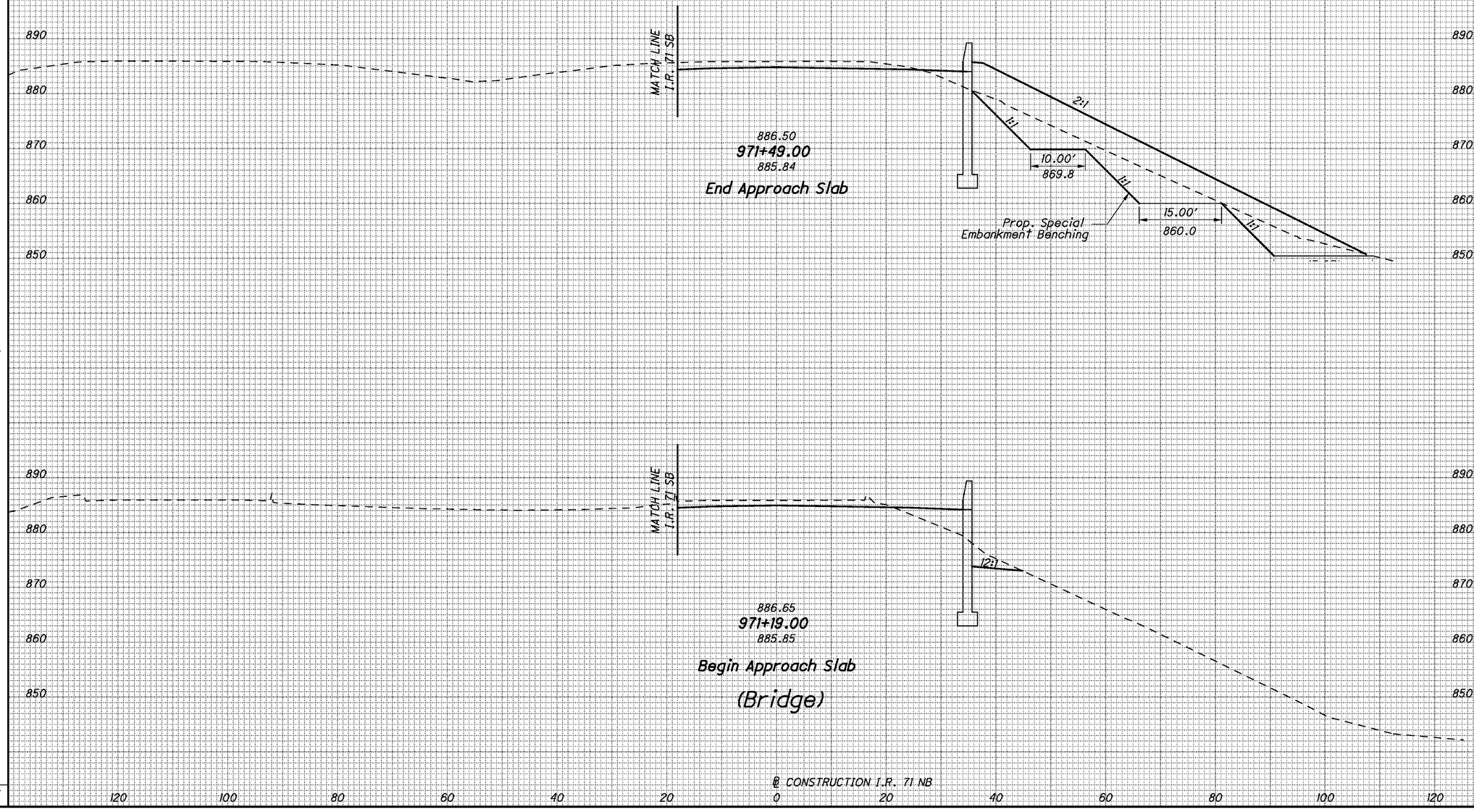
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SEEDING	
END WIDTH	SQ. YDS.
	10
86	
	165
13	
	175

℄ CONSTRUCTION I.R. 71 NB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



END AREA		VOLUME	
CUT	FILL	CUT	FILL
48	305		

CALCULATED MER

CHECKED RWK

CROSS SECTIONS

STA. 971+19.00 TO STA. 971+49.00

WAR-71-14.20

220
470

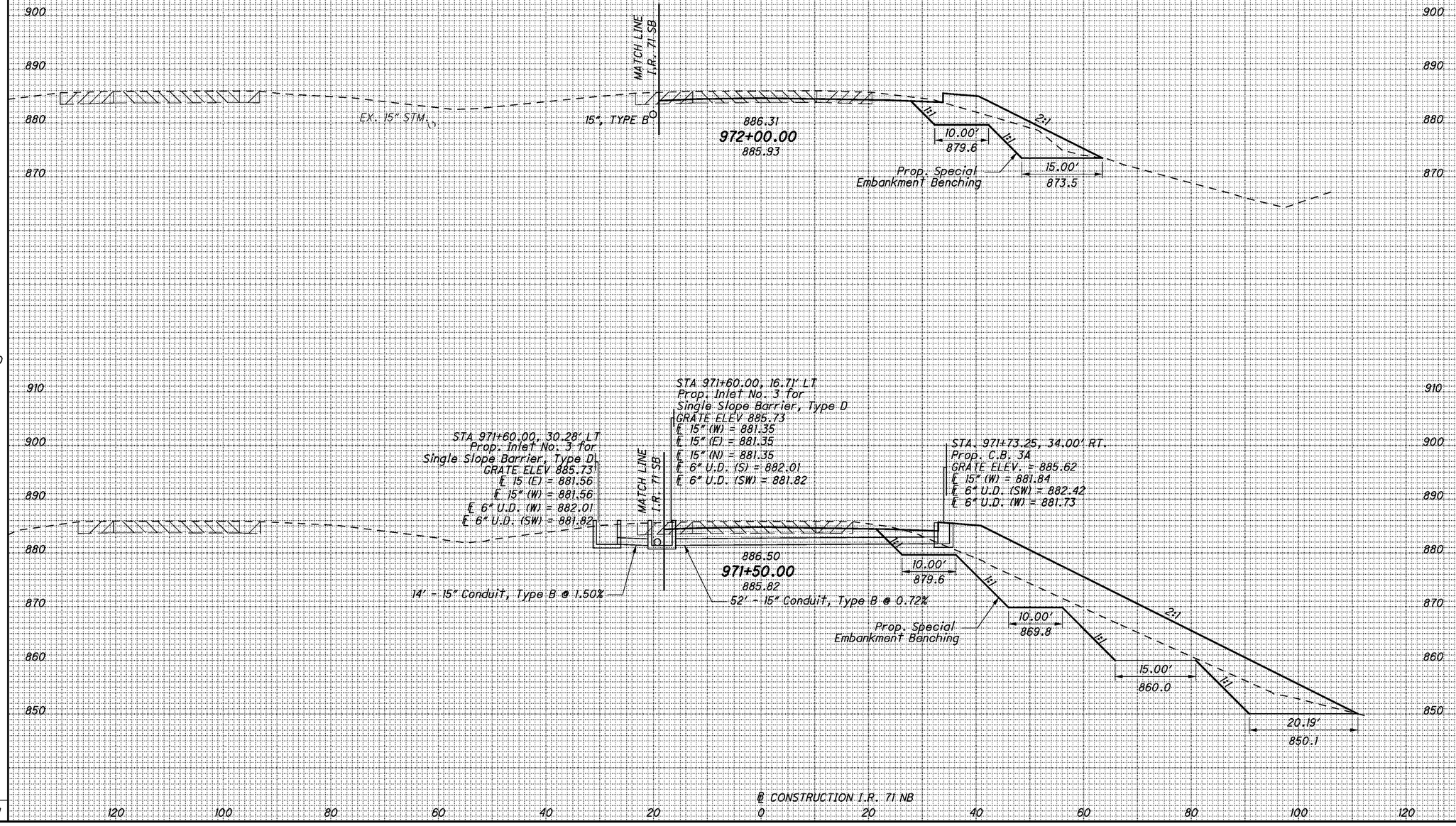
J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS002.dgn 16-SEP-2008 2:52PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
	211
36	
	350
90	
	561

℄ CONSTRUCTION I.R. 71 NB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



℄ CONSTRUCTION I.R. 71 NB

END AREA		VOLUME	
CUT	FILL	CUT	FILL
68	53		
		107	393
47	372		
		2	13
		109	406

CALCULATED MER

CHECKED RWK

CROSS SECTIONS

STA. 971+50.00 TO STA. 972+00.00

WAR-71-14.20

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS002.dgn 16-SEP-2008 2:52PM Kduffney

SEEDING END WIDTH	SEEDING SQ. YDS.
	492
86	
	492
	364
91	
40	
	1,348

℄ CONSTRUCTION I.R. 71 NB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED

STA 973+72.00, 20.75' LT
Prop. Inlet No. 3 for
Single Slope Barrier, Type B1
Grate Elev 885.78
℄ 15" (S) = 879.87
℄ 15" (N) = 879.87
℄ 18" (E) = 879.62
℄ 6" U.D. (NE) = 882.69
℄ 6" U.D. (E) = 882.01
℄ 6" U.D. (NE) = 881.76

MATCH LINE I.R. 71 SB

EX. 15" STM.

886.39
973+50.00
885.98

75' - 18" Conduit, Type B @ 1.20%

℄ ELEV. = 878.72

878.2

HW - 2.2

2:1

2:1

STA 973+00.00, 20.75' LT
Prop. Inlet No. 3 for
Single Slope Barrier, Type B1
Grate Elev 885.78
℄ 15" (S) = 879.87
℄ 15" (N) = 879.87
℄ 18" (E) = 879.62
℄ 6" U.D. (NE) = 882.69
℄ 6" U.D. (E) = 882.01
℄ 6" U.D. (NE) = 881.76

MATCH LINE I.R. 71 SB

EX. 15" STM.

15", TYPE B

886.26
973+00.00
885.86

877.1

2:1

2:1

STA 972+56.00, 27.80' LT
Prop. Inlet No. 3 for
Single Slope Barrier, Type D
Grate Elev 885.55
℄ 15" (E) = 880.68
℄ 6" U.D. (SW, NE) = 881.53
℄ 6" U.D. (NW) = 881.34

STA 972+50.00, 19.08' LT
Prop. Inlet No. 3 for
Single Slope Barrier, Type D
Grate Elev 885.55
℄ 15" (W) = 880.48
℄ 15" (N) = 880.48
℄ 15" (S) = 880.48
℄ 6" U.D. (SW, NE) = 882.53
℄ 6" U.D. (S, E) = 881.74

MATCH LINE I.R. 71 SB

EX. 15" STM.

886.23
972+50.00
885.85

876.0

2:1

2:1

11' - 15" Conduit, Type B @ 1.80%

℄ CONSTRUCTION I.R. 71 NB

120 100 80 60 40 20 0 20 40 60 80 100 120

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
753	6		
		1366	14
723	10		
		750	39
87	32		
		143	79
		2,259	132

CALCULATED MER
CHECKED RWK

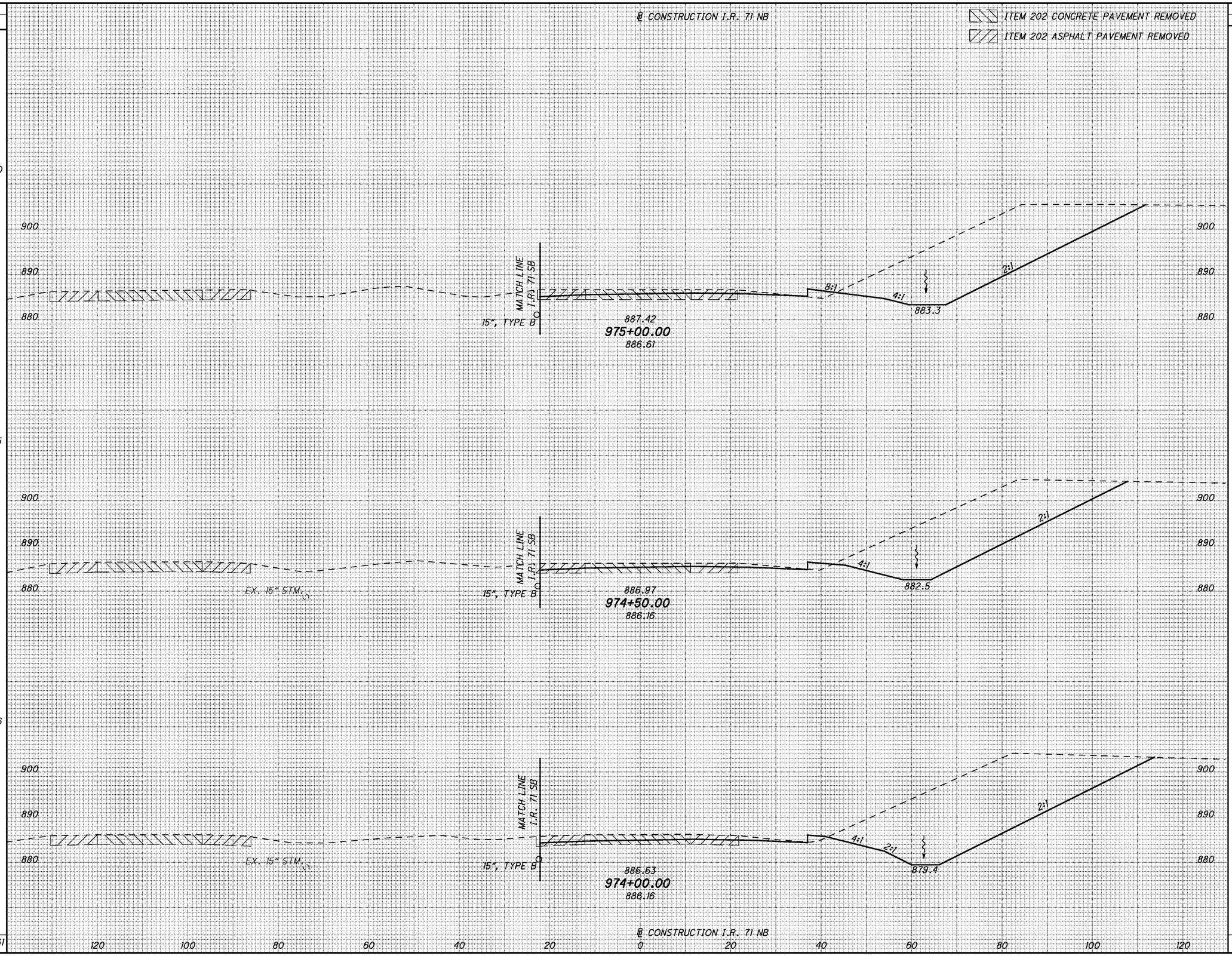
CROSS SECTIONS
STA. 972+50.00 TO STA. 973+50.00

WAR-71-14.20

222
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS002.dgn 16-SEP-2008 2:52PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
88	500
	475
84	486
91	
	1,461



END AREA		VOLUME	
CUT	FILL	CUT	FILL
651	9		
		1158	14
600	7		
		1314	10
819	5		
		1456	9
		3,928	33

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 974+00.00 TO STA. 975+00.00

WAR-71-14.20

223
470

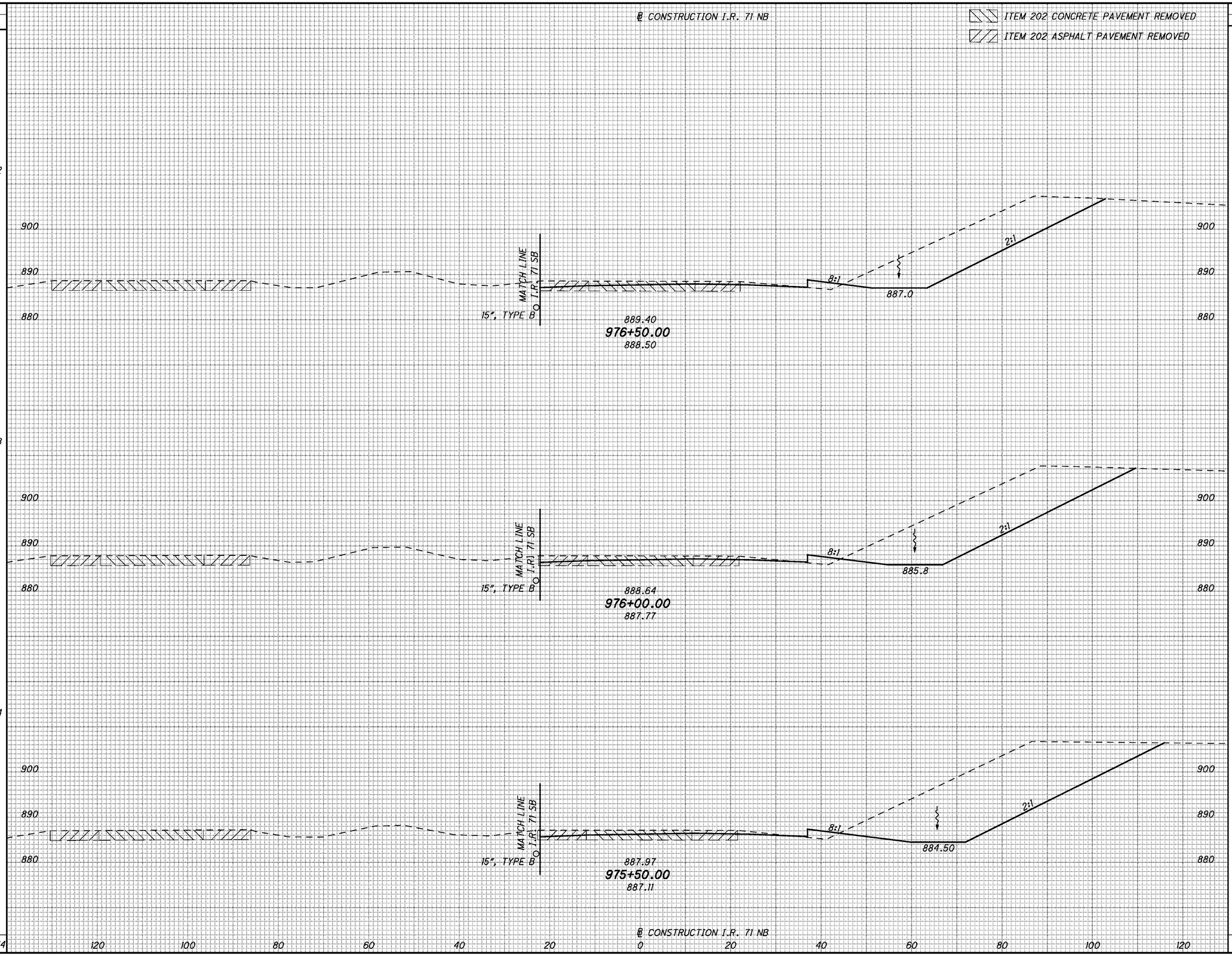
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SEEDING	
END WIDTH	SQ. YDS.
	422
79	
	458
86	
	494
92	
	1,374

℄ CONSTRUCTION I.R. 71 NB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



END AREA		VOLUME	
CUT	FILL	CUT	FILL
414	10		
		891	19
548	10		
		1163	19
708	10		
		1258	18
		3,312	56

CALCULATED MER

CHECKED RWK

CROSS SECTIONS
975+50.00 TO STA. 976+50.00

WAR-71-14.20

224
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS002.dgn 16-SEP-2008 2:52PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
	425
58	
	350
68	
	392
73	
	1,167

℄ CONSTRUCTION I.R. 71 NB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED

MATCH LINE I.R. 71 SB

892.34
978+00.00
891.47

12:1

891.26
977+50.00
890.38

8:1 3:1 889.2

STA 977+00, 20.75' LT
Prop. Inlet No. 3 for
Single Slope Barrier, Type B1
Grate Elev 889.51
15" (S) = 882.50
6" U.D. (NW) = 886.19
6" U.D. (NE) = 886.47
6" U.D. (NE) = 885.89
6" U.D. (SE) = 885.80

8:1 2:1 888.0

890.28
977+00.00
889.37

900 890 880 870

120 100 80 60 40 20 0 20 40 60 80 100 120

℄ CONSTRUCTION I.R. 71 NB

END AREA		VOLUME	
CUT	FILL	CUT	FILL
164	20		
		431	30
301	12		
		586	21
332	10		
		691	18
		1,708	69

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 977+00.00 TO STA. 978+00.00

WAR-71-14.20

225
470

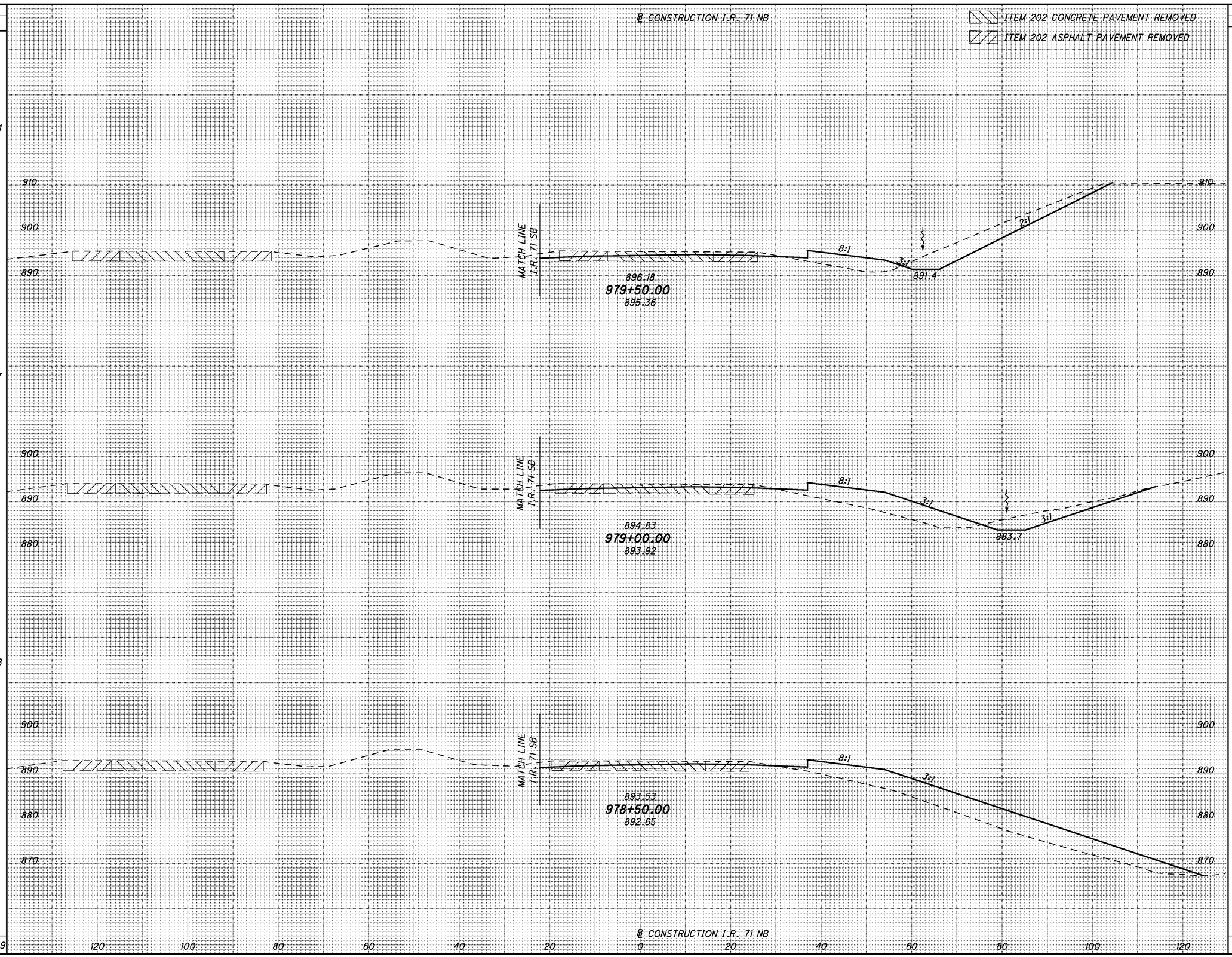
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SEEDING END WIDTH	SEEDING SQ. YDS.
80	464
	467
88	508
95	
	1,439

℄ CONSTRUCTION I.R. 71 NB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
165	55		
		247	176
102	135		
		133	415
42	313		
		191	308
		571	899

CALCULATED MER

CHECKED RWK

CROSS SECTIONS
STA. 978+50.00 TO STA. 979+50.00

WAR-71-14.20

226
470

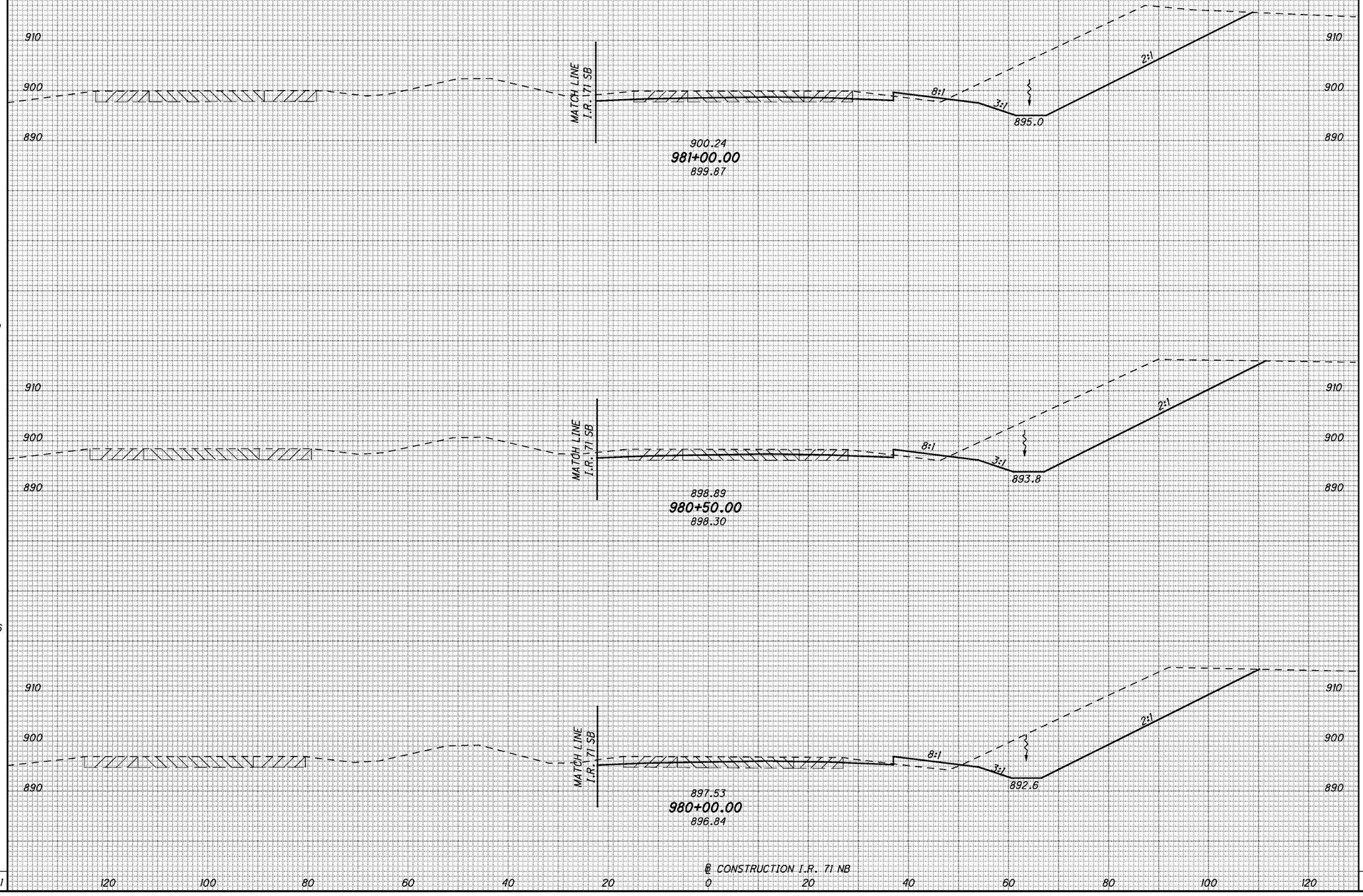
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SEEDING	
END WIDTH	SQ. YDS.
	464
85	
	481
88	
	486
87	
	1,431

℄ CONSTRUCTION I.R. 71 NB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



END AREA		VOLUME	
CUT	FILL	CUT	FILL
582	8		
		1062	17
565	11		
		967	26
479	17		
		596	67
		2,625	110

CALCULATED MER

CHECKED RWK

CROSS SECTIONS
STA. 980+00.00 TO STA. 981+00.00

WAR-71-14.20

227
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS002.dgn 16-SEP-2008 2:53PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
	233
64	
	378
72	
	428
82	
	1,039

℄ CONSTRUCTION I.R. 71 NB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED

MATCH LINE I.R. 71 SB

904.29
982+50.00
904.34

8:1

STA 982+00.00, 20.98' LT
Prop. Inlet No. 3 for
Single Slope Barrier, Type B1
Grate Elev 902.16
℄ 15" (E) = 897.73
℄ 6" U.D. (NW) = 899.85
℄ 6" U.D. (NE) = 899.56
℄ 6" U.D. (NE) = 899.14
℄ 6" U.D. (SE) = 898.67

MATCH LINE I.R. 71 SB

902.94
982+00.00
902.91

10:1 2:1 2:1

HW = 2.2

897.4
℄ ELEV. = 897.36

84" - 15" CONDUIT, TYPE B @ 0.44%

MATCH LINE I.R. 71 SB

901.59
981+50.00
901.43

8:1 3:1 2:1

896.2

℄ CONSTRUCTION I.R. 71 NB

910 900 890 880 920

120 100 80 60 40 20 0 20 40 60 80 100 120

END AREA		VOLUME	
CUT	FILL	CUT	FILL
157	16		
		567	16
455	2		
		939	3
559	2		
		1056	8
		2,562	27

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 981+50.00 TO STA. 982+50.00

WAR-71-14.20

228
470

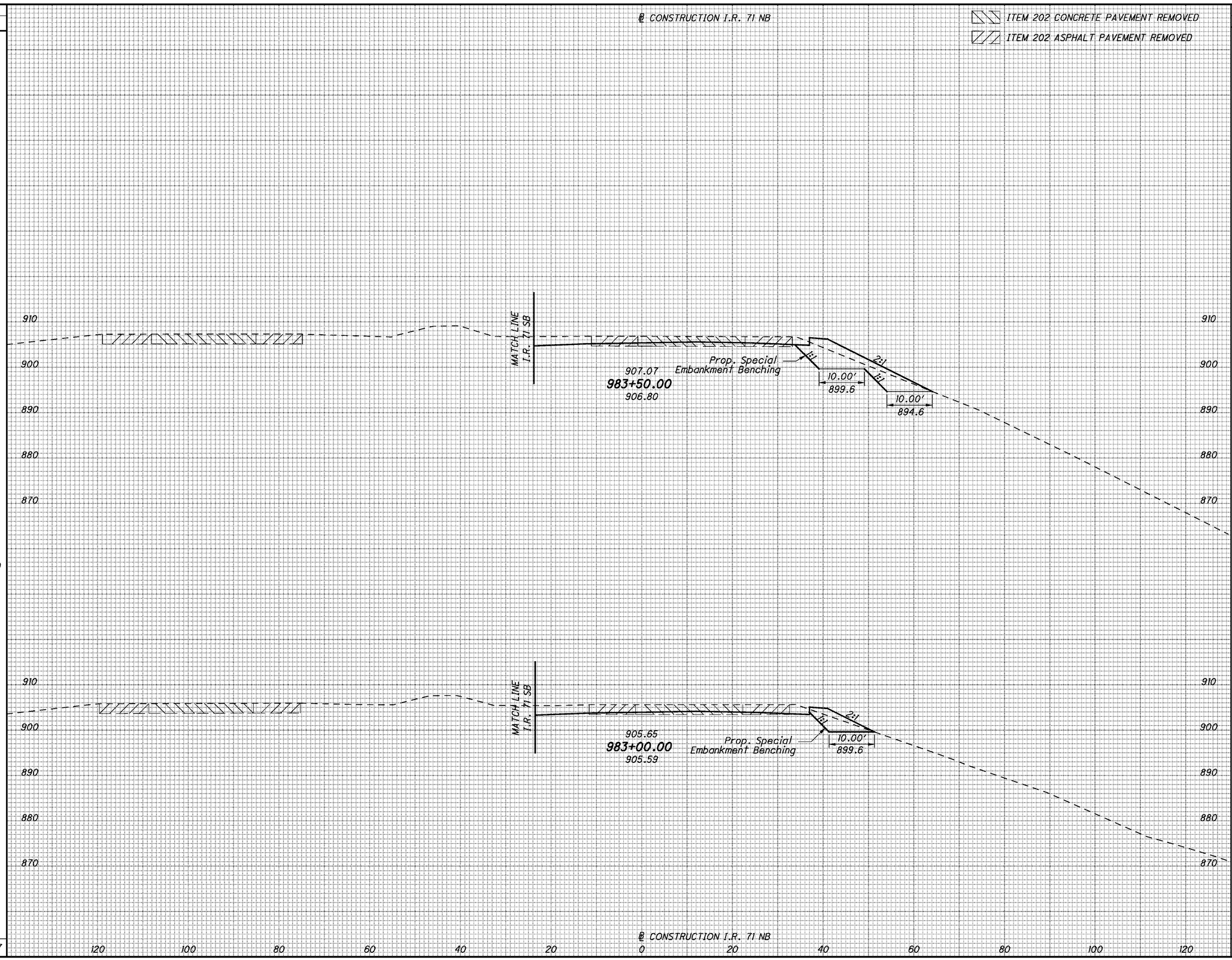
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SEEDING	
END WIDTH	SQ. YDS.
	117
34	
	150
20	
	267

℄ CONSTRUCTION I.R. 71 NB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



END AREA		VOLUME	
CUT	FILL	CUT	FILL
90	33		
		180	42
104	12		
		242	26
		422	68

CALCULATED MER

CHECKED RWK

CROSS SECTIONS

STA. 983+00.00 TO STA. 983+50.00

WAR-71-14.20

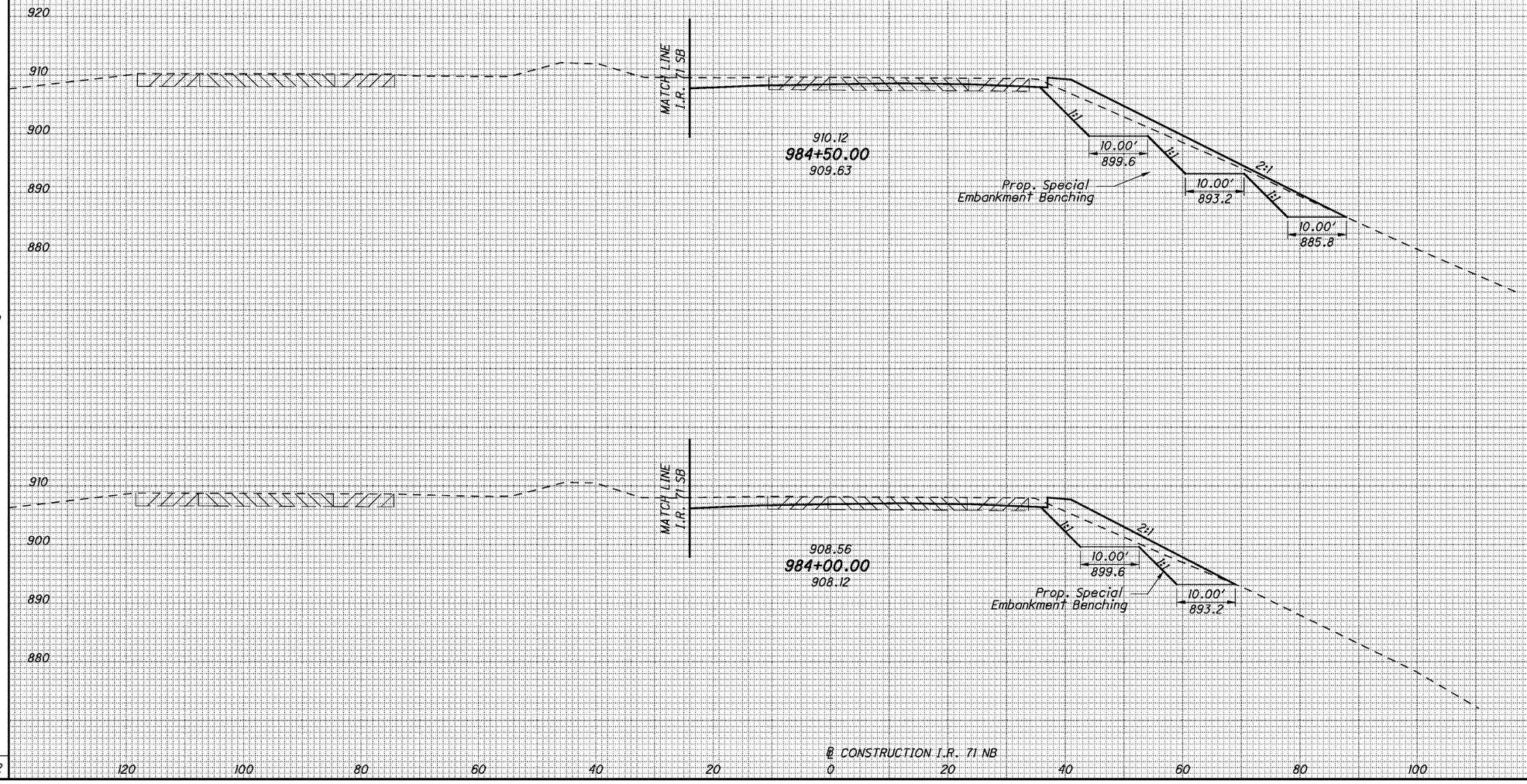
J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS002.dgn 16-SEP-2008 2:53PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
	253
60	
	189
8	
	442

℄ CONSTRUCTION I.R. 71 NB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



END AREA		VOLUME	
CUT	FILL	CUT	FILL
75	57		
		144	93
80	43		
		157	71
		301	164

CALCULATED MER
CHECKED RWK

CROSS SECTIONS
STA. 984+00.00 TO STA. 984+50.00

WAR-71-14.20

230
470

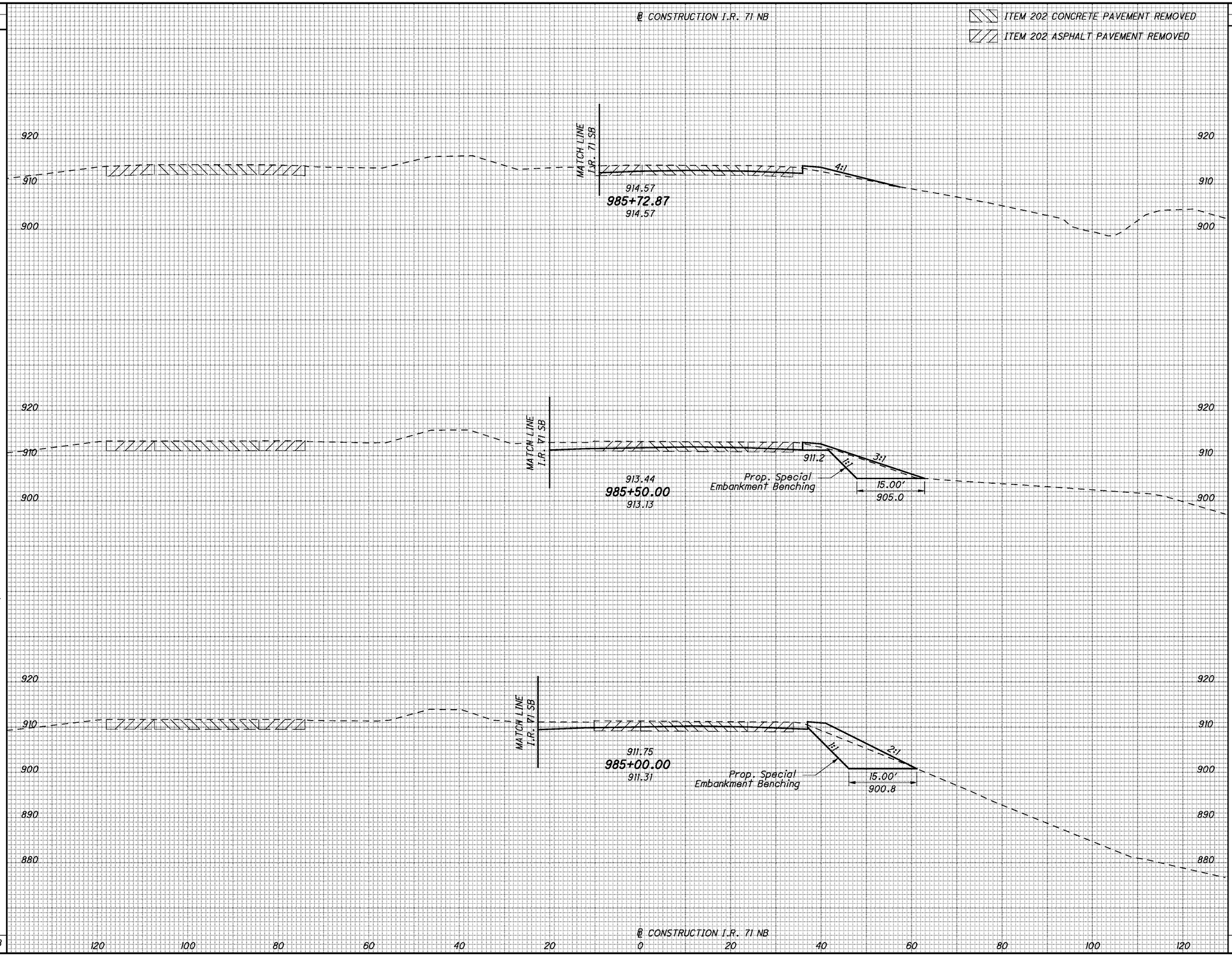
J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS002.dgn 16-SEP-2008 2:53PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
	39
26	
	74
32	
	175
31	
	288

℄ CONSTRUCTION I.R. 71 NB

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



END AREA		VOLUME	
CUT	FILL	CUT	FILL
57	10		
		56	9
76	11		
		141	34
75	25		
		140	76
		337	119

CALCULATED MER

CHECKED RWK

CROSS SECTIONS

STA. 985+00.00 TO STA. 985+72.87

WAR-71-14.20

231
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS002.dgn 16-SEP-2008 2:53PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
0	

℄ CONSTRUCTION I.R. 71 NB

920
910

EX. 15" STM.

987+00.00
918.27

920
910

EX. 36" STM.

EX. 18" STM.

986+50.00
916.65

910
900

EX. 36" STM.

EX. 18" STM.

986+00.00
915.14

910
900

120 100 80 60 40 20 0 20 40 60 80 100 120

℄ CONSTRUCTION I.R. 71 NB

END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0	0	0
		29	5
		29	5

CALCULATED MER
CHECKED RWK

CROSS SECTIONS

STA. 986+00.00 TO STA. 987+00.00

WAR-71-14.20

232
470

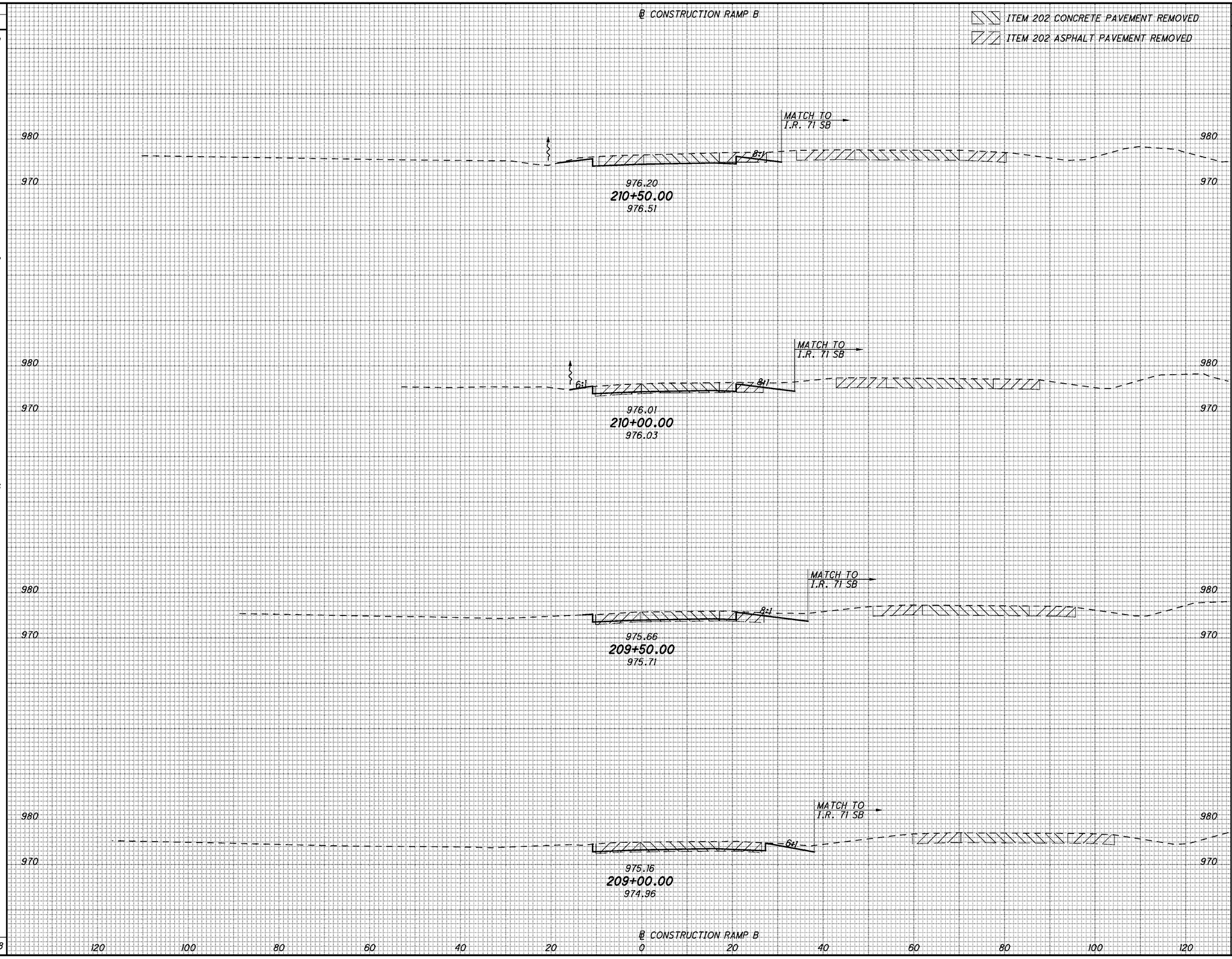
J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS002.dgn 16-SEP-2008 2:53PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
	194
29	
	158
28	
	156
28	
	508

℄ CONSTRUCTION RAMP B

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



END AREA	
CUT	FILL
86	0
70	0
68	0

VOLUME	
CUT	FILL
144	0
127	1
0	0
271	1

CALCULATED JSU

CHECKED BBD

CROSS SECTIONS
STA. 209+00.00 TO STA. 210+50.00

WAR-71-14.20

233
470

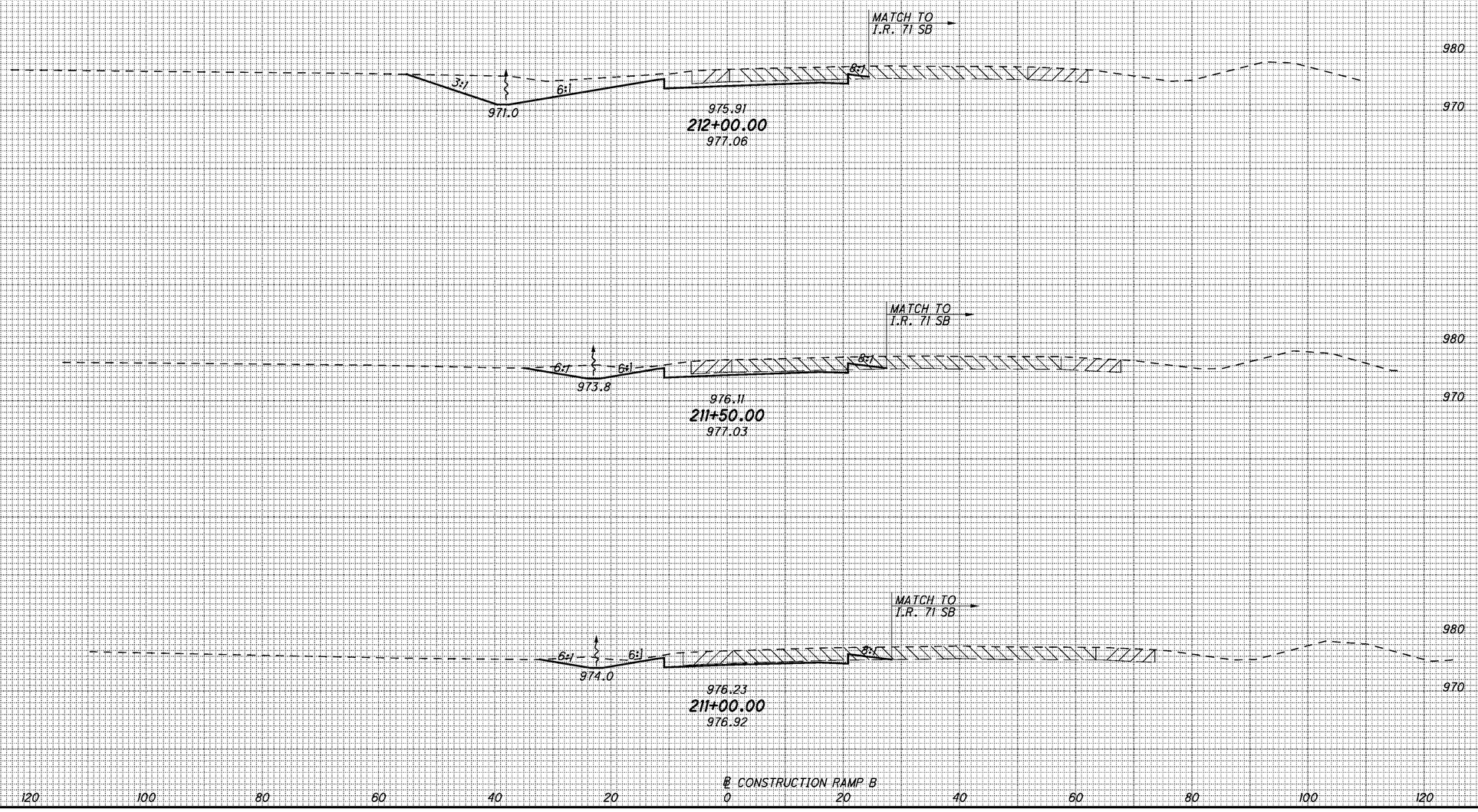
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SEEDING	
END WIDTH	SQ. YDS.
63	294
43	233
41	
	527

℄ CONSTRUCTION RAMP B

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



℄ CONSTRUCTION RAMP B

END AREA	
CUT	FILL
204	0
120	0
110	0

VOLUME	
CUT	FILL
300	0
213	0
181	0
694	0

CALCULATED JSU

CHECKED BBD

CROSS SECTIONS

STA. 211+00.00 TO STA. 212+00.00

WAR-71-14.20

234
470

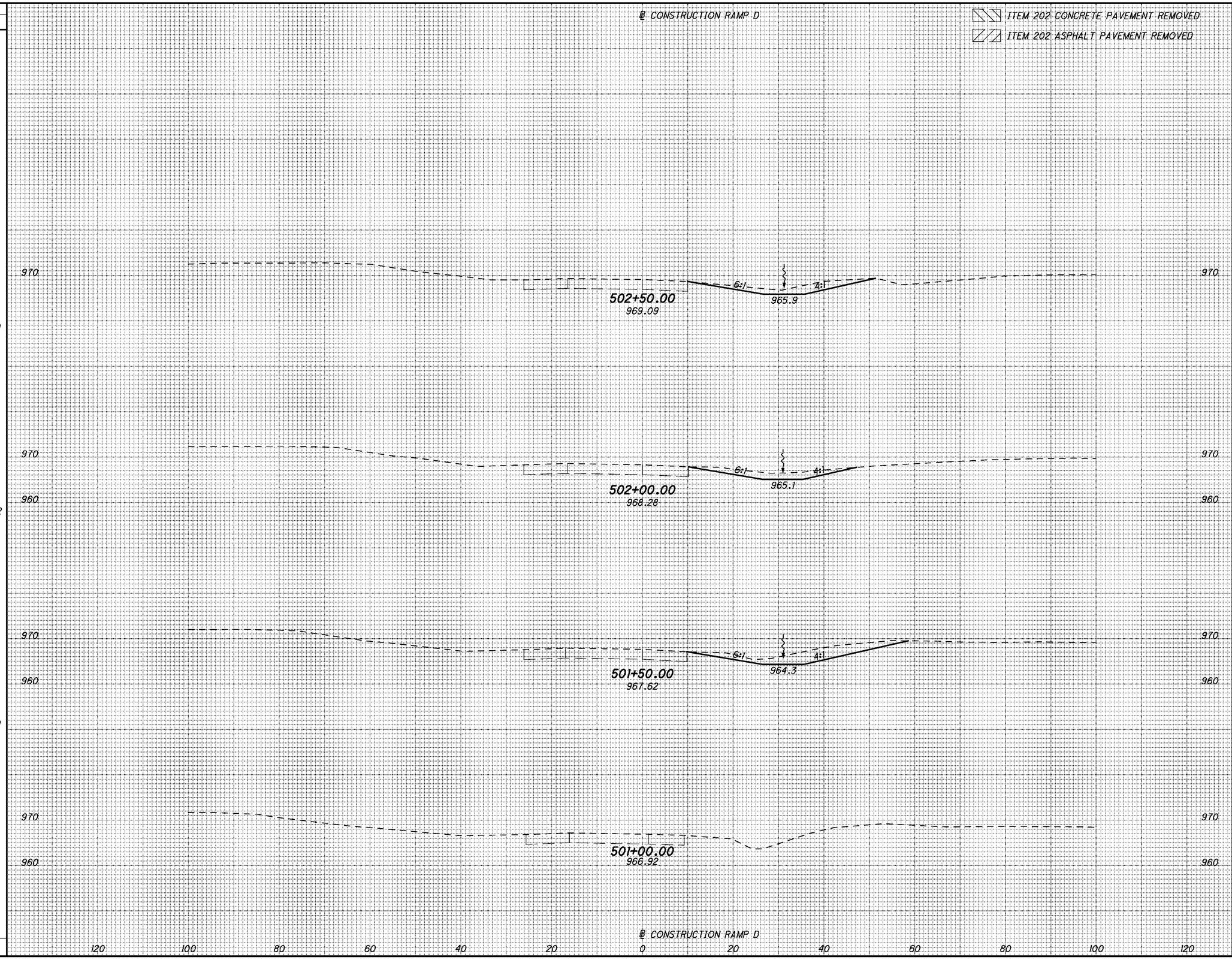
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SEEDING	
END WIDTH	SQ. YDS.
	117
42	
	219
37	
	242
50	
	139
0	
	717

℄ CONSTRUCTION RAMP D

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



END AREA		VOLUME	
CUT	FILL	CUT	FILL
41	0		
		73	0
39	0		
		102	0
72	0		
		0	0
		175	0

CALCULATED JSU

CHECKED BBD

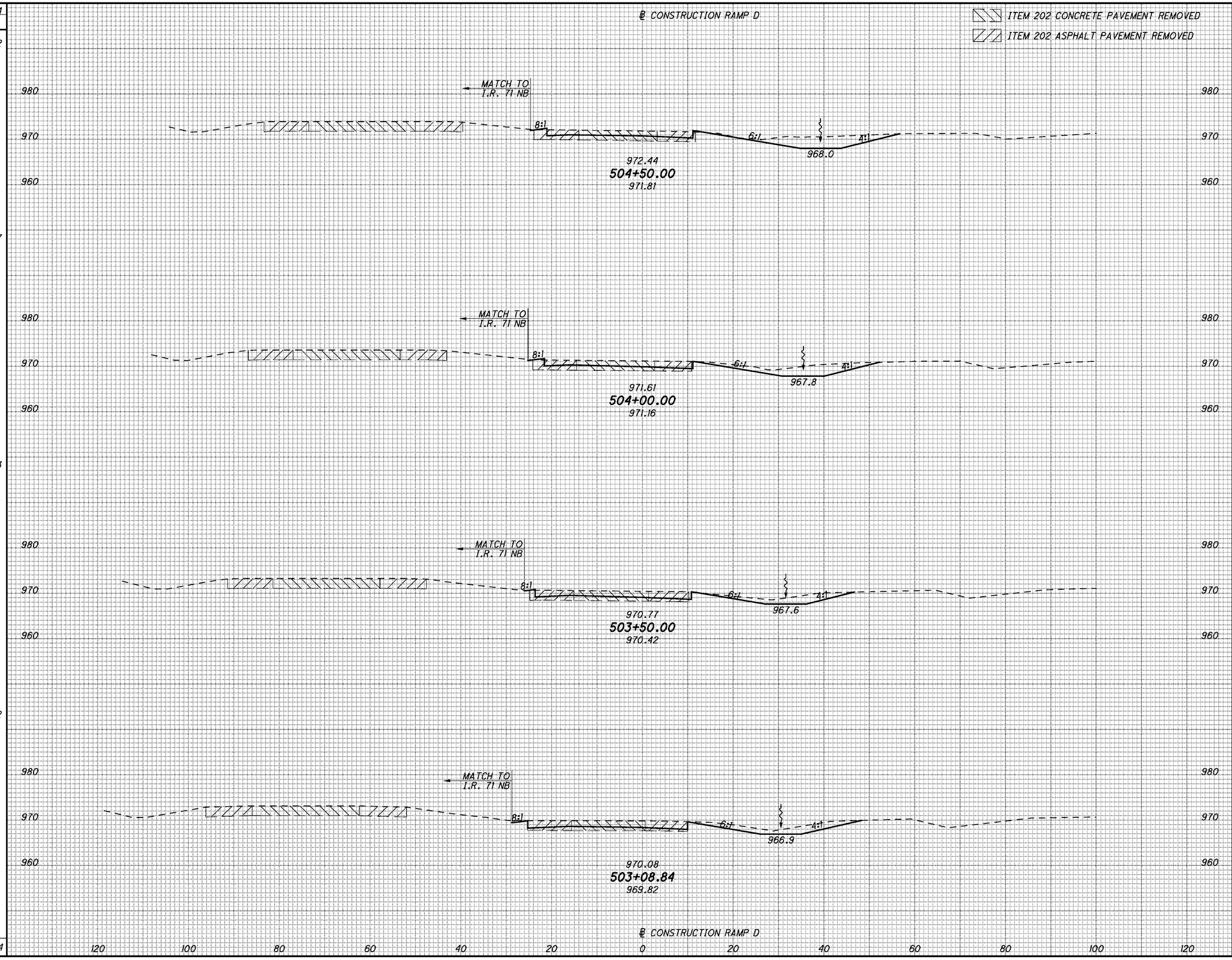
CROSS SECTIONS

STA. 501+00.00 TO STA. 502+50.00

WAR-71-14.20

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950XS004.dgn 16-SEP-2008 2:53PM Kduffney

SEEDING	
END WIDTH	SQ. YDS.
	294
	292
50	
	267
46	
	233
38	
	222
42	
	1,014



END AREA		VOLUME	
CUT	FILL	CUT	FILL
94	1		
		171	1
90	0		
		156	1
78	0		
		127	0
88	0		
		141	0
		595	2

CALCULATED JSU
CHECKED BBD

CROSS SECTIONS

STA. 503+08.84 TO STA. 504+50.00

WAR-71-14.20

236
470

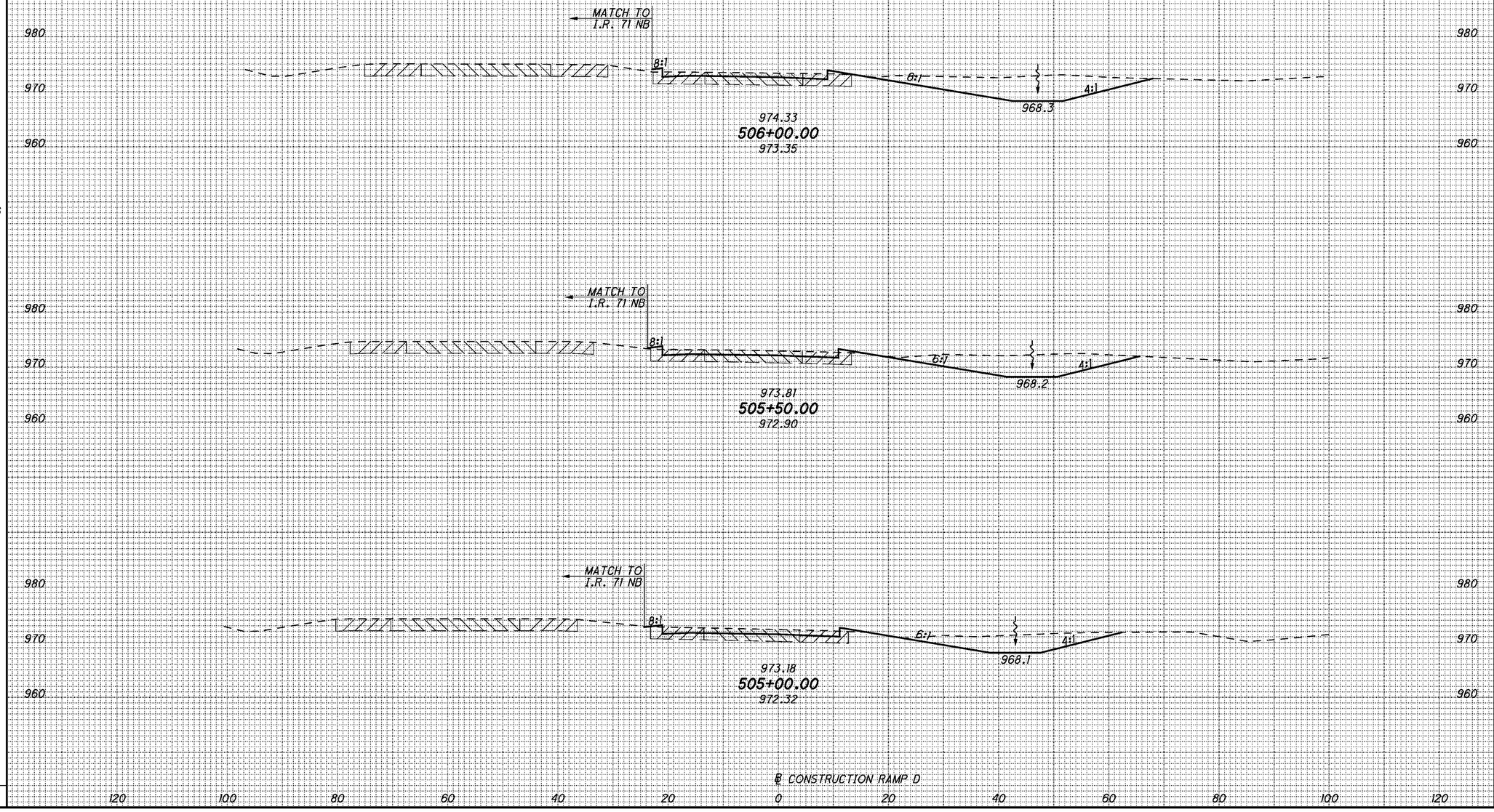
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SEEDING	
END WIDTH	SQ. YDS.
62	336
59	317
55	653

℄ CONSTRUCTION RAMP D

ITEM 202 CONCRETE PAVEMENT REMOVED

ITEM 202 ASPHALT PAVEMENT REMOVED



℄ CONSTRUCTION RAMP D

END AREA		VOLUME	
CUT	FILL	CUT	FILL
160	3		
142	3		
		280	5
111	2		
		234	5
		190	3
		704	13

CALCULATED JSU

CHECKED BBD

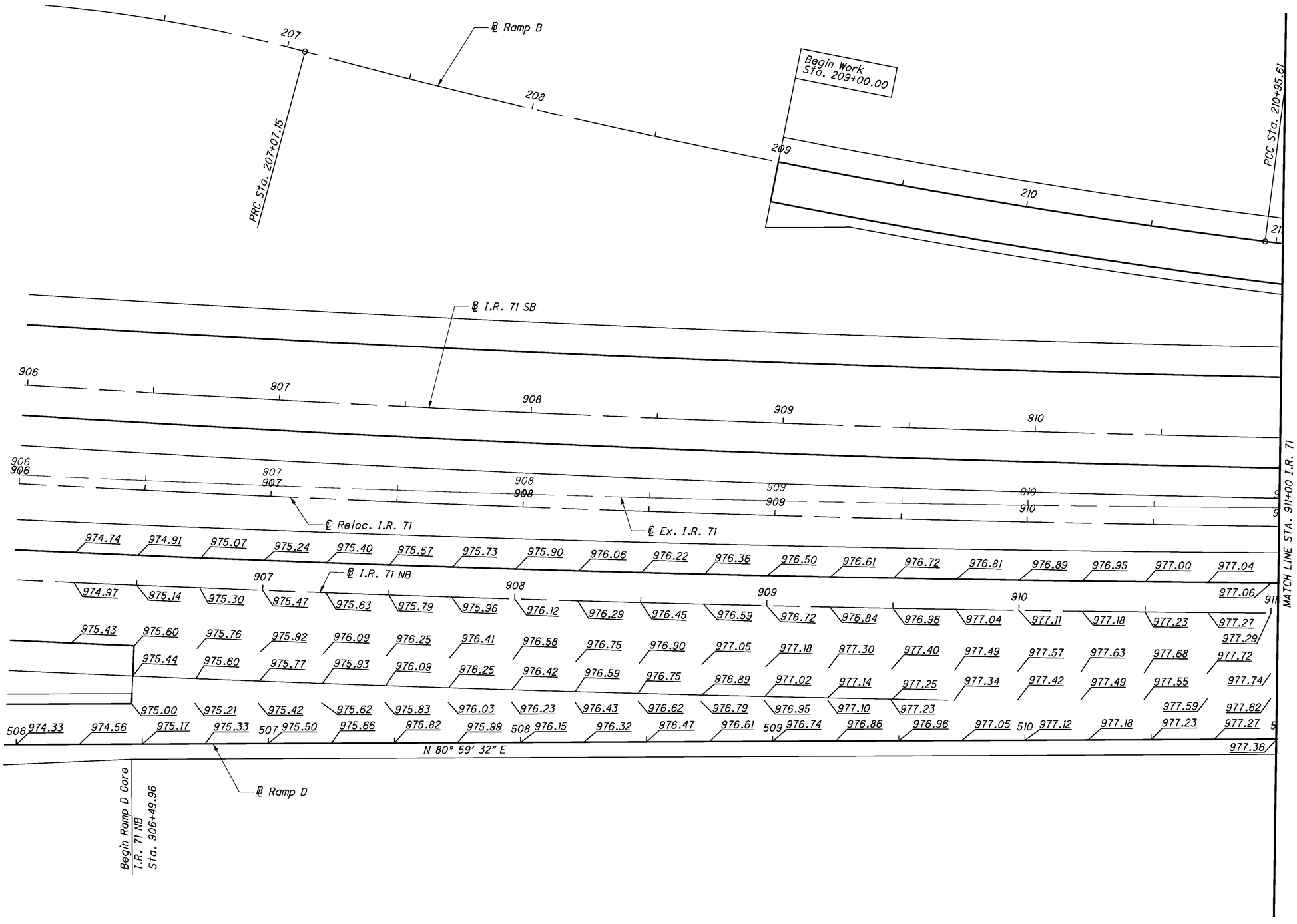
CROSS SECTIONS

STA. 505+00.00 TO STA. 506+00.00

WAR-71-14.20

237
470

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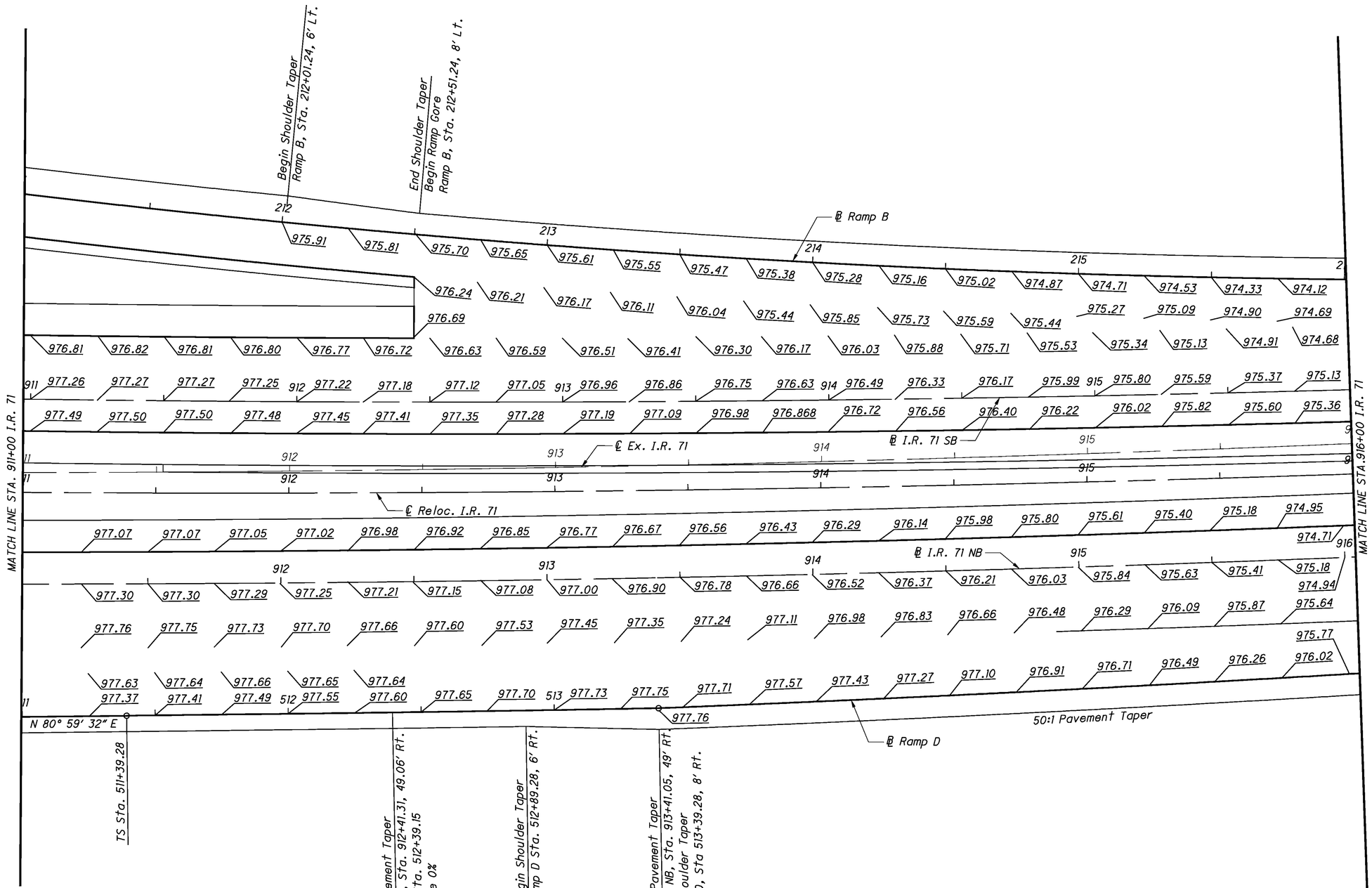
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HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MER
CHECKED RWK

PAVEMENT DETAILS
RAMP D ENTRANCE TERMINAL

WAR-71-14.20



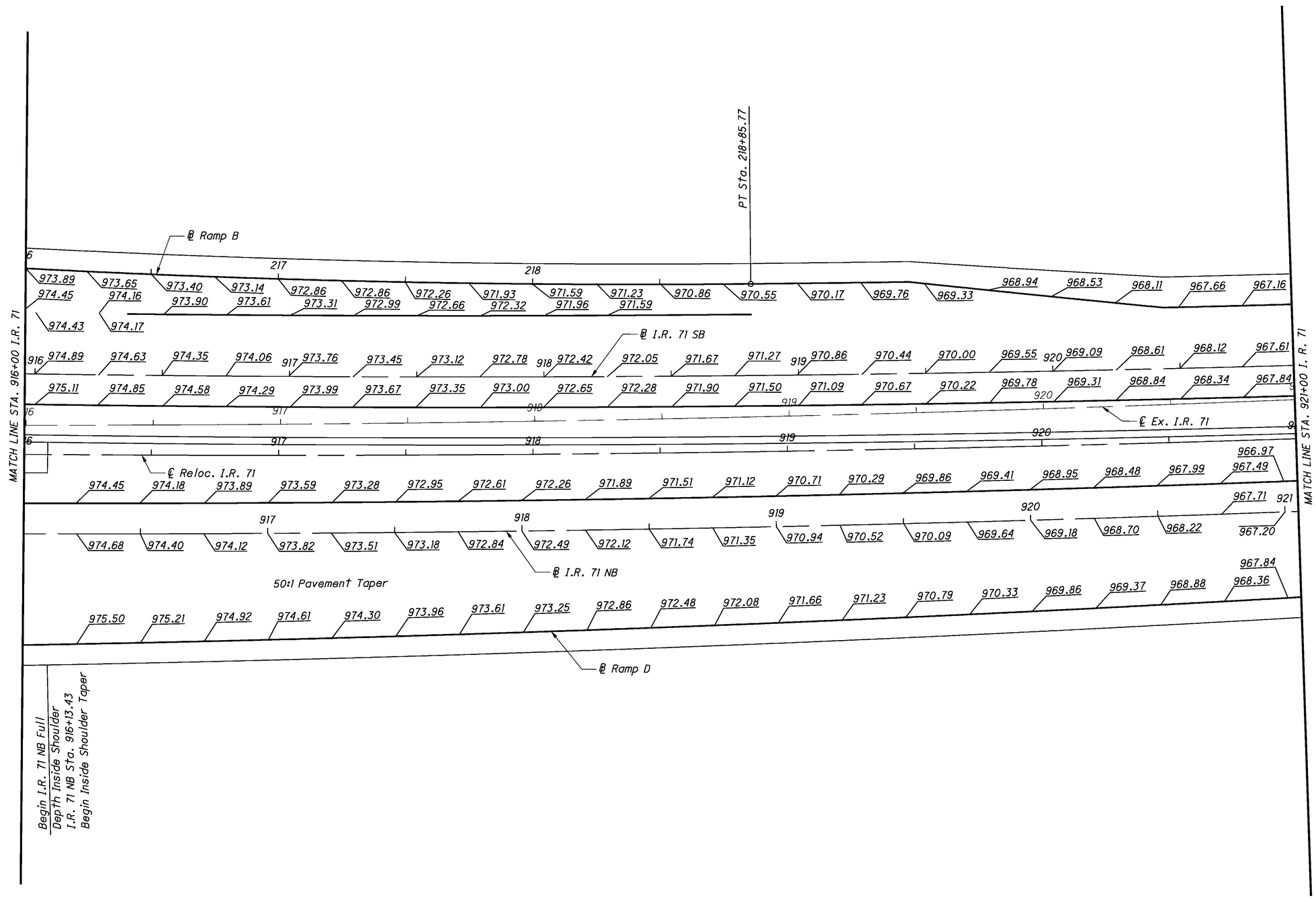
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HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MER
CHECKED RWK

PAVEMENT DETAILS - RAMP D ENTRANCE TERMINAL AND RAMP B EXIT TERMINAL

WAR-71-14.20



HORIZONTAL SCALE IN FEET
0 10 20 40

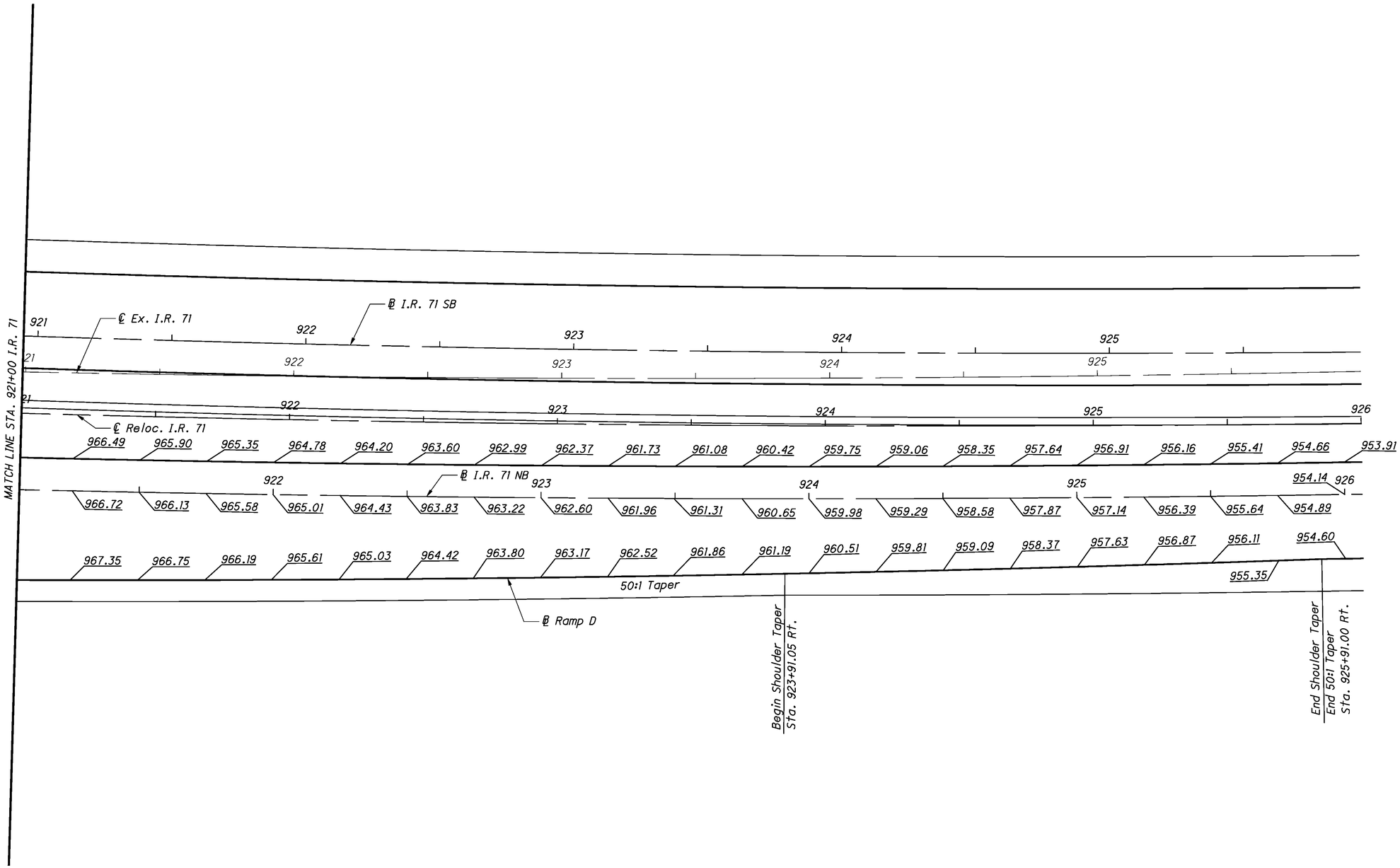
CALCULATED MER
CHECKED RWK

PAVEMENT DETAILS - RAMP D ENTRANCE TERMINAL AND RAMP B EXIT TERMINAL

WAR-71-14.20

240
470

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HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MER
CHECKED RWK

PAVEMENT DETAILS
RAMP D ENTRANCE TERMINAL

WAR-71-14.20

241
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\22950GA004.dgn 16-SEP-2008 2:54PM Kduffney

SUPERELEVATION TABLE

P.I. STA. 921+81.25 | Dc = 00° 27′ 09.66″

REMARKS	INSIDE LANE					PROFILE GRADE LINE		MIDDLE LANE					OUTSIDE LANE					REMARKS
	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	LEFT EDGE ELEVATION	STATION	ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	RIGHT EDGE ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	RIGHT EDGE ELEVATION	
	12	-0.0160	-0.192	NA	970.00	899+00.00	970.19	12	0.0160	0.19	NA	970.19	12	-0.0160	-0.19	NA	970.00	
BEGIN S.E. TRANS	12	-0.0160	-0.192	NA	970.10	899+15.68	970.29	12	0.0160	0.19	NA	970.29	12	-0.0160	-0.19	250	970.10	
	12	-0.0160	-0.192	NA	970.16	899+25.00	970.35	12	0.0160	0.19	NA	970.35	12	-0.0144	-0.17	250	970.18	
	12	-0.0160	-0.192	NA	970.33	899+50.00	970.52	12	0.0160	0.19	NA	970.52	12	-0.0103	-0.12	250	970.40	
	12	-0.0160	-0.192	NA	970.49	899+75.00	970.68	12	0.0160	0.19	NA	970.68	12	-0.0061	-0.07	250	970.61	
	12	-0.0160	-0.192	NA	970.66	900+00.00	970.85	12	0.0160	0.19	NA	970.85	12	-0.0019	-0.02	250	970.83	
HALF FLAT	12	-0.0160	-0.192	NA	970.74	900+11.68	970.93	12	0.0160	0.19	NA	970.93	12	0.0000	0.00	250	970.93	
	12	-0.0160	-0.192	NA	970.82	900+25.00	971.01	12	0.0160	0.19	NA	971.01	12	0.0022	0.03	250	971.04	
	12	-0.0160	-0.192	NA	970.99	900+50.00	971.18	12	0.0160	0.19	NA	971.18	12	0.0064	0.08	250	971.26	
	12	-0.0160	-0.192	NA	971.15	900+75.00	971.34	12	0.0160	0.19	NA	971.34	12	0.0106	0.13	250	971.47	
	12	-0.0160	-0.192	NA	971.32	901+00.00	971.51	12	0.0160	0.19	NA	971.51	12	0.0147	0.18	250	971.69	
REVERSE CROWN/PC STATION	12	-0.0160	-0.192	NA	971.37	901+07.68	971.56	12	0.0160	0.19	NA	971.56	12	0.0160	0.19	250	971.75	
	12	-0.0189	-0.227	250	971.44	901+25.00	971.67	12	0.0189	0.23	250	971.67	12	0.0189	0.23	250	971.90	
BEGIN FULL SUPER	12	-0.0190	-0.228	250	971.45	901+25.68	971.68	12	0.0190	0.23	250	971.68	12	0.0190	0.23	250	971.91	
	12	-0.0190	-0.228	NA	971.94	902+00.00	972.17	12	0.0190	0.23	NA	972.17	12	0.0190	0.23	NA	972.40	
	12	-0.0190	-0.228	NA	972.60	903+00.00	972.83	12	0.0190	0.23	NA	972.83	12	0.0190	0.23	NA	973.06	
	12	-0.0190	-0.228	NA	973.26	904+00.00	973.49	12	0.0190	0.23	NA	973.49	12	0.0190	0.23	NA	973.72	
	12	-0.0190	-0.228	NA	973.92	905+00.00	974.15	12	0.0190	0.23	NA	974.15	12	0.0190	0.23	NA	974.38	
	12	-0.0190	-0.228	NA	974.58	906+00.00	974.81	12	0.0190	0.23	NA	974.81	12	0.0190	0.23	NA	975.04	
	12	-0.0190	-0.228	NA	975.23	907+00.00	975.46	12	0.0190	0.23	NA	975.46	12	0.0190	0.23	NA	975.69	
	12	-0.0190	-0.228	NA	975.89	908+00.00	976.12	12	0.0190	0.23	NA	976.12	12	0.0190	0.23	NA	976.35	
	12	-0.0190	-0.228	NA	976.49	909+00.00	976.72	12	0.0190	0.23	NA	976.72	12	0.0190	0.23	NA	976.95	
	12	-0.0190	-0.228	NA	976.88	910+00.00	977.11	12	0.0190	0.23	NA	977.11	12	0.0190	0.23	NA	977.34	
	12	-0.0190	-0.228	NA	977.06	911+00.00	977.29	12	0.0190	0.23	NA	977.29	12	0.0190	0.23	NA	977.52	
	12	-0.0190	-0.228	NA	977.02	912+00.00	977.25	12	0.0190	0.23	NA	977.25	12	0.0190	0.23	NA	977.48	
	12	-0.0190	-0.228	NA	976.76	913+00.00	976.99	12	0.0190	0.23	NA	976.99	12	0.0190	0.23	NA	977.22	
	12	-0.0190	-0.228	NA	976.29	914+00.00	976.52	12	0.0190	0.23	NA	976.52	12	0.0190	0.23	NA	976.75	
	12	-0.0190	-0.228	NA	975.61	915+00.00	975.84	12	0.0190	0.23	NA	975.84	12	0.0190	0.23	NA	976.07	
	12	-0.0190	-0.228	NA	974.70	916+00.00	974.93	12	0.0190	0.23	NA	974.93	12	0.0190	0.23	NA	975.16	
	12	-0.0190	-0.228	NA	973.59	917+00.00	973.82	12	0.0190	0.23	NA	973.82	12	0.0190	0.23	NA	974.05	
	12	-0.0190	-0.228	NA	972.26	918+00.00	972.49	12	0.0190	0.23	NA	972.49	12	0.0190	0.23	NA	972.72	
	12	-0.0190	-0.228	NA	970.71	919+00.00	970.94	12	0.0190	0.23	NA	970.94	12	0.0190	0.23	NA	971.17	
	12	-0.0190	-0.228	NA	968.95	920+00.00	969.18	12	0.0190	0.23	NA	969.18	12	0.0190	0.23	NA	969.41	
	12	-0.0190	-0.228	NA	966.97	921+00.00	967.20	12	0.0190	0.23	NA	967.20	12	0.0190	0.23	NA	967.43	
	12	-0.0190	-0.228	NA	964.78	922+00.00	965.01	12	0.0190	0.23	NA	965.01	12	0.0190	0.23	NA	965.24	
	12	-0.0190	-0.228	NA	962.37	923+00.00	962.60	12	0.0190	0.23	NA	962.60	12	0.0190	0.23	NA	962.83	
	12	-0.0190	-0.228	NA	959.75	924+00.00	959.98	12	0.0190	0.23	NA	959.98	12	0.0190	0.23	NA	960.21	
	12	-0.0190	-0.228	NA	956.91	925+00.00	957.14	12	0.0190	0.23	NA	957.14	12	0.0190	0.23	NA	957.37	
	12	-0.0190	-0.228	NA	953.91	926+00.00	954.14	12	0.0190	0.23	NA	954.14	12	0.0190	0.23	NA	954.37	
	12	-0.0190	-0.228	NA	950.91	927+00.00	951.14	12	0.0190	0.23	NA	951.14	12	0.0190	0.23	NA	951.37	
	12	-0.0190	-0.228	NA	947.91	928+00.00	948.14	12	0.0190	0.23	NA	948.14	12	0.0190	0.23	NA	948.37	
	12	-0.0190	-0.228	NA	944.91	929+00.00	945.14	12	0.0190	0.23	NA	945.14	12	0.0190	0.23	NA	945.37	
	12	-0.0190	-0.228	NA	941.91	930+00.00	942.14	12	0.0190	0.23	NA	942.14	12	0.0190	0.23	NA	942.37	
	12	-0.0190	-0.228	NA	938.91	931+00.00	939.14	12	0.0190	0.23	NA	939.14	12	0.0190	0.23	NA	939.37	
	12	-0.0190	-0.228	NA	935.91	932+00.00	936.14	12	0.0190	0.23	NA	936.14	12	0.0190	0.23	NA	936.37	
	12	-0.0190	-0.228	NA	932.91	933+00.00	933.14	12	0.0190	0.23	NA	933.14	12	0.0190	0.23	NA	933.37	
	12	-0.0190	-0.228	NA	929.91	934+00.00	930.14	12	0.0190	0.23	NA	930.14	12	0.0190	0.23	NA	930.37	
	12	-0.0190	-0.228	NA	926.91	935+00.00	927.14	12	0.0190	0.23	NA	927.14	12	0.0190	0.23	NA	927.37	
	12	-0.0190	-0.228	NA	923.91	936+00.00	924.14	12	0.0190	0.23	NA	924.14	12	0.0190	0.23	NA	924.37	
	12	-0.0190	-0.228	NA	920.91	937+00.00	921.14	12	0.0190	0.23	NA	921.14	12	0.0190	0.23	NA	921.37	
	12	-0.0190	-0.228	NA	917.91	938+00.00	918.14	12	0.0190	0.23	NA	918.14	12	0.0190	0.23	NA	918.37	
	12	-0.0190	-0.228	NA	914.91	939+00.00	915.14	12	0.0190	0.23	NA	915.14	12	0.0190	0.23	NA	915.37	
	12	-0.0190	-0.228	NA	911.91	940+00.00	912.14	12	0.0190	0.23	NA	912.14	12	0.0190	0.23	NA	912.37	
	12	-0.0190	-0.228	NA	909.03	941+00.00	909.26	12	0.0190	0.23	NA	909.26	12	0.0190	0.23	NA	909.49	
	12	-0.0190	-0.228	NA	906.45	942+00.00	906.68	12	0.0190	0.23	NA	906.68	12	0.0190	0.23	NA	906.91	

CALCULATED JSU
CHECKED BBD

SUPERELEVATION TABLE
I.R. 71 NORTHBOUND LANES

WAR-71-14.20

242
470

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SUPERELEVATION TABLE

P.I. STA. 921+81.25 | Dc = 00° 27′ 09.66″

REMARKS	INSIDE LANE					PROFILE GRADE LINE		MIDDLE LANE					OUTSIDE LANE					REMARKS
	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	LEFT EDGE ELEVATION	STATION	ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	RIGHT EDGE ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	RIGHT EDGE ELEVATION	
END FULL SUPER	12	-0.0190	-0.228	NA	906.45	942+00.31	906.68	12	0.0190	0.23	NA	906.68	12	0.0190	0.23	NA	906.91	
REVERSE CROWN/PT STATION	12	-0.0160	-0.192	250	906.06	942+18.31	906.25	12	0.0160	0.19	250	906.25	12	0.0160	0.19	250	906.44	
AHEAD STATION	12	-0.0160	-0.192	250	906.06	942+03.51	906.25	12	0.0160	0.19	250	906.25	12	0.0160	0.19	250	906.44	
	12	-0.0160	-0.192	NA	905.56	942+25.00	905.75	12	0.0124	0.15	250	905.71	12	0.0124	0.15	250	905.86	
	12	-0.0160	-0.192	NA	904.99	942+50.00	905.18	12	0.0083	0.10	250	905.09	12	0.0083	0.10	250	905.19	
	12	-0.0160	-0.192	NA	904.45	942+75.00	904.64	12	0.0041	0.05	250	904.50	12	0.0041	0.05	250	904.55	
HALF FLAT	12	-0.0160	-0.192	NA	903.94	942+99.51	904.13	12	0.0000	0.00	250	903.94	12	0.0000	0.00	250	903.94	
	12	-0.0160	-0.192	NA	903.93	943+00.00	904.12	12	-0.0001	0.00	250	903.92	12	-0.0001	0.00	250	903.92	
	12	-0.0160	-0.192	NA	903.42	943+25.00	903.61	12	-0.0042	-0.05	250	903.37	12	-0.0042	-0.05	250	903.32	
	12	-0.0160	-0.192	NA	902.94	943+50.00	903.13	12	-0.0084	-0.10	250	902.84	12	-0.0084	-0.10	250	902.74	
	12	-0.0160	-0.192	NA	902.47	943+75.00	902.66	12	-0.0126	-0.15	250	902.32	12	-0.0126	-0.15	250	902.17	
END S.E. TRANS	12	-0.0160	-0.192	NA	902.11	943+95.51	902.30	12	-0.0160	-0.19	250	901.92	12	-0.0160	-0.19	250	901.72	
	12	-0.0160	-0.192	NA	902.03	944+00.00	902.22	12	-0.0160	-0.19	NA	901.84	12	-0.0160	-0.19	NA	901.64	

CALCULATED JSU
CHECKED BBD

SUPERELEVATION TABLE
I.R. 71 NORTHBOUND LANES

WAR-71-14.20

243
470

J:\Jobs\34878\TechProd\22950\roadway\sheets\229500E002.dgn 16-SEP-2008 2:54PM Kduffney

SUPERELEVATION TABLE

P.I. STA. 922+83.45 | Dc = 00° 28′ 53″

REMARKS	INSIDE LANE					PROFILE GRADE LINE		MIDDLE LANE					OUTSIDE LANE					REMARKS
	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	LEFT EDGE ELEVATION	STATION	ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	RIGHT EDGE ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	RIGHT EDGE ELEVATION	
	12	-0.0160	-0.192	NA	971.44	901+25.00	971.63	12	0.0160	0.19	NA	971.63	12	-0.0160	-0.19	NA	971.44	
BEGIN S.E. TRANS	12	-0.0160	-0.192	NA	971.55	901+41.53	971.74	12	0.0160	0.19	NA	971.74	12	-0.0160	-0.19	250	971.55	
	12	-0.0160	-0.192	NA	971.60	901+50.00	971.79	12	0.0160	0.19	NA	971.79	12	-0.0146	-0.18	250	971.61	
	12	-0.0160	-0.192	NA	971.77	901+75.00	971.96	12	0.0160	0.19	NA	971.96	12	-0.0104	-0.13	250	971.83	
	12	-0.0160	-0.192	NA	971.93	902+00.00	972.12	12	0.0160	0.19	NA	972.12	12	-0.0063	-0.08	250	972.04	
	12	-0.0160	-0.192	NA	972.10	902+25.00	972.29	12	0.0160	0.19	NA	972.29	12	-0.0021	-0.03	250	972.26	
HALF FLAT	12	-0.0160	-0.192	NA	972.18	902+37.53	972.37	12	0.0160	0.19	NA	972.37	12	0.0000	0.00	250	972.37	
	12	-0.0160	-0.192	NA	972.27	902+50.00	972.46	12	0.0160	0.19	NA	972.46	12	0.0021	0.02	250	972.48	
	12	-0.0160	-0.192	NA	972.43	902+75.00	972.62	12	0.0160	0.19	NA	972.62	12	0.0062	0.07	250	972.69	
	12	-0.0160	-0.192	NA	972.60	903+00.00	972.79	12	0.0160	0.19	NA	972.79	12	0.0104	0.12	250	972.91	
	12	-0.0160	-0.192	NA	972.76	903+25.00	972.95	12	0.0160	0.19	NA	972.95	12	0.0146	0.17	250	973.12	
REVERSE CROWN/PC STATION	12	-0.0160	-0.192	NA	972.82	903+33.53	973.01	12	0.0160	0.19	NA	973.01	12	0.0160	0.19	250	973.20	
	12	-0.0187	-0.225	250	972.90	903+50.00	973.12	12	0.0187	0.22	250	973.12	12	0.0187	0.22	250	973.34	
BEGIN FULL SUPER	12	-0.0190	-0.228	250	972.90	903+51.53	973.13	12	0.0190	0.23	250	973.13	12	0.0190	0.23	250	973.36	
	12	-0.0190	-0.228	NA	973.22	904+00.00	973.45	12	0.0190	0.23	NA	973.45	12	0.0190	0.23	NA	973.68	
	12	-0.0190	-0.228	NA	973.88	905+00.00	974.11	12	0.0190	0.23	NA	974.11	12	0.0190	0.23	NA	974.34	
	12	-0.0190	-0.228	NA	974.54	906+00.00	974.77	12	0.0190	0.23	NA	974.77	12	0.0190	0.23	NA	975.00	
	12	-0.0190	-0.228	NA	975.20	907+00.00	975.43	12	0.0190	0.23	NA	975.43	12	0.0190	0.23	NA	975.66	
	12	-0.0190	-0.228	NA	975.87	908+00.00	976.10	12	0.0190	0.23	NA	976.10	12	0.0190	0.23	NA	976.33	
	12	-0.0190	-0.228	NA	976.47	909+00.00	976.70	12	0.0190	0.23	NA	976.70	12	0.0190	0.23	NA	976.93	
	12	-0.0190	-0.228	NA	976.86	910+00.00	977.09	12	0.0190	0.23	NA	977.09	12	0.0190	0.23	NA	977.32	
	12	-0.0190	-0.228	NA	977.03	911+00.00	977.26	12	0.0190	0.23	NA	977.26	12	0.0190	0.23	NA	977.49	
	12	-0.0190	-0.228	NA	976.99	912+00.00	977.22	12	0.0190	0.23	NA	977.22	12	0.0190	0.23	NA	977.45	
	12	-0.0190	-0.228	NA	976.73	913+00.00	976.96	12	0.0190	0.23	NA	976.96	12	0.0190	0.23	NA	977.19	
	12	-0.0190	-0.228	NA	976.26	914+00.00	976.49	12	0.0190	0.23	NA	976.49	12	0.0190	0.23	NA	976.72	
	12	-0.0190	-0.228	NA	975.57	915+00.00	975.80	12	0.0190	0.23	NA	975.80	12	0.0190	0.23	NA	976.03	
	12	-0.0190	-0.228	NA	974.66	916+00.00	974.89	12	0.0190	0.23	NA	974.89	12	0.0190	0.23	NA	975.12	
	12	-0.0190	-0.228	NA	973.53	917+00.00	973.76	12	0.0190	0.23	NA	973.76	12	0.0190	0.23	NA	973.99	
	12	-0.0190	-0.228	NA	972.19	918+00.00	972.42	12	0.0190	0.23	NA	972.42	12	0.0190	0.23	NA	972.65	
	12	-0.0190	-0.228	NA	970.63	919+00.00	970.86	12	0.0190	0.23	NA	970.86	12	0.0190	0.23	NA	971.09	
	12	-0.0190	-0.228	NA	968.86	920+00.00	969.09	12	0.0190	0.23	NA	969.09	12	0.0190	0.23	NA	969.32	
	12	-0.0190	-0.228	NA	966.86	921+00.00	967.09	12	0.0190	0.23	NA	967.09	12	0.0190	0.23	NA	967.32	
	12	-0.0190	-0.228	NA	964.65	922+00.00	964.88	12	0.0190	0.23	NA	964.88	12	0.0190	0.23	NA	965.11	
	12	-0.0190	-0.228	NA	962.23	923+00.00	962.46	12	0.0190	0.23	NA	962.46	12	0.0190	0.23	NA	962.69	
	12	-0.0190	-0.228	NA	959.59	924+00.00	959.82	12	0.0190	0.23	NA	959.82	12	0.0190	0.23	NA	960.05	
	12	-0.0190	-0.228	NA	956.73	925+00.00	956.96	12	0.0190	0.23	NA	956.96	12	0.0190	0.23	NA	957.19	
	12	-0.0190	-0.228	NA	953.71	926+00.00	953.94	12	0.0190	0.23	NA	953.94	12	0.0190	0.23	NA	954.17	
	12	-0.0190	-0.228	NA	950.69	927+00.00	950.92	12	0.0190	0.23	NA	950.92	12	0.0190	0.23	NA	951.15	
	12	-0.0190	-0.228	NA	947.67	928+00.00	947.90	12	0.0190	0.23	NA	947.90	12	0.0190	0.23	NA	948.13	
	12	-0.0190	-0.228	NA	944.65	929+00.00	944.88	12	0.0190	0.23	NA	944.88	12	0.0190	0.23	NA	945.11	
	12	-0.0190	-0.228	NA	941.63	930+00.00	941.86	12	0.0190	0.23	NA	941.86	12	0.0190	0.23	NA	942.09	
	12	-0.0190	-0.228	NA	938.61	931+00.00	938.84	12	0.0190	0.23	NA	938.84	12	0.0190	0.23	NA	939.07	
	12	-0.0190	-0.228	NA	935.59	932+00.00	935.82	12	0.0190	0.23	NA	935.82	12	0.0190	0.23	NA	936.05	
	12	-0.0190	-0.228	NA	932.57	933+00.00	932.80	12	0.0190	0.23	NA	932.80	12	0.0190	0.23	NA	933.03	
	12	-0.0190	-0.228	NA	929.55	934+00.00	929.78	12	0.0190	0.23	NA	929.78	12	0.0190	0.23	NA	930.01	
	12	-0.0190	-0.228	NA	926.52	935+00.00	926.75	12	0.0190	0.23	NA	926.75	12	0.0190	0.23	NA	926.98	
	12	-0.0190	-0.228	NA	923.50	936+00.00	923.73	12	0.0190	0.23	NA	923.73	12	0.0190	0.23	NA	923.96	
	12	-0.0190	-0.228	NA	920.48	937+00.00	920.71	12	0.0190	0.23	NA	920.71	12	0.0190	0.23	NA	920.94	
	12	-0.0190	-0.228	NA	917.46	938+00.00	917.69	12	0.0190	0.23	NA	917.69	12	0.0190	0.23	NA	917.92	
	12	-0.0190	-0.228	NA	914.44	939+00.00	914.67	12	0.0190	0.23	NA	914.67	12	0.0190	0.23	NA	914.90	
	12	-0.0190	-0.228	NA	911.42	940+00.00	911.65	12	0.0190	0.23	NA	911.65	12	0.0190	0.23	NA	911.88	
	12	-0.0190	-0.228	NA	908.57	941+00.00	908.80	12	0.0190	0.23	NA	908.80	12	0.0190	0.23	NA	909.03	

CALCULATED JSU
CHECKED BBD

SUPERELEVATION TABLE
I.R. 71 SOUTHBOUND LANES

WAR-71-14.20

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SUPERELEVATION TABLE

P.I. STA. 922+83.45 | Dc = 00° 28′ 53″

REMARKS	INSIDE LANE					PROFILE GRADE LINE		MIDDLE LANE					OUTSIDE LANE					REMARKS
	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	LEFT EDGE ELEVATION	STATION	ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	RIGHT EDGE ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	RIGHT EDGE ELEVATION	
END FULL SUPER	12	-0.0190	-0.228	NA	906.50	941+81.02	906.73	12	0.0190	0.23	NA	906.73	12	0.0190	0.23	NA	906.96	
REVERSE CROWN/PT STATION	12	-0.0160	-0.192	250	906.10	941+99.02	906.29	12	0.0160	0.19	250	906.29	12	0.0160	0.19	250	906.48	
AHEAD STATION	12	-0.0160	-0.192	250	906.10	942+03.51	906.29	12	0.0160	0.19	250	906.29	12	0.0160	0.19	250	906.48	
	12	-0.0160	-0.192	NA	905.60	942+25.00	905.79	12	0.0124	0.15	250	905.75	12	0.0124	0.15	250	905.90	
	12	-0.0160	-0.192	NA	905.03	942+50.00	905.22	12	0.0083	0.10	250	905.13	12	0.0083	0.10	250	905.23	
	12	-0.0160	-0.192	NA	904.49	942+75.00	904.68	12	0.0041	0.05	250	904.54	12	0.0041	0.05	250	904.59	
HALF FLAT	12	-0.0160	-0.192	NA	903.97	942+99.51	904.16	12	0.0000	0.00	250	903.97	12	0.0000	0.00	250	903.97	
	12	-0.0160	-0.192	NA	903.96	943+00.00	904.15	12	-0.0001	0.00	250	903.96	12	-0.0001	0.00	250	903.96	
	12	-0.0160	-0.192	NA	903.45	943+25.00	903.64	12	-0.0042	-0.05	250	903.40	12	-0.0042	-0.05	250	903.35	
	12	-0.0160	-0.192	NA	902.97	943+50.00	903.16	12	-0.0084	-0.10	250	902.87	12	-0.0084	-0.10	250	902.77	
	12	-0.0160	-0.192	NA	902.50	943+75.00	902.69	12	-0.0126	-0.15	250	902.35	12	-0.0126	-0.15	250	902.20	
END S.E. TRANS	12	-0.0160	-0.192	NA	902.21	943+95.51	902.40	12	-0.0160	-0.19	250	902.02	12	-0.0160	-0.19	250	901.82	
	12	-0.0160	-0.192	NA	902.05	944+00.00	902.24	12	-0.0160	-0.19	NA	901.86	12	-0.0160	-0.19	NA	901.66	

CALCULATED JSU | CHECKED BBD

SUPERELEVATION TABLE
I.R. 71 SOUTHBOUND LANES

WAR-71-14.20

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RAMP B SUPERELEVATION TABLE

P.I. STA.214+91.67 | Dc = 1° 15′ 00″

BASELINE CONTROL STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	REMARKS
209+00.00	975.16	16	0.0110	0.18	222	975.34	MATCH EXIST CROSS SLOPE
209+18.00	975.36	16	0.0160	0.26	222	975.62	TRANSISTION FROM EXISTING TO 0.016
209+55.49	975.71	16	0.0160	0.26	222	975.97	
209+75.00	975.85	16	0.0160	0.26	NA	976.11	
210+00.00	976.01	16	0.0160	0.26	NA	976.27	
210+12.32	976.07	16	0.0160	0.26	NA	976.33	
210+25.00	976.12	16	0.0160	0.26	NA	976.38	
210+50.00	976.20	16	0.0160	0.26	NA	976.46	
210+69.15	976.23	16	0.0160	0.26	NA	976.49	BEGIN S.E. TRANS
210+75.00	976.23	16	0.0176	0.28	222	976.51	
210+95.61	976.23	16	0.0235	0.38	222	976.61	PCC STATION
211+00.00	976.23	16	0.0247	0.39	222	976.62	
211+25.00	976.19	16	0.0317	0.51	222	976.70	
211+36.64	976.16	16	0.0350	0.56	222	976.72	BEGIN FULL SUPER
212+00.00	975.68	16	0.0350	0.56	NA	976.24	
213+00.00	975.61	16	0.0350	0.56	NA	976.17	
214+00.00	975.28	16	0.0350	0.56	NA	975.84	
215+00.00	974.71	16	0.0350	0.56	NA	975.27	
216+00.00	973.89	16	0.0350	0.56	NA	974.45	
217+00.00	972.86	14.31	0.0350	0.50	NA	973.36	
218+00.00	971.59	12.49	0.0350	0.44	NA	972.03	
218+55.01	970.78	12.06	0.0350	0.42	222	971.20	END FULL SUPER
218+75.00	970.55	12.01	0.0275	0.33	222	970.88	
218+85.77	970.43	12	0.0235	0.28	222	970.71	PT STATION
218+97.63	970.29	12	0.0190	0.23	222	970.52	MATCH IR 71SB SUPER (0.019)/END S.E. TRANS
							(ALIGNMENT STATIONING EXTENDED)

RAMP D SUPERELEVATION TABLE

P.I. STA. 502+96.92 | Dc = 2° 00′00″

EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	BASELINE CONTROL STATION	PROFILE GRADE	REMARKS
970.52	172	0.26	0.0160	16	503+08.84	970.26	MATCH EXIST CROSS SLOPE 0.016/BEGIN S.E. TRANS
970.87	172	0.35	0.0219	16	503+25.00	970.52	
971.17	172	0.43	0.0270	16	503+39.11	970.74	BEGIN FULL SUPER
971.35	NA	0.43	0.0270	16	503+50.00	970.92	
971.75	NA	0.43	0.0270	16	503+75.00	971.32	
972.02	NA	0.43	0.0270	16	503+92.25	971.59	END FULL SUPER
972.11	172	0.39	0.0242	16	504+00.00	971.72	
972.28	172	0.29	0.0181	16	504+16.77	971.99	PT STATION
972.34	172	0.26	0.0160	16	504+22.52	972.08	END S.E. TRANS/REVERSE CROWN
972.38	172	0.26	0.0160	16	504+25.00	972.12	
972.77	NA	0.26	0.0160	16	504+50.00	972.51	
973.01	NA	0.26	0.0160	16	504+66.55	972.75	HALF FLAT
973.13	NA	0.26	0.0160	16	504+75.00	972.87	
973.47	NA	0.26	0.0160	16	505+00.00	973.21	
973.61	NA	0.26	0.0160	16	505+10.58	973.35	END S.E. TRANS

CALCULATED JSU | CHECKED BBD

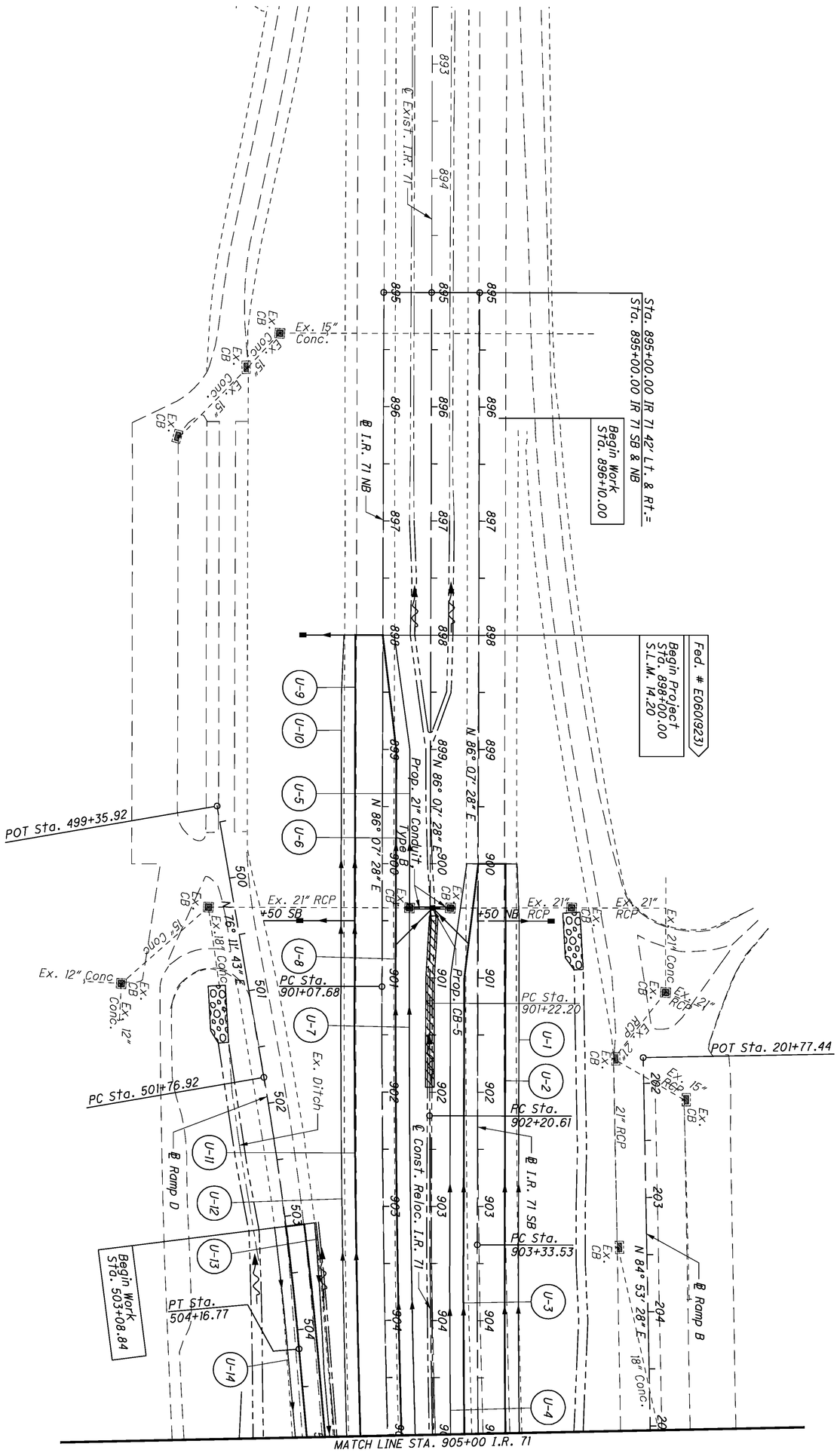
SUPERELEVATION TABLE RAMP B AND RAMP D

WAR-71-14.20

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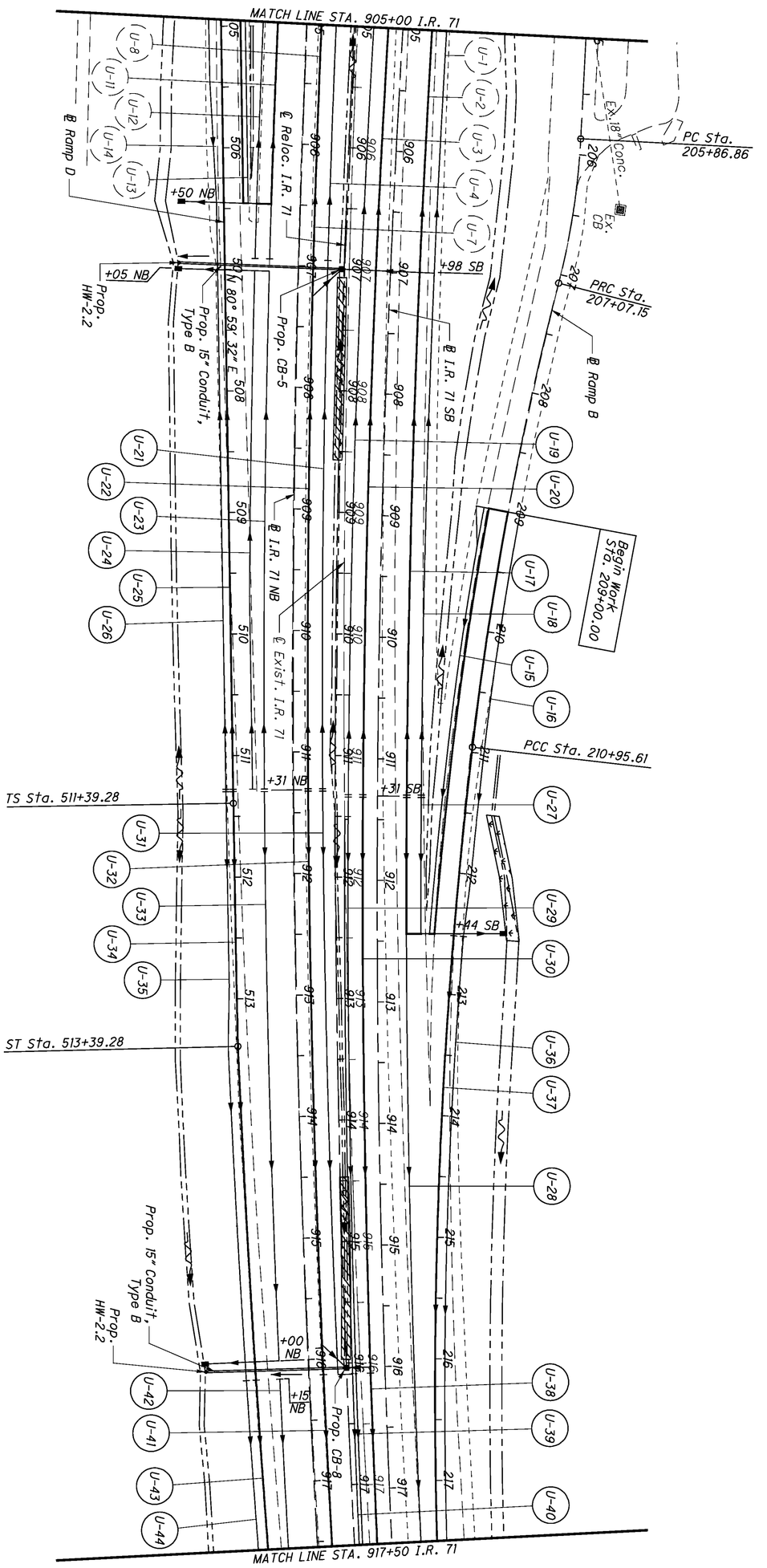
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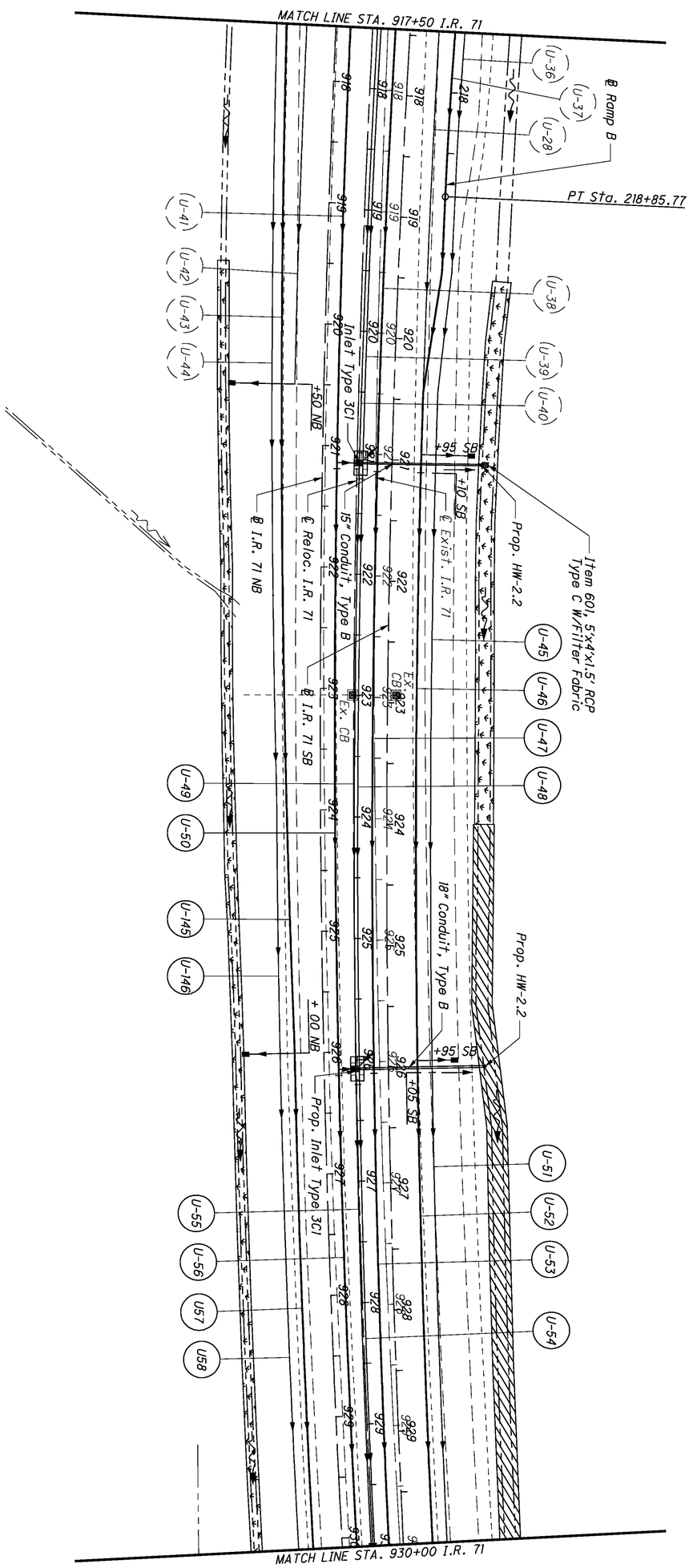


247 / 470	WAR-71-14.20	I.R. 71 UNDERDRAIN DETAIL SHEET STA. 892+50.00 TO STA. 905+00.00	CALCULATED JSU CHECKED BBD	0 50 25 100 HORIZONTAL SCALE IN FEET

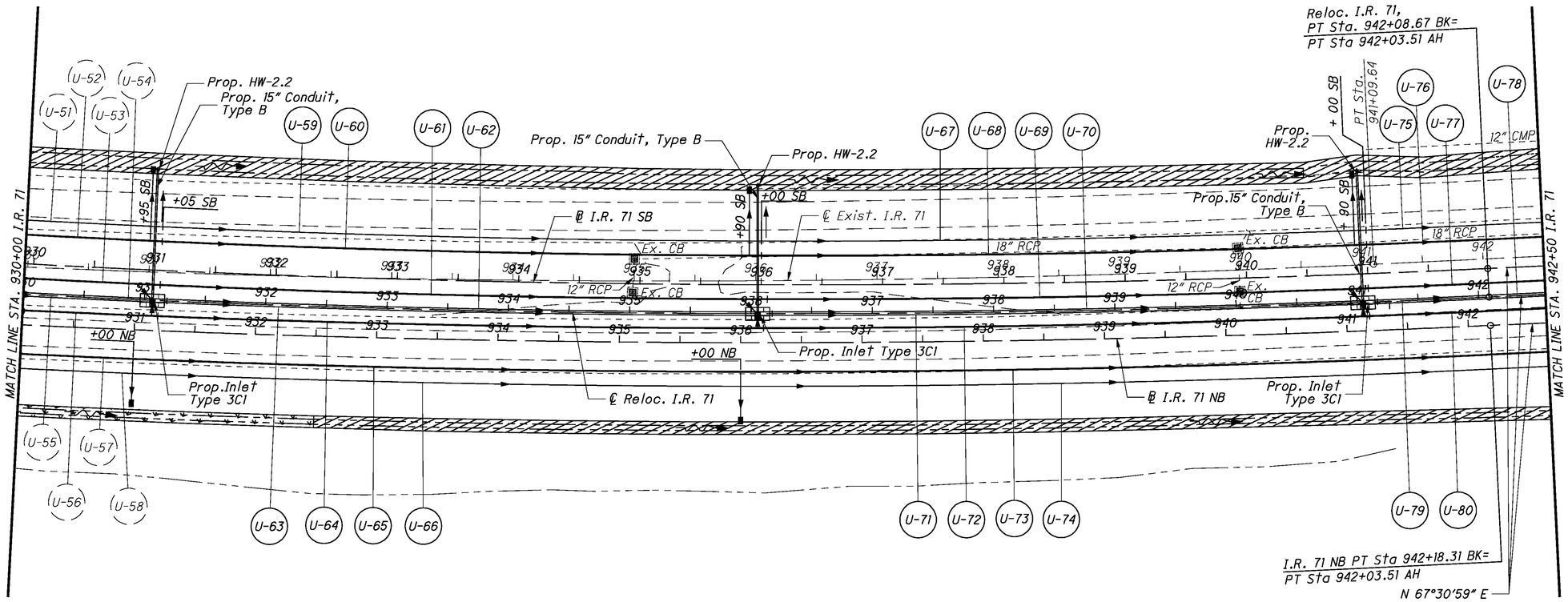
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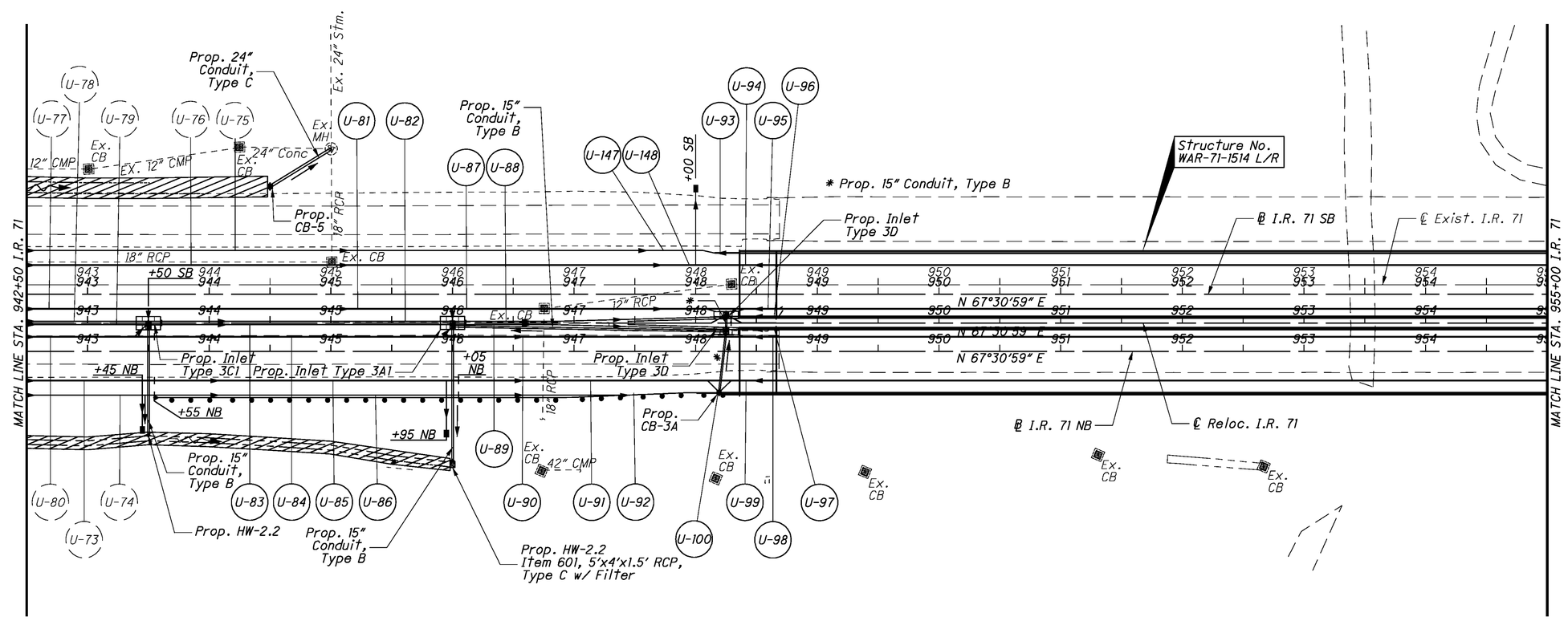


248 / 470	WAR-71-14.20	I.R. 71 UNDERDRAIN DETAIL SHEET STA. 905+00.00 TO STA. 917+50.00	CALCULATED JSU CHECKED BBD	0 50 25 100 HORIZONTAL SCALE IN FEET



249/470	WAR-71-14.20	I.R. 71 UNDERDRAIN DETAIL SHEET STA. 917+50.00 TO STA. 930+00.00	CALCULATED JSU CHECKED BBD	0 50 25 100 HORIZONTAL SCALE IN FEET





HORIZONTAL SCALE IN FEET
0 25 50 100

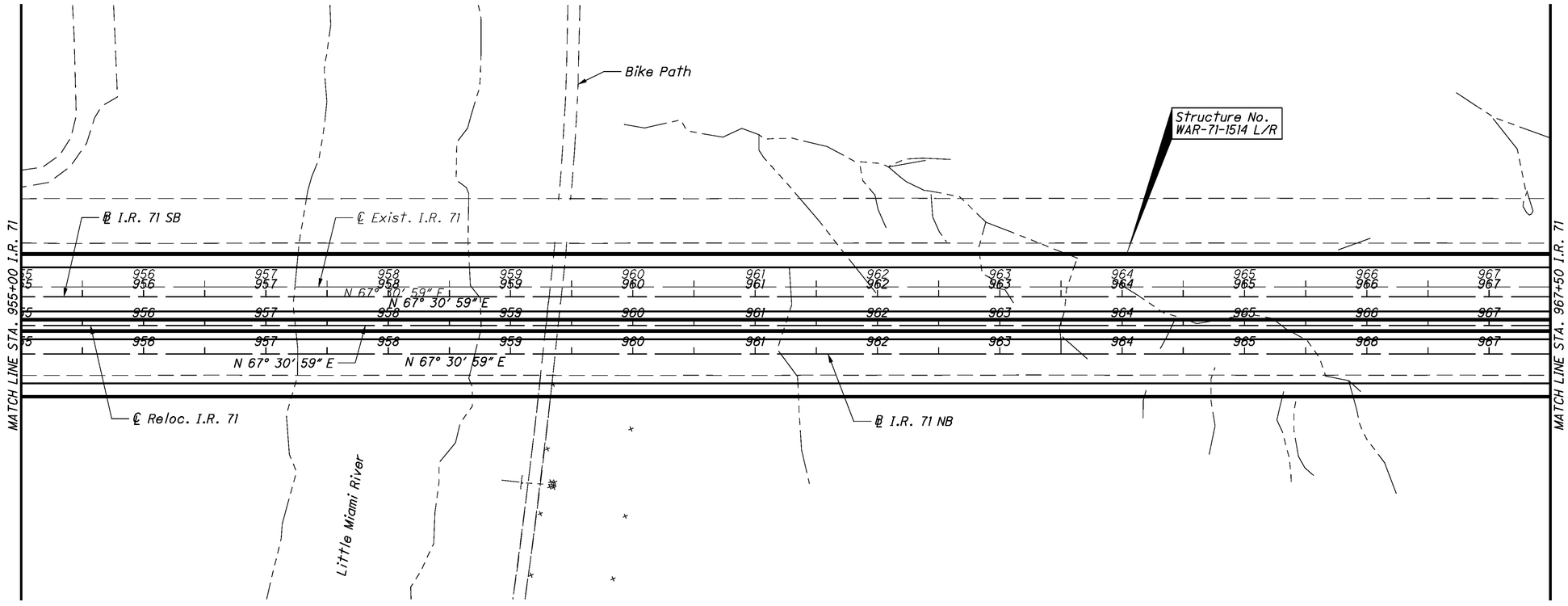
CALCULATED JSU
CHECKED BBD

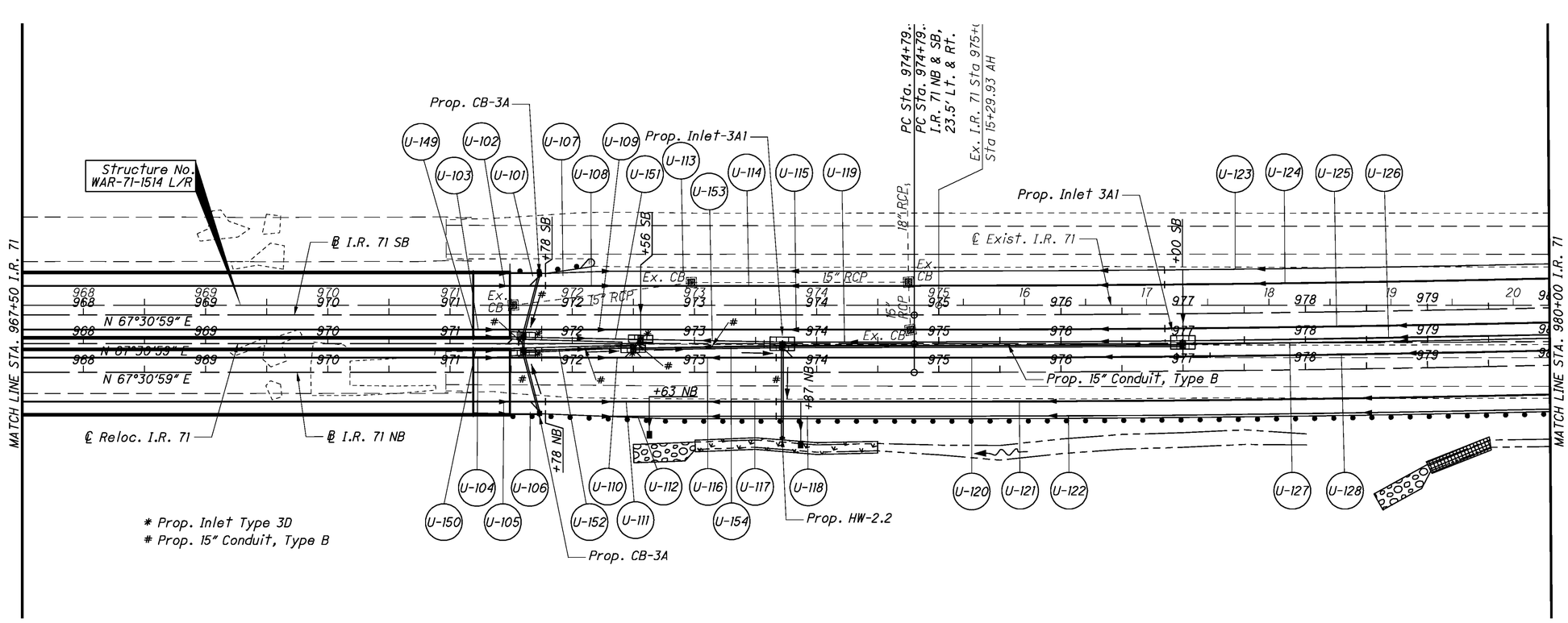
I.R. 71 UNDERDRAIN DETAIL SHEET
STA. 930+00.00 TO STA. 955+00.00

WAR-71-14.20

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HORIZONTAL SCALE IN FEET
0 25 50 100

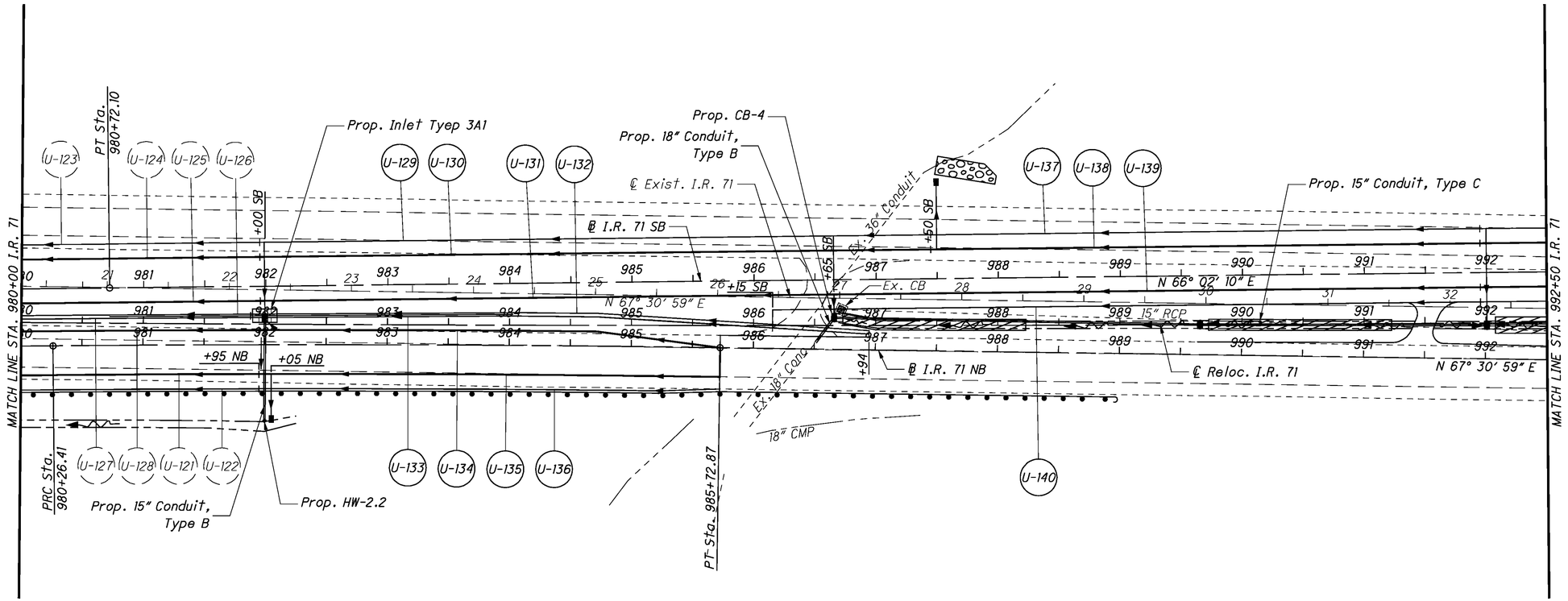
CALCULATED JSU
CHECKED BBD

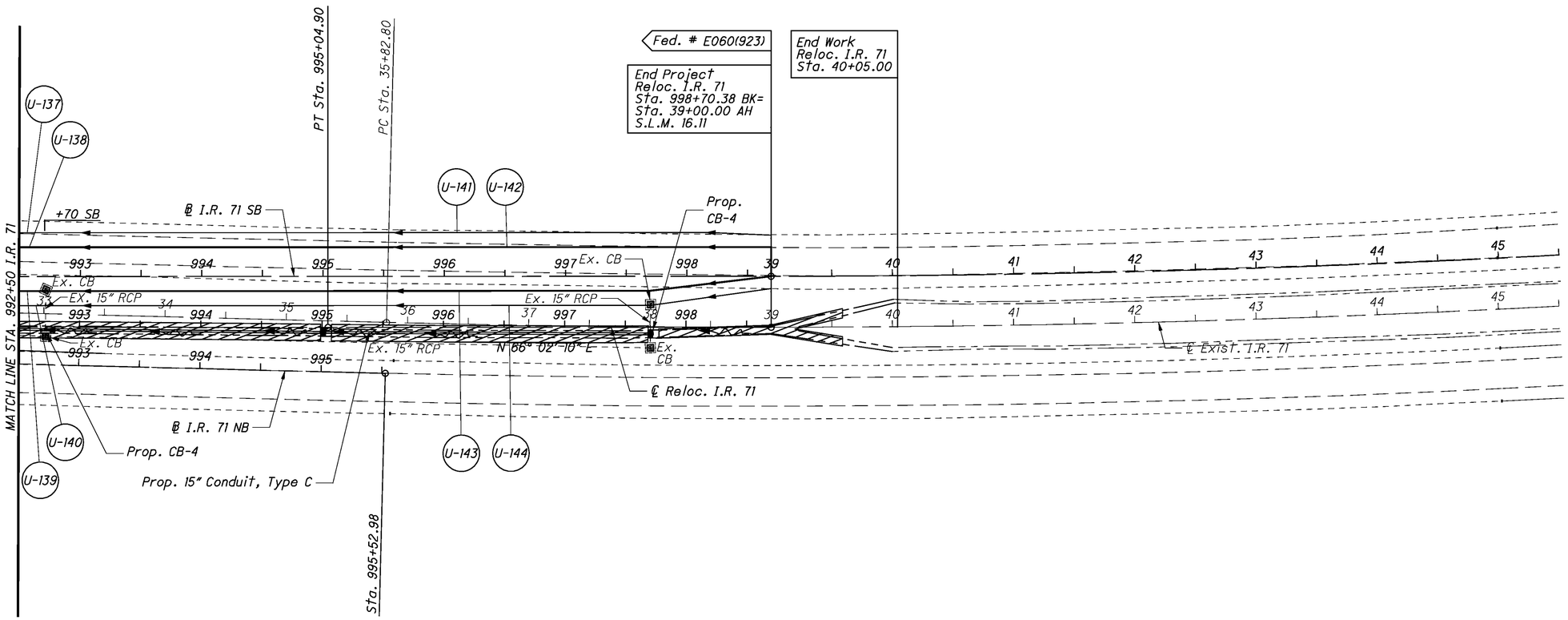
I.R. 71 UNDERDRAIN DETAIL SHEET
STA. 955+00.00 TO STA. 980+00.00

WAR-71-14.20

251
470

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HORIZONTAL SCALE IN FEET
0 25 50 100

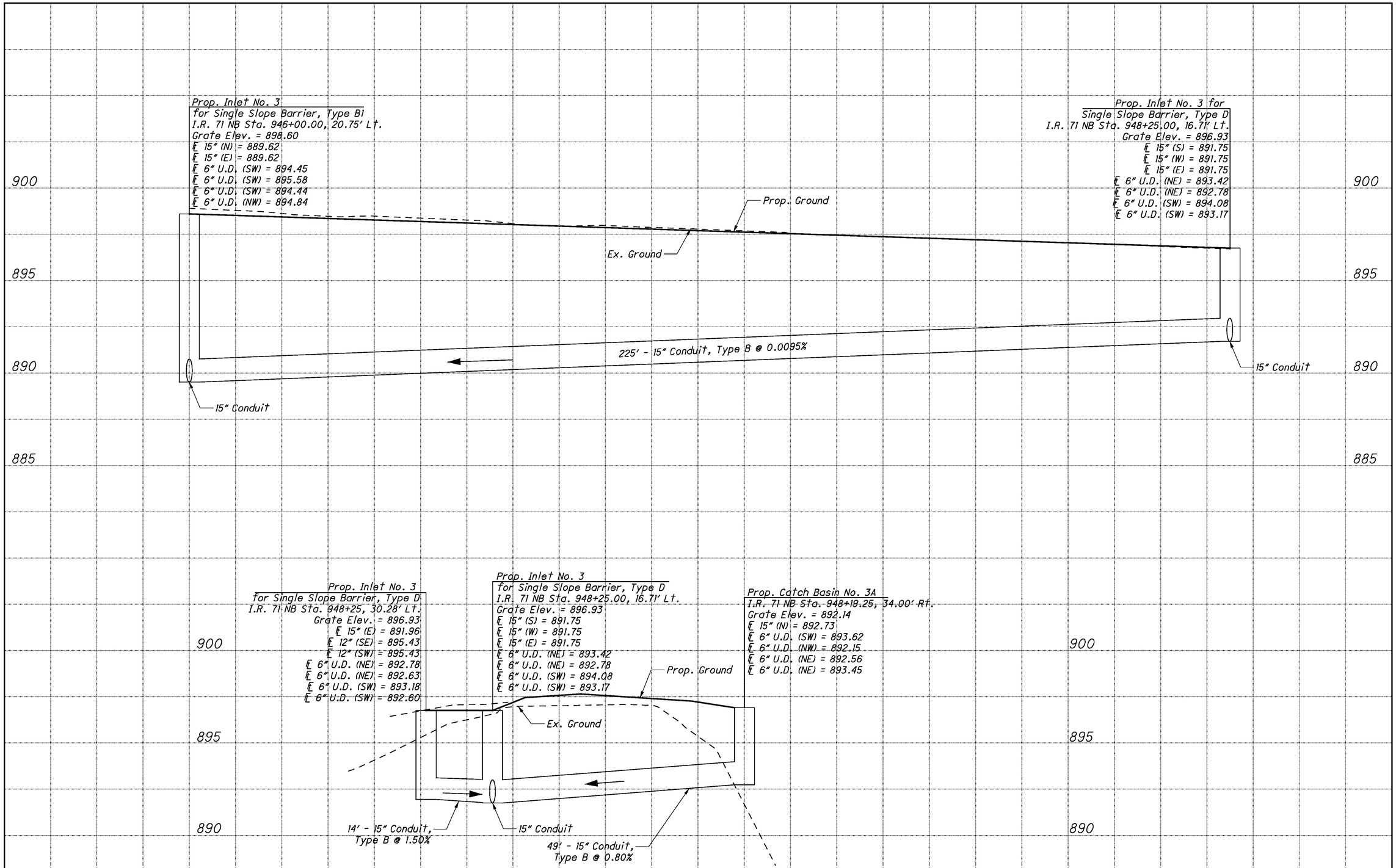
CALCULATED JSU
CHECKED BBD

I.R. 71 UNDERDRAIN DETAIL SHEET
STA. 980+00.00 TO STA. 46+00.00

WAR-71-14.20

252
470

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CALCULATED RAT
CHECKED AKL

STORM SEWER PROFILES
STA. 946+00 TO STA. 948+25

WAR-71-14.20

253
470

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Prop. Inlet No. 3
for Single Slope Barrier, Type D (See Below)
I.R. 71 NB Sta. 971+60.00, 16.71' Lt.
Grate Elev. = 885.73
℄ 15" (N) = 881.35
℄ 15" (W) = 881.35
℄ 15" (E) = 881.35
℄ 12" (S) = 894.23
℄ 6" U.D. (S) = 882.01
℄ 6" U.D. (SW) = 881.82

Prop. Ground

Ex. Ground

90' - 15" Conduit Type B @ 0.96%

15" Conduit
(See Below)

Prop. Inlet No. 3
for Single Slope Barrier, Type D
I.R. 71 NB Sta. 972+50.00, 19.08' Lt.
Grate Elev. = 885.55
℄ 15" (N) = 880.48
℄ 15" (W) = 880.48
℄ 15" (S) = 880.48
℄ 12" (W) = 884.05
℄ 6" U.D. (SW, NE) = 882.53
℄ 6" U.D. (S, E) = 881.74

15" Conduit

122' - 15" Conduit Type B @ 0.50%

Prop. Inlet No. 3
for Single Slope Barrier, Type B1
I.R. 71 NB Sta. 973+72.00, 20.75' Lt.
Grate Elev. = 885.78
℄ 15" (S) = 879.87
℄ 15" (N) = 879.87
℄ 18" (E) = 879.62
℄ 6" U.D. (NE) = 882.69
℄ 6" U.D. (E) = 882.01
℄ 6" U.D. (NE) = 881.76

18" Conduit

328' - 15" Conduit, Type B @ 0.80%

MATCH LINE "A"

Prop. Inlet No. 3
for Single Slope Barrier, Type B1
I.R. 71 NB Sta. 977+00.00, 20.75' Lt.
Cover Elev. = 889.51
℄ 15" (S) = 882.50
℄ 6" U.D. (NW) = 886.19
℄ 6" U.D. (NE) = 886.47
℄ 6" U.D. (NE) = 885.89
℄ 6" U.D. (SE) = 885.80

Prop. Ground

Ex. Ground

328' - 15" Conduit, Type B @ 0.80%

MATCH LINE "A"

Prop. C.B. 3A
I.R. 71 SB Sta. 971+73.25, 34.00' Lt.
Grate Elev. = 885.62
℄ 15" (E) = 881.91
℄ 6" U.D. (SW) = 882.42
℄ 6" U.D. (SW) = 881.72

Prop. Inlet No. 3
for Single Slope Barrier, Type D
I.R. 71 SB Sta. 971+60.00, 16.71' Rt.
Grate Elev. = 885.73
℄ 15" (W) = 881.56
℄ 15" (E) = 881.56
℄ 12" (S) = 894.23
℄ 6" U.D. (W) = 882.01
℄ 6" U.D. (SW) = 881.82

Prop. Inlet No. 3
for Single Slope Barrier, Type D (See Above)
I.R. 71 NB Sta. 971+60.00, 16.71' Lt.
Grate Elev. = 885.73
℄ 15" (N) = 881.35
℄ 15" (W) = 881.35
℄ 15" (E) = 881.35
℄ 6" U.D. (S) = 882.01
℄ 6" U.D. (SW) = 881.82

Prop. C.B. No. 3A
I.R. 71 NB Sta. 971+73.25, 34.00' Rt.
Grate Elev. = 885.62
℄ 15" (W) = 881.84
℄ 6" U.D. (SW) = 882.42
℄ 6" U.D. (W) = 881.73

Prop. Ground

Ex. Ground

52' - 15" Conduit, Type B @ 0.67%

52' - 15" Conduit, Type B @ 0.95%

14' - 15" Conduit,
Type B @ 1.52%

15" Conduit (See Above)

890
885
880

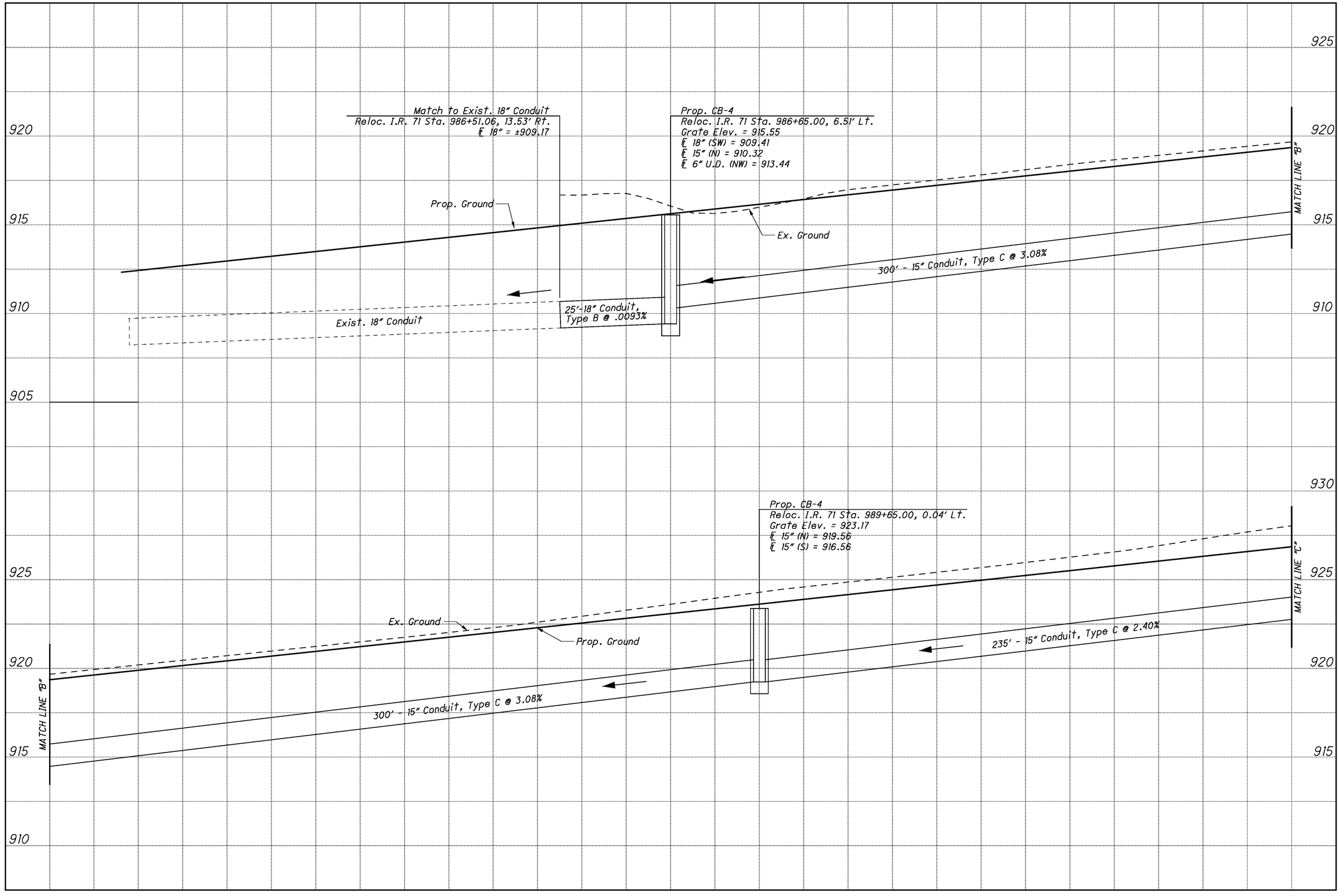
CALCULATED RAT
CHECKED AKL

STORM SEWER PROFILE
STA. 971+60 TO STA. 977+00

WAR-71-14.20

254
470

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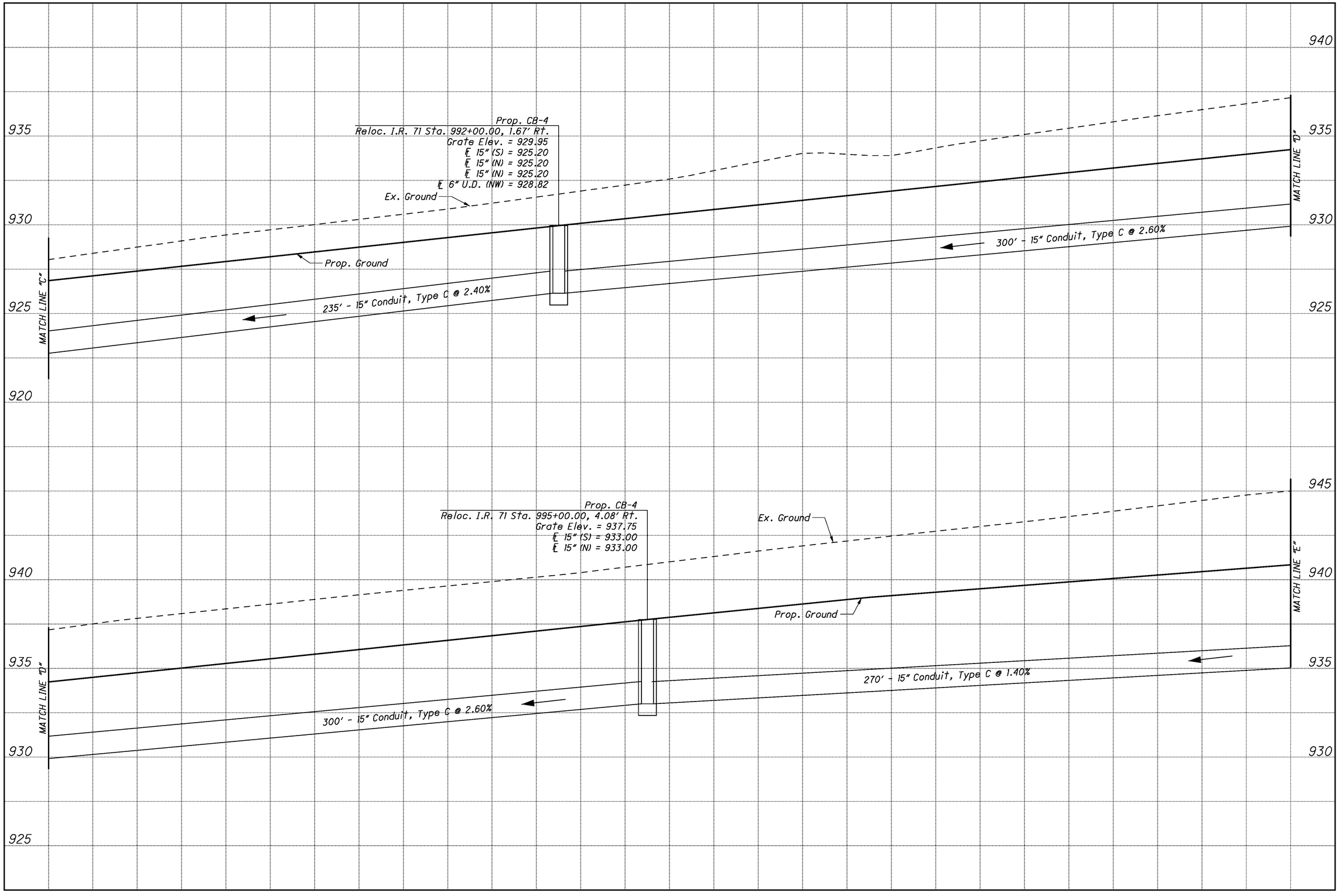
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CALCULATED AAB
CHECKED RWK

STORM SEWER PROFILE
STA. 997+71 TO STA. 986+51

WAR-71-14.20

255
470



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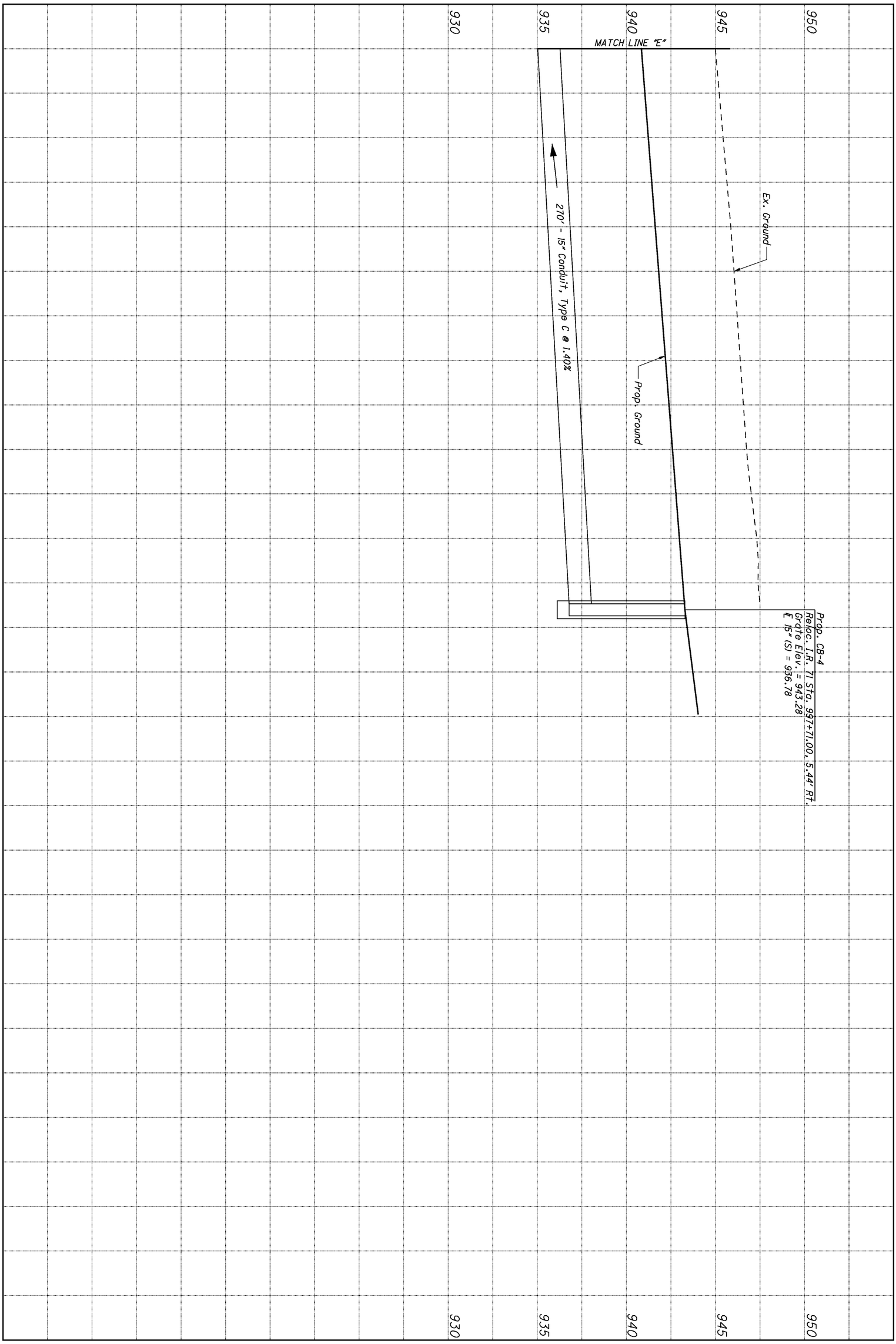
CALCULATED AAB
CHECKED RWK

STORM SEWER PROFILE
STA. 997+71 TO STA. 986+51

WAR-71-14.20

256
470

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257 / 470	**WAR-71-14.20**	**STORM SEWER PROFILE** **STA. 997+71 TO STA. 986+51**	CALCULATED AAB CHECKED RWK

SHEET NUMBER																				ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
	258A		258B																						
																								TRAFFIC CONTROL	
	169																			621	00100	169	EACH	RPM	
	206																			621	54000	206	EACH	RAISED PAVEMENT MARKER REMOVED	
			22																	625	32000	22	EACH	GROUND ROD	
			468																	630	03100	468	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
			222.6																	630	06500	222.6	FT	GROUND MOUNTED SUPPORT, W6X9 BEAM	
			180.1																	630	07000	180.1	FT	GROUND MOUNTED SUPPORT, W8X18 BEAM	
			52.2																	630	07500	52.2	FT	GROUND MOUNTED SUPPORT, W10X22 BEAM	
			4																	630	08600	4	EACH	SIGN POST REFLECTOR	
			22																	630	09000	22	EACH	BREAKAWAY BEAM CONNECTION	
			245.0																	630	80100	245.0	SQ FT	SIGN, FLAT SHEET	
			674																	630	80200	674	SQ FT	SIGN, GROUND MOUNTED EXTRUSHEET	
			22																	630	84500	22	EACH	GROUND MOUNTED BEAM SUPPORT FOUNDATION	
			28																	630	84900	28	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
			14																	630	85400	14	EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	
			33																	630	86002	33	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
			20																	630	86102	20	EACH	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL	
	8.35																			644	00100	8.35	MILE	EDGE LINE	
	3.18																			644	00200	3.18	MILE	LANE LINE	
	1629.0																			644	00400	1629.0	FT	CHANNELIZING LINE	
	1.75																			645	90000	1.75	MILE	PAVEMENT MARKINGS, MISC.: INLAID EDGE LINE	*TCGN
	0.87																			645	90000	0.87	MILE	PAVEMENT MARKINGS, MISC.: INLAID LANE LINE	*TCGN
																								*SEE TRAFFIC CONTROL GENERAL NOTES	

CALCULATED: MSW

CHECKED: SAK

GENERAL SUMMARY - TRAFFIC CONTROL

WAR-71-14.20

REF NO.	SHEET NO.	LOCATION		SIDE		202	621	621	621	644	644		644		644			645	645				
					DISTANCE D	RAISED PAVEMENT MARKER REMOVED	RAISED PAVEMENT MARKER, 2-WAY, YELLOW/RED	RAISED PAVEMENT MARKER, 1-WAY, WHITE	RAISED PAVEMENT MARKER, 2-WAY, WHITE/RED	EDGE LINE (WHITE)	EDGE LINE (YELLOW)		LANE LINE (WHITE)		CHANNELIZING LINE (WHITE)			PAVEMENT MARKINGS, MISC.: INLAID LANE LINE	PAVEMENT MARKINGS, MISC.: INLAID EDGE LINE				
		I-71			FEET	EACH	EACH	EACH	EACH	MILE	MILE		MILE		FT			MILE	MILE				
		FROM	TO																				
W-2	258-259	898+00.00	914+91.00	RT	1691.0					0.32													
L-2	258-265	898+00.00	985+73.00	RT	6468.0	73		54					1.66					0.44					
Y-2	258-265	898+00.00	985+73.00	RT	6468.0						1.66								0.44				
W-1	258-259	900+00.00	912+44.00	LT	1244.0					0.67													
L-1	258-266	900+00.00	998+71.00	LT	7566.0	82		64					1.43					0.44					
Y-1	258-266	900+00.00	998+71.00	LT	7566.0						1.87								0.44				
Y-3	258-259	903+15.00	906+46.00	RT	331.0	6	6				0.06												
W-3	258-265	903+15.00	985+73.00	RT	8258.0					2.00									0.44				
C-1	259	906+46.00	914+91.00	RT	845.0	23			23						845.0								
Y-1	259	909+00.00	912+44.00	LT	344.0						0.07												
C-2	259	912+44.00	916+36.00	LT	392.0	11			11						392.0								
C-3	259	912+44.00	916+36.00	LT	392.0	11			11						392.0								
W-4	259-266	909+00.00	998+71.00	LT	6666.0					1.70									0.44				
L-4	259-260	916+36.00	917+94.00	LT	158.0								0.03										
L-3	259-260	914+91.00	917+78.00	RT	287.0								0.05										
SUBTOTALS						206	6	118	45	4.69	3.66		3.18		1629.0			0.87	1.75				
TOTALS CARRIED TO GENERAL SUMMARY						**206**		**169**		**8.35**			**3.18**		**1629.0**			**0.87**	**1.75**				

DESIGNED MSW

CHECKED SAK

TRAFFIC CONTROL - PAVEMENT MARKINGS SUB SUMMARY

WAR - 71 - 14.20

258A
470

REF NO.	SHEET NO.	LOCATION	SIDE	CODE	SIZE	630 GROUND MOUNTED SUPPORT, NO. 3 POST	630 SIGN, FLAT SHEET	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	630 SIGN POST REFLECTOR	630 SIGN, GROUND MOUNTED EXTRUSHEET		630 REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	630 REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL	630 GROUND MOUNTED BEAM SUPPORT FOUNDATION	630 BREAKAWAY BEAM CONNECTION	625 GROUND ROD		630 GROUND MOUNTED SUPPORT, W6X9 BEAM	630 GROUND MOUNTED SUPPORT, W8X18 BEAM	630 GROUND MOUNTED SUPPORT, W10X22 BEAM
					INCHES	FT	SQ FT	EACH	EACH	EACH	SQ FT		EACH	EACH	EACH	EACH	EACH		FEET	FEET	FEET
		I-71																			
S-1	258	896+90.00	LT	R16-H1	36 X 48	14,14	12.0	1	2												
S-1	258	896+90.00	LT	D12-H13	48 X 30		10.0	1													
S-2	258	896+75.00	LT	D10-2	12 X 36	14	3.0	1	1												
S-3	258	897+15.00	LT	W4-1R	48 X 48	14,14	16.0	1	2												
S-4	258	896+13.00	RT	D10-2	12 X 36	14	3.0	1	1												
S-5	258	903+50.00	RT	D12-H13	48 X 30	14,14	10.0	1	2												
S-6	258	904+70.00	RT	W4-1R	48 X 48	14,14	16.0	1	2												
S-7	258	904+85.00	RT	R16-H1	36 X 48	14,14	22.0	1	2												
S-12	259	906+45.00	LT	E1-H1	132 X 144						132		2	2	2	2	2				25.8, 26.4
S-12	259	906+45.00	LT	E1-H5	84 X 24	10					14										
S-13	259	911+25.00	LT	D5-H6	72 X 72						36		1	2	2	2	2		17.8, 17.9		
S-14	259	906+50.00	RT	R8-7	48 X 36	14,14	12.0	1	2												
S-15	260	920+45.00	LT	D5-H8	144 X 96						96		3	2	2	2	2			23.9, 25.2	
S-15	260	920+45.00	LT	D5-H14	120 X 24	13	20.0														
S-16	260	922+30.00	LT	R8-7	48 X 36	14,14	12.0	1	2												
S-18	260	922+85.00	RT	R8-7	48 X 36	14,14	12.0	1	2												
S-19	260-261	931+00.00	RT	M1-1	36 X 36	14,14	9.0	2	2												
S-19	261	931+00.00	RT	M3-1	36 X 18		4.5														
S-21	261	935+18.00	LT	R3-4	36 X 36			2	1												
S-22	261	936+00.00	RT	W8-14	48 X 48	14,14	16.0	1	2												
S-23	261	935+89.00	LT	R3-4	36 X 36			2	1												
S-24	261	941+00.00	RT	R2-H2B	48 X 96						32		1	2	2	2	2		20.2, 20.5		
S-25	262	947+90.00	LT	D10-2	12 X 36	14	3.0														
S-26	262	947+95.00	RT	I-3	144 X 72						72		1	2	2	2	2			21.9, 25.8	
S-20	262	948+36.00	RT	E8-H5	72 X 72						36				2	2	2		18.5, 18.5		
S-27	262	948+90.00	RT	OM-3L	12 X 36			1	1												
S-28	264	971+22.00	LT	OM-3R	12 X 36			1	1												
S-29	264	971+22.00	LT	OM-3L	12 X 36			1	1												
S-31	264	971+80.00	LT	I-3	144 X 72						72		1	2	2	2	2			20.4, 21.0	
S-30	264	971+49.00	LT	E8-H5	72 X 72						36				2	2	2		18.3, 18.3		
S-32	264	978+75.00	RT	E1-H1	204 X 72						102		2	2	2	2	2			20.2, 21.7	
S-32	264	978+75.00	RT	E1-H5	84 X 24	10					14										
S-33	264	977+00.00	LT	D5-H7	156 X 48								1	2	2	2	2		16.1, 16.4		
S-34	265	982+50.00	LT	W8-13	48 X 48	14,14	16.0	1	2												
S-35	265	987+05.00	LT	R2-H2b	48 X 96						32		1	2	2	2	2		20.0, 20.1		
S-36	265	986+14.00	LT/RT	R3-4	36 X 36			2	1												
S-38	265	986+83.00	LT/RT	R3-4	36 X 36			2	1												
S-37	265	991+15.00	LT/RT	R3-4	36 X 36	14,14	9.0			2											
S-37	265	991+15.00	LT/RT	R3-H4a	36 X 36		9.0														
S-39	265	988+70.00	RT	GSC-120									1	2							
S-40	265	991+85.00	LT/RT	R3-4	36 X 36	14,14	9.0			2											
S-40	265	991+85.00	LT/RT	R3-H4a	36 X 36		9.0														
S-41	262	947+70.00	RT	D10-2	12 X 36	14	3.0	1	1												
S-42	262	948+90.00	RT	OM-3R	12 X 36			1	1												
S10	266	998+80.00	RT	D9-3a	36 X 36	15	9.0														
S8,9,11		NOT USED																			
S17		NOT USED																			
		SUBTOTALS				468	245.0	28	33	4	674		14	20	22	22	22		222.6	180.1	52.2
TOTALS CARRIED TO GENERAL SUMMARY						**468**	**245.0**	**28**	**33**	**4**	**674**		**14**	**20**	**22**	**22**	**22**		**222.6**	**180.1**	**52.2**

CALCULATE MSW
CHECKED KRM

TRAFFIC CONTROL - SIGNING SUB SUMMARY

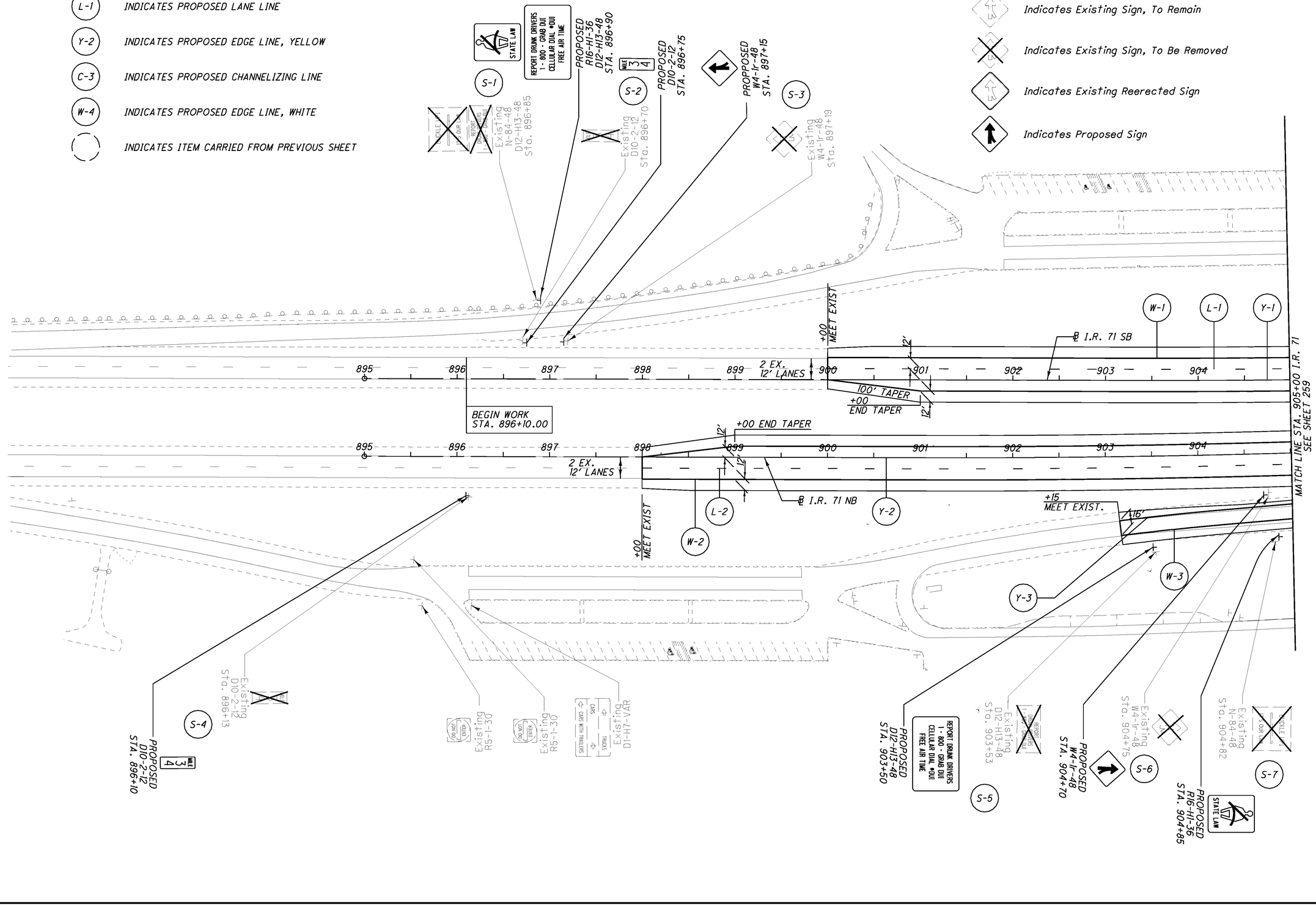
WAR - 71 - 14.20

STRIPING LEGEND

- L-1 — INDICATES PROPOSED LANE LINE
- Y-2 — INDICATES PROPOSED EDGE LINE, YELLOW
- C-3 — INDICATES PROPOSED CHANNELIZING LINE
- W-4 — INDICATES PROPOSED EDGE LINE, WHITE
- ( ) — INDICATES ITEM CARRIED FROM PREVIOUS SHEET

SIGNING LEGEND

- Indicates Existing Sign, To Remain
- Indicates Existing Sign, To Be Removed
- Indicates Existing Reerected Sign
- Indicates Proposed Sign



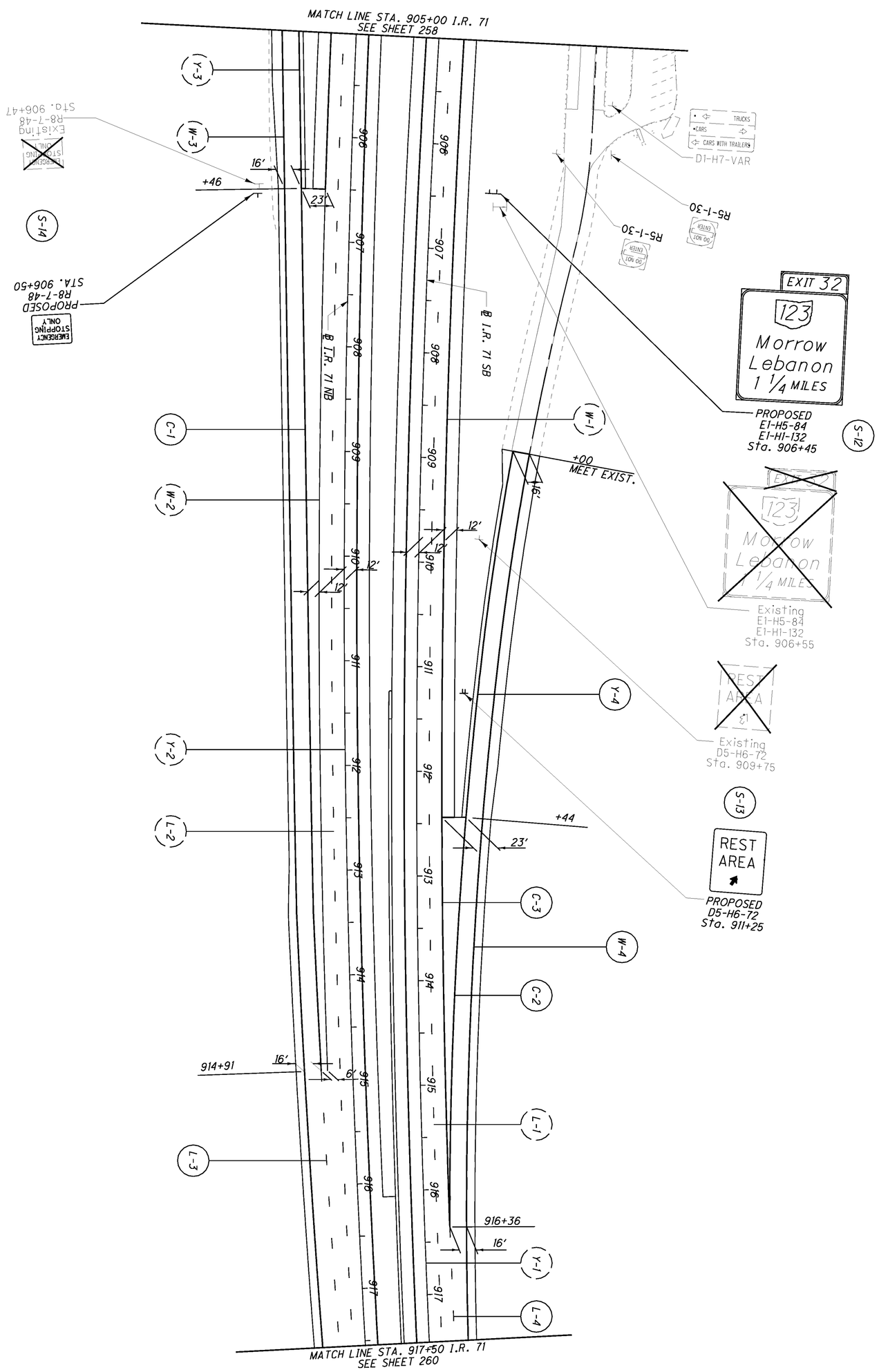
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED GWA
CHECKED LAS

SIGNING AND PAVEMENT MARKING PLAN - I.R. 71
STA. 892+50.00 TO STA. 905+00.00

WAR-71-14.20

258C
470



FOR SIGNING AND STRIPING LEGENDS SEE SHEET 258C.

259
470

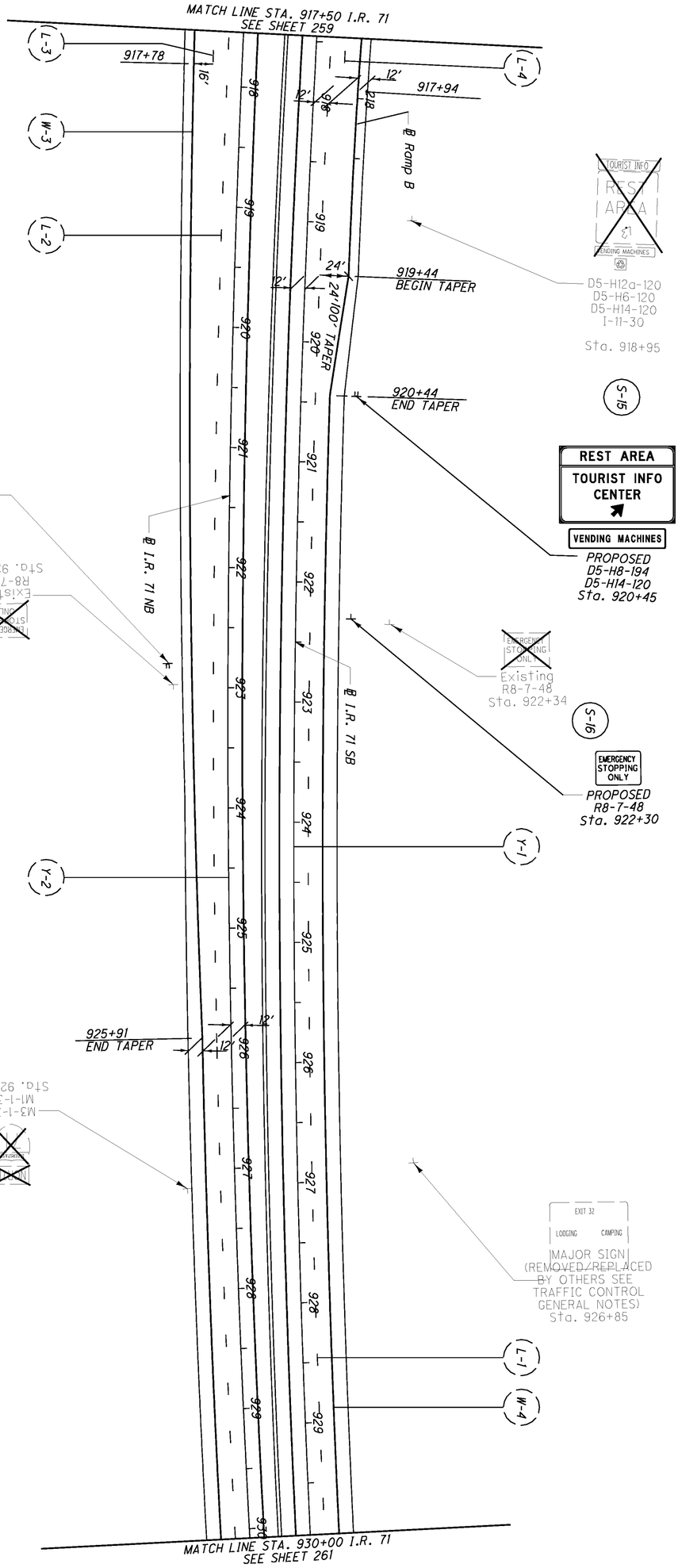
WAR-71-14.20

SIGNING AND PAVEMENT MARKING PLAN - I.R. 71
STA. 905+00.00 TO STA. 917+50.00

CALCULATED GWA
CHECKED LAS

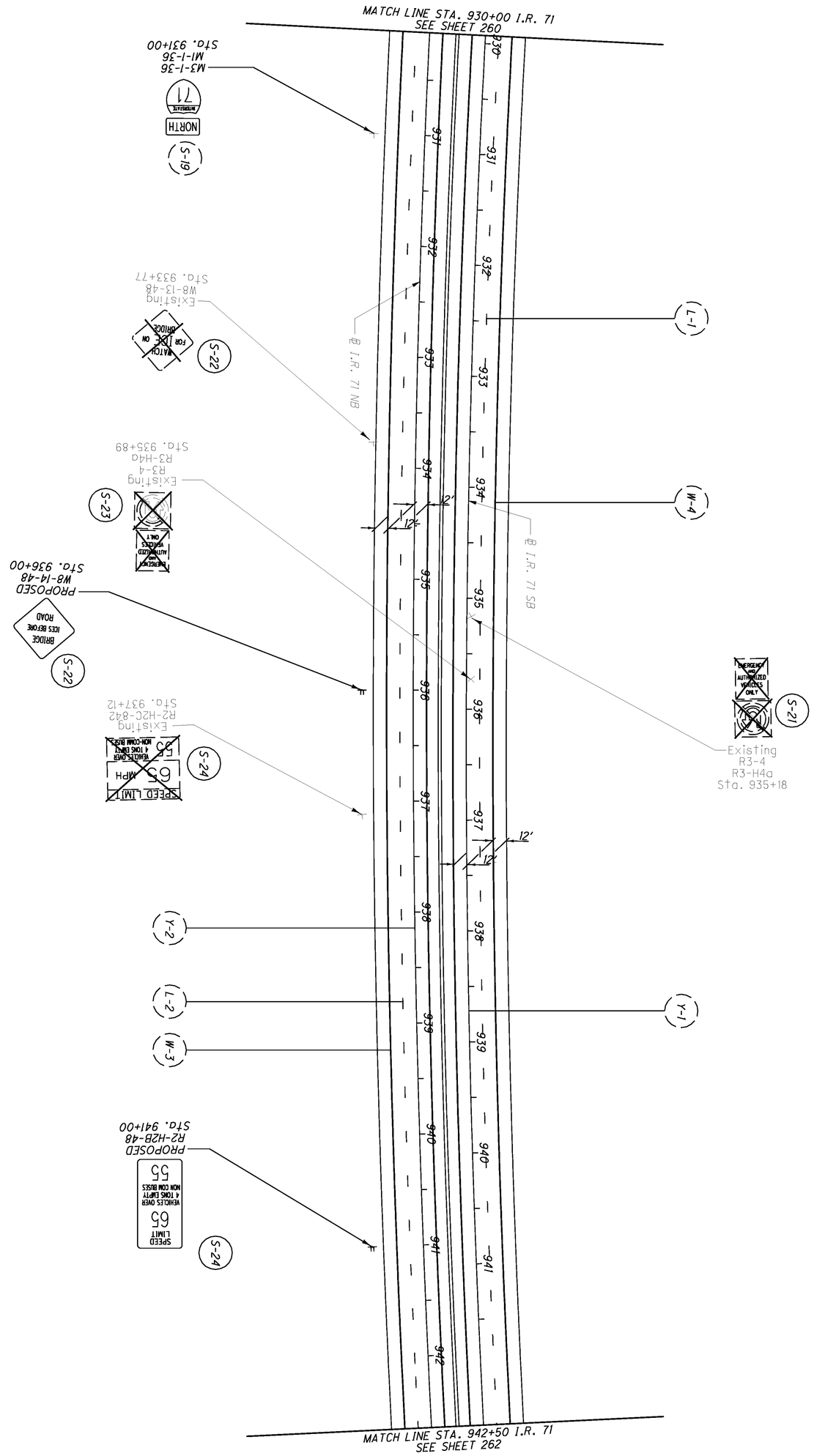
0 50
25 100
HORIZONTAL SCALE IN FEET

N



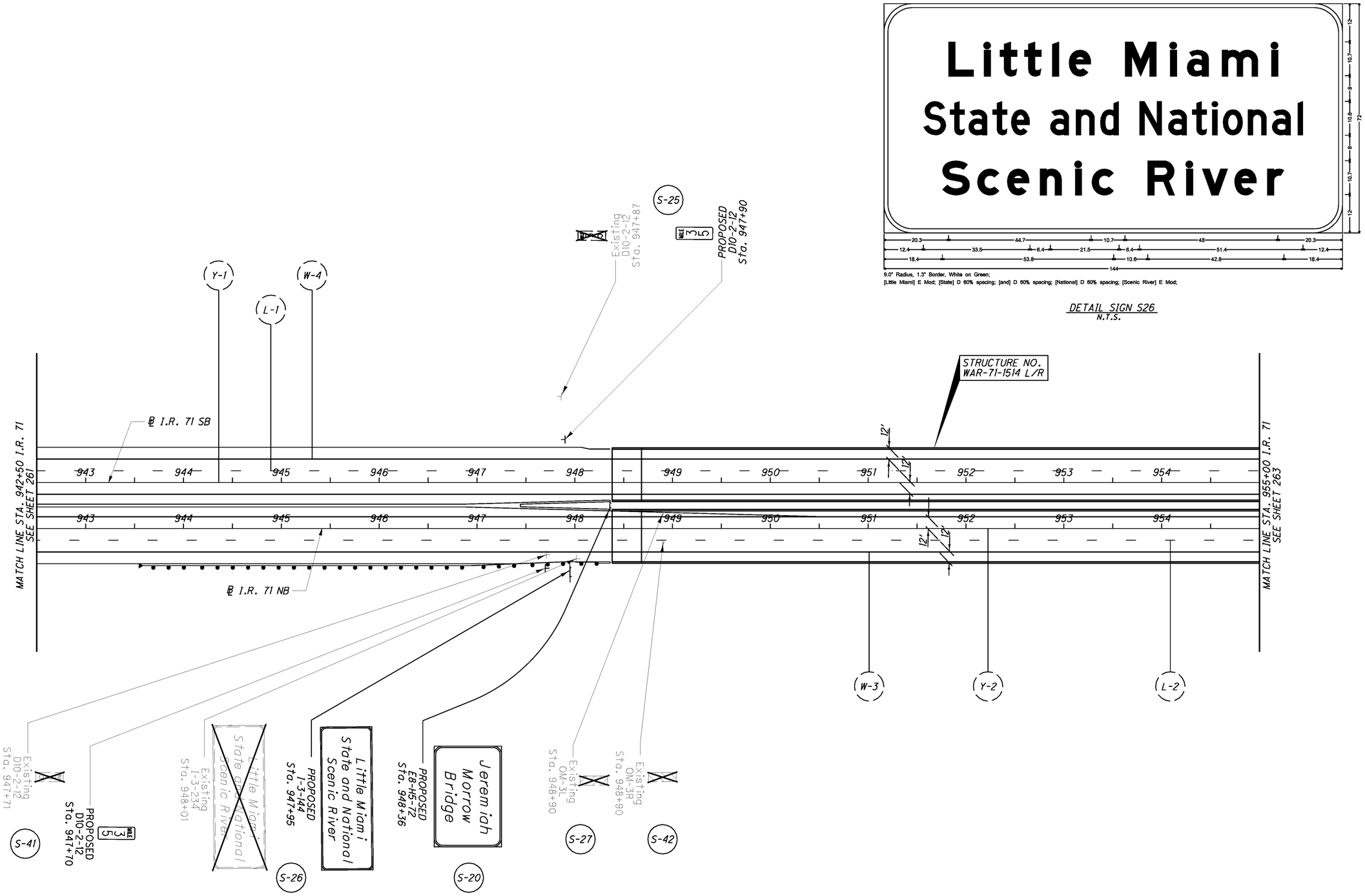
FOR SIGNING AND STRIPING LEGENDS SEE SHEET 258C.

260 / 470	WAR-71-14.20	SIGNING AND PAVEMENT MARKING PLAN - I.R. 71 STA. 917+50.00 TO STA. 930+00.00	CALCULATED GWA CHECKED LAS	0 50 25 100 HORIZONTAL SCALE IN FEET



FOR SIGNING AND STRIPING LEGENDS SEE SHEET 258C.

261 / 470	WAR-71-14.20	SIGNING AND PAVEMENT MARKING PLAN - I.R. 71 STA. 930+00.00 TO STA. 942+50.00	CALCULATED GWA CHECKED LAS	0 50 / 25 100 HORIZONTAL SCALE IN FEET	N



FOR SIGNING AND STRIPING LEGENDS SEE SHEET 258C.

N

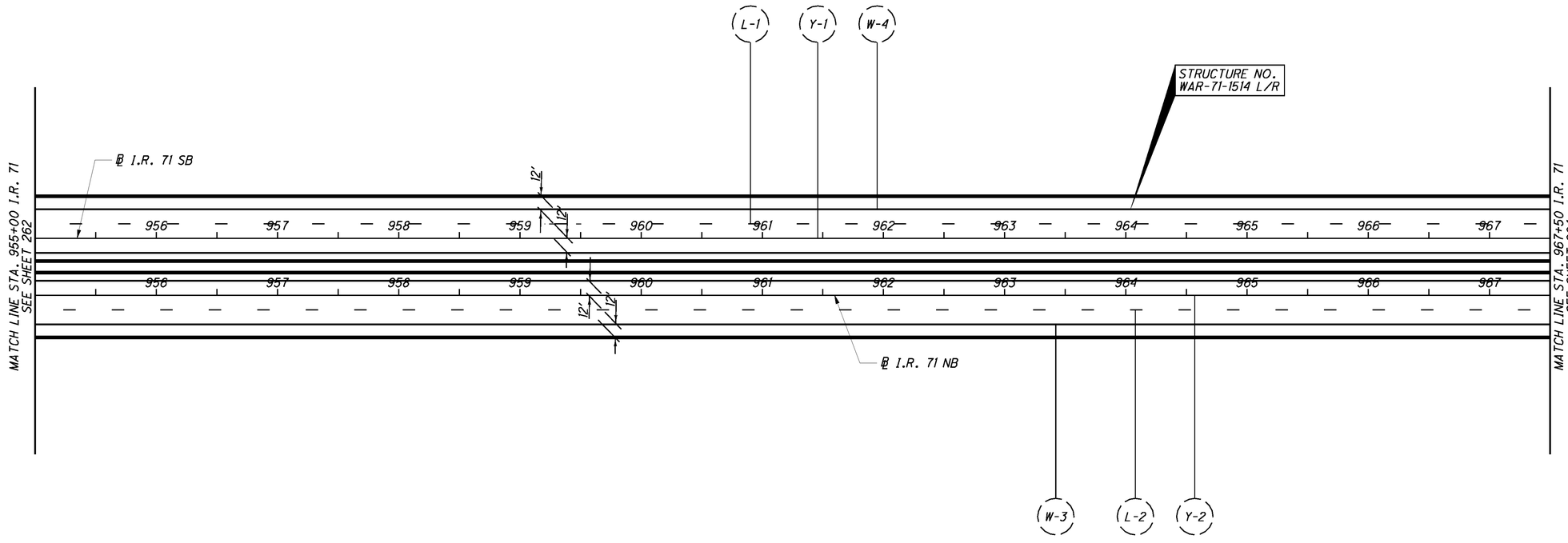
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED GWA
CHECKED LAS

SIGNING AND PAVEMENT MARKING PLAN - I.R. 71
STA. 942+50.00 TO STA. 955+00.00

WAR-71-14.20

262
470



FOR SIGNING AND STRIPING LEGENDS SEE SHEET 258C.

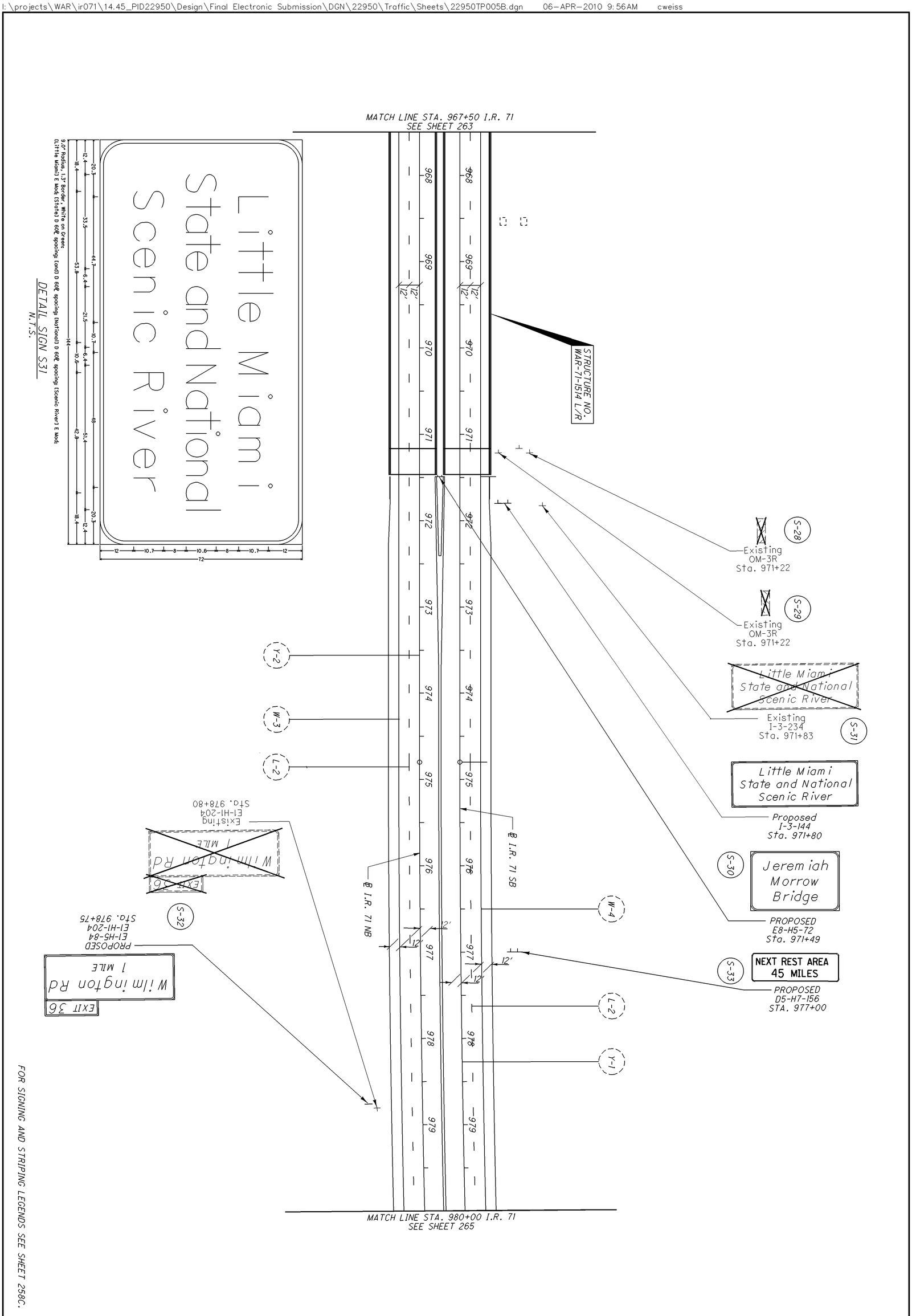
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SIGNING AND PAVEMENT MARKING PLAN - I.R. 71
STA. 955+00.00 TO STA. 967+50.00

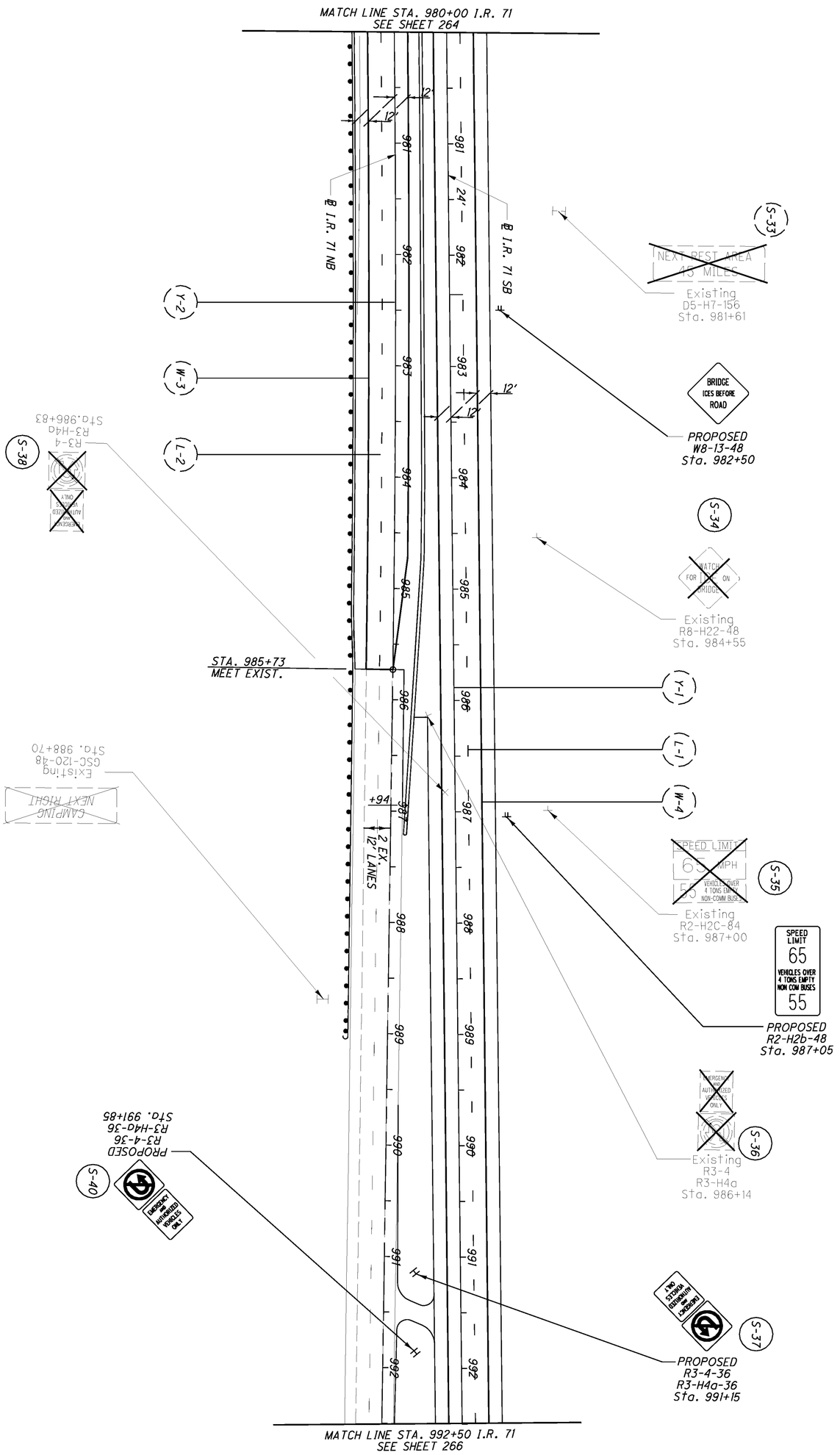
WAR-71-14.20

263
470



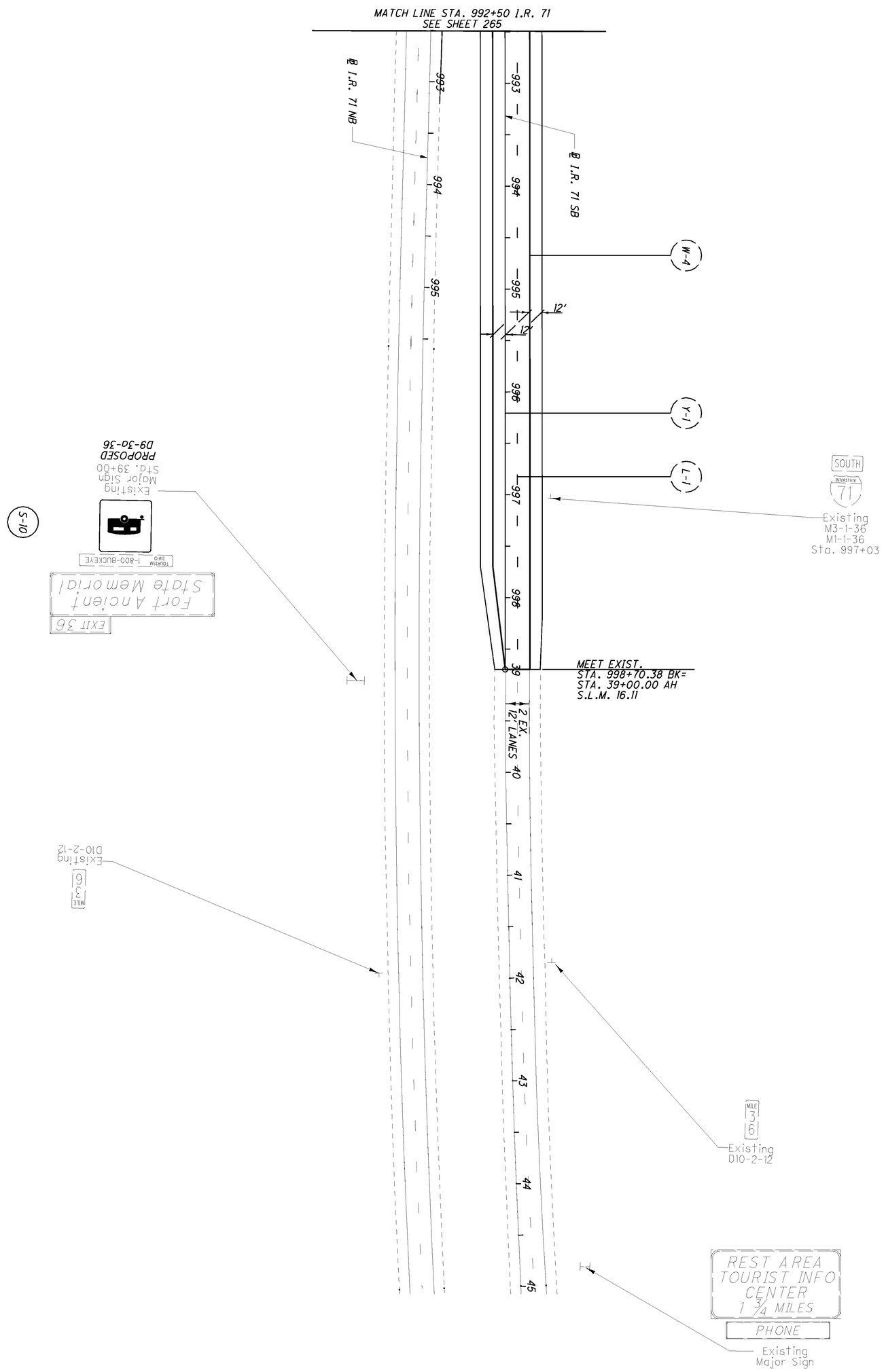
FOR SIGNING AND STRIPING LEGENDS SEE SHEET 258C.

264 / 470	WAR-71-14.20	SIGNING AND PAVEMENT MARKING PLAN - I.R. 71 STA. 967+50.00 TO STA. 980+00.00	CALCULATED GWA CHECKED LAS	0 50 25 100 HORIZONTAL SCALE IN FEET



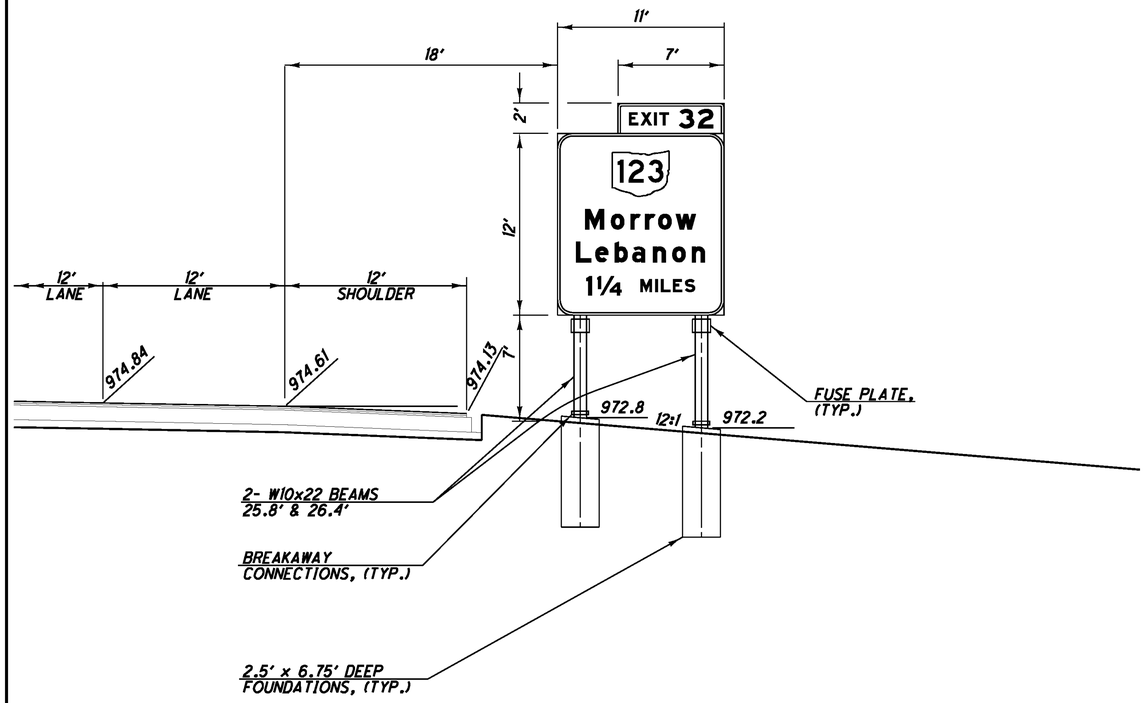
FOR SIGNING AND STRIPING LEGENDS SEE SHEET 258C.

265 / 470	WAR-71-14.20	SIGNING AND PAVEMENT MARKING PLAN - I.R. 71 STA. 980+00.00 TO STA. 992+50.00	CALCULATED GWA CHECKED LAS	0 50 25 100 HORIZONTAL SCALE IN FEET



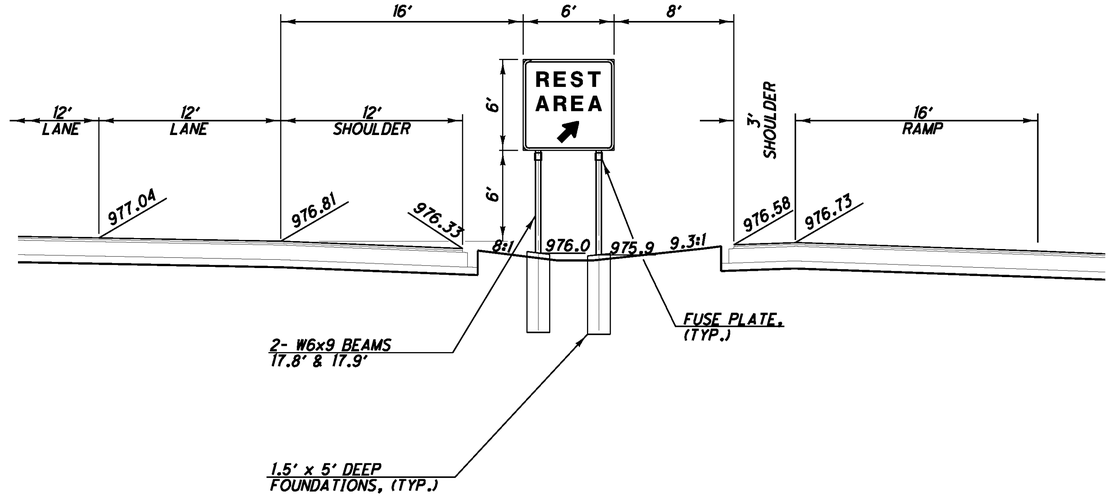
FOR SIGNING AND STRIPING LEGENDS SEE SHEET 258C.

266 / 470	WAR-71-14.20	SIGNING AND PAVEMENT MARKING PLAN - I.R. 71 STA. 992+50.00 TO STA. 45+00.00	CALCULATED GWA CHECKED LAS	0 50 25 100 HORIZONTAL SCALE IN FEET	N



ROADSIDE SIGN SUPPORT S-12

STA. 906+45, S.B. I-71
LEVEL 1, W10x22



ROADSIDE SIGN SUPPORT S-13

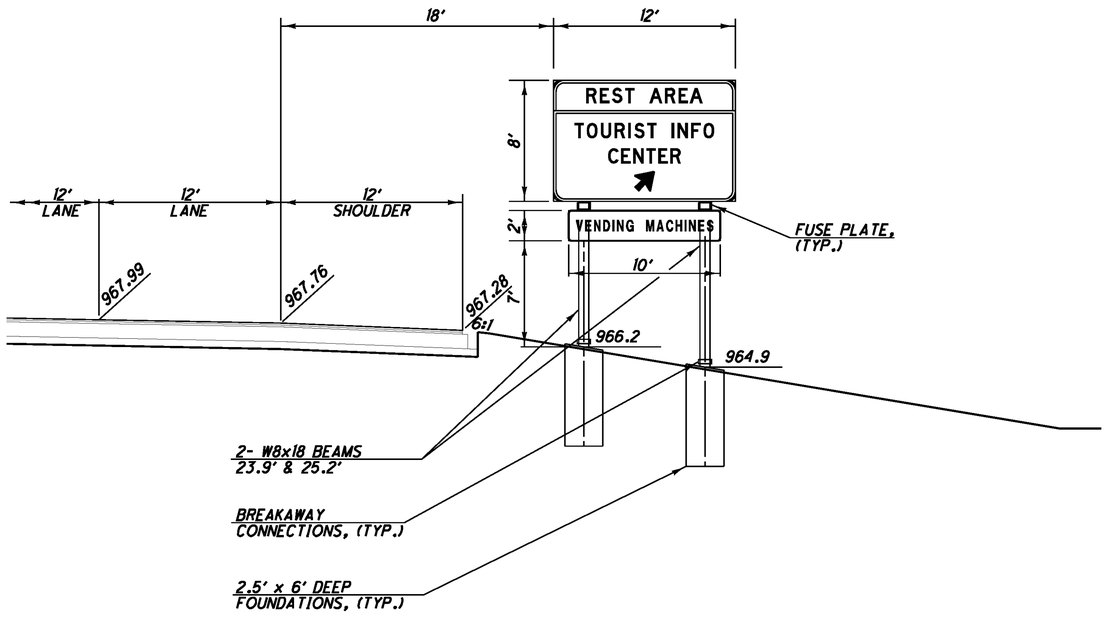
STA. 911+25, S.B. I-71
D5-H6-72
LEVEL 3, W6x9

CALCULATED GWA
CHECKED MSW

SIGN ELEVATIONS I-71
S-12 STA. 906+45 AND S-13 STA. 911+25

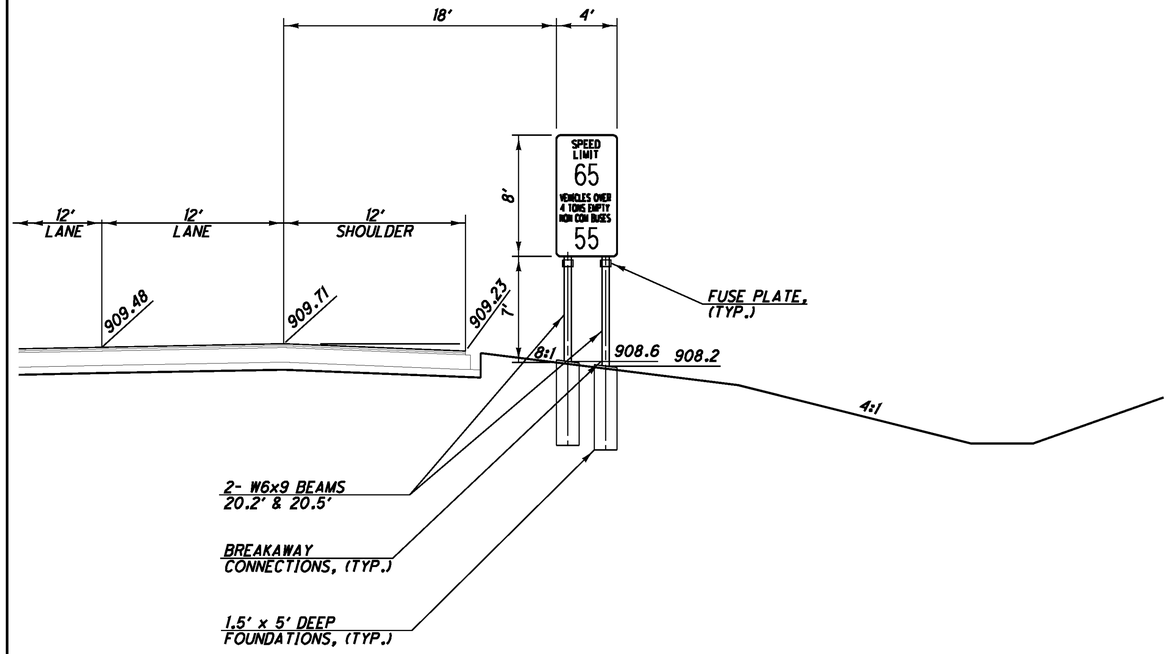
WAR-71-14.20

266A
470



ROADSIDE SIGN SUPPORT S-15

STA. 920+45, S.B. I-71
LEVEL 2, W8x18



ROADSIDE SIGN SUPPORT S-24

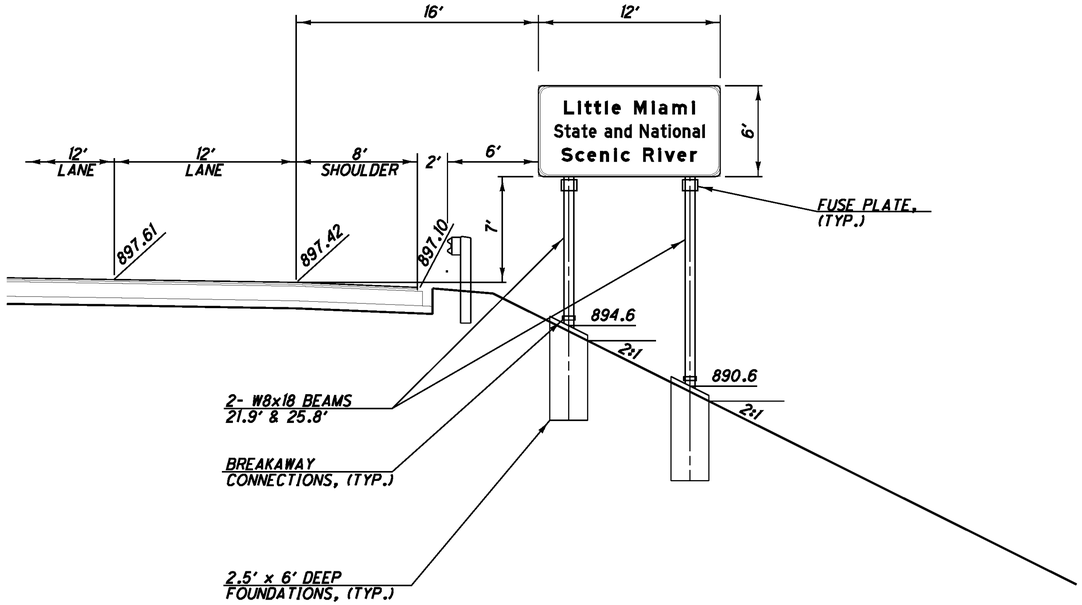
STA. 941+00, N.B. I-71
LEVEL 2, W6x9

CALCULATED GWA
CHECKED MSW

SIGN ELEVATIONS I-71
S-15 STA. 920+45 AND S-24 STA. 941+00

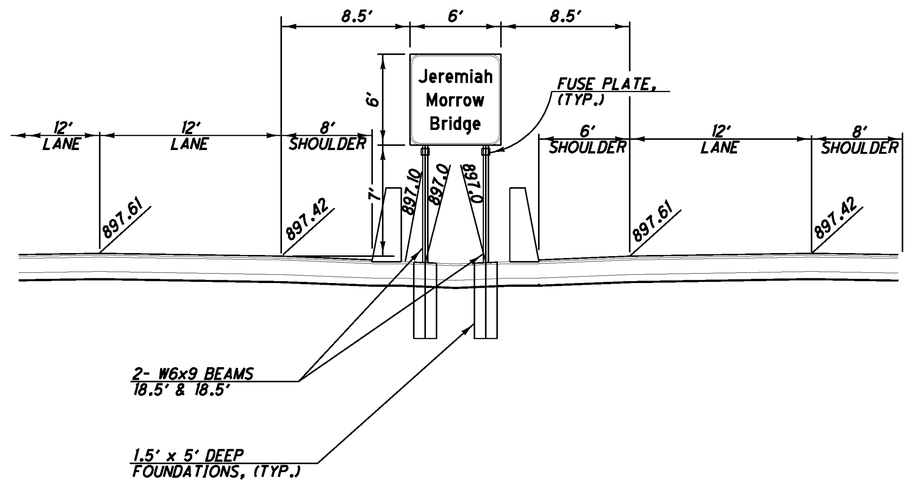
WAR-71-14.20

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ROADSIDE SIGN SUPPORT S-26

STA. 947+95, N.B. I-71
LEVEL 2, W8x18



ROADSIDE SIGN SUPPORT S-20

STA. 948+36, N.B. I-71
LEVEL 2, W6x9

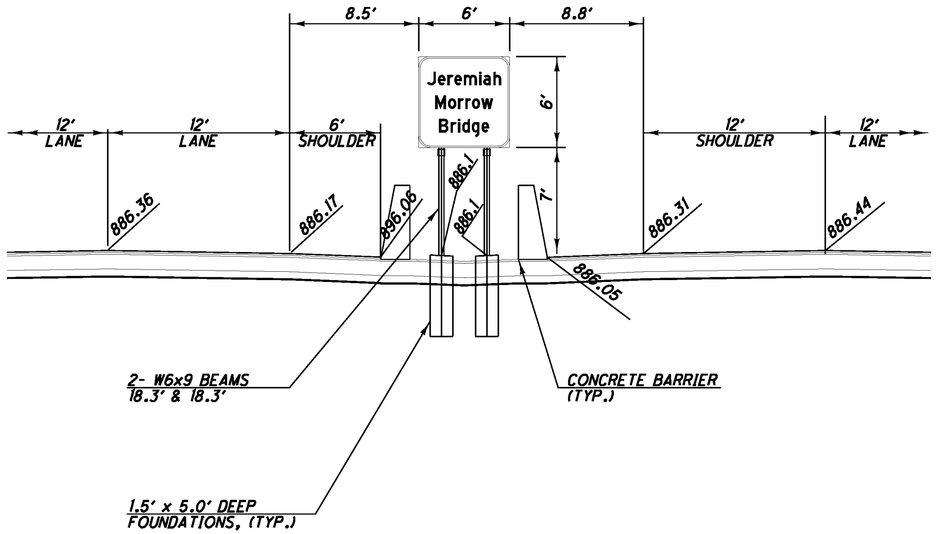
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CHECKED MSW

SIGN ELEVATIONS I-71
STA. 947+95 AND S-20 STA. 948+36

S-26 STA

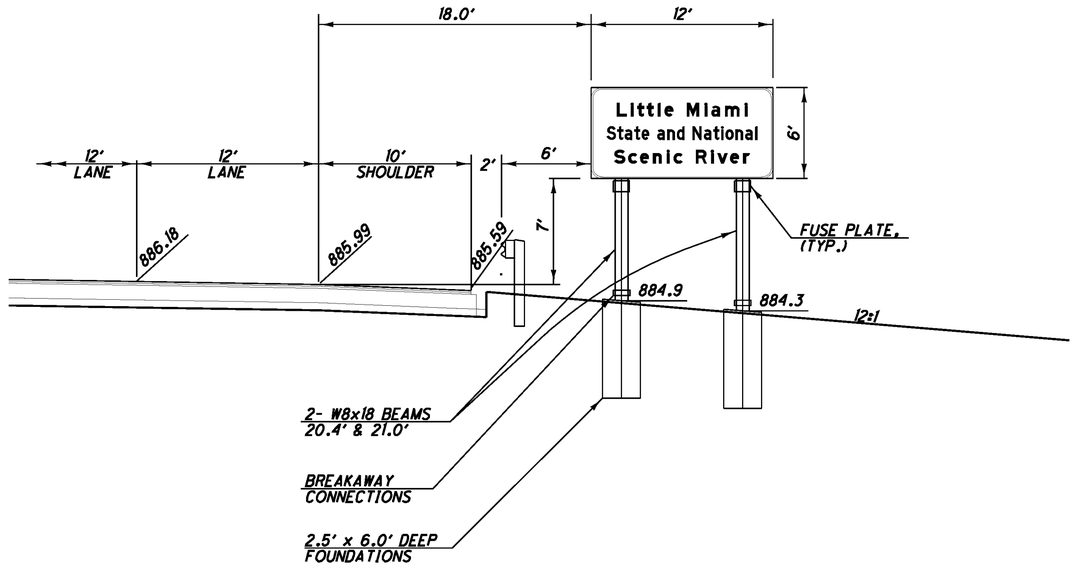
WAR-71-14.20

266C
470



ROADSIDE SIGN SUPPORT S-30

STA. 971+49, S.B. I-71
LEVEL 2, W6x9



ROADSIDE SIGN SUPPORT S-31

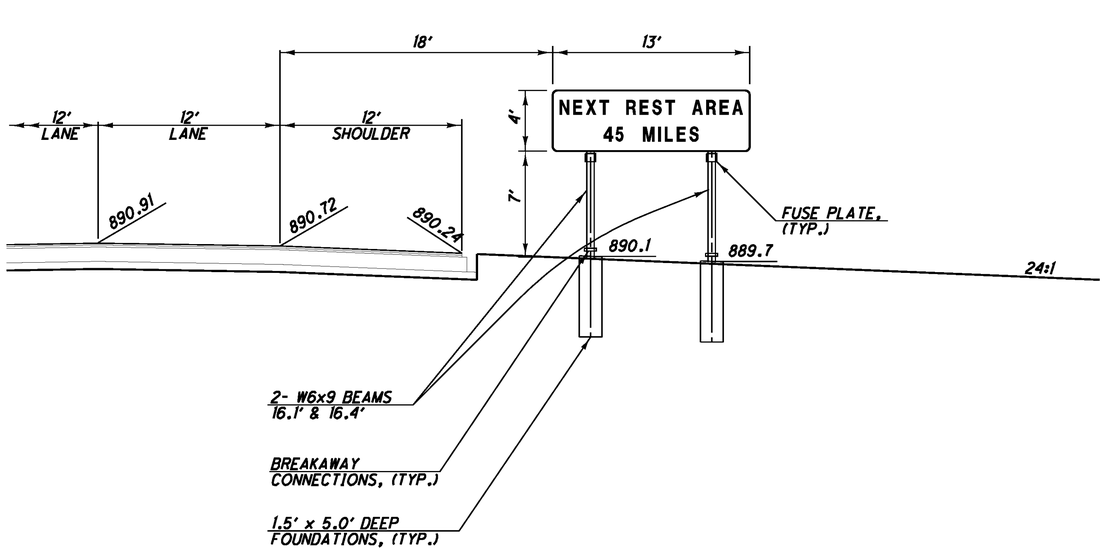
STA. 971+80, S.B. I-71
LEVEL 2, W8x18

CALCULATED GWA
CHECKED MSW

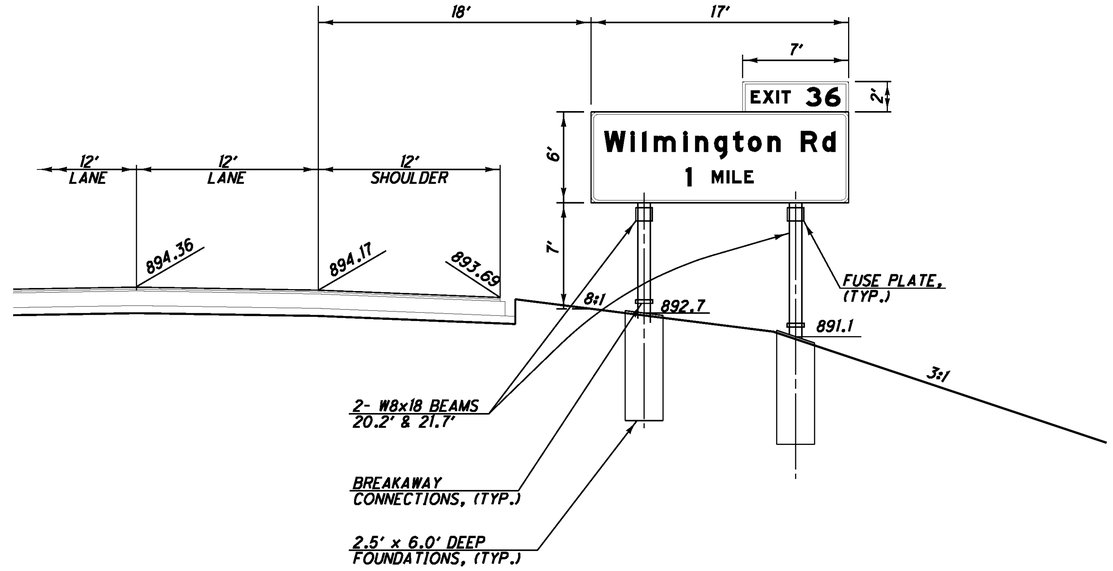
SIGN ELEVATIONS I-71
S-30 STA. 971+49 AND S-31 STA. 971+80

WAR-71-14.20

266D
470



ROADSIDE SIGN SUPPORT S-33
STA. 977+00, S.B. I-71
D5-H7-156
LEVEL 2, W6x9



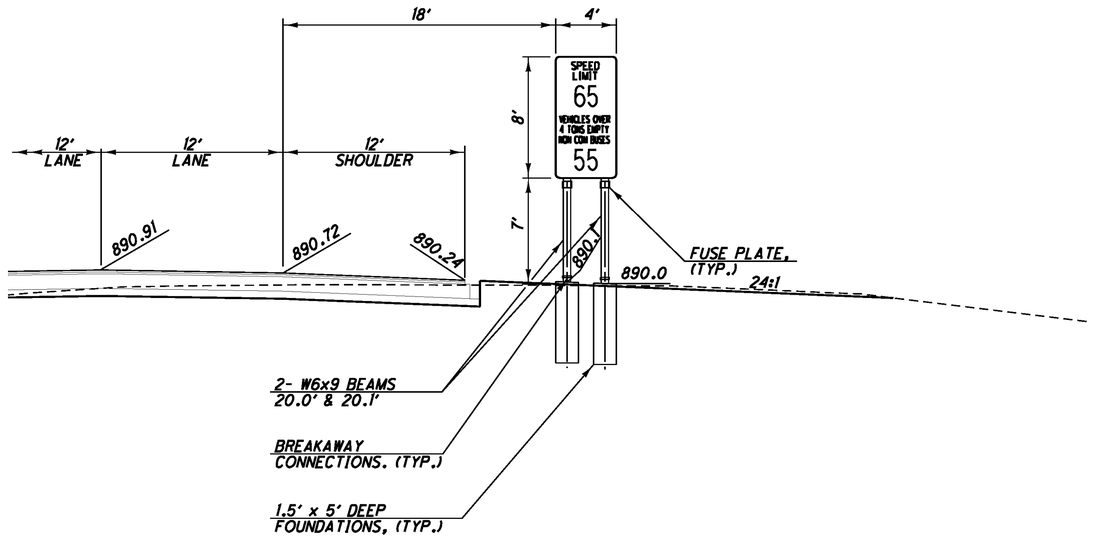
ROADSIDE SIGN SUPPORT S-32
STA. 978+75, N.B. I-71
LEVEL 1, W8x18

CALCULATED GWA
CHECKED MSW

SIGN ELEVATIONS I-71
S-33 STA. 977+00 AND S-32 STA. 978+75

WAR-71-14.20

266E
470



ROADSIDE SIGN SUPPORT S-35

STA. 987+05, S.B. I-71
LEVEL 2, W6x9

CALCULATED GWA
CHECKED MSW

SIGN ELEVATIONS I-71
S-35 STA. 987+05

WAR-71-14.20

266F
470

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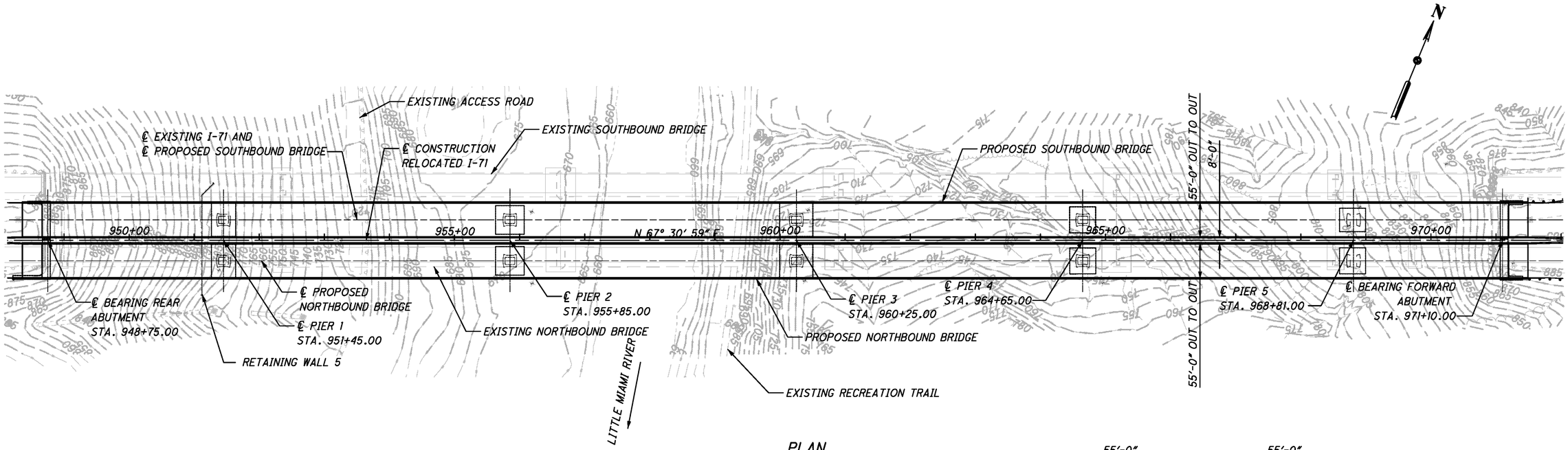
DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1300
Cleveland, OH 44114-2531

DESIGNED YEH | DRAWN JTW | REVIEWED RHW | DATE 03/21/08
CHECKED BTA | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

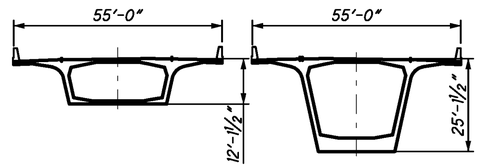
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BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

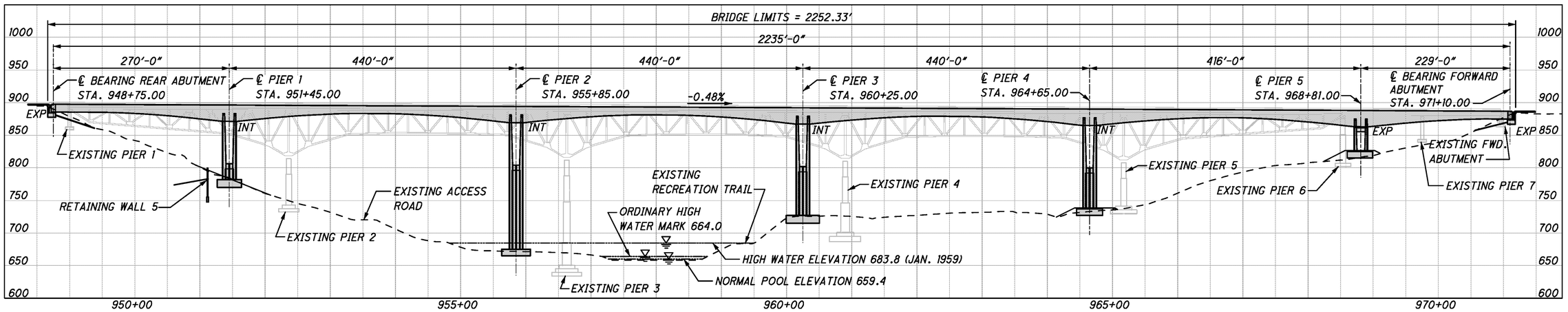
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PLAN



SECTION AT MIDSPAN SECTION AT PIER



PROFILE

(SOUTHBOUND BRIDGE SHOWN)
(PILES AND DRILLED SHAFTS NOT SHOWN FOR CLARITY)

NOTE:

1. FOR ADDITIONAL INFORMATION, SEE BRIDGE SITE PLANS AND BRIDGE PROFILES ON SHEETS 3 THRU 8 OF 204.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH	JJB	RHW	3/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BTA		8302278L/8302294R	

WARREN COUNTY
STA. 948+66.33
STA. 971+18.67

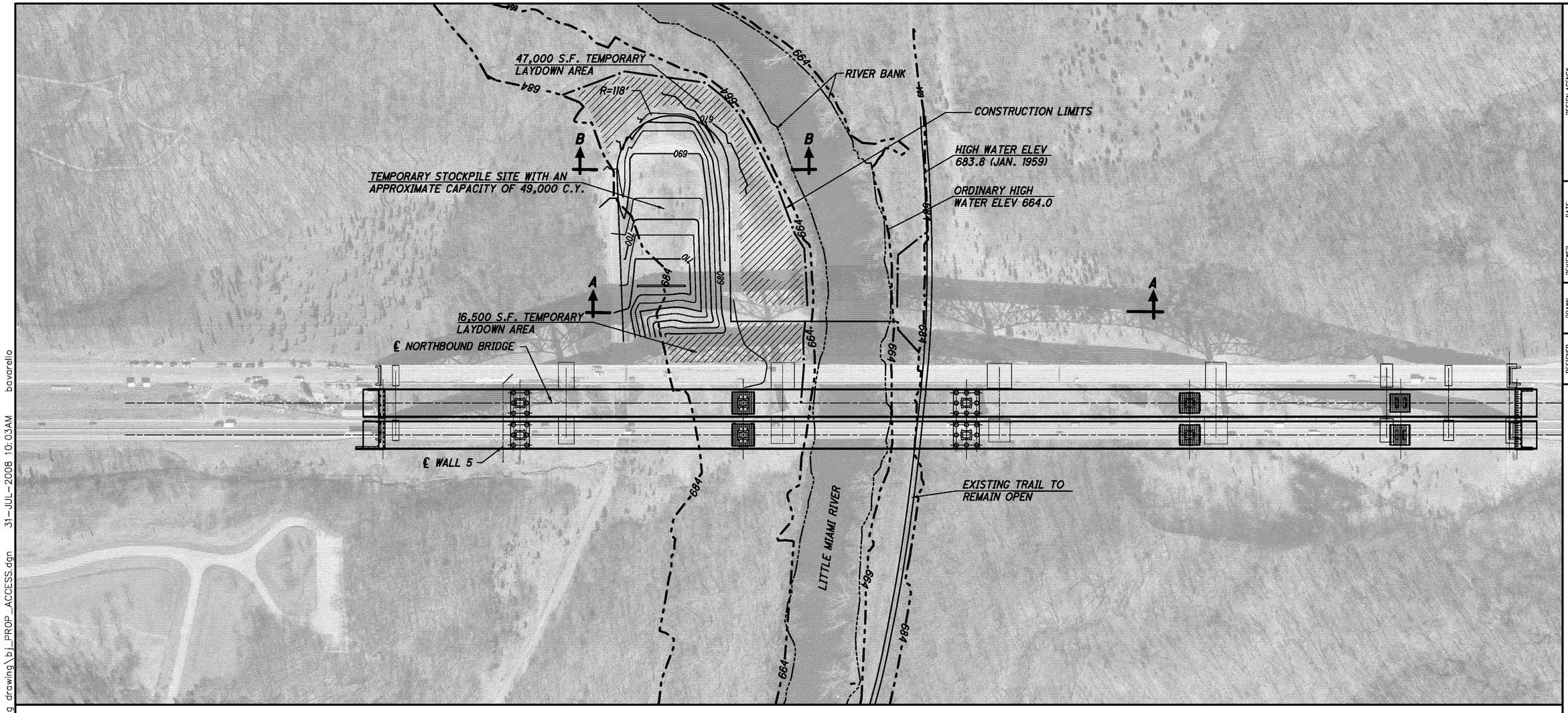
GENERAL PLAN
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

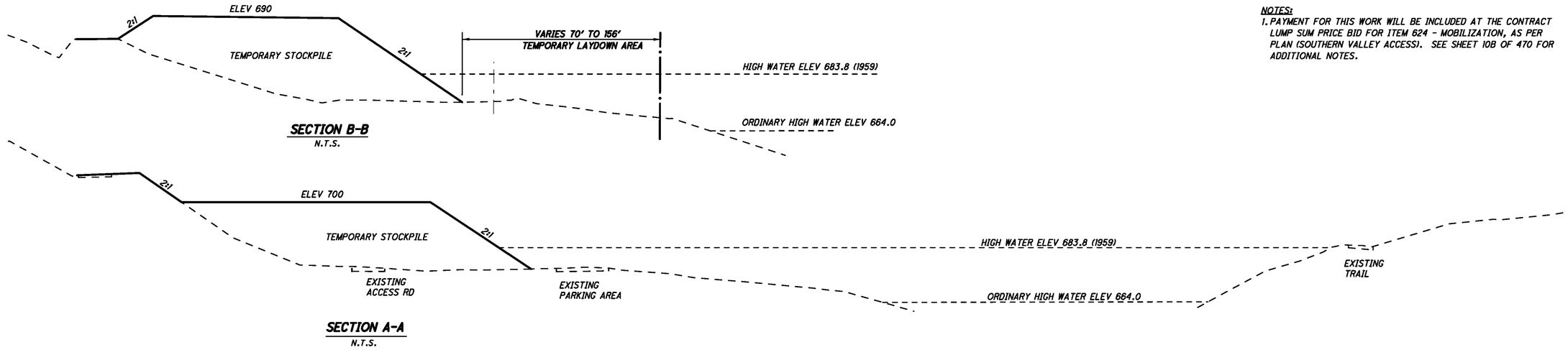
WAR-71-14.20
PID No. 22950

2 / 204

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470

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NOTES:
1. PAYMENT FOR THIS WORK WILL BE INCLUDED AT THE CONTRACT LUMP SUM PRICE BID FOR ITEM 624 - MOBILIZATION, AS PER PLAN (SOUTHERN VALLEY ACCESS). SEE SHEET 10B OF 470 FOR ADDITIONAL NOTES.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1300
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
BAJ	BAJ	RHW	12/07/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

STOCKPILE AND LAYDOWN AREA

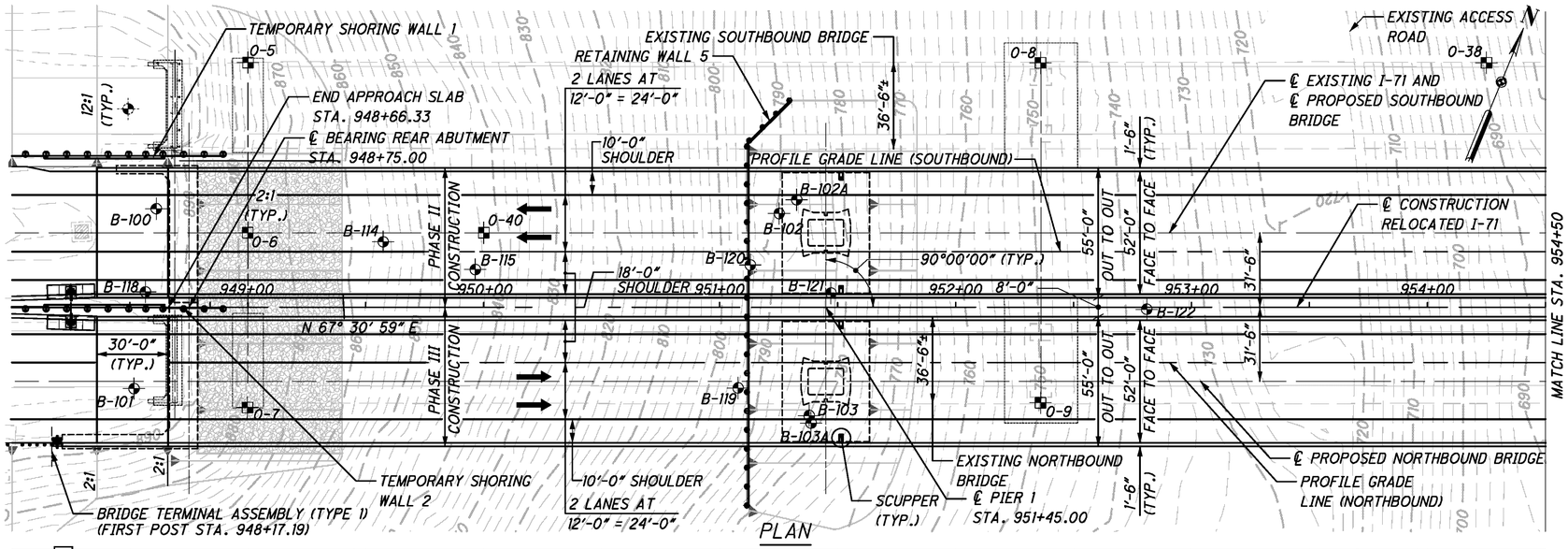
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

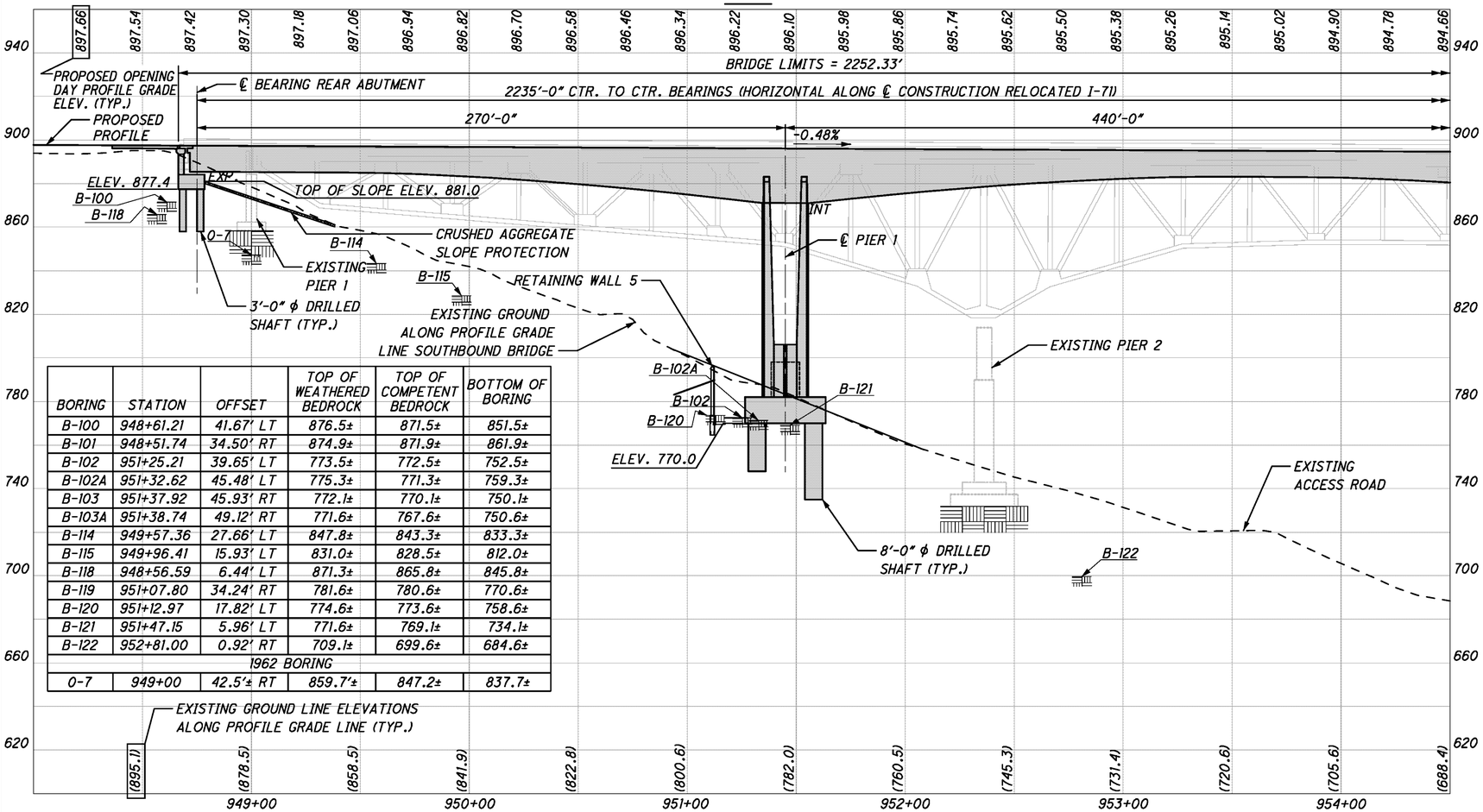
WAR-71-14.20
PID No. 22950

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BORING	STATION	OFFSET	TOP OF WEATHERED BEDROCK	TOP OF COMPETENT BEDROCK	BOTTOM OF BORING
B-100	948+61.21	41.67' LT	876.5±	871.5±	851.5±
B-101	948+51.74	34.50' RT	874.9±	871.9±	861.9±
B-102	951+25.21	39.65' LT	773.5±	772.5±	752.5±
B-102A	951+32.62	45.48' LT	775.3±	771.3±	759.3±
B-103	951+37.92	45.93' RT	772.1±	770.1±	750.1±
B-103A	951+38.74	49.12' RT	771.6±	767.6±	750.6±
B-114	949+57.36	27.66' LT	847.8±	843.3±	833.3±
B-115	949+96.41	15.93' LT	831.0±	828.5±	812.0±
B-118	948+56.59	6.44' LT	871.3±	865.8±	845.8±
B-119	951+07.80	34.24' RT	781.6±	780.6±	770.6±
B-120	951+12.97	17.82' LT	774.6±	773.6±	758.6±
B-121	951+47.15	5.96' LT	771.6±	769.1±	734.1±
B-122	952+81.00	0.92' RT	709.1±	699.6±	684.6±
1962 BORING					
0-7	949+00	42.5'± RT	859.7'±	847.2±	837.7±

PROFILE ALONG PROFILE GRADE SOUTHBOUND I-71

NOTE: FOR NORTHBOUND BRIDGE BORINGS SHOWN IN PROFILE, SEE SHEETS 6 THRU 8 OF 204.

BENCHMARK DATA

BM #1 STA. 931+02.22, ELEV. 939.23, OFFSET 23.23', LEFT
BM #2 STA. 944+50.04, ELEV. 901.00, OFFSET 31.43', LEFT
BM #3 STA. 971+14.48, ELEV. 884.08, OFFSET 31.50', LEFT
BM #4 STA. 989+71.15, ELEV. 928.70, OFFSET 17.48', LEFT

FOR ADDITIONAL BENCHMARK INFORMATION, SEE ROADWAY PLANS.

NOTES:

1. THE REAR ABUTMENT, PIER 1, AND PIER 3 ARE CONSTRUCTED ON DRILLED SHAFTS BEARING IN ROCK. PIER 2 AND PIER 4 ARE CONSTRUCTED ON BEARING PILES. PIER 5 AND THE FORWARD ABUTMENT ARE CONSTRUCTED ON FRICTION PILES. FOR ALLOWABLE LOADS FOR EACH SUBSTRUCTURE UNIT, SEE INDIVIDUAL FOUNDATION DRAWINGS.

2. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS AND GRADING PLAN SHEETS 28A THRU 28D OF 204.

DESIGN TRAFFIC:
2009 ADT = 49820 2009 ADTT = 18433
2029 ADT = 70190 2029 ADTT = 25970

LEGEND

NEW SOIL BORING LOCATION ✦ BOTTOM OF BORING
1962 SOIL BORING LOCATION ROCK

HYDRAULIC DATA

DRAINAGE AREA = 680 SQ. MILES
Q (50) = 41,500 CFS V (50) = 9.27 FT/S ELEV. (50) = 681.87 FT
Q (100) = 46,500 CFS V (100) = 9.78 FT/S ELEV. (100) = 682.99 FT
Q (500) = 63,705 CFS V (500) = 11.12 FT/S ELEV. (500) = 686.32 FT

EXISTING STRUCTURE

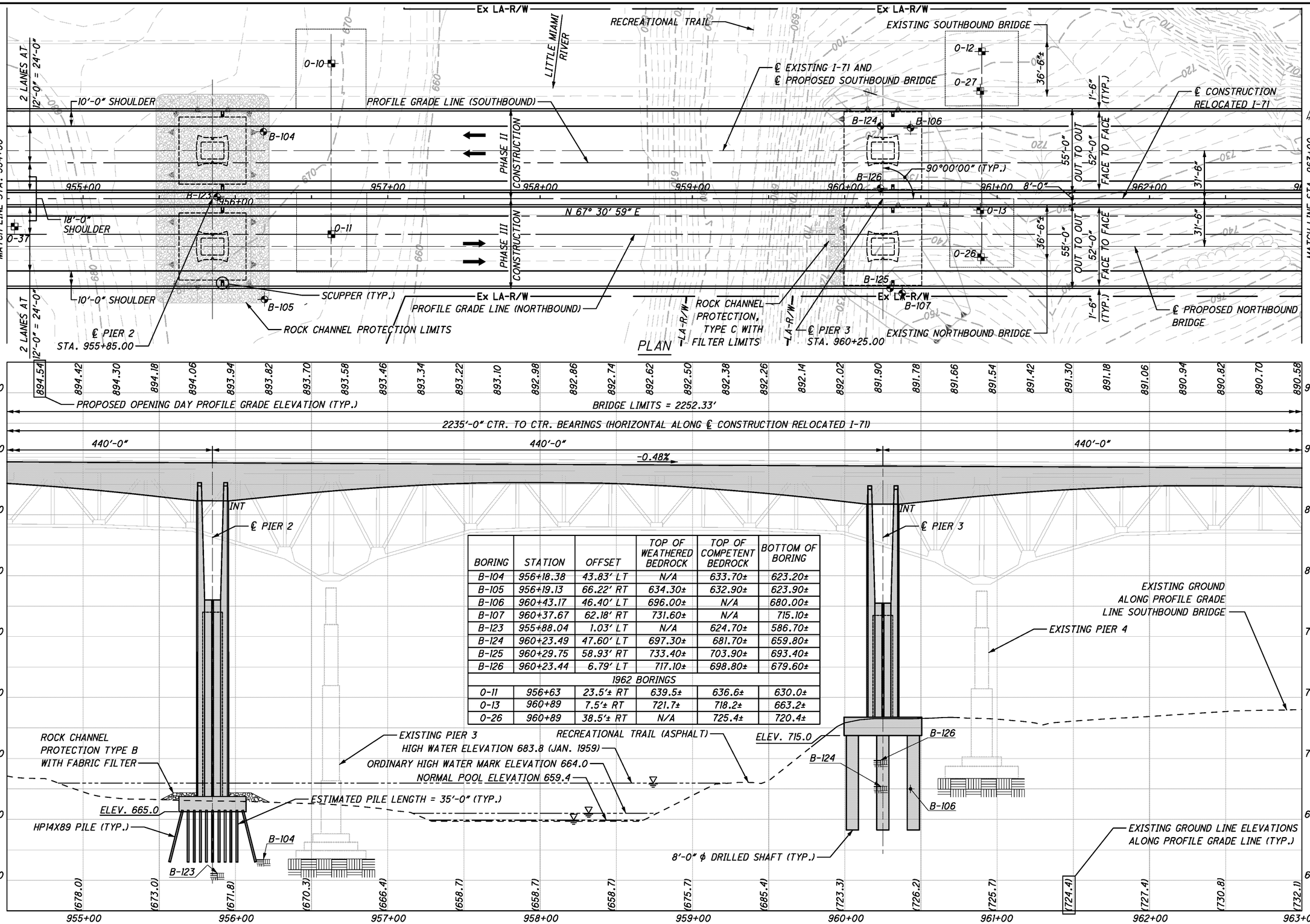
TYPE: CANTILEVER STEEL DECK TRUSS WITH SIMPLE STEEL BEAM AT REAR APPROACH AND CONTINUOUS STEEL GIRDER AT FORWARD APPROACH, REINFORCED CONCRETE DECK AND SUBSTRUCTURE.
SPANS: 28'-6"± (STEEL BEAM) AND 335'-6"±, 427'-0"±, 427'-0"±, 427'-0"±, 335'-6"± (DECK TRUSSES) AND 120'-0"±, 120'-0"± (STEEL GIRDERS)
ROADWAY: 2 AT 32'-6" TOE TO TOE PARAPET
LOADING: C F - 2000 (57) (ADEQUATE FOR A.A.S.H.O. ALTERNATE LOADING)
SKEW: 0°00'00"
APPROACH SLABS: AS-1-54 (25'-0" LONG) MODIFIED
ALIGNMENT: TANGENT
CROWN: 3/16"/FT
STRUCTURE FILE NUMBER: 8302251L 8302286R
YEAR BUILT: 1964
EXISTING BRIDGE TO BE REMOVED

PROPOSED STRUCTURE

TYPE: LONGITUDINAL AND TRANSVERSE POST TENSIONED, CAST-IN-PLACE, SINGLE-CELL SEGMENTAL CONCRETE BOX GIRDER SUPERSTRUCTURE AND REINFORCED CONCRETE SUBSTRUCTURE.
SPANS: 270'-0", 440'-0", 440'-0", 440'-0", 416'-0", AND 229'-0" C/C BEARINGS OR C/C PIERS (MEASURED ALONG ℄ CONSTRUCTION RELOCATED I-71)
ROADWAY: 52'-0" TOE/TOE PARAPET (EACH STRUCTURE)
LOADING: HS25 AND ALTERNATE MILITARY, 30 PSF FUTURE WEARING SURFACE
SKEW: 0°00'00"
WEARING SURFACE: 1½" (LATEX MODIFIED CONCRETE OVERLAY)
APPROACH SLABS: AS-1-81 (30'-0" LONG), AS PER PLAN
ALIGNMENT: TANGENT
CROWN: 3/16"/FT
STRUCTURE FILE NUMBER: 8302278 LEFT 8302294 RIGHT
COORDINATES: LATITUDE 39°25'10"N LONGITUDE 84°06'14"W

DESIGN AGENCY HNTB 1100 Superior Avenue, Suite 1300 Cleveland, OH 44114-2531
DATE 03/21/08
REVIEWED RHW
STRUCTURE FILE NUMBER 8302278L/8302294R
DRAWN JJB
REVISED
DESIGNED YEH
CHECKED BTA
WARREN COUNTY STA. 948+66.33 STA. 971+18.67
SOUTHBOUND BRIDGE SITE PLAN 1
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER
WAR-71-14.20
PID No. 22950
3 / 204
269 / 470

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BORING	STATION	OFFSET	TOP OF WEATHERED BEDROCK	TOP OF COMPETENT BEDROCK	BOTTOM OF BORING
B-104	956+18.38	43.83' LT	N/A	633.70±	623.20±
B-105	956+19.13	66.22' RT	634.30±	632.90±	623.90±
B-106	960+43.17	46.40' LT	696.00±	N/A	680.00±
B-107	960+37.67	62.18' RT	731.60±	N/A	715.10±
B-123	955+88.04	1.03' LT	N/A	624.70±	586.70±
B-124	960+23.49	47.60' LT	697.30±	681.70±	659.80±
B-125	960+29.75	58.93' RT	733.40±	703.90±	693.40±
B-126	960+23.44	6.79' LT	717.10±	698.80±	679.60±
1962 BORINGS					
0-11	956+63	23.5'± RT	639.5±	636.6±	630.0±
0-13	960+89	7.5'± RT	721.7±	718.2±	663.2±
0-26	960+89	38.5'± RT	N/A	725.4±	720.4±

NOTE: FOR NORTHBOUND BRIDGE BORINGS SHOWN IN PROFILE, SEE SHEETS 6 THRU 8 OF 204.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1300
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH	JJB	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BTA		8302278L/8302294R	

WARREN COUNTY
STA. 948+66.33
STA. 971+18.67

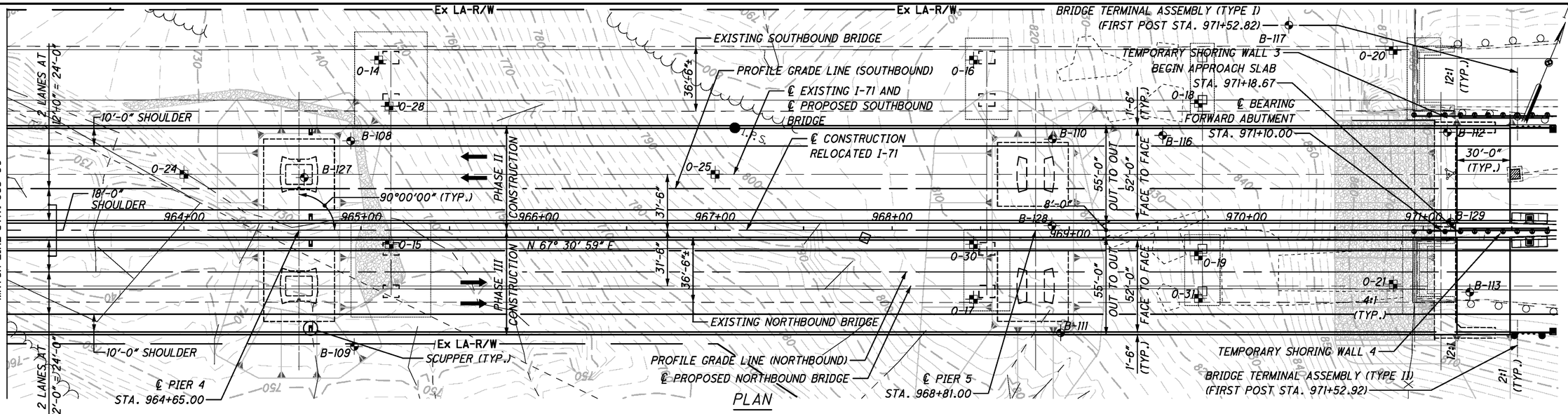
SOUTHBOUND BRIDGE SITE PLAN 2
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

4 / 204

270 / 470

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BORING	STATION	OFFSET	TOP OF WEATHERED BEDROCK	TOP OF COMPETENT BEDROCK	BOTTOM OF BORING
B-108	964+94.15	50.38' LT	N/A	669.80±	662.30±
B-109	964+96.22	65.59' RT	694.20±	682.20±	677.20±
B-110	968+90.46	51.43' LT	N/A	N/A	784.50±
B-111	968+95.17	57.97' RT	N/A	N/A	749.00±
B-112	971+13.59	55.28' LT	N/A	N/A	800.20±
B-113	971+26.24	35.00' RT	N/A	N/A	834.30±
B-116	969+52.78	53.48' LT	N/A	N/A	797.80±
B-117	970+23.61	117.16' LT	N/A	N/A	806.80±
B-127	964+67.88	29.70' LT	682.40±	675.40±	655.40±
B-128	968+90.23	2.53' LT	N/A	N/A	734.80±
B-129	971+15.49	4.50' LT	N/A	N/A	815.60±
1962 BORINGS					
0-15	965+16±	7.5'± RT	N/A	687.5±	679.5±
0-16	968+52±	96.5'± LT	N/A	N/A	702.1±
0-17	968+52±	38.5'± RT	N/A	N/A	708.6±
0-21	970+93±	30.5'± RT	N/A	N/A	830.0±
0-30	968+52±	7.5'± RT	N/A	N/A	757.7±

PROFILE ALONG PROFILE GRADE SOUTHBOUND I-71

NOTE: FOR NORTHBOUND BRIDGE BORINGS SHOWN IN PROFILE, SEE SHEETS 6 THRU 8 OF 204.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED YEH | DRAWN JJB | CHECKED BTA | REVIEWED RHW | DATE 03/21/08 | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

WARREN COUNTY
STA. 948+66.33
STA. 971+18.67

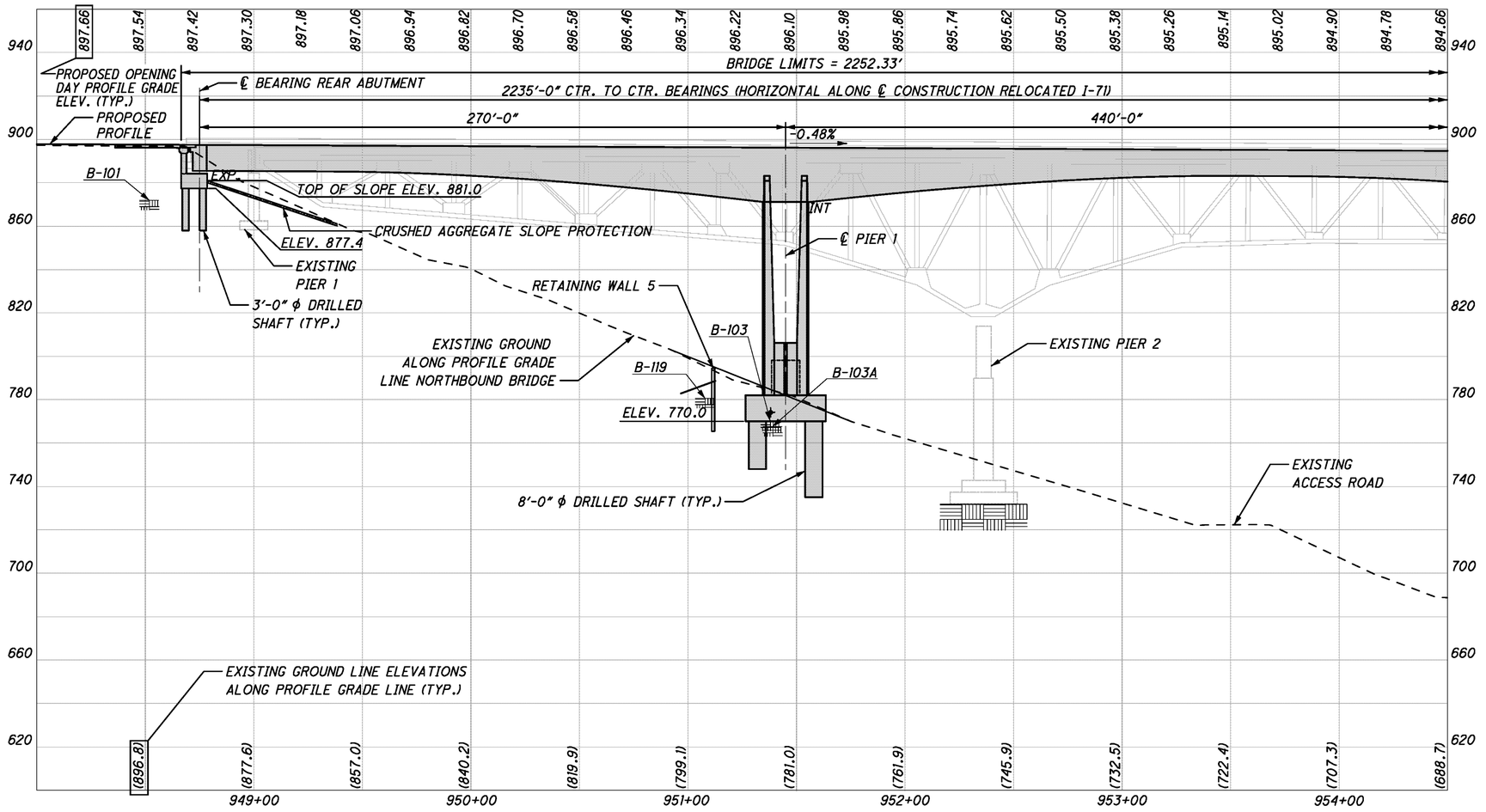
SOUTHBOUND BRIDGE SITE PLAN 3
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

5 / 204

271 / 470

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PROFILE ALONG PROFILE GRADE NORTHBOUND I-71

NOTE: FOR BORING LOCATIONS, ROCK ELEVATIONS AND SOUTHBOUND BRIDGE BORINGS SHOWN IN PROFILE, SEE SHEETS 3 THRU 5 OF 204.

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DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH	JJB	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BTA		8302278L/8302294R	

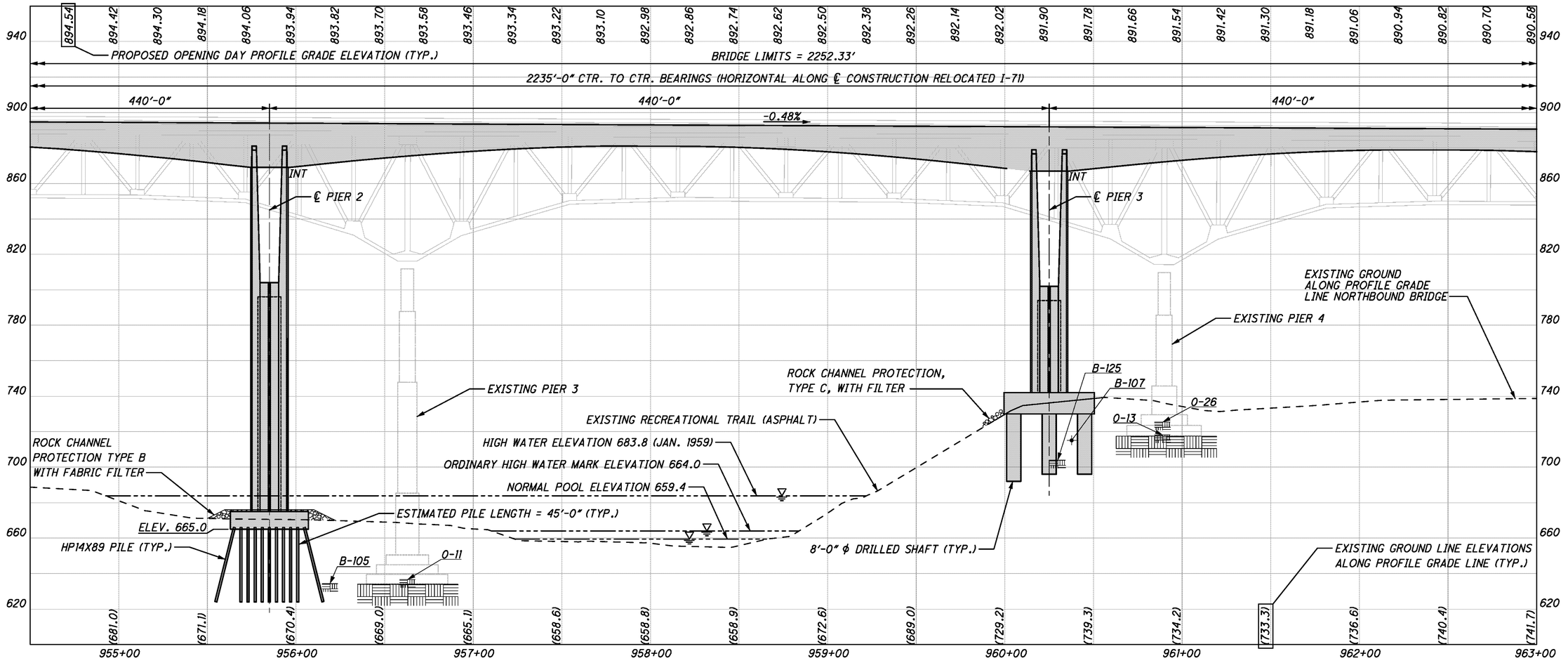
WARREN COUNTY
STA. 948+66.33
STA. 971+18.67

NORTHBOUND BRIDGE PROFILE 1
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

6 / 204

272
470



PROFILE ALONG PROFILE GRADE NORTHBOUND I-71

NOTE: FOR BORING LOCATIONS, ROCK ELEVATIONS AND SOUTHBOUND BRIDGE BORINGS SHOWN IN PROFILE, SEE SHEETS 3 THRU 5 OF 204.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH	JJB	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BTA		8302278L/8302294R	

WARREN COUNTY
STA. 948+66.33
STA. 971+18.67

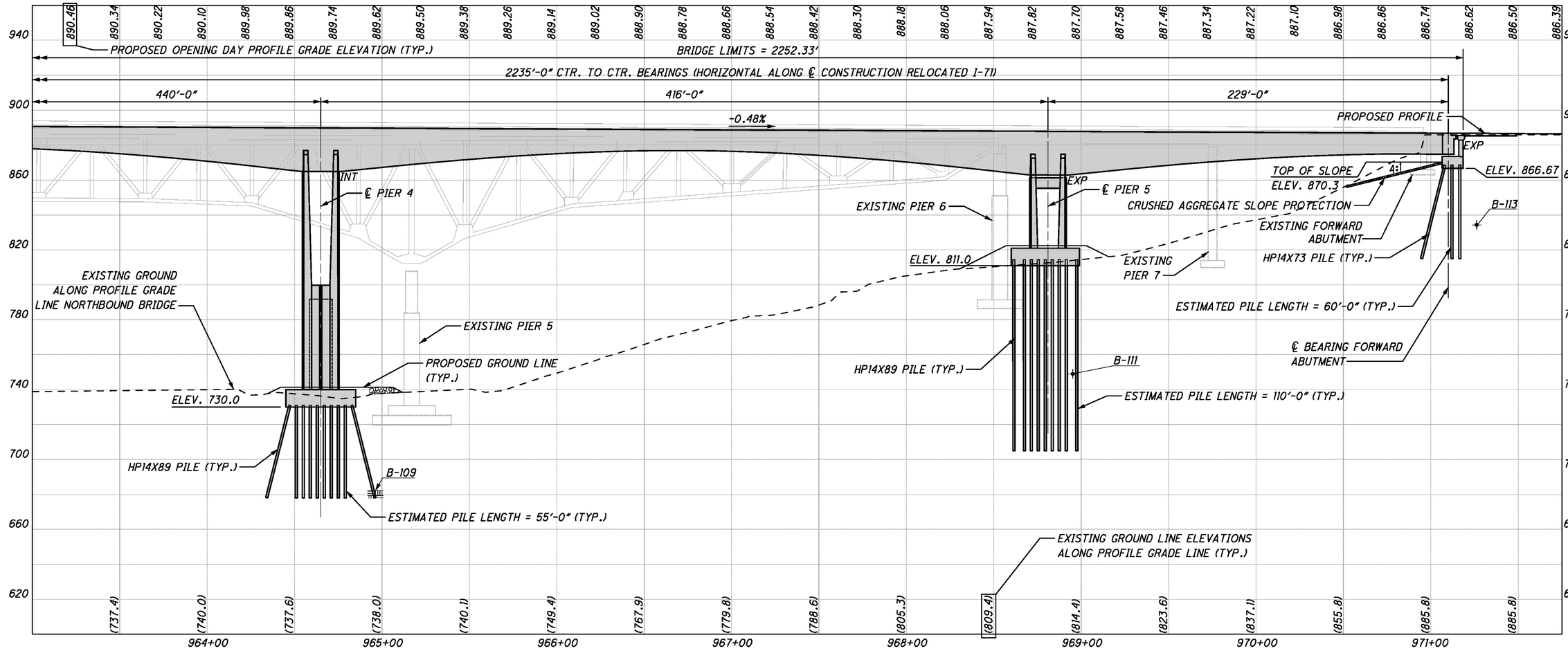
NORTHBOUND BRIDGE PROFILE 2
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

7 / 204

273 / 470

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PROFILE ALONG PROFILE GRADE NORTHBOUND I-71

NOTE: FOR BORING LOCATIONS, ROCK ELEVATIONS AND SOUTHBOUND BRIDGE BORINGS SHOWN IN PROFILE, SEE SHEETS 3 THRU 5 OF 204.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	CHECKED	DRAWN	REVIEWED	DATE
YEH	BTA	JJB	RHW	03/21/08

REVISED

STRUCTURE FILE NUMBER 8302278L/8302294R

WARREN COUNTY
STA. 948+66.33
STA. 971+18.67

NORTHBOUND BRIDGE PROFILE 3
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

8 / 204

274 / 470

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ESTIMATED QUANTITIES

CALC.	DATE	CHK'D	DATE
JJB	02/01/08	BTA	03/20/08

ITEM	ITEM EXTENSION	TOTAL SOUTHBOUND	TOTAL NORTHBOUND	UNIT	DESCRIPTION	SOUTHBOUND ABUTMENTS	SOUTHBOUND PIERS	SOUTHBOUND SUPER-STRUCTURE	SOUTHBOUND GENERAL	NORTHBOUND ABUTMENTS	NORTHBOUND PIERS	NORTHBOUND SUPER-STRUCTURE	NORTHBOUND GENERAL	REFERENCE SHEET NO. OR AS PER PLAN SHEET NO.
202	11003	LUMP	LUMP		STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP				LUMP	12/204
202	22900	215	177	SQ YD	APPROACH SLAB REMOVED				215				177	
503	11101	LUMP	LUMP		COFFERDAMS, CRIBS AND SHEETING, AS PER PLAN	LUMP	LUMP			LUMP	LUMP			12/204
503	21303	LUMP	LUMP		UNCLASSIFIED EXCAVATION, INCLUDING SHALE, AS PER PLAN	LUMP	LUMP			LUMP	LUMP			12/204
505	11100	LUMP	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION				LUMP				LUMP	
506	11100	LUMP			STATIC LOAD TEST		LUMP							
507	00300	2535	2535	FT	STEEL PILES HP14X73, FURNISHED	2535				2535				
507	00350	2340	2340	FT	STEEL PILES HP14X73, DRIVEN	2340				2340				
507	00400	16710	21300	FT	STEEL PILES, MISC.: HP14X89, FURNISHED		16710				21300			
507	00400	15265	19855	FT	STEEL PILES, MISC.: HP14X89, DRIVEN		15265				19855			
507	92201		468	FT	PREBORED HOLES, AS PER PLAN						468			13/204, 27/204, 88/204
507	93301	199	199	EACH	STEEL POINTS OR SHOES, AS PER PLAN		199				199			13/204
509	10000	4984739	4986337	POUND	EPOXY COATED REINFORCING STEEL	51613	1944962	2986676	4784	58849	1939324	2986676	4784	
512	10100	2936	2953	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) FEDERAL COLOR NO. 17778	368		2568		385		2568		
512	10301	12976	12976	SQ YD	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN, AS PER PLAN			12976				12976		13/204
512	33000	44	46	SQ YD	TYPE 2 WATERPROOFING	44				46				
513	15001	8	8	EACH	STRUCTURAL STEEL MEMBERS, SPECIALIZED MULTI ROTATIONAL (SMR) BEARINGS, LEVEL UF, AS PER PLAN			8				8		
513	17001	110	110	FT	STRUCTURAL STEEL MEMBERS, MODULAR EXPANSION JOINT, LEVEL UF, AS PER PLAN				110				110	194/204
513	95020	LUMP	LUMP		STRUCTURAL STEEL MISC.: TYPE 1 TENDON DAMPENER			LUMP				LUMP		
513	95020	LUMP	LUMP		STRUCTURAL STEEL MISC.: TYPE 2 TENDON DAMPENER			LUMP				LUMP		
516	13200	94	94	SQ FT	½" PREFORMED EXPANSION JOINT FILLER				94				94	
516	13601		222	SQ FT	1" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN					222				37/204, 41/204
518	12001	8	8	EACH	SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN				8				8	196/204
518	21201	135	155	CU YD	POROUS BACKFILL WITH FILTER FABRIC, AS PER PLAN	135				155				13/204
518	40000	172	195	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	172				195				
518	40011	50	50	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN	50				50				36/204, 40/204
518	51200	1530	1490	FT	PIPE DOWNSPOUT, INCLUDING SPECIALS (10")		1530				1490			195/204 - 196/204
519	12300	250	250	SQ YD	SPECIAL - PATCHING CONCRETE BRIDGE DECK - TYPE B			250				250		10B/470
523	20000	4	4	EACH	DYNAMIC LOAD TESTING	1	3			1	3			13/204
523	20500	5	2	EACH	RESTRIKING		5				2			13/204
524	94702	72	98	FT	DRILLED SHAFTS, 36" DIAMETER, ABOVE BEDROCK	72				98				
524	94704	149	176	FT	DRILLED SHAFTS, 36" DIAMETER, INTO BEDROCK	149				176				
524	94996	124	94	FT	DRILLED SHAFTS, 96" DIAMETER, ABOVE BEDROCK		124				94			
524	94998	362	376	FT	DRILLED SHAFTS, 96" DIAMETER, INTO BEDROCK		362				376			
524	95000	280	280	FT	DRILLED SHAFTS, MISC.: PROOF BORING		280				280			
524	95100	14	14	EACH	DRILLED SHAFTS, MISC.: CROSS-HOLE SONIC LOGGING (CSL) TESTS		14				14			
524	95200	LUMP	LUMP		DRILLED SHAFTS, MISC.: SHAFT INSPECTION DEVICE		LUMP				LUMP			

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED YEH/JJB | DRAWN JJB | CHECKED BTA | REVISED

REVIEWED RHW | DATE 2/02/09

STRUCTURE FILE NUMBER 8302278L/8302294R

ESTIMATED QUANTITIES 1
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

9 / 204

275
470

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ESTIMATED QUANTITIES

CALC.	DATE	CHK'D	DATE
JJB	02/01/08	BTA	03/20/08

ITEM	ITEM EXTENSION	TOTAL SOUTHBOUND	TOTAL NORTHBOUND	UNIT	DESCRIPTION	SOUTHBOUND ABUTMENTS	SOUTHBOUND PIERS	SOUTHBOUND SUPER-STRUCTURE	SOUTHBOUND GENERAL	NORTHBOUND ABUTMENTS	NORTHBOUND PIERS	NORTHBOUND SUPER-STRUCTURE	NORTHBOUND GENERAL	REFERENCE SHEET NO. OR AS PER PLAN SHEET NO.
SPECIAL	53000200	LUMP	LUMP		STRUCTURE, MISC.: FORM TRAVELER				LUMP				LUMP	12/204
SPECIAL	53000200	LUMP	LUMP		STRUCTURE, MISC.: PERMANENT MAINTENANCE ACCESS SYSTEM - SUPERSTRUCTURE			LUMP				LUMP		12/204
SPECIAL	53000200	LUMP	LUMP		STRUCTURE, MISC.: DAMPING SYSTEM FOR EXTERNAL POST-TENSIONING			LUMP				LUMP		12/204
SPECIAL	53000200	LUMP	LUMP		STRUCTURE, MISC.: ACCESS HATCHES - PIERS		LUMP				LUMP			12/204
SPECIAL	53000200	LUMP	LUMP		STRUCTURE, MISC.: LADDERS, RAILINGS AND PLATFORMS - PIERS		LUMP				LUMP			12/204
SPECIAL	53000200	LUMP	LUMP		STRUCTURE, MISC,: FALL ARREST SAFETY LIFE LINE - PIERS		LUMP				LUMP			12/204
SPECIAL	53000300	1143127	1143127	POUND	STRUCTURE, MISC.: POST-TENSIONING TENDONS (STRANDS)			1143127				1143127		
SPECIAL	53000300	3948	3948	POUND	STRUCTURE, MISC.: POST-TENSIONING BARS			3948				3948		
601	20000	850	850	SQ YD	CRUSHED AGGREGATE SLOPE PROTECTION	850				850				
601	32104	720	720	CU YD	ROCK CHANNEL PROTECTION, TYPE B WITH FABRIC FILTER		720				720			
601	32204	100	92	CU YD	ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER		100				92			
SPECIAL	69091000	LUMP	LUMP		AS-BUILT CONSTRUCTION PLANS				LUMP				LUMP	14A/204
SPECIAL	69098000	1	1	EACH	MISC.: REFERENCE DISK	1				1				14/204
847	10101	12976	12976	SQ YD	LATEX MODIFIED CONCRETE OVERLAY, AS PER PLAN 1½" THICKNESS			12976				12976		14/204
847	20101	270	270	CU YD	LATEX MODIFIED OVERLAY (VARIABLE THICKNESS), AS PER PLAN			270				270		
847	30000	LUMP	LUMP	SQ YD	TEST SLAB				LUMP				LUMP	
898	10709	357	357	CU YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), (T=17"), AS PER PLAN				357				357	14/204
898	11200	750	752	CU YD	QC/QA CONCRETE, CLASS QSC3, SUPERSTRUCTURE (PARAPET)	10		740		12		740		11/204
898	11401	14500	14500		QC/QA CONCRETE, CLASS QSC3, SUPERSTRUCTURE, AS PER PLAN (SEGMENTAL BOX GIRDER)			14577				14577		13/204
898	20161	358	405	CU YD	QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE (ABUTMENTS INCLUDING FOOTING), AS PER PLAN (BELOW BEAM SEATS)	358				405				14/204
898	20200	197	208	CU YD	QC/QA CONCRETE, CLASS QSC3, SUBSTRUCTURE (ABUTMENTS ABOVE BEAM SEATS)	197				208				14/204
898	20200	4342	4225	CU YD	QC/QA CONCRETE, CLASS QSC3, SUBSTRUCTURE (PIERS, INCLUDING TWIN WALLS, TIE OFF BEAMS AND BASE)		4342				4225			14/204
898	20300	3837	3897	CU YD	QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE (FOOTING) (PIERS)		3837				3897			14/204
					FOR BRIDGE LIGHTING QUANTITIES									466C

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DATE 2/02/09
REVIEWED RHW
STRUCTURE FILE NUMBER 8302278L/8302294R
DRAWN JJB
REVISED
DESIGNED YEH/JJB
CHECKED BTA

ESTIMATED QUANTITIES 2
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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STRUCTURE GENERAL NOTES

STANDARD DRAWINGS

REFERENCE SHALL BE MADE TO THE FOLLOWING STANDARD DRAWINGS:

AS-1-81 DATED (REVISED) 7-19-02
SBR-1-99 DATED (REVISED) 7-19-02

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION:

847 DATED (REVISED) 4-16-10

953 DATED (REVISED) 4-15-05

CONSTRUCTION SPECIFICATIONS

1. STATE OF OHIO DEPARTMENT OF TRANSPORTATION, CONSTRUCTION AND MATERIAL SPECIFICATIONS, JANUARY 1, 2005.

2. FHWA POST-TENSIONING TENDON INSTALLATION AND GROUTING MANUAL, MAY 26, 2004.

DESIGN SPECIFICATIONS

1. AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION, 2002, SUPPLEMENTED BY OHIO BRIDGE DESIGN MANUAL (BDM 2004 JANUARY EDITION WITH UPDATES THROUGH 2007).

2. AASHTO GUIDE SPECIFICATIONS FOR DESIGN AND CONSTRUCTION OF SEGMENTAL CONCRETE BRIDGES, SECOND EDITION, 1999, INCLUDING 2003 INTERIMS.

3. AASHTO GUIDE SPECIFICATIONS - THERMAL EFFECTS IN CONCRETE BRIDGE SUPERSTRUCTURES, 1989.

4. CEB/FIP MODEL CODE FOR CONCRETE STRUCTURES, THIRD EDITION, 1990, APPENDIX E, TIME-DEPENDENT BEHAVIOR OF CONCRETE, CREEP AND SHRINKAGE.

5. DESIGN OF BRIDGE DECK DRAINAGE, PUBLICATION NO. FHWA-SA-92-010 / HYDRAULIC ENGINEERING CIRCULAR NO. 21 (HEC-21). AS SUPPLEMENTED BY ODOT LOCATION & DESIGN MANUAL, VOLUME 2 DRAINAGE DESIGN.

6. FHWA HYDRAULIC ENGINEERING CIRCULAR NO. 18, EVALUATING SCOUR AT BRIDGES, PUBLICATION NO. FHWA NHI 01-001, MAY 2001.

DECK PROTECTION METHOD

1. EPOXY COATED REINFORCING STEEL
2. LATEX MODIFIED CONCRETE OVERLAY

ERECTION

ERECTION SHALL BE IN ACCORDANCE WITH THE PLAN SHEETS 15 THRU 17, SPECIAL PROVISION "CONCRETE BOX GIRDER CONSTRUCTION", AND APPROVED CASTING MANUAL.

DIMENSIONS AND ELEVATIONS

1. ALL DIMENSIONS ARE MEASURED HORIZONTALLY AND VERTICALLY AT 60°F UNLESS NOTED OTHERWISE.

2. VERTICAL DATUM ACCORDING TO NAVD 1988.

3. HORIZONTAL DATUM, COORDINATES ARE BASED ON A RECTANGULAR STATE PLANE COORDINATE SYSTEM, NAD 1983 SOUTH ZONE

DESIGN METHOD

1. IN GENERAL, THE BRIDGE SUPERSTRUCTURE AND SUBSTRUCTURE WERE DESIGNED USING AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES STRENGTH DESIGN METHOD (I.E. LOAD FACTOR) AND THE 2004 ODOT BDM WITH UPDATES THROUGH 2007.

2. THE BRIDGE SUPERSTRUCTURE IS ALSO DESIGNED FOR SERVICEABILITY AS PER REQUIREMENTS IN THE AASHTO GUIDE SPECIFICATIONS FOR DESIGN AND CONSTRUCTION OF SEGMENTAL CONCRETE BRIDGES.

3. FOUNDATIONS WERE CHECKED USING THE SERVICE LOAD DESIGN METHOD (I.E. ALLOWABLE OR WORKING STRESS DESIGN).

4. TEMPORARY WORKS WERE DESIGNED BY THE SERVICE LOAD DESIGN METHOD.

DESIGN DATA

1. DEAD LOADS
   SELF WEIGHT - "A" DL
   A) NORMAL WEIGHT REINFORCED CONCRETE INCLUDING REINFORCEMENT AND POST TENSIONING: 155 PCF
   B) STRUCTURAL STEEL: 490 PCF
   SUPERIMPOSED DEAD LOAD - "B" DL
   A) INITIAL WEARING SURFACE (LATEX MODIFIED CONCRETE OVERLAY): 1½"
   B) FUTURE WEARING SURFACE (IN ADDITIONAL TO THE INITIAL): 30 PSF
   C) CONCRETE PARAPET: 640 LB./ FT.
   D) UTILITIES: NONE

2. LIVE LOADS
   A) HS25 AND THE ALTERNATE MILITARY LOADING.

3. THERMAL
   A) THE DESIGN MEAN TEMPERATURE:
   B) THERMAL COEFFICIENT FOR CONCRETE STRUCTURES: 60° F
   C) UNIFORM SEASONAL TEMPERATURE RISE AND FALL (TRF): 6.0 X 10^{-6} PER °F
   TEMPERATURE RISE = 35° F COLD CLIMATE
   TEMPERATURE FALL = 45° F
   D) NON-UNIFORM DIFFERENTIAL TEMPERATURES (DT):
   1. DIFFERENTIAL TEMPERATURE GRADIENT AS PER AASHTO GUIDE SPECIFICATIONS - THERMAL EFFECTS IN CONCRETE BRIDGE SUPERSTRUCTURES, 1989, ZONE 3.
   2. COMBINATION OF DIFFERENTIAL TEMPERATURE (DT) AND LIVE LOAD FOLLOWS AASHTO SEGMENTAL GUIDE SPECIFICATION.

4. CREEP AND SHRINKAGE
   A) STRAINS WERE CALCULATED IN ACCORDANCE WITH CEB-FIP MODEL CODE FOR CONCRETE STRUCTURES, 1990.
   B) THE DESIGN RELATIVE HUMIDITY WAS TAKEN AS 70%.

5. SEISMIC
   A) DIVISION IA SEISMIC DESIGN OF AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES (SEISMIC PERFORMANCE CATEGORY A).

6. CONSTRUCTION LOADS
   A) SEE CONSTRUCTION SEQUENCE SHEET 17/204.

7. LOAD COMBINATIONS
   LOAD COMBINATIONS SHALL BE IN ACCORDANCE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES ART. 3.22 AND TABLE 3.22.1A EXCEPT AS NOTED BELOW:
   A) SHRINKAGE AND CREEP OF CONCRETE ARE TREATED AS DEAD LOAD.
   B) LOAD COMBINATIONS INVOLVING POST-TENSIONING SECONDARY EFFECTS HAVE A BETA LOAD FACTOR OF 1.0.
   C) THE FORCES DUE TO DIFFERENTIAL SETTLEMENT ARE ADDED TO THOSE OF TEMPERATURE AND SHRINKAGE.
   D) LOAD COMBINATIONS INVOLVING DEAD LOAD ONLY DURING CONSTRUCTION USE A "B" COEFFICIENT OF 1.3.
   E) EARTHQUAKE LOAD COMBINATIONS IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DIVISION I-A.
   F) ADDITIONAL LOAD COMBINATIONS AS PER AASHTO GUIDE SPECIFICATIONS FOR DESIGN AND CONSTRUCTION OF SEGMENTAL CONCRETE BRIDGES ARTICLE 7.2 ARE ALSO APPLIED.

8. CONCRETE PROPERTIES SHALL BE IN ACCORDANCE WITH THE SPECIFIED 28-DAY DESIGN COMPRESSIVE STRENGTH (f'c) AND CONCRETE CLASS AS FOLLOWS:
   A) BARRIERS, APPROACH SLABS:
   CONCRETE, CLASS OSC2 - COMPRESSIVE STRENGTH = 4500 PSI
   B) SEGMENTAL BOX GIRDER, SUPERSTRUCTURE:
   CONCRETE, CLASS OSC3 - COMPRESSIVE STRENGTH = 6000 PSI, PERMEABILITY = 2,500 COULOMBS
   C) ABUTMENTS ABOVE BEAM SEATS:
   CONCRETE, CLASS OSC3 - COMPRESSIVE STRENGTH = 6000 PSI, PERMEABILITY = 2,500 COULOMBS
   D) FOOTINGS, ABUTMENTS BELOW BEAM SEATS:
   CONCRETE, CLASS OSC1 - COMPRESSIVE STRENGTH = 4000 PSI
   E) PIERS, INCLUDING TWIN WALLS AND BASE SECTION:
   CONCRETE, CLASS OSC3 - COMPRESSIVE STRENGTH = 6000 PSI, PERMEABILITY = 2,500 COULOMBS
   F) DRILLED SHAFTS:
   CONCRETE, CLASS S MODIFIED - COMPRESSIVE STRENGTH = 4000 PSI
   G) PARAPETS:
   CONCRETE, CLASS OSC3 - COMPRESSIVE STRENGTH = 6000 PSI, PERMEABILITY = 2500 COULOMBS
   H) PIER FOOTINGS:
   CONCRETE, CLASS OSC1 - COMPRESSIVE STRENGTH = 4000 PSI

9. POST-TENSIONING STEEL:
   A) POST-TENSIONING STRANDS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A416, GRADE 270 FOR LOW-RELAXATION, WELDLESS STRAND.
   1. APPARENT MODULUS OF ELASTICITY: 28,500 KSI
   2. MAXIMUM JACKING STRESS AT ANCHORAGE: 0.8 f's
   3. MAXIMUM JACKING STRESS IMMEDIATELY AFTER TENDON ANCHORAGE: 0.7 f's
   4. JACKING STRESS AT INTERNAL TENDON LOCATIONS IMMEDIATELY AFTER PRESTRESS TRANSFER: 0.83 fy
   BUT NOT GREATER THAN: 0.74f's
   5. ANCHOR SET: ⅜"
   6. FRICTION COEFFICIENT (μ): 0.25
   7. WOBBLE COEFFICIENT (K): 0.0002 /FT
   8. STRAND SIZE: 0.6 IN. DIAMETER

   B) POST-TENSIONING BARS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A722, GRADE 150, TYPE 2, DEFORMED
   1. APPARENT MODULUS OF ELASTICITY: 30,000 KSI
   2. MAXIMUM JACKING STRESS AT ANCHORAGE: 0.70 f's
   3. JACKING STRESS AT TEMPORARY CONDITION: 0.50 f's
   4. ANCHOR SET: 0.0625 in
   5. WOBBLE COEFFICIENT (K): 0.0002/ft
   ALL POST-TENSIONING BARS SHALL BE GROUTED

10. REINFORCING STEEL:
   A) REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
   B) MINIMUM COVER TO REINFORCING STEEL SHALL BE 2 IN EXCEPT AS NOTED BELOW:
   1. TOP OF DECK SLAB: 2 IN. PLUS 1½IN. INITIAL WEARING SURFACE
   2. BOTTOM OF DECK SLAB: 1½IN.
   3. ALL OTHER OUTSIDE FACES OF SUPERSTRUCTURE: 2 IN.
   4. ALL OTHER INSIDE FACES OF SUPERSTRUCTURE: 1½IN.
   5. PIER COLUMNS: 3 IN.
   6. PIER FOOTINGS: 3 IN.
   7. ABUTMENT FOOTINGS: 3 IN.
   8. RETAINING WALLS: 3 IN.
   9. 36" DRILLED SHAFTS: 3 IN.
   10. 96" DRILLED SHAFTS: 6 IN.

SUPERSTRUCTURE DESIGN

1. ALLOWABLE LONGITUDINAL CONCRETE STRESSES :
   A) TEMPORARY STRESSES BEFORE LOSSES DUE TO CREEP AND SHRINKAGE AT THE TIME OF TRANSFER:
   1. COMPRESSION: (POST-TENSIONED MEMBERS): 0.55 f'ci
   2. TENSION IN TOP SLAB: 0
   3. TENSION FOR SUPERSTRUCTURE OTHER THAN TOP SLAB: 200 PSI OR 3 sqrt (f'ci)
   B) STRESSES AT SERVICE LOAD AFTER LOSSES HAVE OCCURRED:
   1. COMPRESSION UNDER ALL LOAD COMBINATIONS: 0.60 f'c
   2. TENSION FOR SUPERSTRUCTURE MEMBERS AT TOP SLAB: 0
   3. TENSION FOR SUPERSTRUCTURE MEMBERS OTHER THAN TOP SLAB: 3 sqrt (f'c)

2. ALLOWABLE TRANSVERSE CONCRETE STRESS:
   A) COMPRESSION AT SERVICE 0.40 f'c
   B) TENSION OF TOP DECK AT SERVICE 0

3. SHEAR DESIGN:
   A) SHEAR REINFORCEMENT IS ACCORDING TO AASHTO GUIDE SPECIFICATIONS FOR DESIGN AND CONSTRUCTION OF SEGMENTAL CONCRETE BRIDGES.
   B) MAXIMUM WEB PRINCIPAL TENSILE STRESS AT CG UNDER SERVICE CONDITION (GROUP I WITH FULL CREEP AND SHRINKAGE EFFECTS): 3.5 sqrt (f'c).
   C) WEB REINFORCEMENT REQUIREMENTS INCLUDE THE INCREASE IN SHEAR DUE TO UNBALANCED TORSIONAL LOADINGS AND THE EFFECT OF TRANSVERSE BENDING OF THE SECTION.

05-MAY-2010 10:45AM cweiss
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DESIGN AGENCY
HNTB 1100 Superior Avenue, Suite 1300 Cleveland, OH 44114-2533
DESIGNED YEH
DRAWN JJB
REVIEWED RHW
DATE 3/21/08
CHECKED JOL
REVISED
STRUCTURE FILE NUMBER 8302278L/8302294R
STRUCTURE GENERAL NOTES 1
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER
WAR-71-14.20
PID No. 22950

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 RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PRE-BID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

EXISTING STRUCTURE PLANS:

THE ORIGINAL DESIGN AND REHABILITATION PLANS MAY BE EXAMINED BY PROSPECTIVE BIDDERS AT THE DISTRICT 8 OFFICE 505 SOUTH STATE ROUTE 741 LEBANON, OH 45036. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE PLANS.

ITEM 202 - STRUCTURE REMOVED, OVER 20' SPAN AS PER PLAN:

WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC THE EXISTING STRUCTURE SHALL BE REMOVED TO LIMITS DETAILED IN THE PLANS AND AS REQUIRED BY CMS 202. THIS WORK SHALL CONSIST OF THE REMOVAL OF THE WEARING COURSE, PAVEMENT, STEEL SUPERSTRUCTURE AND PORTIONS OF THE PIERS AND ABUTMENTS AS INDICATED IN THE PLANS.

IF THE CONTRACTOR CHOOSES TO INCORPORATE BLASTING TO REMOVE PORTIONS OF THE STRUCTURE, HE MUST PREPARE A BLASTING PROCEDURE IN A MANUAL FOR REVIEW AND APPROVAL BY THE ENGINEER. THE MANUAL SHALL ADDRESS THE DESIGN OF THE BLASTING, THE SAFETY PROCEDURES TO BE INCORPORATED, WILDLIFE AND FISH PROTECTION AND PROTECTION OF ADJACENT PROPERTIES. NO BLASTING DEBRIS SHALL BE PERMITTED TO FALL IN THE LITTLE MIAMI RIVER. WRITTEN PERMISSION SHALL BE OBTAINED FROM THE CHIEF OF THE DIVISION OF WILDLIFE, DAVID GRAHAM, 2045 MORSE RD., BLDG. G, COLUMBUS, OHIO 43229-6693; PHONE (800)-WILDLIFE. THE CONTRACTOR SHALL ALSO COORDINATE REMOVAL EFFORTS THROUGH THE WARREN COUNTY DIVISION OF WILDLIFE OFFICER, RICK ROGERS, 1076 OLD SPRINGFIELD PIKE, XENIA, OHIO 45385; PHONE (937) 372-9261.

THE MANUAL SHALL BE SUBMITTED FOR REVIEW BY THE ENGINEER AT LEAST NINETY DAYS BEFORE PLACEMENT OF CHARGES IS TO BEGIN.

SUGGESTED REMOVAL LIMITS FOR EXISTING SUBSTRUCTURE HAVE BEEN SHOWN IN THE PLANS. REASONABLE CARE SHALL BE TAKEN BY THE CONTRACTOR TO PREVENT REMOVED MATERIALS FROM FALLING INTO THE LITTLE MIAMI RIVER OR WETLAND AREAS. ANY DROPPED MATERIALS SHALL BE IMMEDIATELY RECOVERED AND DISPOSED OF. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 202 - STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN.

PAYMENT: THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE BID, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT, MATERIAL AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN CONFORMANCE WITH THESE REQUIREMENTS, WITH THE PERTINENT PROVISIONS OF 202, AND TO THE SATISFACTION OF THE ENGINEER.

ITEM 503 - UNCLASSIFIED EXCAVATION, INCLUDING SHALE, AS PER PLAN

AT STRUCTURE FOUNDATION LOCATIONS WHERE PROPOSED GRADING PLANS ARE NOT SPECIFIED, THE CONTRACTOR SHALL RESTORE THE AREAS DISTURBED BY EXCAVATION TO A SMOOTH SURFACE, APPROXIMATING ORIGINAL GRADES AND TO THE SATISFACTION OF THE ENGINEER. RESTORATION OF PREVIOUSLY GRASSY AREAS SHALL BE PERFORMED IN ACCORDANCE WITH CMS 659, THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE BID FOR ITEM 503, UNCLASSIFIED EXCAVATION, INCLUDING SHALE AS PER PLAN.

ITEM 503 - COFFERDAMS, CRIBS AND SHEETING, AS PER PLAN

THE DESIGN SHOWN ON THE PLANS FOR TEMPORARY SUPPORTS OF EXCAVATION AT THE ABUTMENTS AND PERMANENT WALL AT PIER 1 IS ONE REPRESENTATIVE DESIGN THAT MAY BE USED TO CONSTRUCT THE PROJECT. THE CONTRACTOR MAY CONSTRUCT THE DESIGN SHOWN ON THE PLANS OR PREPARE AN ALTERNATE DESIGN TO SUPPORT THE SIDES OF EXCAVATIONS. IF CONSTRUCTING AN ALTERNATE DESIGN FOR TEMPORARY SUPPORT OF EXCAVATION, PREPARE AND PROVIDE PLANS IN ACCORDANCE WITH CMS 501.05. THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF EXCAVATION AT THE CONTRACT LUMP SUM PRICE FOR "COFFERDAMS, CRIBS, AND SHEETING." NO ADDITIONAL PAYMENT WILL BE MADE FOR PROVIDING AN ALTERNATE DESIGN.

TEMPORARY SHORING WALLS SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIALS REQUIRED FOR THE TEMPORARY SHORING AS DETAILED IN THE PLANS. PAYMENT FOR THE TEMPORARY SHORING SHALL INCLUDE, BUT NOT LIMITED TO, THE FOLLOWING ITEMS: FURNISHING INSTALLING, AND REMOVING STEEL SOLDIER PILES AS NEEDED; TIMBER LAGGING; WHALERS; FURNISHING, INSTALLING AND TESTING TIEBACKS; CLASS C CONCRETE AND CONTROLLED LOW STRENGTH MORTAR; REPLACEMENT EMBANKMENT AND ALL NECESSARY EXCAVATION FOR SHORING NOT ALREADY INCLUDED IN 203 AND 503.

ENVIRONMENTAL COMMITMENTS MADE & RESOURCES TO BE AVOIDED

THE FOLLOWING ENVIRONMENTAL ISSUES INCLUDE BUT ARE NOT LIMITED TO: INDIANA BAT HABITATS; RIVER CROSSINGS; TRAIL AND RIVER CLOSINGS; MATERIALS IN THE 100-YEAR FLOOD PLAIN; REFUELING AND MAINTENANCE ACTIVITIES; CONSTRUCTION AND DEMOLITION DEBRIS; AND SEDIMENT AND EROSION CONTROL SHOULD BE ADDRESSED DURING CONSTRUCTION. FOR ENTIRE ENVIRONMENTAL COMMITMENTS MADE AND RESOURCES TO BE AVOIDED, SEE ROADWAY PLANS.

ITEM SPECIAL - STRUCTURE, MISC.: FORM TRAVELERS

THIS ITEM SHALL CONSIST OF PREPARATORY WORK, ACQUISITION OR LEASE OF FORM TRAVELERS FOR THOSE PORTIONS OF THE BRIDGES TO BE CONSTRUCTED BY BALANCED CANTILEVER METHODS, INCLUDING TRANSPORTATION, AND OTHER WORK OR OPERATIONS EXPLICITLY RELATED TO SAID ERECTION EQUIPMENT WHICH MUST BE PERFORMED OR COSTS INCURRED PRIOR TO CONSTRUCTION. THE WORK INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING ELEMENTS OF WORK DIRECTLY RELATED TO FORM TRAVELERS:

- o DESIGN AND FABRICATION
- o INITIAL ASSEMBLY AND PLACEMENT
- o FINAL DISASSEMBLY AND REMOVAL
- o MAINTENANCE
- o TRANSPORTATION
- o STORAGE
- o MODIFICATIONS
- o ACQUISITION OR LEASE

THIS WORK SHALL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR ITEM SPECIAL - STRUCTURE, MISC.: FORM TRAVELERS. PARTIAL PAYMENTS WILL BE MADE AS INDICATED WHEN EACH OF THE FOLLOWING EVENTS HAVE BEEN COMPLETED:

A. WHEN ALL THE ERECTION EQUIPMENT HAS BEEN DELIVERED AND ASSEMBLED, 50 PERCENT OF THE AMOUNT BID FOR FORM TRAVELERS WILL BE PAID. THIS TOTAL SUM MAY BE PAID IN INSTALLMENTS PRORATED ON THE NUMBER OF COMPLETE SETS OF FORM SUPPORT MECHANISMS ERECTED IN THE INITIAL POSITION RELATIVE TO THE TOTAL NUMBER OF SETS OF FORM TRAVELERS TO BE USED ON THE PROJECT.

B. UPON THE SATISFACTORY COMPLETION OF CASTING AND STRESSING OF THE FIRST PAIR OF BALANCED CANTILEVER SEGMENTS, AS DETERMINED BY THE ENGINEER, THE REMAINING 50 PERCENT OF THE AMOUNT BID FOR FORM TRAVELERS WILL BE PAID. THIS TOTAL SUM MAY BE PAID IN INSTALLMENTS PRORATED ON THE NUMBER OF COMPLETE SETS OF FORM SUPPORT MECHANISMS ERECTED IN THE INITIALPOSITION RELATIVE TO THE TOTAL NUMBER OF SETS OF FORM TRAVELERS TO BE USED ON THE PROJECT.

THE TOTAL SUM OF PAYMENTS UNDER THIS ITEM SHALL NOT EXCEED THE PRICE BID FOR FORM TRAVELERS, REGARDLESS OF THE NEED TO TRANSPORT FORM TRAVELER TO OR FROM THE PROJECT SITE FOR ANY REASON.

ITEM SPECIAL - STRUCTURE, MISC.: PERMANENT MAINTENANCE ACCESS SYSTEM - SUPERSTRUCTURE

THIS ITEM SHALL CONSIST OF ALL OF THE LABOR, MATERIALS AND EQUIPMENT FOR THE ACCESS OPENING COVER AT THE PIER AND ABUTMENT LOCATIONS IN ACCORDANCE WITH THE PLAN AND DESIGN REQUIREMENTS SPECIFIED IN THE CONTRACT PLANS. THIS WORK SHALL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR ITEM SPECIAL - STRUCTURE, MISC.: PERMANENT MAINTENANCE ACCESS SYSTEM - SUPERSTRUCTURE

ITEM SPECIAL - STRUCTURE, MISC.: DAMPING SYSTEM FOR EXTERNAL POST-TENSIONING

THIS ITEM SHALL CONSIST OF FURNISHING ALL OF THE LABOR, MATERIALS AND EQUIPMENT FOR EXTERNAL POST-TENSION TENDON SUPPORTING SYSTEM IN ACCORDANCE WITH THE PLANS AND DESIGN REQUIREMENTS SPECIFIED IN THE CONTRACT PLANS. THIS WORK SHALL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR ITEM SPECIAL - STRUCTURE, MISC.: DAMPING SYSTEM FOR EXTERNAL POST-TENSIONING.

ITEM SPECIAL - STRUCTURE, MISC.: ACCESS HATCHES - PIERS

THIS ITEM SHALL CONSIST OF ALL THE LABOR, MATERIAL AND EQUIPMENT FOR THE PIER ACCESS HOLE, ACCESS DOOR, AND RELATED HARDWARES AT THE PIER LOCATIONS IN ACCORDANCE WITH THE PLANS AND DESIGN REQUIREMENTS SPECIFIED IN THE CONTRACT PLANS. THIS WORK SHALL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR ITEM SPECIAL - STRUCTURE, MISC.; ACCESS HATCHES - PIERS.

ITEM SPECIAL - STRUCTURE, MISC.; LADDERS, RAILINGS AND PLATFROMS - PIERS

THIS ITEM SHALL CONSIST OF ALL THE LABOR, MATERIAL AND EQUIPMENT FOR THE LADDERS, RAILINGS, PLATFORMS, AND RELATED HARDWARES AT THE PIER LOCATIONS IN ACCORDANCE WITH THE PLANS AND DESIGN REQUIREMENTS SPECIFIED IN THE CONTRACT PLANS. THIS WORK SHALL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR ITEM SPECIAL - STRUCTURE, MISC.; LADDERS, RAILINGS AND PLATFORMS - PIERS.

ITEM SPECIAL - STRUCTURE, MISC.; FALL ARREST SAFETY LINE - PIERS

THIS ITEM SHALL CONSIST OF ALL THE LABOR, MATERIAL AND EQUIPMENT FOR THE FALL ARREST SAFETY LINES AT THE PIER LOCATIONS IN ACCORDANCE WITH THE PLANS AND DESIGN REQUIREMENTS SPECIFIED IN THE CONTRACT PLANS. INCLUDED IN THIS ITEM IS THE SAFETY LINE, CONNECTIONS, ANCHORS, AND OTHER HARDWARE REQUIRED TO BE IN COMPLIANCE WITH OHSA STANDARDS AND COMPATIBLE WITH A TYPICAL HARNESS AND LANYARD. THIS WORK SHALL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR ITEM SPECIAL- STRUCTURE, MISC.; FALL ARREST SAFETY LINES - PIERS.

DESIGN AGENCY
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1100 Superior Avenue, Suite 1300
Cleveland, OH 44114-2533

DESIGNED YEH | DRAWN JUB | REVIEWED RHW | DATE 2/02/09
CHECKED JOL | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

STRUCTURE GENERAL NOTES 2

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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PILES DRIVEN TO BEDROCK:

PILES DRIVEN TO BEDROCK PERFORM DYNAMIC LOAD TESTING ON THE FIRST TWO PRODUCTION PILES TO DETERMINE THE REQUIRED BLOW COUNT FOR THE SPECIFIED ULTIMATE BEARING VALUE. AFTER A WAITING PERIOD OF AT LEAST SEVEN DAYS, PERFORM RESTRIKE TESTS ON THE SAME PILES ON WHICH DYNAMIC LOAD TESTING WAS PERFORMED IN ORDER TO DETERMINE *RELAXATION*OF THE BEDROCK THAT MAY OCCUR AFTER PILE DRIVING. IF THE RESULTS OF THE DYNAMIC LOAD TESTING AND RESTRIKE TESTING INDICATE THAT THE PILE CAPACITY HAS DECREASED TO LESS THAN THE REQUIRED ULTIMATE BEARING VALUE (DUE TO RELAXATION OF THE BEDROCK), DETERMINE A DRIVING CRITERIA THAT ENSURES THE PILES STILL HAVE THE REQUIRED ULTIMATE BEARING VALUE AFTER RELAXATION. DRIVE ALL PILES IN THE FOOTING TO THIS DRIVING CRITERIA.

PILES DRIVEN IN THE FOOTING DURING THE RELAXATION WAITING PERIOD AND BEFORE OBTAINING THE RESULTS OF THE RESTRIKE TESTS MAY REQUIRE RE-DRIVING TO MEET THE DRIVING CRITERIA THAT ACCOUNTS FOR RELAXATION. RE-DRIVING OF THESE PILES IS INCIDENTAL TO ITEM 507 - STEEL PILES, MISC.: HP14x89 DRIVEN.

THE ULTIMATE BEARING VALUE IS 314 TONS PER PILE FOR THE HP14X89 PIER 2 PILES. THE ULTIMATE BEARING VALUE IS 323 TONS PER PILE FOR THE HP14X89 PIER 4 PILES.

PIER 2 PILES:
- 99 PILES 40 FEET LONG, ORDER LENGTH (SOUTHBOUND)
- 1 DYNAMIC LOAD TESTING ITEM

- 99 PILES 50 FEET LONG, ORDER LENGTH (NORTHBOUND)
- 1 DYNAMIC LOAD TESTING ITEM

PIER 4 PILES:
- 100 PILES 60 FEET LONG, ORDER LENGTH (SOUTHBOUND)
- 1 DYNAMIC LOAD TESTING ITEM

- 100 PILES 60 FEET LONG, ORDER LENGTH (NORTHBOUND)
- 1 DYNAMIC LOAD TESTING ITEM

PILE DESIGN LOADS (ULTIMATE BEARING VALUE):

THE ULTIMATE BEARING VALUE IS 304 TONS PER PILE FOR THE HP14X89 PIER 5 SOUTHBOUND PILES. THE ULTIMATE BEARING VALUE IS 321 TONS PER PILE FOR THE HP14X89 PIER 5 NORTHBOUND PILES. THE ULTIMATE BEARING VALUE IS 190 TONS PER PILE FOR THE HP14X73 FORWARD ABUTMENT PILES.

PIER 5 PILES:
- 90 PILES 75 FEET LONG, ORDER LENGTH (SOUTHBOUND)
- 1 DYNAMIC LOAD TESTING ITEM

- 90 PILES 115 FEET LONG, ORDER LENGTH (NORTHBOUND)
- 1 DYNAMIC LOAD TESTING ITEM

FORWARD ABUTMENT PILES:
- 78 PILES 65 FEET LONG, ORDER LENGTH
- 1 DYNAMIC LOAD TESTING ITEM

STATIC LOAD TEST

PERFORM DYNAMIC TESTING ON THE FIRST TWO PRODUCTION PILES TO DETERMINE THE REQUIRED BLOW COUNT FOR THE SPECIFIED ULTIMATE BEARING VALUE. PERFORM THE STATIC LOAD TEST ON EITHER PILE. DO NOT OVER-DRIVE THE SELECTED PILE. DRIVE THE THIRD AND FOURTH PRODUCTION PILES TO 75% AND 85% OF THE DETERMINED BLOW COUNT, RESPECTIVELY. THE TEST PILES AND THE REDUCED CAPACITY PILES SHALL NOT BE BATTERED. AFTER INSTALLATION OF THE FIRST FOUR PRODUCTION PILES, CEASE ALL DRIVING OPERATIONS ON PILING REPRESENTED BY THE STATIC LOAD TESTING FOR A MINIMUM OF 7 DAYS. AFTER THE WAITING PERIOD, PERFORM PILE RESTRIKES ON THE STATIC LOAD TEST PILE AND EACH REDUCED CAPACITY PILE. THE ENGINEER WILL REVIEW THE RESULTS OF THE PILE RESTRIKES AND ESTABLISH THE DRIVING CRITERIA FOR THE REMAINING PILING REPRESENTED BY THE TESTING.

ONE STATIC LOAD TEST IS REQUIRED AT SOUTHBOUND PIER 5.

WHEN PERFORMING THE RESTRIKE, IF THE PILE HAS NOT REACHED THE BLOW COUNT DETERMINED FOR THE PLAN SPECIFIED ULTIMATE BEARING VALUE, CONTINUE DRIVING THE PILE UNTIL THIS CAPACITY IS ACHIEVED.

PILE SPLICES:

IN LIEU OF USING THE FULL PENETRATION BUTT WELDS SPECIFIED IN CMS 507.09 TO SPLICE STEEL H-PILES, THE CONTRACTOR MAY USE A MANUFACTURED H-PILE SPLICER. FURNISH SPLICERS FROM THE FOLLOWING MANUFACTURER:

ASSOCIATED PILE AND FITTING CORPORATION
262 RUTHERFORD BLVD.
CLIFTON, NEW JERSEY 07014

INSTALL AND WELD THE SPLICER TO THE PILE SECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN ASSEMBLY PROCEDURE SUPPLIED TO THE ENGINEER BEFORE THE WELDING IS PERFORMED.

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:

$$D = \frac{1-UG}{(1+G^2)\,0.5}$$

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.)

STEEL PILES, MISC.: HP14X89 FURNISHED
STEEL PILES, MISC.: HP14X89 DRIVEN

THE CONTRACTOR SHALL SUBMIT CALCULATIONS, BASED ON A WAVE EQUATION ANALYSIS, DEMONSTRATING THAT PILES CAN BE DRIVEN TO THE ESTIMATED LENGTH AND TO THE REQUIRED ULTIMATE BEARING VALUE WITHOUT DAMAGE, USING THE PROPOSED EQUIPMENT. SUBMIT THE CALCULATIONS TO THE ENGINEER FOR ACCEPTANCE AT LEAST 14 DAYS BEFORE DRIVING PILES.

DRILLED SHAFTS:

THE DESIGN LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 375 TONS AT THE REAR ABUTMENT. THIS LOAD IS RESISTED BY SHAFT ADHESION WITHIN A PORTION OF THE BEDROCK SOCKET AND ALSO BY SHAFT END BEARING. THE ALLOWABLE BEDROCK SOCKET ADHESION IS 0.5 TONS PER FOOT, ASSUMED TO ACT ALONG THE BOTTOM 12 FEET OF THE BEDROCK SOCKET FOR THE ABUTMENTS. THE ALLOWABLE END BEARING PRESSURE IS 45 TONS PER SQUARE FOOT.

THE DESIGN LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 2277 TONS AT PIER 1. THIS LOAD IS RESISTED BY SHAFT END BEARING. THE ALLOWABLE END BEARING PRESSURE IS 45 TONS PER SQUARE FOOT.

THE DESIGN LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 2101 TONS AT PIER 3 SOUTHBOUND. THE DESIGN LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 2129 TONS AT PIER 3 NORTHBOUND. THESE LOADS ARE RESISTED BY SHAFT END BEARING. THE ALLOWABLE END BEARING PRESSURE IS 45 TONS PER SQUARE FOOT.

THE REINFORCING STEEL SHALL BE EPOXY COATED ACCORDING TO 709.00.

DRILLED SHAFTS ARE NOT SUBJECT TO THE SPECIAL PROVISION "MASS CONCRETE".

ITEM 507 - PREBORED HOLES, AS PER PLAN

PREBORED HOLES WILL BE REQUIRED AS SPECIFIED IN THE PLANS FOR THE PROPOSED PIER 5 NORTHBOUND PILES. PAYMENT FOR EXISTING PIER 6 FOOTING CORING, FILLING AND GROUTING AND PAYMENT FOR GROUND CORING, FILLING AND GROUTING SHALL BE INCLUDED WITH ITEM 507 PREBORED HOLES, AS PER PLAN

ITEM 507 - STEEL POINTS OR SHOES, AS PER PLAN

USE STEEL PILE POINTS TO PROTECT THE TIPS OF THE PROPOSED STEEL "H" PILING. FURNISH STEEL POINTS FROM THE FOLLOWING MANUFACTURES/SUPPLIERS: ASSOCIATED PILE AND FITTING CORPORATION, 262 RUTHERFORD BLVD., CLIFTON, NEW JERSEY 07014, PHONE: (973)773-8400, (800)526-9047, FAX: (973)773-8442; INTERNATIONAL CONSTRUCTION EQUIPMENT, INC., 301 WAREHOUSE DRIVE, MATTHEWS, NORTH CAROLINA 28015, PHONE: (704)821-8200, (888)423-8721, FAX: (704)821-8201; DOUGHERTY FOUNDATION PRODUCTS, INC., P.O. BOX 688, FRANKLIN LAKES, NEW JERSEY 07417, PHONE: (201)337-5748, FAX: (201)337-9022; VERSA STEEL INC., 1618 N.E. FIRST AVE., PORTLAND, OREGON 97232, PHONE: (503)287-9822, (800)678-0814, FAX: (503)287-7483; VERSABITE PILING ACCESSORIES, 1704 TOWER INDUSTRIAL DR., MONROE, NORTH CAROLINA 28110, PHONE: (800)280-9950, (704)225-1566, FAX: (704)225-1567; OR BY A MANUFACTURER THAT CAN FURNISH A STEEL POINT THAT IS ACCEPTABLE TO 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 512 - SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN, AS PER PLAN

THE CONTRACTOR SHALL SEAL BOTH BRIDGE DECKS PER ITEM 512 ON THE LATEST DATE POSSIBLE BASED ON 60 DAYS PRIOR TO COMPLETION OF THE CONTRACT OR 30 DAYS AFTER COMPLETION OF THE OVERLAY OPERATIONS ON THE SOUTHBOUND BRIDGE.

THE SURFACE PREPARATION SHALL BE DONE IN ACCORDANCE WITH 512.04B; HOWEVER, THE CONTRACTOR SHALL HAVE THE OPTION OF REMOVING AND REPLACING THE PAVEMENT MARKING, OR COVERING THE PAVEMENT MARKING TO PREVENT CONTACT WITH THE RESIN.

ALL COSTS INCLUDING PROTECTION OR REMOVAL AND REPLACEMENT OF THE PAVEMENT MARKING SHALL BE PAID UNDER A SQUARE YARD BID FOR ITEM 512, SEALING OF CONCRETE BRIDGE DECKS WITH HMWM RESIN, AS PER PLAN.

ITEM 518 - POROUS BACKFILL WITH FILTER FABRIC, AS PER PLAN

POROUS BACKFILL MATERIAL SHALL BE LIMITED TO STONE, SLAG SHALL NOT BE USED.

ITEM 524 - DRILLED SHAFTS, MISC.: PROOF BORING

DRILL PROOF BORINGS AND OBTAIN ROCK CORES AT EACH DRILLED SHAFT LOCATION FOR THE PIERS TO DETERMINE THE CHARACTER OF THE MATERIAL DIRECTLY BELOW THE BOTTOM OF THE PROPOSED DRILLED SHAFT. PERFORM THE WORK IN ACCORDANCE WITH THE DEPARTMENT'S SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS. LOCATE THE PROOF BORING WITHIN THE LIMITS OF THE DRILLED SHAFT. OBTAIN ROCK CORE TO A MINIMUM DEPTH OF 10 FEET BELOW THE BOTTOM OF THE DRILLED SHAFT. IF DIRECTED BY THE ENGINEER, OBTAIN ROCK CORE TO A DEPTH OF 20 FEET BELOW THE BOTTOM OF THE DRILLED SHAFT. SUBMIT BORING LOGS THAT MEET THE REQUIREMENTS OF THE DEPARTMENT'S SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS TO THE ENGINEER BEFORE PLACING REINFORCING STEEL IN THE DRILLED SHAFT EXCAVATION.

THE DEPARTMENT WILL MEASURE PROOF BORINGS BY THE NUMBER OF FEET FROM THE BOTTOM OF THE DRILLED SHAFT EXCAVATION TO THE BOTTOM OF THE BORING. THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 524, DRILLED SHAFT, MISC.: PROOF BORING.

ITEM 524 - DRILLED SHAFTS, MISC.: CROSS-HOLE SONIC LOGGING (CSL) TESTS:

CROSS-HOLE SONIC LOGGING TESTING WILL BE REQUIRED FOR EVERY 96" DIAMETER DRILLED SHAFT AND SHALL BE IN ACCORDANCE WITH THE SPECIAL PROVISION "CROSS-HOLE SONIC LOGGING (CSL) TESTING FOR DRILLED SHAFTS"

ITEM 524 - DRILLED SHAFTS, MISC.: SHAFT INSPECTION DEVICE

THIS ITEM SHALL BE IN ACCORDANCE WITH THE PLANS AND WITH SPECIAL PROVISION "SHAFT INSPECTION DEVICE."

DESIGN AGENCY
HNTB
1100 Superior Avenue Suite 1300
Cleveland, OH 44114-2531

DESIGNED YEH | DRAWN JJB | REVIEWED RHW | DATE 3/21/08
CHECKED JOL | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

STRUCTURE GENERAL NOTES 3
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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ITEM 690 - SPECIAL - MISC.: REFERENCE DISK

THE CONTRACTOR SHALL INSTALL ONE REFERENCE DISK FOR THE NORTHBOUND BRIDGE AND ONE REFERENCE DISK FOR THE SOUTHBOUND BRIDGE. THE REFERENCE DISKS SHALL BE PROVIDED BY THE DISTRICT 8 SURVEY OPERATION MANAGER. THE CONTRACTOR SHALL MARK THE DISK WITH THE NAVD88 PROJECT ELEVATION. THE DISK FOR THE NORTHBOUND BRIDGE SHALL BE INSTALLED NEAR THE REAR ABUTMENT AND THE DISK FOR THE SOUTHBOUND BRIDGE SHALL BE INSTALLED NEAR THE FORWARD ABUTMENT.

MECHANICAL CONNECTORS

AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING BARS SHALL BE PROVIDED. THE MECHANICAL CONNECTOR SYSTEM SHALL BE CAPABLE OF DEVELOPING 125 PERCENT OF THE YIELD STRENGTH OF THE REINFORCING STEEL AS A MINIMUM. INSTALLATION OF CONNECTORS SHALL CONFORM WITH MANUFACTURER'S RECOMMENDED PROCEDURES. CONNECTORS SHALL BE EPOXY COATED. 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 WHICH MEETS THE SPECIFICATIONS. CONNECTORS ARE INCLUDED WITH ITEM 509, EPOXY COATED REINFORCING STEEL, FOR PAYMENT.

MECHANICAL END ANCHORS

MECHANICAL END ANCHORS FOR REINFORCING BARS SHALL BE PROVIDED. INSTALLATION OF ANCHORS SHALL CONFORM WITH MANUFACTURER'S RECOMMENDED PROCEDURES. FURNISH ANCHORS FROM THE FOLLOWING MANUFACTURES/SUPPLIERS OR AN APPROVED EQUAL:

LENTON TERMINATOR
AS MANUFACTURED BY:
ERICO
34600 SOLON ROAD
SOLON, OHIO 44139

GRIP TWIST MECHANICAL ANCHORAGE
AS MANUFACTURED BY:
BARSPLICER PRODUCTS, INC.
4900 WEBSTER STREET
DAYTON OH 45414

D-158 TWO PIECE END ANCHOR
AS MANUFACTURED BY:
DAYTON SUPERIOR CONCRETE ACCESSORIES
7777 WASHINGTON VILLAGE DR.
DAYTON, OH 45459

ALL MECHANICAL ANCHORAGE SHALL BE EPOXY COATED. 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 WHICH MEETS THE SPECIFICATIONS. ANCHORS ARE INCLUDED WITH ITEM 509, EPOXY COATED REINFORCING STEEL, FOR PAYMENT. THIS PRICE SHALL INCLUDE A MATERIAL, LABOR, EQUIPMENT, INSTALLATION AND INCIDENTALS REQUIRED TO COMPLETE THE WORK AS SPECIFIED.

ITEM 847 - LATEX MODIFIED CONCRETE OVERLAY, AS PER PLAN 1½" THICKNESS:

THIS ITEM SHALL BE IN ACCORDANCE WITH THE PLANS, SUPPLEMENTAL SPECIFICATION 847, AND DESIGN DATA, EXCEPT AS NOTED BELOW.

IN SECTIONS 847.02 AND 847.18, THE DECK SURFACE SHALL BE FINISHED TO 1½" BELOW THE FINAL GRADE AND SHALL NOT BE REMOVED.

IN SECTION 847.05, THE COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED PER ASTM C127.

IN SECTION 847.20, THE SURFACE PREPARATION SHALL BE AS FOLLOWS:
NO OPERATIONS WITHOUT REASONABLY AVAILABLE ENGINEERING CONTROLS THAT LIMIT FUGITIVE DUST WILL BE ACCEPTABLE. THE CONTRACTOR IS MADE AWARE THAT THERE ARE STATE, REGIONAL, AND LOCAL GOVERNMENT AGENCIES THROUGHOUT THE STATE THAT HAVE REQUIREMENTS REGARDING CONTROL OF DUST AND RUN-OFF WATER.

BRIDGE SCUPPERS SHALL BE CLEANED OF ALL FOREIGN MATTER AND PLUGGED PRIOR TO THE PLACEMENT OF THE CONCRETE OVERLAY. THE SCUPPERS SHALL BE UNPLUGGED TO PERMIT FREE DRAINAGE OF WATER FROM THE DECK SURFACE FOLLOWING OVERLAY PLACEMENT.

THE DECK SURFACE WHICH WILL CONTACT THE OVERLAY SHALL BE CLEANED WITH COMPRESSED AIR, WETTED, AND KEPT WET FOR AT LEAST ONE HOUR IMMEDIATELY PRIOR TO PLACING THE CONCRETE OVERLAY. ANY STANDING WATER SHALL BE REMOVED PRIOR TO PLACEMENT OF THE CONCRETE OVERLAY.

THE CONTRACTOR SHALL PREVENT CONTAMINATION OF THE WETTED DECK BY CONSTRUCTION EQUIPMENT OR FROM ANY OTHER SOURCE BY PLACING A CLEAN 4 MIL POLYETHYLENE SHEET, OR OTHER COVERING AS APPROVED BY THE ENGINEER, ON THE PREPARED DECK SURFACE.

RAIL SHALL BE FURNISHED IN SECTIONS NOT LESS THAN 10 FEET IN LENGTH, AND BE OF SUFFICIENT CROSS-SECTION SO THAT THE WEIGHT OF THE FINISHING MACHINE CAUSES NO MORE THAN A 1/32" VERTICAL DEFLECTION.

RAIL SUPPORTS SHALL BE SCREW-TYPE ADJUSTABLE SADDLES AND SHALL BE OF SUFFICIENT NUMBER UNDER THE RAIL SO THAT NO MORE THAN A 1/32" VERTICAL DEFLECTION OCCURS UNDER THE WEIGHT OF THE FINISHING MACHINE.

CONCRETE WHICH DOES NOT CLEAR THE FILLER BLOCKS SHOULD BE REMOVED BY GRINDING OR OTHER METHODS AS APPROVED BY THE ENGINEER. GRINDING OR OTHER METHODS USED BY THE CONTRACTOR TO REMOVE HIGH SPOTS IN THE DECK WILL NOT BE MEASURED FOR PAYMENT BUT WILL BE INCIDENTAL TO THE AREA OF LATEX MODIFIED CONCRETE ACCEPTABLY PLACED.

ONLY PRODUCTS SPECIFICALLY MARKETED AS EVAPORATION RETARDANTS SHALL BE UTILIZED AND MUST BE COMPATIBLE WITH THE EVENTUAL SEALING OF THE BRIDGE DECK WITH HMWM RESIN.

PAYMENT FOR COMPLETED AND ACCEPTED QUANTITIES AS MEASURED IN SUPPLEMENTAL SPECIFICATION 847, WILL BE MADE AT THE CONTRACT PRICE BID FOR:

ITEM	UNIT EXTENSION	UNIT	DESCRIPTION
847	10101	SQ YD	LATEX MODIFIED CONCRETE OVERLAY, AS PER PLAN 1½" THIKCNESS
847	30000	LUMP	TEST SLAB

ITEM 898 - QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), (T=17"), AS PER PLAN

FURNISH APPROACH SLABS CONFORMING TO CMS 526 EXCEPT CONCRETE SHALL BE IN ACCORDANCE WITH SPECIAL PROVISION 898 QC/QA CONCRETE. THE ACCEPTED QUANTITIES SHALL INCLUDE: CONCRETE, PARAPETS, REINFORCING STEEL, JOINT FILLERS, JOINT SEALERS, AND JOINT SEALS. THE DEPARTMENT WILL MEASURE APPROACH SLABS BY THE NUMBER OF SQUARE YARDS. THE DEPARTMENT WILL INITIALLY PAY THE FULL BID PRICE TO THE CONTRACTOR UPON COMPLETING THE WORK. THE DEPARTMENT WILL CALCULATE THE FINAL ADJUSTED PAYMENT ACCORDING TO SECTION 0.17 OF THE SPECIAL PROVISION AND INCLUDE APPROACH SLAB CONCRETE AND PARAPET CONCRETE IN THE SAME LOT TO DETERMINE FINAL PAY FACTORS.

ITEM 898 - QC/QA CONCRETE, CLASS QSC3, SUPERSTRUCTURE, (PARAPET)

THIS ITEM SHALL BE IN ACCORDANCE WITH THE PLANS, SP QC/QA CONCRETE AND DESIGN DATA.

ITEM 898 - QC/QA CONCRETE, CLASS QSC3, SUPERSTRUCTURE, AS PER PLAN (SEGMENTAL BOX GIRDER)

THIS ITEM SHALL BE IN ACCORDANCE WITH THE PLANS, SP QC/QA CONCRETE, SPECIAL PROVISION *CONCRETE BOX GIRDER CONSTRUCTION,* AND DESIGN DATA.

THE CONCRETE MIX FOR CONCRETE BOX GIRDERS SHALL MEET THE FOLLOWING REQUIREMENTS IN ADDITION TO THOSE LISTED IN SP QC/QA CONCRETE:

1. CEMENT CONTENT SHALL INCLUDE A MINIMUM OF 20% FLYASH (CLASS F) OR 20% GRANULATED BLAST FURNACE SLAG BY WEIGHT. THE LIMITS OF CEMENT SUBSTITUTIONS ARE SUBJECT TO THE APPROVAL OF THE DEPARTMENT.
2. GRADATION FOR COARSE AGGREGATE UTILIZED IN THE CONCRETE FOR SEGMENTS SHALL BE SUCH THAT 100 PERCENT PASSES A ONE-INCH (25 MM) SIEVE. SCREENINGS WILL NOT BE PERMITTED AS A SILICA SAND SUBSTITUTE IN CONCRETE.
3. THE CONTRACTOR MAY PROPOSE THE USE OF AN APPROVED HRWR ADMIXTURE, TYPE G.
4. THE WATER/CEMENT RATIO SHALL NOT EXCEED 0.40
5. THE CONCRETE SHALL ATTAIN A CHLORIDE PERMEABILITY OF 2,500 COULOMBS OR BETTER AT 60 DAYS.
6. THE CONCRETE MIXTURE SHALL HAVE A MAXIMUM 3-INCH (75 MM) SLUMP PRIOR TO THE ADDITION OF ADMIXTURES AT THE TIME OF PLACEMENT. AFTER THE ADDITION OF ADMIXTURES, THE MAXIMUM SLUMP SHALL NOT EXCEED 7-INCHES (175 MM).

THE CONTRACTOR SHALL SUBMIT THE CONCRETE MIX DESIGN ALONG WITH COMPRESSIVE STRENGTH AND PERMEABILITY TEST RESULTS TO THE DEPARTMENT FOR REVIEW AND APPROVAL A MINIMUM OF 30 CALENDAR DAYS BEFORE AUTHORIZATION IS GIVEN TO CAST THE FIRST SEGMENT.

THE USE OF THE MATURITY METHOD DETAILED IN SP QC/QA CONCRETE WILL NOT BE PERMITTED FOR THIS ITEM. PROJECTED STRENGTH GAIN CURVES WILL NOT BE ACCEPTED.

THE DEPARTMENT WILL NOT CONSIDER VALUE ENGINEERING CREDITS OR OTHER PRICE ADJUSTMENTS FOR PROPOSALS TO UTILIZE HIGH RANGE WATER REDUCER (HRWR) FOR THE CLASS OF CONCRETE COVERED IN THIS ITEM OF WORK. IF THE CONTRACTOR ELECTS TO USE A HRWR FOR THE PROPOSED CONCRETE MIX DESIGN, THE FOLLOWING POINTS SHALL APPLY:

1. ALL TESTING FOR PLASTIC CONCRETE PROPERTIES SHALL BE PERFORMED AFTER THE HRWR HAS BEEN ADDED TO THE CONCRETE MIX.
2. INCLUDE WITH EACH DESIGN MIX A DESCRIPTION OF THE METHODS, SEQUENCES, TIMES, AND PLACES THAT THE HRWR WILL BE INTRODUCED INTO THE CONCRETE MIX FOR EACH PROPOSED USE. ADJUST METHODS, SEQUENCES, TIMES, AND PLACES FOR INTRODUCTION OF THE HRWR TO SUIT THE REQUIREMENTS FOR EACH PROPOSED USE AND CONDITION.
3. AFTER THE ADDITION OF HRWR ADMIXTURES, THE MAXIMUM SLUMP SHALL NOT EXCEED 7 INCHES (175 MM).

BEFORE PLACEMENT IN THE PERMANENT WORK, THE CONTRACTOR SHALL DEMONSTRATE THROUGH PRODUCTION OF AT LEAST THREE (3) BATCHES (3 CUBIC YARDS MINIMUM SIZE EACH) OF CONCRETE CONTAINING THE HRWR THAT THE CONCRETE PLANT CAN PRODUCE CONCRETE CONSISTENTLY MEETING SPECIFIED SLUMP, AIR CONTENT AND COMPRESSIVE STRENGTH REQUIREMENTS. THE CONTRACTOR SHALL ALSO DEMONSTRATE TO THE DEPARTMENT THAT THE CONCRETE CONTAINING THE HRWR ADMIXTURE, IN ACCORDANCE WITH THE PROPOSED DESIGN MIXES, CAN BE PLACED, CONSOLIDATED AND FINISHED UNDER CONDITIONS EXISTING FOR THE PROPOSED USES.

ITEM 898 - QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE, (ABUTMENTS INCLUDING FOOTING), AS PER PLAN (BELOW BEAM SEATS)

THIS ITEM SHALL BE IN ACCORDANCE WITH THE PLANS, SPECIAL PROVISION QC/QA CONCRETE, AND DESIGN DATA.

ITEM 898 - QC/QA CONCRETE, CLASS QSC3, SUBSTRUCTURE, (ABUTMENTS ABOVE BEAM SEATS)

THIS ITEM SHALL BE IN ACCORDANCE WITH THE PLANS, SPECIAL PROVISION QC/QA CONCRETE, AND DESIGN DATA.

ITEM 898 - QC/QA CONCRETE, CLASS QSC3, SUBSTRUCTURE, (PIERS, INCLUDING TWIN WALLS AND BASE):

THIS ITEM SHALL BE IN ACCORDANCE WITH THE PLANS, SPECIAL PROVISION QC/QA CONCRETE AND DESIGN DATA.

THE CONCRETE MIX FOR PIERS, TWIN WALLS AND BASE SHALL MEET THE FOLLOWING IN REQUIREMENTS IN ADDITION TO THOSE LISTED IN SP QC/QA CONCRETE:

1. CEMENT CONTENT SHALL INCLUDE A MINIMUM OF 20% FLYASH (CLASS F) OR 20% GRANULATED BLAST FURNACE SLAG BY WEIGHT. THE LIMITS OF CEMENT SUBSTITUTIONS ARE SUBJECT TO THE APPROVAL OF THE DEPARTMENT.

DESIGN AGENCY
HNTB
1100 Superior Avenue Suite 1300
Cleveland, OH 44114-2533
DESIGNED YEH
DRAWN JJB
REVIEWED RHW
DATE 3/21/08
CHECKED JOL
REVISED
STRUCTURE FILE NUMBER 8302278L/8302294R

STRUCTURE GENERAL NOTES 4
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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2. GRADATION FOR COARSE AGGREGATE UTILIZED IN THE CONCRETE FOR SEGMENTS SHALL BE SUCH THAT 100 PERCENT PASSES A ONE-INCH (25 MM) SIEVE. SCREENINGS WILL NOT BE PERMITTED AS A SILICA SAND SUBSTITUTE IN CONCRETE.
3. THE CONTRACTOR MAY PROPOSE THE USE OF AN APPROVED HRWR ADMIXTURE,TYPE G
4. THE WATER/CEMENT RATIO SHALL NOT EXCEED 0.40
5. THE CONCRETE SHALL ATTAIN A CHLORIDE PERMEABILITY OF 2,500 COULOMBS OR BETTER AT 60 DAYS.
6. THE CONCRETE MIXTURE SHALL HAVE A MAXIMUM 3-INCH (75 MM) SLUMP PRIOR TO THE ADDITION OF ADMIXTURES AT THE TIME OF PLACEMENT. AFTER THE ADDITION OF ADMIXTURES, THE MAXIMUM SLUMP SHALL NOT EXCEED 7-INCHES (175 MM).

THE CONTRACTOR SHALL SUBMIT THE CONCRETE MIX DESIGN ALONG WITH COMPRESSIVE STRENGTH AND PERMEABILITY TEST RESULTS TO THE DEPARTMENT FOR REVIEW AND APPROVAL A MINIMUM OF 30 CALENDAR DAYS BEFORE AUTHORIZATION IS GIVEN TO CAST THE FIRST SEGMENT.

THE DEPARTMENT WILL NOT CONSIDER VALUE ENGINEERING CREDITS OR OTHER PRICE ADJUSTMENTS FOR PROPOSALS TO UTILIZE HIGH RANGE WATER REDUCER (HRWR) FOR THE CLASS OF CONCRETE COVERED IN THIS ITEM OF WORK. IF THE CONTRACTOR ELECTS TO USE A HRWR FOR THE PROPOSED CONCRETE MIX DESIGN, THE FOLLOWING POINTS SHALL APPLY:

1.ALL TESTING FOR PLASTIC CONCRETE PROPERTIES SHALL BE PERFORMED AFTER THE HRWR HAS BEEN ADDED TO THE CONCRETE MIX.
2.INCLUDE WITH EACH DESIGN MIX A DESCRIPTION OF THE METHODS, SEQUENCES, TIMES, AND PLACES THAT THE HRWR WILL BE INTRODUCED INTO THE CONCRETE MIX FOR EACH PROPOSED USE. ADJUST METHODS, SEQUENCES, TIMES, AND PLACES FOR INTRODUCTION OF THE HRWR TO SUIT THE REQUIREMENTS FOR EACH PROPOSED USE AND CONDITION.
3.AFTER THE ADDITION OF HRWR ADMIXTURES, THE MAXIMUM SLUMP SHALL NOT EXCEED 7 INCHES (175 MM).

BEFORE PLACEMENT IN THE PERMANENT WORK, THE CONTRACTOR SHALL DEMONSTRATE THROUGH PRODUCTION OF AT LEAST THREE (3) BATCHES (3 CUBIC YARDS MINIMUM SIZE EACH) OF CONCRETE CONTAINING THE HRWR THAT THE CONCRETE PLANT CAN PRODUCE CONCRETE CONSISTENTLY MEETING SPECIFIED SLUMP, AIR CONTENT AND COMPRESSIVE STRENGTH REQUIREMENTS. THE CONTRACTOR SHALL ALSO DEMONSTRATE TO THE DEPARTMENT THAT THE CONCRETE CONTAINING THE HRWR ADMIXTURE, IN ACCORDANCE WITH THE PROPOSED DESIGN MIXES, CAN BE PLACED, CONSOLIDATED AND FINISHED UNDER CONDITIONS EXISTING FOR THE PROPOSED USES.

ITEM 898 - QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE (FOOTING) (PIERS):

THIS ITEM SHALL BE IN ACCORDANCE WITH THE PLANS, SP QC/QA CONCRETE FOR STRUCTURES AND DESIGN DATA.

ITEM 690 - AS-BUILT CONSTRUCTION PLANS

THE ITEM SHALL CONSIST OF FURNISHING ALL OF THE LABOR, MATERIALS, EQUIPMENT, AND SERVICES REQUIRED TO PREPARE, MAINTAIN, AND SUBMIT A COMPLETE SET OF AS-BUILT CONSTRUCTION PLANS IN ACCORDANCE WITH THESE NOTES.

DURING THE COURSE OF THE PROJECT, THE CONTRACTOR SHALL MAINTAIN A RECORD SET OF AS-CONSTRUCTED DRAWINGS. THIS RECORD SET SHALL BE UPDATED AT A MINIMUM ON A MONTHLY BASIS AND SHALL BE MADE AVAILABLE IN PART OR IN THEIR

ENTIRETY AS REQUESTED BY THE ENGINEER.

PRIOR TO THE FINAL ACCEPTANCE OF THE CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO THE DEPARTMENT A COMPLETE SET OF AS-BUILT CONSTRUCTION PLANS THAT REFLECTS THE COMPLETED WORK OF THE PROJECT IN ITS FINAL FORM. THE AS-BUILT CONSTRUCTION PLANS MAY BE GENERATED FROM THE REVISED ORIGINAL CONTRACT DRAWINGS, SHOP DRAWINGS OR NEWLY CREATED DRAWINGS OR A COMBINATION. THE FORM THAT IS CHOSEN BY THE CONTRACTOR SHALL BE COMPLETE WITH ALL SIGNIFICANT REVISIONS TO THE ORIGINAL CONTRACT DRAWINGS CLEARLY DELINEATED. THE FINAL SUBMITTED AS-BUILT CONSTRUCTION PLANS SHALL BE COMPLETE AND STAND ALONE WITHOUT ANY REFERENCE TO PREVIOUS DRAWINGS USED FOR THE PROJECT. WHEN THE AS-BUILT CONSTRUCTION PLANS ARE COMPLETE AND READY FOR SUBMITTAL TO THE DEPARTMENT, THE CONTRACTOR OR HIS ASSIGNED REPRESENTATIVE SHALL ENDORSE THEM BY SIGNING AND SEALING THE TITLE SHEET. THE CONTRACTOR OR HIS ASSIGNED REPRESENTATIVE ENDORSING THE PLANS SHALL BE A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF OHIO.

THE AS-BUILT CONSTRUCTION PLANS SHALL BE SUBMITTED ELECTRONICALLY IN THE FORM OF TIFF IMAGES. TEXT SIZE SHALL BE 0.156 INCHES PREFERRED, 0.125 INCHES MINIMUM, WHEN PRINTED TO A FULL SIZE, 22" X 34" SHEET. ODOT WILL PROVIDE ELECTRONIC TIFF IMAGE FILES, OF THE CONTRACT PLANS, TO THE CONTRACTOR PRIOR TO THE BEGINNING OF THE PROJECT.

THE AS-BUILT CONSTRUCTION PLANS SHALL SHOW THE FOLLOWING ITEMS IN ADDITION TO THE INFORMATION SHOWN ON THE CONSTRUCTION DRAWINGS:

1. ALL DEVIATIONS FROM THE ORIGINAL APPROVED CONSTRUCTION PLANS WHICH RESULT IN A CHANGE OF LOCATION, MATERIAL, TYPE OR SIZE OF WORK;

2. ANY REVISIONS TO THE STEEL REINFORCEMENT AND/OR POST-TENSIONING IN SUFFICIENT DETAIL SO THAT THE BARS AND/OR TENDONS CAN BE LOCATED FROM OUTSIDE THE CONCRETE;

3. ANY REVISIONS TO EXPANSION JOINT SEALS, DAMS OR MODULAR CONSTRUCTION METHODS FROM THE ORIGINAL CONSTRUCTION DRAWINGS;

4. ANY REVISIONS TO BEARING TYPES INCLUDING MOVEMENT ALLOWANCES;

5. ANY UTILITIES, PIPES, WELLHEADS, ABANDONED PAVEMENTS, FOUNDATIONS OR OTHER MAJOR OBSTRUCTIONS DISCOVERED AND REMAINING IN PLACE WHICH ARE NOT SHOWN, OR DO NOT CONFORM TO LOCATION OR DEPTHS SHOWN IN THE CONSTRUCTION PLANS. UNDERGROUND FEATURES SHALL BE SHOWN AND LABELED ON THE RECORD-DRAWING PLANS IN TERMS OF STATION, OFFSET AND ELEVATION;

6. THE LOCATION AND ELEVATION OF ANY BURIED OR CUT OFF CONSTRUCTION MEMBERS (E.G. TEMPORARY PILES) WHICH ARE LEFT IN PLACE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

NOTATIONS SHALL ALSO BE MADE OF LOCATIONS AND THE EXTENT OF USE OF MATERIALS, OTHER THAN SOIL, FOR EMBANKMENT CONSTRUCTION (ROCK, BROKEN CONCRETE ETC.)

ADDITIONAL PLAN SHEETS MAY BE NEEDED AS NECESSARY TO SHOW THE AS-BUILT WORK THAT WAS NOT INCLUDED IN THE CONSTRUCTION PLANS.

THE PLAN INDEX SHALL SHOW OR IDENTIFY THE PLAN SHEETS THAT HAVE AS-BUILT CONSTRUCTION CHANGES APPEARING ON THEM.

UPON COMPLETION OF THE PHYSICAL WORK, BUT PRIOR TO THE REQUEST FOR FINAL PAYMENT AND PROJECT CLOSE-OUT, THE CONTRACTOR SHALL SUBMIT TWO COPIES OF THE AS-BUILT CONSTRUCTION PLANS TO THE ENGINEER FOR APPROVAL. AFTER THE DEPARTMENT HAS APPROVED THE AS-BUILT CONSTRUCTION PLANS, THE CONTRACTOR SHALL SUBMIT THE ELECTRONIC TIFF IMAGE FILES AND ANY ASSOCIATED COMPUTATIONS RELEVANT TO THE FINAL STRUCTURE NOT ALREADY SPECIFIED IN OTHER NOTES OR SPECIFICATIONS TO THE ENGINEER.

ACCEPTANCE OF THE AS-BUILT CONSTRUCTION PLANS AND DELIVERY OF THE ELECTRONIC TIFF IMAGE FILES AND THE ASSOCIATED COMPUTATIONS BY THE CONTRACTOR TO THE ENGINEER IS REQUIRED PRIOR TO THE WORK BEING ACCEPTED AND PAYMENT MADE. THE FINAL ESTIMATE WILL NOT BE PAID UNTIL THE RECORD DRAWINGS ARE APPROVED.

THIS ITEM WILL BE MEASURED FOR PAYMENT AS A LUMP SUM FOR FURNISHING ALL OF THE LABOR, MATERIALS, EQUIPMENT, AND SERVICES REQUIRED TO PREPARE, MAINTAIN, AND SUBMIT ELECTRONIC TIFF IMAGE FILES OF AS-BUILT CONSTRUCTION PLANS IN ACCORDANCE WITH THESE NOTES.

NO SEPARATE MEASUREMENT WILL BE MADE FOR INTERMEDIATE SUBMITTALS REQUESTED BY THE ENGINEER.

THIS WORK SHALL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR AS-BUILT CONSTRUCTION PLANS WHICH PRICE SHALL INCLUDE ALL OF THE COSTS FOR LABOR, EQUIPMENT, MATERIALS, REPRODUCTION AND DELIVERY TO PREPARE, MAINTAIN, AND SUBMIT TWO SETS OF AS-BUILT CONSTRUCTION PLANS TO THE ENGINEER.

NO SEPARATE PAYMENT WILL BE MADE FOR INTERMEDIATE SUBMITTALS.

ABBREVIATIONS

THE FOLLOWING IS A LIST OF ABBREVIATIONS USED IN THESE PLANS:

ABUT. - ABUTMENT
ALT. - ALTERNATE
APPR. - APPROACH
BOT. - BOTTOM
BRG. - BEARING
CLR. - CLEAR
CONST. - CONSTRUCTION
CONSTR. - CONSTRUCTION
C.P.P. - CORRUGATED PLASTIC PIPE
CU. YD. - CUBIC YARDS
DIA. - DIAMETER
DIM. - DIMENSION
DIR. - DIRECTIONAL
DWG. - DRAWING
E - EAST
E.F. - EACH FACE
ELEV. - ELEVATION
EMBED - EMBEDMENT
EQ. - EQUAL
EX. - EXTERNAL
EXIST. - EXISTING
EXP - EXPANSION
F.A. - FORWARD ABUTMENT
FEX. - FUTURE EXTERNAL
F.S. - FIELD SPLICE
FT. - FOOT/FEET
FTG. - FOOTING
FWD. - FORWARD
HORIZ. - HORIZONTAL
HR - HOUR
IN. - INCH/INCHES
INV. - INVERT
I.R. - INSIDE RADIUS
JT. - JOINT
KSI (K.S.I.) - KIPS PER SQUARE INCH
LBS. - POUNDS
LIN. FT. - LINEAR FOOT/FEET
LONG. - LONGITUDINAL
LT. - LEFT
MAX. - MAXIMUM
MIN. - MINIMUM
MISC. - MISCELLANEOUS
N - NORTH
NO. - NUMBER
NON-PERF - NON PERFORATED
O.D. - OUTSIDE DIAMETER
P.E.J.F. - PREFORMED EXPANSION JOINT FILLER
PROP. - PROPOSED
P.S.I.(PSI) - POUNDS PER SQUARE INCH
PSF - POUNDS PER SQUARE FOOT
PVI - POINT OF VERTICAL INTERSECTION
PT. - POST TENSIONING
R.A. - REAR ABUTMENT
REQ'D. - REQUIRED
RT. - RIGHT
R/W - RIGHT OF WAY
SER - SERIES
SER. INCR. - SERIES INCREMENT
SHT. - SHEET
SHTS. - SHEETS
SPA. - SPACES
SQ. FT. - SQUARE FEET
SQ. YD. - SQUARE YARDS
S.R. - STATE ROUTE
STA. - STATION
STD. - STANDARD
SYM. - SYMMETRICAL
THK. - THICKNESS
T - TOP
THRU - THROUGH
TRANS. - TRANSVERSE
TYP. - TYPICAL
VC - VERTICAL CURVE
VERT. - VERTICAL

ITEM 847 - LATEX MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), AS PER PLAN:

THE DEPARTMENT WILL PAY FOR THE MATERIAL ONLY OF VARIABLE DEPTH LMC TO ACCOUNT FOR THE DIFFERENCE IN THICKNESS BETWEEN THE ROADWAY SURFACE OF THE CONCRETE BOX GIRDER SUPERSTRUCTURE AND BOTTOM OF THE UNIFORM 1 ½" LATEX MODIFIED CONCRETE OVERLAY, AS PER PLAN, (1 ½" THICKNESS).

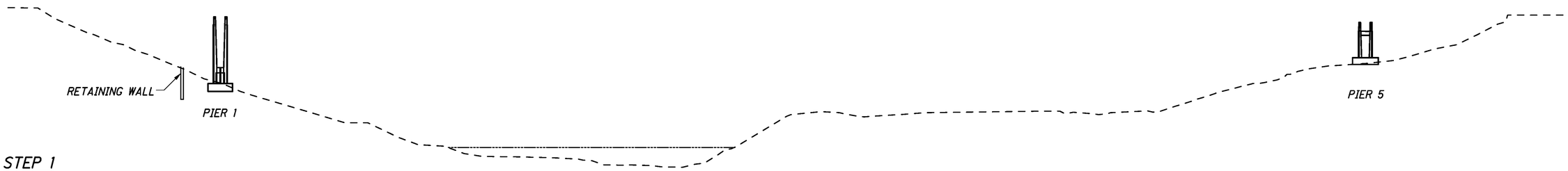
A QUANTITY OF 540 CUBIC YARDS HAS BEEN CARRIED TO THE STRUCTURE ESTIMATED QUANTITIES FOR COMPLETION OF THIS ITEM.

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DESIGN AGENCY
HNTB 1100 Superior Avenue, Suite 1300 Cleveland, OH 44114-2533
DATE 3/21/08
REVIEWED RHW
STRUCTURE FILE NUMBER 8302278L/8302294R
DRAWN JJB
REVISED
DESIGNED YEH
CHECKED JTW

STRUCTURE GENERAL NOTES 5
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

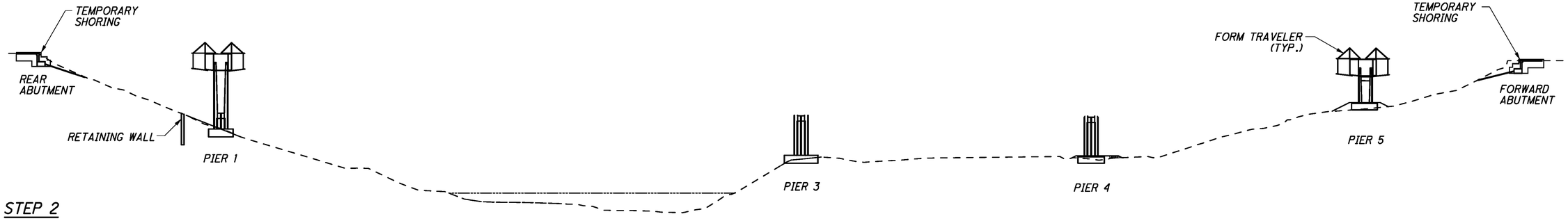
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PID No. 22950



STEP 1

1-1 CONSTRUCT RETAINING WALL AT PIER 1, FOR RETAINING WALL CONSTRUCTION SEQUENCE, SEE SHT. 51A OF 204
1-2 CONSTRUCT FOUNDATION, PIER BASE, AND PIER COLUMN WALLS AT PIERS 1
1-3 CONSTRUCT FOUNDATION AND PIER COLUMN WALLS AT PIERS 5.

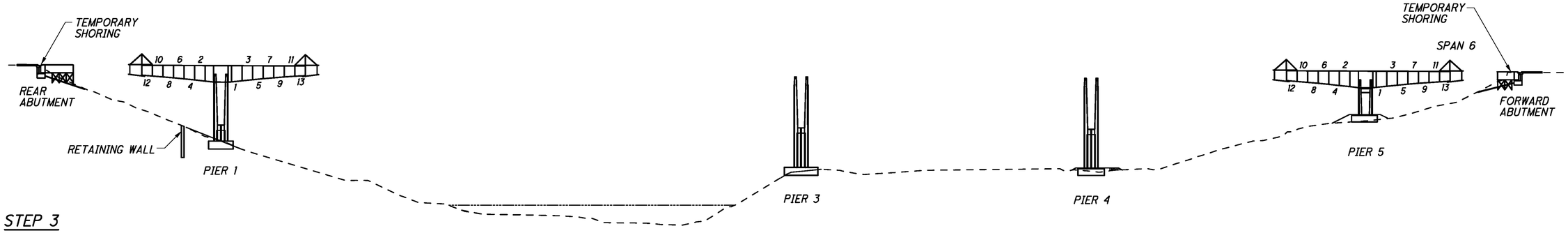
STEP 1



STEP 2

2-1 CONSTRUCT TEMPORARY SHEETING AT LOCATIONS OF FORWARD AND REAR ABUTMENTS
2-2 CONSTRUCT REAR AND FORWARD ABUTMENTS. DO NOT PLACE TOP PORTION OF ABUTMENT BACKWALL UNTIL ALL SUPERSTRUCTURE JACKING IS COMPLETE
2-3 CONSTRUCT PIER SEGMENT AND ASSEMBLE FORM TRAVELERS AT PIERS 1 & 5.
2-4 CONSTRUCT FOUNDATION AND PIER BASE AT PIERS 3 & 4.

STEP 2



STEP 3

3-1 START CASTING SEGMENTS AND STRESS TOP SLAB TENDONS IN SEQUENCE SHOWN AT PIERS 1 & 5.
3-2 CONSTRUCT PIER COLUMN WALLS AT PIERS 3 & 4.
3-3 ASSEMBLE FALSEWORK AND CONSTRUCT CAST ON FALSEWORK PORTION OF SPANS 1 & 6.

STEP 3

NOTES:

1. CONSTRUCTION SEQUENCE FOR SOUTH BOUND BRIDGE SHOWN. NORTH BOUND BRIDGE IS THE SAME.
2. WORK THIS SHEETS WITH 16 & 17 OF 204.
3. LAYDOWN AREA IS NOT SHOWN FOR CLARITY. FOR DETAILS, SEE SHEET 2A OF 204.

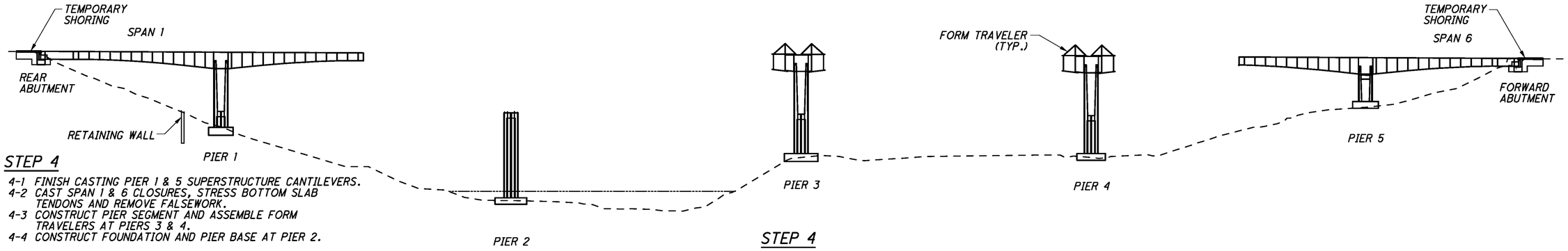
DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH	JFA	JB	10/30/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MEA		8302278L/8302294R	

CONSTRUCTION SEQUENCE 1
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

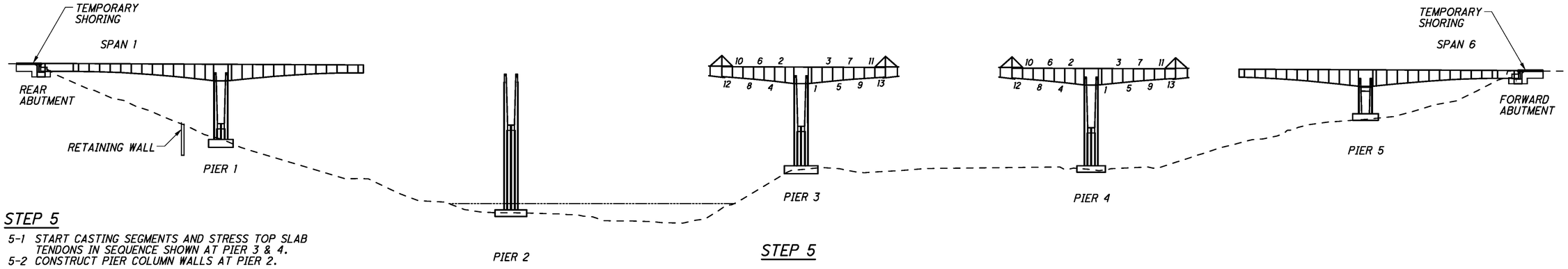
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STEP 4

4-1 FINISH CASTING PIER 1 & 5 SUPERSTRUCTURE CANTILEVERS.
4-2 CAST SPAN 1 & 6 CLOSURES, STRESS BOTTOM SLAB TENDONS AND REMOVE FALSEWORK.
4-3 CONSTRUCT PIER SEGMENT AND ASSEMBLE FORM TRAVELERS AT PIERS 3 & 4.
4-4 CONSTRUCT FOUNDATION AND PIER BASE AT PIER 2.

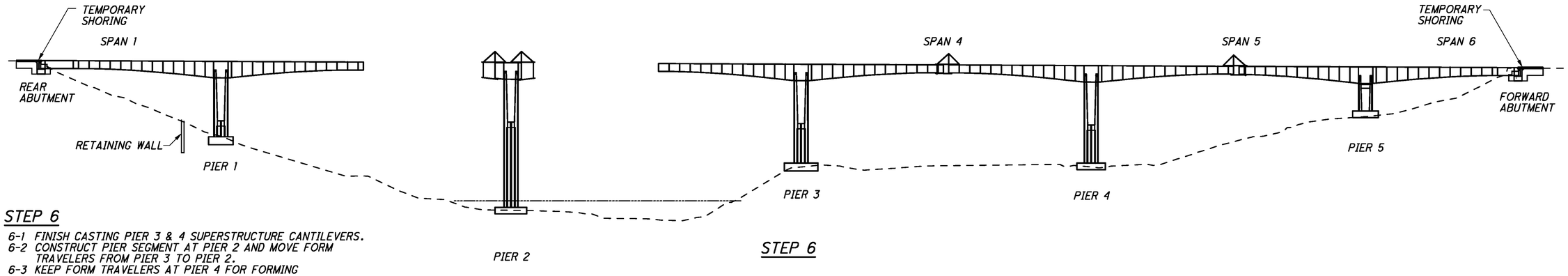
STEP 4



STEP 5

5-1 START CASTING SEGMENTS AND STRESS TOP SLAB TENDONS IN SEQUENCE SHOWN AT PIER 3 & 4.
5-2 CONSTRUCT PIER COLUMN WALLS AT PIER 2.

STEP 5



STEP 6

6-1 FINISH CASTING PIER 3 & 4 SUPERSTRUCTURE CANTILEVERS.
6-2 CONSTRUCT PIER SEGMENT AT PIER 2 AND MOVE FORM TRAVELERS FROM PIER 3 TO PIER 2.
6-3 KEEP FORM TRAVELERS AT PIER 4 FOR FORMING SPAN 4 & 5 CLOSURE POURS.

STEP 6

NOTES:

1. WORK THIS SHEET WITH SHEETS 15 & 17 OF 204.

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MEA		8302278L/8302294R	

CONSTRUCTION SEQUENCE 2

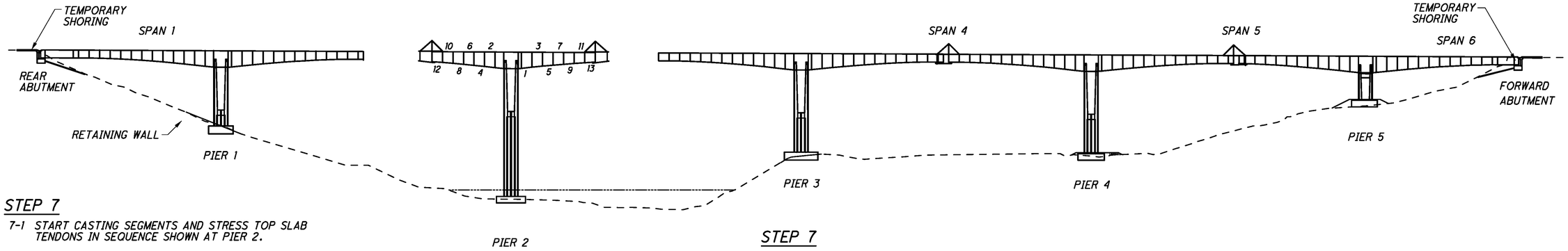
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

16 / 204

282 / 470

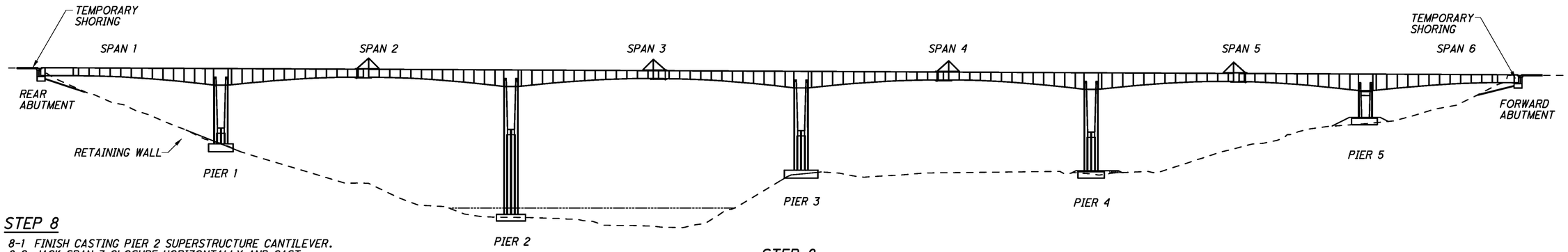
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STEP 7

7-1 START CASTING SEGMENTS AND STRESS TOP SLAB TENDONS IN SEQUENCE SHOWN AT PIER 2.

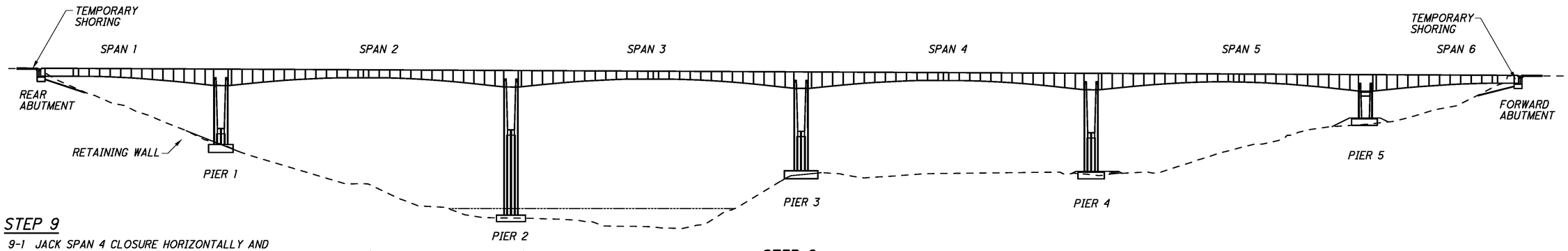
STEP 7



STEP 8

8-1 FINISH CASTING PIER 2 SUPERSTRUCTURE CANTILEVER.
8-2 JACK SPAN 3 CLOSURE HORIZONTALLY AND CAST SPAN 3 CLOSURE. JACK SPAN 3 BOTTOM PT AND TOP CONTINUITY PT, REMOVE JACKS AT SPAN 3 CLOSURE
8-3 JACK SPAN 2 CLOSURE HORIZONTALLY AND CAST SPAN 2 CLOSURE. JACK SPAN 2 BOTTOM AND TOP CONTINUITY PT, REMOVE JACKS AT SPAN 2 CLOSURE

STEP 8



STEP 9

9-1 JACK SPAN 4 CLOSURE HORIZONTALLY AND CAST SPAN 4 CLOSURE. JACK SPAN 4 BOTTOM PT AND TOP CONTINUITY PT, REMOVE JACKS AT SPAN 3 CLOSURE
9-2 CAST SPAN 5 CLOSURE. JACK SPAN 5 BOTTOM PT AND TOP CONTINUITY PT, REMOVE JACKS AT SPAN 3 CLOSURE

STEP 9

STEP 10

10-1 JACK EXTERNAL PT

STEP 11

11-1 CAST TOP PORTION OF ABUTMENT BACKWALL
11-2 ADD BARRIERS AND OVERLAY

JACKING NOTES

JACK CANTILEVERS IN SPAN 3 APART WITH A 220 KIP LONGITUDINAL FORCE
JACK CANTILEVERS IN SPAN 2 APART WITH A 600 KIP LONGITUDINAL FORCE
JACK CANTILEVERS IN SPAN 4 APART WITH A 750 KIP LONGITUDINAL FORCE
FOR DETAIL REQUIREMENT OF JACKING, SEE THE SPECIAL PROVISION - "CONCRETE BOX GIRDER CONSTRUCTION".

PLACE FORCE NEAR OR AROUND THE CENTER OF GRAVITY OF BOX GIRDER SUCH THAT P/A COMPRESSIVE FORCE IS ACHIEVED WITH NO BENDING.

JACKING CALCULATIONS AND PLANS SHALL BE SUBMITTED FOR REVIEW

NOTES:

1. WORK THIS SHEET WITH SHEETS 15 AND 16 OF 204
2. THE STRUCTURAL DESIGN HAS ASSUMED THE CONSTRUCTION SEQUENCE SHOWN. THE SUGGESTED CONSTRUCTION PROCEDURE IS NOT PART OF THE CONTRACT AND IS ONLY INCLUDED FOR INFORMATIONAL PURPOSES. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DESIGN AND SAFETY OF THEIR OWN PREFERRED CONSTRUCTION SEQUENCE. ANY DEVIATION FROM THE SUGGESTED CONSTRUCTION SEQUENCE SHOWN WILL REQUIRE APPROVAL BY ODOT. CONTRACTOR SHALL SUBMIT DETAILED CALCULATIONS FOR REVIEW AS PART OF CASTING MANUAL SPECIFIED IN THE SPECIAL PROVISION - "CONCRETE BOX GIRDER CONSTRUCTION".
3. TWO PAIRS OF FORM TRAVELERS HAVE BEEN ASSUMED IN THE SEQUENCE SHOWN. ASSUME WEIGHT OF ONE FORM TRAVELER IS 280 KIPS.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
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DESIGNED	DRAWN	REVIEWED	DATE
YEH	JFA	JB	

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REVISED
STRUCTURE FILE NUMBER 8302278L/8302294R

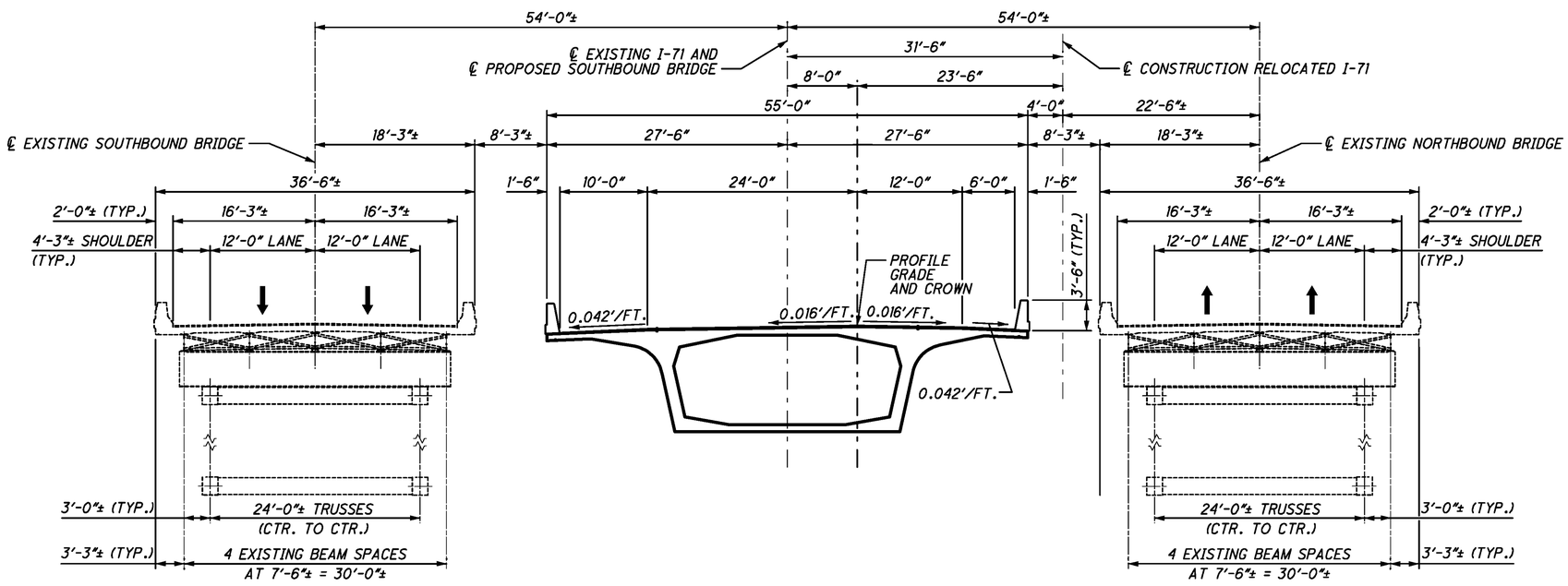
CONSTRUCTION SEQUENCE 3
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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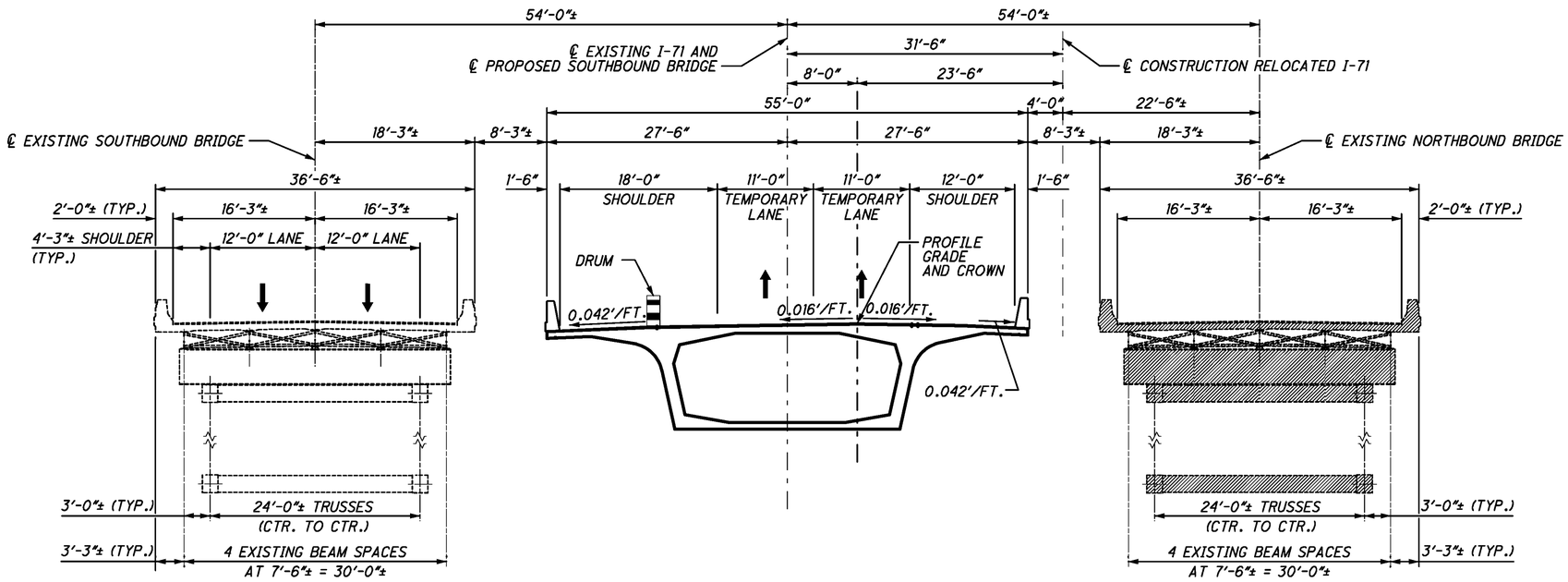
PHASE II CONSTRUCTION

PHASE I CONSTRUCTION:

1. *CONSTRUCT WORK ZONE PAVEMENT AND ERECT REQUIRED SIGNS.*

PHASE II CONSTRUCTION:

1. *CONSTRUCT PROPOSED SOUTHBOUND BRIDGE BETWEEN EXISTING NORTHBOUND BRIDGE AND EXISTING SOUTHBOUND BRIDGE.*



PHASE III REMOVAL

PHASE III REMOVAL:

1. *REROUTE NORTHBOUND TRAFFIC FROM EXISTING NORTHBOUND BRIDGE TO PROPOSED SOUTHBOUND BRIDGE.*
2. *REMOVE EXISTING NORTHBOUND SUPERSTRUCTURE, PIERS, ABUTMENTS AND APPROACH SLABS.*

LEGEND:

LIMITS OF REMOVAL

NOTE:

1. *FOR ADDITIONAL PHASE CONSTRUCTION INFORMATION, SEE MAINTENANCE OF TRAFFIC SHEETS.*

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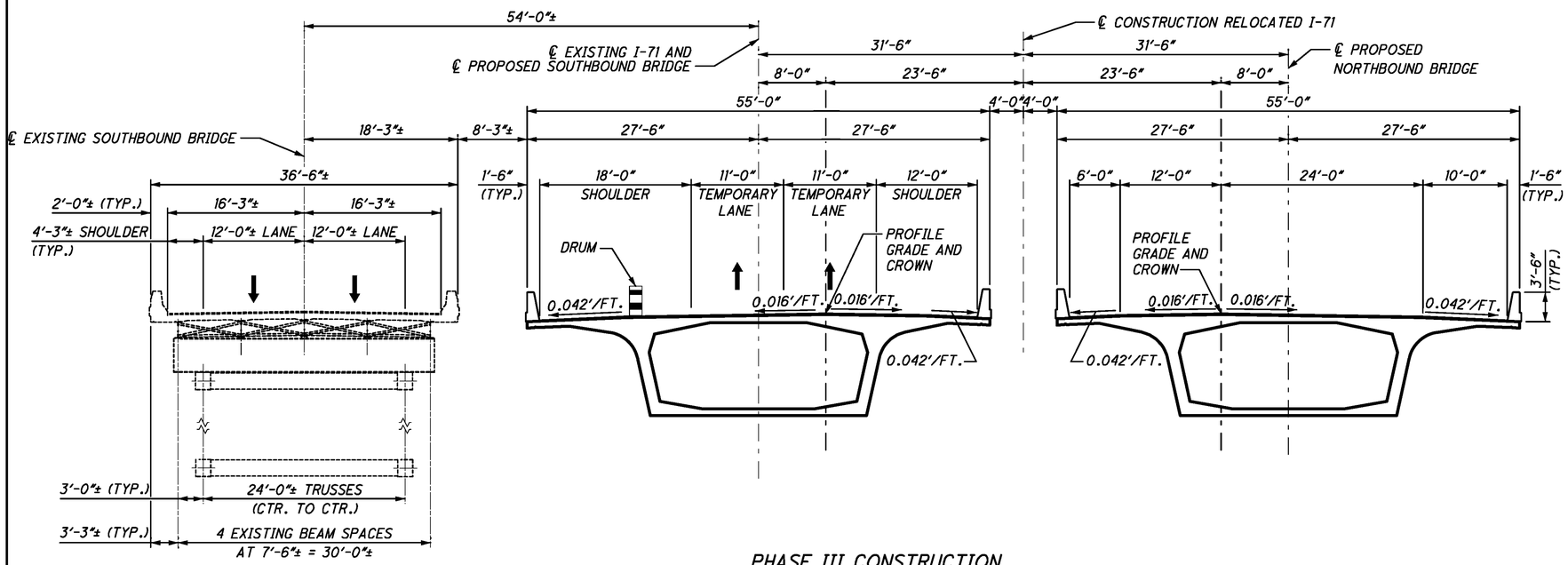
DESIGNED	DRAWN	REVIEWED	DATE
YEH	JJB	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BTA		8302278L/8302294R	

PHASE CONSTRUCTION DETAILS

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

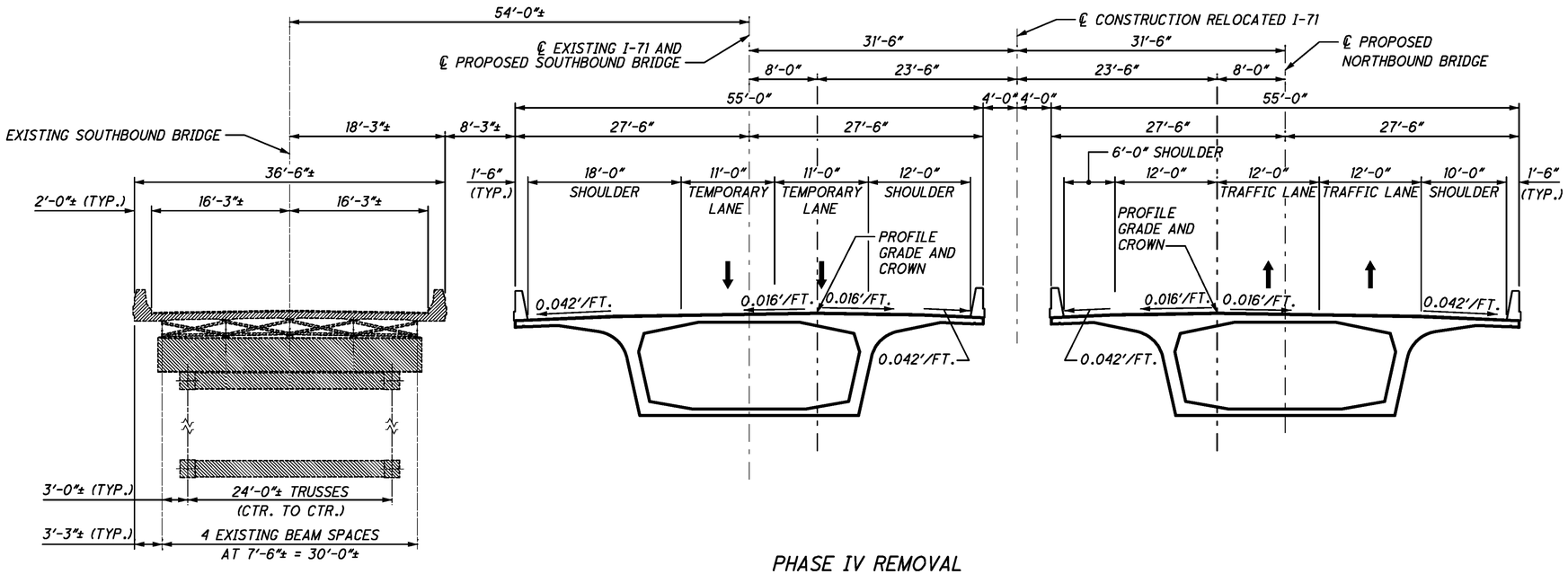
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PHASE III CONSTRUCTION

PHASE III CONSTRUCTION:

1. CONSTRUCT PROPOSED NORTHBOUND BRIDGE.



PHASE IV REMOVAL

PHASE IV REMOVAL:

1. REROUTE NORTHBOUND TRAFFIC FROM PROPOSED SOUTHBOUND BRIDGE TO PROPOSED NORTHBOUND BRIDGE.
2. REROUTE SOUTHBOUND TRAFFIC FROM EXISTING SOUTHBOUND BRIDGE TO PROPOSED SOUTHBOUND BRIDGE.
3. REMOVE EXISTING SOUTHBOUND SUPERSTRUCTURE, PIERS, ABUTMENTS AND APPROACH SLABS.

LEGEND:

LIMITS OF REMOVAL

NOTE:

1. FOR ADDITIONAL PHASE CONSTRUCTION INFORMATION, SEE MAINTENANCE OF TRAFFIC SHEETS.

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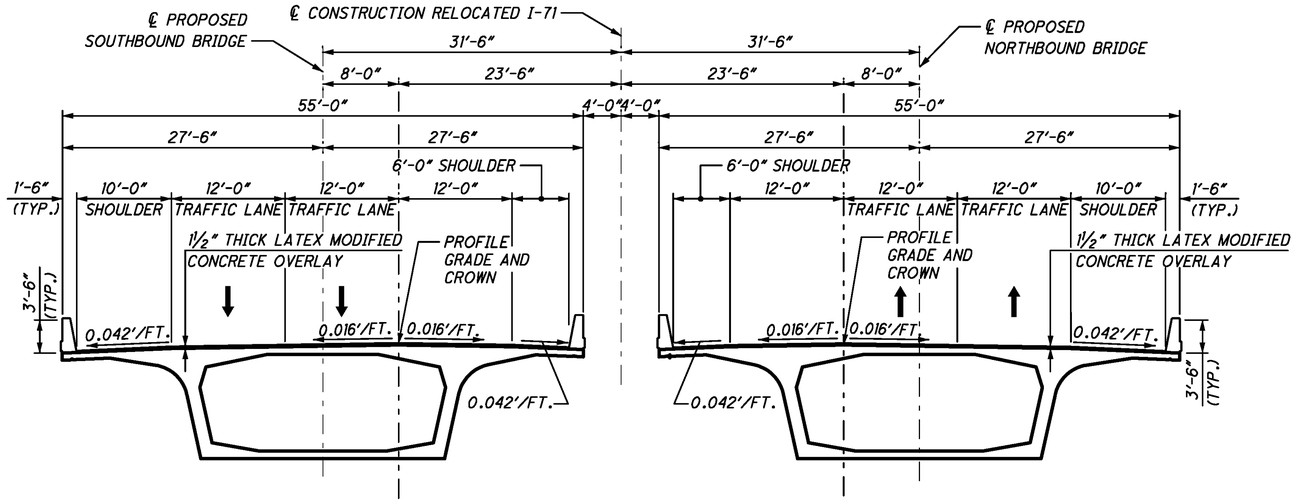
DESIGNED	DRAWN	REVIEWED	DATE
YEH	JJB	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BTA		8302278L/8302294R	

PHASE CONSTRUCTION DETAILS

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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TYPICAL SECTION

NOTE:

1. FOR PHASE CONSTRUCTION DETAILS, SEE SHEETS 18 AND 19 OF 204.

DESIGN AGENCY
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DESIGNED	DRAWN	REVIEWED	DATE
YEH	JJB	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
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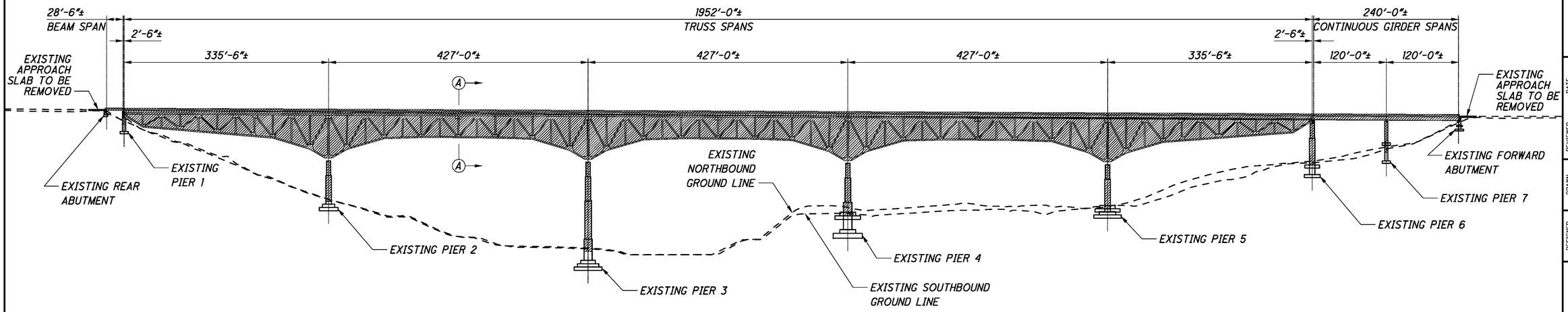
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BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

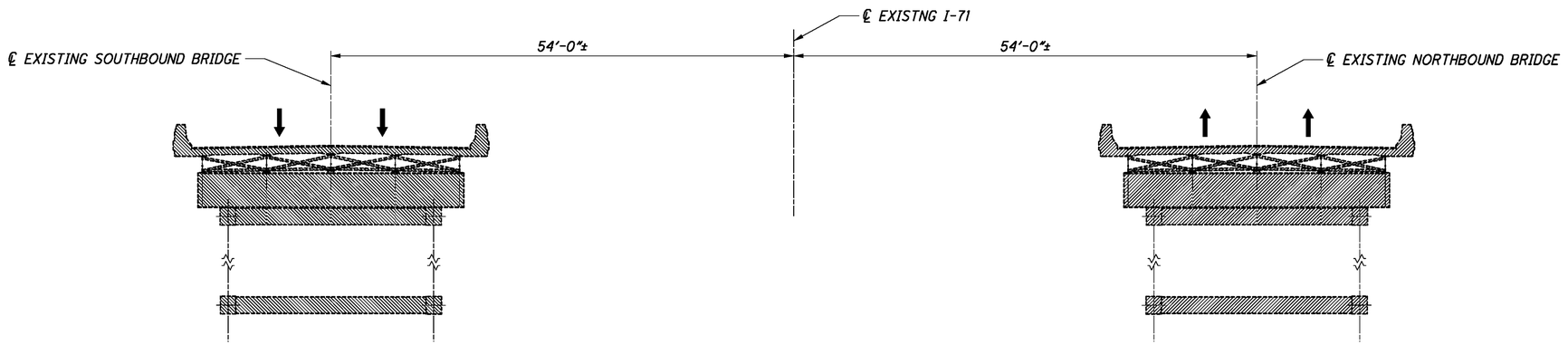
20 / 204

286 / 470

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ELEVATION



SECTION A-A

LEGEND:

LIMITS OF REMOVAL

NOTES:

1. PAYMENT FOR REMOVAL OF THE EXISTING STRUCTURES SHALL BE INLCUDED WITH ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.
2. FOR SUBSTRUCTURE REMOVAL LIMITS, SEE SHEETS 22 AND 23 OF 204.

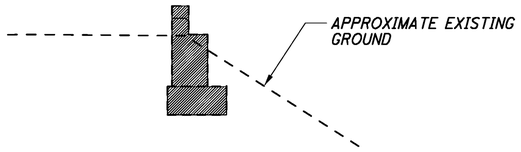
DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH	JJB	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BTA		8302278L/8302294R	

REMOVAL DETAILS 1
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

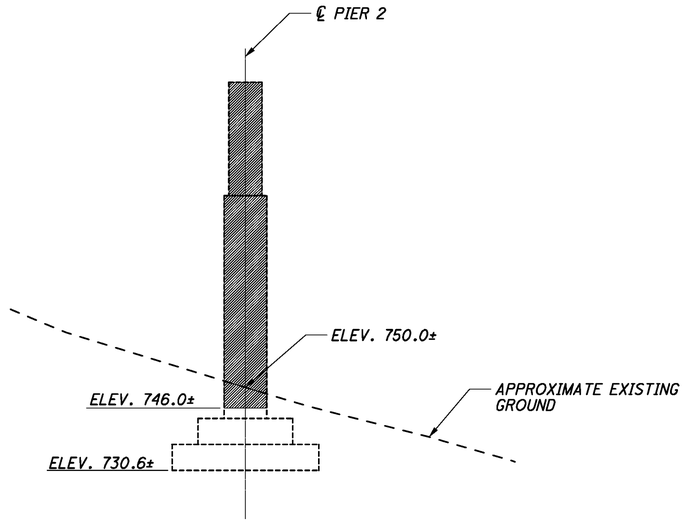
WAR-71-14.20
PID No. 22950

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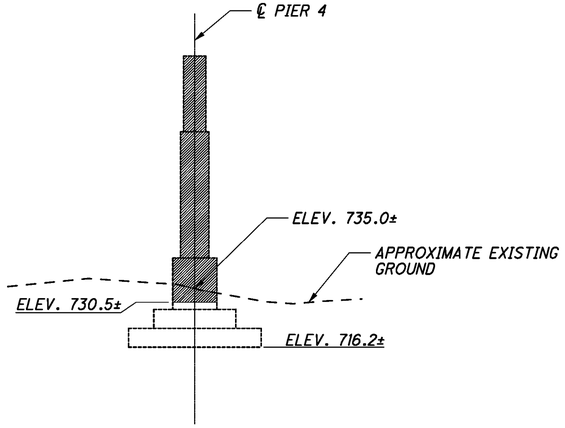
REAR ABUTMENT

NOTE: REMOVE NORTHBOUND AND SOUTHBOUND ABUTMENTS TO THE BOTTOM OF FOOTING. EXISTING SOUTHBOUND REAR ABUTMENT PILES TO BE REMOVED TO BOTTOM OF EXISTING FOOTING.

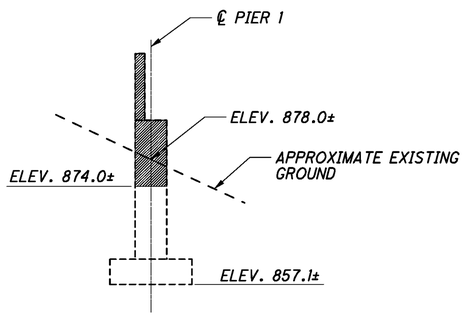


PIER 2 NORTHBOUND

(PIER 2 SOUTHBOUND SIMILAR)

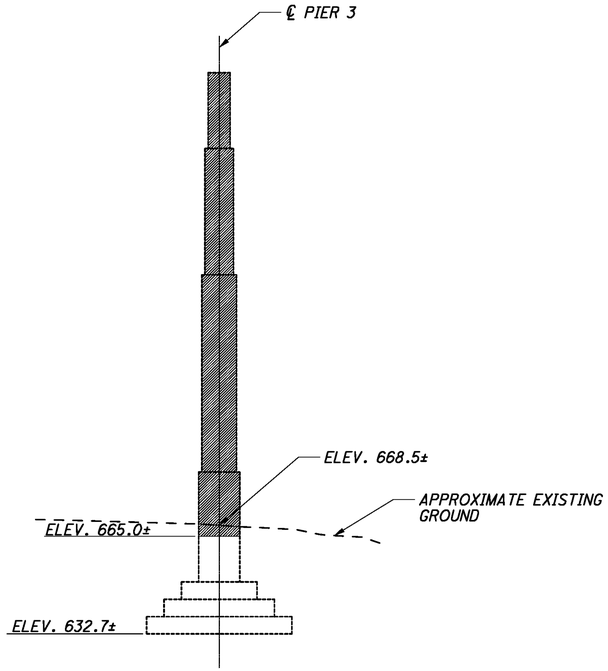


PIER 4 NORTHBOUND



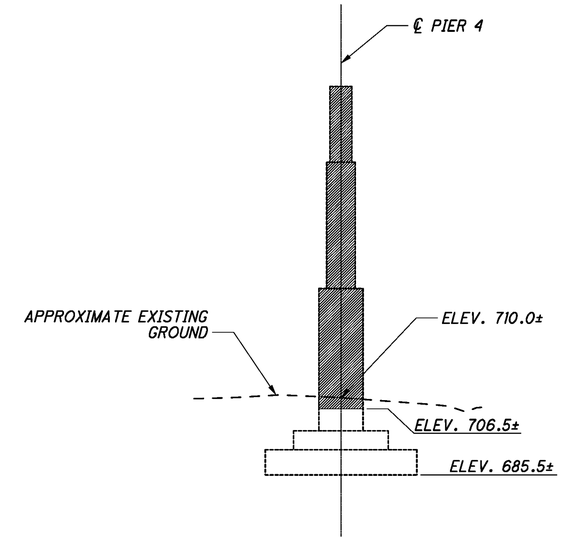
PIER 1 NORTHBOUND

(PIER 1 SOUTHBOUND SIMILAR)



PIER 3 NORTHBOUND

(PIER 3 SOUTHBOUND SIMILAR)



PIER 4 SOUTHBOUND

LEGEND:

LIMITS OF REMOVAL

NOTES:

1. PAYMENT FOR REMOVAL OF EXISTING STRUCTURES SHALL BE INCLUDED WITH ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

2. BACKFILL VOIDS FROM EXISTING SUBSTRUCTURE REMOVALS IN ACCORDANCE WITH ITEM 203. PAYMENT FOR BACKFILLING SHALL BE CONSIDERED INCIDENTAL TO ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

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1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED YEH | DRAWN JTW | REVIEWED RHW | DATE 03/21/08
CHECKED BTA | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

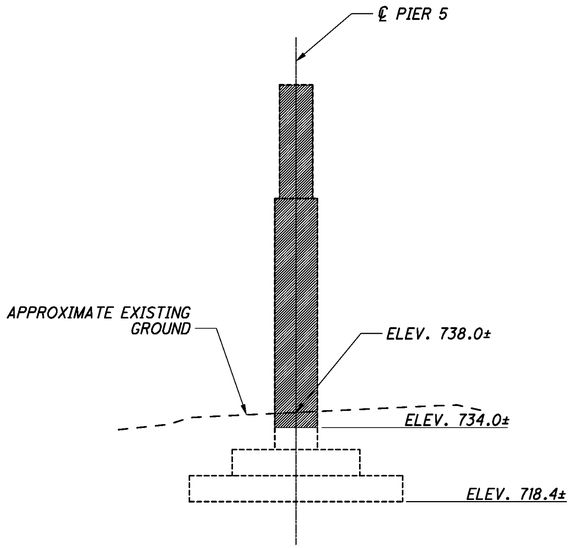
REMOVAL DETAILS 2
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

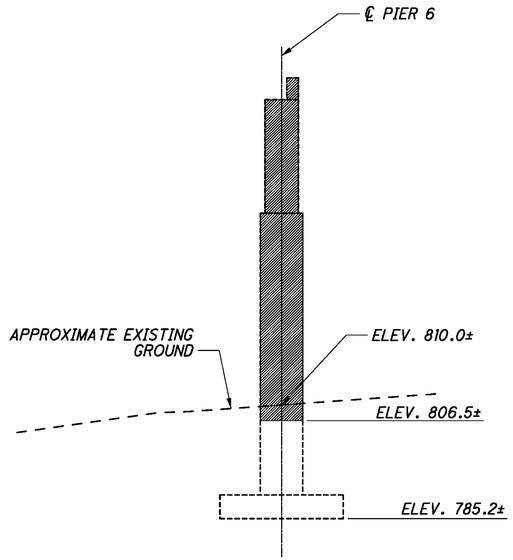
22/204

288/470

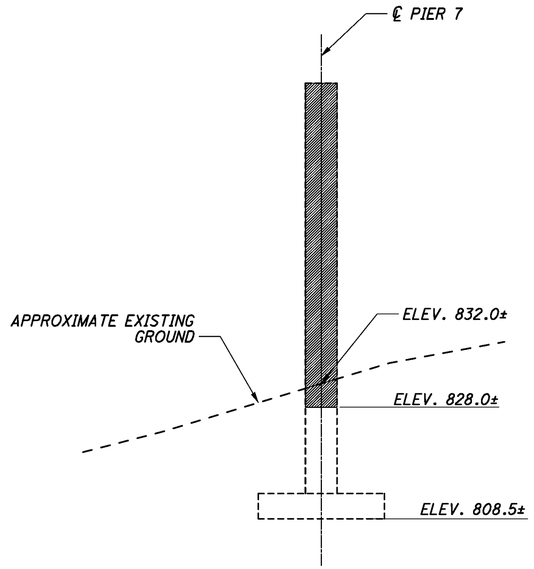
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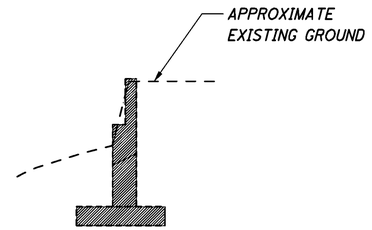
PIER 5 NORTHBOUND



PIER 6 NORTHBOUND

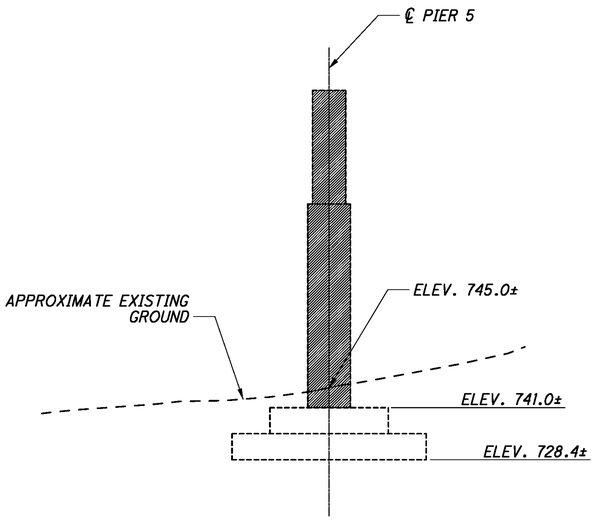


PIER 7 NORTHBOUND

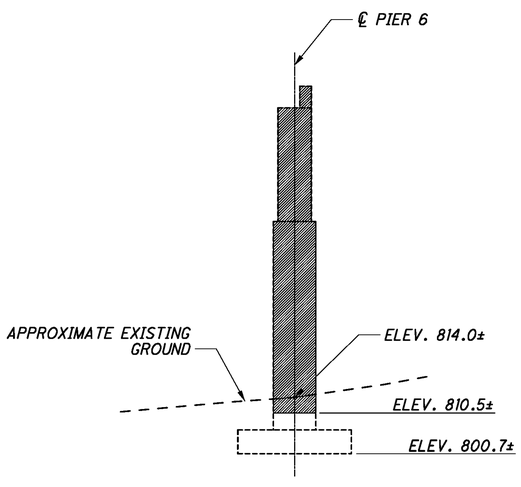


FORWARD ABUTMENT

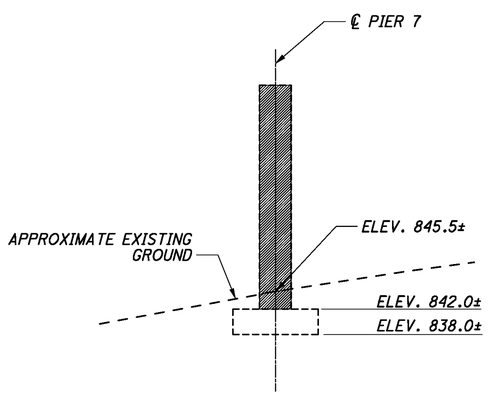
NOTE: REMOVE NORTHBOUND AND SOUTHBOUND ABUTMENTS TO THE BOTTOM OF FOOTING.



PIER 5 SOUTHBOUND



PIER 6 SOUTHBOUND



PIER 7 SOUTHBOUND

LEGEND:

LIMITS OF REMOVAL

NOTES:

1. PAYMENT FOR REMOVAL OF EXISTING STRUCTURES SHALL BE INCLUDED WITH ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

2. BACKFILL VOIDS FROM EXISTING SUBSTRUCTURE REMOVALS IN ACCORDANCE WITH ITEM 203. PAYMENT FOR BACKFILLING SHALL BE CONSIDERED INCIDENTAL TO ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

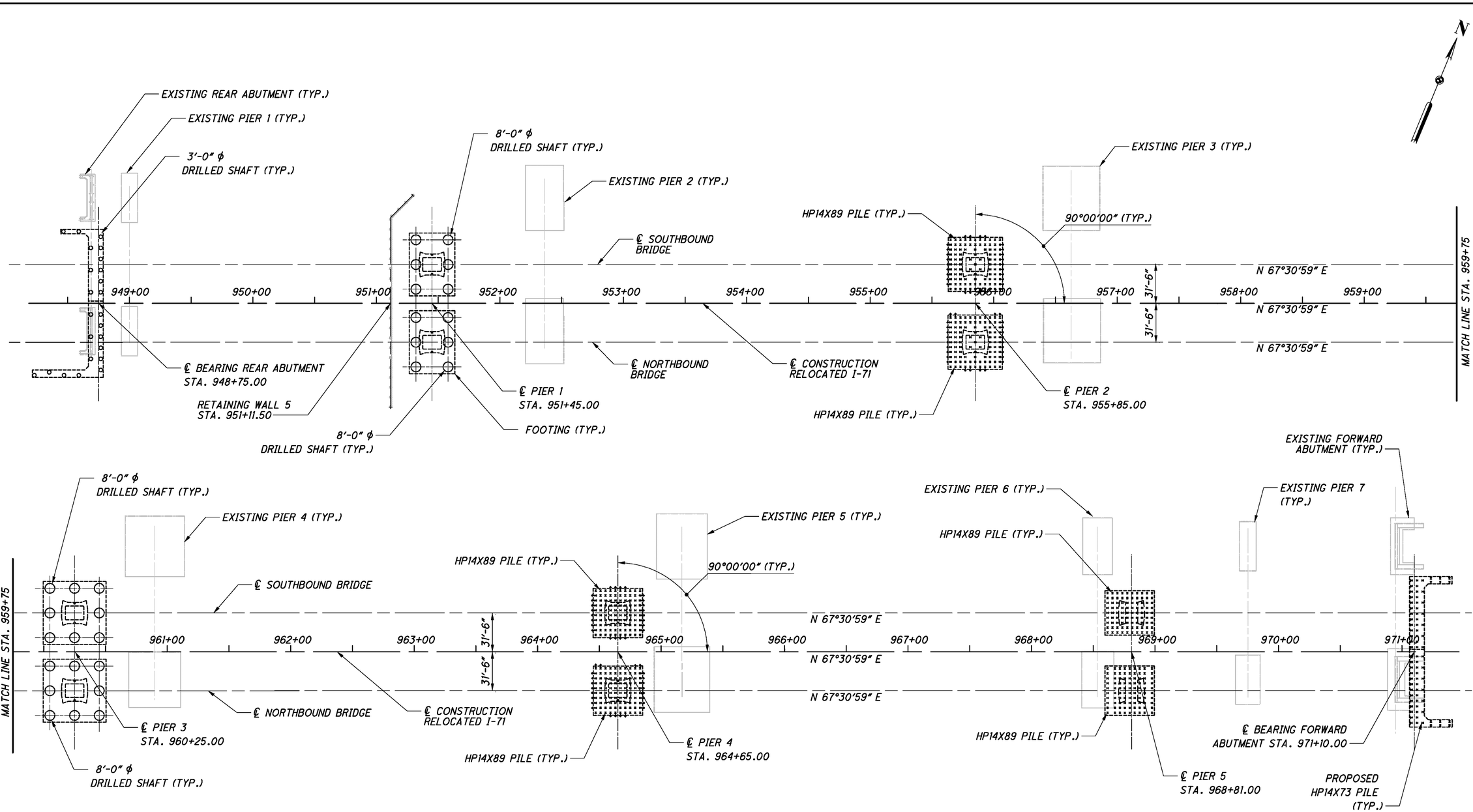
DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH	JTW	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BTA		8302278L/8302294R	

REMOVAL DETAILS 3
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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FOUNDATION PLAN

NOTES:

1. FOR FOUNDATION LAYOUT, SEE SHEETS 25 THROUGH 28 OF 204
2. ALL PILES FOR PIER 2, PIER 4 AND PIER 5 SHALL BE HP14X89 PILES WITH Fy = 50KSI.
3. ALL PILES FOR THE FORWARD ABUTMENT SHALL BE HP14X73 PILES WITH Fy = 50KSI.

DESIGN AGENCY
HNTB
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Cleveland, OH 44114-2531

DATE 03/21/08
REVIEWED RHW
STRUCTURE FILE NUMBER 8302278L/8302294R
DRAWN RGN
REVISED
DESIGNED YEH
CHECKED BTA

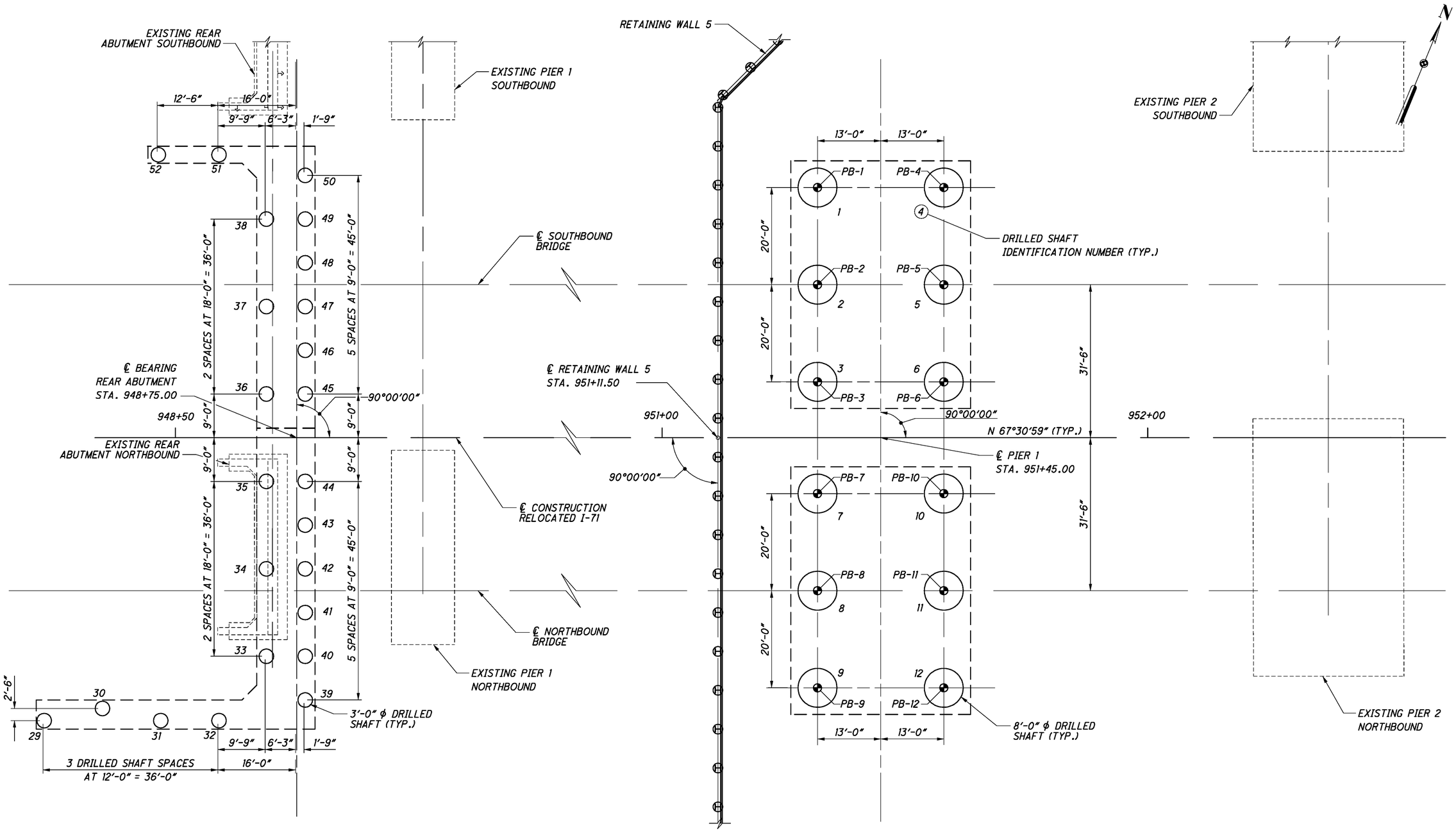
FOUNDATION PLAN
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

24 / 204

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DRILLED SHAFT PLAN

LEGEND:

◓ - DRILLED SHAFT PROOF BORING; LOCATIONS AS SHOWN BELOW:

BORING	STATION	OFFSET
PB-1	951+32.00	51.5' LT.
PB-2	951+32.00	31.5' LT.
PB-3	951+32.00	11.5' LT.
PB-4	951+58.00	51.5' LT.
PB-5	951+58.00	31.5' LT.
PB-6	951+58.00	11.5' LT.

BORING	STATION	OFFSET
PB-7	951+32.00	11.5' RT.
PB-8	951+32.00	31.5' RT.
PB-9	951+32.00	51.5' RT.
PB-10	951+58.00	11.5' RT.
PB-11	951+58.00	31.5' RT.
PB-12	951+58.00	51.5' RT.

NOTES:

1. FOR ADDITIONAL REAR ABUTMENT DRILLED SHAFT DETAILS, SEE SHEETS 36 AND 36A OF 204.
2. FOR ADDITIONAL PIER 1 DRILLED SHAFT DETAILS, SEE SHEETS 46 THRU 48 OF 204.
3. FOR RETAINING WALL 5 DETAILS, SEE SHEETS 51 THRU 52A OF 204.
4. "PB-" DESIGNATES DRILLED SHAFT PROOF BORING. SEE STRUCTURE GENERAL NOTES SHEET 13 OF 204 FOR ADDITIONAL INFORMATION.

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YEH/JJB	RGN	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BTA		8302278L/8302294R	

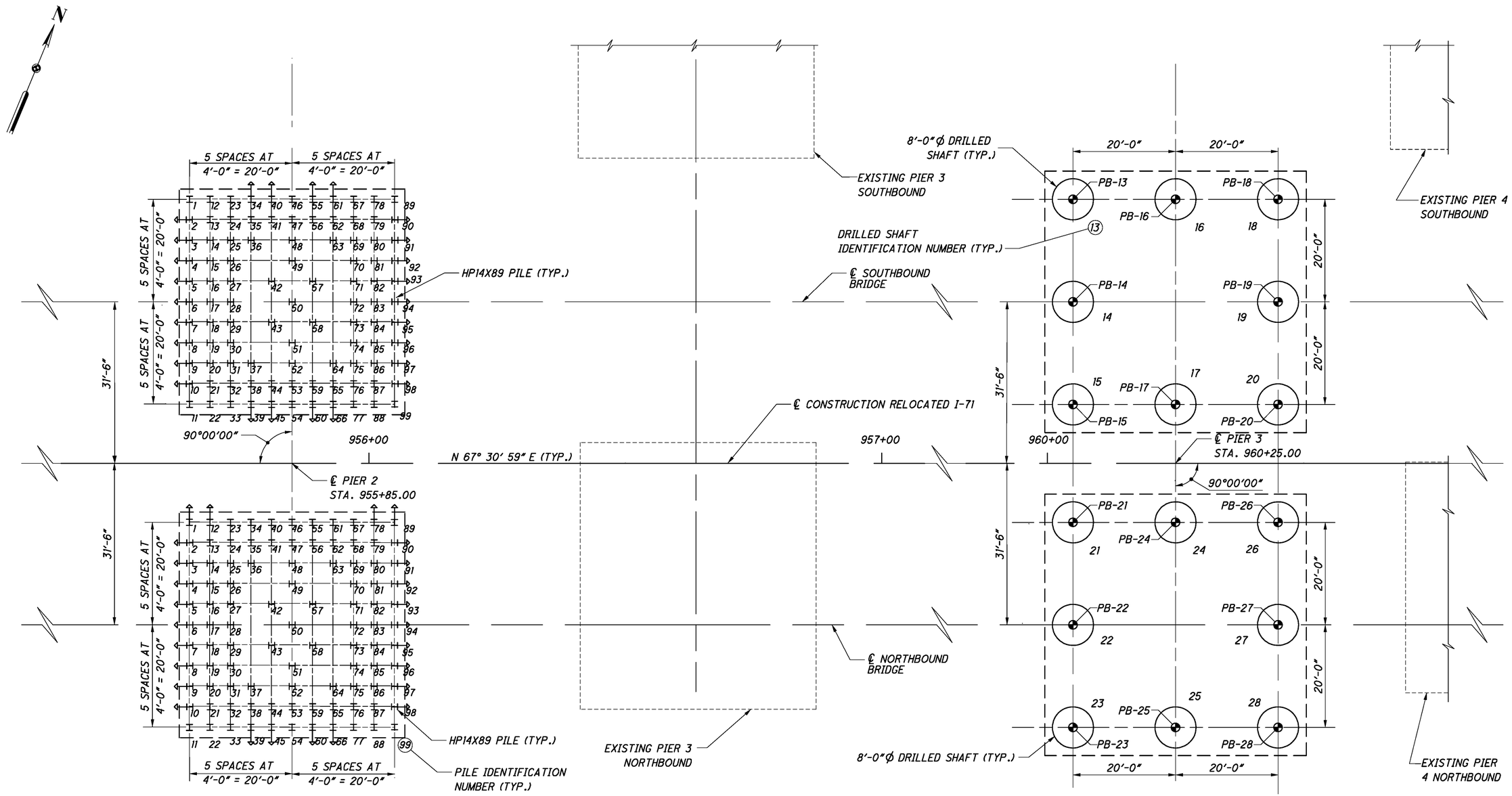
FOUNDATION LAYOUT 1
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

25 / 204

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DRILLED SHAFT AND PILING PLAN

LEGEND:

⊣⊢ INDICATES PILE BATTERED 1:4 IN THE DIRECTION SHOWN

◉ - DRILLED SHAFT PROOF BORING; LOCATIONS AS SHOWN BELOW:

BORING	STATION	OFFSET
PB-13	960+05.00	51.5' LT.
PB-14	960+05.00	31.5' LT.
PB-15	960+05.00	11.5' LT.
PB-16	960+25.00	51.5' LT.
PB-17	960+25.00	11.5' LT.
PB-18	960+45.00	51.5' LT.
PB-19	960+45.00	31.5' LT.
PB-20	960+45.00	11.5' LT.

BORING	STATION	OFFSET
PB-21	960+05.00	11.5' RT.
PB-22	960+05.00	31.5' RT.
PB-23	960+05.00	51.5' RT.
PB-24	960+25.00	11.5' RT.
PB-25	960+25.00	51.5' RT.
PB-26	960+45.00	11.5' RT.
PB-27	960+45.00	31.5' RT.
BP-28	960+45.00	51.5' RT.

NOTES:

1. FOR ADDITIONAL PIER 3 DRILLED SHAFT DETAILS, SEE SHEETS 62 THRU 64 OF 204.
2. ALL PILES SHALL BE HP14X89 PILES WITH Fy = 50KSI AND AN ULTIMATE BEARING VALUE OF 314 TONS. PAYMENT FOR HP14X89 PILES SHALL BE INCLUDED WITH ITEM 507 STEEL PILES MISC.: HP14X89, FURNISHED AND DRIVEN.
3. PIER 2 SOUTHBOUND PILE IDENTIFICATION NUMBERS SHALL BE PREFIXED "2S". PIER 2 NORTHBOUND PILE IDENTIFICATION NUMBERS SHALL BE PREFIXED "2N".
4. "PB-" DESIGNATES DRILLED SHAFT PROOF BORING. SEE STRUCTURE GENERAL NOTES SHEET 13 OF 204 FOR ADDITIONAL INFORMATION.

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HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED YEH/JJB | DRAWN RGN | REVIEWED RHW | DATE 03/21/08
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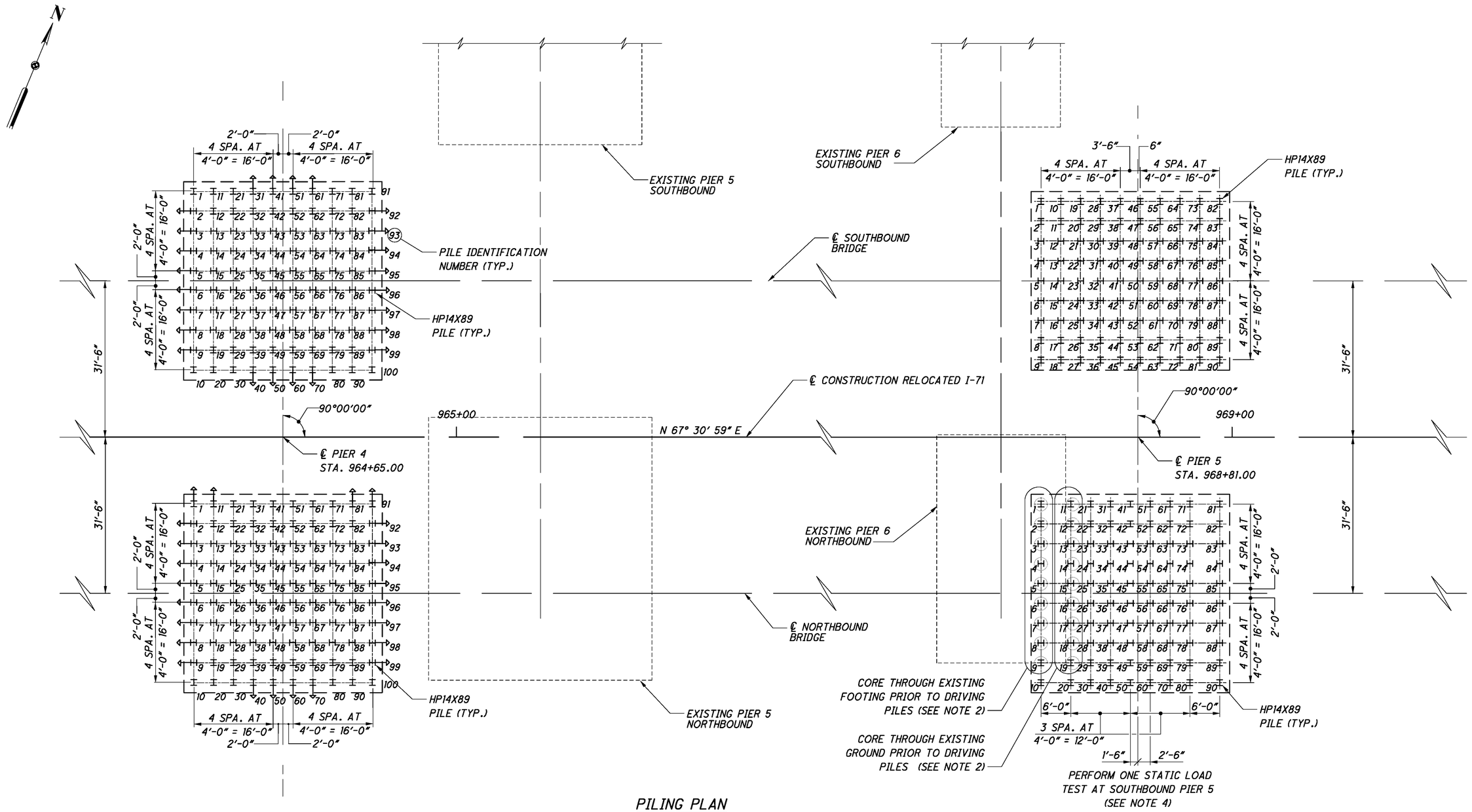
FOUNDATION LAYOUT 2
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

26 / 204

292 / 470

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PILING PLAN

LEGEND:

⟵⊣ INDICATES PROPOSED PILE BATTERED 1:4 IN THE DIRECTION SHOWN

NOTES:

1. ALL PILES SHALL BE HP14X89 PILES, WITH Fy = 50KSI AND AN ULTIMATE BEARING VALUE OF 323 TONS FOR PIER 4, 321 TONS FOR PIER 5 NORTHBOUND AND 304 TONS FOR PIER 5 SOUTHBOUND. PAYMENT FOR HP14X89 SHALL BE INLCUDED WITH ITEM 507 STEELPILES MISC.: HP14X89, FURNISHED AND DRIVEN.
2. ESTIMATE CORING PER PILE LOCATION
   DEPTH THROUGH SOIL ABOVE EXISTING FOOTING: = 21 FEET
   DEPTH TO BOTTOM OF EXISTING FOOTING: = 5 FEET
   TOTAL DEPTH: = 26 FEET
3. PAYMENT FOR CORING SHALL BE INCLUDED WITH ITEM 507 PRE-BORED HOLES, AS PER PLAN.
4. PILES REQUIRING CORING MAY NOT BE USED FOR STATIC LOAD TEST.
5. PIER 4 SOUTHBOUND PILE IDENTIFICATION NUMBERS SHALL BE PREFIXED "4S". PIER 4 NORTHBOUND PILE IDENTIFICATION NUMBERS SHALL BE PREFIXED "4N".
6. PIER 5 SOUTHBOUND PILE IDENTIFICATION NUMBERS SHALL BE PREFIXED "5S". PIER 5 NORTHBOUND PILE IDENTIFICATION NUMBERS SHALL BE PREFIXED "5N".

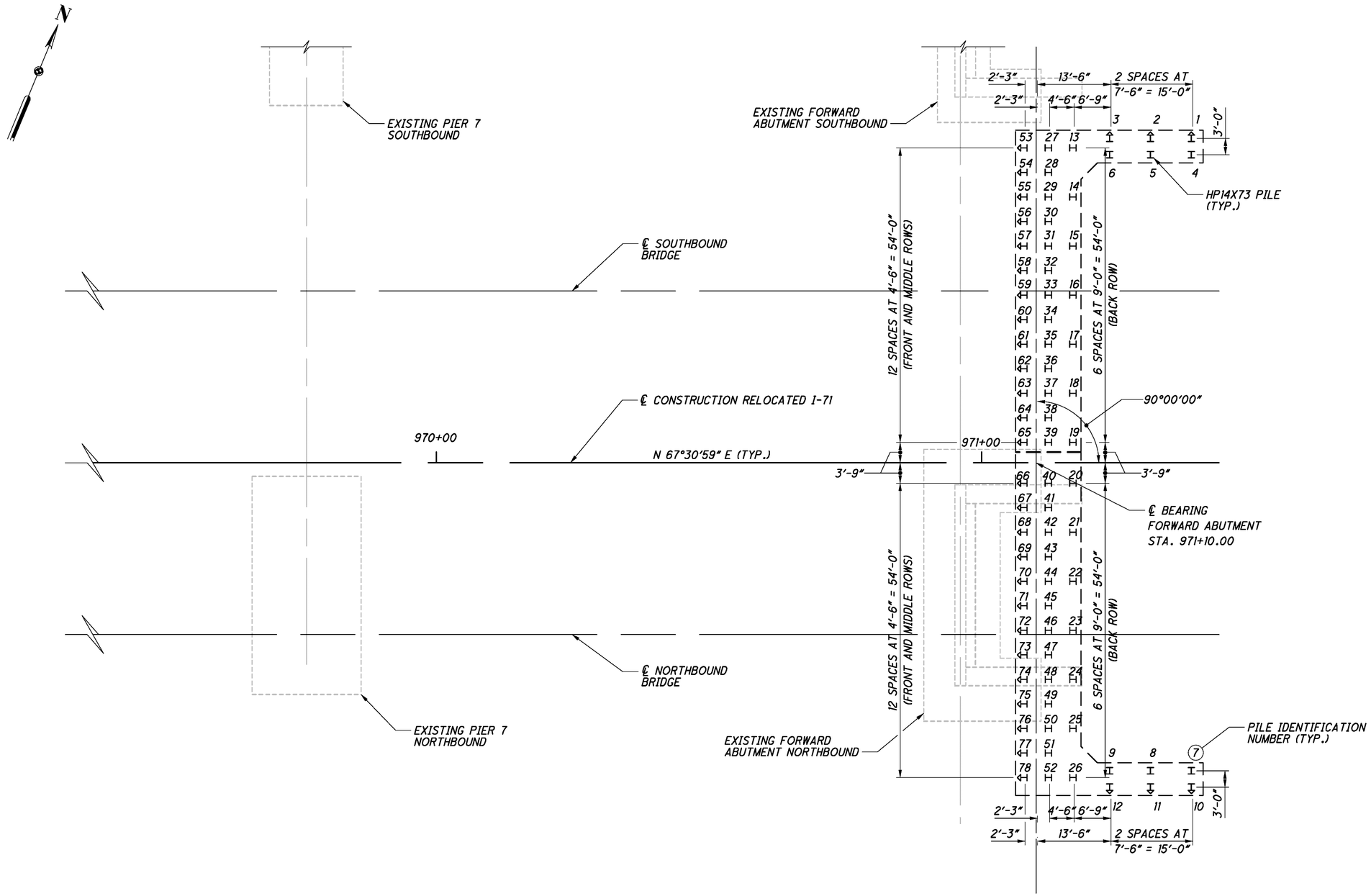
DESIGN AGENCY
HNTB
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Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH/JJB	RGN	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BTA		8302278L/8302294R	

FOUNDATION LAYOUT 3
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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PILING PLAN

LEGEND:

⟷ INDICATES PROPOSED PILE BATTERED 1:4 IN THE DIRECTION SHOWN

NOTES:

1. ALL PILES SHALL BE HP14X73 PILES, WITH Fy = 50KSI AND AN ULTIMATE BEARING VALUE OF 190 TONS. PAYMENT FOR HP14X73 PILES SHALL BE INLCUDED WITH ITEM 507 STEEL PILES HP14X73, FURNISHED AND DRIVEN.
2. FORWARD ABUTMENT PILE IDENTIFICATION NUMBERS SHALL BE PREFIEXED "FA".

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YEH/JJB	RGN	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BTA		8302278L/8302294R	

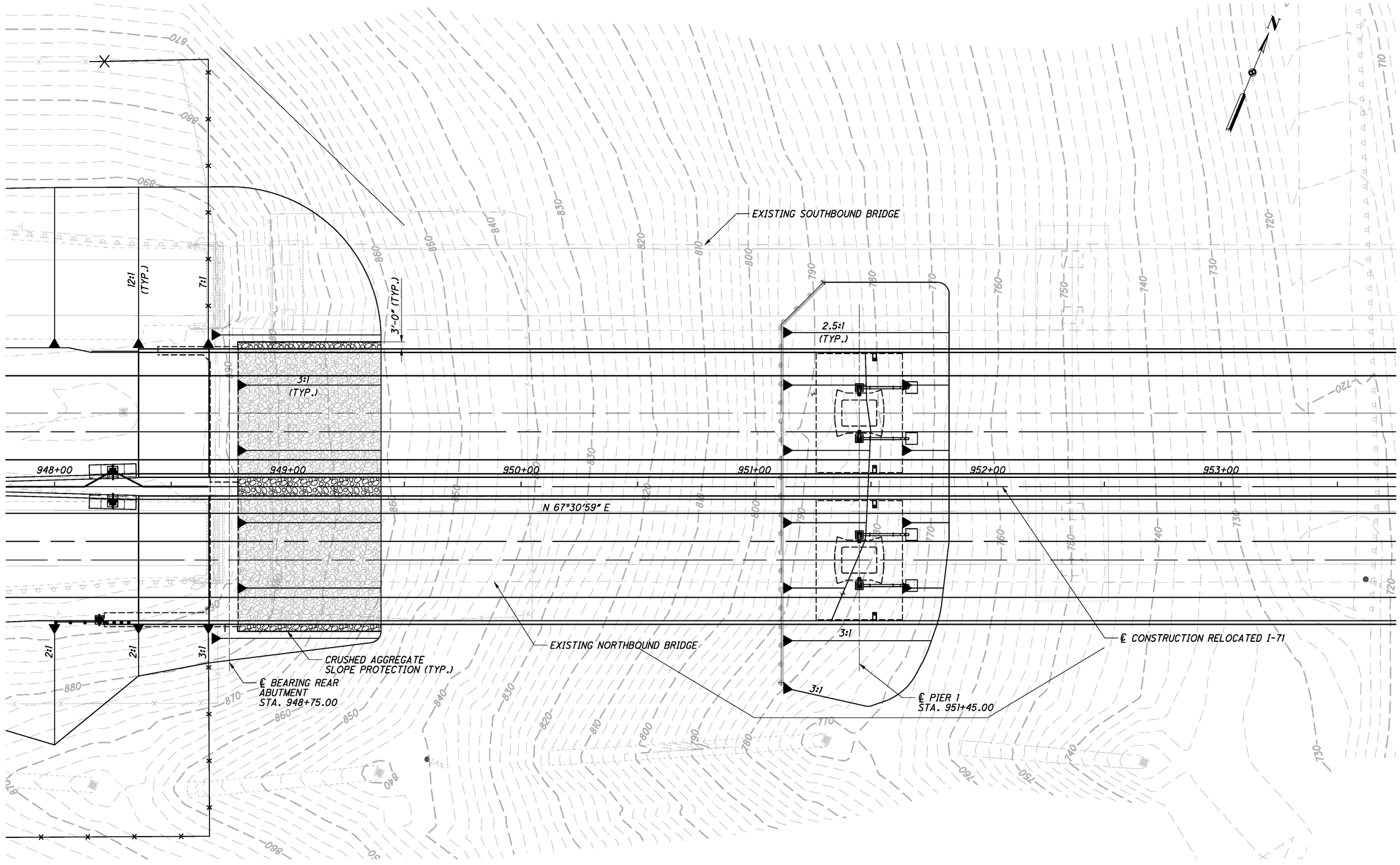
FOUNDATION LAYOUT 4
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

28/204

294/470

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REAR ABUTMENT GRADING PLAN

PIER 1 GRADING PLAN

NOTE:

1. PROPOSED EMBANKMENT CONSTRUCTION AND RERGRADING OF EXISTING SLOPES ON AND AROUND PIER FOOTINGS SHALL BE INCLUDED WITH ITEM 203, EMBANKMENT, AS PER PLAN. SEE ROADWAY GENERAL SUMMARY FOR ESTIMATED QUANTITIES.

DESIGN AGENCY
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Cleveland, OH 44114-2531

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BTA	BTA/JJB	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RSB		8302278L/8302294R	

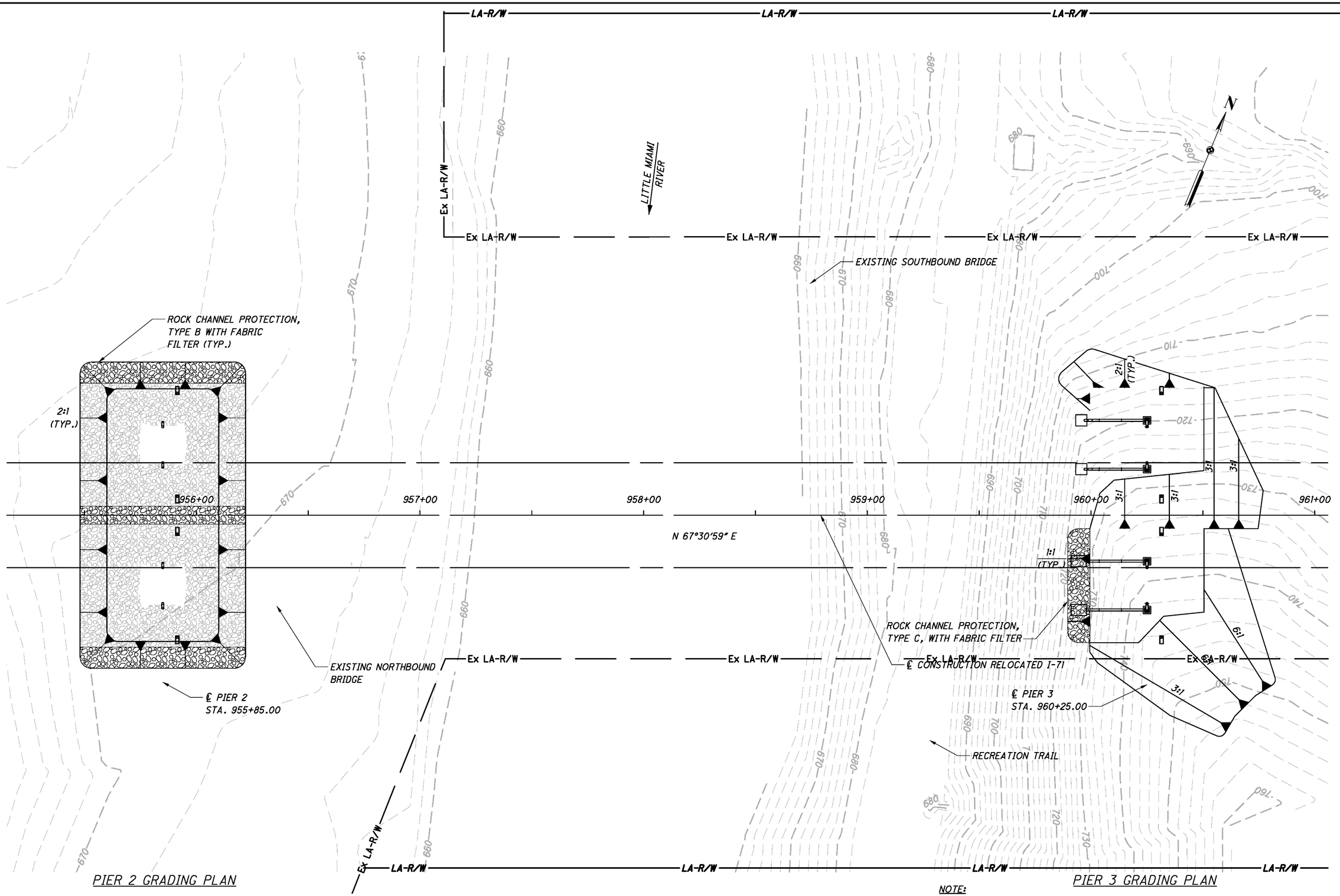
REAR ABUTMENT AND PIER 1 GRADING PLAN
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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PIER 2 GRADING PLAN

PIER 3 GRADING PLAN

NOTE:

1. PROPOSED EMBANKMENT CONSTRUCTION AND RERGRADING OF EXISTING SLOPES ON AND AROUND PIER FOOTINGS SHALL BE INCLUDED WITH ITEM 203, EMBANKMENT, AS PER PLAN. SEE ROADWAY GENERAL SUMMARY FOR ESTIMATED QUANTITIES.

DESIGN AGENCY
HNTB
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Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
BTA	BTA/JJB	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RSB		8302278L/8302294R	

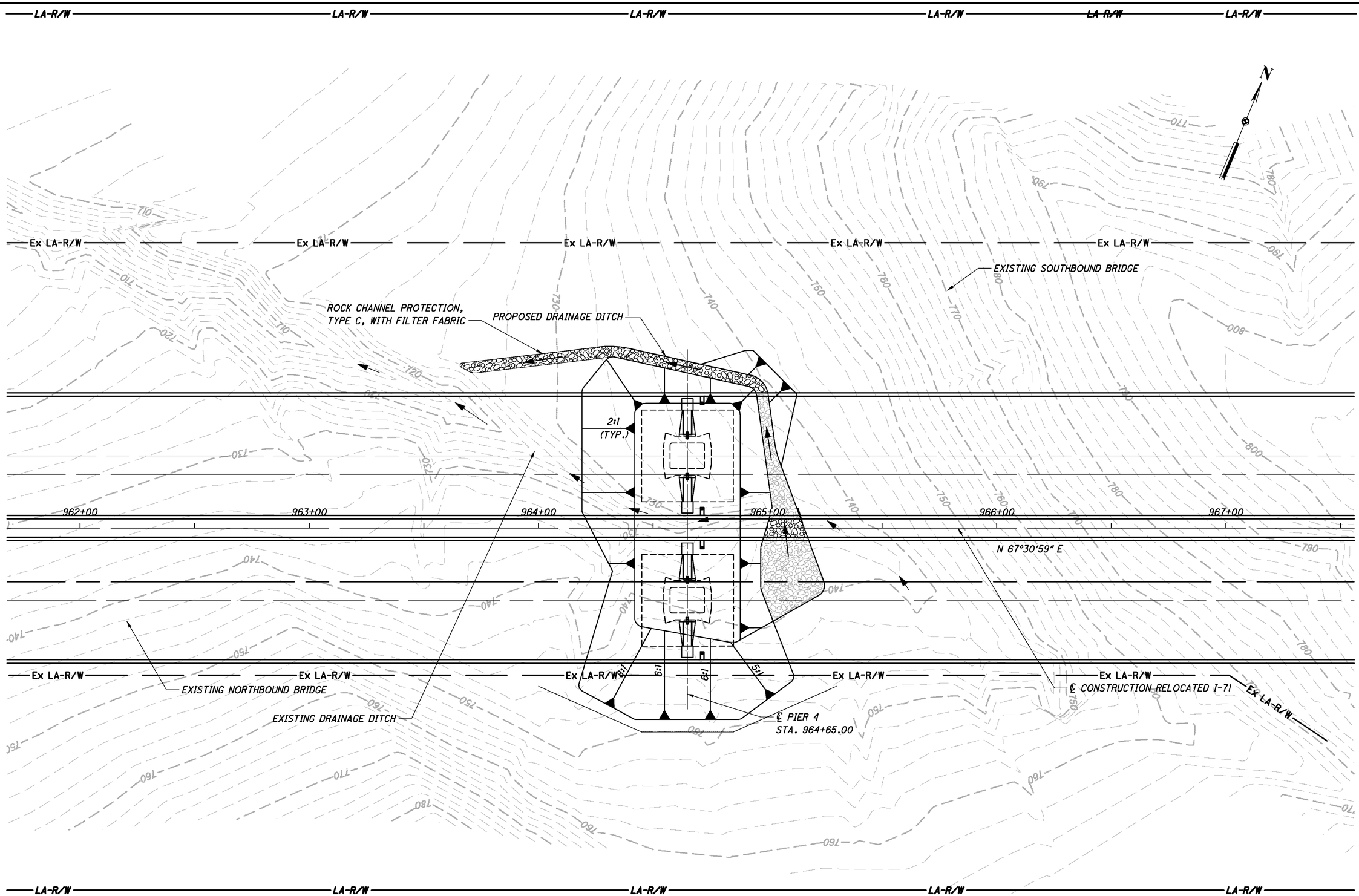
PIERS 2 AND 3 GRADING PLAN
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

28B / 204

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PIER 4 GRADING PLAN

NOTES:

1. PROPOSED EMBANKMENT CONSTRUCTION AND RERGRADING OF EXISTING SLOPES ON AND AROUND PIER FOOTINGS SHALL BE INCLUDED WITH ITEM 203, EMBANKMENT, AS PER PLAN. SEE ROADWAY GENERAL SUMMARY FOR ESTIMATED QUANTITIES.

2. PAYMENT FOR THE ROCK CHANNEL PROTECTION, TYPE C, WITH FILTER FABRIC SHALL BE INCLUDED WITH ITEM 601: ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER.

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HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

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PIER 4 GRADING PLAN
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

28C / 204

294C / 470

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LA-R/W — LA-R/W — LA-R/W

Ex LA-R/W — Ex LA-R/W — Ex LA-R/W — Ex LA-R/W

EXISTING SOUTHBOUND BRIDGE

N 67°30'59" E

2:1 (TYP.)

4:1 (TYP.)

12:1 (TYP.)

24:1

3'-0" (TYP.)

967+00 968+00 969+00 970+00 971+00 972+00

℄ CONSTRUCTION RELOCATED I-71

CRUSHED AGGREGATE SLOPE PROTECTION (TYP.)

℄ BEARING FORWARD ABUTMENT STA. 971+10.00

℄ PIER 5 STA. 968+81.00

EXISTING NORTHBOUND BRIDGE

Ex LA-R/W — Ex LA-R/W — Ex LA-R/W

LA-R/W — LA-R/W

PIER 5 GRADING PLAN

FORWARD ABUTMENT GRADING PLAN

NOTE:

1. PROPOSED EMBANKMENT CONSTRUCTION AND RERGRADING OF EXISTING SLOPES ON AND AROUND PIER FOOTINGS SHALL BE INCLUDED WITH ITEM 203, EMBANKMENT, AS PER PLAN. SEE ROADWAY GENERAL SUMMARY FOR ESTIMATED QUANTITIES.

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DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

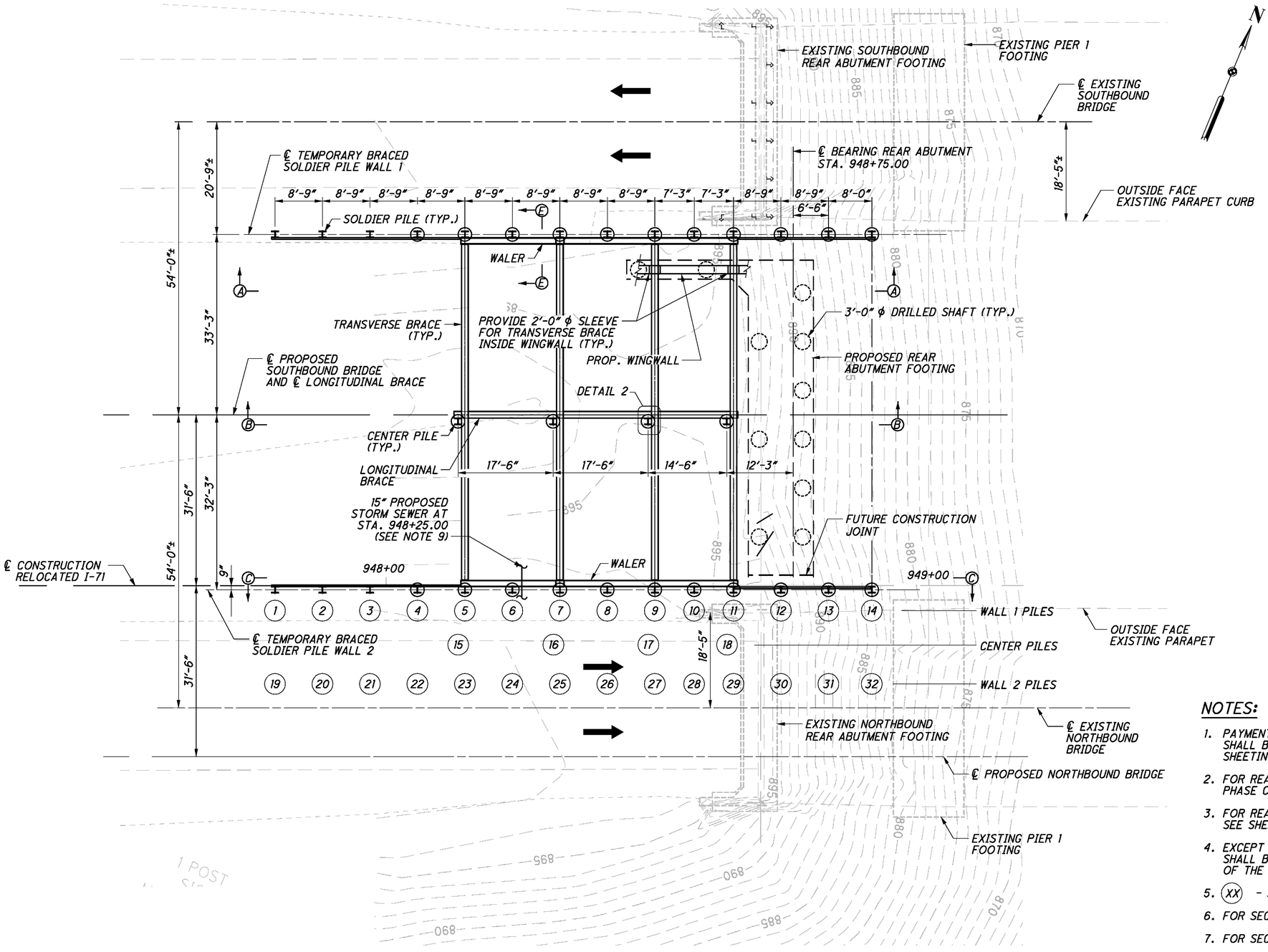
DESIGNED	DRAWN	REVIEWED	DATE
BTA	BTA/JJB	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RSB		8302278L/8302294R	

PIER 5 AND FORWARD ABUTMENT GRADING PLAN
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

28D/204

294D/470



PLAN - PHASE II

NOTES:

1. PAYMENT FOR TEMPORARY BRACED SOLDIER PILE WALLS 1 AND 2 SHALL BE INCLUDED WITH ITEM 503 - COFFERDAMS, CRIBS AND SHEETING, AS PER PLAN.
2. FOR REAR ABUTMENT TEMPORARY BRACED SOLDIER PILE WALL PHASE CONSTRUCTION AND DETAILS, SEE SHEETS 30 AND 31 OF 204.
3. FOR REAR ABUTMENT TEMPORARY BRACED SOLDIER PILE WALL DETAILS, SEE SHEETS 35,35A, AND 35B OF 204.
4. EXCEPT AS OTHERWISE NOTED, THE TEMPORARY RETAINING WALL SYSTEM SHALL BE CUT BELOW THE FINAL FINISHED GROUND PER ARTICLE 202.03 OF THE STANDARD SPECIFICATIONS.
5. (XX) - SOLDIER PILE NUMBER.
6. FOR SECTIONS A-A THRU C-C SEE SHEET 29B OF 204.
7. FOR SECTION E-E SEE SHEET 35 OF 204.
8. FOR DETAIL 2 SEE SHEET 35A OF 204.
9. EXISTING STORM SEWER SYSTEM TO BE REMOVED.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1300
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
JY	LK	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
PCA		8302278L/8302294R	

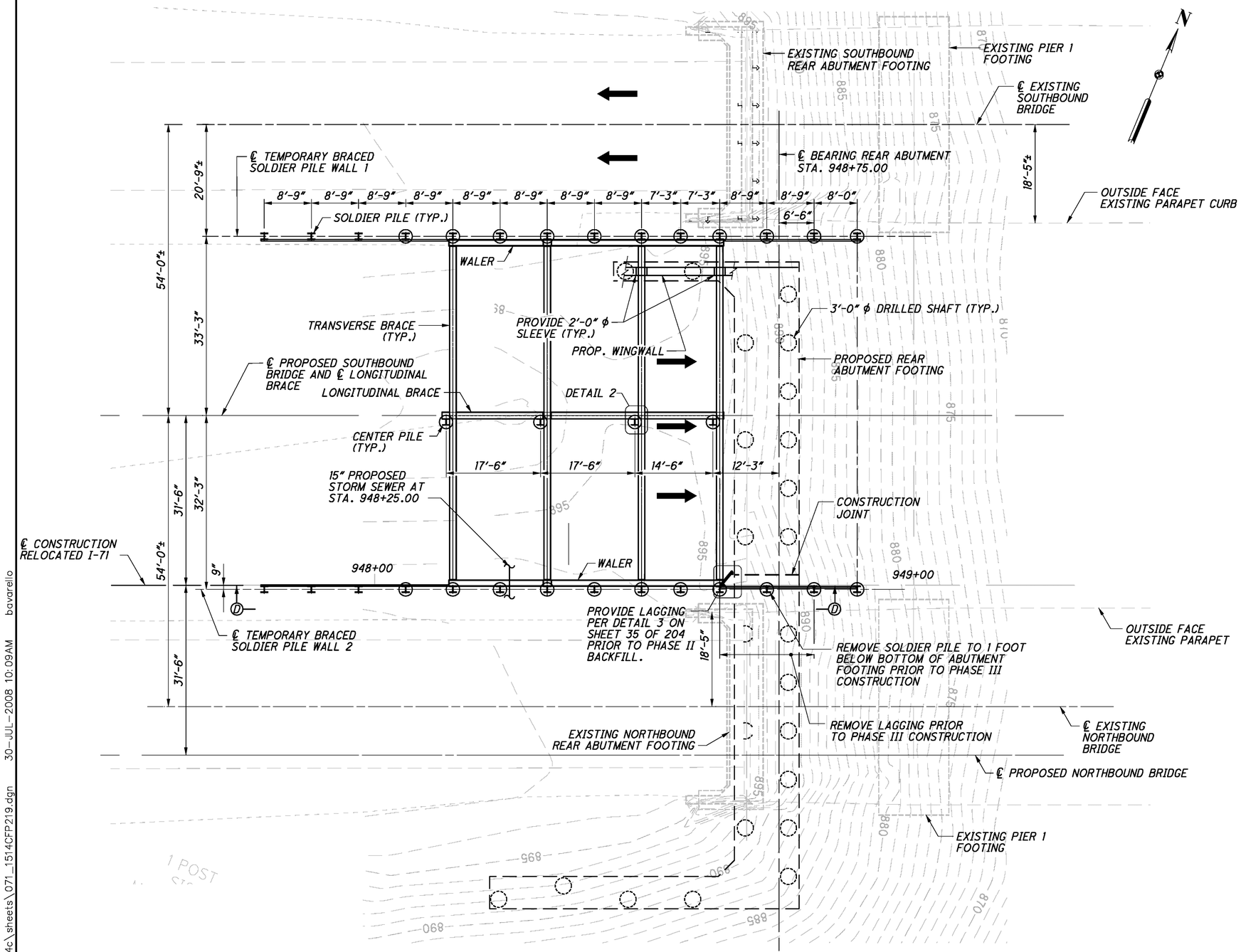
REAR ABUTMENT TEMPORARY RETAINING WALL
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

29 / 204

295 / 470

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PLAN - PHASE III

NOTES:

1. WORK THIS SHEET WITH SHEET 29 OF 204.
2. FOR SECTION D-D SEE SHEET 29B OF 204.

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DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
JY	LK	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
PCA		8302278L/8302294R	

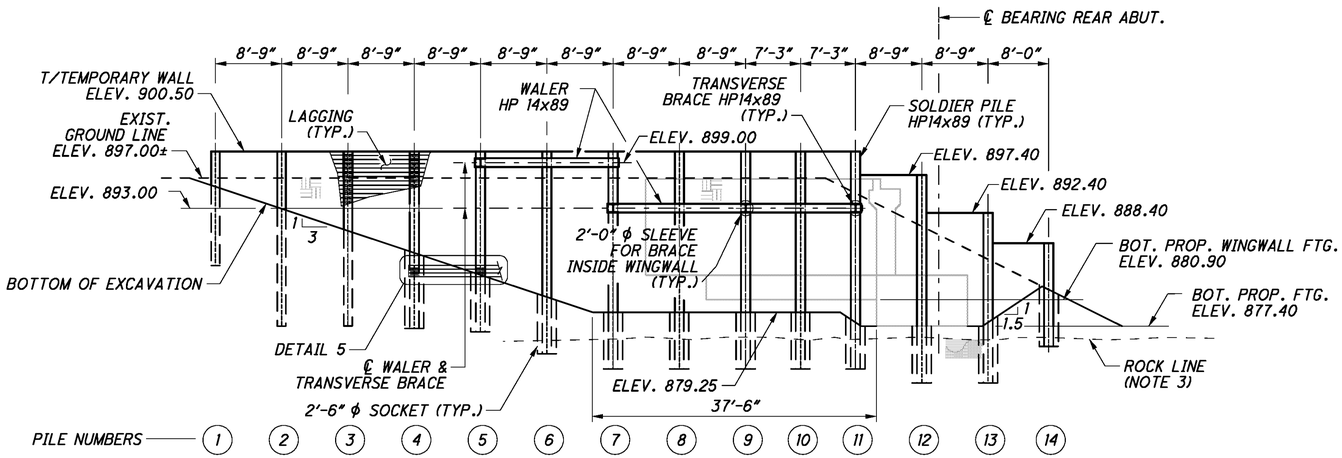
REAR ABUTMENT TEMPORARY RETAINING WALL

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

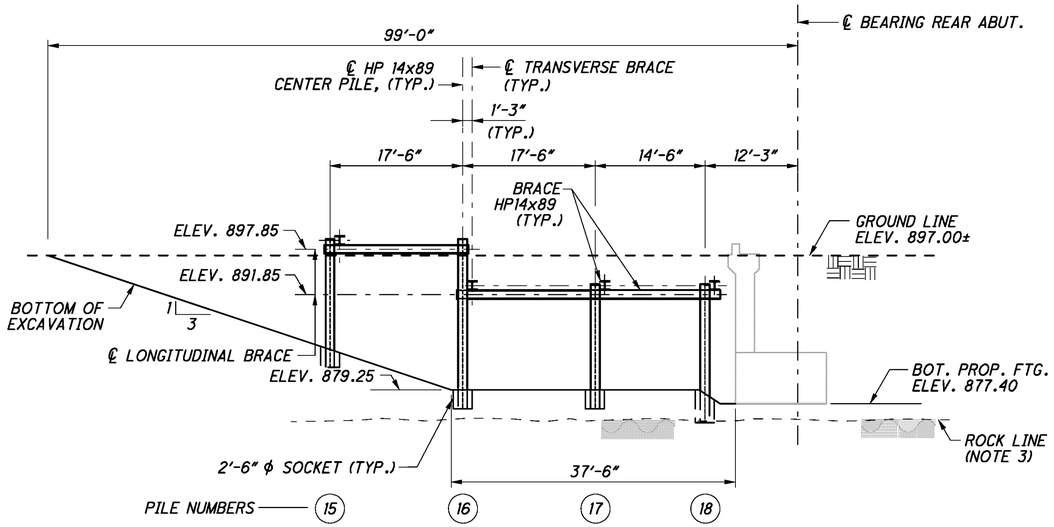
WAR-71-14.20
PID No. 22950

29A / 204

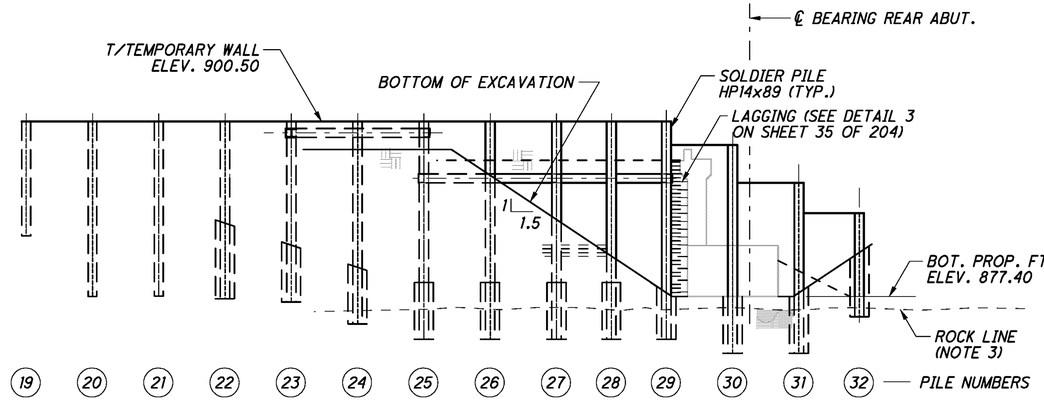
295A / 470



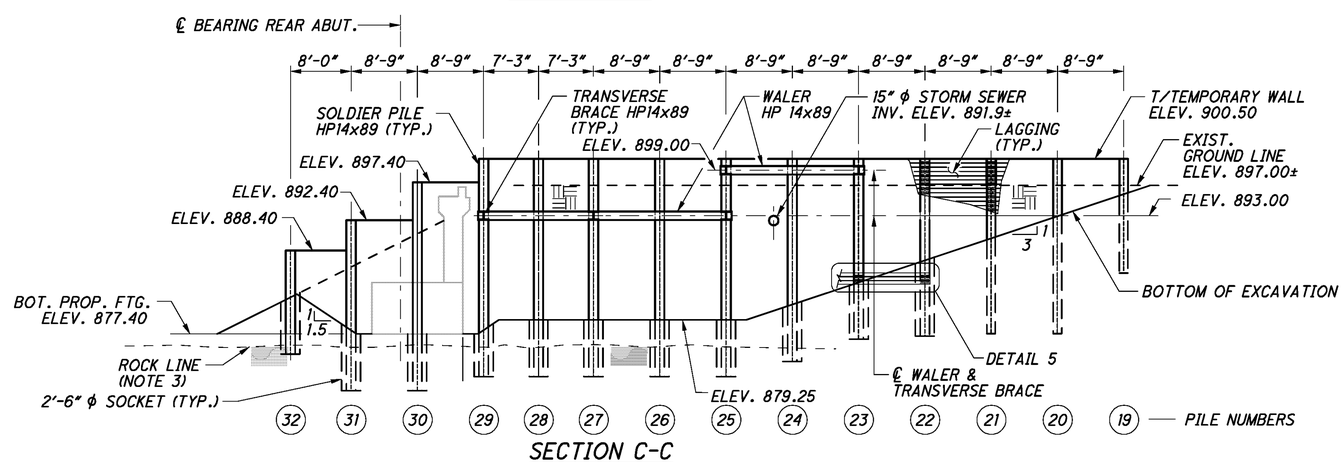
SECTION A-A



SECTION B-B



SECTION D-D



SECTION C-C

NOTES:

1. FOR LOCATION OF SECTIONS A-A THRU C-C, SEE SHEET 29 OF 204. FOR LOCATION OF SECTION D-D, SEE SHEET 29A OF 204.
2. FOR DETAIL 5, SEE SHEET 35 OF 204.
3. THE LOCATION OF ROCK IS ESTIMATED AND BASED ONLY ON THE INTERPOLATION OF THE BORINGS.
4. PHASED CONSTRUCTION OF TEMPORARY RETAINING WALL AND STORM SEWER LINE SHALL BE COORDINATED BY THE CONTRACTOR. LAGGING IN TEMPORARY WALL MAY NOT BE REMOVED UNTIL WALL HAS BEEN BACKFILLED ON BOTH SIDES. CONTRACTOR MAY CUT A HOLE IN LAGGING TO FACILITATE PLACEMENT OF STORM SEWER IF CONTRACTOR PROVIDES SUPPORT TO BRACE THE CUT ENDS OF THE LAGGING AROUND THE HOLE. ANY CUTTING AND BRACING SHALL BE INCIDENTAL TO PLACEMENT OF THE STORM SEWER.
5. IF PILE 1 AND 19 TO 21 ENCOUNTERS ROCK BEFORE THE REQUIRED EMBEDMENT LENGTH IS ATTAINED, CORE 2'-6" ϕ BY 2'-0" DEEP SOCKET WITH CLASS S CONCRETE BELOW THE TOP OF ROCK.
6. LAGGING SHALL BE INSTALLED AS THE EXCAVATION PROCEEDS DOWNWARD.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
JY	LK	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
PCA		8302278L/8302294R	

REAR ABUTMENT TEMPORARY RETAINING WALL

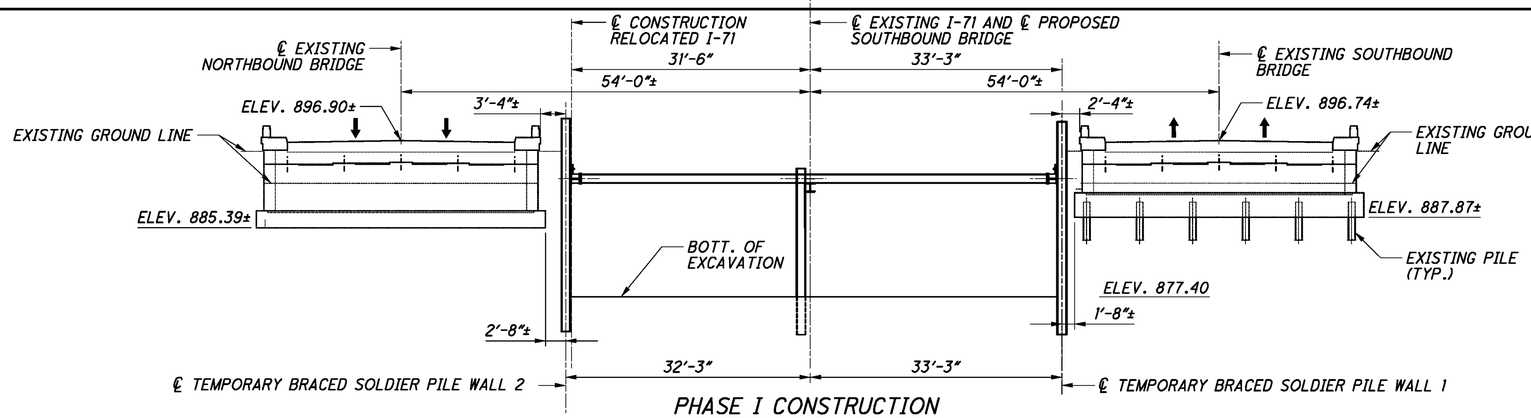
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

29B / 204

295B / 470

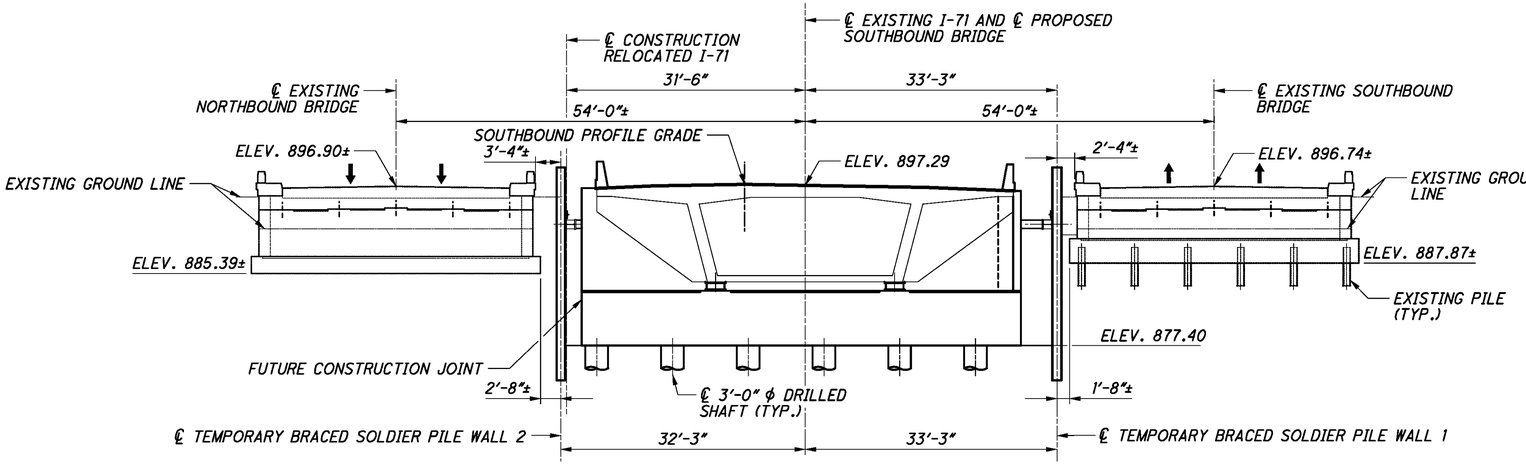
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PHASE I CONSTRUCTION

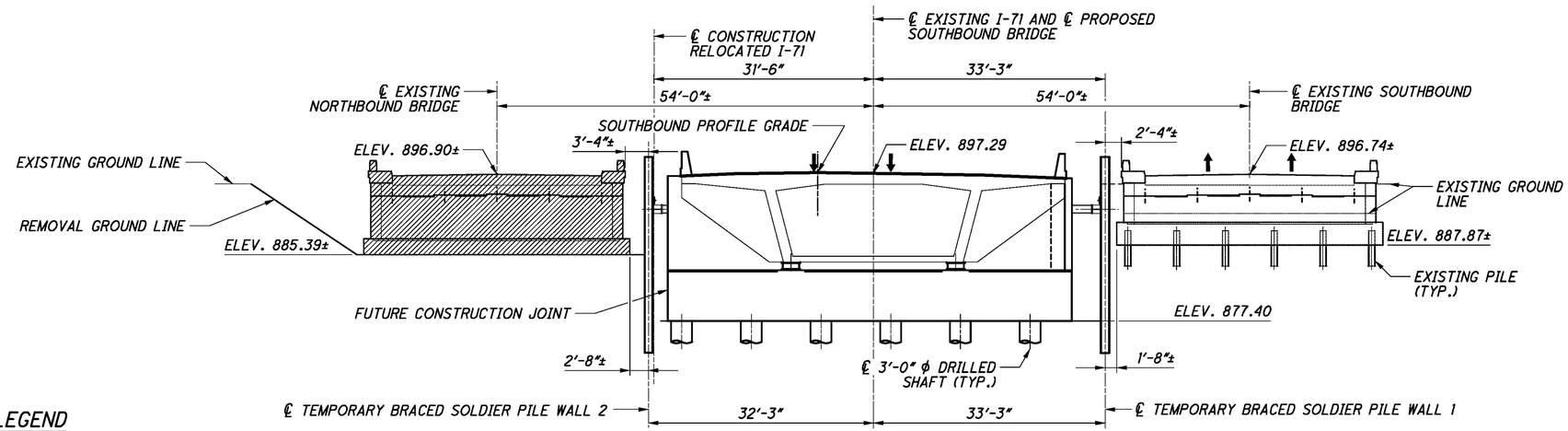
(LOOKING DOWNSTATION)

(UPPER BRACE AT PILES 5, 15 AND 23 NOT SHOWN)



PHASE II CONSTRUCTION

(LOOKING DOWNSTATION)



PHASE III REMOVAL

(LOOKING DOWNSTATION)

LEGEND

REMOVAL LIMITS

PHASE I CONSTRUCTION

1. CONSTRUCT BRACED SOLDIER PILE WALL 1 AND BRACED SOLDIER PILE WALL 2.
2. EXCAVATE FOR SOUTHBOUND BRIDGE REAR ABUTMENT.

PHASE II CONSTRUCTION

3. CONSTRUCT SOUTHBOUND BRIDGE REAR ABUTMENT.
4. BACKFILL AND CONSTRUCT SOUTHBOUND BRIDGE AND APPROACHES.

PHASE III REMOVAL

5. MOVE NORTHBOUND TRAFFIC TO PROPOSED SOUTHBOUND BRIDGE.
6. REMOVE EXISTING NORTHBOUND BRIDGE, INCLUDING REAR ABUTMENT.

NOTES:

1. FOR REAR ABUTMENT TEMPORARY RETAINING WALL PLAN, SEE SHEET 29 AND 29A OF 204.
2. FOR ABUTMENT TEMPORARY RETAINING WALL DETAILS, SEE SHEET 35, 35A AND 35B OF 204.

DESIGN AGENCY
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Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH	JJB	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
PCA		8302278L/8302294R	

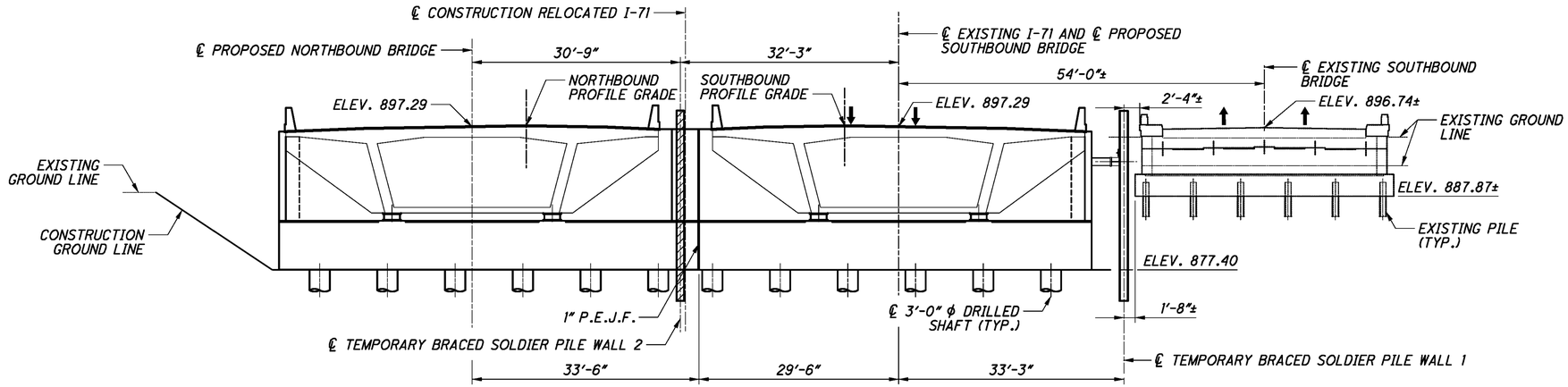
PHASE CONSTRUCTION - REAR ABUTMENT - 1
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

30/204

296/470

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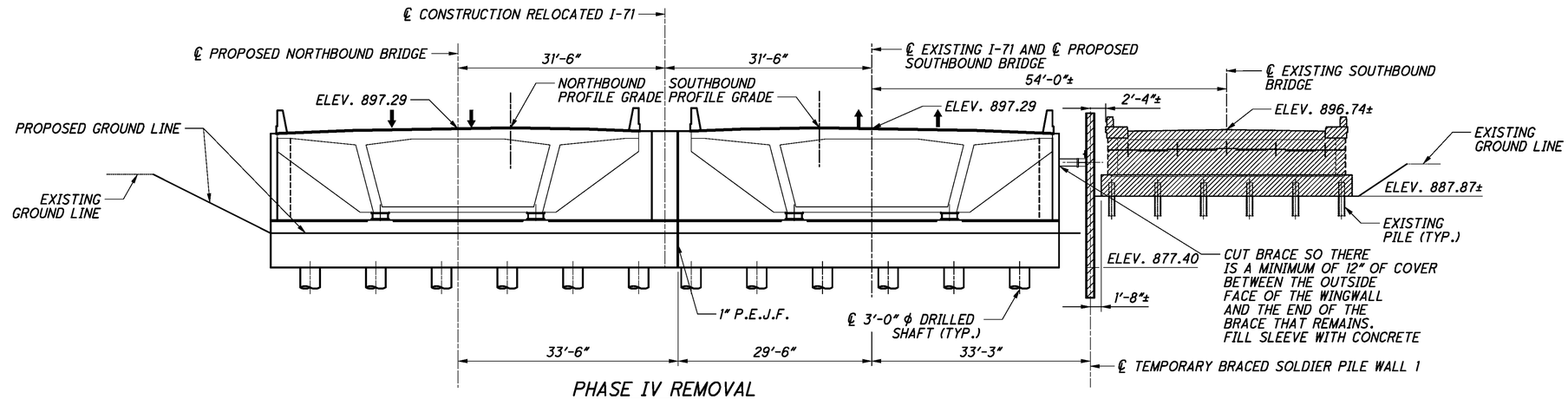
PHASE III CONSTRUCTION
(LOOKING DOWNSTATION)

PHASE III CONSTRUCTION

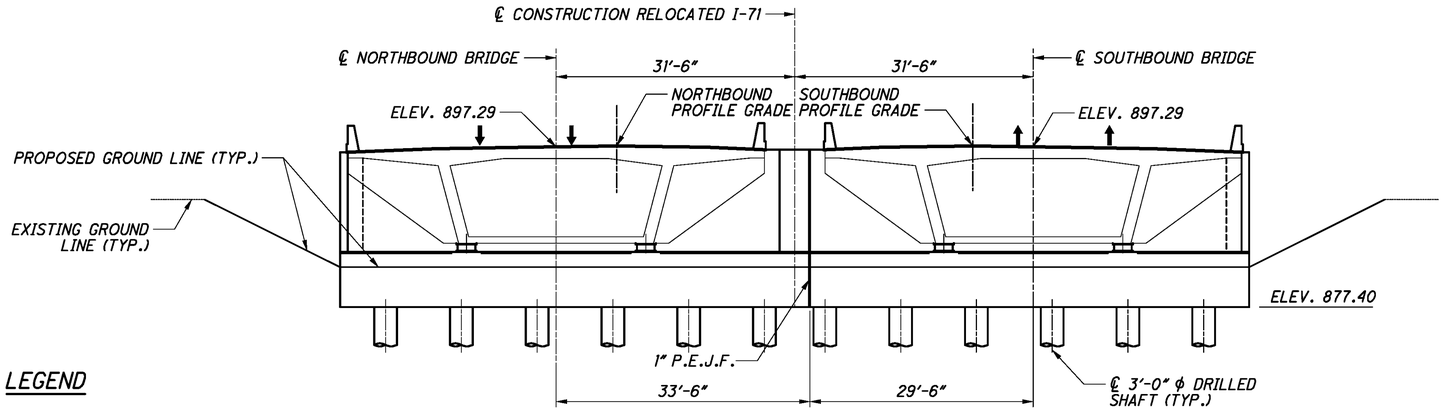
7. REMOVE SOLDIER PILE AND LAGGING AS SHOWN ON SHEET 29A OF 204 TO CONSTRUCT NORTHBOUND BRIDGE REAR ABUTMENT. ALL OTHER BRACING TO REMAIN.
8. BACKFILL AND CONSTRUCT NORTHBOUND BRIDGE AND APPROACHES.
9. MOVE NORTHBOUND TRAFFIC TO NORTHBOUND BRIDGE AND MOVE SOUTHBOUND TRAFFIC TO PROPOSED SOUTHBOUND BRIDGE.

PHASE IV REMOVAL

10. REMOVE EXISTING SOUTHBOUND BRIDGE.



PHASE IV REMOVAL
(LOOKING DOWNSTATION)



FINAL REAR ABUTMENT
(LOOKING DOWNSTATION)

LEGEND

▨ REMOVAL LIMITS

NOTES:

1. FOR REAR ABUTMENT TEMPORARY RETAINING WALL PLAN, SEE SHEET 29 AND 29A OF 204.
2. FOR ABUTMENT TEMPORARY RETAINING WALL DETAILS, SEE SHEET 35, 35A, AND 35B OF 204.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH	JJB	RHW	12/07/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
PCA		8302278L/8302294R	

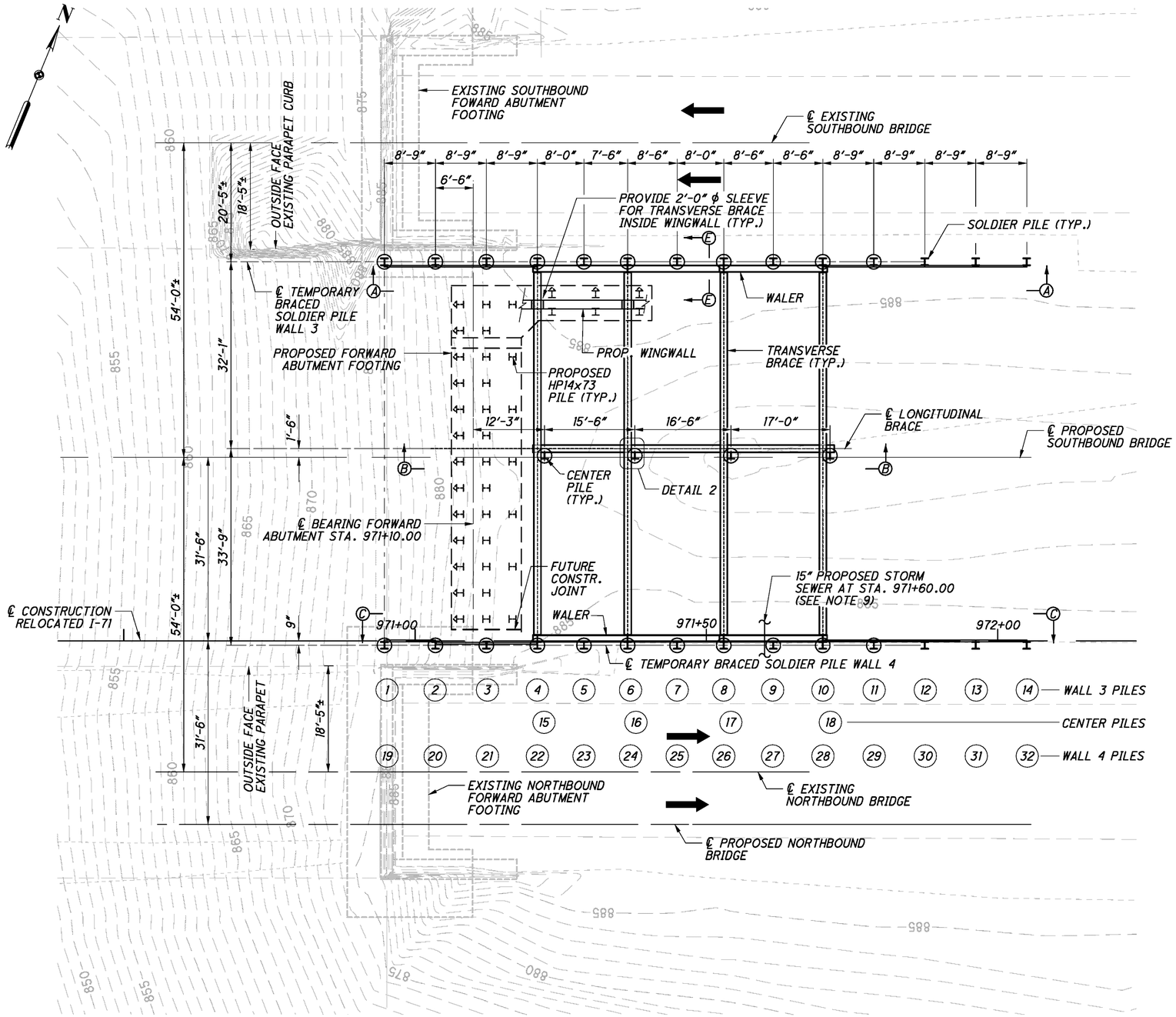
PHASE CONSTRUCTION - REAR ABUTMENT - 2
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

31/204

297/470

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PLAN - PHASE II

NOTES:

1. PAYMENT FOR TEMPORARY BRACED SOLDIER PILE WALLS 3 AND 4 SHALL BE INCLUDED WITH ITEM 503 - COFFERDAMS, CRIBS AND SHEETING, AS PER PLAN.
2. FOR FORWARD ABUTMENT TEMPORARY BRACED SOLDIER PILE WALL PHASE CONSTRUCTION AND DETAILS, SEE SHEETS 33 AND 34 OF 204.
3. FOR FORWARD ABUTMENT TEMPORARY BRACED SOLDIER PILE WALL DETAILS, SEE SHEETS 35, 35A, AND 35B OF 204.
4. EXCEPT AS OTHERWISE NOTED, THE TEMPORARY RETAINING WALL SYSTEM SHALL BE CUT BELOW THE FINAL FINISHED GROUND PER ARTICLE 202.03 OF THE STANDARD SPECIFICATIONS.
5. (XX) - SOLDIER PILE NUMBER
6. FOR SECTIONS A-A THRU C-C SEE SHEET 32B OF 204.
7. FOR SECTION E-E SEE SHEET 35 OF 204.
8. FOR DETAIL 2 SEE SHEET 35A OF 204.
9. EXISTING STORM SEWER SYSTEM TO BE REMOVED.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1300
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
PCA	JRB	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JY		8302278L/8302294R	

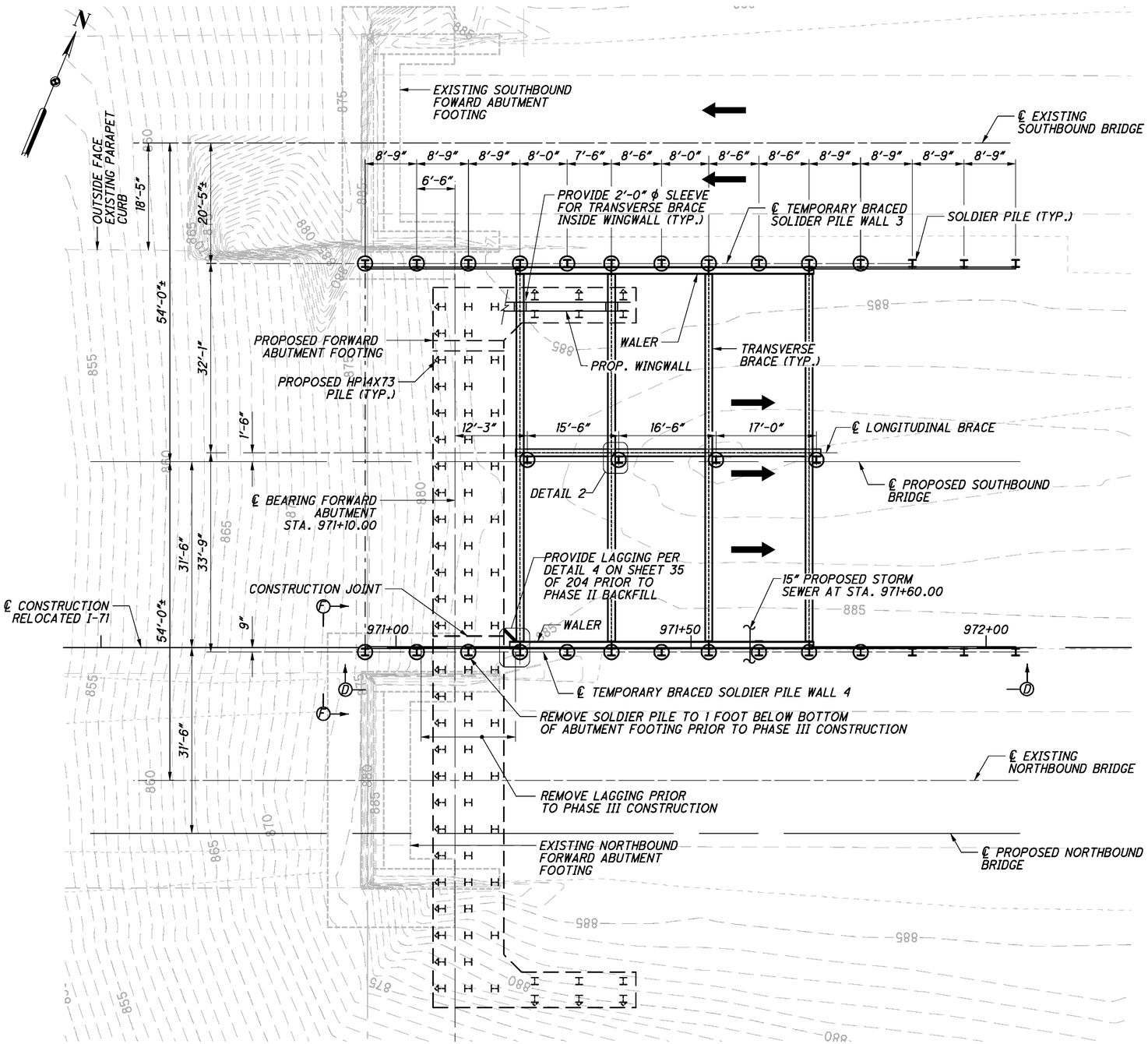
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BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

32 / 204

298 / 470

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PLAN - PHASE III

NOTES:

1. WORK THIS SHEET WITH SHEET 32 OF 204.
2. FOR SECTION D-D AND VIEW F-F, SEE SHEET 32B OF 204.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
PCA	JRB	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JY		8302278L/8302294R	

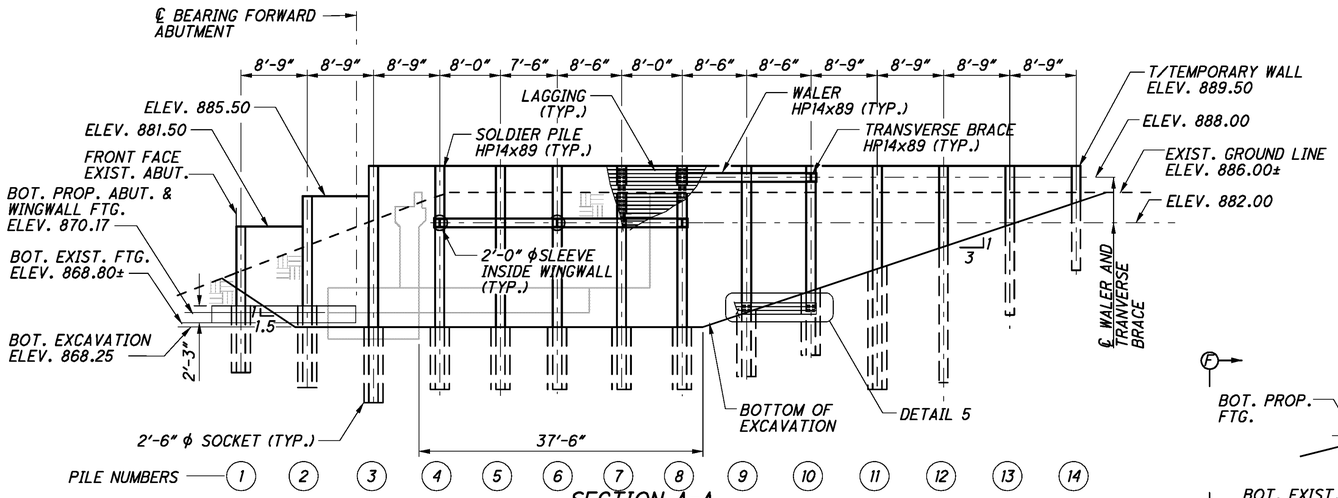
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BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

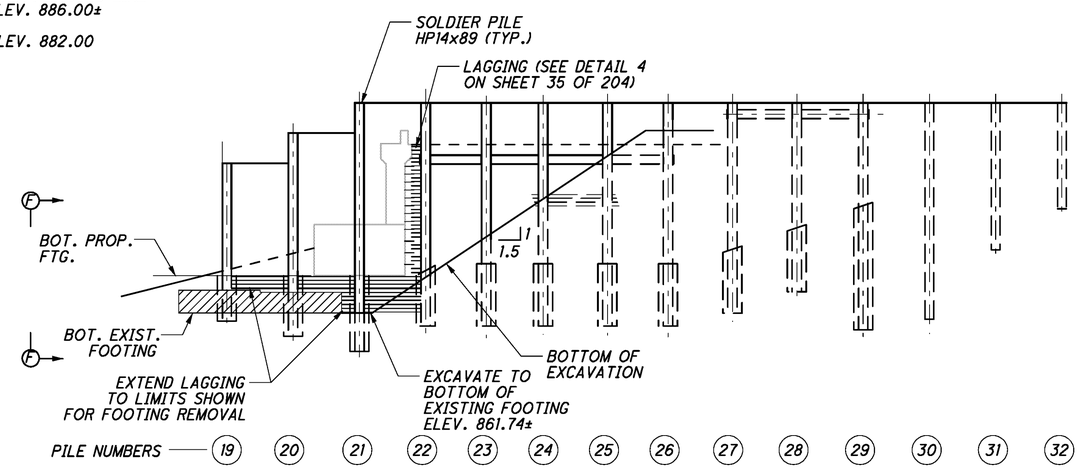
32A / 204

298A / 470

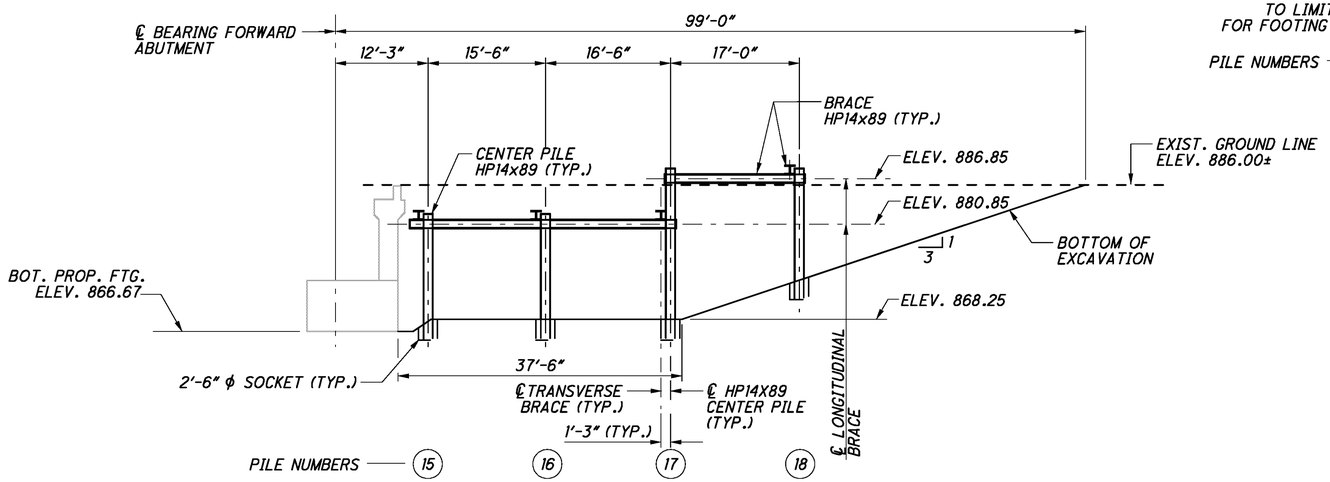
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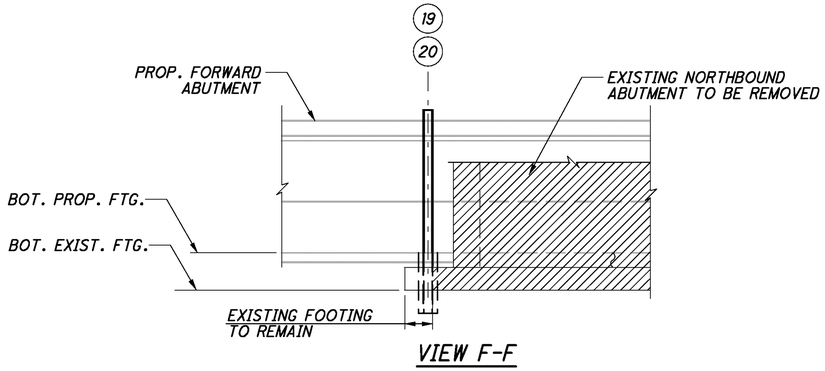
SECTION A-A



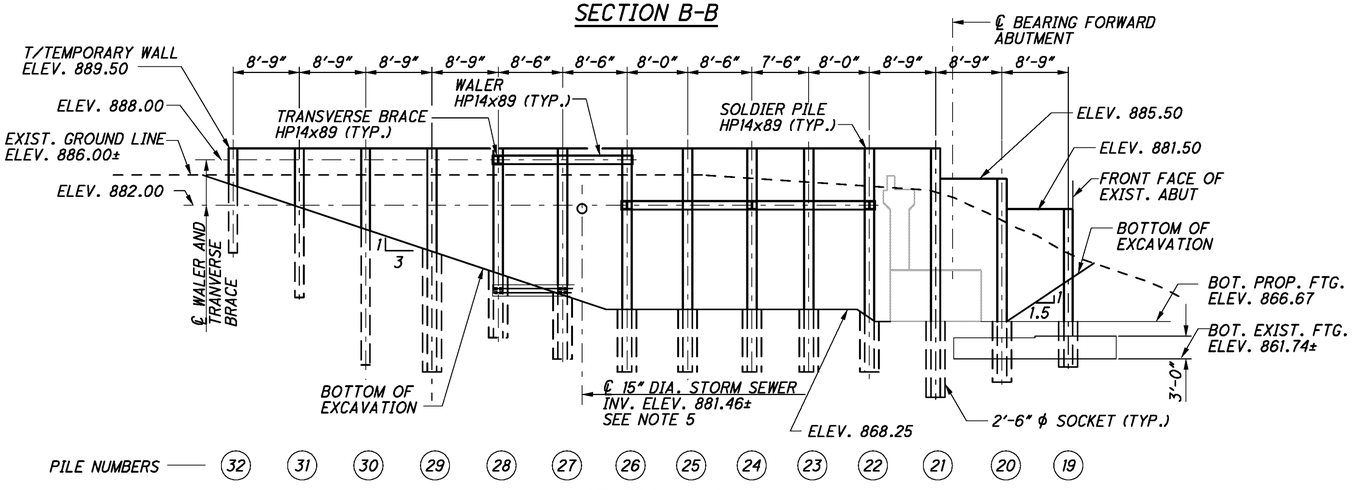
SECTION D-D



SECTION B-B



VIEW F-F



SECTION C-C

NOTES:

1. FOR LOCATION OF SECTIONS A-A THRU C-C, SEE SHEET 32 OF 204. FOR LOCATION OF SECTION D-D, SEE SHEET 32A OF 204.
2. FOR DETAIL 5, SEE SHEET 35 OF 204.
3. FOR SOLDIER PILES 1, 2, 19 AND 20, CORE 2'-6" DIAMETER HOLE THRU EXISTING FOOTING. EMBED PILE BELOW BOTTOM OF EXISTING FOOTING. FILL HOLE WITH CONCRETE AND MORTAR PER DETAIL ON SHEET 35B OF 204.
4. PHASED CONSTRUCTION OF TEMPORARY RETAINING WALL AND STORM SEWER LINE SHALL BE COORDINATED BY THE CONTRACTOR. LAGGING IN TEMPORARY WALL MAY NOT BE REMOVED UNTIL WALL HAS BEEN BACKFILLED ON BOTH SIDES. CONTRACTOR MAY CUT A HOLE IN LAGGING TO FACILITATE PLACEMENT OF STORM SEWER IF CONTRACTOR PROVIDES SUPPORT TO BRACE THE CUT ENDS OF THE LAGGING AROUND THE HOLE. ANY CUTTING AND BRACING SHALL BE INCIDENTAL TO PLACEMENT OF THE STORM SEWER.
5. LAGGING SHALL BE INSTALLED AS THE EXCAVATION PROCEEDS DOWNWARD.

DESIGN AGENCY
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1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
PCA	JRB	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JY		8302278L/8302294R	

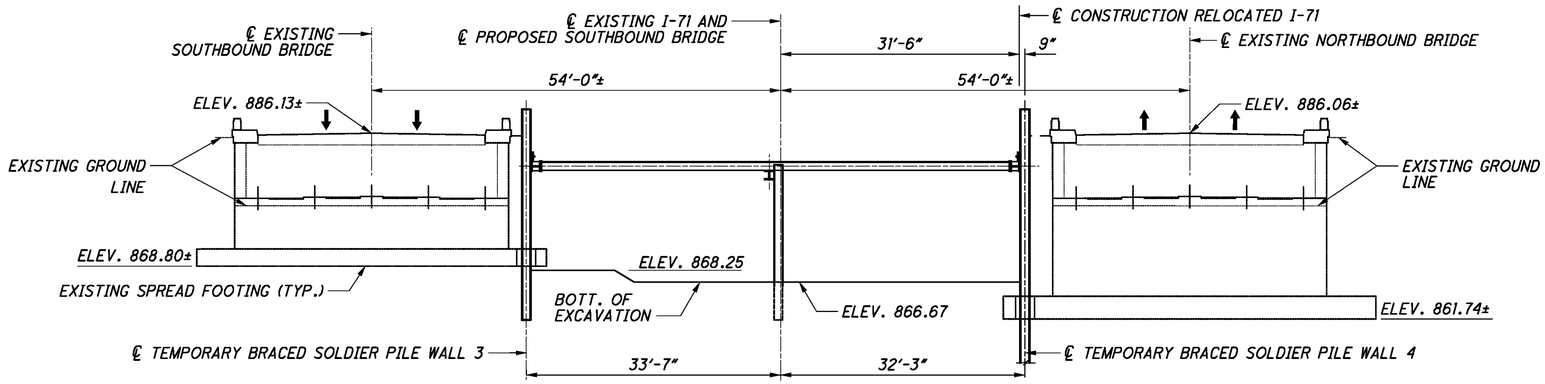
FORWARD ABUTMENT TEMPORARY RETAINING WALL
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

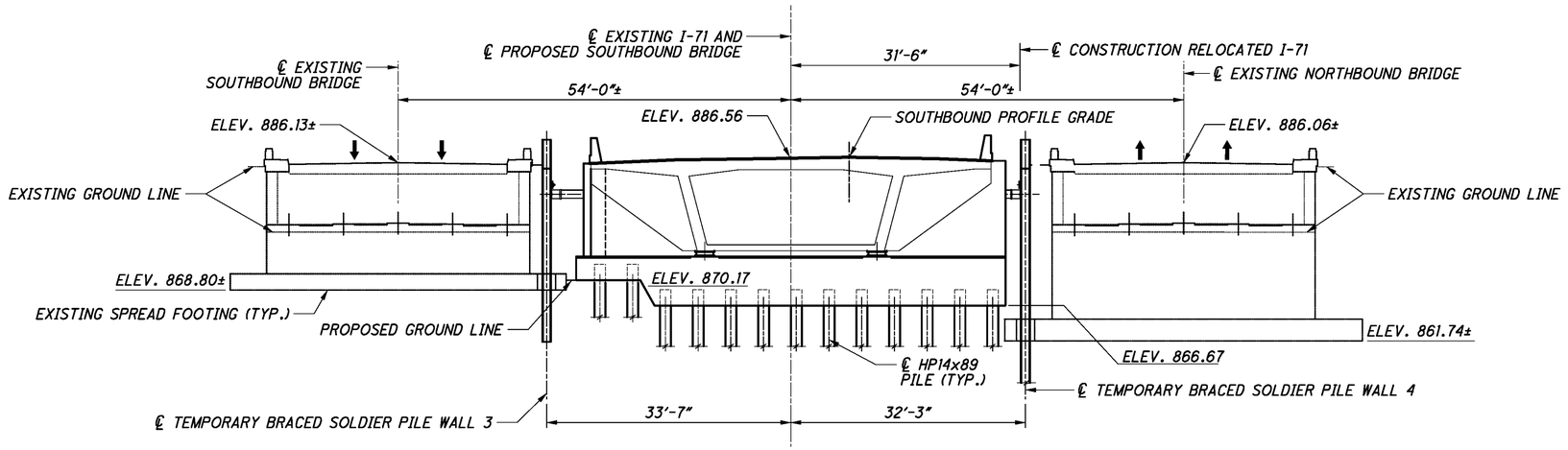
32B/204

298B/470

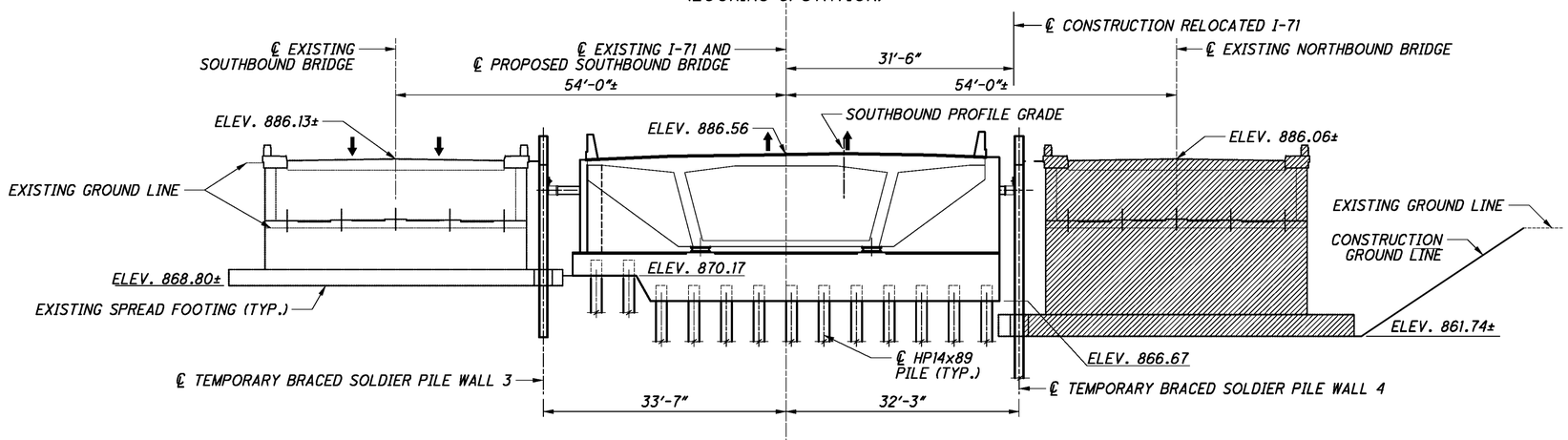
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PHASE I CONSTRUCTION
(LOOKING UPSTATION)
(UPPER BRACE AT PILES 10, 18 AND 28 NOT SHOWN)



PHASE II CONSTRUCTION
(LOOKING UPSTATION)



PHASE III REMOVAL
(LOOKING UPSTATION)

PHASE I CONSTRUCTION

1. CONSTRUCT BRACED SOLDIER PILE WALL 3 AND BRACED SOLDIER PILE WALL 4
2. EXCAVATE FOR SOUTHBOUND BRIDGE FORWARD ABUTMENT.

PHASE II CONSTRUCTION

3. CONSTRUCT SOUTHBOUND BRIDGE FORWARD ABUTMENT.
4. BACKFILL AND CONSTRUCT SOUTHBOUND BRIDGE AND APPROACHES.

PHASE III REMOVAL

5. MOVE NORTHBOUND TRAFFIC TO PROPOSED SOUTHBOUND BRIDGE.
6. REMOVE EXISTING NORTHBOUND BRIDGE, INCLUDING FORWARD ABUTMENT.

LEGEND

REMOVAL LIMITS

NOTES:

1. FOR FORWARD ABUTMENT TEMPORARY RETAINING WALL PLAN, SEE SHEET 32 AND 32A OF 204.
2. FOR ABUTMENT TEMPORARY RETAINING WALL DETAILS, SEE SHEET 35 AND 35A OF 204.

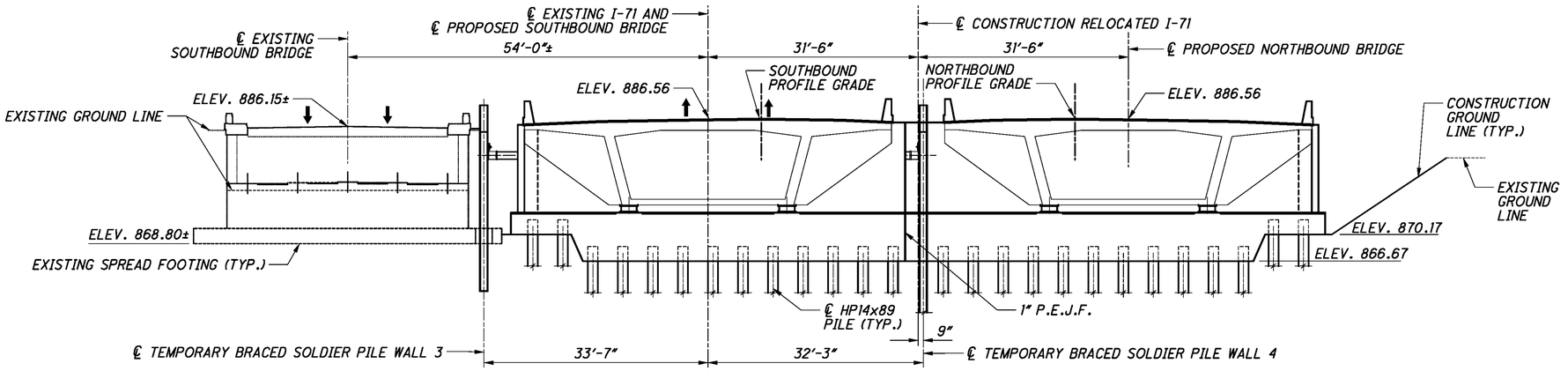
DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
PCA	JRB	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JY		8302278L/8302294R	

PHASE CONSTRUCTION - FORWARD ABUTMENT - 1
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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PHASE III CONSTRUCTION

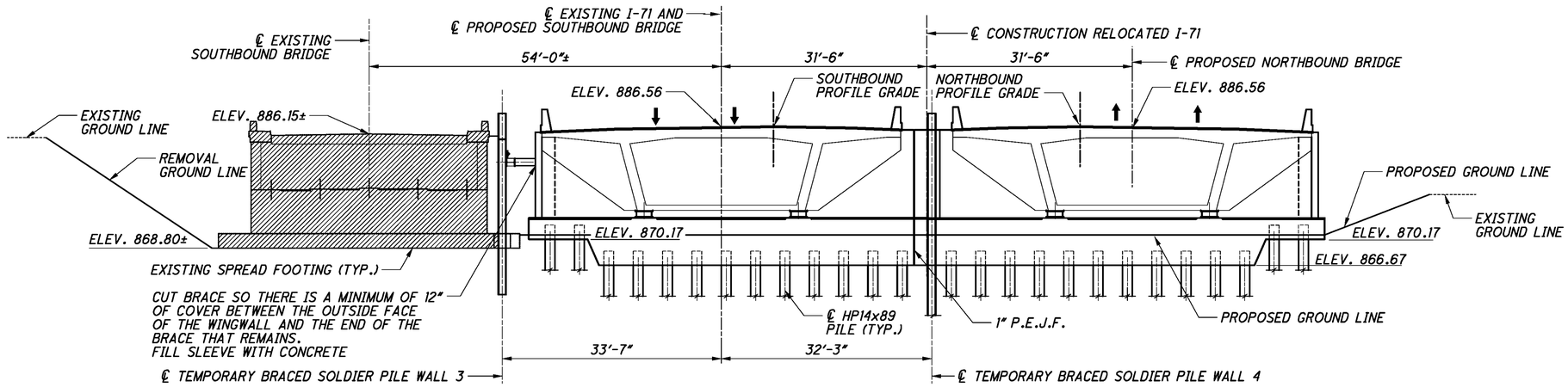
7. REMOVE PORTIONS OF BRACED SOLDIER PILES AND LAGGING TO CONSTRUCT NORTHBOUND BRIDGE FORWARD ABUTMENT.
8. CONSTRUCT NORTHBOUND BRIDGE FORWARD ABUTMENT, BACKFILL AND CONSTRUCT NORTHBOUND BRIDGE AND APPROACHES.
9. MOVE NORTHBOUND TRAFFIC TO NORTHBOUND BRIDGE AND MOVE SOUTHBOUND TRAFFIC TO PROPOSED SOUTHBOUND BRIDGE.

PHASE IV REMOVAL

10. REMOVE EXISTING SOUTHBOUND BRIDGE.

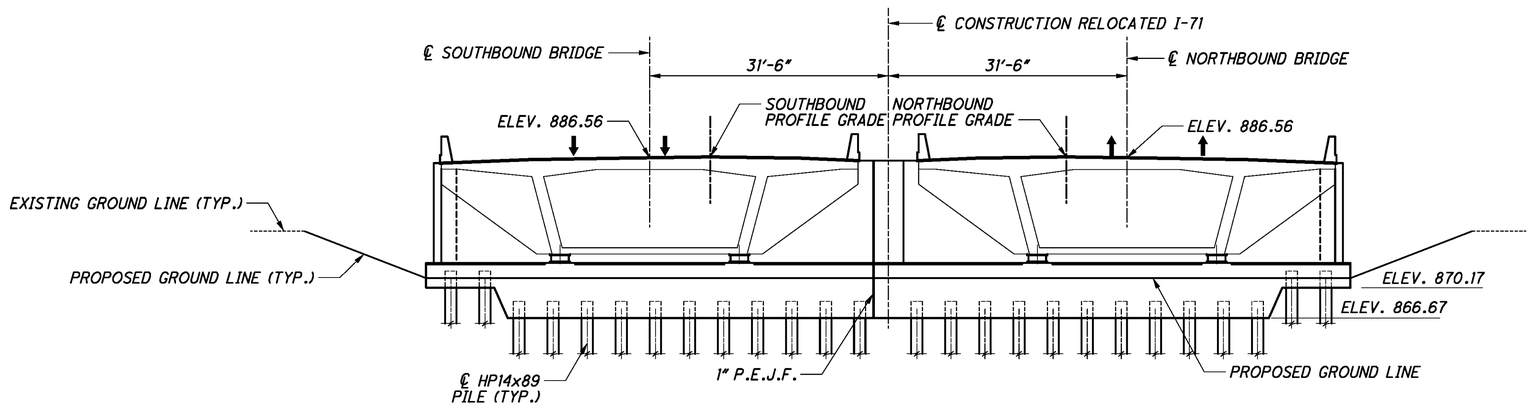
PHASE III CONSTRUCTION

(LOOKING UPSTATION)



PHASE IV REMOVAL

(LOOKING UPSTATION)



NOTES:

1. FOR FORWARD ABUTMENT TEMPORARY RETAINING WALL PLAN, SEE SHEET 32 AND 32A OF 204.
2. FOR ABUTMENT TEMPORARY RETAINING WALL DETAILS, SEE SHEET 35 AND 35A OF 204.

LEGEND

REMOVAL LIMITS

FINAL FORWARD ABUTMENT

(LOOKING UPSTATION)
TEMPORARY RETAINING WALL SYSTEM LEFT IN PLACE IS NOT SHOWN

DESIGN AGENCY HNTB 1100 Superior Avenue, Suite 1330 Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
PCA	JRB	RHW	12/07/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JY		8302278L/8302294R	

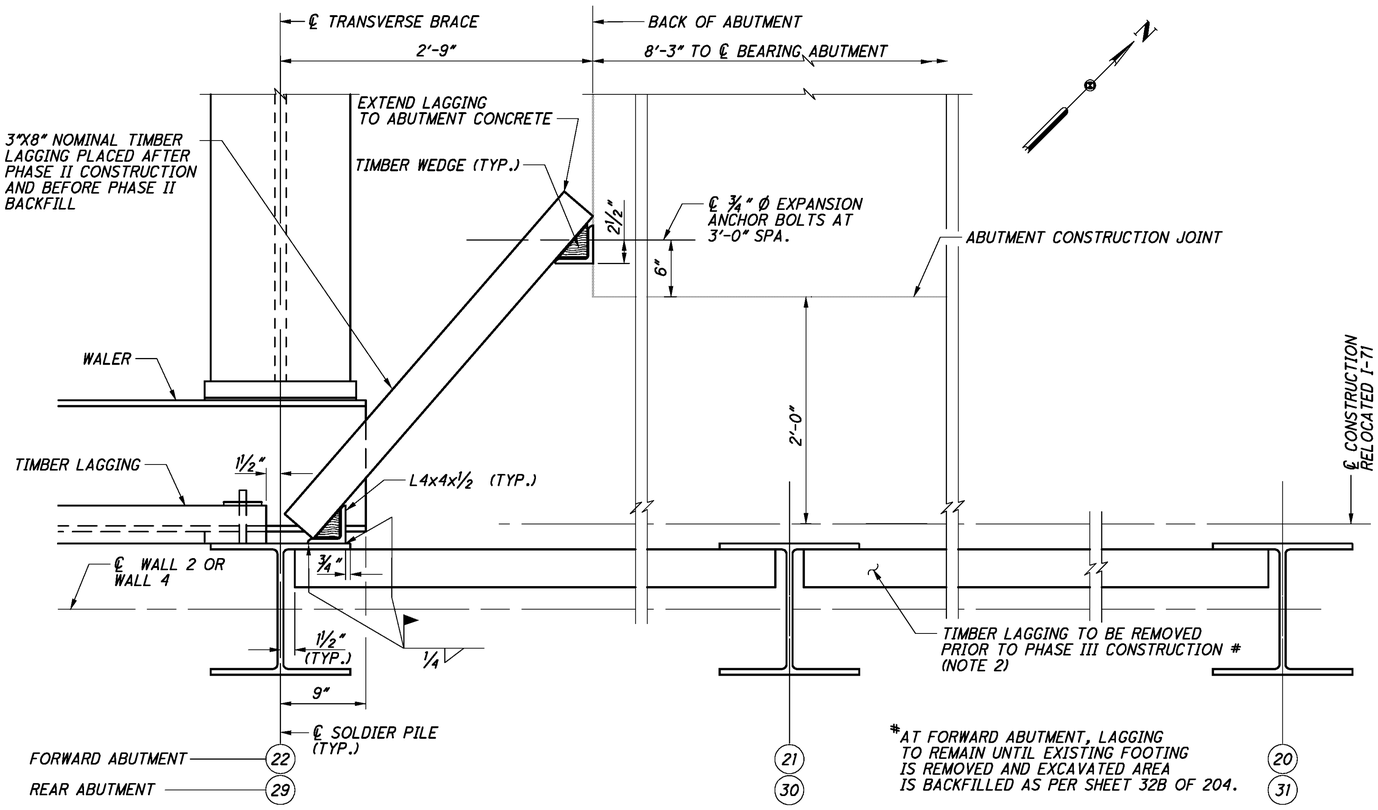
PHASE CONSTRUCTION - FORWARD ABUTMENT - 2
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

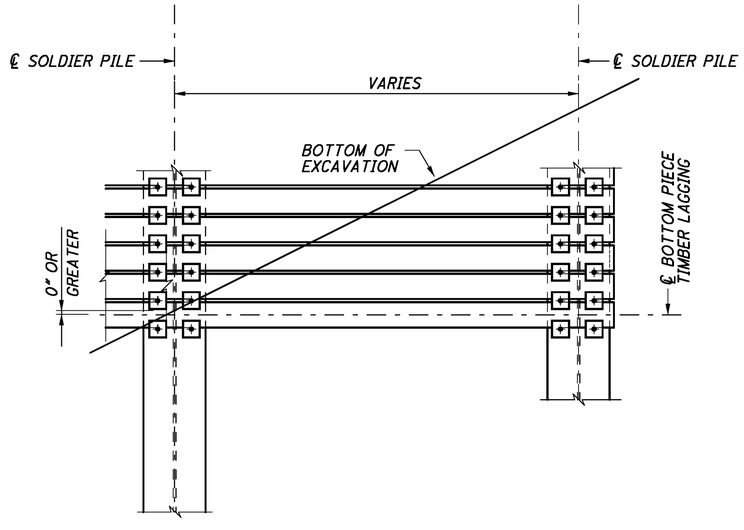
34/204

300/470

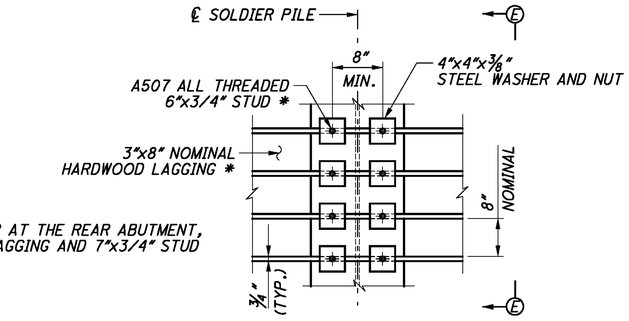
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DETAIL 3 SHOWN
DETAIL 4 OPPOSITE HAND
(SECTIONAL PLAN)

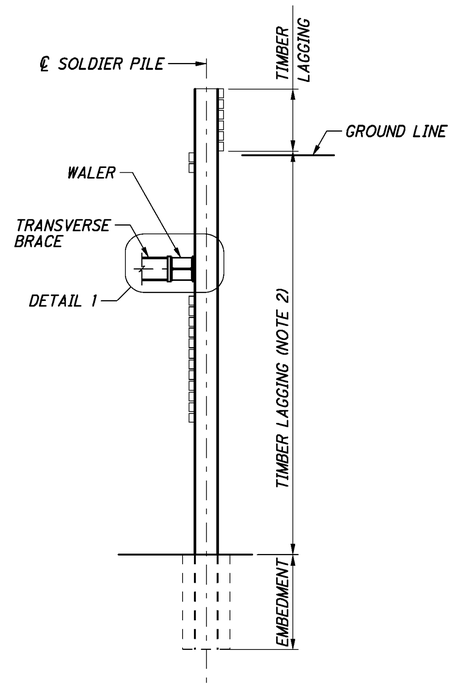


DETAIL 5
LOOKING AT OUTSIDE FACE OF WALL



* FOR WALL 2 AT THE REAR ABUTMENT, USE 4"x8" LAGGING AND 7"x3/4" STUD

ELEVATION VIEW
SOLDIER PILE AND TIMBER LAGGING CONNECTION DETAIL



SECTION E-E

NOTES:

1. FOR LOCATION OF DETAILS 3 AND 4, SEE SHEETS 29A AND 32A OF 204.
2. FOR LOCATION OF DETAIL 5, SEE SHEET 29B AND 32B OF 204.
3. FOR DETAIL 1, SEE SHEET 35A OF 204.
4. PLACE TIMBER LAGGING INSIDE FLANGE BETWEEN PILE (22) TO (20) IN FORWARD ABUTMENT AND PILE (29) TO (31) IN REAR ABUTMENT.
5. EXPANSION ANCHORS SHALL PROVIDE AN ALLOWABLE TENSILE FORCE OF 4.8 KIPS AND AN ALLOWABLE SHEAR FORCE OF 5.1 KIPS. THE COST IS INCLUDED IN THE UNIT PRICE BID FOR ITEM 503 COFFERDAMS, CRIBS AND SHEETING, AS PER PLAN.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
JY	JJB	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
PCA		8302278L/8302294R	

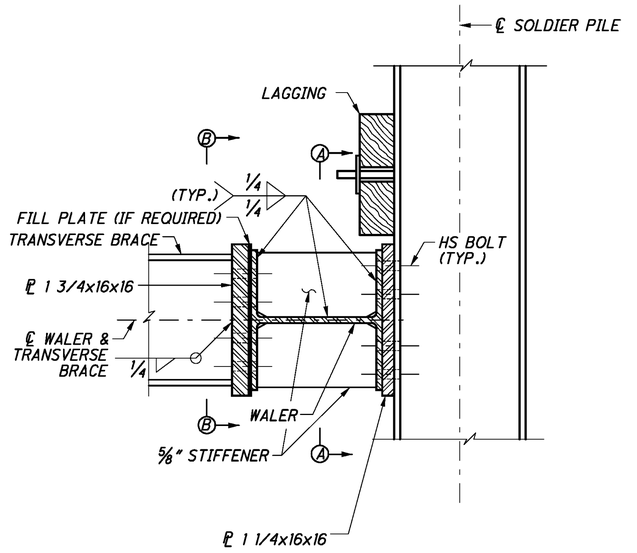
ABUTMENT TEMPORARY RETAINING WALL DETAILS 1
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

35 / 204

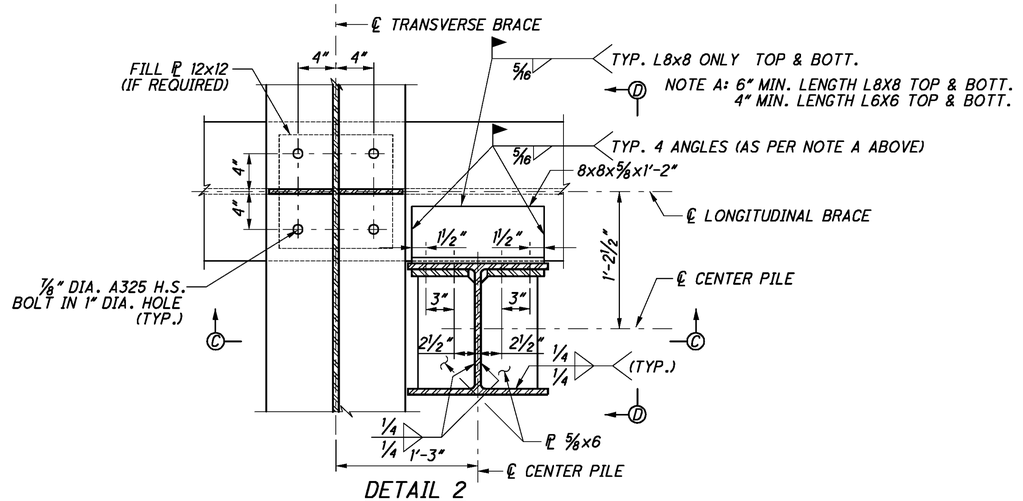
301
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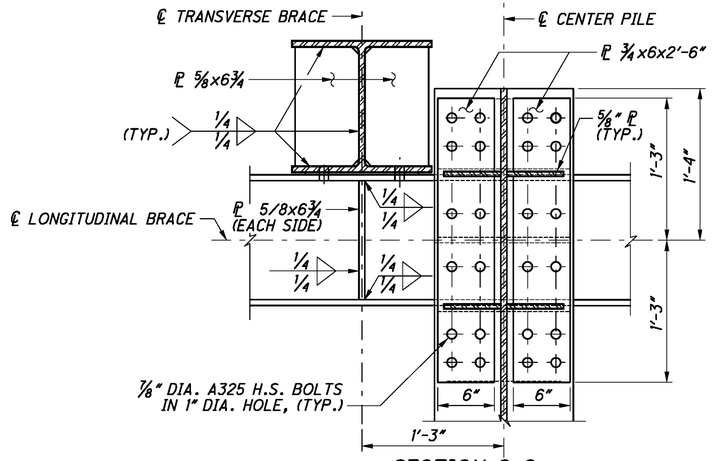
DETAIL 1

(FOR LOCATION OF DETAIL 1, SEE SHEET 35 OF 204)

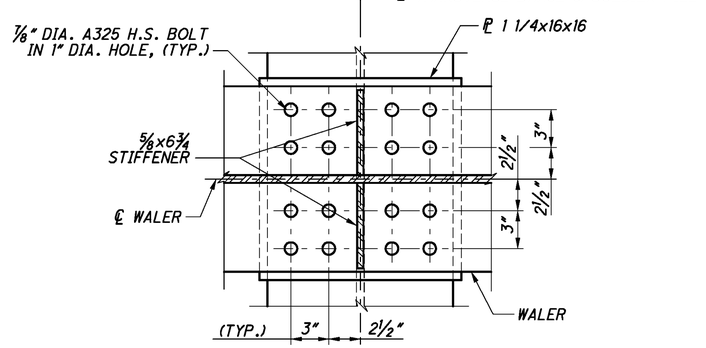


DETAIL 2

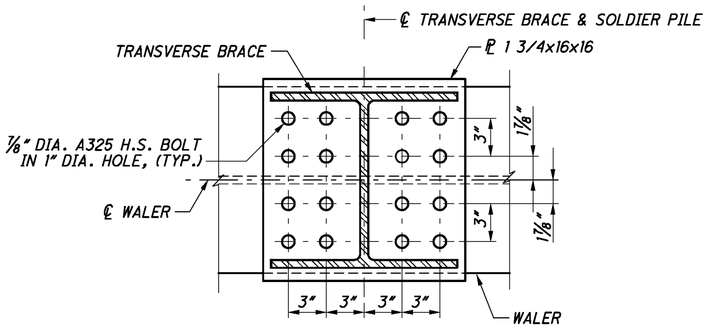
(FOR LOCATION OF DETAIL 2, SEE SHEET 29, 29A, 32, AND 32A OF 204.)



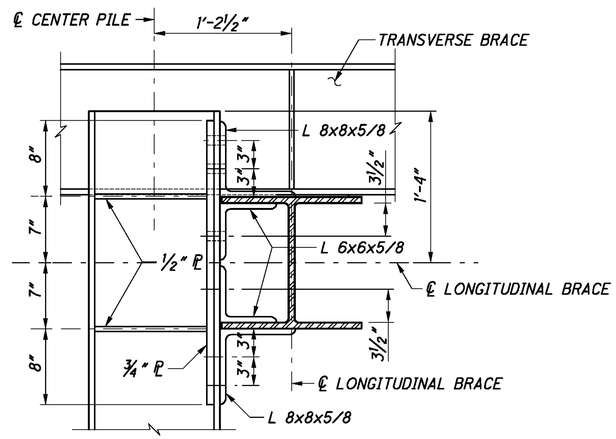
SECTION C-C



SECTION A-A



SECTION B-B



SECTION D-D

NOTES:

1. WORK THIS SHEET WITH SHEETS 29 THRU 35 OF 204.
2. CLIP ALL STIFFENERS 3/4" x3/4".
3. ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 50.
4. CONTRACTOR SHALL FIELD DRILL BOLT HOLES FOR PROPER FIT AND SUBMIT THE PROCEDURE FOR DRILLING THE HOLES THROUGH THE REQUIRED PLATE THICKNESS IN THE TIGHT CLEARANCES FOR ENGINEERS REVIEW AND APPROVAL. 90° IMPACT WRENCH MAY BE REQUIRED AT SOME CONNECTIONS.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

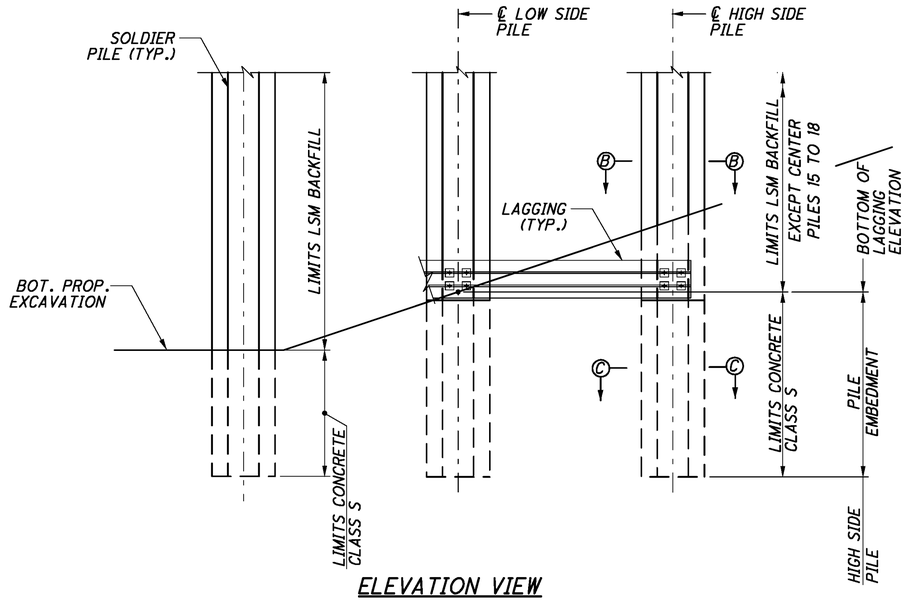
DESIGNED JY | DRAWN LK/JRB | REVIEWED RHW | DATE 3/21/08
CHECKED PCA | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

ABUTMENT TEMPORARY RETAINING WALL DETAILS 2

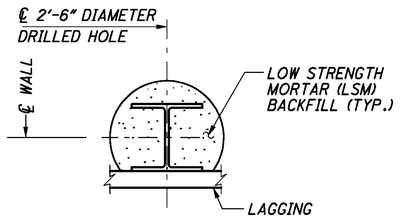
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

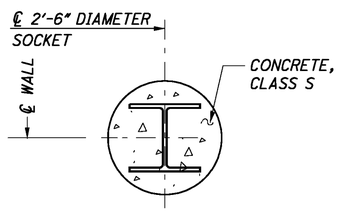
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ELEVATION VIEW
SOLDIER PILE / LAGGING



SECTION B-B



SECTION C-C

NOTES:

1. PILE LENGTHS AND TIP ELEVATIONS AT REAR ABUTMENT ARE APPROXIMATE BECAUSE OF VARIANCE IN ROCK ELEVATIONS.
2. BEDROCK ELEVATION IS BASED ON THE SPECIFIC BORING DATA NEAR THE AREA. ACTUAL BEDROCK ELEVATION MAY VARY.
3. FOR REAR ABUTMENT PILE 1 AND 19 TO 21, IF THE PILE ENCOUNTERS ROCK BEFORE REQUIRED EMBEDMENT LENGTH IS ATTAINED, CORE 2'-6" DIAMETER BY 2'-0" DEEP SOCKET WITH CLASS S CONCRETE BELOW ROCK LINE.
4. ALL ELEVATIONS ARE IN FEET.
5. WORK THIS SHEET WITH SHEETS 29 THRU 29B AND 32 THRU 32B OF 204.

REAR ABUTMENT SOLDIER PILE / LAGGING TABLE

PILE NO.	CENTER OF PILE STATION	CENTER OF PILE OFFSET FROM CENTERLINE OF CONSTRUCTION RELOCATED I-71	TOP OF PILE OR LAGGING ELEV.	PILE TIP ELEV. (NOTE 1 & 3)	PILE LENGTH (FEET) (NOTE 1 & 3)	EXCAVATION ELEV. OR BOTTOM OF LAGGING ELEV.	LAGGING DEPTH (FEET)	ESTIMATED BEDROCK ELEV. (NOTE 2)	TOP ELEV. OF CLASS S CONCRETE IF APPLICABLE (NOTE 3)	PILE EMBEDMENT (FEET)	DEPTH OF CLASS S CONCRETE SOCKET (FEET)
1	947+79.50	64'-9" LT	900.50	879.42	21.08	892.92	7.58	876.50	-	13.50	-
2	947+88.25	64'-9" LT	900.50	875.00	25.50	890.00	10.50	876.50	876.50	15.00	2.00
3	947+97.00	64'-9" LT	900.50	873.08	27.42	887.08	13.42	876.50	876.50	14.00	2.00
4	948+05.75	64'-9" LT	900.50	876.67	23.83	884.17	16.33	876.50	884.17	7.50	7.50
5	948+14.50	64'-9" LT	900.50	873.75	26.75	881.25	19.25	876.50	881.25	7.50	7.50
6	948+23.25	64'-9" LT	900.50	871.75	28.75	879.25	21.25	876.50	879.25	7.50	7.50
7	948+32.00	64'-9" LT	900.50	871.75	28.75	879.25	21.25	876.50	879.25	7.50	7.50
8	948+40.75	64'-9" LT	900.50	871.75	28.75	879.25	21.25	876.50	879.25	7.50	7.50
9	948+49.50	64'-9" LT	900.50	871.75	28.75	879.25	21.25	876.50	879.25	7.50	7.50
10	948+56.75	64'-9" LT	900.50	871.75	28.75	879.25	21.25	876.50	879.25	7.50	7.50
11	948+64.00	64'-9" LT	900.50	869.90	30.60	877.40	23.10	876.50	877.40	7.50	7.50
12	948+72.75	64'-9" LT	897.40	869.90	27.50	877.40	20.00	876.50	877.40	7.50	7.50
13	948+81.50	64'-9" LT	892.40	869.90	22.50	877.40	15.00	876.50	877.40	7.50	7.50
14	948+89.50	64'-9" LT	888.40	869.90	18.50	877.40	11.00	876.50	877.40	7.50	7.50
15	948+13.25	30'-3 ½" LT	899.18	882.08	17.10	884.58	-	873.90	884.58	2.50	2.50
16	948+30.75	30'-3 ½" LT	899.18	876.75	22.43	879.25	-	873.90	879.25	2.50	2.50
17	948+48.25	30'-3 ½" LT	893.18	876.75	16.43	879.25	-	873.90	879.25	2.50	2.50
18	948+62.75	30'-3 ½" LT	893.18	874.90	18.28	877.40	-	873.90	877.40	2.50	2.50
19	947+79.50	9" RT	900.50	879.42	21.08	892.92	7.58	871.30	-	13.50	-
20	947+88.25	9" RT	900.50	875.00	25.50	890.00	10.50	871.30	-	15.00	-
21	947+97.00	9" RT	900.50	873.08	27.42	887.08	13.42	871.30	-	14.00	-
22	948+05.75	9" RT	900.50	876.67	23.83	884.17	16.33	871.30	884.17	7.50	7.50
23	948+14.50	9" RT	900.50	873.75	26.75	881.25	19.25	871.30	881.25	7.50	7.50
24	948+23.25	9" RT	900.50	871.75	28.75	879.25	21.25	871.30	879.25	7.50	7.50
25	948+32.00	9" RT	900.50	871.75	28.75	879.25	21.25	871.30	879.25	7.50	7.50
26	948+40.75	9" RT	900.50	871.75	28.75	879.25	21.25	871.30	879.25	7.50	7.50
27	948+49.50	9" RT	900.50	871.75	28.75	879.25	21.25	871.30	879.25	7.50	7.50
28	948+56.75	9" RT	900.50	871.75	28.75	879.25	21.25	871.30	879.25	7.50	7.50
29	948+64.00	9" RT	900.50	869.90	30.60	877.40	23.10	871.30	877.40	7.50	7.50
30	948+72.75	9" RT	897.40	869.90	27.50	877.40	20.00	871.30	877.40	7.50	7.50
31	948+81.50	9" RT	892.40	869.90	22.50	877.40	15.00	871.30	877.40	7.50	7.50
32	948+89.50	9" RT	888.40	869.90	18.50	877.40	11.00	871.30	877.40	7.50	7.50

FORWARD ABUTMENT SOLDIER PILE / LAGGING TABLE

PILE NO.	CENTER OF PILE STATION	CENTER OF PILE OFFSET FROM CENTERLINE OF CONSTRUCTION RELOCATED I-71	TOP OF PILE OR LAGGING ELEV.	PILE TIP ELEV.	PILE LENGTH (FEET)	EXCAVATION ELEV. OR BOTTOM OF LAGGING ELEV.	LAGGING DEPTH (FEET)	ESTIMATED BEDROCK ELEV.	TOP ELEV. OF CLASS S CONCRETE	PILE EMBEDMENT (FEET)	DEPTH OF CLASS S CONCRETE SOCKET (FEET)
1	970+94.75	65'-1" LT	881.50	862.25	19.25	868.25	13.25	-	868.25	6.00	6.00
2	971+03.50	65'-1" LT	885.50	860.25	25.25	868.25	17.25	-	868.25	8.00	8.00
3	971+12.25	65'-1" LT	889.50	858.25	31.25	868.25	21.25	-	868.25	10.00	10.00
4	971+21.00	65'-1" LT	889.50	860.00	29.50	868.25	21.25	-	868.25	8.25	8.25
5	971+29.00	65'-1" LT	889.50	860.00	29.50	868.25	21.25	-	868.25	8.25	8.25
6	971+36.50	65'-1" LT	889.50	860.00	29.50	868.25	21.25	-	868.25	8.25	8.25
7	971+45.00	65'-1" LT	889.50	860.00	29.50	868.25	21.25	-	868.25	8.25	8.25
8	971+53.00	65'-1" LT	889.50	860.00	29.50	868.25	21.25	-	868.25	8.25	8.25
9	971+61.50	65'-1" LT	889.50	860.00	29.50	868.25	21.25	-	868.25	8.25	8.25
10	971+70.00	65'-1" LT	889.50	861.92	27.58	870.17	19.33	-	870.17	8.25	8.25
11	971+78.75	65'-1" LT	889.50	860.08	29.42	873.08	16.42	-	873.08	13.00	13.00
12	971+87.50	65'-1" LT	889.50	861.00	28.50	876.00	13.50	-	-	15.00	-
13	971+96.25	65'-1" LT	889.50	869.92	19.58	878.92	10.58	-	-	9.00	-
14	972+05.00	65'-1" LT	889.50	875.83	13.67	881.83	7.67	-	-	6.00	-
15	971+22.25	31'-9 ½" LT	888.18	863.92	24.26	866.67	-	-	866.67	2.75	2.75
16	971+37.75	31'-9 ½" LT	888.18	865.50	22.68	868.25	-	-	868.25	2.75	2.75
17	971+54.25	31'-9 ½" LT	882.18	865.50	16.68	868.25	-	-	868.25	2.75	2.75
18	971+71.25	31'-9 ½" LT	882.18	870.67	11.51	873.42	-	-	873.42	2.75	2.75
19	970+94.75	9" RT	881.50	860.67	20.83	866.67	13.25	-	866.67	6.00	6.00
20	971+03.50	9" RT	885.50	858.67	26.83	866.67	17.25	-	866.67	8.00	8.00
21	971+12.25	9" RT	889.50	856.67	32.83	866.67	21.25	-	866.67	10.00	10.00
22	971+21.00	9" RT	889.50	858.42	31.08	866.67	21.25	-	866.67	8.25	8.25
23	971+29.00	9" RT	889.50	860.00	29.50	868.25	21.25	-	868.25	8.25	8.25
24	971+36.50	9" RT	889.50	860.00	29.50	868.25	21.25	-	868.25	8.25	8.25
25	971+45.00	9" RT	889.50	860.00	29.50	868.25	21.25	-	868.25	8.25	8.25
26	971+53.00	9" RT	889.50	860.00	29.50	868.25	21.25	-	868.25	8.25	8.25
27	971+61.50	9" RT	889.50	860.00	29.50	868.25	21.25	-	868.25	8.25	8.25
28	971+70.00	9" RT	889.50	861.92	27.58	870.17	19.33	-	870.17	8.25	8.25
29	971+78.75	9" RT	889.50	860.08	29.42	873.08	16.42	-	873.08	13.00	13.00
30	971+87.50	9" RT	889.50	861.00	28.50	876.00	13.50	-	-	15.00	-
31	971+96.25	9" RT	889.50	869.92	19.58	878.92	10.58	-	-	9.00	-
32	972+05.00	9" RT	889.50	875.83	13.67	881.83	7.67	-	-	6.00	-

DESIGN AGENCY
HNTB 1100 Superior Avenue, Suite 1330 Cleveland, OH 44114-2531

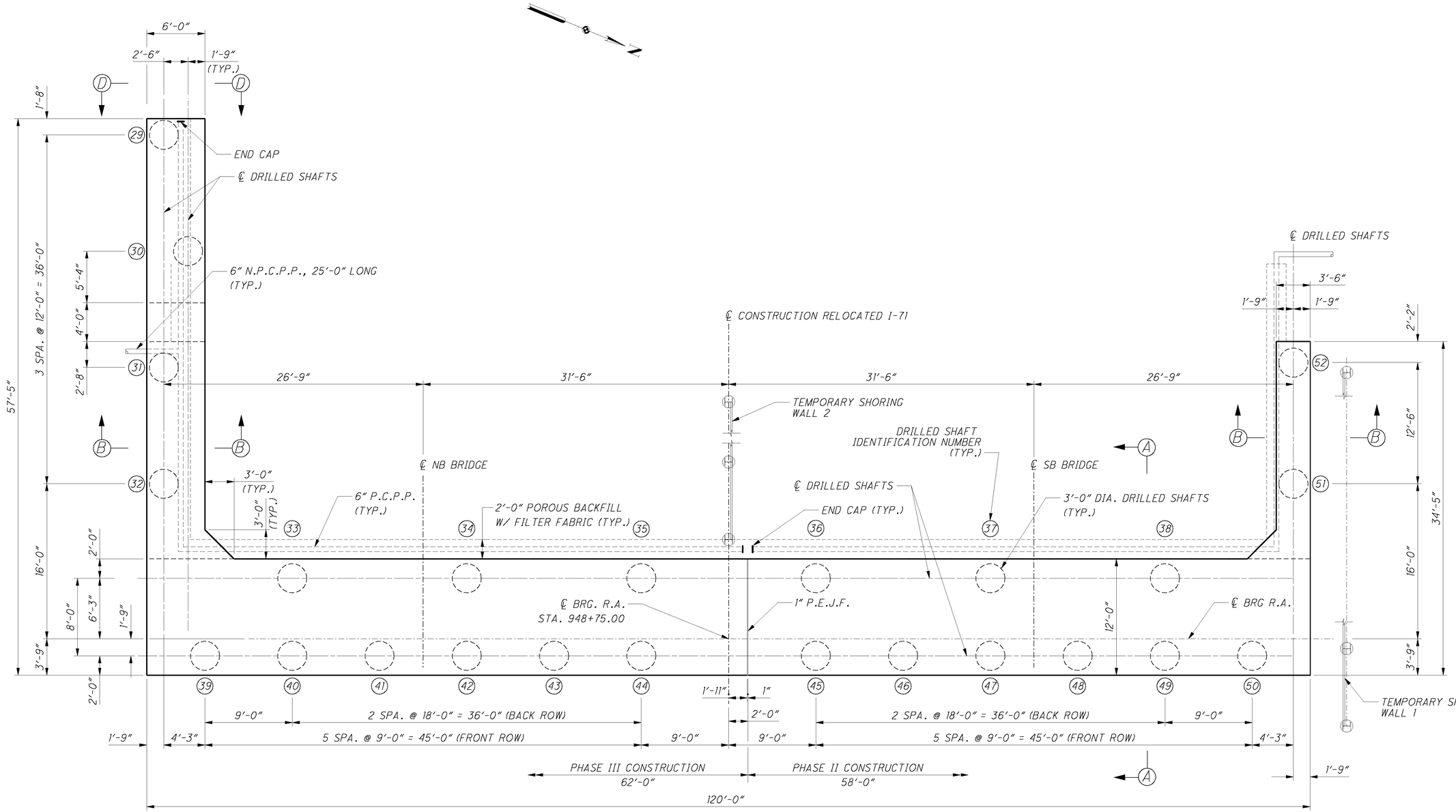
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PCA	JRB	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JY		8302278L/8302294R	

ABUTMENT TEMPORARY RETAINING WALL DETAILS 3
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

35B/204
301B/470

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FOUNDATION PLAN - REAR ABUTMENT

NOTES:

1. 6" DRAIN PIPE SHOWN ON THIS SHEET FOR CLARITY. CENTER PIPE WITHIN POROUS BACKFILL. SLOPE NON-PERFORATED PIPE AT 1/8"/FT. MINIMUM.
2. FOR ADDITIONAL REAR ABUTMENT DETAILS, SEE SHEETS 36A/204 THRU 39/204 .
3. ABBREVIATIONS:
   P.C.P.P. - PERFORATED CORRUGATED PLASTIC PIPE
   N.P.C.P.P. - NON-PERFORATED CORRUGATED PLASTIC PIPE
4. FOR TEMPORARY SHORING WALL DETAILS, NOTES AND LOCATIONS, SEE SHEETS 29/204 THRU 35/204 .
5. FOR SECTIONS A-A, B-B, D-D AND ADDITIONAL DETAILS, SEE SHEET 36A/204 .

E.L. ROBINSON
the Challenge...the Choice
6000 Memorial Drive Dublin, Ohio 43017

DESIGNED	DRAWN	REVIEWED	DATE
DFT	FTB	RLE	03/31/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
OHK		8302278L/8302294R	

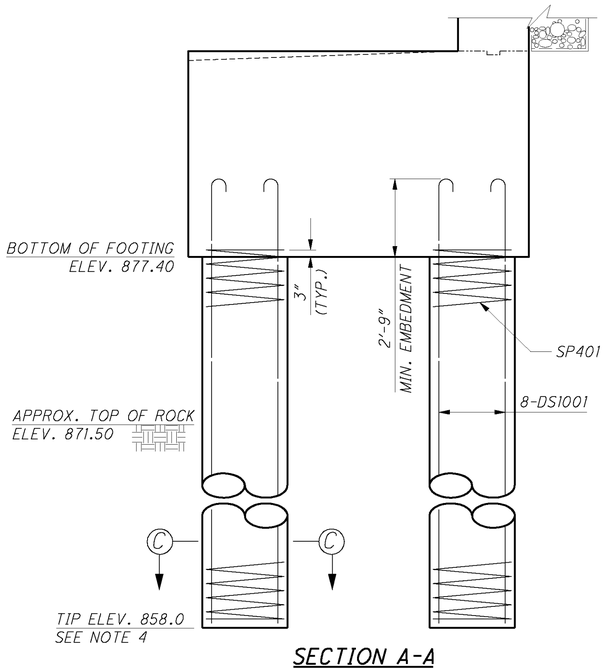
FOUNDATION PLAN - REAR ABUTMENT
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

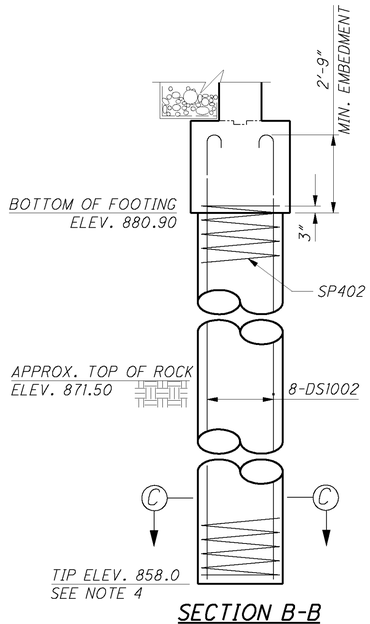
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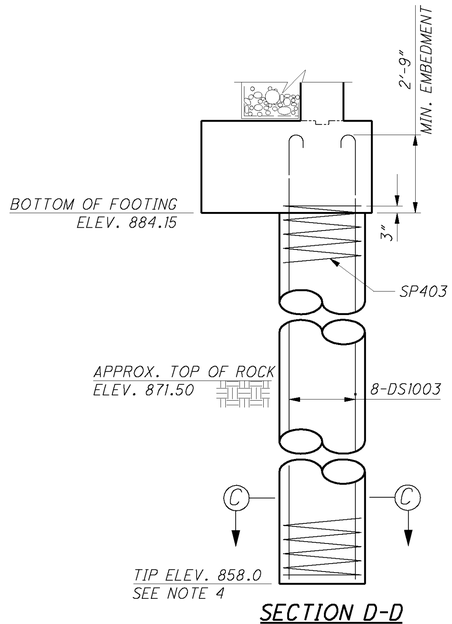


SECTION A-A

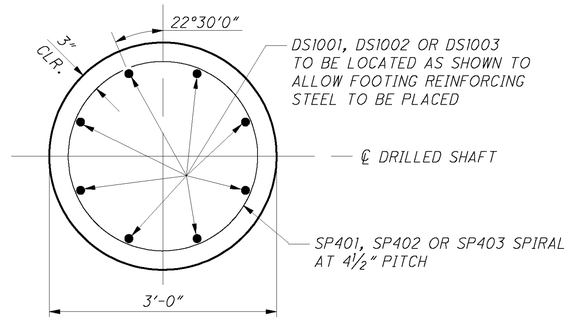


SECTION B-B

(SB WINGWALL SHOWN, NB SIMILAR)

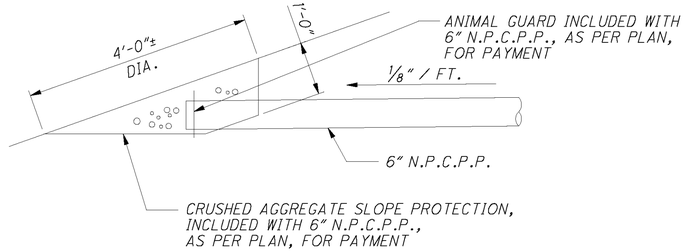


SECTION D-D



SECTION C-C

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	PHASE I	PHASE II	TOTAL				A	B	C	D	E	R	INC
DRILLED SHAFTS REINFORCING													
SP401	9	9	18	19'-5"	5087*	200	4½"	2'-6"	19'-5"				
SP402	2	2	4	22'-11"	1323*	200	4½"	2'-6"	22'-11"				
SP403		2	2	26'-2"	751*	200	4½"	2'-6"	26'-2"				
DS1001	72	72	144	23'-4"	14458*	011	21'-11"						
DS1002	16	16	32	26'-10"	3695*	011	25'-5"						
DS1003		16	16	30'-2"	2077*	011	28'-8"						
				SUB-TOTAL	27,391*								



TERMINATION OF 6" N.P.C.P.P. DETAIL

REINFORCING NOTES:

1R. 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 DIGITS ARE USED, INDICATES THE THE BAR SIZE NUMBER.
FOR EXAMPLE: SP401
A: LOCATION OF THE BAR IN THE STRUCTURE
6: BAR SIZE DESIGNATION NO. 4
01: SEQUENCE NUMBER

2R. 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 BAR.

3R. ALL REINFORCING STEEL IS TO BE EPOXY COATED.

4R. FOR BAR TYPES SEE SHEETS 187/204 & 188/204 .

* - REINFORCING STEEL INCLUDED WITH ITEM 524 - DRILLED SHAFTS FOR PAYMENT.

NOTES:

1. FOR ADDITIONAL REAR ABUTMENT DETAILS, SEE SHEETS 37/204 THRU 39/204 .
2. ABBREVIATIONS:
P.C.P.P. - PERFORATED CORRUGATED PLASTIC PIPE
N.P.C.P.P. - NON-PERFORATED CORRUGATED PLASTIC PIPE
3. FOR LOCATION OF SECTIONS A-A, B-B AND D-D , SEE SHEET 36/204 .
4. THE DRILLED SHAFT SHALL EXTEND A MINIMUM OF 12 FEET INTO THE BEDROCK OR TO THE ELEVATION SHOWN, WHICHEVER IS LOWER.

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DATE 03/31/08
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STRUCTURE FILE NUMBER 8302278L/8302294R

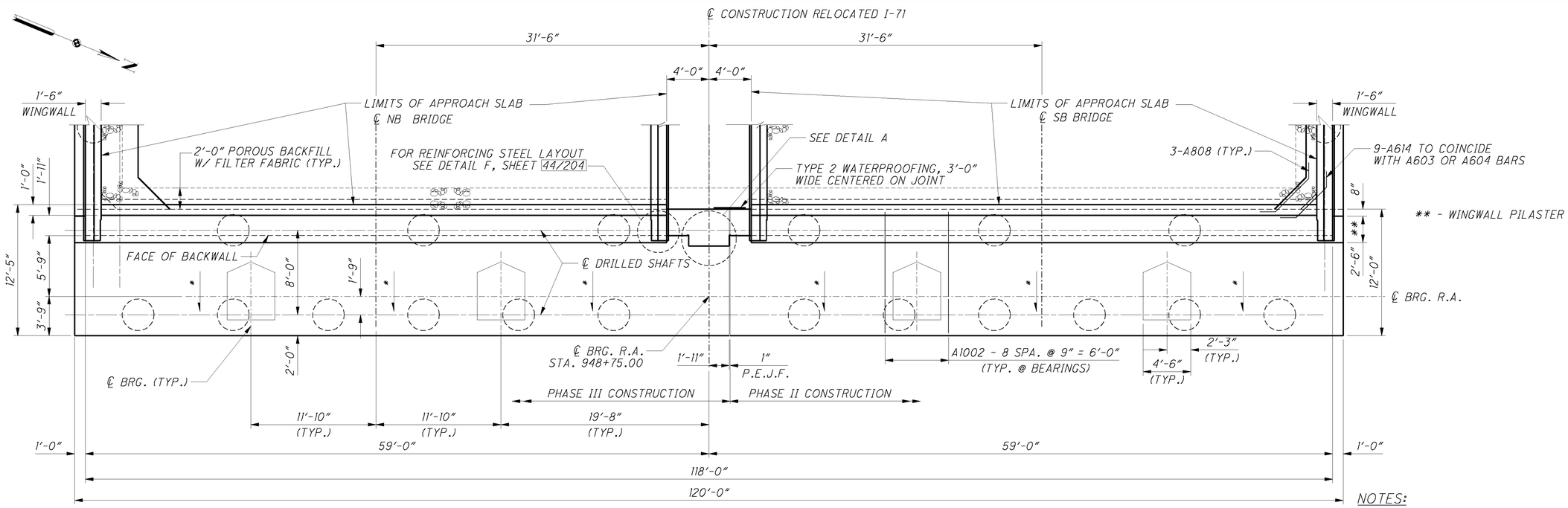
FOUNDATION PLAN - REAR ABUTMENT
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

36A/204

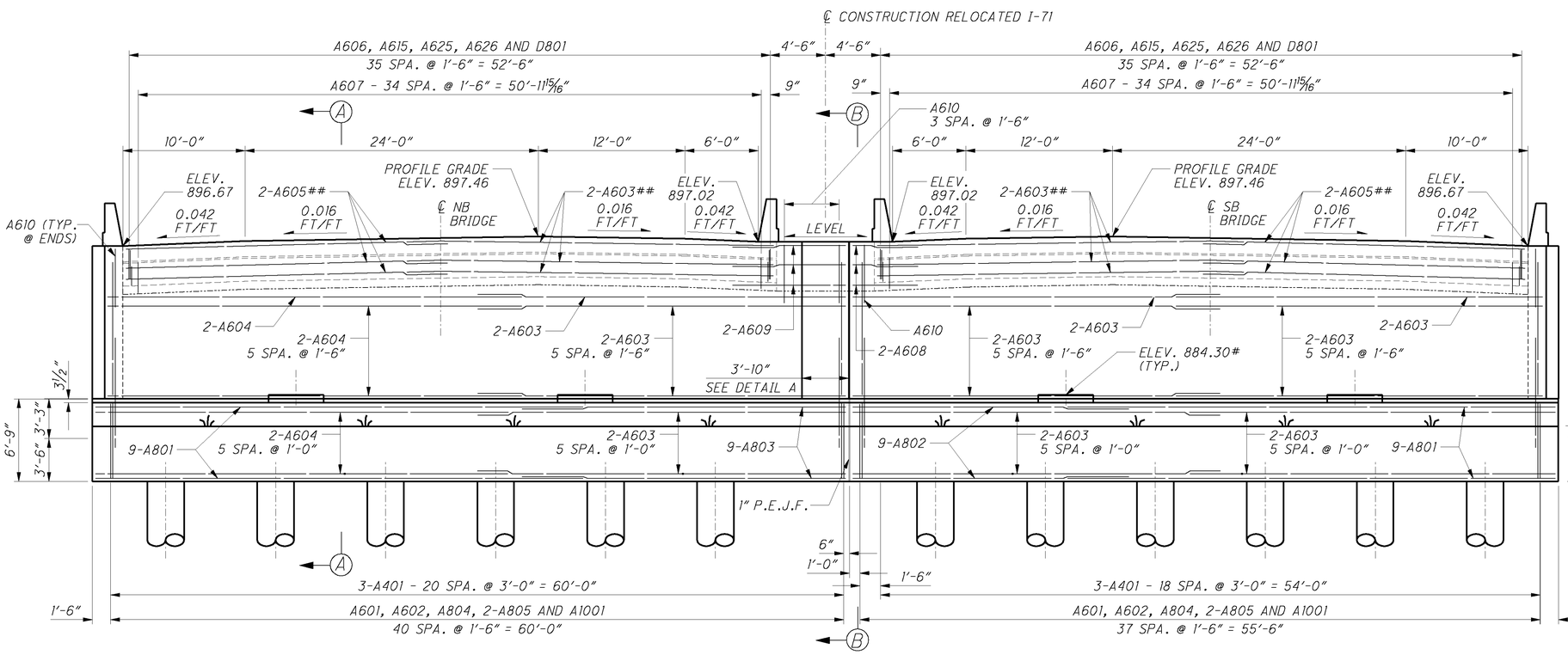
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PLAN

* - SLOPE 3/8"/FT ACROSS BRIDGE SEAT



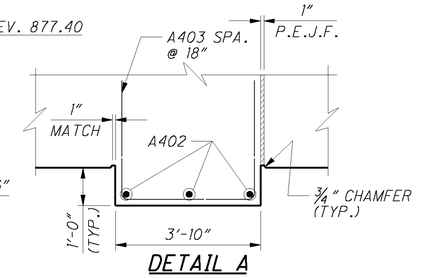
\# - PEDESTAL ELEVATION SHOWN ARE AT CENTERLINE OF BEARING
\## - 2 SETS OR 4-A624 TO BE PLACED IN BLOCKOUTS FOR MODULAR DECK JOINT.

ELEVATION

ALL ELEVATIONS ARE TAKEN AT EDGE OF APPROACH SLAB (BRIDGE LIMITS) UNLESS NOTED OTHERWISE

TOP OF SLOPE ELEV. 881.0

ELEV. 877.40



DETAIL A
(CENTER PILASTER)

NOTES:

1. MINIMUM LAP SPLICE:
   #6 BAR = 3'-4" (A603 IN FOOTING LAP = 2'-6")
   #8 BAR = 5'-0"
2. ALL EXPOSED EDGES AND CORNERS CHAMFERED 3/4 INCHES UNLESS OTHERWISE NOTED.
3. SECURE THE 1" P.E.J.F. PLACED BETWEEN THE PHASE CONSTRUCTION JOINT IN THE BACKWALL BY THE USE OF A SINGLE LINE OF FASTENERS. THE FASTENERS SHALL BE 2 1/2" BY #10 GAGE GALVANIZED BUTTON HEAD SPIKES THROUGH A 1 INCH OUTSIDE DIAMETER, #10 GAGE GALVANIZED WASHER. THE MAXIMUM SPACING SHALL BE 12 INCHES. USE OF OTHER FASTENERS MAY BE USED AT THE APPROVAL OF THE ENGINEER. PAYMENT FOR FASTENERS IS INCLUDED WITH 1" P.E.J.F..
4. THE ELEVATIONS OF THE APPROACH SLAB SEAT AND THE BACKWALL CONSTRUCTION JOINT ARE PARALLEL AND FOLLOW ROADWAY SURFACE. BACKWALL CORBEL DIMENSIONS ARE CONSTANT.
5. FOR BEARING SEAT REINFORCING AND DETAILS, AND SECTIONS A-A AND B-B, SEE SHEET 38/204 .
6. FOR ABUTMENT DRAIN PIPE, SEE NOTE 1 ON SHEET 36/204 .

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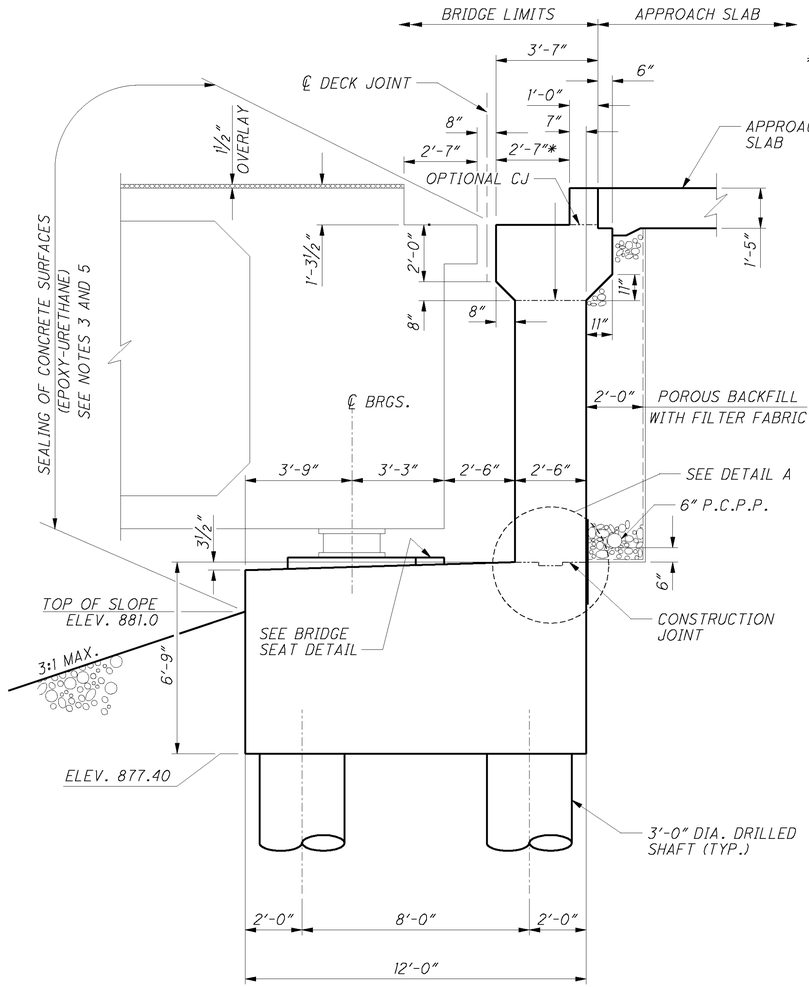
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INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

37/204

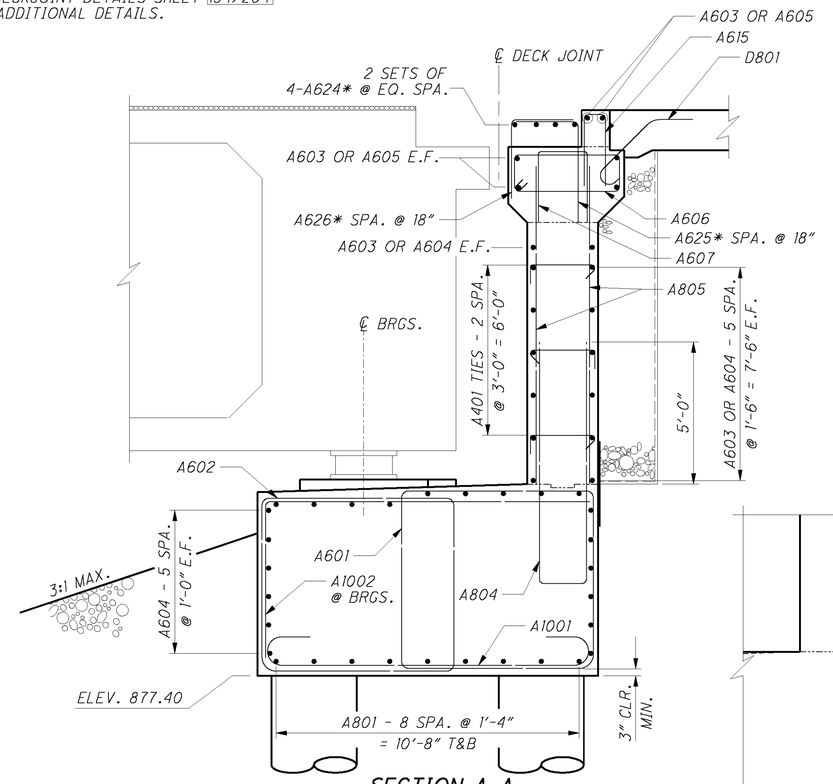
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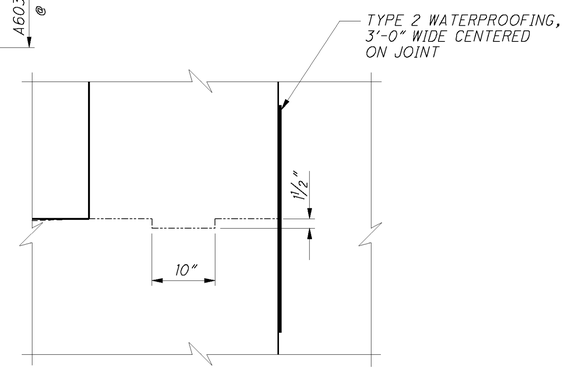
* - DECK JOINT BLOCKOUT 2'-7" x 1'-3½". SEE DECKJOINT DETAILS SHEET 194/204 FOR ADDITIONAL DETAILS.

SECTION A-A
DESIGN DIMENSIONS

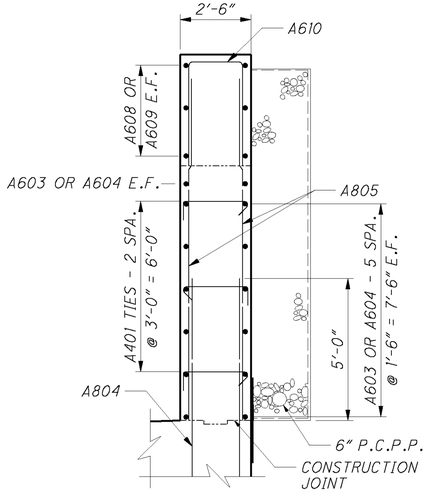


SECTION A-A
REINFORCING STEEL DETAILS

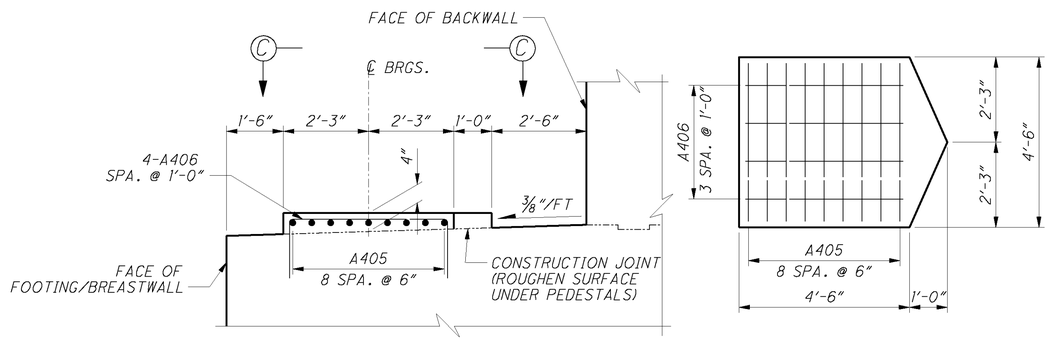
* - CONTRACTOR TO VERIFY AND VARY BAR LOCATIONS TO AVOID THE EXPANSION JOINT SUPPORT BOX IF NECESSARY



DETAIL A
(CENTER KEY IN BACKWALL)



SECTION B-B
FOR FOOTING REINFORCING SEE SECTION A-A



BRIDGE SEAT DETAIL

VIEW C-C

NOTES:

1. 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 TURNBACK WINGWALLS.
2. BACKWALL CONCRETE: IN ADDITION TO 511.10, DO NOT PLACE BACKWALL CONCRETE PRIOR TO COMPLETION OF SUPERSTRUCTURE JACKING CALLED FOR IN THE CONSTRUCTION SEQUENCE PROCEDURES.
3. SEALING OF BEAM SEATS: IF THE BEAM SEATS ARE SEALED WITH THE EPOXY SEALER PRIOR TO SETTING THE BEARINGS, DO NOT APPLY SEALER TO THE CONCRETE SURFACES UNDER THE PROPOSED BEARING LOCATIONS. IF THESE LOCATIONS ARE SEALED, REMOVE THE SEALER TO THE SATISFACTION OF THE ENGINEER PRIOR TO SETTING THE BEARINGS. THE DEPARTMENT WILL NOT PAY FOR THIS REMOVAL.
4. THE ABUTMENT BEAM SEAT ELEVATIONS ARE BASED ON A BEARING HEIGHT OF 12 INCHES. IF THE CONTRACTOR'S SELECTED BEARING MANUFACTURER HAS A DESIGN THAT DOES NOT CONFORM TO THIS HEIGHT, ADJUST THE PEDESTAL ELEVATION AT NO ADDITIONAL COST TO THE STATE. ADJUST THE LOCATION OF REINFORCING STEEL HORIZONTALLY AS NECESSARY TO AVOID INTERFERENCE WITH THE BEARING ANCHOR BOLTS. MAINTAIN THE MINIMUM CONCRETE COVER AND MINIMUM SPACING REQUIRED BY THE PROJECT PLANS. IF THE REINFORCING STEEL CANNOT BE MOVED TO PROVIDE THE REQUIRED POSITION FOR THE ANCHOR BOLTS, THE CONTRACTOR'S BEARING MANUFACTURER SHALL RE-DESIGN THE BEARINGS TO ACCOMMODATE AN ACCEPTABLE ANCHOR BOLT CONFIGURATION.
5. ALL EXPOSED SURFACES AT ABUTMENTS AND WINGWALLS SHALL BE SEALED WITH EPOXY-URETHANE CONCRETE SEALER.
6. FOR LOCATION OF SECTIONS A-A AND B-B, SEE SHEET 37/204 .

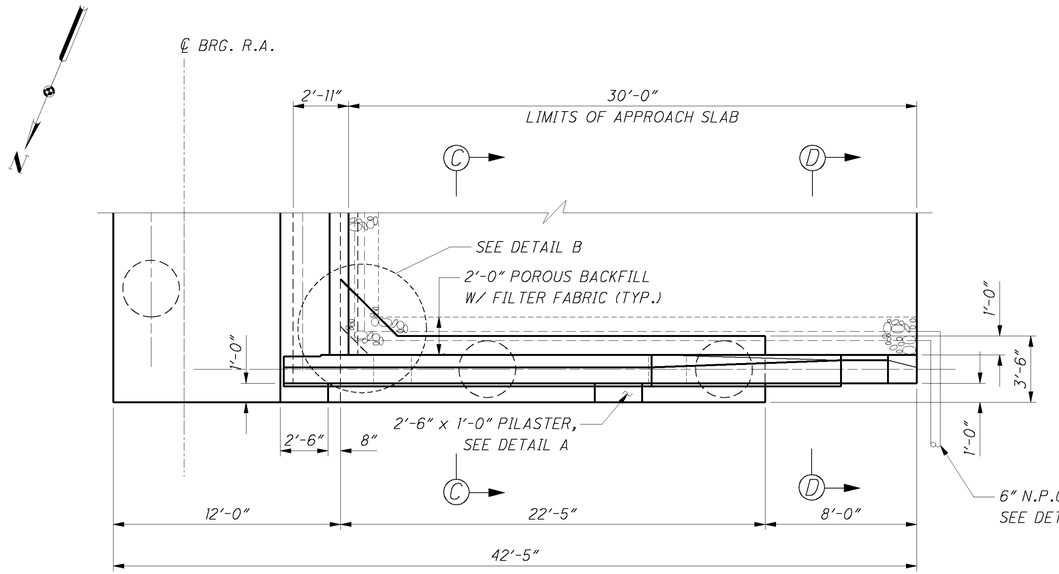
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6000 Memorial Drive Dublin, Ohio 43017

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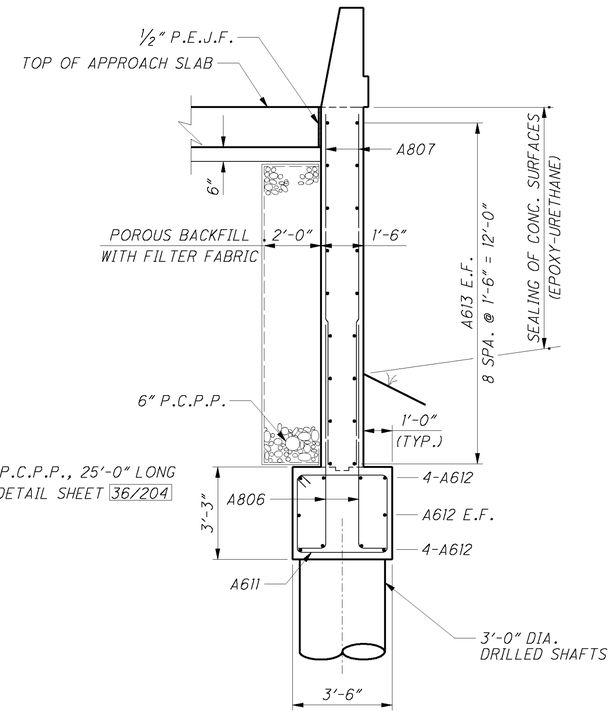
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BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

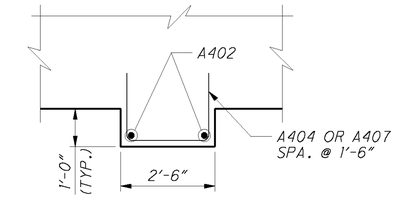
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WINGWALL PLAN - LEFT WINGWALL (SB)

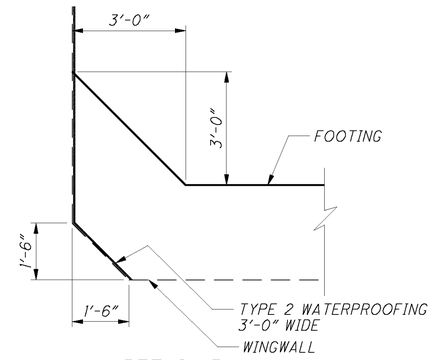


SECTION C-C

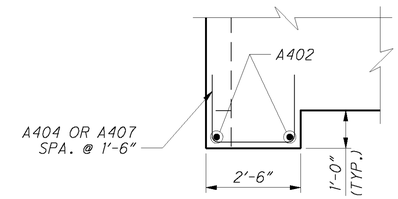


DETAIL A

A407 PLACED WHERE PILASTER IS 1'-0" THICK

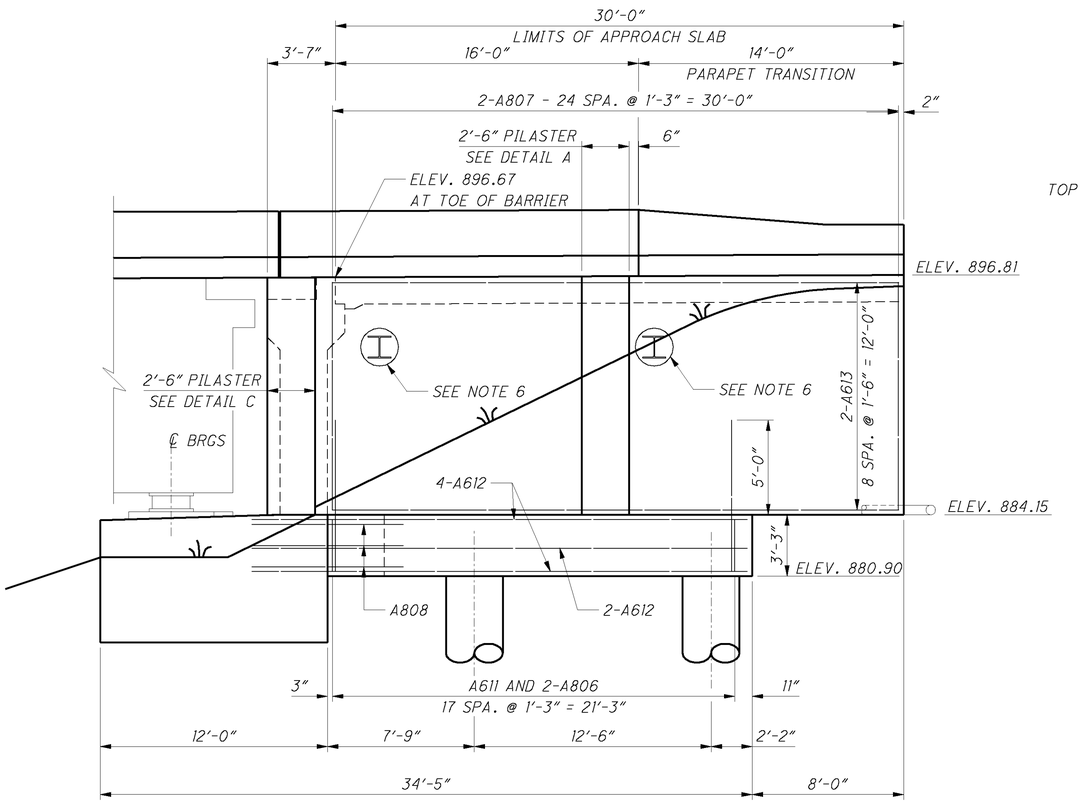


DETAIL B
TYPICAL CORNER CHAMFER DETAIL

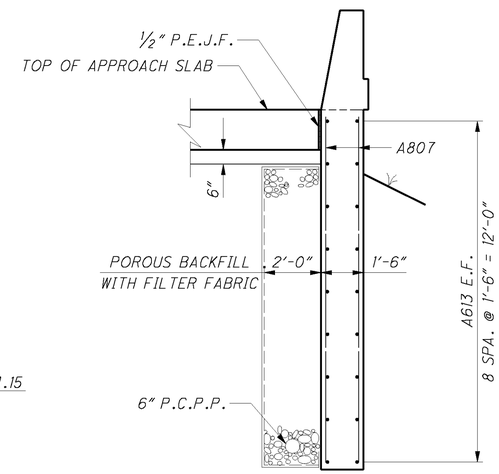


DETAIL C

A407 PLACED WHERE PILASTER IS 1'-0" THICK



ELEVATION



SECTION D-D

NOTES:

1. MINIMUM LAP SPLICE:
   #8 BAR = 5'-0"
2. CHAMFER ALL EXPOSED EDGES AND CORNERS ¾ INCHES UNLESS OTHERWISE NOTED.
3. 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 TURNBACK WINGWALLS.
4. FOR PARAPET REINFORCING AND PARAPET TRANSITION DETAILS, SEE SHEET 44/204.
5. ALL EXPOSED SURFACES AT ABUTMENTS AND WINGWALLS SHALL BE SEALED WITH EPOXY-URETHANE CONCRETE SEALER.
6. A 2 FOOT OPENING IS REQUIRED THROUGH THE WINGWALL FOR THE TEMPORARY RETAINING WALL. SEE SHEETS 29 THROUGH 35 OF 204 FOR DETAILS. A 2 FOOT DIAMETER PIPE PER CMS 707.33 WILL BE LOCATED IN THE WINGWALL TO ALLOW THE TEMPORARY TRANSVERSE BRACING TO PASS THROUGH. THE PIPE IS INCIDENTAL TO ITEM 503 - COFFERDAMS, CRIBS AND SHEETING, AS PER PLAN. THE WINGWALL REINFORCING MAY BE MOVED UP TO 12 INCHES IN ANY DIRECTION TO AVOID CONFLICT WITH THE 2 FOOT PIPE. WHEN NO LONGER REQUIRED, THE OPENING SHALL BE FILLED WITH ITEM 898 - QC/QA CONCRETE, CLASS QSC3. CARE SHALL BE TAKEN TO AVOID CONTRASTING SURFACE TEXTURES ON THE EXTERIOR SURFACE

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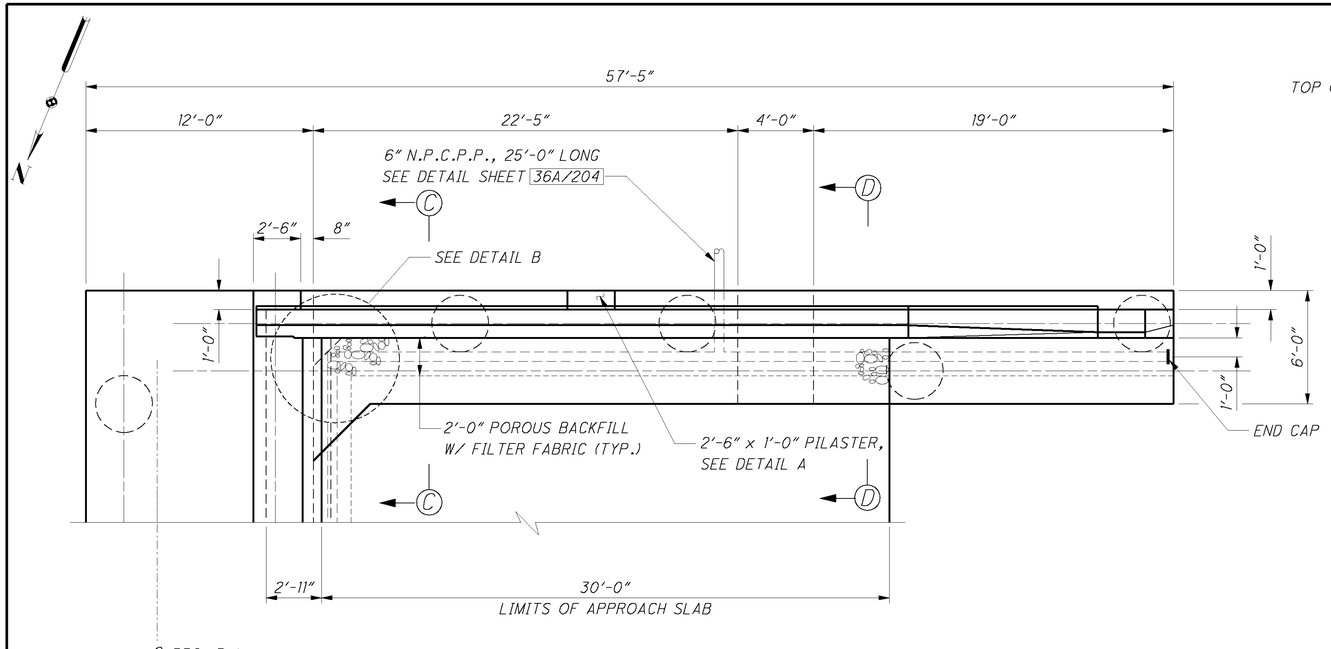
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BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

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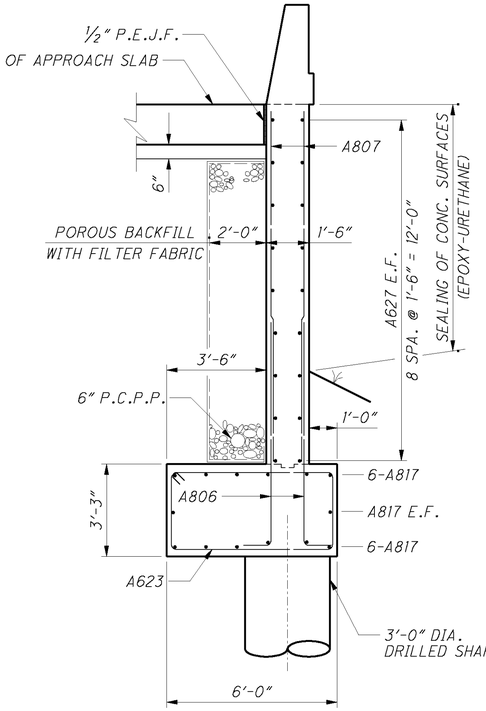
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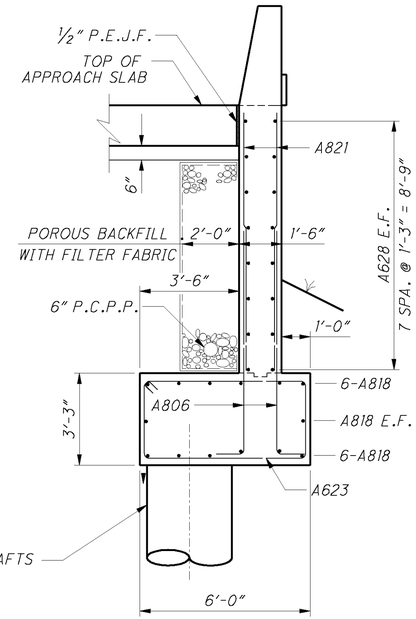
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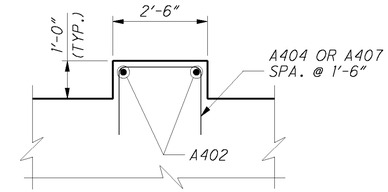
WINGWALL PLAN - RIGHT WINGWALL (NB)



SECTION C-C



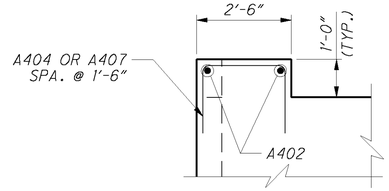
SECTION D-D



ELEVATION

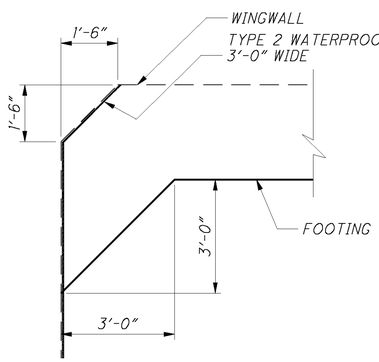
DETAIL A

A407 PLACED WHERE PILASTER IS 1'-0" THICK



DETAIL C

A407 PLACED WHERE PILASTER IS 1'-0" THICK



DETAIL B
TYPICAL CORNER CHAMFER DETAIL

NOTES:

1. MINIMUM LAP SPLICE:
   #8 BAR = 5'-0"
2. CHAMFER ALL EXPOSED EDGES AND CORNERS ¾ INCHES UNLESS OTHERWISE NOTED.
3. 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 TURNBACK WINGWALLS.
4. FOR PARAPET REINFORCING AND PARAPET TRANSITION DETAILS, SEE SHEET 44/204.
5. ALL EXPOSED SURFACES AT ABUTMENTS AND WINGWALLS SHALL BE SEALED WITH EPOXY-URETHANE CONCRETE SEALER.

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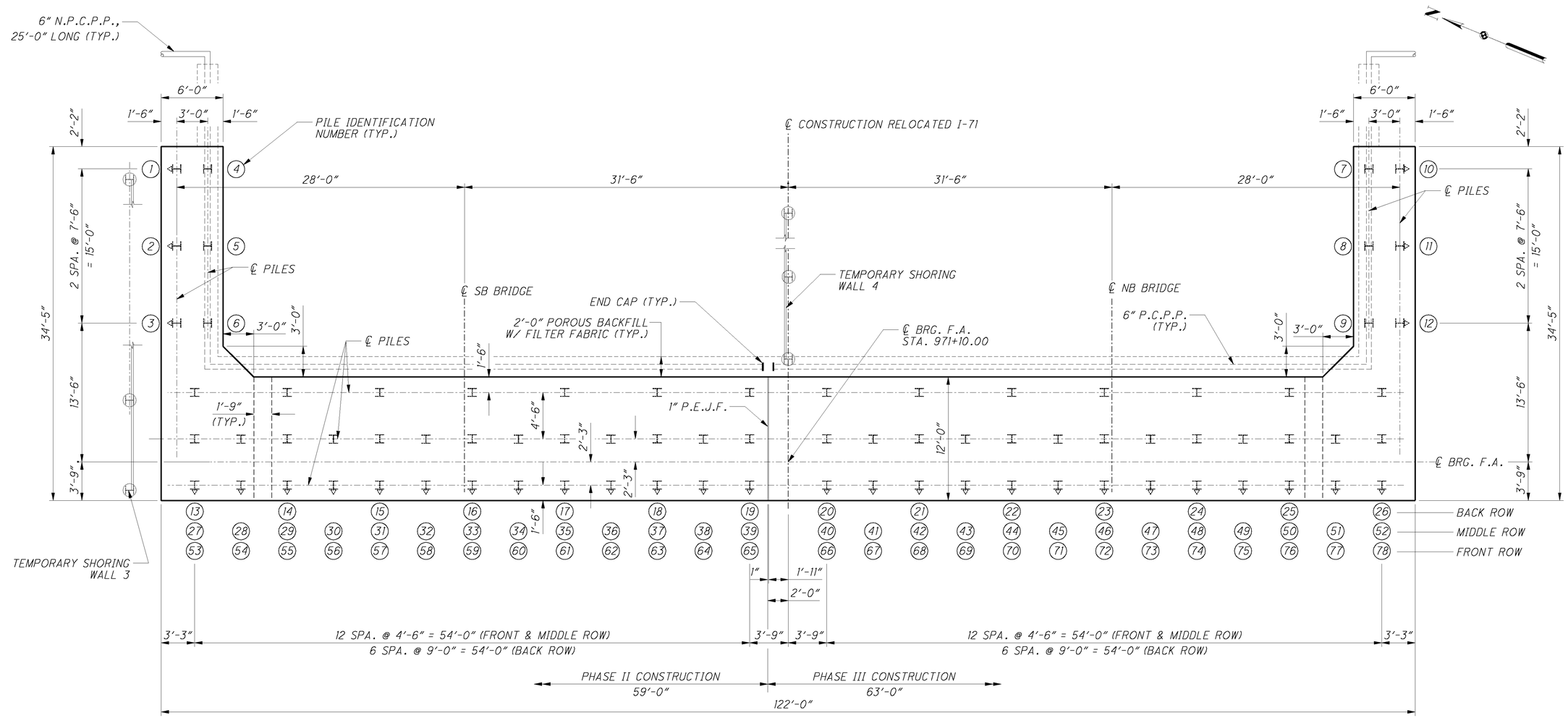
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INTERSTATE 71 OVER LITTLE MIAMI RIVER

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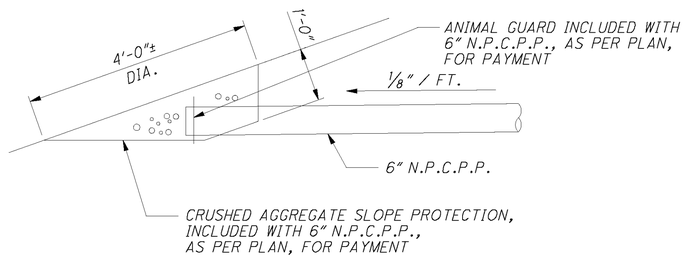
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FOUNDATION PLAN - FORWARD ABUTMENT



TERMINATION OF 6" N.P.C.P.P. DETAIL

LEGEND:

- I - VERTICAL HP14x73 PILES
- I - BATTERED HP14x73 PILES

NOTES:

1. 6" DRAIN PIPE SHOWN ON THIS SHEET FOR CLARITY. CENTER PIPE WITHIN POROUS BACKFILL. SLOPE NON-PERFORATED PIPE AT 1/8"/FT. MINIMUM.
2. FOR ADDITIONAL FORWARD ABUTMENT DETAILS, SEE SHEETS 41/204 THRU 43/204 .
3. ABBREVIATIONS:
   P.C.P.P. - PERFORATED CORRUGATED PLASTIC PIPE
   N.P.C.P.P. - NON-PERFORATED CORRUGATED PLASTIC PIPE
4. PILE IDENTIFICATION NUMBERS SHALL BE PREFIXED "FA".
5. FOR TEMPORARY SHORING WALL DETAILS, NOTES AND LOCATIONS, SEE SHEETS 29/204 THRU 35/204 .

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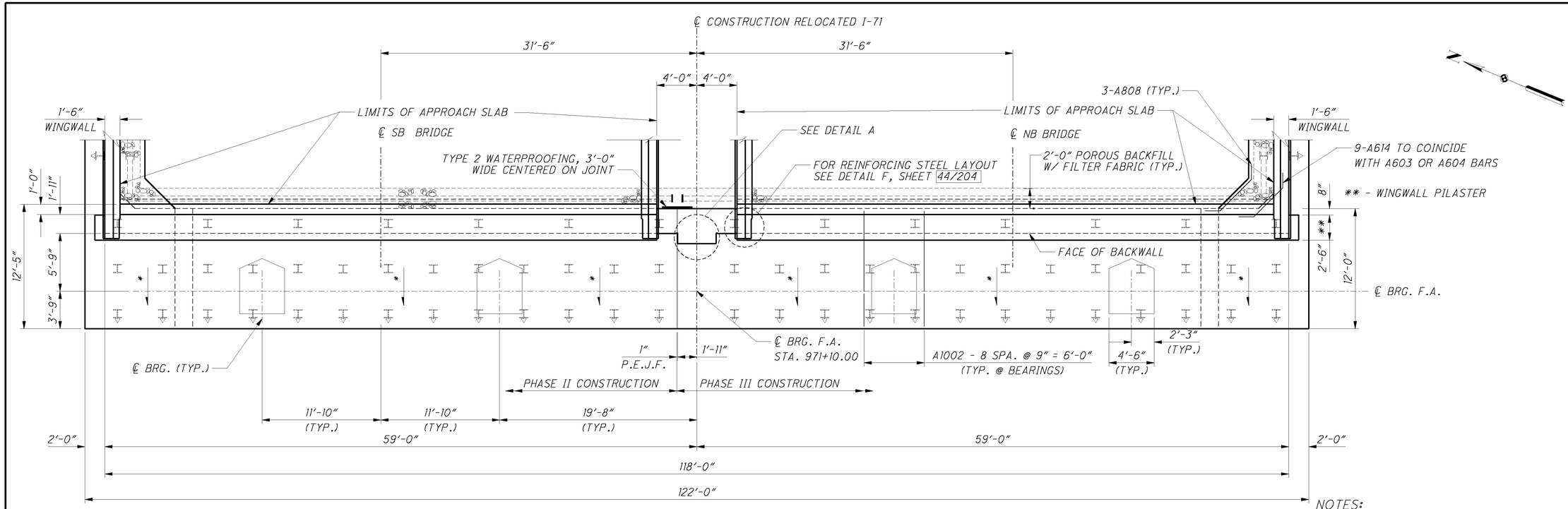
FOUNDATION PLAN - FORWARD ABUTMENT
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

40/204

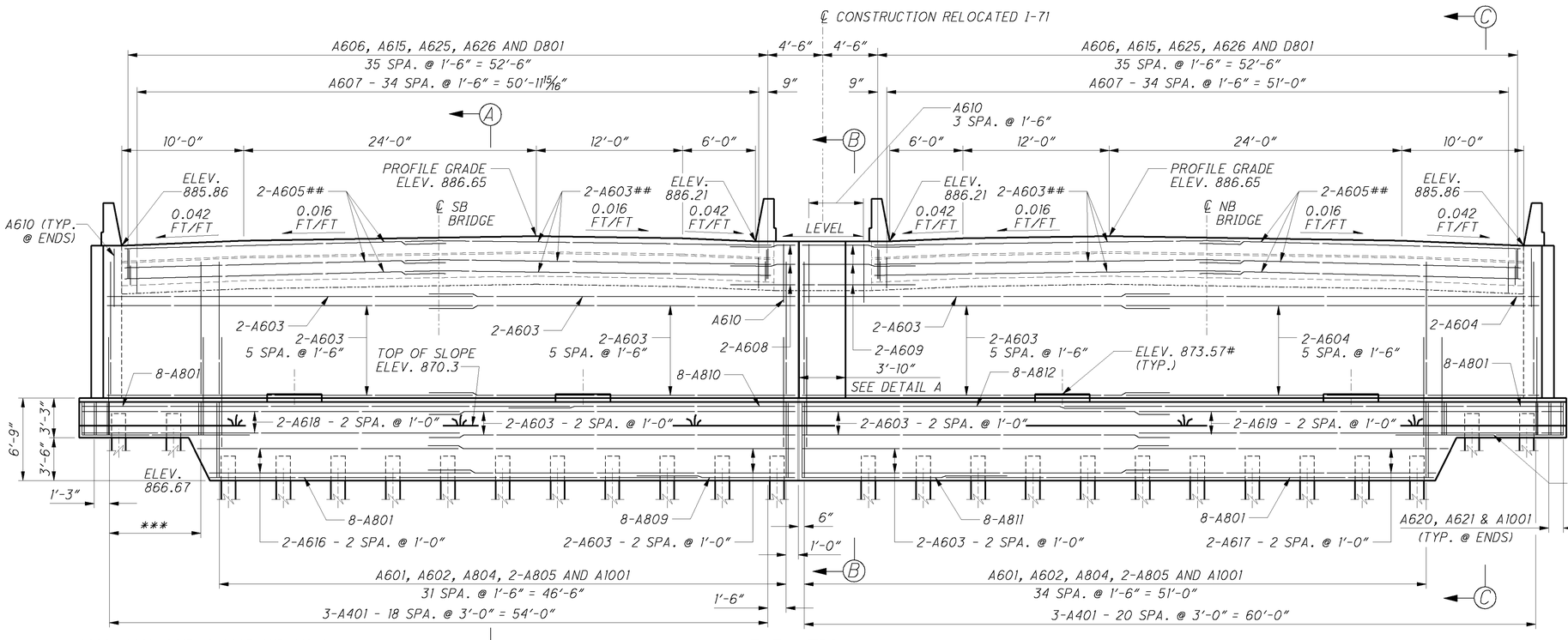
306/470

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PLAN

* - SLOPE 3/8"/FT ACROSS BRIDGE SEAT

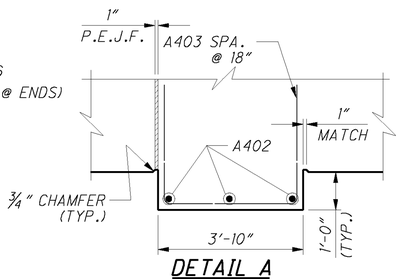


*** - A620, A621, A813, 2-A805 AND A1001
5 SPA. @ 1'-6" = 7'-6"
(TYP. @ ENDS)

ELEVATION

ALL ELEVATIONS ARE TAKEN AT EDGE OF APPROACH SLAB (BRIDGE LIMITS) UNLESS NOTED OTHERWISE

- PEDESTAL ELEVATION SHOWN ARE AT CENTERLINE OF BEARING
- 2 SETS OR 4-A624 TO BE PLACED IN BLOCKOUTS FOR MODULAR DECK JOINT.



DETAIL A
(CENTER PILASTER)

NOTES:

1. MINIMUM LAP SPLICE:
   #6 BAR = 3'-4"
   #8 BAR = 5'-0"
2. ALL EXPOSED EDGES AND CORNERS CHAMFERED 3/4 INCHES UNLESS OTHERWISE NOTED.
3. SECURE THE 1" P.E.J.F. PLACED BETWEEN THE PHASE CONSTRUCTION JOINT IN THE BACKWALL BY THE USE OF A SINGLE LINE OF FASTENERS. THE FASTENERS SHALL BE 2 1/2" BY #10 GAGE GALVANIZED BUTTON HEAD SPIKES THROUGH A 1 INCH OUTSIDE DIAMETER, #10 GAGE GALVANIZED WASHER. THE MAXIMUM SPACING SHALL BE 12 INCHES. USE OF OTHER FASTENERS MAY BE USED AT THE APPROVAL OF THE ENGINEER. PAYMENT FOR FASTENERS IS INCLUDED WITH 1" P.E.J.F..
4. THE ELEVATIONS OF THE APPROACH SLAB SEAT AND THE BACKWALL CONSTRUCTION JOINT ARE PARALLEL AND FOLLOW ROADWAY SURFACE. BACKWALL CORBEL DIMENSIONS ARE CONSTANT.
5. FOR BEARING SEAT REINFORCING AND DETAILS, AND SECTIONS A-A AND B-B, SEE SHEET 42/204 .
6. FOR ABUTMENT DRAIN PIPE, SEE NOTE 1 ON SHEET 40/204 .

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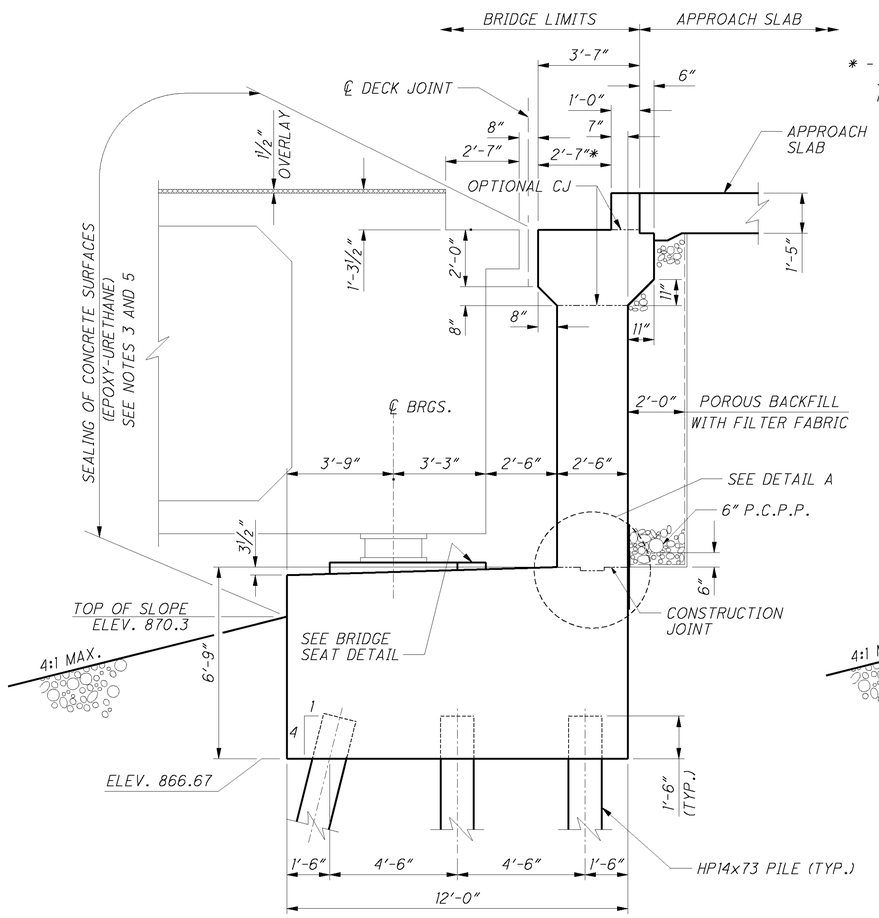
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DRAWN FTB
CHECKED OHK
REVIEWED RLE
DATE 03/31/08
REVISED
STRUCTURE FILE NUMBER 8302278L/8302294R

FORWARD ABUTMENT DETAILS
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

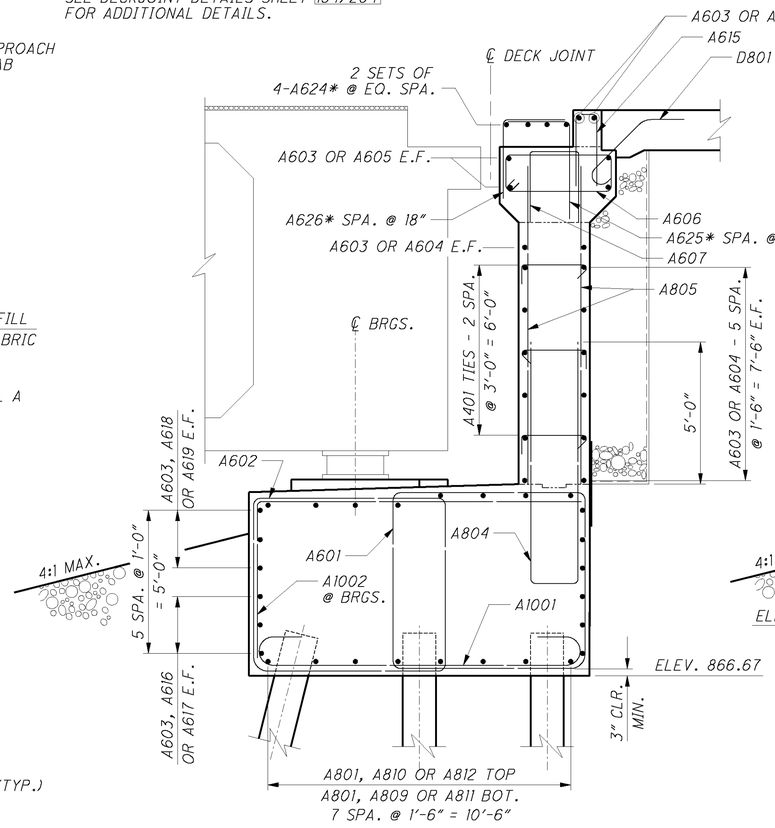
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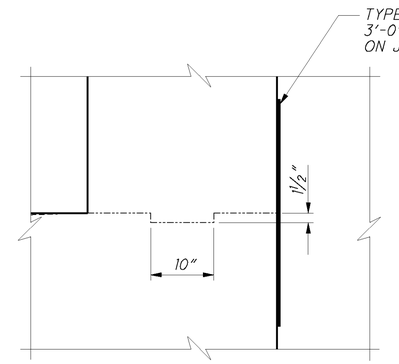
SECTION A-A
DESIGN DIMENSIONS

* - DECK JOINT BLOCKOUT 2'-7" x 1'-3½". SEE DECKJOINT DETAILS SHEET 194/204 FOR ADDITIONAL DETAILS.

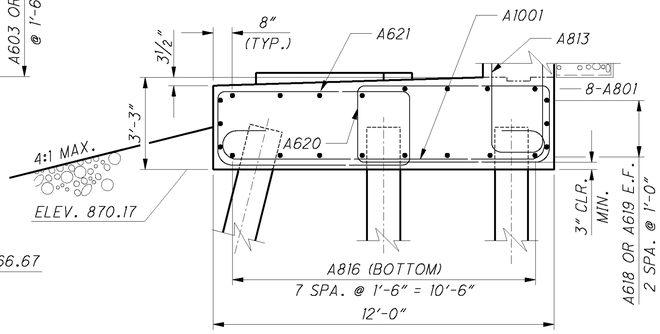


SECTION A-A
REINFORCING STEEL DETAILS

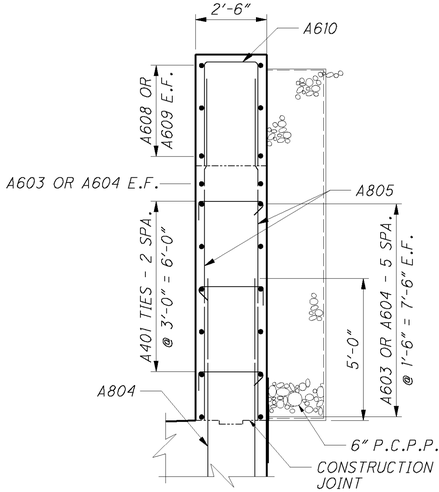
* - CONTRACTOR TO VERIFY AND VARY BAR LOCATIONS TO AVOID THE EXPANSION JOINT SUPPORT BOX IF NECESSARY



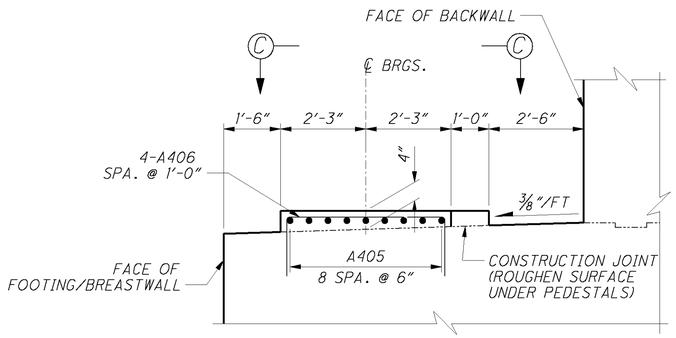
DETAIL A
(CENTER KEY IN BACKWALL)



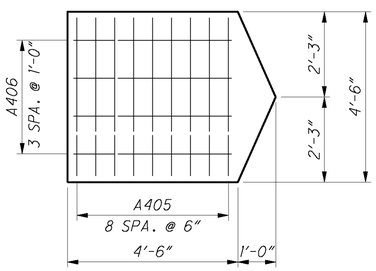
SECTION C-C



SECTION B-B
FOR FOOTING REINFORCING SEE SECTION A-A



BRIDGE SEAT DETAIL



VIEW C-C

NOTES:

1. 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 TURNBACK WINGWALLS.
2. BACKWALL CONCRETE: IN ADDITION TO 511.10, DO NOT PLACE BACKWALL CONCRETE PRIOR TO COMPLETION OF SUPERSTRUCTURE JACKING CALLED FOR IN THE CONSTRUCTION SEQUENCE PROCEDURES.
3. SEALING OF BEAM SEATS: IF THE BEAM SEATS ARE SEALED WITH THE EPOXY SEALER PRIOR TO SETTING THE BEARINGS, DO NOT APPLY SEALER TO THE CONCRETE SURFACES UNDER THE PROPOSED BEARING LOCATIONS. IF THESE LOCATIONS ARE SEALED, REMOVE THE SEALER TO THE SATISFACTION OF THE ENGINEER PRIOR TO SETTING THE BEARINGS. THE DEPARTMENT WILL NOT PAY FOR THIS REMOVAL.
4. THE ABUTMENT BEAM SEAT ELEVATIONS ARE BASED ON A BEARING HEIGHT OF 12 INCHES. IF THE CONTRACTOR'S SELECTED BEARING MANUFACTURER HAS A DESIGN THAT DOES NOT CONFORM TO THIS HEIGHT, ADJUST THE PEDESTAL ELEVATION AT NO ADDITIONAL COST TO THE STATE. ADJUST THE LOCATION OF REINFORCING STEEL HORIZONTALLY AS NECESSARY TO AVOID INTERFERENCE WITH THE BEARING ANCHOR BOLTS. MAINTAIN THE MINIMUM CONCRETE COVER AND MINIMUM SPACING REQUIRED BY THE PROJECT PLANS. IF THE REINFORCING STEEL CANNOT BE MOVED TO PROVIDE THE REQUIRED POSITION FOR THE ANCHOR BOLTS, THE CONTRACTOR'S BEARING MANUFACTURER SHALL RE-DESIGN THE BEARINGS TO ACCOMMODATE AN ACCEPTABLE ANCHOR BOLT CONFIGURATION.
5. ALL EXPOSED SURFACES AT ABUTMENTS AND WINGWALLS SHALL BE SEALED WITH EPOXY-URETHANE CONCRETE SEALER.
6. FOR LOCATION OF SECTIONS A-A AND B-B, SEE SHEET 41/204.

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DESIGNED	DRAWN	REVIEWED	DATE
DFT	FIB	RLE	03/31/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
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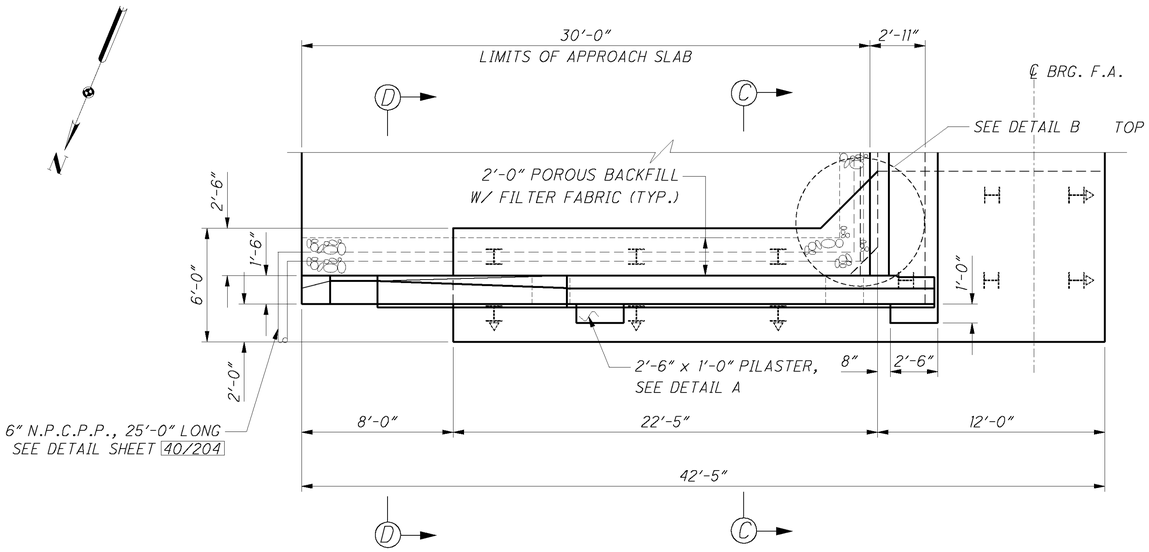
FORWARD ABUTMENT DETAILS
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

42/204

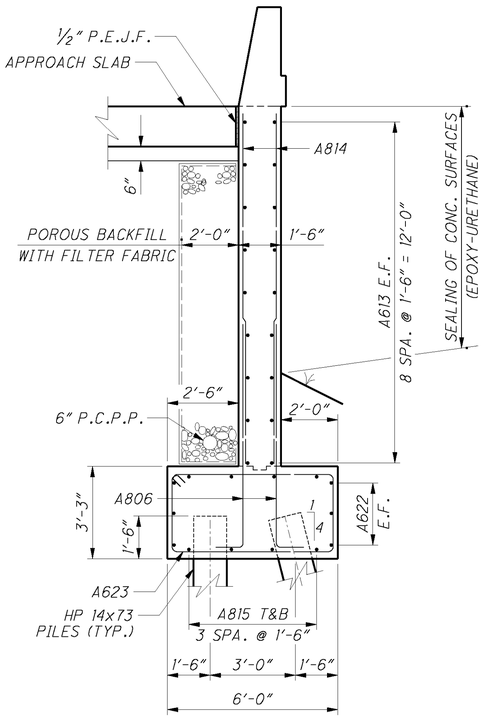
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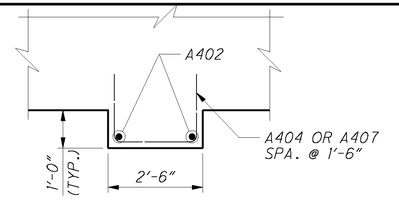


WINGWALL PLAN - LEFT WINGWALL (SB)

(RIGHT WINGWALL SIMILAR)

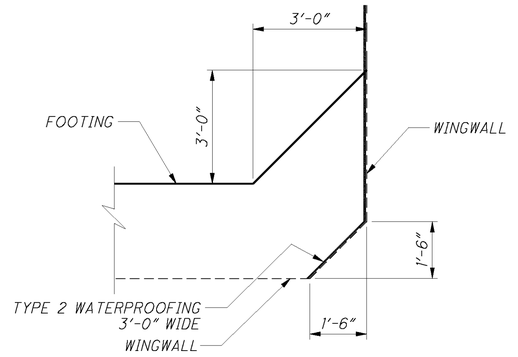


SECTION C-C

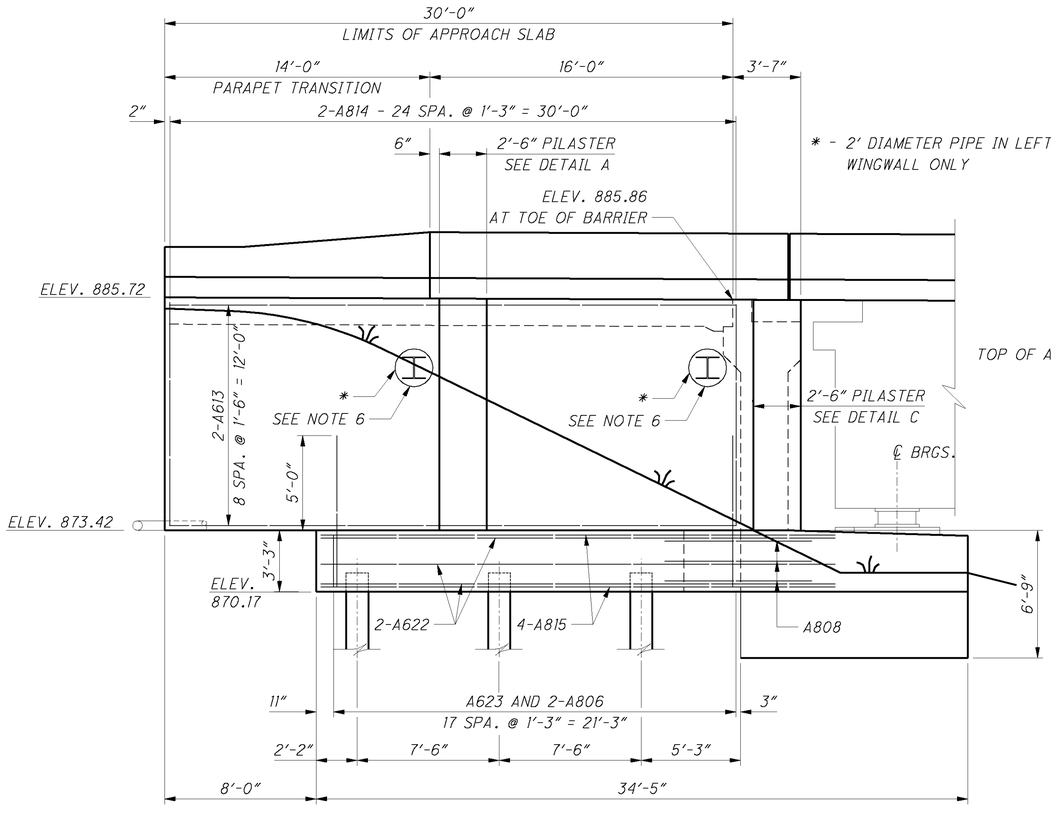


DETAIL A

A407 PLACED WHERE PILASTER IS 1'-0" THICK

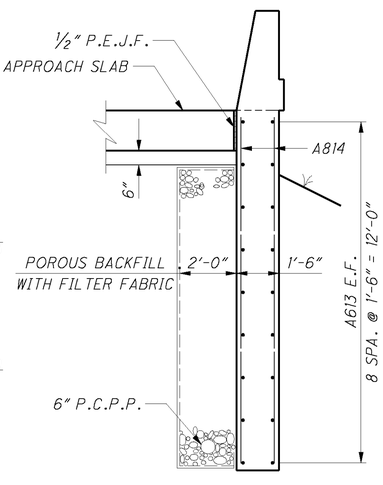


DETAIL B
TYPICAL CORNER CHAMFER DETAIL

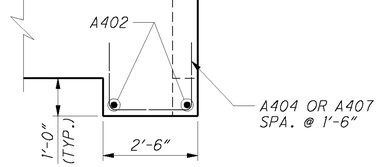


ELEVATION - LEFT WINGWALL (SB)

(RIGHT WINGWALL SIMILAR)



SECTION D-D



DETAIL C

A407 PLACED WHERE PILASTER IS 1'-0" THICK

NOTES:

1. MINIMUM LAP SPLICE:
   #8 BAR = 5'-0"
2. CHAMFER ALL EXPOSED EDGES AND CORNERS ¾ INCHES UNLESS OTHERWISE NOTED.
3. 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 TURNBACK WINGWALLS.
4. FOR PARAPET REINFORCING AND PARAPET TRANSITION DETAILS, SEE SHEET 44/204.
5. ALL EXPOSED SURFACES AT ABUTMENTS AND WINGWALLS SHALL BE SEALED WITH EPOXY-URETHANE CONCRETE SEALER.
6. A 2 FOOT OPENING IS REQUIRED THROUGH THE WINGWALL FOR THE TEMPORARY RETAINING WALL. SEE SHEETS 29 THROUGH 35 OF 204 FOR DETAILS. A 2 FOOT DIAMETER PIPE PER CMS 707.33 WILL BE LOCATED IN THE WINGWALL TO ALLOW THE TEMPORARY TRANSVERSE BRACING TO PASS THROUGH. THE PIPE IS INCIDENTAL TO ITEM 503 - COFFERDAMS, CRIBS AND SHEETING, AS PER PLAN. THE WINGWALL REINFORCING MAY BE MOVED UP TO 12 INCHES IN ANY DIRECTION TO AVOID CONFLICT WITH THE 2 FOOT PIPE. WHEN NO LONGER REQUIRED, THE OPENING SHALL BE FILLED WITH ITEM 898 - QC/QA CONCRETE, CLASS QSC3. CARE SHALL BE TAKEN TO AVOID CONTRASTING SURFACE TEXTURES ON THE EXTERIOR SURFACE

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DFT	FTB	RLE	03/31/08
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OHK		8302278L/8302294R	

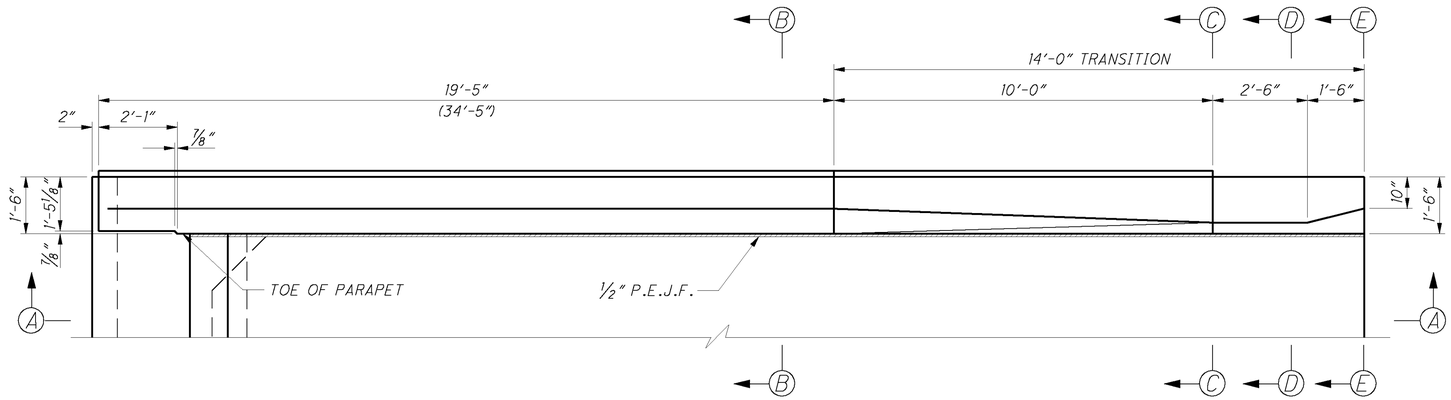
FORWARD ABUTMENT WINGWALL DETAILS
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

43/204

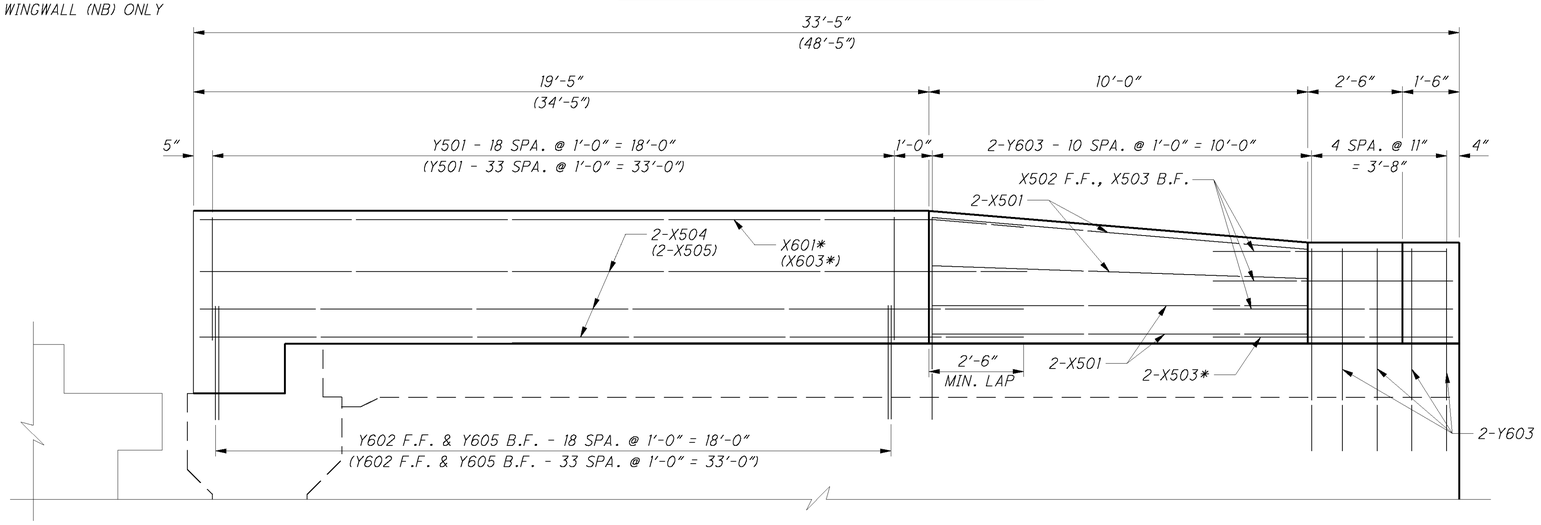
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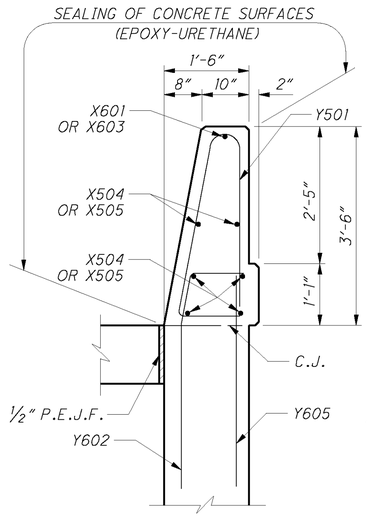
TYPICAL PARAPET TRANSITION DETAIL

DIMENSIONS IN (PARENTHESIS) ARE FOR THE REAR ABUTMENT, RIGHT WINGWALL (NB) ONLY

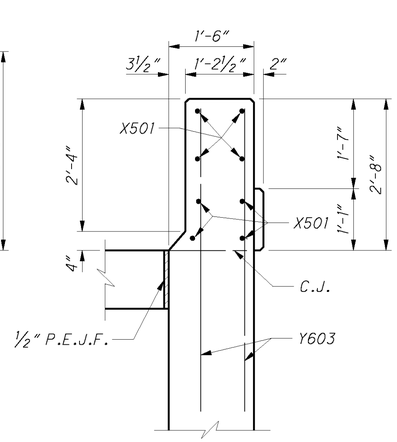


VIEW A-A

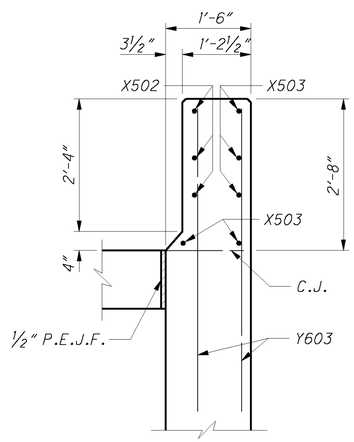
* - FIELD BEND IF NECESSARY



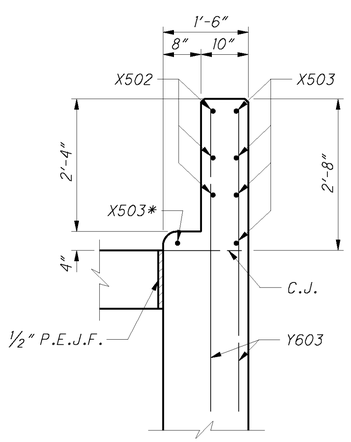
SECTION B-B



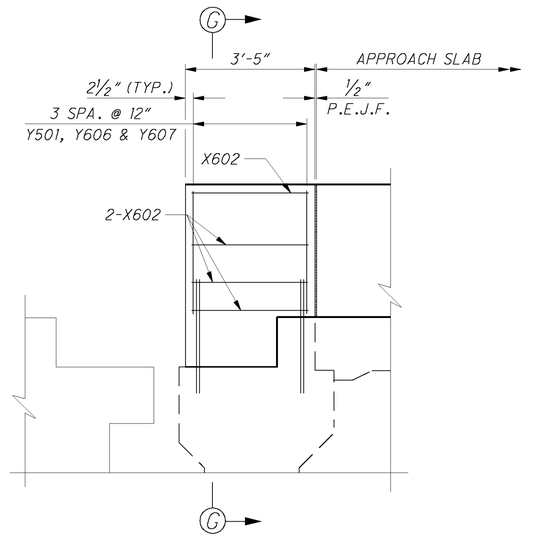
SECTION C-C



SECTION D-D

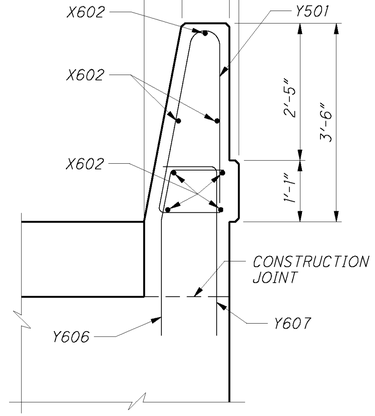


SECTION E-E



DETAIL F

DETAIL B OCCURS AT INSIDE PARAPETS WHERE REINFORCING STEEL IS PLACED ON ABUTMENTS AND ADJACENT PARAPET IS PLACED ON APPROACH SLAB.



SECTION G-G

NOTES:

1. FOR NOTES AND DETAILS ON SAWCUTS AND OTHER DETAILS NOT SHOWN, SEE STD. DWG. SBR-1-99.
2. ALL CONCRETE, SAWCUTS AND CAULKING MATERIAL FOR PARAPET ARE INCLUDED WITH ITEM 898 QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (PARAPET), AS PER PLAN, FOR PAYMENT.
3. FOR BRIDGE TERMINAL ASSEMBLIES, SEE STANDARD CONSTRUCTION DRAWINGS GR-3.1 AND GR-3.2.
4. FOR LOCATION OF DETAIL B, SEE SHEETS 37/204 & 41/204.
5. FOR APPROACH SLAB DETAILS, SEE SHEETS 197/204 & 198/204.

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CHECKED	REVISED	STRUCTURE FILE NUMBER	
OHK		8302278L/8302294R	

TYPICAL PARAPET TRANSITION DETAILS
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

44/204

310/470

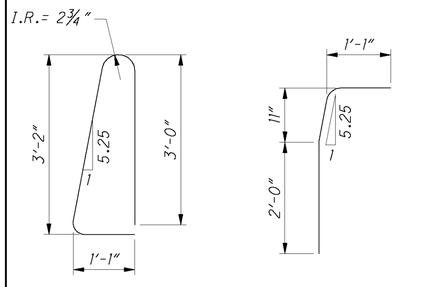
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REINFORCING STEEL LIST - PHASE II

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR ABUT.	FORWARD ABUT.	TOTAL				A	B	C	D	E	R	INC
REAR AND FORWARD ABUTMENT													
A401	57	57	114	3'-1½"	238	013	2'-2"	0'-8"					
A402	4	4	8	12'-3"	65	001	12'-3"						
A404	11	11	22	6'-0"	88	102	2'-0"	2'-2"	2'-0"				
A405	18	18	36	4'-2"	100	001	4'-2"						
A406	8	8	16	8'-0"	86	102	2'-0"	4'-2"	2'-0"				
A407	7	7	14	4'-5"	41	013	2'-2"	2'-0"					
A601	38	32	70	26'-8"	2804	119	6'-9"	6'-2"					
A602	38	32	70	26'-4"	2769	119	6'-9"	6'-0"					
A603	58	46	104	30'-0"	4686	001	30'-0"						
A605	6	6	12	26'-6"	478	001	26'-6"						
A606	36	36	72	10'-10"	1172	119	3'-9"	1'-3"					
A607	35	35	70	6'-8"	701	102	2'-6"	2'-0"	2'-6"				
A608	6	6	12	6'-0"	108	001	6'-0"						
A610	2	2	4	8'-8"	52	102	3'-6"	2'-0"	3'-6"				
A611	18		18	12'-10"	347	119	3'-2"	2'-10"					
A612	10		10	26'-0"	391	001	26'-0"						
A613	18	18	36	32'-7"	1762	001	32'-7"						
A614	9	9	18	10'-6"	284	107	4'-0"	1'-10"	1'-10"	4'-0"			
A615	36	36	72	5'-8"	613	102	2'-8"	0'-8"	2'-8"				
A616		6	6	23'-6"	212	001	23'-6"						
A618		6	6	32'-0"	288	001	32'-0"						
A620		8	8	19'-8"	236	119	6'-9"	2'-8"					
A621		8	8	19'-4"	232	119	6'-9"	2'-6"					
A622		6	6	27'-6"	248	001	27'-6"						
A623		18	18	17'-10"	482	119	5'-8"	2'-10"					
A624	8	8	16	29'-0"	697	001	29'-0"						
A625	36	36	72	5'-6"	595	003	2'-1"	3'-7"					
A626	36	36	72	4'-8"	505	003	2'-1"	2'-9"					
A801	18	16	34	40'-0"	3631	001	40'-0"						
A802	18		18	22'-6"	1081	001	22'-6"						
A804	38	32	70	21'-6"	4018	102	10'-0"	1'-11½"	10'-0"				
A805	76	76	152	12'-3"	4972	001	12'-3"						
A806	36	36	72	8'-9"	1682	003	1'-0"	8'-0"					
A807	50		50	12'-3"	1635	001	12'-3"						
A808	3	3	6	16'-6"	264	107	6'-0"	3'-4"	3'-4"	6'-0"			
A809		8	8	13'-0"	278	001	13'-0"						
A810		8	8	23'-6"	502	001	23'-6"						
A813		6	6	17'-6"	280	102	8'-0"	1'-11½"	8'-0"				
A814		50	50	11'-11"	1591	001	11'-11"						
A815		8	8	27'-6"	587	001	27'-6"						
A816		8	8	15'-0"	320	001	15'-0"						
D801	36	36	72	5'-3"	1009	014	3'-0"	1'-0"	1'-0"				
A1001	38	40	78	14'-6"	4867	016	11'-8"						
A1002	18	18	36	17'-0"	2633	003	11'-6"	5'-10"					
				SUB-TOTAL	49,630								

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR ABUT.	FORWARD ABUT.	TOTAL				A	B	C	D	E	R	INC
PARAPET REINFORCING													
X501	8	8	16	10'-0"	167	001	10'-0"						
X502	3	3	6	5'-6"	34	025							
X503	5	5	10	5'-6"	57	001	5'-6"						
X504	6	6	12	22'-0"	275	001	22'-0"						
Y501	23	23	46	7'-5"	356	023							
X601	1	1	2	22'-0"	66	001	22'-0"						
X602	7	7	14	3'-0"	63	001	3'-0"						
Y602	19	19	38	3'-11"	224	024							
Y603	30	30	60	5'-4"	481	001	5'-4"						
Y605	19	19	38	2'-11"	166	001	2'-11"						
Y606	4	4	8	3'-11"	47	024							
Y607	4	4	8	3'-11"	47	003	3'-0"	1'-1"					
				SUB-TOTAL	1,983								

BAR 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 DIGITS ARE USED, INDICATES THE THE BAR SIZE NUMBER.
   FOR EXAMPLE: RA601
   A: LOCATION OF THE BAR IN THE STRUCTURE (ABUTMENT)
   6: BAR SIZE DESIGNATION NO. 6
   01: SEQUENCE NUMBER
2. 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 BAR.
3. ALL REINFORCING STEEL IS TO BE EPOXY COATED.
4. FOR ADDITIONAL BAR TYPES SEE SHEETS 187/204 & 188/204 .

E.L. ROBINSON
the Challenge. the Choice
6000 Memorial Drive Dublin, Ohio 43017

DESIGNED DFT | DRAWN FTB | REVIEWED RLE 03/31/08 | CHECKED OHK | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

REINFORCING SCHEDULE - ABUTMENTS - PHASE II
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

44A/204

310A/470

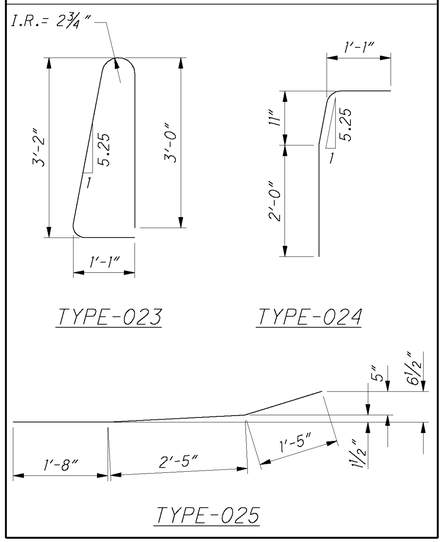
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REINFORCING STEEL LIST - PHASE III

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR ABUT.	FORWARD ABUT.	TOTAL				A	B	C	D	E	R	INC
REAR AND FORWARD ABUTMENT													
A401	63	63	126	3'-1½"	263	013	2'-2"	0'-8"					
A402	7	7	14	12'-3"	115	001	12'-3"						
A403	9	9	18	7'-4"	88	102	2'-0"	3'-6"	2'-0"				
A404	11	11	22	6'-0"	88	102	2'-0"	2'-2"	2'-0"				
A405	18	18	36	4'-2"	100	001	4'-2"						
A406	8	8	16	8'-0"	86	102	2'-0"	4'-2"	2'-0"				
A407	7	7	14	4'-5"	41	013	2'-2"	2'-0"					
A601	41	35	76	26'-8"	3044	119	6'-9"	6'-2"					
A602	41	35	76	26'-4"	3006	119	6'-9"	6'-0"					
A603	32	32	64	30'-0"	2884	001	30'-0"						
A604	26	14	40	34'-0"	2043	001	34'-0"						
A605	6	6	12	26'-6"	478	001	26'-6"						
A606	36	36	72	10'-10"	1172	119	3'-9"	1'-3"					
A607	35	35	70	6'-8"	701	102	2'-6"	2'-0"	2'-6"				
A609	6	6	12	10'-0"	180	001	10'-0"						
A610	5	5	10	8'-8"	130	102	3'-6"	2'-0"	3'-6"				
A613		18	18	32'-7"	881	001	32'-7"						
A614	9	9	18	10'-6"	284	107	4'-0"	1'-10"	1'-10"	4'-0"			
A615	36	36	72	5'-8"	613	102	2'-8"	0'-8"	2'-8"				
A617		6	6	27'-6"	248	001	27'-6"						
A619		6	6	36'-0"	324	001	36'-0"						
A620		8	8	19'-8"	236	119	6'-9"	2'-8"					
A621		8	8	19'-4"	232	119	6'-9"	2'-6"					
A622		6	6	27'-6"	248	001	27'-6"						
A623	38	18	56	17'-10"	1500	119	5'-8"	2'-10"					
A624	8	8	16	29'-0"	697	001	29'-0"						
A625	36	36	72	5'-6"	595	003	2'-1"	3'-7"					
A626	36	36	72	4'-8"	505	003	2'-1"	2'-9"					
A627	18		18	21'-11"	593	001	21'-11"						
A628	16		16	26'-4"	633	001	26'-4"						
A801	18	16	34	40'-0"	3631	001	40'-0"						
A803		18	18	26'-6"	1274	001	26'-6"						
A804	41	35	76	21'-6"	4363	102	10'-0"	1'-11½"	10'-0"				
A805	82	82	164	12'-3"	5364	001	12'-3"						
A806	76	36	112	8'-9"	2617	003	1'-0"	8'-0"					
A807	38		38	12'-3"	1243	001	12'-3"						
A808	3	3	6	16'-6"	264	107	6'-0"	3'-4"	3'-4"	6'-0"			
A811		8	8	17'-0"	363	001	17'-0"						
A812		8	8	27'-6"	587	001	27'-6"						
A813		6	6	17'-6"	280	102	8'-0"	1'-11½"	8'-0"				
A814		50	50	11'-11"	1591	001	11'-11"						
A815		8	8	27'-6"	587	001	27'-6"						
A816		8	8	15'-0"	320	001	15'-0"						
A817	14		14	26'-0"	972	001	26'-0"						
A818	14		14	22'-6"	841	001	22'-6"						
A819	8		8	12'-6"	267	005	4'-0"	3'-3"	4'-0"	3'-3"			
A820	6		6	6'-4"	101	003	3'-3"	3'-3"					
A821	38		38	9'-1"	922	001	9'-1"						

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR ABUT.	FORWARD ABUT.	TOTAL				A	B	C	D	E	R	INC
REAR AND FORWARD ABUTMENT (CONTINUED)													
D801	36	36	72	5'-3"	1009	014	3'-0"	1'-0"	1'-0"				
A1001	41	43	84	14'-6"	5241	016	11'-8"						
A1002	18	18	36	17'-0"	2633	003	11'-6"	5'-10"					
				SUB-TOTAL	56,478								
PARAPET REINFORCING													
X501	8	8	16	10'-0"	167	001	10'-0"						
X502	3	3	6	5'-6"	34	025							
X503	5	5	10	5'-6"	57	001	5'-6"						
X504		6	6	22'-0"	138	001	22'-0"						
X505	6		6	37'-0"	232	001	37'-0"						
Y501	38	23	61	7'-5"	472	023							
X601		1	1	22'-0"	33	001	22'-0"						
X602	7	7	14	3'-0"	63	001	3'-0"						
X603	1		1	37'-0"	56	001	37'-0"						
Y602	34	19	53	3'-11"	312	024							
Y603	30	30	60	5'-4"	481	001	5'-4"						
Y605	34	19	53	2'-11"	232	001	2'-11"						
Y606	4	4	8	3'-11"	47	024							
Y607	4	4	8	3'-11"	47	003	3'-0"	1'-1"					
				SUB-TOTAL	2,371								

BAR 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 DIGITS ARE USED, INDICATES THE THE BAR SIZE NUMBER.
   FOR EXAMPLE: RA601
   A: LOCATION OF THE BAR IN THE STRUCTURE (ABUTMENT)
   6: BAR SIZE DESIGNATION NO. 6
   01: SEQUENCE NUMBER
2. 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 BAR.
3. ALL REINFORCING STEEL IS TO BE EPOXY COATED.
4. FOR ADDITIONAL BAR TYPES SEE SHEETS 187/204 & 188/204 .

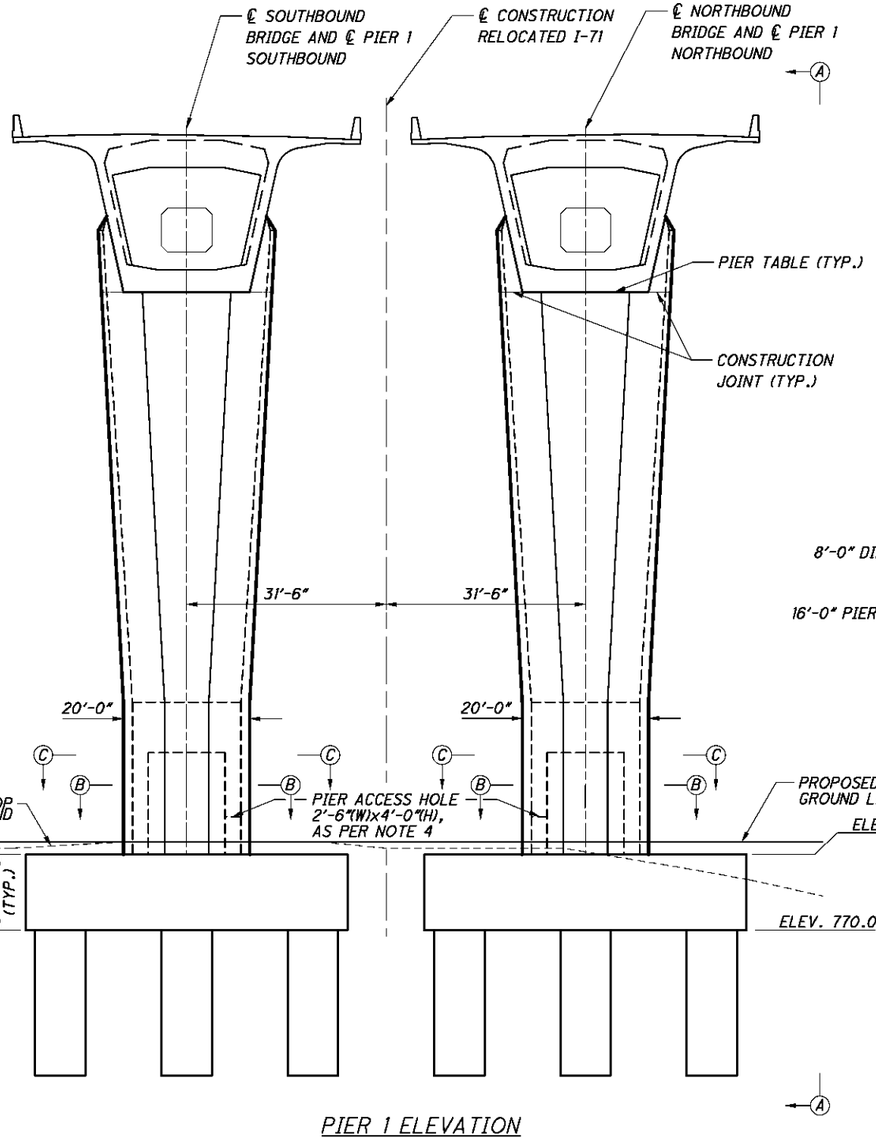
E.L. ROBINSON
the Challenge. the Choice
6000 Memorial Drive Dublin, Ohio 43017

DESIGNED DFT | DRAWN FTB | REVIEWED RLE | DATE 03/31/08
CHECKED OHK | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

REINFORCING SCHEDULE - ABUTMENTS- PHASE III
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

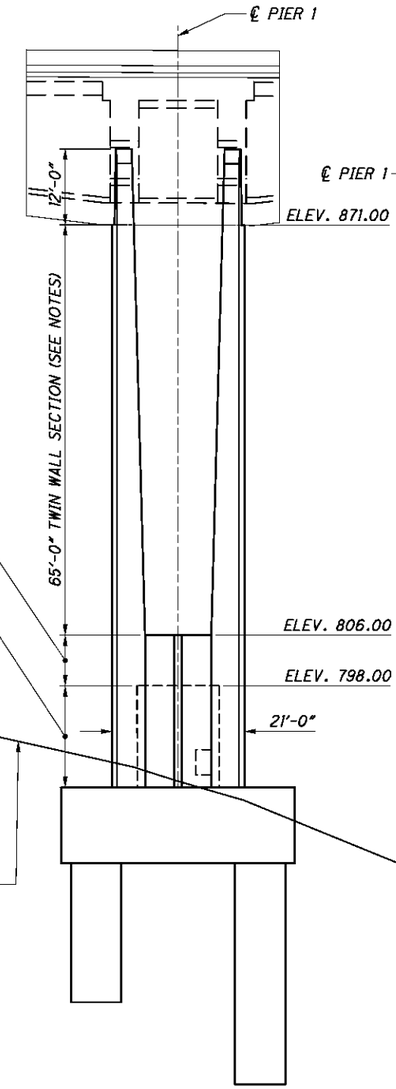
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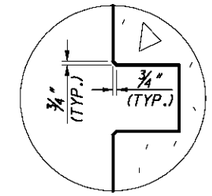


PIER 1 ELEVATION

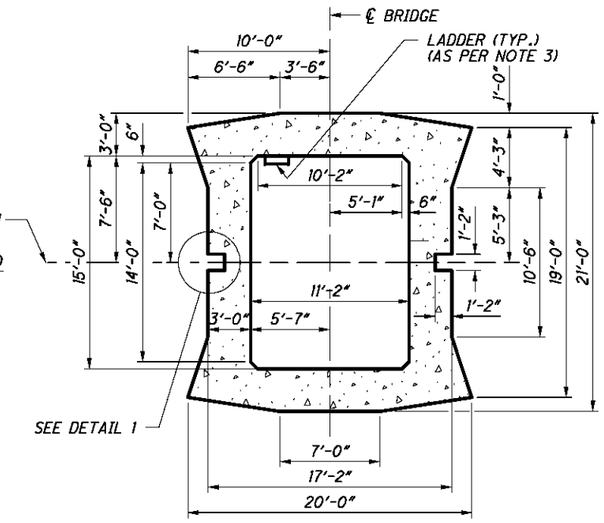
(TIE-OFF BEAM, LADDER AND PLATFORM INSIDE THE PIER BASE SECTION ARE NOT SHOWN FOR CLARITY)



VIEW A-A

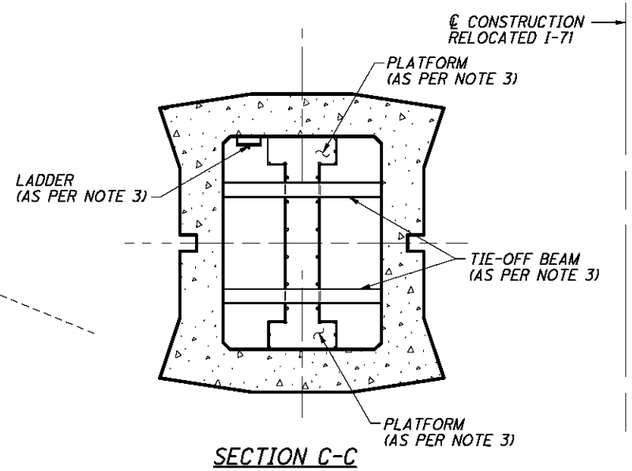


DETAIL 1



SECTION B-B

(SYMMETRICAL ABOUT ℄ PIER AND ℄ BRIDGE)



SECTION C-C

(SYMMETRICAL ABOUT ℄ CONSTRUCTION RELOCATED I-71)

NOTES:

1. FOR TWIN WALL AND DIAPHRAGM DETAILS, SEE SHEETS 76 TO 86 OF 204.
2. FOR ROCK ELEVATION DATA, SEE BORING LOG INFORMATION ON THE SITE PLAN.
3. FOR TIE-OFF BEAM, LADDER, FALL ARREST SAFETY LINE AND PLATFORM DETAILS, SEE SHEET 95C OF 204.
4. FOR PIER ACCESS HOLE DETAILS, SEE SHEET 95B OF 204.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1300
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH/BTA	JJB	RHW	2/02/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJE		8302278L/8302294R	

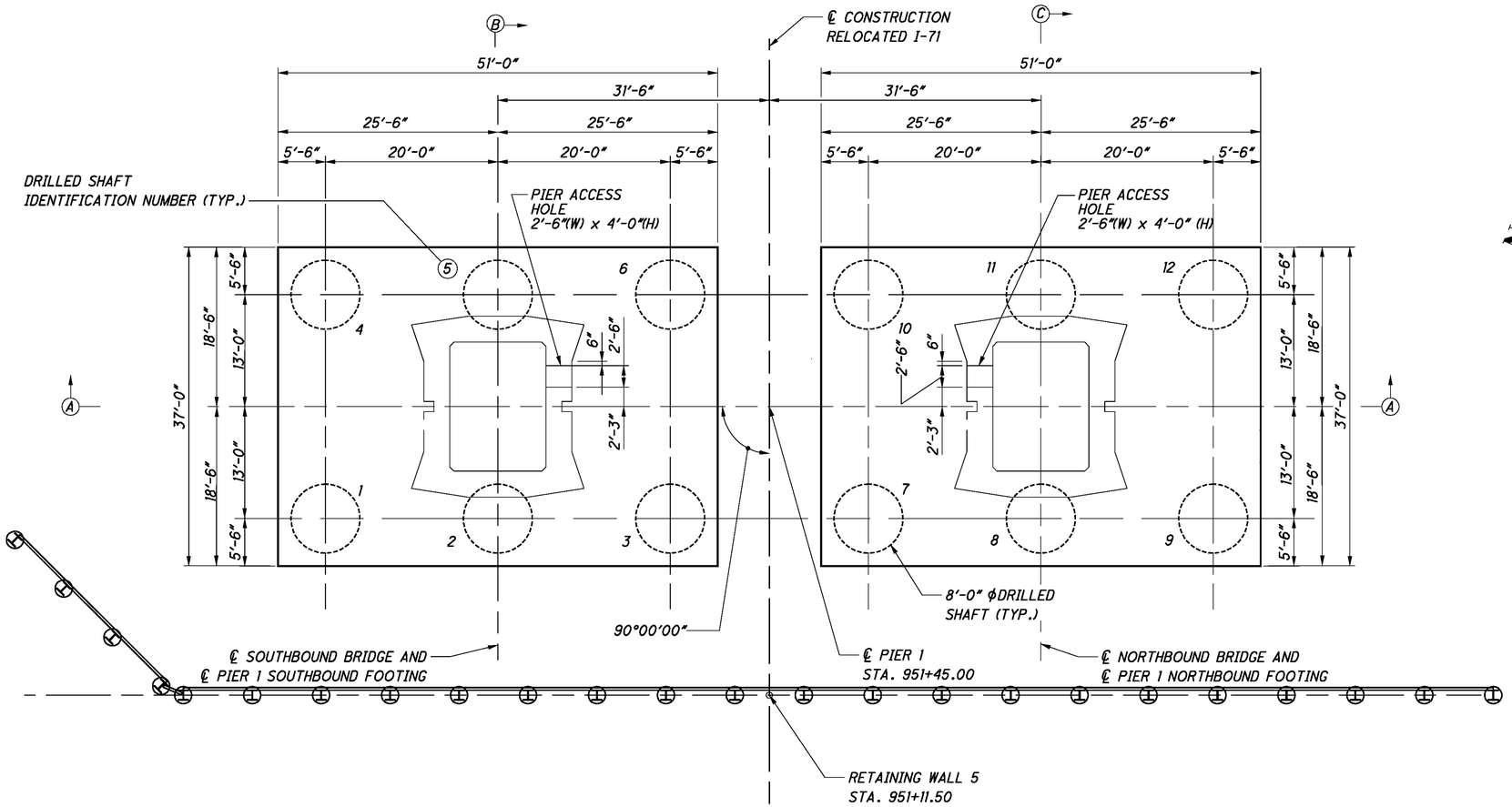
PIER 1 GEOMETRY
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

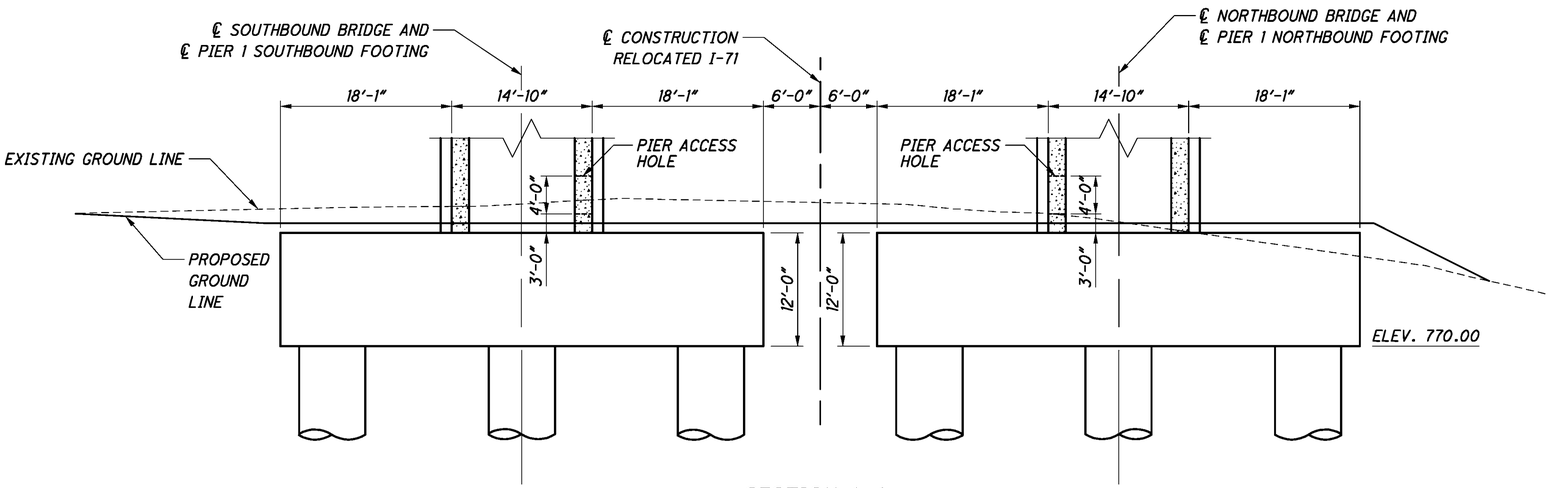
45 / 204

311 / 470

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PLAN



SECTION A-A

NOTES:

1. FOR SECTIONS B-B AND C-C, SEE SHEET 47 OF 204.
2. FOR RETAINING WALL 5 DETAILS, SEE SHEETS 51 AND 52 OF 204.
3. THE ALLOWABLE DRILLED SHAFT END BEARING CAPACITY IS 90 KSF.
4. THE DESIGN LOAD FOR EACH DRILLED SHAFT IS 4553 KIPS.
5. FOR DRILLED SHAFT DETAILS, SEE SHEET 48 OF 204.
6. FOR PIER ACCESS HOLE DETAIL, SEE SHEET 95B OF 204.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1300
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH/JJB	JJB	RHW	2/02/09

CHECKED	REVISED	STRUCTURE FILE NUMBER
BTA/MEA		8302278L/8302294R

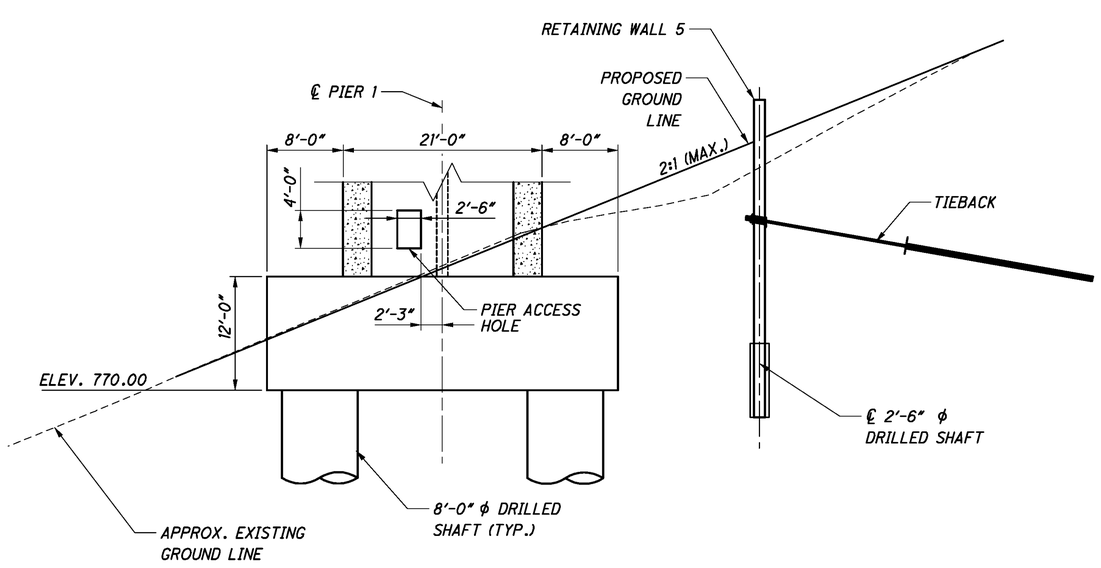
PIER 1 FOOTING DETAILS 1
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

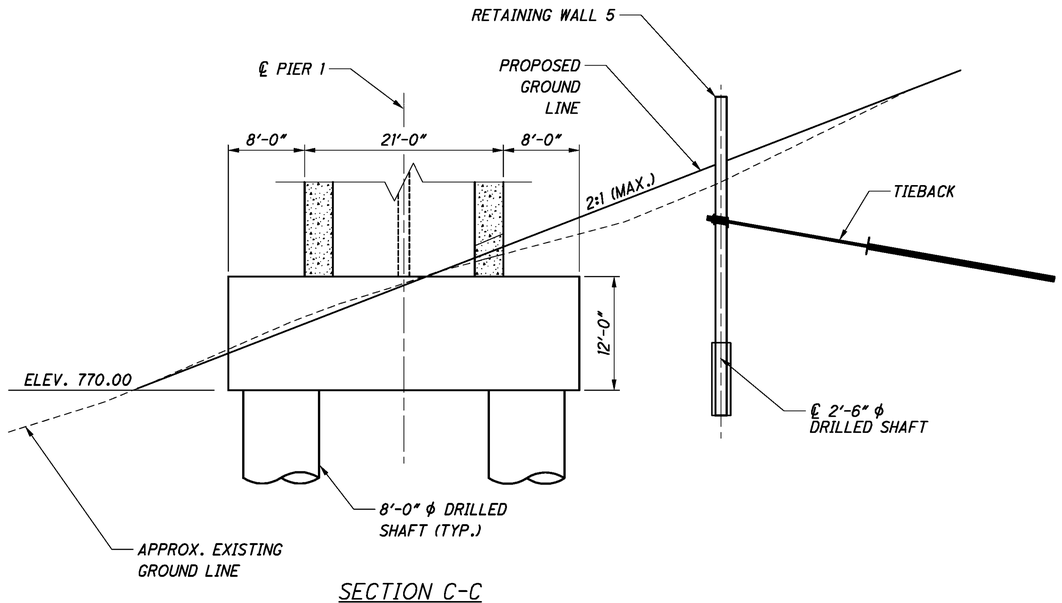
46/204

312/470

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SECTION B-B
(SOUTHBOUND FOOTING)



SECTION C-C
(NORTHBOUND FOOTING)

NOTE:

1. *FOR RETAINING WALL 5 DETAILS, SEE SHEETS 51 THRU 52A OF 204.*
2. *FOR ESTIMATED ROCK DEPTHS, SEE SOIL BORING LOGS B-102, B-102A, B-103, B-103A, B-119, B-120 AND B-121.*
3. *FOR LOCATIONS OF SECTIONS B-B AND C-C, SEE SHEET 46 OF 204.*

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH/JUB	JJB	RHW	2/02/09

CHECKED	REVISED	STRUCTURE FILE NUMBER
BTA/MEA		8302278L/8302294R

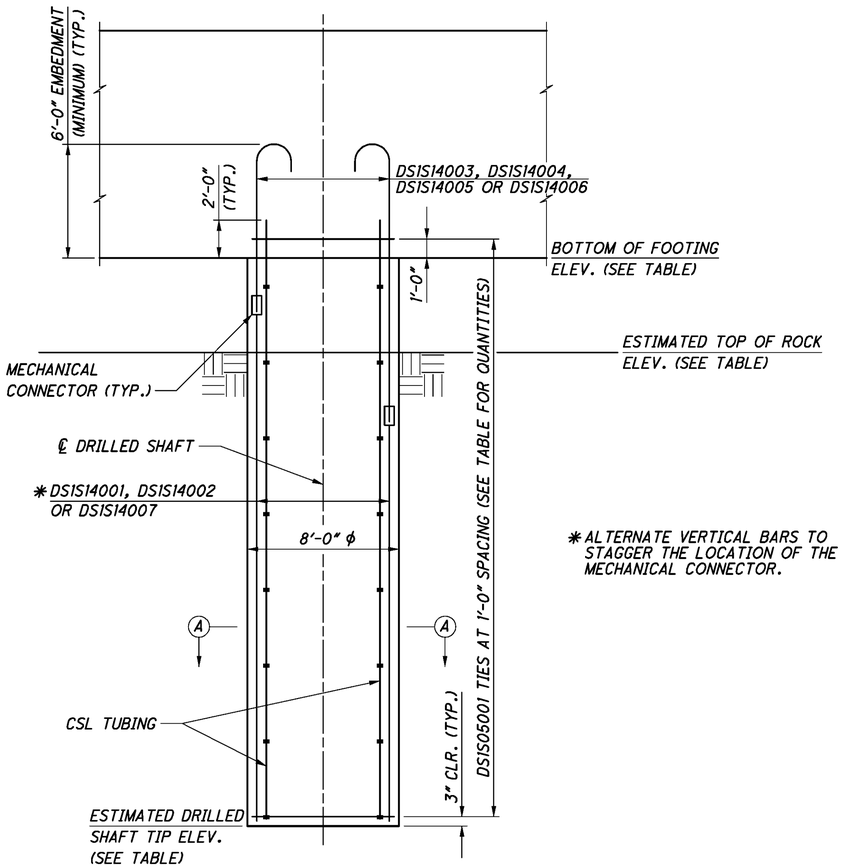
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BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

47/204

313/470

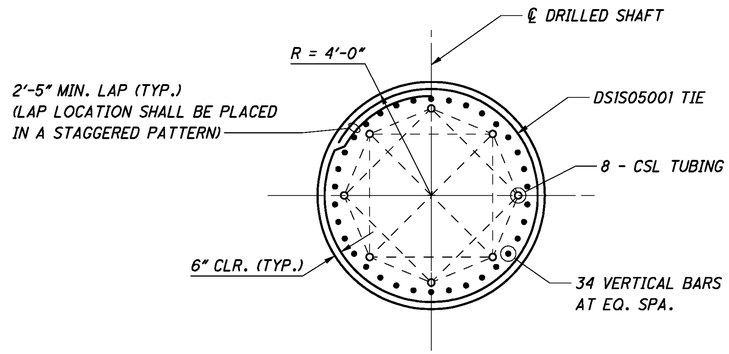
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DRILLED SHAFT ELEVATION

(SOUTHBOUND BRIDGE SHOWN, NORTHBOUND BRIDGE SIMILAR)

*ALTERNATE VERTICAL BARS TO STAGGER THE LOCATION OF THE MECHANICAL CONNECTOR.



SECTION A-A

DRILLED SHAFT ELEVATIONS AND TIE QUANTITIES												
	SOUTHBOUND						NORTHBOUND					
DRILLED SHAFT NUMBER	1	2	3	4	5	6	7	8	9	10	11	12
BOTTOM OF FOOTING ELEV.	770.0	770.0	770.0	770.0	770.0	770.0	770.0	770.0	770.0	770.0	770.0	770.0
ESTIMATED TOP OF ROCK ELEV.	774.0	774.0	774.0	765.0	765.0	765.0	772.0	772.0	772.0	765.0	765.0	765.0
ESTIMATED DRILLED SHAFT TIP ELEV.	748.0	748.0	748.0	735.0	735.0	735.0	748.0	748.0	748.0	735.0	735.0	735.0
NUMBER OF TIES	24	24	24	37	37	37	24	24	24	37	37	37
REQUIRED ROCK SOCKET DEPTH	26'-0"	26'-0"	26'-0"	30'-0"	30'-0"	30'-0"	24'-0"	24'-0"	24'-0"	30'-0"	30'-0"	30'-0"

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
PIER 1 SOUTHBOUND (SHAFTS 1, 2 AND 3)											
DSIS05001	72	24'-5"	1,834	301	7'-0"	2'-5"					
DSIS14001	51	20'-0"	7,803	002	20'-0"						
DSIS14002	51	15'-0"	5,852	002	15'-0"						
DSIS14003	51	10'-0"	3,902	012	7'-9"						
DSIS14004	51	15'-0"	5,852	012	12'-9"						
		SUB-TOTAL	25,243	FOR INFORMATION ONLY							
PIER 1 SOUTHBOUND (SHAFTS 4, 5 AND 6)											
DSIS05001	111	24'-5"	2,827	301	7'-0"	2'-5"					
DSIS14002	51	15'-0"	5852	002	15'-0"						
DSIS14005	51	18'-0"	7023	012	15'-9"						
DSIS14006	51	28'-0"	10924	012	25'-9"						
DSIS14007	51	25'-0"	9754	002	25'-0"						
		SUB-TOTAL	36,380	FOR INFORMATION ONLY							
PIER 1 NORTHBOUND (SHAFTS 7, 8 AND 9)											
DSIN05001	72	24'-5"	1,834	301	7'-0"	2'-5"					
DSIN14001	51	20'-0"	7,803	002	20'-0"						
DSIN14002	51	15'-0"	5,852	002	15'-0"						
DSIN14003	51	10'-0"	3,902	012	7'-9"						
DSIN14004	51	15'-0"	5,852	012	12'-9"						
		SUB-TOTAL	25,243	FOR INFORMATION ONLY							
PIER 1 NORTHBOUND (SHAFTS 10, 11 AND 12)											
DSIN05001	111	24'-5"	2,827	301	7'-0"	2'-5"					
DSIN14002	51	15'-0"	5,852	002	15'-0"						
DSIN14005	51	18'-0"	7,023	012	15'-9"						
DSIN14006	51	28'-0"	10,924	012	25'-9"						
DSIN14007	51	25'-0"	9,754	002	25'-0"						
		SUB-TOTAL	36,380	FOR INFORMATION ONLY							

NOTES:

1. FOR PIER 1 FOOTING DETAILS, SEE SHEETS 46 AND 47 OF 204.
2. FOR PIER 1 FOOTING REINFORCEMENT, SEE SHEET 49 OF 204.
3. PAYMENT FOR DRILLED SHAFTS SHALL BE INCLUDED WITH ITEM 524 DRILLED SHAFTS, 96" DIAMETER, ABOVE BEDROCK, AND ITEM 524 DRILLED SHAFTS, 96" DIAMETER, INTO BEDROCK.
4. THE DRILLED SHAFT DESIGN LOAD IS RESISTED BY END BEARING. THE ALLOWABLE END BEARING PRESSURE IS 45 TONS PER SQUARE FOOT. PROOF BORINGS SHALL BE CAREFULLY INSPECTED TO ENSURE SUITABLE BEARING MATERIAL IS ENCOUNTERED AT THE DRILLED SHAFT TIP ELEVATION AND BELOW TO A DEPTH OF AT LEAST 2.0x SHAFT DIAMETER. THE ACTUAL DRILLED TIP ELEVATIONS MAY NEED TO BE ADJUSTED BASED UPON THE RESULTS OF THE PROOF BORINGS.
5. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST TWO DIGITS WHERE FIVE DIGITS ARE USED CONSECUTIVELY, INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE: DSIS05001
   DS: LOCATION OF THE BAR IN THE STRUCTURE (DRILLED SHAFT)
   I: PIER 1
   S: SOUTHBOUND
   05: BAR SIZE DESIGNATION NO. 5
   001: SEQUENCE NUMBER
6. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. "R" INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.
7. ALL REINFORCING STEEL IS TO BE EPOXY COATED.
8. FOR BAR BENDING DIAGRAMS, SEE SHEETS 187 AND 188 OF 204.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED YEH/JJB | DRAWN JJB | REVIEWED RHW | DATE 03/21/08
CHECKED BTA | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

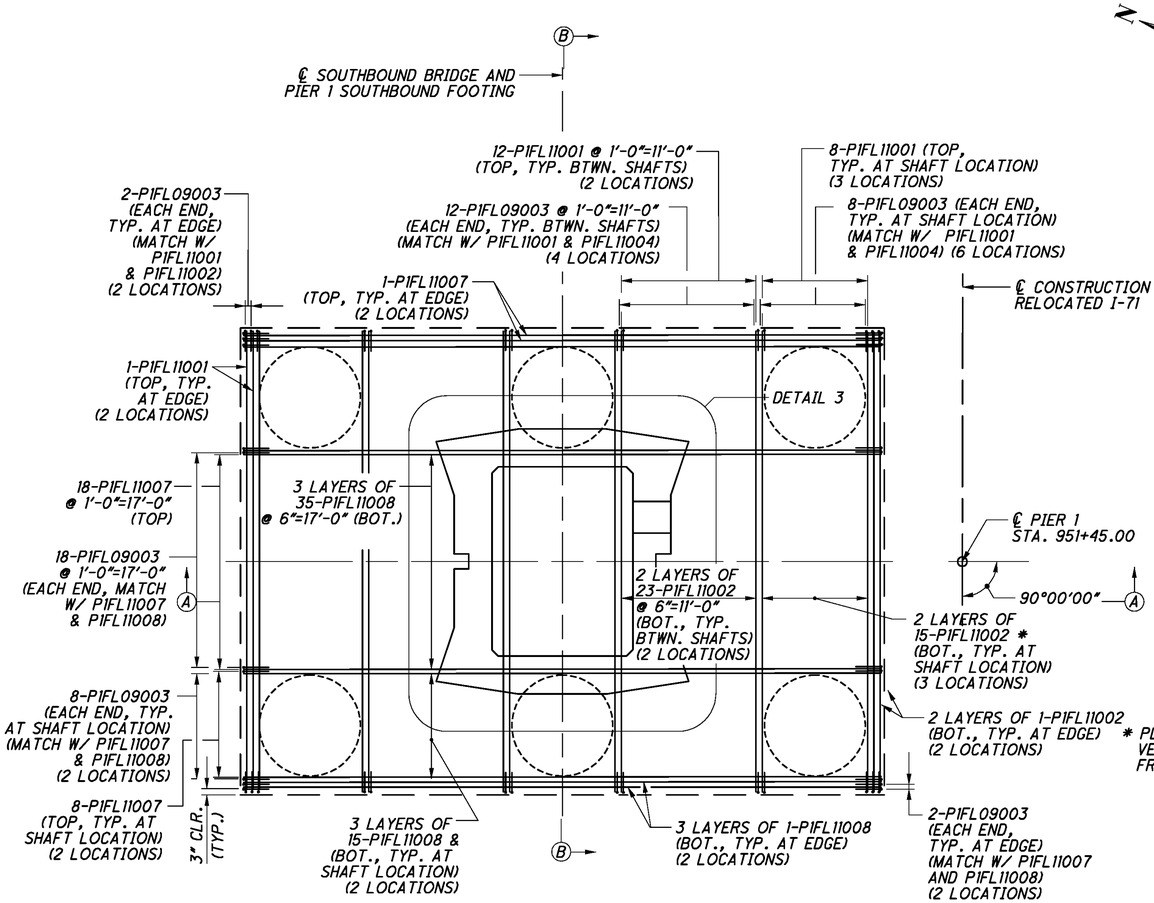
PIER 1 DRILLED SHAFT DETAILS
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

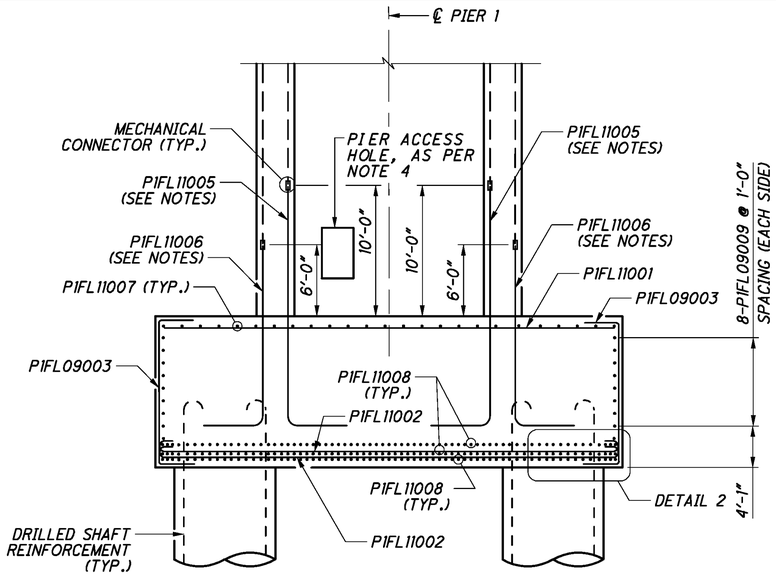
48/204

314/470

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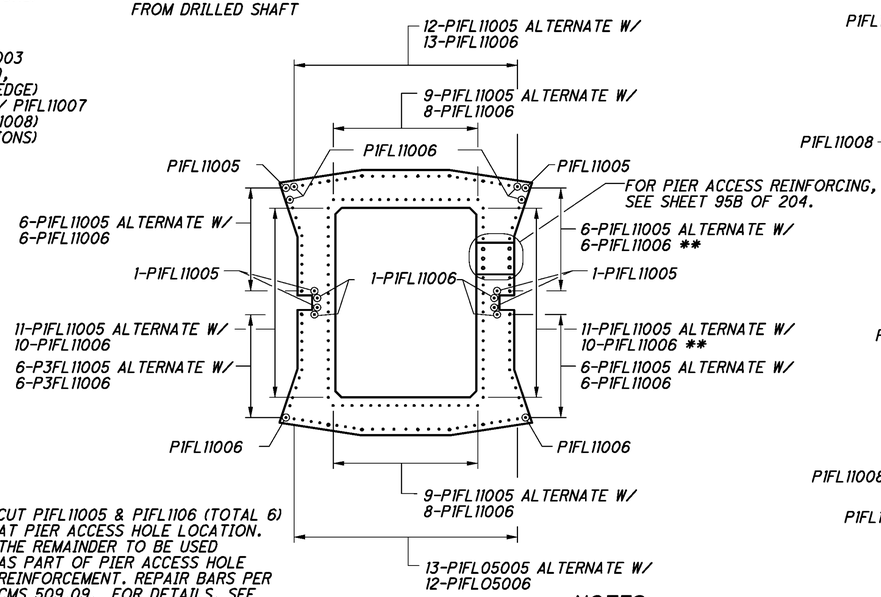
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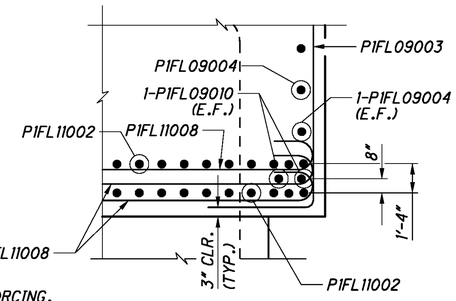
SECTION B-B

SECTION A-A

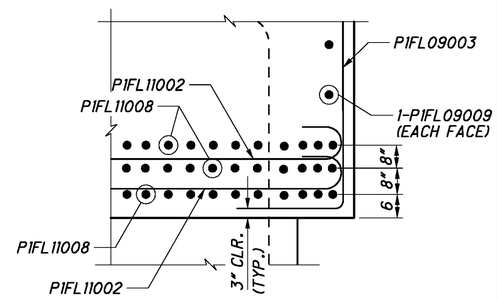
** CUT P1FL11005 & P1FL1106 (TOTAL 6) AT PIER ACCESS HOLE LOCATION. THE REMAINDER TO BE USED AS PART OF PIER ACCESS HOLE REINFORCEMENT. REPAIR BARS PER CMS 509.09. FOR DETAILS, SEE SHEET 95B OF 204.



DETAIL 3
(SEE NOTE 2)



DETAIL 1



DETAIL 2

NOTES:

1. ALL DETAILS SHOWN ARE FOR SOUTHBOUND BRIDGE PIER 1. THE REINFORCING BAR PREFIX FOR PIER 1 SOUTHBOUND IS P1FL. NORTHBOUND BRIDGE PIER 1 IS SIMILAR WITH A REINFORCING BAR PREFIX OF P1FR.
2. FOR LOCATIONS OF DOWEL BARS P1FL11005 AND P1FL11006, SEE PIER 1 BASE REINFORCEMENT, SHEET 53. ALTERNATE BAR P1FL11005 WITH BAR P1FL11006 AT ALL LOCATIONS.
3. FOR PLACEMENT OF DRILLED SHAFTS VERTICAL BARS, SEE SHEET 48 OF 204.
4. FOR PIER ACCESS HOLE DETAILS, SEE SHEET 95B OF 204.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1300
Cleveland, OH 44114-2531

DESIGNED SA | DRAWN PY | CHECKED MX/MEA | REVIEWED RHW | DATE 2/02/09 | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

PIER 1 FOOTING REINFORCEMENT

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
PIER 1 NORTHBOUND FOOTING											
P1FR11001	52	36'-5"	10062	001	36'-5"						
P1FR11002	190	39'-7"	39960	016	36'-5"						
P1FR09003	180	17'-10"	10916	102	11'-5"	3'-6"	3'-6"				
P1FR09004	16	42'-8"	2321	102	36'-3"	3'-6"	3'-6"				
P1FR11005	93	22'-2"	10953	020	20'-0"	2'-6"					
P1FR11006	89	18'-2"	8591	020	16'-0"	2'-6"					
P1FR11007	38	50'-5"	10179	001	50'-5"						
P1FR11008	207	53'-7"	58933	016	50'-5"						
P1FR09009	16	50'-3"	2734	001	50'-3"						
P1FR09010	4	36'-5"	495	001	36'-5"						
SUB-TOTAL			155,144 lbs								
PIER 1 SOUTHBOUND FOOTING											
P1FL11001	52	36'-5"	10062	001	36'-5"						
P1FL11002	190	39'-7"	39960	016	36'-5"						
P1FL09003	180	17'-10"	10916	102	11'-5"	3'-6"	3'-6"				
P1FL09004	16	42'-8"	2321	102	36'-3"	3'-6"	3'-6"				
P1FL11005	93	22'-2"	10953	020	20'-0"	2'-6"					
P1FL11006	89	18'-2"	8591	020	16'-0"	2'-6"					
P1FL11007	38	50'-5"	10179	001	50'-5"						
P1FL11008	207	53'-7"	58933	016	50'-5"						
P1FL09009	16	50'-3"	2734	001	50'-3"						
P1FL09010	4	36'-5"	495	001	36'-5"						
SUB-TOTAL			155,144 lbs								

NOTES:

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 DIGITS ARE USED, INDICATES THE THE BAR SIZE NUMBER.
FOR EXAMPLE: RA601
RA: LOCATION OF THE BAR IN THE STRUCTURE (REAR ABUTMENT)
6: BAR SIZE DESIGNATION NO. 6
01: SEQUENCE NUMBER

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 BAR. STRAIGHT BARS ARE INDICATED BY "STR".

ALL REINFORCING STEEL IS TO BE EPOXY COATED.

DESIGN AGENCY
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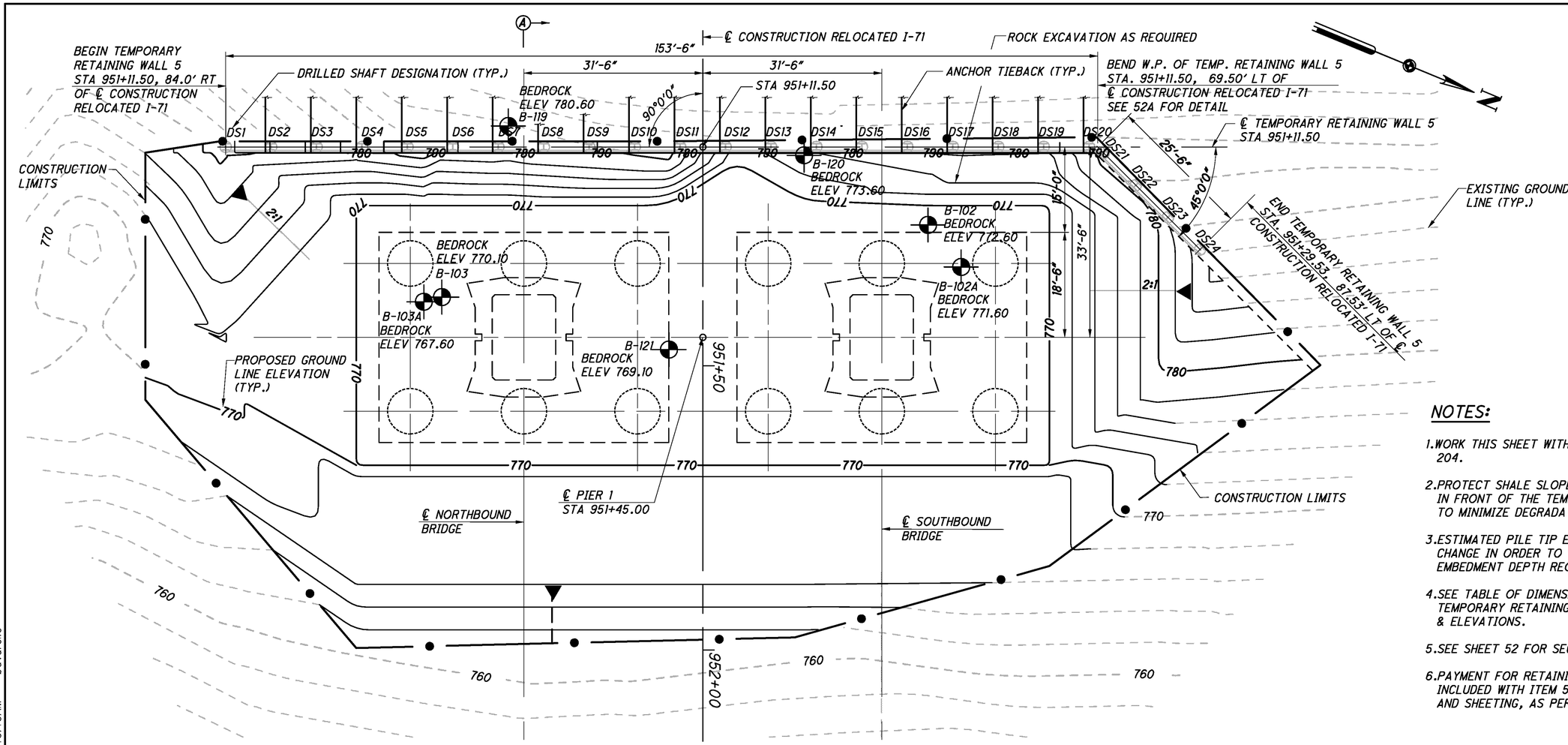
DESIGNED	DRAWN	REVIEWED	DATE
SA	PY	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

PIER 1 FOOTING BAR SCHEDULE

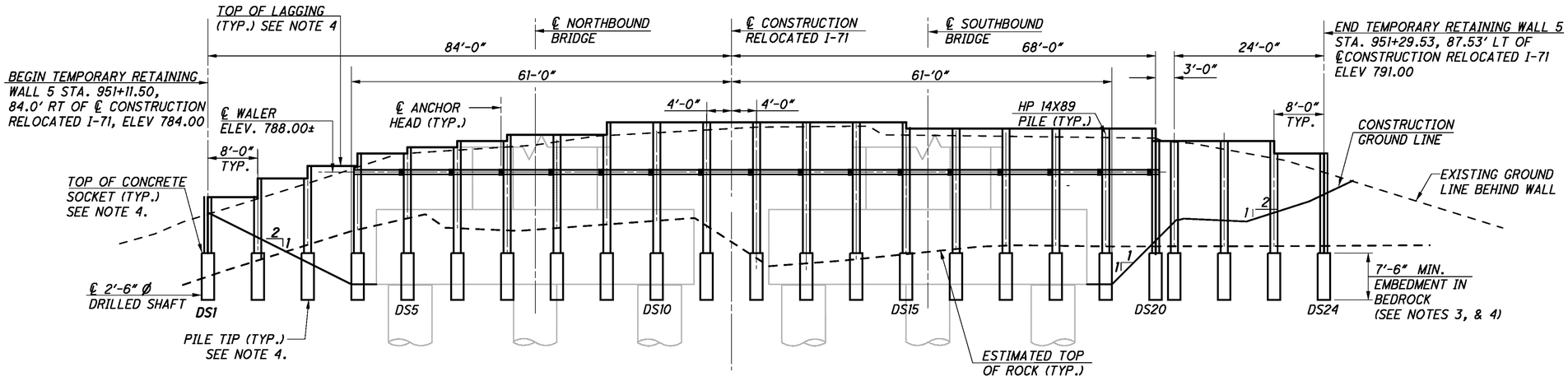
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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PLAN



ELEVATION ALONG ℄ TEMPORARY RETAINING WALL 5

(LOOKING DOWNSTATION)

NOTES:

1. WORK THIS SHEET WITH SHEETS 51A, 52, 52A OF 204.
2. PROTECT SHALE SLOPES WITH PLASTIC SHEETING IN FRONT OF THE TEMPORARY RETAINING WALL TO MINIMIZE DEGRADATION.
3. ESTIMATED PILE TIP ELEVATION IS SUBJECT TO CHANGE IN ORDER TO SATISFY MINIMUM EMBEDMENT DEPTH REQUIREMENT IN BEDROCK
4. SEE TABLE OF DIMENSIONS ON SHEET 52A FOR TEMPORARY RETAINING WALL 5 DIMENSIONS & ELEVATIONS.
5. SEE SHEET 52 FOR SECTION A-A
6. PAYMENT FOR RETAINING WALL 5 SHALL BE INCLUDED WITH ITEM 503 - COFFERDAMS, CRIBS AND SHEETING, AS PER PLAN.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
MEA/BAJ	BAJ/JRB	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JFA/MEA		8302278L/8302294R	

PIER 1 RETAINING WALL 5 LAYOUT

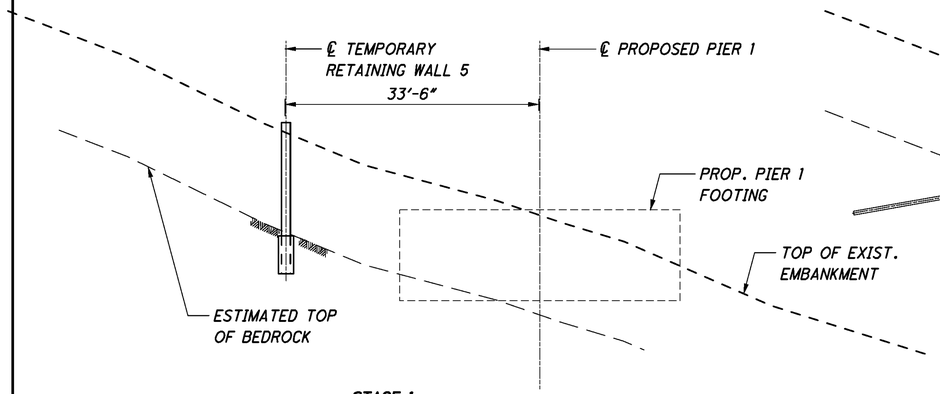
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

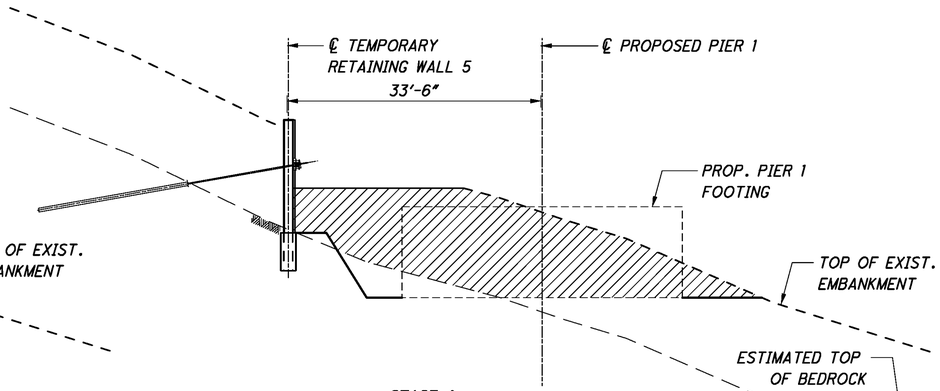
51 / 204

317
470

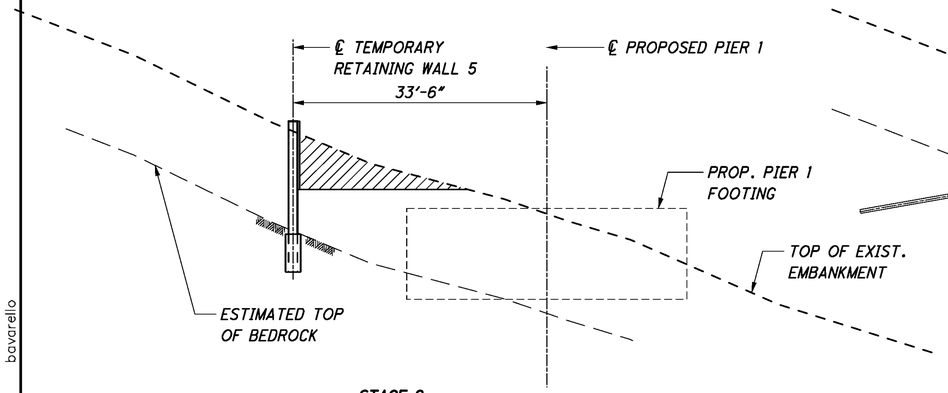
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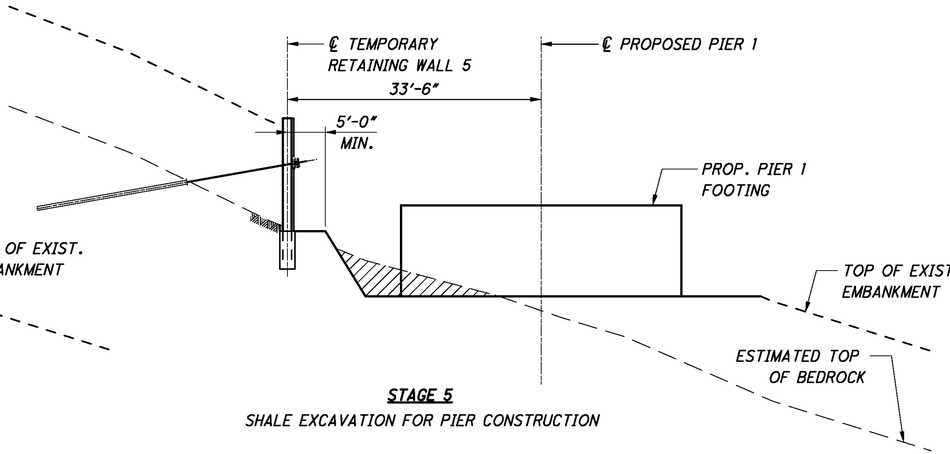
STAGE 1
SOLDIER PILE INSTALLATION



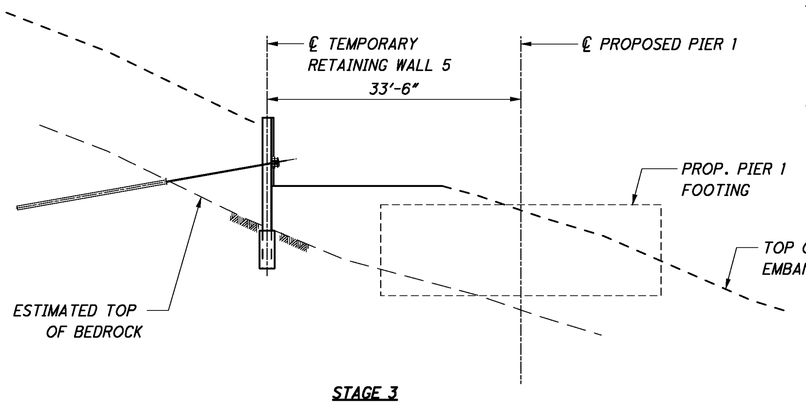
STAGE 4
EXCAVATION - COMPLETE LAGGING



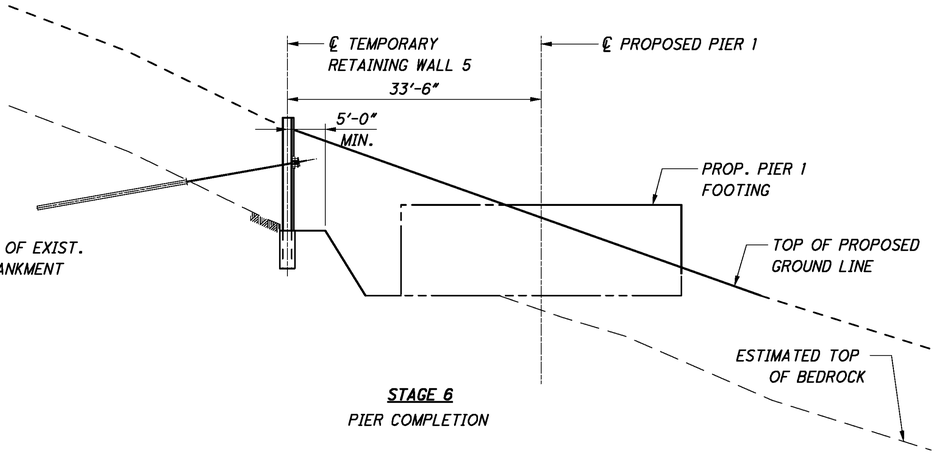
STAGE 2
EXCAVATION FOR TIEBACK INSTALLATION



STAGE 5
SHALE EXCAVATION FOR PIER CONSTRUCTION



STAGE 3
TIEBACK INSTALLATION



STAGE 6
PIER COMPLETION

SUGGESTED TEMPORARY DRILLED SOLDIER PILE CONSTRUCTION SEQUENCE-NOTES

NOTES:
DURING THE CONSTRUCTION OF THE WALL, STOCKPILING OF EXCAVATED SOIL ON THE EMBANKMENT SLOPE IS NOT PERMITTED EXCEPT AS NOTED. EXCAVATED SOIL SHALL BE PLACED AT LOCATIONS SHOWN IN THE PLANS.

STAGE 1
DRILL HOLES FOR THE SOLDIER PILES. INSTALL SOLDIER PILES. PLACE CONCRETE IN SOCKET. PLACE LOW STRENGTH MORTAR (LSM) BACKFILL IN HOLE AROUND SOLDIER PILE.

STAGE 2
BELOW THE WORKING BENCH, EXCAVATE AND LAG TO APPROXIMATELY 3 FEET BELOW THE TIEBACK ELEVATION TO CREATE A BENCH FOR THE TIEBACK ANCHOR INSTALLATION.

STAGE 3
INSTALL, TEST, AND APPROVE ANCHORS. SEE THE SPECIAL PROVISIONS FOR THE REQUIRED CREEP, PERFORMANCE AND PROOF TESTING OF THE TIEBACK ANCHORS.

STAGE 4
EXCAVATE TO ROCK WHILE INSTALLING LAGGING TO THE ELEVATION SHOWN AS EXCAVATION PROCEEDS. LAGGING SHALL BE PLACED FROM THE TOP-DOWN AS SOON AS POSSIBLE AFTER EXCAVATION TO MINIMIZE EROSION OF MATERIALS INTO THE EXCAVATION.

STAGE 5
EXCAVATE FOR PIER FOOTING CONSTRUCTION. CREATE MIN. 5 FEET WIDE BENCH IN FRONT OF TEMPORARY WALL.

STAGE 6
AFTER PIER 1 CONSTRUCTION IS COMPLETE, BACKFILL TO THE PROPOSED GROUND LINE. TIEBACK ANCHORS ARE NOT TO BE REMOVED.

SUGGESTED TEMPORARY DRILLED SOLDIER PILE CONSTRUCTION SEQUENCE TYPICAL SECTIONS

SECTIONS SHOWN LOOKING WEST

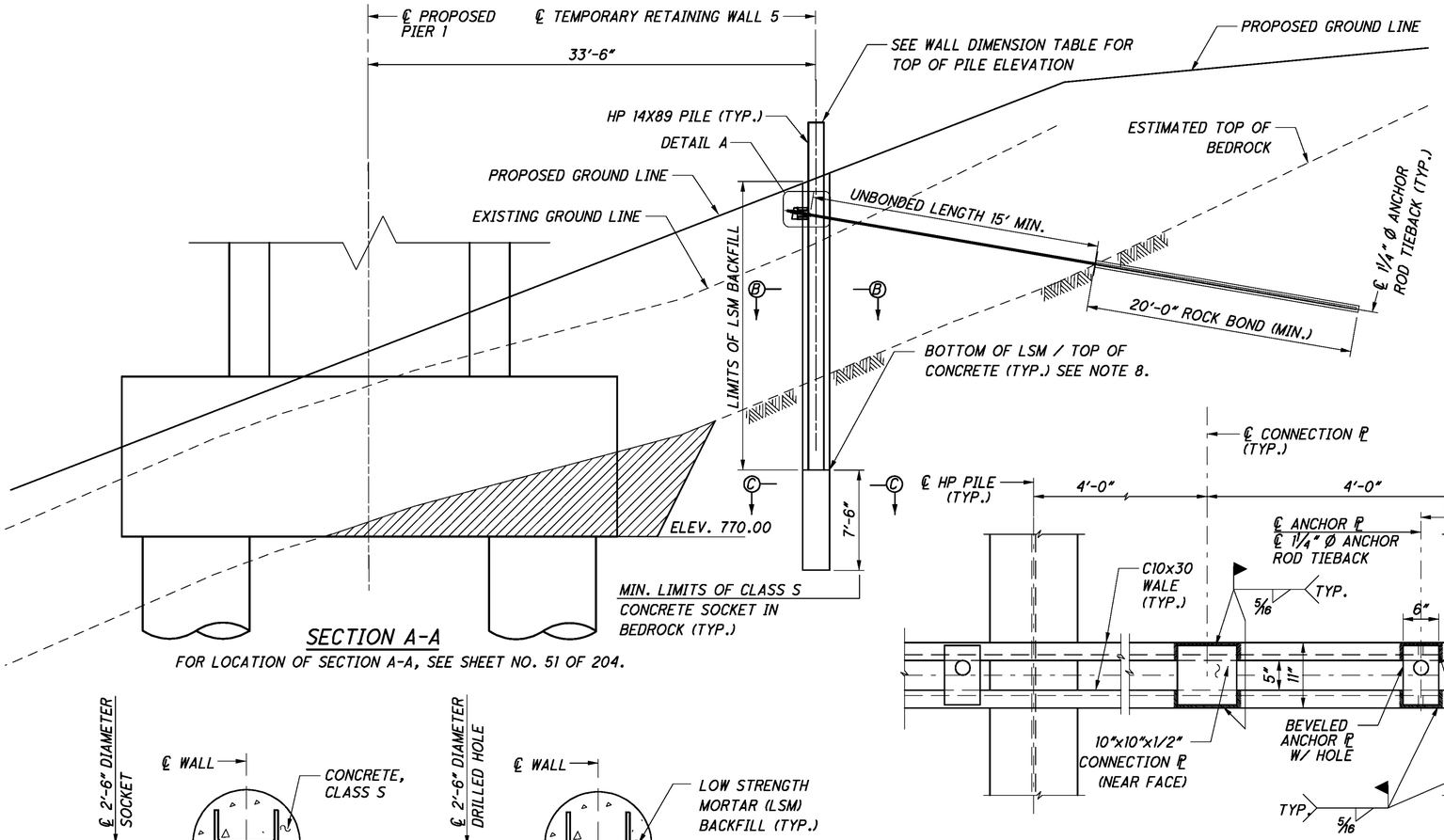
DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED MEA | DRAWN JRB | CHECKED JFA | REVIEWED RHW | DATE 03/21/08 | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

PIER 1 RETAINING WALL 5 DETAILS 1
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

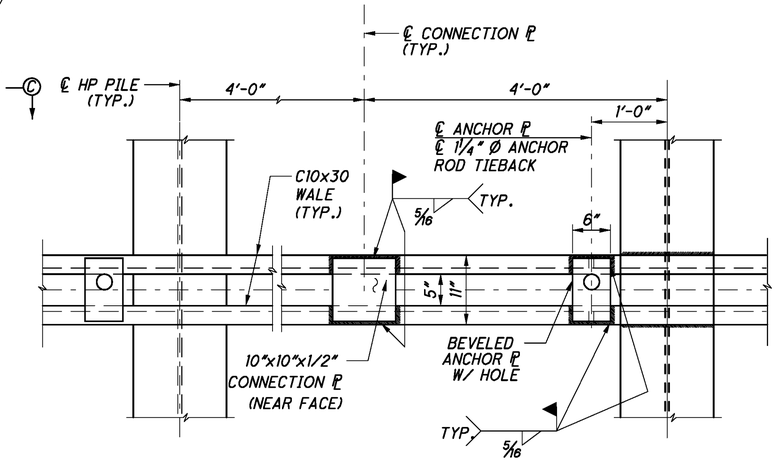
WAR-71-14.20
PID No. 22950

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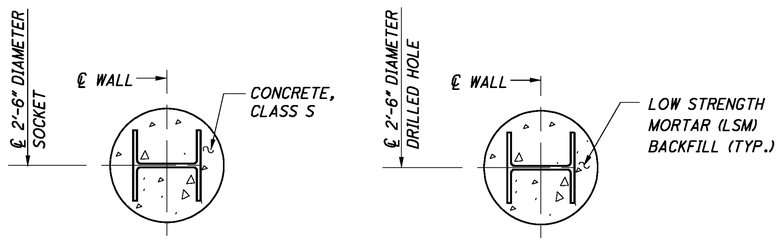


SECTION A-A

FOR LOCATION OF SECTION A-A, SEE SHEET NO. 51 OF 204.

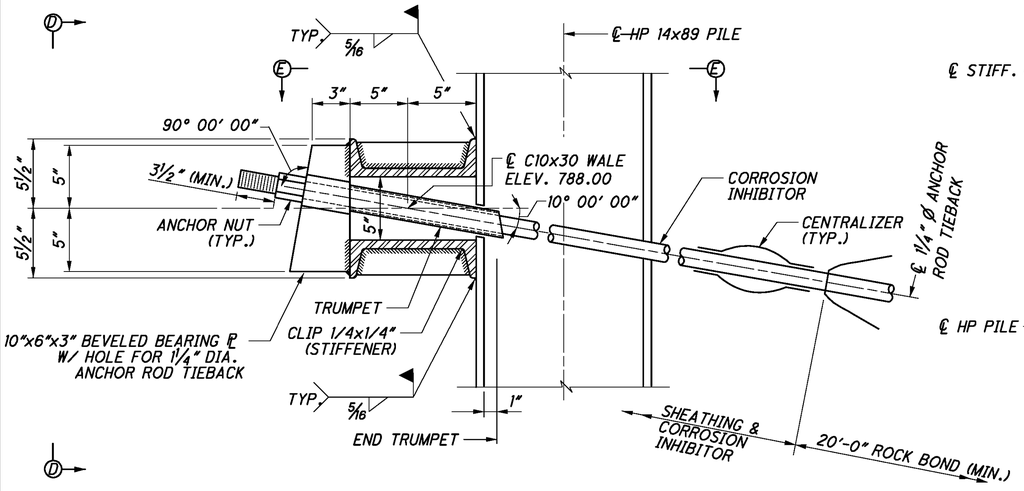


VIEW D-D

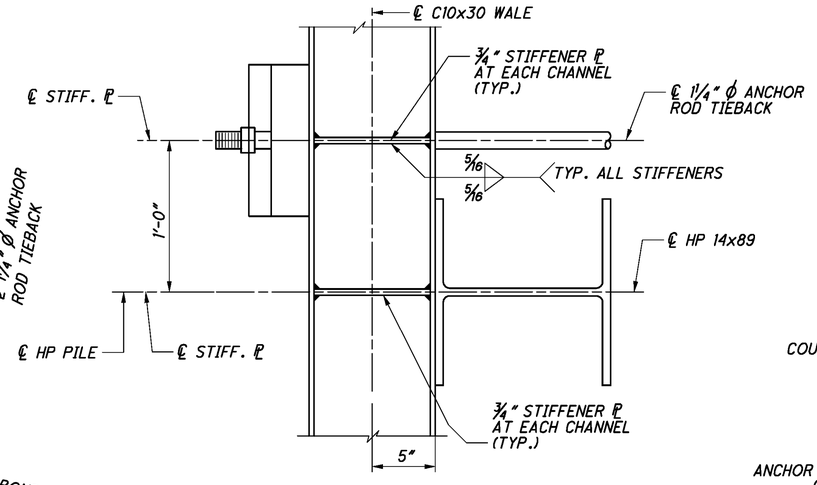


SECTION C-C

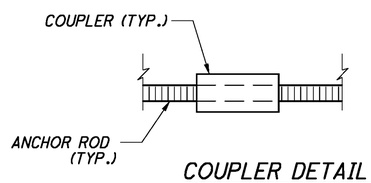
SECTION B-B



DETAIL A



VIEW E-E



COUPLER DETAIL

NOTES:

1. ALL STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 50.
2. ANCHOR ROD TIEBACKS SHALL BE ASTM A727 UNCOATED HIGH STRENGTH BARS FOR PRESTRESSING CONCRETE.
   GUARANTEED ULTIMATE TENSILE STRESS (100% GUTS)= 150 KSI
   MAXIMUM JACKING STRESS (TEMPORARY) = 80% GUTS
   MAXIMUM TRANSFER STRESS (LOCK-OFF) = 70% GUTS
   ANCHOR ROD DESIGN FORCE = 105 KIPS
3. CONTRACTOR SHALL PROVIDE HIS PROPOSED TIE BACK AND ANCHORAGE DETAILS TO THE ENGINEER FOR REVIEW AND ACCEPTANCE PRIOR TO THE INSTALLATION OF DRILLED SOLDIER PILES.
4. FOR PIER 1 FOOTING PLAN, SEE SHEET 46 OF 204.
5. FOR PIER 1 FOOTING DETAIL, SEE SHEET 47 OF 204.
6. PAYMENT FOR ALL EXCAVATION WILL BE INCLUDED WITH ITEM 503, UNCLASSIFIED EXCAVATION, INCLUDING SHALE, AS PER PLAN.
7. SEE TABLE OF DIMENSIONS ON SHEET 52A FOR TEMPORARY RETAINING WALL DIMENSIONS AND ELEVATIONS .
8. PRIOR TO THE INSTALLATION OF ANY PRODUCTION ANCHORS, TEST ANCHORS SHOULD BE INSTALLED TO VERIFY ALL DESIGN ASSUMPTIONS INCLUDING ANCHOR LENGTH. TEST ANCHORS SHOULD BE PROOF STRESSED TO 80% GUTS. AFTER 24 OR MORE HOURS READINGS MIGHT BE REQUIRED ON SELECTED ANCHORS TO DETERMINE CREEP BEHAVIOR. ALL PRODUCTION ANCHORS SHOULD ALSO BE PROOF STRESSED BUT THE LOAD NEED NOT BE HELD FOR AN EXTENDED PERIOD.
9. THE DIAMETER OF ANCHOR BORE HOLE SHOULD EXCEED THE MAXIMUM DIAMETER OF THE ANCHOR BY AT LEAST 1".
10. THE TEMPORARY RETAINING WALL DESIGN IS PROVIDED FOR THE WALL HEIGHT SHOWN IN THE TABLE OF DIMENSIONS ON SHEET 52A. IF THESE HEIGHTS ARE EXCEEDED, THE TEMPORARY RETAINING WALL SYSTEM SHALL BE REEVALUATED BY CONTRACTOR'S ENGINEER.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

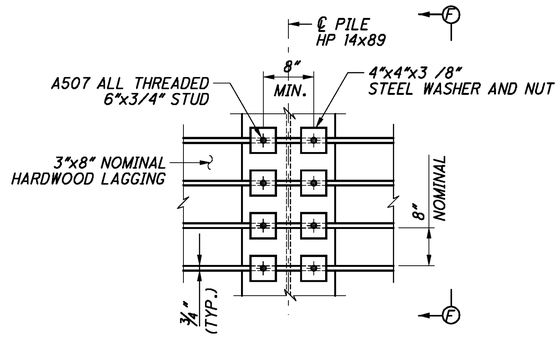
DESIGNED	DRAWN	REVIEWED	DATE
MEA	JJB	RHW	03/21/08

CHECKED	REVISED	STRUCTURE FILE NUMBER
JFA		8302278L/8302294R

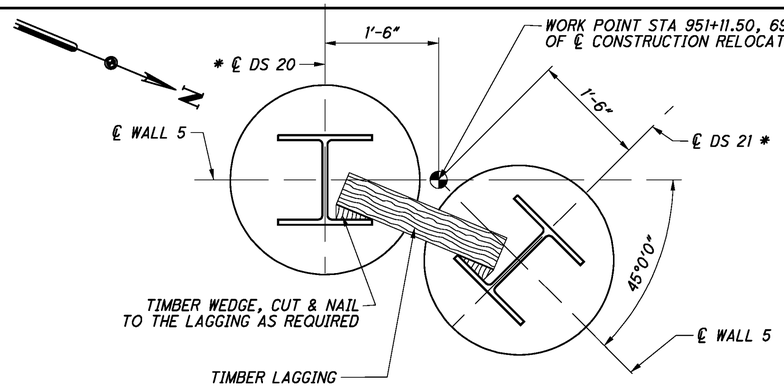
PIER 1 RETAINING WALL 5 DETAILS 2
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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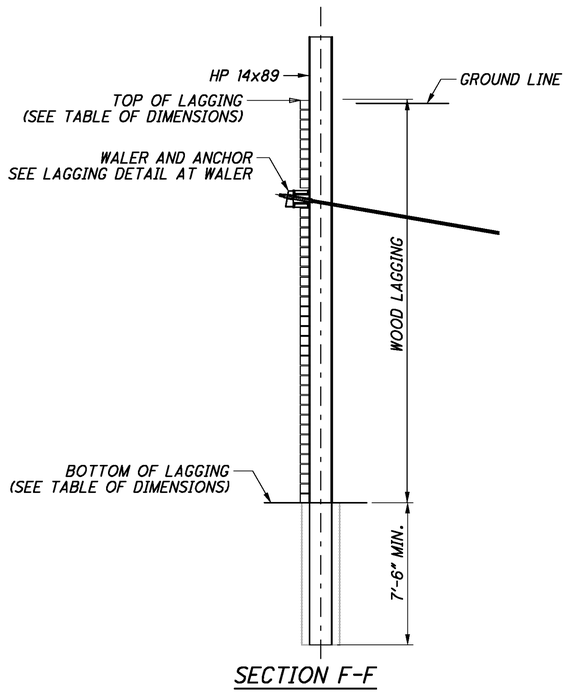


PILE AND LAGGING DETAIL

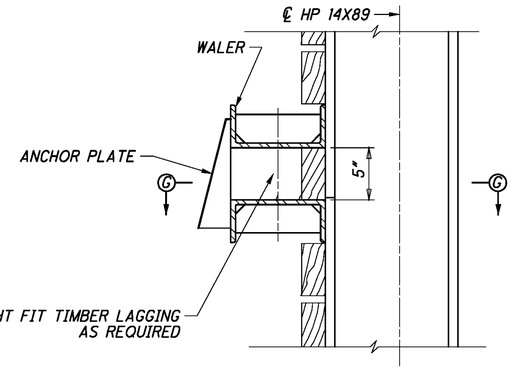


LAYOUT AND LAGGING DETAIL AT DS20 & DS21

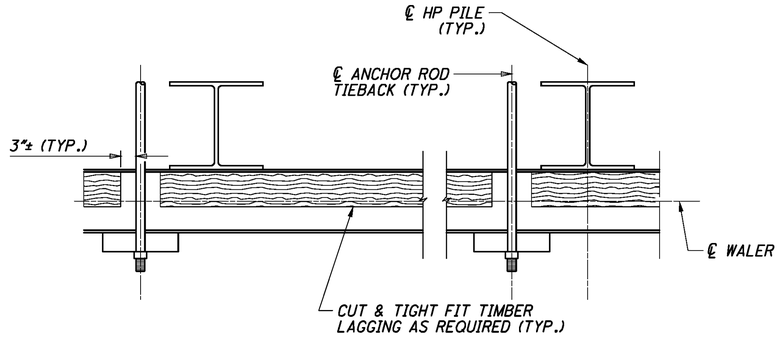
* FOR PILE STATIONING AND OFFSETS SEE TABLE OF DIMENSIONS



SECTION F-F



LAGGING DETAIL AT WALER



VIEW G-G

TABLE OF DIMENSIONS

SHAFT ID	STATION	OFFSET FROM ℄ RELOCATED I-71	TOP OF PILE ELEVATION	ESTIMATED PILE TIP ELEVATION	MINIMUM SOCKET LENGTH IN BEDROCK
DS1	951+11.50	84.00 LEFT	784.00	767.50	7'-6"
DS2	951+11.50	76.00 LEFT	787.00	767.50	7'-6"
DS3	951+11.50	68.00 LEFT	789.00	767.50	7'-6"
DS4	951+11.50	60.00 LEFT	791.00	767.50	7'-6"
DS5	951+11.50	52.00 LEFT	792.00	767.50	7'-6"
DS6	951+11.50	44.00 LEFT	793.00	767.50	7'-6"
DS7	951+11.50	36.00 LEFT	794.00	767.50	7'-6"
DS8	951+11.50	28.00 LEFT	794.00	767.50	7'-6"
DS9	951+11.50	20.00 LEFT	796.00	767.50	7'-6"
DS10	951+11.50	12.00 LEFT	796.00	767.50	7'-6"
DS11	951+11.50	4.00 LEFT	796.00	767.50	7'-6"
DS12	951+11.50	4.00 RIGHT	796.00	767.50	7'-6"
DS13	951+11.50	12.00 RIGHT	796.00	767.50	7'-6"
DS14	951+11.50	20.00 RIGHT	796.00	767.50	7'-6"
DS15	951+11.50	28.00 RIGHT	796.00	767.50	7'-6"
DS16	951+11.50	36.00 RIGHT	795.00	767.50	7'-6"
DS17	951+11.50	44.00 RIGHT	795.00	767.50	7'-6"
DS18	951+11.50	52.00 RIGHT	795.00	767.50	7'-6"
DS19	951+11.50	60.00 RIGHT	795.00	767.50	7'-6"
DS20	951+11.50	68.00 RIGHT	795.00	767.50	7'-6"
DS21	951+12.56	70.56 RIGHT	793.00	767.50	7'-6"
DS22	951+18.22	76.22 RIGHT	793.00	767.50	7'-6"
DS23	951+23.87	81.87 RIGHT	793.00	767.50	7'-6"
DS24	951+29.53	87.53 RIGHT	791.00	767.50	7'-6"

TEMPORARY WALL SEGMENT LOCATION	TOP OF LAGGING ELEVATION	BOTTOM OF LAGGING ELEVATION	BOTTOM OF LSM/TOP OF CONCRETE ELEVATION
BETWEEN DS1 & DS2	784.00	775.00	775.00
BETWEEN DS2 & DS3	787.00	775.00	775.00
BETWEEN DS3 & DS4	789.00	775.00	775.00
BETWEEN DS4 & DS5	791.00	775.00	775.00
BETWEEN DS5 & DS6	792.00	775.00	775.00
BETWEEN DS6 & DS7	793.00	775.00	775.00
BETWEEN DS7 & DS8	794.00	775.00	775.00
BETWEEN DS8 & DS9	794.00	775.00	775.00
BETWEEN DS9 & DS10	796.00	775.00	775.00
BETWEEN DS10 & DS11	796.00	775.00	775.00
BETWEEN DS11 & DS12	796.00	775.00	775.00
BETWEEN DS12 & DS13	796.00	775.00	775.00
BETWEEN DS13 & DS14	796.00	775.00	775.00
BETWEEN DS14 & DS15	796.00	775.00	775.00
BETWEEN DS15 & DS16	795.00	775.00	775.00
BETWEEN DS16 & DS17	795.00	775.00	775.00
BETWEEN DS17 & DS18	795.00	775.00	775.00
BETWEEN DS18 & DS19	795.00	775.00	775.00
BETWEEN DS19 & DS20	795.00	775.00	775.00
BETWEEN DS20 & DS21	793.00	775.00	775.00
BETWEEN DS21 & DS22	793.00	775.00	775.00
BETWEEN DS22 & DS23	793.00	775.00	775.00
BETWEEN DS23 & DS24	791.00	775.00	775.00

NOTES:

1. PLACE TIMBER LAGGING INSIDE FLANGE BETWEEN PILES (20) TO (21).
2. WORK THIS SHEET WITH SHEETS 51, 51A, & 52
3. THE MINIMUM SOCKET LENGTH IN BEDROCK IS INTO INTERBEDDED GRAY SHALE AND LIMESTONE.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED MEA | DRAWN JRB | REVIEWED RHW | DATE 03/21/08
CHECKED JFA | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

PIER 1 RETAINING WALL 5 DETAILS 3
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

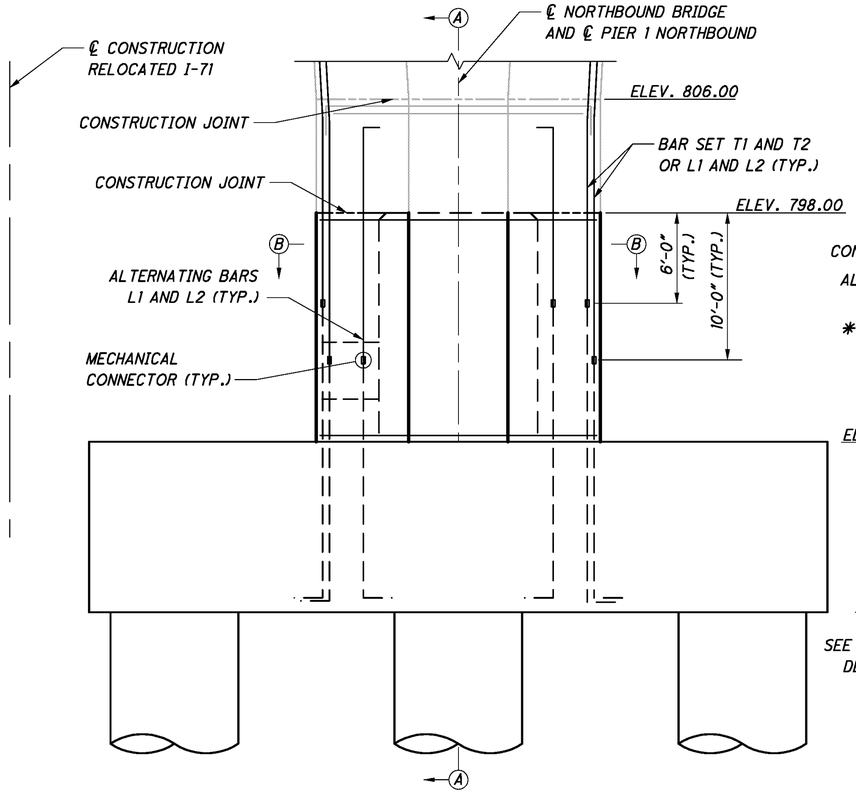
WAR-71-14.20
PID No. 22950

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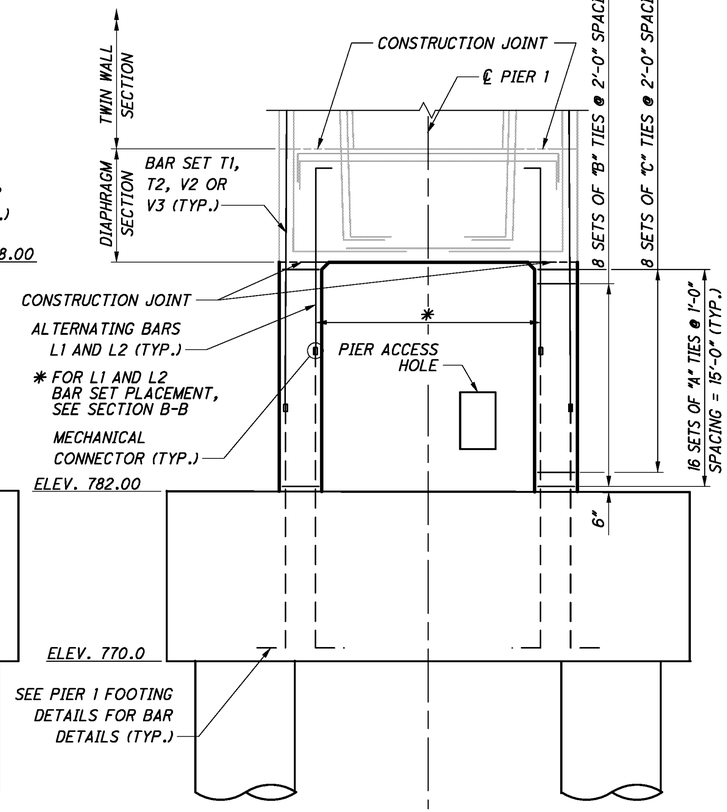
PIER 1 VERTICAL BAR SETS						
L1	L2	T1	T2	V1	V2	V3
P1X11001	P1X11002	P1X14001	P1X14002	P1X14003	P1X14004	P1X14005

HORIZONTAL TIE SETS						
DRAWING LABEL *	TIE SET "A"		TIE SET "B"		TIE SET "C"	
	# OF TIES	BAR MARK	# OF TIES	BAR MARK	# OF TIES	BAR MARK
Y1	4	P1X05001	11	P1X05006	12	P1X05006
Y2	2	P1X05002	2	P1X05007	2	P1X05008
Y3	2	P1X05003	2	P1X05011	2	P1X05009
Y4	4	P1X05004			2	P1X05010
Y5	2	P1X05005				

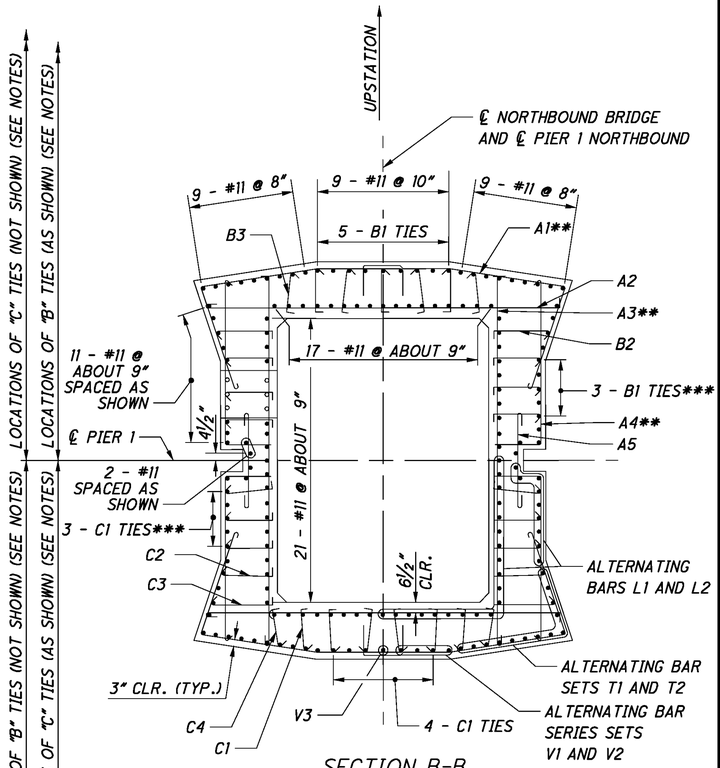
FOR PIER 1 NORTHBOUND, X=N
FOR PIER 1 SOUTHBOUND, X=S
* Y=TIE SET LETTER



PIER 1 PART ELEVATION
(NORTHBOUND PIER SHOWN, SOUTHBOUND PIER SIMILAR)



SECTION A-A



SECTION B-B
(SYMMETRICAL ABOUT ℄ PIER AND ℄ BRIDGE)

** CUT HORIZONTAL TIES SETS, A1, A3, A4 AT PIER ACCESS HOLE LOCATION. REPAIR BARS PER CMS 509.09.
*** B OR C TIES NOT REQUIRED AT PIER ACCESS HOLE LOCATION. PLACE HALF OF THE REMAINING TIES ABOVE THE OPENING AND HALF OF THEM BELOW THE OPENING AT 6" SPA.

NOTES:

1. FOR TWIN WALL AND DIAPHRAGM DETAILS, SEE SHEETS 76 TO 86 OF 204.
2. PIER 1 NORTHBOUND SHOWN. PIER 1 SOUTHBOUND SIMILAR.
3. P1N IS PREFIX FOR PIER 1 NORTHBOUND BASE REINFORCEMENT, P1S IS PREFIX FOR PIER 1 SOUTHBOUND BASE REINFORCEMENT.
4. LOCATIONS OF "B" TIES AND "C" TIES SHOWN, ALTERNATE WITH LOCATIONS OF "B" TIES AND "C" TIES NOT SHOWN.
5. CUT AND ADJUST VERTICAL BARS AT PIER ACCESS HOLE LOCATION. FOR REINFORCING DETAILS AT PIER ACCESS LOCATION, SEE SHEET 95B OF 204.
6. FOR TIE-OFF BEAM REINFORCEMENT DETAILS SEE SHEET 95C AND 95D OF 204.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1300
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH/BTA	JJB	RHW	2/02/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJE		8302278L/8302294R	

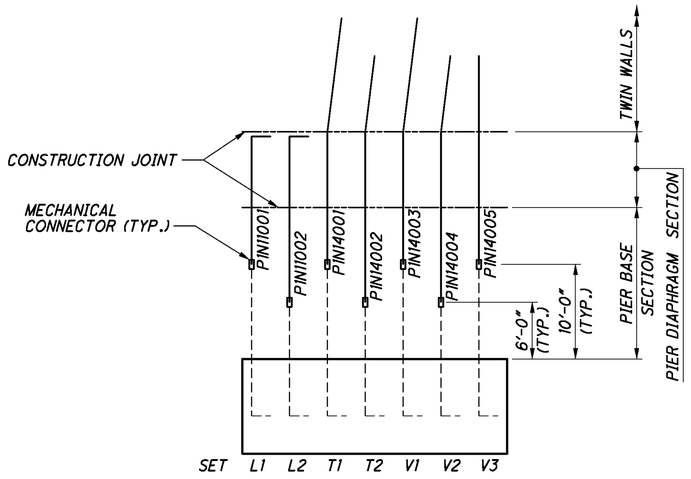
PIER 1 BASE REINFORCEMENT

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	F	R	INC A	INC B	INC C	INC D	INC E	INC F
PIER 1 NORTHBOUND BASE																	
P1N05001	64	17'-6"	1168	018	4'-5"	6'-1"	11"	5'-6"	1'-10"	10"							
P1N05002	32	19'-9"	659	023	18'-6"	10"											
P1N05003	32	20'-11"	698	023	19'-8"	10"											
P1N05004	64	11'-2"	745	013	8'-8"	2'-2"											
P1N05005	32	6'-2"	206	016	5'-0"												
P1N05006	368	3'-4"	1279	013	2'-2"	10"											
P1N05007	32	3'-11"	131	013	2'-9"	10"											
P1N05008	32	3'-8"	122	013	2'-6"	10"											
P1N05009	32	4'-3"	142	013	3'-1"	10"											
P1N05010	32	3'-1"	103	013	1'-11"	10"											
P1N05011	32	3'-2"	106	013	2'-0"	10"											
P1N11001	56	15'-2"	4513	024	13'-6"	2'-0"											
P1N11002	56	19'-2"	5703	024	17'-6"	2'-0"											
P1N14001	24	26'-0"	4774	027	18'-0"	8'-0"	5"										
P1N14002	28	26'-0"	5569	027	14'-0"	12'-0"	8"										
P1N14003	4 SER 2	26'-0"	1591	027	18'-0"	8'-0"	1"							3"			
		26'-0"					4"										
P1N14004	4 SER 2	26'-0"	1591	027	14'-0"	12'-0"	4"							4"			
		26'-0"					8"										
P1N14005	2	26'-0"	398	026													
		SUB-TOTAL	29498														
PIER 1 SOUTHBOUND BASE																	
P1S05001	64	17'-6"	1168	018	4'-5"	6'-1"	11"	5'-6"	1'-10"	10"							
P1S05002	32	19'-9"	659	023	18'-6"	10"											
P1S05003	32	20'-11"	698	023	19'-8"	10"											
P1S05004	64	11'-2"	745	013	8'-8"	2'-2"											
P1S05005	32	6'-2"	206	016	5'-0"												
P1S05006	368	3'-4"	1279	013	2'-2"	10"											
P1S05007	32	3'-11"	131	013	2'-9"	10"											
P1S05008	32	3'-8"	122	013	2'-6"	10"											
P1S05009	32	4'-3"	142	013	3'-1"	10"											
P1S05010	32	3'-1"	103	013	1'-11"	10"											
P1S05011	32	3'-2"	106	013	2'-0"	10"											
P1S11001	56	15'-2"	4513	024	13'-6"	2'-0"											
P1S11002	56	19'-2"	5703	024	17'-6"	2'-0"											
P1S14001	24	26'-0"	4774	027	18'-0"	8'-0"	5"										
P1S14002	28	26'-0"	5569	027	14'-0"	12'-0"	8"										
P1S14003	4 SER 2	26'-0"	1591	027	18'-0"	8'-0"	1"							3"			
		26'-0"					4"										
P1S14004	4 SER 2	26'-0"	1591	027	14'-0"	12'-0"	4"							4"			
		26'-0"					8"										
P1S14005	2	26'-0"	398	026													
		SUB-TOTAL	29498														



REINFORCEMENT SCHEMATIC
(NORTHBOUND SHOWN, SOUTHBOUND SIMILAR)

NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN.
   FOR EXAMPLE: P1N05001
   P1: LOCATION OF THE BAR IN THE STRUCTURE (PIER 1)
   N: LOCATION OF THE STRUCTURE (NORTHBOUND)
   05: BAR SIZE (#5 BAR)
   001: BAR SEQUENCE NUMBER

2. 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 BAR. STRAIGHT BARS ARE INDICATED BY "STR".

3. ALL REINFORCING STEEL IS TO BE EPOXY COATED.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

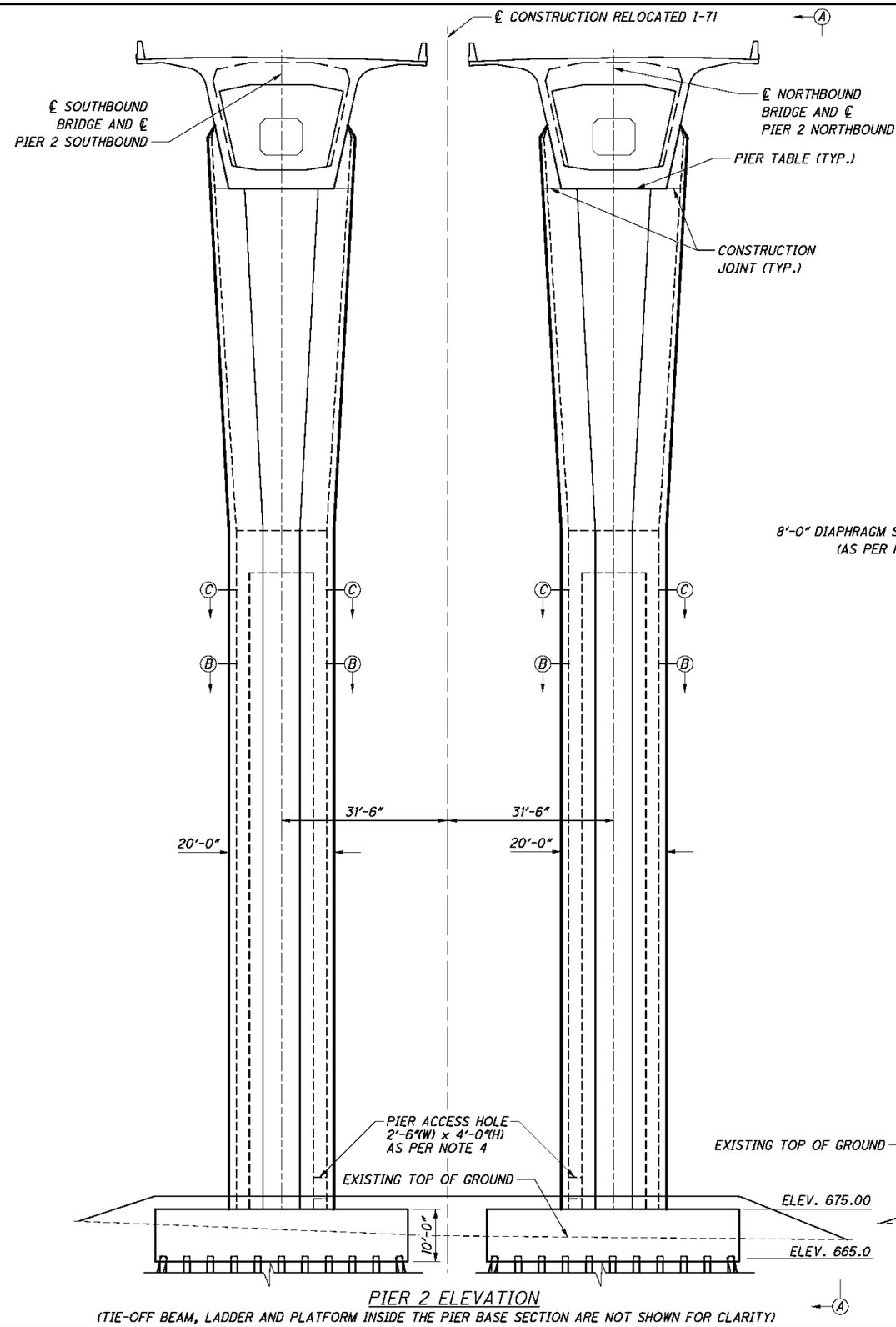
DESIGNED	DRAWN	REVIEWED	DATE
JJB	JJB	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RSB		8302278L/8302294R	

PIER 1 BASE BAR SCHEDULE

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

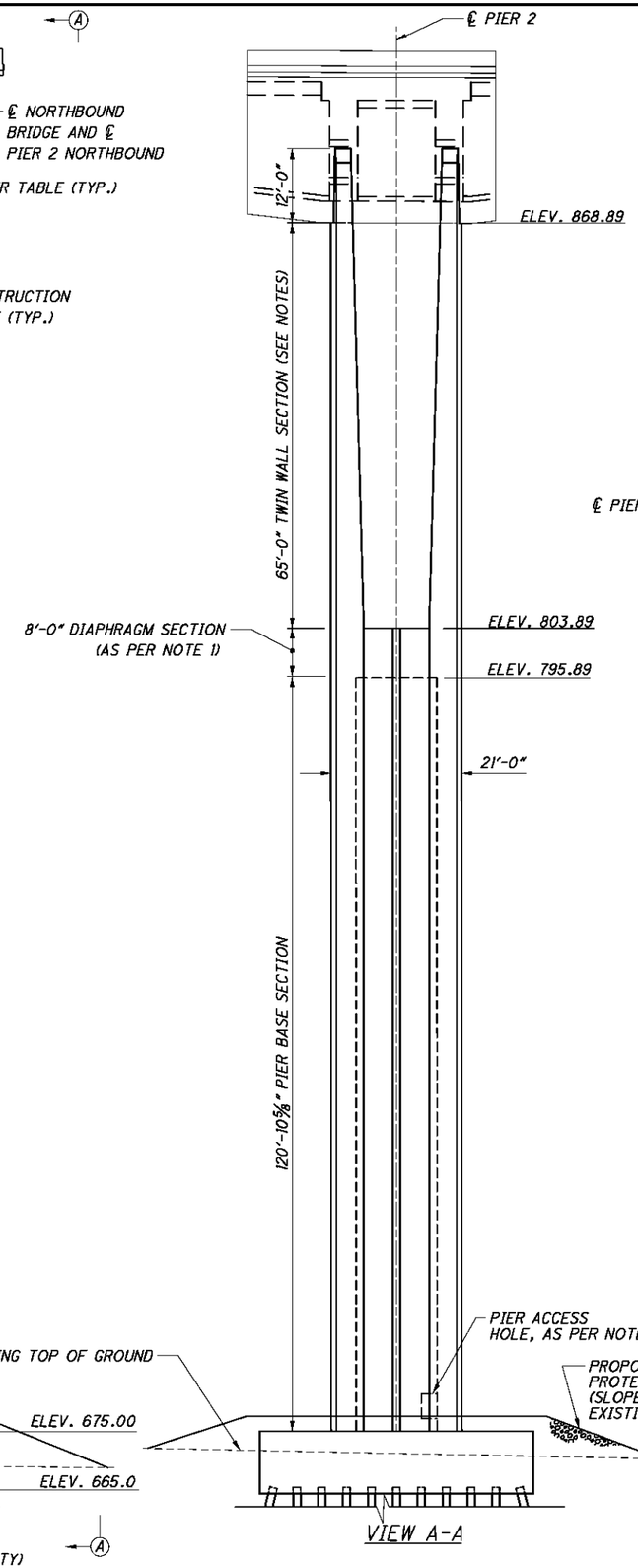
WAR-71-14.20
PID No. 22950

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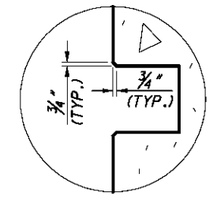


PIER 2 ELEVATION

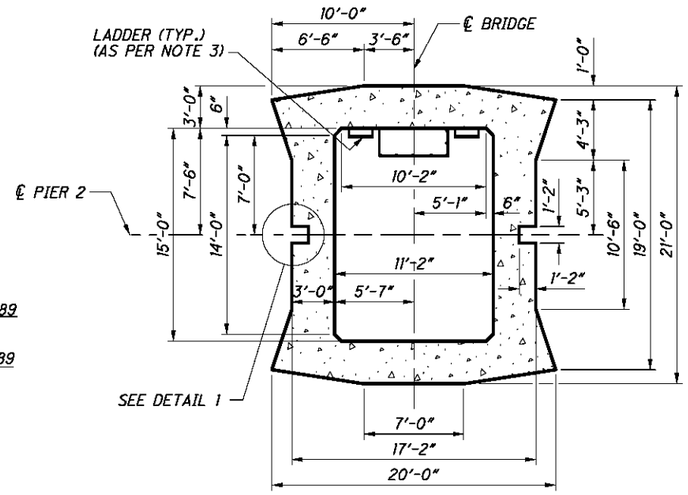
(TIE-OFF BEAM, LADDER AND PLATFORM INSIDE THE PIER BASE SECTION ARE NOT SHOWN FOR CLARITY)



VIEW A-A

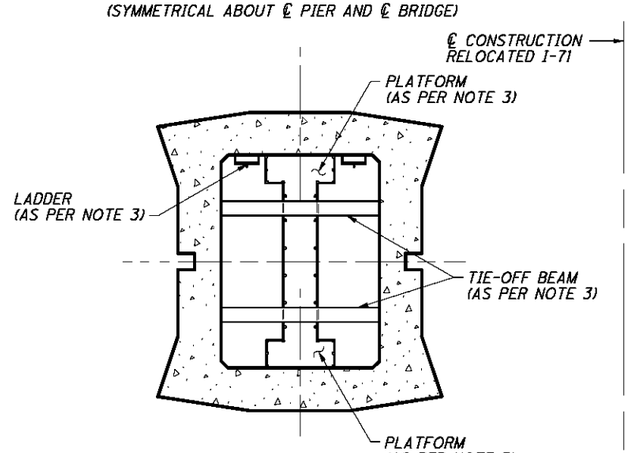


DETAIL 1



SECTION B-B

(SYMMETRICAL ABOUT ℄ PIER AND ℄ BRIDGE)



SECTION C-C

(SYMMETRICAL ABOUT ℄ CONSTRUCTION RELOCATED I-71)

NOTES:

1. FOR TWIN WALL AND DIAPHRAGM DETAILS, SEE SHEETS 76 TO 86 OF 204.
2. FOR ROCK ELEVATION DATA, SEE BORING LOG INFORMATION ON THE SITE PLAN.
3. FOR TIE-OFF BEAM, LADDER, FALL ARREST SAFETY LINE AND PLATFORM DETAILS, SEE SHEET 95C OF 204.
4. FOR PIER ACCESS HOLE DETAILS, SEE SHEET 95B OF 204.

DESIGN AGENCY
HNTB
1900 Superior Avenue, Suite 1300
Cleveland, OH 44114-2201

DESIGNED	DRAWN	REVIEWED	DATE
YEH/BTA	JJB	RHW	2/02/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJE		8302278L/8302294R	

PIER 2 GEOMETRY

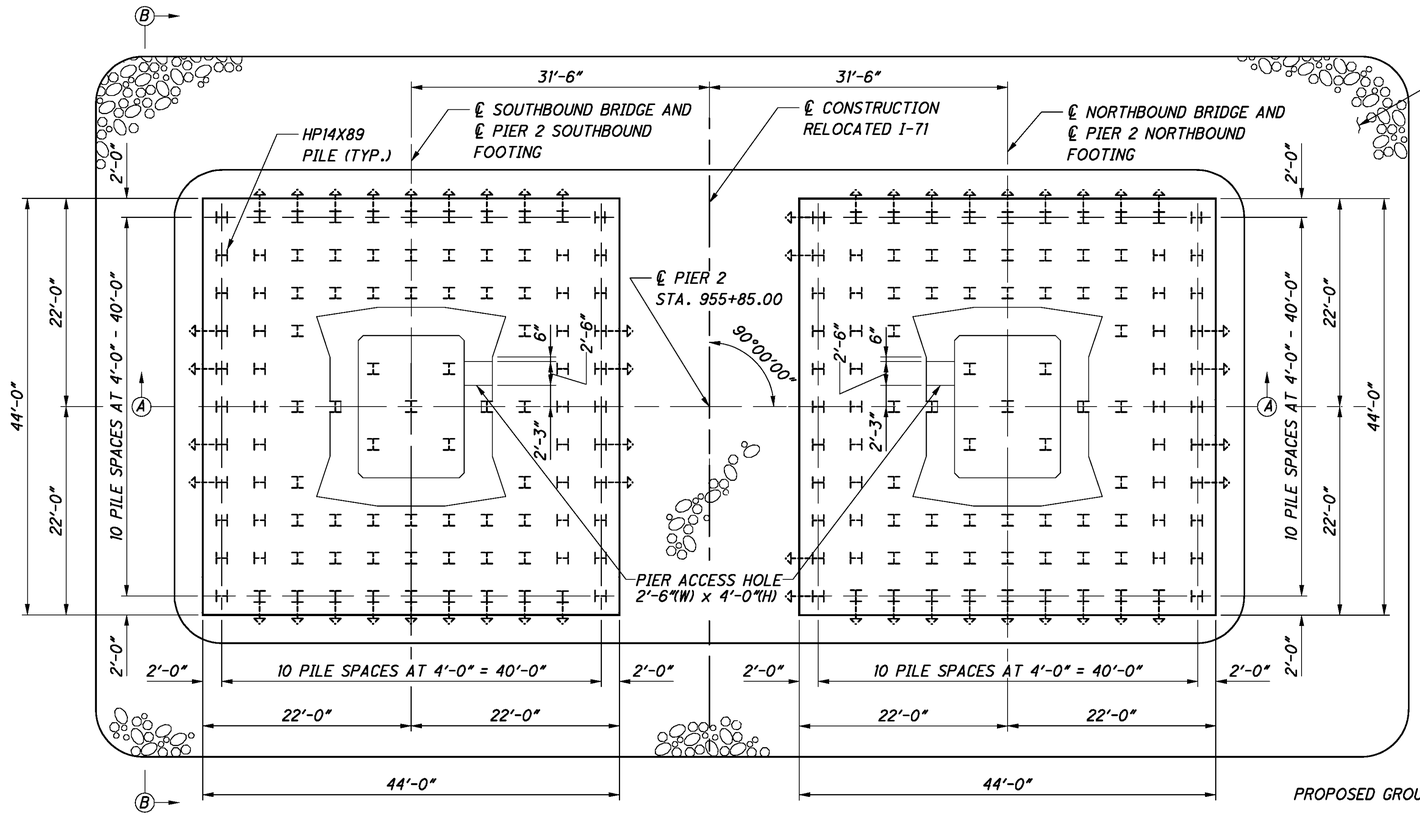
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

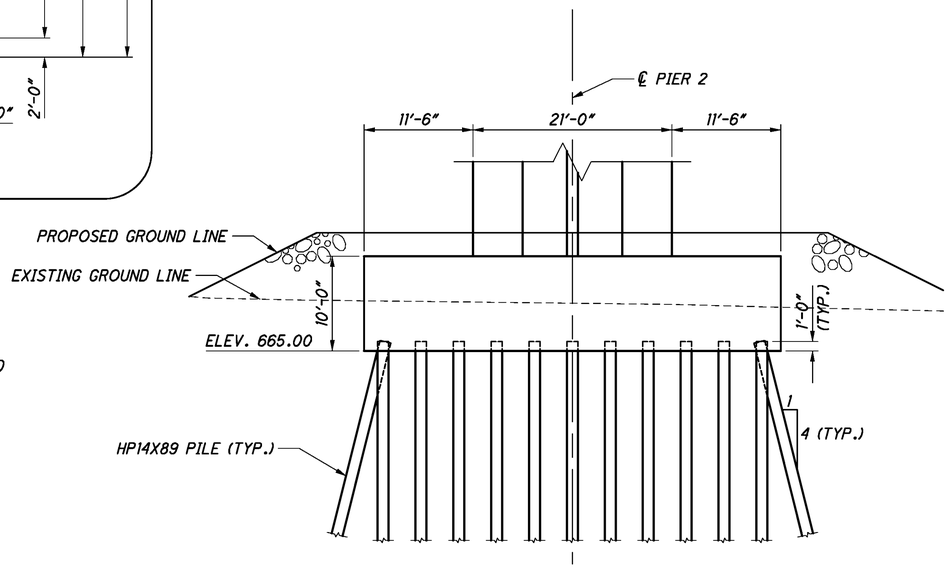
55 / 204

321 / 470

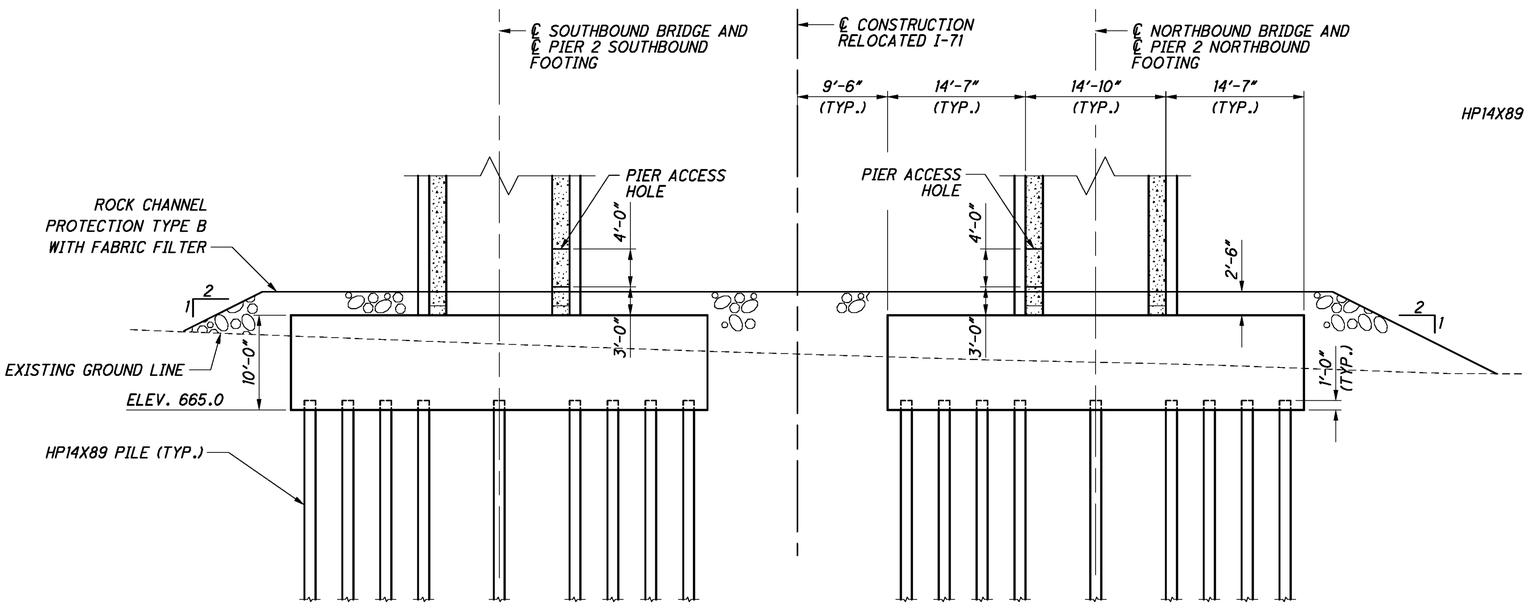
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PLAN



VIEW B-B



SECTION A-A

NOTE:

1. ALL PIER 2 PILES ARE HP14X89 PILES WITH A 50 KSI YIELD STRENGTH.
2. FOR PIER ACCESS HOLE DETAILS SEE SHEET 95B OF 204.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1300
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH/JJB	JJB	RHW	2/02/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BTA		8302278L/8302294R	

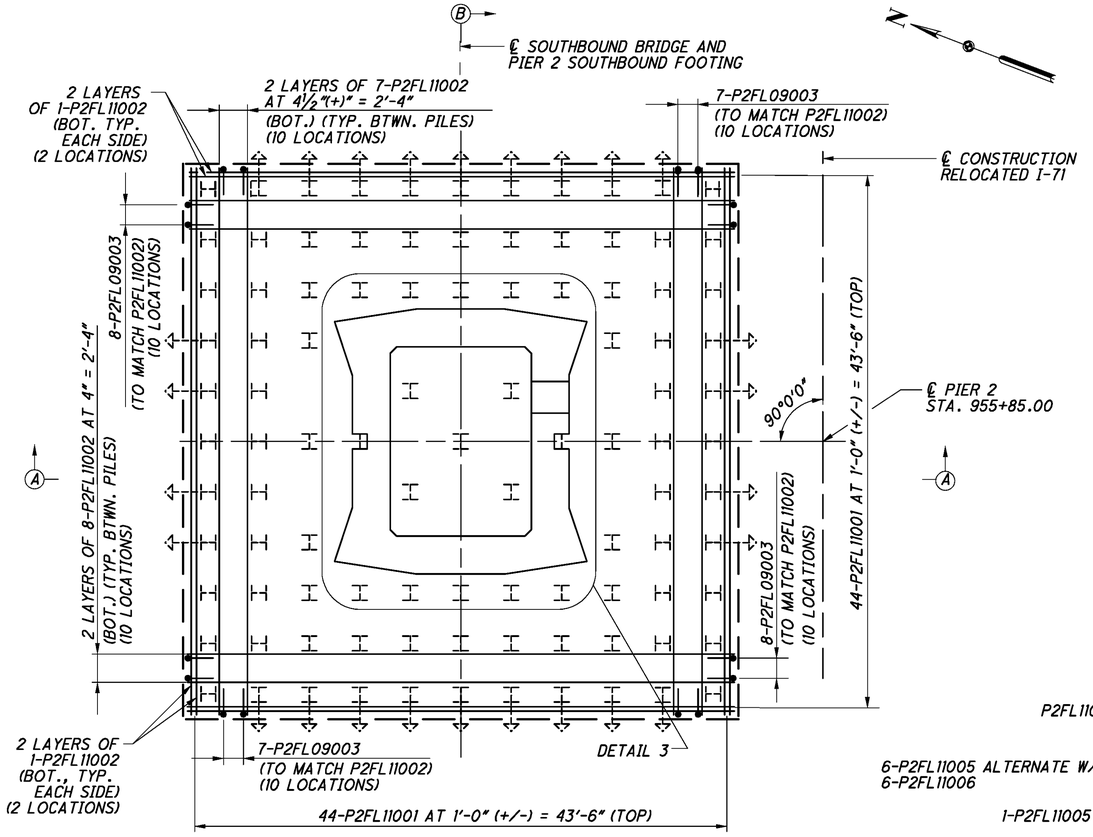
PIER 2 FOOTING DETAILS
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

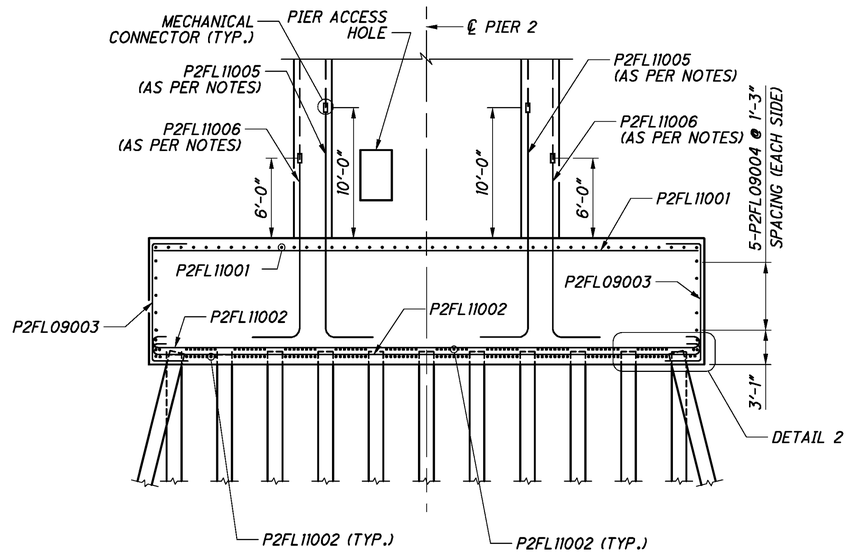
56 / 204

322 / 470

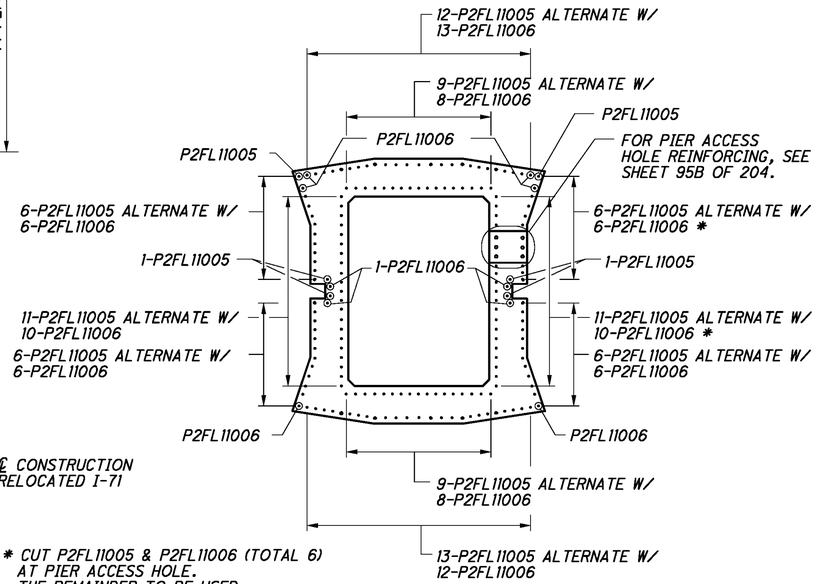
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PLAN

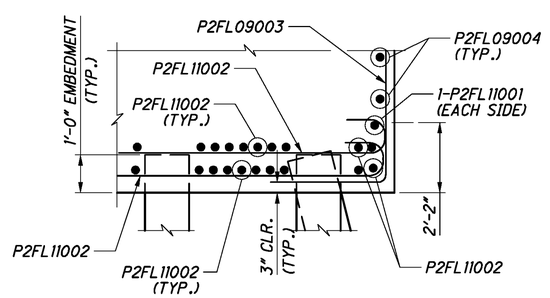


SECTION B-B

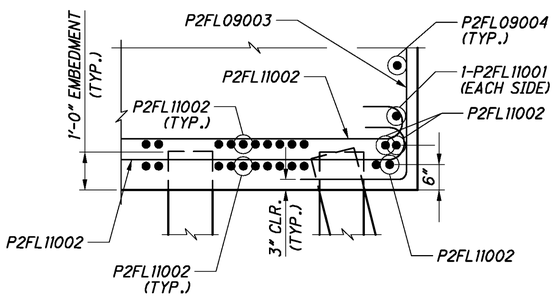


* CUT P2FL11005 & P2FL11006 (TOTAL 6) AT PIER ACCESS HOLE. THE REMAINDER TO BE USED AS PART OF PIER ACCESS HOLE REINFORCEMENT. REPAIR BARS PER CMS 509.09. FOR DETAILS, SEE SHEET 95B OF 204.

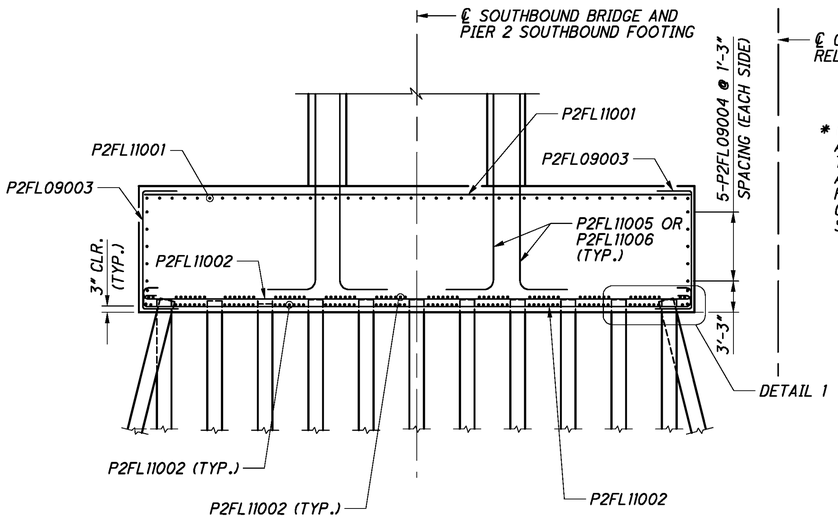
DETAIL 3
(SEE NOTE 2)



DETAIL 1



DETAIL 2



SECTION A-A

NOTES:

1. ALL DETAILS SHOWN ARE FOR SOUTHBOUND BRIDGE PIER 2. THE REINFORCING BAR PREFIX FOR PIER 2 SOUTHBOUND IS P2FL. NORTHBOUND BRIDGE PIER 2 IS SIMILAR WITH A REINFORCING BAR PREFIX OF P2FR.
2. FOR LOCATIONS AND SPACING OF DOWEL BARS P2FL11005 AND P2FL11006, SEE PIER 2 BASE REINFORCEMENT, SHEET 59 OF 204. ALTERNATE BAR P2FL11005 WITH BAR P2FL11006 AT ALL LOCATIONS.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
SA	PY	RHW	2/02/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

PIER 2 FOOTING REINFORCEMENT
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

57 / 204

323
470

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MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
PIER 2 NORTHBOUND FOOTING											
P2FR11001	92	43'-5"	21223	001	43'-5"						
P2FR11002	316	46'-7"	78213	016	43'-5"						
P2FR09003	300	15'-10"	16152	102	9'-5"	3'-6"	3'-6"				
P2FR09004	20	49'-8"	3378	102	43'-3"	3'-6"	3'-6"				
P2FR11005	93	22'-2"	10953	020	20'-0"	2'-6"					
P2FR11006	89	18'-2"	8591	020	16'-0"	2'-6"					
SUB-TOTAL			138,510 lbs								
PIER 2 SOUTHBOUND FOOTING											
P2FL11001	92	43'-5"	21223	001	43'-5"						
P2FL11002	316	46'-7"	78213	016	43'-5"						
P2FL09003	300	15'-10"	16152	102	9'-5"	3'-6"	3'-6"				
P2FL09004	20	49'-8"	3378	102	43'-3"	3'-6"	3'-6"				
P2FL11005	93	22'-2"	10953	020	20'-0"	2'-6"					
P2FL11006	89	18'-2"	8591	020	16'-0"	2'-6"					
SUB-TOTAL			138,510 lbs								

NOTES:

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 DIGITS ARE USED, INDICATES THE THE BAR SIZE NUMBER.
FOR EXAMPLE: RA601
- RA: LOCATION OF THE BAR IN THE STRUCTURE (REAR ABUTMENT)
- 6: BAR SIZE DESIGNATION NO. 6
- 01: SEQUENCE NUMBER

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 BAR. STRAIGHT BARS ARE INDICATED BY "STR".

ALL REINFORCING STEEL IS TO BE EPOXY COATED.

DESIGN AGENCY HNTB 1100 Superior Avenue, Suite 1330 Cleveland, OH 44114-2531

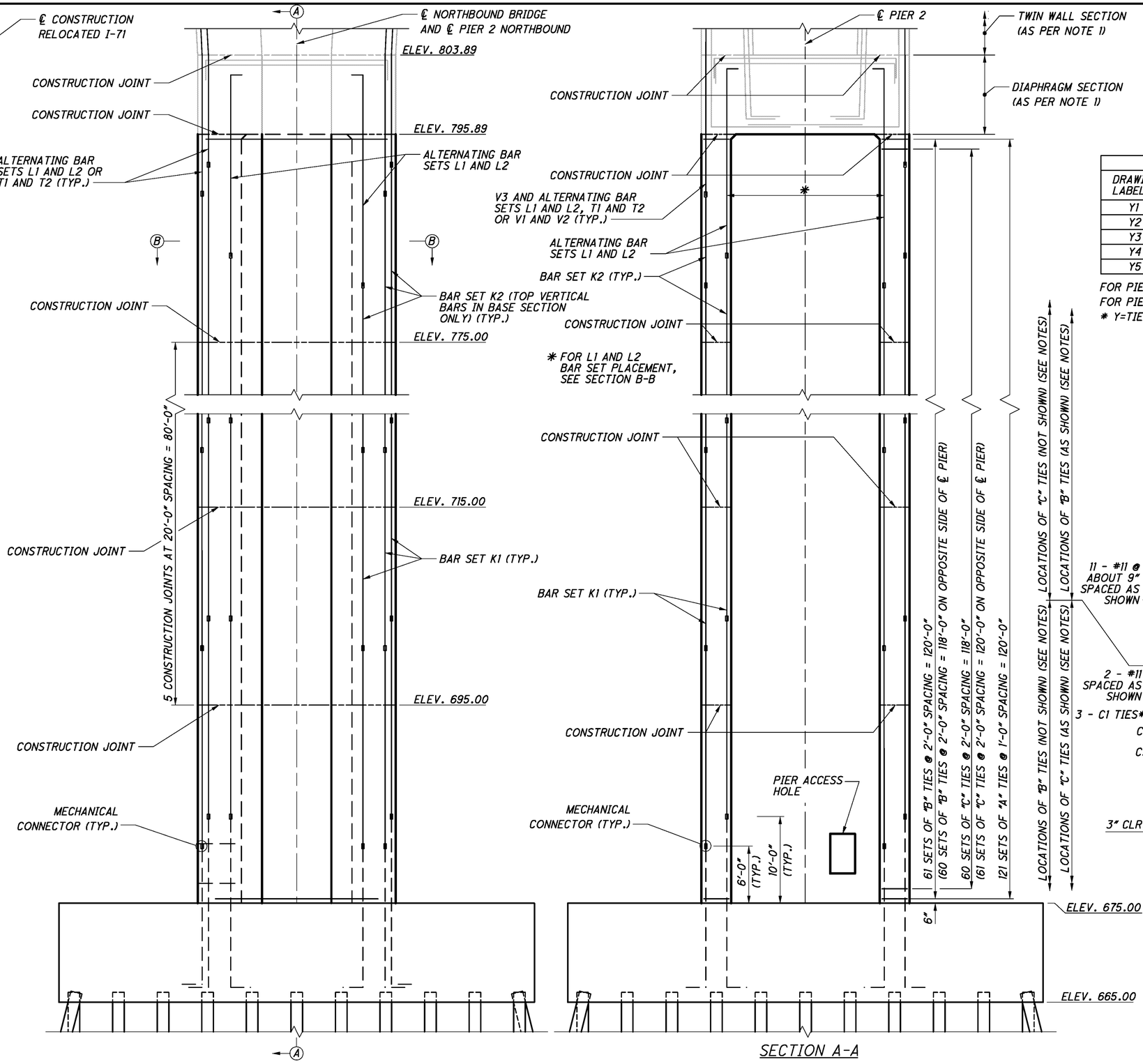
DESIGNED	DRAWN	REVIEWED	DATE
SA	PY	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

PIER 2 FOOTING BAR SCHEDULE

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20 PID No. 22950

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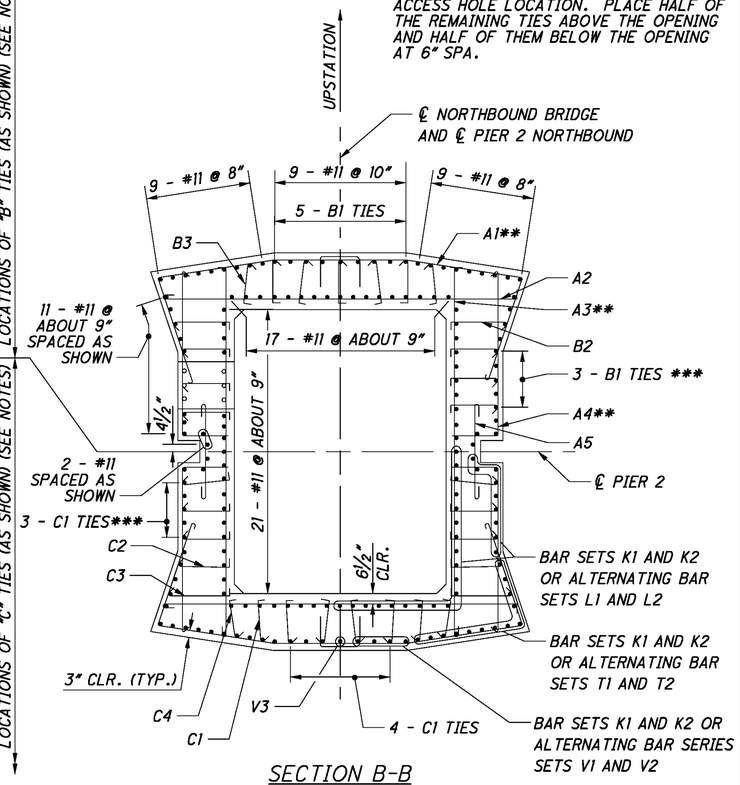


PIER 2 VERTICAL BAR SETS				
K1	K2	L1	L2	
P2X11003	P2X11004	P2X11001	P2X11002	
T1	T2	V1	V2	V3
P2X14001	P2X14002	P2X14003	P2X14004	P2X14005

HORIZONTAL TIE SETS						
DRAWING LABEL *	TIE SET "A"		TIE SET "B"		TIE SET "C"	
	# OF TIES	BAR MARK	# OF TIES	BAR MARK	# OF TIES	BAR MARK
Y1	4	P2X05001	11	P2X05006	12	P2X05006
Y2	2	P2X05002	2	P2X05007	2	P2X05008
Y3	2	P2X05003	2	P2X05011	2	P2X05009
Y4	4	P2X05004			2	P2X05010
Y5	2	P2X05005				

FOR PIER 2 NORTHBOUND, X=N
FOR PIER 2 SOUTHBOUND, X=S
* Y=TIE SET LETTER

** CUT VERTICAL REBAR "K" AND HORIZONTAL TIES AT PIER ACCESS HOLE LOCATION. REPAIR BARS PER CMS 509.09.
*** B AND C TIES NOT REQUIRED AT PIER 2 ACCESS HOLE LOCATION. PLACE HALF OF THE REMAINING TIES ABOVE THE OPENING AND HALF OF THEM BELOW THE OPENING AT 6" SPA.



SECTION B-B

(SYMMETRICAL ABOUT ℄ PIER AND ℄ BRIDGE)

NOTES:

1. FOR TWIN WALL AND DIAPHRAGM DETAILS, SEE SHEETS 76 TO 86 OF 204.
2. PIER 2 NORTHBOUND SHOWN. PIER 2 SOUTHBOUND SIMILAR.
3. P2N IS PREFIX FOR PIER 2 NORTHBOUND BASE REINFORCEMENT, P2S IS PREFIX FOR PIER 2 SOUTHBOUND BASE REINFORCEMENT.
4. LOCATIONS OF "B" TIES AND "C" TIES SHOWN, ALTERNATE WITH LOCATIONS OF "B" TIES AND "C" TIES NOT SHOWN.
5. CUT AND ADJUST VERTICAL BARS AT PIER ACCESS HOLE LOCATION. FOR REINFORCING DETAILS AT PIER ACCESS HOLE LOCATION, SEE SHEET 95B OF 204.
6. FOR THE TIE-OFF BEAM REINFORCEMENT DETAILS SEE SHEET 95C AND 95D OF 204.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1300
Cleveland, OH 44114-2531

DRAWN JJB | DATE 2/02/09
DESIGNED YEH/BTA | REVIEWED RHW
CHECKED TJE | REVISED
STRUCTURE FILE NUMBER 8302278L/8302294R

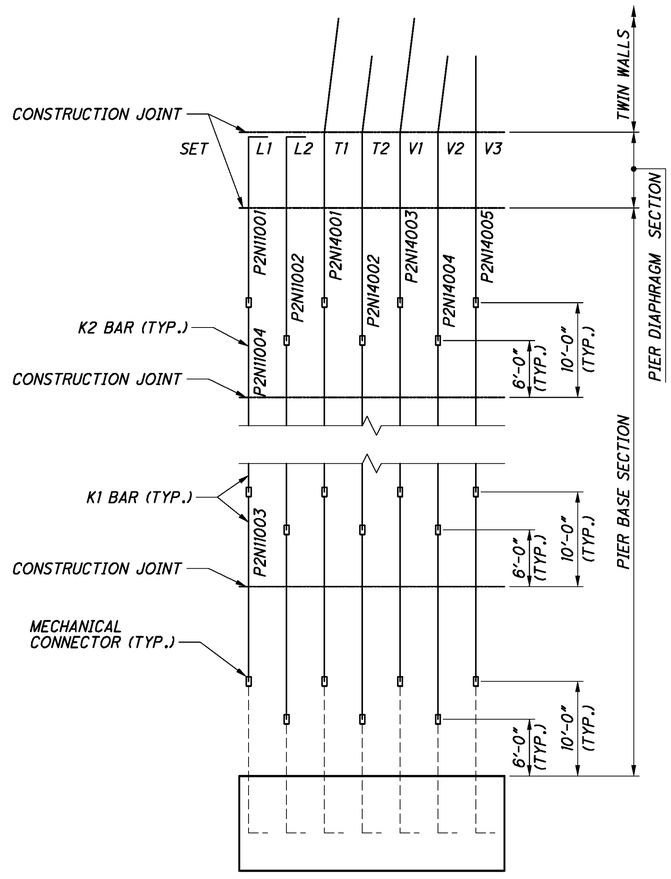
PIER 2 BASE REINFORCEMENT DETAILS

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

Y:\bridge\WAR071_1514c\sheets\071_1514CPI217.dgn 10-FEB-2009 6:08PM lkalita

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	F	R	INC A	INC B	INC C	INC D	INC E	INC F
PIER 2 NORTHBOUND BASE																	
P2N05001	484	17'-6"	8834	018	4'-5"	6'-1"	11"	5'-6"	1'-10"	10"							
P2N05002	242	19'-9"	4985	023	18'-6"	10"											
P2N05003	242	20'-11"	5279	023	19'-8"	10"											
P2N05004	484	11'-2"	5637	013	8'-8"	2'-2"											
P2N05005	242	6'-2"	1557	016	5'-0"												
P2N05006	2783	3'-4"	9676	013	2'-2"	10"											
P2N05007	242	3'-11"	989	013	2'-9"	10"											
P2N05008	242	3'-8"	925	013	2'-6"	10"											
P2N05009	242	4'-3"	1073	013	3'-1"	10"											
P2N05010	242	3'-1"	778	013	1'-11"	10"											
P2N05011	242	3'-2"	799	013	2'-0"	10"											
P2N11001	56	15'-2"	4513	024	13'-6"	2'-0"											
P2N11002	56	19'-2"	5703	024	17'-6"	2'-0"											
P2N11003	728	20'-0"	77357	026	20'-0"												
P2N11004	182	24'-9"	23932	026	24'-9"												
P2N14001	24	26'-0"	4774	027	18'-0"	8'-0"	5"										
P2N14002	28	26'-0"	5569	027	14'-0"	12'-0"	8"										
P2N14003	4 SER 2	26'-0"	1591	027	18'-0"	8'-0"	1"							3"			
		26'-0"					4"										
P2N14004	4 SER 2	26'-0"	1591	027	14'-0"	12'-0"	4"							4"			
		26'-0"					8"										
P2N14005	2	26'-0"	398	026													
		SUB-TOTAL	165960														
PIER 2 SOUTHBOUND BASE																	
P2S05001	484	17'-6"	8834	018	4'-5"	6'-1"	11"	5'-6"	1'-10"	10"							
P2S05002	242	19'-9"	4985	023	18'-6"	10"											
P2S05003	242	20'-11"	5279	023	19'-8"	10"											
P2S05004	484	11'-2"	5637	013	8'-8"	2'-2"											
P2S05005	242	6'-2"	1557	016	5'-0"												
P2S05006	2783	3'-4"	9676	013	2'-2"	10"											
P2S05007	242	3'-11"	989	013	2'-9"	10"											
P2S05008	242	3'-8"	925	013	2'-6"	10"											
P2S05009	242	4'-3"	1073	013	3'-1"	10"											
P2S05010	242	3'-1"	778	013	1'-11"	10"											
P2S05011	242	3'-2"	799	013	2'-0"	10"											
P2S11001	56	15'-2"	4513	024	13'-6"	2'-0"											
P2S11002	56	19'-2"	5703	024	17'-6"	2'-0"											
P2S11003	728	20'-0"	77357	026	20'-0"												
P2S11004	182	24'-9"	23932	026	24'-9"												
P2S14001	24	26'-0"	4774	027	18'-0"	8'-0"	5"										
P2S14002	28	26'-0"	5569	027	14'-0"	12'-0"	8"										
P2S14003	4 SER 2	26'-0"	1591	027	18'-0"	8'-0"	1"							3"			
		26'-0"					4"										
P2S14004	4 SER 2	26'-0"	1591	027	14'-0"	12'-0"	4"							4"			
		26'-0"					8"										
P2S14005	2	26'-0"	398	026													
		SUB-TOTAL	165960														



REINFORCEMENT SCHEMATIC
(NORTHBOUND SHOWN, SOUTHBOUND SIMILAR)

NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN.
   FOR EXAMPLE: P2N05001
   P2: LOCATION OF THE BAR IN THE STRUCTURE (PIER 2)
   N: LOCATION OF THE STRUCTURE (NORTHBOUND)
   05: BAR SIZE (#5 BAR)
   001: BAR SEQUENCE NUMBER

2. 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 BAR. STRAIGHT BARS ARE INDICATED BY "STR".

3. ALL REINFORCING STEEL IS TO BE EPOXY COATED.

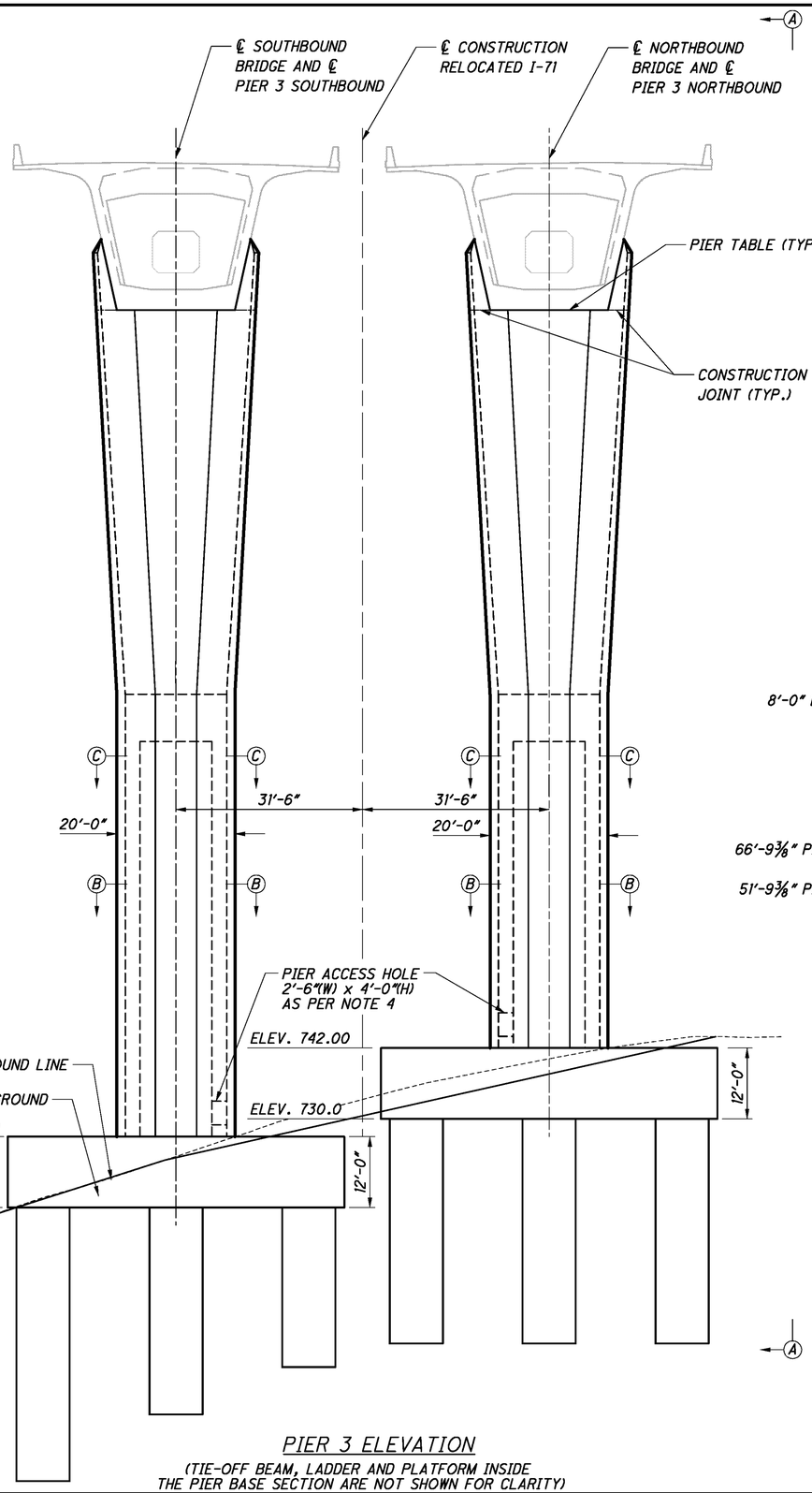
DESIGN AGENCY HNTB 1100 Superior Avenue, Suite 1330 Cleveland, OH 44114-2531

DESIGNED JJB | DRAWN JJB | CHECKED RSB | REVIEWED RHW | DATE 03/21/08 | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

PIER 2 BASE BAR SCHEDULE
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

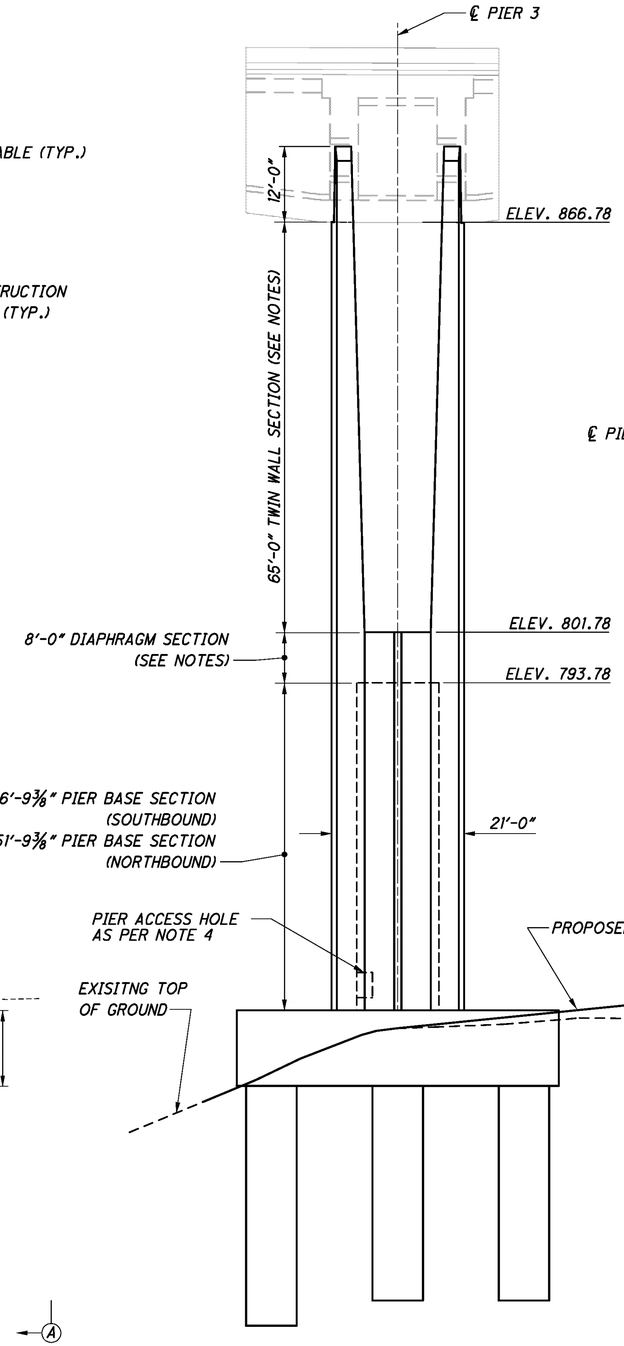
WAR-71-14.20 PID No. 22950

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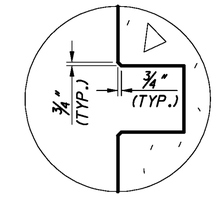


PIER 3 ELEVATION

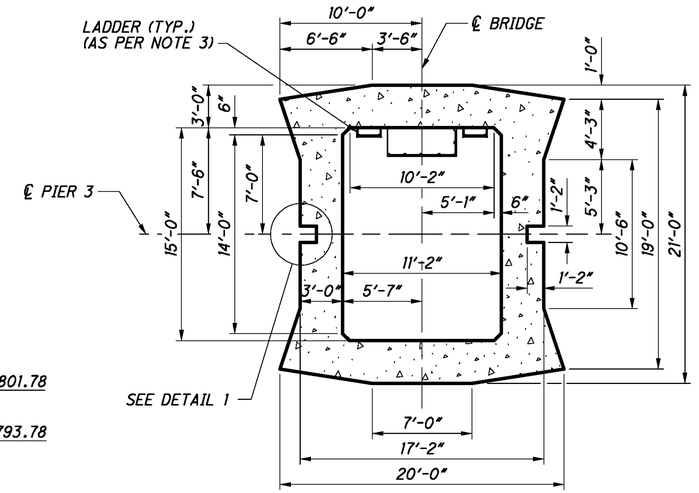
(TIE-OFF BEAM, LADDER AND PLATFORM INSIDE THE PIER BASE SECTION ARE NOT SHOWN FOR CLARITY)



VIEW A-A

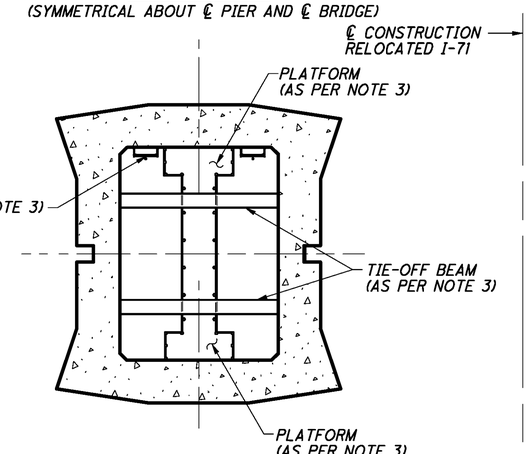


DETAIL 1



SECTION B-B

(SYMMETRICAL ABOUT ℄ PIER AND ℄ BRIDGE)



SECTION C-C

(SYMMETRICAL ABOUT ℄ CONSTRUCTION RELOCATED I-71)

NOTES:

1. FOR TWIN WALL AND DIAPHRAGM DETAILS, SEE SHEETS 76 TO 80 OF 204.
2. FOR ROCK ELEVATION DATA, SEE BORING LOG INFORMATION ON THE SITE PLAN.
3. FOR TIE-OFF BEAM, LADDER, FALL ARREST SAFETY LINE AND PLATFORM DETAILS, SEE SHEET 95C OF 204.
4. FOR PIER ACCESS DOOR HOLE DETAILS, SEE SHEET 95B OF 204.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH/BTA	JUB	RHW	2/02/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJE		8302278L/8302294R	

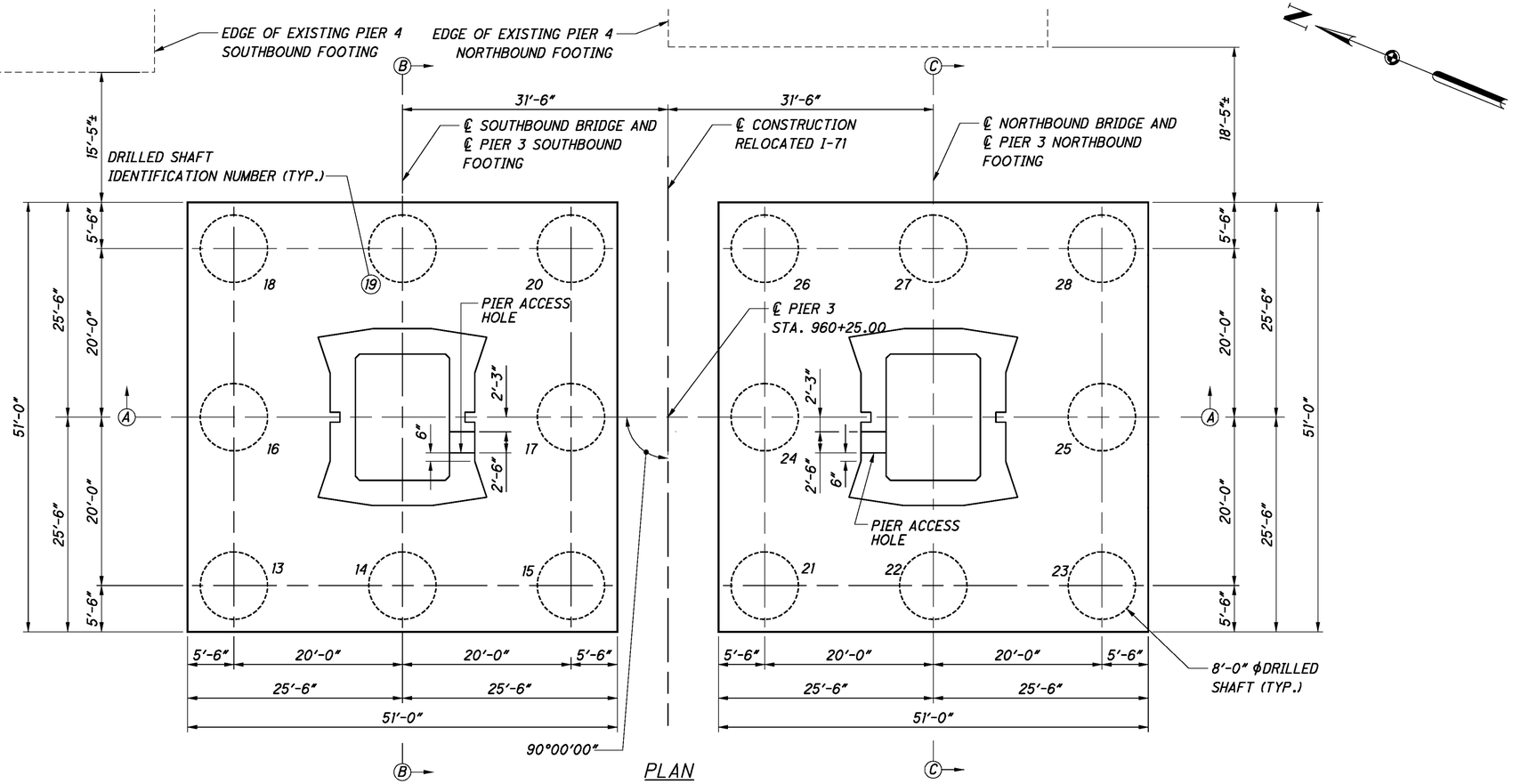
PIER 3 GEOMETRY
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

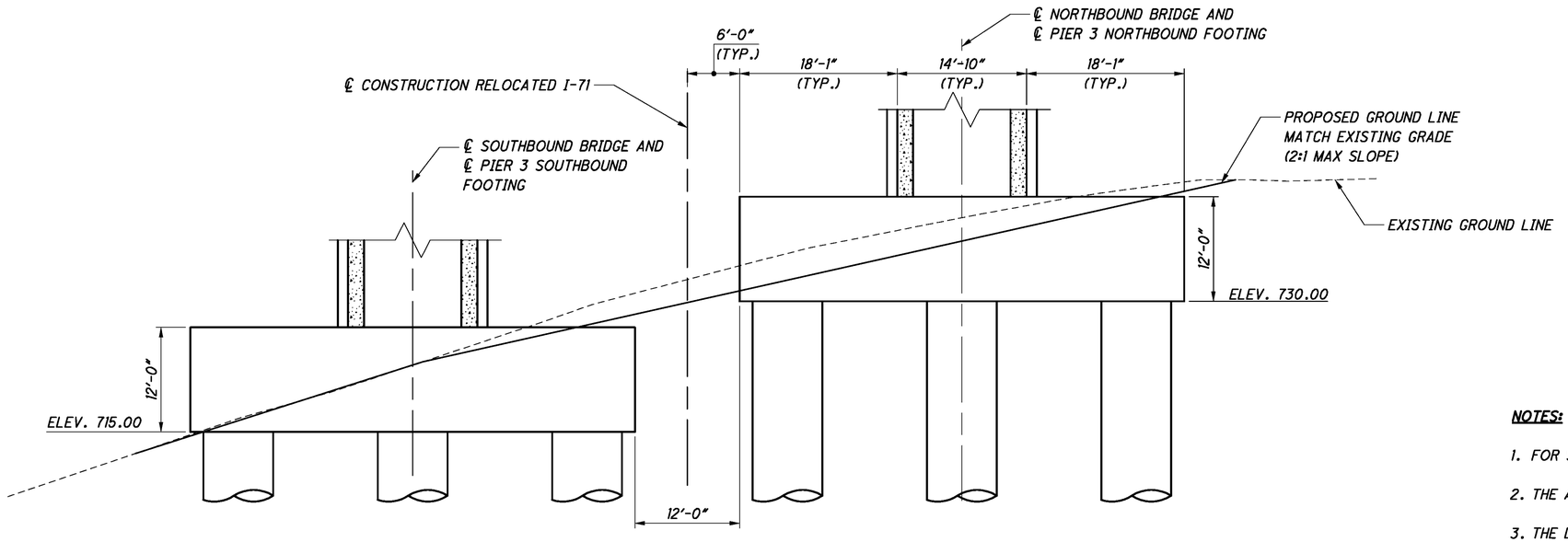
61/204

327/470

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PLAN



SECTION A-A

NOTES:

1. *FOR SECTIONS B-B AND C-C, SEE SHEET 63 OF 204.*
2. *THE ALLOWABLE DRILLED SHAFT END BEARING CAPACITY IS 90 KSF.*
3. *THE DESIGN LOAD FOR EACH DRILLED SHAFT IS 2101 TONS FOR THE SOUTHBOUND BRIDGE. THE DESIGN LOAD FOR EACH DRILLED SHAFT IS 2129 TONS FOR THE NORTHBOUND BRIDGE.*
4. *FOR DRILLED SHAFT DETAILS, SEE SHEET 64 OF 204.*

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1300
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH/JJB	JJB	RHW	2/02/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BTA		8302278L/8302294R	

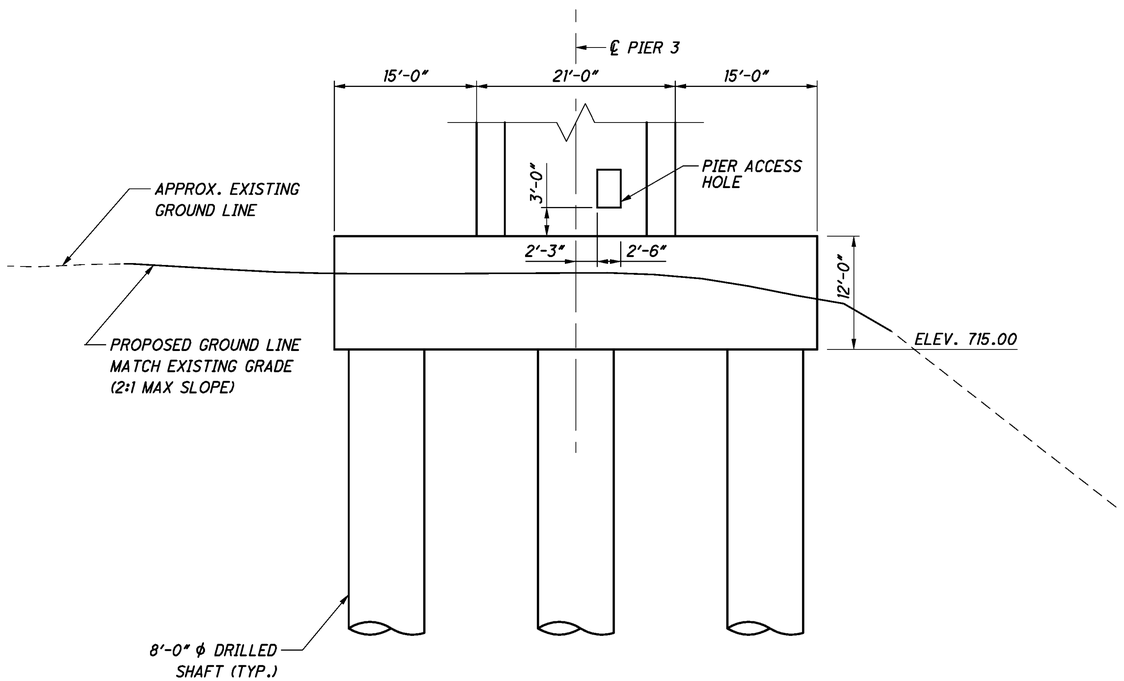
PIER 3 FOOTING DETAILS 1
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

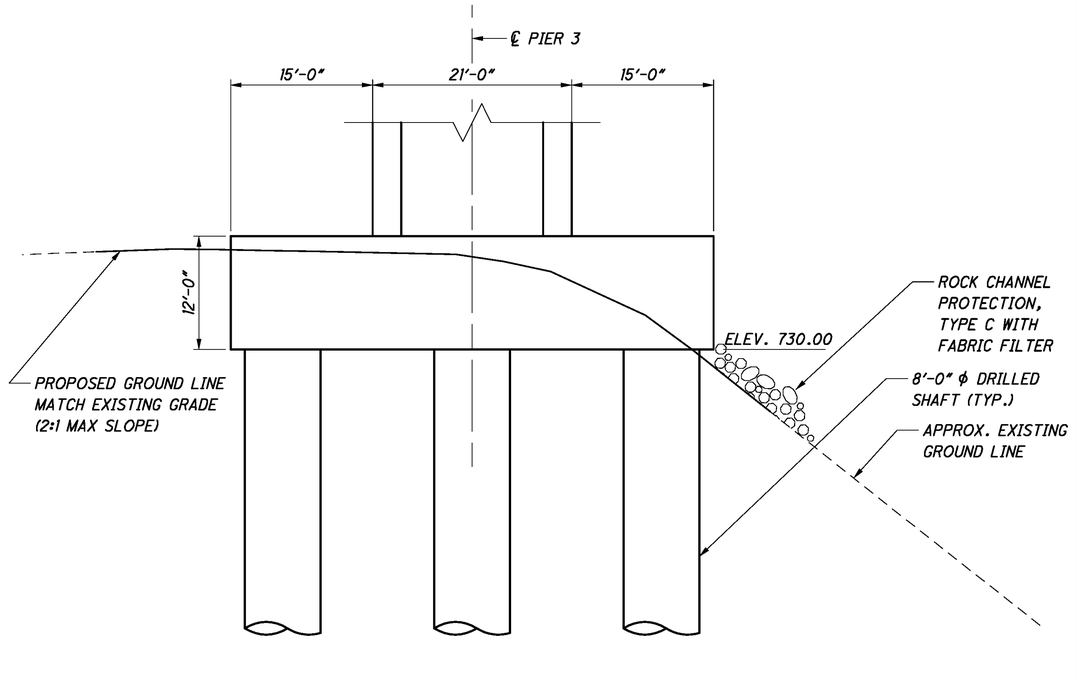
62 / 204

328 / 470

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SECTION B-B
(SOUTHBOUND FOOTING)



SECTION C-C
(NORTHBOUND FOOTING)

NOTE:

1. FOR ESTIMATED ROCK DEPTHS, SEE SOIL BORING LOGS B-106, B-107, B-124, B-125 AND B-126.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1300
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH/JJB	JJB	RHW	2/02/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BTA		8302278L/8302294R	

PIER 3 FOOTING DETAILS 2

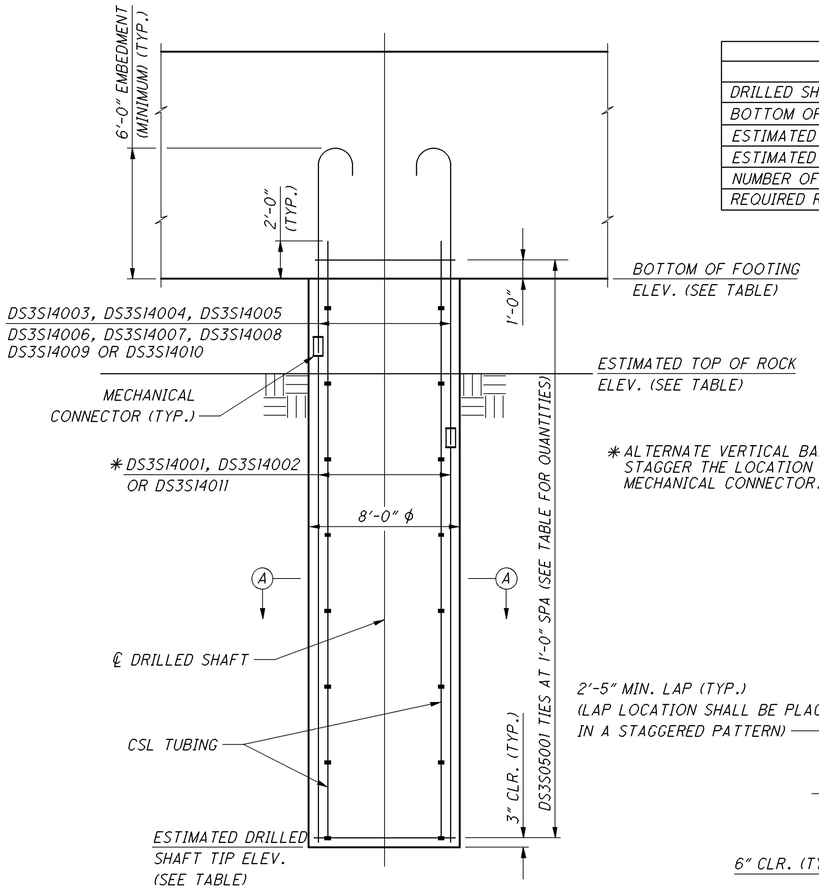
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INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

63/204

329/470

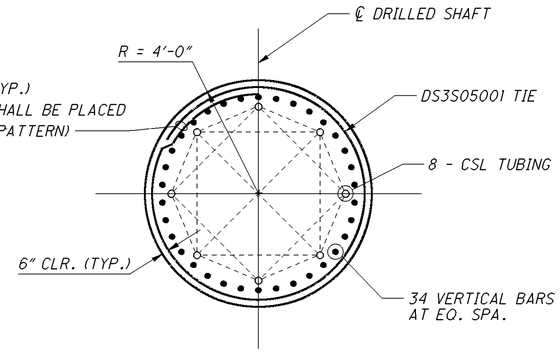
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DRILLED SHAFT ELEVATION

(SOUTHBOUND BRIDGE SHOWN, NORTHBOUND BRIDGE SIMILAR)

* ALTERNATE VERTICAL BARS TO STAGGER THE LOCATION OF THE MECHANICAL CONNECTOR.



SECTION A-A

DRILLED SHAFT ELEVATIONS AND TIE QUANTITIES

	SOUTHBOUND								NORTHBOUND							
DRILLED SHAFT NUMBER	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
BOTTOM OF FOOTING ELEV.	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0	730.0	730.0	730.0	730.0	730.0	730.0	730.0	730.0
ESTIMATED TOP OF ROCK ELEV.	691.0	701.0	712.0	691.0	712.0	691.0	701.0	712.0	713.0	716.0	718.0	718.0	727.0	718.0	723.0	728.0
ESTIMATED DRILLED SHAFT TIP ELEV.	660.0	672.0	680.0	671.0	690.0	671.0	683.0	690.0	684.0	685.0	686.0	698.0	699.0	697.0	699.0	699.0
NUMBER OF TIES	57	45	37	46	27	46	34	27	48	47	46	34	33	35	33	33
REQUIRED ROCK SOCKET DEPTH	31'-0"	29'-0"	32'-0"	20'-0"	22'-0"	20'-0"	18'-0"	22'-0"	29'-0"	31'-0"	32'-0"	20'-0"	28'-0"	21'-0"	24'-0"	29'-0"

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
PIER 3 SOUTHBOUND (SHAFT 13)											
DS3S05001	57	24'-5"	1,452	301	7'-0"	2'-5"					
DS3S14001	34	25'-0"	6,503	002	25'-0"						
DS3S14002	51	15'-0"	5,852	002	15'-0"						
DS3S14003	17	13'-0"	1,691	012	10'-9"						
DS3S14004	17	18'-0"	2,341	012	15'-9"						
SUB-TOTAL			17839	FOR INFORMATION ONLY							
PIER 3 SOUTHBOUND (SHAFTS 14, 16 AND 18)											
DS3S05001	137	24'-5"	3,489	301	7'-0"	2'-5"					
DS3S14001	51	25'-0"	9,754	002	25'-0"						
DS3S14002	102	15'-0"	11,705	002	15'-0"						
DS3S14005	51	27'-0"	10,534	012	24'-9"						
DS3S14006	51	22'-0"	8,583	012	19'-9"						
SUB-TOTAL			44,065	FOR INFORMATION ONLY							
PIER 3 SOUTHBOUND (SHAFTS 15 AND 19)											
DS3S05001	71	24'-5"	1,808	301	7'-0"	2'-5"					
DS3S14001	34	25'-0"	6,503	002	25'-0"						
DS3S14002	34	15'-0"	3,902	002	15'-0"						
DS3S14007	34	18'-0"	4,682	012	15'-9"						
DS3S14008	34	28'-0"	7,283	012	25'-9"						
SUB-TOTAL			24,178	FOR INFORMATION ONLY							
PIER 3 SOUTHBOUND (SHAFTS 17 AND 20)											
DS3S05001	54	24'-5"	1,375	301	7'-0"	2'-5"					
DS3S14002	34	15'-0"	3,902	002	15'-0"						
DS3S14009	34	13'-0"	3,381	012	10'-9"						
DS3S14010	34	18'-0"	4,682	012	15'-9"						
DS3S14011	34	20'-0"	5,202	002	20'-0"						
SUB-TOTAL			18,542	FOR INFORMATION ONLY							
PIER 3 NORTHBOUND (SHAFTS 21, 22 AND 23)											
DS3N05001	141	24'-5"	3,591	301	7'-0"	2'-5"					
DS3N14001	51	25'-0"	9,754	002	25'-0"						
DS3N14002	102	15'-0"	11,705	002	15'-0"						
DS3N14003	51	29'-0"	11,314	012	26'-9"						
DS3N14004	51	24'-0"	9,364	012	21'-9"						
SUB-TOTAL			45,728	FOR INFORMATION ONLY							
PIER 3 NORTHBOUND (SHAFTS 24, 25, 26, 27 AND 28)											
DS3N05001	168	24'-5"	4,278	301	7'-0"	2'-5"					
DS3N14001	85	25'-0"	16,256	002	25'-0"						
DS3N14002	85	15'-0"	9,754	002	15'-0"						
DS3N14005	85	16'-0"	10,404	012	13'-9"						
DS3N14006	85	26'-0"	16,907	012	23'-9"						
SUB-TOTAL			57,599	FOR INFORMATION ONLY							

NOTES:

1. FOR PIER 3 FOOTING DETAILS, SEE SHEETS 62 AND 63 OF 204.
2. FOR PIER 3 FOOTING REINFORCEMENT, SEE SHEET 65 OF 204.
3. PAYMENT FOR DRILLED SHAFTS SHALL BE INCLUDED WITH ITEM 524 DRILLED SHAFTS, 96" DIAMETER, ABOVE BEDROCK, AND ITEM 524 DRILLED SHAFTS, 96" DIAMETER, INTO BEDROCK.
4. THE DRILLED SHAFT DESIGN LOAD IS RESISTED BY END BEARING. THE ALLOWABLE END BEARING PRESSURE IS 45 TONS PER SQUARE FOOT. PROOF BORINGS SHALL BE CAREFULLY INSPECTED TO ENSURE SUITABLE BEARING MATERIAL IS ENCOUNTERED AT THE DRILLED SHAFT TIP ELEVATION AND BELOW TO A DEPTH OF AT LEAST 2.0x SHAFT DIAMETER. THE ACTUAL DRILLED TIP ELEVATIONS MAY NEED TO BE ADJUSTED BASED UPON THE RESULTS OF THE PROOF BORINGS.
5. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST TWO DIGITS WHERE FIVE DIGITS ARE USED CONSECUTIVELY, INDICATE THE BAR SIZE NUMBER.
   FOR EXAMPLE: DS3S05001
   DS: LOCATION OF THE BAR IN THE STRUCTURE (DRILLED SHAFT)
   3: PIER 3
   S: SOUTHBOUND
   05: BAR SIZE DESIGNATION NO. 5
   001: SEQUENCE NUMBER
6. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. "R" INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.
7. ALL REINFORCING STEEL IS TO BE EPOXY COATED.
8. FOR BAR BENDING DIAGRAMS, SEE SHEETS 187 AND 188 OF 204.

DESIGN AGENCY HNTB 1100 Superior Avenue, Suite 1330 Cleveland, OH 44114-2533

DESIGNED YEH/JJB | DRAWN JTW | REVIEWED RHW | DATE 03/21/08 | CHECKED BTA | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

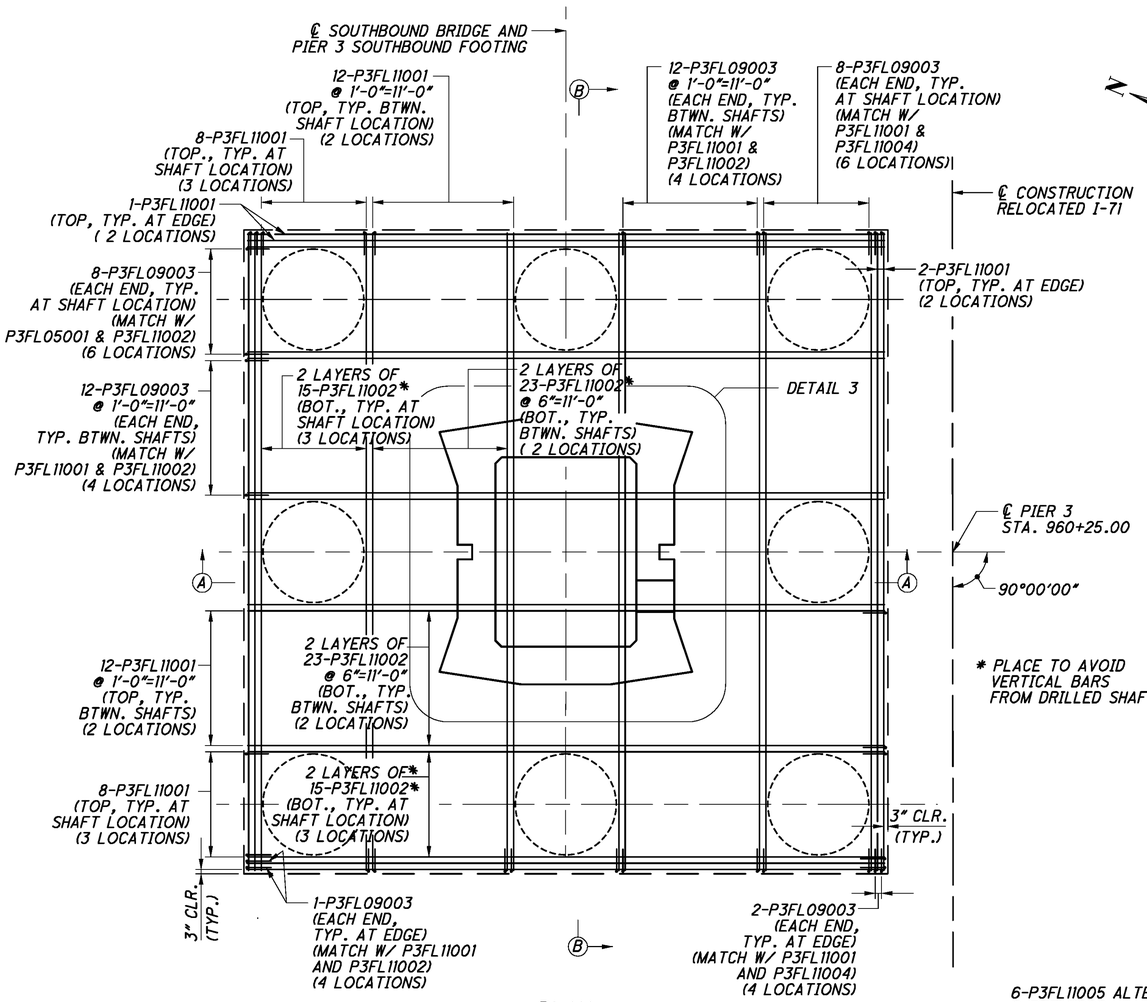
PIER 3 DRILLED SHAFT DETAILS
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

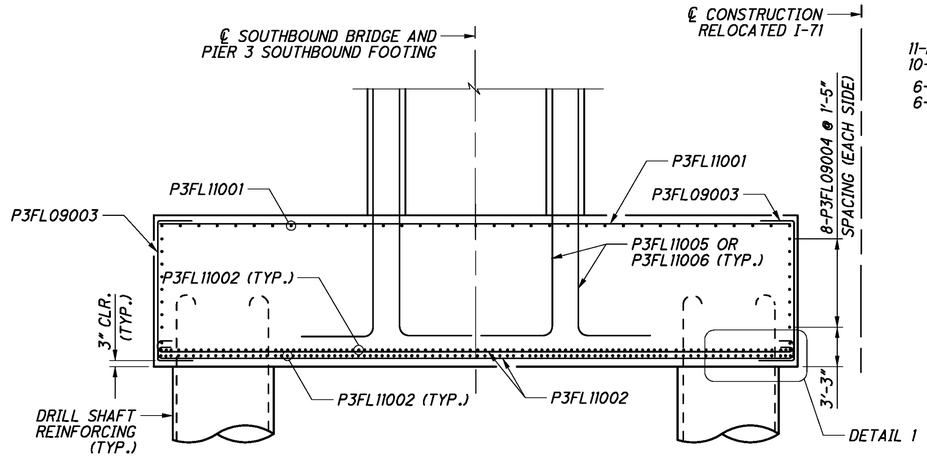
64 / 204

330
470

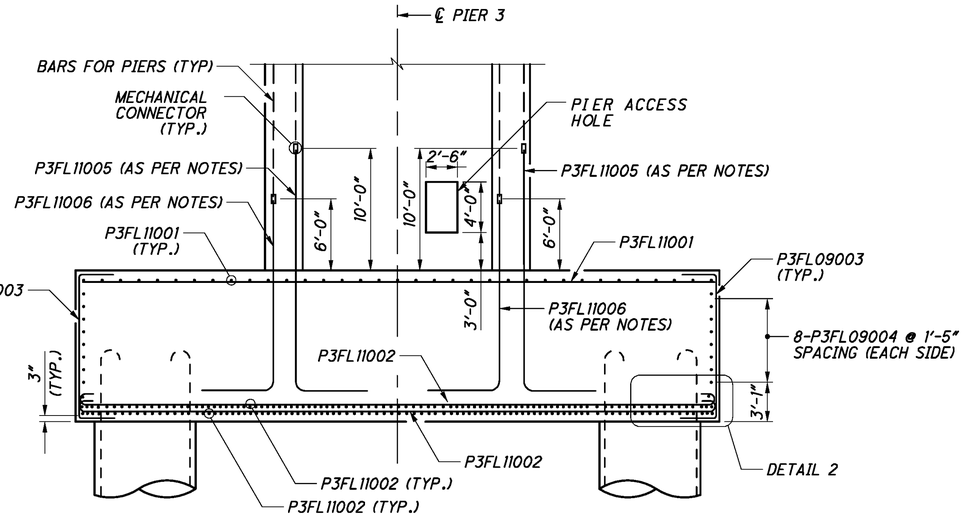
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PLAN

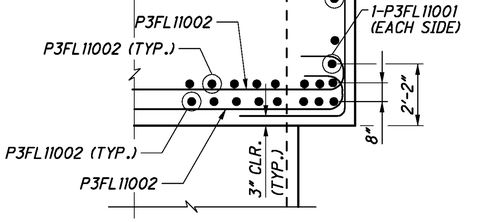


SECTION A-A

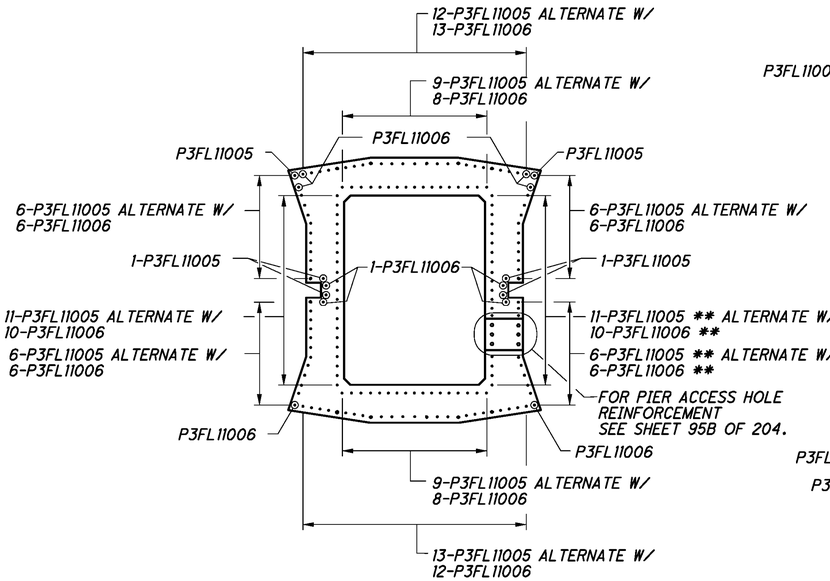


** CUT P3FL11005 & P3FL1106 (TOTAL 6) AT PIER ACCESS HOLE. THE REMAIDER TO BE USED AS PART OF PIER ACCESS HOLE REINFORCEMENT. REPAIR BARS PER CMS 509.09. FOR DETAILS, SEE SHEET 95B OF 204.

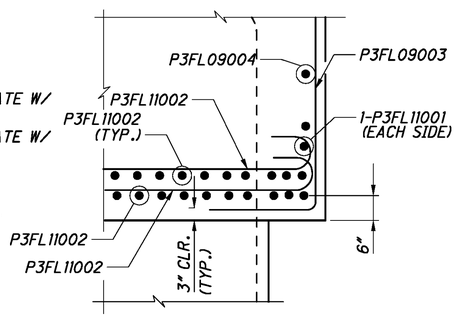
SECTION B-B



DETAIL 1



DETAIL 3
(SEE NOTE 2)



DETAIL 2

NOTES:

1. ALL DETAILS SHOWN ARE FOR SOUTHBOUND BRIDGE PIER 3. THE REINFORCING BAR PREFIX FOR PIER 3 SOUTHBOUND IS P3FL. NORTHBOUND BRIDGE PIER 3 IS SIMILAR WITH A REINFORCING BAR PREFIX OF P3FR.
2. FOR LOCATIONS OF DOWEL BARS P3FL11005 AND P3FL11006, SEE PIER 3 BASE REINFORCEMENT, SHEETS 67 AND 68. ALTERNATE BAR P3FL11005 WITH BAR P3FL11006 AT ALL LOCATIONS.
3. FOR REINFORCEMENT IN DRILLED SHAFT, SEE SHEET 64 OF 204.

DESIGN AGENCY HNTB 1100 Superior Avenue, Suite 1330 Cleveland, OH 44114-2531

DATE 2/02/09 | STRUCTURE FILE NUMBER 8302278L/8302294R
REVIEWED RHW | REVISED
DRAWN PY
DESIGNED SA | CHECKED MX/MEA

PIER 3 FOOTING REINFORCEMENT
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

65 / 204
331 / 470

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MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
PIER 3 NORTHBOUND FOOTING											
P3FR11001	108	50'-5"	28931	001	50'-5"						
P3FR11002	364	53'-7"	103632	016	50'-5"						
P3FR09003	208	17'-10"	12614	102	11'-5"	3'-6"	3'-6"				
P3FR09004	32	56'-8"	6166	102	50'-3"	3'-6"	3'-6"				
P3FR11005	93	22'-2"	10953	020	20'-0"	2'-6"					
P3FR11006	89	18'-2"	8591	020	16'-0"	2'-6"					
SUB-TOTAL			170,887 lbs								
PIER 3 SOUTHBOUND FOOTING											
P3FL11001	108	50'-5"	28931	001	50'-5"						
P3FL11002	364	53'-7"	103632	016	50'-5"						
P3FL09003	208	17'-10"	12614	102	11'-5"	3'-6"	3'-6"				
P3FL09004	32	56'-8"	6166	102	50'-3"	3'-6"	3'-6"				
P3FL11005	93	22'-2"	10953	020	20'-0"	2'-6"					
P3FL11006	89	18'-2"	8591	020	16'-0"	2'-6"					
SUB-TOTAL			170,887 lbs								

NOTES:

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 DIGITS ARE USED, INDICATES THE THE BAR SIZE NUMBER.
FOR EXAMPLE: RA601
RA: LOCATION OF THE BAR IN THE STRUCTURE (REAR ABUTMENT)
6: BAR SIZE DESIGNATION NO. 6
01: SEQUENCE NUMBER

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 BAR. STRAIGHT BARS ARE INDICATED BY "STR".

ALL REINFORCING STEEL IS TO BE EPOXY COATED.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

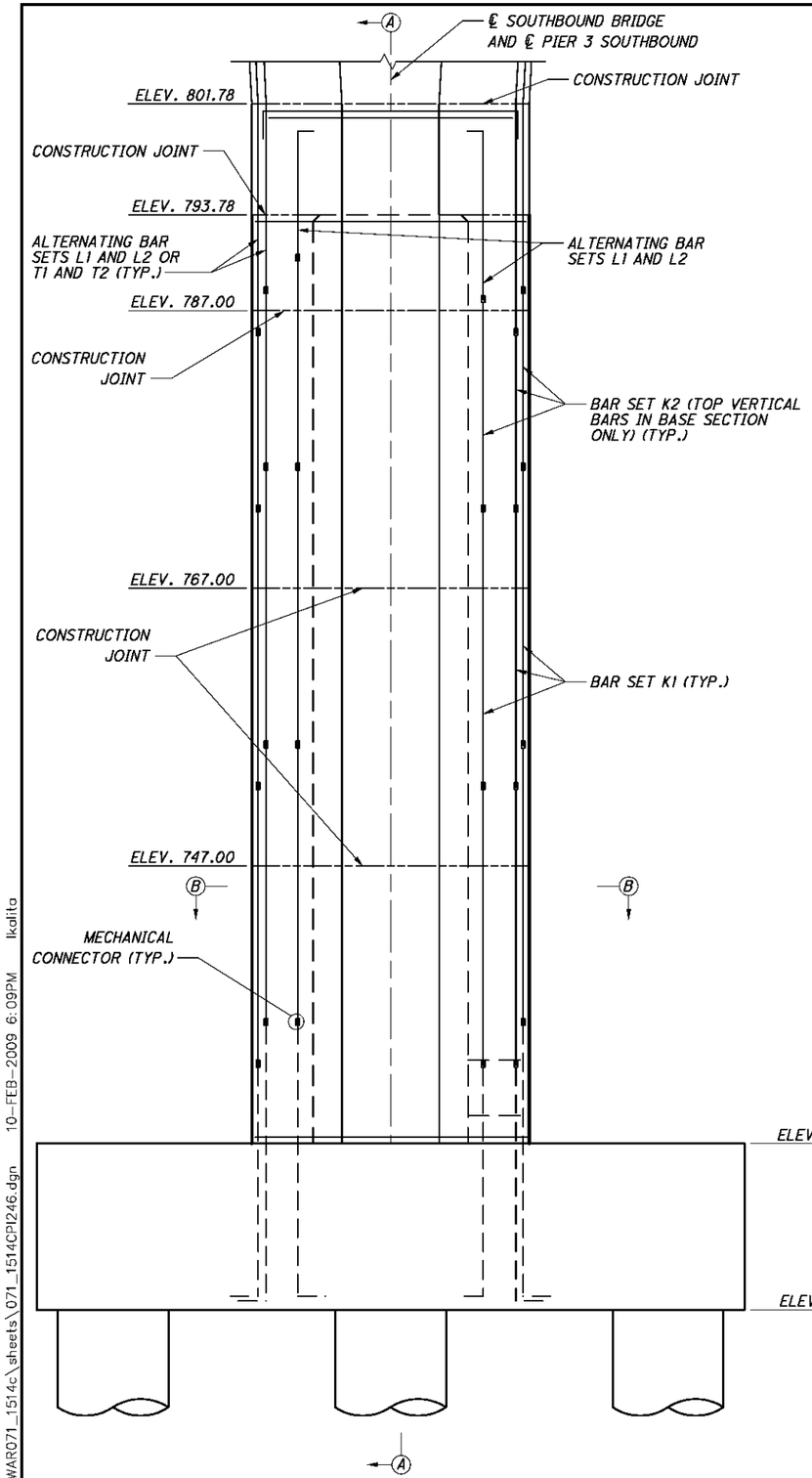
DESIGNED	DRAWN	REVIEWED	DATE
SA	PY	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

PIER 3 FOOTING BAR SCHEDULE

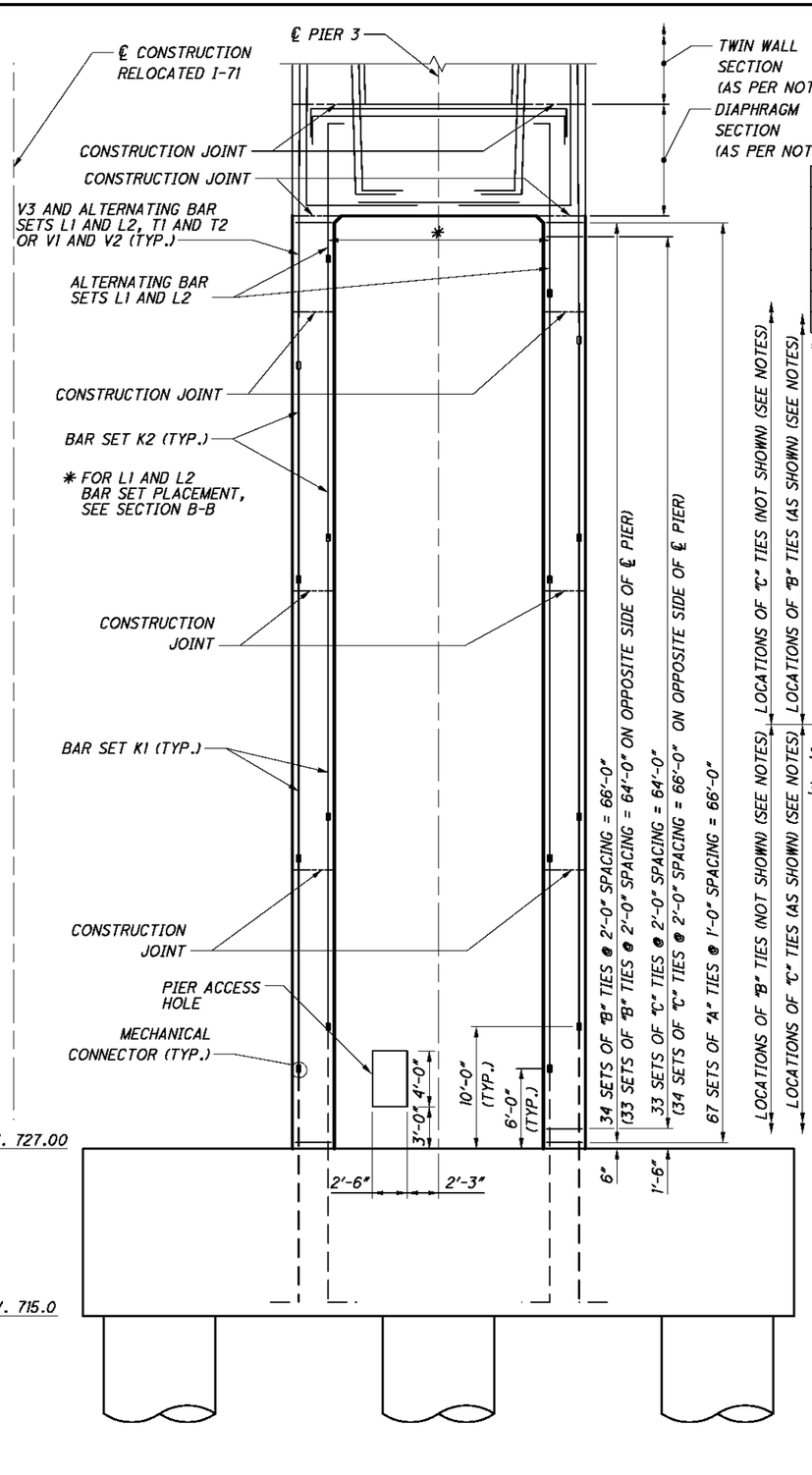
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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PIER 3 SOUTHBOUND PART ELEVATION

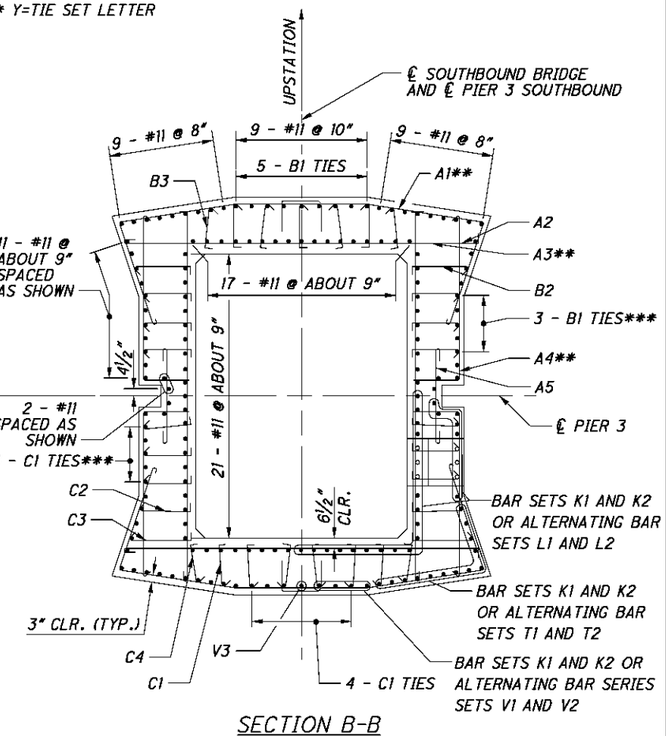


SECTION A-A

PIER 3 SOUTHBOUND VERTICAL BAR SETS				
K1	K2	L1	L2	
P3S11003	P3S11004	P3S11001	P3S11002	
T1	T2	V1	V2	V3
P3S14001	P3S14002	P3S14003	P3S14004	P3S14005

HORIZONTAL TIE SETS						
DRAWING LABEL *	TIE SET "A"		TIE SET "B"		TIE SET "C"	
	# OF TIES	BAR MARK	# OF TIES	BAR MARK	# OF TIES	BAR MARK
Y1	4	P3S05001	11	P3S05006	12	P3S05006
Y2	2	P3S05002	2	P3S05007	2	P3S05008
Y3	2	P3S05003	2	P3S05011	2	P3S05009
Y4	4	P3S05004			2	P3S05010
Y5	2	P3S05005				

* Y=TIE SET LETTER



SECTION B-B

(SYMMETRICAL ABOUT ℄ PIER AND ℄ BRIDGE)

** CUT HORIZONTAL TIES SETS A1, A3 & A4 AT PIER ACCESS HOLE LOCATION. REPAIR BARS PER CMS 509.09.

*** B OR C TIES NOT REQUIRED AT PIER 3 ACCESS HOLE LOCATION. PLACE HALF OF THE REMAINING TIES ABOVE THE OPENING AND HALF OF THEM BELOW THE OPENING AT 6" SPA.

NOTES:

1. FOR TWIN WALL AND DIAPHRAGM DETAILS, SEE SHEETS 76 TO 86 OF 204.
2. LOCATIONS OF "B" TIES AND "C" TIES SHOWN, ALTERNATE WITH LOCATIONS OF "B" TIES AND "C" TIES NOT SHOWN.
3. CUT AND ADJUST VERTICAL BARS AT PIER ACCESS HOLE LOCATION. FOR REINFORCING DETAILS AT PIER ACCESS HOLE, SEE SHEET 95B OF 204.
4. FOR TIE-OFF BEAM REINFORCEMENT DETAILS SEE SHEET 95C AND 95D OF 204.

DESIGN AGENCY HNTB 1900 Superior Avenue, Suite 1300 Cleveland, OH 44114-2301

DESIGNED YEH/BTA | DRAWN JJB | REVIEWED RHW | DATE 2/02/09

CHECKED TJE | REVISED

STRUCTURE FILE NUMBER 8302278L/8302294R

PIER 3 SOUTHBOUND BASE REINFORCEMENT DETAILS

BRIDGE NO. WAR-71-1514L/R

INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20

PID No. 22950

67 / 204

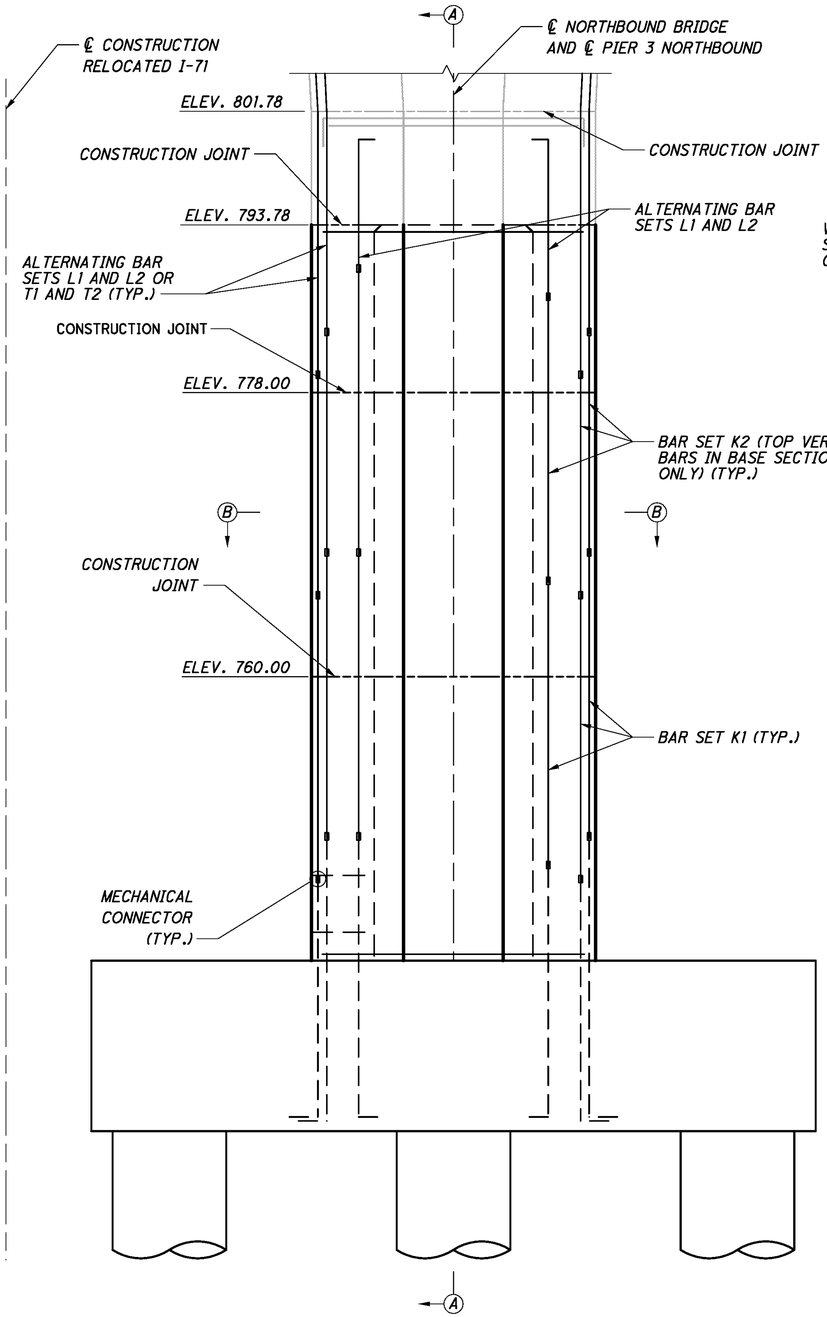
333 / 470

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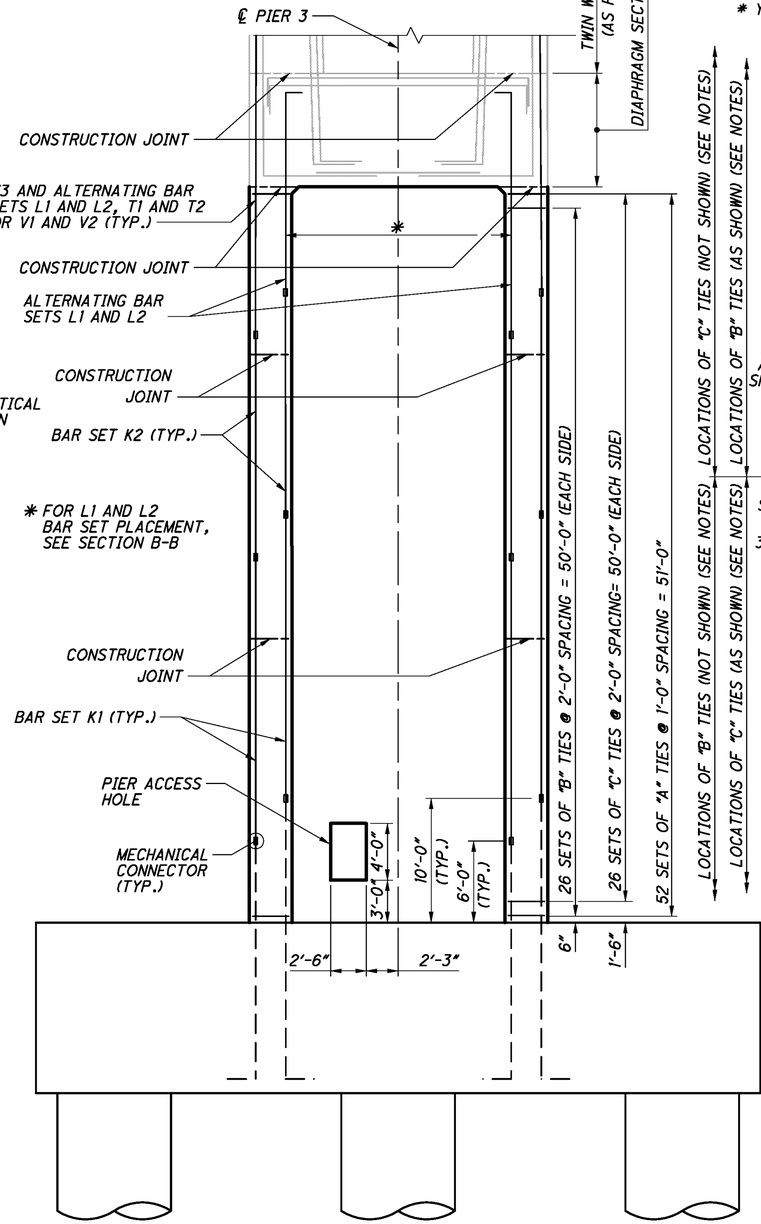
PIER 3 NORTHBOUND VERTICAL BAR SETS				
K1	K2	L1	L2	
P3N11003	P3N11004	P3N11001	P3N11002	
T1	T2	V1	V2	V3
P3N14001	P3N14002	P3N14003	P3N14004	P3N14005

HORIZONTAL TIE SETS						
DRAWING LABEL *	TIE SET "A"		TIE SET "B"		TIE SET "C"	
	# OF TIES	BAR MARK	# OF TIES	BAR MARK	# OF TIES	BAR MARK
Y1	4	P3N05001	11	P3N05006	12	P3N05006
Y2	2	P3N05002	2	P3N05007	2	P3N05008
Y3	2	P3N05003	2	P3N05011	2	P3N05009
Y4	4	P3N05004			2	P3N05010
Y5	2	P3N05005				

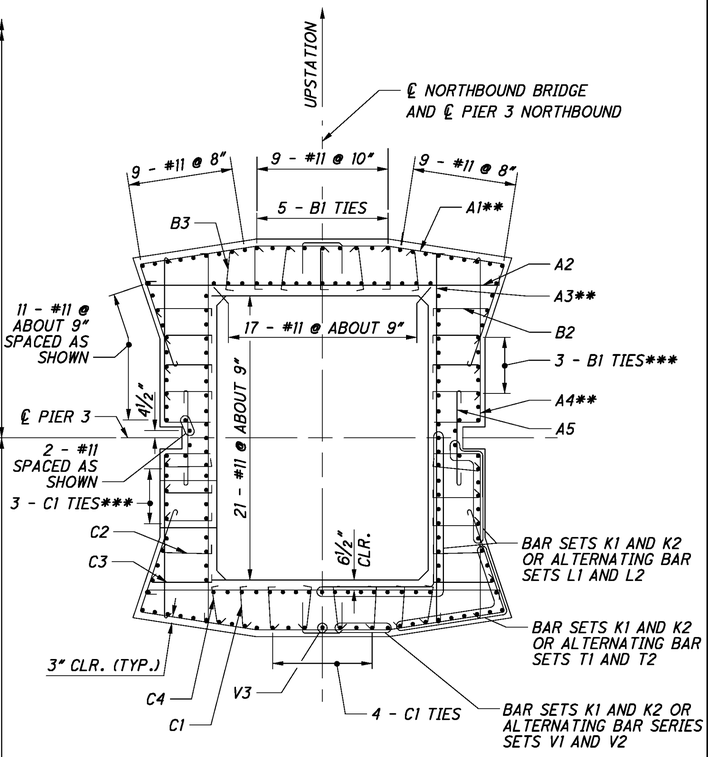
* Y=TIE SET LETTER



PIER 3 NORTHBOUND PART ELEVATION



SECTION A-A



SECTION B-B

(SYMMETRICAL ABOUT ℄ PIER AND ℄ BRIDGE)

** CUT HORIZONTAL TIES SETS A1, A3 & A4 AT PIER ACCESS HOLE LOCATION. REPAIR BARS PER CMS 509.09.

*** B OR C TIES NOT REQUIRED AT PIER 3 ACCESS HOLE LOCATION. PLACE HALF OF THE REMAINING TIES ABOVE THE OPENING AND HALF OF THEM BELOW THE OPENING AT 6" SPA.

NOTES:

1. FOR TWIN WALL AND DIAPHRAGM DETAILS, SEE SHEETS 76 TO 86 OF 204.
2. LOCATIONS OF "B" TIES AND "C" TIES SHOWN, ALTERNATE WITH LOCATIONS OF "B" TIES AND "C" TIES NOT SHOWN.
3. CUT AND ADJUST VERTICAL BARS AT PIER ACCESS HOLE LOCATION. FOR REINFORCING DETAILS AT PIER ACCESS HOLE, SEE SHEET 95B OF 204.
4. FOR TIE-OFF BEAM REINFORCEMENT DETAILS SEE SHEETS 95C AND 95D OF 204.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1300
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH/BTA	JJB	RHW	2/02/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJE		8302278L/8302294R	

PIER 3 NORTHBOUND BASE REINFORCEMENT DETAILS

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

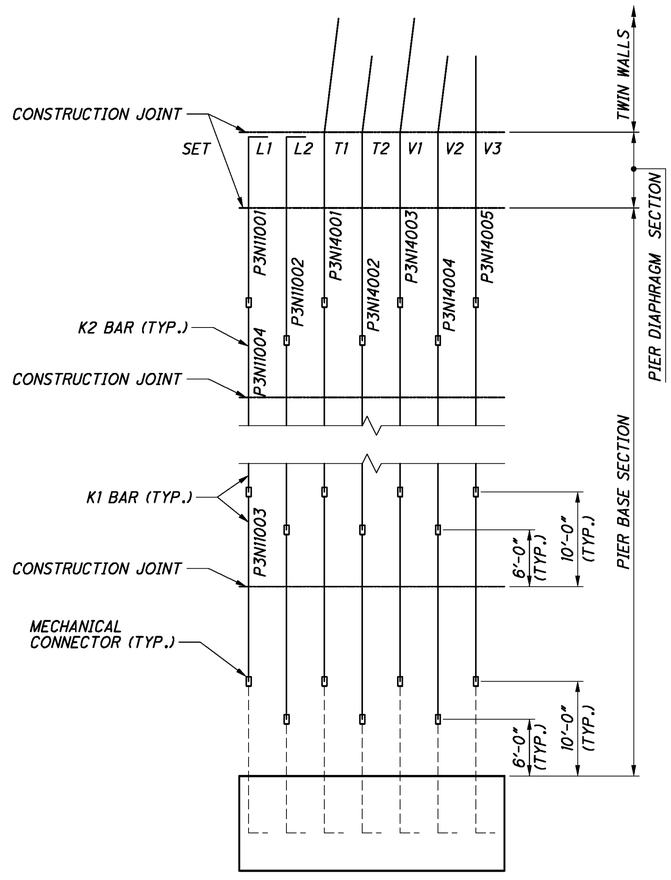
WAR-71-14.20
PID No. 22950

68 / 204

334 / 470

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MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	F	R	INC A	INC B	INC C	INC D	INC E	INC F
PIER 3 NORTHBOUND BASE																	
P3N05001	208	17'-6"	3797	018	4'-5"	6'-1"	11"	5'-6"	1'-10"	10"							
P3N05002	104	19'-9"	2142	023	18'-6"	10"											
P3N05003	104	20'-11"	2269	023	19'-8"	10"											
P3N05004	208	11'-2"	2423	013	8'-8"	2'-2"											
P3N05005	104	6'-2"	669	016	5'-0"												
P3N05006	1196	3'-4"	4158	013	2'-2"	10"											
P3N05007	104	3'-11"	425	013	2'-9"	10"											
P3N05008	104	3'-8"	398	013	2'-6"	10"											
P3N05009	104	4'-3"	461	013	3'-1"	10"											
P3N05010	104	3'-1"	334	013	1'-11"	10"											
P3N05011	104	3'-2"	343	013	2'-0"	10"											
P3N11001	56	15'-2"	4513	024	13'-6"	2'-0"											
P3N11002	56	19'-2"	5703	024	17'-6"	2'-0"											
P3N11003	182	20'-0"	19339	026	20'-0"												
P3N11004	182	15'-9"	15230	026	15'-9"												
P3N14001	24	26'-0"	4774	027	18'-0"	8'-0"	5"										
P3N14002	28	26'-0"	5569	027	14'-0"	12'-0"	8"										
P3N14003	4 SER 2	26'-0"	1591	027	18'-0"	8'-0"	1"							3"			
		26'-0"					4"										
P3N14004	4 SER 2	26'-0"	1591	027	14'-0"	12'-0"	4"							4"			
		26'-0"					8"										
P3N14005	2	26'-0"	398	026													
		SUB-TOTAL	76127														
PIER 3 SOUTHBOUND BASE																	
P3S05001	268	17'-6"	4892	018	4'-5"	6'-1"	11"	5'-6"	1'-10"	10"							
P3S05002	134	19'-9"	2760	023	18'-6"	10"											
P3S05003	134	20'-11"	2923	023	19'-8"	10"											
P3S05004	268	11'-2"	3121	013	8'-8"	2'-2"											
P3S05005	134	6'-2"	862	016	5'-0"												
P3S05006	1541	3'-4"	5358	013	2'-2"	10"											
P3S05007	134	3'-11"	547	013	2'-9"	10"											
P3S05008	134	3'-8"	512	013	2'-6"	10"											
P3S05009	134	4'-3"	594	013	3'-1"	10"											
P3S05010	134	3'-1"	431	013	1'-11"	10"											
P3S05011	134	3'-2"	443	013	2'-0"	10"											
P3S11001	56	15'-2"	4513	024	13'-6"	2'-0"											
P3S11002	56	19'-2"	5703	024	17'-6"	2'-0"											
P3S11003	364	20'-0"	38679	026	20'-0"												
P3S11004	182	10'-9"	10395	026	10'-9"												
P3S14001	24	26'-0"	4774	027	18'-0"	8'-0"	5"										
P3S14002	28	26'-0"	5569	027	14'-0"	12'-0"	8"										
P3S14003	4 SER 2	26'-0"	1591	027	18'-0"	8'-0"	1"							3"			
		26'-0"					4"										
P3S14004	4 SER 2	26'-0"	1591	027	14'-0"	12'-0"	4"							4"			
		26'-0"					8"										
P3S14005	2	26'-0"	398	026													
		SUB-TOTAL	95656														



REINFORCEMENT SCHEMATIC
(NORTHBOUND SHOWN, SOUTHBOUND SIMILAR)

NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN.
   FOR EXAMPLE: P3N05001
   P3: LOCATION OF THE BAR IN THE STRUCTURE (PIER 3)
   N: LOCATION OF THE STRUCTURE (NORTHBOUND)
   05: BAR SIZE (#5 BAR)
   001: BAR SEQUENCE NUMBER

2. 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 BAR. STRAIGHT BARS ARE INDICATED BY "STR".

3. ALL REINFORCING STEEL IS TO BE EPOXY COATED.

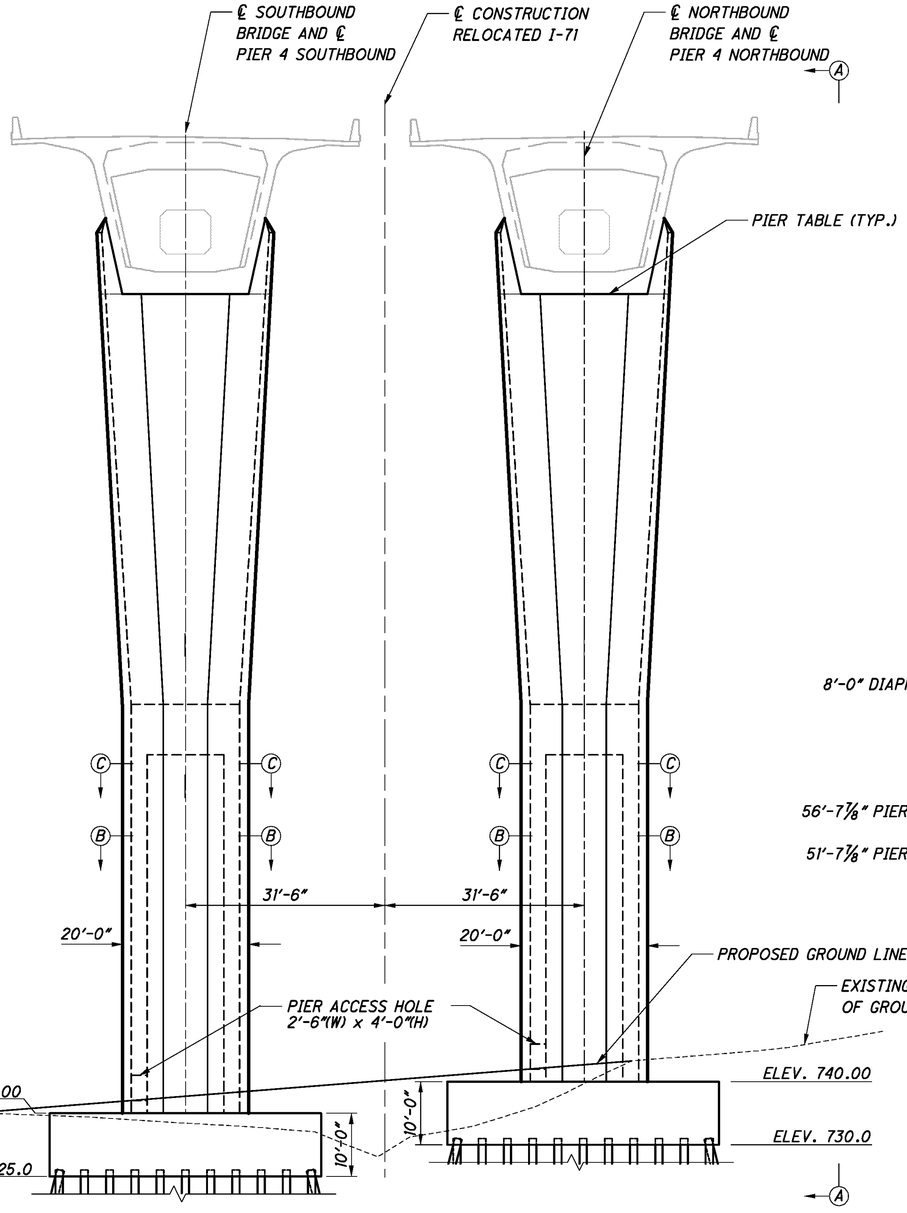
DESIGN AGENCY HNTB 1100 Superior Avenue, Suite 1330 Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
JJB	JJB	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RSB		8302278L/8302294R	

PIER 3 BASE BAR SCHEDULE
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

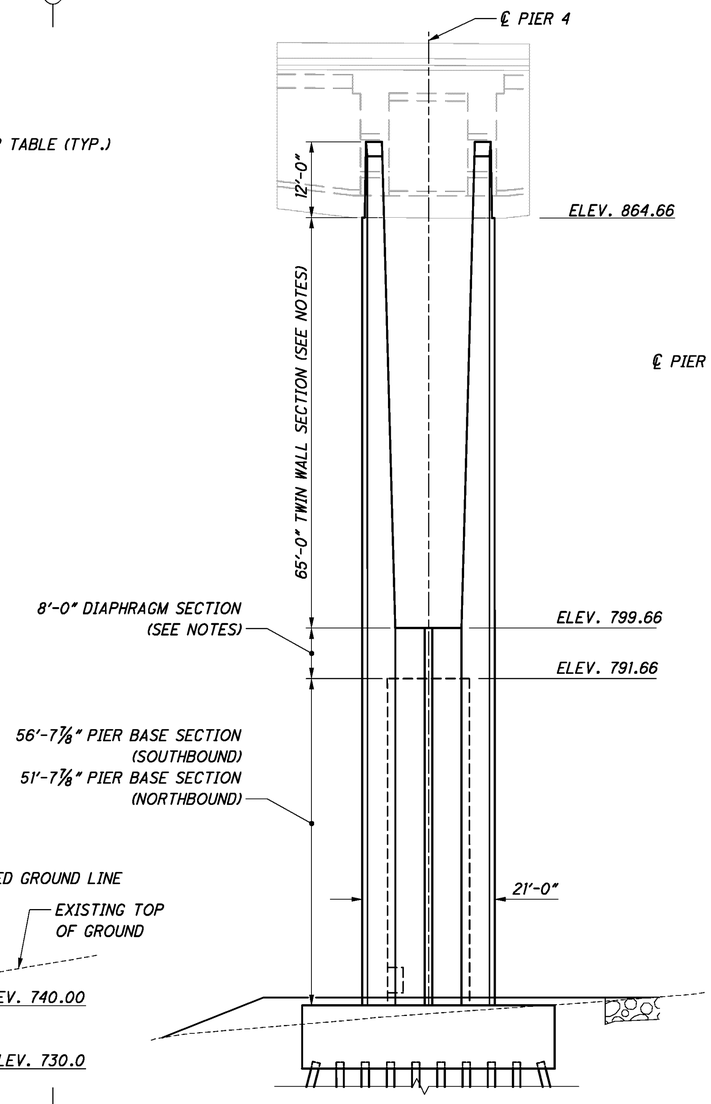
WAR-71-14.20 PID No. 22950

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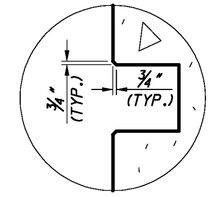


PIER 4 ELEVATION

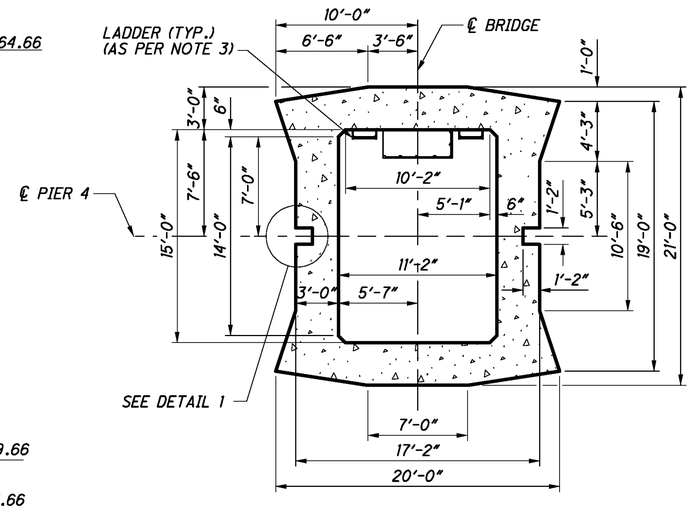
(TIE-OFF BEAM, LADDER AND PLATFORM INSIDE THE PIER BASE SECTION ARE NOT SHOWN FOR CLARITY)



VIEW A-A

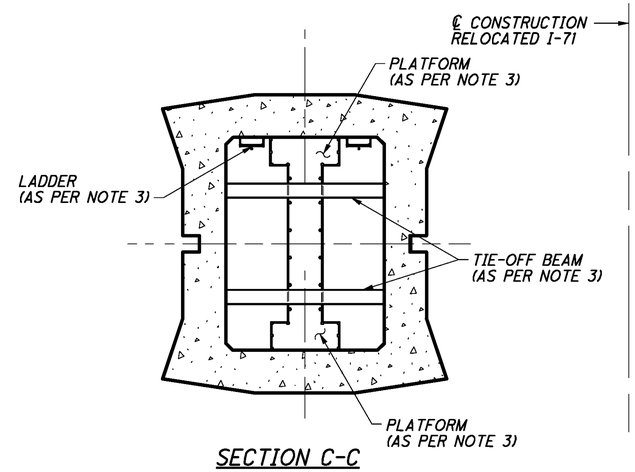


DETAIL 1



SECTION B-B

(SYMMETRICAL ABOUT ℄ PIER AND ℄ BRIDGE)



SECTION C-C

(SYMMETRICAL ABOUT ℄ CONSTRUCTION RELOCATED I-71)

NOTES:

1. FOR TWIN WALL AND DIAPHRAGM DETAILS, SEE SHEETS 76 TO 86 OF 204.
2. FOR ROCK ELEVATION DATA, SEE BORING LOG INFORMATION ON THE SITE PLAN.
3. FOR TIE-OFF BEAM, LADDER, FALL ARREST SAFETY LINE AND PLATFORM DETAILS SEE SHEET 95C OF 204.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1300
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJE		8302278L/8302294R	

PIER 4 GEOMETRY

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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EXISTING PIER 5
SOUTHBOUND FOOTING
(BOTTOM OF FOOTING ELEV. = 728.4±)

EXISTING PIER 5
NORTHBOUND FOOTING
(BOTTOM OF FOOTING ELEV. = 718.4±)

HP14X89
PILE (TYP.)

℄ SOUTHBOUND BRIDGE AND
℄ PIER 4 SOUTHBOUND FOOTING

℄ CONSTRUCTION
RELOCATED I-71

℄ NORTHBOUND BRIDGE AND ℄ PIER 4
NORTHBOUND FOOTING

℄ PIER 4
STA. 964+65.00

90°00'00"

PIER ACCESS
HOLE

11'-5"±
2'-0"
20'-0"
20'-0"
40'-0"
9 PILES SPACES AT 4'-0" = 36'-0"
2'-6"
2'-3"
6"
9'-5"±

2'-0"
9 PILE SPACES AT 4'-0" = 36'-0"
20'-0"
20'-0"
31'-6"
40'-0"

PLAN

℄ PIER 4
9'-6"
21'-0"
9'-6"
2'-3"
2'-6"
PIER ACCESS
HOLE

PROPOSED GROUND LINE
EXISTING GROUND LINE
10'-0"
1'-0" (TYP.)
ELEV. 730.00
EXISTING PIER 5
NORTHBOUND FOOTING
1
4 (TYP.)
HP14X89 PILE (TYP.)

VIEW B-B

℄ CONSTRUCTION
RELOCATED I-71

℄ NORTHBOUND BRIDGE AND
℄ PIER 4 NORTHBOUND FOOTING

℄ SOUTHBOUND BRIDGE AND
℄ PIER 4 SOUTHBOUND FOOTING

11'-6" (TYP.)
12'-7" (TYP.)
14'-10" (TYP.)
12'-7" (TYP.)

PIER ACCESS
HOLE
PROPOSED GROUND LINE
EXISTING GROUND LINE
4'-0"
3'-0"
10'-0"
ELEV. 725.0
HP14X89 PILE (TYP.)
ELEV. 730.0
1
4 (TYP.)

SECTION A-A

NOTE:

1. ALL PIER 4 PILES ARE HP14X89 PILES WITH A 50 KSI YIELD STRENGTH.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH/JJB	JJB	RHW	2/02/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BTA		8302278L/8302294R	

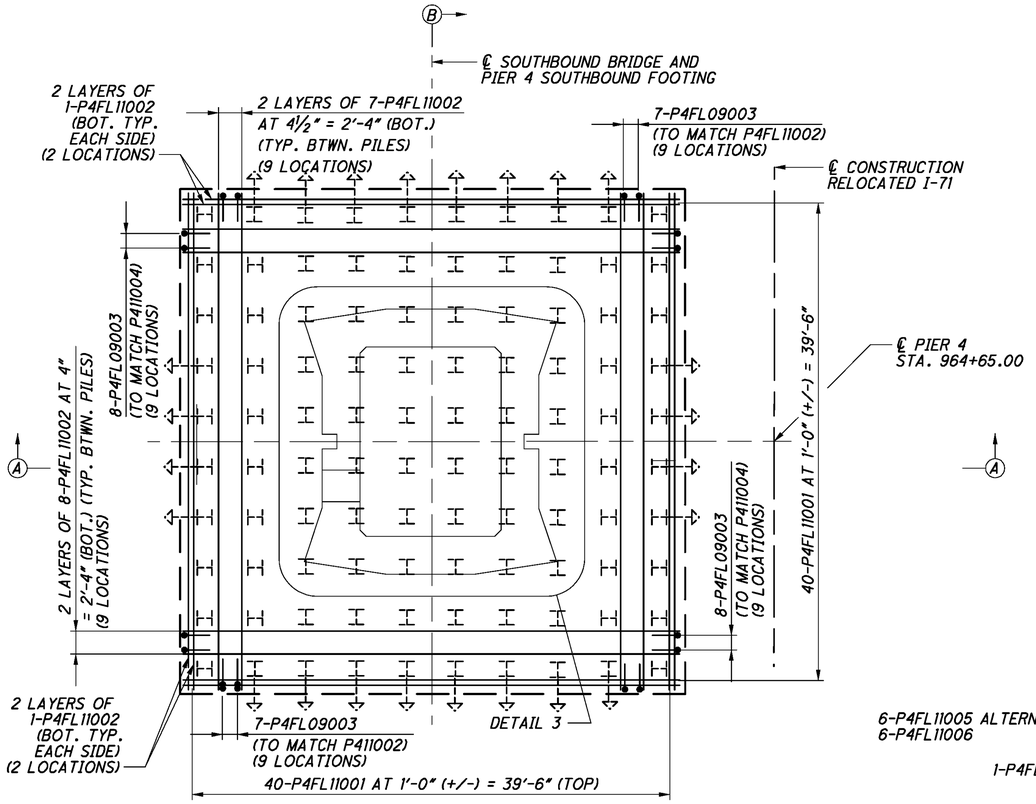
PIER 4 FOOTING DETAILS
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

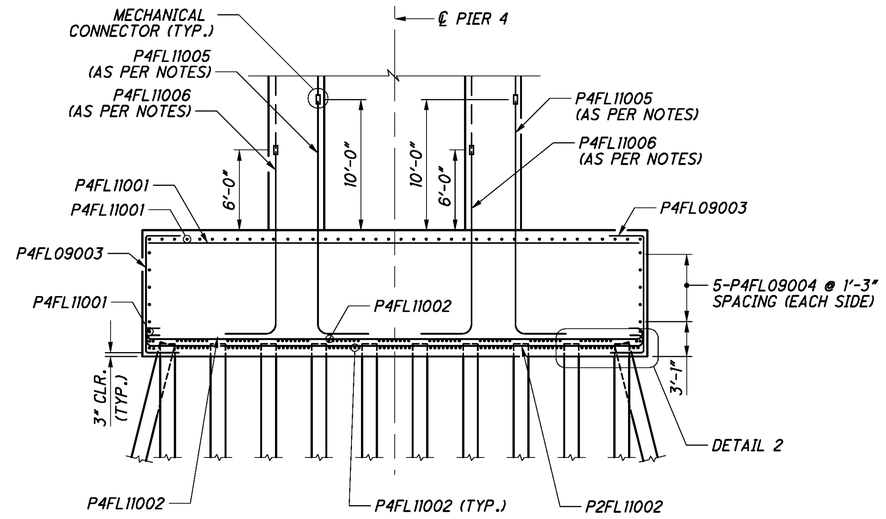
71 / 204

337
470

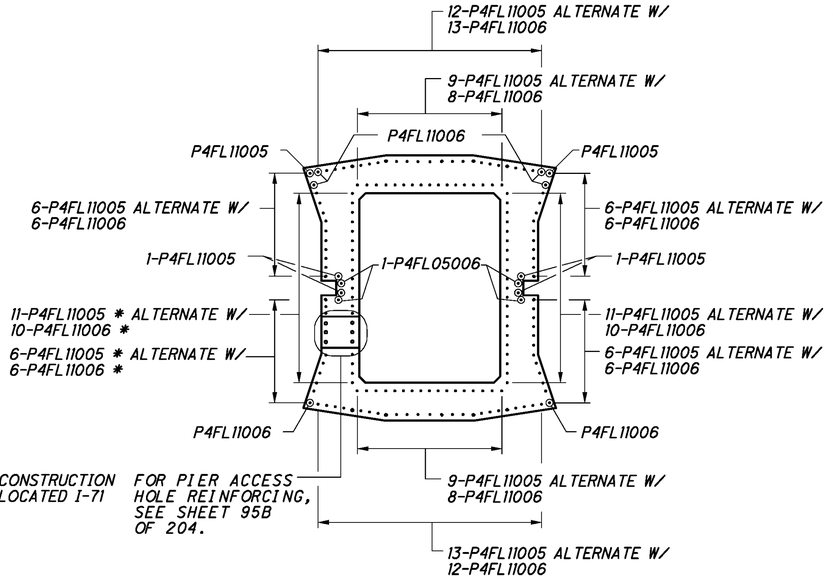
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PLAN

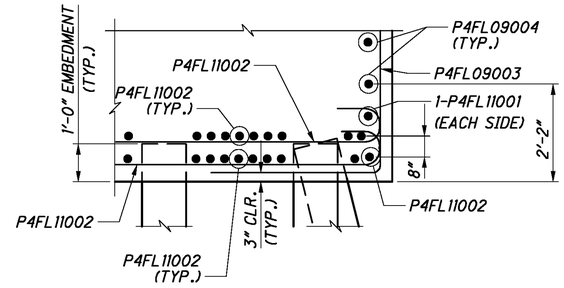


SECTION B-B

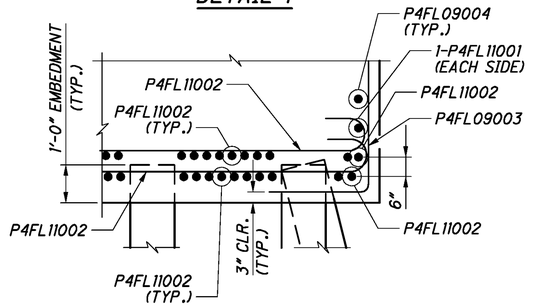


DETAIL 3
(SEE NOTE 2)

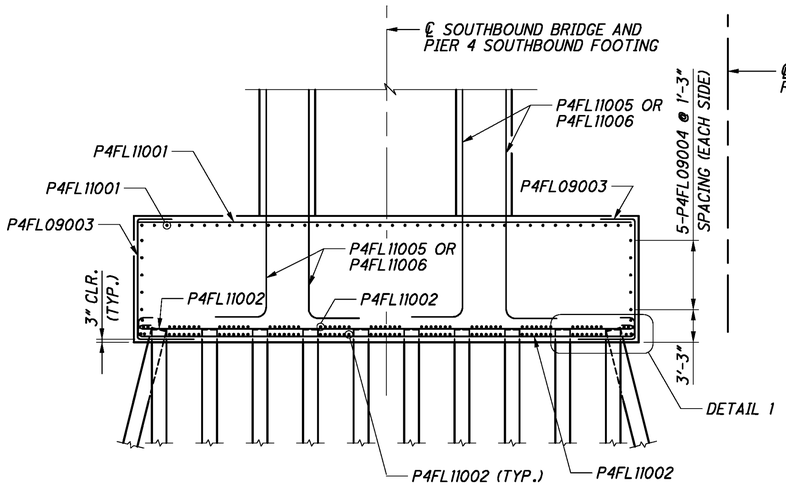
* CUT P4FL11005 & P4FL1106 (TOTAL 6) AT PIER ACCESS HOLE. THE REMAINDER TO BE USED AS PART OF PIER ACCESS HOLE REINFORCEMENT. REPAIR BARS PER CMS 509.09. FOR DETAILS SEE SHEET 95B OF 204.



DETAIL 1



DETAIL 2



SECTION A-A

NOTES:

1. ALL DETAILS SHOWN ARE FOR THE SOUTHBOUND BRIDGE PIER 4 WITH A BAR PREFIX OF P4FL. NORTHBOUND BRIDGE PIER 4 IS SIMILAR WITH A BAR PREFIX OF P4FR.
2. FOR LOCATIONS OF DOWEL BARS, P4FL11005 AND P4FL11006, SEE PIER LOWER SHAFT REINFORCEMENT, SHEET 74 OF 204. ALTERNATE BAR P4FL11005 WITH BAR P4FL11006 AT ALL LOCATIONS.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
SA	PY	RHW	2/02/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

PIER 4 FOOTING REINFORCEMENT
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
PIER 4 NORTHBOUND FOOTING											
P4FR11001	84	39'-5"	17592	001	39'-5"						
P4FR11002	286	42'-7"	64709	016	39'-5"						
P4FR09003	270	15'-8"	14384	102	9'-3"	3'-6"	3'-6"				
P4FR09004	20	45'-10"	3117	102	39'-5"	3'-6"	3'-6"				
P4FR11005	93	22'-2"	10953	020	20'-0"	2'-6"					
P4FR11006	89	18'-2"	8591	020	16'-0"	2'-6"					
SUB-TOTAL			119,346 lbs								
PIER 4 SOUTHBOUND FOOTING											
P4FL11001	84	39'-5"	17592	001	39'-5"						
P4FL11002	286	42'-7"	64709	016	39'-5"						
P4FL09003	270	15'-8"	14384	102	9'-3"	3'-6"	3'-6"				
P4FL09004	20	45'-10"	3117	102	39'-5"	3'-6"	3'-6"				
P4FL11005	93	22'-2"	10953	020	20'-0"	2'-6"					
P4FL11006	89	18'-2"	8591	020	16'-0"	2'-6"					
SUB-TOTAL			119,346 lbs								

NOTES:

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 DIGITS ARE USED, INDICATES THE THE BAR SIZE NUMBER.
FOR EXAMPLE: RA601
RA: LOCATION OF THE BAR IN THE STRUCTURE (REAR ABUTMENT)
6: BAR SIZE DESIGNATION NO. 6
01: SEQUENCE NUMBER

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 BAR. STRAIGHT BARS ARE INDICATED BY "STR".

ALL REINFORCING STEEL IS TO BE EPOXY COATED.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
SA	PY	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

PIER 4 FOOTING BAR SCHEDULE

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

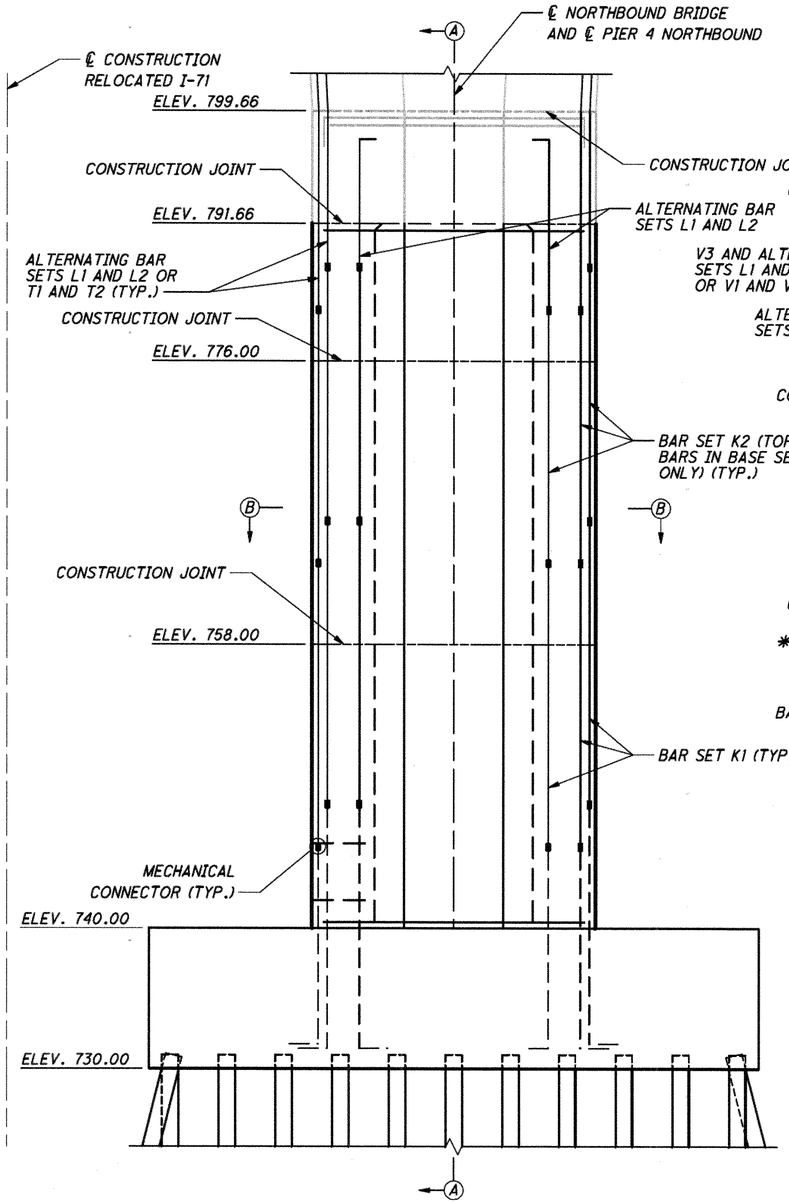
WAR-71-14.20
PID No. 22950

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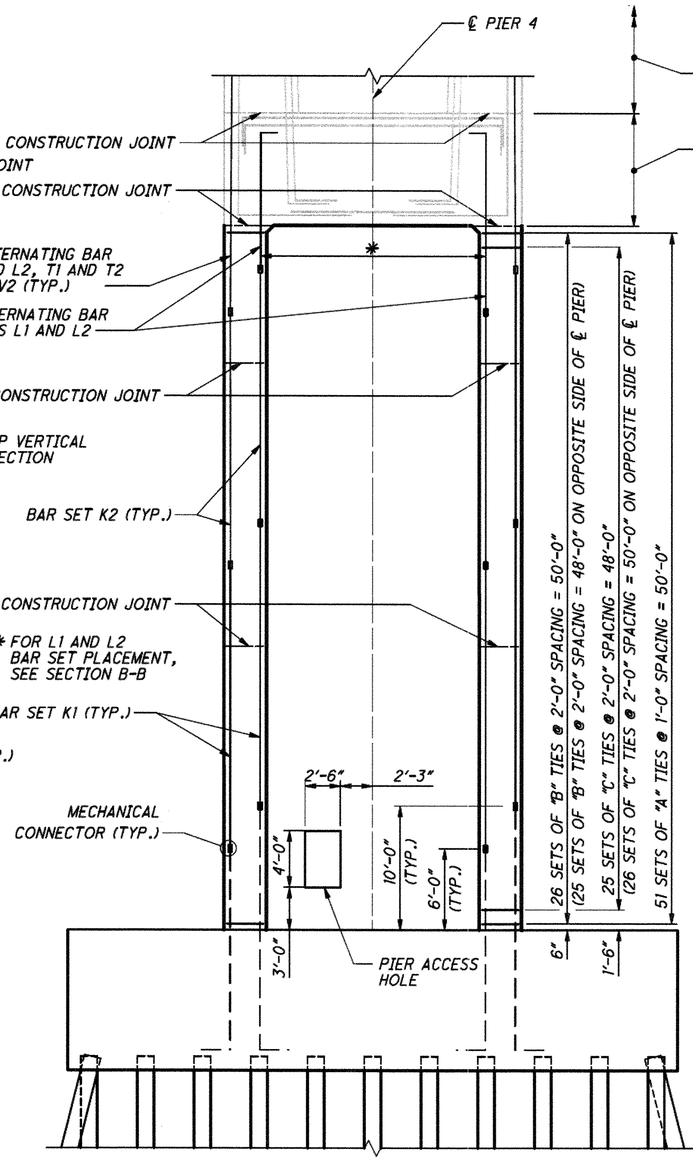
PIER 4 NORTHBOUND VERTICAL BAR SETS				
K1	K2	L1	L2	
P4N11003	P4N11004	P4N11001	P4N11002	
T1	T2	V1	V2	V3
P4N14001	P4N14002	P4N14003	P4N14004	P4N14005

HORIZONTAL TIE SETS						
DRAWING LABEL *	TIE SET "A"		TIE SET "B"		TIE SET "C"	
	# OF TIES	BAR MARK	# OF TIES	BAR MARK	# OF TIES	BAR MARK
Y1	4	P4N05001	11	P4N05006	12	P4N05006
Y2	2	P4N05002	2	P4N05007	2	P4N05008
Y3	2	P4N05003	2	P4N05011	2	P4N05009
Y4	4	P4N05004			2	P4N05010
Y5	2	P4N05005				

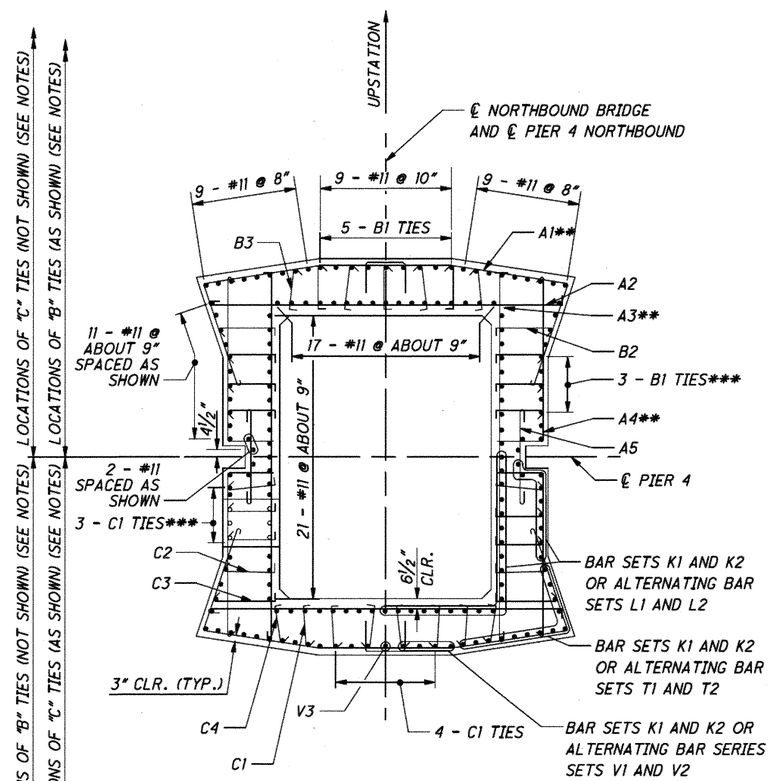
* Y=TIE SET LETTER



PIER 4 NORTHBOUND PART ELEVATION



SECTION A-A



SECTION B-B

(SYMMETRICAL ABOUT ℄ PIER AND ℄ BRIDGE)

** CUT HORIZONTAL TIES SETS A1, A3 & A4 AT PIER ACCESS HOLE LOCATION. REPAIR BARS PER CMS 509.09.

*** B OR C TIES NOT REQUIRED AT PIER 4 ACCESS HOLE LOCATION. PLACE HALF OF THE REMAINING TIES ABOVE THE OPENING AND HALF OF THEM BELOW THE OPENING AT 6" SPA.

NOTES:

1. FOR TWIN WALL AND DIAPHRAGM DETAILS, SEE SHEETS 76 TO 86 OF 204.
2. LOCATIONS OF "B" TIES AND "C" TIES SHOWN, ALTERNATE WITH LOCATIONS OF "B" TIES AND "C" TIES NOT SHOWN.
3. CUT AND ADJUST VERTICAL BARS AT PIER ACCESS HOLE LOCATION. FOR REINFORCING DETAILS AT PIER ACCESS HOLE, SEE SHEET95B OF 204.
4. FOR TIE-OFF BEAM, LADDER AND PLATFORM DETAILS SEE SHEET 95C OF 204.

DESIGN AGENCY: HNTB, 1100 Superior Avenue, Suite 1500, Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH/RTA	JJB	RHW	2/02/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJE		8302278L/8302294R	

PIER 4 NORTHBOUND BASE REINFORCEMENT DETAILS

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

74A / 204

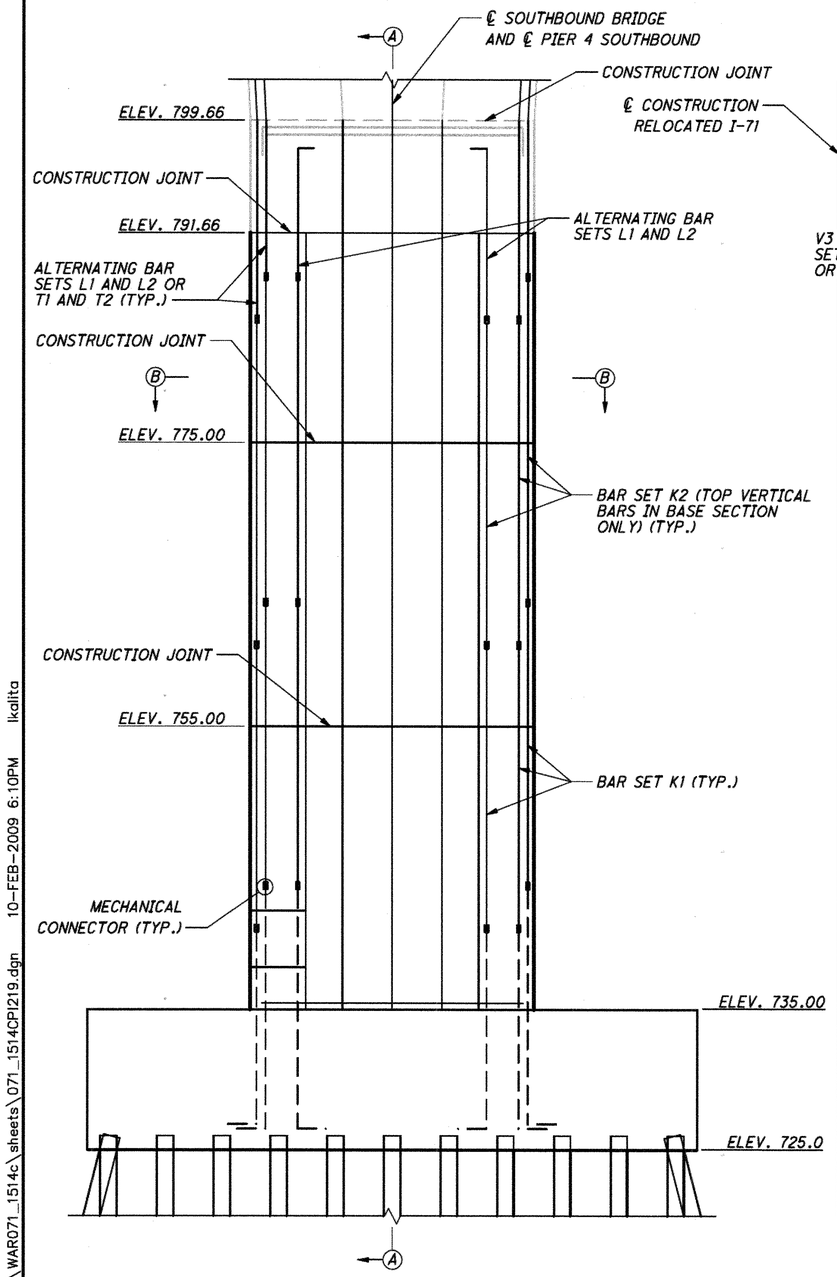
340A / 470

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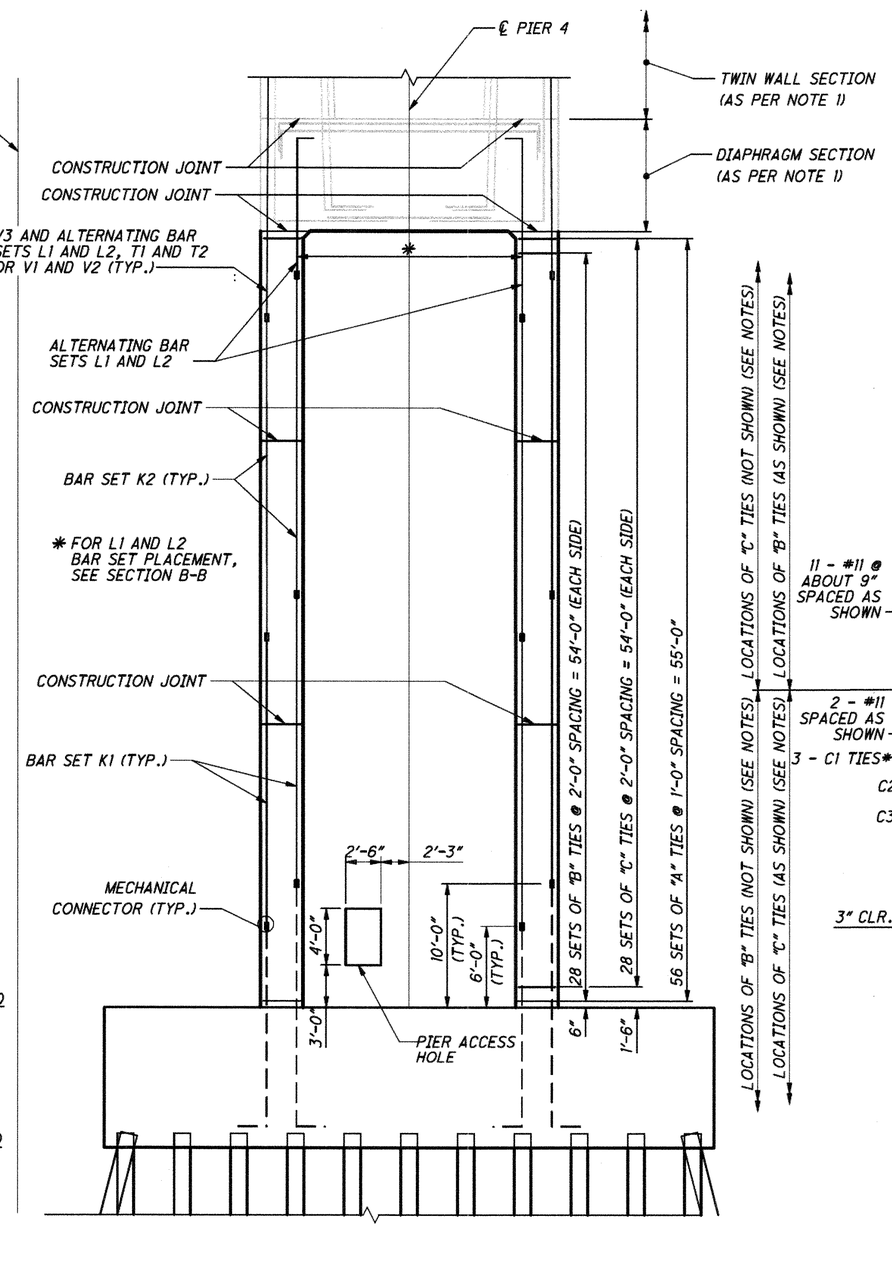
PIER 4 SOUTHBOUND VERTICAL BAR SETS				
K1	K2	L1	L2	
P4S11003	P4S11004	P4S11001	P4S11002	
T1	T2	V1	V2	V3
P4S14001	P4S14002	P4S14003	P4S14004	P4S14005

HORIZONTAL TIE SETS						
DRAWING LABEL *	TIE SET "A"		TIE SET "B"		TIE SET "C"	
	# OF TIES	BAR MARK	# OF TIES	BAR MARK	# OF TIES	BAR MARK
Y1	4	P4S05001	11	P4S05006	12	P4S05006
Y2	2	P4S05002	2	P4S05007	2	P4S05008
Y3	2	P4S05003	2	P4S05011	2	P4S05009
Y4	4	P4S05004			2	P4S05010
Y5	2	P4S05005				

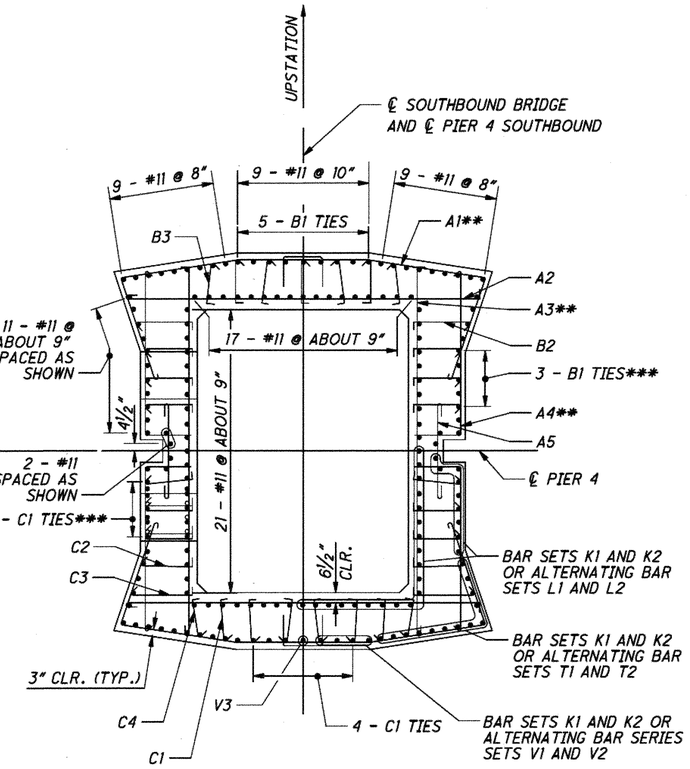
* Y=TIE SET LETTER



PIER 4 SOUTHBOUND PART ELEVATION



SECTION A-A



SECTION B-B

(SYMMETRICAL ABOUT ℄ PIER AND ℄ BRIDGE)

** CUT HORIZONTAL TIES SETS A1, A3 & A4 AT PIER ACCESS HOLE LOCATION. REPAIR BARS PER CMS 509.09.

*** B OR C TIES NOT REQUIRED AT PIER 4 ACCESS HOLE LOCATION. PLACE HALF OF THE REMAINING TIES ABOVE THE OPENING AND HALF OF THEM BELOW THE OPENING AT 6" SPA.

NOTES:

1. FOR TWIN WALL AND DIAPHRAGM DETAILS, SEE SHEETS 76 TO 86 OF 204.
2. LOCATIONS OF "B" TIES AND "C" TIES SHOWN, ALTERNATE WITH LOCATIONS OF "B" TIES AND "C" TIES NOT SHOWN.
3. CUT AND ADJUST VERTICAL BARS AT PIER ACCESS HOLE LOCATION. FOR REINFORCING DETAILS AT PIER ACCESS HOLE, SEE SHEET95B OF 204.
4. FOR TIE-OFF BEAM, LADDER AND PLATFORM DETAILS SEE SHEET 95C OF 204.

DESIGN AGENCY
HNTB
1300 Superior Avenue, Suite 1300
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH/BTA	JJB	RHW	2/02/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJE		8302278L/8302294R	

PIER 4 SOUTHBOUND BASE REINFORCEMENT DETAILS

BRIDGE NO. WAR-71-15141L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

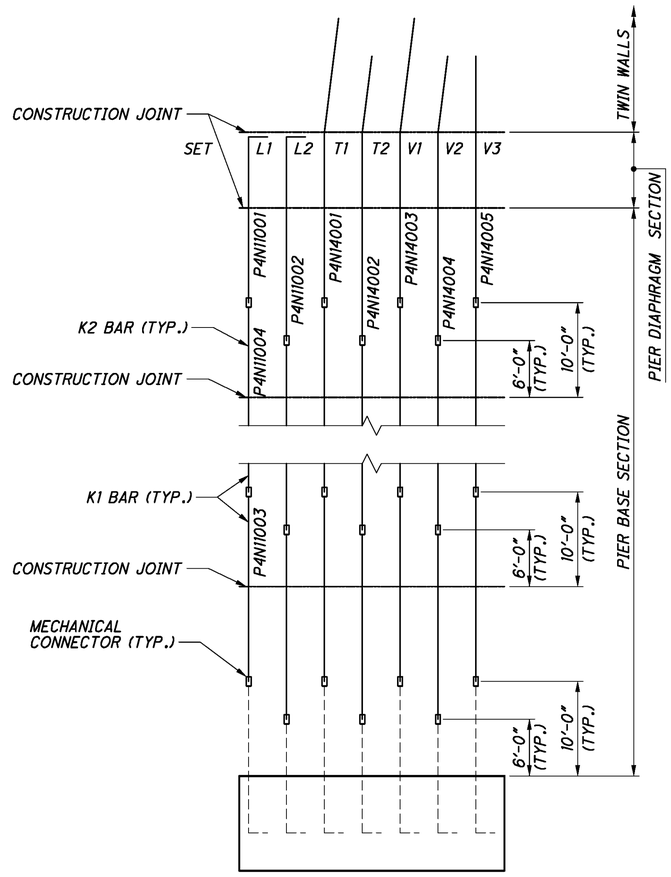
WAR-71-14.20
PID No. 22950

74 / 204

340 / 470

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MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	F	R	INC A	INC B	INC C	INC D	INC E	INC F
PIER 4 NORTHBOUND BASE																	
P4N05001	204	17'-6"	3724	018	4'-5"	6'-1"	11"	5'-6"	1'-10"	10"							
P4N05002	102	19'-9"	2101	023	18'-6"	10"											
P4N05003	102	20'-11"	2225	023	19'-8"	10"											
P4N05004	204	11'-2"	2376	013	8'-8"	2'-2"											
P4N05005	104	6'-2"	669	016	5'-0"												
P4N05006	1173	3'-4"	4078	013	2'-2"	10"											
P4N05007	102	3'-11"	417	013	2'-9"	10"											
P4N05008	102	3'-8"	390	013	2'-6"	10"											
P4N05009	102	4'-3"	452	013	3'-1"	10"											
P4N05010	102	3'-1"	328	013	1'-11"	10"											
P4N05011	102	3'-2"	337	013	2'-0"	10"											
P4N11001	56	15'-2"	4513	024	13'-6"	2'-0"											
P4N11002	56	19'-2"	5703	024	17'-6"	2'-0"											
P4N11003	182	20'-0"	19339	026	20'-0"												
P4N11004	182	15'-9"	15230	026	15'-9"												
P4N14001	24	26'-0"	4774	027	18'-0"	8'-0"	5"										
P4N14002	28	26'-0"	5569	027	14'-0"	12'-0"	8"										
P4N14003	4 SER 2	26'-0"	1591	027	18'-0"	8'-0"	1"							3"			
		26'-0"					4"										
P4N14006	4 SER 2	26'-0"	1591	027	14'-0"	12'-0"	4"							4"			
		26'-0"					8"										
P4N14005	2	26'-0"	398	026													
		SUB-TOTAL	75805														
PIER 4 SOUTHBOUND BASE																	
P4S05001	224	17'-6"	4089	018	4'-5"	6'-1"	11"	5'-6"	1'-10"	10"							
P4S05002	112	19'-9"	2307	023	18'-6"	10"											
P4S05003	112	20'-11"	2443	023	19'-8"	10"											
P4S05004	224	11'-2"	2609	013	8'-8"	2'-2"											
P4S05005	112	6'-2"	720	016	5'-0"												
P4S05006	1288	3'-4"	4478	013	2'-2"	10"											
P4S05007	112	3'-11"	458	013	2'-9"	10"											
P4S05008	112	3'-8"	428	013	2'-6"	10"											
P4S05009	112	4'-3"	496	013	3'-1"	10"											
P4S05010	112	3'-1"	360	013	1'-11"	10"											
P4S05011	112	3'-2"	370	013	2'-0"	10"											
P4S11001	56	15'-2"	4513	024	13'-6"	2'-0"											
P4S11002	56	19'-2"	5703	024	17'-6"	2'-0"											
P4S11003	182	20'-0"	19339	026	20'-0"												
P4S11004	182	20'-9"	20065	026	20'-9"												
P4S14001	24	26'-0"	4774	027	18'-0"	8'-0"	5"										
P4S14002	28	26'-0"	5569	027	14'-0"	12'-0"	8"										
P4S14003	4 SER 2	26'-0"	1591	027	18'-0"	8'-0"	1"							3"			
		26'-0"					4"										
P4S14004	4 SER 2	26'-0"	1591	027	14'-0"	12'-0"	4"							4"			
		26'-0"					8"										
P4S14005	2	26'-0"	398	026													
		SUB-TOTAL	82301														



REINFORCEMENT SCHEMATIC
(NORTHBOUND SHOWN, SOUTHBOUND SIMILAR)

NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN.
   FOR EXAMPLE: P4N05001
   P4: LOCATION OF THE BAR IN THE STRUCTURE (PIER 4)
   N: LOCATION OF THE STRUCTURE (NORTHBOUND)
   05: BAR SIZE (#5 BAR)
   001: BAR SEQUENCE NUMBER
2. 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 BAR. STRAIGHT BARS ARE INDICATED BY "STR".
3. ALL REINFORCING STEEL IS TO BE EPOXY COATED.

DESIGN AGENCY HNTB 1100 Superior Avenue, Suite 1330 Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
JJB	JJB	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RSB		8302278L/8302294R	

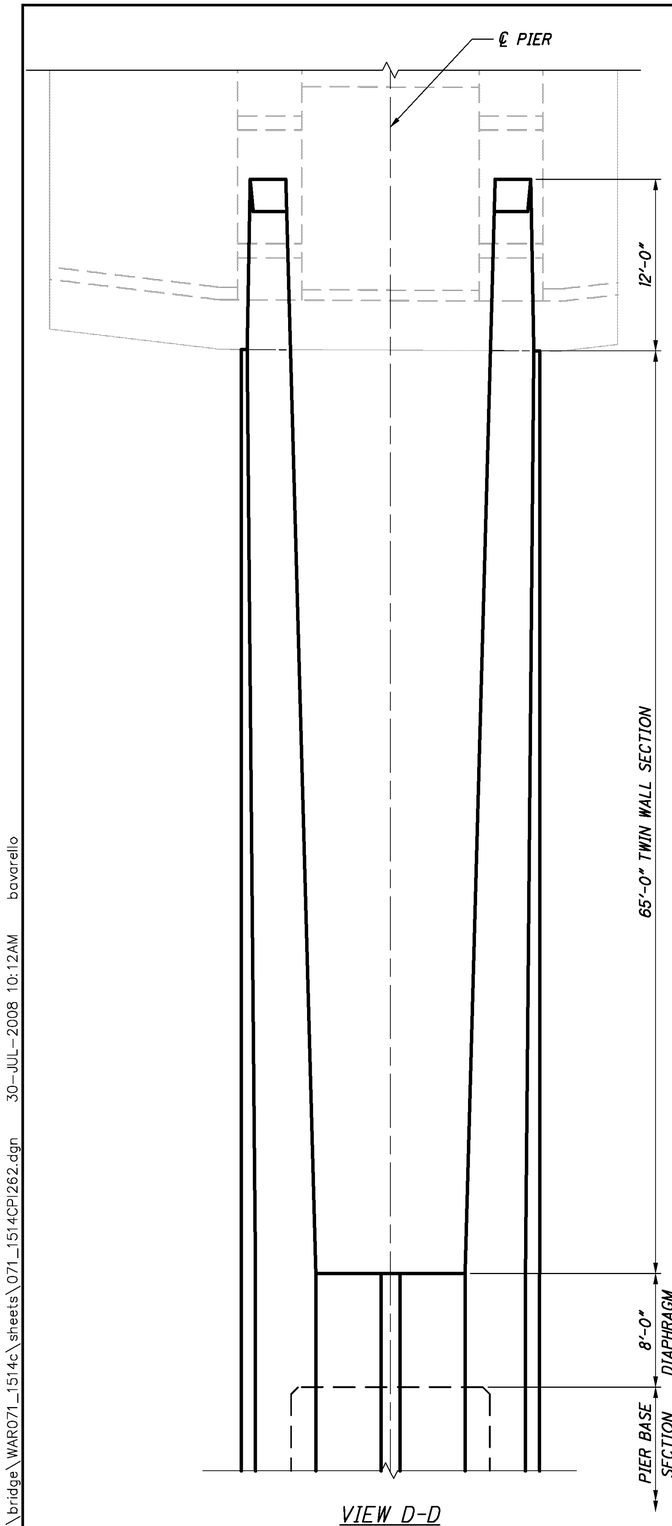
PIER 4 BASE BAR SCHEDULE
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

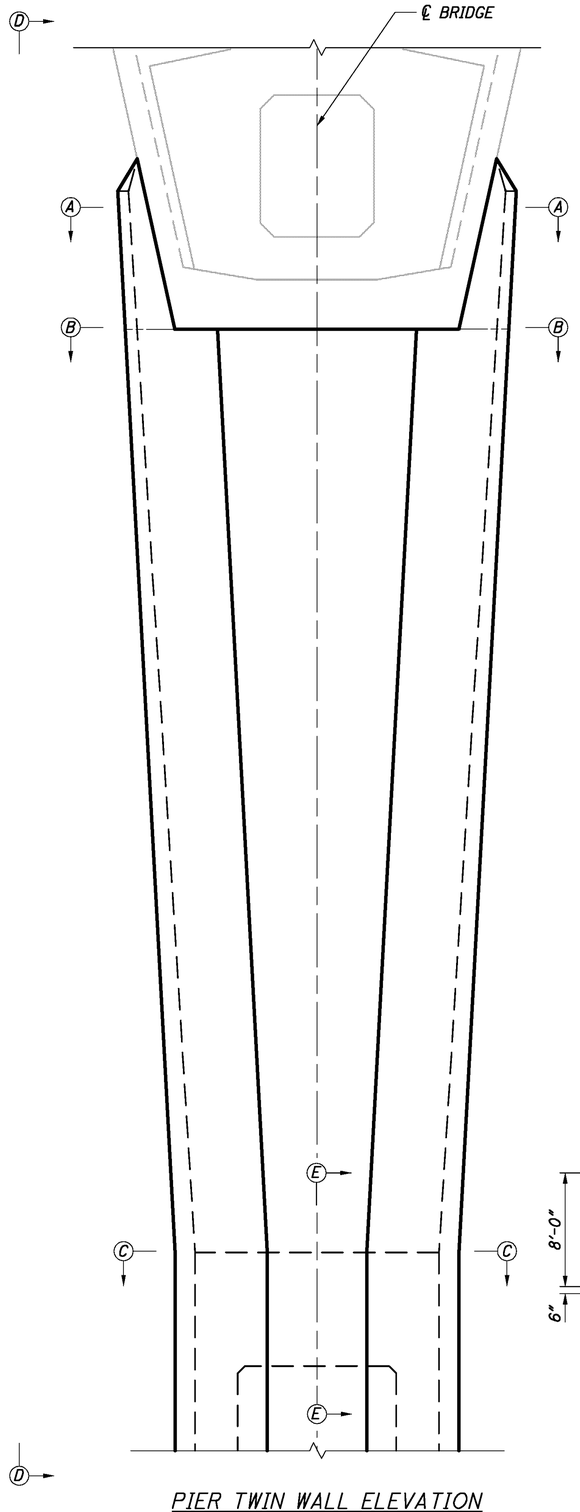
75 / 204

341 / 470

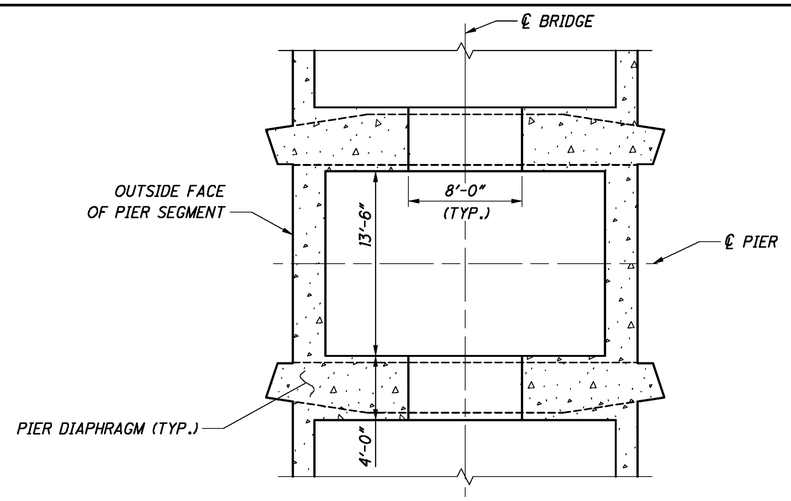
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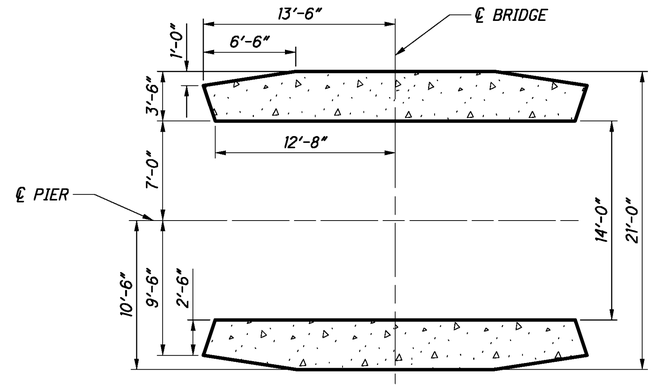
VIEW D-D
(SYMMETRICAL ABOUT ℄ PIER)



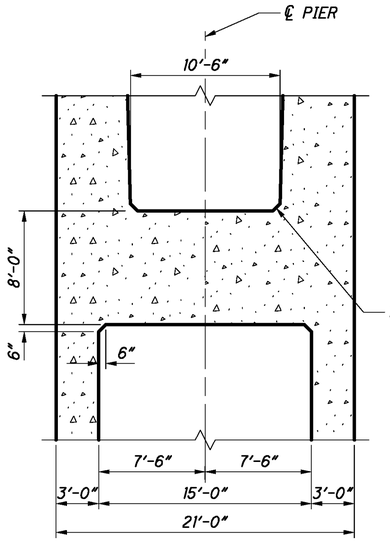
PIER TWIN WALL ELEVATION
(SYMMETRICAL ABOUT ℄ BRIDGE)



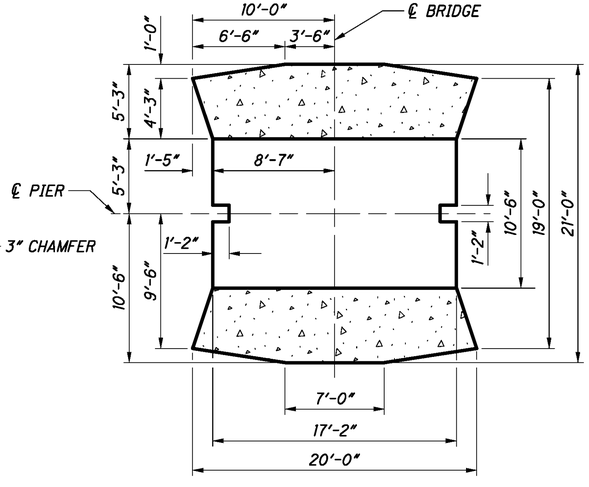
SECTION A-A



SECTION B-B
(SYMMETRICAL ABOUT ℄ PIER AND ℄ BRIDGE)



SECTION E-E



SECTION C-C
(SYMMETRICAL ABOUT ℄ PIER AND ℄ BRIDGE)

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DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

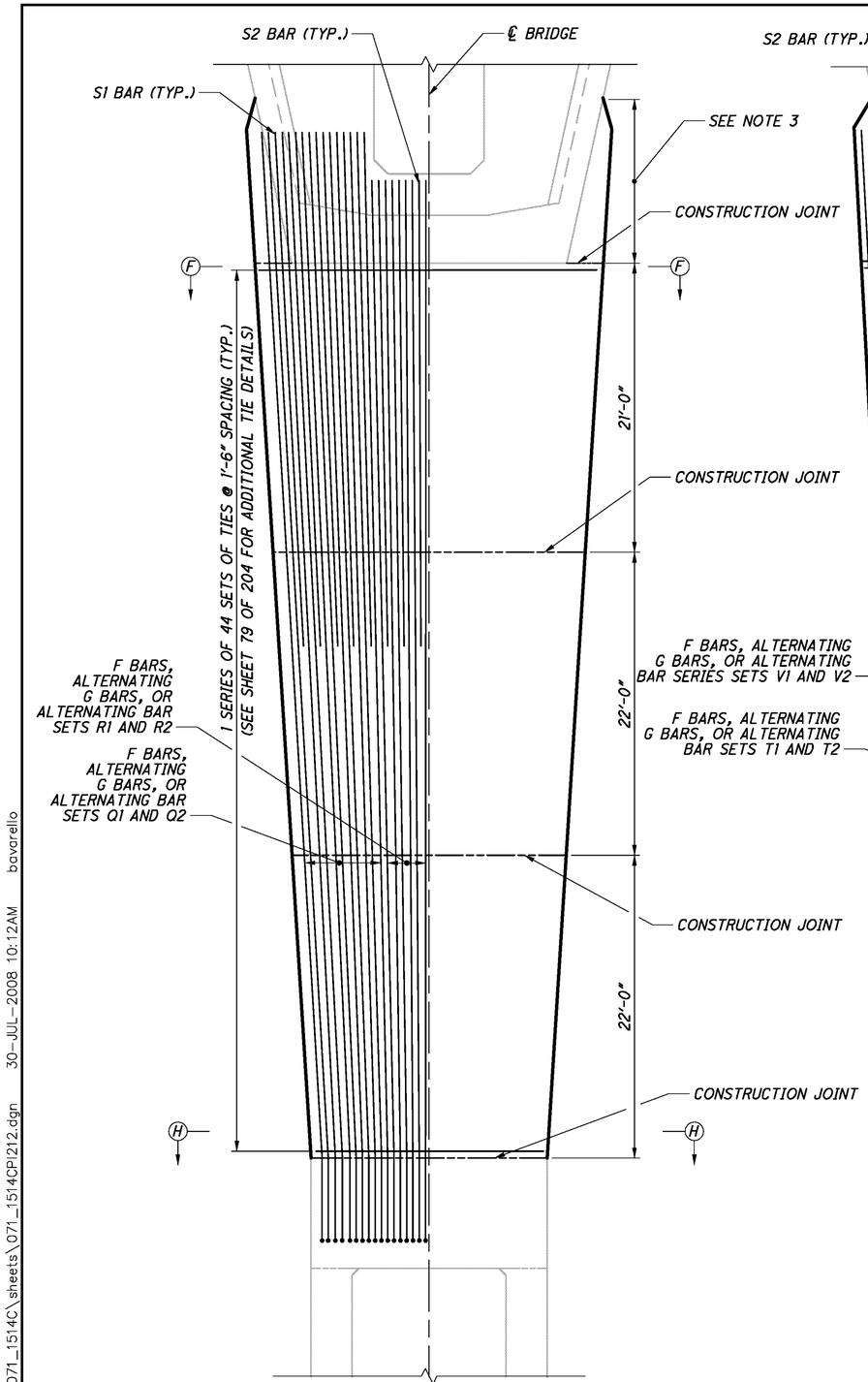
DESIGNED	DRAWN	REVIEWED	DATE
YEH/BTA	JJB/JTW	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJE		8302278L/8302294R	

TYPICAL TWIN WALL GEOMETRY PIERS 1 - 4
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

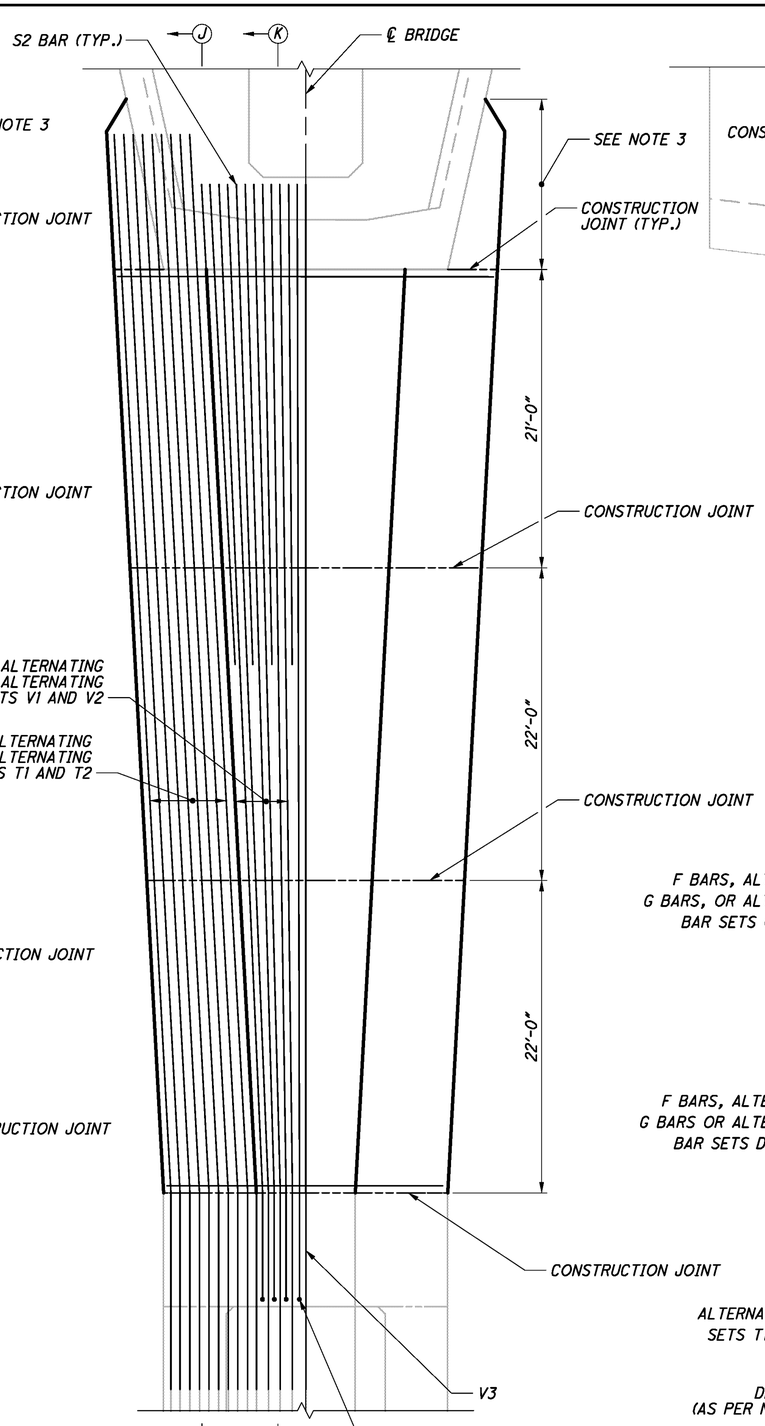
WAR-71-14.20
PID No. 22950

76 / 204

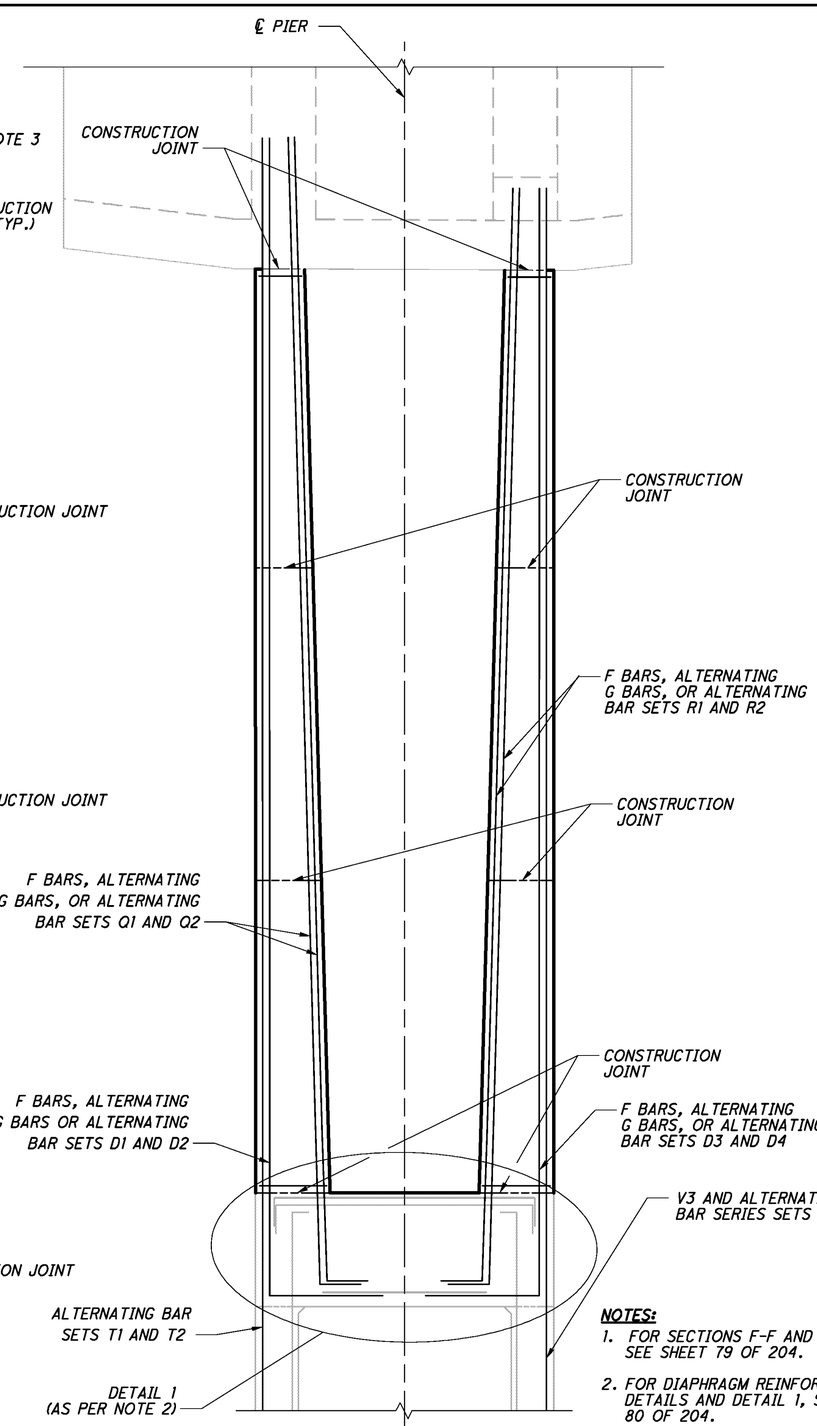
342
470



INSIDE FACE OF TWIN WALL
(SYMMETRIC ABOUT ℄ BRIDGE)



OUTSIDE FACE OF TWIN WALL
(SYMMETRIC ABOUT ℄ BRIDGE)



SECTION J-J SECTION K-K

NOTES:

1. FOR SECTIONS F-F AND H-H, SEE SHEET 79 OF 204.
2. FOR DIAPHRAGM REINFORCING DETAILS AND DETAIL 1, SEE SHEET 80 OF 204.
3. FOR ADDITIONAL REINFORCING AND PORTIONS OF TWIN WALL CAST WITH THE SUPERSTRUCTURE, SEE PIER SEGMENT SHEETS 129 TO 132 OF 204.

TWIN WALL REINFORCING PIERS 1 AND 4

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

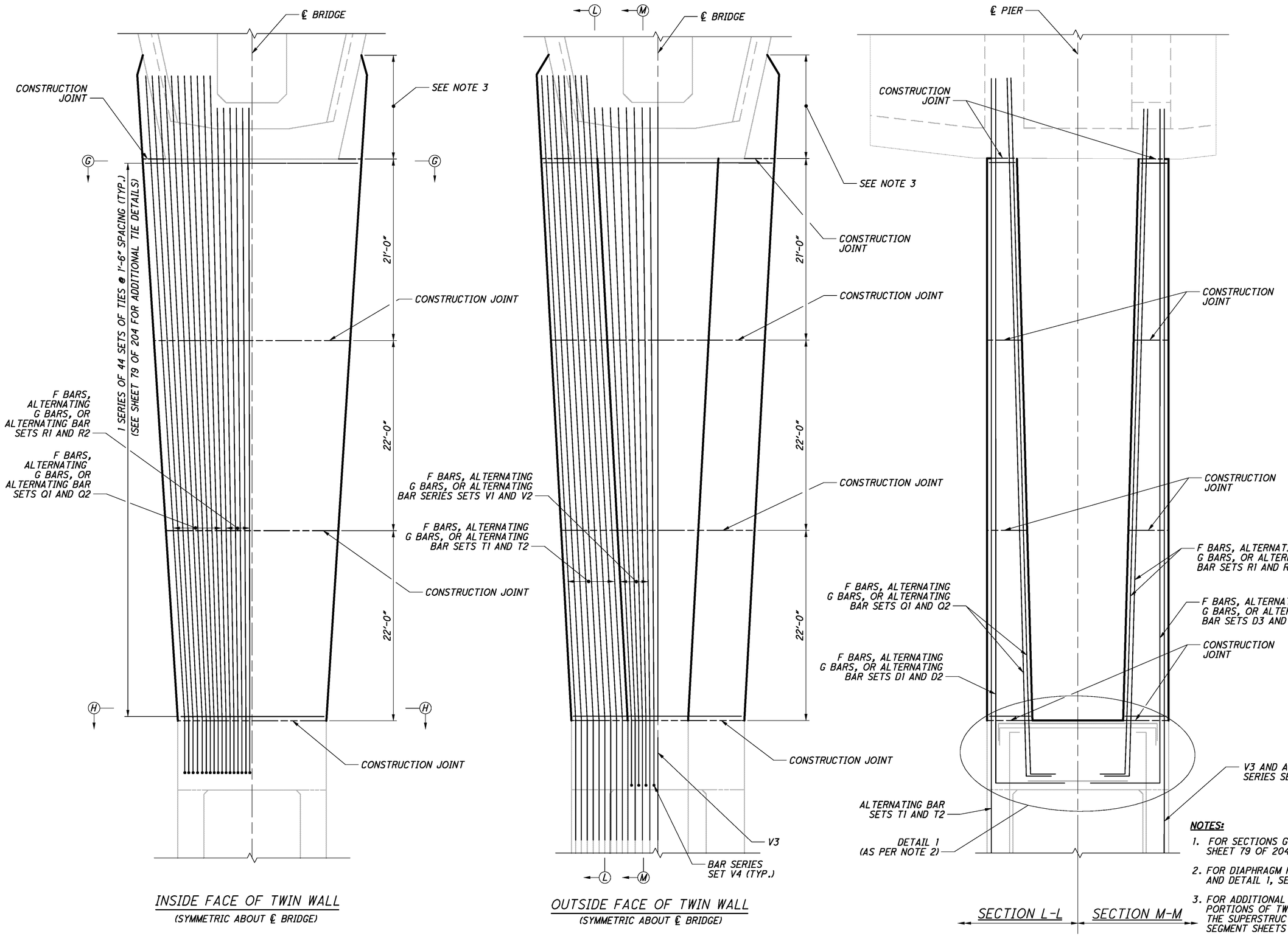
DESIGNED	DRAWN	REVIEWED	DATE
YEH/BTA	JTW	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJE		8302278L/8302294R	

WAR-71-14.20
PID No. 22950

77/204

343/470

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NOTES:

1. FOR SECTIONS G-G AND H-H, SEE SHEET 79 OF 204.
2. FOR DIAPHRAGM REINFORCING DETAILS AND DETAIL 1, SEE SHEET 80 OF 204.
3. FOR ADDITIONAL REINFORCING AND PORTIONS OF TWIN WALL CAST WITH THE SUPERSTRUCTURE, SEE PIER SEGMENT SHEETS 129 TO 132 OF 204.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH/BTA	JTW	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJE		8302278L/8302294R	

TWIN WALL REINFORCING PIERS 2 AND 3

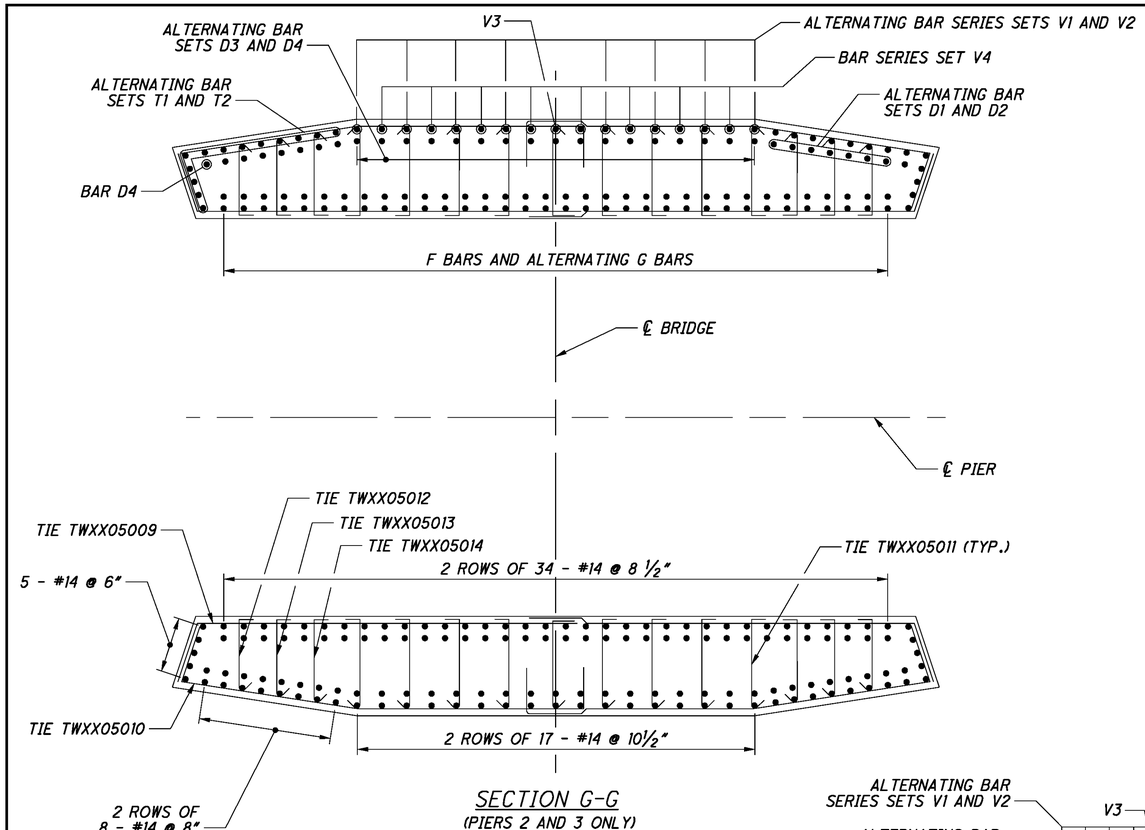
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

78 / 204

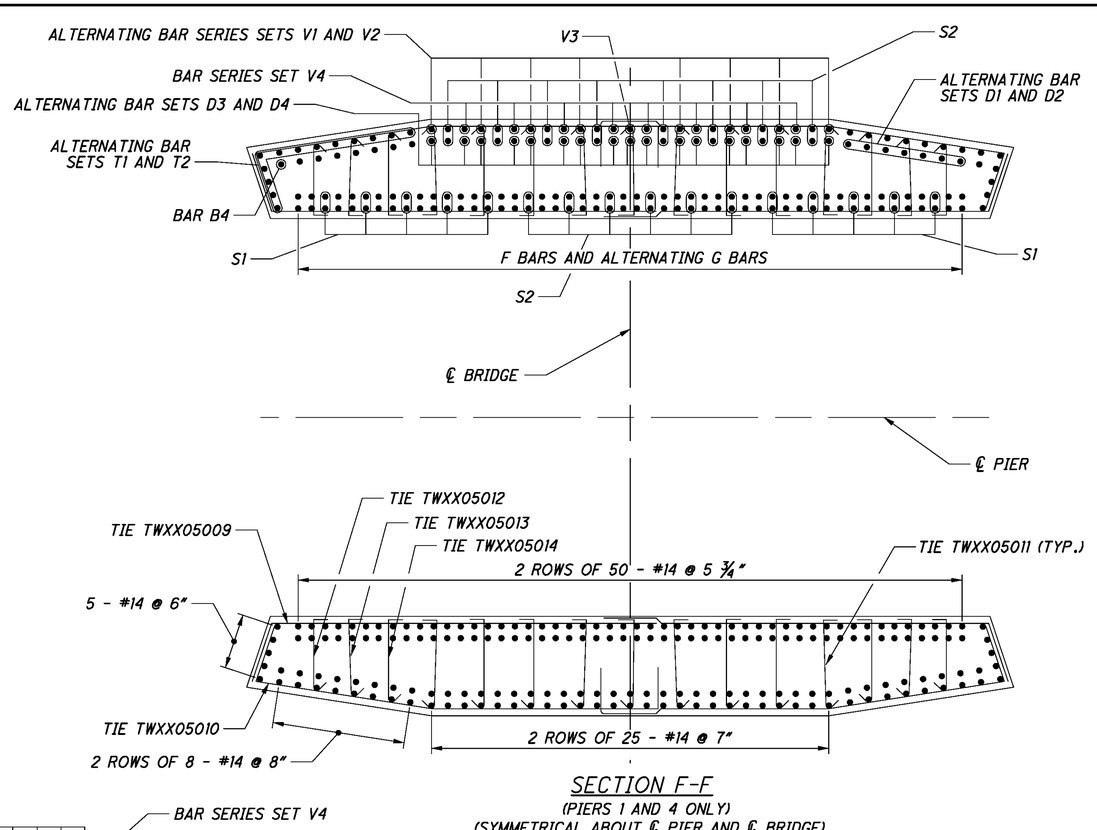
344
470

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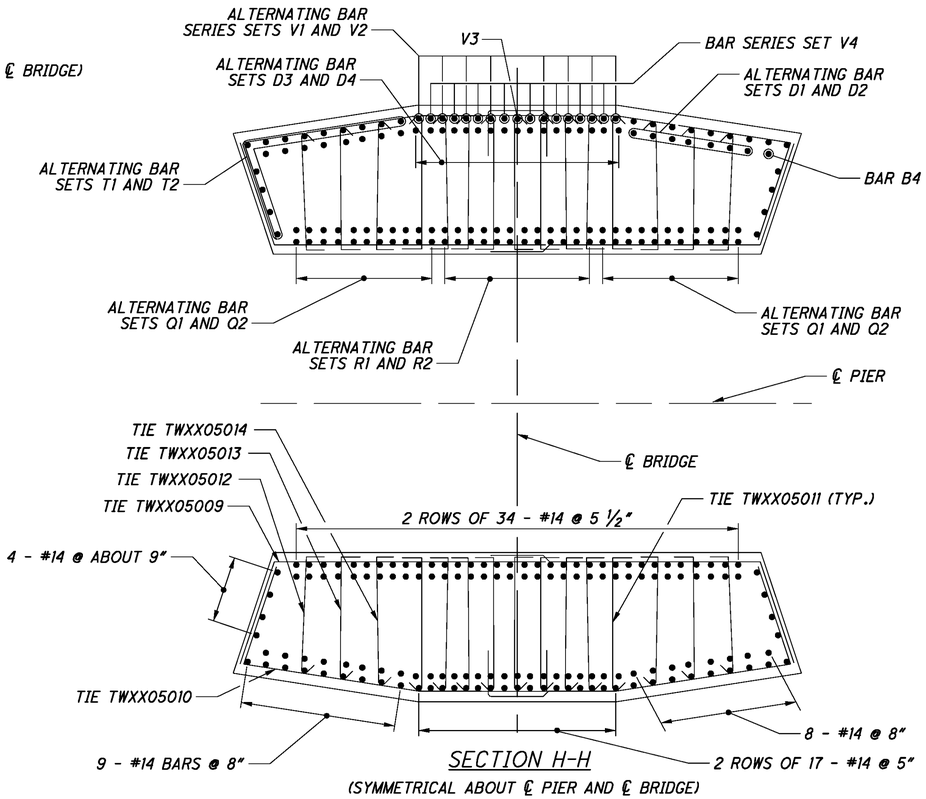
SECTION G-G

(PIERS 2 AND 3 ONLY)
(SYMMETRICAL ABOUT ℄ PIER AND ℄ BRIDGE)



SECTION F-F

(PIERS 1 AND 4 ONLY)
(SYMMETRICAL ABOUT ℄ PIER AND ℄ BRIDGE)



SECTION H-H

(SYMMETRICAL ABOUT ℄ PIER AND ℄ BRIDGE)

TYPICAL TWIN WALL TIE SET	
# OF TIES	BAR MARK
4	TWXX05009
4	TWXX05010
18	TWXX05011
4	TWXX05012
4	TWXX05013
4	TWXX05014

NOTES:

1. FOR LOCATIONS OF SECTIONS F-F AND H-H, SEE SHEET 77 OF 204.
2. FOR LOCATIONS OF SECTIONS G-G AND H-H, SEE SHEET 78 OF 204.
3. FOR TWIN WALL BAR SCHEDULE, SEE SHEETS 83 TO 86 OF 204.
4. FOR TWIN WALL BAR PREFIX TWXX, THE FIRST X WILL EQUAL THE PIER NUMBER AND THE SECOND X WILL DESIGNATE THE NORTHBOUND OR SOUTHBOUND PIER. FOR EXAMPLE, PIER ONE SOUTHBOUND TWIN WALL WILL HAVE A BAR PREFIX OF TWIS.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH/BTA	JTW	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJE		8302278L/8302294R	

TWIN WALL REINFORCING DETAILS 1

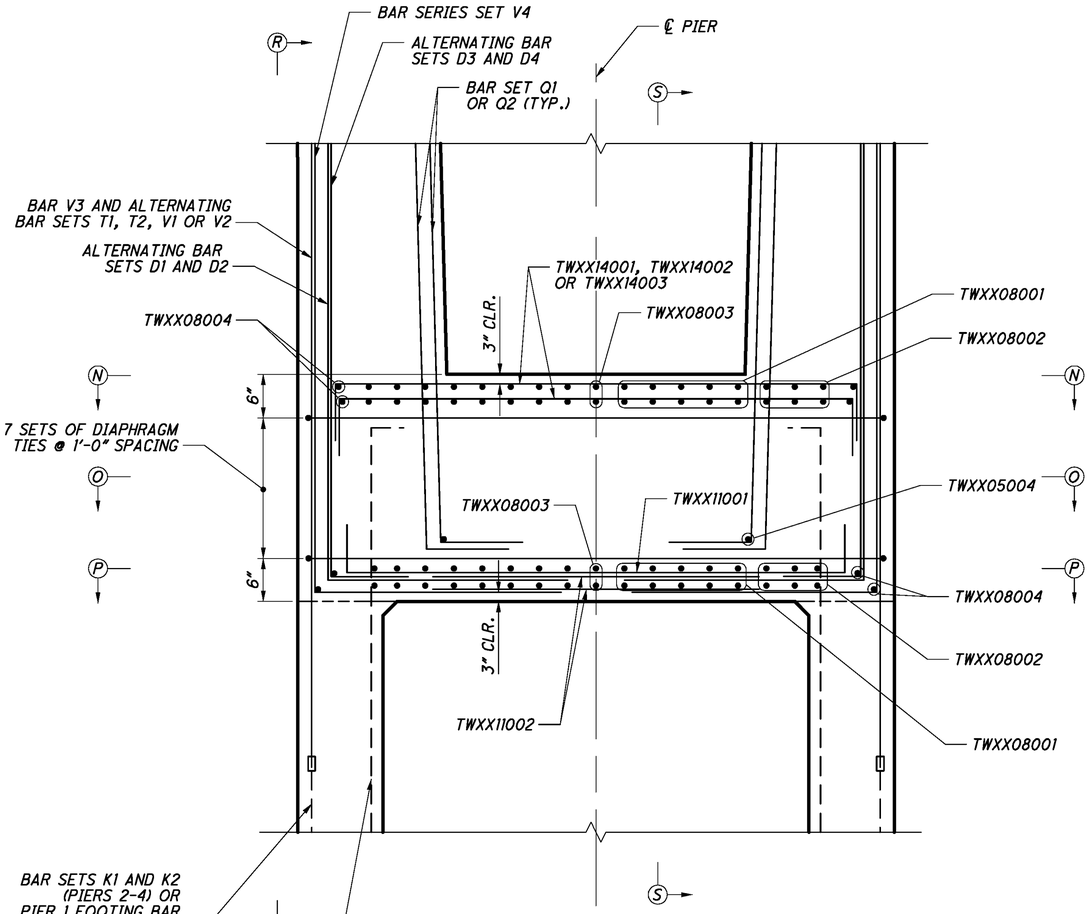
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

79 / 204

345 / 470

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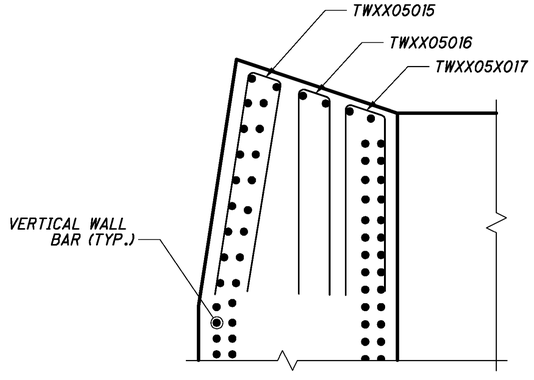


DETAIL 1
(SYMMETRICAL ABOUT ℄ PIER)

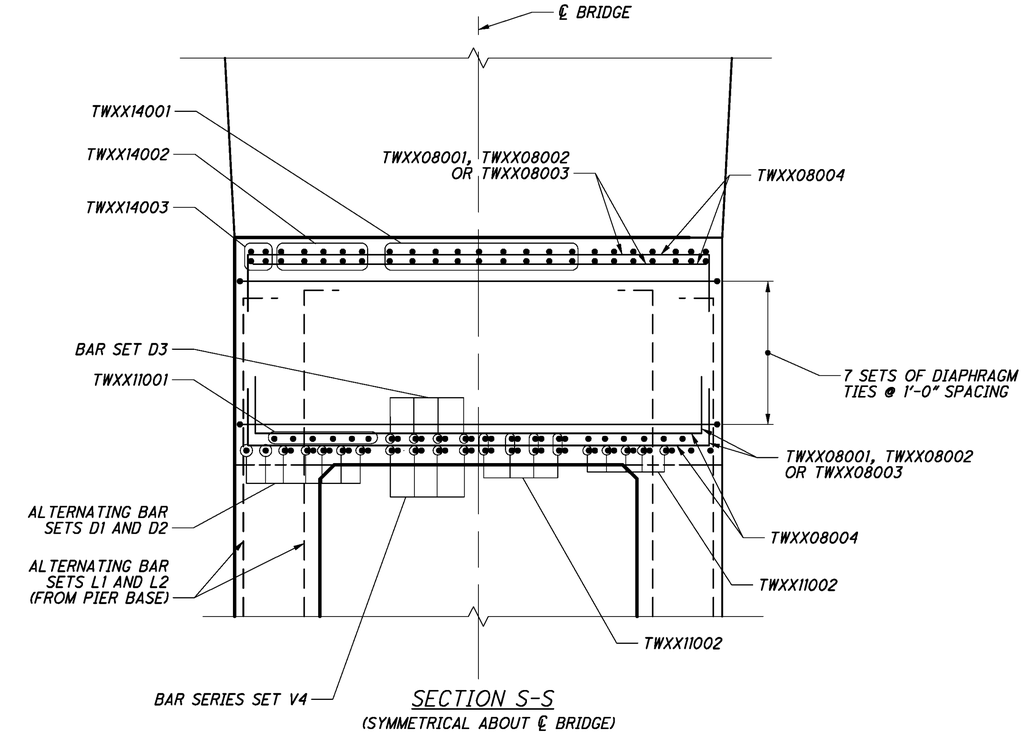
TYPICAL DIAPHRAGM TIE SET			
# OF TIES	BAR MARK	# OF TIES	BAR MARK
4	TWXX05001	4	TWXX05007
4	TWXX05002	2	TWXX05008
2	TWXX05003		
4	TWXX05004		
4	TWXX05005		
4	TWXX05006		

NOTES:

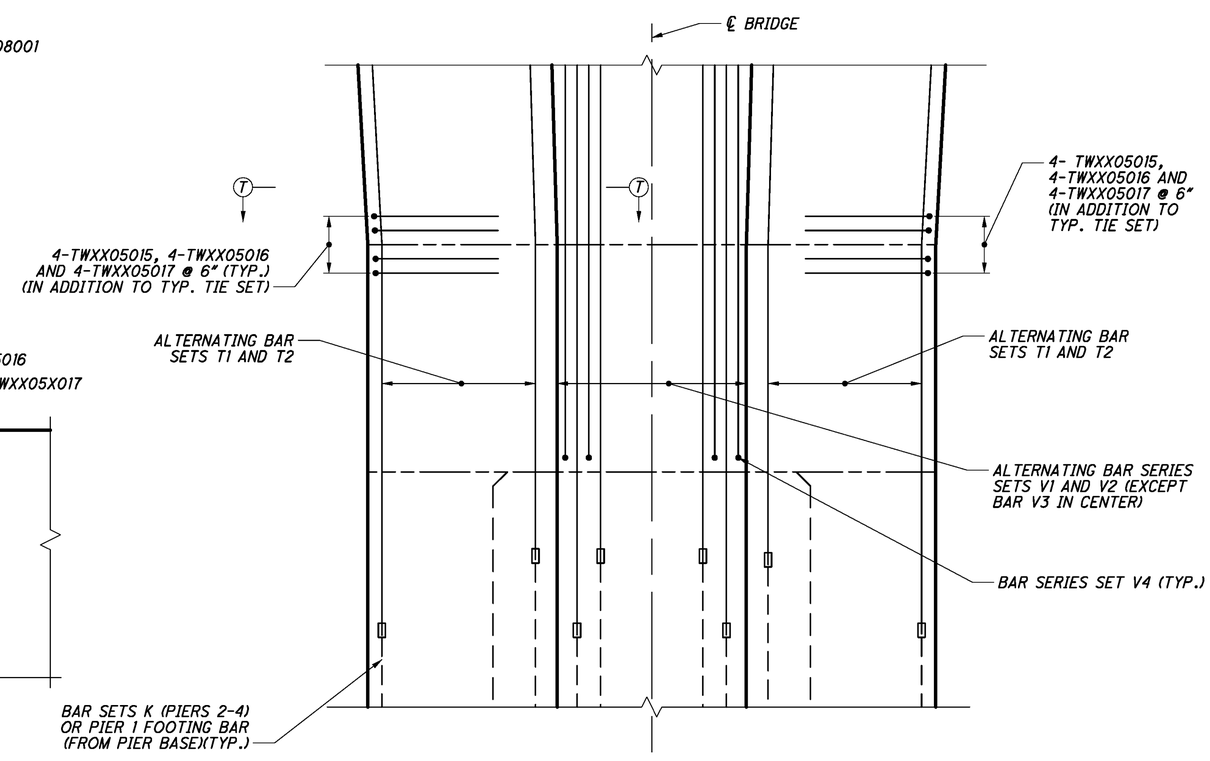
1. FOR LOCATION OF DETAIL 1, SEE SHEETS 77 AND 78 OF 204.
2. FOR SECTIONS N-N, O-O AND P-P, SEE SHEET 81 OF 204.
3. FOR TWIN WALL BAR SCHEDULE, SEE SHEETS 83 TO 86 OF 204.
4. FOR TWIN WALL BAR PREFIX TWXX, THE FIRST X WILL EQUAL THE PIER NUMBER AND THE SECOND X WILL DESIGNATE THE NORTHBOUND OR SOUTHBOUND PIER. FOR EXAMPLE, PIER ONE SOUTHBOUND TWIN WALL WILL HAVE A BAR PREFIX OF TW1S.



SECTION T-T



SECTION S-S
(SYMMETRICAL ABOUT ℄ BRIDGE)



VIEW R-R

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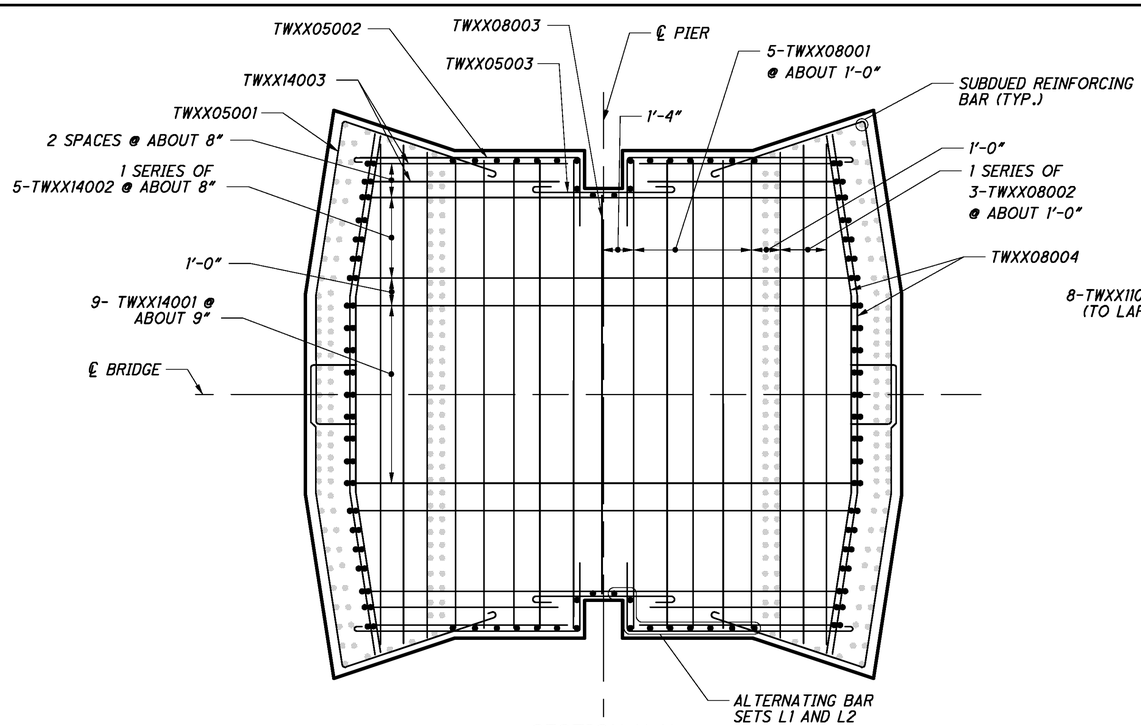
DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH/BTA	JTW	RHW	03/21/08

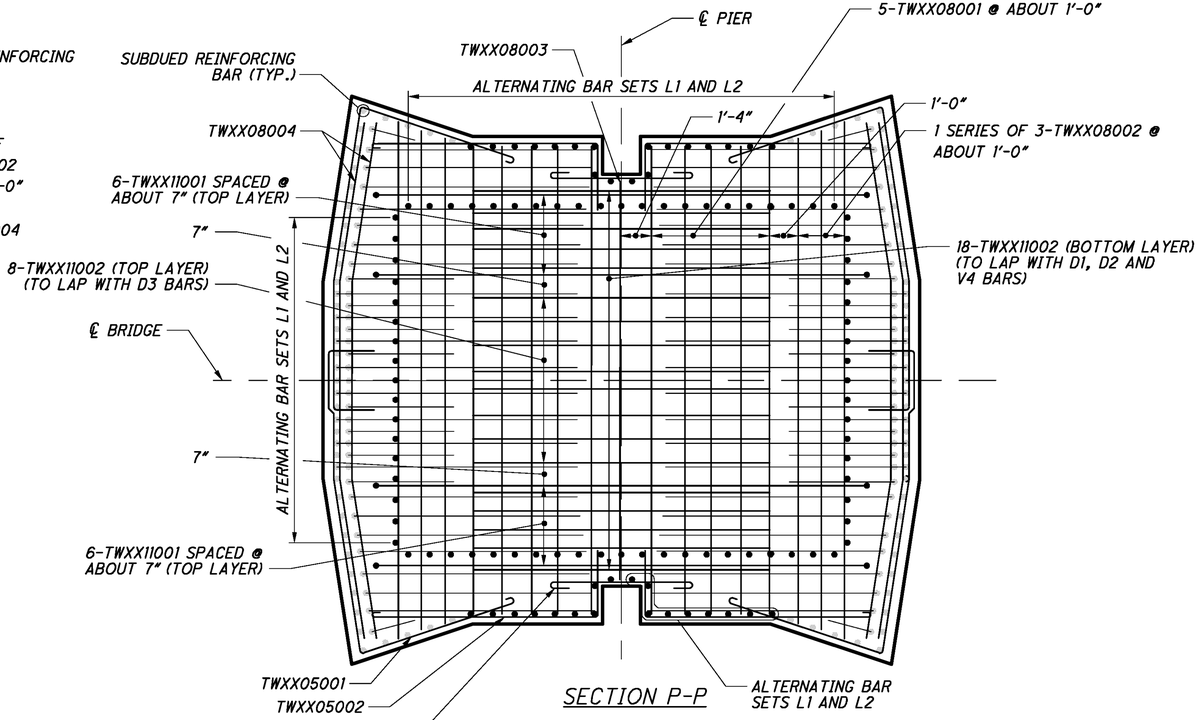
CHECKED TJE
REVISED
STRUCTURE FILE NUMBER 8302278L/8302294R

TWIN WALL REINFORCING DETAILS 2
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

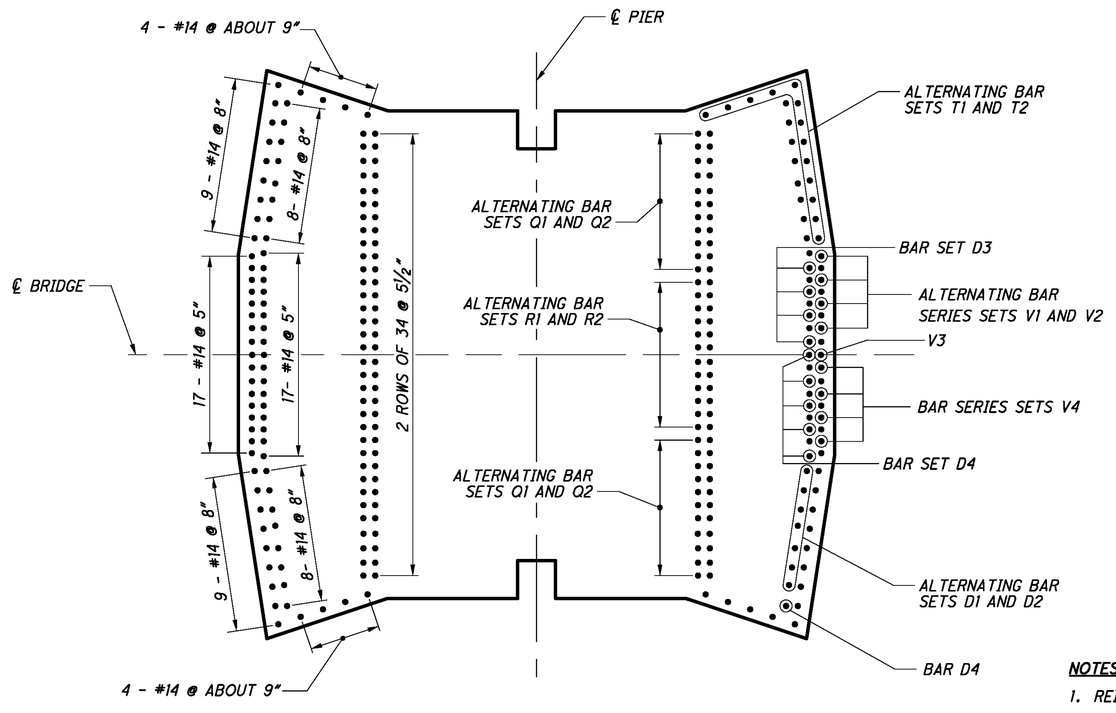
WAR-71-14.20
PID No. 22950



SECTION N-N

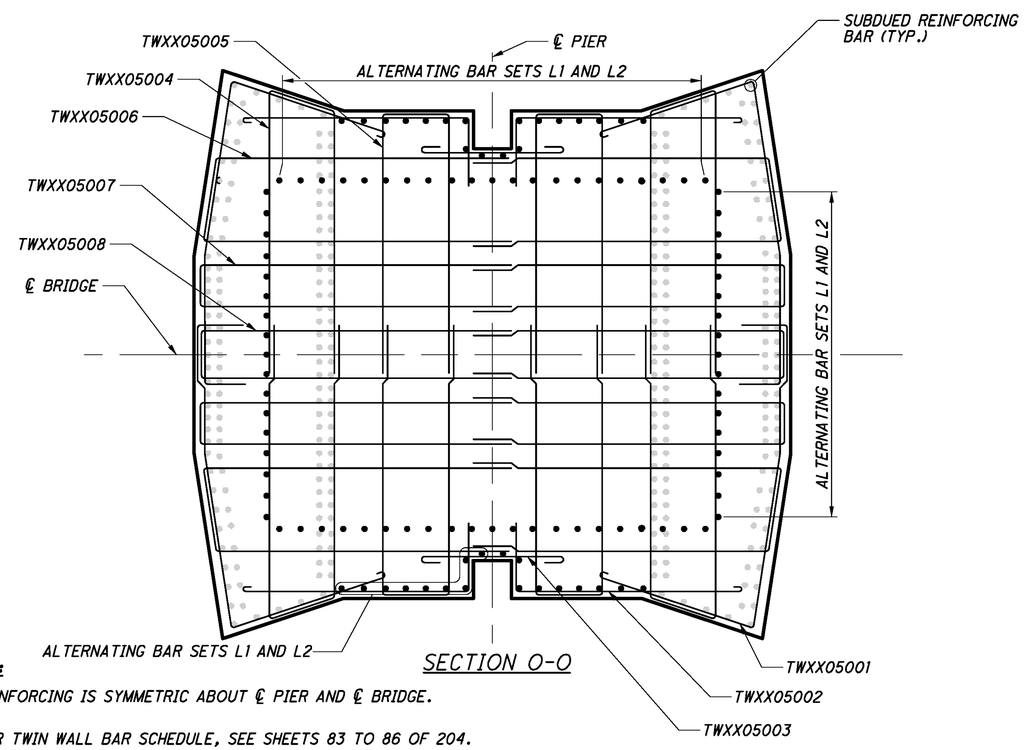


SECTION P-P



REINFORCING THAT EXTENDS INTO TWIN WALLS

(BARS SHOWN SUBDUED IN OTHER SECTIONS)



SECTION O-O

NOTES:

1. REINFORCING IS SYMMETRIC ABOUT ℄ PIER AND ℄ BRIDGE.
2. FOR TWIN WALL BAR SCHEDULE, SEE SHEETS 83 TO 86 OF 204.
3. FOR TWIN WALL BAR PREFIX TWXX, THE FIRST X WILL EQUAL THE PIER NUMBER AND THE SECOND X WILL DESIGNATE THE NORTHBOUND OR SOUTHBOUND PIER. FOR EXAMPLE, PIER ONE SOUTHBOUND TWIN WALL WILL HAVE A BAR PREFIX OF TW1S.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJE		8302278L/8302294R	

TWIN WALL REINFORCING DETAILS 3

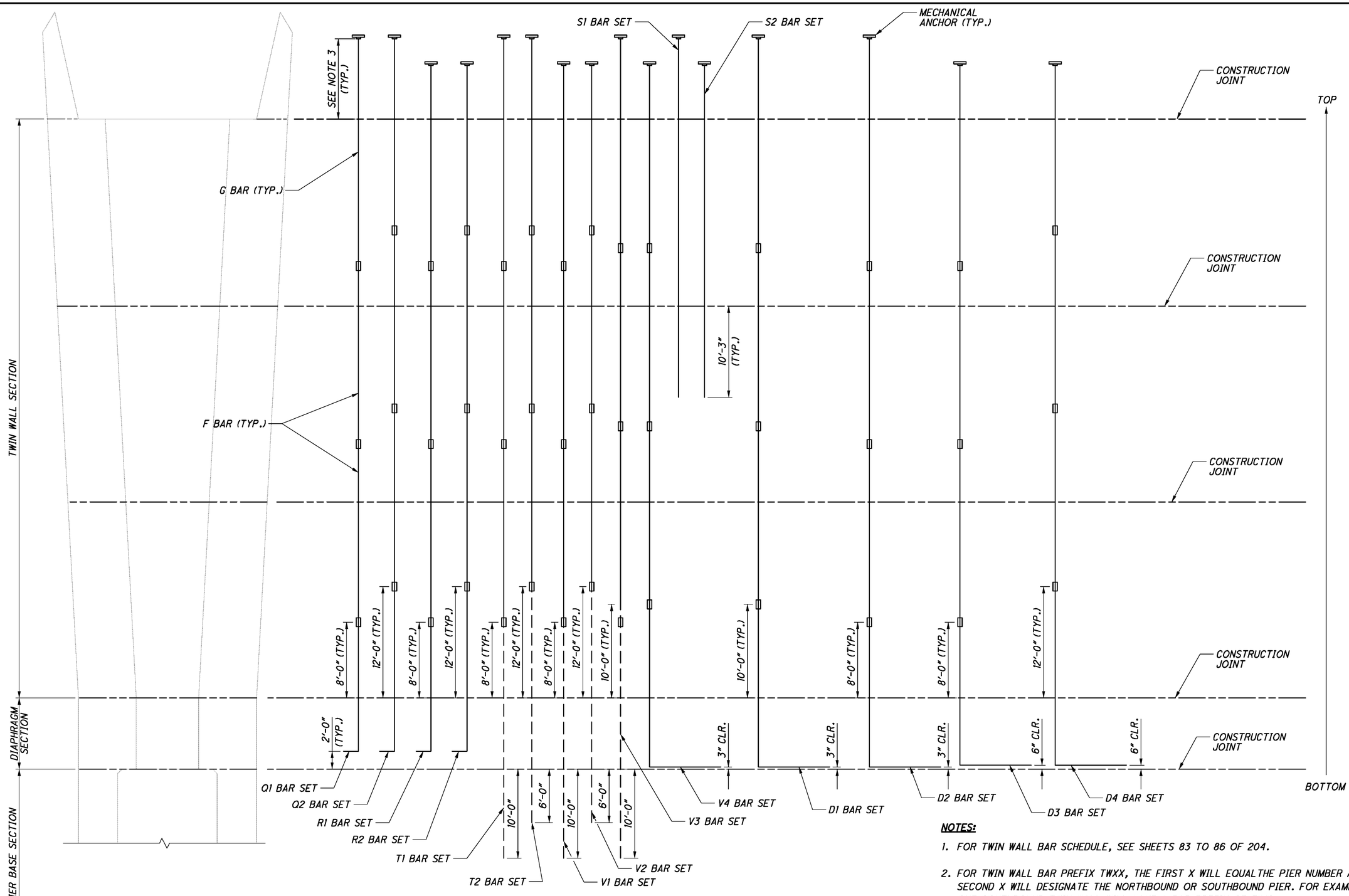
BRIDGE NO. WAR-71-1514L/R

INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20

PID No. 22950

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BAR SET LIST															
V4	Q1	Q2	R1	R2	D1	D2	D3	D4	F	G1	G2	G3	S1	S2
TWXX14004	TWXX14005	TWXX14006	TWXX14007	TWXX14008	TWXX14009	TWXX14010	TWXX14011	TWXX14012	TWXX14013	TWXX14014	TWXX14015	TWXX14016	TWXX14017	TWXX14018

NOTES:

1. *FOR TWIN WALL BAR SCHEDULE, SEE SHEETS 83 TO 86 OF 204.*
2. *FOR TWIN WALL BAR PREFIX TWXX, THE FIRST X WILL EQUALTHE PIER NUMBER AND THE SECOND X WILL DESIGNATE THE NORTHBOUND OR SOUTHBOUND PIER. FOR EXAMPLE, PIER ONE SOUTHBOUND TWIN WALL WILL HAVE A BAR PREFIX OF TWIS.*
3. *THE MINIMUM EMBEDMENT LENGTH, WHICH IS TO BE USED FOR QUANTITY PURPOSES ONLY, WAS DETERMINED AS 1'-9". THE ACTUAL EMBEDMENT LENGTHS SHALL BE DETERMINED BY THE MECHANICAL ANCHOR MANUFACTURER.*
4. *FOR T1, T2, V1, V2 AND V3 BAR INFORMATION, SEE PIER BASE REINFORCEMENT DETAILS.*

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

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CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJE		8302278L/8302294R	

TWIN WALL REINFORCING DETAILS 4

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS												
					A	B	C	D	E	F	R	INC A	INC B	INC C	INC D	INC E	INC F
PIER 1 NORTHBOUND TWIN WALL																	
TWIN05001	28	17'-6"	511	018	4'-5"	6'-1"	11"	5'-6"	1'-10"	10"							
TWIN05002	28	11'-3"	329	023	8'-8"	2'-2"											
TWIN05003	14	6'-2"	90	016	5'-0"												
TWIN05004	28	24'-4"	711	106	9'-7"	11"	2'-5"	12'-5"									
TWIN05005	28	21'-4"	623	129	9'-7"	2'-5"											
TWIN05006	28	25'-7"	747	106	11'-6"	5"	2'-10"	11'-6"									
TWIN05007	28	24'-2"	706	129	11'-6"	1'-5"											
TWIN05008	28	24'-3"	708	129	11'-6"	1'-6"											
TWIN05009	4 SER 44	13'-5"	2662	004	9'-7"	1'-2"	3'-9"					1⅛"	⅛"	½"			
		15'-7"			13'-8"	7"	2'-0"										
TWIN05010	4 SER 44	15'-7"	3006	029	4'-9"	6'-3"	11"	3'-9"	1'-4"	10"		1"			½"	⅛"	
		17'-2"			8'-3"			2'-0"	8"								
TWIN05011	18 SER 44	5'-11"	4165	013	4'-9"	10"						½"					
		4'-2"			3'-0"												
TWIN05012	4 SER 44	5'-3"	803	013	4'-1"	10"						½"					
		3'-6"			2'-4"												
TWIN05013	4 SER 44	5'-5"	834	013	4'-3"	10"						½"					
		3'-8"			2'-6"												
TWIN05014	4 SER 44	5'-8"	880	013	4'-6"	10"						½"					
		3'-11"			2'-9"												
TWIN05015	16	12'-10"	214	106	6'-1"	1"	11"	6'-1"									
TWIN05016	16	12'-0"	200	106	5'-8"	1"	11"	5'-8"									
TWIN05017	16	10'-9"	179	106	5'-2"	3"	11"	4'-11"									
TWIN08001	40	18'-9"	2003	129	1'-4"	16'-6"											
TWIN08002	8 SER 3	19'-6"	1292	129	1'-4"	17'-3"							8"				
		20'-10"			1'-4"	18'-7"											
TWIN08003	4	16'-7"	177	129	1'-4"	14'-4"											
TWIN08004	8	18'-1"	386	006	11"	5'-6"	7'-0"	5'-6"	11"								
TWIN11001	12	21'-4"	1360	129	2'-0"	18'-0"											
TWIN11002	26	17'-0"	2348	STR													
TWIN14001	18	22'-6"	3098	129	2'-8"	18'-2"											
TWIN14002	4 SER 5	22'-5"	3398	129	2'-8"	18'-1"							1¼"				
		22'-0"				17'-8"											
TWIN14003	16	19'-5"	1153	003	7'-3"	2'-8"											
TWIN14004	4 SER 4	24'-9"	3029	028	7'-9"	10'-0"	1"	7'-6"					1⅝"				
		24'-9"					6"										
TWIN14005	44	16'-2"	5442	028	6'-0"	8'-0"	5"	2'-8"									
TWIN14006	44	20'-2"	6788	028	6'-0"	12'-0"	8"	2'-8"									
TWIN14007	24	16'-2"	2968	020	14'-0"	2'-8"											
TWIN14008	24	20'-2"	3703	020	18'-0"	2'-8"											
TWIN14009	14	24'-9"	2651	020	17'-9"	7'-6"											
TWIN14010	14	22'-9"	2437	020	15'-9"	7'-6"											
TWIN14011	16	22'-6"	2754	020	15'-6"	7'-6"											
TWIN14012	22	26'-6"	4460	020	19'-6"	7'-6"											
TWIN14013	576	22'-0"	96941	026	22'-0"												
TWIN14014	133	15'-0"	15262	021	15'-0"												
TWIN14015	34	13'-0"	3381	021	13'-0"												
TWIN14016	121	11'-0"	10182	021	11'-0"												
TWIN14017	48	33'-0"	12118	021	33'-0"												
TWIN14018	48	35'-0"	12852	021	35'-0"												
		SUB-TOTAL	217551														

NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN.
   FOR EXAMPLE: TWIN05001
   TWI: LOCATION OF THE BAR IN THE STRUCTURE (TWIN WALLS OF PIER 1)
   N: LOCATION OF THE STRUCTURE (NORTHBOUND)
   05: BAR SIZE (#5 BAR)
   001: BAR SEQUENCE NUMBER

2. 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 BAR. STRAIGHT BARS ARE INDICATED BY "STR".

3. ALL REINFORCING STEEL IS TO BE EPOXY COATED.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
JJB	JJB	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RSB		8302278L/8302294R	

TWIN WALL BAR SCHEDULE - PIER 1 NORTHBOUND
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

83/204

349/470

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MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS												
					A	B	C	D	E	F	R	INC A	INC B	INC C	INC D	INC E	INC F
PIER 1 SOUTHBOUND TWIN WALL																	
TWIS05001	28	17'-6"	511	018	4'-5"	6'-1"	11"	5'-6"	1'-10"	10"							
TWIS05002	28	11'-3"	329	023	8'-8"	2'-2"											
TWIS05003	14	6'-2"	90	016	5'-0"												
TWIS05004	28	24'-4"	711	106	9'-7"	11"	2'-5"	12'-5"									
TWIS05005	28	21'-4"	623	129	9'-7"	2'-5"											
TWIS05006	28	25'-7"	747	106	11'-6"	5"	2'-10"	11'-6"									
TWIS05007	28	24'-2"	706	129	11'-6"	1'-5"											
TWIS05008	28	24'-3"	708	129	11'-6"	1'-6"											
TWIS05009	4 SER 44	13'-5"	2662	004	9'-7"	1'-2"	3'-9"					1⅛"	⅛"	½"			
		15'-7"			13'-8"	7"	2'-0"										
TWIS05010	4 SER 44	15'-7"	3006	029	4'-9"	6'-3"	11"	3'-9"	1'-4"	10"		1"			½"	⅛"	
		17'-2"			8'-3"			2'-0"	8"								
TWIS05011	18 SER 44	5'-11"	4165	013	4'-9"	10"						½"					
		4'-2"			3'-0"												
TWIS05012	4 SER 44	5'-3"	803	013	4'-1"	10"						½"					
		3'-6"			2'-4"												
TWIS05013	4 SER 44	5'-5"	834	013	4'-3"	10"						½"					
		3'-8"			2'-6"												
TWIS05014	4 SER 44	5'-8"	880	013	4'-6"	10"						½"					
		3'-11"			2'-9"												
TWIS05015	16	12'-10"	214	106	6'-1"	1"	11"	6'-1"									
TWIS05016	16	12'-0"	200	106	5'-8"	1"	11"	5'-8"									
TWIS05017	16	10'-9"	179	106	5'-2"	3"	11"	4'-11"									
TWIS08001	40	18'-9"	2003	129	1'-4"	16'-6"											
TWIS08002	8 SER 3	19'-6"	1292	129	1'-4"	17'-3"							8"				
		20'-10"			1'-4"	18'-7"											
TWIS08003	4	16'-7"	177	129	1'-4"	14'-4"											
TWIS08004	8	18'-1"	386	006	11"	5'-6"	7'-0"	5'-6"	11"								
TWIS11001	12	21'-4"	1360	129	2'-0"	18'-0"											
TWIS11002	26	17'-0"	2348	STR													
TWIS14001	18	22'-6"	3098	129	2'-8"	18'-2"											
TWIS14002	4 SER 5	22'-5"	3398	129	2'-8"	18'-1"							1¼"				
		22'-0"				17'-8"											
TWIS14003	16	19'-5"	1153	003	7'-3"	2'-8"											
TWIS14004	4 SER 4	24'-9"	3029	028	7'-9"	10'-0"	1"	7'-6"					1⅝"				
		24'-9"					6"										
TWIS14005	44	16'-2"	5442	028	6'-0"	8'-0"	5"	2'-8"									
TWIS14006	44	20'-2"	6788	028	6'-0"	12'-0"	8"	2'-8"									
TWIS14007	24	16'-2"	2968	020	14'-0"	2'-8"											
TWIS14008	24	20'-2"	3703	020	18'-0"	2'-8"											
TWIS14009	14	24'-9"	2651	020	17'-9"	7'-6"											
TWIS14010	14	22'-9"	2437	020	15'-9"	7'-6"											
TWIS14011	16	22'-6"	2754	020	15'-6"	7'-6"											
TWIS14012	22	26'-6"	4460	020	19'-6"	7'-6"											
TWIS14013	576	22'-0"	96941	026	22'-0"												
TWIS14014	133	15'-0"	15262	021	15'-0"												
TWIS14015	34	13'-0"	3381	021	13'-0"												
TWIS14016	121	11'-0"	10182	021	11'-0"												
TWIS14017	48	33'-0"	12118	021	33'-0"												
TWIS14018	48	35'-0"	12852	021	35'-0"												
		SUB-TOTAL	217551														

NOTES:

1. *THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN.*
   FOR EXAMPLE: TWIS05001
   TWI: LOCATION OF THE BAR IN THE STRUCTURE (TWIN WALL OF PIER 1)
   S: LOCATION OF THE STRUCTURE (SOUTHBOUND)
   05: BAR SIZE (#5 BAR)
   001: BAR SEQUENCE NUMBER

2. *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 BAR. STRAIGHT BARS ARE INDICATED BY "STR".*

3. *ALL REINFORCING STEEL IS TO BE EPOXY COATED.*

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED JJB | DRAWN JJB | REVIEWED RHW | DATE 03/21/08
CHECKED RSB | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

TWIN WALL BAR SCHEDULE - PIER 1 SOUTHBOUND
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

83A/204

349A/470

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MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS												
					A	B	C	D	E	F	R	INC A	INC B	INC C	INC D	INC E	INC F
PIER 2 NORTHBOUND TWIN WALL																	
TW2N05001	28	17'-6"	511	018	4'-5"	6'-1"	11"	5'-6"	1'-10"	10"							
TW2N05002	28	11'-3"	329	023	8'-8"	2'-2"											
TW2N05003	14	6'-2"	90	016	5'-0"												
TW2N05004	28	24'-4"	711	106	9'-7"	11"	2'-5"	12'-5"									
TW2N05005	28	21'-4"	623	129	9'-7"	2'-5"											
TW2N05006	28	25'-7"	747	106	11'-6"	5"	2'-10"	11'-6"									
TW2N05007	28	24'-2"	706	129	11'-6"	1'-5"											
TW2N05008	28	24'-3"	708	129	11'-6"	1'-6"											
TW2N05009	4 SER 44	13'-5"	2662	004	9'-7"	1'-2"	3'-9"					1⅛"	⅛"	½"			
		15'-7"			13'-8"	7"	2'-0"										
TW2N05010	4 SER 44	15'-7"	3006	029	4'-9"	6'-3"	11"	3'-9"	1'-4"	10"		1"			½"	⅛"	
		17'-2"			8'-3"			2'-0"	8"								
TW2N05011	18 SER 44	5'-11"	4165	013	4'-9"	10"						½"					
		4'-2"			3'-0"												
TW2N05012	4 SER 44	5'-3"	803	013	4'-1"	10"						½"					
		3'-6"			2'-4"												
TW2N05013	4 SER 44	5'-5"	834	013	4'-3"	10"						½"					
		3'-8"			2'-6"												
TW2N05014	4 SER 44	5'-8"	880	013	4'-6"	10"						½"					
		3'-11"			2'-9"												
TW2N05015	16	12'-10"	214	106	6'-1"	1"	11"	6'-1"									
TW2N05016	16	12'-0"	200	106	5'-8"	1"	11"	5'-8"									
TW2N05017	16	10'-9"	179	106	5'-2"	3"	11"	4'-11"									
TW2N08001	40	18'-9"	2003	129	1'-4"	16'-6"											
TW2N08002	8 SER 3	19'-6"	1292	129	1'-4"	17'-3"							8"				
		20'-10"			1'-4"	18'-7"											
TW2N08003	4	16'-7"	177	129	1'-4"	14'-4"											
TW2N08004	8	18'-1"	386	006	11"	5'-6"	7'-0"	5'-6"	11"								
TW2N11001	12	21'-4"	1360	129	2'-0"	18'-0"											
TW2N11002	26	17'-0"	2348	STR													
TW2N14001	18	22'-6"	3098	129	2'-8"	18'-2"											
TW2N14002	4 SER 5	22'-5"	3398	129	2'-8"	18'-1"							1¼"				
		22'-0"				17'-8"											
TW2N14003	16	19'-5"	1153	003	7'-3"	2'-8"											
TW2N14004	4 SER 4	24'-9"	3029	028	7'-9"	10'-0"	1"	7'-6"					1⅝"				
		24'-9"					6"										
TW2N14005	44	16'-2"	5442	028	6'-0"	8'-0"	5"	2'-8"									
TW2N14006	44	20'-2"	6788	028	6'-0"	12'-0"	8"	2'-8"									
TW2N14007	24	16'-2"	2968	020	14'-0"	2'-8"											
TW2N14008	24	20'-2"	3703	020	18'-0"	2'-8"											
TW2N14009	14	24'-9"	2651	020	17'-9"	7'-6"											
TW2IN14010	14	22'-9"	2437	020	15'-9"	7'-6"											
TW2N14011	16	22'-6"	2754	020	15'-6"	7'-6"											
TW2N14012	22	26'-6"	4460	020	19'-6"	7'-6"											
TW2N14013	576	22'-0"	96941	026	22'-0"												
TW2N14014	133	15'-0"	15262	021	15'-0"												
TW2N14015	34	13'-0"	3381	021	13'-0"												
TW2N14016	121	11'-0"	10182	021	11'-0"												
		SUB-TOTAL	192581														

NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN.
   FOR EXAMPLE: TWIN05002
   TW2: LOCATION OF THE BAR IN THE STRUCTURE (TWIN WALLS OF PIER 2)
   N: LOCATION OF THE STRUCTURE (NORTHBOUND)
   05: BAR SIZE (#5 BAR)
   001: BAR SEQUENCE NUMBER

2. 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 BAR. STRAIGHT BARS ARE INDICATED BY "STR".

3. ALL REINFORCING STEEL IS TO BE EPOXY COATED.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED JJB | DRAWN JJB | CHECKED RSB | REVIEWED RHW | DATE 03/21/08 | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

TWIN WALL BAR SCHEDULE - PIER 2 NORTHBOUND
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

84/204

350/470

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MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS												
					A	B	C	D	E	F	R	INC A	INC B	INC C	INC D	INC E	INC F
PIER 2 SOUTHBOUND TWIN WALL																	
TW2S05001	28	17'-6"	511	018	4'-5"	6'-1"	11"	5'-6"	1'-10"	10"							
TW2S05002	28	11'-3"	329	023	8'-8"	2'-2"											
TW2S05003	14	6'-2"	90	016	5'-0"												
TW2S05004	28	24'-4"	711	106	9'-7"	11"	2'-5"	12'-5"									
TW2S05005	28	21'-4"	623	129	9'-7"	2'-5"											
TW2S05006	28	25'-7"	747	106	11'-6"	5"	2'-10"	11'-6"									
TW2S05007	28	24'-2"	706	129	11'-6"	1'-5"											
TW2S05008	28	24'-3"	708	129	11'-6"	1'-6"											
TW2S05009	4 SER 44	13'-5"	2662	004	9'-7"	1'-2"	3'-9"					1⅛"	⅛"	½"			
		15'-7"			13'-8"	7"	2'-0"										
TW2S05010	4 SER 44	15'-7"	3006	029	4'-9"	6'-3"	11"	3'-9"	1'-4"	10"		1"			½"	⅛"	
		17'-2"			8'-3"			2'-0"	8"								
TW2S05011	18 SER 44	5'-11"	4165	013	4'-9"	10"						½"					
		4'-2"			3'-0"												
TW2S05012	4 SER 44	5'-3"	803	013	4'-1"	10"						½"					
		3'-6"			2'-4"												
TW2S05013	4 SER 44	5'-5"	834	013	4'-3"	10"						½"					
		3'-8"			2'-6"												
TW2S05014	4 SER 44	5'-8"	880	013	4'-6"	10"						½"					
		3'-11"			2'-9"												
TW2S05015	16	12'-10"	214	106	6'-1"	1"	11"	6'-1"									
TW2S05016	16	12'-0"	200	106	5'-8"	1"	11"	5'-8"									
TW2S05017	16	10'-9"	179	106	5'-2"	3"	11"	4'-11"									
TW2S08001	40	18'-9"	2003	129	1'-4"	16'-6"											
TW2S08002	8 SER 3	19'-6"	1292	129	1'-4"	17'-3"							8"				
		20'-10"			1'-4"	18'-7"											
TW2S08003	4	16'-7"	177	129	1'-4"	14'-4"											
TW2S08004	8	18'-1"	386	006	11"	5'-6"	7'-0"	5'-6"	11"								
TW2S11001	12	21'-4"	1360	129	2'-0"	18'-0"											
TW2S11002	26	17'-0"	2348	STR													
TW2S14001	18	22'-6"	3098	129	2'-8"	18'-2"											
TW2S14002	4 SER 5	22'-5"	3398	129	2'-8"	18'-1"							1¼"				
		22'-0"				17'-8"											
TW2S14003	16	19'-5"	1153	003	7'-3"	2'-8"											
TW2S14004	4 SER 4	24'-9"	3029	028	7'-9"	10'-0"	1"	7'-6"					1⅝"				
		24'-9"					6"										
TW2S14005	44	16'-2"	5442	028	6'-0"	8'-0"	5"	2'-8"									
TW2S14006	44	20'-2"	6788	028	6'-0"	12'-0"	8"	2'-8"									
TW2S14007	24	16'-2"	2968	020	14'-0"	2'-8"											
TW2S14008	24	20'-2"	3703	020	18'-0"	2'-8"											
TW2S14009	14	24'-9"	2651	020	17'-9"	7'-6"											
TW2S14010	14	22'-9"	2437	020	15'-9"	7'-6"											
TW2S14011	16	22'-6"	2754	020	15'-6"	7'-6"											
TW2S14012	22	26'-6"	4460	020	19'-6"	7'-6"											
TW2S14013	576	22'-0"	96941	026	22'-0"												
TW2S14014	133	15'-0"	15262	021	15'-0"												
TW2S14015	34	13'-0"	3381	021	13'-0"												
TW2S14016	121	11'-0"	10182	021	11'-0"												
		SUB-TOTAL	192581														

NOTES:

1. *THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN.*
   FOR EXAMPLE: TW2S05001
   TW2: LOCATION OF THE BAR IN THE STRUCTURE (TWIN WALL OF PIER 2)
   S: LOCATION OF THE STRUCTURE (SOUTHBOUND)
   05: BAR SIZE (#5 BAR)
   001: BAR SEQUENCE NUMBER

2. *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 BAR. STRAIGHT BARS ARE INDICATED BY "STR".*

3. *ALL REINFORCING STEEL IS TO BE EPOXY COATED.*

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
JJB	JJB	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RSB		8302278L/8302294R	

TWIN WALL BAR SCHEDULE - PIER 2 SOUTHBOUND
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

84A / 204

350A
470

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MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	F	R	INC A	INC B	INC C	INC D	INC E	INC F
PIER 3 NORTHBOUND TWIN WALL																	
TW3N05001	28	17'-6"	511	018	4'-5"	6'-1"	11"	5'-6"	1'-10"	10"							
TW3N05002	28	11'-3"	329	023	8'-8"	2'-2"											
TW3N05003	14	6'-2"	90	016	5'-0"												
TW3N05004	28	24'-4"	711	106	9'-7"	11"	2'-5"	12'-5"									
TW3N05005	28	21'-4"	623	129	9'-7"	2'-5"											
TW3N05006	28	25'-7"	747	106	11'-6"	5"	2'-10"	11'-6"									
TW3N05007	28	24'-2"	706	129	11'-6"	1'-5"											
TW3N05008	28	24'-3"	708	129	11'-6"	1'-6"											
TW3N05009	4 SER 44	13'-5"	2662	004	9'-7"	1'-2"	3'-9"					1⅛"	⅛"	½"			
		15'-7"			13'-8"	7"	2'-0"										
TW3N05010	4 SER 44	15'-7"	3006	029	4'-9"	6'-3"	11"	3'-9"	1'-4"	10"		1"			½"	⅛"	
		17'-2"			8'-3"			2'-0"	8"								
TW3N05011	18 SER 44	5'-11"	4165	013	4'-9"	10"						½"					
		4'-2"			3'-0"												
TW3N05012	4 SER 44	5'-3"	803	013	4'-1"	10"						½"					
		3'-6"			2'-4"												
TW3N05013	4 SER 44	5'-5"	834	013	4'-3"	10"						½"					
		3'-8"			2'-6"												
TW3N05014	4 SER 44	5'-8"	880	013	4'-6"	10"						½"					
		3'-11"			2'-9"												
TW3N05015	16	12'-10"	214	106	6'-1"	1"	11"	6'-1"									
TW3N05016	16	12'-0"	200	106	5'-8"	1"	11"	5'-8"									
TW3N05017	16	10'-9"	179	106	5'-2"	3"	11"	4'-11"									
TW3N08001	40	18'-9"	2003	129	1'-4"	16'-6"											
TW3N08002	8 SER 3	19'-6"	1292	129	1'-4"	17'-3"							8"				
		20'-10"			1'-4"	18'-7"											
TW3N08003	4	16'-7"	177	129	1'-4"	14'-4"											
TW3N08004	8	18'-1"	386	006	11"	5'-6"	7'-0"	5'-6"	11"								
TW3N11001	12	21'-4"	1360	129	2'-0"	18'-0"											
TW3N11002	26	17'-0"	2348	STR													
TW3N14001	18	22'-6"	3098	129	2'-8"	18'-2"											
TW3N14002	4 SER 5	22'-5"	3398	129	2'-8"	18'-1"							1¼"				
		22'-0"				17'-8"											
TW3N14003	16	19'-5"	1153	003	7'-3"	2'-8"											
TW3N14004	4 SER 4	24'-9"	3029	028	7'-9"	10'-0"	1"	7'-6"					1⅝"				
		24'-9"					6"										
TW3N14005	44	16'-2"	5442	028	6'-0"	8'-0"	5"	2'-8"									
TW3N14006	44	20'-2"	6788	028	6'-0"	12'-0"	8"	2'-8"									
TW3N14007	24	16'-2"	2968	020	14'-0"	2'-8"											
TW3N14008	24	20'-2"	3703	020	18'-0"	2'-8"											
TW3N14009	14	24'-9"	2651	020	17'-9"	7'-6"											
TW3N14010	14	22'-9"	2437	020	15'-9"	7'-6"											
TW3N14011	16	22'-6"	2754	020	15'-6"	7'-6"											
TW3N14012	22	26'-6"	4460	020	19'-6"	7'-6"											
TW3N14013	576	22'-0"	96941	026	22'-0"												
TW3N14014	133	15'-0"	15262	021	15'-0"												
TW3N14015	34	13'-0"	3381	021	13'-0"												
TW3N14016	121	11'-0"	10182	021	11'-0"												
		SUB-TOTAL	192581														

NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN.
   FOR EXAMPLE: TW3N05001
   TW3: LOCATION OF THE BAR IN THE STRUCTURE (TWIN WALLS OF PIER 3)
   N: LOCATION OF THE STRUCTURE (NORTHBOUND)
   05: BAR SIZE (#5 BAR)
   001: BAR SEQUENCE NUMBER

2. 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 BAR. STRAIGHT BARS ARE INDICATED BY "STR".

3. ALL REINFORCING STEEL IS TO BE EPOXY COATED.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED JJB | DRAWN JJB | CHECKED RSB | REVIEWED RHW | DATE 03/21/08 | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

TWIN WALL BAR SCHEDULE - PIER 3 NORTHBOUND
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

85/204

351/470

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MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS												
					A	B	C	D	E	F	R	INC A	INC B	INC C	INC D	INC E	INC F
PIER 3 SOUTHBOUND TWIN WALL																	
TW3S05001	28	17'-6"	511	018	4'-5"	6'-1"	11"	5'-6"	1'-10"	10"							
TW3S05002	28	11'-3"	329	023	8'-8"	2'-2"											
TW3S05003	14	6'-2"	90	016	5'-0"												
TW3S05004	28	24'-4"	711	106	9'-7"	11"	2'-5"	12'-5"									
TW3S05005	28	21'-4"	623	129	9'-7"	2'-5"											
TW3S05006	28	25'-7"	747	106	11'-6"	5"	2'-10"	11'-6"									
TW3S05007	28	24'-2"	706	129	11'-6"	1'-5"											
TW3S05008	28	24'-3"	708	129	11'-6"	1'-6"											
TW3S05009	4 SER 44	13'-5"	2662	004	9'-7"	1'-2"	3'-9"					1⅛"	⅛"	½"			
		15'-7"			13'-8"	7"	2'-0"										
TW3S05010	4 SER 44	15'-7"	3006	029	4'-9"	6'-3"	11"	3'-9"	1'-4"	10"		1"			½"	⅛"	
		17'-2"			8'-3"			2'-0"	8"								
TW3S05011	18 SER 44	5'-11"	4165	013	4'-9"	10"						½"					
		4'-2"			3'-0"												
TW3S05012	4 SER 44	5'-3"	803	013	4'-1"	10"						½"					
		3'-6"			2'-4"												
TW3S05013	4 SER 44	5'-5"	834	013	4'-3"	10"						½"					
		3'-8"			2'-6"												
TW3S05014	4 SER 44	5'-8"	880	013	4'-6"	10"						½"					
		3'-11"			2'-9"												
TW3S05015	16	12'-10"	214	106	6'-1"	1"	11"	6'-1"									
TW3S05016	16	12'-0"	200	106	5'-8"	1"	11"	5'-8"									
TW3S05017	16	10'-9"	179	106	5'-2"	3"	11"	4'-11"									
TW3S08001	40	18'-9"	2003	129	1'-4"	16'-6"											
TW3S08002	8 SER 3	19'-6"	1292	129	1'-4"	17'-3"							8"				
		20'-10"			1'-4"	18'-7"											
TW3S08003	4	16'-7"	177	129	1'-4"	14'-4"											
TW3S08004	8	18'-1"	386	006	11"	5'-6"	7'-0"	5'-6"	11"								
TW3S11001	12	21'-4"	1360	129	2'-0"	18'-0"											
TW3S11002	26	17'-0"	2348	STR													
TW3S14001	18	22'-6"	3098	129	2'-8"	18'-2"											
TW3S14002	4 SER 5	22'-5"	3398	129	2'-8"	18'-1"							1¼"				
		22'-0"				17'-8"											
TW3S14003	16	19'-5"	1153	003	7'-3"	2'-8"											
TW3S14004	4 SER 4	24'-9"	3029	028	7'-9"	10'-0"	1"	7'-6"					1⅝"				
		24'-9"					6"										
TW3S14005	44	16'-2"	5442	028	6'-0"	8'-0"	5"	2'-8"									
TW3S14006	44	20'-2"	6788	028	6'-0"	12'-0"	8"	2'-8"									
TW3S14007	24	16'-2"	2968	020	14'-0"	2'-8"											
TW3S14008	24	20'-2"	3703	020	18'-0"	2'-8"											
TW3S14009	14	24'-9"	2651	020	17'-9"	7'-6"											
TW3S14010	14	22'-9"	2437	020	15'-9"	7'-6"											
TW3S14011	16	22'-6"	2754	020	15'-6"	7'-6"											
TW3S14012	22	26'-6"	4460	020	19'-6"	7'-6"											
TW3S14013	576	22'-0"	96941	026	22'-0"												
TW3S14014	133	15'-0"	15262	021	15'-0"												
TW3S14015	34	13'-0"	3381	021	13'-0"												
TW3S14016	121	11'-0"	10182	021	11'-0"												
		SUB-TOTAL	192581														

NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN.
   FOR EXAMPLE: TW3S05001
   TW3: LOCATION OF THE BAR IN THE STRUCTURE (TWIN WALL OF PIER 3)
   S: LOCATION OF THE STRUCTURE (SOUTHBOUND)
   05: BAR SIZE (#5 BAR)
   001: BAR SEQUENCE NUMBER

2. 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 BAR. STRAIGHT BARS ARE INDICATED BY "STR".

3. ALL REINFORCING STEEL IS TO BE EPOXY COATED.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED JJB | DRAWN JJB | REVIEWED RHW | DATE 03/21/08
CHECKED RSB | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

TWIN WALL BAR SCHEDULE - PIER 3 SOUTHBOUND
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

85A / 204

351A / 470

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MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	F	R	INC A	INC B	INC C	INC D	INC E	INC F
PIER 4 NORTHBOUND TWIN WALL																	
TW4N05001	28	17'-6"	511	018	4'-5"	6'-1"	11"	5'-6"	1'-10"	10"							
TW4N05002	28	11'-3"	329	023	8'-8"	2'-2"											
TW4N05003	14	6'-2"	90	016	5'-0"												
TW4N05004	28	24'-4"	711	106	9'-7"	11"	2'-5"	12'-5"									
TW4N05005	28	21'-4"	623	129	9'-7"	2'-5"											
TW4N05006	28	25'-7"	747	106	11'-6"	5"	2'-10"	11'-6"									
TW4N05007	28	24'-2"	706	129	11'-6"	1'-5"											
TW4N05008	28	24'-3"	708	129	11'-6"	1'-6"											
TW4N05009	4 SER 44	13'-5"	2662	004	9'-7"	1'-2"	3'-9"					1⅛"	⅛"	½"			
		15'-7"			13'-8"	7"	2'-0"										
TW4N05010	4 SER 44	15'-7"	3006	029	4'-9"	6'-3"	11"	3'-9"	1'-4"	10"		1"			½"	⅛"	
		17'-2"			8'-3"			2'-0"	8"								
TW4N05011	18 SER 44	5'-11"	4165	013	4'-9"	10"						½"					
		4'-2"			3'-0"												
TW4N05012	4 SER 44	5'-3"	803	013	4'-1"	10"						½"					
		3'-6"			2'-4"												
TW4N05013	4 SER 44	5'-5"	834	013	4'-3"	10"						½"					
		3'-8"			2'-6"												
TW4N05014	4 SER 44	5'-8"	880	013	4'-6"	10"						½"					
		3'-11"			2'-9"												
TW4N05015	16	12'-10"	214	106	6'-1"	1"	11"	6'-1"									
TW4N05016	16	12'-0"	200	106	5'-8"	1"	11"	5'-8"									
TW4N05017	16	10'-9"	179	106	5'-2"	3"	11"	4'-11"									
TW4N08001	40	18'-9"	2003	129	1'-4"	16'-6"											
TW4N08002	8 SER 3	19'-6"	1292	129	1'-4"	17'-3"							8"				
		20'-10"			1'-4"	18'-7"											
TW4N08003	4	16'-7"	177	129	1'-4"	14'-4"											
TW4N08004	8	18'-1"	386	006	11"	5'-6"	7'-0"	5'-6"	11"								
TW4N11001	12	21'-4"	1360	129	2'-0"	18'-0"											
TW4N11002	26	17'-0"	2348	STR													
TW4N14001	18	22'-6"	3098	129	2'-8"	18'-2"											
TW4N14002	4 SER 5	22'-5"	3398	129	2'-8"	18'-1"							1¼"				
		22'-0"				17'-8"											
TW4N14003	16	19'-5"	1153	003	7'-3"	2'-8"											
TW4N14004	4 SER 4	24'-9"	3029	028	7'-9"	10'-0"	1"	7'-6"					1⅝"				
		24'-9"					6"										
TW4N14005	44	16'-2"	5442	028	6'-0"	8'-0"	5"	2'-8"									
TW4N14006	44	20'-2"	6788	028	6'-0"	12'-0"	8"	2'-8"									
TW4N14007	24	16'-2"	2968	020	14'-0"	2'-8"											
TW4N14008	24	20'-2"	3703	020	18'-0"	2'-8"											
TW4N14009	14	24'-9"	2651	020	17'-9"	7'-6"											
TW4N14010	14	22'-9"	2437	020	15'-9"	7'-6"											
TW4N14011	16	22'-6"	2754	020	15'-6"	7'-6"											
TW4N14012	22	26'-6"	4460	020	19'-6"	7'-6"											
TW4N14013	576	22'-0"	96941	026	22'-0"												
TW4N14014	133	15'-0"	15262	021	15'-0"												
TW4N14015	34	13'-0"	3381	021	13'-0"												
TW4N14016	121	11'-0"	10182	021	11'-0"												
TW4N14017	48	33'-0"	12118	021	33'-0"												
TW4N14018	48	35'-0"	12852	021	35'-0"												
		SUB-TOTAL	217551														

NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN.
   FOR EXAMPLE: TW4N05001
   TW4: LOCATION OF THE BAR IN THE STRUCTURE (TWIN WALL OF PIER 4)
   N: LOCATION OF THE STRUCTURE (NORTHBOUND)
   05: BAR SIZE (#5 BAR)
   001: BAR SEQUENCE NUMBER

2. 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 BAR. STRAIGHT BARS ARE INDICATED BY "STR".

3. ALL REINFORCING STEEL IS TO BE EPOXY COATED.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED JJB | DRAWN JJB | CHECKED RSB | REVIEWED RHW | DATE 03/21/08 | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

TWIN WALL BAR SCHEDULE - PIER 4 NORTHBOUND
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

86/204

352/470

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MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS												
					A	B	C	D	E	F	R	INC A	INC B	INC C	INC D	INC E	INC F
PIER 4 SOUTHBOUND TWIN WALL																	
TW4S05001	28	17'-6"	511	018	4'-5"	6'-1"	11"	5'-6"	1'-10"	10"							
TW4S05002	28	11'-3"	329	023	8'-8"	2'-2"											
TW4S05003	14	6'-2"	90	016	5'-0"												
TW4S05004	28	24'-4"	711	106	9'-7"	11"	2'-5"	12'-5"									
TW4S05005	28	21'-4"	623	129	9'-7"	2'-5"											
TW4S05006	28	25'-7"	747	106	11'-6"	5"	2'-10"	11'-6"									
TW4S05007	28	24'-2"	706	129	11'-6"	1'-5"											
TW4S05008	28	24'-3"	708	129	11'-6"	1'-6"											
TW4S05009	4 SER 44	13'-5"	2662	004	9'-7"	1'-2"	3'-9"					1⅛"	⅛"	½"			
		15'-7"			13'-8"	7"	2'-0"										
TW4S05010	4 SER 44	15'-7"	3006	029	4'-9"	6'-3"	11"	3'-9"	1'-4"	10"		1"			½"	⅛"	
		17'-2"			8'-3"			2'-0"	8"								
TW4S05011	18 SER 44	5'-11"	4165	013	4'-9"	10"						½"					
		4'-2"			3'-0"												
TW4S05012	4 SER 44	5'-3"	803	013	4'-1"	10"						½"					
		3'-6"			2'-4"												
TW4S05013	4 SER 44	5'-5"	834	013	4'-3"	10"						½"					
		3'-8"			2'-6"												
TW4S05014	4 SER 44	5'-8"	880	013	4'-6"	10"						½"					
		3'-11"			2'-9"												
TW4S05015	16	12'-10"	214	106	6'-1"	1"	11"	6'-1"									
TW4S05016	16	12'-0"	200	106	5'-8"	1"	11"	5'-8"									
TW4S05017	16	10'-9"	179	106	5'-2"	3"	11"	4'-11"									
TW4S08001	40	18'-9"	2003	129	1'-4"	16'-6"											
TW4S08002	8 SER 3	19'-6"	1292	129	1'-4"	17'-3"							8"				
		20'-10"			1'-4"	18'-7"											
TW4S08003	4	16'-7"	177	129	1'-4"	14'-4"											
TW4S08004	8	18'-1"	386	006	11"	5'-6"	7'-0"	5'-6"	11"								
TW4S11001	12	21'-4"	1360	129	2'-0"	18'-0"											
TW4S11002	26	17'-0"	2348	STR													
TW4S14001	18	22'-6"	3098	129	2'-8"	18'-2"											
TW4S14002	4 SER 5	22'-5"	3398	129	2'-8"	18'-1"							1¼"				
		22'-0"				17'-8"											
TW4S14003	16	19'-5"	1153	003	7'-3"	2'-8"											
TW4S14004	4 SER 4	24'-9"	3029	028	7'-9"	10'-0"	1"	7'-6"					1⅝"				
		24'-9"					6"										
TW4S14005	44	16'-2"	5442	028	6'-0"	8'-0"	5"	2'-8"									
TW4S14006	44	20'-2"	6788	028	6'-0"	12'-0"	8"	2'-8"									
TW4S14007	24	16'-2"	2968	020	14'-0"	2'-8"											
TW4S14008	24	20'-2"	3703	020	18'-0"	2'-8"											
TW4S14009	14	24'-9"	2651	020	17'-9"	7'-6"											
TW4S14010	14	22'-9"	2437	020	15'-9"	7'-6"											
TW4S14011	16	22'-6"	2754	020	15'-6"	7'-6"											
TW4S14012	22	26'-6"	4460	020	19'-6"	7'-6"											
TW4S14013	576	22'-0"	96941	026	22'-0"												
TW4S14014	133	15'-0"	15262	021	15'-0"												
TW4S14015	34	13'-0"	3381	021	13'-0"												
TW4S14016	121	11'-0"	10182	021	11'-0"												
TW4S14017	48	33'-0"	12118	021	33'-0"												
TW4S14018	48	35'-0"	12852	021	35'-0"												
		SUB-TOTAL	217551														

NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN.
   FOR EXAMPLE: TW4S05001
   TW4: LOCATION OF THE BAR IN THE STRUCTURE (TWIN WALL OF PIER 4)
   S: LOCATION OF THE STRUCTURE (SOUTHBOUND)
   05: BAR SIZE (#5 BAR)
   001: BAR SEQUENCE NUMBER

2. 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 BAR.
   STRAIGHT BARS ARE INDICATED BY "STR".

3. ALL REINFORCING STEEL IS TO BE EPOXY COATED.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED JJB | DRAWN JJB | REVIEWED RHW | DATE 03/21/08
CHECKED RSB | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

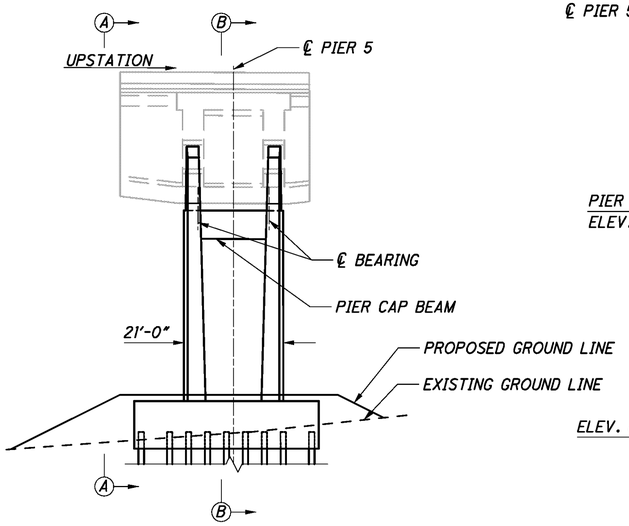
TWIN WALL BAR SCHEDULE - PIER 4 SOUTHBOUND
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

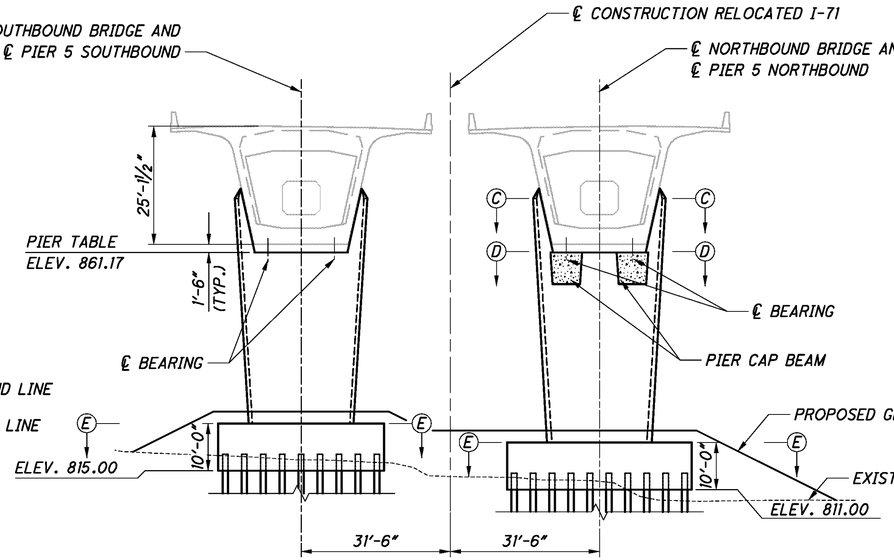
86A/204

352A
470

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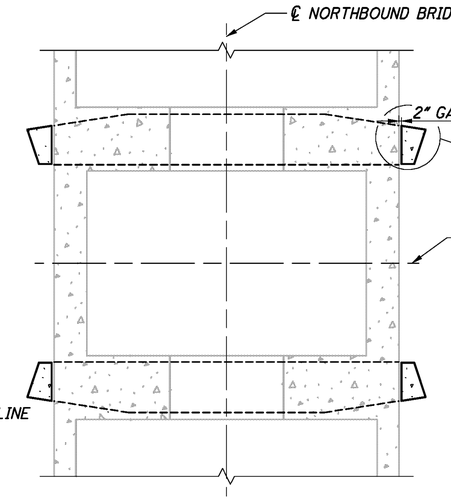


PIER 5

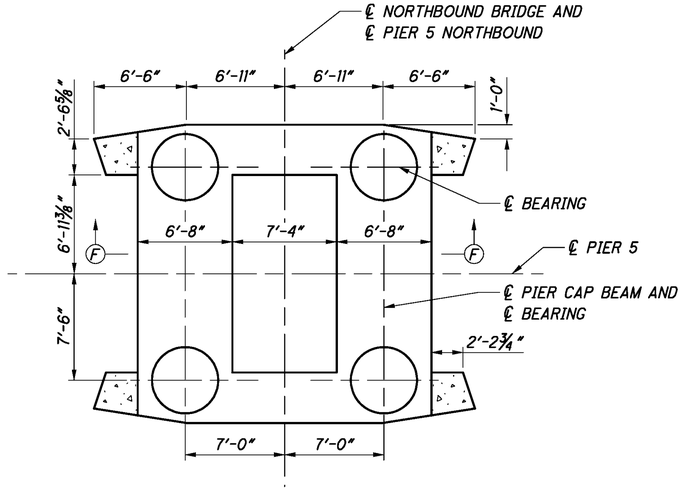


VIEW A-A

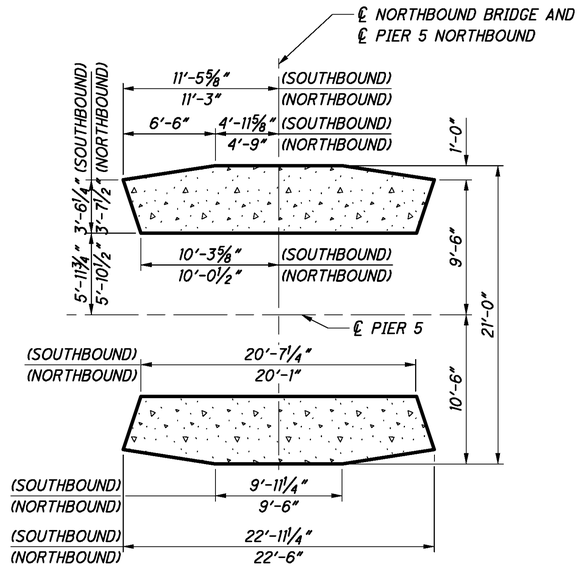
SECTION B-B



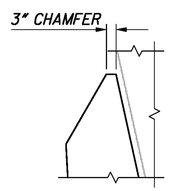
SECTION C-C
(NORTHBOUND BRIDGE SHOWN,
SOUTHBOUND BRIDGE SIMILAR)



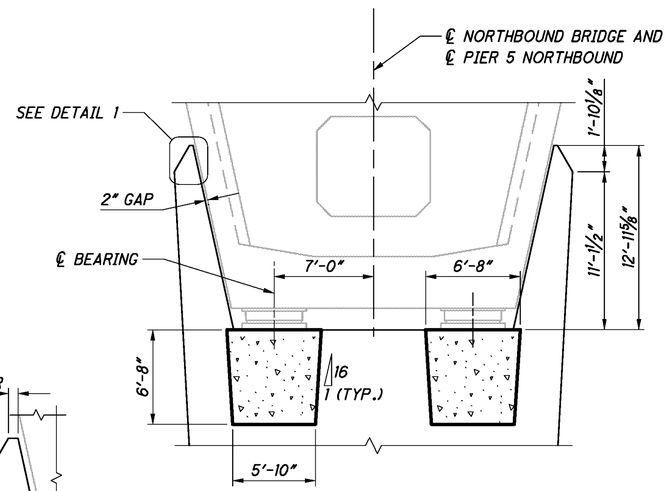
SECTION D-D
(NORTHBOUND PIER SHOWN,
SOUTHBOUND PIER SIMILAR)
(SYMMETRICAL ABOUT ℄ PIER AND ℄ BRIDGE)



SECTION E-E
(NORTHBOUND PIER SHOWN,
SOUTHBOUND PIER SIMILAR)
(SYMMETRICAL ABOUT ℄ PIER AND ℄ BRIDGE)



DETAIL 1



SECTION F-F
(NORTHBOUND PIER SHOWN,
SOUTHBOUND PIER SIMILAR)
(SYMMETRICAL ABOUT ℄ PIER AND ℄ BRIDGE)

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH/BTA	JJB	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RSB		8302278L/8302294R	

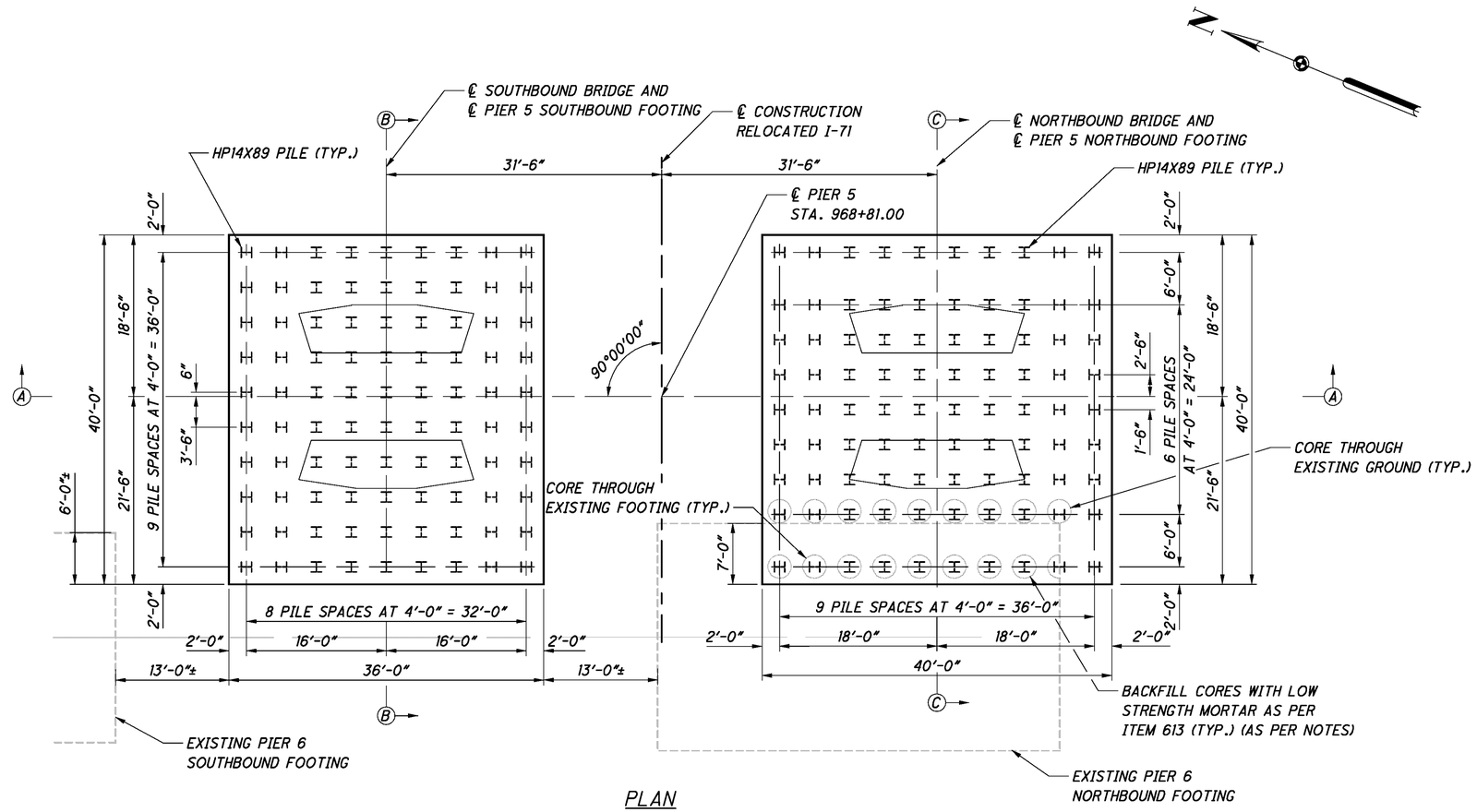
PIER 5 GEOMETRY
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

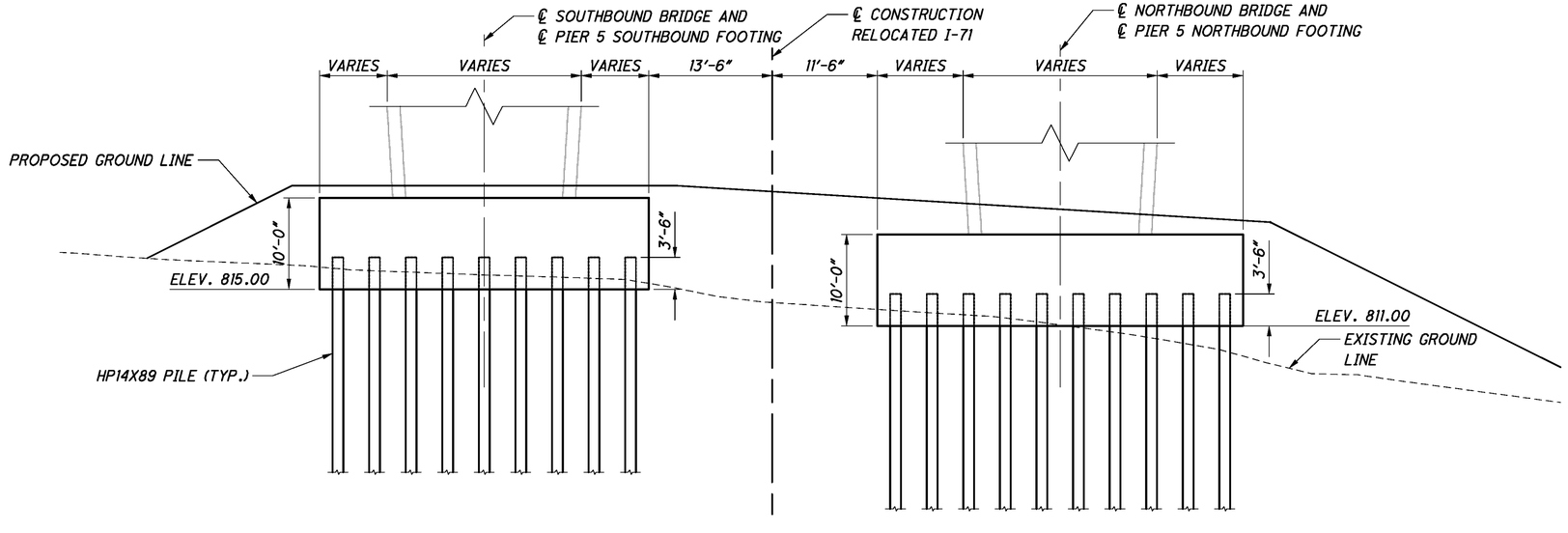
87/204

353/470

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PLAN



SECTION A-A

NOTES:

1. FOR SECTIONS B-B AND C-C, SEE SHEET 89 OF 204.
2. ALL PIER 5 PILES ARE HP14X89 PILES WITH A 50 KSI YIELD STRENGTH.
3. PAYMENT FOR EXISTING PIER 6 CORING, FILLING AND GROUTING SHALL BE INCLUDED WITH ITEM 507 PREBORED HOLES, AS PER PLAN.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

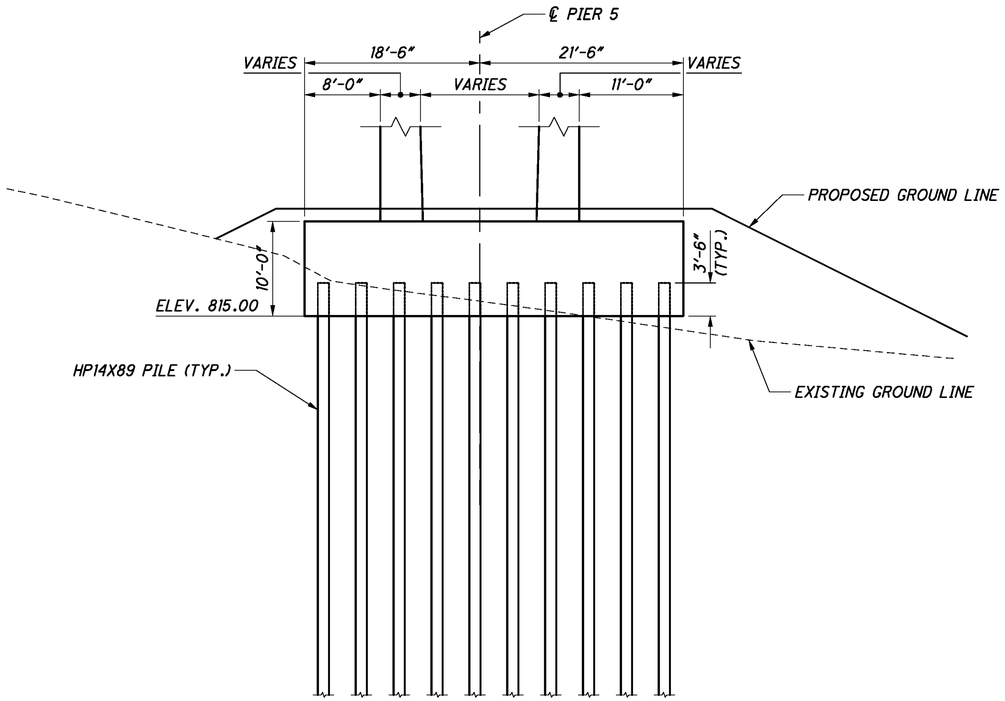
DESIGNED	DRAWN	REVIEWED	DATE
YEH/JJB	JJB	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BTA		8302278L/8302294R	

PIER 5 FOOTING DETAILS 1

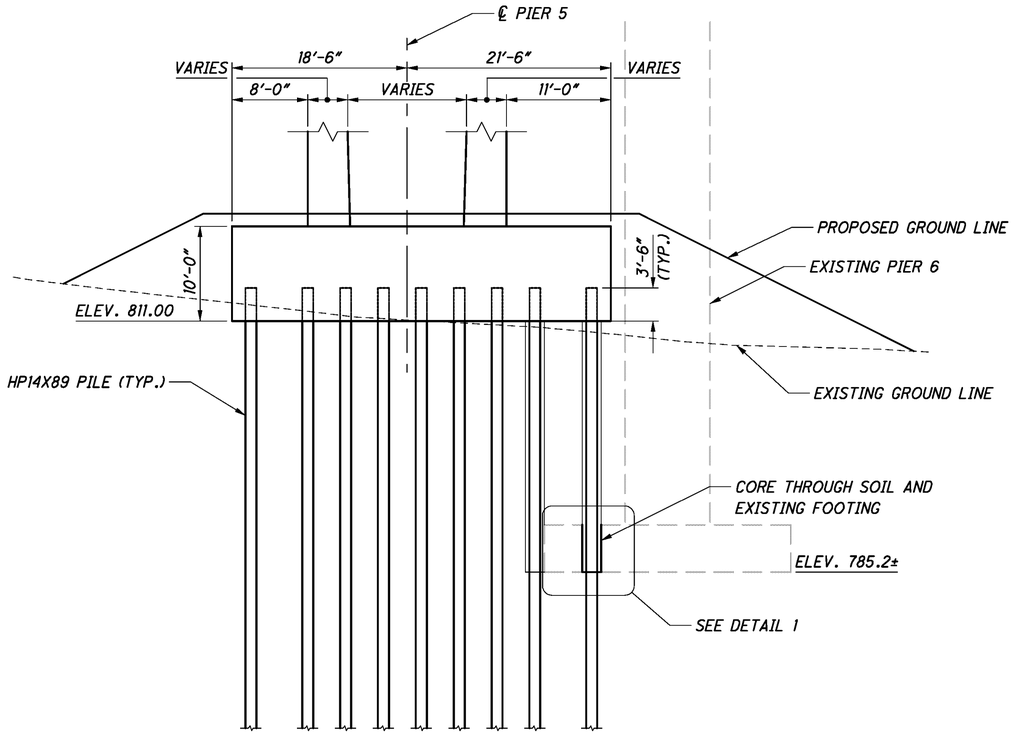
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

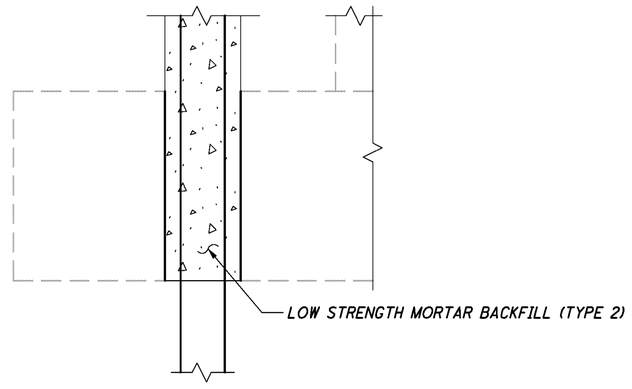
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SECTION B-B
(SOUTHBOUND FOOTING)



SECTION C-C
(NORTHBOUND FOOTING)



DETAIL 1

LEGEND:

LIMITS OF LOW STRENGTH MORTAR BACKFILL (TYPE 2)

NOTE:

1. FOR LOCATION OF SECTIONS B-B AND C-C, SEE SHEET 88 OF 204.
2. LOW STRENGTH MORTAR BACKFILL (TYPE 2) SHALL CONFORM TO THE REQUIREMENTS OF CMS 613 AND SHALL BE INCLUDED FOR PAYMENT WITH ITEM 507 - PREBORED HOLES, AS PER PLAN.

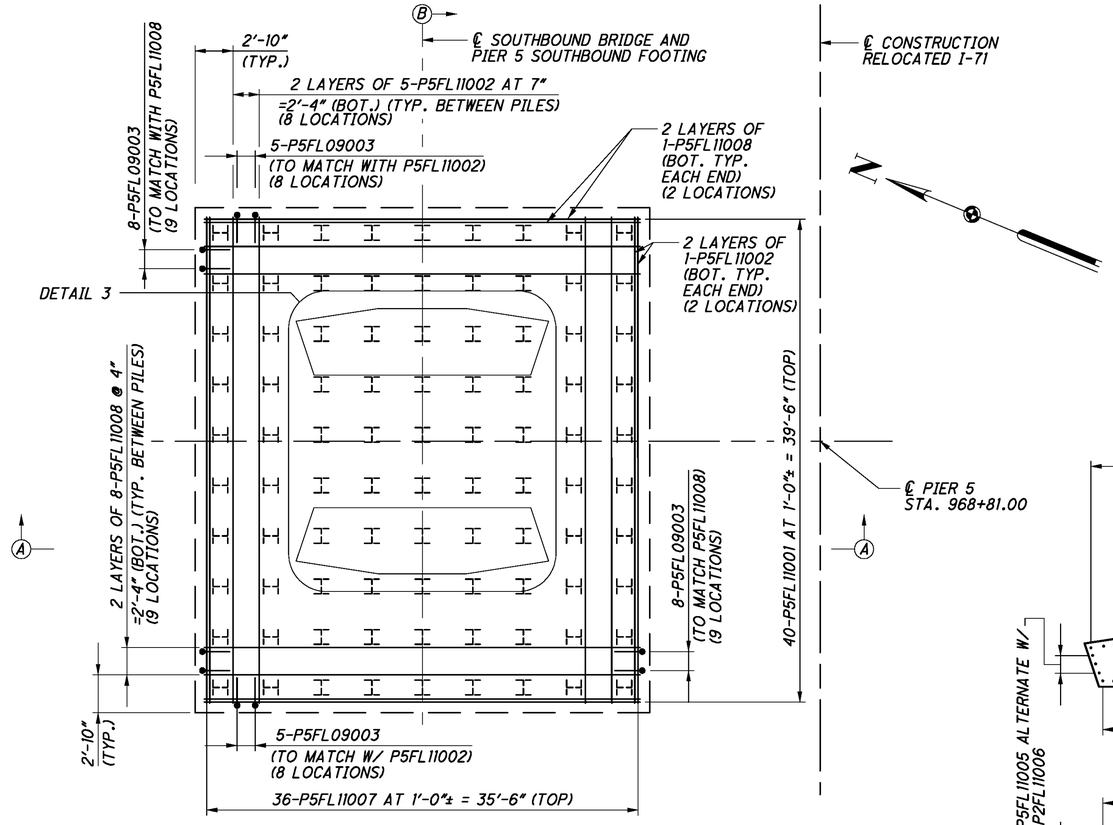
DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH/JJB	JJB	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BTA		8302278L/8302294R	

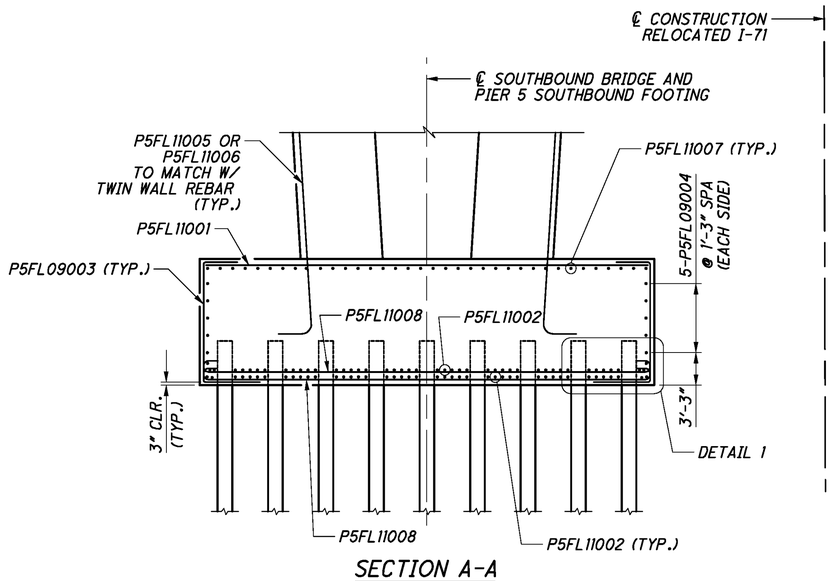
PIER 5 FOOTING DETAILS 2
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

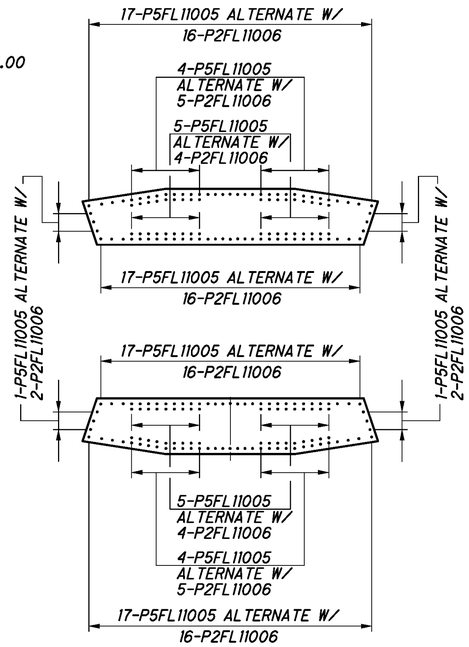
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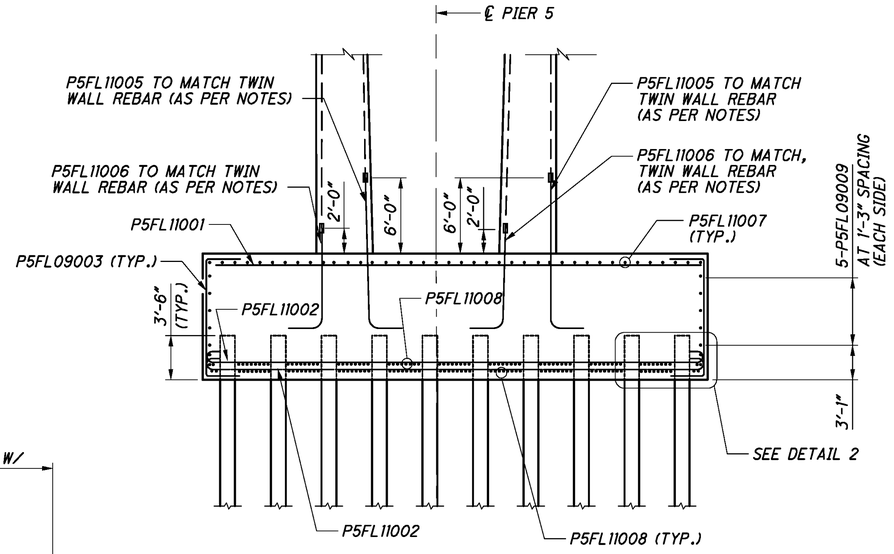
PLAN



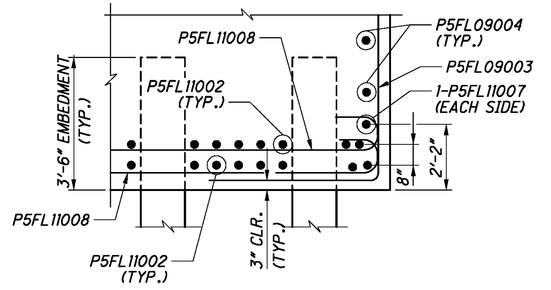
SECTION A-A



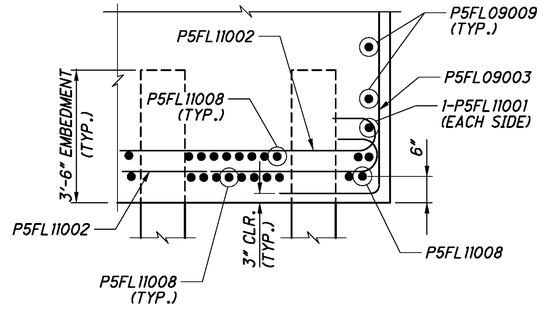
DETAIL 3
(SEE NOTE 2)



SECTION B-B



DETAIL 1



DETAIL 2

NOTES:

1. SOUTHBOUND PIER 5 FOOTING DETAILS ARE SHOWN. FOR NORTHBOUND PIER 5 FOOTING DETAILS, SEE SHEET 91 OF 204.
2. FOR LOCATIONS OF DOWEL BARS, P5FL11005 AND P5FR11006, SEE PIER 5 REINFORCEMENT 1, SHEET 93 OF 204. ALTERNATE BAR P5FL11005 WITH BAR P5FR11006 AT ALL LOCATIONS.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
SA	PY	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

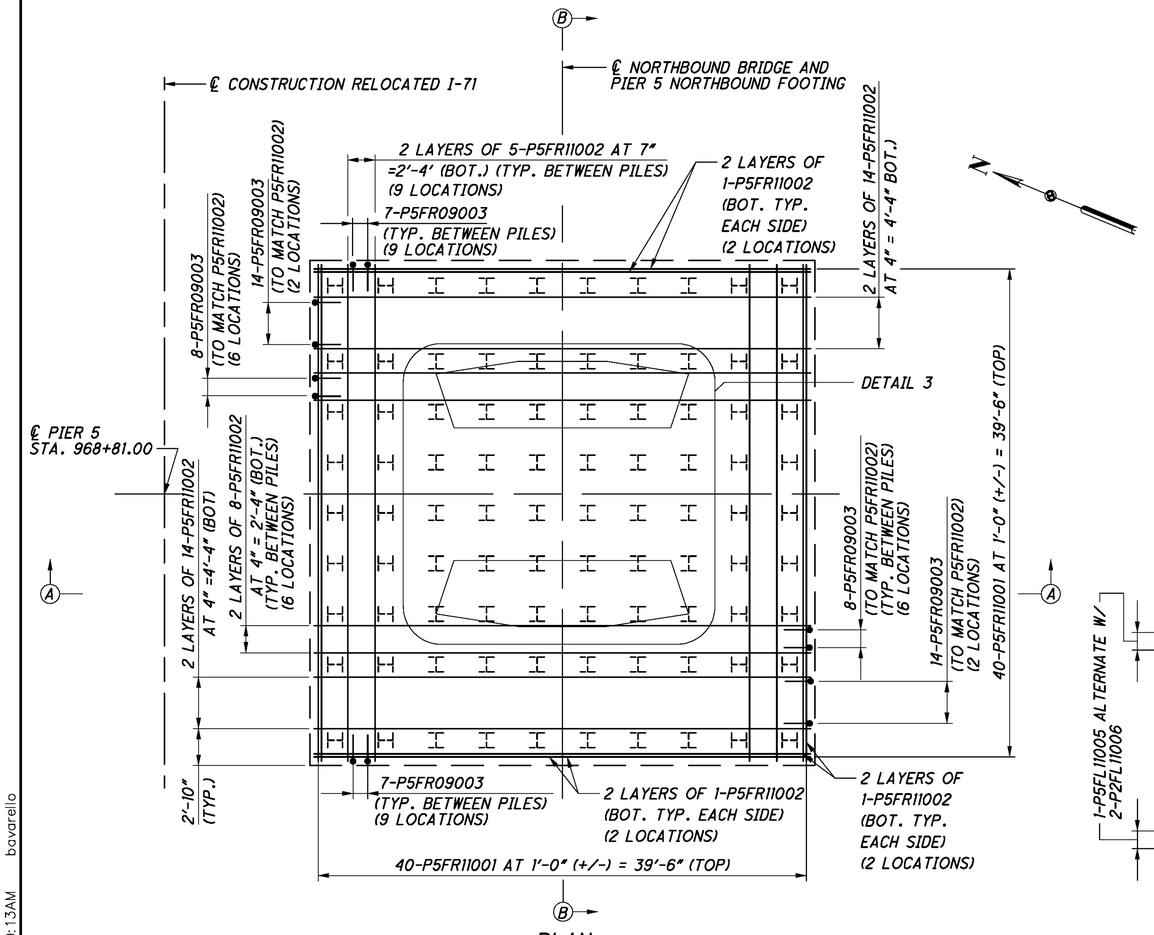
PIER 5 FOOTING REINFORCEMENT 1
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

90 / 204

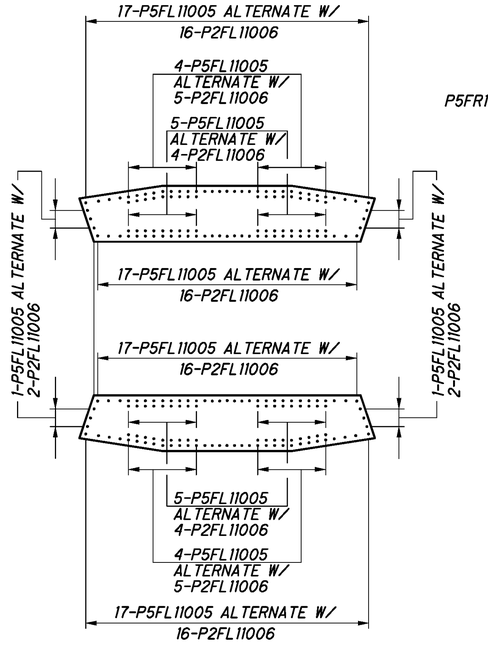
356 / 470

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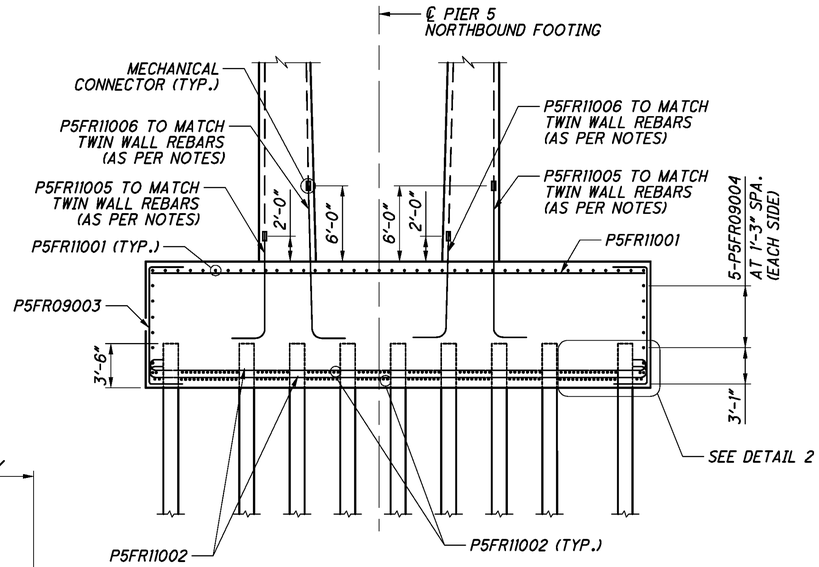


PLAN

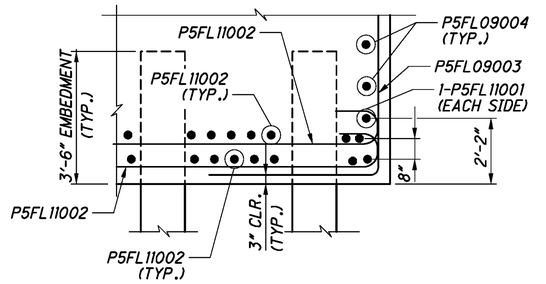
SECTION A-A



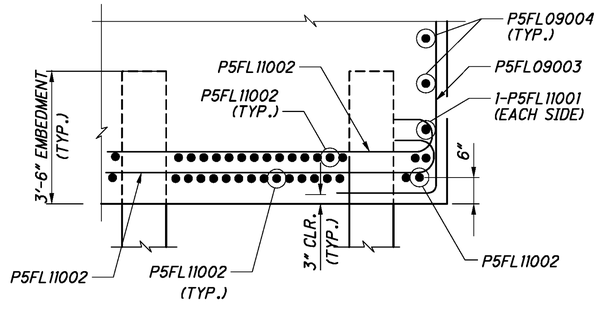
DETAIL 3
(SEE NOTE 2)



SECTION B-B



DETAIL 1



DETAIL 2

NOTES:

1. NORTHBOUND PIER 5 FOOTING DETAILS ARE SHOWN. FOR SOUTHBOUND PIER 5 FOOTING DETAILS, SEE SHEET 90 OF 204.
2. FOR LOCATIONS OF DOWEL BARS, P5FR11005 AND P5FR11006, SEE PIER 5 REINFORCEMENT 1, SHEET 93 OF 204. ALTERNATE BAR P5FR11005 WITH BAR P5FR11006 AT ALL LOCATIONS.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
SA	PY	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

PIER 5 FOOTING REINFORCEMENT 2
BRIDGE NO. WAR-71-15.14L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

91 / 204

357
470

c:\22950\bridge\WAR071_1514C\sheets\071_1514CPI245.dgn 30-JUL-2008 10:13AM bavarello

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
PIER 5 NORTHBOUND FOOTING											
P5FR11001	84	39'-5"	17592	001	39'-5"						
P5FR11002	258	42'-7"	58374	016	39'-5"						
P5FR09003	278	15'-10"	14968	102	9'-5"	3'-6"	3'-6"				
P5FR09004	20	45'-8"	3106	102	39'-3"	3'-6"	3'-6"				
P5FR11005	108	14'-5"	8273	020	12'-3"	2'-6"					
P5FR11006	108	10'-5"	5977	020	8'-3"	2'-6"					
SUB-TOTAL			108,290 lbs								
PIER 5 SOUTHBOUND FOOTING											
P5FL11001	42	35'-5"	7903	001	35'-5"						
P5FL11002	88	42'-7"	19911	016	39'-5"						
P5FL09003	224	15'-10"	12060	102	9'-5"	3'-6"	3'-6"				
P5FL09004	10	45'-8"	1553	102	39'-3"	3'-6"	3'-6"				
P5FL11005	108	14'-5"	8273	020	12'-3"	2'-6"					
P5FL11006	108	10'-5"	5977	020	8'-3"	2'-6"					
P5FL11007	38	39'-5"	7958	001	39'-5"						
P5FL11008	152	38'-7"	31161	016	35'-5"						
P5FL09009	10	41'-10"	1423	102	35'-5"	3'-6"	3'-6"				
SUB-TOTAL			96,219 lbs								

NOTES:

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 DIGITS ARE USED, INDICATES THE THE BAR SIZE NUMBER.
FOR EXAMPLE: RA601
RA: LOCATION OF THE BAR IN THE STRUCTURE (REAR ABUTMENT)
6: BAR SIZE DESIGNATION NO. 6
01: SEQUENCE NUMBER

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 BAR. STRAIGHT BARS ARE INDICATED BY "STR".

ALL REINFORCING STEEL IS TO BE EPOXY COATED.

DESIGN AGENCY HNTB 1100 Superior Avenue, Suite 1330 Cleveland, OH 44114-2531

DESIGNED SA | DRAWN PY | CHECKED MX | REVIEWED RHW | DATE 03/21/08 | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

PIER 5 FOUNDATION BAR SCHEDULE

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

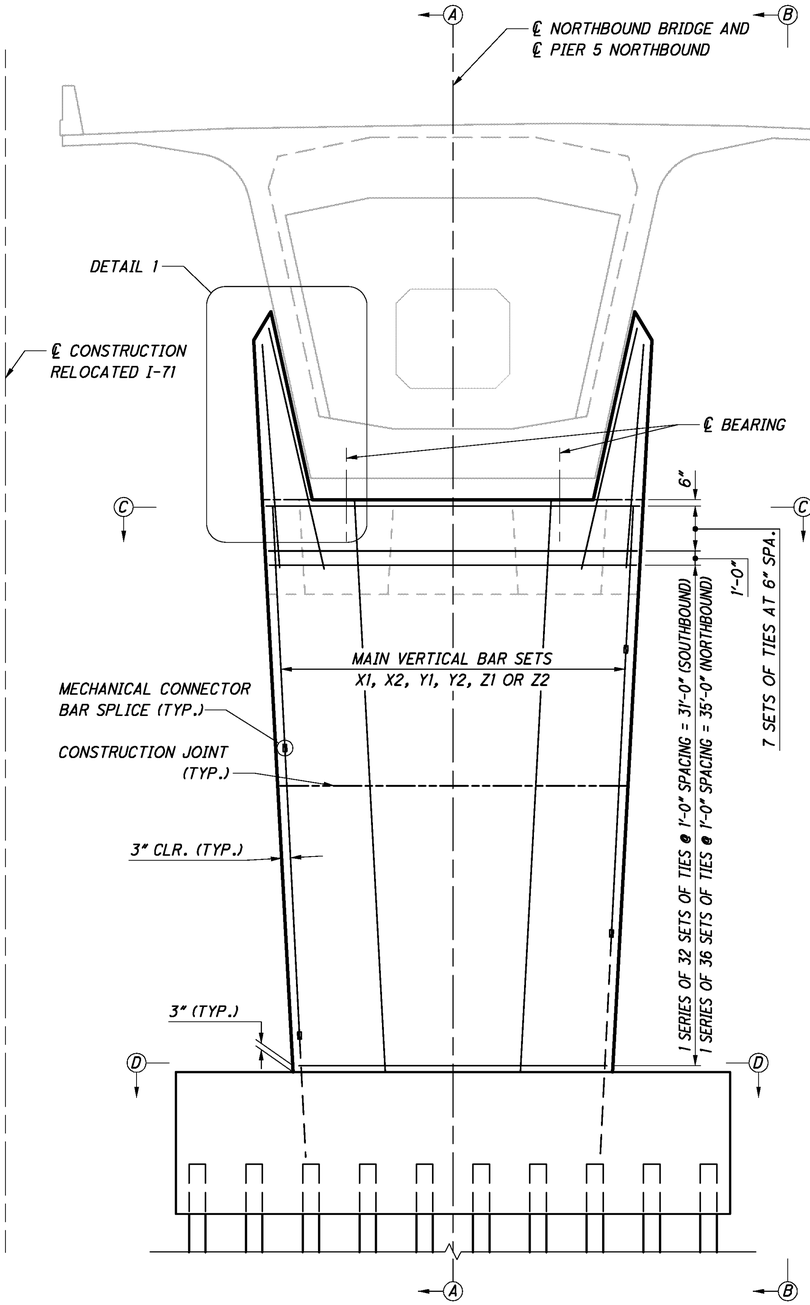
WAR-71-14.20
PID No. 22950

92 / 204

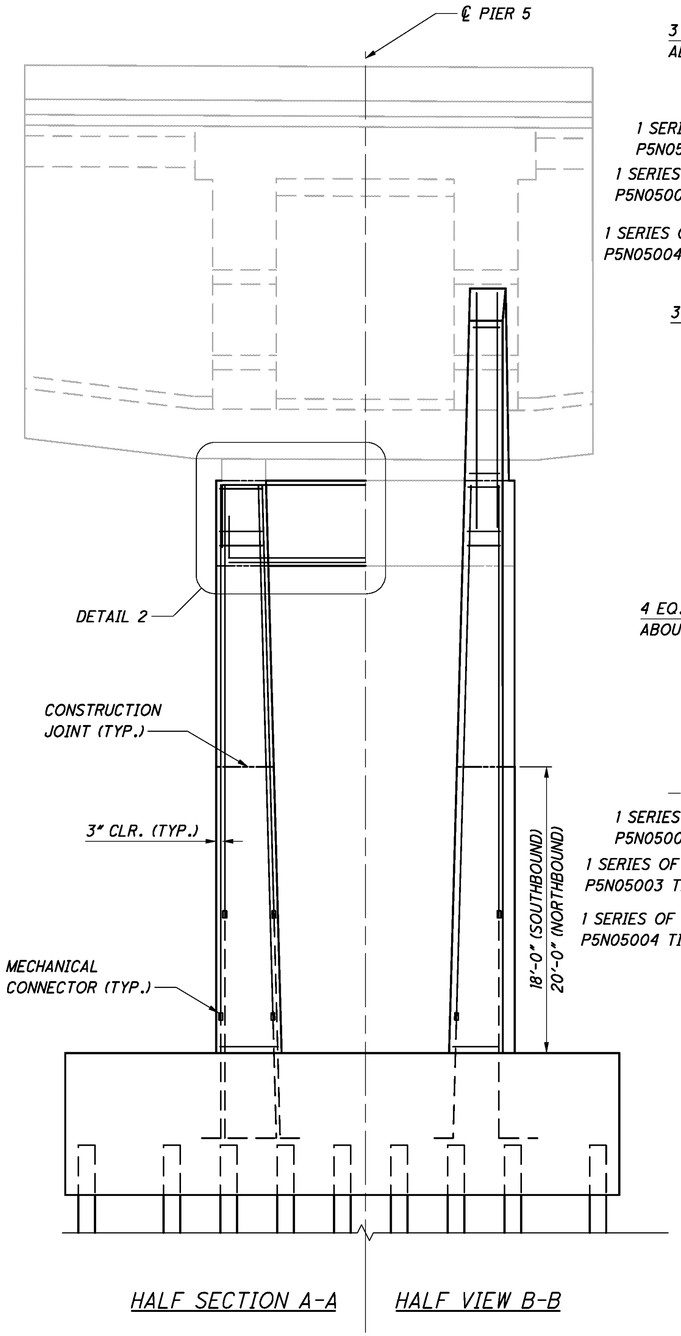
358 / 470

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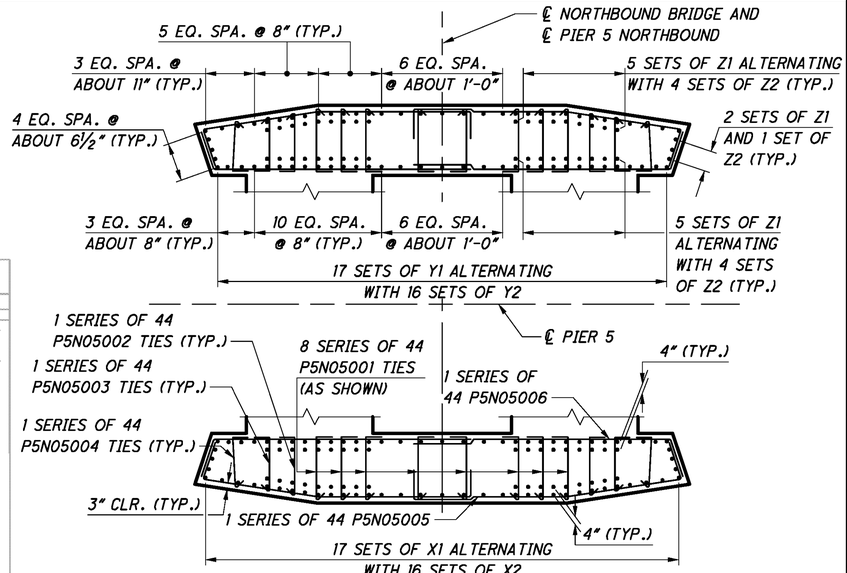
ONE SET OF TIES CONSISTS OF:	
8 P5N05001	2 P5N05004
2 P5N05002	2 P5N05005
2 P5N05003	2 P5N05006



PIER 5 ELEVATION
(NORTHBOUND BRIDGE SHOWN,
SOUTHBOUND BRIDGE SIMILAR)



HALF SECTION A-A | HALF VIEW B-B



SECTION C-C
(PIER CAP BEAM REINFORCEMENT
NOT SHOWN FOR CLARITY)

SECTION D-D

NOTES:

1. SECTIONS A-A, C-C, D-D AND VIEW B-B SHOWN AT NORTHBOUND BRIDGE ARE SIMILAR AT SOUTHBOUND BRIDGE.
2. FOR DETAIL 1 AND DETAIL 2, SEE SHEET 94 OF 204.
3. REINFORCING IS SYMMETRIAL ABOUT ℄ PIER AND ℄ BRIDGE.
4. PIER 5 NORTHBOUND REINFORCMENT IS SHOWN, SOUTHBOUND REINFORCEMENT IS SIMILAR. PIER 5 SOUTHBOUND REINFORCEMENT SHALL HAVE THE PREFIX P5S. PIER 5 NORTHBOUND REINFORCEMENT SHALL HAVE THE PREFIX P5N.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	CHECKED
YEH/BTA	RSB

DRAWN	REVISED
JJB	

REVIEWED	DATE
RHW	03/21/08

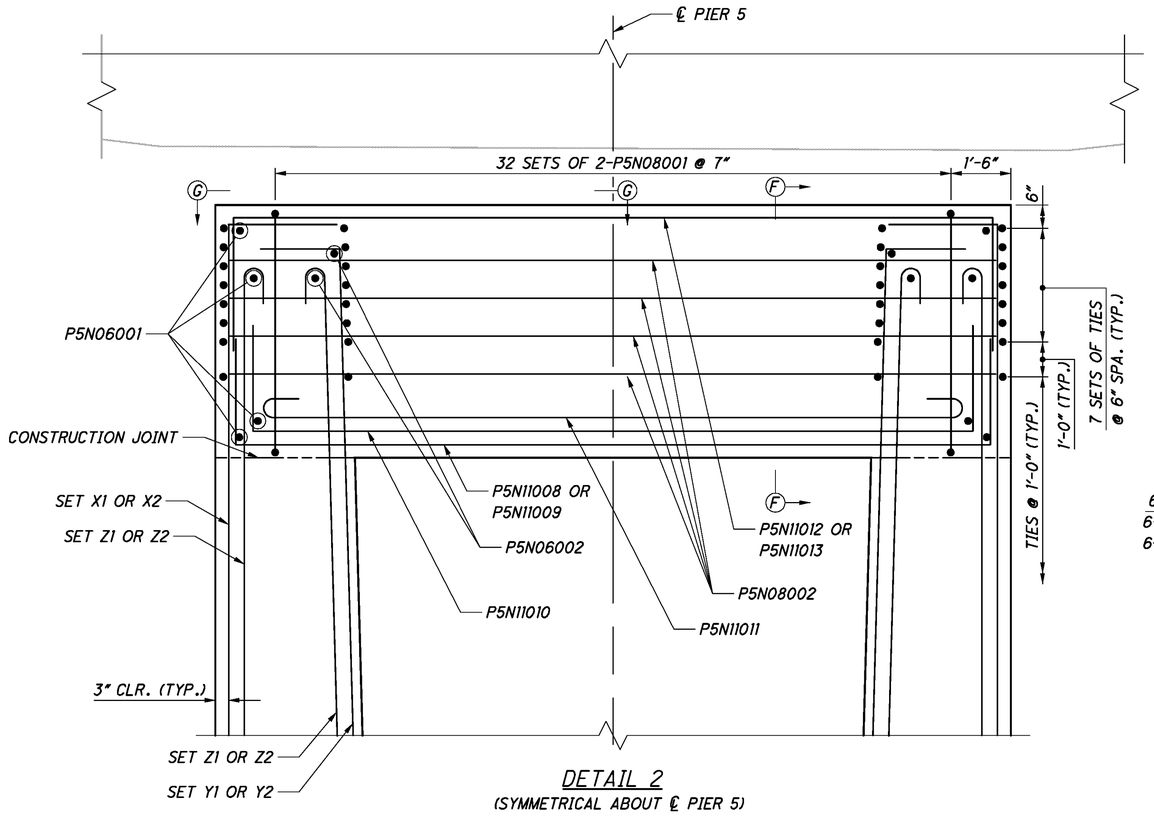
STRUCTURE FILE NUMBER
8302278L/8302294R

PIER 5 REINFORCEMENT 1
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

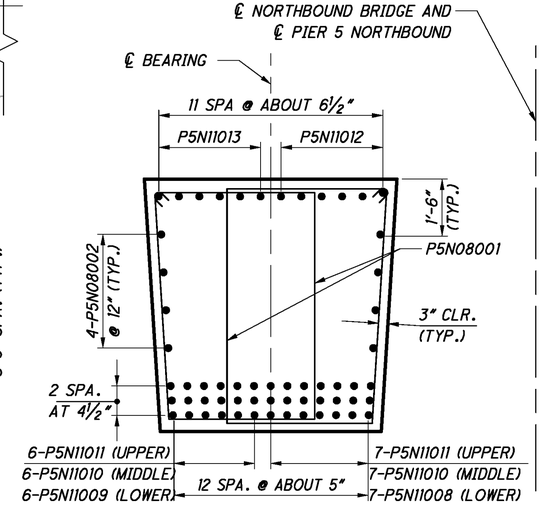
WAR-71-14.20
PID No. 22950

93/204
359/470

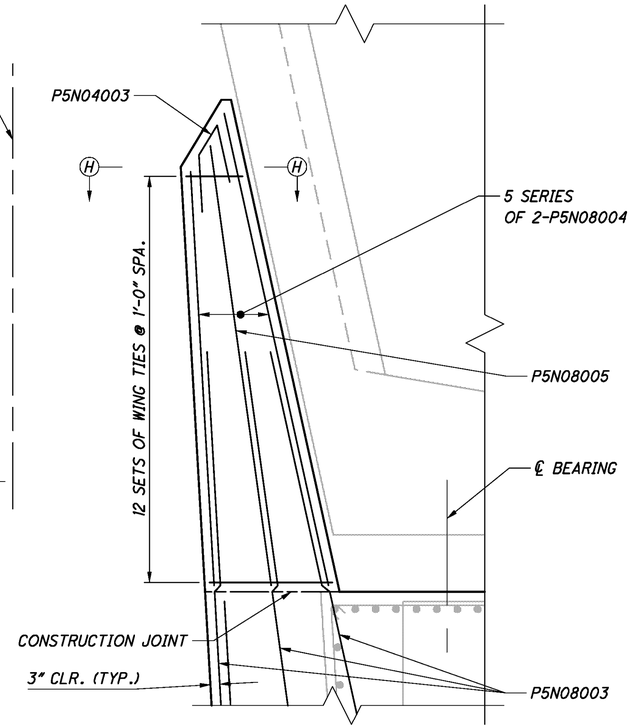
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DETAIL 2
(SYMMETRICAL ABOUT ℄ PIER 5)

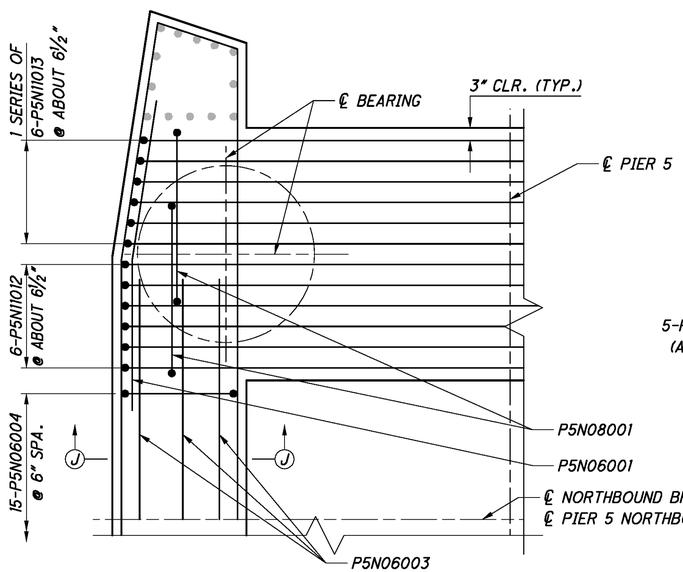


SECTION F-F

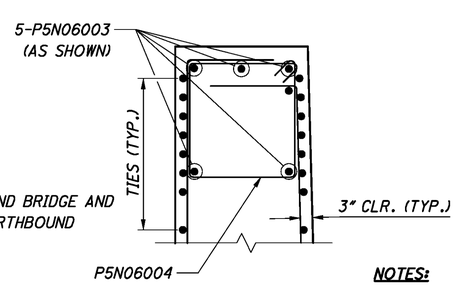


DETAIL 1

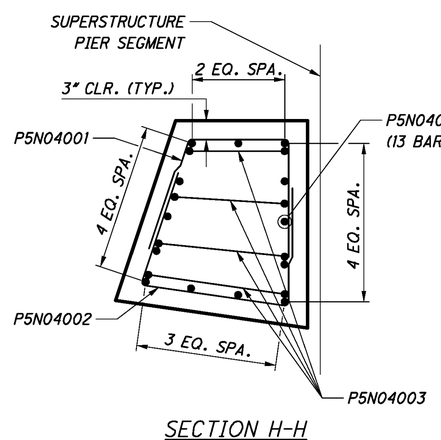
ONE SET OF WING TIES CONSISTS OF:
1 P5N04001
1 P5N04002



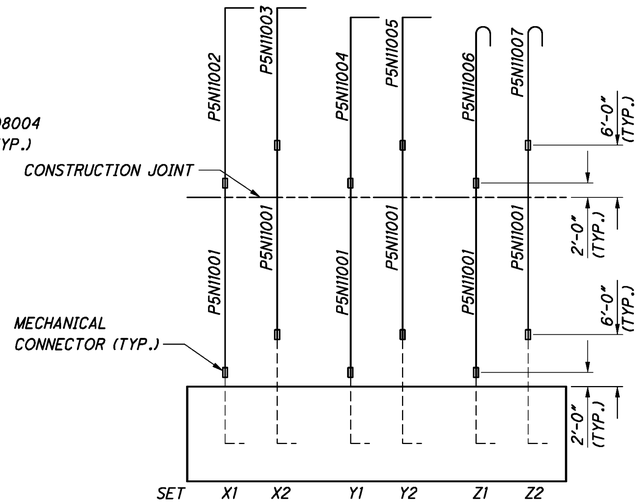
SECTION G-G



SECTION J-J



SECTION H-H



REINFORCEMENT SCHEMATIC

NOTES:

1. FOR LOCATION OF DETAIL 1 AND DETAIL 2, SEE SHEET 93 OF 204.
2. FOR MORE PIER 5 REINFORCEMENT DETAILS, SEE SHEET 93 OF 204.
3. PIER 5 NORTHBOUND REINFORCMENT IS SHOWN, SOUTHBOUND REINFORCEMENT IS SIMILAR. PIER 5 SOUTHBOUND REINFORCEMENT SHALL HAVE THE PREFIX P5S. PIER 5 NORTHBOUND REINFORCEMENT SHALL HAVE THE PREFIX P5N.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH/BTA	JJB	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RSB		8302278L/8302294R	

PIER 5 REINFORCEMENT 2
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

94/204

360/470

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MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	F	R	INC A	INC B	INC C	INC D	INC E	INC F
PIER 5 NORTHBOUND																	
P5N04001	4 SER 12	6'-2"	163	105	2'-0"	2'-0"	2'-2"	9"					1 5/8"	1/2"	1/8"		
		4'-0"				5"	1'-8"	7"									
P5N04002	4 SER 12	7'-0"	190	025	2'-0"	2'-10"	5"	2'-2"	10"				1 3/4"	1/4"	1/2"	1/8"	
		4'-10"				1'-2"	2"	1'-8"	9"								
P5N04003	4 SER 4	4'-2"	43	127	1'-0"	1"	2'-0"	1'-2"	1'-0"	1"					1"		
		3'-10"						5"									
P5N05001	16 SER 43	5'-3"	3379	013	4'-1"	10"						1/4"					
		4'-2"			3'-0"												
P5N05002	4 SER 43	5'-0"	800	013	3'-10"	10"						1/4"					
		3'-11"			2'-9"												
P5N05003	4 SER 43	4'-9"	755	013	3'-7"	10"						1/4"					
		3'-8"			2'-6"												
P5N05004	4 SER 43	4'-6"	710	013	3'-4"	10"						1/4"					
		3'-5"			2'-3"												
P5N05005	4 SER 43	16'-4"	3042	029	6'-0"	6'-3"	9"	3'-4"	11"	10"		5/8"			1/4"	1/8"	
		17'-7"			8'-2"			2'-6"	8"								
P5N05006	4 SER 43	14'-6"	2721	004	11'-0"	11"	3'-4"					3/4"	1/8"	1/4"			
		15'-10"			13'-7"	7"	2'-3"										
P5N06001	16	7'-3"	174	004	3'-7"	3'-7"	7"										
P5N06002	8	7'-3"	87	STR													
P5N06003	10	13'-3"	199	STR													
P5N06004	30	13'-1"	590	119	2'-11"	3'-6"											
P5N08001	128	21'-2"	7234	031	3'-10"	5"	6'-2"										
P5N08002	16	19'-3"	822	STR													
P5N08003	52	10'-3"	1423	STR													
P5N08004	20 SER 2	9'-3"	1121	STR	9'-3"							2'-6"					
		11'-9"			11'-9"												
P5N08005	12	10'-6"	336	STR	10'-6"												
P5N11001	216	20'-0"	22952	026	20'-0"												
P5N11002	34	19'-8"	3553	024	17'-10"	2'-2"											
P5N11003	32	15'-8"	2664	024	13'-10"	2'-2"											
P5N11004	34	19'-5"	3507	024	17'-7"	2'-2"											
P5N11005	32	15'-5"	2621	024	13'-7"	2'-2"											
P5N11006	48	19'-5"	4952	030	17'-10"												
P5N11007	36	15'-5"	2949	030	13'-10"												
P5N11008	14	24'-0"	1785	129	20'-2"	2'-3"											
P5N11009	2 SER 6	23'-11"	1516	129	20'-1"	2'-3"						1"					
		23'-6"			19'-8"												
P5N11010	26	23'-4"	3223	129	19'-6"	2'-3"											
P5N11011	26	21'-2"	2924	016	18'-0"												
P5N11012	12	24'-2"	1541	129	20'-4"	2'-3"											
P5N11013	2 SER 6	24'-1"	1517	129	20'-3"	2'-3"						1"					
		23'-6"			19'-8"												
		SUB-TOTAL	79493														

NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN.
   FOR EXAMPLE: P5N04001
   P5: LOCATION OF THE BAR IN THE STRUCTURE (PIER 5)
   N: LOCATION OF THE STRUCTURE (NORTHBOUND)
   04: BAR SIZE (#4 BAR)
   001: BAR SEQUENCE NUMBER

2. 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 BAR. STRAIGHT BARS ARE INDICATED BY "STR".

3. ALL REINFORCING STEEL IS TO BE EPOXY COATED.

DESIGN AGENCY HNTB 1100 Superior Avenue, Suite 1330 Cleveland, OH 44114-2531

DESIGNED JJB | DRAWN JJB | REVIEWED RHW | DATE 03/21/08 | CHECKED RSB | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

PIER 5 NORTHBOUND BAR SCHEDULE
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20 PID No. 22950

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MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS												
					A	B	C	D	E	F	R	INC A	INC B	INC C	INC D	INC E	INC F
PIER 5 SOUTHBOUND																	
P5S04001	4 SER 12	6'-2"	163	105	2'-0"	2'-0"	2'-2"	9"					1 5/8"	1/2"	1/8"		
		4'-0"				5"	1'-8"	7"									
P5S04002	4 SER 12	7'-0"	190	025	2'-0"	2'-10"	5"	2'-2"	10"				1 3/4"	1/4"	1/2"	1/8"	
		4'-10"				1'-2"	2"	1'-8"	9"								
P5S04003	4 SER 4	4'-2"	43	127	1'-0"	1"	2'-0"	1'-2"	1'-0"	1"					1"		
		3'-10"						5"									
P5S05001	16 SER 39	5'-2"	3037	013	4'-0"	10"						1/4"					
		4'-2"			3'-0"												
P5S05002	4 SER 39	4'-11"	719	013	3'-9"	10"						1/4"					
		3'-11"			2'-9"												
P5S05003	4 SER 39	4'-8"	678	013	3'-6"	10"						1/4"					
		3'-8"			2'-6"												
P5S05004	4 SER 39	4'-5"	637	013	3'-3"	10"						1/4"					
		3'-5"			2'-3"												
P5S05005	2 SER 39	16'-5"	1383	029	6'-2"	6'-3"	9"	3'-3"	11"	10"		5/8"			1/4"	1/8"	
		17'-7"			8'-2"			2'-6"	8"								
P5S05006	2 SER 39	14'-6"	1227	004	11'-3"	11"	3'-3"					3/4"	1/8"	1/4"			
		15'-8"			13'-6"	7"	2'-3"										
P5S06001	16	7'-3"	174	004	3'-7"	3'-7"	7"										
P5S06002	8	7'-3"	87	STR													
P5S06003	10	13'-3"	199	STR													
P5S06004	30	13'-1"	590	119	2'-11"	3'-6"											
P5S08001	128	21'-2"	7234	031	3'-10"	5"	6'-2"										
P5S08002	16	19'-3"	822	STR													
P5S08003	52	10'-3"	1423	STR													
P5S08004	20 SER 2	9'-3"	1121	STR	9'-3"							2'-6"					
		11'-9"			11'-9"												
P5S08005	12	10'-6"	336	STR	10'-6"												
P5S11001	216	20'-0"	22952	026	20'-0"												
P5S11002	34	15'-8"	2830	024	13'-10"	2'-2"											
P5S11003	32	11'-8"	1984	024	9'-10"	2'-2"											
P5S11004	34	15'-5"	2785	024	13'-7"	2'-2"											
P5S11005	32	11'-5"	1941	024	9'-7"	2'-2"											
P5S11006	48	15'-5"	3932	030	13'-10"												
P5S11007	36	11'-5"	2184	030	9'-10"												
P5S11008	14	24'-0"	1785	129	20'-2"	2'-3"											
P5S11009	2 SER 6	23'-11"	1516	129	20'-1"	2'-3"						1"					
		23'-6"			19'-8"												
P5S11010	26	23'-4"	3223	129	19'-6"	2'-3"											
P5S11011	26	21'-2"	2924	016	18'-0"												
P5S11012	12	24'-2"	1541	129	20'-4"	2'-3"											
P5S11013	2 SER 6	24'-1"	1517	129	20'-3"	2'-3"						1"					
		23'-6"			19'-8"												
		SUB-TOTAL	71177														

NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN.
   FOR EXAMPLE: P5S04001
   P5: LOCATION OF THE BAR IN THE STRUCTURE (PIER 5)
   S: LOCATION OF THE STRUCTURE (SOUTHBOUND)
   04: BAR SIZE (#4 BAR)
   001: BAR SEQUENCE NUMBER

2. 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 BAR. STRAIGHT BARS ARE INDICATED BY "STR".

3. ALL REINFORCING STEEL IS TO BE EPOXY COATED.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1300
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
JJB	JJB	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RSB		8302278L/8302294R	

PIER 5 SOUTHBOUND BAR SCHEDULE

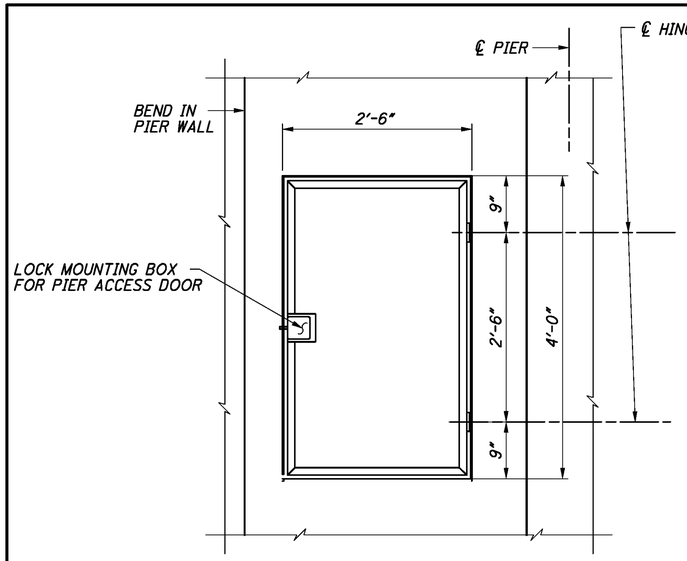
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

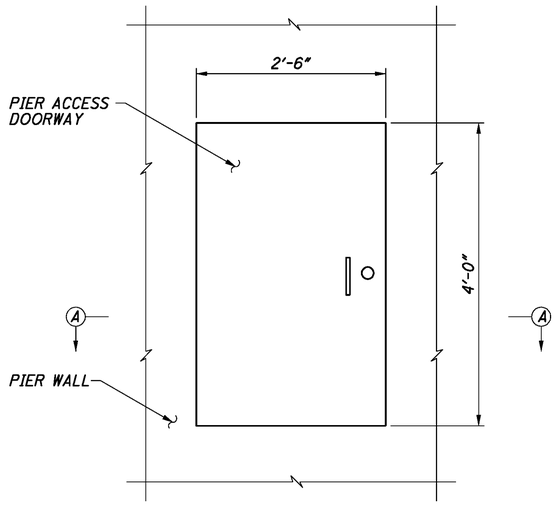
95A/204

361A/470

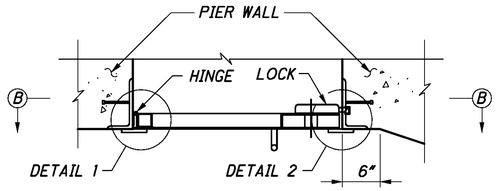
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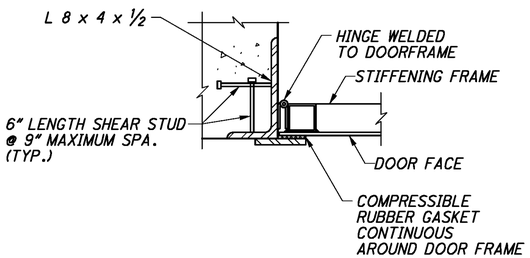
VIEW B-B



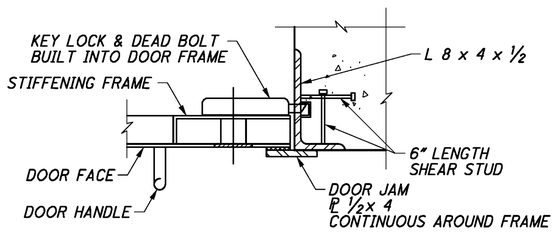
ACCESS DOOR ELEVATION



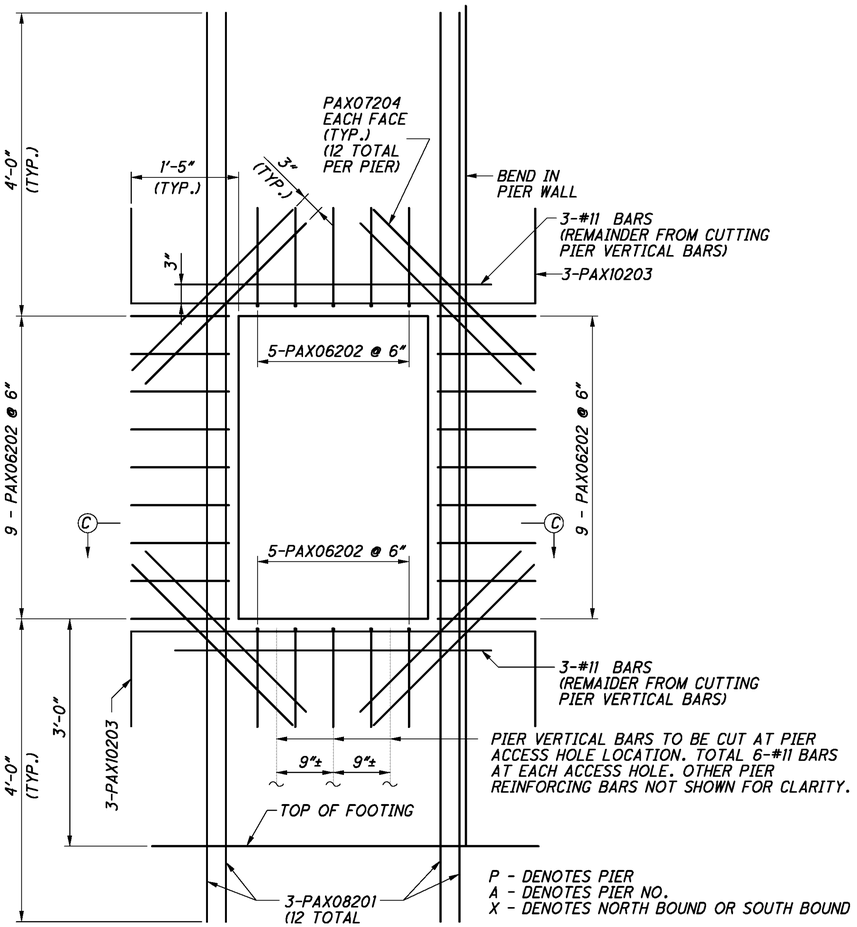
SECTION A-A



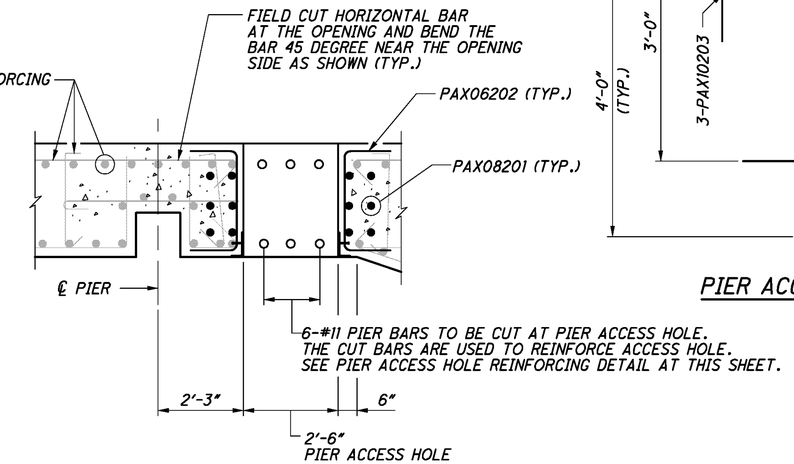
DETAIL 1



DETAIL 2



PIER ACCESS HOLE REINFORCING DETAIL AT PIERS



SECTION C-C

NOTES:

1. ALL ACCESS DOORS SHALL BE KEYED ALIKE AND CONTRACTOR SHALL FURNISH KEYS TO ENGINEER UPON ACCEPTANCE OF PROJECT.
2. THE COST OF THE ACCESS DOOR, ACCESS OPENING AND RELATED HARDWARE ITEMS SHALL BE INCLUDED IN CONTRACT UNIT PRICE FOR ITEM SPECIAL, 530 00200, STRUCTURE, MISC.: ACCESS HATCHES - PIERS.
3. THE COST OF LADDERS, RAILINGS, PLATFORMS AND RELATED HARDWARE ITEMS SHALL BE INCLUDED IN CONTRACT UNIT PRICE FOR ITEM SPECIAL, 530 00200, STRUCTURE, MISC.: LADDERS, RAILINGS, AND PLATFORMS - PIERS.
4. THE COST OF FALL ARREST SAFETY LIFE LINES AND RELATED HARDWARE ITEMS SHALL BE INCLUDED IN CONTRACT UNIT PRICE FOR ITEM SPECIAL, 530 00200. STRUCTURE, MISC.: FALL ARREST SAFETY LINE - PIERS.
5. THE COST OF REINFORCING ON THE ACCESS HOLE SHALL BE INCLUDED IN CONTRACT UNIT PRICE FOR ITEM, 509 10000 EPOXY COATED REINFORCING STEEL.
6. THE COST OF CONCRETE FOR THE TIE OFF BEAMS SHALL BE INCLUDED IN CONTRACT UNIT PRICE FOR ITEM, 898 20200 QC/QA CONCRETE, CLASS QSC3, SUBSTRUCTURE (PIERS, INCLUDING TWIN WALLS, TIE OFF BEAMS AND BASE)
7. CONTRACTOR SHALL CUT AND ADJUST ALL REINFORCEMENT AS NECESSARY FOR ACCESS DOOR AND ACCESS OPENING.
8. ALL STRUCTURAL STEEL FOR PIER ACCESS HOLE DOOR, LADDER, PLATFORM AND RAILING SHALL BE CONFORM TO REQUIREMENTS OF AASHTO M270 GRADE 36, AND BE GALVANIZED IN ACCORDING WITH ASTM A123.
9. MATERIAL SIZES ARE AS FOLLOWS:

DOOR PLATE	⅜"
DOOR FRAMING	2" x 2" x ¼" TUBING
HINGE ANCHOR BOLT	6" x ⅜"

10. ALL CUT REINFORCING SHALL BE REPAIRED IN ACCORDANCE WITH CMS 509.09.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
MX	LK	RHW	2/02/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MEA		8302278L/8302294R	

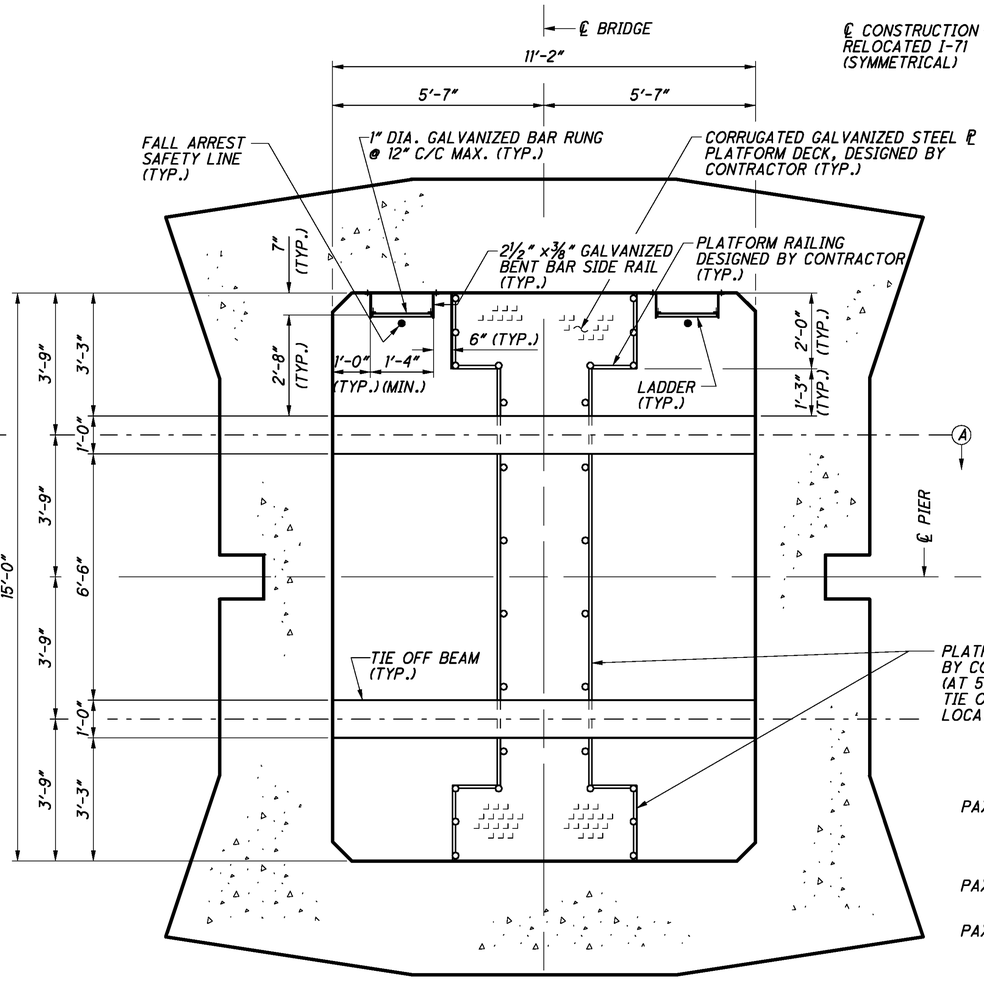
PIERS 1-4 ACCESS DETAILS
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

95B | 204

361B
470

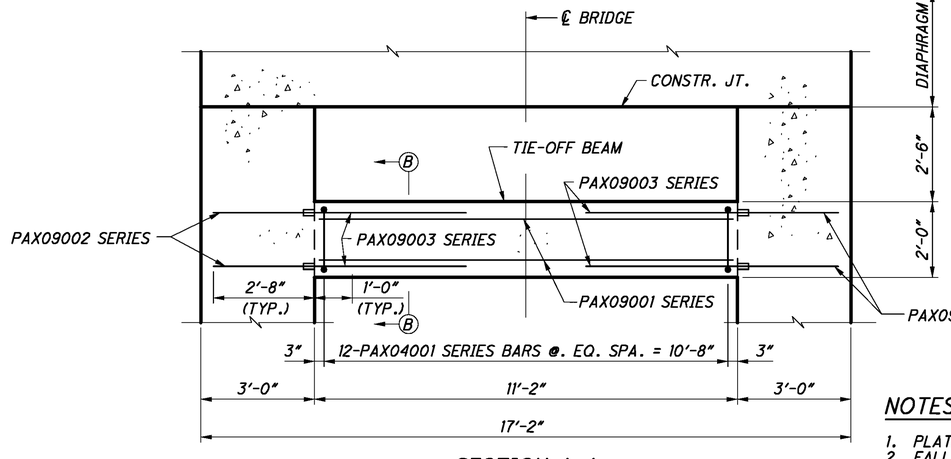
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PLAN

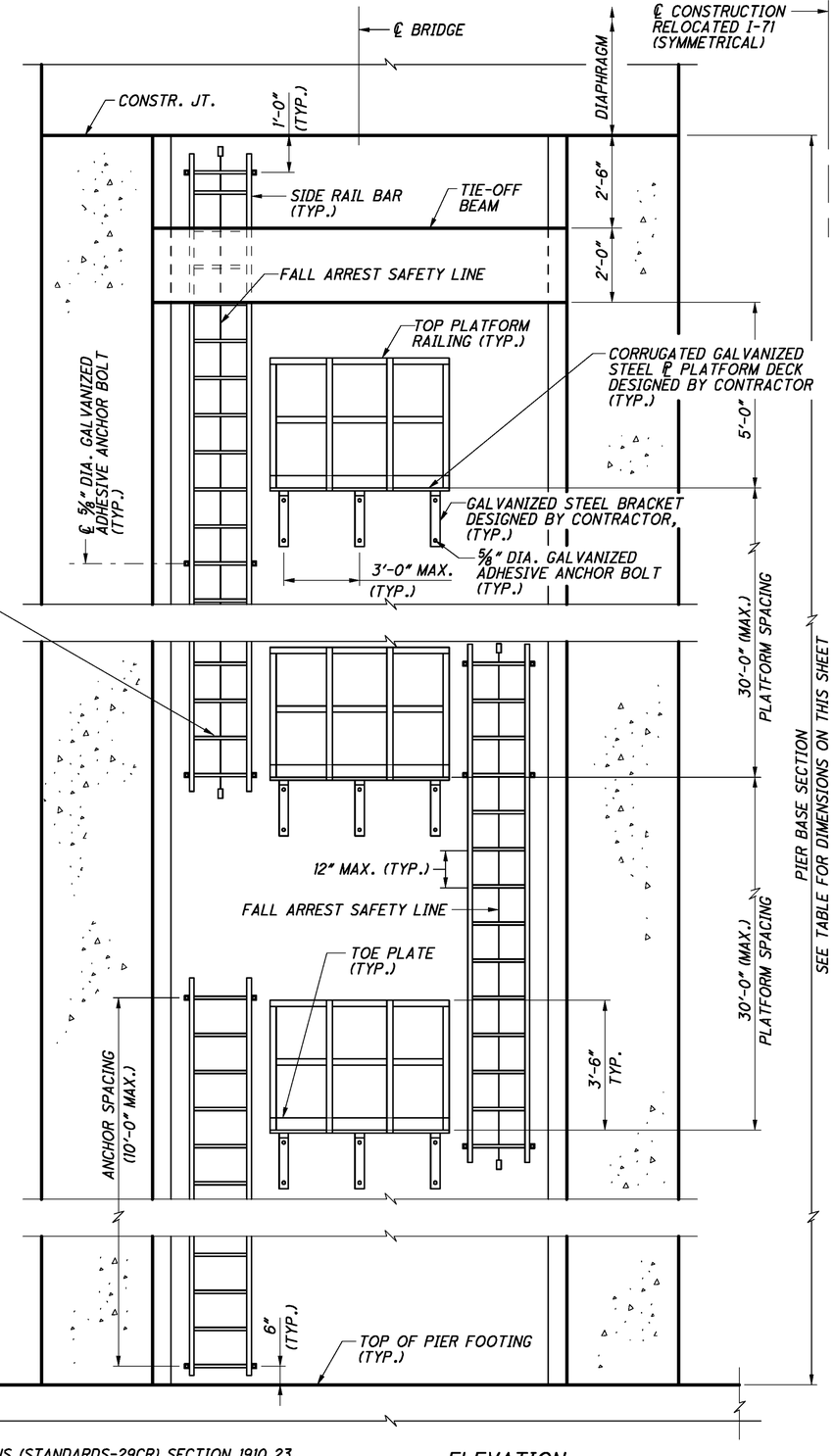
PIER LOCATION	HEIGHT OF PIER BASE SECTION
PIER 1 (NORTHBOUND)	16'-0"
PIER 1 (SOUTHBOUND)	16'-0"
PIER 2 (NORTHBOUND)	120'-10⅝"
PIER 2 (SOUTHBOUND)	120'-10⅝"
PIER 3 (NORTHBOUND)	51'-9⅜"
PIER 3 (SOUTHBOUND)	66'-9⅜"
PIER 4 (NORTHBOUND)	51'-7⅛"
PIER 4 (SOUTHBOUND)	56'-7⅛"

SECTION B-B



SECTION A-A

P - DENOTES PIER
A - DENOTES PIER NUMBER
X - DENOTES NORTHBOUND OR SOUTHBOUND



ELEVATION

NOTES:

1. PLATFORM RAILINGS SHALL CONFORM TO OSHA REGULATIONS (STANDARDS-29CR) SECTION 1910.23.
2. FALL ARREST SAFETY LIFELINES SHALL CONFORM TO OSHA REGULATIONS (STANDARDS-29CR) SECTION 1926.104
3. LADDERS SHALL CONFORM TO OSHA REGULATIONS (STANDARDS 29CFR) SECTIONS 1920.1053 AND 1910.27.
4. FOR ADDITIONAL NOTES FOR LADDERS, PLATFORMS, RAILINGS AND FALL ARREST SAFETY LINES, SEE SHEET 95B OF 204.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX	XXX	8302278L/8302294R	

PIERS 1-4 TIE-OFF BEAM, LADDER, PLATFORM DETAILS

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

95C / 204

361C
470

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MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
PIER ACCESS HOLE											
P1N08201	12	10'-6"	336	001	10'-6"						
P1N06202	28	4'-6"	189	102	1'-2"	2'-6"	1'-2"				
P1N10203	6	7'-2"	185	102	1'-3"	5'-4"	1'-3"				
P1N07204	12	3'-0"	74	001	3'-0"						
P1S08201	12	10'-6"	336	001	10'-6"						
P1S06202	28	4'-6"	189	102	1'-2"	2'-6"	1'-2"				
P1S10203	6	7'-2"	185	102	1'-3"	5'-4"	1'-3"				
P1S07204	12	3'-0"	74	001	3'-0"						
P2N08201	12	10'-6"	336	001	10'-6"						
P2N06202	28	4'-6"	189	102	1'-2"	2'-6"	1'-2"				
P2N10203	6	7'-2"	185	102	1'-3"	5'-4"	1'-3"				
P2N07204	12	3'-0"	74	001	3'-0"						
P2S08201	12	10'-6"	336	001	10'-6"						
P2S06202	28	4'-6"	189	102	1'-2"	2'-6"	1'-2"				
P2S10203	6	7'-2"	185	102	1'-3"	5'-4"	1'-3"				
P2S07204	12	3'-0"	74	001	3'-0"						
P3N08201	12	10'-6"	336	001	10'-6"						
P3N06202	28	4'-6"	189	102	1'-2"	2'-6"	1'-2"				
P3N10203	6	7'-2"	185	102	1'-3"	5'-4"	1'-3"				
P3N07204	12	3'-0"	74	001	3'-0"						
P3S08201	12	10'-6"	336	001	10'-6"						
P3S06202	28	4'-6"	189	102	1'-2"	2'-6"	1'-2"				
P3S10203	6	7'-2"	185	102	1'-3"	5'-4"	1'-3"				
P3S07204	12	3'-0"	74	001	3'-0"						
P3N08201	12	10'-6"	336	001	10'-6"						
P3N06202	28	4'-6"	189	102	1'-2"	2'-6"	1'-2"				
P3N10203	6	7'-2"	185	102	1'-3"	5'-4"	1'-3"				
P3N07204	12	3'-0"	74	001	3'-0"						
P3S08201	12	10'-6"	336	001	10'-6"						
P3S06202	28	4'-6"	189	102	1'-2"	2'-6"	1'-2"				
P3S10203	6	7'-2"	185	102	1'-3"	5'-4"	1'-3"				
P3S07204	12	3'-0"	74	001	3'-0"						
SUB-TOTAL		6,272 lbs									

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
TIE-OFF BEAM											
P1N04001	48	5'-0"	160	119	8"	1'-8"					
P1N09001	8	11'-0"	300	001	11'-0"						
P1N09002	16	2'-8"	146	002	2'-8"						
P1N09003	16	4'-0"	218	001	4'-0"						
P1S04001	48	5'-0"	160	119	8"	1'-8"					
P1S09001	8	11'-0"	300	001	11'-0"						
P1S09002	16	2'-8"	146	002	2'-8"						
P1S09003	16	4'-0"	218	001	4'-0"						
P2N04001	48	5'-0"	160	119	8"	1'-8"					
P2N09001	8	11'-0"	300	001	11'-0"						
P2N09002	16	2'-8"	146	002	2'-8"						
P2N09003	16	4'-0"	218	001	4'-0"						
P2S04001	48	5'-0"	160	119	8"	1'-8"					
P2S09001	8	11'-0"	300	001	11'-0"						
P2S09002	16	2'-8"	146	002	2'-8"						
PS209003	16	4'-0"	218	001	4'-0"						
P3N04001	48	5'-0"	160	119	8"	1'-8"					
P3N09001	8	11'-0"	300	001	11'-0"						
P3N09002	16	2'-8"	146	002	2'-8"						
P3N09003	16	4'-0"	218	001	4'-0"						
P3S04001	48	5'-0"	160	119	8"	1'-8"					
P3S09001	8	11'-0"	300	001	11'-0"						
P3S09002	16	2'-8"	146	002	2'-8"						
P3S09003	16	4'-0"	218	001	4'-0"						
P4N04001	48	5'-0"	160	119	8"	1'-8"					
P4N09001	8	11'-0"	300	001	11'-0"						
P4N09002	16	2'-8"	146	002	2'-8"						
P4N09003	16	4'-0"	218	001	4'-0"						
P4S04001	48	5'-0"	160	119	8"	1'-8"					
P4S09001	8	11'-0"	300	001	11'-0"						
P4S09002	16	2'-8"	146	002	2'-8"						
P4S09003	16	4'-0"	218	001	4'-0"						
SUB-TOTAL		6,592 lbs									

NOTES:

THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN.
FOR EXAMPLE: P1N04001
- P1: LOCATION OF THE BAR IN THE STRUCTURE (PIER 1)
- N: LOCATION OF THE STRUCTURE (NORTHBOUND)
- 04: BAR SIZE (#4 BAR)
- 001: BAR SEQUENCE NUMBER

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 BAR.
STRAIGHT BARS ARE INDICATED BY "STR".

ALL REINFORCING STEEL IS TO BE EPOXY COATED.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1300
Cleveland, OH 44114-2533

DESIGNED MEA | DRAWN LK | REVIEWED RHW | DATE 2/02/09
CHECKED MX | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

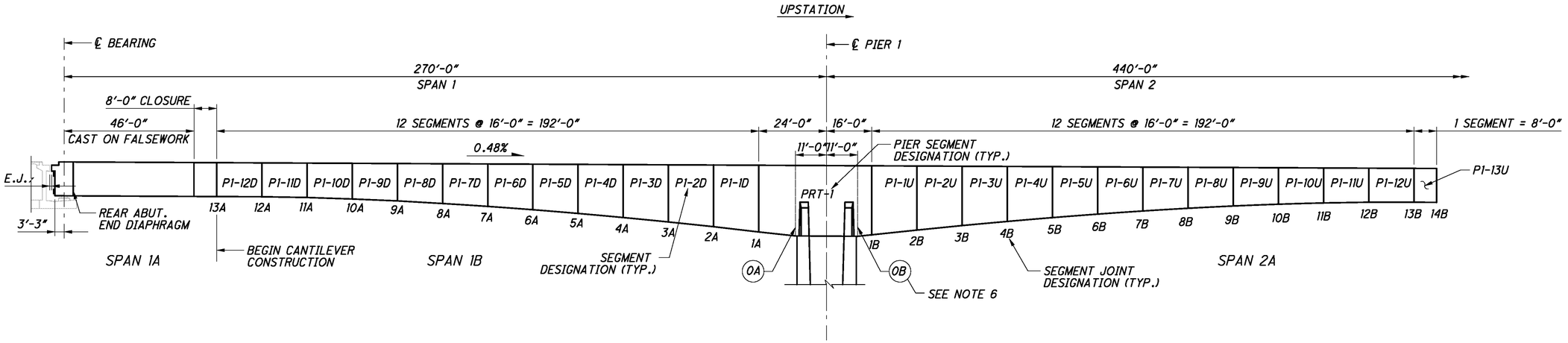
PIERS 1-4 TIE-OFF BEAM, ACCESS HOLE BAR SCHEDULE
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

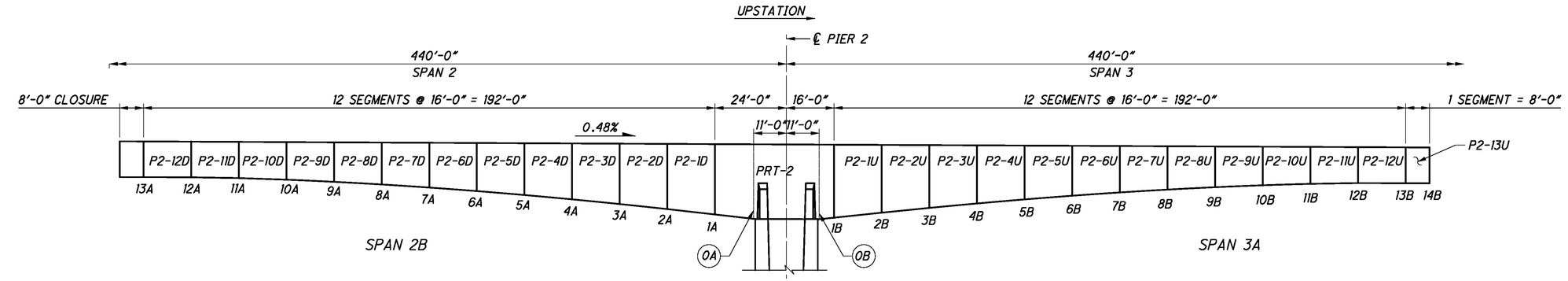
WAR-71-14.20
PID No. 22950

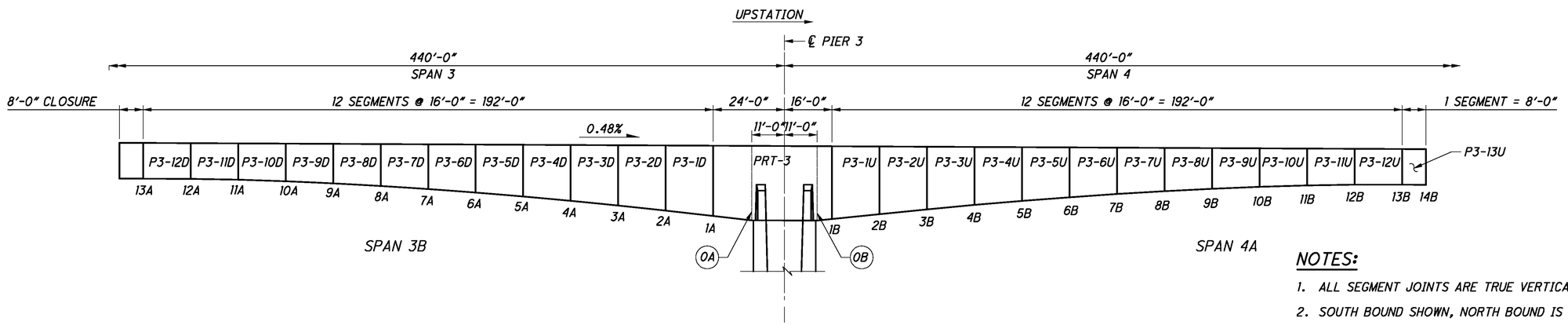
95D/204

361D/470

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LEGEND

CANTILEVER NO.: P2 - 7D
- P2 = CANTILEVER NO.
- D - DOWNSTATION
- U - UPSTATION
- 7D = SEGMENT NO.

NOTES:

1. ALL SEGMENT JOINTS ARE TRUE VERTICAL.
2. SOUTH BOUND SHOWN, NORTH BOUND IS SIMILAR.
3. ALL LENGTHS GIVEN ARE MEASURED TRUE HORIZONTAL.
4. E.J. DENOTE EXPANSION JOINT.
5. PRT DENOTES PIER TABLE.
6. JOINTS 0A AND 0B ARE NOT ACTUAL JOINTS BUT REPRESENT SECTION AT THE FACE OF THE PIER.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED YEH | DRAWN JFA | REVIEWED JB | DATE 10/30/07
CHECKED MX | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

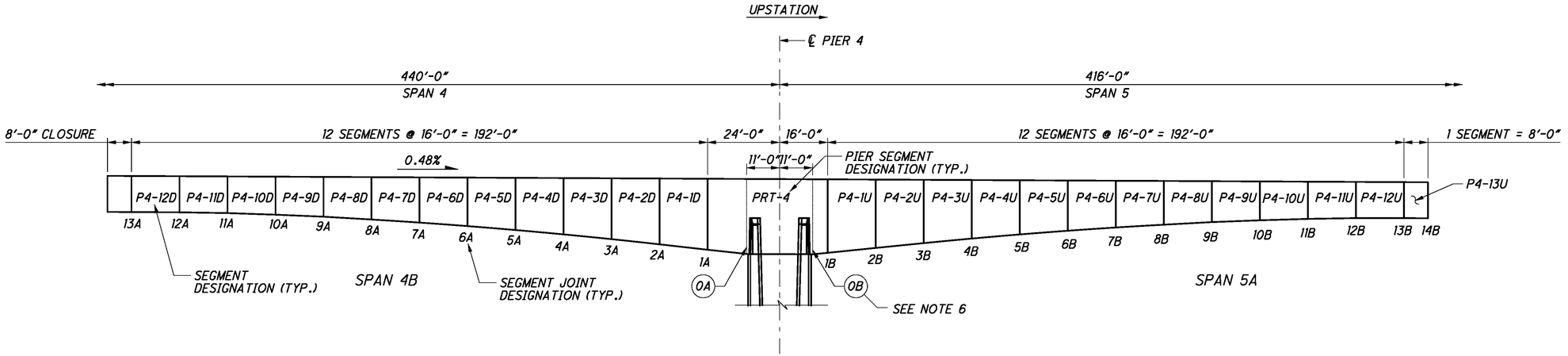
SPAN AND SEGMENT LAYOUT 1
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

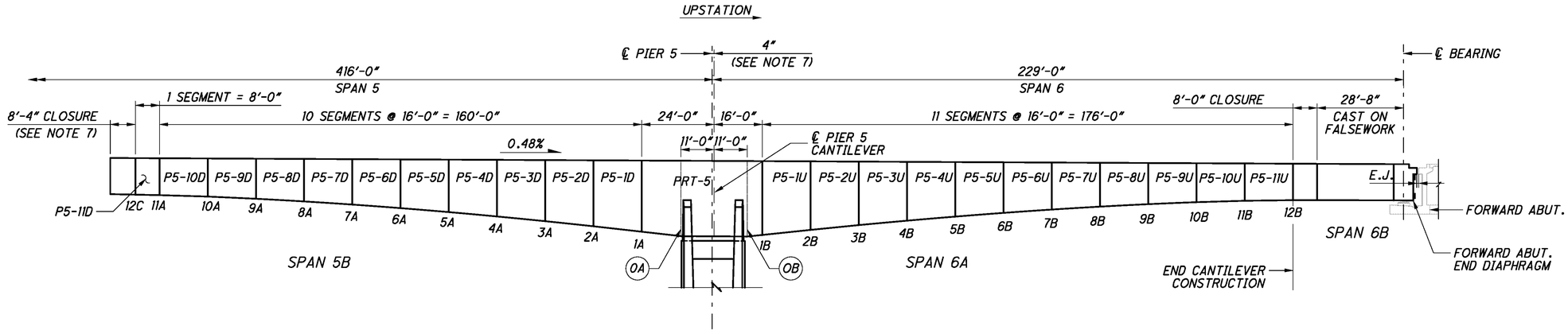
WAR-71-14.20
PID No. 22950

96 / 204

362 / 470

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LEGEND

CANTILEVER NO. — P2 – 7D — SEGMENT NO.

- D – DOWNSTATION
- U – UPSTATION

NOTES:

1. ALL SEGMENT JOINTS ARE TRUE VERTICAL.
2. SOUTH BOUND SHOWN, NORTH BOUND IS SIMILAR.
3. ALL LENGTHS GIVEN ARE MEASURED ALONG TRUE HORIZONTAL.
4. E.J. DENOTE EXPANSION JOINT.
5. PRT DENOTES PIER TABLE.
6. JOINTS 0A AND 0B ARE NOT ACTUAL JOINTS BUT REPRESENT SECTION AT THE FACE OF THE PIER.
7. BASED ON THE CONSTRUCTION SEQUENCE SHOWN ON SHEET 15 TO 17 OF 204, ℄ PIER 5 SUPERSTRUCTURE CANTILEVER IS OFFSET 4" UPSTATION FROM THE ℄ PIER 5 AT INITIAL CANTILEVER CONSTRUCTION TO COMPENSATE CREEP AND SHRINKAGE. SEE SHEET 134 OF 204 FOR DETAILS.

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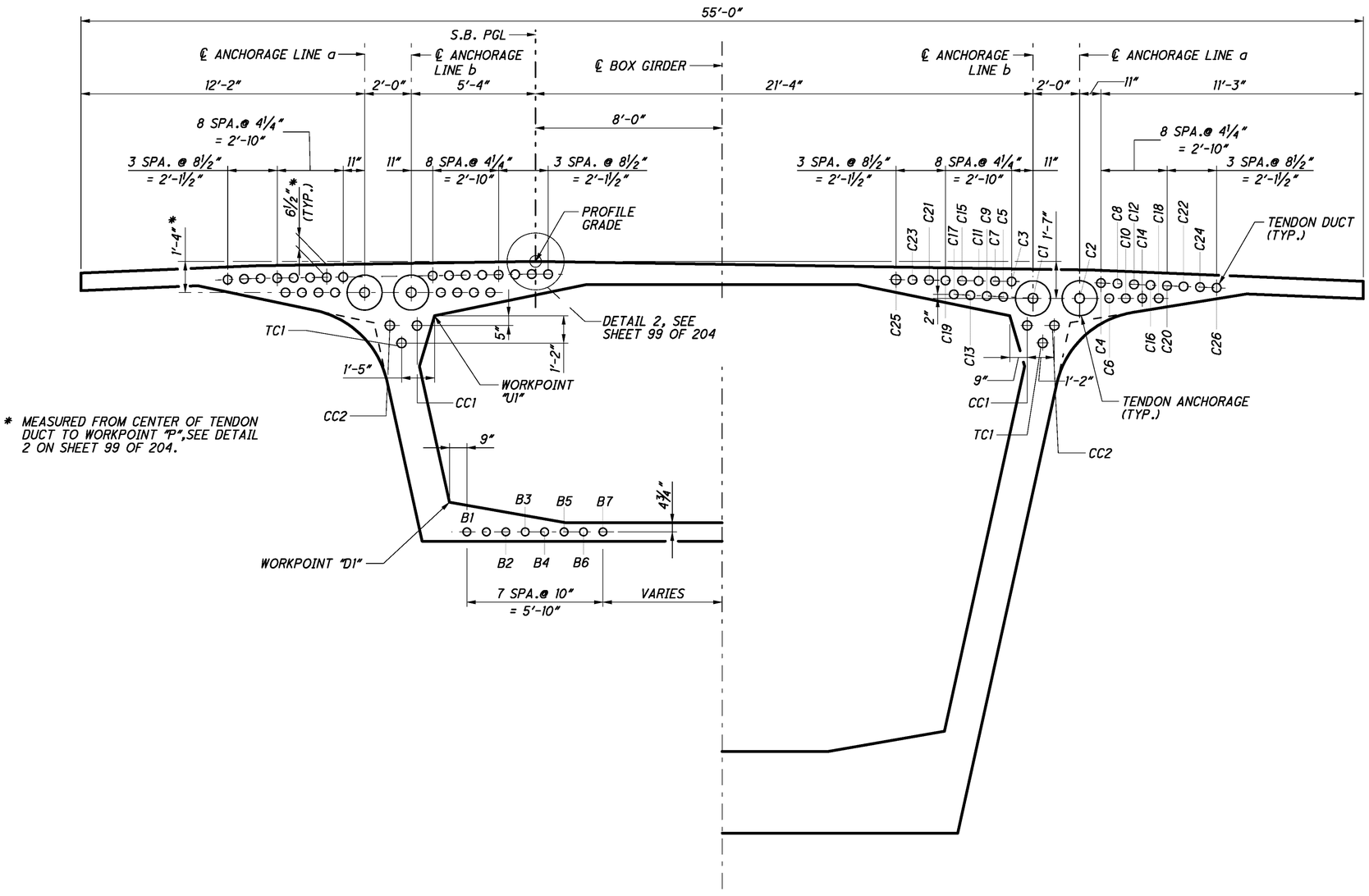
DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH	JFA	JB	10/30/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

SPAN AND SEGMENT LAYOUT 2

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950



* MEASURED FROM CENTER OF TENDON DUCT TO WORKPOINT "P", SEE DETAIL 2 ON SHEET 99 OF 204.

TYPICAL BULKHEAD

(LOOKING DOWNSTATION, SOUTH BOUND BRIDGE SHOWN. NORTH BOUND OPPOSITE HAND)

NOTES:

1. TYPICAL BULKHEAD IN THIS SHEET ONLY SHOWS PT DUCT LOCATIONS. FOR REINFORCING BAR LOCATIONS, SEE REINFORCING BAR DETAILS DRAWINGS.
2. FOR SEGMENT DIMENSIONS, SEE TYPICAL SEGMENT DIMENSIONS ON SHEET 99 OF 204.
3. CC1 & CC2 ARE FOR CONSTRUCTION CONTINGENCY PT ONLY.
4. TC1 IS AT SEGMENTS P1-11D, P1-12D, P5-10U & P5-11U ONLY.
5. S.B. DENOTES SOUTH BOUND.
6. 1½" INITIAL WEARING SURFACE IN THE TYPICAL BULKHEAD SECTION NOT SHOWN FOR CLARITY. ALL DIMENSIONS SHOWN ARE MEASURED FROM WORKPOINT "P", SEE DETAIL 2 IN SHEET 99 OF 204, AND DO NOT INCLUDE THE INITIAL WEARING SURFACE.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH	YEH	JB	10/30/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

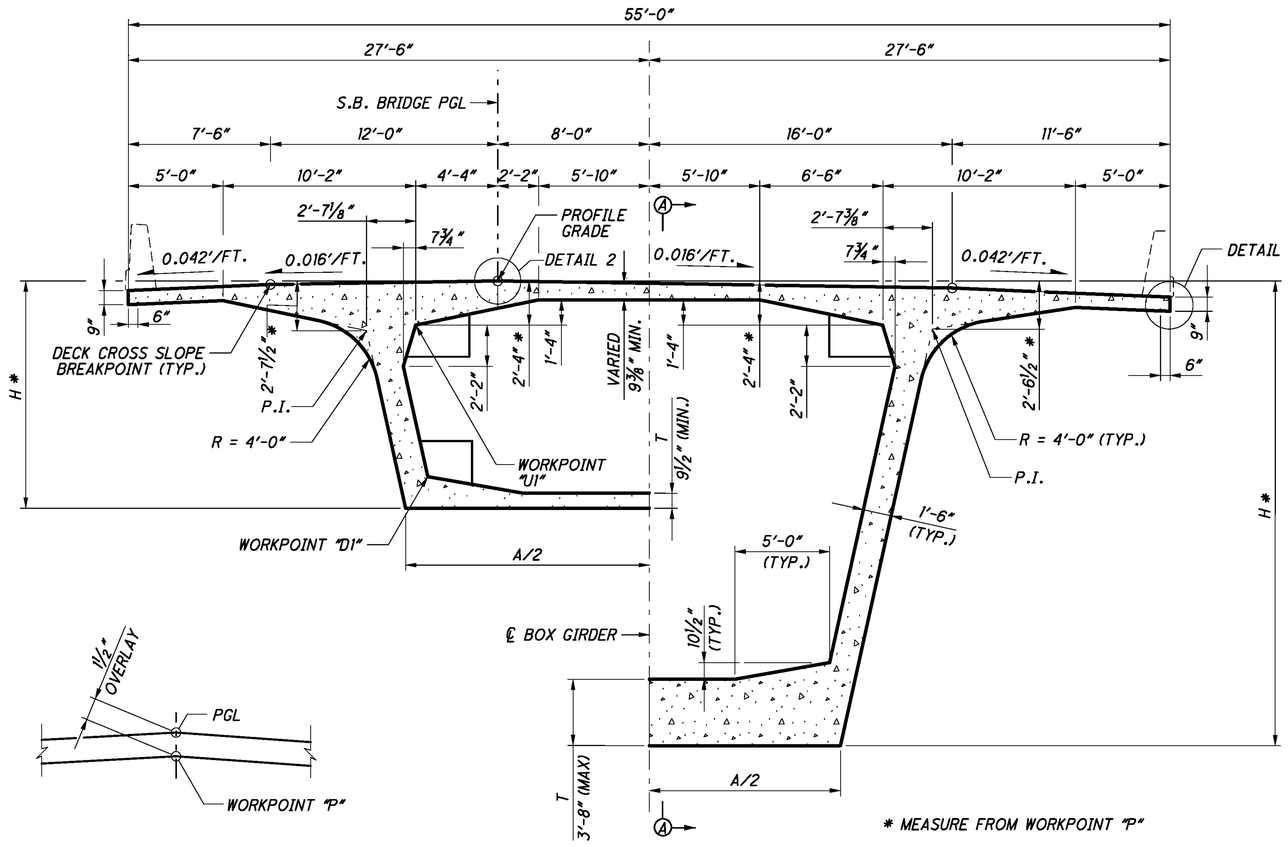
BULKHEAD DETAILS
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

98 / 204

364 / 470

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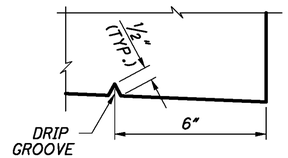


DETAIL 2

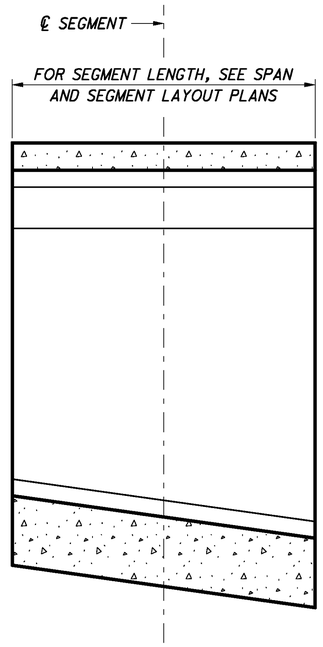
CROSS SECTION

(LOOKING DOWNSTATION, SOUTH BOUND BRIDGE SHOWN NORTH BOUND BRIDGE OPPOSITE HAND)

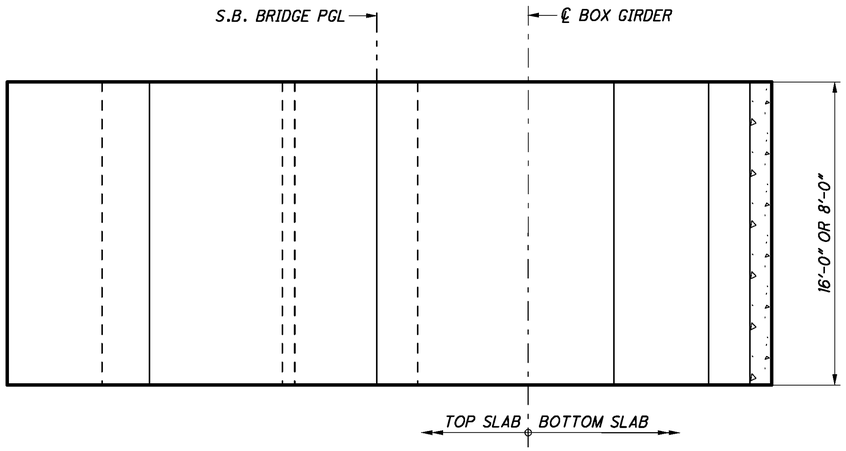
* MEASURE FROM WORKPOINT "P"



DETAIL 1



SECTION A-A



HALF PLAN TOP SLAB

(SOUTH BOUND BRIDGE SHOWN NORTH BOUND BRIDGE OPPOSITE HAND)

HALF PLAN BOTTOM SLAB

(SOUTH BOUND BRIDGE SHOWN NORTH BOUND BRIDGE OPPOSITE HAND)

VARIABLE DIMENSION			
JOINT NO.	A	H	T
0A **	20'-0"	25'-0"	3'-8"
1A	20'-7¾"	23'-6¼"	3'-2⅜"
2A	21'-4⅞"	21'-9½"	2'-8"
3A	22'-1⅜"	20'-2¼"	2'-2½"
4A	22'-9¼"	18'-8⅜"	1'-9½"
5A	23'-4½"	17'-4⅛"	1'-5½"
6A	23'-11"	16'-1⅜"	1'-2½"
7A	24'-4¾"	15'-0⅛"	1'-0"
8A	24'-9¾"	14'-0¾"	10½"
9A	25'-2"	13'-3⅛"	9½"
10A	25'-5⅜"	12'-7⅝"	9½"
11A	25'-7⅝"	12'-2⅜"	9½"
12A	25'-8¾"	12'-0"	9½"
13A	25'-8¾"	12'-0"	9½"
12C	25'-8⅜"	12'-0¾"	9½"

VARIABLE DIMENSION			
JOINT NO.	A	H	T
0B **	20'-0"	25'-0"	3'-8"
1B	20'-3"	24'-5"	3'-6"
2B	21'-0½"	22'-7¾"	2'-11"
3B	21'-9¼"	20'-11¾"	2'-5"
4B	22'-5½"	19'-5⅛"	2'-0"
5B	23'-1"	18'-0⅛"	1'-7½"
6B	23'-7⅛"	16'-8½"	1'-4"
7B	24'-2"	15'-6½"	1'-1"
8B	24'-7⅜"	14'-6¼"	11"
9B	25'-0"	13'-7¾"	9⅞"
10B	25'-3⅞"	12'-11⅛"	9½"
11B	25'-6⅝"	12'-4⅝"	9½"
12B	25'-8⅜"	12'-0¾"	9½"
13B	25'-8¾"	12'-0"	9½"
14B	25'-8¾"	12'-0"	9½"

** FOR DIMENSION ONLY, NOT A SEGMENT JOINT

NOTES:

1. SEE SHEETS 96 AND 97 OF 204 FOR JOINT DEFINITION.
2. ALL CONCRETE CHAMFERS ARE ¾".
3. S.B. DENOTES SOUTH BOUND.
4. 1½" INITIAL WEARING SURFACE IN CROSS SECTION NOT SHOWN FOR CLARITY. ALL DIMENSIONS SHOWN ARE MEASURED FROM WORKPOINT "P" IN DETAIL 2 AND DO NOT INCLUDE THE INITIAL WEARING SURFACE.

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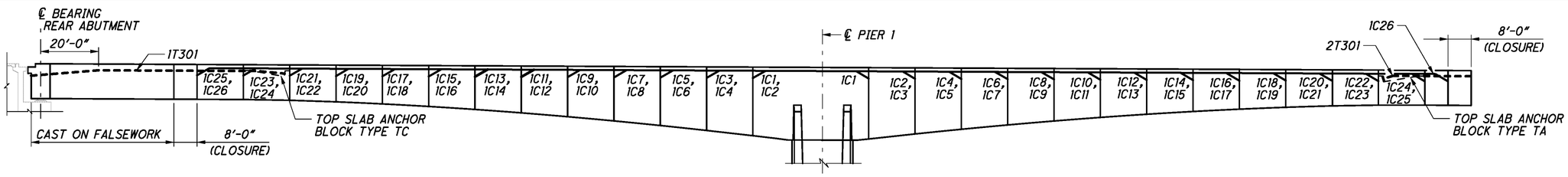
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TYPICAL SEGMENT DIMENSIONS

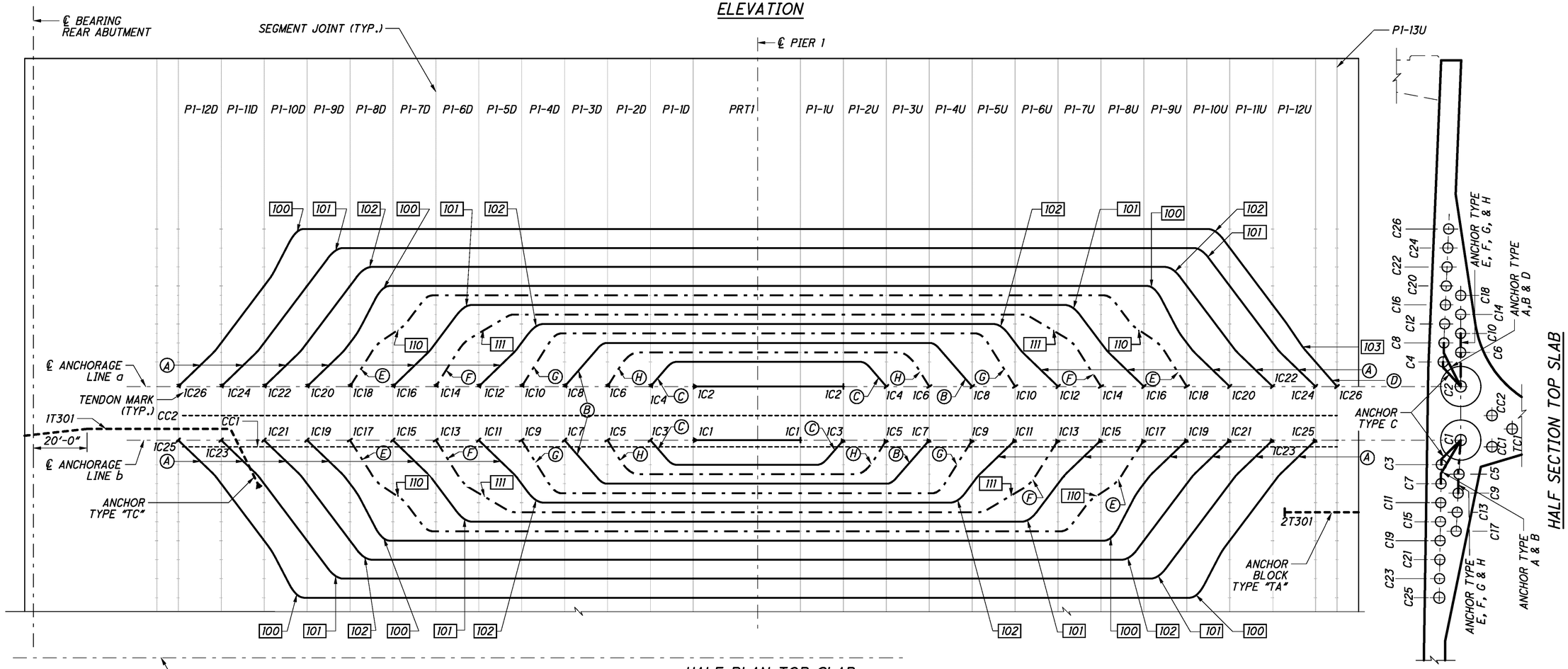
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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ELEVATION



HALF SECTION TOP SLAB

SYMMETRICAL ABOUT ℄ GIRDER

HALF PLAN TOP SLAB

(VERTICAL SCALE EXAGGERATED FOR CLARITY)

LEGEND

- NON-STRESSING END
- STRESS END
- UPPER LEVEL CANTILEVER TENDON
- LOWER LEVEL CANTILEVER TENDON
- CONSTRUCTION CONTINGENCY TENDON
- TOP CONTINUITY TENDON
- TOP SLAB TENDON DEVIATION
- CANTILEVER TENDON ANCHOR TYPE

CANTILEVER NO OR SPAN NO. — IC2

C - CANTILEVER TENDON
T - TOP CONTINUITY TENDON
CC - CONSTRUCTION CONTINGENCY TENDON

NOTES:

1. TENDON LAYOUTS OF SOUTH BOUND BRIDGE SHOWN, NORTH BOUND BRIDGE IS SIMILAR.
2. FOR TOP SLAB TENDON DEVIATION DETAILS, SEE SHEET 110 OF 204.
3. FOR CANTILEVER TENDON ANCHORAGE DETAILS, SEE SHEET 111 OF 204.
4. FOR TOP SLAB ANCHOR BLOCK DETAILS, SEE SHEETS 116 TO 120 OF 204.
5. FOR TENDON SIZE & STRESSING FORCES, SEE POST-TENSIONING TENDON SCHEDULE ON SHEETS 112 AND 113 OF 204.
6. HALF SECTION SHOWN ALL POSSIBLE TOP SLAB TENDON LOCATIONS. FOR ACTUAL NUMBER OF TENDONS AND TENDON PATHS, SEE HALF PLANS.
7. TWO CONSTRUCTION CONTINGENCY TENDON DUCTS ARE PROVIDED ON JUNCTION OF EACH WEB AND TOP SLAB IF IT IS REQUIRED. IF NOT USED, DUCTS HAVE TO BE GROUTED.
8. ALL TENDON ARRANGEMENTS SHOWN ARE SYMMETRICAL ABOUT THE CENTERLINE OF THE BOX GIRDER.

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TOP SLAB TENDON LAYOUT 1

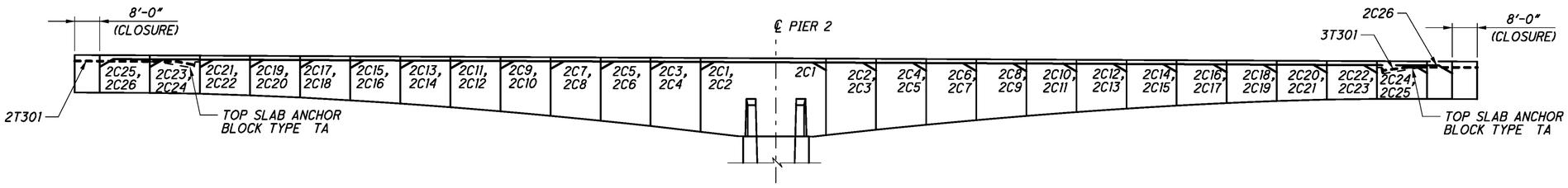
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

100 / 204

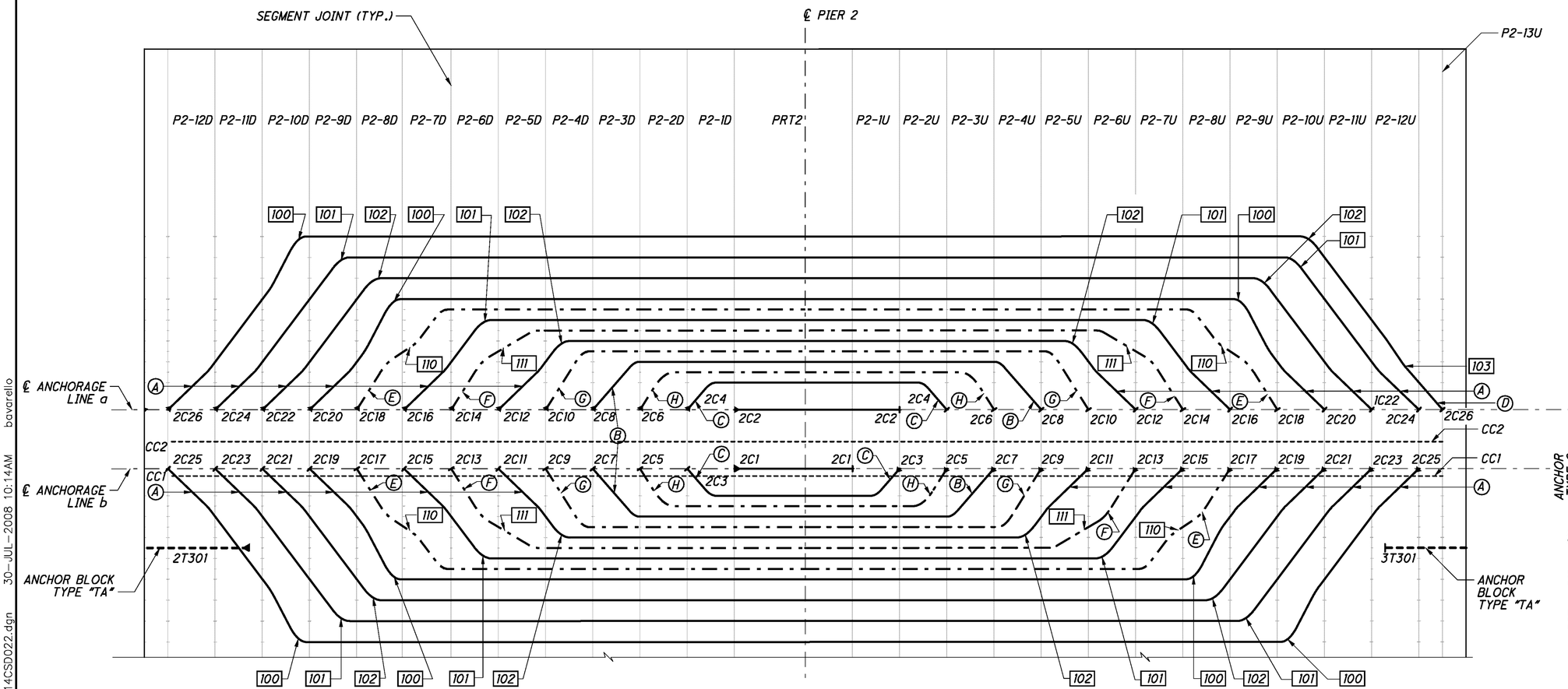
366 / 470

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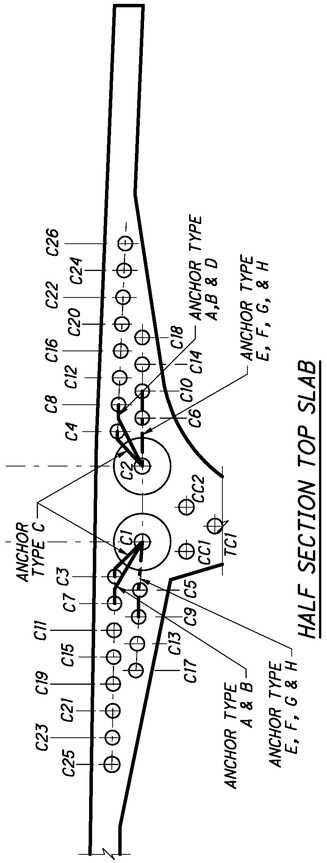
ELEVATION

(PIER 2 LOCATION SHOWN, PIER 3 & PIER 4 ARE SIMILAR)



HALF PLAN TOP SLAB

(VERTICAL SCALE IS EXAGGERATED FOR CLARITY. PIER 2 LOCATION IS SHOWN. LOCATIONS OF PIER 3 AND PIER 4 ARE SIMILAR)



HALF SECTION TOP SLAB

LEGEND

- NON-STRESSING END
- STRESS END
- UPPER LEVEL CANTILEVER TENDON
- LOWER LEVEL CANTILEVER TENDON
- CONSTRUCTION CONTINGENCY TENDON
- TOP CONTINUITY TENDON
- TOP SLAB TENDON DEVIATION
- CANTILEVER TENDON ANCHOR TYPE

CANTILEVER NO OR SPAN NO. — IC2

- C - CANTILEVER TENDON
- T - TOP CONTINUITY TENDON
- CC - CONSTRUCTION CONTINGENCY TENDON

NOTES:

1. FOR NOTES, SEE SHEET 100 OF 204.

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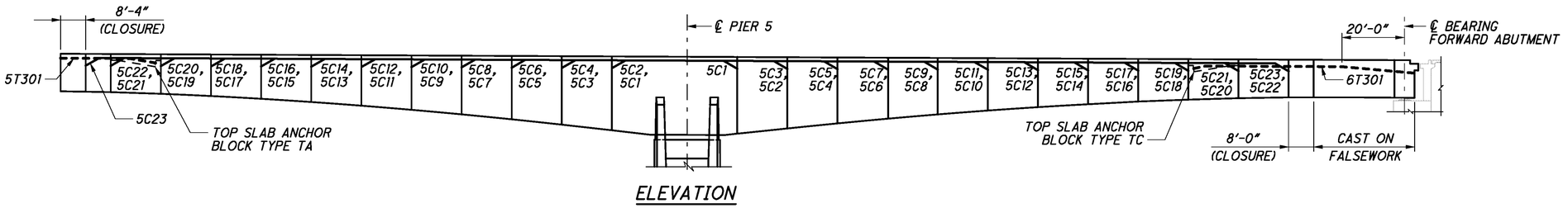
TOP SLAB TENDON LAYOUT 2
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

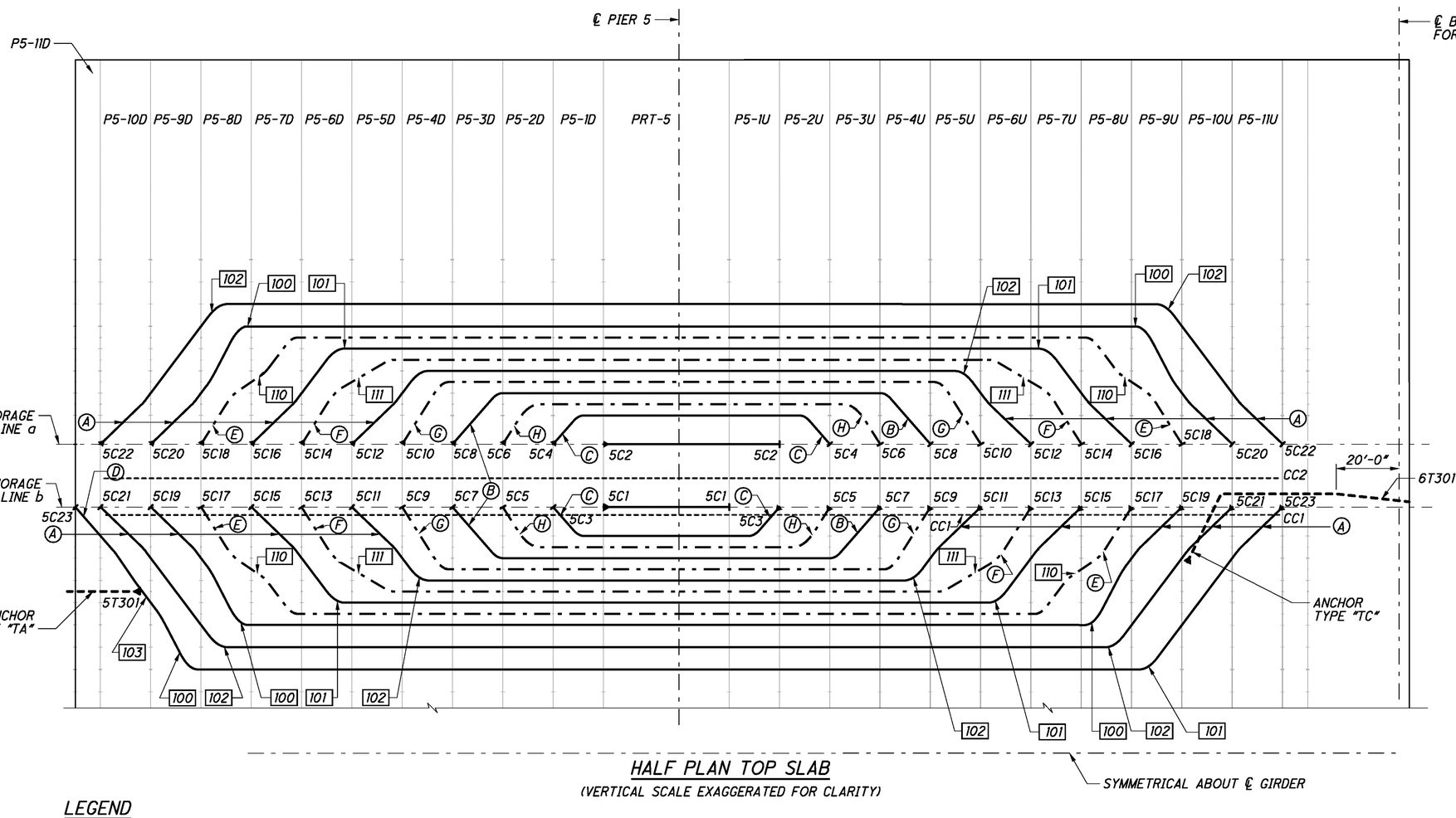
101 / 204

367 / 470

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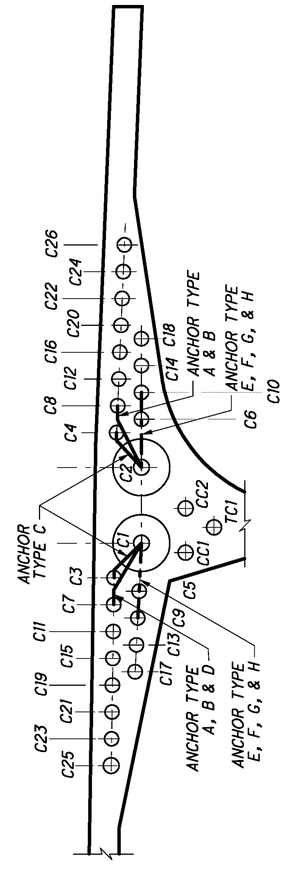
ELEVATION



HALF PLAN TOP SLAB

(VERTICAL SCALE EXAGGERATED FOR CLARITY)

SYMMETRICAL ABOUT ℄ GIRDER



HALF SECTION TOP SLAB

LEGEND

- NON-STRESSING END
- STRESS END
- UPPER LEVEL CANTILEVER TENDON
- LOWER LEVEL CANTILEVER TENDON
- CONSTRUCTION CONTINGENCY TENDON
- TOP CONTINUITY TENDON
- TOP SLAB TENDON DEVIATION
- CANTILEVER TENDON ANCHOR TYPE

CANTILEVER NO OR SPAN NO. — 1C2

- C - CANTILEVER TENDON
- T - TOP CONTINUITY TENDON
- CC - CONSTRUCTION CONTINGENCY TENDON

NOTES:

1. FOR NOTES, SEE SHEET 100 OF 204.

DESIGN AGENCY
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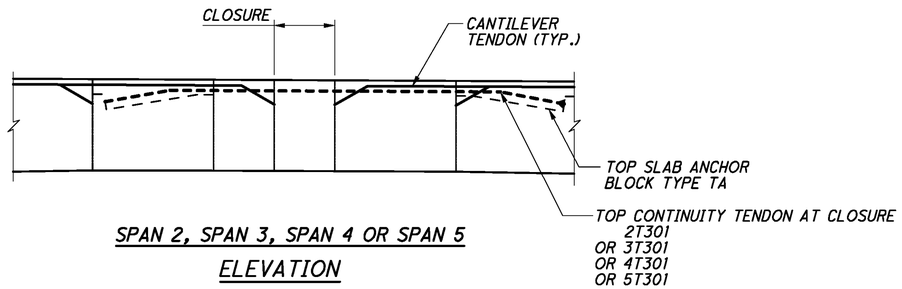
TOP SLAB TENDON LAYOUT 3
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

102 / 204

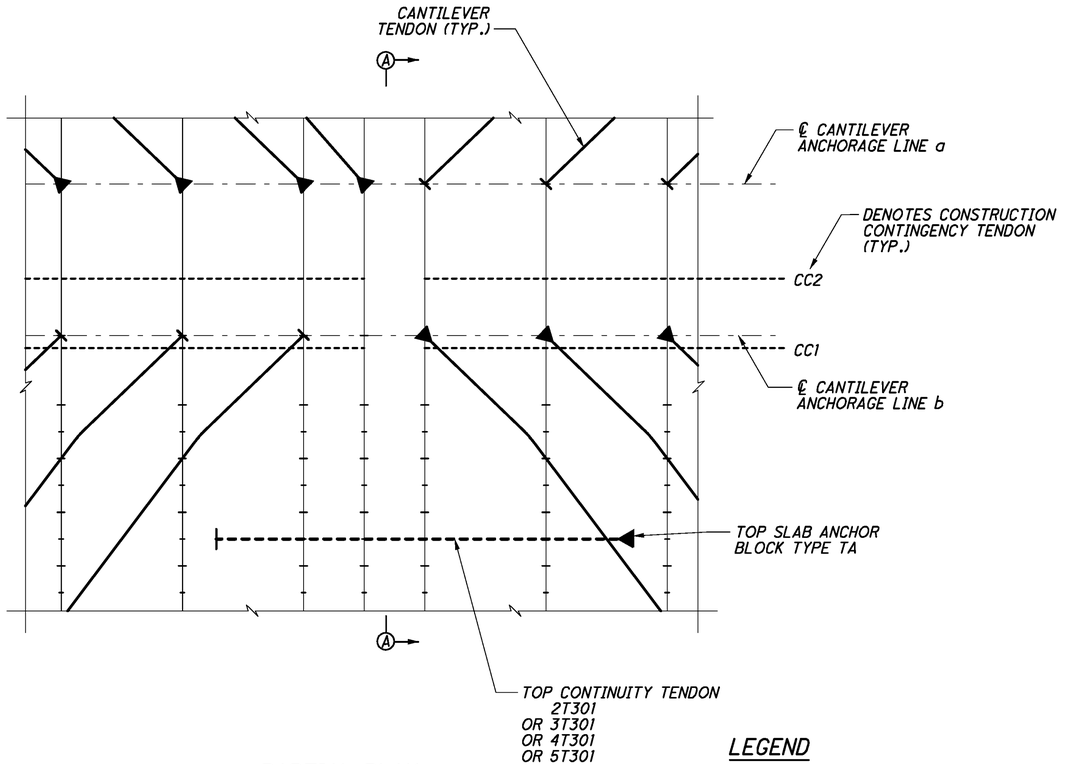
368 / 470

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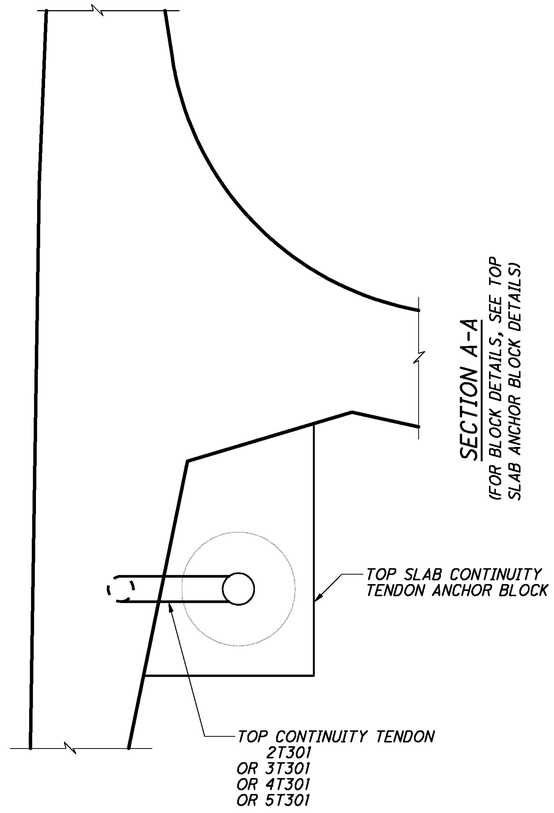
SPAN 2, SPAN 3, SPAN 4 OR SPAN 5

ELEVATION



PARTIAL PLAN

(TENDON LAYOUT SHOWN FOR ONE WEB ONLY)



LEGEND

- NON-STRESSING END
- STRESS END
- UPPER LEVEL CANTILEVER TENDON
- LOWER LEVEL CANTILEVER TENDON
- CONSTRUCTION CONTINGENCY TENDON
- TOP CONTINUITY TENDON

NOTES:

1. TENDON LAYOUTS OF SOUTH BOUND BRIDGE SHOWN, NORTH BOUND BRIDGE IS SIMILAR.
2. FOR POST-TENSIONING TENDON SCHEDULE, SEE SHEETS 112 AND 113 OF 204.

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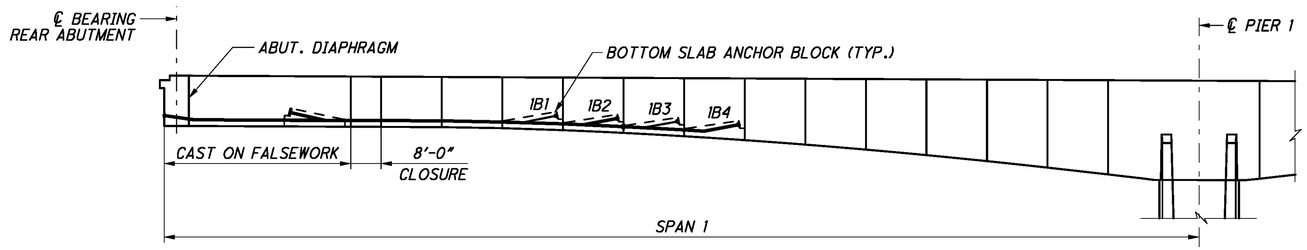
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TOP SLAB TENDON LAYOUT 4

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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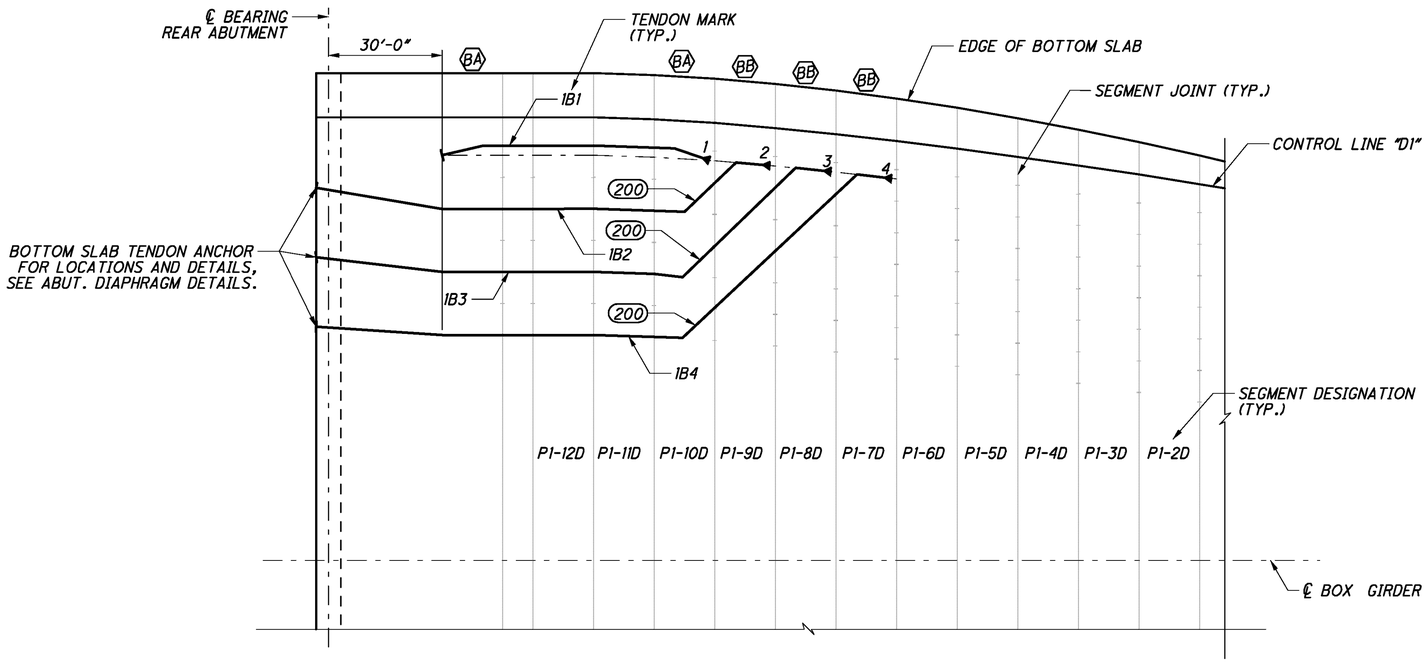


ELEVATION

(TOP PT & EXTERNAL PT NOT SHOWN FOR CLARITY)

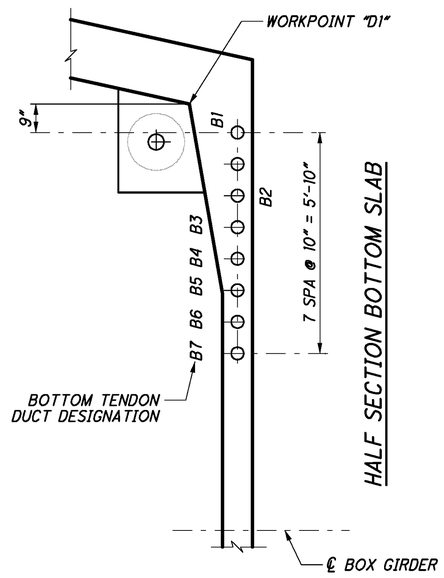
NOTES:

1. TENDON LAYOUTS OF SOUTH BOUND BRIDGE SHOWN, NORTH BOUND BRIDGE IS SIMILAR.
2. FOR BOTTOM SLAB TENDON DEVIATION DETAILS, SEE SHEET 110 OF 204.
3. FOR BOTTOM SLAB ANCHOR BLOCK DETAILS, SEE SHEETS 122 TO 127 OF 204.
4. FOR TENDON SIZE & STRESSING FORCES, SEE POST-TENSIONING TENDON SCHEDULE ON SHEETS 112 AND 113 OF 204.
5. HALF SECTION SHOWN ALL POSSIBLE BOTTOM SLAB TENDON LOCATIONS. FOR ACTUAL NUMBER OF TENDONS AND TENDON PATHS, SEE HALF PLANS.
6. ALL TENDON ARRANGEMENTS SHOWN ARE SYMMETRICAL ABOUT THE CENTERLINE OF THE BOX GIRDER.



HALF PLAN BOTTOM SLAB

(VERTICAL SCALE EXAGGERATED FOR CLARITY)



HALF SECTION BOTTOM SLAB

TENDON MARK	DUCT DESIGNATION FOR STRAIGHT PORTION
1B1	B1
1B2	B2
1B3	B4
1B4	B6

LEGEND

- NON-STRESSING END
- STRESS END
- BOTTOM SLAB TENDON DEVIATION
- BOTTOM SLAB ANCHOR BLOCK TYPE

CANTILEVER NO. OR SPAN NO. — B - BOTTOM SLAB TENDON

1B2

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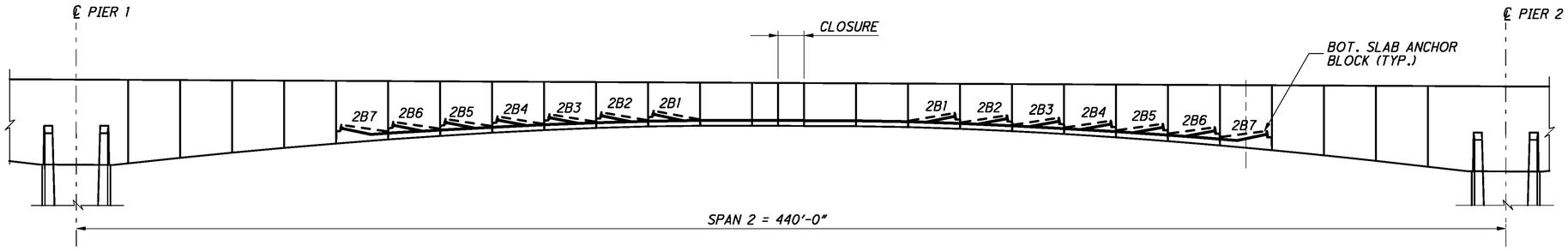
BOTTOM SLAB TENDON LAYOUT 1
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

104/204

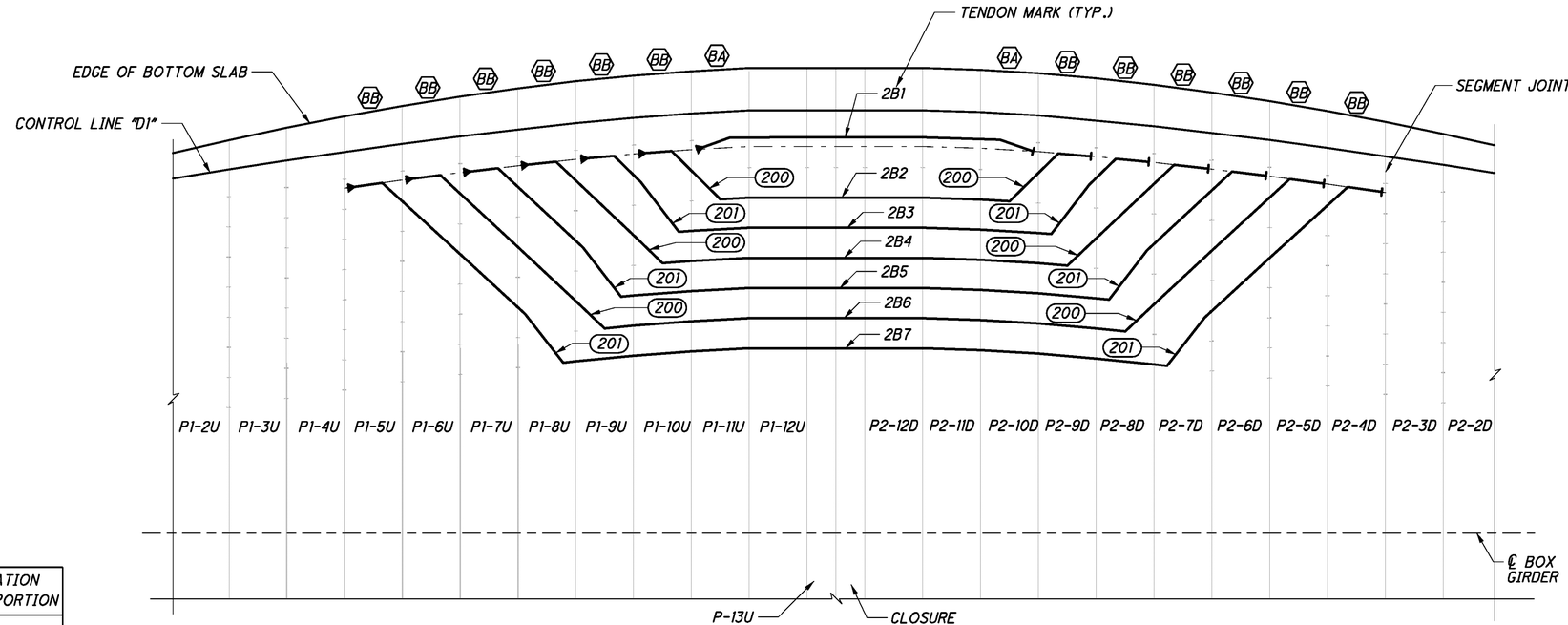
370/470

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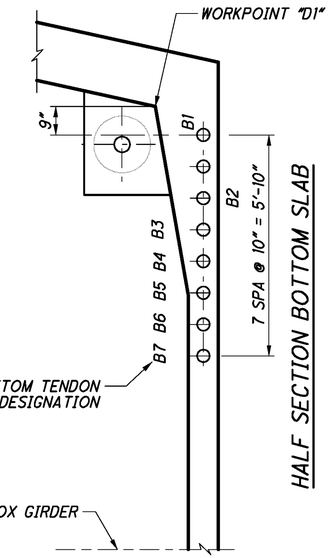
ELEVATION

(SPAN 2 SHOWN, SPAN 3, AND SPAN 4 ARE SIMILAR)



HALF PLAN BOTTOM SLAB

(VERTICAL SCALE EXAGGERATED FOR CLARITY)
(SPAN 2 SHOWN, SPAN 3 AND SPAN 4 ARE SIMILAR)



HALF SECTION BOTTOM SLAB

TENDON MARK	DUCT DESIGNATION FOR STRAIGHT PORTION
2B1	B1
2B2	B2
2B3	B3
2B4	B4
2B5	B5
2B6	B6
2B7	B7

LEGEND

- NON-STRESSING END
- STRESS END
- BOTTOM SLAB TENDON DEVIATION
- BOTTOM SLAB ANCHOR BLOCK TYPE

CANTILEVER NO. OR SPAN NO. — 2B2 — B - BOTTOM SLAB TENDON

NOTES:

1. FOR NOTES, SEE NOTES ON SHEET 104 OF 204.

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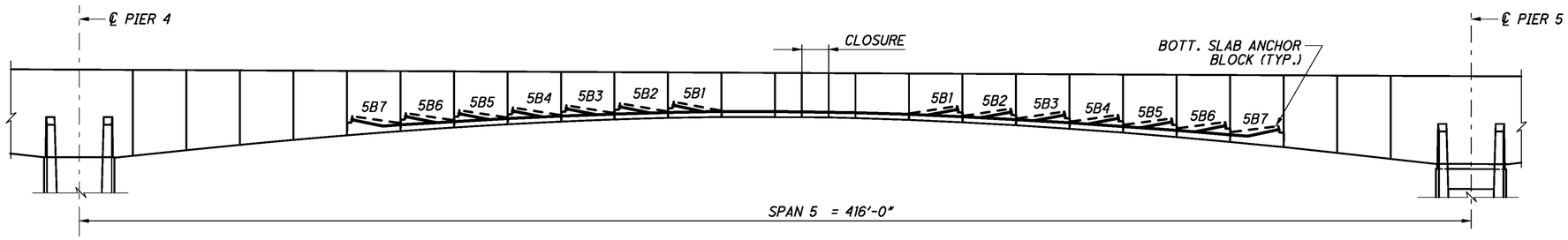
BOTTOM SLAB TENDON LAYOUT 2
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

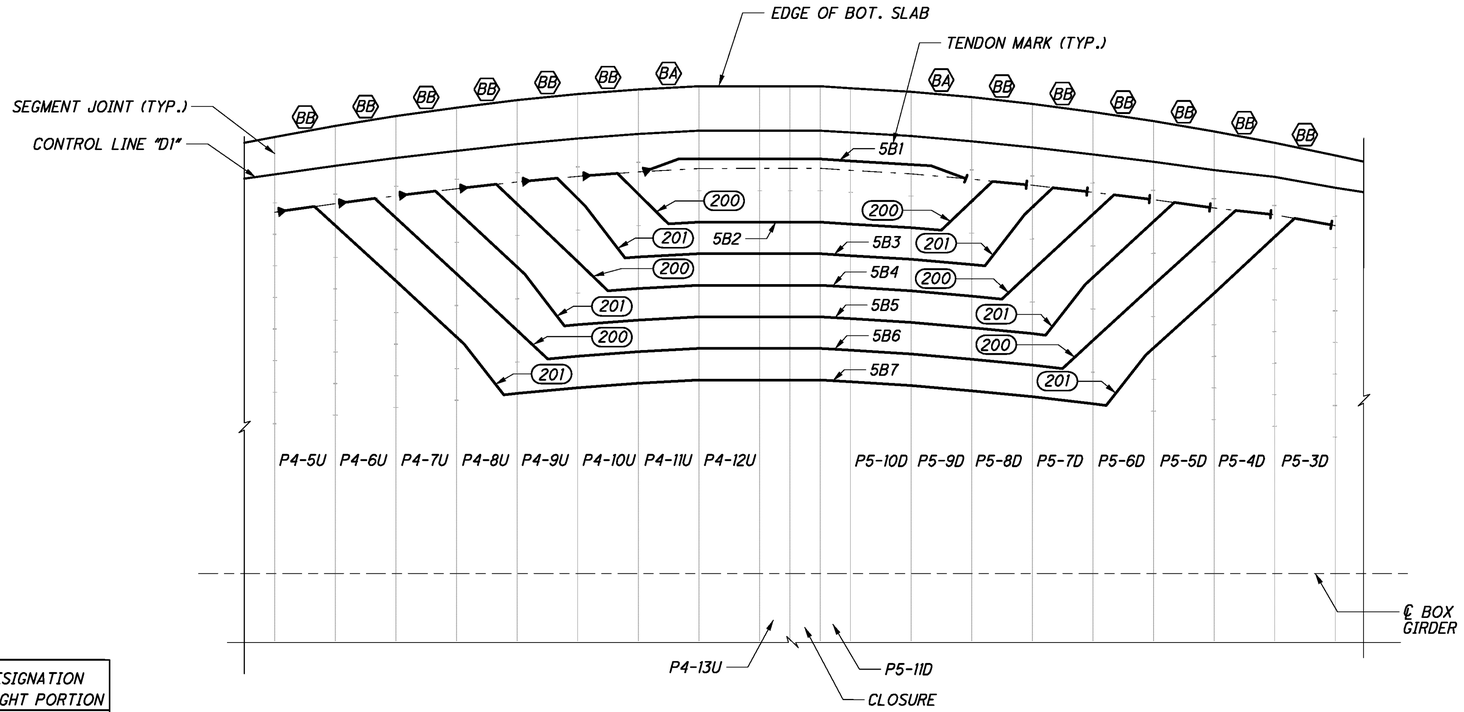
105/204

371/470

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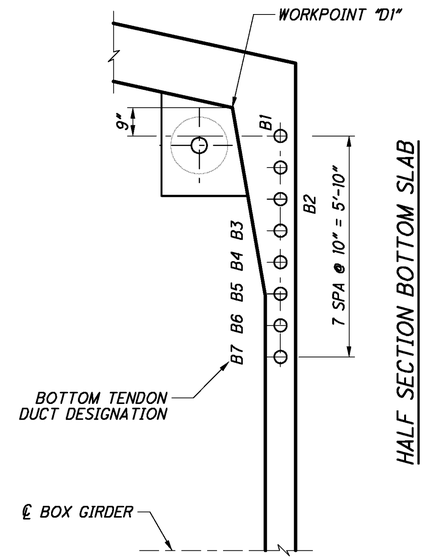


ELEVATION



HALF PLAN BOTTOM SLAB

(VERTICAL SCALE EXAGGERATED FOR CLARITY)



HALF SECTION BOTTOM SLAB

TENDON MARK	DUCT DESIGNATION FOR STRAIGHT PORTION
5B1	B1
5B2	B2
5B3	B3
5B4	B4
5B5	B5
5B6	B6
5B7	B7

LEGEND

- NON-STRESSING END
- STRESS END
- BOTTOM SLAB TENDON DEVIATION
- BOTTOM SLAB ANCHOR BLOCK TYPE

B - BOTTOM SLAB TENDON

CANTILEVER NO. OR SPAN NO.

5B2

NOTES:

1. FOR NOTES, SEE NOTES ON SHEET 104 OF 204.

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BOTTOM SLAB TENDON LAYOUT 3

BRIDGE NO. WAR-71-1514L/R

INTERSTATE 71 OVER LITTLE MIAMI RIVER

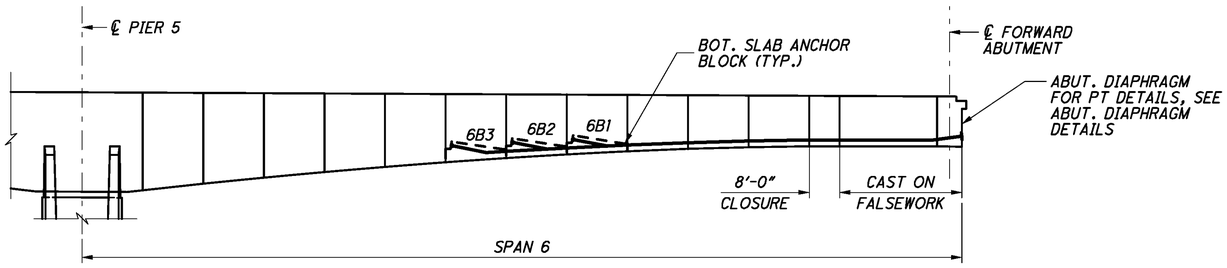
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PID No. 22950

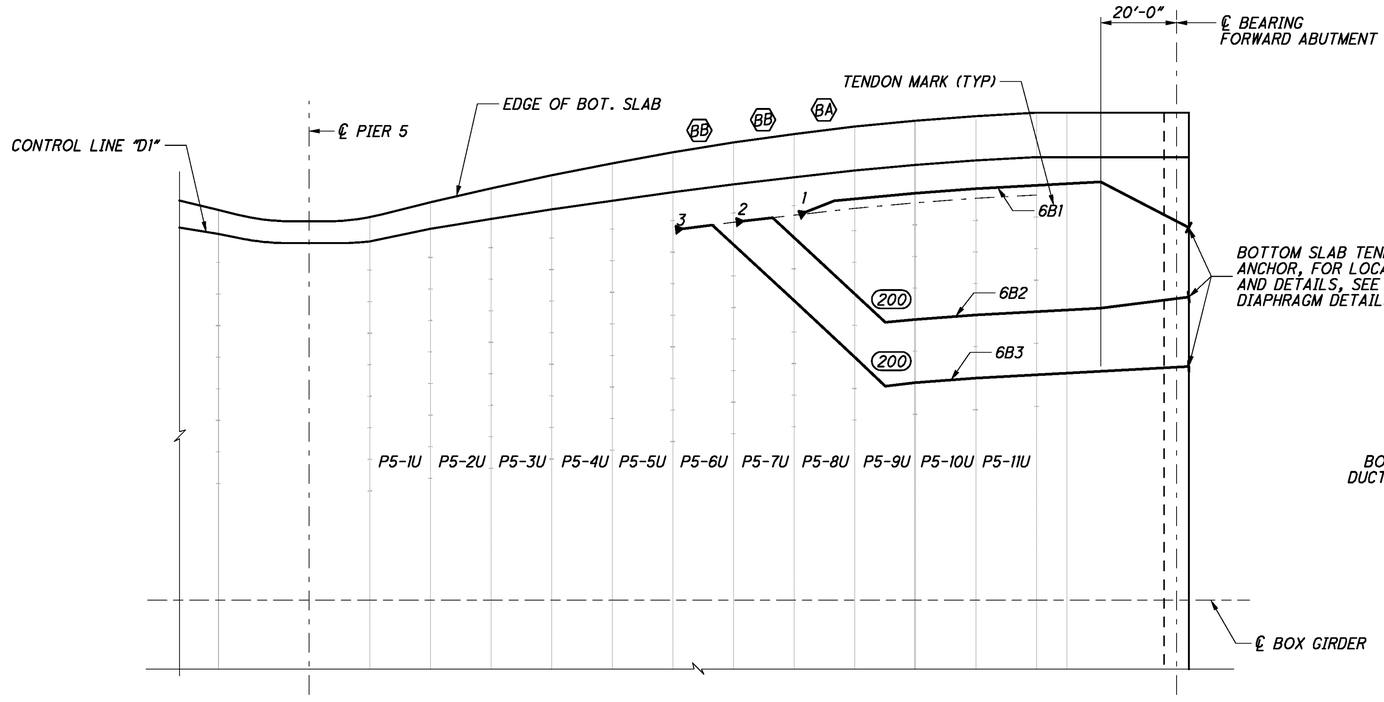
106 / 204

372 / 470

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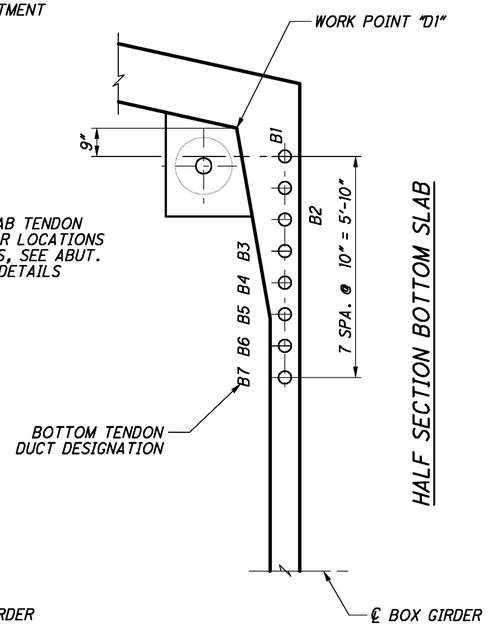


ELEVATION



HALF PLAN BOTTOM SLAB

(VERTICAL SCALE EXAGGERATED FOR CLARITY)



HALF SECTION BOTTOM SLAB

TENDON MARK	DUCT DESIGNATION FOR STRAIGHT PORTION
6B1	B1
6B2	B4
6B3	B6

LEGEND

- ⊢ NON-STRESSING END
- ▶ STRESS END
- ⬭ BOTTOM SLAB TENDON DEVIATION
- ⬡ BOTTOM SLAB ANCHOR BLOCK TYPE

CANTILEVER NO. OR SPAN NO. — 6B2 — B - BOTTOM SLAB TENDON

NOTES:

1. FOR NOTES, SEE NOTES ON SHEET 104 OF 204.

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CHECKED	REVISED	STRUCTURE FILE NUMBER	
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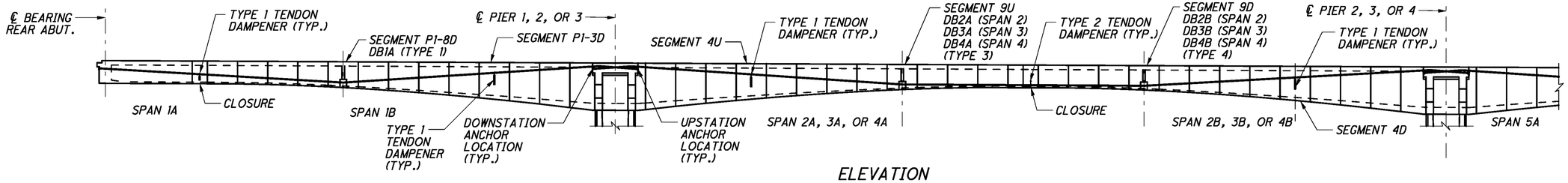
BOTTOM SLAB TENDON LAYOUT 4
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

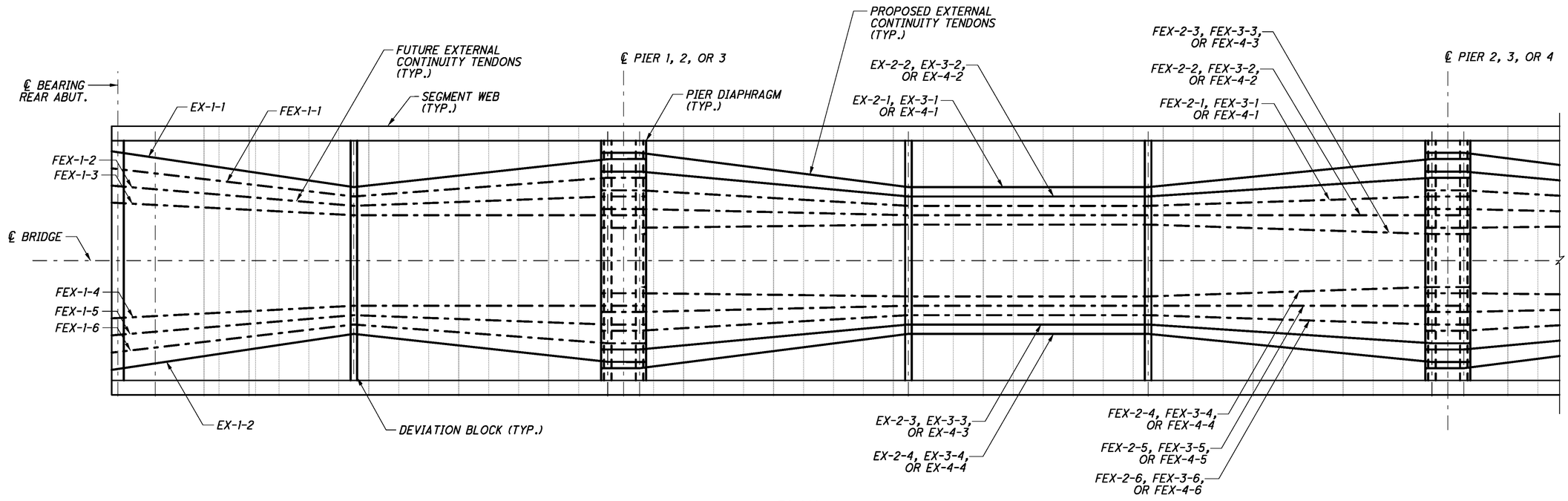
107/204

373/470

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ELEVATION



PLAN

(VERTICAL SCALE EXAGGERATED FOR CLARITY)

TABLE 1 - EXTERNAL PT

TENDON MARK	STRESSING END
EX-1-1	PIER 1 UPSTATION
EX-1-2	PIER 1 UPSTATION
EX-2-1	PIER 1 DOWNSTATION
EX-2-2	PIER 1 DOWNSTATION
EX-2-3	PIER 1 DOWNSTATION
EX-2-4	PIER 1 DOWNSTATION
EX-3-1	PIER 2 DOWNSTATION
EX-3-2	PIER 2 DOWNSTATION
EX-3-3	PIER 2 DOWNSTATION
EX-3-4	PIER 2 DOWNSTATION
EX-4-1	PIER 4 UPSTATION
EX-4-2	PIER 4 UPSTATION
EX-4-3	PIER 4 UPSTATION
EX-4-4	PIER 4 UPSTATION

LEGEND

EXTERNAL CONTINUITY TENDON

FUTURE EXTERNAL CONTINUITY TENDON

EX - EXTERNAL
FEX - FUTURE EXTERNAL
SPAN NO.
EX-2-3

NOTES:

1. FOR CONSTRUCTION SEQUENCE REQUIREMENTS, SEE SHEETS 15 TO 17 OF 204.
2. FOR POST-TENSIONING SCHEDULE, SEE SHEETS 112 AND 113 OF 204.
3. WORK THIS SHEET WITH ABUTMENT DIAPHRAGM, PIER SEGMENT, DEVIATION BLOCK, AND BOTTOM SLAB ANCHOR BLOCK SHEETS.
4. DETAILS OF SOUTH BOUND BRIDGE SHOWN, NORTH BOUND BRIDGE IS SIMILAR.
5. TENDON DAMPENERS WILL BE PLACED AT THE CENTER OF THE SEGMENT SPECIFIED, FOR DETAILS, SEE SHEET 189 OF 204.
6. THE CONTRACTOR WILL BE REQUIRED TO SUBMIT THE FUTURE EXTERNAL PT DETAILED INSTALLATION AND STRESSING PROCEDURES FOR APPROVAL PRIOR TO INSTALLATION (FUTURE) ALL EMBEDDED ITEMS FOR THE FUTURE EXTERNAL PT SYSTEM, SUCH AS DEVIATION PIPES AND ANCHOR TRUMPETS, WILL BE INCLUDED IN THE INITIAL CONSTRUCTION. COST OF THE ABOVE ITEMS ARE INCLUDED TO PAY ITEM, ITEM 530 "SPECIAL - STRUCTURE, MISC.: POST-TENSIONING TENDONS (STRANDS)".

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1300
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH	JFA	JB	10/30/07

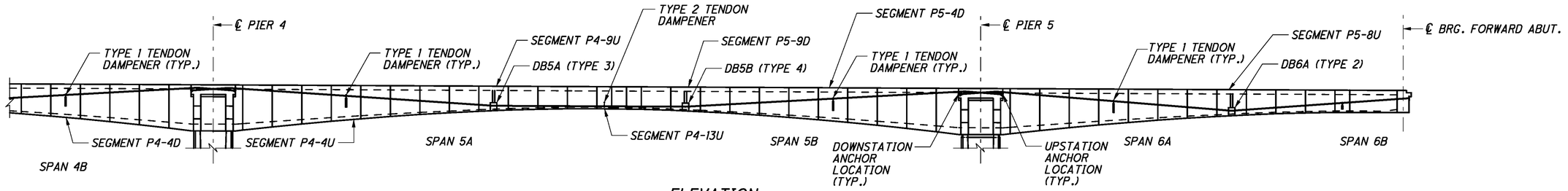
CHECKED: MX
REVISED:
STRUCTURE FILE NUMBER: 8302278L/8302294R

EXTERNAL CONTINUITY TENDON LAYOUT 1
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

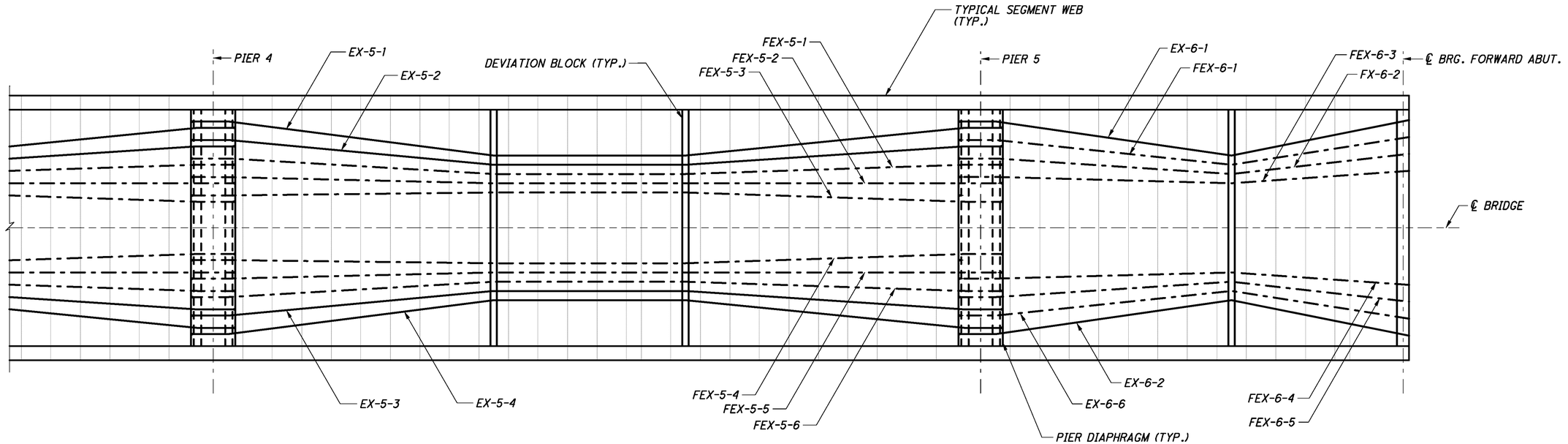
WAR-71-14.20
PID No. 22950

108/204
374/470

Y:\bridge\WAR071_1514c\sheets\071_1514CSD061.dgn 24-FEB-2009 5:57PM lkalita



ELEVATION



PLAN

(VERTICAL SCALE EXAGGERATED FOR CLARITY)

TABLE 1 - EXTERNAL PT

TENDON MARK	STRESSING END
EX-5-1	PIER 5 UPSTATION
EX-5-2	PIER 5 UPSTATION
EX-5-3	PIER 5 UPSTATION
EX-5-4	PIER 5 UPSTATION
EX-6-1	PIER 5 DOWNSTATION
EX-6-2	PIER 5 DOWNSTATION

LEGEND

——— EXTERNAL CONTINUITY TENDON

– – – FUTURE EXTERNAL CONTINUITY TENDON

NOTES:

1. SEE NOTES ON SHEET 108 OF 204.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH	JFA	JB	10/30/07

CHECKED: MX
REVISED:
STRUCTURE FILE NUMBER: 8302278L/8302294R

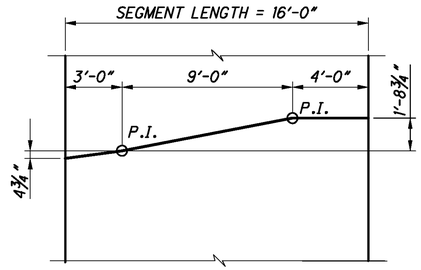
EXTERNAL CONTINUITY TENDON LAYOUT 2
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

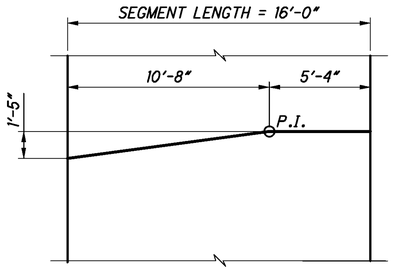
109/204

375/470

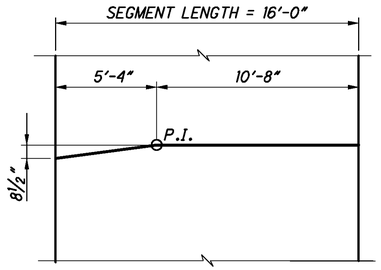
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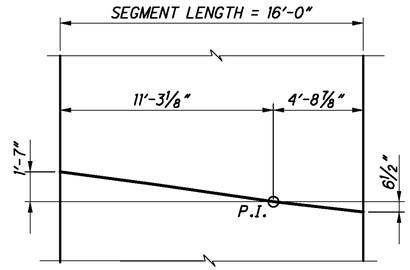
DEVIATION 100
(PLAN VIEW)



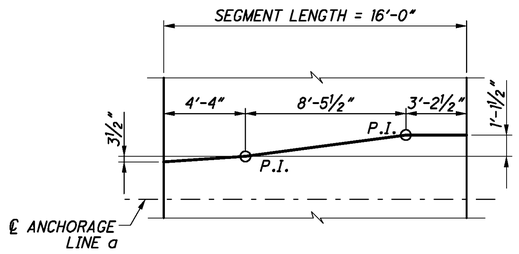
DEVIATION 101
(PLAN VIEW)



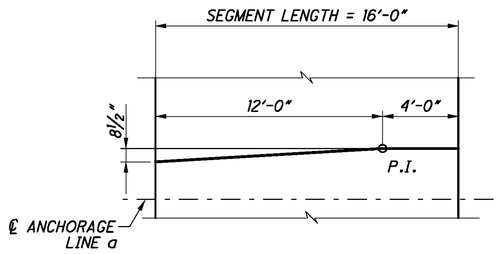
DEVIATION 102
(PLAN VIEW)



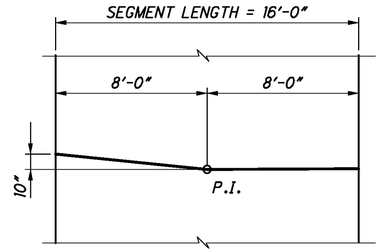
DEVIATION 103
(PLAN VIEW)



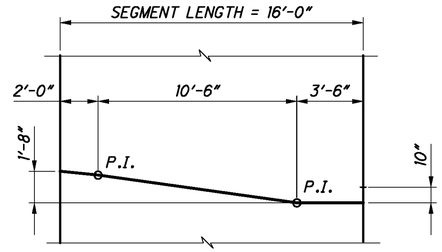
DEVIATION 110
(PLAN VIEW)



DEVIATION 111
(PLAN VIEW)



DEVIATION 200
(PLAN VIEW)



DEVIATION 201
(PLAN VIEW)

NOTES:

1. ALL RADII SHOWN ARE 25'-0".

\\colw00\prnwork\Jobs\34878\TechProd\22950\bridge\WAR071_1514c\sheets\071_1514CSD031.dgn 26-NOV-2008 8:02AM bavarello

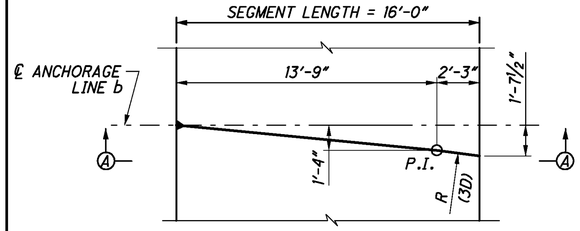
DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1300
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH	YEH	JB	10/30/07

CHECKED	REVISED	STRUCTURE FILE NUMBER
MX		8302278L/8302294R

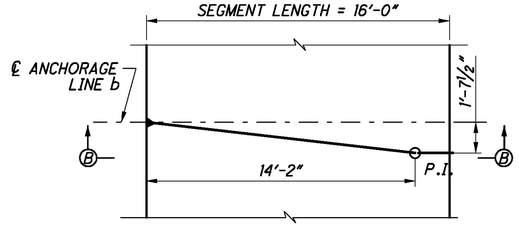
TOP AND BOTTOM SLAB TENDON DEVIATION DETAILS
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950



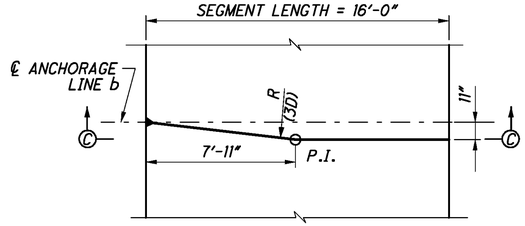
CANTILEVER ANCHORAGE A

(PLAN VIEW)



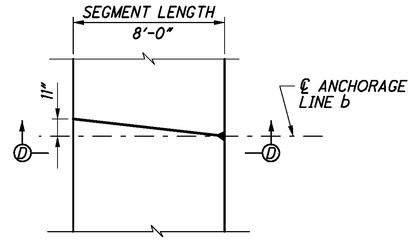
CANTILEVER ANCHORAGE B

(PLAN VIEW)



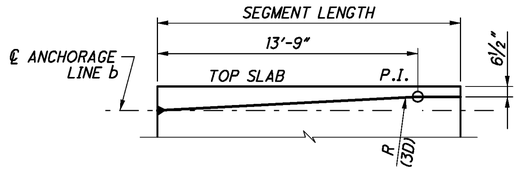
CANTILEVER ANCHORAGE C

(PLAN VIEW)

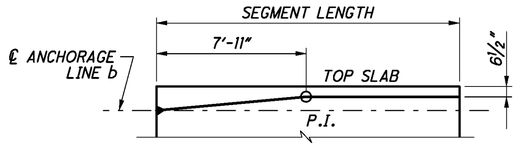


CANTILEVER ANCHORAGE D

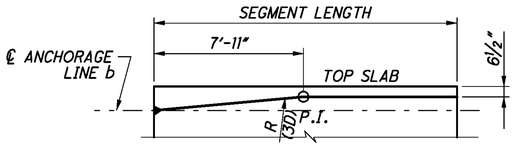
(PLAN VIEW)



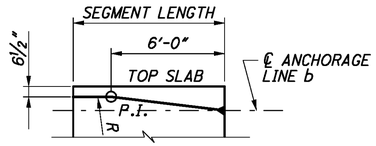
SECTION A-A



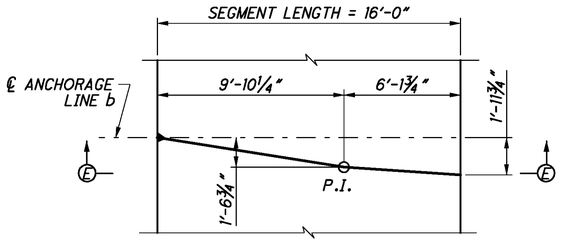
SECTION B-B



SECTION C-C

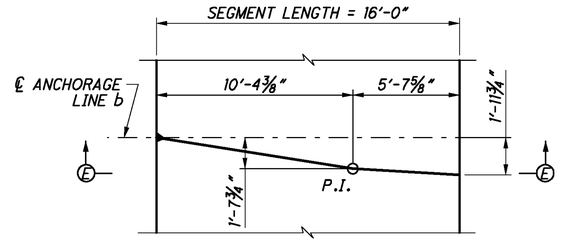


SECTION D-D



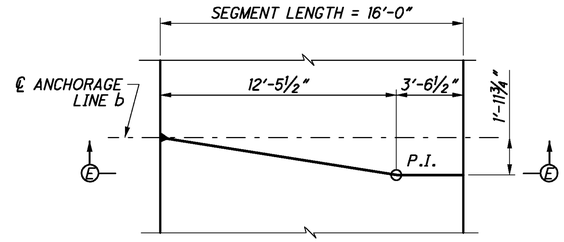
CANTILEVER ANCHORAGE E

(PLAN VIEW)



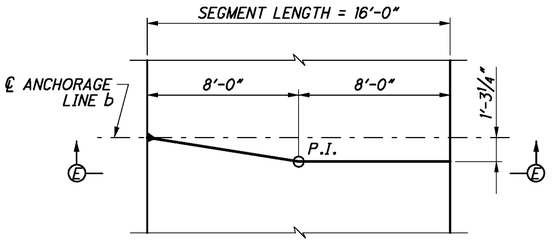
CANTILEVER ANCHORAGE F

(PLAN VIEW)



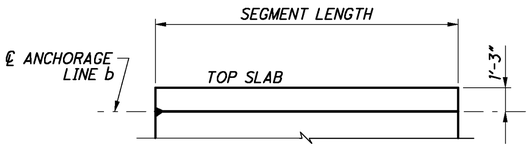
CANTILEVER ANCHORAGE G

(PLAN VIEW)



CANTILEVER ANCHORAGE H

(PLAN VIEW)



SECTION E-E

NOTES

1. ALL RADII SHOWN ARE 25'-0".

LEGEND

► PT ANCHOR

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH	YEH	JB	10/30/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

CANTILEVER TENDON ANCHORAGE DETAILS
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

111 / 204

377 / 470

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SOUTH BOUND BRIDGE
LONGITUDINAL POST-TENSIONING TENDON
QUANTITIES AT PIER 1 & SPAN 1

LOCATION	TENDON MARK	STRESSING FORCE (KIPS)	TENDON LENGTH (FT)	TENDON WEIGHT (POUNDS)	NUMBER TENDON REQ'D	TENDON SIZE
PIER 1	1C1	967	40.0	1302	2	22 - 0.6 in
↑	1C2	967	56.0	1823	2	22 - 0.6 in
	1C3	967	72.0	2344	2	22 - 0.6 in
	1C4	967	88.0	2865	2	22 - 0.6 in
	1C5	967	104.0	3386	2	22 - 0.6 in
	1C6	967	120.0	3907	2	22 - 0.6 in
	1C7	967	136.0	4428	2	22 - 0.6 in
	1C8	967	152.0	4949	2	22 - 0.6 in
	1C9	967	168.0	5470	2	22 - 0.6 in
	1C10	835	184.0	5174	2	19 - 0.6 in
	1C11	835	200.0	5624	2	19 - 0.6 in
	1C12	835	216.0	6074	2	19 - 0.6 in
	1C13	835	232.0	6524	2	19 - 0.6 in
	1C14	835	248.0	6974	2	19 - 0.6 in
	1C15	835	264.0	7424	2	19 - 0.6 in
	1C16	835	280.0	7874	2	19 - 0.6 in
	1C17	835	296.0	8324	2	19 - 0.6 in
	1C18	835	312.0	8773	2	19 - 0.6 in
	1C19	527	328.0	5825	2	12 - 0.6 in
	1C20	527	344.0	6109	2	12 - 0.6 in
	1C21	527	360.0	6394	2	12 - 0.6 in
	1C22	527	376.0	6678	2	12 - 0.6 in
	1C23	527	392.0	6962	2	12 - 0.6 in
	1C24	527	408.0	7246	2	12 - 0.6 in
	1C25	527	424.0	7530	2	12 - 0.6 in
↓	1C26	527	432.0	7672	2	12 - 0.6 in
PIER 1		TOTAL		147,655 lbs	52	
SPAN 1	1T301	659	87.6	1944	2	15 - 0.6 in
↑						
	1B1	835	70.5	1982	2	19 - 0.6 in
	1B2	835	119.8	3367	2	19 - 0.6 in
	1B3	835	135.8	3817	2	19 - 0.6 in
	1B4	835	151.8	4267	2	19 - 0.6 in
	EX-1-1	967	285.3	4644	1	22 - 0.6 in
	EX-1-2	967	285.3	4644	1	22 - 0.6 in
	FEX-1-1	967	285.3	*4644	*1	22 - 0.6 in
	FEX-1-2	967	285.3	*4644	*1	22 - 0.6 in
	FEX-1-3	967	285.3	*4644	*1	22 - 0.6 in
	FEX-1-4	967	285.3	*4644	*1	22 - 0.6 in
	FEX-1-5	967	285.3	*4644	*1	22 - 0.6 in
↓	FEX-1-6	967	285.3	*4644	*1	22 - 0.6 in
SPAN 1		TOTAL		24,665 lbs	12	

SOUTH BOUND BRIDGE
LONGITUDINAL POST-TENSIONING TENDON
QUANTITIES AT PIER 2 & SPAN 2

LOCATION	TENDON MARK	STRESSING FORCE (KIPS)	TENDON LENGTH (FT)	TENDON WEIGHT (POUNDS)	NUMBER TENDON REQ'D	TENDON SIZE
PIER 2	2C1	967	40.0	1302	2	22 - 0.6 in
↑	2C2	967	56.0	1823	2	22 - 0.6 in
	2C3	967	72.0	2344	2	22 - 0.6 in
	2C4	967	88.0	2865	2	22 - 0.6 in
	2C5	967	104.0	3386	2	22 - 0.6 in
	2C6	967	120.0	3907	2	22 - 0.6 in
	2C7	967	136.0	4428	2	22 - 0.6 in
	2C8	967	152.0	4949	2	22 - 0.6 in
	2C9	967	168.0	5470	2	22 - 0.6 in
	2C10	835	184.0	5174	2	19 - 0.6 in
	2C11	835	200.0	5624	2	19 - 0.6 in
	2C12	835	216.0	6074	2	19 - 0.6 in
	2C13	835	232.0	6524	2	19 - 0.6 in
	2C14	835	248.0	6974	2	19 - 0.6 in
	2C15	835	264.0	7424	2	19 - 0.6 in
	2C16	835	280.0	7874	2	19 - 0.6 in
	2C17	835	296.0	8324	2	19 - 0.6 in
	2C18	835	312.0	8773	2	19 - 0.6 in
	2C19	527	328.0	5825	2	12 - 0.6 in
	2C20	527	344.0	6109	2	12 - 0.6 in
	2C21	527	360.0	6394	2	12 - 0.6 in
	2C22	527	376.0	6678	2	12 - 0.6 in
	2C23	527	392.0	6962	2	12 - 0.6 in
	2C24	527	408.0	7246	2	12 - 0.6 in
	2C25	527	424.0	7530	2	12 - 0.6 in
↓	2C26	527	432.0	7672	2	12 - 0.6 in
PIER 2		TOTAL		147,655 lbs	52	
SPAN 2	2T301	395	60.7	808	2	9 - 0.6 in
↑						
	2B1	835	93.0	2615	2	19 - 0.6 in
	2B2	835	125.0	3515	2	19 - 0.6 in
	2B3	835	157.0	4415	2	19 - 0.6 in
	2B4	835	189.0	5315	2	19 - 0.6 in
	2B5	835	221.0	6215	2	19 - 0.6 in
	2B6	835	253.0	7114	2	19 - 0.6 in
	2B7	835	285.0	8014	2	19 - 0.6 in
	EX-2-1	967	464.0	7554	1	22 - 0.6 in
	EX-2-2	967	464.0	7554	1	22 - 0.6 in
	EX-2-3	967	464.0	7554	1	22 - 0.6 in
	EX-2-4	967	464.0	7554	1	22 - 0.6 in
	FEX-2-1	967	464.0	*7554	*1	22 - 0.6 in
	FEX-2-2	967	464.0	*7554	*1	22 - 0.6 in
	FEX-2-3	967	464.0	*7554	*1	22 - 0.6 in
	FEX-2-4	967	464.0	*7554	*1	22 - 0.6 in
	FEX-2-5	967	464.0	*7554	*1	22 - 0.6 in
↓	FEX-2-6	967	464.0	*7554	*1	22 - 0.6 in
SPAN 2		TOTAL		68,227 lbs	20	

SOUTH BOUND BRIDGE
LONGITUDINAL POST-TENSIONING TENDON
QUANTITIES AT PIER 3 & SPAN 3

LOCATION	TENDON MARK	STRESSING FORCE (KIPS)	TENDON LENGTH (FT)	TENDON WEIGHT (POUNDS)	NUMBER TENDON REQ'D	TENDON SIZE
PIER 3	3C1	967	40.0	1302	2	22 - 0.6 in
↑	3C2	967	56.0	1823	2	22 - 0.6 in
	3C3	967	72.0	2344	2	22 - 0.6 in
	3C4	967	88.0	2865	2	22 - 0.6 in
	3C5	967	104.0	3386	2	22 - 0.6 in
	3C6	967	120.0	3907	2	22 - 0.6 in
	3C7	967	136.0	4428	2	22 - 0.6 in
	3C8	967	152.0	4949	2	22 - 0.6 in
	3C9	967	168.0	5470	2	22 - 0.6 in
	3C10	835	184.0	5174	2	19 - 0.6 in
	3C11	835	200.0	5624	2	19 - 0.6 in
	3C12	835	216.0	6074	2	19 - 0.6 in
	3C13	835	232.0	6524	2	19 - 0.6 in
	3C14	835	248.0	6974	2	19 - 0.6 in
	3C15	835	264.0	7424	2	19 - 0.6 in
	3C16	835	280.0	7874	2	19 - 0.6 in
	3C17	835	296.0	8324	2	19 - 0.6 in
	3C18	835	312.0	8773	2	19 - 0.6 in
	3C19	527	328.0	5825	2	12 - 0.6 in
	3C20	527	344.0	6109	2	12 - 0.6 in
	3C21	527	360.0	6394	2	12 - 0.6 in
	3C22	527	376.0	6678	2	12 - 0.6 in
	3C23	527	392.0	6962	2	12 - 0.6 in
	3C24	527	408.0	7246	2	12 - 0.6 in
	3C25	527	424.0	7530	2	12 - 0.6 in
↓	3C26	527	432.0	7672	2	12 - 0.6 in
PIER 3		TOTAL		147,655 lbs	52	
SPAN 3	3T301	395	60.7	808	2	9 - 0.6 in
↑						
	3B1	835	93.0	2615	2	19 - 0.6 in
	3B2	835	125.0	3515	2	19 - 0.6 in
	3B3	835	157.0	4415	2	19 - 0.6 in
	3B4	835	189.0	5315	2	19 - 0.6 in
	3B5	835	221.0	6215	2	19 - 0.6 in
	3B6	835	253.0	7114	2	19 - 0.6 in
	3B7	835	285.0	8014	2	19 - 0.6 in
	EX-3-1	967	464.0	7554	1	22 - 0.6 in
	EX-3-2	967	464.0	7554	1	22 - 0.6 in
	EX-3-3	967	464.0	7554	1	22 - 0.6 in
	EX-3-4	967	464.0	7554	1	22 - 0.6 in
	FEX-3-1	967	464.0	*7554	*1	22 - 0.6 in
	FEX-3-2	967	464.0	*7554	*1	22 - 0.6 in
	FEX-3-3	967	464.0	*7554	*1	22 - 0.6 in
	FEX-3-4	967	464.0	*7554	*1	22 - 0.6 in
	FEX-3-5	967	464.0	*7554	*1	22 - 0.6 in
↓	FEX-3-6	967	464.0	*7554	*1	22 - 0.6 in
SPAN 3		TOTAL		68,227 lbs	20	

* SEE NOTE 5

NOTES:

1. POST TENSIONING QUANTITY & STRESSING SCHEDULE OF THE SOUTH BOUND BRIDGE SHOWN, NORTH BOUND BRIDGE IS SIMILAR.
2. ALL TENDONS ARE JACKED TO 75% OF GUTs.
3. WEIGHTS TABULATED IN THE SCHEDULE ARE MEASURED FROM ANCHOR PLATE TO ANCHOR PLATE. ADDITIONAL STRAND BEYOND THE PLATES FOR JACKING AND THE WEIGHT OF ANY ANCHORAGE HARDWARE IS NOT INCLUDED. BUT THE COST SHALL BE INCLUDED IN ITEM 530 "SPECIAL - STRUCTURE, MISC.: POST-TENSIONING TENDONS (STRANDS)".
4. COST OF POST-TENSIONING STRANDS LISTED ON THIS SHEET SHALL BE INCLUDED IN ITEM 530 "SPECIAL - STRUCTURE, MISC.: POST-TENSIONING TENDONS (STRANDS)".
5. WEIGHT OF THE FUTURE EXTERNAL PT IS NOT INCLUDED IN THE ABOVE TABLES.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED MEA | DRAWN MEA | CHECKED MX | REVIEWED JB | DATE 10/30/07 | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

POST-TENSIONING SCHEDULE
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

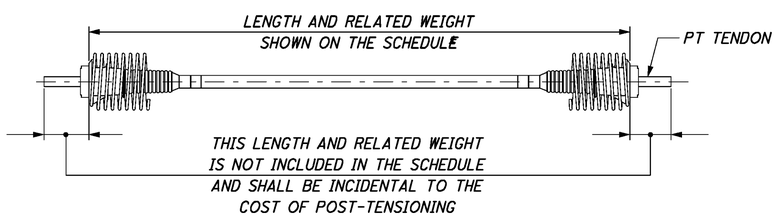
WAR-71-14.20
PID No. 22950

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SOUTH BOUND BRIDGE
LONGITUDINAL POST-TENSIONING TENDON QUANTITIES AT PIER 4 & SPAN 4

LOCATION	TENDON MARK	STRESSING FORCE (KIPS)	TENDON LENGTH (FT)	TENDON WEIGHT (POUNDS)	NUMBER TENDON REQ'D	TENDON SIZE
PIER 4	4C1	967	40.0	1302	2	22 - 0.6 in
↑	4C2	967	56.0	1823	2	22 - 0.6 in
	4C3	967	72.0	2344	2	22 - 0.6 in
	4C4	967	88.0	2865	2	22 - 0.6 in
	4C5	967	104.0	3386	2	22 - 0.6 in
	4C6	967	120.0	3907	2	22 - 0.6 in
	4C7	967	136.0	4428	2	22 - 0.6 in
	4C8	967	152.0	4949	2	22 - 0.6 in
	4C9	967	168.0	5470	2	22 - 0.6 in
	4C10	835	184.0	5174	2	19 - 0.6 in
	4C11	835	200.0	5624	2	19 - 0.6 in
	4C12	835	216.0	6074	2	19 - 0.6 in
	4C13	835	232.0	6524	2	19 - 0.6 in
	4C14	835	248.0	6974	2	19 - 0.6 in
	4C15	835	264.0	7424	2	19 - 0.6 in
	4C16	835	280.0	7874	2	19 - 0.6 in
	4C17	835	296.0	8324	2	19 - 0.6 in
	4C18	835	312.0	8773	2	19 - 0.6 in
	4C19	527	328.0	5825	2	12 - 0.6 in
	4C20	527	344.0	6109	2	12 - 0.6 in
	4C21	527	360.0	6394	2	12 - 0.6 in
	4C22	527	376.0	6678	2	12 - 0.6 in
	4C23	527	392.0	6962	2	12 - 0.6 in
	4C24	527	408.0	7246	2	12 - 0.6 in
	4C25	527	424.0	7530	2	12 - 0.6 in
↓	4C26	527	432.0	7672	2	12 - 0.6 in
PIER 4		TOTAL		147,655 lbs	52	
SPAN 4	4T301	395	60.7	808	2	9 - 0.6 in
↑						
	4B1	835	93.0	2615	2	19 - 0.6 in
	4B2	835	125.0	3515	2	19 - 0.6 in
	4B3	835	157.0	4415	2	19 - 0.6 in
	4B4	835	189.0	5315	2	19 - 0.6 in
	4B5	835	221.0	6215	2	19 - 0.6 in
	4B6	835	253.0	7114	2	19 - 0.6 in
	4B7	835	285.0	8014	2	19 - 0.6 in
	EX-4-1	967	464.0	7554	1	22 - 0.6 in
	EX-4-2	967	464.0	7554	1	22 - 0.6 in
	EX-4-3	967	464.0	7554	1	22 - 0.6 in
	EX-4-4	967	464.0	7554	1	22 - 0.6 in
	FEX-4-1	967	464.0	* 7554	* 1	22 - 0.6 in
	FEX-4-2	967	464.0	* 7554	* 1	22 - 0.6 in
	FEX-4-3	967	464.0	* 7554	* 1	22 - 0.6 in
	FEX-4-4	967	464.0	* 7554	* 1	22 - 0.6 in
	FEX-4-5	967	464.0	* 7554	* 1	22 - 0.6 in
↓	FEX-4-6	967	464.0	* 7554	* 1	22 - 0.6 in
SPAN 4		TOTAL		68,227 lbs	20	

* SEE NOTE 6



POST-TENSIONING TENDON DETAIL

SOUTH BOUND BRIDGE
LONGITUDINAL POST-TENSIONING TENDON QUANTITIES AT PIER 5 & SPAN 5 & 6

LOCATION	TENDON MARK	STRESSING FORCE (KIPS)	TENDON LENGTH (FT)	TENDON WEIGHT (POUNDS)	NUMBER TENDON REQ'D	TENDON SIZE
PIER 5	5C1	747	40.0	1006	2	17 - 0.6 in
↑	5C2	747	56.0	1409	2	17 - 0.6 in
	5C3	747	72.0	1812	2	17 - 0.6 in
	5C4	747	88.0	2214	2	17 - 0.6 in
	5C5	747	104.0	2617	2	17 - 0.6 in
	5C6	747	120.0	3019	2	17 - 0.6 in
	5C7	747	136.0	3422	2	17 - 0.6 in
	5C8	747	152.0	3824	2	17 - 0.6 in
	5C9	747	168.0	4227	2	17 - 0.6 in
	5C10	747	184.0	4629	2	17 - 0.6 in
	5C11	747	200.0	5032	2	17 - 0.6 in
	5C12	747	216.0	5435	2	17 - 0.6 in
	5C13	747	232.0	5837	2	17 - 0.6 in
	5C14	747	248.0	6240	2	17 - 0.6 in
	5C15	747	264.0	6642	2	17 - 0.6 in
	5C16	527	280.0	4973	2	12 - 0.6 in
	5C17	527	296.0	5257	2	12 - 0.6 in
	5C18	527	312.0	5541	2	12 - 0.6 in
	5C19	527	328.0	5825	2	12 - 0.6 in
	5C20	527	344.0	6109	2	12 - 0.6 in
	5C21	527	360.0	6394	2	12 - 0.6 in
	5C22	527	376.0	6678	2	12 - 0.6 in
↓	5C23	527	384.0	6820	2	12 - 0.6 in
PIER 5		TOTAL		104,962 lbs	46	
SPAN 5	5T301	395	53.0	706	2	9 - 0.6 in
↑						
	5B1	703	85.3	2021	2	16 - 0.6 in
	5B2	703	117.3	2778	2	16 - 0.6 in
	5B3	703	149.3	3536	2	16 - 0.6 in
	5B4	703	181.3	4294	2	16 - 0.6 in
	5B5	703	213.3	5052	2	16 - 0.6 in
	5B6	703	245.3	5809	2	16 - 0.6 in
	5B7	703	277.3	6567	2	16 - 0.6 in
	EX-5-1	967	439.3	7151	1	22 - 0.6 in
	EX-5-2	967	439.3	7151	1	22 - 0.6 in
	EX-5-3	967	439.3	7151	1	22 - 0.6 in
	EX-5-4	967	439.3	7151	1	22 - 0.6 in
	FEX-5-1	967	439.3	* 7151	* 1	22 - 0.6 in
	FEX-5-2	967	439.3	* 7151	* 1	22 - 0.6 in
	FEX-5-3	967	439.3	* 7151	* 1	22 - 0.6 in
	FEX-5-4	967	439.3	* 7151	* 1	22 - 0.6 in
	FEX-5-5	967	439.3	* 7151	* 1	22 - 0.6 in
↓	FEX-5-6	967	439.3	* 7151	* 1	22 - 0.6 in
SPAN 5		TOTAL		59,367 lbs	20	
SPAN 6	6T301	659	70.2	1559	2	15 - 0.6 in
↑						
	6B1	659	102.4	2274	2	15 - 0.6 in
	6B2	659	118.4	2629	2	15 - 0.6 in
	6B3	659	134.4	2984	2	15 - 0.6 in
	EX-6-1	967	243.5	3964	1	22 - 0.6 in
	EX-6-2	967	243.5	3964	1	22 - 0.6 in
	FEX-6-1	967	243.5	* 3964	* 1	22 - 0.6 in
	FEX-6-2	967	243.5	* 3964	* 1	22 - 0.6 in
	FEX-6-3	967	243.5	* 3964	* 1	22 - 0.6 in
	FEX-6-4	967	243.5	* 3964	* 1	22 - 0.6 in
	FEX-6-5	967	243.5	* 3964	* 1	22 - 0.6 in
↓	FEX-6-6	967	243.5	* 3964	* 1	22 - 0.6 in
SPAN 6		TOTAL		17,374 lbs	10	

SOUTH BOUND BRIDGE
TRANSVERSE POST-TENSIONING TENDON (SUPERSTRUCTURE) QUANTITY

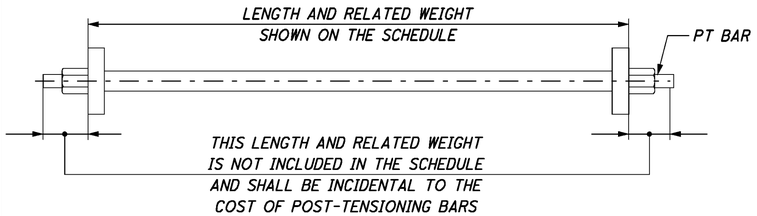
ALL TRANSVERSE POST-TENSIONING TENDONS ARE 4 - 0.6" STRANDS

LOCATION	TENDON LENGTH (FT)	NUMBER OF TENDONS PER UNIT	NUMBER OF UNIT	TENDON WEIGHT (POUNDS)
PIER SEGMENT	54	15	5	11988
16 FT TYPICAL SEGMENT	54	6	107	102617
DEVIATOR SEGMENT	54	10	10	15984
8 FT SEGMENT & CLOSURE	54	3	11	5275
SPAN 1A	54	16	1	2557
SPAN 6B	54	9	1	1439
REAR ABUT. END DIAPHRAGM	54	5	1	799
FORWARD ABUT. END DIAPHRAGM	54	5	1	799
TOTAL		69		141,458 lbs

SOUTH BOUND BRIDGE
POST-TENSIONING BAR (SUPERSTRUCTURE) QUANTITY

ALL POST-TENSIONING BARS ARE 1⅜" DIA.

LOCATION	BAR LENGTH (FT)	NUMBER OF BARS PER UNIT	NUMBER OF UNIT	BAR WEIGHT (POUNDS)
REAR ABUT. END DIAPHRAGM	10.25	24	1	1368
REAR ABUT. END DIAPHRAGM	9.08	12	1	606
FORWARD ABUT. END DIAPHRAGM	10.25	24	1	1368
FORWARD ABUT. END DIAPHRAGM	9.08	12	1	606
TOTAL		72		3,948 lbs



POST-TENSIONING STEEL BAR DETAIL

NOTES:

1. POST TENSIONING QUANTITY & STRESSING SCHEDULE OF THE SOUTH BOUND BRIDGE SHOWN, NORTH BOUND BRIDGE IS SIMILAR.
2. ALL TENDONS ARE JACKED TO 75% OF GUTs.
3. WEIGHTS TABULATED IN THE SCHEDULE ARE MEASURED FROM ANCHOR PLATE TO ANCHOR PLATE. ADDITIONAL STRAND BEYOND THE PLATES FOR JACKING AND THE WEIGHT OF ANY ANCHORAGE HARDWARE IS NOT INCLUDED. BUT THE COST SHALL BE INCLUDED IN ITEM 530 "SPECIAL - STRUCTURE, MISC.: POST-TENSIONING TENDONS (STRANDS)".
4. COST OF POST-TENSIONING STRANDS LISTED ON THIS SHEET SHALL BE INCLUDED IN ITEM 530 "SPECIAL - STRUCTURE, MISC.; POST-TENSIONING TENDON (STRANDS)".
5. COST OF POST-TENSIONING STEEL BAR LISTED ON THIS SHEET SHALL BE INCLUDED IN ITEM 530 "SPECIAL - STRUCTURE, MISC.; POST-TENSIONING BARS".
6. THE WEIGHT OF THE FUTURE EXTERNAL PT IS NOT INCLUDED IN THE ABOVE TABLES.

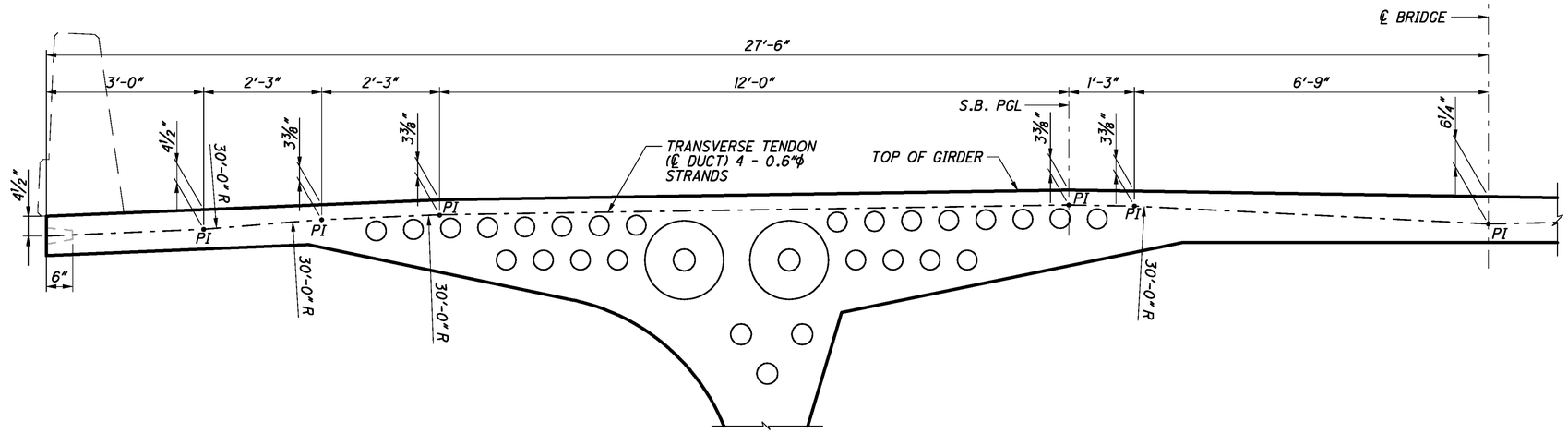
DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DATE 10/30/07
REVIEWED JB
STRUCTURE FILE NUMBER 8302278L/8302294R
DRAWN MEA
REVISED
DESIGNED MEA
CHECKED MX

POST-TENSIONING SCHEDULE 2
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

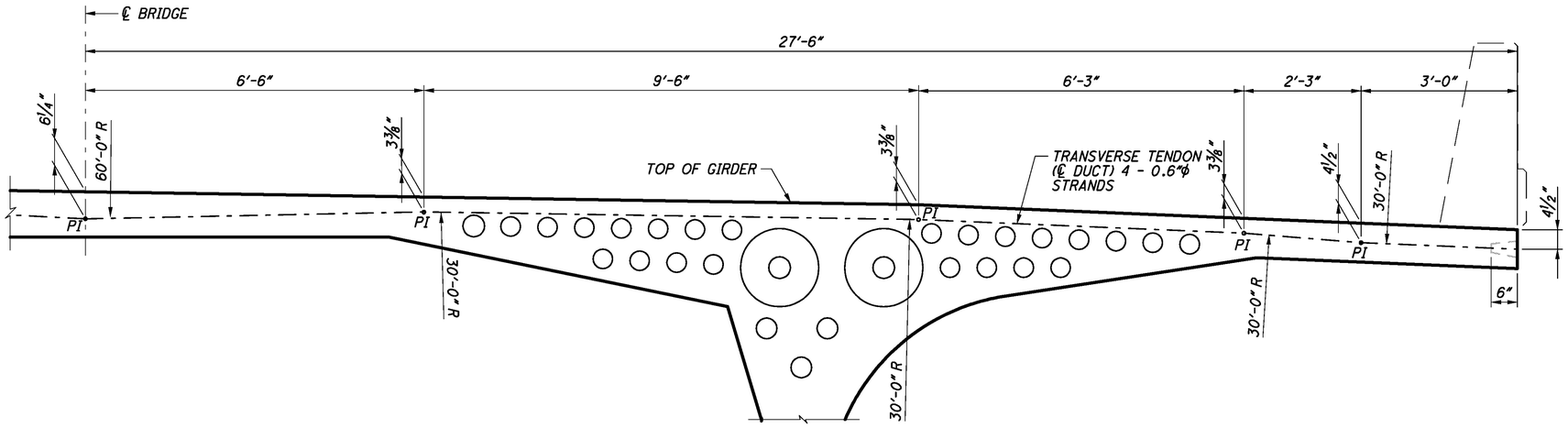
WAR-71-14.20
PID No. 22950

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HALF ELEVATION - PT PROFILE

(LOOKING DOWNSTATION)



HALF ELEVATION - PT PROFILE

(LOOKING DOWNSTATION)

NOTES:

1. REINFORCEMENT NOT SHOWN FOR CLARITY.
2. ALL TENDONS ARE 4x0.6" STRANDS.
3. ALL TENDONS SHALL BE SINGLE END STRESSED.
4. THE STRESSING ENDS SHALL BE ALTERNATED.
5. STRESSING FORCES SHALL BE 47 kips/STRAND.
6. TENDONS TO BE PLACED PERPENDICULAR TO ℄ BOX GIRDER.
7. TRANSVERSE TENDON PROFILE OF SOUTH BOUND BRIDGE SHOWN. NORTH BOUND BRIDGE IS SIMILAR.

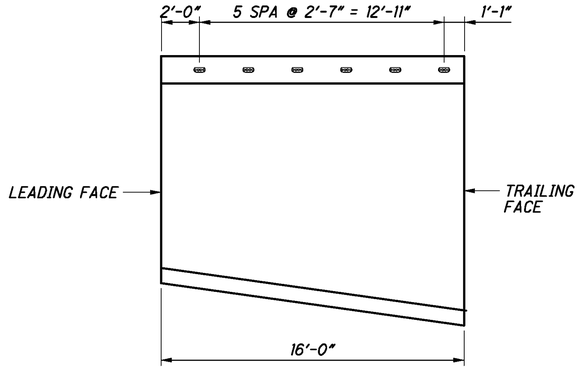
DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
SA	SA	JB	10/30/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

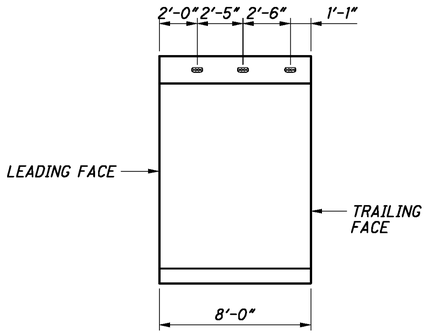
TRANSVERSE TENDON PROFILES
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

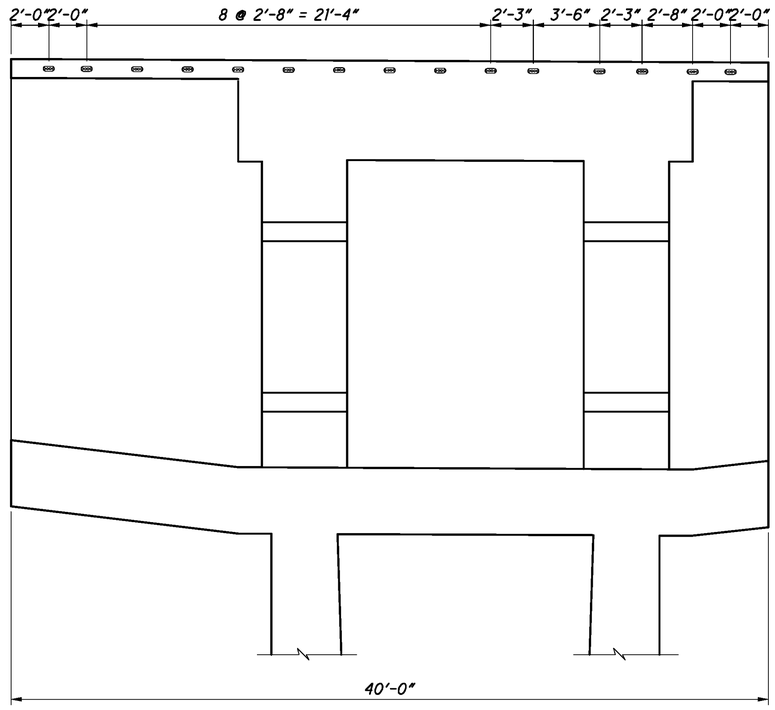
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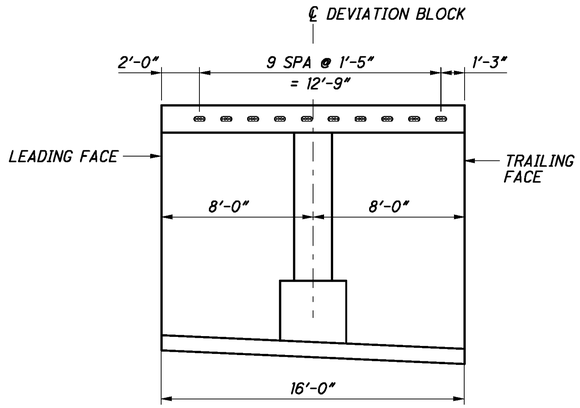
TYPICAL SEGMENT



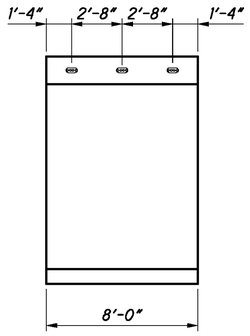
TYPICAL HALF SEGMENT



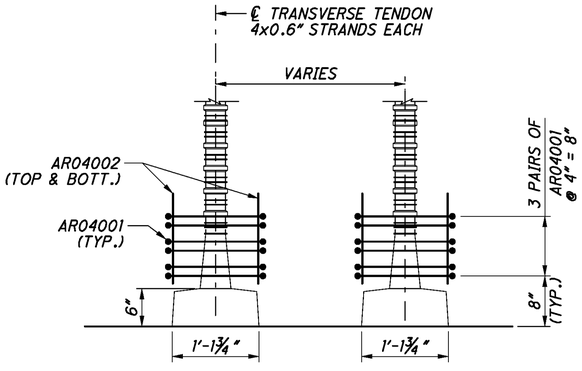
PIER SEGMENT



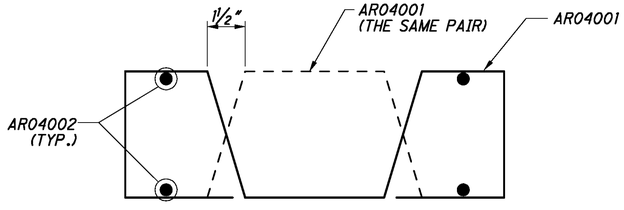
DEVIATOR SEGMENT



CLOSURE SEGMENT



PLAN



ANCHORAGE REINFORCING BAR DETAILS

NOTES:

1. ALL TENDONS ARE 4x0.6" STRANDS.
2. ALL TENDONS SHALL BE SINGLE END STRESSED.
3. THE STRESSING ENDS SHALL BE ALTERNATED.
4. STRESSING FORCES SHALL BE 47 kips/STRAND.
5. TENDONS TO BE PLACED PERPENDICULAR TO ℄ BOX GIRDER.
6. MINIMUM DISTANCE FROM ℄ POST-TENSIONING DUCT TO TOP OF TOP SLAB = 3⅜" AT ALL PROFILE LOCATIONS.
7. FOR TRANSVERSE PT LAYOUT AT FALSEWORK PORTION AND ABUTMENTS, SEE SHEETS 167, 168, 177 & 183 OF 204.
8. THE TENDON CLOSES TO THE LEADING EDGE SHALL NOT BE STRESSED UNTIL TRANSVERSE TENDONS IN THE SUBSEQUENT SEGMENT ARE STRESSED.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

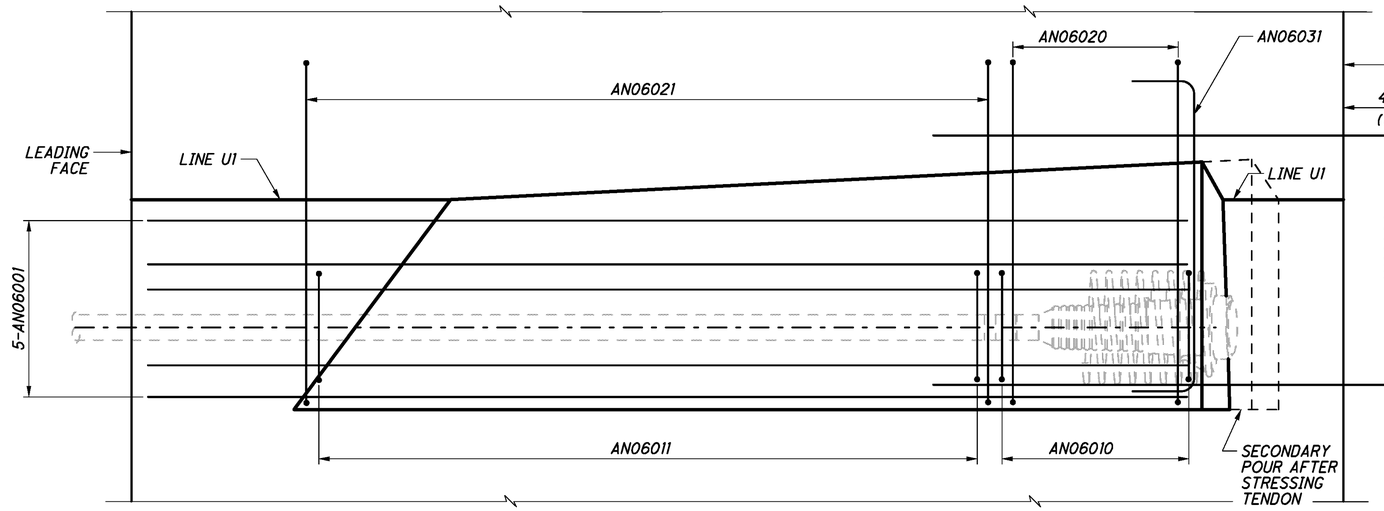
DESIGNED	DRAWN	REVIEWED	DATE
SA	PY	JB	10/30/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

TRANSVERSE TENDON LAYOUT AND DETAILS

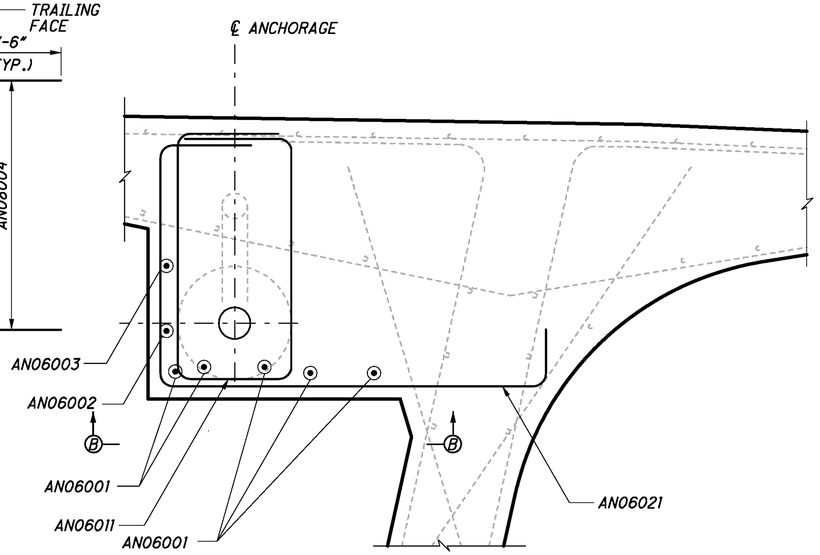
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

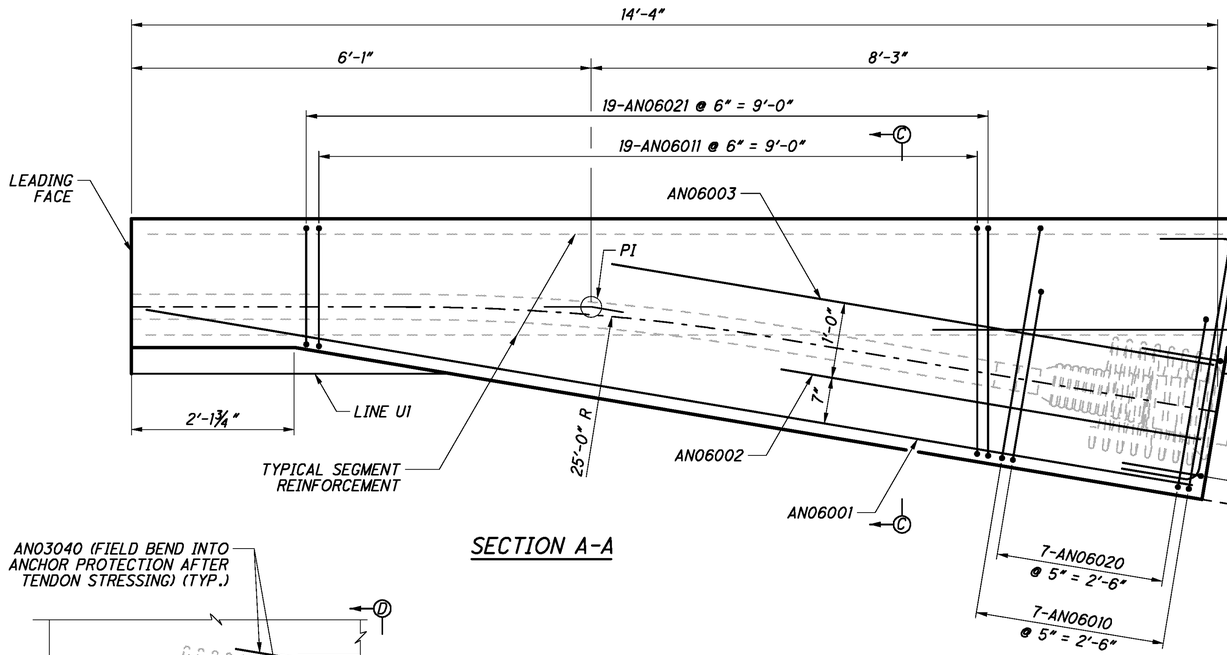
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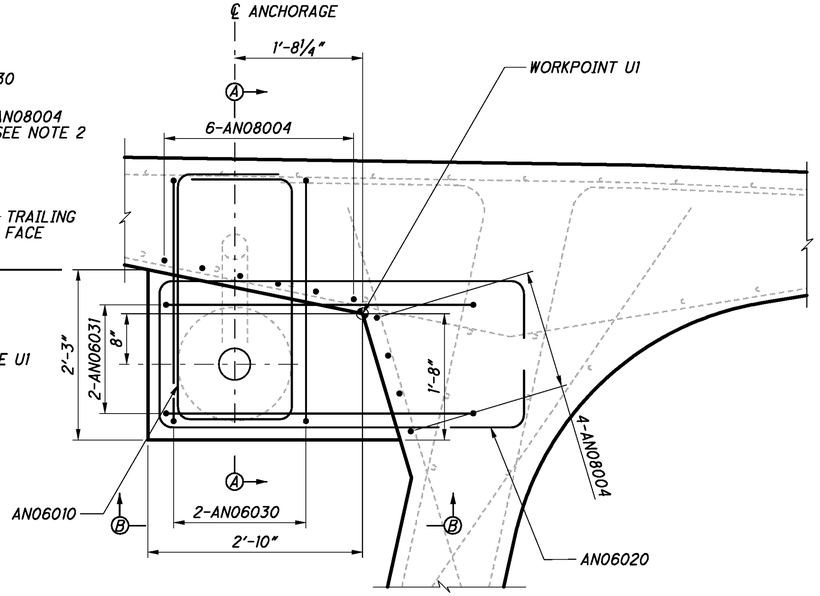
SECTION B-B



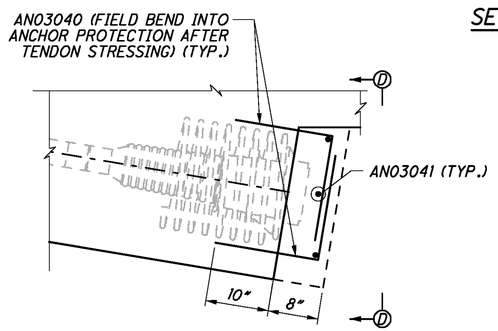
SECTION C-C



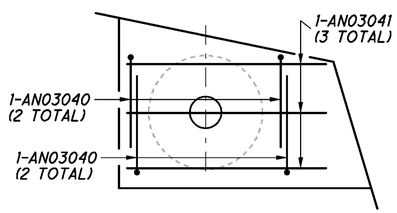
SECTION A-A



SECTION - TOP ANCHOR BLOCK



PARTIAL ELEVATION



VIEW D-D

NOTES:

1. MINIMUM 2" CLR COVER UNLESS NOTED OTHERWISE.
2. BAR AN08004 IS PLACED IN THE PREVIOUS SEGMENT.
3. TOP SLAB ANCHOR BLOCK TYPE TA IS USE FOR TOP SLAB CONTINUITY PT AT CLOSURE, FOR LOCATIONS, SEE SHEETS 100 TO 103 OF 204.
4. ALL BARS SHOWN HERE ARE IN ADDITIONAL TO THE TYPICAL SEGMENT BARS, WHERE THE ANCHOR IS LOCATED.
5. FOR MATERIAL USED IN SECONDARY POUR, SEE SPECIAL PROVISION - "CONCRETE BOX GIRDER CONSTRUCTION".

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
ACF	ACF	JB	10/30/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

TOP SLAB CONTINUITY ANCHORAGE BLOCK TYPE TA
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

116 / 204

382
470

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PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
TOP SLAB CONTINUITY ANCHOR BLOCK TYPE TA - SEGMENTS 12U, 11D, AND 10D (SEE LIST AT RIGHT*)												
	AN06001	5	13'-11"	105	001	13'-11"						
	AN06002	1	5'-8"	9	001	5'-8"						
	AN06003	1	8'-4"	13	001	8'-4"						
	AN08004	10	10'-6"	281	001	10'-6"						
		1	9'-6"				2'-11"					
	AN06010	ser	to	103	114	1'-6"	to	1'-4"				0 3/4"
		7	9'-11"				3'-4"					
		1	6'-11"				1'-4"					
	AN06011	ser	to	219	114	1'-6"	to	1'-4"				1"
		19	8'-5"				2'-10"					
	AN06020	7	12'-9"	134	114	1'-11"	4'-9"	1'-0"				
		1	7'-7"				1'-4"					
	AN06021	ser	to	238	108	1'-0"	to	4'-9"	1'-0"			1"
		19	9'-1"				2'-10"					
	AN06030	2	4'-10"	15	104	1'-0"	3'-2"	1'-0"	0'-2"			
	AN06031	2	5'-8"	17	102	4'-0"	1'-0"	1'-0"				
	AN06040	4	2'-11"	4	001	2'-11"						
	AN03041	3	2'-7"	3	001	2'-7"						
SUB-TOTAL				1,141 lbs								
NO. OF SEGMENTS				1 OF 16 REQUIRED								

(ANCHOR BLOCK ON SOUTHBOUND BRIDGE SHOWN, ANCHOR BLOCKS ON NORTHBOUND BRIDGE ARE IDENTICAL)

* LIST OF SEGMENTS

12U	12D	10D
P1-12U	P2-12D	P5-10D
P2-12U	P3-12D	
P3-12U	P4-12D	
P4-12U		

NOTES:

1. ALL REINFORCING STEEL TO BE EPOXY COATED.
2. FOR BAR TYPES AND BENDS, SEE SHEETS 187 AND 188 OF 204.

DESIGN AGENCY HNTB 1100 Superior Avenue, Suite 1330 Cleveland, OH 44114-2531

DATE 10/30/07 | REVIEWED JB | STRUCTURE FILE NUMBER 8302278L/8302294R

DRAWN ACF | REVISED | DESIGNED ACF | CHECKED MX

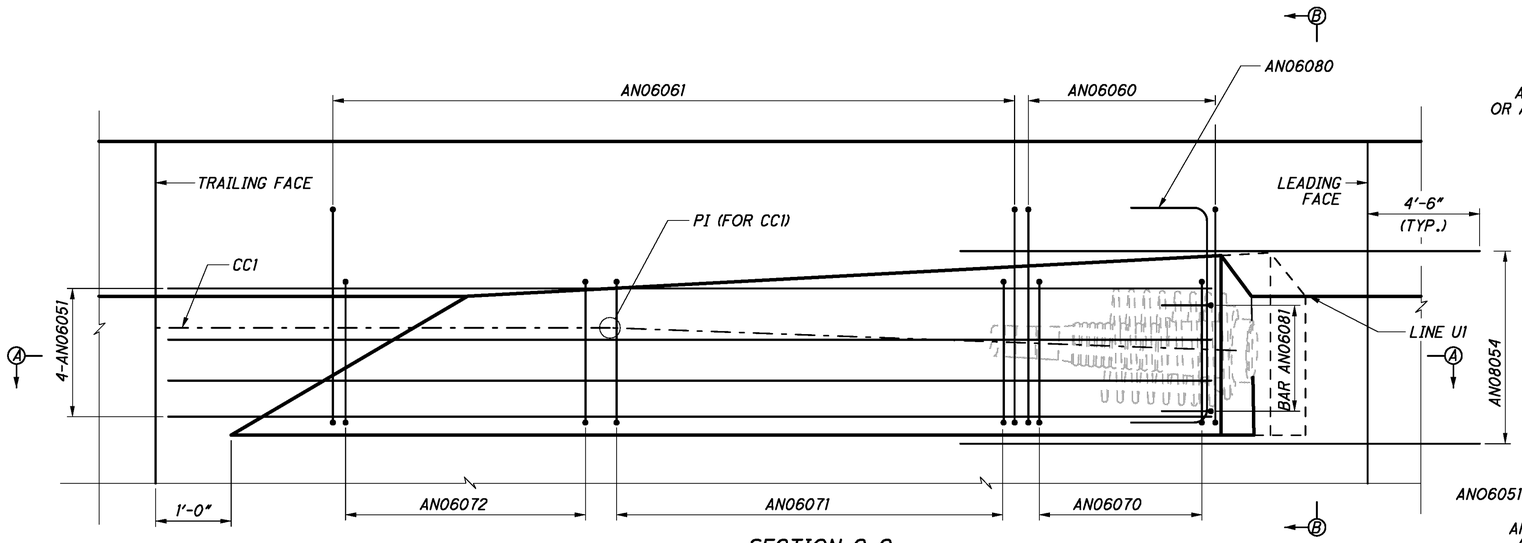
ANCHOR BLOCK TYPE TA BAR SCHEDULE
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20 PID No. 22950

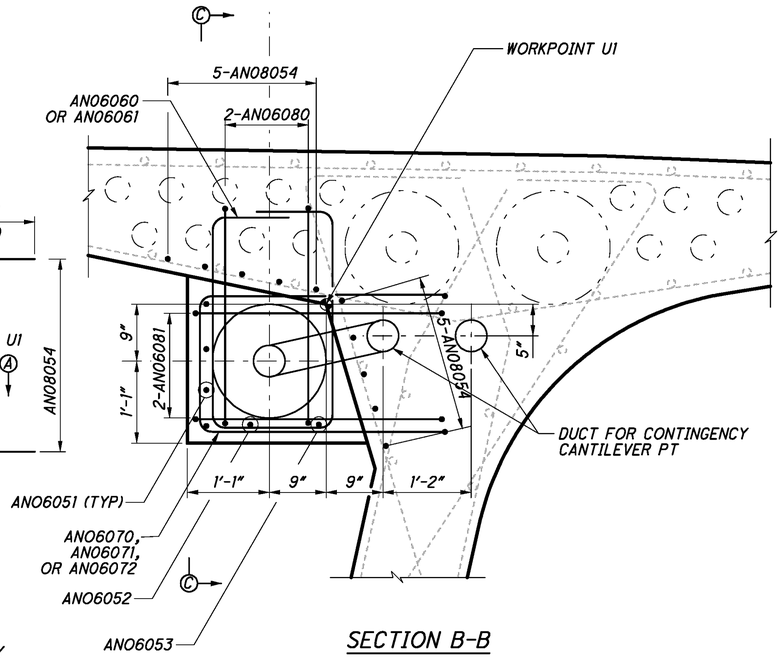
117 / 204

383 / 470

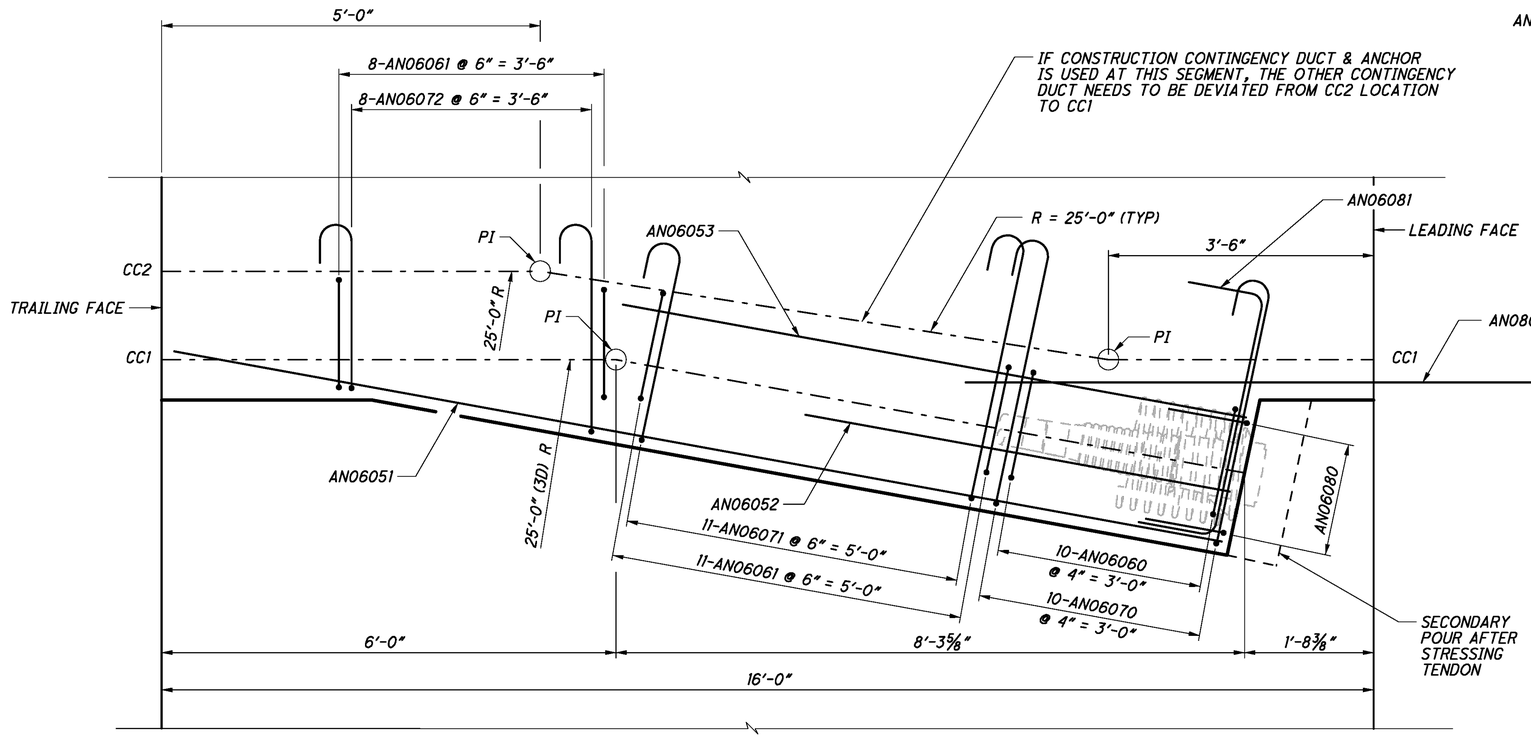
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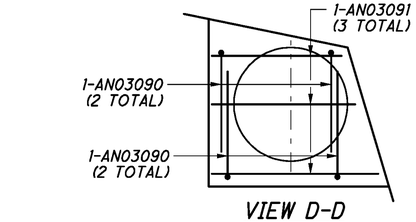
SECTION C-C



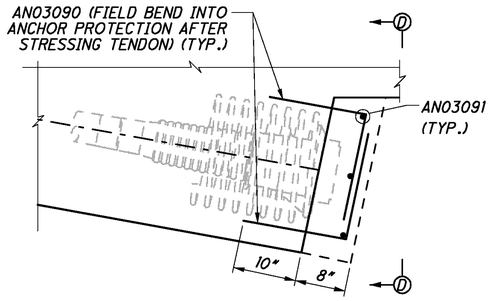
SECTION B-B



SECTION A-A



VIEW D-D



PARTIAL ELEVATION

NOTES:

1. MINIMUM 2" CLR COVER UNLESS NOTED OTHERWISE.
2. TOP SLAB ANCHOR BLOCK TYPE TB IS FOR CONSTUCTION CONTINGENCY USE AND IS APPLIED ONLY WHEN IT IS NEEDED.
3. ALL BARS SHOWN HERE ARE IN ADDITIONAL TO THE TYPICAL SEGMENT BARS, WHERE THE ANCHOR IS LOCATED.
4. FOR MATERIAL USED IN SECONDARY POUR, SEE SPECIAL PROVISION "CONCRETE BOX GIRDER CONSTRUCTION".

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DATE 10/30/07
REVIEWED JB
STRUCTURE FILE NUMBER 8302278L/8302294R
DRAWN ACF
REVISED
DESIGNED ACF
CHECKED MX

TOP SLAB ANCHORAGE BLOCK TYPE TB

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

C:\22950\bridge\WAR071_1514C\sheets\071_1514CSD102.dgn 30-JUL-2008 10:15AM bavarello

PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
TOP SLAB CONTINGENCY ANCHOR BLOCK TYPE TB												
	AN06051	4	13'-11"	84	001	13'-11"						
	AN06052	1	5'-8"	9	001	5'-8"						
	AN06053	1	8'-4"	13	001	8'-4"						
	AN08054	10	10'-6"	281	001	10'-6"						
	AN06060	10	8'-4"	125	114	1'-6"	2'-9"	1'-0"				
	AN06061	19	8'-2"	233	114	1'-4"	2'-9"	1'-0"				
	AN06070	10	9'-4"	140	206	1'-10"	3'-3"					
		1	8'-1"				2'-5"					
	AN06071	ser	to	142	206	1'-10"	to					1"
		11	9'-0"				3'-4"					
		1	6'-6"				1'-8"					
	AN06072	ser	to	82	206	1'-10"	to					1"
		8	7'-2"				2'-4"					
	AN06080	2	4'-6"	14	102	1'-0"	2'-10"	1'-0"				
	AN06081	2	5'-5"	16	102	1'-6"	3'-3"	1'-0"				
	AN03090	4	2'-11"	4	001	2'-11"						
	AN03091	3	1'-7"	2	001	1'-7"						
SUB-TOTAL				1,145 lbs								
NO. OF SEGMENTS				AS REQUIRED IN FIELD								

(ANCHOR BLOCK ON SOUTHBOUND BRIDGE SHOWN, ANCHOR BLOCKS ON NORTHBOUND BRIDGE ARE IDENTICAL.)

NOTES:

1. ALL REINFORCING STEEL TO BE EPOXY COATED.
2. FOR BAR TYPES AND BENDS, SEE SHEETS 187 AND 188 OF 204.
3. TYPE TB ANCHOR IS FOR CONSTRUCTION CONTINGENCY USED AND IS APPLIED ONLY IF IT IS NEEDED. NEITHER QUANTITY OF TB ANCHOR NOR CONTINGENCY PT TENDON IS INCLUDED IN THE CONTRACT QUANTITY. IN CASE OF NEED, THE COST SHALL BE UNDER THE PAY ITEM 530 - "SPECIAL - STRUCTURE, MISC.: POST-TENSIONING TENDONS (STRANDS)"

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

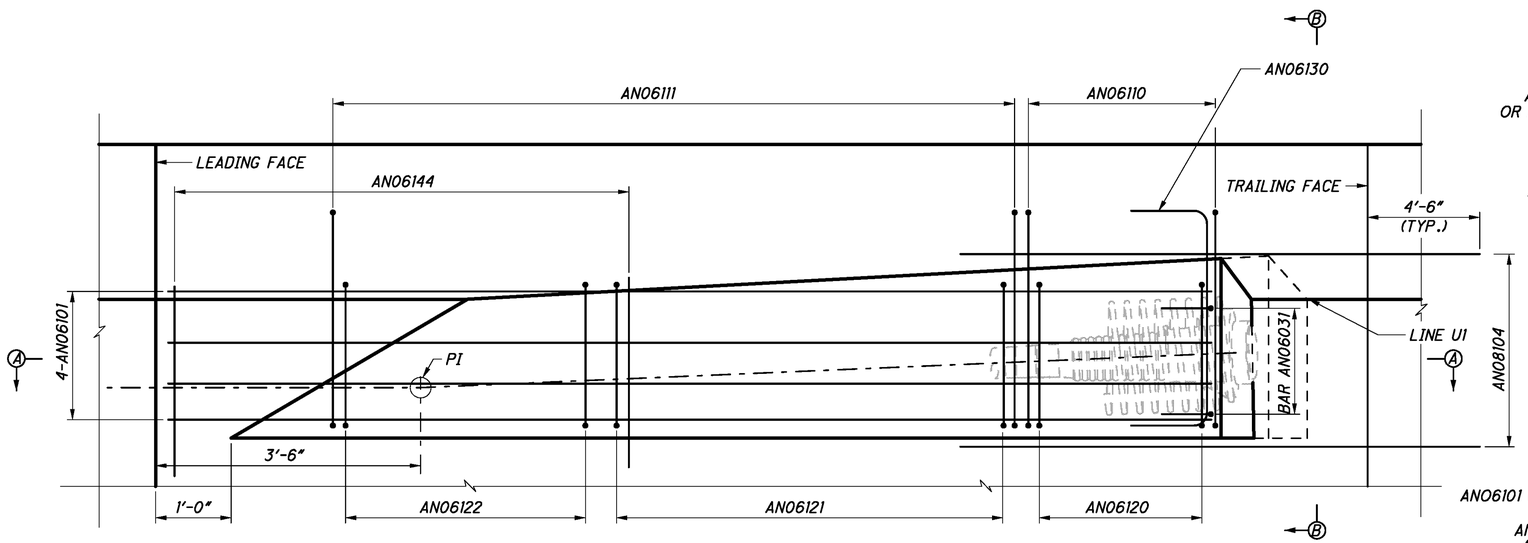
DESIGNED ACF | DRAWN ACF | REVIEWED JB | DATE 10/30/07
CHECKED MX | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

ANCHOR BLOCK TYPE TB BAR SCHEDULE

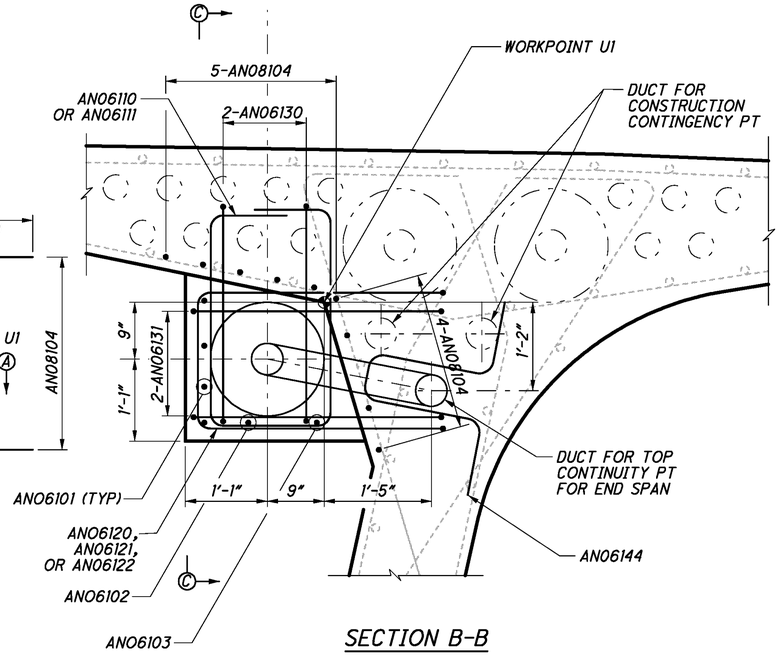
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20 PID No. 22950

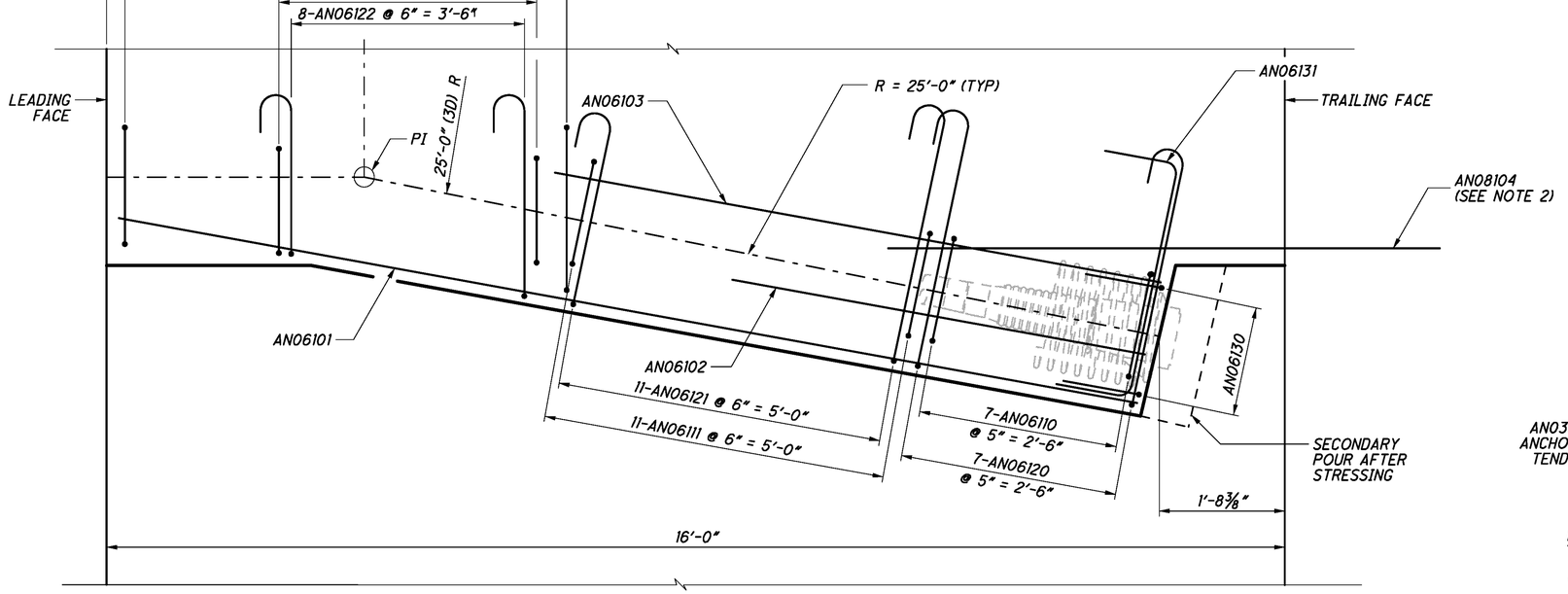
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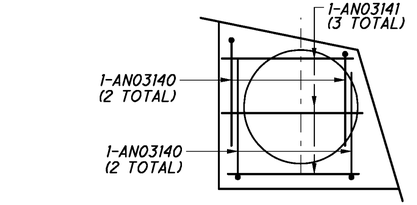
SECTION C-C



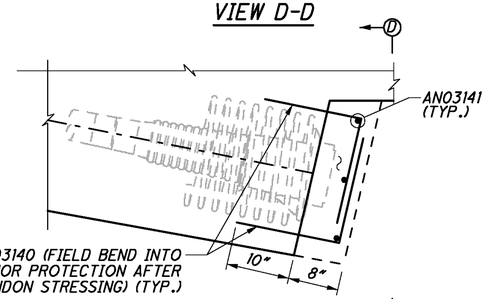
SECTION B-B



SECTION A-A



VIEW D-D



PARTIAL ELEVATION

NOTES:

1. MINIMUM 2" CLR COVER UNLESS NOTED OTHERWISE.
2. BAR AN08104 IS PLACED IN THE PREVIOUS SEGMENT.
3. TOP SLAB ANCHOR BLOCK TYPE TC IS USED FOR TOP SLAB CONTINUITY PT. FOR LOCATIONS, SEE SHEETS 100 & 102 OF 204.
4. ALL BARS SHOWN HERE ARE IN ADDITIONAL TO THE TYPICAL SEGEMENT BARS, WHERE THE ANCHOR IS LOCATED.
5. FOR MATERIAL USED IN SECONDARY POUR, SEE SPECIAL PROVISION "CONCRETE BOX GIRDER CONSTRUCTION".

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
ACF	ACF	JB	10/30/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

TOP SLAB ANCHORAGE BLOCK TYPE TC

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

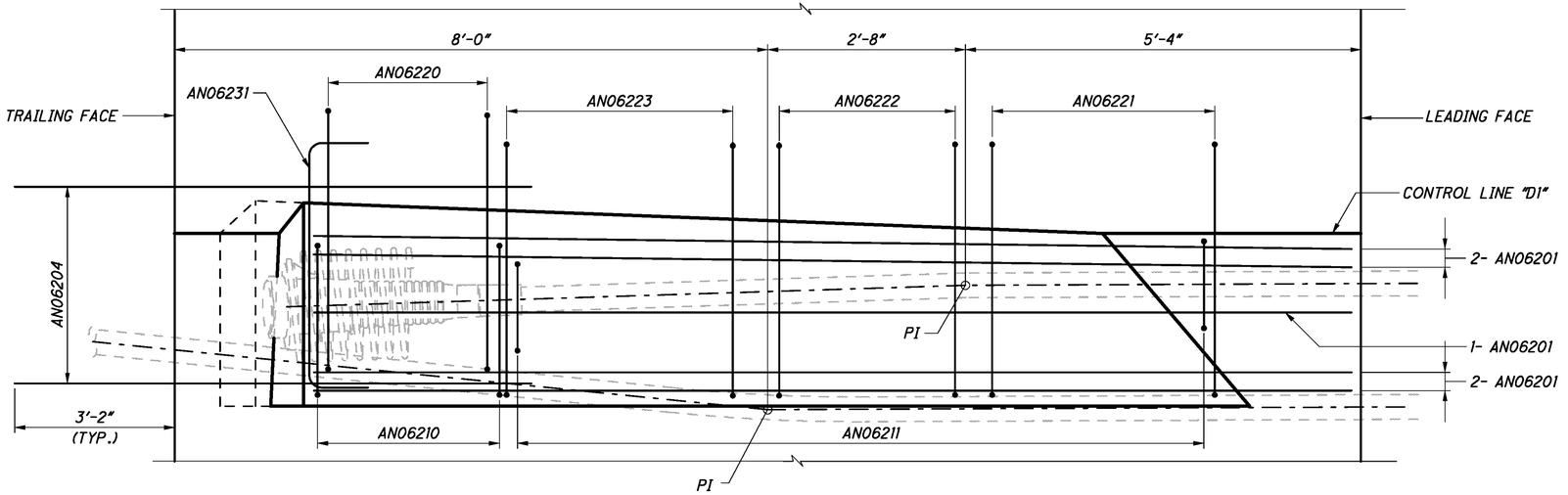
WAR-71-14.20
PID No. 22950

120/204

386/470

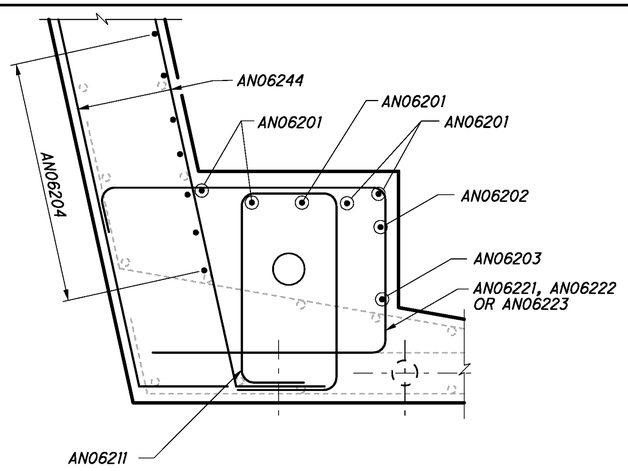
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PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
TOP SLAB ANCHOR BLOCK TYPE TC - SEGMENT P1-11D & SEGMENT P5-10U												
	AN06101	4	13'-11"	84	001	13'-11"						
	AN06102	1	5'-8"	9	001	5'-8"						
	AN06103	1	8'-4"	13	001	8'-4"						
	AN08104	9	10'-6"	253	001	10'-6"						
	AN06110	7	8'-4"	88	114	1'-6"	2'-9"	1'-0"				
	AN06111	19	8'-2"	233	114	1'-4"	2'-9"	1'-0"				
	AN06120	7	9'-4"	98	206	1'-10"	3'-3"					
		1	8'-1"				2'-5"					
	AN06121	ser	to	142	206	1'-10"	to					1"
		11	9'-0"				3'-4"					
		1	6'-8"				1'-9"					
	AN06122	ser	to	84	206	1'-10"	to					1"
		8	7'-4"				2'-5"					
	AN06230	2	4'-6"	14	102	1'-0"	2'-10"	1'-0"				
	AN06131	2	4'-11"	15	102	1'-0"	3'-3"	1'-0"				
	AN03140	4	2'-10"	4	001	2'-10"						
	AN03141	3	1'-7"	2	001	1'-7"						
		1	5'-5"				1'-7"					
	AN06144	ser	to	112	115	0'-8"	to	1'-0"				0 1/2"
		13	6'-0"				2'-2"					

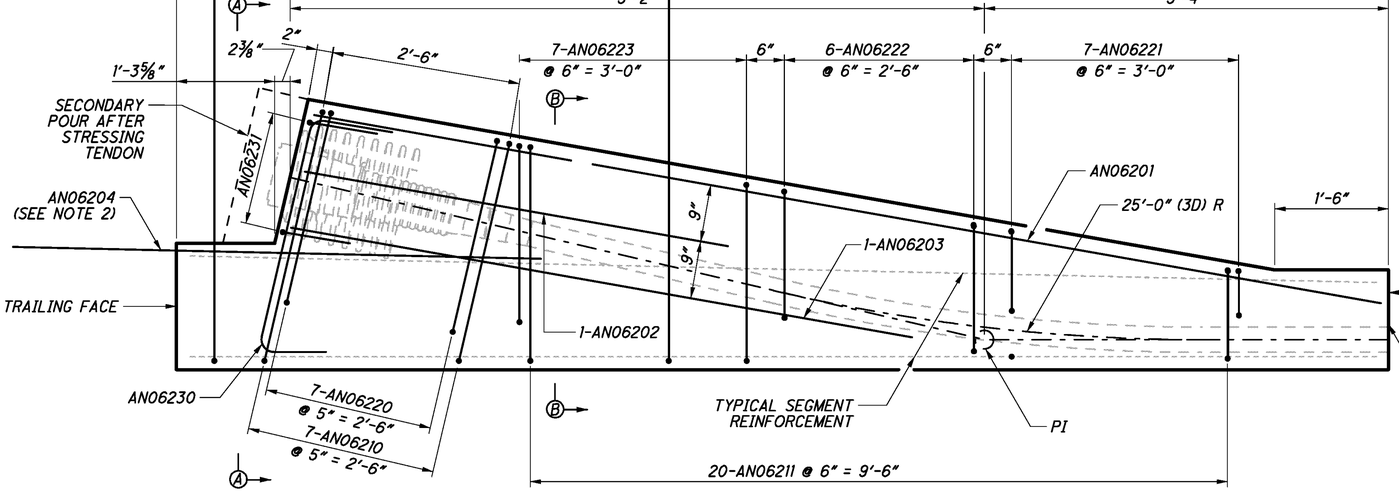


PLAN-TYPE BA BOTTOM ANCHOR BLOCK

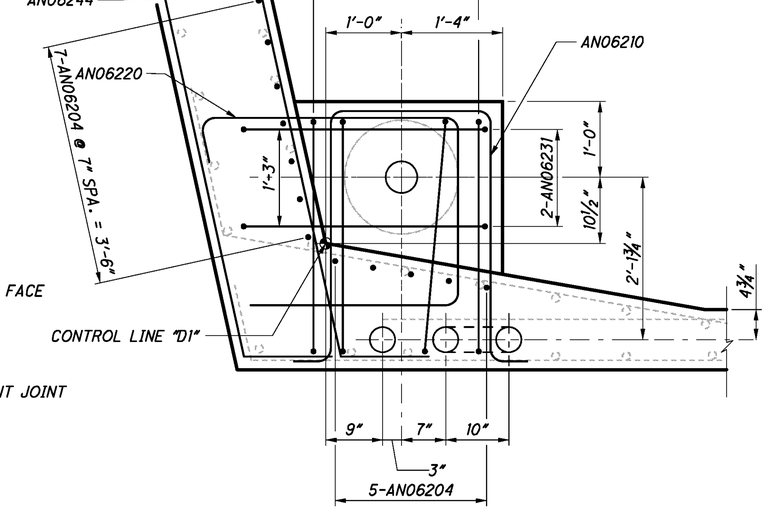
(BAR "AN06244" NOT SHOWN FOR CLARITY)



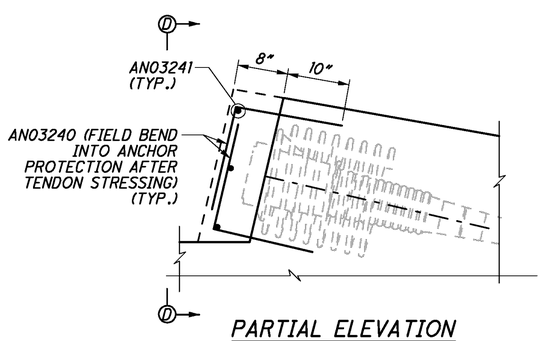
SECTION B-B



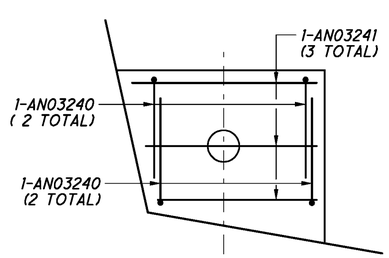
ELEVATION



VIEW A-A



PARTIAL ELEVATION



VIEW D-D

NOTES:

1. MINIMUM 2" CLR COVER UNLESS NOTED OTHERWISE.
2. BAR AN06204 IS PLACED IN THE PREVIOUS SEGMENT.
3. FOR LOCATIONS OF BOTTOM SLAB ANCHOR BLOCK, SEE SHEETS 104 TO 107 OF 204.
4. ALL BARS SHOWN HERE ARE IN ADDITIONAL TO THE TYPICAL SEGMENT BARS, WHERE THE ANCHOR IS LOCATED.
5. BAR AN06244 SHALL BE PLACED TOGETHER WITH BOX SEGMENT REINFORCING BARS.
6. FOR MATERIAL USED IN SECONDARY POUR, SEE SPECIAL PROVISION "CONCRETE BOX GIRDER CONSTRUCTION".

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
ACF	ACF	JB	10/30/07

CHECKED	REVISED	STRUCTURE FILE NUMBER
MX		8302278L/8302294R

BOTTOM SLAB ANCHORAGE BLOCK TYPE BA
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

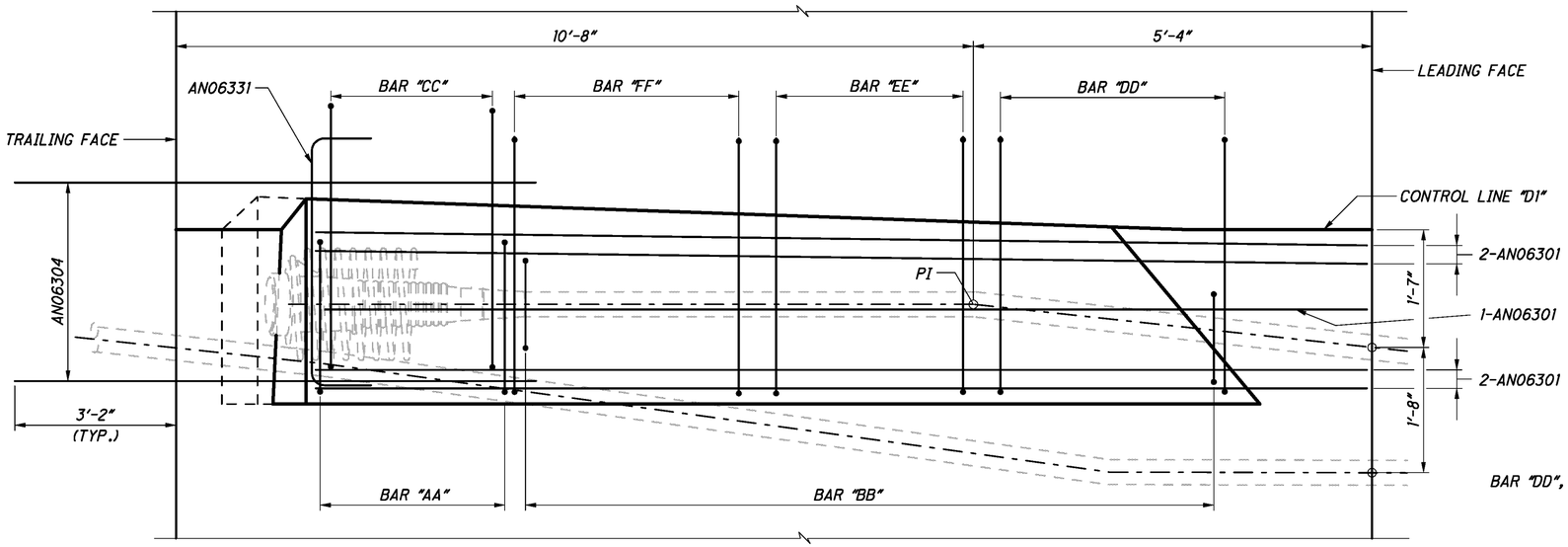
WAR-71-14.20
PID No. 22950

122/204

388/470

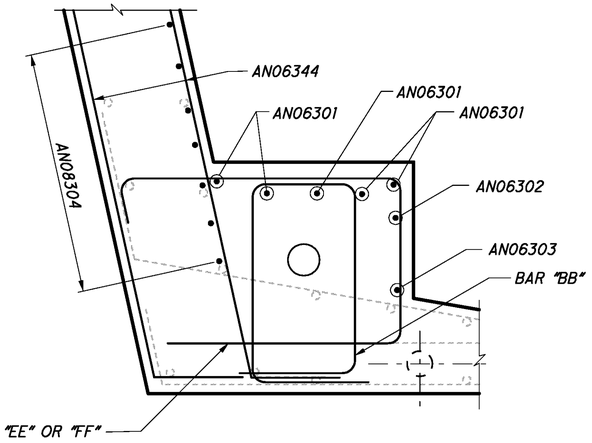
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PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
BOTTOM SLAB ANCHOR BLOCK TYPE BA - SEGMENTS 8U, 11U, 10D, AND 9D (SEE LIST AT RIGHT*)												
	AN06201	5	14'-2"	106	001	14'-2"						
	AN06202	1	5'-8"	9	001	5'-8"						
	AN06203	1	8'-4"	13	001	8'-4"						
	AN06204	12	10'-6"	189	001	10'-6"						
		1	9'-3"				2'-10"					
	AN06210	ser	to	100	115	2'-1"	to	1'-0"				0 3/4"
		7	9'-8"				3'-3"					
		1	5'-5"				1'-0"					
	AN06211	ser	to	188	114	1'-3"	to	1'-0"				1"
		20	7'-1"				2'-8"					
	AN06220	7	8'-9"	92	110	2'-8"	2'-6"	3'-4"	0'-9"	0'-2"		
		1	7'-3"				0'-5"					
	AN06221	ser	to	80	110	3'-0"	to	3'-7"	0'-9"	0'-2"		1"
		7	7'-10"				1'-0"					
	AN06222	6	8'-5"	76	110	3'-0"	1'-7"	3'-7"	0'-9"	0'-2"		
	AN06223	7	9'-0"	95	110	3'-0"	2'-2"	3'-7"	0'-9"	0'-2"		
	AN06230	4	4'-11"	30	104	1'-0"	3'-2"	1'-1"	0'-3"			
	AN06231	2	4'-11"	15	104	1'-0"	3'-3"	1'-0"				
	AN03240	4	2'-11"	4	001	2'-11"						
	AN03241	3	2'-1"	2	001	2'-1"						
	AN06244	18	12'-5"	335	004	1'-2"	2'-5"	11'-0"				

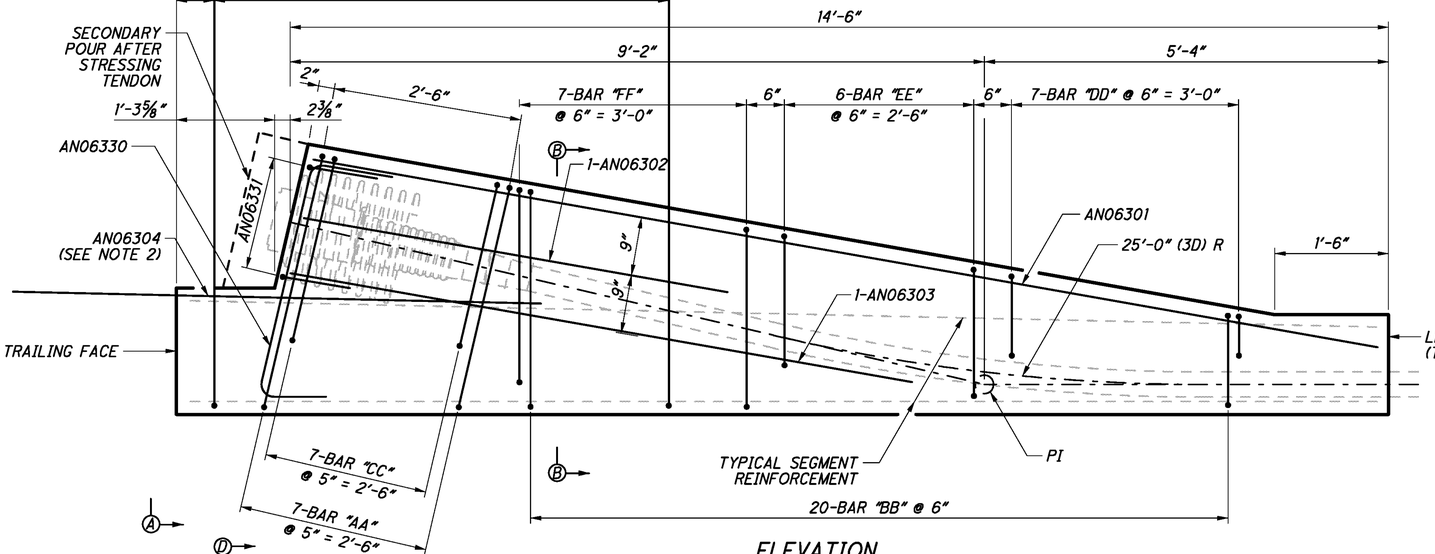


PLAN-TYPE BB BOTTOM ANCHOR BLOCK

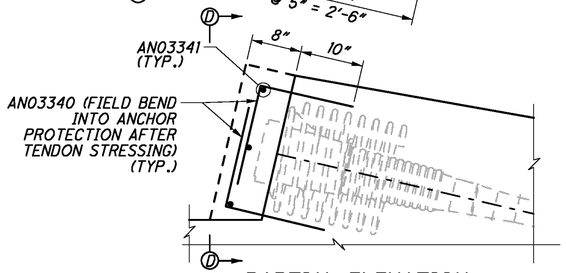
(BAR "AN06344" NOT SHOWN FOR CLARITY)



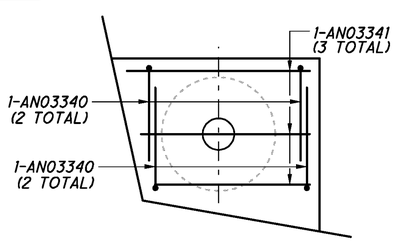
SECTION B-B



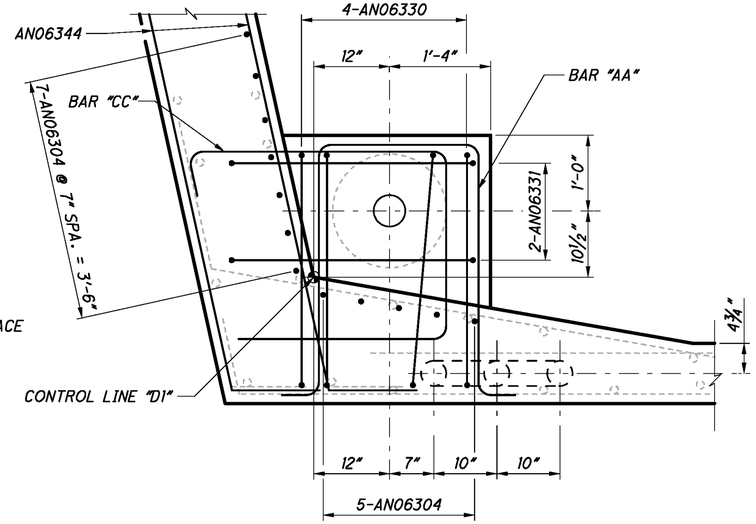
ELEVATION



PARTIAL ELEVATION



VIEW D-D



VIEW A-A

NOTES:

1. MINIMUM 2" CLR COVER UNLESS NOTED OTHERWISE.
2. BAR AN06304 IS PLACED IN THE PREVIOUS SEGMENT.
3. FOR LOCATIONS OF BOTTOM SLAB ANCHOR BLOCK, SEE SHEETS 104 TO 107 OF 204.
4. ALL BARS SHOWN HERE ARE IN ADDITIONAL TO THE TYPICAL SEGMENT BARS, WHERE THE ANCHOR IS LOCATED.
5. FOR MATERIAL USED IN SECONDARY POUR, SEE SPECIAL PROVISION "CONCRETE BOX GIRDER CONSTRUCTION".

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
ACF	ACF	JB	10/30/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

BOTTOM SLAB ANCHORAGE BLOCK TYPE BB
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

124/204

390/470

C:\22950\bridge\WAR071_1514C\sheets\071_1514CSD112.dgn 30-JUL-2008 10:16AM bavarello

PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
BOTTOM SLAB ANCHOR BLOCK TYPE BB - SEGMENTS 10U, 9D, 9U, 8D AND 8U (SEE LIST BELOW *)												
	AN06301	5	14'-2"	106	001	14'-2"						
	AN06302	1	5'-8"	9	001	5'-8"						
	AN06303	1	8'-4"	13	001	8'-4"						
	AN06304	12	10'-6"	189	001	10'-6"						
		1	9'-3"				2'-10"					
BAR "AA"	AN06310	ser	to	100	115	2'-1"	to	1'-0"				0 3/4"
		7	9'-8"				3'-3"					
		1	6'-1"				1'-0"					
BAR "BB"	AN06311	ser	to	208	114	1'-3"	to	1'-4"				1"
		20	7'-9"				2'-8"					
BAR "CC"	AN06320	7	8'-9"	92	110	2'-8"	2'-6"	3'-4"	0'-9"	0'-2"		
		1	7'-3"				0'-5"					
BAR "DD"	AN06321	ser	to	80	110	3'-0"	to	3'-7"	0'-9"	0'-2"		1"
		7	7'-10"				1'-0"					
BAR "EE"	AN06322	6	8'-5"	76	110	3'-0"	1'-7"	3'-7"	0'-9"	0'-2"		
BAR "FF"	AN06323	7	9'-0"	95	110	3'-0"	2'-2"	3'-7"	0'-9"	0'-2"		
	AN06330	4	4'-11"	30	104	1'-0"	3'-2"	1'-1"	0'-3"			
	AN06331	2	4'-11"	15	104	1'-0"	3'-3"	1'-0"				
	AN03340	4	2'-11"	4	001	2'-11"						
	AN03341	3	2'-1"	2	001	2'-1"						
	AN06344	18	12'-5"	335	004	1'-2"	2'-5"	11'-0"				
SUB-TOTAL				1,354 lbs								
NO. OF SEGMENTS				1 OF 42 REQUIRED								

(ANCHOR BLOCK ON SOUTHBOUND BRIDGE SHOWN, ANCHOR BLOCKS ON NORTHBOUND BRIDGE ARE IDENTICAL.)

PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
BOTTOM SLAB ANCHOR BLOCK TYPE BB - SEGMENTS 7D AND 7U (SEE LIST BELOW **)												
	AN06301	5	14'-2"	106	001	14'-2"						
	AN06302	1	5'-8"	9	001	5'-8"						
	AN06303	1	8'-4"	13	001	8'-4"						
	AN06304	12	10'-6"	189	001	10'-6"						
		1	9'-8"				3'-0"					
BAR "AA"	AN06340	ser	to	104	115	2'-1"	to	1'-0"				0 3/4"
		7	10'-2"				3'-6"					
		1	6'-4"				1'-1"					
BAR "BB"	AN06341	ser	to	218	114	1'-3"	to	1'-4"				1"
		20	8'-2"				2'-11"					
BAR "CC"	AN06320	7	8'-11"	94	110	2'-8"	2'-8"	3'-4"	0'-9"	0'-2"		
		1	7'-3"				0'-5"					
BAR "DD"	AN06321	ser	to	80	110	3'-0"	to	3'-7"	0'-9"	0'-2"		1"
		7	7'-10"				1'-0"					
BAR "EE"	AN06322	6	8'-7"	78	110	3'-0"	1'-9"	3'-7"	0'-9"	0'-2"		
BAR "FF"	AN06323	7	9'-2"	97	110	3'-0"	2'-4"	3'-7"	0'-9"	0'-2"		
	AN06330	4	5'-1"	31	104	1'-0"	3'-4"	1'-1"	0'-3"			
	AN06331	2	4'-11"	15	104	1'-0"	3'-3"	1'-0"				
	AN03340	4	2'-11"	4	001	2'-11"						
	AN03341	3	2'-1"	2	001	2'-1"						
	AN06344	18	12'-5"	335	004	1'-2"	2'-5"	11'-0"				
SUB-TOTAL				1,375 lbs								
NO. OF SEGMENTS				1 OF 20 REQUIRED								

(ANCHOR BLOCK ON SOUTHBOUND BRIDGE SHOWN, ANCHOR BLOCKS ON NORTHBOUND BRIDGE ARE IDENTICAL.)

* LIST OF SEGMENTS

10U	9D	9U	8D	8U
P1-10U	P1-9D	P1-9U	P1-8D	P1-8U
P2-10U	P2-9D	P2-9U	P2-8D	P2-8U
P3-10U	P3-9D	P3-9U	P3-8D	P3-8U
P4-10U	P4-9D	P4-9U	P4-8D	P4-8U
			P5-8D	

** LIST OF SEGMENTS

7D	7U
P1-7D	P1-7U
P2-7D	P2-7U
P3-7D	P3-7U
P4-7D	P4-7U
P5-7D	P5-7U

NOTES:

1. ALL REINFORCING STEEL TO BE EPOXY COATED.
2. FOR BAR TYPES AND BENDS, SEE SHEET 187 AND 188 OF 204.

DESIGN AGENCY HNTB 1100 Superior Avenue, Suite 1330 Cleveland, OH 44114-2531

DESIGNED ACF | DRAWN ACF | REVIEWED JB | DATE 10/30/07 | CHECKED MX | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

ANCHOR BLOCK TYPE BB BAR SCHEDULE 1
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20 PID No. 22950

125 / 204

391 / 470

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PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
BOTTOM SLAB ANCHOR BLOCK TYPE BB - SEGMENTS 6D, 6U, 5D (SEE LIST BELOW*)												
	AN06301	5	14'-2"	106	001	14'-2"						
	AN06302	1	5'-8"	9	001	5'-8"						
	AN06303	1	8'-4"	13	001	8'-4"						
	AN06304	12	10'-6"	189	001	10'-6"						
		1	10'-0"				3'-2"					
BAR "AA"	AN06350	ser	to	108	115	2'-1"	to	1'-0"				0 3/4"
		7	10'-6"				3'-8"					
		1	6'-8"				1'-3"					
BAR "BB"	AN06351	ser	to	228	114	1'-3"	to	1'-4"				1"
		20	8'-6"				3'-1"					
BAR "CC"	AN06320	7	9'-1"	96	110	2'-8"	2'-10"	3'-4"	0'-9"	0'-2"		
		1	7'-3"				0'-5"					
BAR "DD"	AN06321	ser	to	80	110	3'-0"	to	3'-7"	0'-9"	0'-2"		1"
		7	7'-10"				1'-0"					
BAR "EE"	AN06322	6	8'-9"	79	110	3'-0"	1'-11"	3'-7"	0'-9"	0'-2"		
BAR "FF"	AN06323	7	9'-4"	98	110	3'-0"	2'-6"	3'-7"	0'-9"	0'-2"		
	AN06330	4	5'-3"	32	104	1'-0"	3'-6"	1'-1"	0'-3"			
	AN06331	2	4'-11"	15	104	1'-0"	3'-3"	1'-0"				
	AN03340	4	2'-11"	4	001	2'-11"						
	AN03341	3	1'-11"	2	104	2'-1"						
	AN06344	18	12'-5"	335	004	1'-2"	2'-5"	11'-0"				
SUB-TOTAL				1,394 lbs								
NO. OF SEGMENTS				1 OF 26 REQUIRED								

(ANCHOR BLOCK ON SOUTHBOUND BRIDGE SHOWN, ANCHOR BLOCKS ON NORTHBOUND BRIDGE ARE IDENTICAL.)

PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
BOTTOM SLAB ANCHOR BLOCK TYPE BB - SEGMENTS 5U AND 4D (SEE LIST BELOW**)												
	AN06301	5	14'-2"	106	001	14'-2"						
	AN06302	1	5'-8"	9	001	5'-8"						
	AN06303	1	8'-4"	13	001	8'-4"						
	AN06304	12	10'-6"	189	001	10'-6"						
		1	10'-10"				3'-7"					
BAR "AA"	AN06360	ser	to	117	115	2'-1"	to	1'-0"				0 3/4"
		7	11'-4"				4'-1"					
		1	7'-4"				1'-7"					
BAR "BB"	AN06361	ser	to	251	114	1'-3"	to	1'-4"				1 1/4"
		20	9'-3"				3'-6"					
BAR "CC"	AN06320	7	9'-4"	98	110	2'-8"	3'-1"	3'-4"	0'-9"	0'-2"		
		1	7'-3"				0'-5"					
BAR "DD"	AN06321	ser	to	80	110	3'-0"	to	3'-7"	0'-9"	0'-2"		1"
		7	7'-10"				1'-0"					
BAR "EE"	AN06322	6	9'-0"	81	110	3'-0"	2'-2"	3'-7"	0'-9"	0'-2"		
BAR "FF"	AN06323	7	9'-7"	101	110	3'-0"	2'-9"	3'-7"	0'-9"	0'-2"		
	AN06330	4	5'-8"	34	104	1'-0"	3'-11"	1'-1"	0'-3"			
	AN06331	2	4'-11"	15	104	1'-0"	3'-3"	1'-0"				
	AN03340	4	2'-11"	4	001	2'-11"						
	AN03341	3	1'-11"	2	104	2'-1"						
	AN06344	18	12'-5"	335	004	1'-2"	2'-5"	11'-0"				
SUB-TOTAL				1,435 lbs								
NO. OF SEGMENTS				1 OF 16 REQUIRED								

(ANCHOR BLOCK ON SOUTHBOUND BRIDGE SHOWN, ANCHOR BLOCKS ON NORTHBOUND BRIDGE ARE IDENTICAL.)

* LIST OF SEGMENTS

6D	6U	5D
P2-6D	P1-6U	P2-5D
P3-6D	P2-6U	P3-5D
P4-6D	P3-6U	P4-5D
P5-6D	P4-6U	P5-5D
	P5-6U	

** LIST OF SEGMENTS

5U	4D
P1-5U	P2-4D
P2-5U	P3-4D
P3-5U	P4-4D
P4-5U	P5-4D

NOTES:

1. ALL REINFORCING STEEL TO BE EPOXY COATED.
2. FOR BAR TYPES AND BENDS, SEE SHEETS 187 AND 188 OF 204.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED ACF | DRAWN ACF | CHECKED MX | REVIEWED JB | DATE 10/30/07 | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

ANCHOR BLOCK TYPE BB BAR SCHEDULE 2
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

126/204

392/470

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PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
BOTTOM SLAB ANCHOR BLOCK TYPE BB - SEGMENT P5-3D												
	AN06301	5	14'-2"	106	001	14'-2"						
	AN06302	1	5'-8"	9	001	5'-8"						
	AN06303	1	8'-4"	13	001	8'-4"						
	AN06304	12	10'-6"	189	001	10'-6"						
		1	12'-0"				4'-2"					
	AN06370	ser	to	129	115	2'-1"	to	1'-0"				0 3/4"
		7	12'-6"				4'-8"					
		1	8'-3"				2'-0"					
BAR "AA"	AN06371	ser	to	278	114	1'-3"	to	1'-4"				1 1/4"
		20	10'-3"				4'-0"					
	AN06320	7	9'-9"	103	110	2'-8"	3'-6"	3'-4"	0'-9"	0'-2"		
BAR "BB"		1	7'-3"				0'-5"					
	AN06321	ser	to	80	110	3'-0"	to	3'-7"	0'-9"	0'-2"		1"
		7	7'-10"				1'-0"					
BAR "CC"												
	AN06322	6	9'-5"	85	110	3'-0"	2'-7"	3'-7"	0'-9"	0'-2"		
BAR "DD"	AN06323	7	10'-0"	105	110	3'-0"	3'-2"	3'-7"	0'-9"	0'-2"		
	AN06330	4	6'-1"	37	104	1'-0"	4'-4"	1'-1"	0'-3"			
	AN06331	2	4'-11"	15	104	1'-0"	3'-3"	1'-0"				
BAR "EE"	AN03340	4	2'-11"	4	001	2'-11"						
BAR "FF"	AN03341	3	1'-11"	2	104	2'-1"						
	AN06344	18	12'-5"	335	004	1'-2"	2'-5"	11'-0"				
SUB-TOTAL				1,490 lbs								
NO. OF SEGMENTS				1 OF 2 REQUIRED								

(ANCHOR BLOCK ON SOUTHBOUND BRIDGE SHOWN, ANCHOR BLOCKS ON NORTHBOUND BRIDGE ARE IDENTICAL.)

NOTES:

1. ALL REINFORCING STEEL TO BE EPOXY COATED.
2. FOR BAR TYPES AND BENDS, SEE SHEETS 187 AND 188 OF 204.

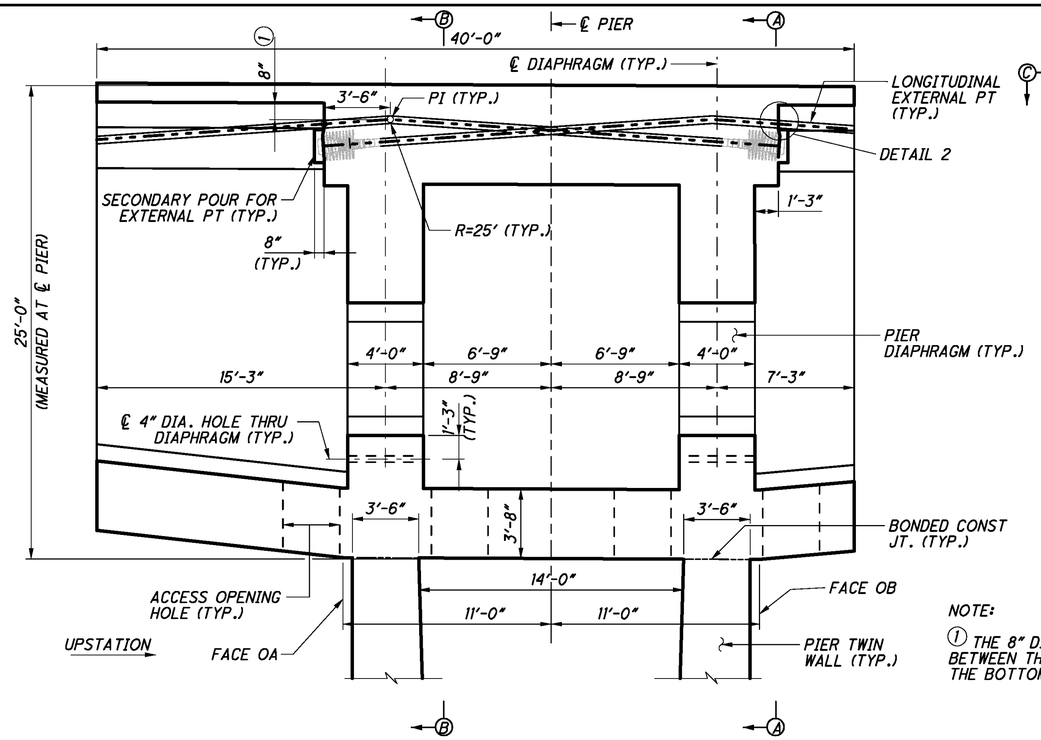
DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED ACF | DRAWN ACF | REVIEWED JB | DATE 10/30/07 | CHECKED MX | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

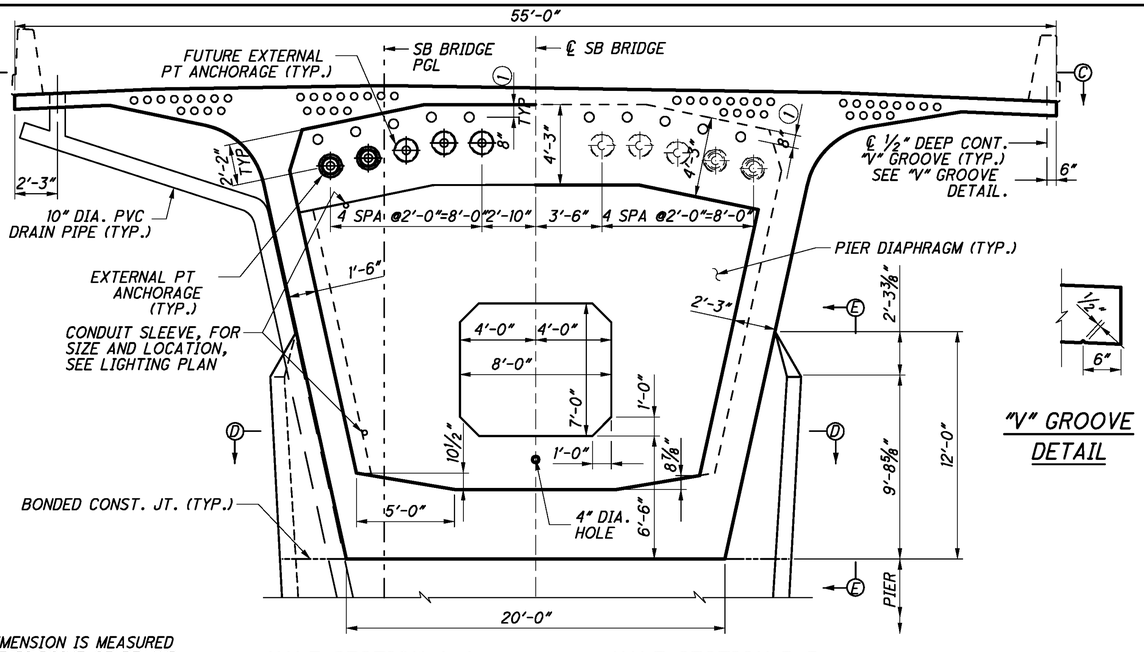
ANCHOR BLOCK TYPE BB BAR SCHEDULE 3
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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ELEVATION THRU PIER

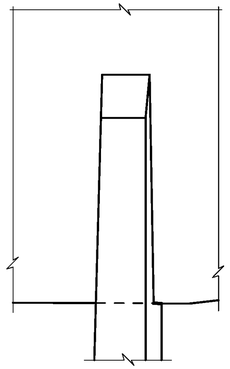


HALF SECTION A-A

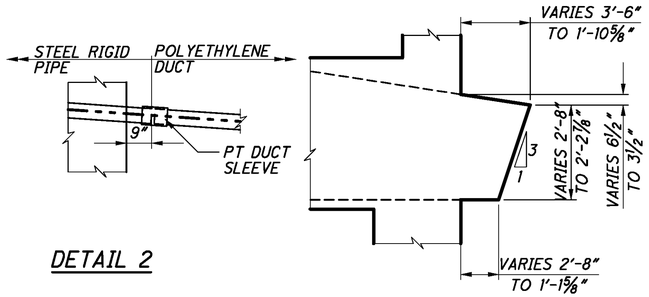
HALF SECTION B-B

NOTE:

1. THE 8" DIMENSION IS MEASURED BETWEEN THE PI POINT OF PT AND THE BOTTOM SOFFIT OF TOP SLAB

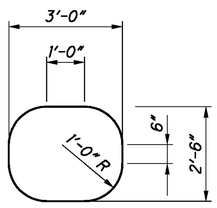


VIEW E-E

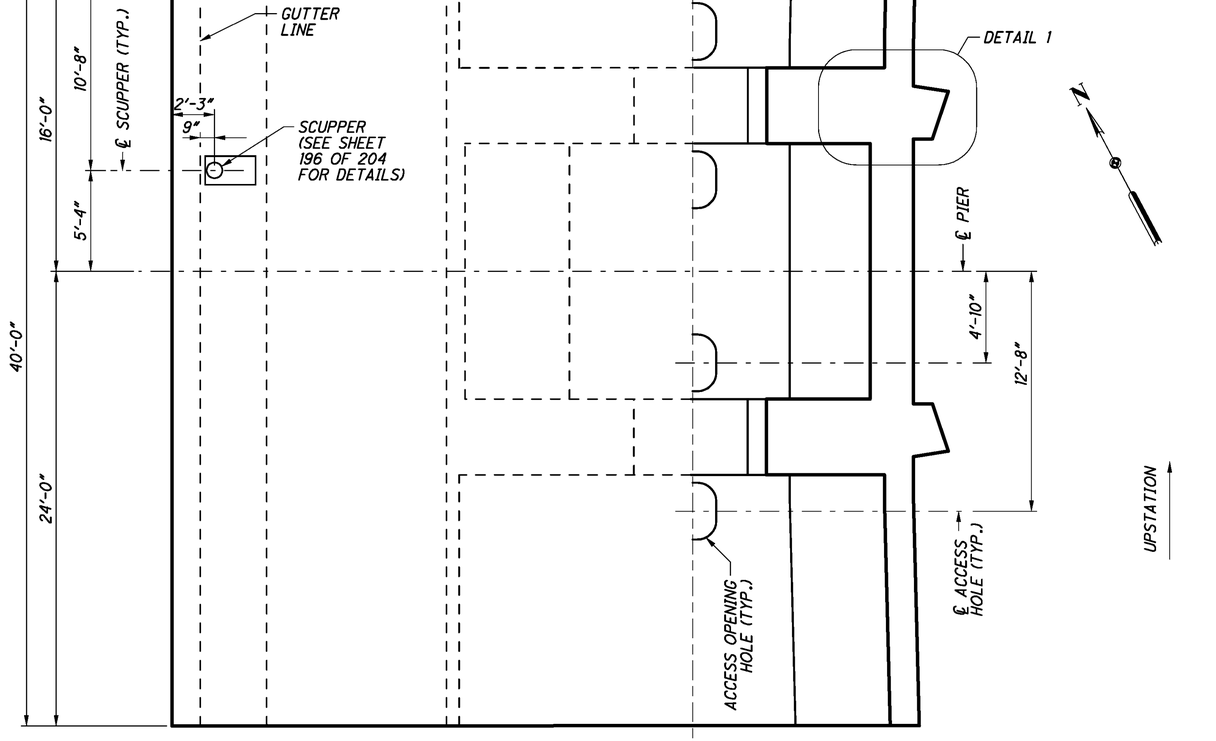


DETAIL 2

DETAIL 1



ACCESS HOLE DETAIL



VIEW C-C (HALF PLAN OF TOP SLAB)

SECTION D-D (HALF PLAN OF BOTTOM SLAB)

NOTES:

1. SEE SHEET 190 OF 204 FOR DETAILS OF ACCESS OPENING HOLE.
2. SEE SHEET 195 & 196 OF 204 FOR DRAINAGE DETAILS.
3. FOR MATERIAL USED IN SECONDARY POUR, SEE SPECIAL PROVISION "CONCRETE BOX GIRDER CONSTRUCTION".

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1300
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
MEA	JFA	JB	10/30/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

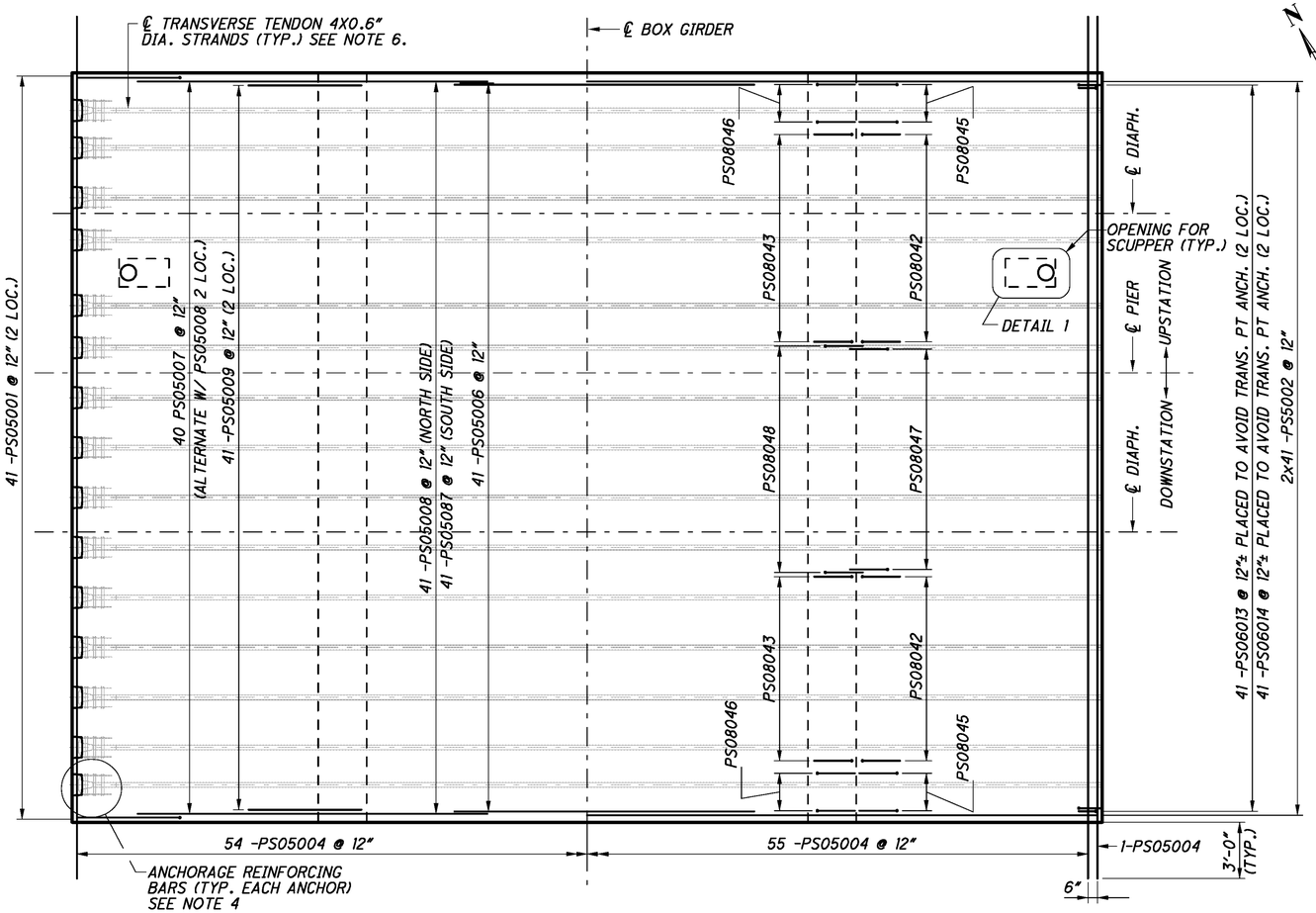
PIER SEGMENT (PIERS 1-4) DIMENSIONS
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

128/204

394/470

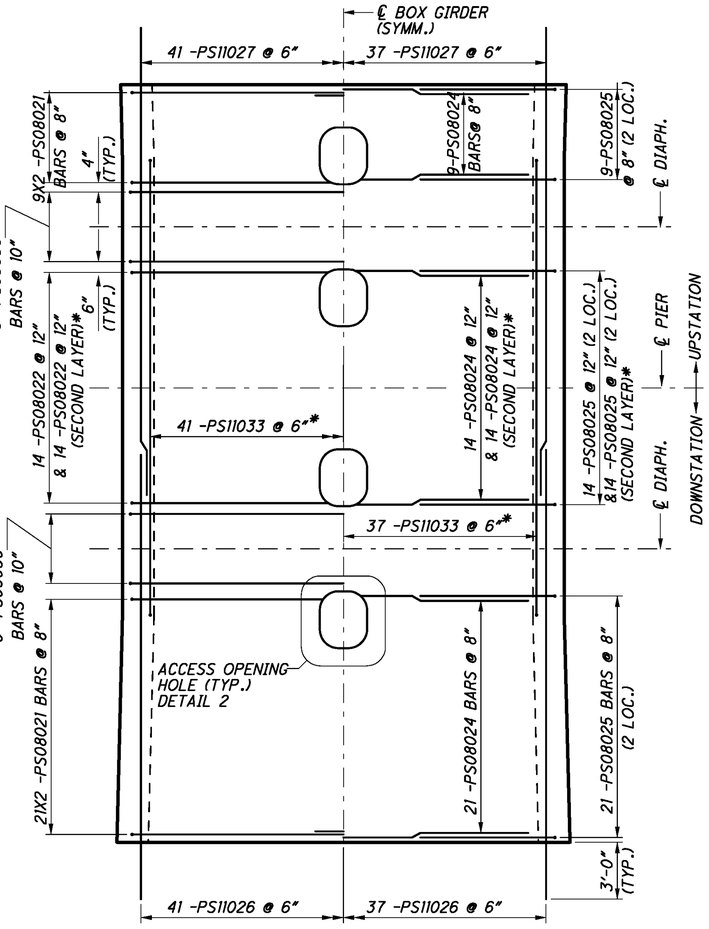
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BOTTOM REINFORCEMENT

TOP SLAB PLAN

TOP REINFORCEMENT

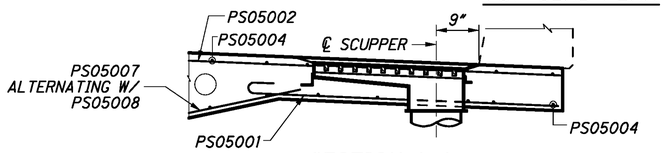


BOTTOM REINFORCEMENT

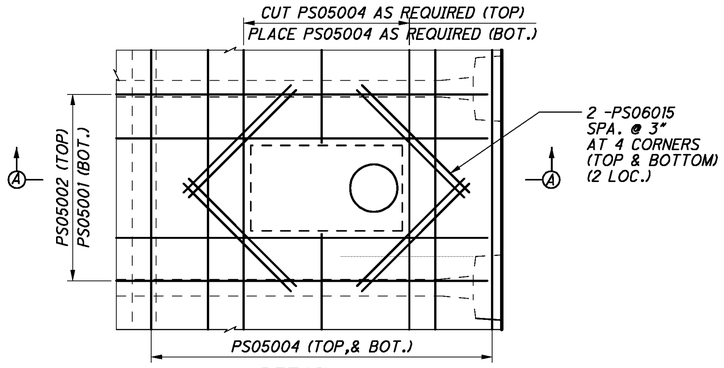
TOP REINFORCEMENT

BOTTOM SLAB PLAN

* PIERS 1 & 4 ONLY

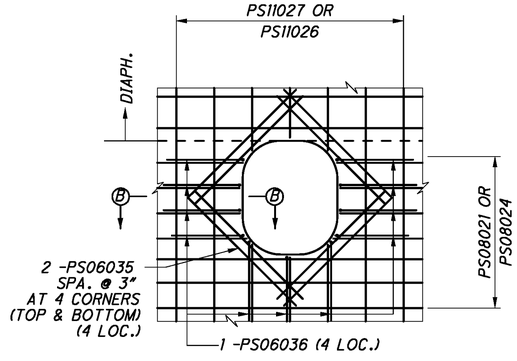


SECTION A-A



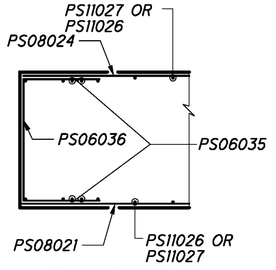
DETAIL 1

(TOP SLAB REINFORCEMENT AT SCUPPER OPENING)



DETAIL 2

(BOTTOM SLAB REINFORCEMENT AT ACCESS OPENING HOLE)



SECTION B-B

NOTES:

1. CUT PS08021, PS08022, PS08024, PS11026, PS11027 & PS11033 BARS AT ACCESS OPENING HOLE AS REQUIRED.SEE DETAIL 2.
2. CUT PS05004 BARS AT SCUPPER OPENING AS REQUIRED. SEE DETAIL 1
3. SEE SHEETS 100 TO 103 OF 204 FOR TOP SLAB CANTILEVER TENDON LAYOUT AND SEE SHEET 98 OF 204 FOR BULKHEAD DETAILS.
4. FOR REINFORCEMENT AT TRANSVERSE TENDON ANCHORAGES SEE SHEET 115 OF 204.
5. SPACE ALL REINFORCING IN TOP SLAB TO CLEAR POST TENSIONING TENDONS AND SCUPPER OPENINGS.
6. FOR TRANSVERSE TENDON PROFILES, LAYOUT, AND DETAILS SEE SHEETS 114, & 115 OF 204.

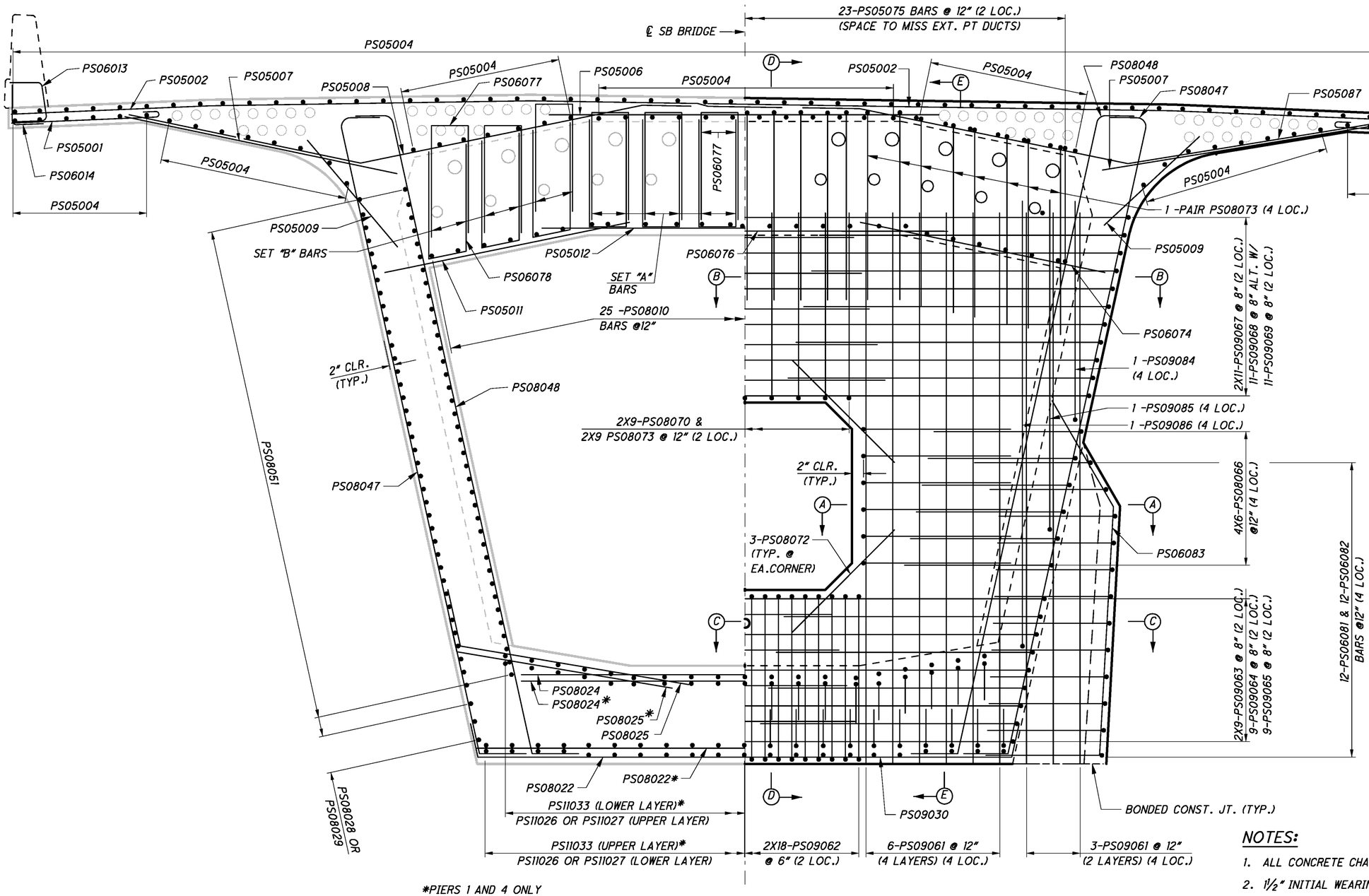
DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

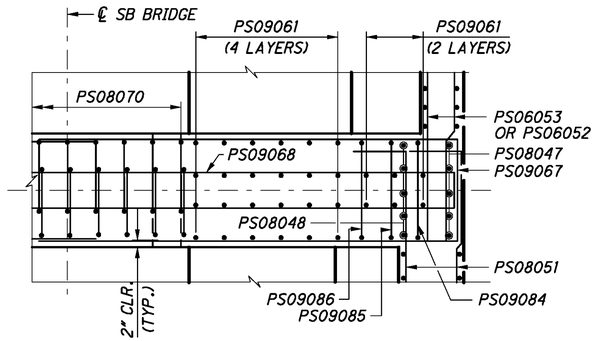
DESIGNED	DRAWN	REVIEWED	DATE
MEA	JFA	JB	10/30/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

PIER SEGMENT (PIERS 1-4)
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

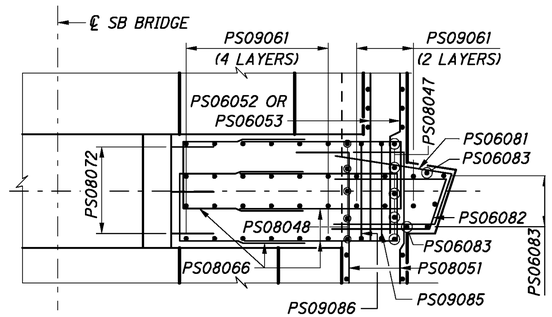
WAR-71-14.20
PID No. 22950

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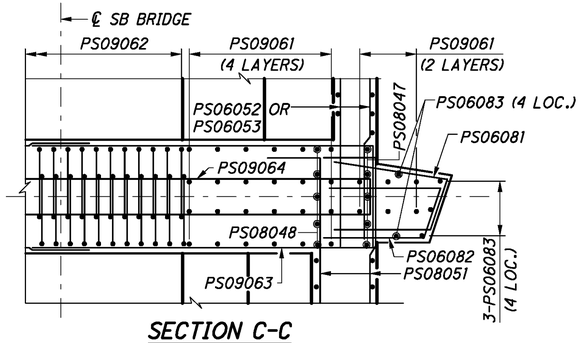

℄ SB BRIDGE
23-PS05075 BARS @ 12" (2 LOC.)
(SPACE TO MISS EXT. PT DUCTS)
PS05004
PS06013
PS05002
PS05007
PS05008
PS06077
PS05006
PS05001
PS06014
PS05009
SET "B" BARS
PS06078
PS05012
SET "A" BARS
PS05011
25 -PS08010 BARS @12"
PS06076
PS08048
PS08047
PS08051
2" CLR. (TYP.)
2X9-PS08070 & 2X9 PS08073 @ 12" (2 LOC.)
3-PS08072 (TYP. @ EA.CORNER)
PS08024
PS08024*
PS08025*
PS08025
PS08022
PS08022*
PS08028 OR PS08029
PS11033 (LOWER LAYER)*
PS11026 OR PS11027 (UPPER LAYER)
PS11033 (UPPER LAYER)*
PS11026 OR PS11027 (LOWER LAYER)
2X18-PS09062 @ 6" (2 LOC.)
6-PS09061 @ 12" (4 LAYERS) (4 LOC.)
3-PS09061 @ 12" (2 LAYERS) (4 LOC.)
PS09030
BONDED CONST. JT. (TYP.)
PS08049
PS08050
PS08052
PS08053
PS08054
PS08055
PS08056
PS08057
PS08058
PS08059
PS08060
PS08061
PS08062
PS08063
PS08064
PS08065
PS08066
PS08067
PS08068
PS08069
PS08070
PS08071
PS08072
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PS08091



SECTION B-B

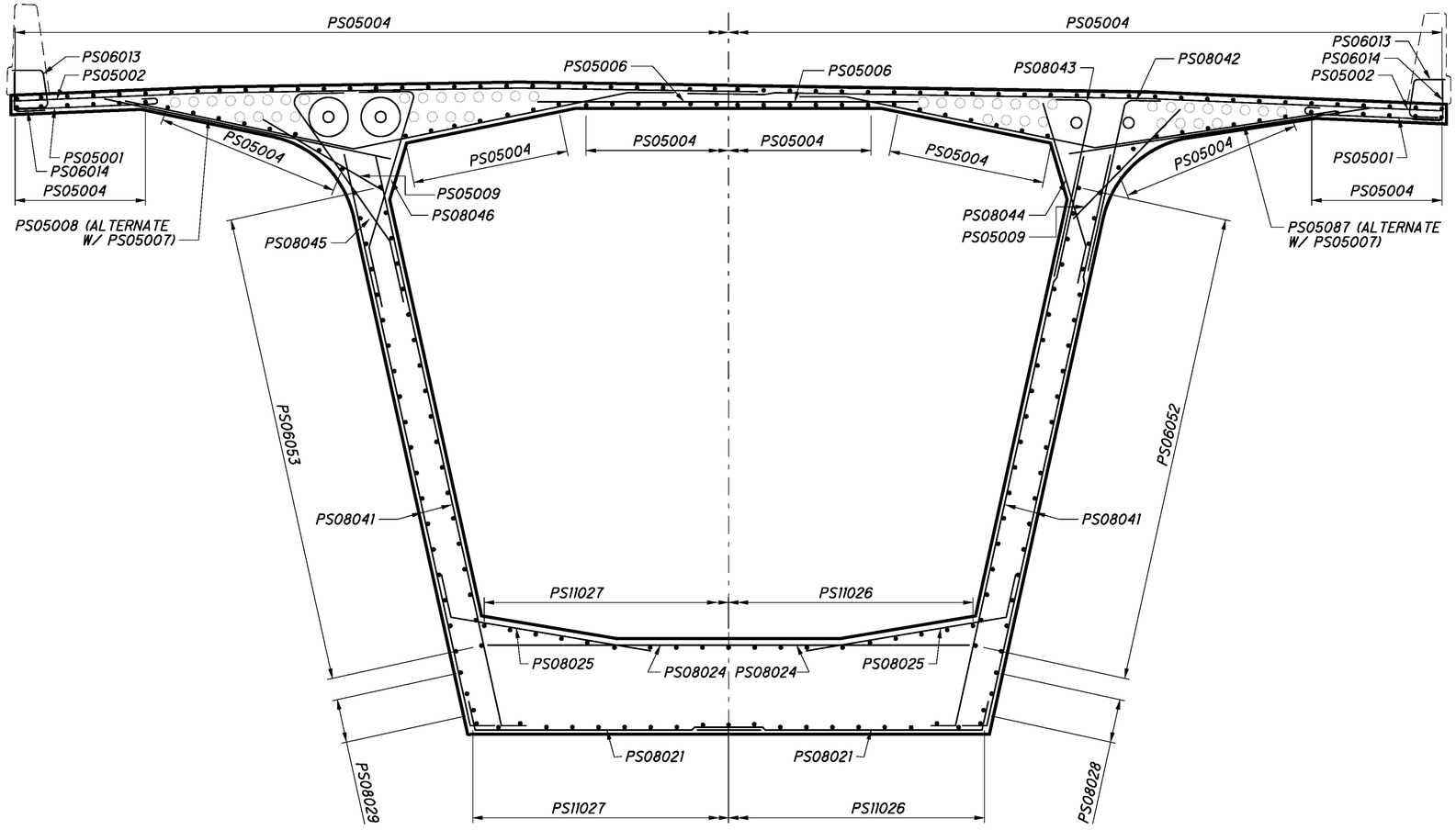


SECTION A-A



SECTION C-C

(BOTTOM SLAB BARS ARE NOT SHOWN FOR CLARITY)



HALF SECTION G-G

(SOUTH HALF OF THE SECTION SHOWN, NORTH SIDE SIMILAR)

HALF SECTION H-H

(SOUTH HALF OF THE SECTION SHOWN, NORTH SIDE SIMILAR)

NOTES:

1. ALL CONCRETE CHAMFERS ARE ¾".
2. 1½" INITIAL WEARING SURFACE NOT SHOWN FOR CLARITY.
3. SPACE ALL REINFORCING BAR IN TOP SLAB TO CLEAR POST TENSIONING TENDONS.
4. FOR TRANSVERSE TENDON PROFILE, LAYOUT, AND DETAILS, SHEETS 114 AND 115 OF 204.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
MEA	JFA	JB	10/30/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

PIER SEGMENT (PIERS 1-4) REINFORCEMENT 3

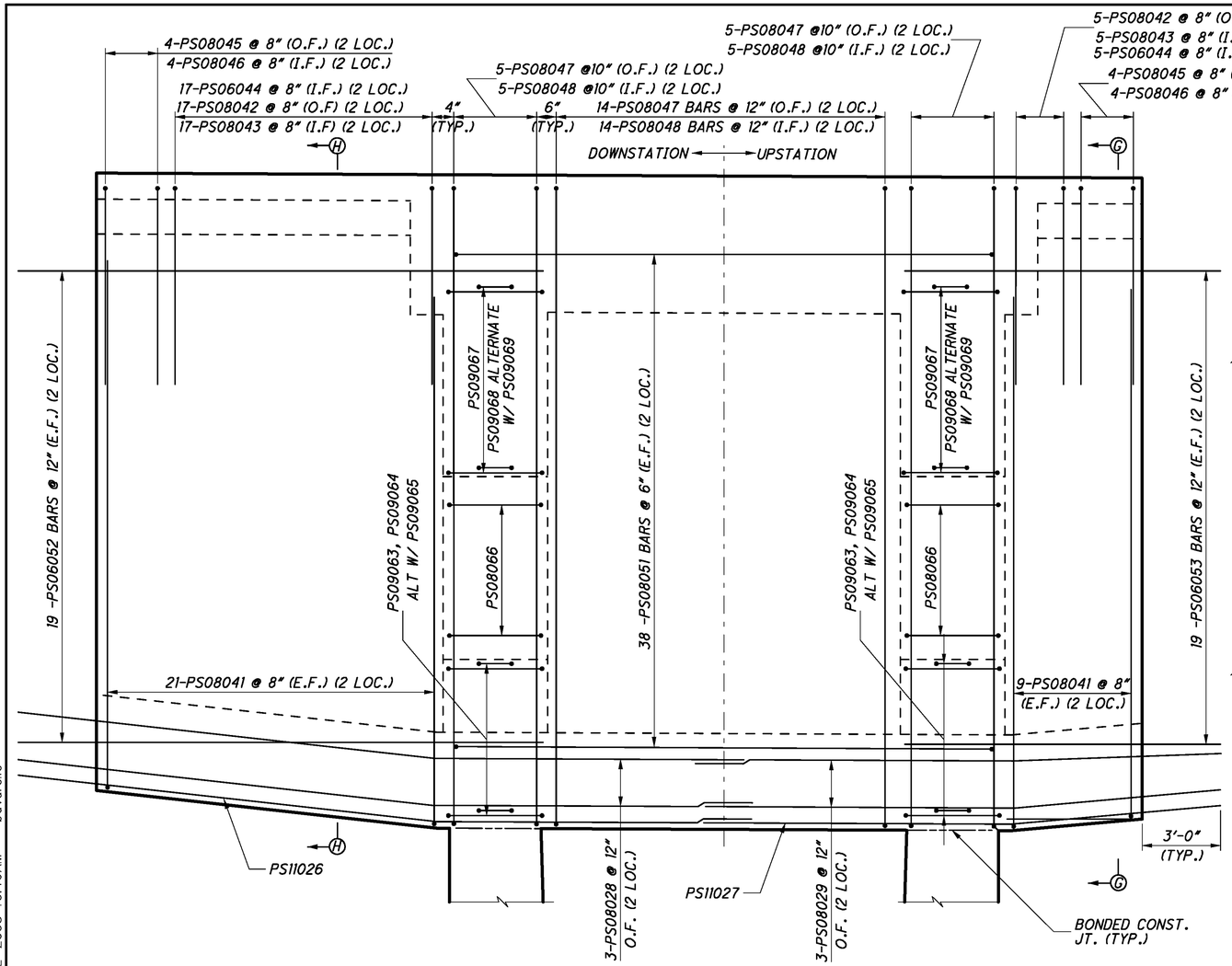
BRIDGE NO. WAR-71-1514L/R

INTERSTATE 71 OVER LITTLE MIAMI RIVER

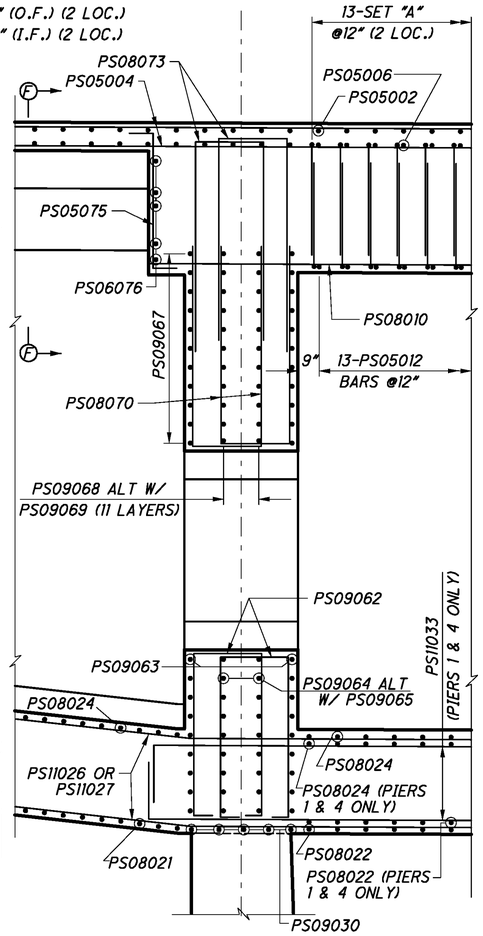
WAR-71-14.20

PID No. 22950

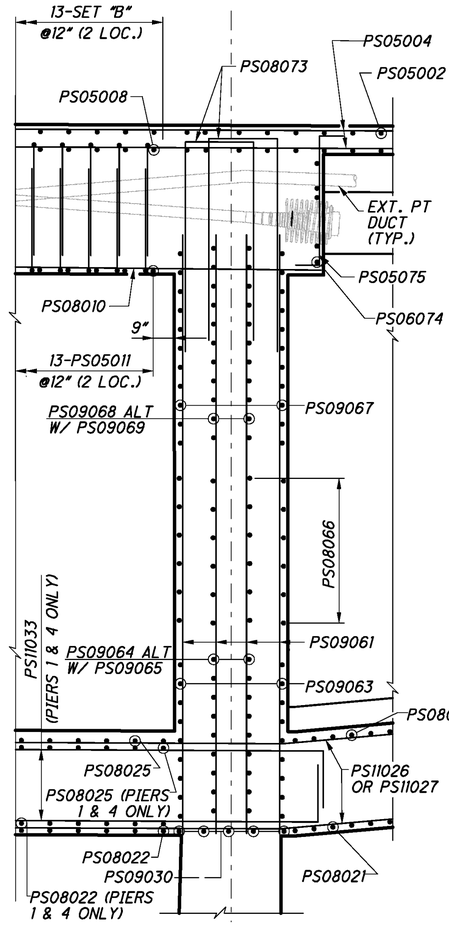
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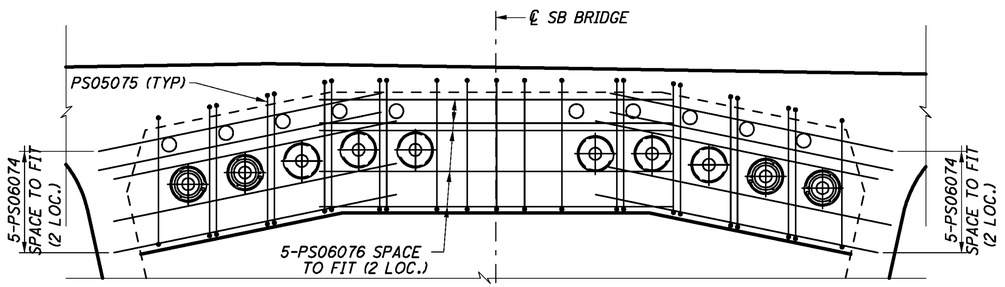
WEB ELEVATION



SECTION D-D



SECTION E-E



HALF SECTION F-F AT ANCHORAGE (DOWNSTATION SIDE)

HALF SECTION F-F AT ANCHORAGE (UPSTATION SIDE)

SPACE BARS TO MISS EXTERNAL PT DUCTS AND ANCHORS.
NOT ALL BARS SHOWN FOR CLARITY.

NOTES:

1. ALL CONCRETE CHAMFERS AREA ¾".
2. 1½" INITIAL WEARING SURFACE NOT SHOWN FOR CLARITY.
3. SPACE ALL REINFORCING BAR IN TOP SLAB TO CLEAR POST TENSIONING TENDONS.
4. SEE SHEET 131 OF 204 FOR SECTIONS G-G, & H-H.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
MEA	JFA	JB	10/30/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

PIER SEGMENT (PIERS 1-4) REINFORCEMENT 4
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

132/204

398/470

C:\22950\bridge\WAR071_1514C\sheets\071_1514CSD153.dgn 30-JUL-2008 10:16AM bavarello

PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
						PIER 1 & 4 SEGMENT						
	AR04001	180	3'-6"	421	901							
	AR04002	120	2'-0"	160	902							
	PS05001	82	6'-4"	542	011	5'-9"						
	PS05002	82	28'-6"	2440	001	28'-6"						
	PS05004	111	46'-0"	5330	001	46'-0"						
	PS05006	41	15'-0"	642	001	15'-0"						
	PS05007	80	10'-3"	856	001	10'-3"						
	PS05008	41	21'-7"	925	121	9'-6"	1'-10"	10'-10"	2'-4"	1'-0"		
	PS05009	82	5'-3"	449	001	5'-3"						
	PS08010	25	21'-0"	1403	001	21'-0"						
	PS05011	26	9'-0"	244	001	9'-0"						
	PS05012	13	15'-2"	206	001	15'-2"						
	PS06013	82	3'-2"	392	106	0'-11"	0'-4"	1'-6"	0'-11"			
	PS06014	82	2'-4"	288	003	1'-6"	1'-0"					
	PS06015	32	2'-8"	128	001	2'-8"						
	PS08021	60	13'-10"	2217	004	12'-4"	0'-4"	1'-6"				
	PS08022	28	22'-8"	1695	006	1'-6"	0'-4"	19'-8"	0'-4"	1'-6"		
	PS08024	58	14'-6"	2248	001	14'-6"						
	PS08025	116	11'-4"	3524	004	9'-3"	0'-10"	2'-0"				
	PS11026	78	33'-4"	13826	004	17'-4"	16'-0"	1'-8"				
	PS11027	78	25'-4"	10486	004	17'-4"	8'-0"	0'-8"				
	PS08028	6	31'-7"	506	004	15'-6"	16'-0"	1'-8"				
	PS08029	6	23'-6"	377	004	15'-6"	8'-0"	0'-8"				
	PS09030	10	23'-0"	781	006	1'-9"	0'-5"	19'-6"	0'-5"	1'-9"		
	PS11033	78	27'-11"	11570	102	2'-0"	24'-7"	2'-0"				
	PS06035	64	4'-0"	385	001	4'-0"						
	PS06036	44	8'-10"	584	102	3'-0"	3'-2"	3'-0"				
	PS08041	120	23'-0"	7376	004	1'-6"	4'-5"	21'-1"				
	PS08042	44	10'-2"	1194	004	1'-9"	1'-10"	8'-3"				
	PS08043	44	10'-0"	1175	100	1'-9"	8'-3"	1'-10"				
	PS06044	44	7'-2"	472	004	1'-3"	5'-2"	2'-10"				
	PS08045	16	11'-6"	493	130	6'-11"	2'-2"	0'-11"	1'-3"	2'-2"		

PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
						PIER 1 & 4 SEGMENT - CONTINUED						
	PS08046	16	10'-5"	446	130	6'-2"	2'-0"	1'-2"	0'-8"	2'-1"		
	PS08047	48	27'-4"	3505	122	24'-0"	1'-6"					
	PS08048	48	27'-6"	3527	123	24'-0"	1'-6"					
	PS08051	152	23'-0"	9343	102	1'-4"	20'-9"	1'-4"				
	PS06052	76	20'-0"	2285	001	20'-0"						
	PS06053	76	12'-0"	1371	001	12'-0"						
	PS09061	120	21'-0"	8569	001	21'-0"						
	PS09062	72	16'-8"	4081	114	2'-8"	6'-0"	1'-7"				
	PS09063	36	34'-1"	4172	102	15'-6"	3'-8"	15'-6"				
	PS09064	18	37'-9"	2311	102	18'-6"	1'-4"	18'-6"				
	PS09065	18	22'-3"	1362	102	10'-9"	1'-4"	10'-9"				
	PS08066	96	17'-5"	4468	102	7'-7"	2'-8"	7'-7"				
	PS09067	44	39'-11"	5972	102	18'-5"	3'-8"	18'-5"				
	PS09068	22	46'-9"	3497	102	23'-0"	1'-4"	23'-0"				
	PS09069	22	24'-9"	1852	102	12'-0"	1'-4"	12'-0"				
	PS08070	36	14'-9"	1419	102	6'-3"	2'-8"	6'-3"				
	PS08072	24	6'-9"	433	001	6'-9"						
	PS08073	100	18'-3"	4877	102	8'-0"	2'-8"	8'-0"				
	PS06074	20	10'-6"	316	001	10'-6"						
	PS05075	46	8'-9"	420	103	2'-2"	4'-8"	2'-2"				
	PS06076	10	15'-0"	225	001	15'-0"						
	PS06077	234	8'-1"	2843	102	3'-6"	1'-5"	3'-6"				
	PS06078	78	8'-5"	992	106	3'-5"	0'-3"	1'-5"	3'-9"			
	PS06081	48	10'-5"	752	128	1'-3"	4'-2"	1'-7"	4'-9"	0'-8"		
	PS06082	48	9'-11"	713	106	4'-0"	0'-6"	1'-6"	4'-6"			
	PS06083	20	13'-7"	407	004	9'-0"	3'-10"	2'-6"				
	PS09084	4	17'-10"	243	102	7'-6"	3'-5"	7'-6"				
	PS09085	4	26'-4"	358	102	11'-9"	3'-5"	11'-9"				
	PS09086	4	34'-10"	474	102	16'-0"	3'-5"	16'-0"				
	PS05087	41	21'-4"	912	121	10'-2"	1'-8"	10'-0"	1'-10"	1'-0"		
			SUB-TOTAL	145,480 lbs								
			NO. OF SEGMENTS	1 OF 2 REQUIRED								

PIER SEGMENT ON SOUTHBOUND BRIDGE SHOWN, PIER SEGMENTS ON NORTHBOUND BRIDGE ARE IDENTICAL.

NOTES:

1. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
2. FOR BAR TYPES AND BENTS, SEE SHEETS 187 AND 188 OF 204.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED MEA | DRAWN JFA | CHECKED MX | REVIEWED JB | DATE 10/30/07 | REVISED

STRUCTURE FILE NUMBER 8302278L/8302294R

PIER SEGMENT (PIER 1 & 4) BAR SCHEDULE
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
					PIER 2 & 3 SEGMENT							
	AR04001	180	3'-6"	421	901							
	AR04002	120	2'-0"	160	902							
	PS05001	82	6'-4"	542	011	5'-9"						
	PS05002	82	28'-6"	2440	001	28'-6"						
	PS05004	111	46'-0"	5330	001	46'-0"						
	PS05006	41	15'-0"	642	001	15'-0"						
	PS05007	80	10'-3"	856	001	10'-3"						
	PS05008	41	21'-7"	925	121	9'-6"	1'-10"	10'-10"	2'-4"	1'-0"		
	PS05009	82	5'-3"	449	001	5'-3"						
	PS08010	25	21'-0"	1403	001	21'-0"						
	PS05011	26	9'-0"	244	001	9'-0"						
	PS05012	13	15'-2"	206	001	15'-2"						
	PS06013	82	3'-2"	392	106	0'-11"	0'-4"	1'-6"	0'-11"			
	PS06014	82	2'-4"	288	003	1'-6"	1'-0"					
	PS06015	32	2'-8"	128	001	2'-8"						
	PS08021	60	13'-10"	2217	004	12'-4"	0'-4"	1'-6"				
	PS08022	14	22'-8"	848	006	1'-6"	0'-4"	19'-8"	0'-4"	1'-6"		
	PS08024	44	14'-6"	1705	001	14'-6"						
	PS08025	88	11'-4"	2673	004	9'-3"	0'-10"	2'-0"				
	PS11026	78	33'-4"	13826	004	17'-4"	16'-0"	1'-8"				
	PS11027	78	25'-4"	10486	004	17'-4"	8'-0"	0'-8"				
	PS08028	6	31'-7"	506	004	15'-6"	16'-0"	1'-8"				
	PS08029	6	23'-6"	377	004	15'-6"	8'-0"	0'-8"				
	PS09030	10	23'-0"	781	006	1'-9"	0'-5"	19'-6"	0'-5"	1'-9"		
	PS11033	78	27'-11"	11570	102	2'-0"	24'-7"	2'-0"				
	PS06035	64	4'-0"	385	001	4'-0"						
	PS06036	44	8'-10"	584	102	3'-0"	3'-2"	3'-0"				
	PS08041	120	23'-0"	7376	004	1'-6"	4'-5"	21'-1"				
	PS08042	44	10'-2"	1194	004	1'-9"	1'-10"	8'-3"				
	PS08043	44	10'-0"	1175	100	1'-9"	8'-3"	1'-10"				
	PS06044	44	7'-2"	472	004	1'-3"	5'-2"	2'-10"				
	PS08045	16	11'-3"	481	130	6'-11"	2'-2"	0'-11"	1'-3"	1'-10"		

PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
					PIER 2 & 3 SEGMENT - CONTINUED							
	PS08046	16	10'-5"	446	130	6'-2"	2'-0"	1'-2"	0'-8"	2'-1"		
	PS08047	48	27'-4"	3505	122	24'-0"	1'-6"					
	PS08048	48	27'-6"	3527	123	24'-0"	1'-6"					
	PS08051	152	23'-0"	9343	102	1'-4"	20'-9"	1'-4"				
	PS06052	76	20'-0"	2285	001	20'-0"						
	PS06053	76	12'-0"	1371	001	12'-0"						
	PS09061	120	21'-0"	8569	001	21'-0"						
	PS09062	72	16'-8"	4081	114	2'-8"	6'-0"	1'-7"				
	PS09063	36	34'-1"	4172	102	15'-6"	3'-8"	15'-6"				
	PS09064	18	37'-9"	2311	102	18'-6"	1'-4"	18'-6"				
	PS09065	18	22'-3"	1362	102	10'-9"	1'-4"	10'-9"				
	PS08066	96	17'-5"	4468	102	7'-7"	2'-8"	7'-7"				
	PS09067	44	39'-11"	5972	102	18'-5"	3'-8"	18'-5"				
	PS09068	22	46'-9"	3497	102	23'-0"	1'-4"	23'-0"				
	PS09069	22	24'-9"	1852	102	12'-0"	1'-4"	12'-0"				
	PS08070	36	14'-9"	1419	102	6'-3"	2'-8"	6'-3"				
	PS08072	24	6'-9"	433	001	6'-9"						
	PS08073	100	18'-3"	4877	102	8'-0"	2'-8"	8'-0"				
	PS06074	20	10'-6"	316	001	10'-6"						
	PS05075	46	8'-9"	420	103	2'-2"	4'-8"	2'-2"				
	PS06076	10	15'-0"	225	001	15'-0"						
	PS06077	234	8'-1"	2843	102	3'-6"	1'-5"	3'-6"				
	PS06078	78	8'-5"	992	106	3'-5"	0'-3"	1'-5"	3'-9"			
	PS06081	48	10'-5"	752	128	1'-3"	4'-2"	1'-7"	4'-9"	0'-8"		
	PS06082	48	9'-11"	713	106	4'-0"	0'-6"	1'-6"	4'-6"			
	PS06083	20	13'-7"	407	004	9'-0"	3'-10"	2'-6"				
	PS09084	4	17'-10"	243	102	7'-6"	3'-5"	7'-6"				
	PS09085	4	26'-4"	358	102	11'-9"	3'-5"	11'-9"				
	PS09086	4	34'-10"	474	102	16'-0"	3'-5"	16'-0"				
	PS05087	41	21'-4"	912	121	10'-2"	1'-8"	10'-0"	1'-10"	1'-0"		
			SUB-TOTAL		143,227 lbs							
			NO. OF SEGMENTS		1 OF 2 REQUIRED							

PIER SEGMENT ON SOUTHBOUND BRIDGE SHOWN, PIER SEGMENT ON NORTHBOUND BRIDGE ARE IDENTICAL.

NOTES:

1. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
2. FOR BAR TYPES AND BENTS, SEE SHEETS 187 AND 188 OF 204.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED MEA | DRAWN JFA | CHECKED MX | REVIEWED JB | DATE 10/30/07
REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

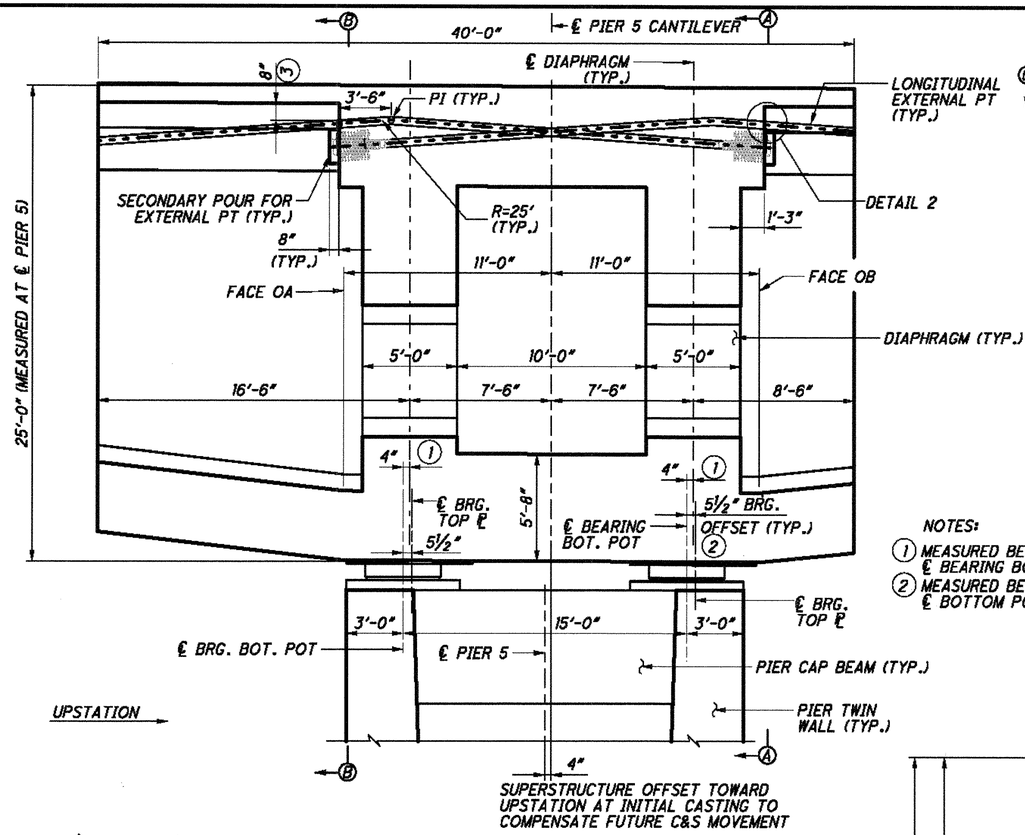
PIER SEGMENT (PIER 2 & 3) BAR SCHEDULE
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

133A/204

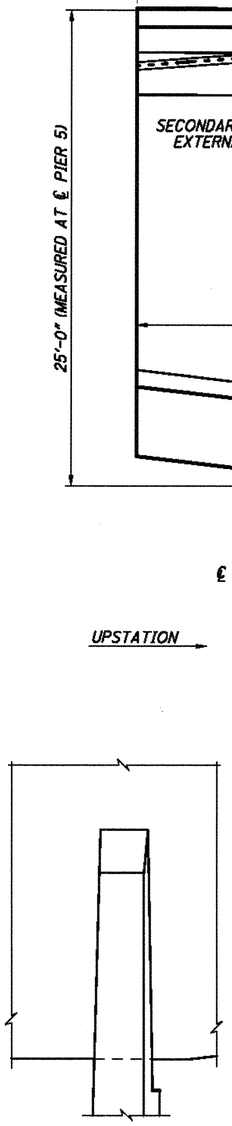
399A/470

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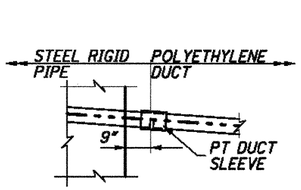


ELEVATION THRU PIER 5

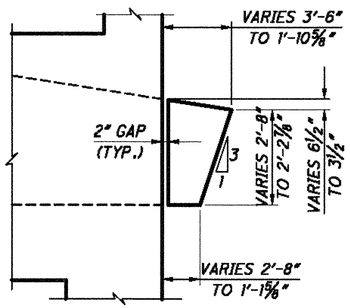
NOTES:
1. MEASURED BETWEEN ℄ OF DIAPHRAGM & ℄ BEARING BOTTOM POT.
2. MEASURED BETWEEN ℄ OF TOP ℄ & ℄ BOTTOM POT.



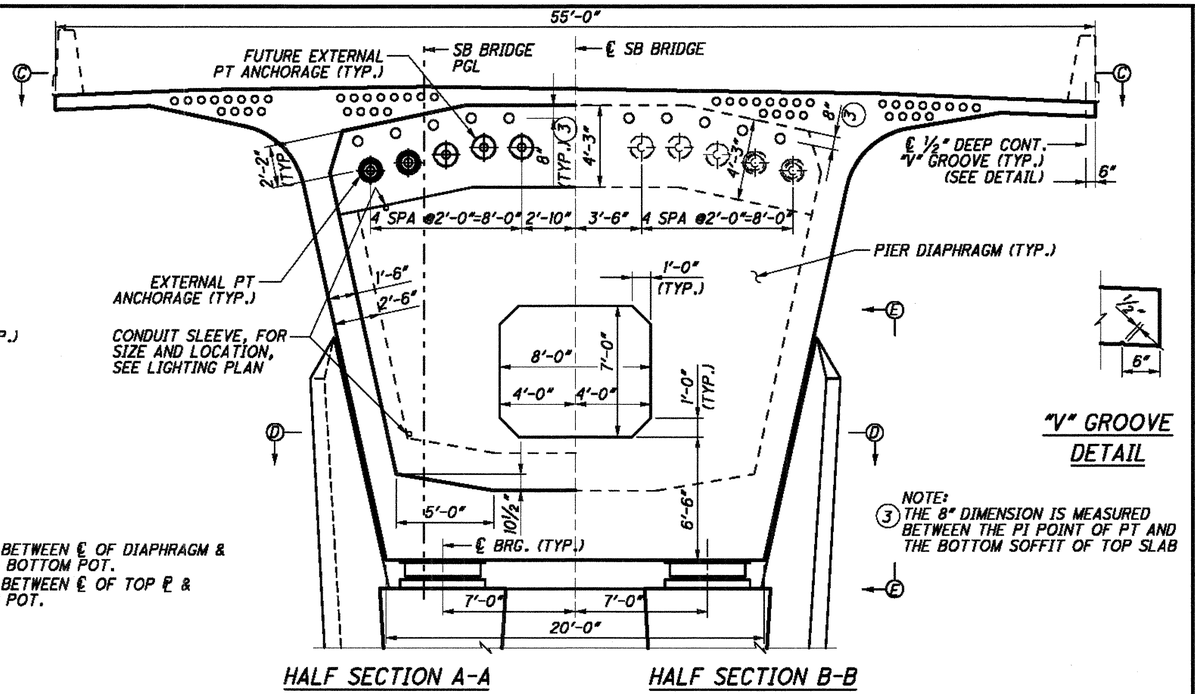
SECTION E-E



DETAIL 2



DETAIL 1

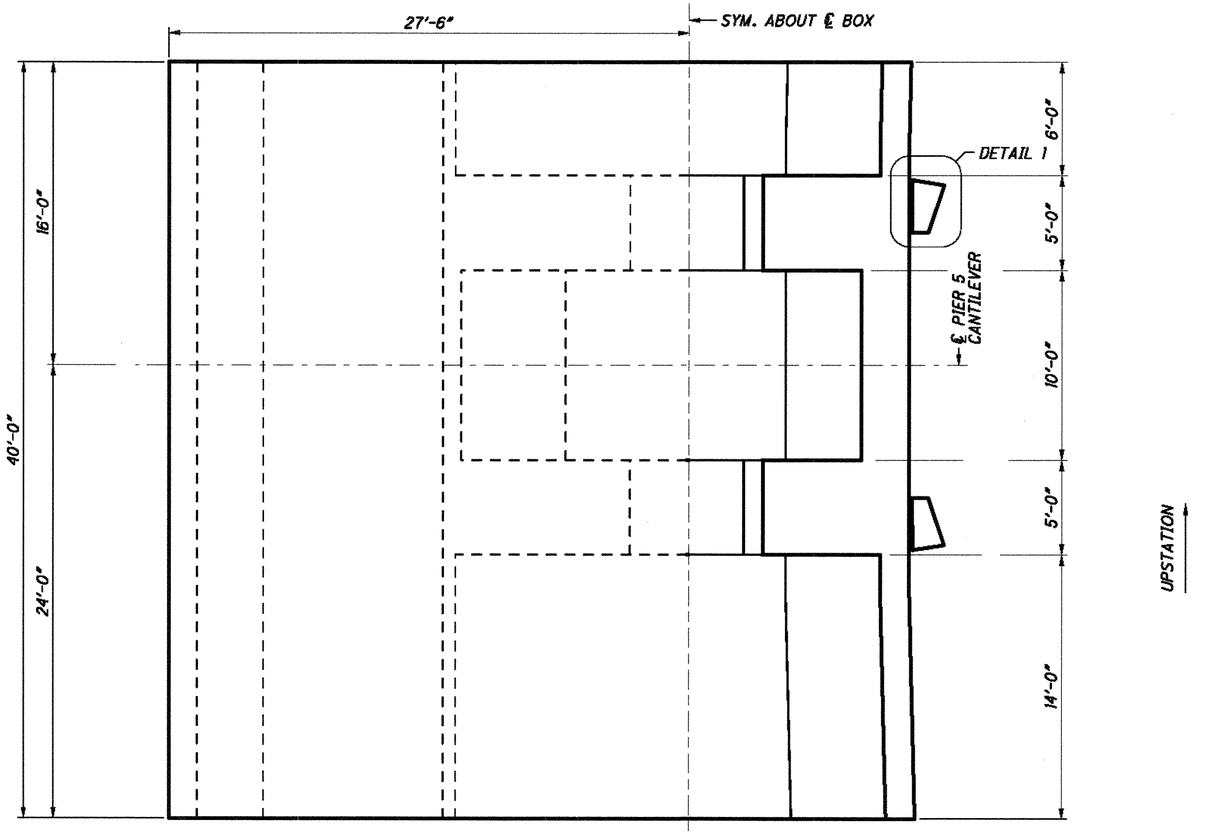


HALF SECTION A-A

HALF SECTION B-B

"V" GROOVE DETAIL

NOTE:
3. THE 8" DIMENSION IS MEASURED BETWEEN THE PT POINT OF PT AND THE BOTTOM SOFFIT OF TOP SLAB



VIEW C-C (HALF PLAN OF TOP SLAB)

SECTION D-D (HALF PLAN OF BOTTOM SLAB)

NOTE:

FOR MATERIAL USED IN SECONDARY POUR, SEE SPECIAL PROVISION "CONCRETE BOX GIRDER CONSTRUCTION".

DESIGN AGENCY HNTB 1100 Superior Avenue, Suite 1500 Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
MEA	JFA	JB	10/30/07

CHECKED	REVISED	STRUCTURE FILE NUMBER
MX		8302218L/8302294R

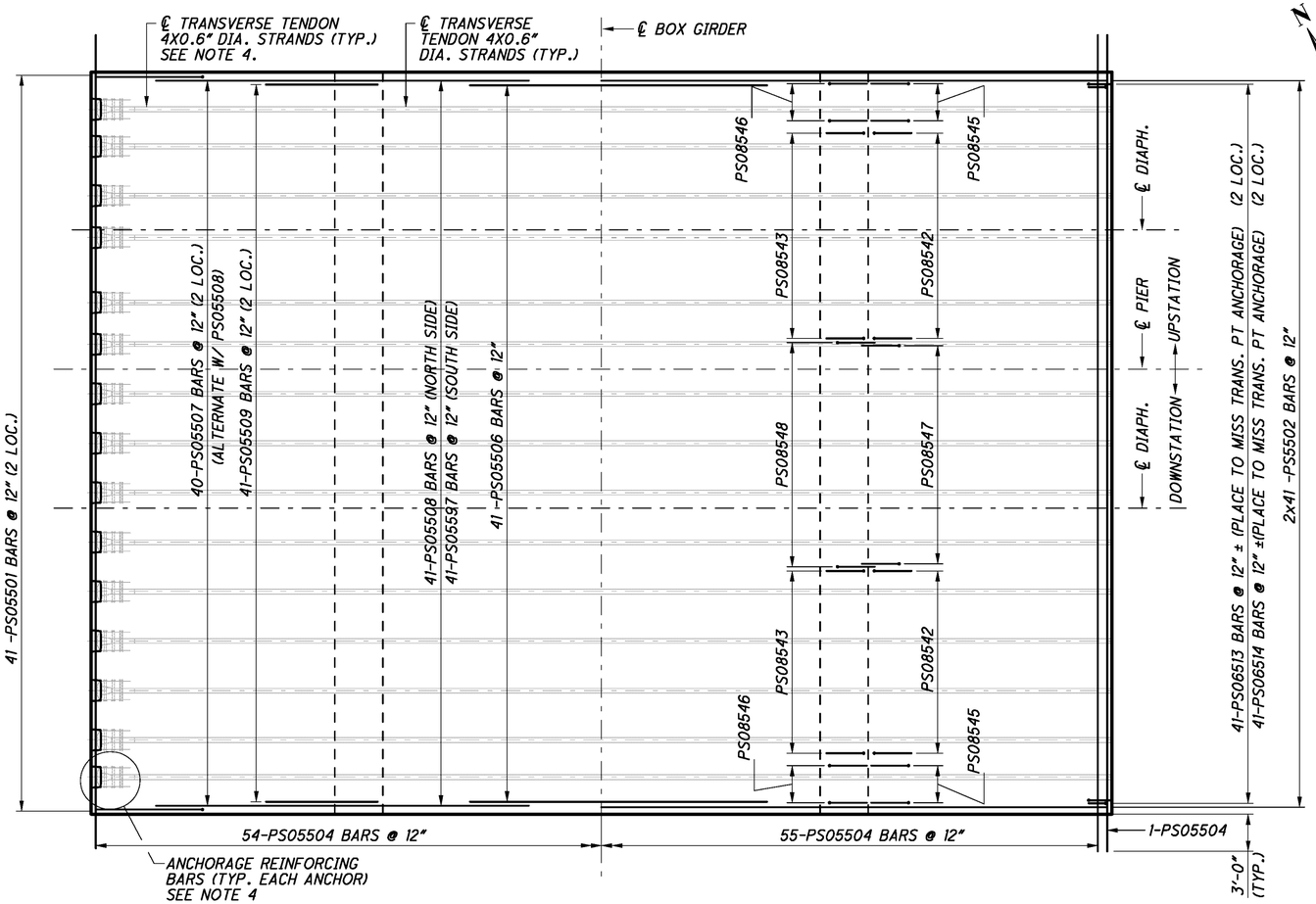
PIER SEGMENT (PIER 5) DIMENSIONS
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

134/204

400/470

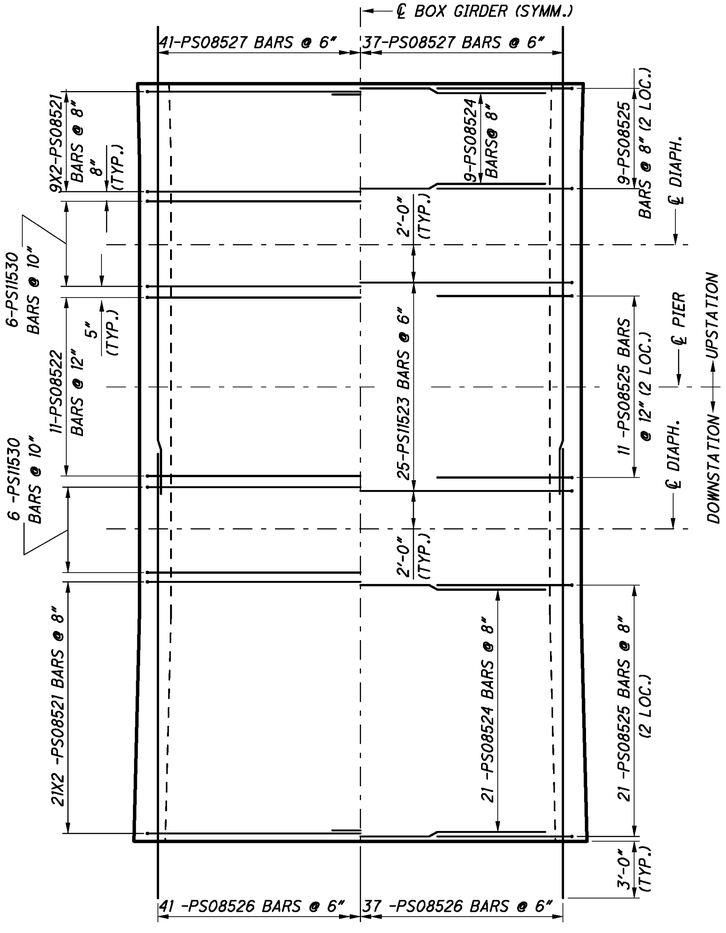
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BOTTOM REINFORCEMENT

TOP SLAB PLAN

TOP REINFORCEMENT



BOTTOM REINFORCEMENT

TOP REINFORCEMENT

BOTTOM SLAB PLAN

NOTES:

1. SEE SHEETS 100 TO 103 OF 204 FOR TOP SLAB CANTILEVER TENDON LAYOUT AND SEE SHEET 98 FOR BULKHEAD DETAILS.
2. FOR REINFORCING BARS AT TRANSVERSE TENDON ANCHORAGES SEE SHEET 115 OF 204.
3. SPACE ALL REINFORCING IN TOP SLAB TO CLEAR POST TENSIONING TENDONS.
4. FOR TRANSVERSE TENDON PROFILES, LAYOUT, AND DETAILS SEE SHEETS 114, & 115 OF 204.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
MEA	JFA	JB	10/30/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

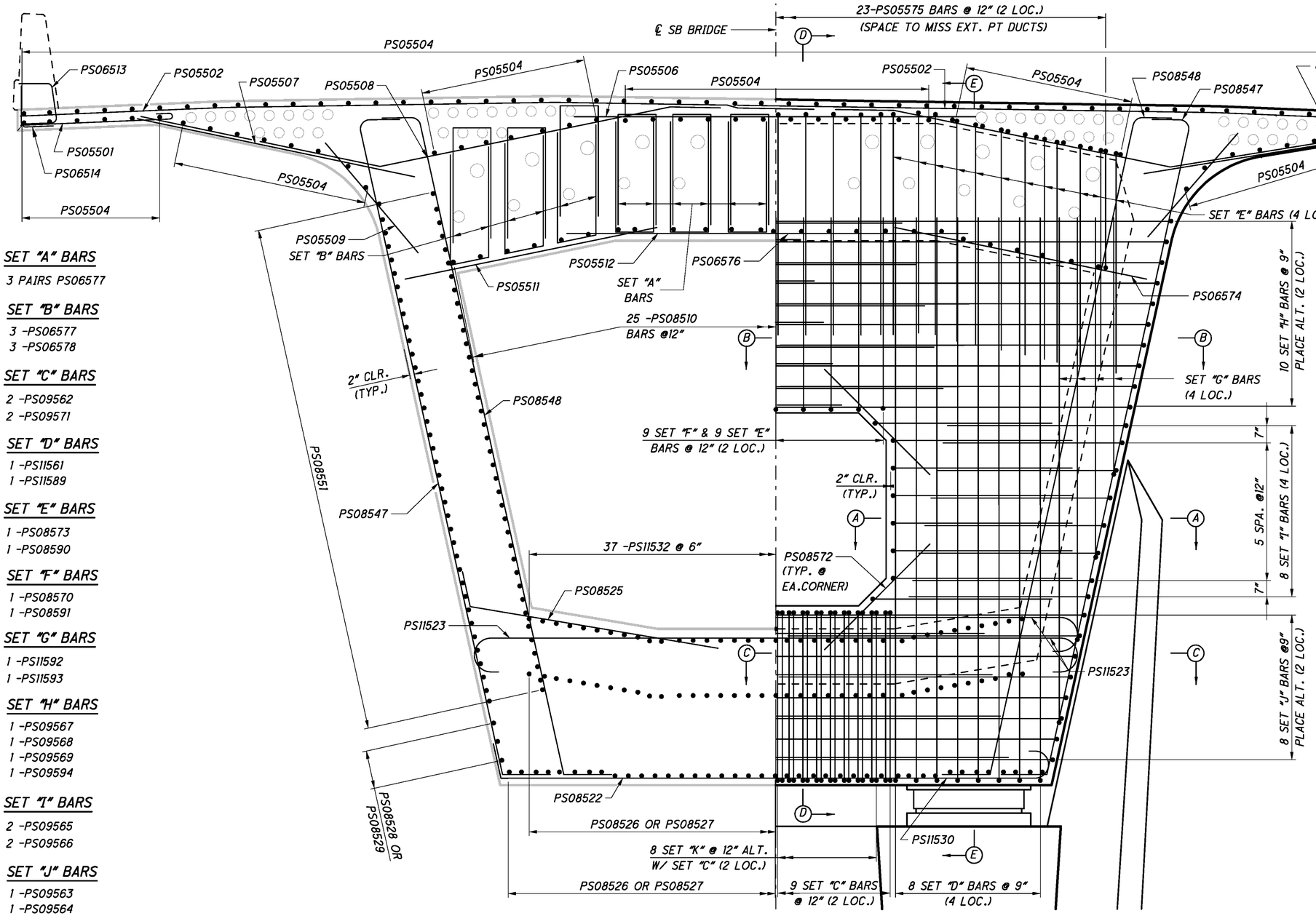
PIER SEGMENT (PIER 5) REINFORCEMENT 1
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

135/204

401/470

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SET "A" BARS
3 PAIRS PS06577

SET "B" BARS
3 -PS06577
3 -PS06578

SET "C" BARS
2 -PS09562
2 -PS09571

SET "D" BARS
1 -PS11561
1 -PS11589

SET "E" BARS
1 -PS08573
1 -PS08590

SET "F" BARS
1 -PS08570
1 -PS08591

SET "G" BARS
1 -PS11592
1 -PS11593

SET "H" BARS
1 -PS09567
1 -PS09568
1 -PS09569
1 -PS09594

SET "I" BARS
2 -PS09565
2 -PS09566

SET "J" BARS
1 -PS09563
1 -PS09564
1 -PS09595
1 -PS09596

SET "K" BARS
1 -PS09562
1 -PS09571

HALF ELEVATION BETWEEN DIAPHRAGMS
(SHOWING NON-DIAPHRAGM REINFORCEMENT ONLY.
SOUTH HALF OF THE SECTION SHOWN, NORTH SIDE SIMILAR.
LOOKING DOWNSTATION.)

HALF SECTION THROUGH DIAPHRAGM
(SHOWING DIAPHRAGM REINFORCEMENT ONLY.
NORTH HALF OF THE SECTION SHOWN, SOUTH SIDE SIMILAR.
LOOKING DOWNSTATION.)

NOTES:
1. ALL CONCRETE CHAMFERS ARE ¾".
2. 1½" INITIAL WEARING SURFACE NOT SHOWN FOR CLARITY.
3. SPACE ALL REINFORCING BAR IN TOP SLAB TO CLEAR POST TENSIONING TENDONS.
4. FOR TRANSVERSE POST TENSIONING DETAILS, SEE SHEET 115 OF 204
5. FOR REINFORCING BARS AT TRANSVERSE TENDON ANCHORAGES,SEE TRANSVERSE POST TENSIONING DETAILS SHEET.
6. SEE SHEET 137 OF 204 FOR SECTIONS A-A, B-B, & C-C.
7. SEE SHEET 138 OF 204 FOR SECTIONS D-D, AND E-E.
8. SEE SHEET 139 OF 204 FOR BAR SCHEDULE.
9. SEE SECTION C-C ON SHEET 137 OF 204, AND SECTION E-E ON SHEET 138 OF 204 FOR THE PLACEMENT OF SET "C", AND SET "K" BARS.

DESIGN AGENCY
HNTB
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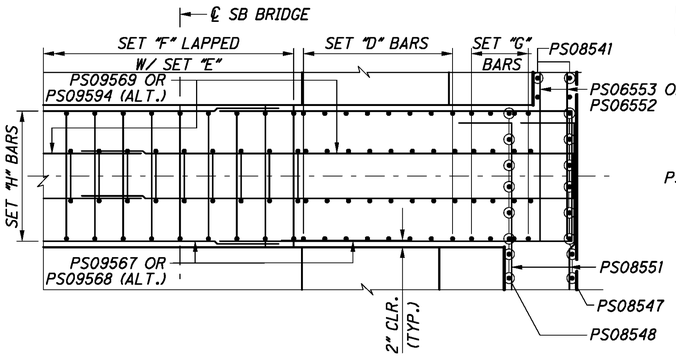
DESIGNED	DRAWN	REVIEWED	DATE
MEA	JFA	JB	10/30/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

PIER SEGMENT (PIER 5) REINFORCEMENT 2
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

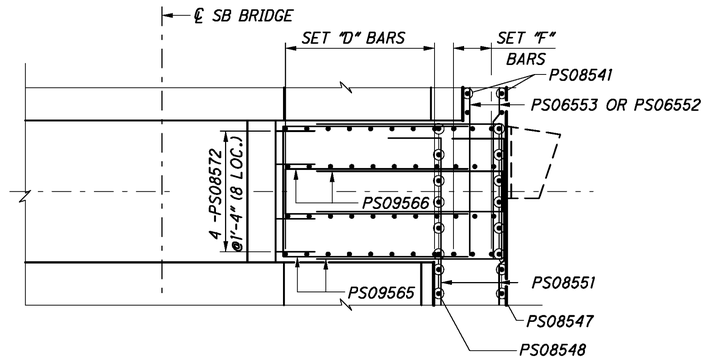
WAR-71-14.20
PID No. 22950

136/204
402/470

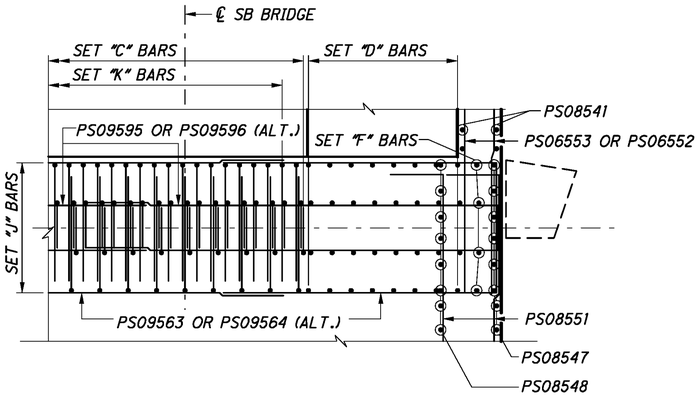
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SECTION B-B

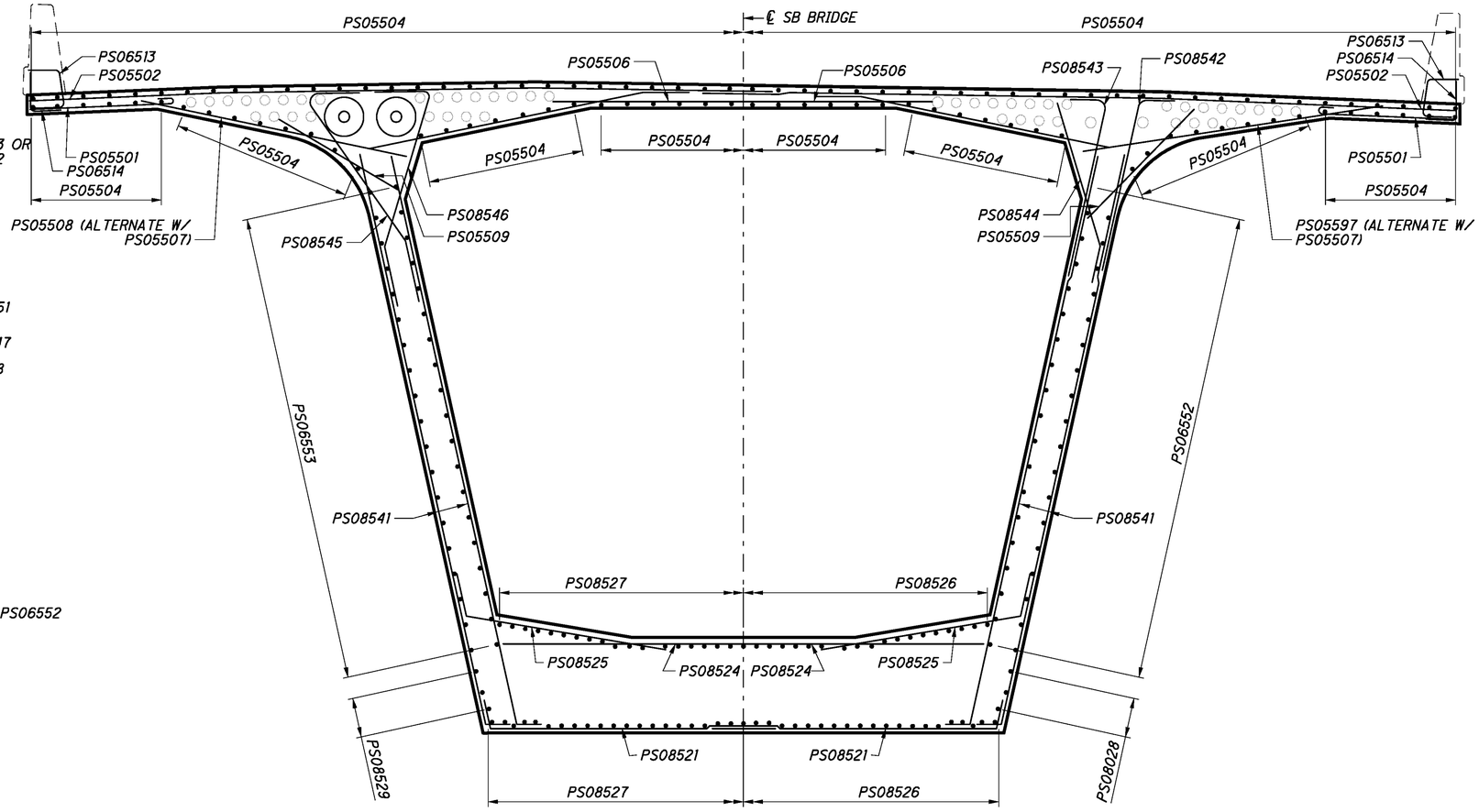


SECTION A-A



SECTION C-C

(BOTTOM SLAB BARS ARE NOT SHOWN FOR CLARITY)



HALF SECTION G-G

(SOUTH HALF OF THE SECTION SHOWN, NORTH SIDE SIMILAR)

HALF SECTION H-H

(SOUTH HALF OF THE SECTION SHOWN, NORTH SIDE SIMILAR)

NOTES:

1. ALL CONCRETE CHAMFERS ARE ¾".
2. 1½" INITIAL WEARING SURFACE NOT SHOWN FOR CLARITY.
3. SPACE ALL REINFORCING BAR IN TOP SLAB TO CLEAR POST TENSIONING TENDONS.
4. SEE SHEETS 114, & 115 OF 204 FOR TRANSVERSE TENDON PROFILE, LAYOUT, AND DETAILS,
5. FOR REINFORCING BARS AT TRANSVERSE TENDON ANCHORAGES, SEE TRANSVERSE TENDON DETAILS, SHEET 115 OF 204.
6. SEE SHEET 139 OF 204 FOR BAR SCHEDULE.
7. WORK THIS SHEET WITH SHEETS 136, AND 138 OF 204.

DESIGN AGENCY
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1100 Superior Avenue, Suite 1330
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DESIGNED	DRAWN	REVIEWED	DATE
MEA	JFA	JB	10/30/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

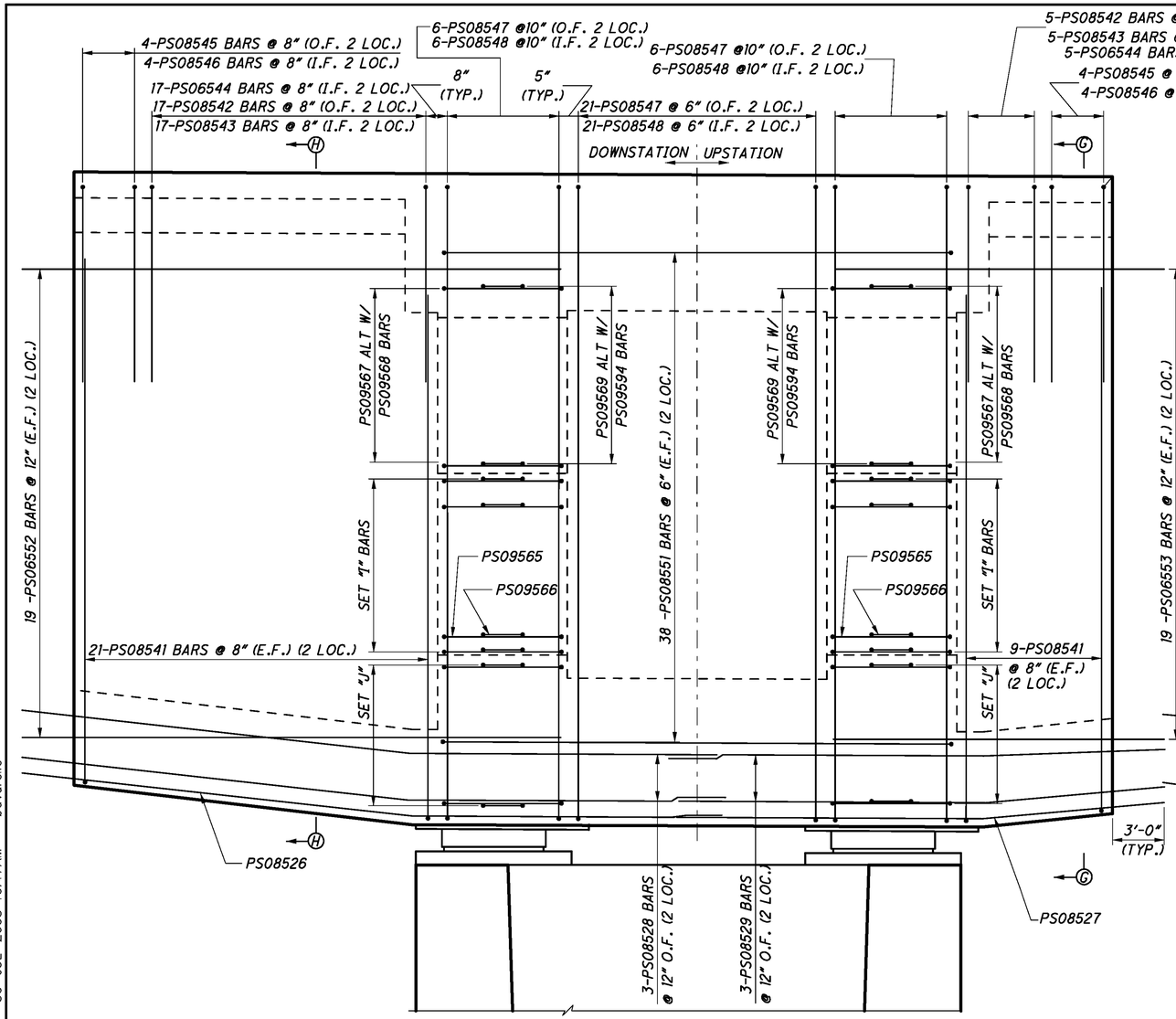
PIER SEGMENT (PIER 5) REINFORCEMENT 3
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

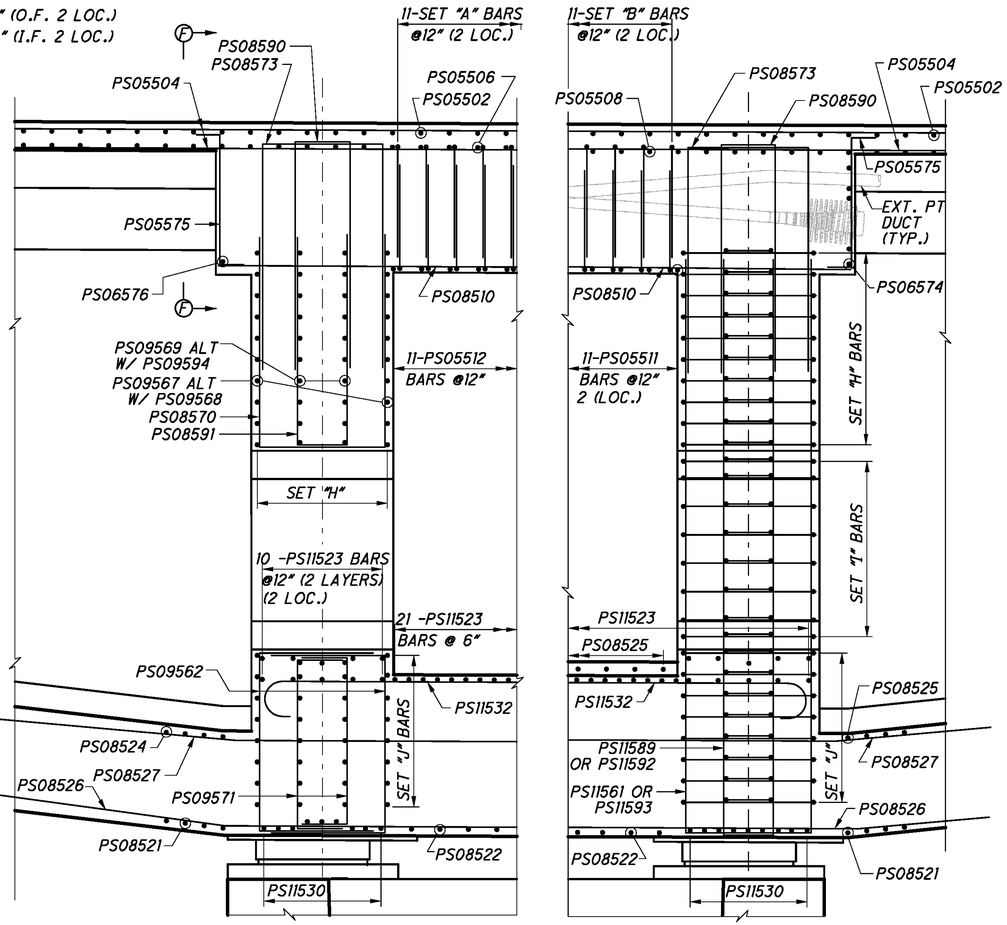
137/204

403/470

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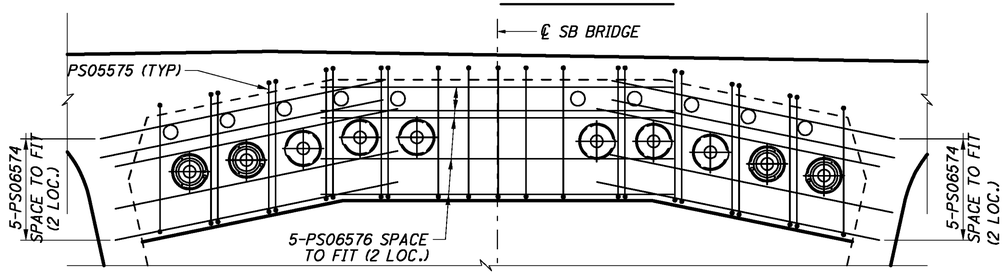


WEB ELEVATION



SECTION D-D

SECTION E-E



HALF SECTION F-F AT ANCHORAGE
(DOWNSTATION SIDE)

HALF SECTION F-F AT ANCHORAGE
(UPSTATION SIDE)

SPACE BARS TO MISS EXTERNAL PT DUCTS AND ANCHORS. NOT ALL BARS SHOWN FOR CLARITY.

NOTES:

1. ALL CONCRETE CHAMFERS ARE ¾".
2. 1½" INITIAL WEARING SURFACE NOT SHOWN FOR CLARITY.
3. SPACE ALL REINFORCING BAR IN TOP SLAB TO CLEAR POST TENSIONING TENDONS.
4. FOR TRANSVERSE TENDON PROFILE, LAYOUT, AND DETAILS, SHEETS 114 AND 115 OF 204.
5. SEE SHEET 137 OF 204 FOR SECTIONS G-G, & H-H.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

PIER SEGMENT (PIER 5) REINFORCEMENT 4
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

138/204

404/470

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PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
					PIER 5 SEGMENT							
	AR04001	180	3'-6"	421	901							
	AR04002	120	2'-0"	160	902							
	PS05501	82	6'-4"	542	011	5'-9"						
	PS05502	82	28'-6"	2440	001	28'-6"						
	PS05504	111	46'-0"	5330	001	46'-0"						
	PS05506	41	15'-0"	642	001	15'-0"						
	PS05507	80	10'-3"	856	001	10'-3"						
	PS05508	41	21'-7"	925	121	9'-6"	1'-10"	10'-10"	2'-4"	1'-0"		
	PS05509	82	5'-3"	449	001	5'-3"						
	PS08510	25	22'-2"	1481	001	22'-2"						
	PS05511	22	9'-0"	207	001	9'-0"						
	PS05512	11	15'-2"	174	001	15'-2"						
	PS06513	82	3'-2"	392	106	0'-11"	0'-4"	1'-6"	0'-11"			
	PS06514	82	2'-4"	288	003	1'-6"	1'-0"					
	PS08521	60	14'-0"	2244	004	12'-6"	0'-4"	1'-6"				
	PS08522	11	22'-8"	666	006	1'-6"	0'-4"	19'-8"	0'-4"	1'-6"		
	PS11523	41	23'-6"	5119	016	20'-4"						
	PS08524	30	14'-6"	1163	001	14'-6"						
	PS08525	82	11'-4"	2491	004	9'-3"	0'-10"	2'-0"				
	PS08526	78	33'-5"	6959	004	17'-4"	16'-0"	1'-8"				
	PS08527	78	25'-4"	5279	004	17'-4"	8'-0"	0'-8"				
	PS08528	6	31'-7"	506	004	15'-6"	16'-0"	1'-8"				
	PS08529	6	23'-6"	377	004	15'-6"	8'-0"	0'-8"				
	PS11530	12	22'-6"	1435	016	19'-4"						
	PS11532	37	21'-0"	4128	016	17'-10"						
	PS06535	32	4'-0"	192	001	4'-0"						
	PS06536	28	8'-10"	372	102	3'-0"	3'-2"	3'-0"				
	PS08541	120	23'-0"	7376	004	1'-6"	4'-5"	21'-1"				
	PS08542	44	10'-2"	1194	004	1'-9"	1'-10"	8'-3"				
	PS08543	44	10'-0"	1175	100	1'-9"	1'-10"	8'-3"				
	PS06544	44	7'-2"	472	004	1'-3"	5'-2"	2'-10"				
	PS08545	16	11'-9"	504	130	6'-11"	2'-2"	1'-11"	1'-3"	1'-10"		
	PS08546	16	10'-5"	446	130	6'-2"	2'-0"	1'-2"	0'-8"	2'-1"		
	PS08547	66	27'-4"	4820	122	24'-0"	1'-6"					
	PS08548	66	27'-6"	4849	123	24'-0"	1'-6"					
	PS08551	152	21'-9"	8835	102	1'-4"	19'-6"	1'-4"				

PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
					PIER 5 SEGMENT- CONTINUED							
	PS06552	76	21'-6"	2456	001	21'-6"						
	PS06553	76	13'-6"	1542	001	13'-6"						
	PS11561	32	44'-5"	7552	102	20'-4"	4'-5"	20'-4"				
	PS09562	52	13'-7"	2402	102	6'-2"	4'-0"	4'-0"				
	PS09563	16	41'-0"	2231	102	18'-6"	4'-7"	18'-6"				
	PS09564	16	25'-0"	1360	102	10'-6"	4'-7"	10'-6"				
	PS09565	64	17'-0"	3700	102	6'-6"	4'-7"	6'-6"				
	PS09566	64	13'-11"	3029	102	6'-6"	1'-6"	6'-6"				
	PS09567	20	42'-0"	2856	102	19'-0"	4'-7"	19'-0"				
	PS09568	20	32'-1"	2182	102	15'-7"	1'-6"	15'-7"				
	PS05569	20	42'-4"	884	102	19'-0"	4'-7"	19'-0"				
	PS08570	18	18'-8"	898	102	7'-4"	4'-5"	7'-4"				
	PS09571	52	8'-9"	1547	102	6'-2"	1'-7"	1'-7"				
	PS08572	32	5'-5"	463	001	5'-5"						
	PS08573	66	20'-0"	3528	102	8'-0"	4'-5"	8'-0"				
	PS05574	20	10'-6"	219	001	10'-6"						
	PS05575	46	8'-9"	420	103	2'-2"	4'-8"	2'-2"				
	PS06576	10	15'-0"	157	001	15'-0"						
	PS06577	198	8'-1"	2406	102	3'-6"	1'-5"	3'-6"				
	PS06578	66	8'-5"	835	106	3'-5"	0'-3"	1'-5"	3'-9"			
	PS11589	32	41'-9"	7099	102	20'-4"	1'-9"	20'-4"				
	PS08590	66	17'-4"	3057	102	8'-0"	1'-9"	8'-0"				
	PS08591	18	16'-0"	770	102	7'-4"	1'-9"	7'-4"				
		1	26'-8"			9'-3"						
	PS11592	ser	to	2650	129	to	4'-5"					6 3/4"
		16	35'-7"			18'-2"						
		1	24'-0"			9'-3"						
	PS11593	ser	to	2423	129	to	1'-9"					6 3/4"
		16	32'-11"			18'-2"						
	PS09594	20	32'-1"	2182	102	15'-7"	1'-6"	15'-7"				
	PS09595	16	37'-11"	2063	102	18'-6"	1'-6"	18'-6"				
	PS09596	16	21'-11"	1192	102	10'-6"	1'-6"	10'-6"				
	PS05597	41	21'-4"	912	121	10'-2"	1'-8"	10'-0"	1'-10"	1'-0"		
				SUB-TOTAL		137,924 lbs						
				NO. OF SEGMENTS		1 OF 1 REQUIRED						

PIER SEGMENT ON SOUTHBOUND BRIDGE SHOWN, PIER SEGMENTS ON NORTHBOUND BRIDGE ARE INDENTICAL.

NOTES:

1. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
2. FOR BAR TYPES AND BENTS, SEE SHEETS 187 AND 188 OF 204.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED MEA | DRAWN LK | CHECKED MX | REVIEWED JB | DATE 10/30/07 | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

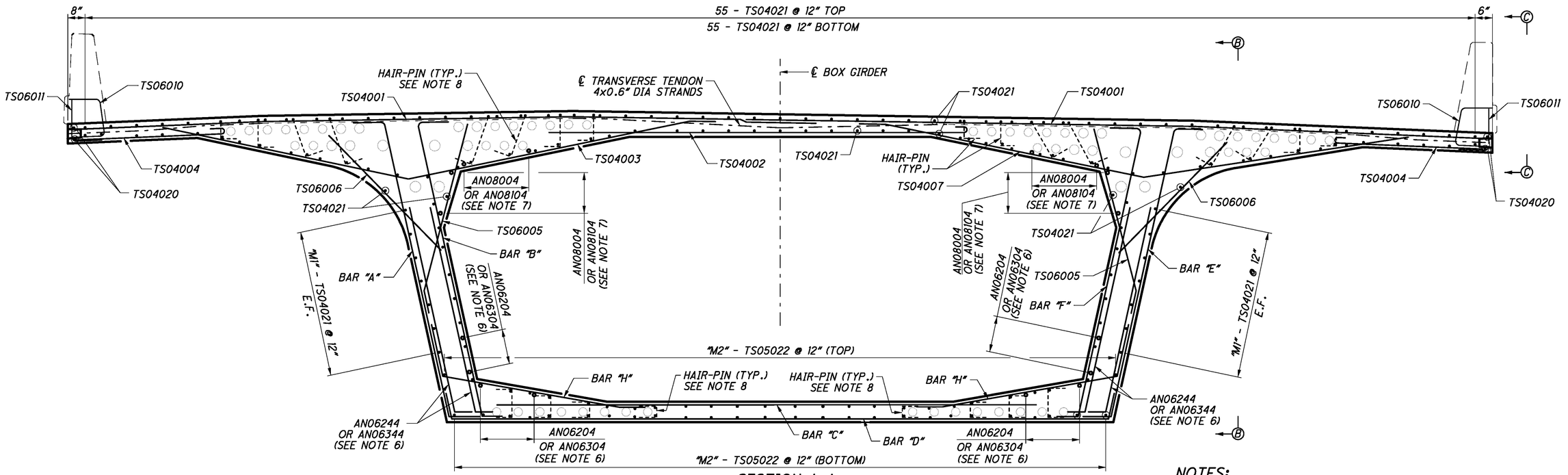
PIER SEGMENT (PIER 5) BAR SCHEDULE
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20 PID No. 22950

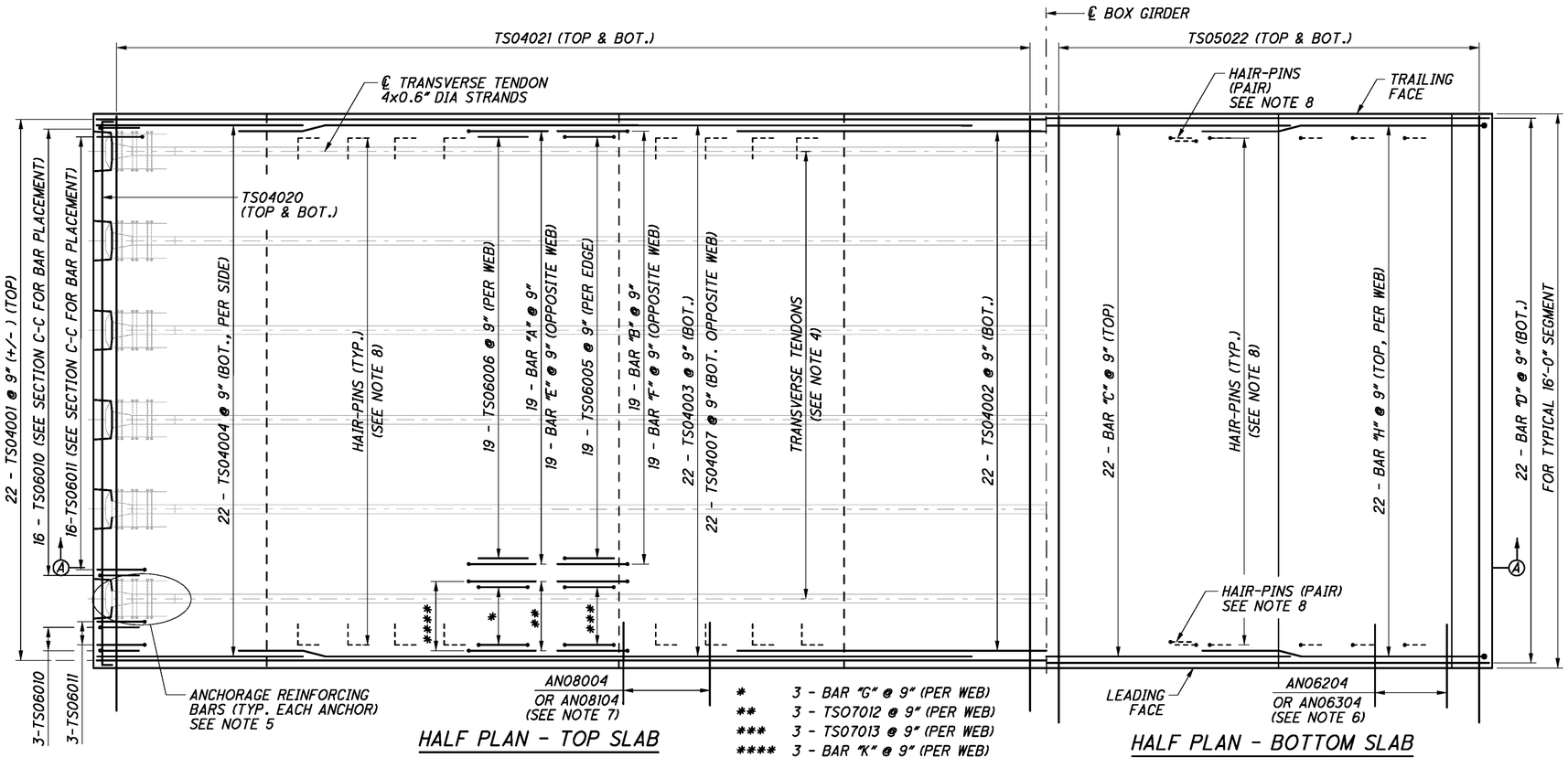
139/204

405/470

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SECTION A-A
(LOOKING DOWNSTATION)



HALF PLAN - TOP SLAB

HALF PLAN - BOTTOM SLAB

NOTES:

1. ALL CONCRETE CHAMFERS ARE ¾".
2. 1½" INITIAL WEARING SURFACE NOT SHOWN FOR CLARITY.
3. SPACE ALL REINFORCING BAR IN TOP SLAB TO CLEAR POST TENSIONING TENDONS.
4. FOR TRANSVERSE TENDON PROFILES, LAYOUT AND DETAILS, SEE SHEETS 114 AND 115 OF 204.
5. FOR REINFORCING BARS AT TRANSVERSE TENDON ANCHORAGES, SEE TRANSVERSE TENDON DETAILS, SHEET 115 OF 204.
6. ANCHOR BLOCK BARS AN06204, AN06244, AN06304 & AN06344 ARE USED ONLY WHEN THE NEXT CASTING SEGMENT CONTAINS A BOTTOM SLAB ANCHORAGE BLOCK TYPE "BA" OR "BB". THEY SHALL BE PLACED IN ADDITION TO TYPICAL SEGMENTS BARS. FOR PLACEMENT AND QUANTITY OF BAR AN06204 AND AN06244 ON TYPE "BA", SEE SHEETS 122 AND 123 OF 204; AND BAR AN06304 AND AN06344 ON TYPE "BB", SEE SHEETS 124 TO 127 OF 204.
7. ANCHOR BLOCK BARS AN08004 & AN08104 ARE USED ONLY WHEN THE NEXT CASTING SEGMENT CONTAINS A TOP SLAB ANCHORAGE BLOCK TYPE "TA" OR "TC". THEY SHALL BE PLACED IN ADDITION TO TYPICAL SEGMENT BARS. FOR PLACEMENT AND QUANTITY OF BAR AN08004 ON TYPE "TA", SEE SHEETS 116 AND 117 OF 204; AND BAR AN08104 ON TYPE "TC", SEE SHEET 120 AND 121 OF 204.
8. PAIRS OF #4 HAIR-PIN BARS SHALL BE PROVIDED FOR THE BOTTOM SLAB AROUND EACH DUCT AT EACH SEGMENT FACE. IN ADDITION, #4 HAIR-PIN BARS SHALL ALSO BE PROVIDED WITH MAXIMUM SPACINGS OF 18 INCHES TO TIE TOP AND BOTTOM NON-PRESTRESSED REINFORCEMENTS WHEN SPACING BETWEEN THE TRANSVERSE OR LONGITUDINAL DUCTS IS LESS THAN 12 INCHES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETAILING AND PROVIDING NECESSARY HAIR-PIN BARS, BASED ON THE ACTUAL PT LAYOUT USED, AS PER AASHTO SEGMENTAL GUIDE SPECIFICATION, ARTICLES 16.6, SEE SPECIAL PROVISION - "POST-TENSIONING."
9. FOR VARIABLE NUMBER OF BARS, "M1" AND "M2", OF EACH SEGMENT, SEE TABLE ON SHEET 141 OF 204.
10. FOR SECTION B-B AND C-C, SEE SHEET 141 OF 204.
11. REBARS AND CONCRETE FOR TOP AND BOTTOM ANCHORAGE BLOCKS ARE NOT INCLUDED IN THE BILL OF MATERIAL FOR TYPICAL SEGMENT. WORK THIS SHEET WITH APPLICABLE TYPE OF TOP AND/OR BOTTOM SLAB ANCHOR BLOCK.

DESIGN AGENCY
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Cleveland, OH 44114-2531

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE
PY	PY	MX	JB	10/30/07

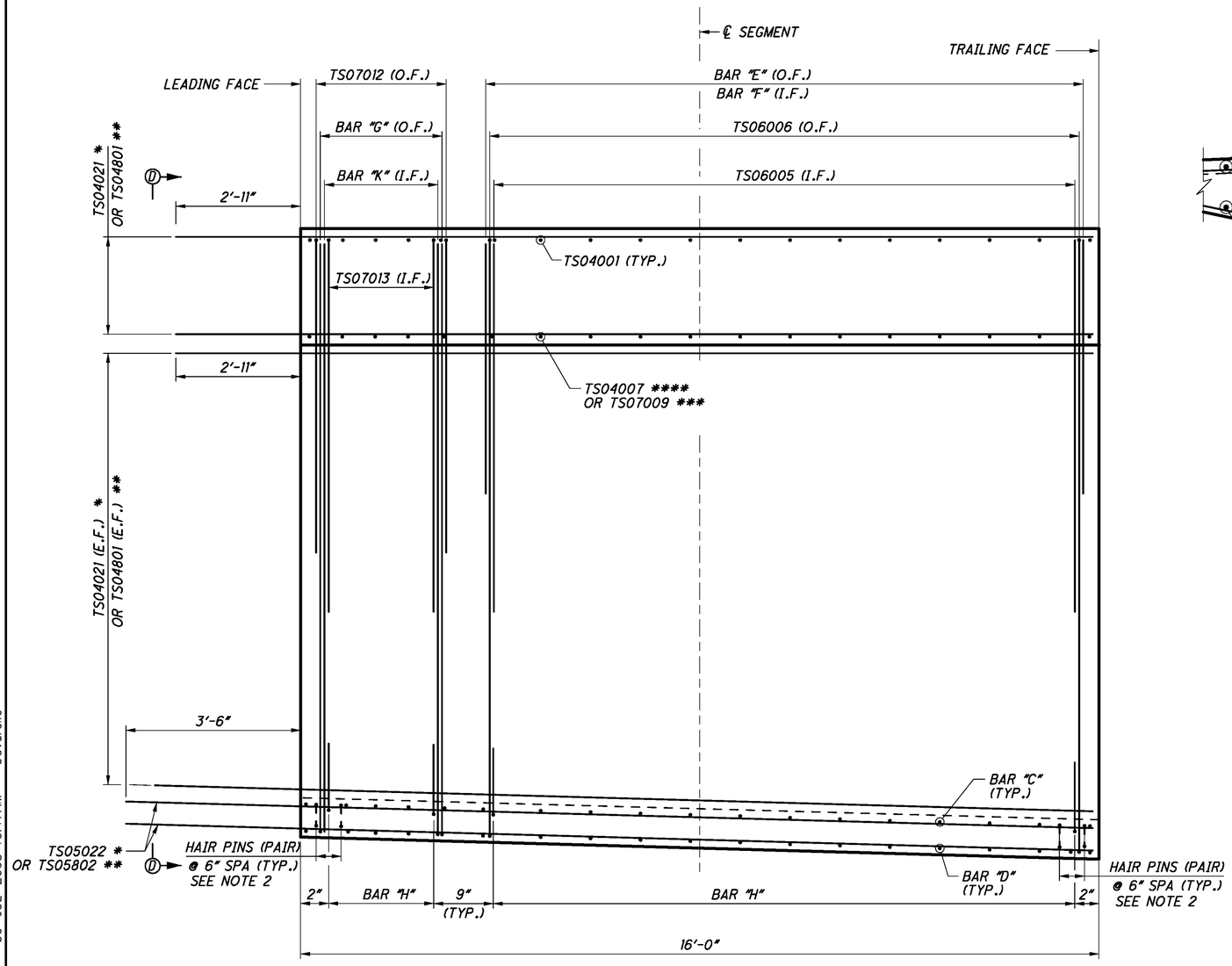
REVISED

STRUCTURE FILE NUMBER 8302278L/8302294R

16 FT TYPICAL SEGMENT REINFORCEMENT 1
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

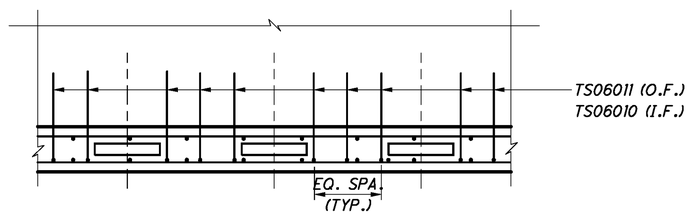
WAR-71-14.20
PID No. 22950

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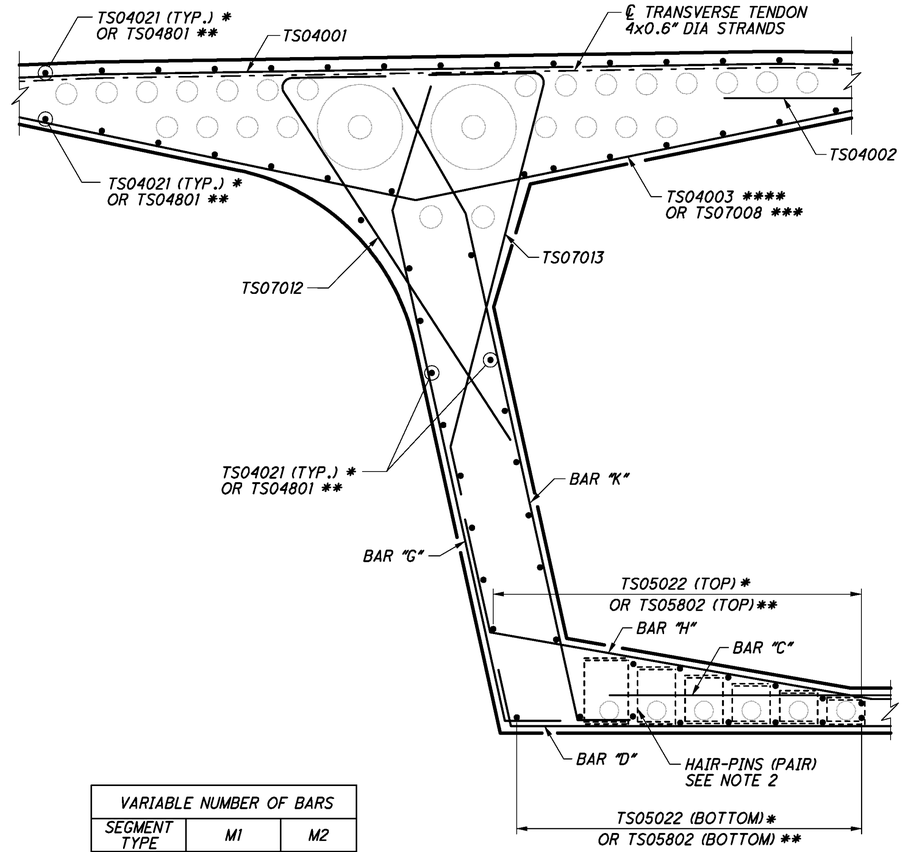


SECTION B-B

(16 FT TYPICAL SEGMENT SHOWN, 8 FT SEGMENT AND DEVIATOR SEGMENT SIMILAR)



SECTION C-C



VIEW D-D

(16 FT TYPICAL SEGMENT SHOWN, 8 FT SEGMENT AND DEVIATOR SEGMENT SIMILAR)

VARIABLE NUMBER OF BARS		
SEGMENT TYPE	M1	M2
1D	16	22
2D	15	23
3D	14	24
4D	13	24
5D	12	25
6D	11	25
7D	10	26
8D	9	26
9D	8	26
10D	7	26
11D	7	26
12D	7	26
1U	17	22
2U	16	23
3U	15	23
4U	13	24
5U	12	24
6U	11	25
7U	10	25
8U	9	26
9U	8	26
10U	8	26
11U	7	26
12U	7	26

NOTES:

1. O.F. DENOTES OUTSIDE FACE.
   I.F. DENOTES INSIDE FACE.
2. 2 PAIRS OF #4 HAIR-PIN BARS SHALL BE PROVIDED AROUND EACH DUCT AT EACH SEGMENT FACE.
3. SPACE ALL TRANSVERSE REINFORCING BARS TO CLEAR LONGITUDINAL POST TENSIONING ANCHORAGE.

* THE BAR SHOWN IS FOR 16 FT TYPICAL SEGMENT AND 16 FT DEVIATOR SEGMENT. FOR BAR PLACEMENT DETAILS ON THE DEVIATOR SEGMENT, SEE SHEET 158 OF 204.

** THE BAR SHOWN IS FOR 8 FT SEGMENT. FOR THE BAR PLACEMENT DETAILS, SEE SHEET 154 OF 204.

*** THE BAR SHOWN IS FOR 16 FT DEVIATOR SEGMENT, FOR THE BAR PLACEMENT DETAILS, SEE SHEET 158 OF 204.

**** THE BAR SHOWN IS FOR 16 FT TYPICAL SEGMENT AND 8 FT SEGMENT. FOR THE BAR PLACEMENT DETAILS, SEE SHEET 154 OF 204.

DESIGN AGENCY HNTB 1100 Superior Avenue, Suite 1330 Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
PY	PY	JB	10/30/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

16 FT TYPICAL SEGMENT REINFORCEMENT 2

BRIDGE NO. WAR-71-1514L/R

INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20 PID No. 22950

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PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SEGMENTS P1-1D, P2-1D, P3-1D, P4-1D, AND P5-1D												
	TS04001	44	28'-11"	851	001	28'-11"						
	TS04002	22	16'-8"	245	011	16'-2"						
	TS04003	22	21'-8"	318	121	9'-6"	1'-10"	10'-10"	2'-4"	1'-0"		
	TS04004	44	6'-2"	181	011	5'-8"						
	TS06005	38	7'-7"	432	004	6'-8"	0'-10"	0'-5"				
	TS06006	38	6'-3"	357	001	6'-3"						
	TS04007	22	21'-4"	314	121	10'-2"	1'-8"	10'-0"	1'-10"	1'-0"		
	TS06010	38	3'-2"	181	106	0'-11"	0'-4"	1'-6"	0'-11"			
	TS06011	38	2'-4"	133	003	1'-6"	1'-0"					
	TS07012	6	9'-0"	110	100	7'-3"	1'-8"	0'-11"				
	TS07013	6	9'-2"	112	130	6'-0"	1'-2"	0'-7"	0'-7"	2'-0"		
	TS04020	4	17'-6"	47	129	1'-0"	15'-8"					
	TS04021	178	18'-9"	2230	001	18'-9"						
	TS05022	44	19'-5"	893	001	19'-5"						
	AR04001	72	3'-6"	168	901							
	AR04002	48	2'-0"	64	902							
		1	24'-3"			21'-2"						
BAR "A"	TS08031	ser	to	1277	123	to	1'-4"					1"
		19	26'-0"			22'-11"						
		1	24'-1"			21'-2"						
BAR "B"	TS08032	ser	to	1270	122	to	1'-4"					1"
		19	25'-10"			22'-11"						
BAR "C"	TS08033	22	20'-11"	1229	001	20'-11"						
		1	21'-10"					20'-3"				
BAR "D"	TS05034	ser	to	511	006	0'-10"	0'-2"	to	0'-2"	0'-10"		0 1/2"
		22	22'-7"					21'-0"				
		1	24'-0"			20'-11"						
BAR "E"	TS08035	ser	to	1264	123	to	1'-4"					1"
		19	25'-9"			22'-8"						
		1	23'-10"			20'-11"						
BAR "F"	TS08036	ser	to	1257	122	to	1'-4"					1"
		19	25'-7"			22'-8"						
		1	24'-8"					20'-11"				
BAR "G"	TS08037	ser	to	397	006	1'-2"	2'-0"	to	0'-4"	1'-6"		0 1/4"
		6	24'-10"					21'-1"				
BAR "H"	TS07038	44	10'-3"	924	006	1'-9"	0'-9"	6'-6"	1'-11"	0'-4"		
		1	24'-10"					20'-2"				
BAR "K"	TS08039	ser	to	399	124	1'-5"	2'-6"	to	1'-4"			0 1/4"
		6	25'-0"					20'-4"				
			SUB-TOTAL	15,164 lbs								
			NO. OF SEGMENTS	1 OF 5 REQUIRED								

(SEGMENTS ON SOUTHBOUND BRIDGE SHOWN, SEGMENTS ON NORTHBOUND BRIDGE ARE IDENTICAL.)

PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SEGMENTS P1-2D, P2-2D, P3-2D, P4-2D, AND P5-2D												
	TS04001	44	28'-11"	851	001	28'-11"						
	TS04002	22	16'-8"	245	011	16'-2"						
	TS04003	22	21'-8"	318	121	9'-6"	1'-10"	10'-10"	2'-4"	1'-0"		
	TS04004	44	6'-2"	181	011	5'-8"						
	TS06005	38	7'-7"	432	004	6'-8"	0'-10"	0'-5"				
	TS06006	38	6'-3"	357	001	6'-3"						
	TS04007	22	21'-4"	314	121	10'-2"	1'-8"	10'-0"	1'-10"	1'-0"		
	TS06010	38	3'-2"	181	106	0'-11"	0'-4"	1'-6"	0'-11"			
	TS06011	38	2'-4"	133	003	1'-6"	1'-0"					
	TS07012	6	9'-0"	110	100	7'-3"	1'-8"	0'-11"				
	TS07013	6	9'-2"	112	130	6'-0"	1'-2"	0'-7"	0'-7"	2'-0"		
	TS04020	4	17'-6"	47	129	1'-0"	15'-8"					
	TS04021	174	18'-9"	2180	001	18'-9"						
	TS05022	46	19'-5"	933	001	19'-5"						
	AR04001	72	3'-6"	168	901							
	AR04002	48	2'-0"	64	902							
		1	22'-7"			19'-7"						
BAR "A"	TS08061	ser	to	1191	123	to	1'-4"					1"
		19	24'-2"			21'-2"						
		1	22'-6"			19'-7"						
BAR "B"	TS08062	ser	to	1183	122	to	1'-4"					1"
		19	24'-1"			21'-2"						
BAR "C"	TS08063	22	21'-7"	1271	001	21'-7"						
		1	22'-8"					21'-0"				
BAR "D"	TS05064	ser	to	528	006	0'-10"	0'-2"	to	0'-2"	0'-10"		0 1/4"
		22	23'-4"					21'-8"				
		1	22'-4"			19'-4"						
BAR "E"	TS08065	ser	to	1178	123	to	1'-4"					1"
		19	23'-11"			20'-11"						
		1	22'-3"			19'-4"						
BAR "F"	TS08066	ser	to	1170	122	to	1'-4"					1"
		19	23'-10"			20'-11"						
		1	22'-11"					19'-1"				
BAR "G"	TS08067	ser	to	368	006	1'-2"	2'-0"	to	0'-4"	1'-6"		0 1/4"
		6	23'-1"					19'-3"				
BAR "H"	TS07068	44	10'-3"	924	006	1'-9"	0'-9"	6'-6"	1'-11"	0'-4"		
		1	23'-0"					18'-6"				
BAR "K"	TS08069	ser	to	371	124	1'-5"	2'-6"	to	1'-4"			0 1/4"
		6	23'-1"					18'-7"				
			SUB-TOTAL	14,810 lbs								
			NO. OF SEGMENTS	1 OF 5 REQUIRED								

(SEGMENTS ON SOUTHBOUND BRIDGE SHOWN, SEGMENTS ON NORTHBOUND BRIDGE ARE IDENTICAL.)

NOTES:

1. ALL REINFORCING STEEL TO BE EPOXY COATED.
2. FOR BAR TYPE AND BAR BENDING DIAGRAM, SEE SHEET 187 AND 188 OF 204.
3. ADDITIONAL REINFORCEMENT REQUIRED BY THE ANCHORBLOCKS IS NOT INCLUDED IN THESE BILL OF MATERIALS. REFER TO APPLICABLE SHEET FOR REBAR DETAILS AND QUANTITIES.
4. QUANTITIES FOR THE EPOXY COATED REINFORCEMENT STEEL FOR THE DUCT CONFINEMENT REINFORCEMENTS (HAIR PINS) ARE NOT INCLUDED IN THIS BILL OF MATERIAL. FOR DUCT CONFINEMENT REINFORCEMENT QUANTITIES, SEE SPECIAL PROVISION - "POST-TENSIONING".

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED PY | DRAWN LK | REVIEWED JB | DATE 10/30/07 | CHECKED MX | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

16 FT TYPICAL SEGEMENT BAR SCHEDULE 1

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SEGMENTS P1-3D, P2-3D, P3-3D, P4-3D, AND P5-3D												
	TS04001	44	28'-11"	851	001	28'-11"						
	TS04002	22	16'-8"	245	011	16'-2"						
	TS04003	22	21'-8"	318	121	9'-6"	1'-10"	10'-10"	2'-4"	1'-0"		
	TS04004	44	6'-2"	181	011	5'-8"						
	TS06005	38	7'-7"	432	004	6'-8"	0'-10"	0'-5"				
	TS06006	38	6'-3"	357	001	6'-3"						
	TS04007	22	21'-4"	314	121	10'-2"	1'-8"	10'-0"	1'-10"	1'-0"		
	TS06010	38	3'-2"	181	106	0'-11"	0'-4"	1'-6"	0'-11"			
	TS06011	38	2'-4"	133	003	1'-6"	1'-0"					
	TS07012	6	9'-0"	110	100	7'-3"	1'-8"	0'-11"				
	TS07013	6	9'-2"	112	130	6'-0"	1'-2"	0'-7"	0'-7"	2'-0"		
	TS04020	4	17'-6"	47	129	1'-0"	15'-8"					
	TS04021	170	18'-9"	2130	001	18'-9"						
	TS05022	48	19'-5"	974	001	19'-5"						
	AR04001	72	3'-6"	168	901							
	AR04002	48	2'-0"	64	902							
		1	21'-1"			18'-1"						
BAR "A"	TS08091	ser	to	1110	123	to	1'-4"					1"
		19	22'-7"			19'-7"						
		1	21'-0"			18'-1"						
BAR "B"	TS08092	ser	to	1103	122	to	1'-4"					1"
		19	22'-6"			19'-7"						
BAR "C"	TS07093	22	20'-11"	943	001	20'-11"						
		1	23'-4"					21'-8"				
BAR "D"	TS05094	ser	to	544	006	0'-10"	0'-2"	to	0'-2"	0'-10"		0 1/4"
		22	24'-0"					22'-4"				
		1	20'-10"			17'-10"						
BAR "E"	TS08095	ser	to	1097	123	to	1'-4"					1"
		19	22'-4"			19'-4"						
		1	20'-9"			17'-10"						
BAR "F"	TS08096	ser	to	1090	122	to	1'-4"					1"
		19	22'-3"			19'-4"						
		1	21'-3"					17'-6"				
BAR "G"	TS08097	ser	to	342	006	1'-2"	2'-0"	to	0'-4"	1'-6"		0 1/4"
		6	21'-5"					17'-8"				
BAR "H"	TS07098	44	10'-3"	924	006	1'-9"	0'-9"	6'-6"	1'-11"	0'-4"		
		1	21'-5"					16'-11"				
BAR "K"	TS08099	ser	to	344	124	1'-5"	2'-6"	to	1'-4"			0 1/4"
		6	21'-6"					17'-0"				
			SUB-TOTAL	14,114 lbs								
			NO. OF SEGMENTS	1 OF 5 REQUIRED								

(SEGMENT ON SOUTHBOUND BRIDGE SHOWN, SEGMENTS ON NORTHBOUND BRIDGE ARE SIMILAR)

PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SEGMENTS P1-4D, P2-4D, P3-4D, P4-4D, AND P5-4D												
	TS04001	44	28'-11"	851	001	28'-11"						
	TS04002	22	16'-8"	245	011	16'-2"	1'-10"	10'-10"	2'-4"	1'-0"		
	TS04003	22	21'-8"	318	121	9'-6"						
	TS04004	44	6'-2"	181	011	5'-8"	0'-10"	0'-5"				
	TS06005	38	7'-7"	432	004	6'-8"						
	TS06006	38	6'-3"	357	001	6'-3"	1'-8"	10'-0"	1'-10"	1'-0"		
	TS04007	22	21'-4"	314	121	10'-2"	0'-4"	1'-6"	0'-11"			
	TS06010	38	3'-2"	181	106	0'-11"	1'-0"					
	TS06011	38	2'-4"	133	003	1'-6"	1'-8"	0'-11"				
	TS07012	6	9'-0"	110	100	7'-3"	1'-2"	0'-7"	0'-7"	2'-0"		
	TS07013	6	9'-2"	112	130	6'-0"	15'-8"					
	TS04020	4	17'-6"	47	129	1'-0"						
	TS04021	166	18'-9"	2080	001	18'-9"						
	TS05022	48	19'-5"	974	001	19'-5"						
	AR04001	72	3'-6"	168	901							
	AR04002	48	2'-0"	64	902							
		1	19'-9"			16'-9"	1'-4"					0 3/4"
BAR "A"	TS08121	ser	to	1036	123	to						
		19	21'-1"			18'-1"						
		1	19'-7"			16'-9"	1'-4"					0 3/4"
BAR "B"	TS08122	ser	to	1029	122	to						
		19	20'-11"			18'-1"						
BAR "C"	TS07123	22	21'-6"	970	001	21'-6"		22'-4"				
		1	24'-0"				0'-2"	to	0'-2"	0'-10"		0 1/4"
BAR "D"	TS05124	ser	to	558	006	0'-10"		22'-11"				
		22	24'-7"									
		1	19'-6"			16'-6"	1'-4"					0 3/4"
BAR "E"	TS08125	ser	to	1023	123	to						
		19	20'-10"			17'-10"						
		1	19'-4"			16'-6"	1'-4"					0 3/4"
BAR "F"	TS08126	ser	to	1016	122	to						
		19	20'-8"			17'-10"						
								16'-0"				
		1	19'-9"				2'-0"	to	0'-4"	1'-6"		0 1/4"
BAR "G"	TS08127	ser	to	318	006	1'-2"		16'-1"				
		6	19'-10"									
							0'-9"	6'-6"	1'-11"	0'-4"		
BAR "H"	TS07128	44	10'-3"	924	006	1'-9"		15'-5"				
		1	19'-11"				2'-6"	to	1'-4"			0 1/4"
BAR "K"	TS08129	ser	to	320	124	1'-5"		15'-6"				
		6	20'-0"									
			SUB-TOTAL	13,761 lbs								
			NO. OF SEGMENTS	1 OF 5 REQUIRED								

(SEGMENT ON SOUTHBOUND BRIDGE SHOWN, SEGMENTS ON NORTHBOUND BRIDGE ARE IDENTICAL.)

NOTES

1. ALL REINFORCING STEEL TO BE EPOXY COATED.
2. FOR BAR TYPE AND BAR BENDING DIAGRAM, SEE SHEET 187 AND 188 OF 204.
3. ADDITIONAL REINFORCEMENT REQUIRED BY THE ANCHORBLOCKS IS NOT INCLUDED IN THESE BILL OF MATERIALS. REFER TO APPLICABLE SHEET FOR REBAR DETAILS AND QUANTITIES.
4. QUANTITIES FOR THE EPOXY COATED REINFORCEMENT STEEL FOR THE DUCT CONFINEMENT REINFORCEMENTS (HAIR PINS) ARE NOT INCLUDED IN THIS BILL OF MATERIAL. FOR DUCT CONFINEMENT REINFORCEMENT QUANTITIES, SEE SPECIAL PROVISION - "POST-TENSIONING".

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED PY | DRAWN LK | REVIEWED JB | DATE 10/30/07 | CHECKED MX | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

16 FT TYPICAL SEGEMENT BAR SCHEDULE 2

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SEGMENTS P1-5D, P2-5D, P3-5D, P4-5D, AND P5-5D												
	TS04001	44	28'-11"	851	001	28'-11"						
	TS04002	22	16'-8"	245	011	16'-2"						
	TS04003	22	21'-8"	318	121	9'-6"	1'-10"	10'-10"	2'-4"	1'-0"		
	TS04004	44	6'-2"	181	011	5'-8"						
	TS06005	38	7'-7"	432	004	6'-8"	0'-10"	0'-5"				
	TS06006	38	6'-3"	357	001	6'-3"						
	TS04007	22	21'-4"	314	121	10'-2"	1'-8"	10'-0"	1'-10"	1'-0"		
	TS06010	38	3'-2"	181	106	0'-11"	0'-4"	1'-6"	0'-11"			
	TS06011	38	2'-4"	133	003	1'-6"	1'-0"					
	TS07012	6	9'-0"	110	100	7'-3"	1'-8"	0'-11"				
	TS07013	6	9'-2"	112	130	6'-0"	1'-2"	0'-7"	0'-7"	2'-0"		
	TS04020	4	17'-6"	47	129	1'-0"	15'-8"					
	TS04021	162	18'-9"	2029	001	18'-9"						
	TS05022	50	19'-5"	1014	001	19'-5"						
	AR04001	72	3'-6"	168	901							
	AR04002	48	2'-0"	64	902							
		1	18'-5"			15'-6"						
BAR "A"	TS08151	ser	to	969	123	to	1'-4"					0 3/4"
		19	19'-8"			16'-9"						
		1	18'-3"			15'-6"						
BAR "B"	TS08152	ser	to	962	122	to	1'-4"					0 3/4"
		19	19'-6"			16'-9"						
BAR "C"	TS06153	22	20'-9"	686	001	20'-9"						
		1	24'-6"					22'-11"				
BAR "D"	TS05154	ser	to	571	006	0'-10"	0'-2"	to	0'-2"	0'-10"		0 1/4"
		22	25'-1"					23'-6"				
		1	18'-2"			15'-3"						
BAR "E"	TS08155	ser	to	956	123	to	1'-4"					0 3/4"
		19	19'-5"			16'-6"						
		1	18'-0"			15'-3"						
BAR "F"	TS08156	ser	to	949	122	to	1'-4"					0 3/4"
		19	19'-3"			16'-6"						
		1	18'-4"					14'-7"				
BAR "G"	TS08157	ser	to	296	006	1'-2"	2'-0"	to	0'-4"	1'-6"		0 1/4"
		6	18'-6"					14'-9"				
BAR "H"	TS08158	44	10'-3"	1207	006	1'-9"	0'-9"	6'-6"	1'-11"	0'-4"		
		1	18'-6"					14'-1"				
BAR "K"	TS08159	ser	to	298	124	1'-5"	2'-6"	to	1'-4"			0 1/4"
		6	18'-7"					14'-2"				
			SUB-TOTAL	13,450 lbs								
			NO. OF SEGMENTS	1 OF 5 REQUIRED								

(SEGMENT ON SOUTHBOUND BRIDGE SHOWN, SEGMENTS ON NORTHBOUND BRIDGE ARE SIMILAR)

PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SEGMENTS P1-6D, P2-6D, P3-6D, P4-6D, AND P5-6D												
	TS04001	44	28'-11"	851	001	28'-11"						
	TS04002	22	16'-8"	245	011	16'-2"						
	TS04003	22	21'-8"	318	121	9'-6"	1'-10"	10'-10"	2'-4"	1'-0"		
	TS04004	44	6'-2"	181	011	5'-8"						
	TS06005	38	7'-7"	432	004	6'-8"	0'-10"	0'-5"				
	TS06006	38	6'-3"	357	001	6'-3"						
	TS04007	22	21'-4"	314	121	10'-2"	1'-8"	10'-0"	1'-10"	1'-0"		
	TS06010	38	3'-2"	181	106	0'-11"	0'-4"	1'-6"	0'-11"			
	TS06011	38	2'-4"	133	003	1'-6"	1'-0"					
	TS07012	6	9'-0"	110	100	7'-3"	1'-8"	0'-11"				
	TS07013	6	9'-2"	112	130	6'-0"	1'-2"	0'-7"	0'-7"	2'-0"		
	TS04020	4	17'-6"	47	129	1'-0"	15'-8"					
	TS04021	158	18'-9"	1979	001	18'-9"						
	TS05022	50	19'-5"	1014	001	19'-5"						
	AR04001	72	3'-6"	168	901							
	AR04002	48	2'-0"	64	902							
		1	17'-4"			14'-5"						
BAR "A"	TS08181	ser	to	908	123	to	1'-4"					0 3/4"
		19	18'-5"			15'-6"						
		1	17'-2"			14'-5"						
BAR "B"	TS08182	ser	to	901	122	to	1'-4"					0 3/4"
		19	18'-3"			15'-6"						
BAR "C"	TS06183	22	21'-3"	702	001	21'-3"						
		1	25'-2"						23'-6"			
BAR "D"	TS05184	ser	to	583	006	0'-10"	0'-2"	to	0'-2"	0'-10"		0 1/4"
		22	25'-8"					24'-0"				
		1	17'-1"			14'-2"						
BAR "E"	TS08185	ser	to	896	123	to	1'-4"					0 3/4"
		19	18'-2"			15'-3"						
		1	16'-11"			14'-2"						
BAR "F"	TS08186	ser	to	888	122	to	1'-4"					0 3/4"
		19	18'-0"			15'-3"						
		1	17'-1"						13'-4"			
BAR "G"	TS08187	ser	to	275	006	1'-2"	2'-0"	to	0'-4"	1'-6"		0 1/4"
		6	17'-3"						13'-6"			
BAR "H"	TS08188	44	10'-3"	1207	006	1'-9"	0'-9"	6'-6"	1'-11"	0'-4"		
		1	17'-3"						12'-10"			
BAR "K"	TS08189	ser	to	278	124	1'-5"	2'-6"	to	1'-4"			0 1/4"
		6	17'-4"						12'-11"			
			SUB-TOTAL	13,144 lbs								
			NO. OF SEGMENTS	1 OF 5 REQUIRED								

(SEGMENT ON SOUTHBOUND BRIDGE SHOWN, SEGMENTS ON NORTHBOUND BRIDGE ARE IDENTICAL.)

NOTES:

1. ALL REINFORCING STEEL TO BE EPOXY COATED.
2. FOR BAR TYPE AND BAR BENDING DIAGRAM, SEE SHEET 187 AND 188 OF 204.
3. ADDITIONAL REINFORCEMENT REQUIRED BY THE ANCHORBLOCKS IS NOT INCLUDED IN THESE BILL OF MATERIALS. REFER TO APPLICABLE SHEET FOR REBAR DETAILS AND QUANTITIES.
4. QUANTITIES FOR THE EPOXY COATED REINFORCEMENT STEEL FOR THE DUCT CONFINEMENT REINFORCEMENTS (HAIR PINS) ARE NOT INCLUDED IN THIS BILL OF MATERIAL. FOR DUCT CONFINEMENT REINFORCEMENT QUANTITIES, SEE SPECIAL PROVISION - "POST-TENSIONING".

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
PY	LK	JB	10/30/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

16 FT TYPICAL SEGEMENT BAR SCHEDULE 3

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

144/204

410/470

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PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SEGMENTS P1-7D, P2-7D, P3-7D, P4-7D, AND P5-7D												
	TS04001	44	28'-11"	851	001	28'-11"						
	TS04002	22	16'-8"	245	011	16'-2"						
	TS04003	22	21'-8"	318	121	9'-6"	1'-10"	10'-10"	2'-4"	1'-0"		
	TS04004	44	6'-2"	181	011	5'-8"						
	TS06005	38	7'-7"	432	004	6'-8"	0'-10"	0'-5"				
	TS06006	38	6'-3"	357	001	6'-3"						
	TS04007	22	21'-4"	314	121	10'-2"	1'-8"	10'-0"	1'-10"	1'-0"		
	TS06010	38	3'-2"	181	106	0'-11"	0'-4"	1'-6"	0'-11"			
	TS06011	38	2'-4"	133	003	1'-6"	1'-0"					
	TS07012	6	9'-0"	110	100	7'-3"	1'-8"	0'-11"				
	TS07013	6	9'-2"	112	130	6'-0"	1'-2"	0'-7"	0'-7"	2'-0"		
	TS04020	4	17'-6"	47	129	1'-0"	15'-8"					
	TS04021	154	18'-9"	1929	001	18'-9"						
	TS05022	52	19'-5"	1055	001	19'-5"						
	AR04001	72	3'-6"	168	901							
	AR04002	48	2'-0"	64	902							
		1	16'-4"			13'-5"						
BAR "A"	TS08211	ser	to	855	123	to	1'-4"					0 3/4"
		19	17'-4"			14'-5"						
		1	16'-2"			13'-6"						
BAR "B"	TS08212	ser	to	848	122	to	1'-4"					0 1/2"
		19	17'-1"			14'-5"						
BAR "C"	TS05213	22	20'-4"	467	001	20'-4"						
		1	25'-7"					24'-0"				
BAR "D"	TS05214	ser	to	593	006	0'-10"	0'-2"	to	0'-2"	0'-10"		0 1/4"
		22	26'-0"					24'-5"				
		1	16'-1"			13'-2"						
BAR "E"	TS08215	ser	to	842	123	to	1'-4"					0 3/4"
		19	17'-1"			14'-2"						
		1	15'-11"			13'-3"						
BAR "F"	TS08216	ser	to	835	122	to	1'-4"					0 1/2"
		19	16'-10"			14'-2"						
		1	16'-0"					12'-3"				
BAR "G"	TS08217	ser	to	257	006	1'-2"	2'-0"	to	0'-4"	1'-6"		0 1/4"
		6	16'-1"					12'-4"				
BAR "H"	TS08218	44	10'-3"	1207	006	1'-9"	0'-9"	6'-6"	1'-11"	0'-4"		
		1	16'-1"					11'-9"				
BAR "K"	TS08219	ser	to	260	124	1'-5"	2'-6"	to	1'-4"			0 1/4"
		6	16'-2"					11'-10"				
			SUB-TOTAL	12,661 lbs								
			NO. OF SEGMENTS	1 OF 5 REQUIRED								

(SEGMENT ON SOUTHBOUND BRIDGE SHOWN, SEGMENTS ON NORTHBOUND BRIDGE ARE IDENTICAL.)

PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SEGMENTS P2-8D, P3-8D, P4-8D, AND P5-8D												
	TS04001	44	28'-11"	851	001	28'-11"						
	TS04002	22	16'-8"	245	011	16'-2"						
	TS04003	22	21'-8"	318	121	9'-6"	1'-10"	10'-10"	2'-4"	1'-0"		
	TS04004	44	6'-2"	181	011	5'-8"						
	TS06005	38	7'-7"	432	004	6'-8"	0'-10"	0'-5"				
	TS06006	38	6'-3"	357	001	6'-3"						
	TS04007	22	21'-4"	314	121	10'-2"	1'-8"	10'-0"	1'-10"	1'-0"		
	TS06010	38	3'-2"	181	106	0'-11"	0'-4"	1'-6"	0'-11"			
	TS06011	38	2'-4"	133	003	1'-6"	1'-0"					
	TS07012	6	9'-0"	110	100	7'-3"	1'-8"	0'-11"				
	TS07013	6	9'-2"	112	130	6'-0"	1'-2"	0'-7"	0'-7"	2'-0"		
	TS04020	4	17'-6"	47	129	1'-0"	15'-8"					
	TS04021	150	18'-9"	1879	001	18'-9"						
	TS05022	52	19'-5"	1055	001	19'-5"						
	AR04001	72	3'-6"	168	901							
	AR04002	48	2'-0"	64	902							
		1	15'-6"			12'-8"						
BAR "A"	TS08241	ser	to	810	123	to	1'-4"					0 1/2"
		19	16'-3"			13'-5"						
		1	15'-5"			12'-8"						
BAR "B"	TS08242	ser	to	802	122	to	1'-4"					0 1/2"
		19	16'-3"			13'-6"						
BAR "C"	TS05243	22	20'-8"	475	001	20'-8"						
		1	26'-5"						24'-5"			
BAR "D"	TS06244	ser	to	878	006	1'-0"	0'-3"	to	0'-3"	1'-0"		0 1/4"
		22	26'-9"					24'-9"				
		1	15'-3"			12'-5"						
BAR "E"	TS08245	ser	to	797	123	to	1'-4"					0 1/2"
		19	16'-0"			13'-2"						
		1	15'-2"			12'-5"						
BAR "F"	TS08246	ser	to	789	122	to	1'-4"					0 1/2"
		19	16'-0"			13'-3"						
		1	15'-0"					11'-3"				
BAR "G"	TS08247	ser	to	242	006	1'-2"	2'-0"	to	0'-4"	1'-6"		0 1/4"
		6	15'-1"					11'-4"				
BAR "H"	TS08248	44	10'-3"	1207	006	1'-9"	0'-9"	6'-6"	1'-11"	0'-4"		
		1	15'-2"					10'-10"				
BAR "K"	TS08249	ser	to	244	124	1'-5"	2'-6"	to	1'-4"			0 1/4"
		6	15'-3"					10'-11"				
			SUB-TOTAL	12,691 lbs								
			NO. OF SEGMENTS	1 OF 4 REQUIRED								

(SEGMENT ON SOUTHBOUND BRIDGE SHOWN, SEGMENTS ON NORTHBOUND BRIDGE ARE IDENTICAL.)

NOTES:

1. ALL REINFORCING STEEL TO BE EPOXY COATED.
2. FOR BAR TYPE AND BAR BENDING DIAGRAM, SEE SHEET 187 AND 188 OF 204.
3. ADDITIONAL REINFORCEMENT REQUIRED BY THE ANCHORBLOCKS IS NOT INCLUDED IN THESE BILL OF MATERIALS. REFER TO APPLICABLE SHEET FOR REBAR DETAILS AND QUANTITIES.
4. QUANTITIES FOR THE EPOXY COATED REINFORCEMENT STEEL FOR THE DUCT CONFINEMENT REINFORCEMENTS (HAIR PINS) ARE NOT INCLUDED IN THIS BILL OF MATERIAL. FOR DUCT CONFINEMENT REINFORCEMENT QUANTITIES, SEE SPECIAL PROVISION - "POST-TENSIONING".

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED PY | DRAWN LK | CHECKED MX | REVIEWED JB | DATE 10/30/07 | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

16 FT TYPICAL SEGEMENT BAR SCHEDULE 4

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

145/204
411/470

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PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SEGMENT P1-9D												
	TS04001	44	28'-11"	851	001	28'-11"						
	TS04002	22	16'-8"	245	011	16'-2"						
	TS04003	22	21'-8"	318	121	9'-6"	1'-10"	10'-10"	2'-4"	1'-0"		
	TS04004	44	6'-2"	181	011	5'-8"						
	TS06005	38	7'-7"	432	004	6'-8"	0'-10"	0'-5"				
	TS06006	38	6'-3"	357	001	6'-3"						
	TS04007	22	21'-4"	314	121	10'-2"	1'-8"	10'-0"	1'-10"	1'-0"		
	TS06010	38	3'-2"	181	106	0'-11"	0'-4"	1'-6"	0'-11"			
	TS06011	38	2'-4"	133	003	1'-6"	1'-0"					
	TS07012	6	9'-0"	110	100	7'-3"	1'-8"	0'-11"				
	TS07013	6	9'-2"	112	130	6'-0"	1'-2"	0'-7"	0'-7"	2'-0"		
	TS04020	4	17'-6"	47	129	1'-0"	15'-8"					
	TS04021	146	18'-9"	1829	001	18'-9"						
	TS05022	52	19'-5"	1055	001	19'-5"						
	AR04001	72	3'-6"	168	901							
	AR04002	48	2'-0"	64	902							
		1	14'-11"			12'-0"						
BAR "A"	TS08271	ser	to	773	123	to	1'-4"					0 1/2"
		19	15'-7"			12'-8"						
		1	14'-9"			12'-1"						
BAR "B"	TS08272	ser	to	765	122	to	1'-4"					0 1/4"
		19	15'-4"			12'-8"						
BAR "C"	TS05273	22	20'-11"	481	001	20'-11"						
		1	26'-9"					24'-9"				
BAR "D"	TS06274	ser	to	889	006	1'-0"	0'-3"	to	0'-3"	1'-0"		0 1/4"
		22	27'-0"					25'-0"				
		1	14'-8"			11'-9"						
BAR "E"	TS08275	ser	to	760	123	to	1'-4"					0 1/2"
		19	15'-4"			12'-5"						
		1	14'-6"			11'-10"						
BAR "F"	TS08276	ser	to	752	122	to	1'-4"					0 1/4"
		19	15'-1"			12'-5"						
		1	14'-3"					10'-6"				
BAR "G"	TS08277	ser	to	229	006	1'-2"	2'-0"	to	0'-4"	1'-6"		0"
		6	14'-3"					10'-6"				
BAR "H"	TS08278	44	10'-3"	1207	006	1'-9"	0'-9"	6'-6"	1'-11"	0'-4"		
		1	14'-4"					10'-0"				
BAR "K"	TS08279	ser	to	231	124	1'-5"	2'-6"	to	1'-4"			0 1/4"
		6	14'-5"					10'-1"				
			SUB-TOTAL	12,484 lbs								
			NO. OF SEGMENTS	1 OF 1 REQUIRED								

(SEGMENT ON SOUTHBOUND BRIDGE SHOWN, SEGMENTS ON NORTHBOUND BRIDGE ARE IDENTICAL.)

PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SEGMENTS P1-10D, P2-10D, P3-10D, P4-10D, AND P5-10D												
	TS04001	44	28'-11"	851	001	28'-11"						
	TS04002	22	16'-8"	245	011	16'-2"						
	TS04003	22	21'-8"	318	121	9'-6"	1'-10"	10'-10"	2'-4"	1'-0"		
	TS04004	44	6'-2"	181	011	5'-8"						
	TS06005	38	7'-7"	432	004	6'-8"	0'-10"	0'-5"				
	TS06006	38	6'-3"	357	001	6'-3"						
	TS04007	22	21'-4"	314	121	10'-2"	1'-8"	10'-0"	1'-10"	1'-0"		
	TS06010	38	3'-2"	181	106	0'-11"	0'-4"	1'-6"	0'-11"			
	TS06011	38	2'-4"	133	003	1'-6"	1'-0"					
	TS07012	6	9'-0"	110	100	7'-3"	1'-8"	0'-11"				
	TS07013	6	9'-2"	112	130	6'-0"	1'-2"	0'-7"	0'-7"	2'-0"		
	TS04020	4	17'-6"	47	129	1'-0"	15'-8"					
	TS04021	142	18'-9"	1779	001	18'-9"						
	TS05022	52	19'-5"	1055	001	19'-5"						
	AR04001	72	3'-6"	168	901							
	AR04002	48	2'-0"	64	902							
		1	14'-5"			11'-7"						
BAR "A"	TS08301	ser	to	745	123	to	1'-4"					0 1/4"
		19	14'-10"			12'-0"						
		1	14'-3"			11'-7"						
BAR "B"	TS08302	ser	to	738	122	to	1'-4"					0 1/4"
		19	14'-9"			12'-1"						
BAR "C"	TS05303	22	21'-2"	485	001	21'-2"						
		1	27'-3"						25'-0"			
BAR "D"	TS07304	ser	to	1235	006	1'-2"	0'-3"	to	0'-3"	1'-2"		0 1/4"
		22	27'-6"					25'-3"				
		1	14'-2"			11'-4"						
BAR "E"	TS08305	ser	to	732	123	to	1'-4"					0 1/4"
		19	14'-7"			11'-9"						
		1	14'-0"			11'-4"						
BAR "F"	TS08306	ser	to	725	122	to	1'-4"					0 1/4"
		19	14'-6"			11'-10"						
		1	13'-7"						9'-10"			
BAR "G"	TS08307	ser	to	219	006	1'-2"	2'-0"	to	0'-4"	1'-6"		0 1/4"
		6	13'-8"						9'-11"			
BAR "H"	TS08308	44	10'-3"	1207	006	1'-9"	0'-9"	6'-6"	1'-11"	0'-4"		
		1	13'-9"						9'-5"			
BAR "K"	TS08309	ser	to	221	124	1'-5"	2'-6"	to	1'-4"			0 1/4"
		6	13'-10"						9'-6"			
			SUB-TOTAL	12,654 lbs								
			NO. OF SEGMENTS	1 OF 5 REQUIRED								

(SEGMENT ON SOUTHBOUND BRIDGE SHOWN, SEGMENTS ON NORTHBOUND BRIDGE ARE IDENTICAL.)

NOTES:

1. ALL REINFORCING STEEL TO BE EPOXY COATED.
2. FOR BAR TYPE AND BAR BENDING DIAGRAM, SEE SHEET 187 AND 188 OF 204.
3. ADDITIONAL REINFORCEMENT REQUIRED BY THE ANCHORBLOCKS IS NOT INCLUDED IN THESE BILL OF MATERIALS. REFER TO APPLICABLE SHEET FOR REBAR DETAILS AND QUANTITIES.
4. QUANTITIES FOR THE EPOXY COATED REINFORCEMENT STEEL FOR THE DUCT CONFINEMENT REINFOCEMENTS (HAIR PINS) ARE NOT INLCUDED IN THIS BILL OF MATERIAL. FOR DUCT CONFINEMENT REINFORCEMENT QUANTITIES, SEE SPECIAL PROVISION - "POST-TENSIONING".

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED PY | DRAWN LK | CHECKED MX | REVIEWED JB | DATE 10/30/07 | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

16 FT TYPICAL SEGEMENT BAR SCHEDULE 5

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SEGMENTS P1-11D, P2-11D, P3-11D, AND P4-11D												
	TS04001	44	28'-11"	851	001	28'-11"						
	TS04002	22	16'-8"	245	011	16'-2"						
	TS04003	22	21'-8"	318	121	9'-6"	1'-10"	10'-10"	2'-4"	1'-0"		
	TS04004	44	6'-2"	181	011	5'-8"						
	TS06005	38	7'-7"	432	004	6'-8"	0'-10"	0'-5"				
	TS06006	38	6'-3"	357	001	6'-3"						
	TS04007	22	21'-4"	314	121	10'-2"	1'-8"	10'-0"	1'-10"	1'-0"		
	TS06010	38	3'-2"	181	106	0'-11"	0'-4"	1'-6"	0'-11"			
	TS06011	38	2'-4"	133	003	1'-6"	1'-0"					
	TS07012	6	9'-0"	110	100	7'-3"	1'-8"	0'-11"				
	TS07013	6	9'-2"	112	130	6'-0"	1'-2"	0'-7"	0'-7"	2'-0"		
	TS04020	4	17'-6"	47	129	1'-0"	15'-8"					
	TS04021	142	18'-9"	1779	001	18'-9"						
	TS05022	52	19'-5"	1055	001	19'-5"						
	AR04001	72	3'-6"	168	901							
	AR04002	48	2'-0"	64	902							
		1	13'-11"			11'-5"						
BAR "A"	TS07331	ser	to	545	123	to	1'-2"					0"
		19	14'-1"			11'-7"						
		1	13'-10"			11'-5"						
BAR "B"	TS07332	ser	to	540	122	to	1'-2"					0"
		19	14'-0"			11'-7"						
BAR "C"	TS05333	22	21'-3"	488	001	21'-3"						
		1	27'-6"					25'-3"				
BAR "D"	TS07334	ser	to	1241	006	1'-2"	0'-3"	to	0'-3"	1'-2"		0"
		22	27'-7"					25'-4"				
		1	13'-8"			11'-2"						
BAR "E"	TS07335	ser	to	535	123	to	1'-2"					0"
		19	13'-10"			11'-4"						
		1	13'-7"			11'-2"						
BAR "F"	TS07336	ser	to	530	122	to	1'-2"					0"
		19	13'-9"			11'-4"						
BAR "G"	TS07337	6	13'-2"	162	006	1'-2"	2'-0"	9'-5"	0'-4"	1'-6"		
BAR "H"	TS08338	44	10'-3"	1207	006	1'-9"	0'-9"	6'-6"	1'-11"	0'-4"		
BAR "K"	TS07339	6	13'-2"	162	124	1'-5"	2'-6"	9'-0"	1'-2"			
			SUB-TOTAL	11,757 lbs								
			NO. OF SEGMENTS	1 OF 4 REQUIRED								

(SEGMENT ON SOUTHBOUND BRIDGE SHOWN, SEGMENTS ON NORTHBOUND BRIDGE ARE IDENTICAL.)

PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SEGMENTS P1-12D, P2-12D, P3-12D, AND P4-12D												
	TS04001	44	28'-11"	851	001	28'-11"						
	TS04002	22	16'-8"	245	011	16'-2"						
	TS04003	22	21'-8"	318	121	9'-6"	1'-10"	10'-10"	2'-4"	1'-0"		
	TS04004	44	6'-2"	181	011	5'-8"						
	TS06005	38	7'-7"	432	004	6'-8"	0'-10"	0'-5"				
	TS06006	38	6'-3"	357	001	6'-3"						
	TS04007	22	21'-4"	314	121	10'-2"	1'-8"	10'-0"	1'-10"	1'-0"		
	TS06010	38	3'-2"	181	106	0'-11"	0'-4"	1'-6"	0'-11"			
	TS06011	38	2'-4"	133	003	1'-6"	1'-0"					
	TS07012	6	9'-0"	110	100	7'-3"	1'-8"	0'-11"				
	TS07013	6	9'-2"	112	130	6'-0"	1'-2"	0'-7"	0'-7"	2'-0"		
	TS04020	4	17'-6"	47	129	1'-0"	15'-8"					
	TS04021	142	18'-9"	1779	001	18'-9"						
	TS05022	52	19'-5"	1055	001	19'-5"						
	AR04001	72	3'-6"	168	901							
	AR04002	48	2'-0"	64	902							
BAR "A"	TS07391	19	13'-11"	541	123	11'-5"	1'-2"					
BAR "B"	TS07392	19	13'-9"	536	122	11'-5"	1'-2"					
BAR "C"	TS05393	22	21'-3"	488	001	21'-3"						
BAR "D"	TS07394	22	27'-7"	1243	006	1'-2"	0'-3"	25'-4"	0'-3"	1'-2"		
BAR "E"	TS07395	19	13'-8"	531	123	11'-2"	1'-2"					
BAR "F"	TS07396	19	13'-6"	526	122	11'-2"	1'-2"					
BAR "G"	TS07397	6	13'-0"	160	006	1'-2"	2'-0"	9'-3"	0'-4"	1'-6"		
BAR "H"	TS08398	44	10'-3"	1207	006	1'-9"	0'-9"	6'-6"	1'-11"	0'-4"		
BAR "K"	TS07399	6	13'-0"	160	124	1'-5"	2'-6"	8'-10"	1'-2"			
			SUB-TOTAL	11,739 lbs								
			NO. OF SEGMENTS	1 OF 4 REQUIRED								

(SEGMENT ON SOUTHBOUND BRIDGE SHOWN, SEGMENTS ON NORTHBOUND BRIDGE ARE IDENTICAL.)

NOTES:

1. ALL REINFORCING STEEL TO BE EPOXY COATED.
2. FOR BAR TYPE AND BAR BENDING DIAGRAM, SEE SHEET 187 AND 188 OF 204.
3. ADDITIONAL REINFORCEMENT REQUIRED BY THE ANCHORBLOCKS IS NOT INCLUDED IN THESE BILL OF MATERIALS. REFER TO APPLICABLE SHEET FOR REBAR DETAILS AND QUANTITIES.
4. QUANTITIES FOR THE EPOXY COATED REINFORCEMENT STEEL FOR THE DUCT CONFINEMENT REINFOCEMENTS (HAIR PINS) ARE NOT INLCUDED IN THIS BILL OF MATERIAL. FOR DUCT CONFINEMENT REINFORCEMENT QUANTITIES, SEE SPECIAL PROVISION - "POST-TENSIONING" .

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DESIGN AGENCY HNTB 1100 Superior Avenue, Suite 1330 Cleveland, OH 44114-2531

DESIGNED PY | DRAWN LK | CHECKED MX | REVIEWED JB | DATE 10/30/07 | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

16 FT TYPICAL SEGEMENT BAR SCHEDULE 6

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SEGMENTS P1-1U, P2-1U, P3-1U, P4-1U, AND P5-1U												
	TS04001	44	28'-11"	851	001	28'-11"						
	TS04002	22	16'-8"	245	011	16'-2"						
	TS04003	22	21'-8"	318	121	9'-6"	1'-10"	10'-10"	2'-4"	1'-0"		
	TS04004	44	6'-2"	181	011	5'-8"						
	TS06005	38	7'-7"	432	004	6'-8"	0'-10"	0'-5"				
	TS06006	38	6'-3"	357	001	6'-3"						
	TS04007	22	21'-4"	314	121	10'-2"	1'-8"	10'-0"	1'-10"	1'-0"		
	TS06010	38	3'-2"	181	106	0'-11"	0'-4"	1'-6"	0'-11"			
	TS06011	38	2'-4"	133	003	1'-6"	1'-0"					
	TS07012	6	9'-0"	110	100	7'-3"	1'-8"	0'-11"				
	TS07013	6	9'-2"	112	130	6'-0"	1'-2"	0'-7"	0'-7"	2'-0"		
	TS04020	4	17'-6"	47	129	1'-0"	15'-8"					
	TS04021	182	18'-9"	2280	001	18'-9"						
	TS05022	44	19'-5"	893	001	19'-5"						
	AR04001	72	3'-6"	168	901							
	AR04002	48	2'-0"	64	902							
		1	25'-2"			22'-0"						
BAR "A"	TS08421	ser	to	1323	123	to	1'-4"					1 1/4"
		19	27'-0"			23'-10"						
		1	25'-0"			22'-1"						
BAR "B"	TS08422	ser	to	1315	122	to	1'-4"					1"
		19	26'-9"			23'-10"						
BAR "C"	TS08423	22	20'-6"	1208	001	20'-6"						
		1	21'-5"					19'-10"				
BAR "D"	TS05424	ser	to	502	006	0'-10"	0'-2"	to	0'-2"	0'-10"		0 1/2"
		22	22'-2"					20'-7"				
		1	24'-11"			21'-9"						
BAR "E"	TS08425	ser	to	1310	123	to	1'-4"					1 1/4"
		19	26'-9"			23'-7"						
		1	24'-9"			21'-10"						
BAR "F"	TS08426	ser	to	1302	122	to	1'-4"					1"
		19	26'-6"			23'-7"						
		1	25'-7"					21'-10"				
BAR "G"	TS08427	ser	to	411	006	1'-2"	2'-0"	to	0'-4"	1'-6"		0 1/4"
		6	25'-9"					22'-0"				
BAR "H"	TS07428	44	10'-3"	924	006	1'-9"	0'-9"	6'-6"	1'-11"	0'-4"		
		1	25'-9"					21'-1"				
BAR "K"	TS08429	ser	to	414	124	1'-5"	2'-6"	to	1'-4"			0 1/4"
		6	25'-11"					21'-3"				
			SUB-TOTAL	15,395 lbs								
			NO. OF SEGMENTS	1 OF 5 REQUIRED								

(SEGMENT ON SOUTHBOUND BRIDGE SHOWN, SEGMENTS ON NORTHBOUND BRIDGE ARE SIMILAR)

PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SEGMENTS P1-2U, P2-2U, P3-2U, P4-2U, AND P5-2U												
	TS04001	44	28'-11"	851	001	28'-11"						
	TS04002	22	16'-8"	245	011	16'-2"						
	TS04003	22	21'-8"	318	121	9'-6"	1'-10"	10'-10"	2'-4"	1'-0"		
	TS04004	44	6'-2"	181	011	5'-8"						
	TS06005	38	7'-7"	432	004	6'-8"	0'-10"	0'-5"				
	TS06006	38	6'-3"	357	001	6'-3"						
	TS04007	22	21'-4"	314	121	10'-2"	1'-8"	10'-0"	1'-10"	1'-0"		
	TS06010	38	3'-2"	181	106	0'-11"	0'-4"	1'-6"	0'-11"			
	TS06011	38	2'-4"	133	003	1'-6"	1'-0"					
	TS07012	6	9'-0"	110	100	7'-3"	1'-8"	0'-11"				
	TS07013	6	9'-2"	112	130	6'-0"	1'-2"	0'-7"	0'-7"	2'-0"		
	TS04020	4	17'-6"	47	129	1'-0"	15'-8"					
	TS04021	178	18'-9"	2230	001	18'-9"						
	TS05022	46	19'-5"	933	001	19'-5"						
	AR04001	72	3'-6"	168	901							
	AR04002	48	2'-0"	64	902							
		1	23'-5"			20'-4"						
BAR "A"	TS08451	ser	to	1233	123	to	1'-4"					1"
		19	25'-1"			22'-0"						
		1	23'-4"			20'-5"						
BAR "B"	TS08452	ser	to	1226	122	to	1'-4"					1"
		19	25'-0"			22'-1"						
BAR "C"	TS08453	22	21'-3"	1251	001	21'-3"						
		1	22'-3"						20'-7"			
BAR "D"	TS05454	ser	to	520	006	0'-10"	0'-2"	to	0'-2"	0'-10"		0 1/2"
		22	23'-0"					21'-4"				
		1	23'-2"			20'-1"						
BAR "E"	TS08455	ser	to	1221	123	to	1'-4"					1"
		19	24'-10"			21'-9"						
		1	23'-1"			20'-2"						
BAR "F"	TS08456	ser	to	1213	122	to	1'-4"					1"
		19	24'-9"			21'-10"						
		1	23'-9"					20'-0"				
BAR "G"	TS08457	ser	to	382	006	1'-2"	2'-0"	to	0'-4"	1'-6"		0 1/4"
		6	23'-11"					20'-2"				
BAR "H"	TS07458	44	10'-3"	924	006	1'-9"	0'-9"	6'-6"	1'-11"	0'-4"		
		1	23'-11"					19'-4"				
BAR "K"	TS08459	ser	to	385	124	1'-5"	2'-6"	to	1'-4"			0 1/4"
		6	24'-1"					19'-6"				
			SUB-TOTAL	15,031 lbs								
			NO. OF SEGMENTS	1 OF 5 REQUIRED								

(SEGMENT ON SOUTHBOUND BRIDGE SHOWN, SEGMENTS ON NORTHBOUND BRIDGE ARE IDENTICAL.)

NOTES:

1. ALL REINFORCING STEEL TO BE EPOXY COATED.
2. FOR BAR TYPE AND BAR BENDING DIAGRAM, SEE SHEET 187 AND 188 OF 204.
3. ADDITIONAL REINFORCEMENT REQUIRED BY THE ANCHORBLOCKS IS NOT INCLUDED IN THESE BILL OF MATERIALS. REFER TO APPLICABLE SHEET FOR REBAR DETAILS AND QUANTITIES.
4. QUANTITIES FOR THE EPOXY COATED REINFORCEMENT STEEL FOR THE DUCT CONFINEMENT REINFOCEMENTS (HAIR PINS) ARE NOT INLCUDED IN THIS BILL OF MATERIAL. FOR DUCT CONFINEMENT REINFORCEMENT QUANTITIES, SEE SPECIAL PROVISION - "POST-TENSIONING".

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED PY | DRAWN LK | REVIEWED JB | DATE 10/30/07 | CHECKED MX | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

16 FT TYPICAL SEGEMENT BAR SCHEDULE 7

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SEGMENTS P1-3U, P2-3U, P3-3U, P4-3U, AND P5-3U												
	TS04001	44	28′-11″	851	001	28′-11″						
	TS04002	22	16′-8″	245	011	16′-2″						
	TS04003	22	21′-8″	318	121	9′-6″	1′-10″	10′-10″	2′-4″	1′-0″		
	TS04004	44	6′-2″	181	011	5′-8″						
	TS06005	38	7′-7″	432	004	6′-8″	0′-10″	0′-5″				
	TS06006	38	6′-3″	357	001	6′-3″						
	TS04007	22	21′-4″	314	121	10′-2″	1′-8″	10′-0″	1′-10″	1′-0″		
	TS06010	38	3′-2″	181	106	0′-11″	0′-4″	1′-6″	0′-11″			
	TS06011	38	2′-4″	133	003	1′-6″	1′-0″					
	TS07012	6	9′-0″	110	100	7′-3″	1′-8″	0′-11″				
	TS07013	6	9′-2″	112	130	6′-0″	1′-2″	0′-7″	0′-7″	2′-0″		
	TS04020	4	17′-6″	47	129	1′-0″	15′-8″					
	TS04021	174	18′-9″	2180	001	18′-9″						
	TS05022	46	19′-5″	933	001	19′-5″						
	AR04001	72	3′-6″	168	901							
	AR04002	48	2′-0″	64	902							
		1	21′-11″			18′-10″						
BAR "A"	TS08481	ser	to	1150	123	to	1′-4″					1″
		19	23′-5″			20′-4″						
		1	21′-8″			18′-10″						
BAR "B"	TS08482	ser	to	1142	122	to	1′-4″					1″
		19	23′-3″			20′-5″						
BAR "C"	TS08483	22	21′-11″	1291	001	21′-11″						
		1	23′-0″					21′-4″				
BAR "D"	TS05484	ser	to	536	006	0′-10″	0′-2″	to	0′-2″	0′-10″		0 1/4″
		22	23′-8″					22′-0″				
		1	21′-8″			18′-7″						
BAR "E"	TS08485	ser	to	1137	123	to	1′-4″					1″
		19	23′-2″			20′-1″						
		1	21′-5″			18′-7″						
BAR "F"	TS08486	ser	to	1129	122	to	1′-4″					1″
		19	23′-0″			20′-2″						
		1	22′-1″					18′-4″				
BAR "G"	TS08487	ser	to	355	006	1′-2″	2′-0″	to	0′-4″	1′-6″		0 1/4″
		6	22′-2″					18′-5″				
BAR "H"	TS07488	44	10′-3″	924	006	1′-9″	0′-9″	6′-6″	1′-11″	0′-4″		
		1	22′-2″					17′-8″				
BAR "K"	TS08489	ser	to	357	124	1′-5″	2′-6″	to	1′-4″			0 1/4″
		6	22′-4″					17′-10″				
			SUB-TOTAL	14,647 lbs								
			NO. OF SEGMENTS	1 OF 5 REQUIRED								

(SEGMENT ON SOUTHBOUND BRIDGE SHOWN, SEGMENTS ON NORTHBOUND BRIDGE ARE SIMILAR)

PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SEGMENTS P1-4U, P2-4U, P3-4U, P4-4U, AND P5-4U												
	TS04001	44	28′-11″	851	001	28′-11″						
	TS04002	22	16′-8″	245	011	16′-2″						
	TS04003	22	21′-8″	318	121	9′-6″	1′-10″	10′-10″	2′-4″	1′-0″		
	TS04004	44	6′-2″	181	011	5′-8″						
	TS06005	38	7′-7″	432	004	6′-8″	0′-10″	0′-5″				
	TS06006	38	6′-3″	357	001	6′-3″						
	TS04007	22	21′-4″	314	121	10′-2″	1′-8″	10′-0″	1′-10″	1′-0″		
	TS06010	38	3′-2″	181	106	0′-11″	0′-4″	1′-6″	0′-11″			
	TS06011	38	2′-4″	133	003	1′-6″	1′-0″					
	TS07012	6	9′-0″	110	100	7′-3″	1′-8″	0′-11″				
	TS07013	6	9′-2″	112	130	6′-0″	1′-2″	0′-7″	0′-7″	2′-0″		
	TS04020	4	17′-6″	47	129	1′-0″	15′-8″					
	TS04021	166	18′-9″	2080	001	18′-9″						
	TS05022	48	19′-5″	974	001	19′-5″						
	AR04001	72	3′-6″	168	901							
	AR04002	48	2′-0″	64	902							
		1	20′-4″			17′-5″						
BAR "A"	TS08511	ser	to	1073	123	to	1′-4″					1″
		19	21′-9″			18′-10″						
		1	20′-3″			17′-5″						
BAR "B"	TS08512	ser	to	1065	122	to	1′-4″					1″
		19	21′-8″			18′-10″						
BAR "C"	TS07513	22	21′-3″	957	001	21′-3″						
		1	23′-8″						22′-0″			
BAR "D"	TS05514	ser	to	551	006	0′-10″	0′-2″	to	0′-2″	0′-10″		0 1/4″
		22	24′-4″					22′-8″				
		1	20′-1″			17′-2″						
BAR "E"	TS08515	ser	to	1060	123	to	1′-4″					1″
		19	21′-6″			18′-7″						
		1	20′-0″			17′-2″						
BAR "F"	TS08516	ser	to	1052	122	to	1′-4″					1″
		19	21′-5″			18′-7″						
		1	20′-6″						16′-9″			
BAR "G"	TS08517	ser	to	330	006	1′-2″	2′-0″	to	0′-4″	1′-6″		0 1/4″
		6	20′-7″						16′-10″			
BAR "H"	TS07518	44	10′-3″	924	006	1′-9″	0′-9″	6′-6″	1′-11″	0′-4″		
		1	20′-7″						16′-2″			
BAR "K"	TS08519	ser	to	332	124	1′-5″	2′-6″	to	1′-4″			0 1/4″
		6	20′-8″						16′-3″			
			SUB-TOTAL	13,911 lbs								
			NO. OF SEGMENTS	1 OF 5 REQUIRED								

(SEGMENT ON SOUTHBOUND BRIDGE SHOWN, SEGMENTS ON NORTHBOUND BRIDGE ARE IDENTICAL.)

NOTES:

1. ALL REINFORCING STEEL TO BE EPOXY COATED.
2. FOR BAR TYPE AND BAR BENDING DIAGRAM, SEE SHEET 187 AND 188 OF 204.
3. ADDITIONAL REINFORCEMENT REQUIRED BY THE ANCHORBLOCKS IS NOT INCLUDED IN THESE BILL OF MATERIALS. REFER TO APPLICABLE SHEET FOR REBAR DETAILS AND QUANTITIES.
4. QUANTITIES FOR THE EPOXY COATED REINFORCEMENT STEEL FOR THE DUCT CONFINEMENT REINFORCEMENTS (HAIR PINS) ARE NOT INCLUDED IN THIS BILL OF MATERIAL. FOR DUCT CONFINEMENT REINFORCEMENT QUANTITIES, SEE SPECIAL PROVISION - "POST-TENSIONING".

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED PY | DRAWN LK | REVIEWED JB | DATE 10/30/07 | CHECKED MX | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

16 FT TYPICAL SEGEMENT BAR SCHEDULE 8

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SEGMENTS P1-5U, P2-5U, P3-5U, P4-5U, AND P5-5U												
	TS04001	44	28′-11″	851	001	28′-11″						
	TS04002	22	16′-8″	245	011	16′-2″						
	TS04003	22	21′-8″	318	121	9′-6″	1′-10″	10′-10″	2′-4″	1′-0″		
	TS04004	44	6′-2″	181	011	5′-8″						
	TS06005	38	7′-7″	432	004	6′-8″	0′-10″	0′-5″				
	TS06006	38	6′-3″	357	001	6′-3″						
	TS04007	22	21′-4″	314	121	10′-2″	1′-8″	10′-0″	1′-10″	1′-0″		
	TS06010	38	3′-2″	181	106	0′-11″	0′-4″	1′-6″	0′-11″			
	TS06011	38	2′-4″	133	003	1′-6″	1′-0″					
	TS07012	6	9′-0″	110	100	7′-3″	1′-8″	0′-11″				
	TS07013	6	9′-2″	112	130	6′-0″	1′-2″	0′-7″	0′-7″	2′-0″		
	TS04020	4	17′-6″	47	129	1′-0″	15′-8″					
	TS04021	162	18′-9″	2029	001	18′-9″						
	TS05022	48	19′-5″	974	001	19′-5″						
	AR04001	72	3′-6″	168	901							
	AR04002	48	2′-0″	64	902							
		1	19′-1″			16′-1″						
BAR "A"	TS08541	ser	to	1002	123	to	1′-4″					0 3/4″
		19	20′-5″			17′-5″						
		1	18′-11″			16′-1″						
BAR "B"	TS08542	ser	to	995	122	to	1′-4″					0 3/4″
		19	20′-3″			17′-5″						
BAR "C"	TS07543	22	21′-10″	982	001	21′-10″						
		1	24′-3″					22′-8″				
BAR "D"	TS05544	ser	to	565	006	0′-10″	0′-2″	to	0′-2″	0′-10″		0 1/4″
		22	24′-10″					23′-3″				
		1	18′-10″			15′-10″						
BAR "E"	TS08545	ser	to	989	123	to	1′-4″					0 3/4″
		19	20′-2″			17′-2″						
		1	18′-8″			15′-10″						
BAR "F"	TS08546	ser	to	982	122	to	1′-4″					0 3/4″
		19	20′-0″			17′-2″						
		1	19′-0″					15′-3″				
BAR "G"	TS08547	ser	to	306	006	1′-2″	2′-0″	to	0′-4″	1′-6″		0 1/4″
		6	19′-2″					15′-5″				
BAR "H"	TS08548	44	10′-3″	1207	006	1′-9″	0′-9″	6′-6″	1′-11″	0′-4″		
		1	19′-2″					14′-9″				
BAR "K"	TS08549	ser	to	309	124	1′-5″	2′-6″	to	1′-4″			0 1/4″
		6	19′-3″					14′-10″				
			SUB-TOTAL	13,853 lbs								
			NO. OF SEGMENTS	1 OF 5 REQUIRED								

(SEGMENT ON SOUTHBOUND BRIDGE SHOWN, SEGMENTS ON NORTHBOUND BRIDGE ARE IDENTICAL.)

PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SEGMENTS P1-6U, P2-6U, P3-6U, P4-6U, AND P5-6U												
	TS04001	44	28′-11″	851	001	28′-11″						
	TS04002	22	16′-8″	245	011	16′-2″						
	TS04003	22	21′-8″	318	121	9′-6″	1′-10″	10′-10″	2′-4″	1′-0″		
	TS04004	44	6′-2″	181	011	5′-8″						
	TS06005	38	7′-7″	432	004	6′-8″	0′-10″	0′-5″				
	TS06006	38	6′-3″	357	001	6′-3″						
	TS04007	22	21′-4″	314	121	10′-2″	1′-8″	10′-0″	1′-10″	1′-0″		
	TS06010	38	3′-2″	181	106	0′-11″	0′-4″	1′-6″	0′-11″			
	TS06011	38	2′-4″	133	003	1′-6″	1′-0″					
	TS07012	6	9′-0″	110	100	7′-3″	1′-8″	0′-11″				
	TS07013	6	9′-2″	112	130	6′-0″	1′-2″	0′-7″	0′-7″	2′-0″		
	TS04020	4	17′-6″	47	129	1′-0″	15′-8″					
	TS04021	158	18′-9″	1979	001	18′-9″						
	TS05022	50	19′-5″	1014	001	19′-5″						
	AR04001	72	3′-6″	168	901							
	AR04002	48	2′-0″	64	902							
		1	17′-11″			14′-11″						
BAR "A"	TS08571	ser	to	938	123	to	1′-4″					
		19	19′-1″			16′-1″						
		1	17′-9″			14′-11″						
BAR "B"	TS08572	ser	to	930	122	to	1′-4″					
		19	18′-11″			16′-1″						
BAR "C"	TS06573	22	21′-0″	695	001	21′-0″						
		1	24′-11″						23′-3″			
BAR "D"	TS05574	ser	to	577	006	0′-10″	0′-2″	to	0′-2″	0′-10″		
		22	25′-5″					23′-9″				
		1	17′-8″			14′-8″						
BAR "E"	TS08575	ser	to	925	123	to	1′-4″					
		19	18′-10″			15′-10″						
		1	17′-6″			14′-8″						
BAR "F"	TS08576	ser	to	917	122	to	1′-4″					
		19	18′-8″			15′-10″						
		1	17′-8″					13′-11″				
BAR "G"	TS08577	ser	to	285	006	1′-2″	2′-0″	to	0′-4″	1′-6″		
		6	17′-10″					14′-1″				
BAR "H"	TS08578	44	10′-3″	1207	006	1′-9″	0′-9″	6′-6″	1′-11″	0′-4″		
		1	17′-10″					13′-5″				
BAR "K"	TS08579	ser	to	288	124	1′-5″	2′-6″	to	1′-4″			
		6	17′-11″					13′-6″				
			SUB-TOTAL	13,268 lbs								
			NO. OF SEGMENTS	1 OF 5 REQUIRED								

(SEGMENT ON SOUTHBOUND BRIDGE SHOWN, SEGMENTS ON NORTHBOUND BRIDGE ARE IDENTICAL.)

NOTES:

1. ALL REINFORCING STEEL TO BE EPOXY COATED.
2. FOR BAR TYPE AND BAR BENDING DIAGRAM, SEE SHEET 187 AND 188 OF 204.
3. ADDITIONAL REINFORCEMENT REQUIRED BY THE ANCHORBLOCKS IS NOT INCLUDED IN THESE BILL OF MATERIALS. REFER TO APPLICABLE SHEET FOR REBAR DETAILS AND QUANTITIES.
4. QUANTITIES FOR THE EPOXY COATED REINFORCEMENT STEEL FOR THE DUCT CONFINEMENT REINFORCEMENTS (HAIR PINS) ARE NOT INCLUDED IN THIS BILL OF MATERIAL. FOR DUCT CONFINEMENT REINFORCEMENT QUANTITIES, SEE SPECIAL PROVISION "POST TENSIONING".

DESIGN AGENCY HNTB 1100 Superior Avenue, Suite 1330 Cleveland, OH 44114-2531

DESIGNED PY | DRAWN LK | CHECKED MX | REVIEWED JB | DATE 10/30/07 | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

16 FT TYPICAL SEGEMENT BAR SCHEDULE 9

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

150/204
416/470

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PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SEGMENTS P1-7U, P2-7U, P3-7U, P4-7U, AND P5-7U												
	TS04001	44	28'-11"	851	001	28'-11"						
	TS04002	22	16'-8"	245	011	16'-2"						
	TS04003	22	21'-8"	318	121	9'-6"	1'-10"	10'-10"	2'-4"	1'-0"		
	TS04004	44	6'-2"	181	011	5'-8"						
	TS06005	38	7'-7"	432	004	6'-8"	0'-10"	0'-5"				
	TS06006	38	6'-3"	357	001	6'-3"						
	TS04007	22	21'-4"	314	121	10'-2"	1'-8"	10'-0"	1'-10"	1'-0"		
	TS06010	38	3'-2"	181	106	0'-11"	0'-4"	1'-6"	0'-11"			
	TS06011	38	2'-4"	133	003	1'-6"	1'-0"					
	TS07012	6	9'-0"	110	100	7'-3"	1'-8"	0'-11"				
	TS07013	6	9'-2"	112	130	6'-0"	1'-2"	0'-7"	0'-7"	2'-0"		
	TS04020	4	17'-6"	47	129	1'-0"	15'-8"					
	TS04021	154	18'-9"	1929	001	18'-9"						
	TS05022	50	19'-5"	1014	001	19'-5"						
	AR04001	72	3'-6"	168	901							
	AR04002	48	2'-0"	64	902							
		1	16'-10"			13'-11"						
BAR "A"	TS08601	ser	to	881	123	to	1'-4"					0 3/4"
		19	17'-10"			14'-11"						
		1	16'-8"			13'-11"						
BAR "B"	TS08602	ser	to	873	122	to	1'-4"					0 3/4"
		19	17'-8"			14'-11"						
BAR "C"	TS05603	22	20'-1"	462	001	20'-1"						
		1	25'-4"					23'-9"				
BAR "D"	TS05604	ser	to	588	006	0'-10"	0'-2"	to	0'-2"	0'-10"		0 1/4"
		22	25'-9"					24'-2"				
		1	16'-7"			13'-8"						
BAR "E"	TS08605	ser	to	868	123	to	1'-4"					0 3/4"
		19	17'-7"			14'-8"						
		1	16'-5"			13'-8"						
BAR "F"	TS08606	ser	to	860	122	to	1'-4"					0 3/4"
		19	17'-5"			14'-8"						
		1	16'-6"					12'-9"				
BAR "G"	TS08607	ser	to	266	006	1'-2"	2'-0"	to	0'-4"	1'-6"		0 1/4"
		6	16'-7"					12'-10"				
BAR "H"	TS08608	44	10'-3"	1207	006	1'-9"	0'-9"	6'-6"	1'-11"	0'-4"		
		1	16'-8"					12'-3"				
BAR "K"	TS08609	ser	to	269	124	1'-5"	2'-6"	to	1'-4"			0 1/4"
		6	16'-9"					12'-4"				
			SUB-TOTAL	12,730 lbs								
			NO. OF SEGMENTS	1 OF 5 REQUIRED								

(SEGMENT ON SOUTHBOUND BRIDGE SHOWN, SEGMENTS ON NORTHBOUND BRIDGE ARE IDENTICAL.)

PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SEGMENTS P1-8U, P2-8U, P3-8U, AND P4-8U												
	TS04001	44	28'-11"	851	001	28'-11"						
	TS04002	22	16'-8"	245	011	16'-2"						
	TS04003	22	21'-8"	318	121	9'-6"	1'-10"	10'-10"	2'-4"	1'-0"		
	TS04004	44	6'-2"	181	011	5'-8"						
	TS06005	38	7'-7"	432	004	6'-8"	0'-10"	0'-5"				
	TS06006	38	6'-3"	357	001	6'-3"						
	TS04007	22	21'-4"	314	121	10'-2"	1'-8"	10'-0"	1'-10"	1'-0"		
	TS06010	38	3'-2"	181	106	0'-11"	0'-4"	1'-6"	0'-11"			
	TS06011	38	2'-4"	133	003	1'-6"	1'-0"					
	TS07012	6	9'-0"	110	100	7'-3"	1'-8"	0'-11"				
	TS07013	6	9'-2"	112	130	6'-0"	1'-2"	0'-7"	0'-7"	2'-0"		
	TS04020	4	17'-6"	47	129	1'-0"	15'-8"					
	TS04021	150	18'-9"	1879	001	18'-9"						
	TS05022	52	19'-5"	1055	001	19'-5"						
	AR04001	72	3'-6"	168	901							
	AR04002	48	2'-0"	64	902							
		1	15'-11"			13'-0"						
BAR "A"	TS08631	ser	to	832	123	to	1'-4"					0 1/2"
		19	16'-10"			13'-11"						
		1	15'-10"			13'-1"						
BAR "B"	TS08632	ser	to	824	122	to	1'-4"					0 1/2"
		19	16'-8"			13'-11"						
BAR "C"	TS05633	22	20'-6"	471	001	20'-6"						
		1	25'-9"						24'-2"			
BAR "D"	TS05634	ser	to	598	006	0'-10"	0'-2"	to	0'-2"	0'-10"		0 1/4"
		22	26'-2"						24'-7"			
		1	15'-7"			12'-9"						
BAR "E"	TS08635	ser	to	819	123	to	1'-4"					0 1/2"
		19	16'-6"			13'-8"						
		1	15'-7"			12'-10"						
BAR "F"	TS08636	ser	to	811	122	to	1'-4"					0 1/2"
		19	16'-5"			13'-8"						
		1	15'-6"						11'-9"			
BAR "G"	TS08637	ser	to	249	006	1'-2"	2'-0"	to	0'-4"	1'-6"		0 1/4"
		6	15'-7"						11'-10"			
BAR "H"	TS08638	44	10'-3"	1207	006	1'-9"	0'-9"	6'-6"	1'-11"	0'-4"		
		1	15'-7"						11'-3"			
BAR "K"	TS08639	ser	to	252	124	1'-5"	2'-6"	to	1'-4"			0 1/4"
		6	15'-8"						11'-4"			
			SUB-TOTAL	12,510 lbs								
			NO. OF SEGMENTS	1 OF 4 REQUIRED								

(SEGMENT ON SOUTHBOUND BRIDGE SHOWN, SEGMENTS ON NORTHBOUND BRIDGE ARE IDENTICAL.)

NOTES:

1. ALL REINFORCING STEEL TO BE EPOXY COATED.
2. FOR BAR TYPE AND BAR BENDING DIAGRAM, SEE SHEET 187 AND 188 OF 204.
3. ADDITIONAL REINFORCEMENT REQUIRED BY THE ANCHORBLOCKS IS NOT INCLUDED IN THESE BILL OF MATERIALS. REFER TO APPLICABLE SHEET FOR REBAR DETAILS AND QUANTITIES.
4. QUANTITIES FOR THE EPOXY COATED REINFORCEMENT STEEL FOR THE DUCT CONFINEMENT REINFOCEMENTS (HAIR PINS) ARE NOT INLCUDED IN THIS BILL OF MATERIAL. FOR DUCT CONFINEMENT REINFORCEMENT QUANTITIES, SEE SPECIAL PROVISION - "POST-TENSIONING".

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED PY | DRAWN LK | CHECKED MX | REVIEWED JB | DATE 10/30/07 | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

16 FT TYPICAL SEGEMENT BAR SCHEDULE 10

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SEGMENT P5-9U												
	TS04001	44	28'-11"	851	001	28'-11"						
	TS04002	22	16'-8"	245	011	16'-2"						
	TS04003	22	21'-8"	318	121	9'-6"	1'-10"	10'-10"	2'-4"	1'-0"		
	TS04004	44	6'-2"	181	011	5'-8"						
	TS06005	38	7'-7"	432	004	6'-8"	0'-10"	0'-5"				
	TS06006	38	6'-3"	357	001	6'-3"						
	TS04007	22	21'-4"	314	121	10'-2"	1'-8"	10'-0"	1'-10"	1'-0"		
	TS06010	38	3'-2"	181	106	0'-11"	0'-4"	1'-6"	0'-11"			
	TS06011	38	2'-4"	133	003	1'-6"	1'-0"					
	TS07012	6	9'-0"	110	100	7'-3"	1'-8"	0'-11"				
	TS07013	6	9'-2"	112	130	6'-0"	1'-2"	0'-7"	0'-7"	2'-0"		
	TS04020	4	17'-6"	47	129	1'-0"	15'-8"					
	TS04021	146	18'-9"	1829	001	18'-9"						
	TS05022	52	19'-5"	1055	001	19'-5"						
	AR04001	72	3'-6"	168	901							
	AR04002	48	2'-0"	64	902							
		1	15'-3"			12'-4"						
BAR "A"	TS08661	ser	to	790	123	to	1'-4"					0 1/2"
		19	15'-11"			13'-0"						
		1	15'-0"			12'-4"						
BAR "B"	TS08662	ser	to	783	122	to	1'-4"					0 1/2"
		19	15'-9"			13'-1"						
BAR "C"	TS05663	22	20'-10"	478	001	20'-10"						
		1	26'-7"					24'-7"				
BAR "D"	TS06664	ser	to	884	006	1'-0"	0'-3"	to	0'-3"	1'-0"		0 1/4"
		22	26'-11"					24'-11"				
		1	15'-0"			12'-1"						
BAR "E"	TS08665	ser	to	777	123	to	1'-4"					0 1/2"
		19	15'-8"			12'-9"						
		1	14'-9"			12'-1"						
BAR "F"	TS08666	ser	to	770	122	to	1'-4"					0 1/2"
		19	15'-6"			12'-10"						
		1	14'-7"					10'-10"				
BAR "G"	TS08667	ser	to	235	006	1'-2"	2'-0"	to	0'-4"	1'-6"		0 1/4"
		6	14'-8"					10'-11"				
BAR "H"	TS08668	44	10'-3"	1207	006	1'-9"	0'-9"	6'-6"	1'-11"	0'-4"		
		1	14'-9"					10'-5"				
BAR "K"	TS08669	ser	to	238	124	1'-5"	2'-6"	to	1'-4"			0 1/4"
		6	14'-10"					10'-6"				
			SUB-TOTAL	12,559 lbs								
			NO. OF SEGMENTS	1 OF 1 REQUIRED								

(SEGMENT ON SOUTHBOUND BRIDGE SHOWN, SEGMENTS ON NORTHBOUND BRIDGE ARE IDENTICAL.)

PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SEGMENTS P1-10U, P2-10U, P3-10U, P4-10U, AND P5-10U												
	TS04001	44	28'-11"	851	001	28'-11"						
	TS04002	22	16'-8"	245	011	16'-2"						
	TS04003	22	21'-8"	318	121	9'-6"	1'-10"	10'-10"	2'-4"	1'-0"		
	TS04004	44	6'-2"	181	011	5'-8"						
	TS06005	38	7'-7"	432	004	6'-8"	0'-10"	0'-5"				
	TS06006	38	6'-3"	357	001	6'-3"						
	TS04007	22	21'-4"	314	121	10'-2"	1'-8"	10'-0"	1'-10"	1'-0"		
	TS06010	38	3'-2"	181	106	0'-11"	0'-4"	1'-6"	0'-11"			
	TS06011	38	2'-4"	133	003	1'-6"	1'-0"					
	TS07012	6	9'-0"	110	100	7'-3"	1'-8"	0'-11"				
	TS07013	6	9'-2"	112	130	6'-0"	1'-2"	0'-7"	0'-7"	2'-0"		
	TS04020	4	17'-6"	47	129	1'-0"	15'-8"					
	TS04021	146	18'-9"	1829	001	18'-9"						
	TS05022	52	19'-5"	1055	001	19'-5"						
	AR04001	72	3'-6"	168	901							
	AR04002	48	2'-0"	64	902							
		1	14'-7"			11'-9"						
BAR "A"	TS08691	ser	to	757	123	to	1'-4"					0 1/4"
		19	15'-2"			12'-4"						
		1	14'-6"			11'-10"						
BAR "B"	TS08692	ser	to	750	122	to	1'-4"					0 1/4"
		19	15'-0"			12'-4"						
BAR "C"	TS05693	22	21'-1"	484	001	21'-1"						
		1	26'-10"						24'-11"			
BAR "D"	TS06694	ser	to	893	006	1'-0"	0'-3"	to	0'-3"	1'-0"		0 1/4"
		22	27'-1"						25'-2"			
		1	14'-4"			11'-6"						
BAR "E"	TS08695	ser	to	744	123	to	1'-4"					0 1/4"
		19	14'-11"			12'-1"						
		1	14'-3"			11'-7"						
BAR "F"	TS08696	ser	to	737	122	to	1'-4"					0 1/4"
		19	14'-9"			12'-1"						
		1	13'-11"						10'-2"			
BAR "G"	TS08697	ser	to	224	006	1'-2"	2'-0"	to	0'-4"	1'-6"		0"
		6	13'-11"						10'-2"			
BAR "H"	TS08698	44	10'-3"	1207	006	1'-9"	0'-9"	6'-6"	1'-11"	0'-4"		
		1	14'-1"						9'-9"			
BAR "K"	TS08699	ser	to	226	124	1'-5"	2'-6"	to	1'-4"			0"
		6	14'-1"						9'-9"			
			SUB-TOTAL	12,419 lbs								
			NO. OF SEGMENTS	1 OF 5 REQUIRED								

(SEGMENT ON SOUTHBOUND BRIDGE SHOWN, SEGMENTS ON NORTHBOUND BRIDGE ARE IDENTICAL.)

NOTES:

1. ALL REINFORCING STEEL TO BE EPOXY COATED.
2. FOR BAR TYPE AND BAR BENDING DIAGRAM, SEE SHEET 187 AND 188 OF 204.
3. ADDITIONAL REINFORCEMENT REQUIRED BY THE ANCHORBLOCKS IS NOT INCLUDED IN THESE BILL OF MATERIALS. REFER TO APPLICABLE SHEET FOR REBAR DETAILS AND QUANTITIES.
4. QUANTITIES FOR THE EPOXY COATED REINFORCEMENT STEEL FOR THE DUCT CONFINEMENT REINFORCEMENTS (HAIR PINS) ARE NOT INCLUDED IN THIS BILL OF MATERIAL. FOR DUCT CONFINEMENT REINFORCEMENT QUANTITIES, SEE SPECIAL PROVISION - "POST-TENSIONING"

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED PY | DRAWN LK | REVIEWED JB | DATE 10/30/07 | CHECKED MX | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

16 FT TYPICAL SEGEMENT BAR SCHEDULE 11

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SEGMENTS P1-11U, P2-11U, P3-11U, P4-11U, AND P5-11U												
	TS04001	44	28'-11"	851	001	28'-11"						
	TS04002	22	16'-8"	245	011	16'-2"						
	TS04003	22	21'-8"	318	121	9'-6"	1'-10"	10'-10"	2'-4"			
	TS04004	44	6'-2"	181	011	5'-8"						
	TS06005	38	7'-7"	432	004	6'-8"	0'-10"	0'-5"				
	TS06006	38	6'-3"	357	001	6'-3"						
	TS04007	22	21'-4"	314	121	10'-2"	1'-8"	10'-0"	1'-10"	1'-0"		
	TS06010	38	3'-2"	181	106	0'-11"	0'-4"	1'-6"	0'-11"			
	TS06011	38	2'-4"	133	003	1'-6"	1'-0"					
	TS07012	6	9'-0"	110	100	7'-3"	1'-8"	0'-11"				
	TS07013	6	9'-2"	112	130	6'-0"	1'-2"	0'-7"	0'-7"	1'-0"		
	TS04020	4	17'-6"	47	129	1'-0"	15'-8"					
	TS04021	142	18'-9"	1779	001	18'-9"						
	TS05022	52	19'-5"	1055	001	19'-5"						
	AR04001	72	3'-6"	168	901					2'-0"		
	AR04002	48	2'-0"	64	902							
		1	14'-0"			11'-5"						
BAR "A"	TS07721	ser	to	550	123	to	1'-2"					0 1/4"
		19	14'-4"			11'-9"						
		1	13'-10"			11'-6"						
BAR "B"	TS07722	ser	to	545	122	to	1'-2"					0 1/4"
		19	14'-2"			11'-10"						
BAR "C"	TS05723	22	21'-2"	487	001	21'-2"						
		1	27'-5"					25'-2"				
BAR "D"	TS07724	ser	to	1239	006	1'-2"	0'-3"	to	0'-3"			0"
		22	27'-6"					25'-3"				
		1	13'-9"			11'-2"						
BAR "E"	TS07725	ser	to	540	123	to	1'-2"			1'-2"		0 1/4"
		19	14'-1"			11'-6"						
		1	13'-7"			11'-3"						
BAR "F"	TS07726	ser	to	535	122	to	1'-2"					0 1/4"
		19	13'-11"			11'-7"						
		1	13'-4"					9'-7"				
BAR "G"	TS07727	ser	to	164	006	1'-2"	2'-0"	to	0'-4"			0 1/4"
		6	13'-5"					9'-8"				
BAR "H"	TS08728	44	10'-3"	1207	006	1'-9"	0'-9"	6'-6"	1'-11"			
		1	13'-4"					9'-2"		1'-6"		
BAR "K"	TS07729	ser	to	164	124	1'-5"	2'-6"	to	1'-2"			0 1/4"
		6	13'-5"					9'-3"				
										0'-4"		
SUB-TOTAL				11,778 lbs								
NO. OF SEGMENTS				1 OF 5 REQUIRED								

(SEGMENT ON SOUTHBOUND BRIDGE SHOWN, SEGMENTS ON NORTHBOUND BRIDGE ARE IDENTICAL.)

PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SEGMENTS P1-12U, P2-12U, P3-12U, AND P4-12U												
	TS04001	44	28'-11"	851	001	28'-11"						
	TS04002	22	16'-8"	245	011	16'-2"						
	TS04003	22	21'-8"	318	121	9'-6"	1'-10"	10'-10"	2'-4"	1'-0"		
	TS04004	44	6'-2"	181	011	5'-8"						
	TS06005	38	7'-7"	432	004	6'-8"	0'-10"	0'-5"				
	TS06006	38	6'-3"	357	001	6'-3"						
	TS04007	22	21'-4"	314	121	10'-2"	1'-8"	10'-0"	1'-10"	1'-0"		
	TS06010	38	3'-2"	181	106	0'-11"	0'-4"	1'-6"	0'-11"			
	TS06011	38	2'-4"	133	003	1'-6"	1'-0"					
	TS07012	6	9'-0"	110	100	7'-3"	1'-8"	0'-11"				
	TS07013	6	9'-2"	112	130	6'-0"	1'-2"	0'-7"	0'-7"	2'-0"		
	TS04020	4	17'-6"	47	129	1'-0"	15'-8"					
	TS04021	142	18'-9"	1779	001	18'-9"						
	TS05022	52	19'-5"	1055	001	19'-5"						
	AR04001	72	3'-6"	168	901							
	AR04002	48	2'-0"	64	902							
		1	13'-11"			11'-5"						
BAR "A"	TS07751	ser	to	542	123	to	1'-2"					0"
		19	13'-11"			11'-5"						
		1	13'-9"			11'-5"						
BAR "B"	TS07752	ser	to	537	122	to	1'-2"					0"
		19	13'-10"			11'-6"						
BAR "C"	TS05753	22	21'-3"	488	001	21'-3"						
		1	27'-6"						25'-3"			
BAR "D"	TS07754	ser	to	1243	006	1'-2"	0'-3"	to	0'-3"	1'-2"		0"
		22	27'-7"						25'-4"			
		1	13'-8"			11'-2"						
BAR "E"	TS07755	ser	to	532	123	to	1'-2"					0"
		19	13'-8"			11'-2"						
		1	13'-6"			11'-2"						
BAR "F"	TS07756	ser	to	527	122	to	1'-2"					0"
		19	13'-7"			11'-3"						
		1	13'-1"						9'-4"			
BAR "G"	TS07757	ser	to	161	006	1'-2"	2'-0"	to	0'-4"	1'-6"		0"
		6	13'-1"						9'-4"			
BAR "H"	TS08758	44	10'-3"	1207	006	1'-9"	0'-9"	6'-6"	1'-11"	0'-4"		
		1	13'-1"						8'-11"			
BAR "K"	TS07759	ser	to	160	124	1'-5"	2'-6"	to	1'-2"			0"
		6	13'-1"						8'-11"			
SUB-TOTAL				11,744 lbs								
NO. OF SEGMENTS				1 OF 4 REQUIRED								

(SEGMENT ON SOUTHBOUND BRIDGE SHOWN, SEGMENTS ON NORTHBOUND BRIDGE ARE IDENTICAL.)

NOTES:

1. ALL REINFORCING STEEL TO BE EPOXY COATED.
2. FOR BAR TYPE AND BAR BENDING DIAGRAM, SEE SHEET 187 AND 188 OF 204.
3. ADDITIONAL REINFORCEMENT REQUIRED BY THE ANCHORBLOCKS IS NOT INCLUDED IN THESE BILL OF MATERIALS. REFER TO APPLICABLE SHEET FOR REBAR DETAILS AND QUANTITIES.
4. QUANTITIES FOR THE EPOXY COATED REINFORCEMENT STEEL FOR THE DUCT CONFINEMENT REINFOCEMENTS (HAIR PINS) ARE NOT INLCUDED IN THIS BILL OF MATERIAL. FOR DUCT CONFINEMENT REINFORCEMENT QUANTITIES, SEE SPECIAL PROVISON - "POST-TENSIONING".

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

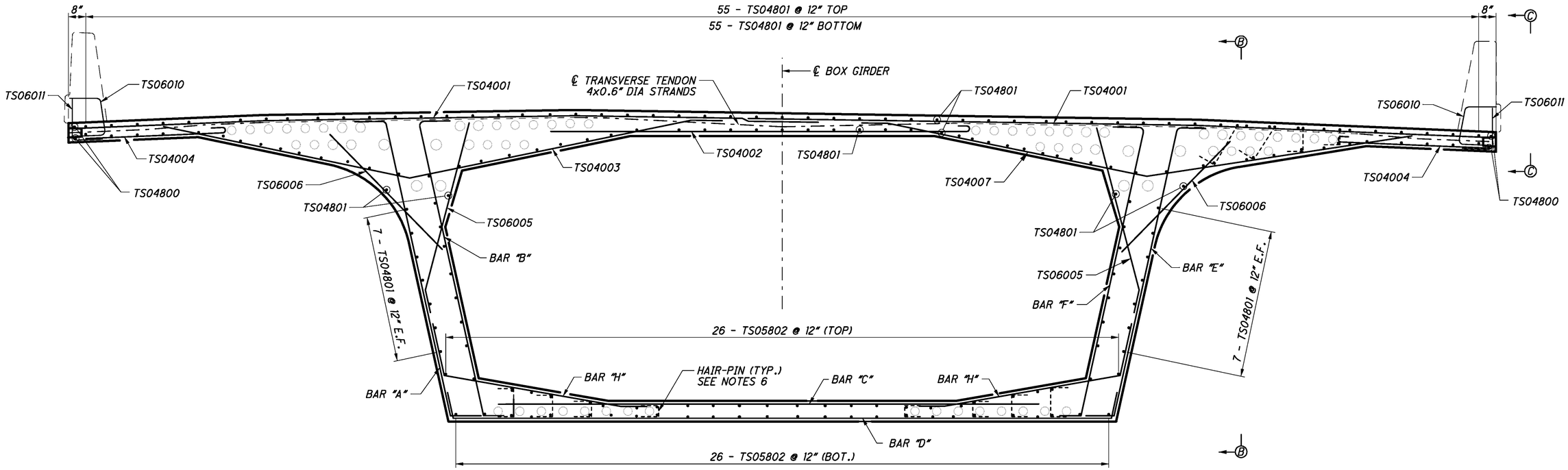
DESIGNED PY | DRAWN LK | REVIEWED JB | DATE 10/30/07 | CHECKED MX | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

16 FT TYPICAL SEGEMENT BAR SCHEDULE 12

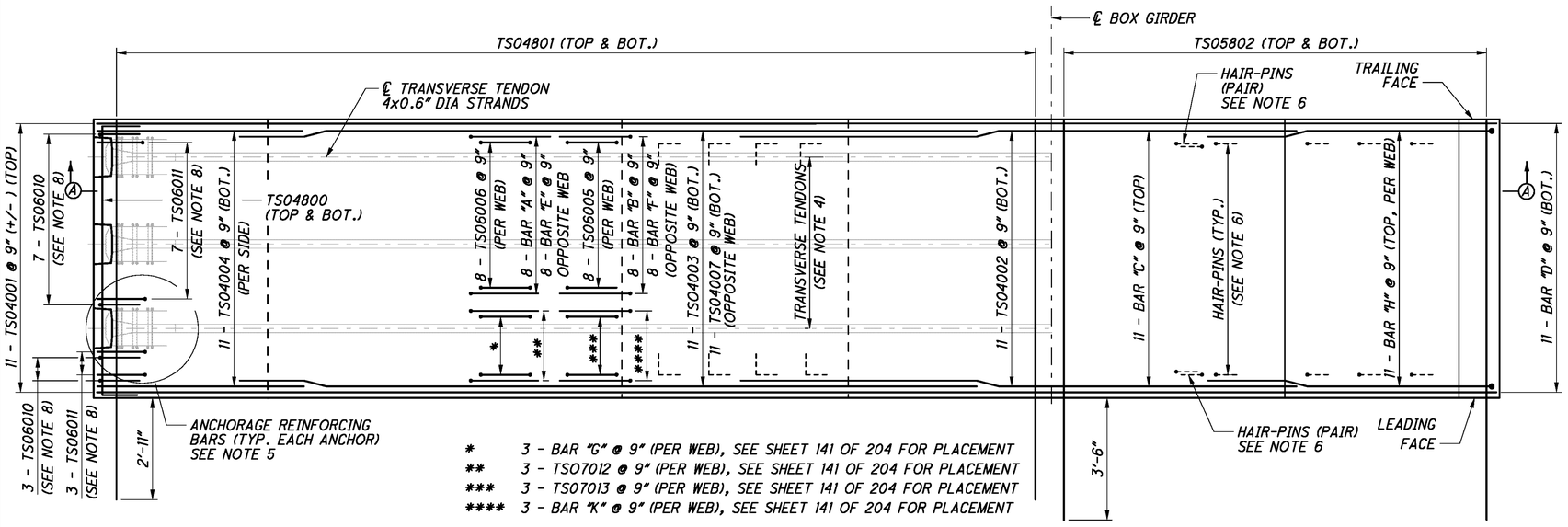
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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SECTION A-A
(LOOKING DOWNSTATION)



* 3 - BAR "G" @ 9" (PER WEB), SEE SHEET 141 OF 204 FOR PLACEMENT
** 3 - TS07012 @ 9" (PER WEB), SEE SHEET 141 OF 204 FOR PLACEMENT
*** 3 - TS07013 @ 9" (PER WEB), SEE SHEET 141 OF 204 FOR PLACEMENT
**** 3 - BAR "K" @ 9" (PER WEB), SEE SHEET 141 OF 204 FOR PLACEMENT

HALF PLAN - TOP SLAB

HALF PLAN - BOTTOM SLAB

NOTES:

1. ALL CONCRETE CHAMFERS ARE ¾".
2. 1½" INITIAL WEARING SURFACE NOT SHOWN FOR CLARITY.
3. SPACE ALL REINFORCING BARS IN TOP SLAB TO CLEAR POST TENSIONING TENDONS.
4. FOR TRANSVERSE TENDON PROFILES, LAYOUT AND DETAILS, SEE SHEETS 114 AND 115 OF 204.
5. FOR REINFORCING BARS AT TRANSVERSE TENDON ANCHORAGES, SEE TRANSVERSE POST TENSIONING DETAILS SHEET.
6. PAIRS OF #4 HAIR-PIN BARS SHALL BE PROVIDED FOR THE BOTTOM SLAB AROUND EACH DUCT AT EACH SEGMENT FACE. IN ADDITION, #4 HAIR-PIN BARS SHALL ALSO BE PROVIDED WITH MAXIMUM SPACINGS OF 18 INCHES TO TIE TOP AND BOTTOM NON-PRESTRESSED REINFORCEMENTS WHEN SPACING BETWEEN THE TRANSVERSE OR LONGITUDINAL DUCTS IS LESS THAN 12 INCHES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETAILING AND PROVIDING NECESSARY HAIR-PIN BARS, BASED ON THE ACTUAL PT LAYOUT USED, AS PER AASHTO SEGMENTAL GUIDE SPECIFICATION, ARTICLE 16.6. SEE SPECIAL PROVISION - "POST-TENSIONING".
7. FOR SECTION B-B AND C-C, SEE SHEET 141 OF 204.
8. SEE SECTION C-C ON SHEET 141 OF 204 FOR BAR PLACEMENTS.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
PY	PY	JB	10/30/07

CHECKED	REVISED	STRUCTURE FILE NUMBER
MX		8302278L/8302294R

8 FT SEGMENT REINFORCEMENT
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

154/204

420
470

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PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SEGMENTS P1-13U, P2-13U, P3-13U, AND P4-13U												
	TS04001	22	28'-11"	426	001	28'-11"						
	TS04002	11	16'-8"	122	011	16'-2"						
	TS04003	11	21'-8"	159	121	9'-6"	1'-10"	10'-10"	2'-4"	1'-0"		
	TS04004	22	6'-2"	91	011	5'-8"						
	TS06005	16	7'-7"	182	004	6'-8"	0'-10"	0'-5"				
	TS06006	16	6'-3"	150	001	6'-3"						
	TS04007	11	21'-4"	157	121	10'-2"	1'-8"	10'-0"	1'-10"	1'-0"		
	TS06010	20	3'-2"	95	106	0'-11"	0'-4"	1'-6"	0'-11"			
	TS06011	20	2'-4"	70	003	1'-6"	1'-0"					
	TS07012	6	9'-0"	110	100	7'-3"	1'-8"	0'-11"				
	TS07013	6	9'-2"	112	130	6'-0"	1'-2"	0'-7"	0'-7"	2'-0"		
	TS04800	4	9'-6"	25	129	1'-0"	7'-8"					
	TS04801	142	10'-9"	1020	001	10'-9"						
	TS05802	52	11'-5"	621	001	11'-5"						
	AR04001	36	3'-6"	84	901							
	AR04002	24	2'-0"	32	902							
BAR "A"	TS07811	8	13'-11"	228	123	11'-5"	1'-2"					
BAR "B"	TS07812	8	13'-9"	226	122	11'-5"	1'-2"					
BAR "C"	TS05813	11	21'-3"	244	001	21'-3"						
BAR "D"	TS07814	11	27'-7"	622	006	1'-2"	0'-3"	25'-4"	0'-3"	1'-2"		
BAR "E"	TS07815	8	13'-8"	224	123	11'-2"	1'-2"					
BAR "F"	TS07816	8	13'-6"	221	122	11'-2"	1'-2"					
BAR "G"	TS07817	6	13'-0"	160	006	1'-2"	2'-0"	9'-3"	0'-4"	1'-6"		
BAR "H"	TS08818	22	10'-3"	604	006	1'-9"	0'-9"	6'-6"	1'-11"	0'-4"		
BAR "K"	TS07819	6	13'-0"	160	124	1'-5"	2'-6"	8'-10"	1'-2"			
			SUB-TOTAL	6,145 lbs								
			NO. OF SEGMENTS	1 OF 4 REQUIRED								

(SEGMENT ON SOUTHBOUND BRIDGE SHOWN, SEGMENTS ON NORTHBOUND BRIDGE ARE SIMILAR)

PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SEGMENT P5-11D												
	TS04001	22	28'-11"	426	001	28'-11"						
	TS04002	11	16'-8"	122	011	16'-2"						
	TS04003	11	21'-8"	159	121	9'-6"	1'-10"	10'-10"	2'-4"	1'-0"		
	TS04004	22	6'-2"	91	011	5'-8"						
	TS06005	16	7'-7"	182	004	6'-8"	0'-10"	0'-5"				
	TS06006	16	6'-3"	150	001	6'-3"						
	TS04007	11	21'-4"	157	121	10'-2"	1'-8"	10'-0"	1'-10"	1'-0"		
	TS06010	20	3'-2"	95	106	0'-11"	0'-4"	1'-6"	0'-11"			
	TS06011	20	2'-4"	70	003	1'-6"	1'-0"					
	TS07012	6	9'-0"	110	100	7'-3"	1'-8"	0'-11"				
	TS07013	6	9'-2"	112	130	6'-0"	1'-2"	0'-7"	0'-7"	2'-0"		
	TS04800	4	9'-6"	25	129	1'-0"	7'-8"					
	TS04801	142	10'-9"	1020	001	10'-9"						
	TS05802	52	11'-5"	621	001	11'-5"						
	AR04001	36	3'-6"	84	901							
	AR04002	24	2'-0"	32	902							
		1	14'-4"			11'-5"						
BAR "A"	TS08781	ser	to	307	123	to	1'-4"					0 1/4"
		8	14'-6"			11'-7"						
		1	14'-2"			11'-6"						
BAR "B"	TS08782	ser	to	304	122	to	1'-4"					0"
		8	14'-3"			11'-7"						
BAR "C"	TS05783	11	21'-2"	243	001	21'-2"						
BAR "D"	TS07784	11	27'-6"	620	006	1'-2"	0'-3"	25'-3"	0'-3"	1'-2"		
		1	14'-0"			11'-2"						
BAR "E"	TS08785	ser	to	302	123	to	1'-4"					0 1/4"
		8	14'-2"			11'-4"						
		1	13'-11"			11'-3"						
BAR "F"	TS08786	ser	to	299	122	to	1'-4"					0"
		8	14'-0"			11'-4"						
BAR "G"	TS08787	6	13'-2"	212	006	1'-2"	2'-0"	9'-5"	0'-4"	1'-6"		
BAR "H"	TS08788	22	10'-3"	604	006	1'-9"	0'-9"	6'-6"	1'-11"	0'-4"		
BAR "K"	TS08789	6	13'-4"	214	124	1'-5"	2'-6"	9'-0"	1'-4"			
"M2"												
"M3"												
"M4"			SUB-TOTAL	6,561 lbs								
			NO. OF SEGMENTS	1 OF 1 REQUIRED								

(SEGMENT ON SOUTHBOUND BRIDGE SHOWN, SEGMENTS ON NORTHBOUND BRIDGE ARE IDENTICAL.)

NOTES:

1. ALL REINFORCING STEEL TO BE EPOXY COATED.
2. FOR BAR TYPES AND BAR BENDING DIAGRAM, SEE SHEETS 187 AND 188 OF 204.
3. ADDITIONAL REINFORCEMENT REQUIRED BY THE ANCHOR BLOCKS IS NOT INCLUDED IN THESE BILL OF MATERIALS. REFER TO APPLICABLE SHEET FOR REBAR DETAILS AND QUANTITIES.
4. QUANTITIES OF EPOXY COATED REINFORCEMENT STEEL FOR DUCT CONFINEMENT REINFORCEMENT (HAIR PIN) IS NOT INCLUDED IN BILL OF MATERIAL IN THIS SHEET. FOR DUCT CONFINEMENT REINFORCEMENT QUANTITIES, SEE SPECIAL PROVISION - "POST-TENSIONING".

DESIGN AGENCY HNTB 1100 Superior Avenue, Suite 1330 Cleveland, OH 44114-2531

DESIGNED PY | DRAWN LK | CHECKED MX | REVIEWED JB | DATE 10/30/07 | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

8 FT SEGMENT BAR SCHEDULE

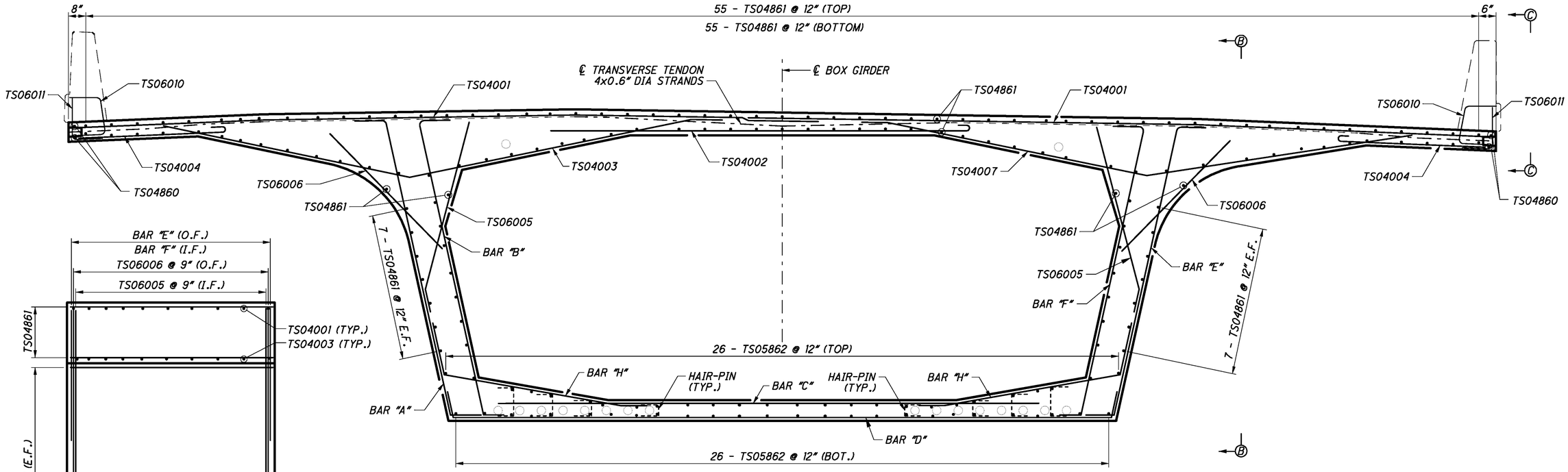
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

155/204

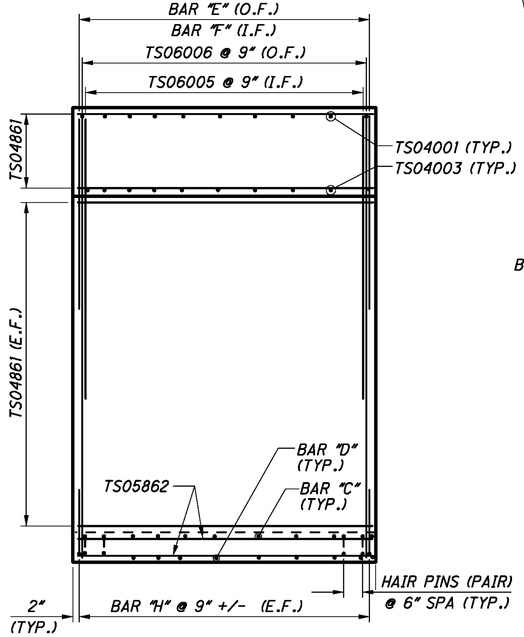
421/470

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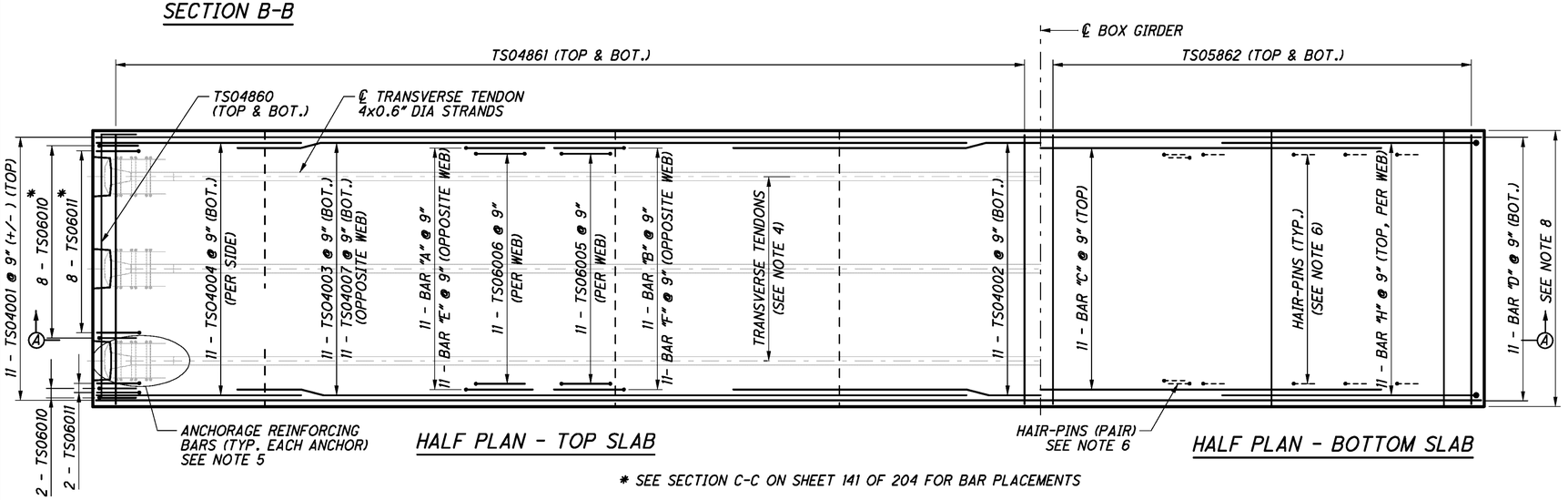


SECTION A-A

(LOOKING DOWNSTATION)



SECTION B-B



HALF PLAN - TOP SLAB

HALF PLAN - BOTTOM SLAB

* SEE SECTION C-C ON SHEET 141 OF 204 FOR BAR PLACEMENTS

NOTES:

1. ALL CONCRETE CHAMFERS ARE ¾".
2. 1½" INITIAL WEARING SURFACE NOT SHOWN FOR CLARITY.
3. SPACE ALL REINFORCING BAR IN TOP SLAB TO CLEAR POST TENSIONING TENDONS.
4. FOR TRANSVERSE TENDON PROFILE, LAYOUT, AND DETAIL, SEE SHEETS 114 AND 115 OF 204.
5. FOR REINFORCING BARS AT TRANSVERSE TENDON ANCHORAGES, SEE TRANSVERSE TENDON DETAILS, SHEET 115 OF 204.
6. PAIRS OF #4 HAIR-PIN BARS SHALL BE PROVIDED FOR THE BOTTOM SLAB AROUND EACH DUCT AT EACH SEGMENT FACE. IN ADDITION, #4 HAIR-PIN BARS SHALL ALSO BE PROVIDED WITH MAXIMUM SPACINGS OF 18 INCHES TO TIE BOTTOM NON - PRESTRESSED REINFORCEMENTS WHEN SPACING BETWEEN THE TRANSVERSE OR LONGITUDINAL DUCTS IS LESS THAN 12 INCHES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETAILING AND PROVIDING NECESSARY HAIR-PIN BARS, BASED ON THE ACTUAL PT LAYOUT USED, AS PER AASHTO SEGMENTAL GUIDE SPECIFICATION, ARTICLES 16.6. SEE SPECIAL PROVISION - "POST-TENSIONING".
7. FOR SECTION C-C, SEE SHEET 141 OF 204.
8. FOR CLOSURE NOMINAL DIMENSION, SEE SHEETS 96 & 97 OF 204.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED PY | DRAWN PY | CHECKED MX | REVIEWED JB | DATE 10/30/07 | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

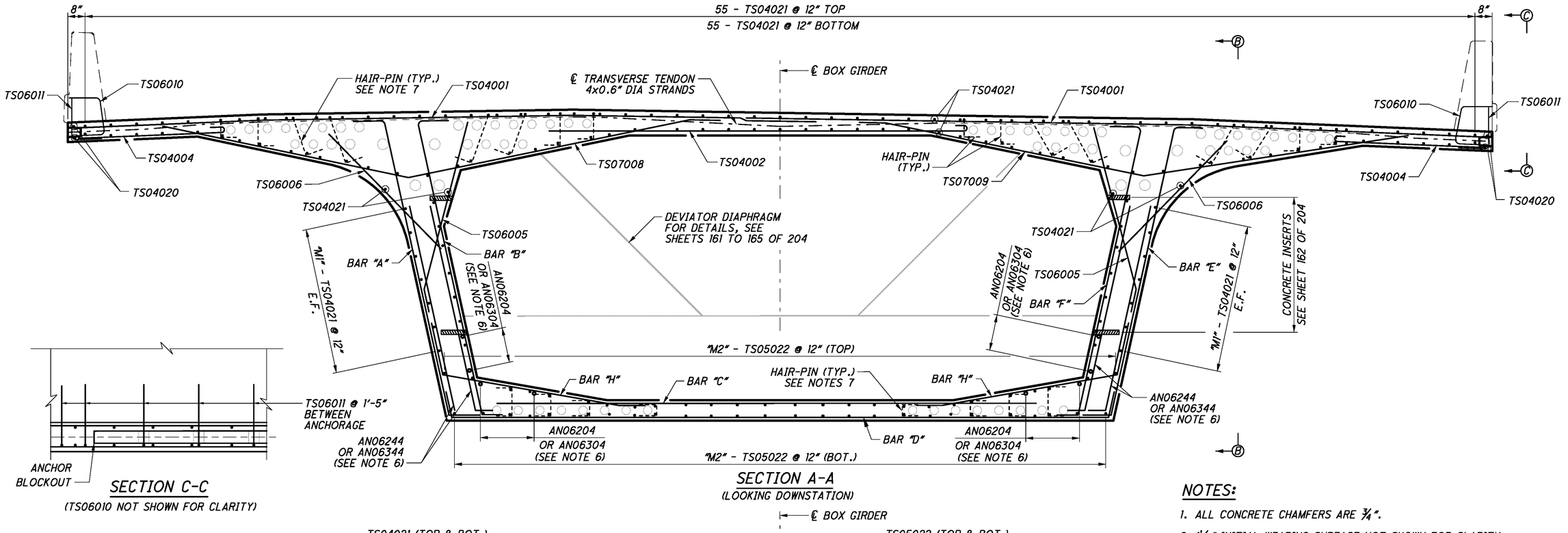
CLOSURE SEGMENT REINFORCEMENT

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
CLOSURE SEGMENT												
	TS04001	22	28'-11"	426	001	28'-11"						
	TS04002	11	16'-8"	122	011	16'-2"						
	TS04003	11	21'-8"	159	121	9'-6"	1'-10"	10'-10"	2'-4"	1'-0"		
	TS04004	22	6'-2"	91	011	5'-8"						
	TS06005	22	7'-7"	250	004	6'-8"	0'-10"	0'-5"				
	TS06006	22	6'-3"	207	001	6'-3"						
	TS04007	11	21'-4"	157	121	10'-2"	1'-8"	10'-0"	1'-10"	1'-0"		
	TS06010	20	3'-2"	95	106	0'-11"	0'-4"	1'-6"	0'-11"			
	TS06011	20	2'-4"	70	003	1'-6"	1'-0"					
	TS04860	4	9'-7"	26	102	1'-0"	7'-9"	1'-0"				
	TS04861	142	7'-9"	735	001	7'-9"						
	TS05862	52	7'-9"	421	001	7'-9"						
	AR04001	36	3'-6"	84	901							
	AR04002	24	2'-0"	32	902							
BAR "A"	TS08841	11	14'-3"	419	123	11'-5"	1'-4"					
BAR "B"	TS08842	11	14'-1"	414	122	11'-5"	1'-4"					
BAR "C"	TS05843	11	21'-3"	244	001	21'-3"						
BAR "D"	TS07844	11	27'-7"	622	006	1'-2"	0'-3"	25'-4"	0'-3"	1'-2"		
BAR "E"	TS08845	11	14'-0"	411	123	11'-2"	1'-4"					
BAR "F"	TS08846	11	13'-10"	407	122	11'-2"	1'-4"					
BAR "H"	TS08847	22	10'-3"	604	006	1'-9"	0'-9"	6'-6"	1'-11"	0'-4"		

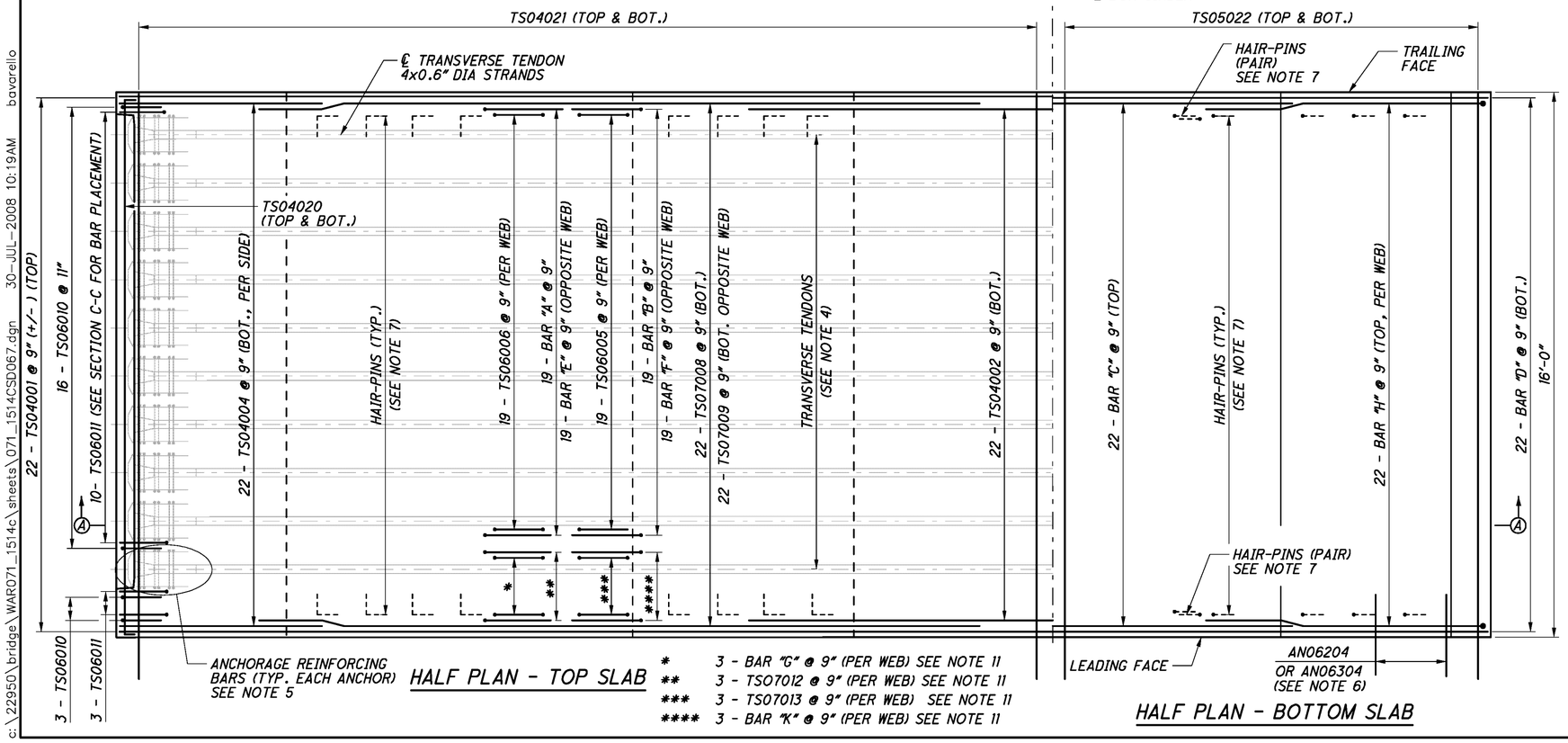


SECTION C-C

(TS06010 NOT SHOWN FOR CLARITY)

SECTION A-A

(LOOKING DOWNSTATION)



HALF PLAN - TOP SLAB

* 3 - BAR "G" @ 9" (PER WEB) SEE NOTE 11
** 3 - TS07012 @ 9" (PER WEB) SEE NOTE 11
*** 3 - TS07013 @ 9" (PER WEB) SEE NOTE 11
**** 3 - BAR "K" @ 9" (PER WEB) SEE NOTE 11

HALF PLAN - BOTTOM SLAB

NOTES:

1. ALL CONCRETE CHAMFERS ARE ¾".
2. 1½" INITIAL WEARING SURFACE NOT SHOWN FOR CLARITY.
3. SPACE ALL REINFORCING BAR IN TOP SLAB TO CLEAR POST TENSIONING TENDONS.
4. FOR TRANSVERSE TENDON PROFILES, LAYOUT AND DETAILS, SEE SHEETS 114 AND 115 OF 204.
5. FOR REINFORCING BARS AT TRANSVERSE TENDON ANCHORAGES, SEE TRANSVERSE TENDON DETAILS, SHEET 115 OF 204.
6. ANCHOR BLOCK BARS AN06204, AN06244, AN06304 & AN06344 ARE USED ONLY WHEN THE NEXT CASTING SEGMENT CONTAINS A BOTTOM SLAB ANCHORAGE BLOCK TYPE "BA" OR "BB". THEY SHALL BE PLACED IN ADDITION TO DEVIATOR SEGMENTS BARS. FOR PLACEMENT AND QUANTITY OF BAR AN06204 AND AN06244 ON TYPE "BA", SEE SHEETS 122 AND 123 OF 204; AND BAR AN06304 AND AN06344 ON TYPE "BB", SEE SHEETS 124 TO 127 OF 204.
7. PAIRS OF #4 HAIR-PIN BARS SHALL BE PROVIDED FOR THE BOTTOM SLAB AROUND EACH DUCT AT EACH SEGMENT FACE. IN ADDITION, #4 HAIR-PIN BARS SHALL ALSO BE PROVIDED WITH MAXIMUM SPACINGS OF 18 INCHES TO TIE TOP AND BOTTOM NON-PRESTRESSED REINFORCEMENTS WHEN SPACING BETWEEN THE TRANSVERSE OR LONGITUDINAL DUCTS IS LESS THAN 12 INCHES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETAILING AND PROVIDING NECESSARY HAIR-PIN BARS, BASED ON THE ACTUAL PT LAYOUT USED, AS PER AASHTO SEGMENTAL GUIDE SPECIFICATION, ARTICLES 16.6. SEE SPECIAL PROVISION- "POST-TENSIONING".
8. FOR VARIABLE NUMBER OF BARS, "M1" AND "M2", OF EACH SEGMENT, SEE TABLE ON SHEET 141 OF 204.
9. FOR SECTION B-B, SEE SHEET 141 OF 204.
10. REBARS AND CONCRETE FOR TOP AND BOTTOM ANCHORAGE BLOCKS ARE NOT INCLUDED IN THE BILL OF MATERIAL FOR TYPICAL SEGMENT. WORK THIS SHEET WITH APPLICABLE TYPE OF TOP AND/OR BOTTOM SLAB ANCHOR BLOCK.
12. FOR PLACEMENT OF BAR "G", BAR "TS07012", BAR "TS07013" AND BAR "K", SEE SHEET 141 OF 204.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED PY | DRAWN PY | CHECKED MX | REVIEWED JB | DATE 10/30/07 | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

16 FT DEVIATOR SEGMENT REINFORCEMENT

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

158 / 204

424 / 470

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SEGMENT P1-8D

PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
	TS04001	44	28'-11"	851	001	28'-11"						
	TS04002	22	16'-8"	245	011	16'-2"						
	TS07008	22	21'-7"	970	121	9'-6"	1'-10"	10'-10"	2'-4"	1'-0"		
	TS04004	44	5'-8"	166	004	5'-8"						
	TS06005	38	6'-8"	381	001	6'-8"	0'-10"	0'-5"				
	TS06006	38	6'-11"	395	011	6'-3"						
	TS07009	22	21'-3"	957	121	10'-2"	1'-8"	10'-0"	1'-10"	1'-0"		
	TS06010	38	3'-2"	181	106	0'-11"	0'-4"	1'-6"	0'-11"			
	TS06011	26	2'-4"	91	003	1'-6"	1'-0"					
	TS07012	6	9'-0"	110	100	7'-3"	1'-8"	0'-11"				
	TS07013	6	9'-2"	112	130	6'-0"	1'-2"	0'-7"	0'-7"	2'-0"		
	TS04020	4	17'-6"	47	129	1'-0"	15'-8"					
	TS04021	150	18'-9"	1879	001	18'-9"						
	TS05022	52	19'-5"	1055	001	19'-5"						
	AR04001	120	3'-6"	281	901							
	AR04002	80	2'-0"	107	902							
		1	15'-6"			12'-8"						
BAR "A"	TS08241	ser	to	810	123	to	1'-4"					0 1/2"
		19	16'-3"			13'-5"						
		1	15'-5"			12'-8"						
BAR "B"	TS08242	ser	to	802	122	to	1'-4"					0 1/2"
		19	16'-3"			13'-6"						
BAR "C"	TS05243	22	20'-8"	475	001	20'-8"						
		1	26'-5"					24'-5"				
BAR "D"	TS06244	ser	to	878	006	1'-0"	0'-3"	to	0'-3"	1'-0"		0 1/4"
		22	26'-9"					24'-9"				
		1	15'-3"			12'-5"						
BAR "E"	TS08245	ser	to	797	123	to	1'-4"					0 1/2"
		19	16'-0"			13'-2"						
		1	15'-2"			12'-5"						
BAR "F"	TS08246	ser	to	789	122	to	1'-4"					0 1/2"
		19	16'-0"			13'-3"						
		1	15'-0"					11'-3"				
BAR "G"	TS08247	ser	to	242	006	1'-2"	2'-0"	to	0'-4"	1'-6"		0 1/4"
		6	15'-1"					11'-4"				
BAR "H"	TS08248	44	10'-3"	1207	006	1'-9"	0'-9"	6'-6"	1'-11"	0'-4"		
		1	15'-2"					10'-10"				
BAR "K"	TS08249	ser	to	244	124	1'-5"	2'-6"	to	1'-4"			0 1/4"
		6	15'-3"					10'-11"				
			SUB-TOTAL	14,072 lbs								
			NO. OF SEGMENTS	1 OF 1 REQUIRED								

(SEGMENT ON SOUTHBOUND BRIDGE SHOWN, SEGMENTS ON NORTHBOUND BRIDGE ARE IDENTICAL.

SEGMENTS P1-9U, P2-9U, P3-9U, AND P4-9U

PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
	TS04001	44	28'-11"	851	001	28'-11"						
	TS04002	22	16'-8"	245	011	16'-2"						
	TS07008	22	21'-7"	970	121	9'-6"	1'-10"	10'-10"	2'-4"	1'-0"		
	TS04004	44	5'-8"	166	004	5'-8"						
	TS06005	38	6'-8"	381	001	6'-8"	0'-10"	0'-5"				
	TS06006	38	6'-11"	395	011	6'-3"						
	TS07009	22	21'-3"	957	121	10'-2"	1'-8"	10'-0"	1'-10"	1'-0"		
	TS06010	38	3'-2"	181	106	0'-11"	0'-4"	1'-6"	0'-11"			
	TS06011	26	2'-4"	91	003	1'-6"	1'-0"					
	TS07012	6	9'-0"	110	100	7'-3"	1'-8"	0'-11"				
	TS07013	6	9'-2"	112	130	6'-0"	1'-2"	0'-7"	0'-7"	2'-0"		
	TS04020	4	17'-6"	47	129	1'-0"	15'-8"					
	TS04021	146	18'-9"	1829	001	18'-9"						
	TS05022	52	19'-5"	1055	001	19'-5"						
	AR04001	120	3'-6"	281	901							
	AR04002	80	2'-0"	107	902							
		1	15'-3"			12'-4"						
BAR "A"	TS08661	ser	to	790	123	to	1'-4"					0 1/2"
		19	15'-11"			13'-0"						
		1	15'-0"			12'-4"						
BAR "B"	TS08662	ser	to	783	122	to	1'-4"					0 1/2"
		19	15'-9"			13'-1"						
BAR "C"	TS05663	22	20'-10"	478	001	20'-10"						
		1	26'-7"						24'-7"			
BAR "D"	TS06664	ser	to	884	006	1'-0"	0'-3"	to	0'-3"	1'-0"		0 1/4"
		22	26'-11"						24'-11"			
		1	15'-0"			12'-1"						
BAR "E"	TS08665	ser	to	777	123	to	1'-4"					0 1/2"
		19	15'-8"			12'-9"						
		1	14'-9"			12'-1"						
BAR "F"	TS08666	ser	to	770	122	to	1'-4"					0 1/2"
		19	15'-6"			12'-10"						
		1	14'-7"						10'-10"			
BAR "G"	TS08667	ser	to	235	006	1'-2"	2'-0"	to	0'-4"	1'-6"		0 1/4"
		6	14'-8"						10'-11"			
BAR "H"	TS08668	44	10'-3"	1207	006	1'-9"	0'-9"	6'-6"	1'-11"	0'-4"		
		1	14'-9"						10'-5"			
BAR "K"	TS08669	ser	to	238	124	1'-5"	2'-6"	to	1'-4"			0 1/4"
		6	14'-10"						10'-6"			
			SUB-TOTAL	13,940 lbs								
			NO. OF SEGMENTS	1 OF 4 REQUIRED								

(SEGMENT ON SOUTHBOUND BRIDGE SHOWN, SEGMENTS ON NORTHBOUND BRIDGE ARE IDENTICAL.)

NOTES:

1. ALL REINFORCING STEEL TO BE EPOXY COATED.
2. FOR BAR TYPES AND BAR BENDING DIAGRAM, SEE SHEETS 187 AND 188 OF 204.
3. ADDITIONAL REINFORCEMENT REQUIRED BY THE ANCHOR BLOCKS IS NOT INCLUDED IN THESE BILL OF MATERIALS. REFER TO APPLICABLE SHEET FOR REBAR DETAILS AND QUANTITIES.
4. QUANTITIES OF EPOXY COATED REINFORCEMENT STEEL FOR DUCT CONFINEMENT REINFORCEMENT (HAIR PIN) IS NOT INCLUDED IN BILL OF MATERIAL IN THIS SHEET. FOR DUCT CONFINEMENT REINFORCEMENT QUANTITIES, SEE SPECIAL PROVISION - "POST-TENSIONING".

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED PY | DRAWN LK | CHECKED MX | REVIEWED JB | DATE 10/30/07 | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

16FT DEVIATOR SEGMENT BAR SCHEDULE 1

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SEGMENT P2-9D, P3-9D, P4-9D, AND P5-9D												
	TS04001	44	28'-11"	851	001	28'-11"						
	TS04002	22	16'-8"	245	011	16'-2"						
	TS07008	22	21'-7"	970	121	9'-6"	1'-10"	10'-10"	2'-4"	1'-0"		
	TS04004	44	5'-8"	166	004	5'-8"						
	TS06005	38	6'-8"	381	001	6'-8"	0'-10"	0'-5"				
	TS06006	38	6'-11"	395	011	6'-3"						
	TS07009	22	21'-3"	957	121	10'-2"	1'-8"	10'-0"	1'-10"	1'-0"		
	TS06010	38	3'-2"	181	106	0'-11"	0'-4"	1'-6"	0'-11"			
	TS06011	26	2'-4"	91	003	1'-6"	1'-0"					
	TS07012	6	9'-0"	110	100	7'-3"	1'-8"	0'-11"				
	TS07013	6	9'-2"	112	130	6'-0"	1'-2"	0'-7"	0'-7"	2'-0"		
	TS04020	4	17'-6"	47	129	1'-0"	15'-8"					
	TS04021	146	18'-9"	1829	001	18'-9"						
	TS05022	52	19'-5"	1055	001	19'-5"						
	AR04001	120	3'-6"	281	901							
	AR04002	80	2'-0"	107	902							
		1	14'-11"			12'-0"						
BAR "A"	TS08271	ser	to	773	123	to	1'-4"					0 1/2"
		19	15'-7"			12'-8"						
		1	14'-9"			12'-1"						
BAR "B"	TS08272	ser	to	765	122	to	1'-4"					0 1/4"
		19	15'-4"			12'-8"						
BAR "C"	TS05273	22	20'-11"	481	001	20'-11"						
		1	26'-9"					24'-9"				
BAR "D"	TS06274	ser	to	889	006	1'-0"	0'-3"	to	0'-3"	1'-0"		0 1/4"
		22	27'-0"					25'-0"				
		1	14'-8"			11'-9"						
BAR "E"	TS08275	ser	to	760	123	to	1'-4"					0 1/2"
		19	15'-4"			12'-5"						
		1	14'-6"			11'-10"						
BAR "F"	TS08276	ser	to	752	122	to	1'-4"					0 1/4"
		19	15'-1"			12'-5"						
		1	14'-3"					10'-6"				
BAR "G"	TS08277	ser	to	229	006	1'-2"	2'-0"	to	0'-4"	1'-6"		0"
		6	14'-3"					10'-6"				
BAR "H"	TS08278	44	10'-3"	1207	006	1'-9"	0'-9"	6'-6"	1'-11"	0'-4"		
		1	14'-4"					10'-0"				
BAR "K"	TS08279	ser	to	231	124	1'-5"	2'-6"	to	1'-4"			0 1/4"
		6	14'-5"					10'-1"				
			SUB-TOTAL	13,865 lbs								
			NO. OF SEGMENTS	1 OF 4 REQUIRED								

(SEGMENT ON SOUTHBOUND BRIDGE SHOWN, SEGMENTS ON NORTHBOUND BRIDGE ARE IDENTICAL.)

PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SEGMENT P5-8U												
	TS04001	44	28'-11"	851	001	28'-11"						
	TS04002	22	16'-8"	245	011	16'-2"						
	TS07008	22	21'-7"	970	121	9'-6"	1'-10"	10'-10"	2'-4"	1'-0"		
	TS04004	44	5'-8"	166	004	5'-8"						
	TS06005	38	6'-8"	381	001	6'-8"	0'-10"	0'-5"				
	TS06006	38	6'-11"	395	011	6'-3"						
	TS07009	22	21'-3"	957	121	10'-2"	1'-8"	10'-0"	1'-10"	1'-0"		
	TS06010	38	3'-2"	181	106	0'-11"	0'-4"	1'-6"	0'-11"			
	TS06011	26	2'-4"	91	003	1'-6"	1'-0"					
	TS07012	6	9'-0"	110	100	7'-3"	1'-8"	0'-11"				
	TS07013	6	9'-2"	112	130	6'-0"	1'-2"	0'-7"	0'-7"	2'-0"		
	TS04020	4	17'-6"	47	129	1'-0"	15'-8"					
	TS04021	150	18'-9"	1879	001	18'-9"						
	TS05022	52	19'-5"	1055	001	19'-5"						
	AR04001	120	3'-6"	281	901							
	AR04002	80	2'-0"	107	902							
		1	15'-11"			13'-0"						
BAR "A"	TS08631	ser	to	832	123	to	1'-4"					0 1/2"
		19	16'-10"			13'-11"						
		1	15'-10"			13'-1"						
BAR "B"	TS08632	ser	to	824	122	to	1'-4"					0 1/2"
		19	16'-8"			13'-11"						
BAR "C"	TS05633	22	20'-6"	471	001	20'-6"						
		1	25'-9"						24'-2"			
BAR "D"	TS05634	ser	to	598	006	0'-10"	0'-2"	to	0'-2"	0'-10"		0 1/4"
		22	26'-2"						24'-7"			
		1	15'-7"			12'-9"						
BAR "E"	TS08635	ser	to	819	123	to	1'-4"					0 1/2"
		19	16'-6"			13'-8"						
		1	15'-7"			12'-10"						
BAR "F"	TS08636	ser	to	811	122	to	1'-4"					0 1/2"
		19	16'-5"			13'-8"						
		1	15'-6"						11'-9"			
BAR "G"	TS08637	ser	to	249	006	1'-2"	2'-0"	to	0'-4"	1'-6"		0 1/4"
		6	15'-7"						11'-10"			
BAR "H"	TS08638	44	10'-3"	1207	006	1'-9"	0'-9"	6'-6"	1'-11"	0'-4"		
		1	15'-7"						11'-3"			
BAR "K"	TS08639	ser	to	252	124	1'-5"	2'-6"	to	1'-4"			0 1/4"
		6	15'-8"						11'-4"			
			SUB-TOTAL	13,891 lbs								
			NO. OF SEGMENTS	1 OF 1 REQUIRED								

(SEGMENT ON SOUTHBOUND BRIDGE SHOWN, SEGMENTS ON NORTHBOUND BRIDGE ARE IDENTICAL.)

NOTES:

1. ALL REINFORCING STEEL TO BE EPOXY COATED.
2. FOR BAR TYPES AND BAR BENDING DIAGRAM, SEE SHEETS 187 AND 188 OF 204.
3. ADDITIONAL REINFORCEMENT REQUIRED BY THE ANCHOR BLOCKS IS NOT INCLUDED IN THESE BILL OF MATERIALS. REFER TO APPLICABLE SHEET FOR REBAR DETAILS AND QUANTITIES.
4. QUANTITIES OF EPOXY COATED REINFORCEMENT STEEL FOR DUCT CONFINEMENT REINFORCEMENT (HAIR PIN) IS NOT INCLUDED IN BILL OF MATERIAL IN THIS SHEET. FOR DUCT CONFINEMENT REINFORCEMENT QUANTITIES,SEE SPECIAL PROVISION - "POST-TENSIONING".

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

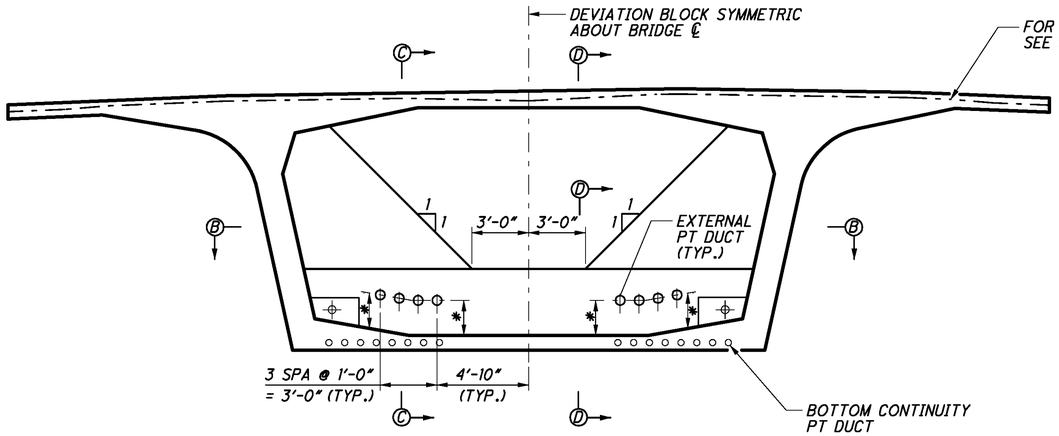
DESIGNED PY | DRAWN LK | REVIEWED JB | DATE 10/30/07 | CHECKED MX | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

16FT DEVIATOR SEGMENT BAR SCHEDULE 2

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

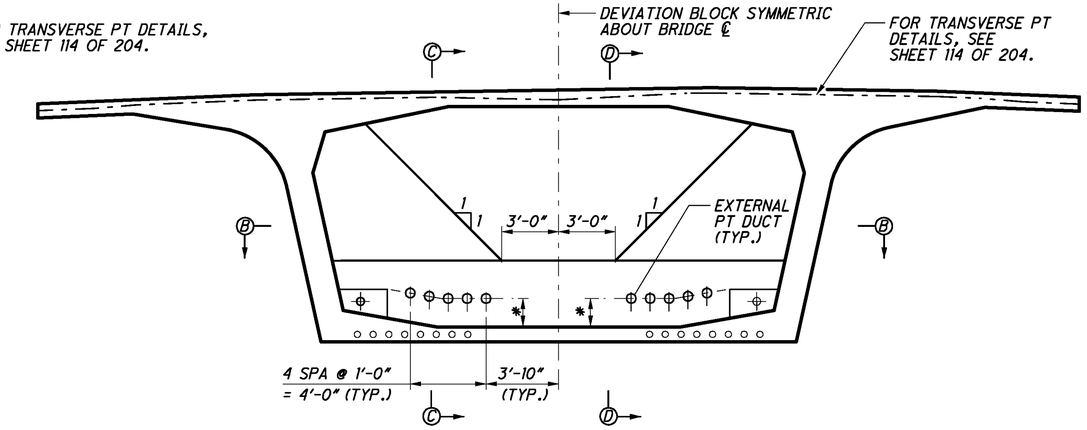
WAR-71-14.20
PID No. 22950

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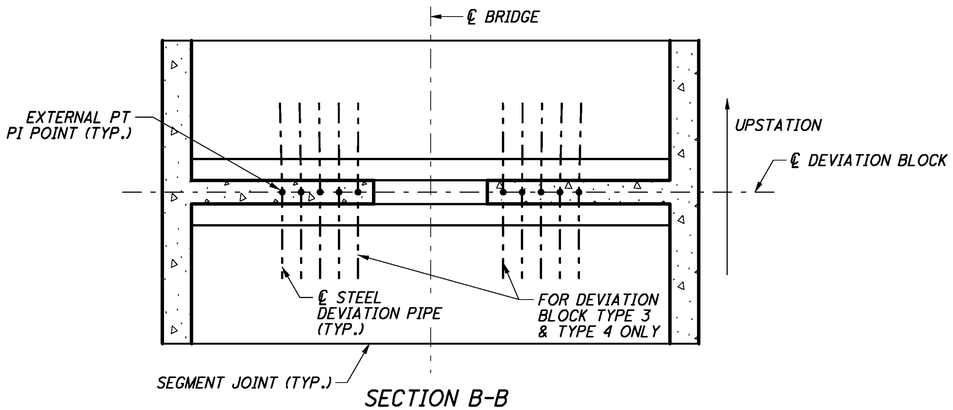
SECTION THRU DEVIATION BLOCK

(LOOKING UPSTATION)
(DEVIATION BLOCK TYPE 1 SHOWN, DEVIATION BLOCK TYPE 2 SIMILAR)



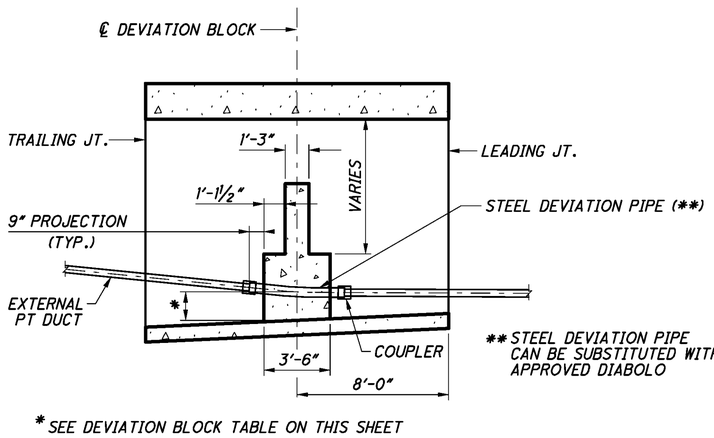
SECTION THRU DEVIATION BLOCK

(LOOKING UPSTATION)
(DEVIATION BLOCK TYPE 3 SHOWN, DEVIATION BLOCK TYPE 4 SIMILAR)



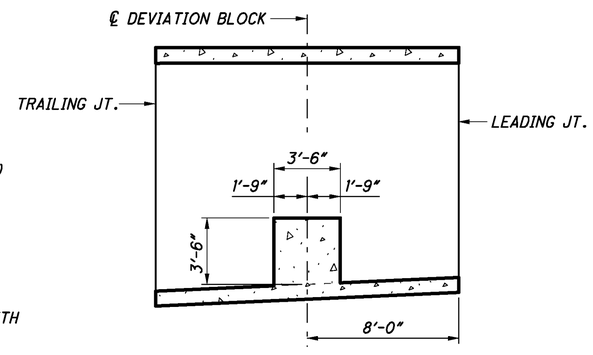
SECTION B-B

DEVIATION BLOCK			
DEVIATION BLOCK MARK	LIST OF SEGMENT	TYPE	"*" DIMENSION
DB1A	P1-8D	TYPE 1	1'-10"
DB6A	P5-8U	TYPE 2	1'-10"
DB2A	P2-9U	TYPE 3	1'-10"
DB3A	P3-9U	TYPE 3	1'-10"
DB4A	P4-9U	TYPE 3	1'-10"
DB5A	P5-9U	TYPE 3	1'-10"
DB2B	P1-9D	TYPE 4	1'-6"
DB3B	P2-9D	TYPE 4	1'-6"
DB4B	P3-9D	TYPE 4	1'-6"
DB5B	P4-9D	TYPE 4	1'-6"



* SEE DEVIATION BLOCK TABLE ON THIS SHEET

SECTION C-C



SECTION D-D

NOTES:

1. SEE SHEET 162 OF 204 FOR DEVIATION BLOCK REINFORCEMENT.
2. CONTRACTOR SHALL PROVIDE MEANS TO SUPPORT THE SEGMENT BOTTOM SLAB WHEN CASTING THE DEVIATION BLOCK.
3. FOR DEVIATION BLOCK LOACATIONS, SEE SHEET 108 & 109 OF 204.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED MX | DRAWN JFA | CHECKED MEA | REVIEWED JB | DATE 10/30/07
REVISED
STRUCTURE FILE NUMBER 8302278L/8302294R

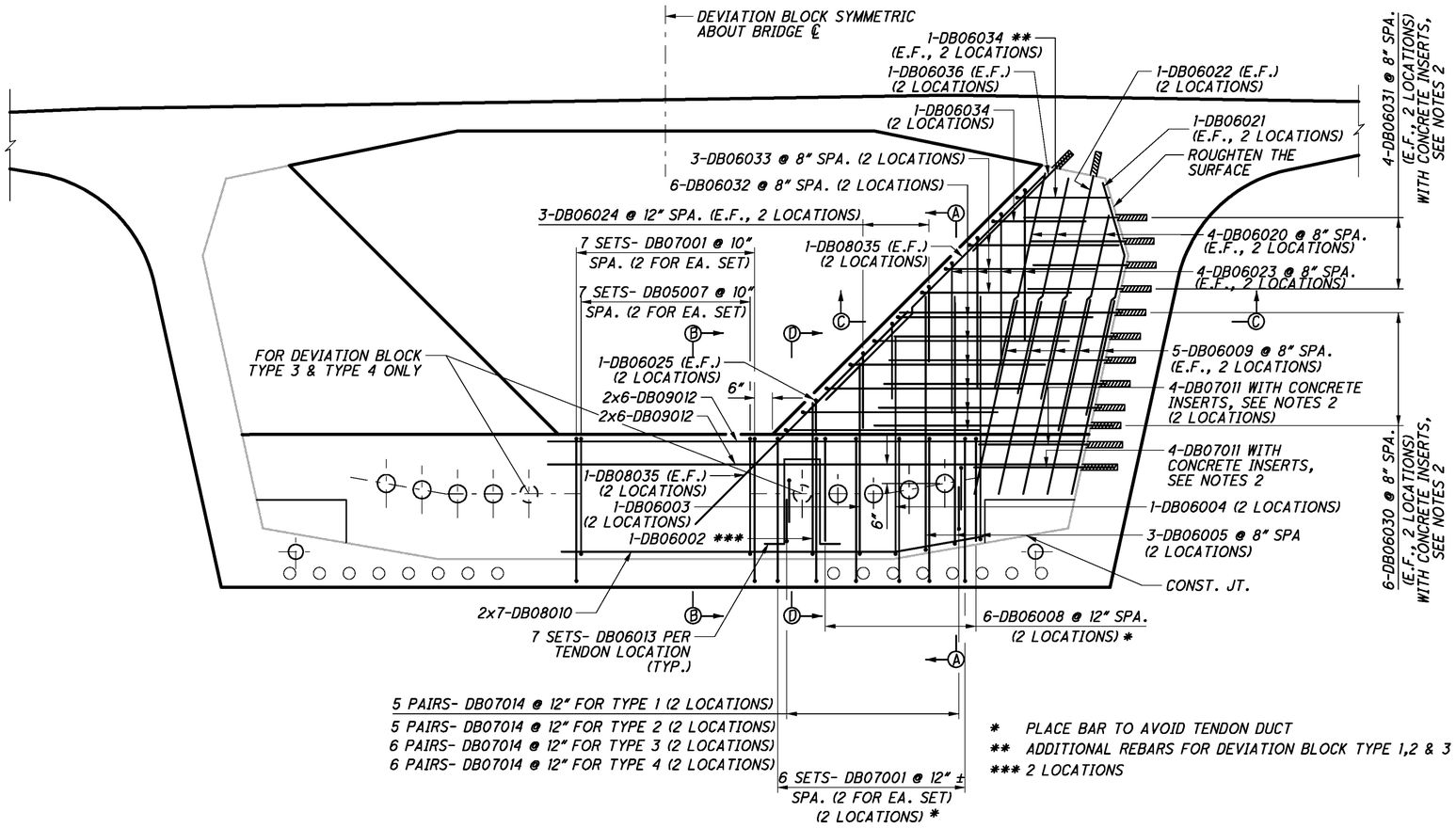
DEVIATOR BLOCK DIMENSIONS
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

161 / 204

427
470

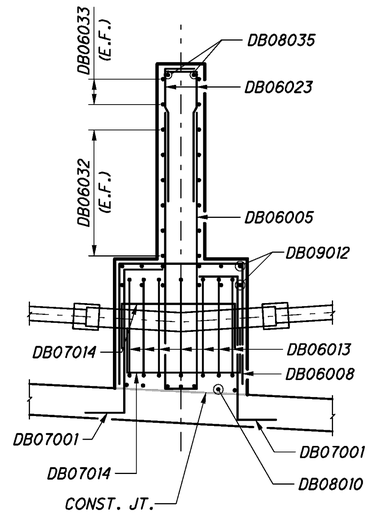
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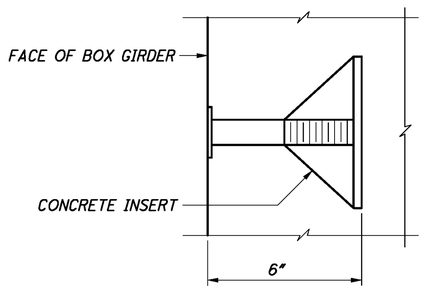
* PLACE BAR TO AVOID TENDON DUCT
** ADDITIONAL REBARS FOR DEVIATION BLOCK TYPE 1,2 & 3 ONLY
*** 2 LOCATIONS

CROSS SECTION FOR DEVIATOR TYPE 1

(DEVIATOR TYPES 2, 3 &4 SIMILAR)
(LOOKING UPSTATION)

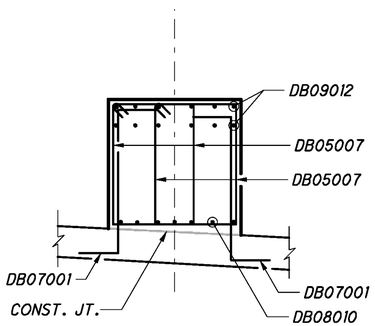


SECTION A-A

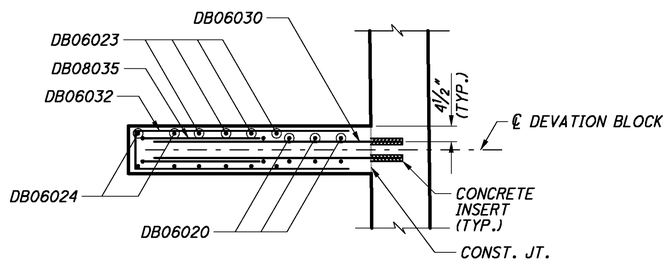


SECTION THRU BOX GIRDER INSERT FOR DEVIATOR BLOCK

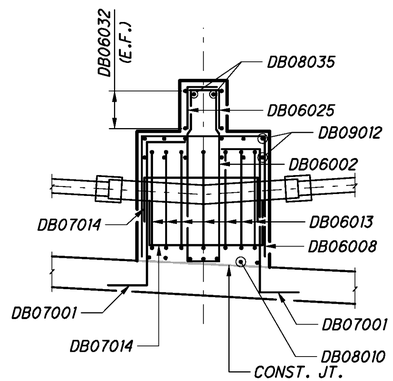
(SEE CROSS SECTION ON THIS PAGE FOR INSERT LOCATIONS)



SECTION B-B



SECTION C-C



SECTION D-D

NOTES:

1. CROSS SECTION FOR DEVIATION BLOCK TYPE 1 SHOWN IS FOR SOUTHBOUND BRIDGE, FOR NORTH BOUND BRIDGE, IT IS OPPOSITE HAND.
2. CONCRETE INSERT SHALL BE ZINC-ELECTROPLATED, FERRULE WING NUT, UNC THREADS, AND SHALL HAVE A MINIMUM ULTIMATE TENSILE STRENGTH THAT DEVELOP THE TENSILE STRENGTH OF THE THREADED REINFORCEMENT. INSERT SHALL BE SIZED TO FIT THE THREADED REINFORCEMENT. CONCRETE INSERT SHALL BE INCIDENTAL TO PAY ITEM OF 898, "QC/QA CONCRETE, CLASS QSC3, SUPERSTRUCTURE, AS PER PLAN (SEGMENTAL BOX GIRDER)".
3. CONTRACTOR SHALL DESIGN THE FORM TRAVELER TO SUPPORT THE WET CONCRETE WEIGHT DURING DEVIATION BLOCK POUR.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
MX	PY	JB	10/30/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MEA		8302278L/8302294R	

DEVIATOR BLOCK REINFORCEMENT

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

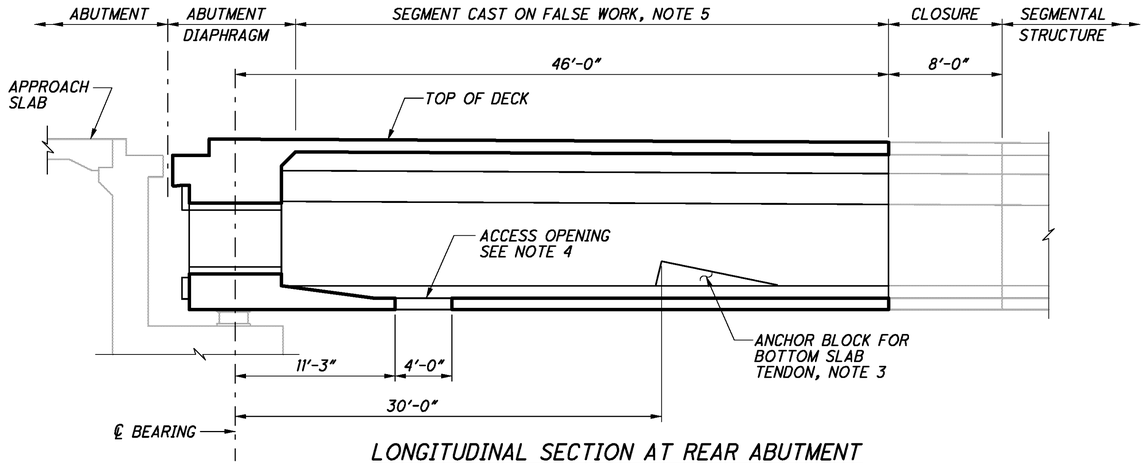
162/204

428/470

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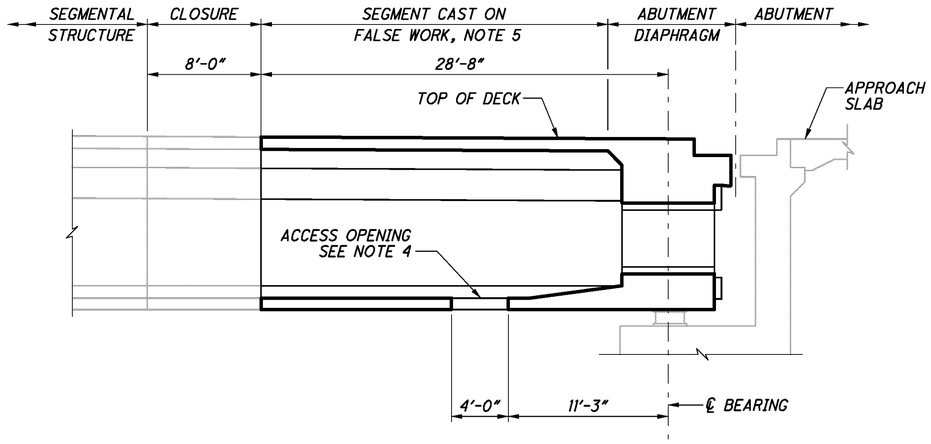
PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
DEVIATION BLOCK TYPE 1												
	DB07001	38	5'-6"	428	103	1'-0"	3'-10"	1'-0"				
	DB06002	2	8'-11"	27	102	4'-3"	0'-9"	4'-3"				
	DB06003	2	11'-3"	34	102	5'-5"	0'-9"	5'-5"				
	DB06004	2	12'-6"	67	102	6'-1"	0'-9"	6'-1"				
	DB06005	6	14'-9"	133	102	7'-2"	0'-9"	7'-2"				
	DB05007	14	11'-2"	164	119	2'-2"	3'-2"					
	DB06008	12	9'-2"	165	102	3'-1"	3'-2"	3'-3"				
	DB06009	20	6'-1"	183	001	6'-1"						
	DB08010	14	11'-10"	443	004	9'-5"	2'-5"	0'-5"				
	DB07011	16	4'-3"	139	022	4'-3"						
	DB09012	24	15'-0"	1224	001	15'-0"						
	DB06013	56	7'-2"	603	115	1'-0"	2'-5"	1'-0"				
	DB07014	20	5'-2"	211	102	1'-2"	3'-2"	1'-2"				
	DB06020	12	6'-3"	113	001	6'-3"						
	DB06021	4	6'-8"	40	004	4'-7"	1'-10"	1'-0"				
	DB06022	4	6'-3"	38	022	6'-3"						
	DB06023	16	5'-1"	122	003	4'-3"	1'-0"					
	DB06024	12	3'-0"	54	003	2'-2"	1'-0"					
	DB06025	4	1'-8"	10	003	0'-10"	1'-0"					
	DB06030	24	6'-9"	244	022	6'-9"						
	DB06031	16	2'-8"	64	022	2'-8"						
	DB06032	12	11'-7"	209	102	5'-6"	0'-11"	5'-6"				
	DB06033	6	9'-1"	82	102	4'-3"	0'-11"	4'-3"				
	DB06034	4	5'-9"	35	102	2'-7"	0'-11"	2'-7"				
	DB08035	8	8'-6"	182	001	8'-6"						
	DB06036	4	3'-11"	24	022	3'-11"						

PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
DEVIATION BLOCK TYPE 3												
	DB07001	38	5'-6"	428	103	1'-0"	3'-10"	1'-0"				
	DB06002	2	8'-11"	27	102	4'-3"	0'-9"	4'-3"				
	DB06003	2	11'-3"	34	102	5'-5"	0'-9"	5'-5"				
	DB06004	2	12'-6"	67	102	6'-1"	0'-9"	6'-1"				
	DB06005	6	14'-9"	133	102	7'-2"	0'-9"	7'-2"				
	DB05007	14	11'-2"	164	119	2'-2"	3'-2"					
	DB06008	12	9'-2"	165	102	3'-1"	3'-2"	3'-3"				
	DB06009	20	6'-1"	183	001	6'-1"						
	DB08010	14	11'-10"	443	004	9'-5"	2'-5"	0'-5"				
	DB07011	16	4'-3"	139	022	4'-3"						
	DB09012	24	15'-0"	1224	001	15'-0"						
	DB06013	70	7'-2"	754	115	1'-0"	2'-5"	1'-0"				
	DB07014	24	5'-2"	254	102	1'-2"	3'-2"	1'-2"				
	DB06020	12	6'-3"	113	001	6'-3"						
	DB06021	4	6'-8"	40	004	4'-7"	1'-10"	1'-0"				
	DB06022	4	6'-3"	38	022	6'-3"						
	DB06023	16	5'-1"	122	003	4'-3"	1'-0"					
	DB06024	12	3'-0"	54	003	2'-2"	1'-0"					
	DB06025	4	1'-8"	10	003	0'-10"	1'-0"					
	DB06030	24	6'-9"	244	022	6'-9"						
	DB06031	16	2'-8"	64	022	2'-8"						
	DB06032	12	11'-7"	209	102	5'-6"	0'-11"	5'-6"				
	DB06033	6	9'-1"	82	102	4'-3"	0'-11"	4'-3"				
	DB06034	4	5'-9"	35	102	2'-7"	0'-11"	2'-7"				
	DB08035	8	8'-6"	182	001	8'-6"						
	DB06036	4	3'-11"	24	022	3'-11"						



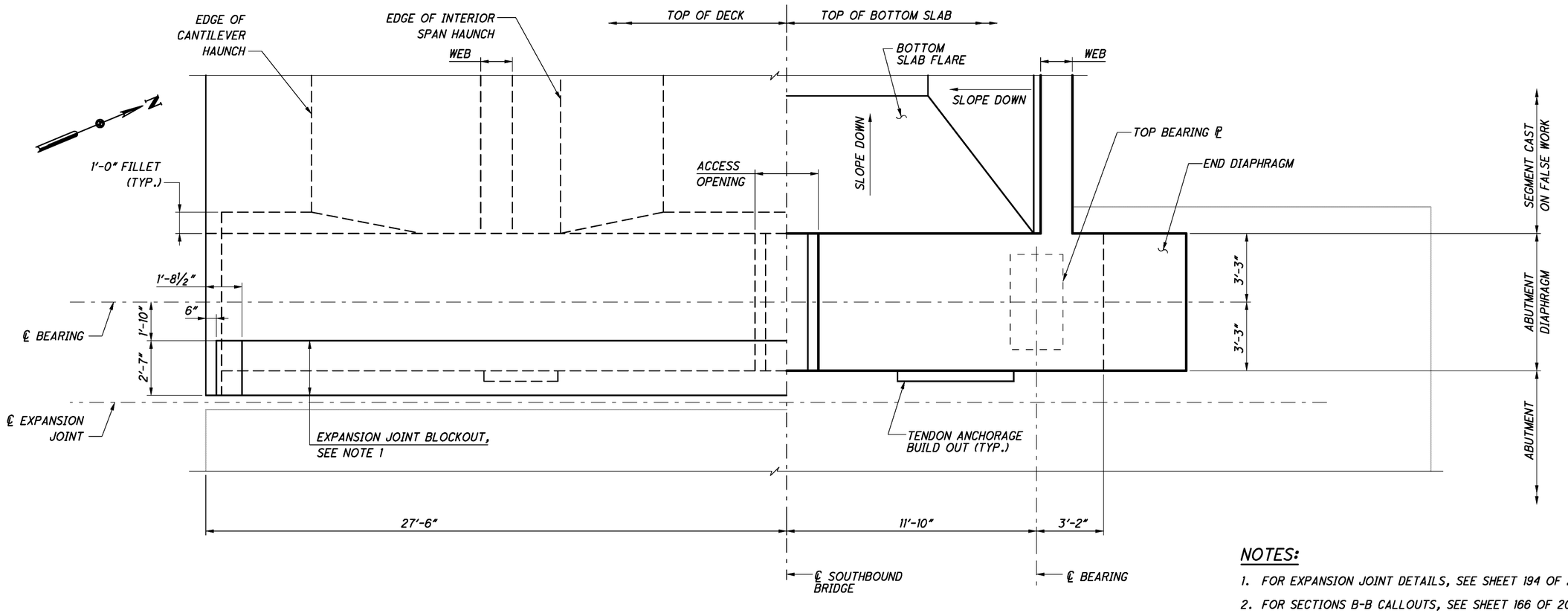
LONGITUDINAL SECTION AT REAR ABUTMENT

(SOUTHBOUND BRIDGE SHOWN, NORTHBOUND BRIDGE SIMILAR)



LONGITUDINAL SECTION AT FORWARD ABUTMENT

(SOUTHBOUND BRIDGE SHOWN, NORTHBOUND BRIDGE SIMILAR)



SECTION B-B

(REAR ABUTMENT OF SOUTHBOUND BRIDGE SHOWN.
FORWARD ABUTMENT SIMILAR BUT OPPOSITE HAND)

NOTES:

1. FOR EXPANSION JOINT DETAILS, SEE SHEET 194 OF 204.
2. FOR SECTIONS B-B CALLOUTS, SEE SHEET 166 OF 204.
3. FOR ANCHOR BLOCK DETAILS, SEE SHEET 172 OF 204.
4. FOR REINFORCEMENT AT ACCESS OPENING IN BOTTOM SLAB , SEE SHEETS 178, 179 & 184 OF 204.
5. FOR SEGMENT AND REINFORCING DETAILS, SEE FROM SHEET 175 THROUGH SHEET 185 OF 204.
6. SOUTHBOUND BRIDGE IS SHOWN, NORTHBOUND BRIDGE IS SIMILAR.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
RM	DS	JB	10/30/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

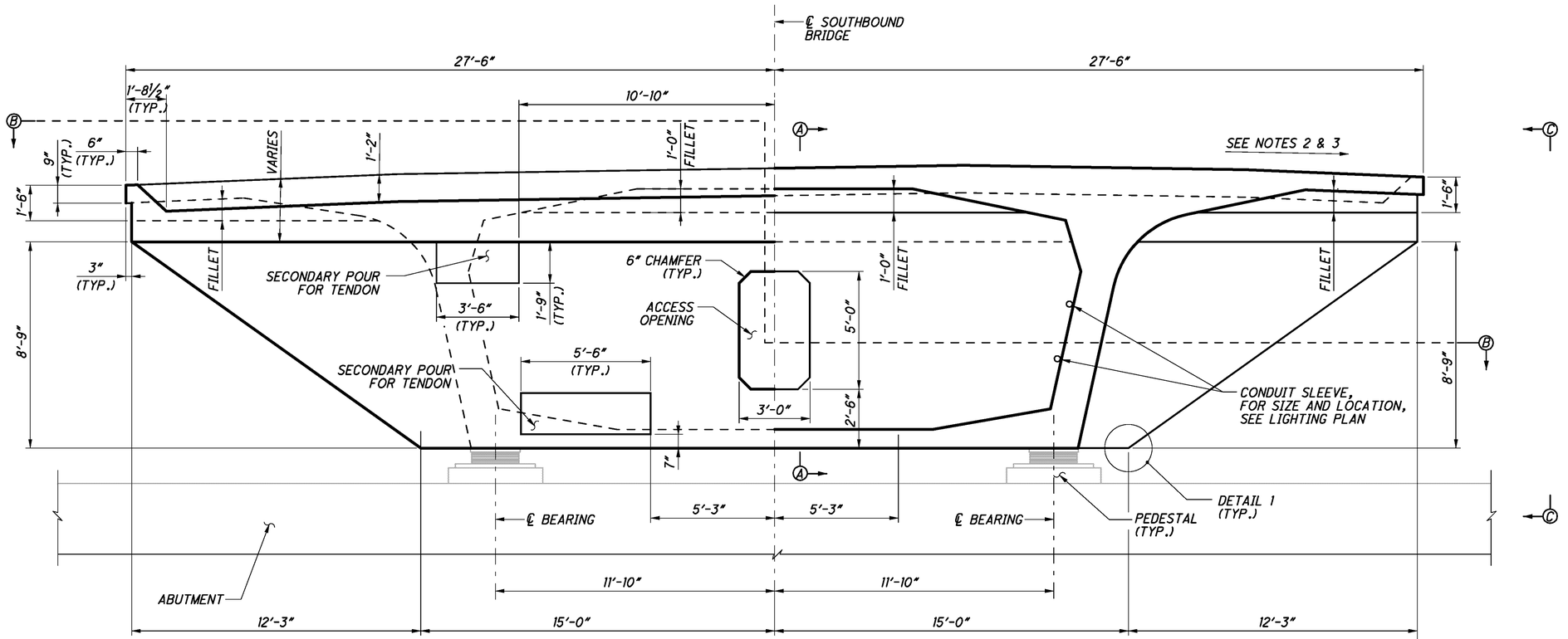
ABUTMENT DIAPHRAGM PT AND DIMENSIONS 1

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

165/204
431/470

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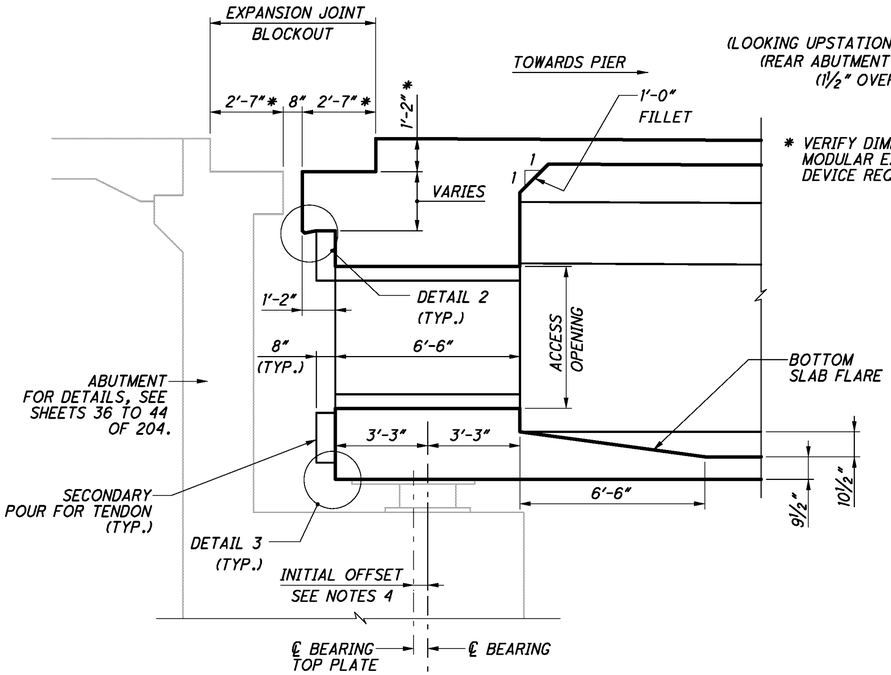


ELEVATION

(LOOKING UPSTATION, SECTION THROUGH ABUTMENT DIAPHRAGM)
(REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR)
(1½" OVERLAY NOT SHOWN FOR CLARITY)

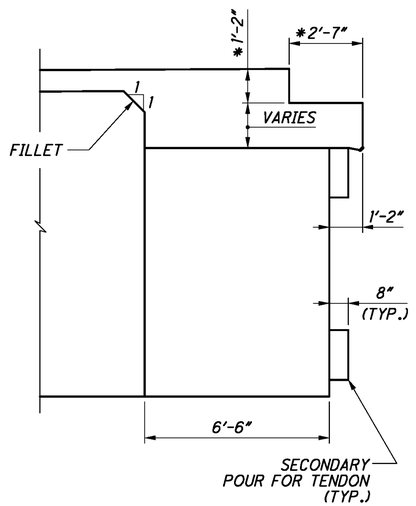
ELEVATION

(LOOKING UPSTATION, SECTION THROUGH BOX GIRDER SECTION)
(REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR)
(1½" OVERLAY NOT SHOWN FOR CLARITY)



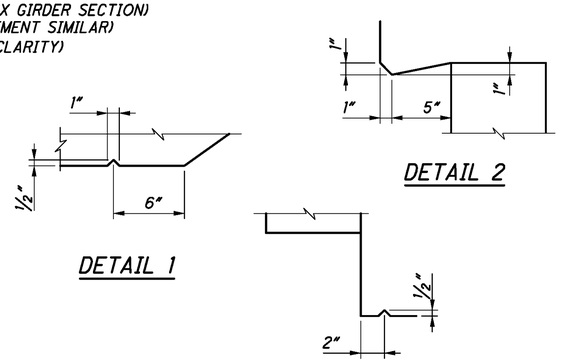
SECTION A-A

(1½" OVERLAY NOT SHOWN FOR CLARITY)



SECTION C-C

(1½" OVERLAY NOT SHOWN FOR CLARITY)



NOTES:

1. FOR SECTIONS B-B, SEE SHEET 165 OF 204
2. FOR TRANSVERSE DECK SLOPE NEAR REAR ABUTMENT, SEE SHEET 175 OF 204.
3. FOR TRANSVERSE DECK SLOPE NEAR FORWARD ABUTMENT, SEE SHEET 181 OF 204.
4. FOR INITIAL OFFSET OF BEARING TOP PLATE, SEE SHEET 192 OF 204.
5. 1½" INITIAL WEARING SURFACE NOT SHOWN IN ELEVATION AND SECTION A-A FOR CLARITY.
6. SOUTHBOUND BRIDGE IS SHOWN, NORTHBOUND BRIDGE IS SIMILAR
7. FOR MATERIAL USED IN SECONDARY POUR, SEE SPECIAL PROVISION "CONCRETE BOX GIRDER CONSTRUCTION".

DESIGN AGENCY
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1100 Superior Avenue, Suite 1300
Cleveland, OH 44114-2531

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ABUTMENT DIAPHRAGM PT AND DIMENSIONS 2

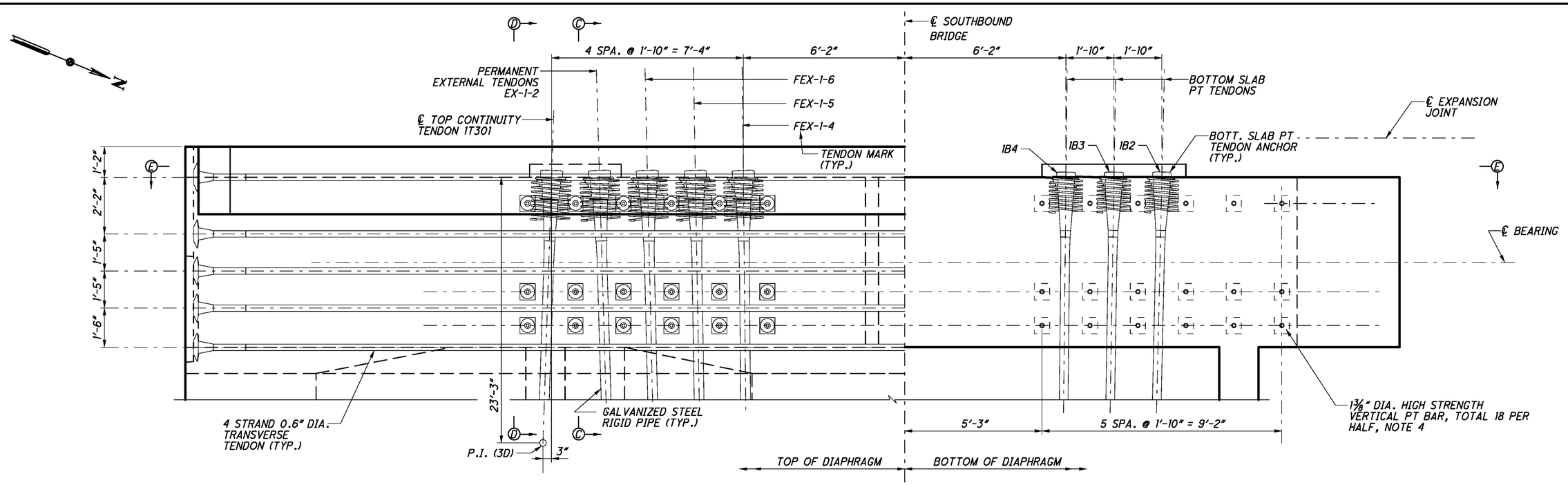
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

166/204

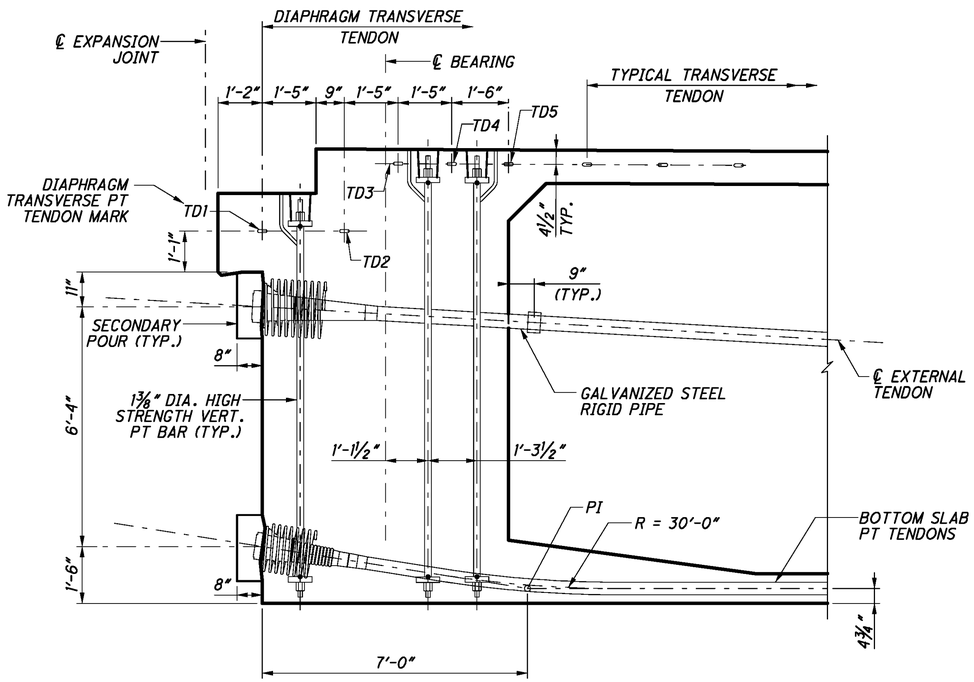
432/470

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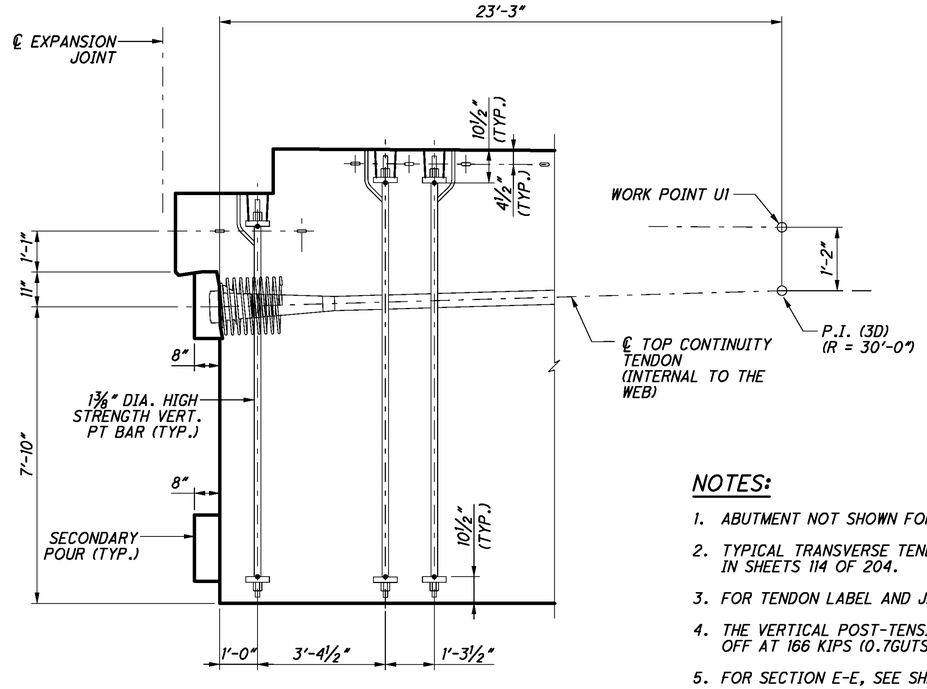


PLAN - POST TENSIONING DETAILS

(REAR ABUTMENT OF SOUTHBOUND BRIDGE SHOWN. FORWARD ABUTMENT SIMILAR BUT OPPOSITE HAND)



SECTION C-C



SECTION D-D

NOTES:

1. ABUTMENT NOT SHOWN FOR CLARITY.
2. TYPICAL TRANSVERSE TENDONS, FOLLOW PROFILE DEFINED IN SHEETS 114 OF 204.
3. FOR TENDON LABEL AND JACKING FORCE, SEE SHEETS 112 & 113 OF 204.
4. THE VERTICAL POST-TENSION BAR SHALL BE STRESSED TO, AND LOCKED OFF AT 166 KIPS (0.7GUTS).
5. FOR SECTION E-E, SEE SHEET 168 OF 204.
6. SOUTHBOUND BRIDGE IS SHOWN, NORTHBOUND BRIDGE IS SIMILAR.
7. FOR MATERIAL USED IN SECONDARY POUR, SEE SPECIAL PROVISION "CONCRETE BOX GIRDER CONSTRUCTION".

DESIGN AGENCY
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Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

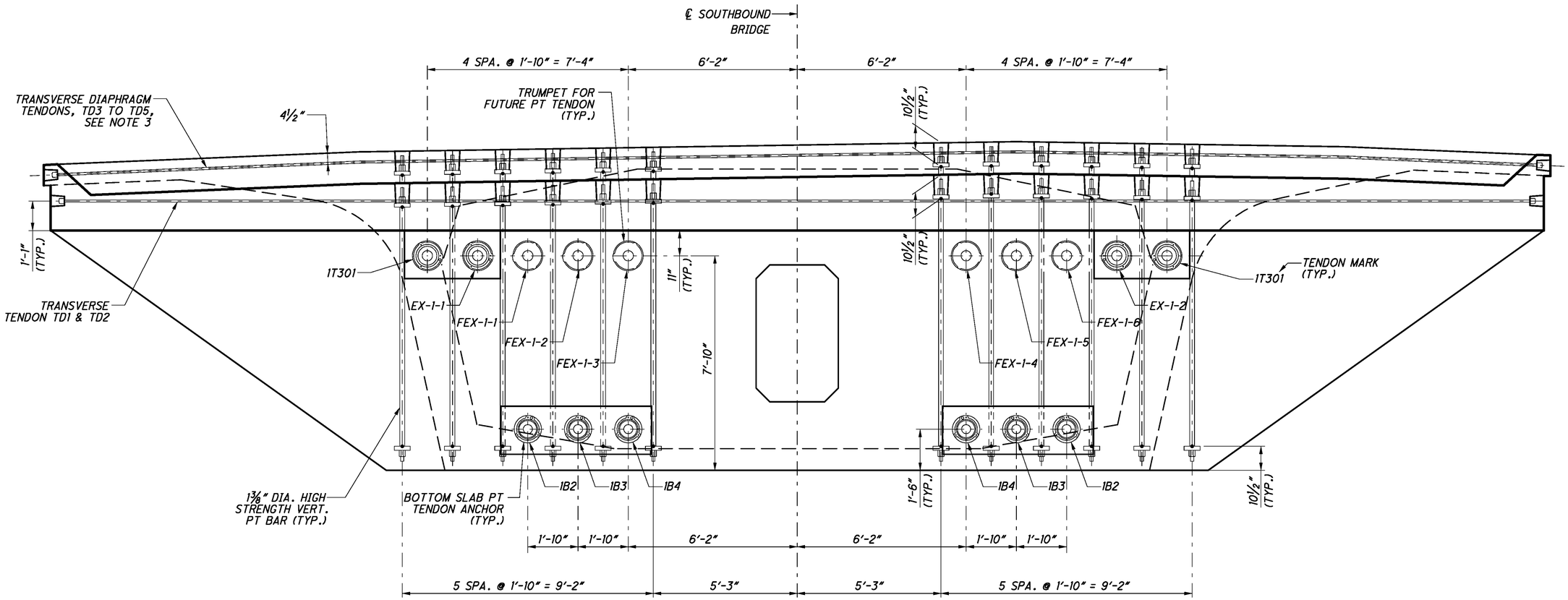
ABUTMENT DIAPHRAGM PT AND DIMENSIONS 3
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

167/204

433/470

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SECTION E-E

NOTES:

1. ABUTMENT NOT SHOWN FOR CLARITY.
2. SOUTHBOUND BRIDGE IS SHOWN, NORTHBOUND BRIDGE IS SIMILAR.
3. LONGITUDINAL TENDONS MAY HAVE TO BE INSTALLED AND STRESSED WITH ABUTMENT BACKWALL IN PLACE.

DESIGN AGENCY
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

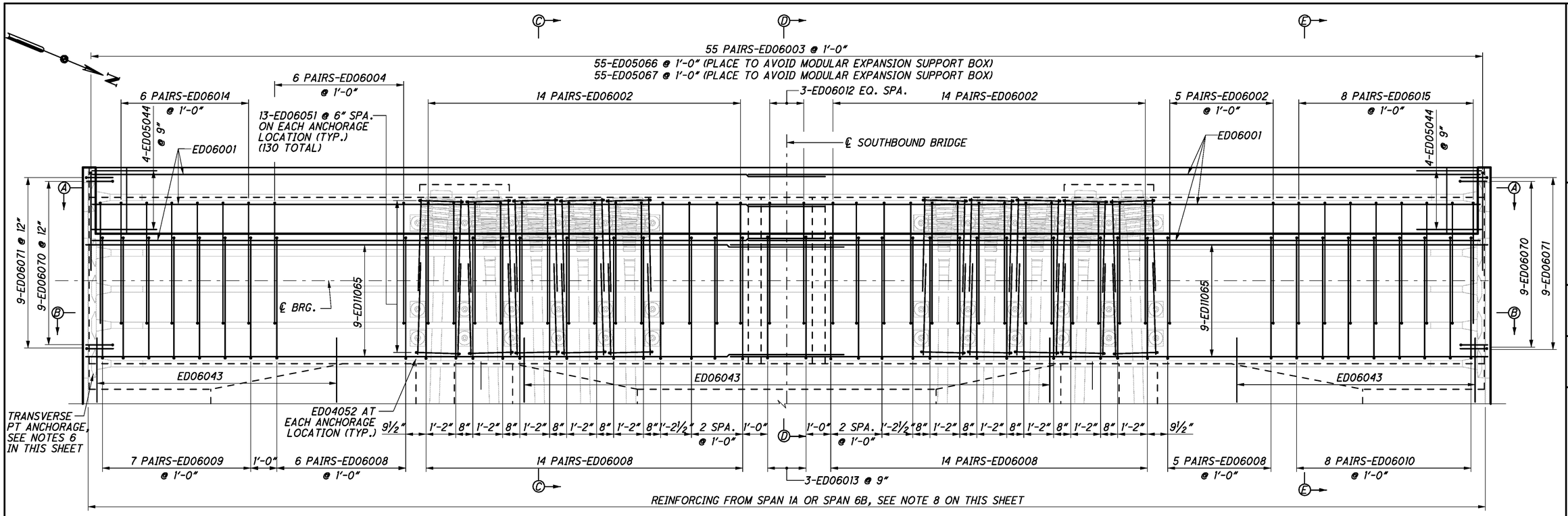
ABUTMENT DIAPHRAGM PT AND DIMENSIONS 4
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

168/204

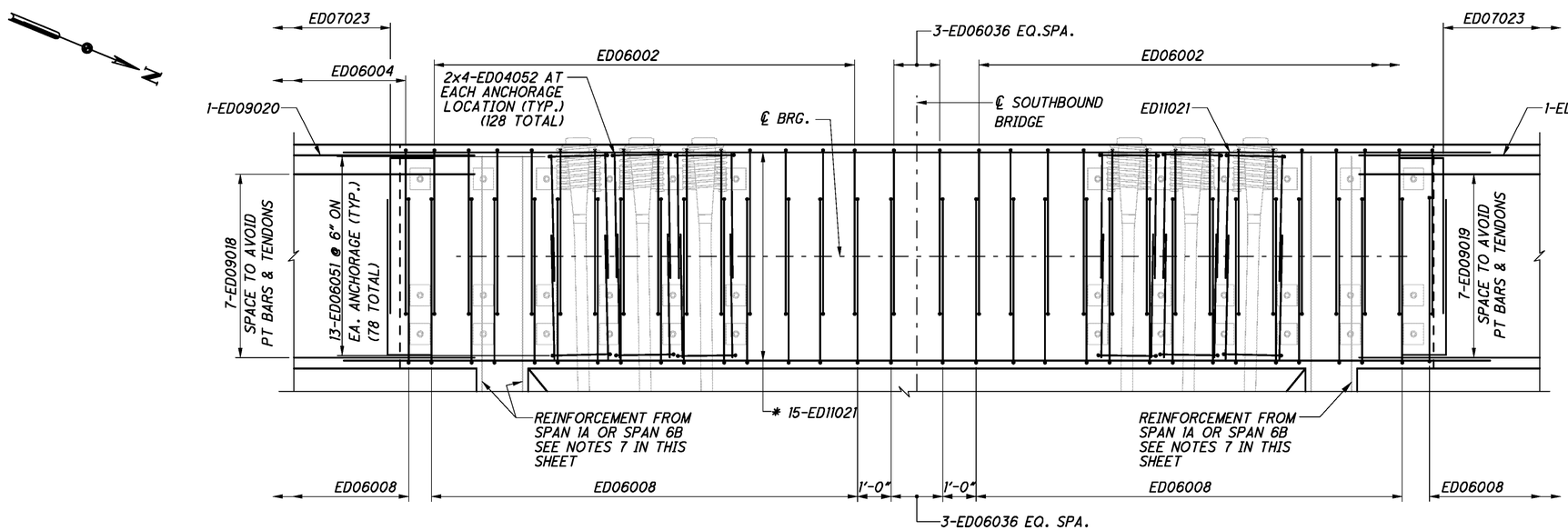
434/470

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PLAN - TOP OF DECK

(REAR ABUTMENT OF SOUTHBOUND BRIDGE SHOWN. FORWARD ABUTMENT SIMILAR BUT OPPOSITE HAND)



*SPACE TO AVOID BEARING ANCHOR PLATE CONNECTOR POCKET IF IT IS NEEDED

PLAN - TOP OF BOTTOM SLAB

(REAR ABUTMENT OF SOUTHBOUND BRIDGE SHOWN. FORWARD ABUTMENT SIMILAR BUT OPPOSITE HAND)

NOTES:

1. SOUTHBOUND BRIDGE ABUT. DIAPHRAGM SHOWN, NORTHBOUND BRIDGE ABUT. DIAPHRAGM SIMILAR.
2. FOR SECTIONS A-A AND B-B, SEE SHEET 170 OF 204.
3. FOR SECTIONS C-C, D-D, E-E AND F-F, SEE SHEET 171 OF 204.
4. REINFORCEMENT FOR FALSEWORK SPAN SECTION NOT SHOWN FOR CLARITY.
5. IN CASE OF CONFLICT WITH POST-TENSIONING DUCTS OR ANCHORAGES, REINFORCEMENT MAY BE RE-SPACED WITH APPROVAL OF ENGINEER.
6. FOR REINFORCING BARS AT TRANSVERSE TENDON ANCHORAGES, SEE TRANSVERSE TENDON DETAILS ON SHEET 115 OF 204.
7. FOR REINFORCEMENT FROM FALSEWORK SPAN 1A, SEE SHEETS 176, 177, 178 & 179 OF 204. FOR REINFORCEMENT FROM FALSEWORK SPAN 6B, SEE SHEETS 182, 183, 184 & 185 OF 204.

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CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

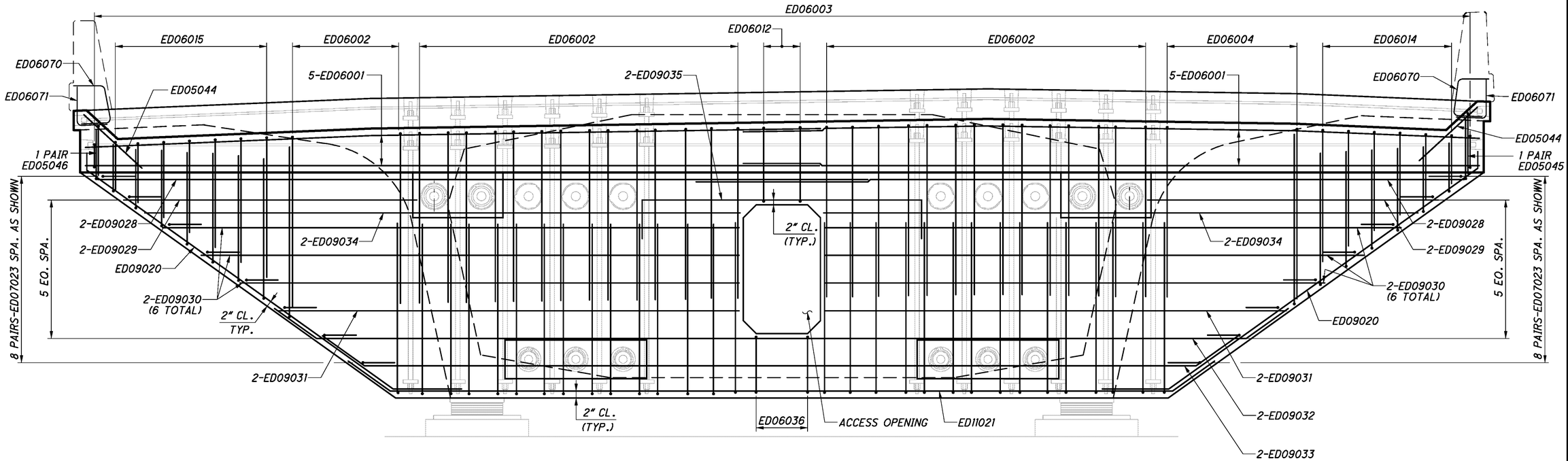
ABUTMENT DIAPHRAGM REINFORCEMENT 1
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

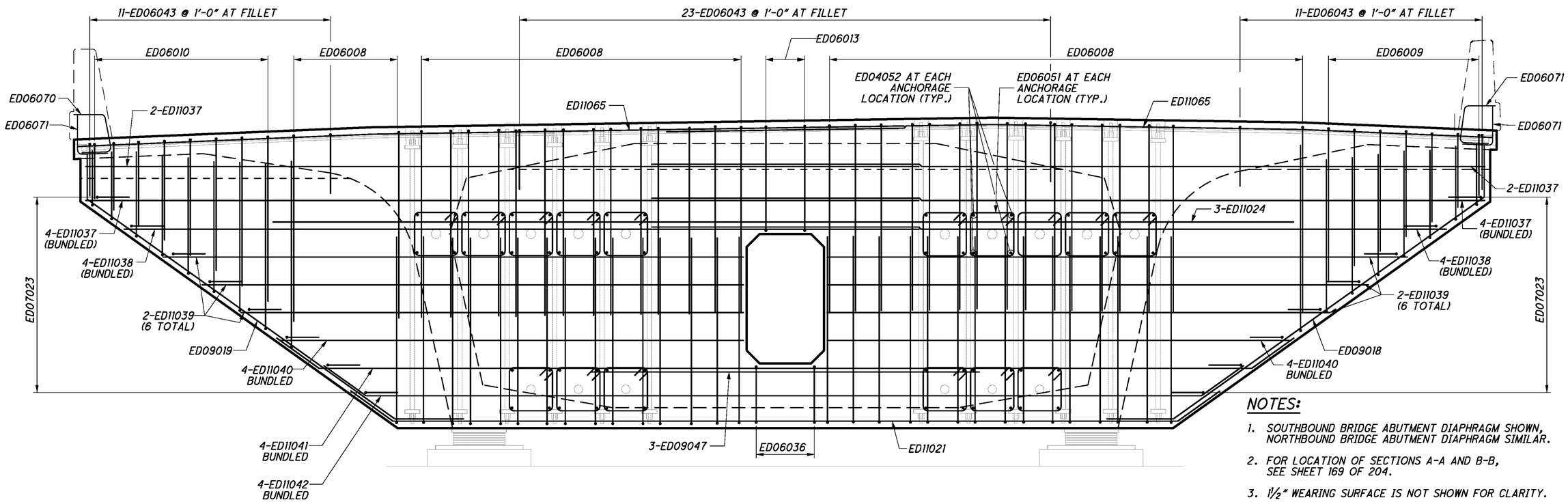
169/204

435/470

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SECTION A-A



SECTION B-B

NOTES:

1. SOUTHBOUND BRIDGE ABUTMENT DIAPHRAGM SHOWN, NORTHBOUND BRIDGE ABUTMENT DIAPHRAGM SIMILAR.
2. FOR LOCATION OF SECTIONS A-A AND B-B, SEE SHEET 169 OF 204.
3. 1½" WEARING SURFACE IS NOT SHOWN FOR CLARITY.
4. FOR ADDITIONAL REINFORCEMENT AT ACCESS OPENING, SEE DETAILS ON SHEET 172 OF 204.

DESIGN AGENCY
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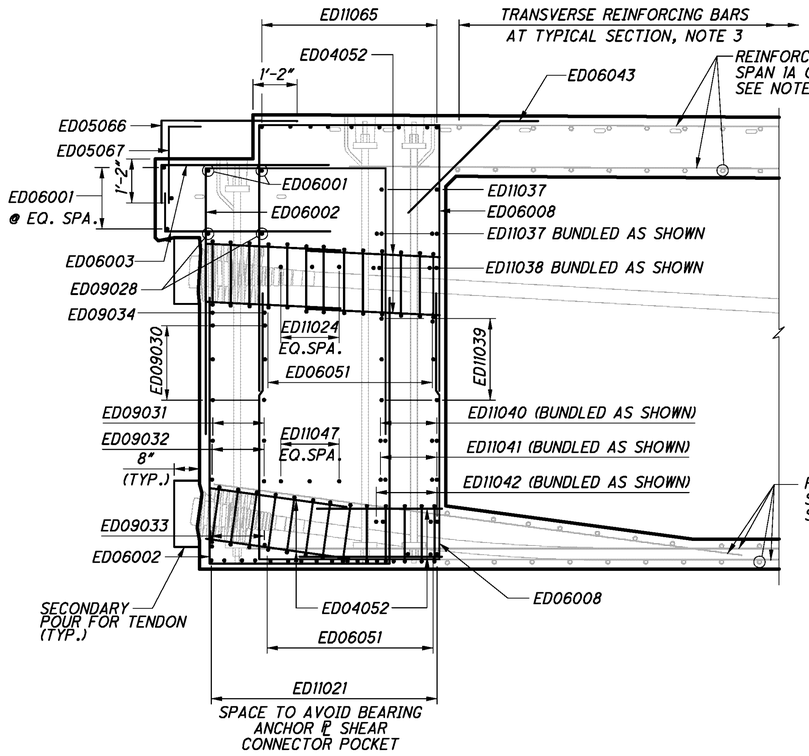
CHECKED	REVISED	STRUCTURE FILE NUMBER
MX		8302278L/8302294R

ABUTMENT DIAPHRAGM REINFORCEMENT 2

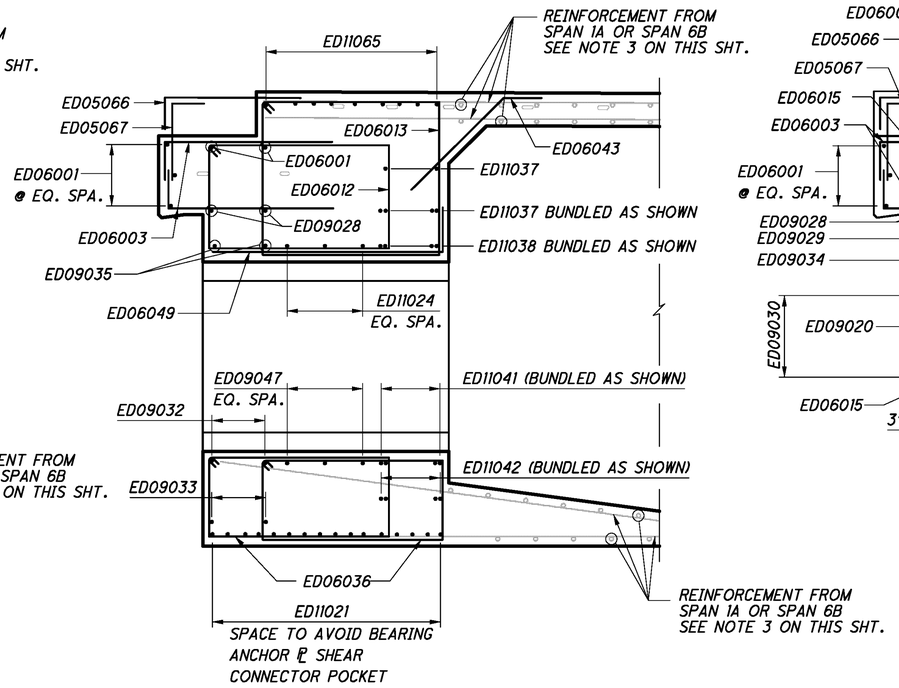
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

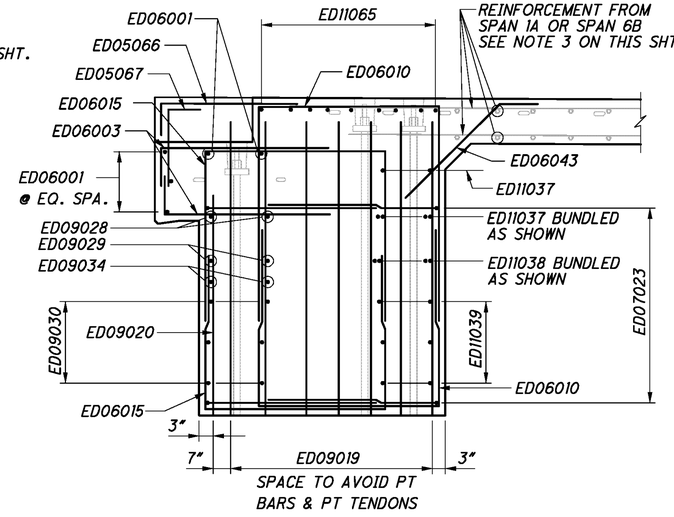
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SECTION C-C



SECTION D-D



SECTION E-E

NOTES:

1. FOR LOCATION OF SECTIONS C-C, D-D, AND E-E, SEE SHEET 169 OF 204.
2. 1½" WEARING SURFACE IS NOT SHOWN FOR CLARITY.
3. FOR REINFORCEMENT FROM SPAN 1A, SEE SHEETS 176, 177, 178 & 179 OF 204. FOR REINFORCEMENT FROM SPAN 6B, SEE SHEETS 182, 183, 184, & 185 OF 204.
4. FOR REINFORCING BARS AT BARS AT TRANSVERSE TENDON ANCHORAGES, SEE TRANSVERSE TENDON DETAILS ON SHEET 115 OF 204.
5. FOR MATERIAL USED IN SECONDARY POUR, SEE SPECIAL PROVISION "CONCRETE BOX GIRDER CONSTRUCTION".

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1300
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

ABUTMENT DIAPHRAGM REINFORCEMENT 3

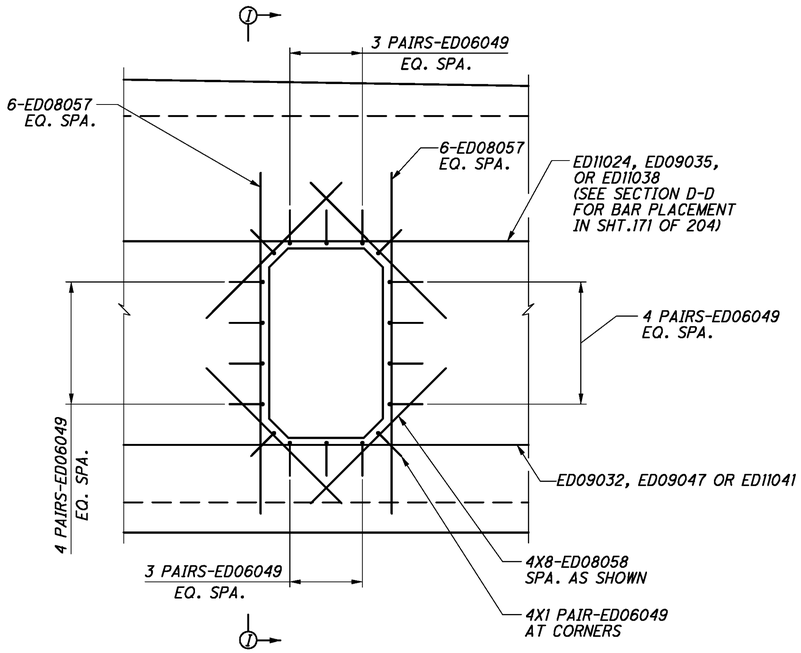
BRIDGE NO. WAR-71-1514L/R

INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20

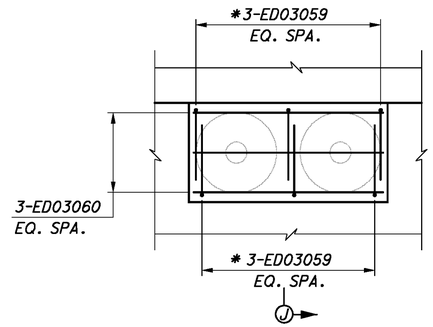
PID No. 22950

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ACCESS DOOR DETAIL

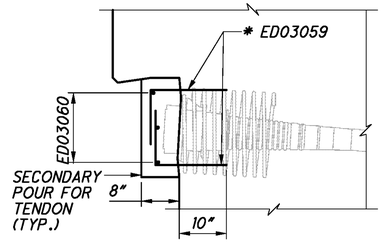
(DIAPHRAGM REINFORCEMENT NOT SHOWN FOR CLARITY)



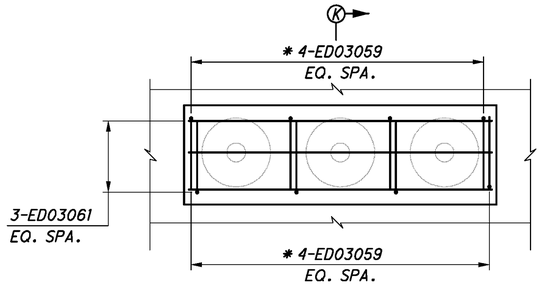
DETAIL AT PERMANENT TOP TENDONS

(2 LOCATIONS ON REAR ABUTMENT OF SOUTHBOUND BRIDGE)

* FIELD BEND BARS

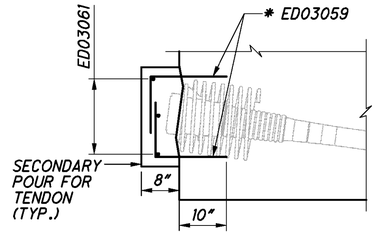


SECTION J-J

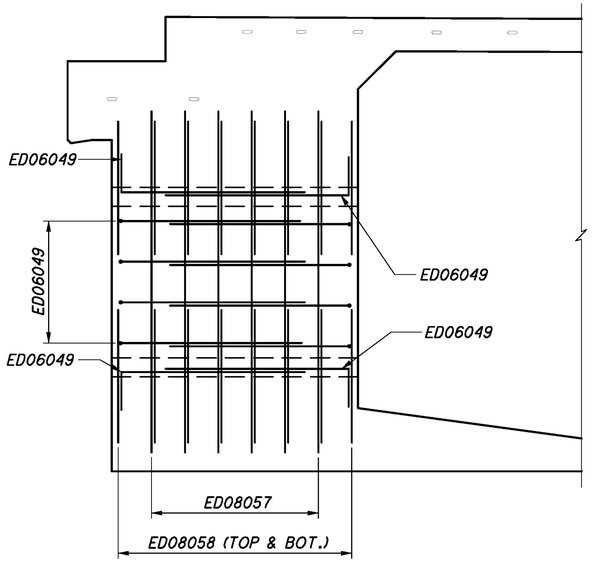


DETAIL AT BOTTOM SLAB TENDONS

(2 LOCATIONS ON REAR ABUTMENT OF SOUTHBOUND BRIDGE)



SECTION K-K



SECTION I-I

(ALL DIAPHRAGM REINFORCEMENT NOT SHOWN FOR CLARITY)

NOTES:

1. SOUTHBOUND BRIDGE DIAPHRAGM SHOWN, NORTHBOUND BRIDGE ABUTMENT DIAPHRAGM IS SIMILAR.
2. FOR MATERIAL USED IN SECONDARY POUR, SEE SPECIAL PROVISION "CONCRETE BOX GIRDER CONSTRUCTION".

DESIGN AGENCY
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DESIGNED	DRAWN	REVIEWED	DATE
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ABUTMENT DIAPHRAGM REINFORCEMENT 4
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

172/204
438/470

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PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
ABUTMENT SEGMENT												
	ED06001	10	28'-10"	433	001	28'-10"						
	ED06002	66	18'-9"	1860	129	7'-2"	4'-9"					
	ED06003	110	5'-3"	868	003	4'-5"	1'-0"					
	ED06004	12	17'-7"	317	129	6'-7"	4'-9"					
	ED06008	78	18'-9"	2199	129	7'-2"	4'-9"					
		1	10'-8"			2'-3"						
	ED06009	ser	to	263	129	to	4'-9"					3"
		14	14'-3"			5'-10"						
		1	10'-5"			2'-1"						
	ED06010	ser	to	297	129	to	4'-9"					2 3/4"
		16	14'-2"			5'-10"						
	ED06012	3	16'-0"	72	119	2'-10"	4'-9"					
	ED06013	3	18'-4"	83	119	4'-0"	4'-9"					
		1	9'-10"			1'-11"						
	ED06014	ser	to	207	129	to	4'-9"					3 1/4"
		12	13'-1"			5'-2"						
		1	9'-10"			1'-10"						
	ED06015	ser	to	279	129	to	4'-9"					2 1/2"
		16	13'-4"			5'-4"						
	ED09018	7	19'-2"	457	006	1'-6"	2'-1"	14'-9"	1'-2"	1'-7"		
	ED09019	7	18'-11"	450	006	1'-5"	1'-0"	14'-7"	2'-2"	1'-7"		
	ED09020	2	17'-10"	121	006	1'-6"	2'-1"	14'-9"	0'-4"	0'-6"		
	ED11021	15	34'-3"	2732	006	1'-2"	1'-8"	30'-4"	1'-8"	1'-2"		
	ED07023	32	5'-10"	382	003	1'-2"	4'-10"					
	ED11024	3	39'-0"	622	001	39'-0"						
	ED09028	4	30'-1"	409	001	30'-1"						
	ED09029	4	11'-4"	154	001	11'-4"						
		1	19'-4"			19'-4"						
	ED09030	ser	to	850	001	to						3"
		12	22'-4"			22'-4"						

NOTES:

1. ALL REINFORCING STEEL TO BE EPOXY COATED.
2. FOR BAR TYPES AND BENDS, SEE SHEETS 187 AND 188 OF 204.
3. WORK THIS SHEET WITH SHEET 174.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
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DESIGNED RM | DRAWN DS | CHECKED MX | REVIEWED JB | DATE 10/30/07 | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

ABUTMENT BAR SCHEDULE - 1
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

173/204

439/470

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PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
ABUTMENT SEGMENT- CONTINUED												
	ED09031	4	17'-11"	244	001	17'-11"						
	ED09032	2	40'-0"	272	006	1'-2"	1'-8"					
	ED09033	2	37'-0"	251	006	1'-2"	1'-8"	36'-0"	1'-8"	1'-2"		
	ED09034	4	23'-1"	314	001	23'-1"		33'-0"	1'-8"	1'-2"		
	ED09035	2	13'-3"	90	102	1'-6"	10'-10"					
	ED06036	6	14'-8"	132	119	2'-2"	4'-9"	1'-6"				
	ED11037	12	33'-3"	2120	001	33'-3"						
	ED11038	8	31'-9"	1350	001	31'-9"						
		1	19'-4"			19'-4"						
	ED11039	ser	to	1328	001	to						3"
		12	22'-4"			22'-4"						
	ED11040	8	17'-10"	758	001	17'-10"						
	ED11041	4	39'-11"	849	006	1'-2"	1'-8"					
	ED11042	4	36'-11"	785	006	1'-2"	1'-8"	36'-0"	1'-8"	1'-2"		
	ED06043	45	4'-3"	289	004	1'-0"	2'-4"	33'-0"	1'-8"	1'-2"		
	ED05044	8	3'-1"	26	001	3'-1"		2'-4"				
	ED06045	2	8'-11"	27	129	2'-3"	4'-9"					
	ED06046	2	8'-1"	24	129	1'-10"	4'-9"					
	ED09047	3	15'-0"	153	001	15'-0"						
	ED06049	36	5'-6"	1052	003	4'-10"	1'-0"					
	ED06051	208	7'-6"	2345	119	1'-8"	1'-8"					
	ED04052	128	3'-7"	306	001	3'-7"						
	ED08057	12	9'-5"	302	001	9'-5"						
	ED08058	32	5'-0"	428	001	5'-0"						
	ED03059	28	2'-11"	31	001	2'-11"						
	ED03060	6	3'-2"	7	001	3'-2"						
	ED03061	6	5'-2"	12	001	5'-2"						
	ED11065	18	32'-8"	3124	001	32'-8"						
	ED05066	55	4'-3"	246	003	3'-7"	0'-10"					
	ED05067	55	2'-10"	165	003	2'-2"	0'-10"					
	ED06070	18	3'-2"	86	106	0'-11"	0'-4"					
	ED06071	18	2'-4"	63	003	1'-6"	1'-0"	1'-6"	0'-11"			
	AR04001	60	3'-6"	140	901							
	AR04002	40	2'-0"	53	902							
			SUB-TOTAL	30,427 lbs								
			NO. OF SEGMENTS	1 OF 2 REQUIRED								

(ABUTMENT ON SOUTHBOUND BRIDGE SHOWN, ABUTMENTS ON NORTHBOUND BRIDGE ARE IDENTICAL.)

NOTES:

1. ALL REINFORCING STEEL TO BE EPOXY COATED.
2. FOR BAR TYPES AND BENDS, SEE SHEETS 187 AND 188 OF 204.
3. WORK THIS SHEET WITH SHEET 173.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

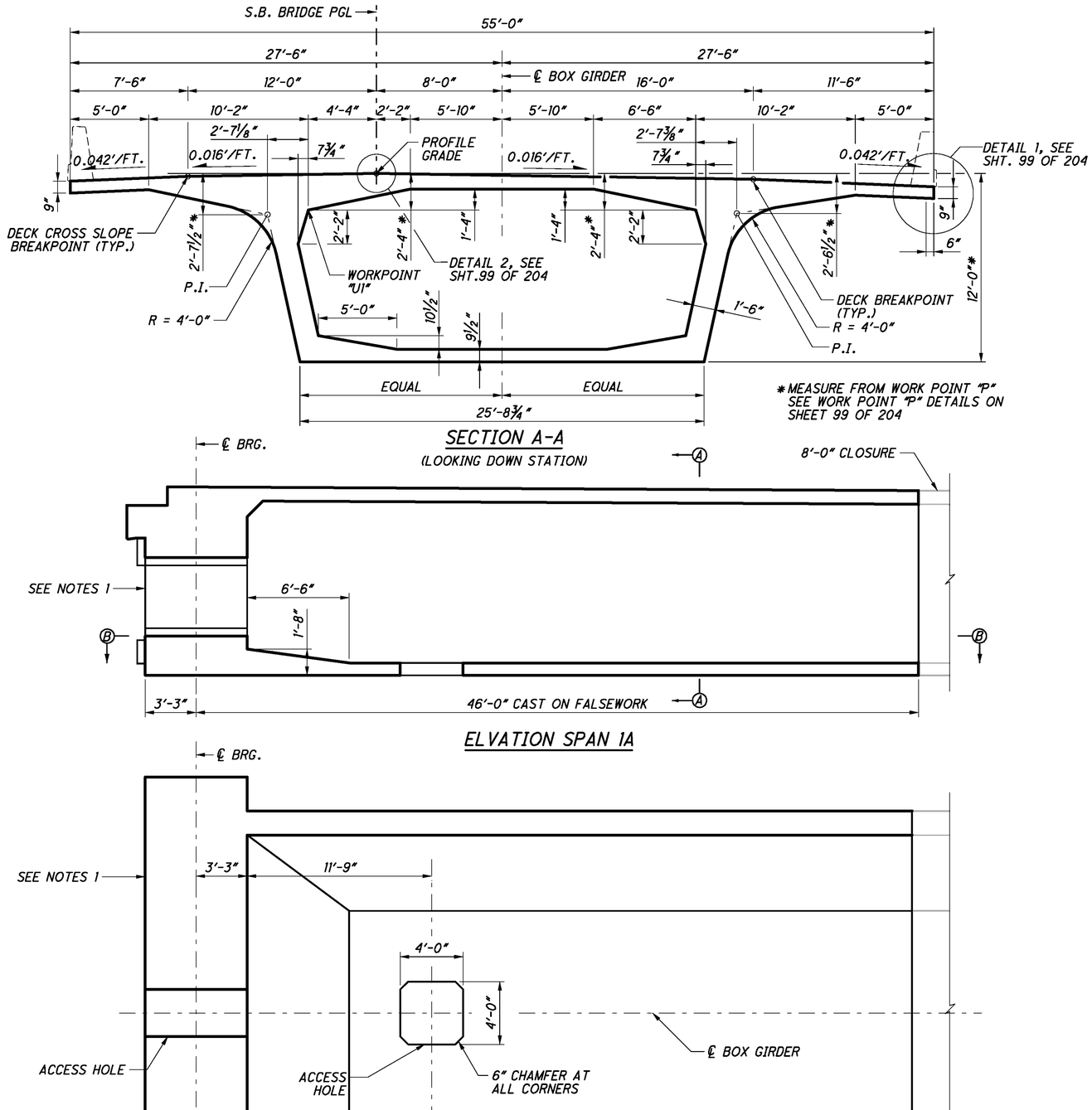
DESIGNED RM | DRAWN DS | CHECKED MX | REVIEWED JB | DATE 10/30/07 | REVISED

STRUCTURE FILE NUMBER 8302278L/8302294R

ABUTMENT BAR SCHEDULE - 2
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

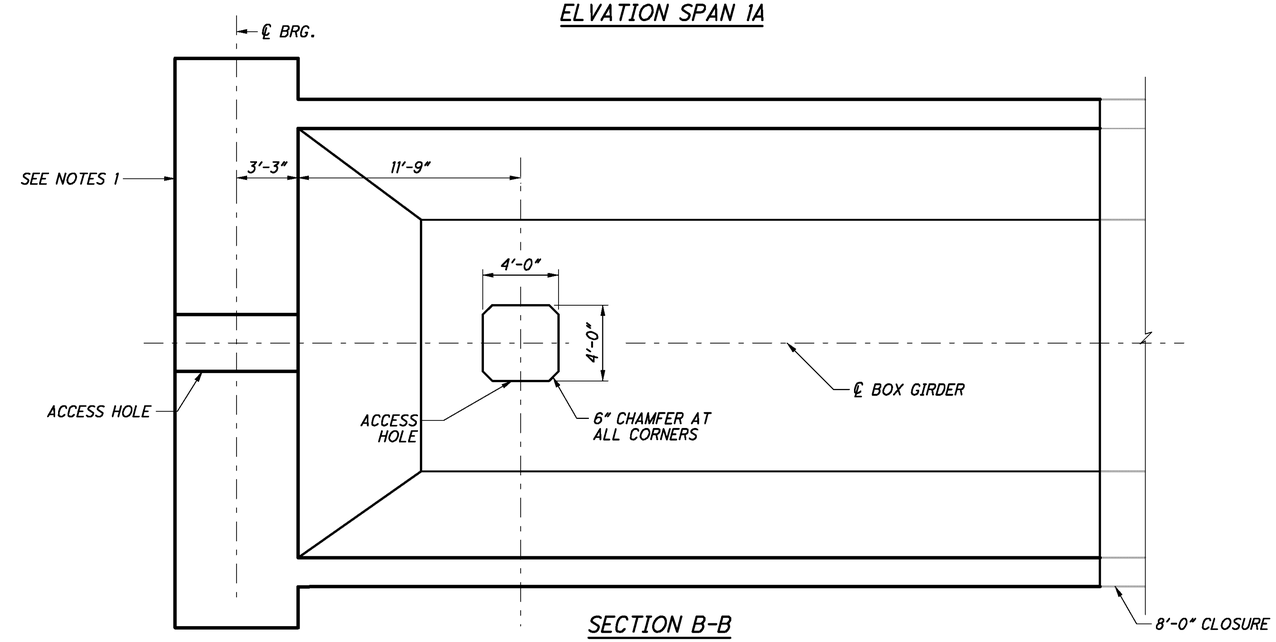
C:\22950\bridge\WAR071_1514c\sheets\071_1514CSD420.dgn 30-JUL-2008 10:20AM bavarello



*MEASURE FROM WORK POINT "P" SEE WORK POINT "P" DETAILS ON SHEET 99 OF 204

SECTION A-A
(LOOKING DOWN STATION)

ELVATION SPAN 1A



SECTION B-B

NOTES:

1. FOR ABUTMENT DIAPHRAGM DETAILS, SEE SHEETS 165 TO 174 OF 204.
2. ALL CONCRETE CHAMFERS ARE ¾".
3. S.B. DENOTES SOUTH BOUND.
4. 1½" INITIAL WEARING SURFACE IN CROSS SECTION NOT SHOWN FOR CLARITY. ALL DIMENSIONS SHOWN ARE MEASURED FROM WORKPOINT "P" IN DETAIL 2 IN SHEET 99 AND DO NOT INCLUDE THE INITIAL WEARING SURFACE.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

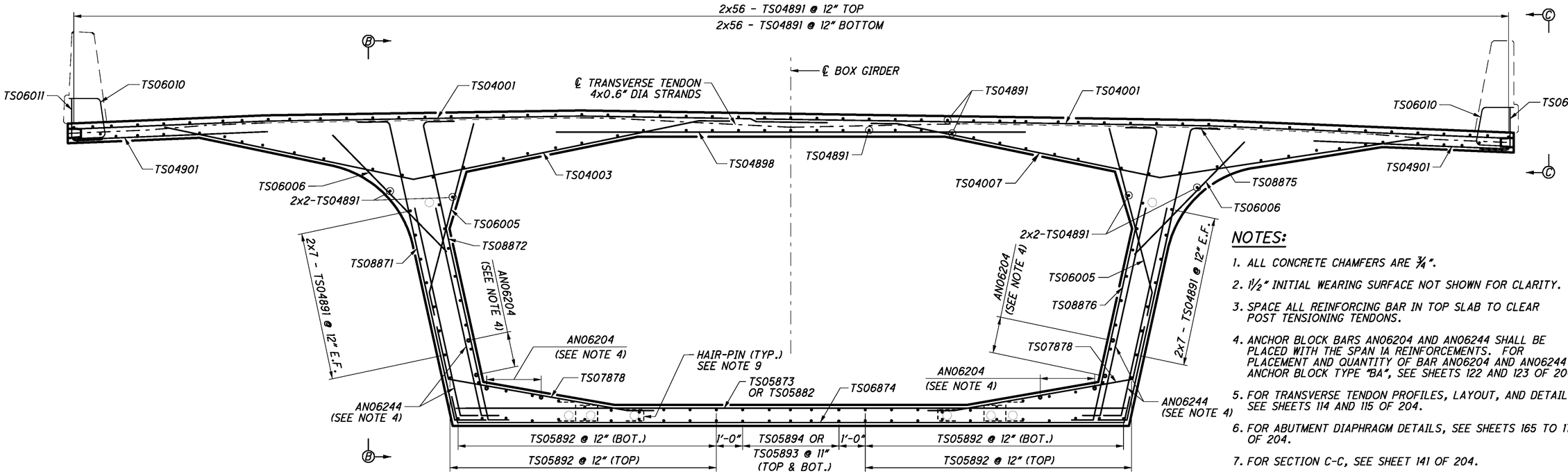
DESIGNED	DRAWN	REVIEWED	DATE
PY	PY	JB	10/30/07

CHECKED: MX
REVISED:
STRUCTURE FILE NUMBER: 8302278L/8302294R

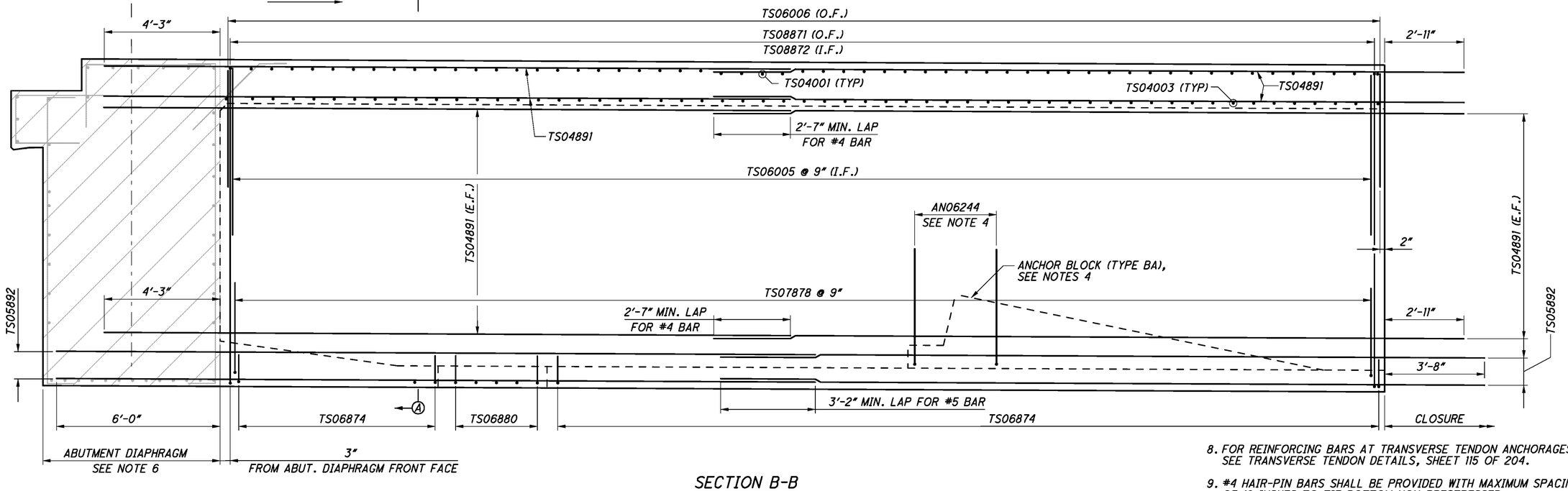
SPAN 1A DIMENSIONS
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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SECTION A-A
(LOOKING DOWNSTATION)



SECTION B-B

NOTES:

1. ALL CONCRETE CHAMFERS ARE ¾".
2. 1½" INITIAL WEARING SURFACE NOT SHOWN FOR CLARITY.
3. SPACE ALL REINFORCING BAR IN TOP SLAB TO CLEAR POST TENSIONING TENDONS.
4. ANCHOR BLOCK BARS AN06204 AND AN06244 SHALL BE PLACED WITH THE SPAN 1A REINFORCEMENTS. FOR PLACEMENT AND QUANTITY OF BAR AN06204 AND AN06244 ON ANCHOR BLOCK TYPE "BA", SEE SHEETS 122 AND 123 OF 204.
5. FOR TRANSVERSE TENDON PROFILES, LAYOUT, AND DETAILS, SEE SHEETS 114 AND 115 OF 204.
6. FOR ABUTMENT DIAPHRAGM DETAILS, SEE SHEETS 165 TO 174 OF 204.
7. FOR SECTION C-C, SEE SHEET 141 OF 204.
8. FOR REINFORCING BARS AT TRANSVERSE TENDON ANCHORAGES, SEE TRANSVERSE TENDON DETAILS, SHEET 115 OF 204.
9. #4 HAIR-PIN BARS SHALL BE PROVIDED WITH MAXIMUM SPACINGS OF 18 INCHES TO TIE BOTTOM NON-PRESTRESSED REINFORCEMENTS WHEN SPACING BETWEEN OR LONGITUDINAL DUCTS IS LESS THAN 12 INCHES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETAILING AND PROVIDING NECESSARY HAIR-PIN BARS, BASED ON THE ACTUAL PT LAYOUT USED, AS PER AASHTO SEGMENTAL GUIDE SPECIFICATION, ARTICLES 16.6, SEE SPECIAL PROVISION - "POST-TENSIONING."

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1300
Cleveland, OH 44114-2531

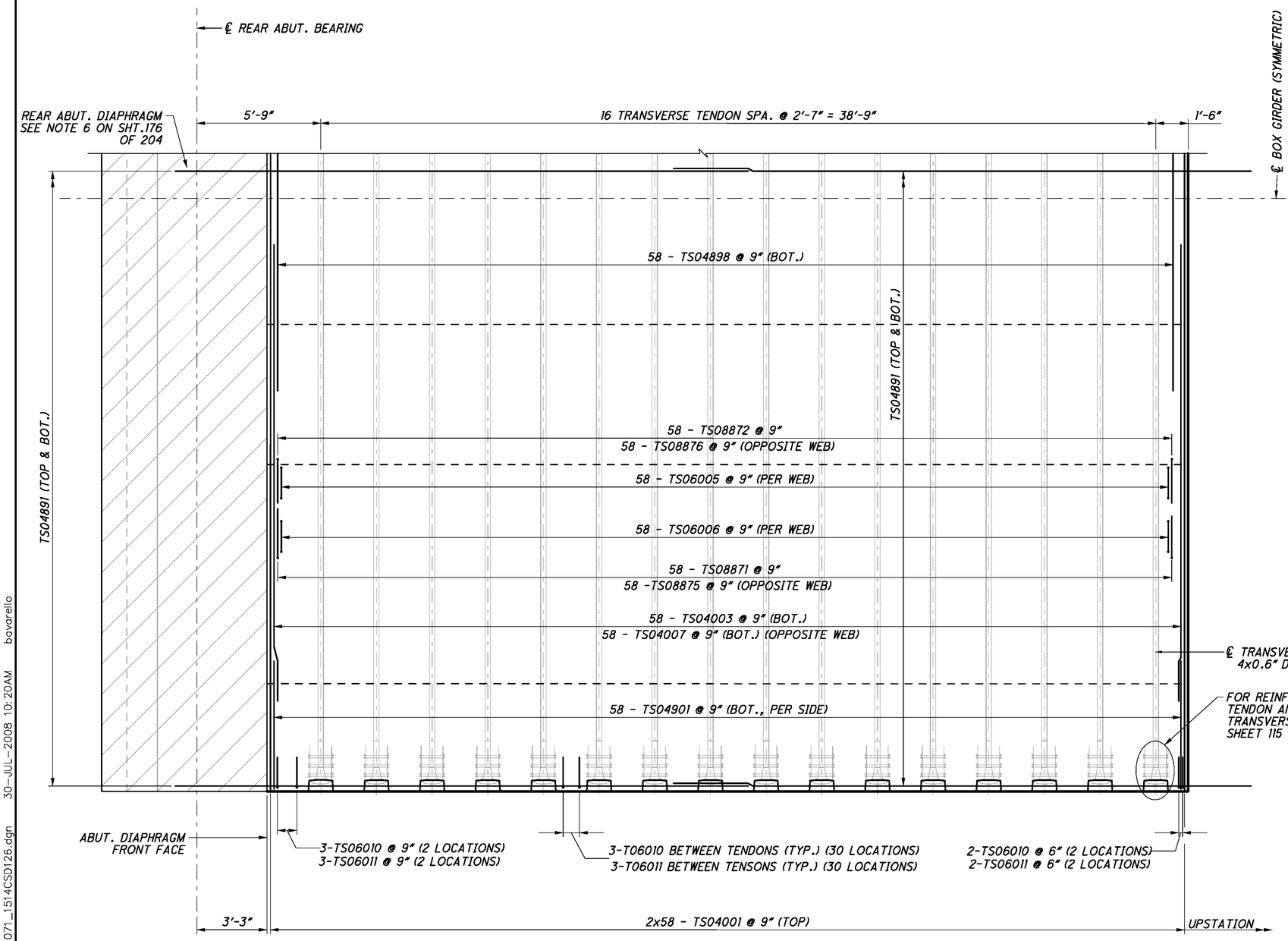
DESIGNED	DRAWN	REVIEWED	DATE
PY	PY	JB	10/30/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

SPAN 1A REINFORCEMENT 1
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

176/204
442/470

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SPAN 1A - TOP SLAB REINFORCEMENT DETAILS

NOTES:

1. FOR NOTES, SEE SHEET 176 OF 204.

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DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

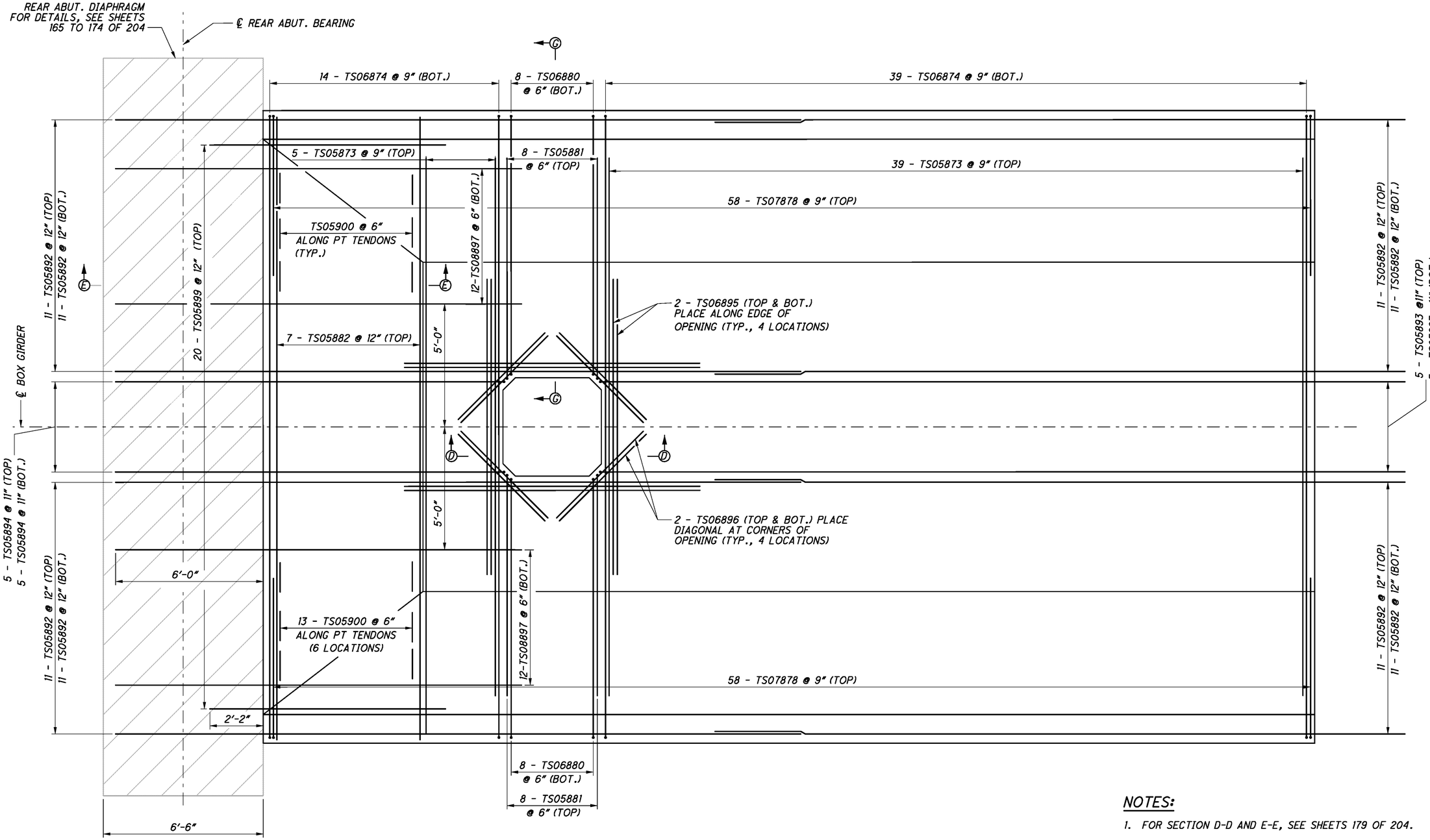
DESIGNED	DRAWN	REVIEWED	DATE
PY	PY	JB	10/30/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

SPAN 1A REINFORCEMENT 2
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

177/204

443/470



SPAN 1A - BOTTOM SLAB REINFORCEMENT DETAILS

NOTES:

1. FOR SECTION D-D AND E-E, SEE SHEETS 179 OF 204.

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DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
PY	PY	JB	10/30/07

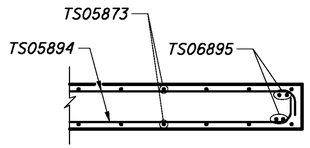
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REVISED:
STRUCTURE FILE NUMBER: 8302278L/8302294R

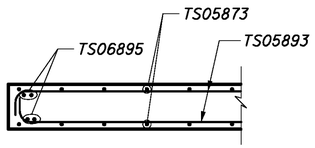
SPAN 1A REINFORCEMENT 3
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

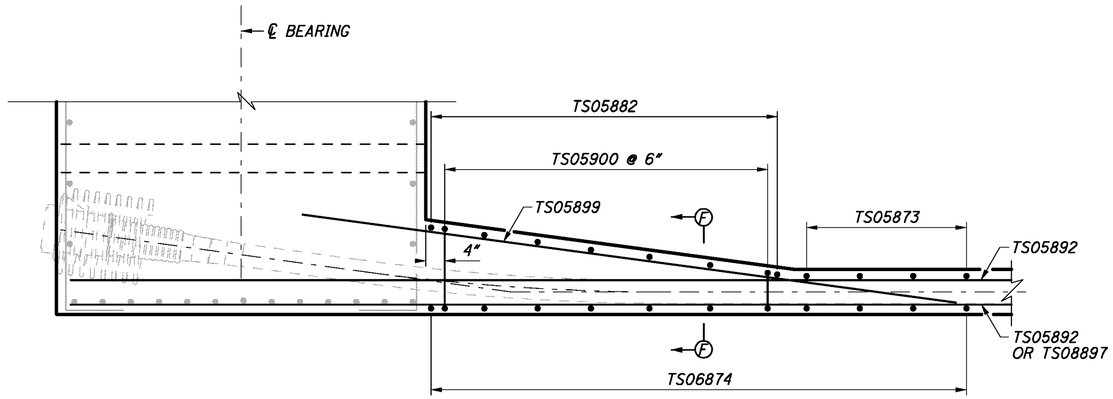
178/204

444/470

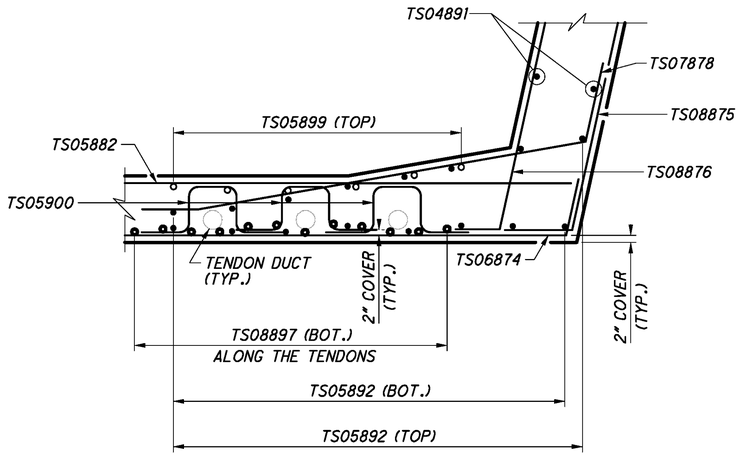




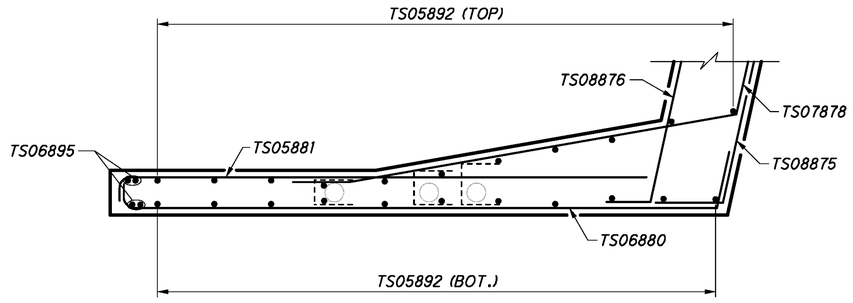
SECTION D-D



SECTION E-E



SECTION F-F



SECTION G-G

NOTES

1. FOR SECTION D-D, SECTION E-E & SECTION G-G, SEE SHEET 177 OF 204.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
PY	PY	JB	10/30/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

SPAN 1A REINFORCEMENT 4
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

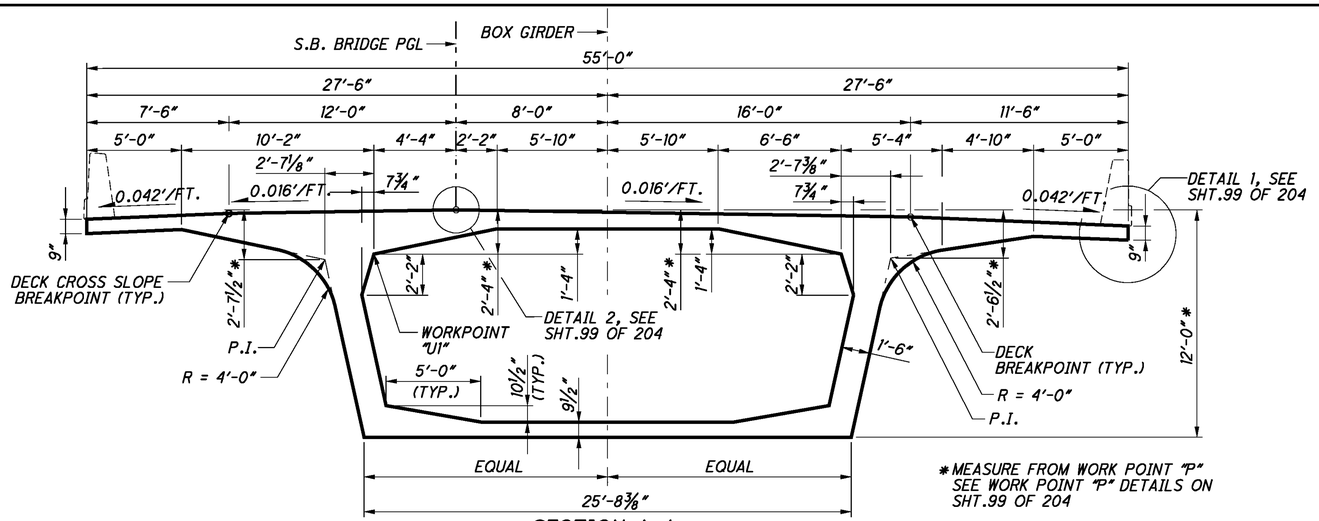
WAR-71-14.20
PID No. 22950

179/204

445/470

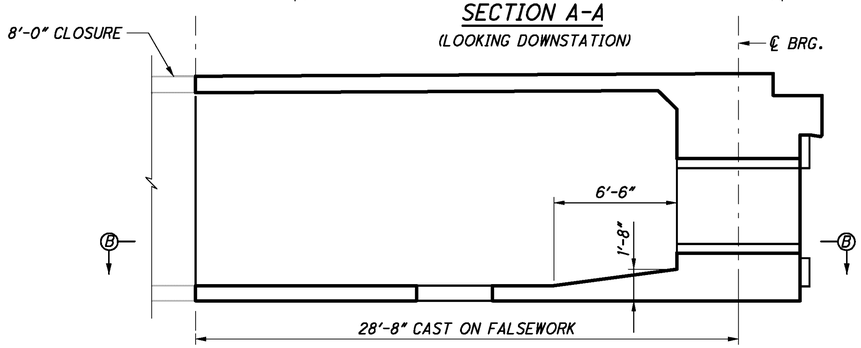
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PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
END SPAN 1A												
	TS04001	116	28'-11"	2244	001	28'-11"						
	TS04003	58	21'-8"	839	121	9'-6"	1'-10"	10'-10"	2'-4"	1'-0"		
	TS06005	116	7'-7"	1320	004	6'-8"	0'-10"	0'-5"				
	TS06006	116	6'-3"	1090	001	6'-3"						
	TS04007	58	21'-3"	1855	121	10'-2"	1'-8"	10'-0"	1'-10"	1'-0"		
	TS06010	100	3'-2"	477	106	0'-11"	0'-4"	1'-6"	0'-11"			
	TS06011	100	2'-4"	351	003	1'-6"	1'-0"					
	TS08871	58	13'-11"	2156	123	11'-5"	1'-2"					
	TS08872	58	13'-9"	2134	122	11'-5"	1'-2"					
	TS05873	44	20'-1"	923	001	20'-1"						
	TS06874	53	27'-8"	2202	006	1'-2"	0'-3"	25'-4"	0'-3"	1'-2"		
	TS08875	58	13'-8"	2117	123	11'-2"	1'-2"					
	TS08876	58	13'-6"	2094	122	11'-2"	1'-2"					
	TS07878	116	10'-3"	2437	006	1'-9"	0'-9"	6'-6"	1'-11"	0'-4"		
	TS06880	16	11'-11"	287	105	0'-5"	10'-6"	1'-2"	0'-3"			
	TS05881	16	9'-1"	152	003	8'-10"	0'-5"					
	TS05882	7	25'-4"	185	001	25'-4"						
	TS04891	288	26'-7"	5115	001	26'-7"						
	TS05892	96	27'-10"	2789	001	27'-10"						
	TS05893	10	32'-11"	344	003	32'-8"	0'-5"					
	TS05894	10	15'-10"	166	003	15'-7"	0'-5"					
	TS06895	16	12'-0"	289	001	12'-0"						
	TS06896	16	5'-6"	132	001	5'-6"						
	TS08897	24	16'-9"	1074	001	16'-9"						
	TS04898	58	17'-10"	691	001	17'-10"						
	TS05899	20	11'-7"	242	001	11'-7"						
		1	3'-5"				0'-6"					
	TS05900	ser	to	312	115	0'-10"	to	0'-10"				0 1/4"
		78	4'-3"				1'-4"					
	TS04901	116	7'-6"	581	001	7'-6"						
	AR04001	192	3'-6"	449	901							
	AR04002	128	2'-0"	171	902							

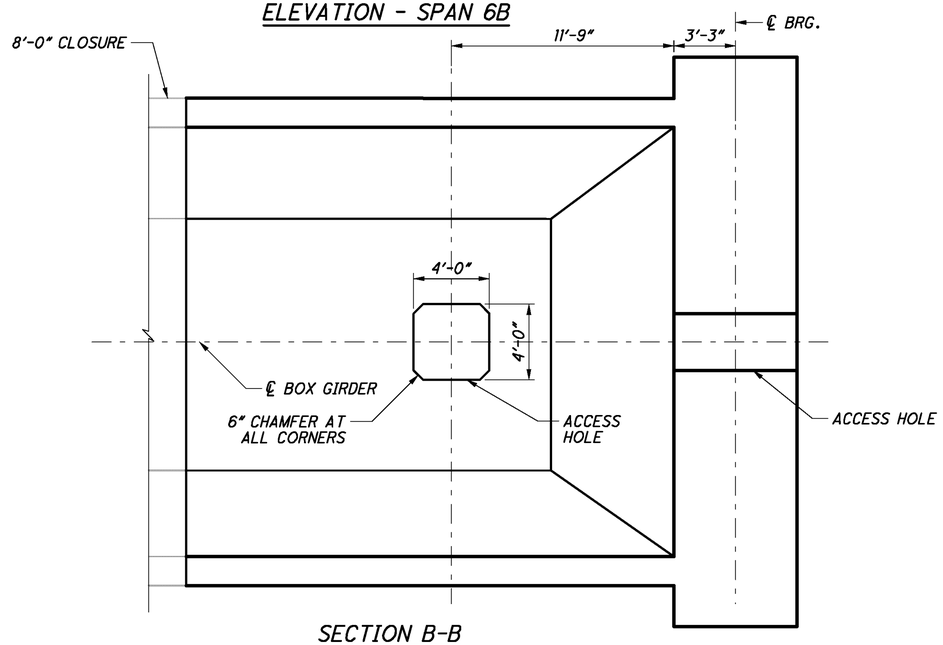


*MEASURE FROM WORK POINT "P" SEE WORK POINT "P" DETAILS ON SHT.99 OF 204

SECTION A-A
(LOOKING DOWNSTATION)



ELEVATION - SPAN 6B



SECTION B-B

NOTES:

1. FOR ABUTMENT DIAPHRAGM DETAILS, SEE SHEETS 165 TO 174 OF 204.
2. ALL CONCRETE CHAMFERS ARE 3/4".
3. S.B. DENOTES SOUTH BOUND.
4. 1½" INITIAL WEARING SURFACE IN CROSS SECTION NOT SHOWN FOR CLARITY. ALL DIMENSIONS SHOWN ARE MEASURED FROM WORKPOINT "P" IN DETAIL 2 IN SHEET 99 AND DO NOT INCLUDE THE INITIAL WEARING SURFACE.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
PY	PY	JB	10/30/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

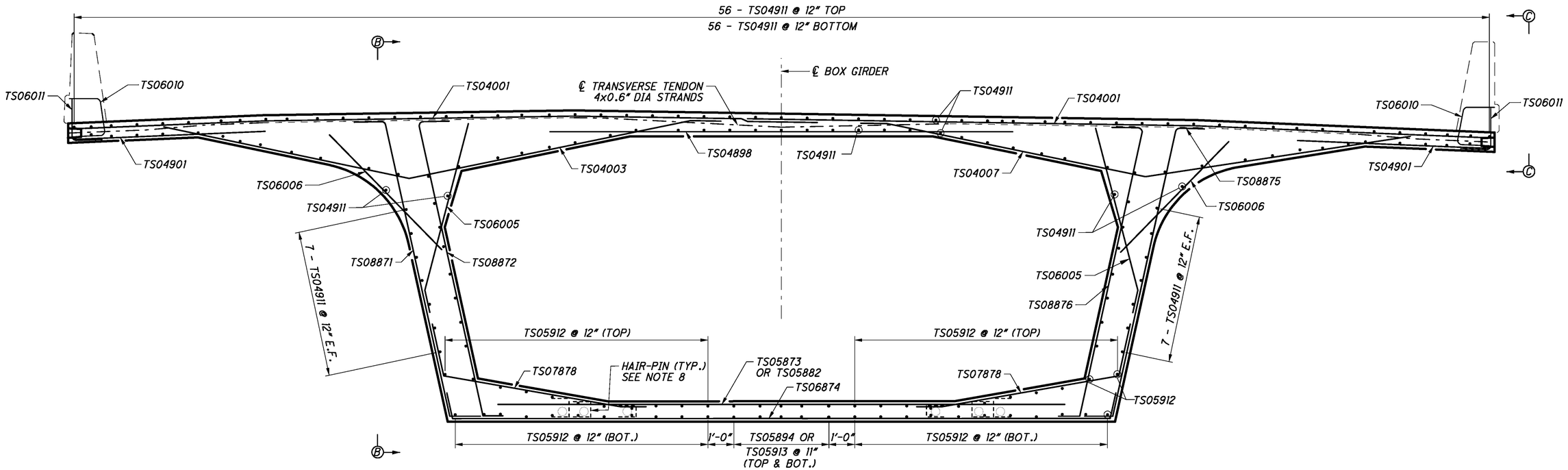
SPAN 6B DIMENSIONS
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

181 / 204

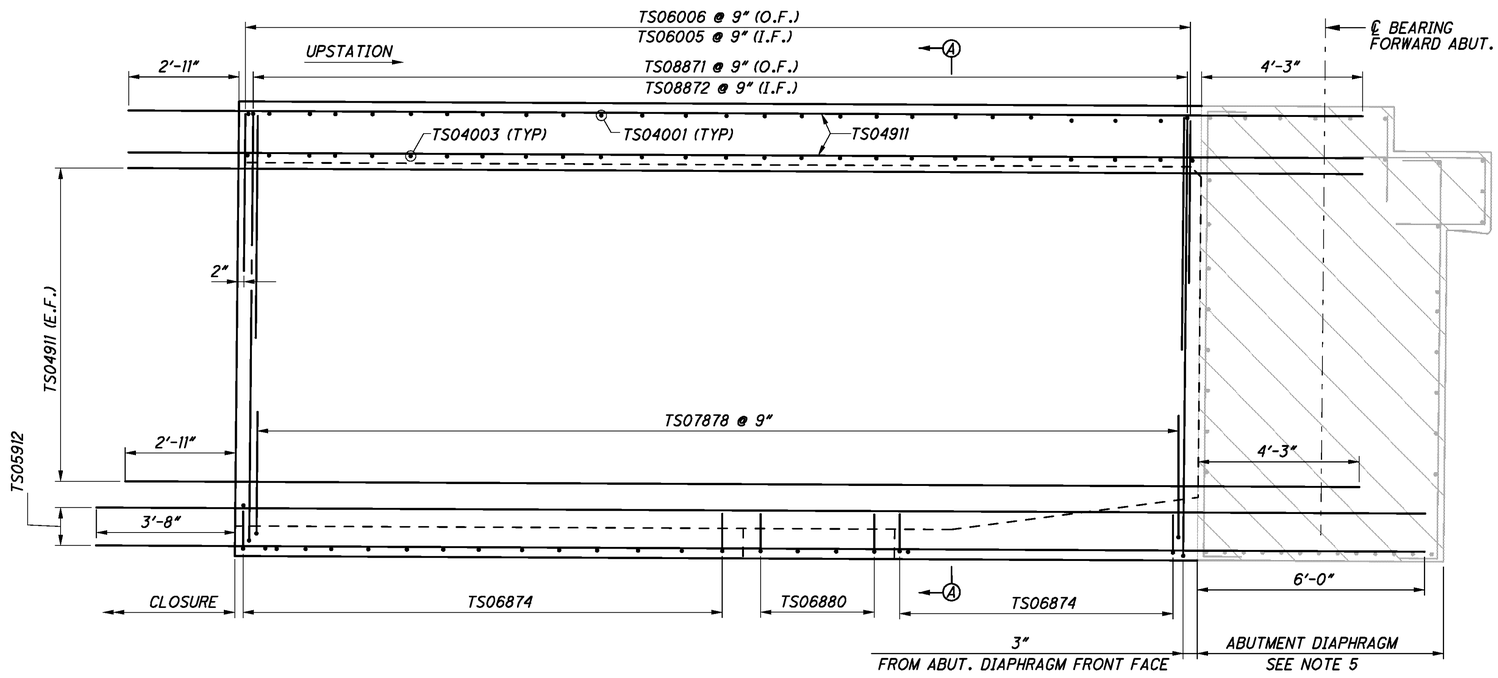
447
470

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SECTION A-A

(LOOKING DOWNSTATION)



SECTION B-B

NOTES:

1. ALL CONCRETE CHAMFERS ARE ¾".
2. 1½" INITIAL WEARING SURFACE NOT SHOWN FOR CLARITY.
3. SPACE ALL REINFORCING BARS IN TOP SLAB TO CLEAR POST TENSIONING TENDONS.
4. FOR TRANSVERSE TENDON PROFILES, LAYOUT, AND DETAILS, SEE SHEETS 114 AND 115 OF 204.
5. FOR ABUTMENT DIAPHRAGM DETAILS, SEE SHEETS 165 TO 174 OF 204.
6. FOR VIEW C-C, SEE SHEET 141 OF 204.
7. FOR REINFORCING BARS AT TRANSVERSE TENDON ANCHORAGES, SEE TRANSVERSE TENDON DETAILS, SHEET 115 OF 204.
8. #4 HAIR-PIN BARS SHALL BE PROVIDED WITH MAXIMUM SPACINGS OF 18 INCHES TO TIE BOTTOM NON-PRESTRESSED REINFORCEMENTS WHEN SPACING BETWEEN LONGITUDINAL DUCTS IS LESS THAN 12 INCHES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETAILING AND PROVIDING NECESSARY HAIR-PIN BARS, BASED ON THE ACTUAL PT LAYOUT USED, AS PER AASHTO SEGMENTAL GUIDE SPECIFICATION, ARTICLES 16.6. SEE SPECIAL PROVISION - "POST-TENSIONING".

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

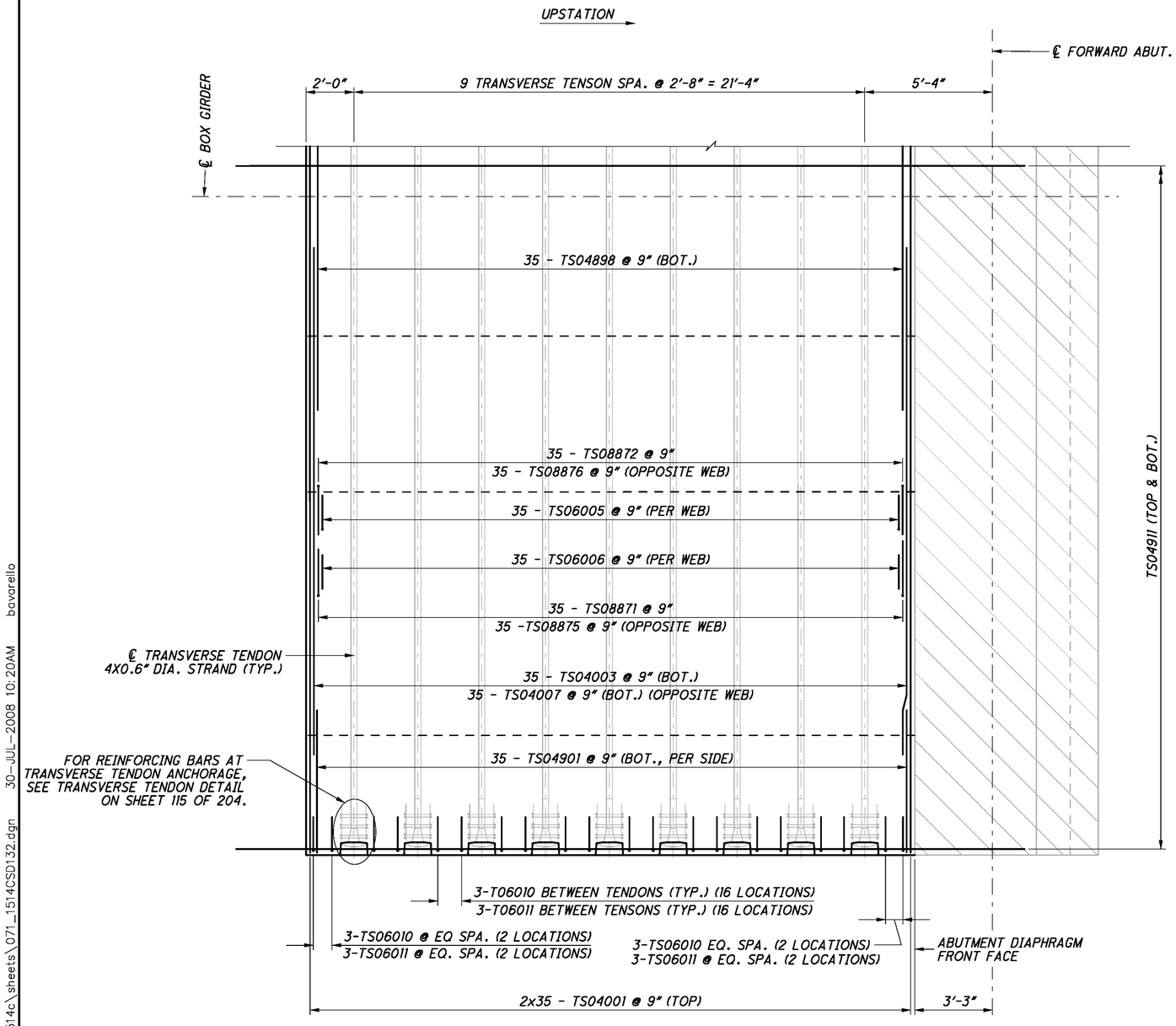
DESIGNED	DRAWN	REVIEWED	DATE
PY	PY	JB	10/30/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

SPAN 6B REINFORCEMENT 1

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

c:\22950\bridge\WAR071_1514C\sheets\071_1514CSD131.dgn 30-JUL-2008 10:20AM bavarello



SPAN 6B - TOP SLAB REINFORCEMENT DETAILS

(SYMMETRICAL ABOUT ℄ BOX GIRDER)

NOTE:

1. FOR NOTES, SEE SHEET 182 OF 204.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
PY	PY	JB	10/30/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

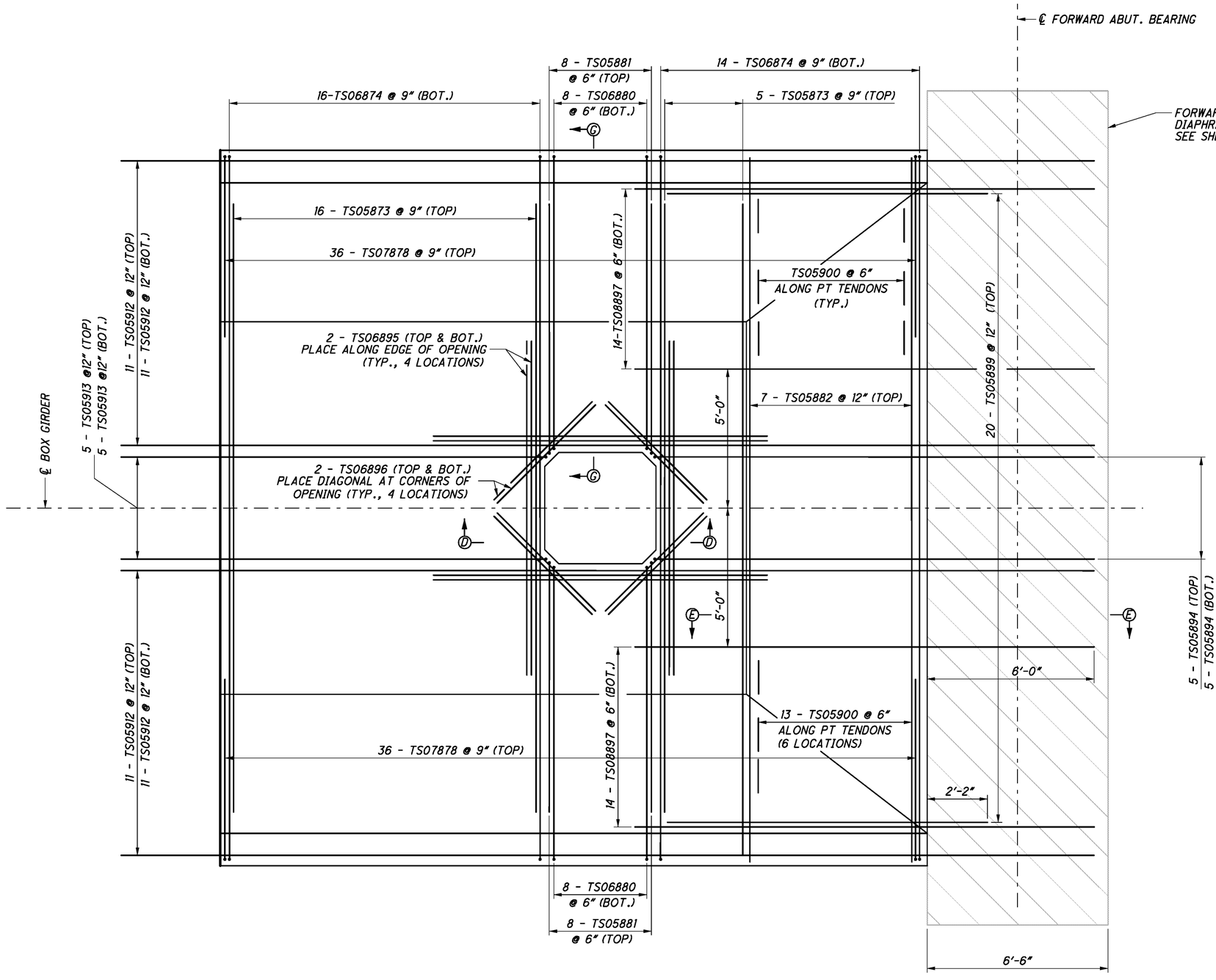
SPAN 6B REINFORCEMENT 2
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

183/204

449/470

C:\22950\bridge\WAR071_1514c\sheets\071_1514CSD132.dgn 30-JUL-2008 10:20AM bavarello



SPAN 6B - BOTTOM SLAB REINFORCEMENT DETAILS

NOTES:

1. FOR SECTION D-D, SECTION E-E AND SECTION G-G, SEE SHEET 179 OF 204.

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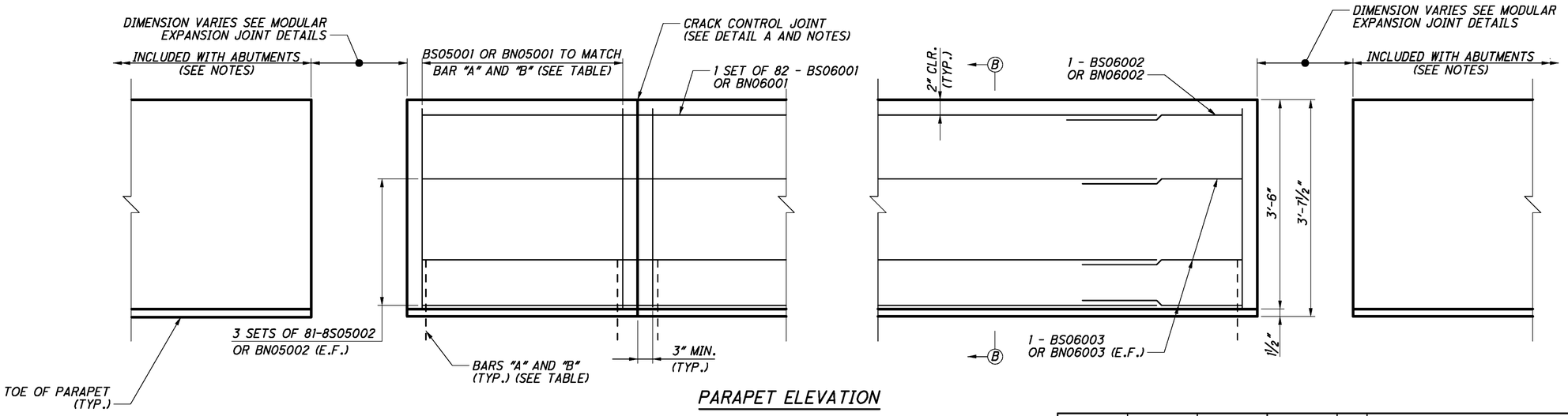
DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
PY	PY	JB	10/30/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

SPAN 6B REINFORCEMENT 3
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

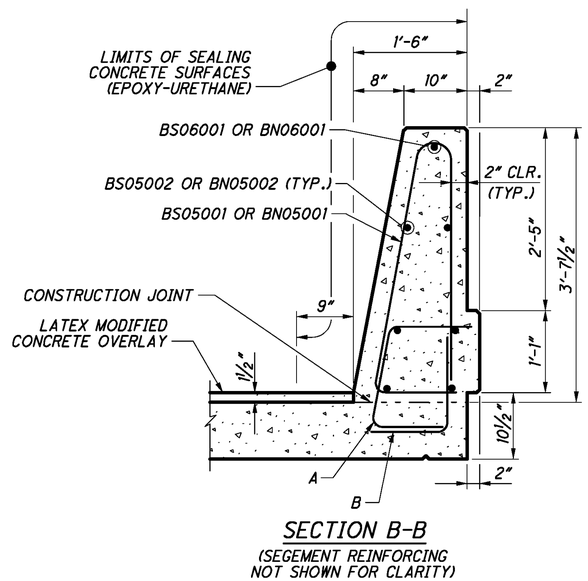
WAR-71-14.20
PID No. 22950

PREFIX	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
END SPAN 6B												
	TS04001	70	28'-11"	1354	001	28'-11"						
	TS04003	35	21'-8"	506	121	9'-6"	1'-10"	10'-10"	2'-4"	1'-0"		
	TS06005	70	7'-7"	796	004	6'-8"	0'-10"	0'-5"				
	TS06006	70	6'-3"	658	001	6'-3"						
	TS04007	35	21'-3"	1119	121	10'-2"	1'-8"	10'-0"	1'-10"	1'-0"		
	TS06010	60	3'-2"	286	106	0'-11"	0'-4"	1'-6"	0'-11"			
	TS06011	60	2'-4"	210	003	1'-6"	1'-0"					
	TS08871	35	13'-11"	1301	123	11'-5"	1'-2"					
	TS08872	35	13'-9"	1288	122	11'-5"	1'-2"					
	TS05873	21	20'-1"	440	001	20'-1"						
	TS06874	30	27'-8"	1247	006	1'-2"	0'-3"	25'-4"	0'-3"	1'-2"		
	TS08875	35	13'-8"	978	123	11'-2"	1'-2"					
	TS08876	35	13'-6"	1264	122	11'-2"	1'-2"					
	TS07878	72	10'-3"	1975	006	1'-9"	0'-9"	6'-6"	1'-11"	0'-4"		
	TS06880	16	11'-11"	287	105	0'-5"	10'-6"	1'-2"	0'-3"			
	TS05881	16	9'-1"	152	003	8'-10"	0'-5"					
	TS05882	7	25'-4"	185	001	25'-4"						
	TS05894	10	15'-10"	166	003	15'-7"	0'-5"					
	TS06895	16	12'-0"	289	001	12'-0"						
	TS06896	16	5'-6"	132	001	5'-6"						
	TS08897	28	16'-9"	1253	001	16'-9"						
	TS04898	35	17'-10"	417	001	17'-10"						
	TS05899	20	11'-7"	242	001	11'-7"						
		1	3'-5"				0'-6"					
	TS05900	ser	to	312	115	0'-10"	to	0'-10"				0 1/4"
		78	4'-3"				1'-4"					
	TS04901	70	7'-6"	351	001	7'-6"						
	TS04911	144	32'-7"	3135	001	32'-7"						
	TS05912	48	35'-3"	1766	001	35'-3"						
	TS05913	10	15'-8"	164	003	15'-5"	0'-5"					
	AR04001	108	3'-6"	253	901							
	AR04002	72	2'-0"	96	902							



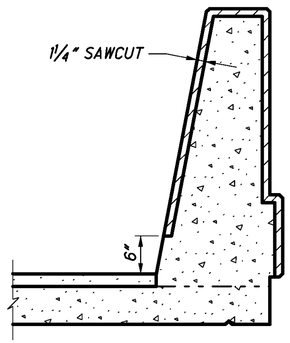
REQUIRED LAP LENGTHS	
NO. 5 BAR	2'-6"
NO. 6 BAR	3'-0"

PARAPET ELEVATION



SECTION B-B

(SEGEMENT REINFORCING NOT SHOWN FOR CLARITY)



DETAIL A

(SECTION THROUGH SAWCUT) (SEE NOTE 1)

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
PARAPET SOUTHBOUND											
BS05001	5272	7'-5"	40782	008	1'-1"	3'-2"	1'-0"	3'-0"			
BS05002	972	30'-0"	30414	001							
BS05003	12	15'-9"	197	001							
BS06001	164	30'-0"	7390	001							
BS06002	2	29'-3"	88	001							
		SUB-TOTAL	78871								
PARAPET NORTHBOUND											
BN05001	5272	7'-5"	40782	008	1'-1"	3'-2"	1'-0"	3'-0"			
BN05002	972	30'-0"	30414	001							
BN05003	12	15'-9"	197	001							
BN06001	164	30'-0"	7390	001							
BN06002	2	29'-3"	88	001							
		SUB-TOTAL	78871								

BAR "A"	BAR "B"	LOCATION	SEE SHEET
TS06010	TS06011	TYPICAL SEGMENT	140, 154, 156, 158, 176, 177, 182, 183
PS06013	PS06014	PIER SEGMENT 1-4	129, 130
PS06513	PS06514	PIER SEGMENT 5	135, 136
ED06070	ED06071	ABUTMENT DIAPHRAGM	169, 170

NOTES:

1. CONTROL JOINTS SHALL BE CONSTRUCTED BY SAWING 1 ¼ INCH DEEP ALONG THE PERIMETER OF THE RAIL AS SOON AS THE SAW CAN BE OPERATED WITHOUT DAMAGING THE CONCRETE.

   THE USE OF AN EDGE GUIDE, FENCE, OR JIG IS REQUIRED TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF ¼ INCH.

   THE PERIMETER OF THE DEFLECTION CONTROL JOINT SHALL BE SEALED WITH A CAULKING MATERIAL TO A MINIMUM DEPTH OF ONE INCH CONFORMING TO ASTM C920, TYPE S. THE BOTTOM ONE-HALF INCH OF BOTH THE INSIDE AND OUTSIDE FACES OF THE RAIL SHOULD BE LEFT UNSEALED TO ALLOW ANY WATER WHICH MAY ENTER THE JOINT TO ESCAPE.

   SAWCUTS SHALL BE PLACED AT A MINIMUM OF 6'-0" AND A MAXIMUM OF 10'-0" ON CENTERS AND SHALL BE PLACED TO AVOID BAR "A" AND BAR "B".

   VERTICAL REINFORCING STEEL SHALL CLEAR THE CONTROL JOINTS BY 3 INCHES MINIMUM. CLEARANCE SHALL BE OBTAINED BY FIELD ADJUSTMENT OF THE CONTROL JOINT LOCATION OR REINFORCING SPACING. VERTICAL REINFORCING STEEL SHALL ALSO BE SPACED TO CLEAR TRANSVERSE TENDON LOCATIONS. SEE TYPICAL SEGMENTS AND DIAPHRAGMS FOR ADDITIONAL DETAILS.

2. PAYMENT FOR PARAPETS SHALL BE INCLUDED WITH ITEM 898, QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (PARAPET).

3. FOR PARAPET DETAILS AT MODULAR EXPANSION JOINT, SEE SHEET 194 OF 204.

4. FOR PARAPET BARS INCLUDED WITH ABUTMENTS, SEE SHEET 44 OF 204. FOR PARAPET BARS INCLUDED WITH APPROACH SLABS, SEE SHEET 198 OF 204.

DESIGN AGENCY HNTB 1100 Superior Avenue, Suite 1330 Cleveland, OH 44114-2531

DESIGNED JDM | DRAWN JTW | CHECKED BTA | REVIEWED RHW | DATE 03/21/08 | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

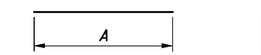
PARAPET DETAILS
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20 PID No. 22950

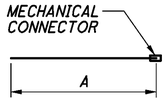
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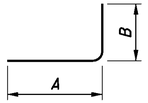
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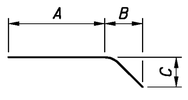
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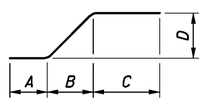
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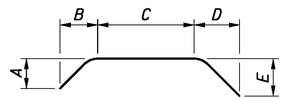
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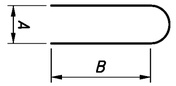
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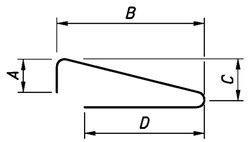
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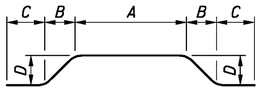
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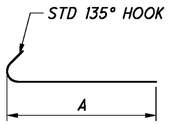
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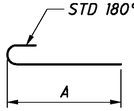
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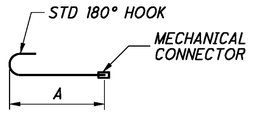
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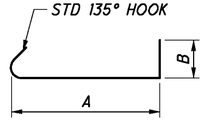
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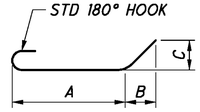
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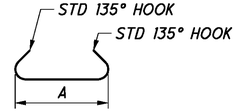
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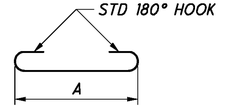
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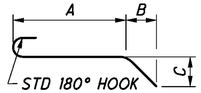
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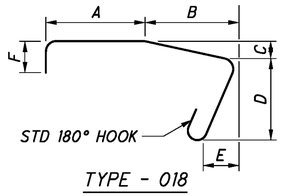
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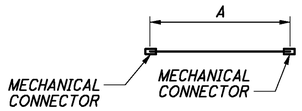
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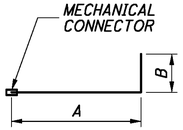
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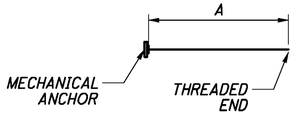
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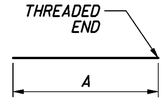
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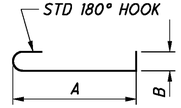
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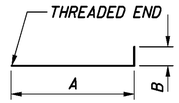
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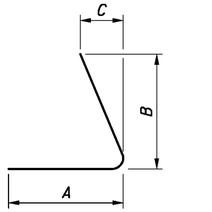
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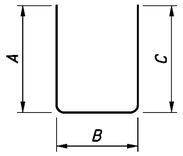
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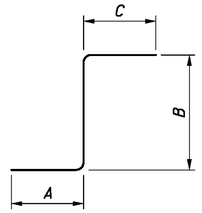
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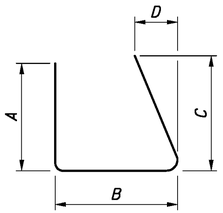
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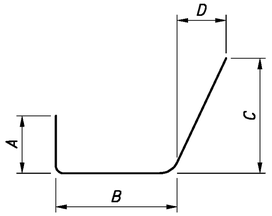
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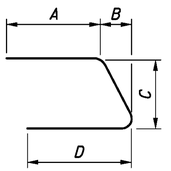
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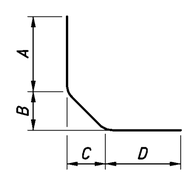
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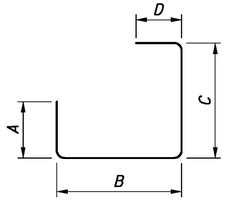
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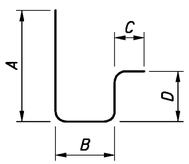
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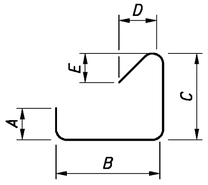
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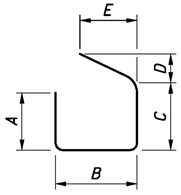
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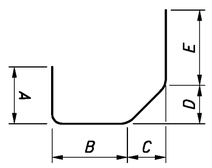
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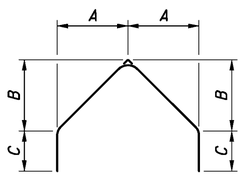
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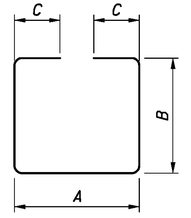
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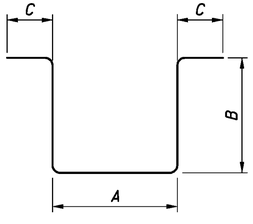
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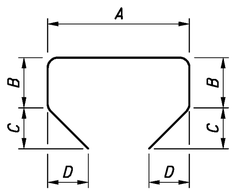
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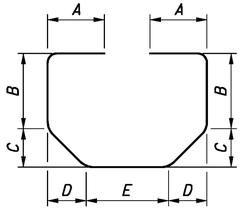
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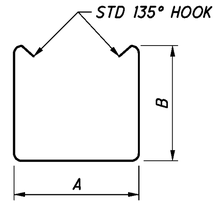
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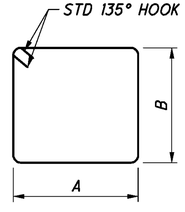
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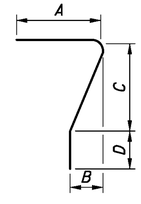
TYPE - 117



TYPE - 118



TYPE - 119



TYPE - 120

REINFORCING STEEL NOTES:

1. ALL DIMENSIONS ARE OUT TO OUT
2. ALL BARS SHALL BE EPOXY COATED UNLESS NOTED OTHERWISE

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH	PY	JB	10/30/07

CHECKED	REVISED	STRUCTURE FILE NUMBER
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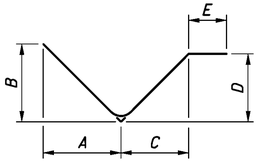
BAR BENDING DIAGRAMS 1
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

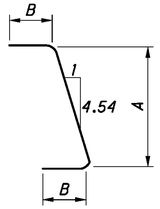
187 / 204

453 / 470

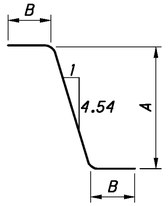
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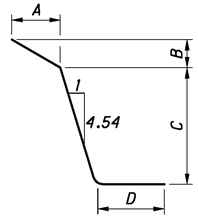
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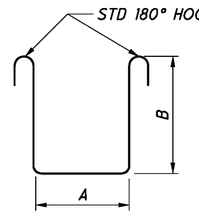
TYPE - 122



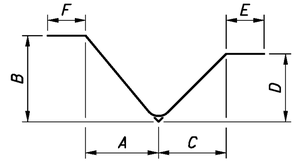
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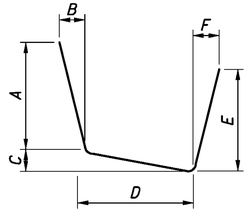
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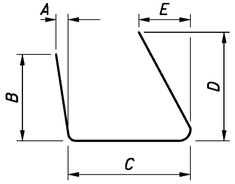
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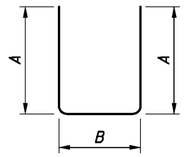
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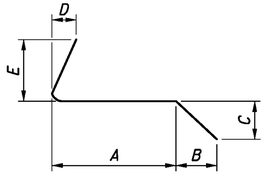
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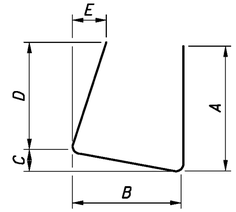
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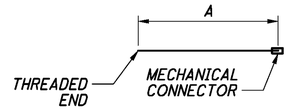
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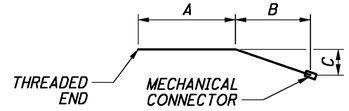
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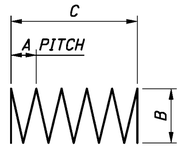
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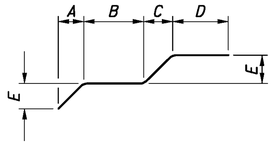
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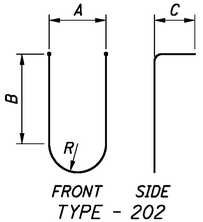
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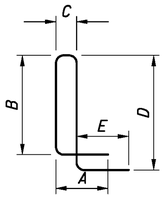
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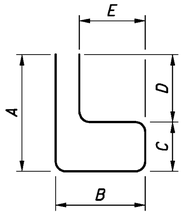
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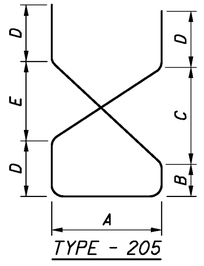
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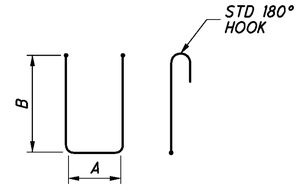
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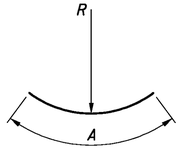
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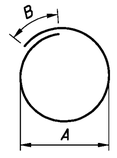
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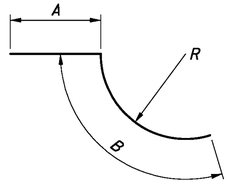
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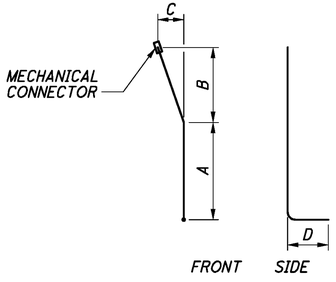
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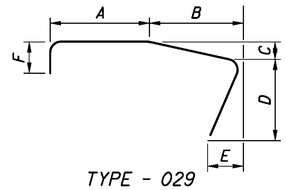
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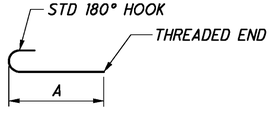
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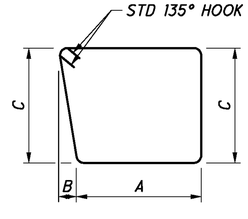
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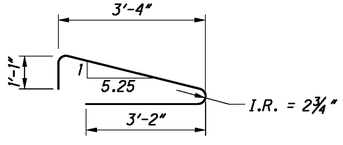
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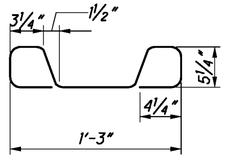
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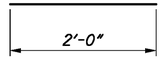
TYPE - 031



TYPE - 900
(STANDARD FOR PARAPET ONLY)
TOTAL LENGTH = 7'-9"



TYPE - 901
(STANDARD FOR ANCHORAGE REINFORCING ONLY)
TOTAL LENGTH = 3'-6"



TYPE - 902
(STANDARD FOR ANCHORAGE REINFORCING ONLY)
TOTAL LENGTH = 2'-0"

REINFORCING STEEL NOTES:

1. ALL DIMENSIONS ARE OUT TO OUT
2. ALL BARS SHALL BE EPOXY COATED UNLESS NOTED OTHERWISE

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH	PY	JB	10/30/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

BAR BENDINGS DIAGRAMS 2
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

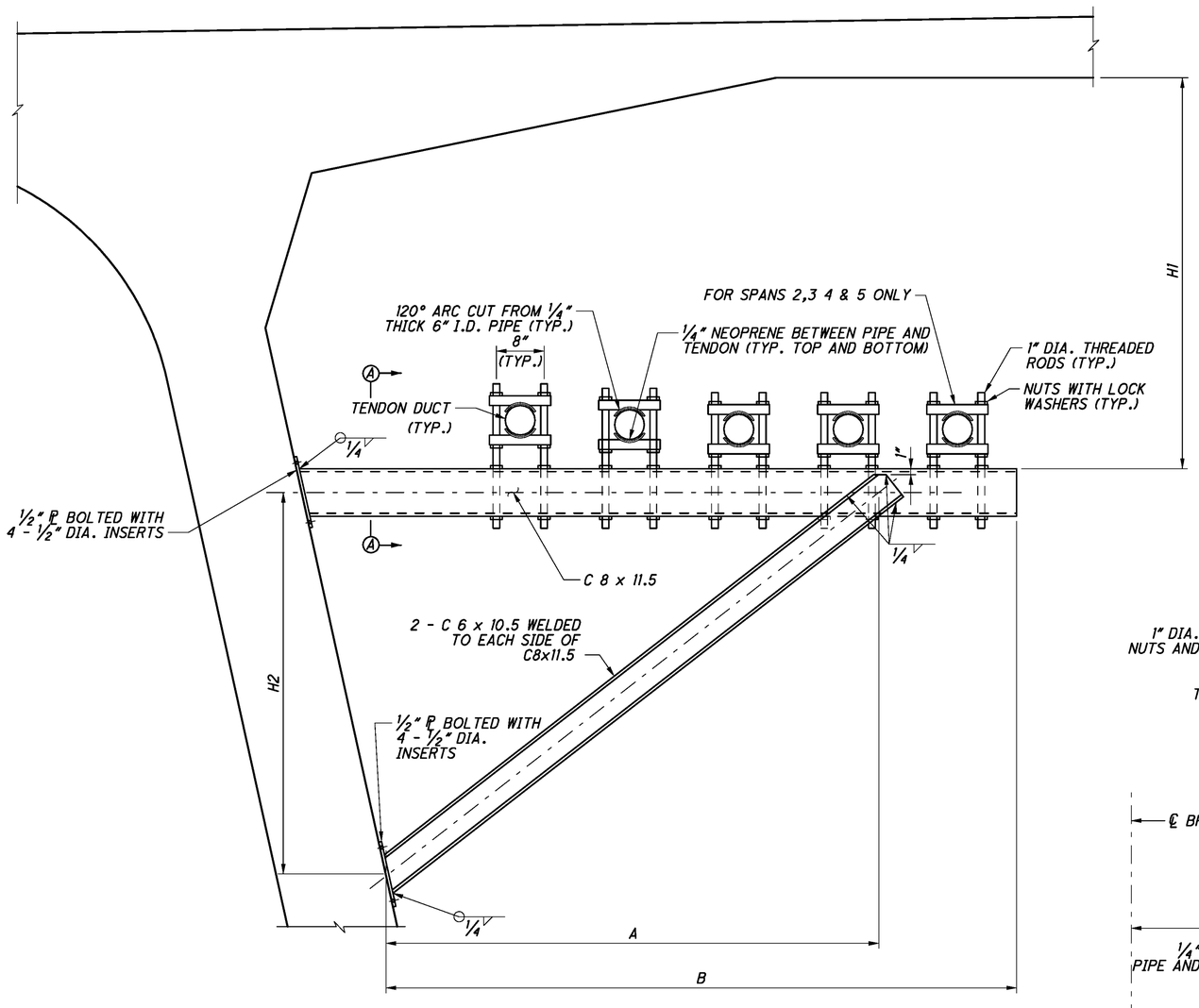
WAR-71-14.20
PID No. 22950

188/204
454/470

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TYPE 1 TENDON DAMPENER

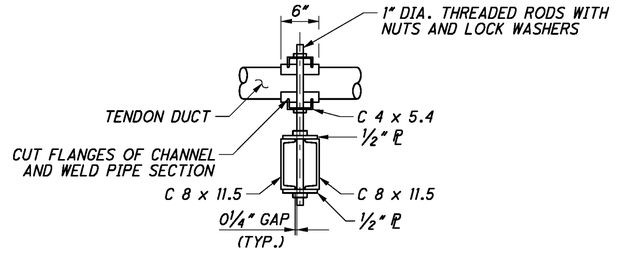
LISTS OF SEGMENT	DIMENSIONS			
	A	B	H1	H2
SPAN 1A (CLOSURE)	6'-8"	6'-11"	6'-7"	1'-11"
P1-3D	6'-10"	8'-10"	5'-1"	5'-4"
P1-4U, P2-4U, P3-4U, P4-4U	6'-10"	8'-10"	5'-2"	5'-4"
P2-4D, P3-4D, P4-4D, P5-4D	6'-10"	8'-10"	5'-6"	5'-4"
P5-4U	6'-10"	8'-10"	6'-2"	5'-4"
SPAN 6B (CLOSURE)	6'-8"	6'-11"	6'-5"	1'-11"



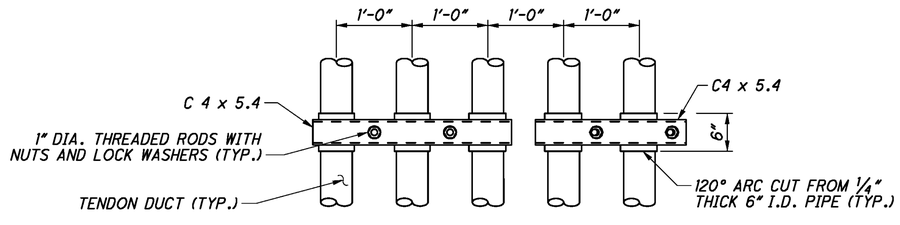
TYPE 1 TENDON DAMPENER

NOTES:

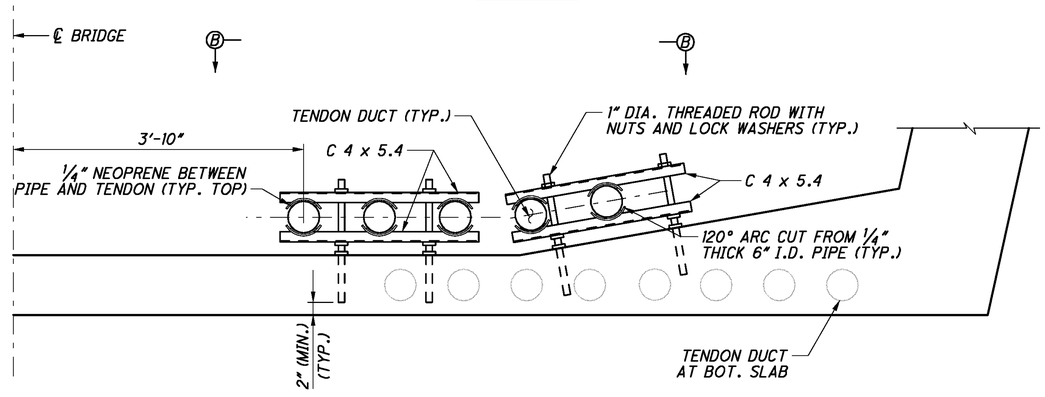
1. TYPE 1 TENDON DAMPENERS SHALL BE INSTALLED AFTER TENDONS ARE STRESSED AND GROUTED.
2. ADJUST POSITION OF TENDON CLAMPING DEVICES TO MATCH INSTALLED TENDON LOCATIONS. TENDONS SHALL NOT BE DEFLECTED FROM INSTALLED LOCATIONS.
3. TIGHTEN CLAMPING DEVICE NUTS ONLY ENOUGH TO RESTRAIN TENDONS. AVOID DAMAGING DUCTS.
4. TENDON DAMPENER ARE LOCATED AT THE MID-SPAN OF THE SEGMENT. FOR LOCATIONS OF TYPE 1 AND TYPE 2 TENDON DAMPENERS, SEE SHEETS 108 AND 109 OF 204.
5. ALL STRUCTURAL STEEL FOR TENDON DAMPENER SHALL CONFORM TO AASHTO M270M, GRADE 50.
6. ALL ANCHORS FOR TYPE 2 TENDON DAMPENER TO BE CAST INTO SEGMENTS. DRILLED ANCHORS SHALL NOT BE USED.
7. ALL THREADED RODS SHALL CONFORM TO ASTM A307.
8. NEOPRENE SHALL BE GRADE 50 IN ACCORDANCE WITH SECTION 711 OF CMS
9. ALL STRUCTURAL STEEL, INCLUDING STEEL CHANNELS, END PLATES, NUTS, WASHERS, THREADED RODS AND ALL OTHER ASSOCIATED HARDWARE SHOULD CONFORM TO THE REQUIREMENT OF CMS 513 AND SHALL BE GALVANIZED IN ACCORDANCE WITH CMS 711.02.
10. TENDON DAMPENERS ARE LOCATED AT THE MID-SPAN OF THE SEGMENT. FOR LOCATIONS, SEE SHEETS 108 & 109 OF 204.
11. THE COST OF TYPE 1 TENDON DAMPENERS, INCLUDING STEEL CHANNELS, NUTS, WASHERS, THREADED RODS AND NEOPRENE SHALL BE INCIDENTAL TO THE PAY ITEM 513, - "STRUCTURAL STEEL, MISC.: "TYPE 1 TENDON DAMPENER"
12. THE COST OF TYPE 2 TENDON DAMPENERS, INCLUDING STEEL CHANNELS, NUTS, WASHERS, THREADED RODS AND NEOPRENE SHALL BE INCIDENTAL TO THE PAY ITEM 513, - "STRUCTURAL STEEL, MISC.: "TYPE 2 TENDON DAMPENER"



VIEW A-A



VIEW B-B



TYPE 2 TENDON DAMPENER

DESIGN AGENCY HNTB 1100 Superior Avenue, Suite 1300 Cleveland, OH 44114-2531
DESIGNED YEH | DRAWN YEH | REVIEWED JB | DATE 10/30/07
CHECKED MX | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

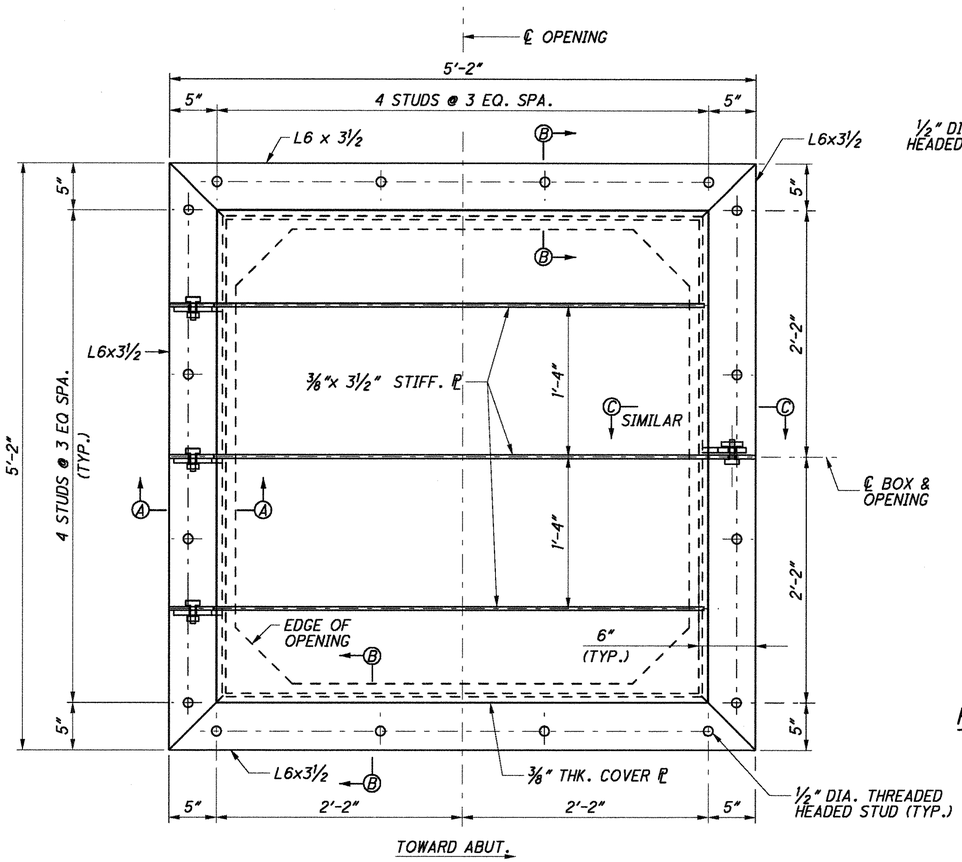
MISCELLANEOUS DETAIL 1
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20 PID No. 22950

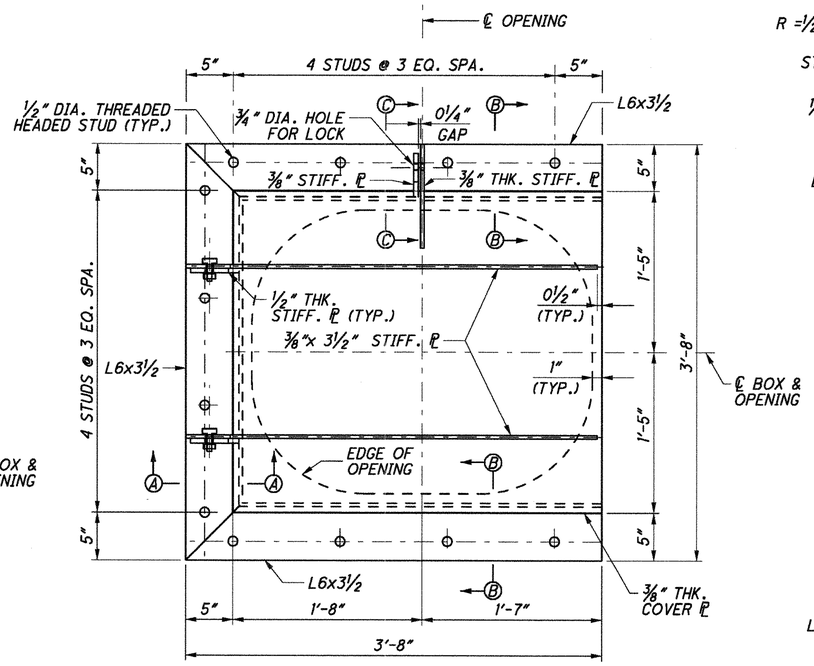
189/204

455/470

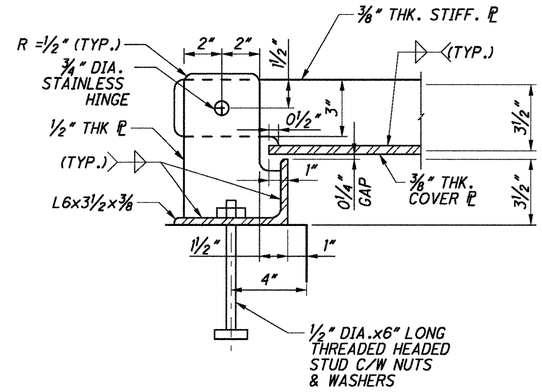
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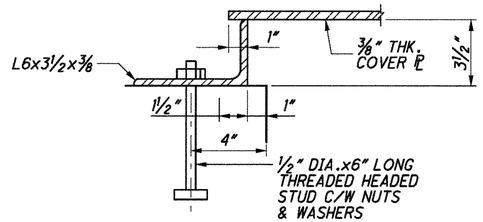
PARTIAL PLAN - OPENING AT BOTTOM SLAB OF END SPAN



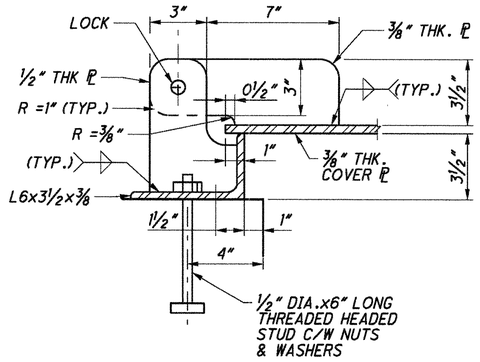
PARTIAL PLAN - OPENING AT BOTTOM SLAB AT PIER SEGMENT



SECTION A-A



SECTION B-B



SECTION C-C

NOTES:

1. ALL STRUCTURAL STEEL FOR ACCESS OPENING COVER SHALL CONFORM TO REQUIREMENTS OF AASHTO M270 GRADE 50, AND BE GALVANIZED IN ACCORDING WITH ASTM A123.
2. THE HINGES FOR THE ACCESS OPENING SHALL BE STAINLESS STEEL AND SHALL CONFORM TO ASTM A276, TYPE 304.
3. ALL WELDS TO BE ¼" UNLESS NOTED OTHERWISE.
4. COST OF ACCESS OPENING COVER SHALL BE INCLUDED IN THE PAY ITEM 530 - SPECIAL-STRUCTURE, MISC,: PERMANENT MAINTENANCE ACCESS SYSTEM.
5. FOR THE LOCATION OF ACCESS OPENING, SEE SHEETS 128, 175, AND 181 OF 204.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH	YEH	JB	10/30/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

MISCELLANEOUS DETAILS 2

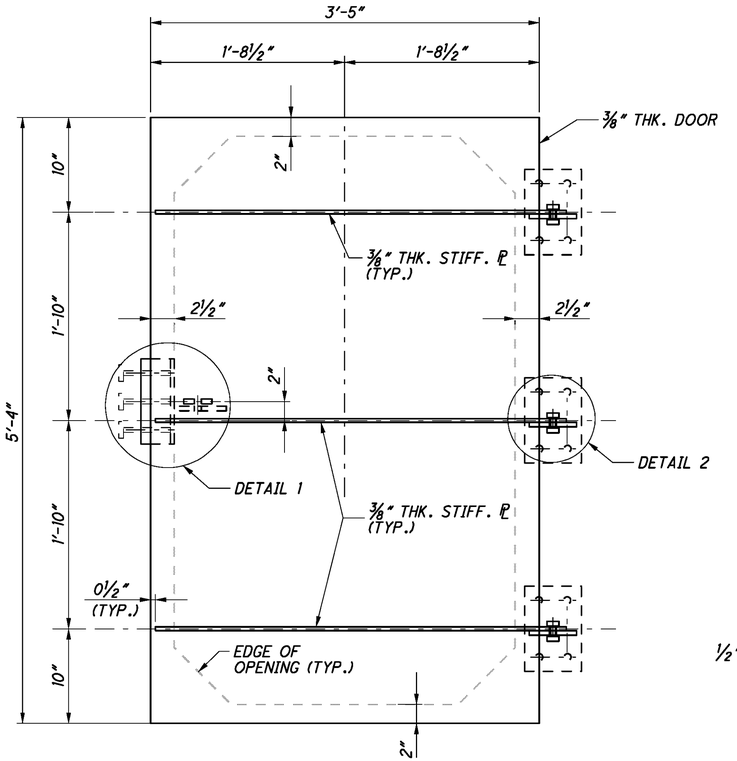
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

190/204

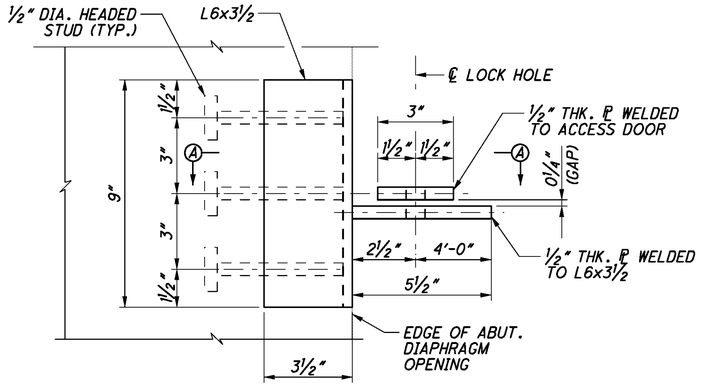
456/470

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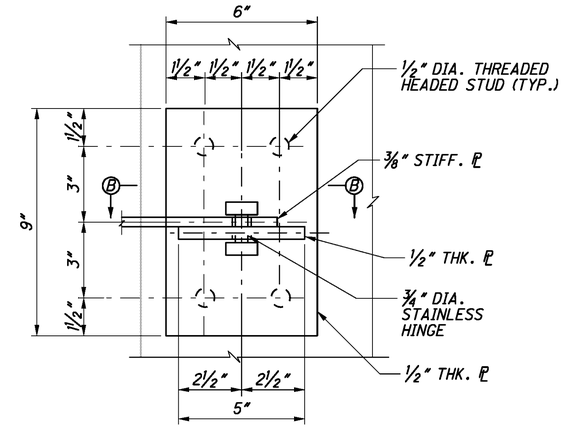
ELEVATION - ACCESS DOOR AT ABUTMENT

(LOOKING TO THE ABUTMENT)



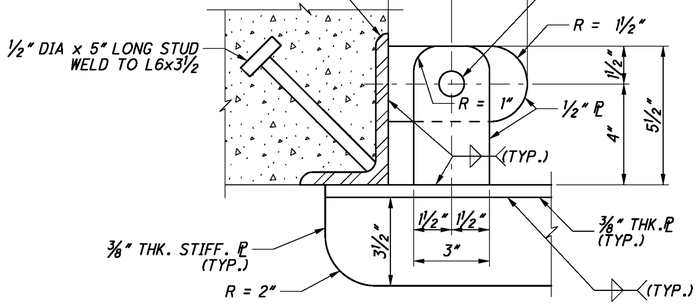
DETAIL 1

(ACCESS DOOR & STIFF. PL NOT SHOWN FOR CLARITY)

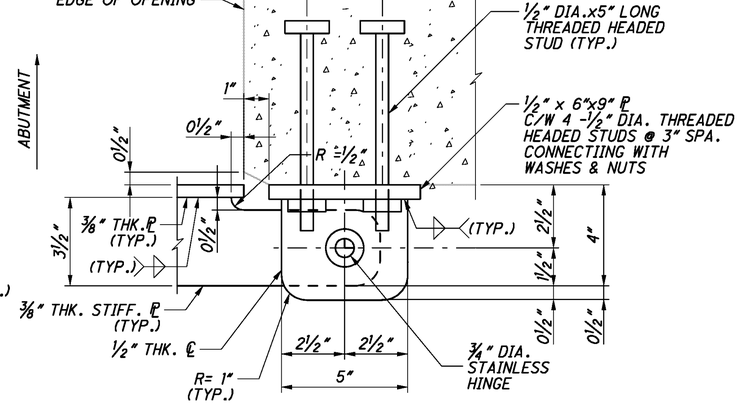


DETAILS 2

(ACCESS DOOR NOT SHOWN FOR CLARITY)



SECTION A-A



SECTION B-B

NOTES:

1. ALL STRUCTURAL STEEL FOR ACCESS OPENING COVER SHALL CONFORM TO REQUIREMENTS OF AASHTO M270 GRADE 50, AND BE GALVANIZED IN ACCORDING WITH ASTM A123.
2. ALL STAINLESS STEEL FOR ACCESS OPENING SHALL CONFORM TO ASTM A276, TYPE 304.
3. ALL WELDS TO BE ¼" UNLESS NOTED OTHERWISE.
4. COST OF ACCESS OPENING COVER SHALL BE INCLUDED IN THE PAY ITEM 530 SPECIAL - STRUCTURE, MISC,: PERMANENT MAINTENANCE ACCESS SYSTEM.
5. FOR THE LOCATION OF ACCESS OPENING, SEE SHEET 166 OF 204.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED YEH | DRAWN LK | REVIEWED JB | DATE 10/30/07
CHECKED MX | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

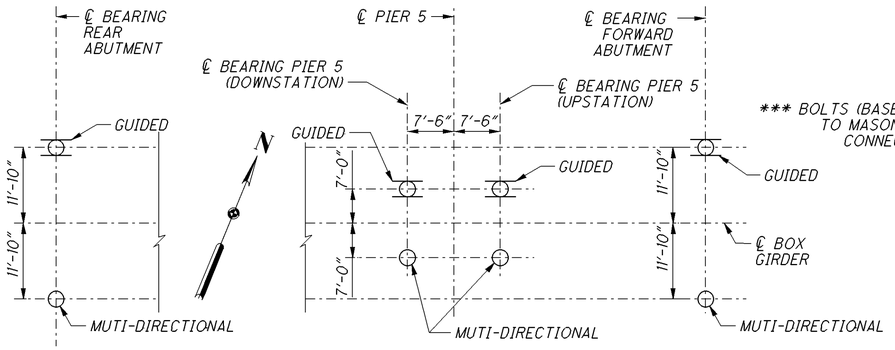
MISCELLANEOUS DETAILS 3

BRIDGE NO. WAR-71-1514L/R

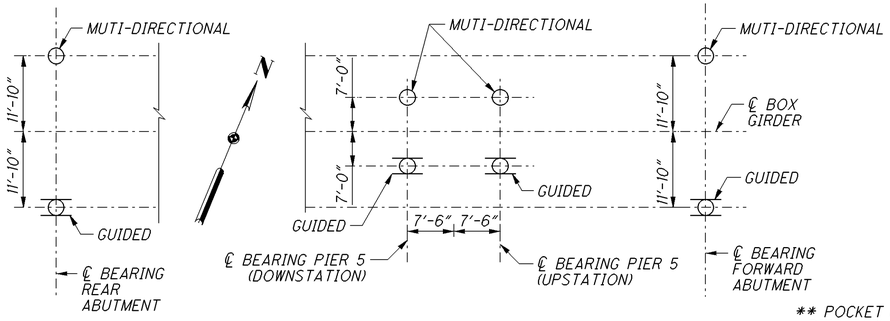
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

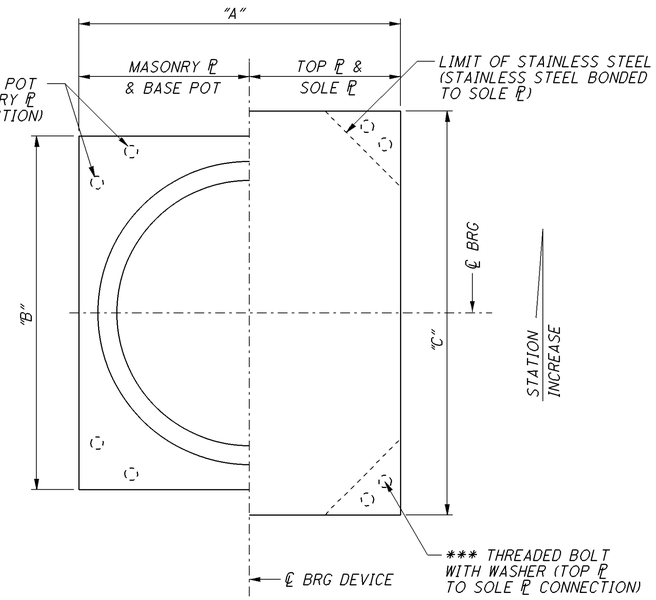
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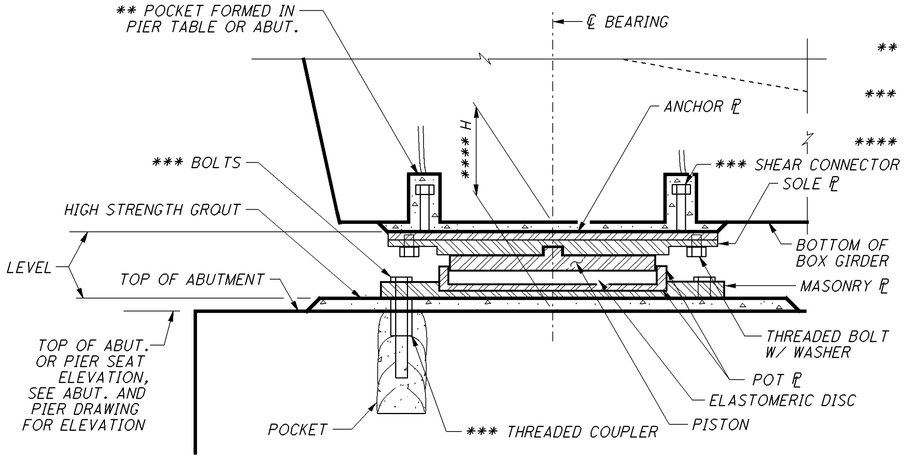


SOUTHBOUND BRIDGE BEARING LOCATION PLAN



NORTHBOUND BRIDGE BEARING LOCATION PLAN





TYPICAL SECTION GUIDED EXPANSION BEARING

ALIGMENT	LOCATION	QUANTITY EACH TYPE	TYPE (LOOKING UP STATION)		VERTICAL LOAD PER BEARING (SERVICE) (KIPS)	TRANSVERSE HORIZIONAL LOAD PER BEARING (SERVICE) (KPS)		BEARING ROTATION (RADIANS)		LONGITUDINAL RANGE OF STRUCTURE MOVEMENT	INITIAL LONGIT. OFFSET	TEMP. CORRECTION (INCHES PER 10°F))	"H" (INCHES)	"A" (INCHES)	"B" (INCHES)	"C" (INCHES)
			LEFT	RIGHT		LEFT	RIGHT	$\Theta_{Service}$	$\Theta_{ult.}$							
SOUTHBOUND	REAR ABUT.	1	GUIDED	MUTI-DIR.	1500	150		0.02	0.04	1'-7"	4"	¾"	1'-0"	3'-2"	3'-0"	4'-0"
	PIER 5, DOWNSTATION WALL	1	GUIDED	MUTI-DIR.	5600	700		0.02	0.04	1'-8"	5½"	¾"	1'-8"	4'-10"	4'-10"	6'-4"
	PIER 5, UPSTATION WALL	1	GUIDED	MUTI-DIR.	5600	700		0.02	0.04	1'-8"	5½"	¾"	1'-8"	4'-10"	4'-10"	6'-4"
	FORWARD ABUT.	1	GUIDED	MUTI-DIR.	1500	150		0.02	0.04	2'-0"	6"	⅞"	1'-0"	3'-2"	3'-0"	4'-4"
NORTHBOUND	REAR ABUT.	1	MUTI-DIR.	GUIDED	1500		150	0.02	0.04	1'-7"	4"	¾"	1'-0"	3'-2"	3'-0"	4'-0"
	PIER 5, DOWNSTATION WALL	1	MUTI-DIR.	GUIDED	5600		700	0.02	0.04	1'-8"	5½"	¾"	1'-8"	4'-10"	4'-10"	6'-4"
	PIER 5, UPSTATION WALL	1	MUTI-DIR.	GUIDED	5600		700	0.02	0.04	1'-8"	5½"	¾"	1'-8"	4'-10"	4'-10"	6'-4"
	FORWARD ABUT.	1	MUTI-DIR.	GUIDED	1500		150	0.02	0.04	2'-0"	6"	⅞"	1'-0"	3'-2"	3'-0"	4'-4"

NOTES:

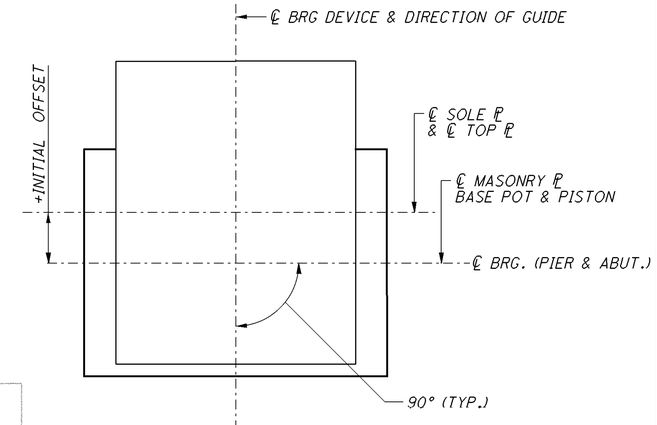
1. ALL STRUCTURAL STEEL FOR THE BEARING DEVICE SHALL BE AASHTO M270, GRADE 50 UNLESS OTHERWISE NOTED.
2. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS DETAILING THE PROPOSED BEARING DEVICE INCLUDING ANCHOR PLATES AND MASONRY PLATES TO THE ENGINEER FOR REVIEW AND APPROVAL. BEARING DEVICES SHALL MEET THE FOLLOWING CRITERIA:
   A) BEARINGS SHALL BE DESIGNED IN ACCORDANCE WITH AASHTO SPECIFICATION FOR THE LOADS, MOVEMENTS AND ROTATIONS SHOWN IN THE TABLE USING SERVICE LOADS WITHOUT ANY INCREASE IN ALLOWABLE STRESS.
   B) THE COEFFICIENT OF FRICTION OF EXPANSION BEARING SHALL BE 4% MAXIMUM.
3. SERVICE LOADS ARE AASHTO LOAD COMBINATIONS (ALREADY MODIFIED TO ACCOUNT FOR OVERSTRESS FACTOR.
4. ANCHORAGES SHALL BE INCLUDED IN BID PRICE FOR POT-TYPE BEARING ASSEMBLY.
5. BEARING ASSEMBLIES SHALL BE CONSTRUCTED SO AS TO PERMIT REMOVAL FOR REPAIR OR REPLACEMENT BY JACKING THE BRIDGE FROM THE PIERS OR ABUTMENTS BY ¼" VERTICAL MAXIMUM.
6. ANCHOR PLATE BOLT AND HEADED STUD LAYOUTS ARE SHOWN FOR ILLUSTRATION PURPOSES ONLY. ANCHOR PLATE BOLT AND HEADED STUD LAYOUTS SHALL BE DETERMINED BY THE CONTRACTOR BASED ON THE ACTUAL BEARING UTILIZED AND SHALL BE DETAILED ON THE SHOP DRAWING SUBMITTAL. PROPER CONSIDERATION SHALL BE GIVEN TO ANY INTERFERENCE OF THE HEADED STUDS WITH THE SEGMENT OR BOX GIRDER REINFORCEMENT. ALL BOLTS AND HEADED STUD SPACING SHALL BE DETAILED IN ACCORDANCE WITH THE AASHTO SPECIFICATIONS.
7. ANCHOR BOLT NOTES:
   A) BLOCK OUT HOLE SHALL BE FREE OF DEBRIS PRIOR TO GROUTING. THE BLOCK OUTS SHALL BE GROUTED WITH A NON-SHRINK GROUT CONFORMING TO THE SPECIFICATIONS AND HAVING A MINIMUM STRENGTH OF 6 KSI.
   B) BLOCKOUT SHALL HAVE A MINIMUM DIAMETER OF 6".
8. THE BEARING ASSEMBLIES ARE IN PAY ITEM 516 STEEL POT BEARING.

   SEE SHEET 134 OF 204 FOR BEARING OFFSET AT PIER 5, SHEET 166 FOR BEARING OFFSET AT BOTH ABUTMNETS.
9. THE CONTRACTOR SHALL COORDINATE WITH THE BEARING SUPPLIER TO INSURE THE BEARING ROTATION STAYS WITHIN ALLOWABLE LIMITS DURING CONSTRUCTION ACTIVITIES.

** BEARINGS INSTALLED SIMULTANEOUSLY WITH CASTING OF PIER TABLE MAY BE EMBEDDED DIRECTLY IN PIER TABLE WITHOUT GROUTING.

*** NUMBER, SIZE AND SPACING OF BOLTS, SCREWS AND SHEAR CONNECTORS TO BE DETERMINED BY THE BEARING MANUFACTURER.

**** BEARING SEAT ELEVATIONS AT ABUTMENTS AND PIERS SHALL BE CHECKED AND ADJUSTED ACCORDING TO THE ERECTION DIMENSIONS OF BEARING ASSEMBLES ADOPTED.



INITIAL OFFSET

INITIAL OFFSET IS GIVEN AT 60° F. ADJUST BY CORRECTION SHOWN FOR TEMPERATURES OTHER THAN 60° F. TEMPERATURE TO BE USED SHALL BE AVERAGE CONCRETE SUBSTRUCTURE TEMPERATURE OF TIME OF CASTING CLOSURE JOINT SEGMENT

DESIGN AGENCY HNTB 1100 Superior Avenue, Suite 1300 Cleveland, OH 44114-2533

DESIGNED YEH | DRAWN LK | REVIEWED JB | DATE 10/30/07 | CHECKED MX | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

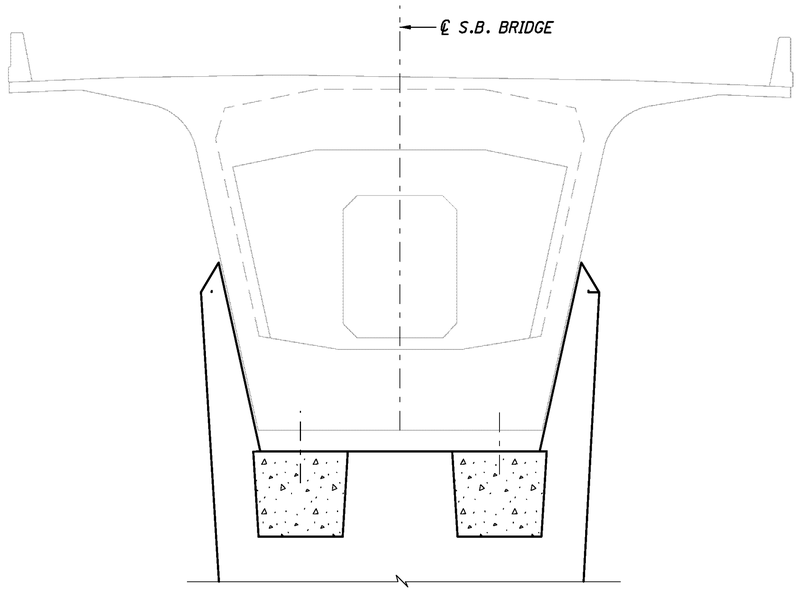
BEARING DETAILS
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20 PID No. 22950

192/204

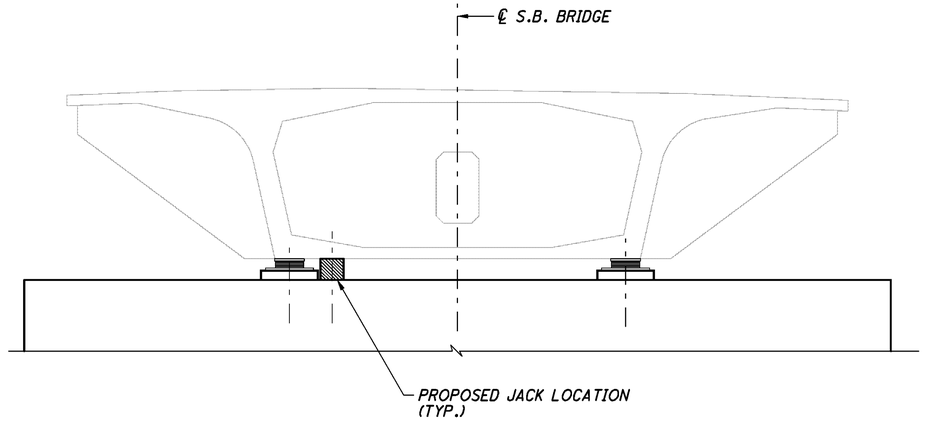
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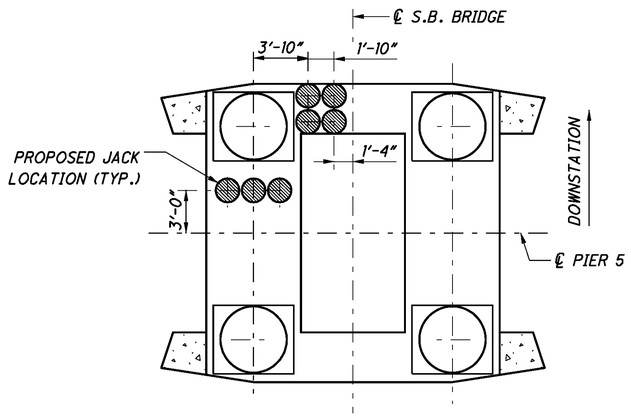
JACKING ELEVATION - PIER 5

(LOOKING DOWNSTATION)

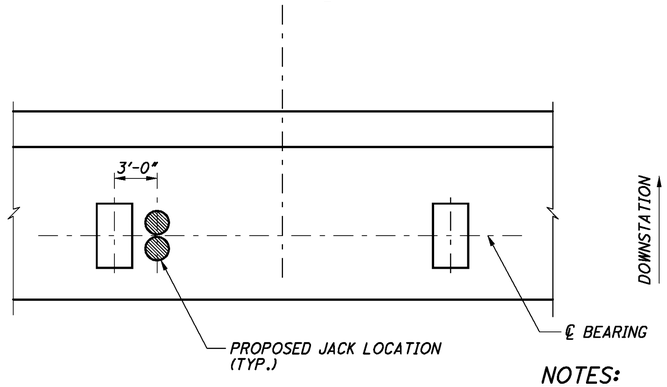


JACKING ELEVATION - REAR ABUTMENT

(LOOKING DOWNSTATION, REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR)



JACKING PLAN - PIER 5



JACKING PLAN - REAR ABUTMENT

(REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR)

ESTIMATE JACKING FORCE FOR BEARING REPLACEMENT (EACH BEARING)

LOCATION	DL	DL+LL
REAR ABUTMENT	1100 KIPS	1500 KIPS
FORWARD ABUTMENT	1100 KIPS	1500 KIPS
PIER 5	4000 KIPS	5600 KIPS

NOTES:

1. THE BEARING REPLACEMENT SCHEME IS PROVIDED FOR INFORMATION ONLY. FUTURE BEARING REPLACEMENT CONTRACTOR SHALL BE RESPONSIBLE TO DESIGN AND DETAIL THE JACKING STRUCTURE AND SHORING REQUIRED. LOCAL BURSTING AND STRUCTURE ELEMENT CAPACITY HAVE TO BE CHECKED BASED ON THE ACTUAL JACKING SCHEME USED.
2. SOUTH BOUND BRIDGE IS SHOWN, NORTH BOUND BRIDGE IS SIMILAR.
3. BEARING REPLACEMENT PLAN IS PROVIDED FOR FUTURE MAINTENANCE, JACKS ARE NOT REQUIRED TO BE FURNISHED AS PART OF THIS CONTRACT,
4. JACK SHALL BE PLACED WITHIN THE LOCATION SHOWN IN THE PLAN.
5. CONCRETE BEARING PRESSURE GENERATED BY JACK SUPPORTS SHALL NOT EXCEED RELEVANT AASHTO VALUES.
6. ALL JACKS USED SHALL BE MANIFOLD WITH INDIVIDUAL VALVE.
7. OPERATION SHALL BE CARRIED OUT ON ONE BEARING AT A TIME.
8. A STRUCTURE ENGINEER FAMILIAR WITH THE ANALYSIS AND DESIGN OF SEGMENTAL CONCRETE BRIDGES SHALL BE ENGAGED TO OVERSEE THE WORK.

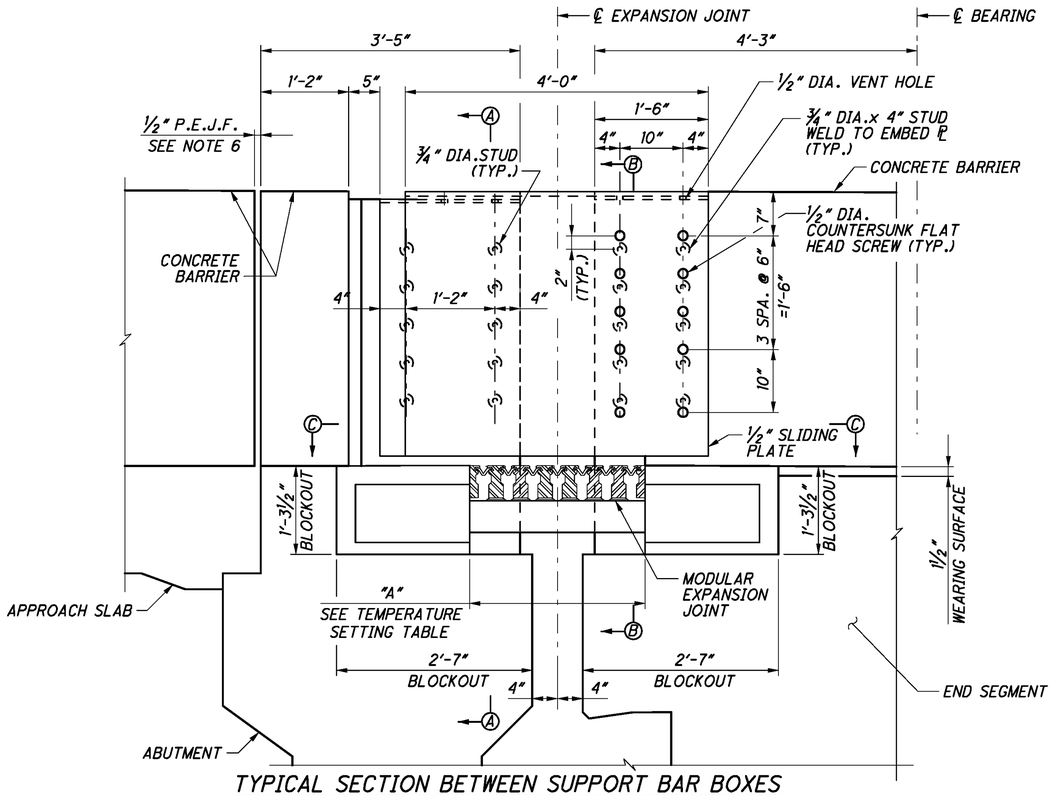
DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH	YEH	JB	10/30/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MX		8302278L/8302294R	

PROVISIONS FOR BEARING REPLACEMENT
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

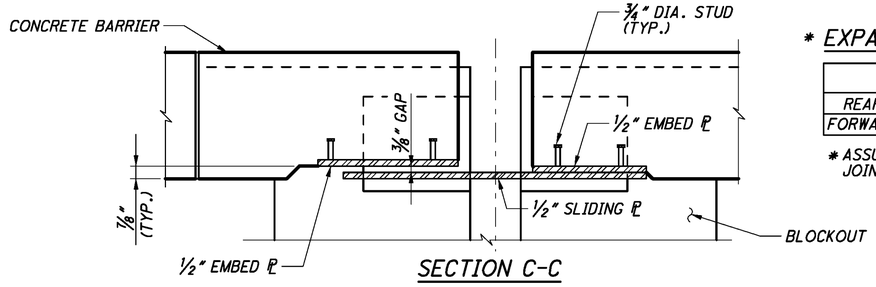
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PID No. 22950

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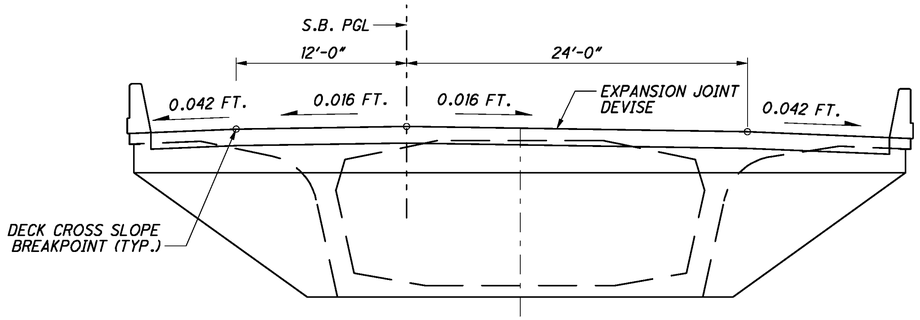


TYPICAL SECTION BETWEEN SUPPORT BAR BOXES

(ABUTMENT & END SPAN REINFORING NOT SHOWN FOR CLARITY)
(LOOKING LEFT AT LEFT NORTHBOUND PARAPET ON REAR ABUTMENT)
(RIGHT SOUTHBOUND PARAPET AND LEFT NORTHBOUND FORWARD PARAPET SIMILAR)



SECTION C-C



SECTION AT ABUTMENT

(SOUTHBOUND BRIDGE SHOWN LOOKING DOWNSTATION)
(NORTHBOUND BRIDGE OPPOSITE HAND)

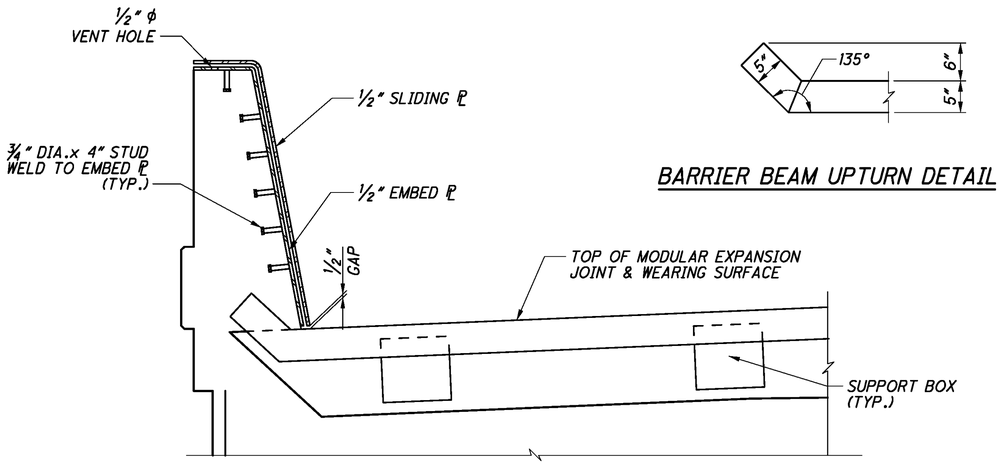
* EXPANSION JOINT MOVEMENT REQUIREMENT

	EXPANSION	CONTRACTION	MOVEMENT RANGE
REAR ABUT.	4"	12½"	16½"
FORWARD ABUT.	4½"	16½"	21"

* ASSUMED TEMPERATURE OF TIME OF EXPANSION JOINT IS INSTALLED IS 60° F.

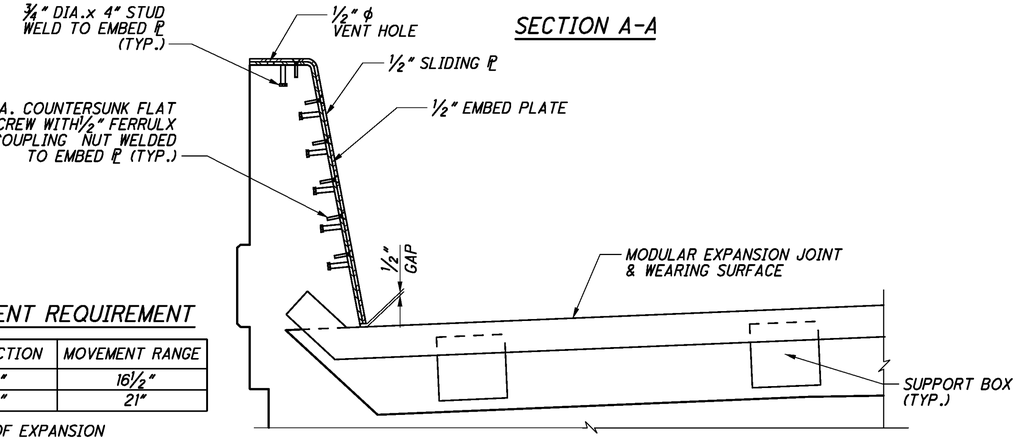
TEMPERATURE SETTING TABLE

TEMPERATURE F°	30°	40°	50°	60°	70°	80°	90°
"A" FOR REAR ABUT.	2'-1"	2'-0½"	1'-11½"	1'-11"	1'-10½"	1'-9½"	1'-9"
"A" FOR FORWARD ABUT.	2'-1½"	2'-1"	2'-0"	1'-11"	1'-10"	1'-9"	1'-8½"



BARRIER BEAM UPTURN DETAIL

SECTION A-A



SECTION B-B

NOTES:

1. FOR REINFORCING DETAIL AT BLOCK OUT, SEE ABUTMENT & END SEGMENT REINFORCING SHEETS.
2. THE EXPANSION JOINT DEVICE SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THE SPECIAL PROVISIONS AND MANUFACTURER'S RECOMMENDATION.
3. THE EXPANSION JOINT SHALL BE INSTALLED PARALLEL TO THE SLOPE AND GRADE OF THE DECK.
4. ALL STEEL EMBED ℄, SLIDING ℄, SCREWS AND NUTS SHALL BE GALVANIZED. THEY SHALL BE PAID UNDER PAY ITEM "STRUCTURAL STEEL MEMBERS, MODULAR EXPANSION JOINT LEVEL UF"
5. EXPANSION JOINT SHALL NOT BE INSTALLED UNTIL LONGITUDINAL TENDON HAS BEEN STRESSED.
6. THE ½ INCH P.E.J.F. APPLIED ONLY WHEN THE PARAPET IS SUPPORTED ON THE APPROACH SLAB. THE PARAPET WHEN SUPPORTED ON THE WINGWALL SHOULD BE CONTINUOUS.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
YEH	YEH	JB	10/30/07

CHECKED	REVISED	STRUCTURE FILE NUMBER
MX		8302278L/8302294R

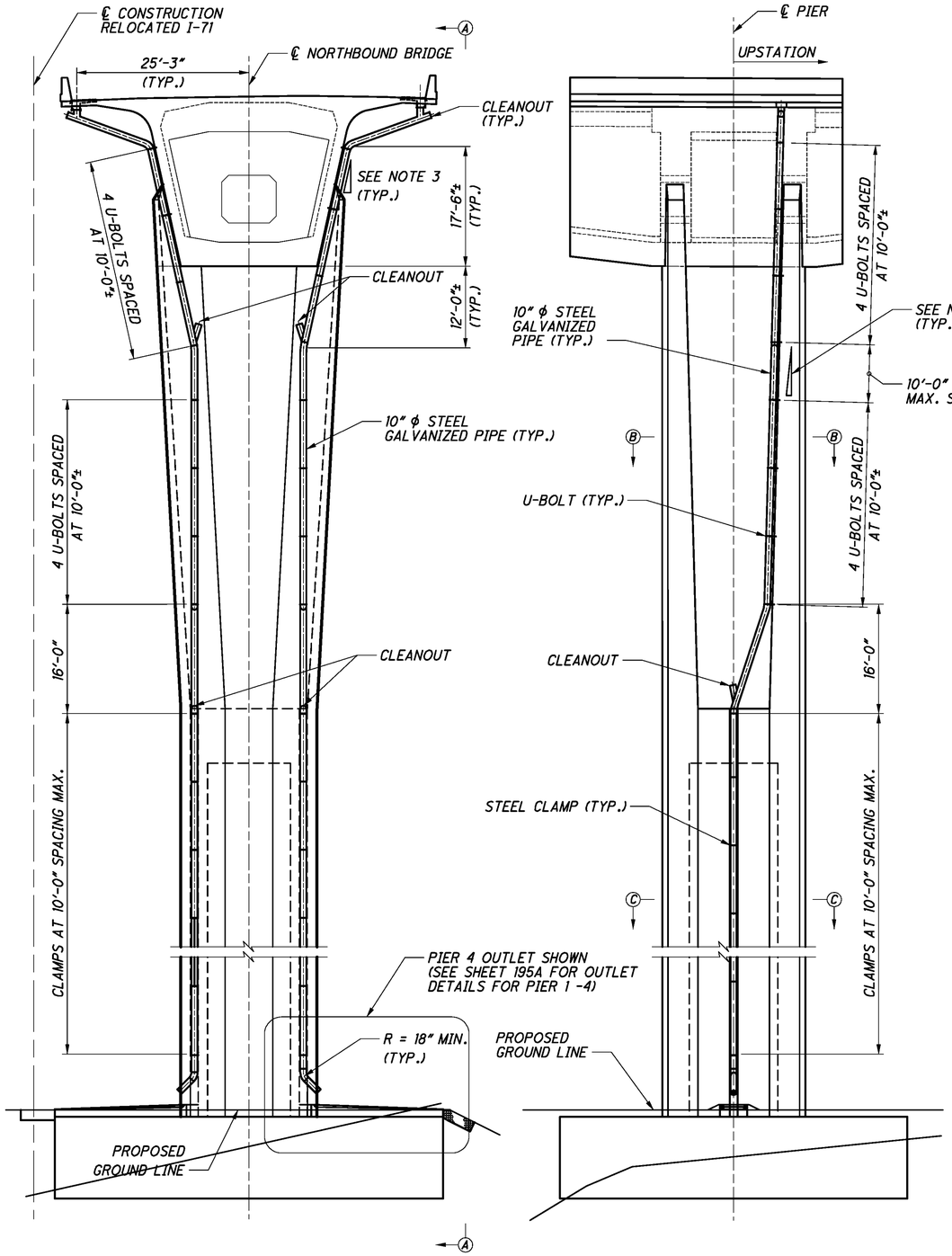
MODULAR EXPANSION JOINT
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

194/204

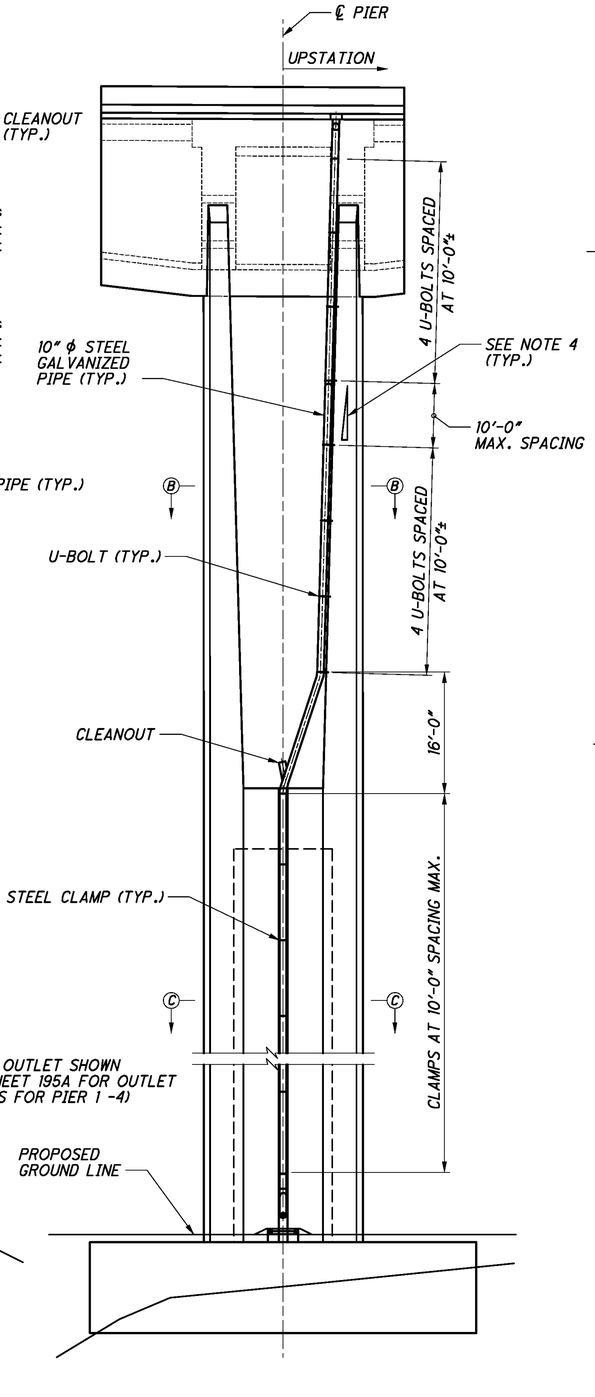
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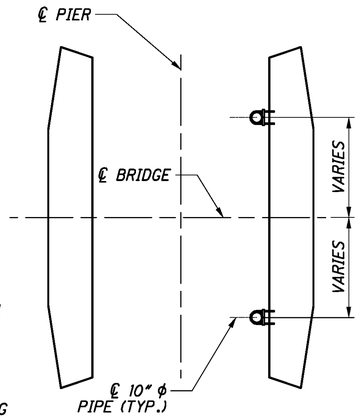


PIERS 1-4 TYPICAL ELEVATION

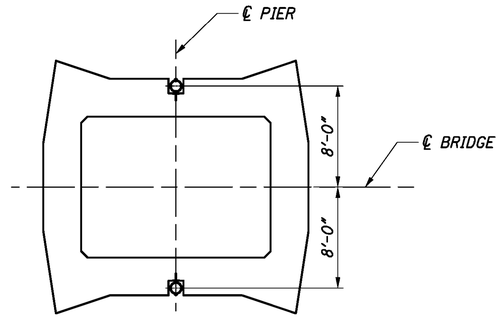
(NORTHBOUND PIER SHOWN,
SOUTHBOUND PIER SIMILAR)
(PILES OR DRILLED SHAFTS NOT SHOWN FOR CLARITY)



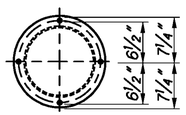
VIEW A-A



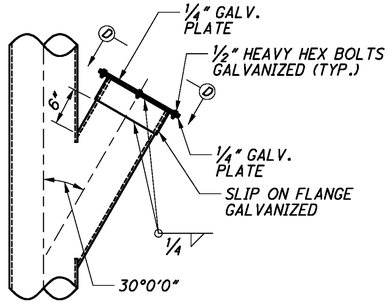
SECTION B-B



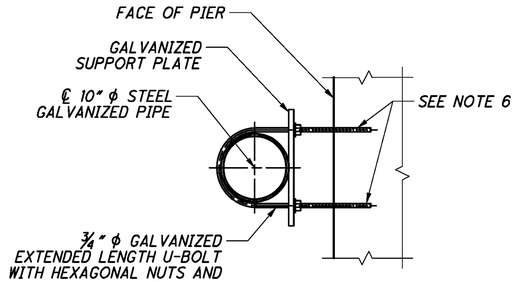
SECTION C-C



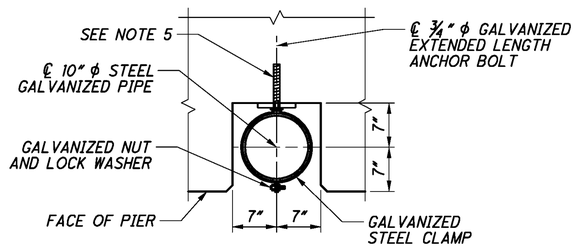
VIEW D-D



CLEANOUT DETAIL



TYPICAL U-BOLT ATTACHMENT DETAIL



TYPICAL CLAMP DETAIL

NOTES:

1. FOR ADDITIONAL DETAILS AND NOTES, SEE SHEETS 195A AND 196 OF 204.
2. MINIMUM PIPE BENDING RADIUS IS 18".
3. THE SLOPE OF THE 10" ϕ PIPE ADJACENT TO THE CONCRETE SEGMENT SHALL BE PARALLEL TO THE FACE OF THE CONCRETE SEGMENT.
4. THE SLOPE OF THE 10" ϕ PIPE ADJACENT TO THE PIER TWIN WALL SHALL BE PARALLEL TO THE INSIDE FACE OF THE PIER TWIN WALL.
5. FOR CLAMP ATTACHMENT TO PIERS, BOLTS SHALL BE ¾" DIAMETER GALVANIZED EXPANSION BOLT ANCHORS DRILLED-IN-PLACE AND CAPABLE OF DEVELOPING A PULLOUT RESISTANCE OF NOT LESS THAN 12,000 POUNDS.

   EMBED GALVANIZED BOLTS AND SUPPORT PLATE OF STEEL GALVANIZED CLAMPS INTO PIER WALLS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION AND SECURE TO 10" STEEL GALVANIZED PIPE.
6. FOR U-BOLT ATTACHMENT TO BOX GIRDER AND PIERS, U-BOLTS SHALL BE ¾" DIAMETER GAVANIZED EXTENDED LENGTH BOLTS DRILLED-IN-PLACE WITH EPOXY CAPABLE OF DEVELOPING A PULLOUT RESISTANCE OF NOT LESS THAN 12,000 POUNDS.

   EMBED EXTENDED LENGTH GALVANIZED U-BOLTS INTO BOX GIRDERS, PIER WALLS AND PIER FOOTINGS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION AND SECURE TO 10" STEEL GALVANIZED PIPE WITH SUPPORT PLATE.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
JJB	JJB	RHW	03/21/08

CHECKED	REVISED	STRUCTURE FILE NUMBER
BTA		8302278L/8302294R

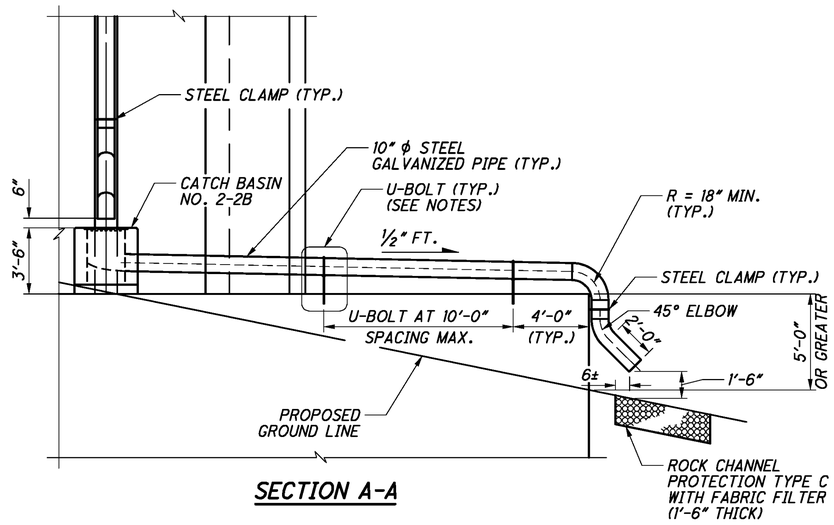
DRAINAGE DETAILS 1
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

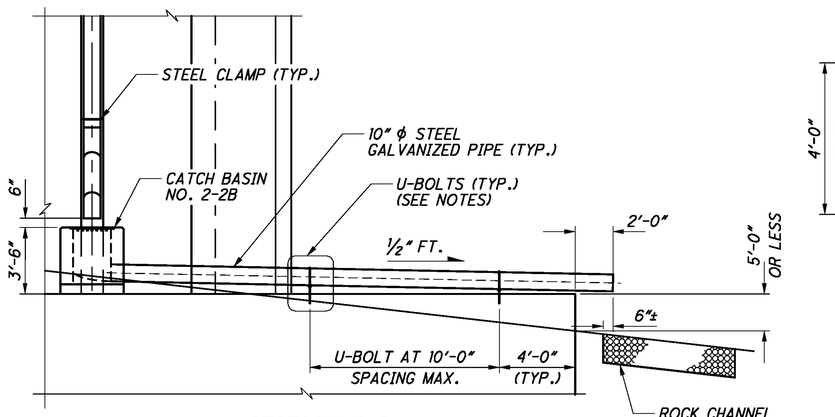
195/204

461/470

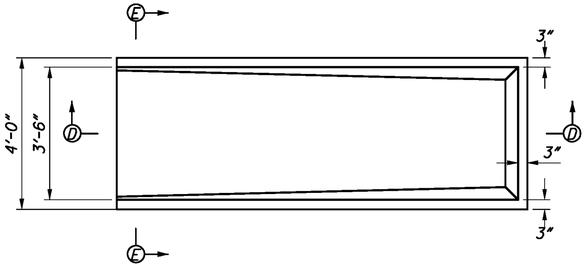
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SECTION A-A

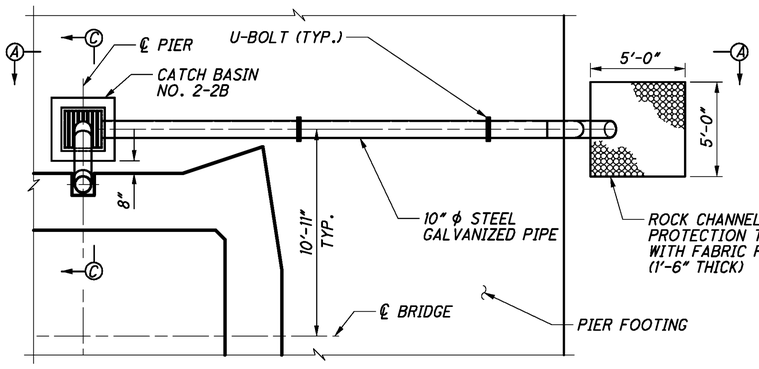


SECTION B-B



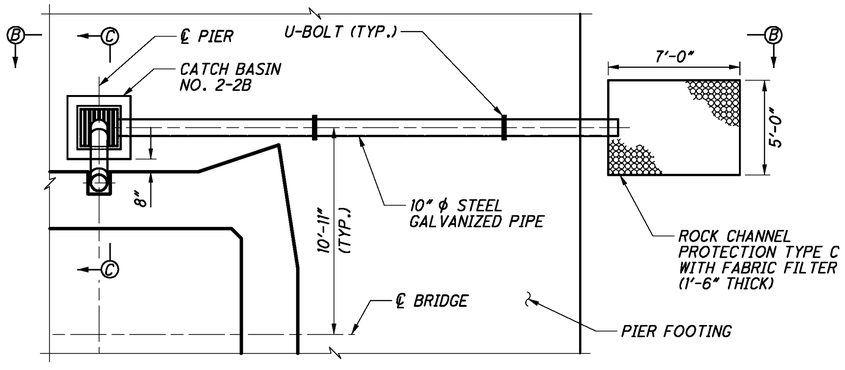
CONCRETE SPILLWAY DETAIL

(FOR PIER 4)



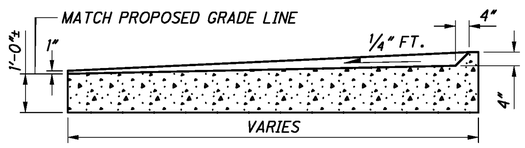
PLAN AT PIERS 1 AND 3

(DOWNSPOUT OUTFALLS GREATER THAN 5'-0", TYPICAL NORTHBOUND AND SOUTHBOUND PIERS, SYMMETRICAL ABOUT ℄ BRIDGE)

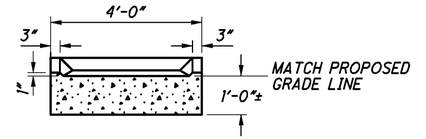


PLAN AT PIERS 1 AND 3

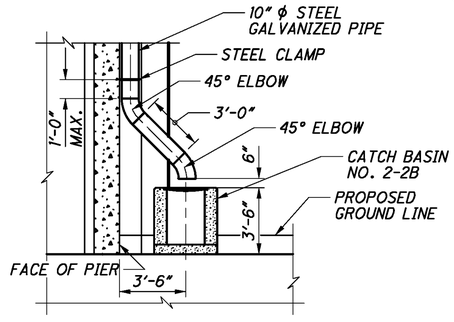
(DOWNSPOUT OUTFALLS LESS THAN 5'-0", TYPICAL NORTHBOUND AND SOUTHBOUND PIERS, SYMMETRICAL ABOUT ℄ BRIDGE)



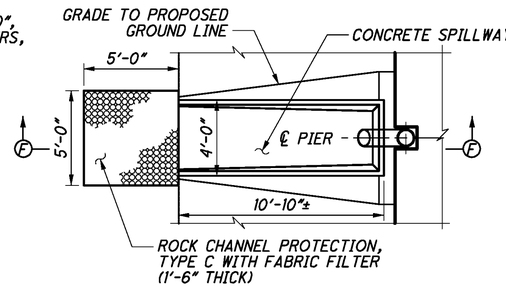
SECTION D-D



SECTION E-E

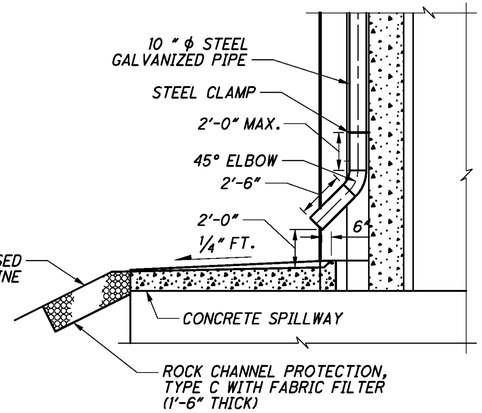


SECTION C-C

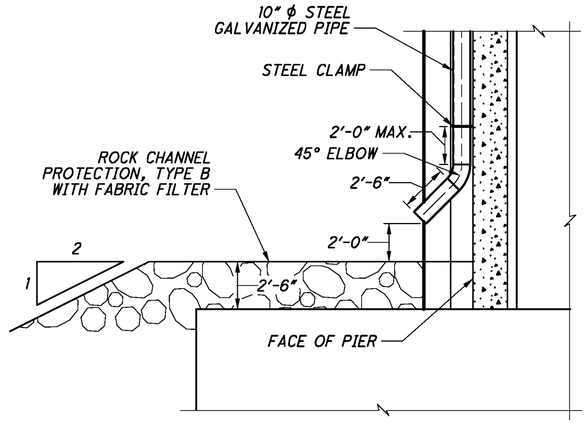


PLAN AT PIER 4

(TYPICAL NORTHBOUND AND SOUTHBOUND PIERS, SYMMETRICAL ABOUT ℄ BRIDGE)



SECTION F-F



ELEVATION AT PIER 2

NOTES:

1. FOR TYPICAL U-BOLT ATTACHMENT DETAIL, SEE SHEET 195 OF 204.
2. FOR ADDITIONAL CATCH BASIN DETAILS, REFER TO ODOT STANDARD CB-1.1. PAYMENT FOR ALL MATERIALS AND LABOR SHALL BE INCLUDED WITH ITEM 518, PIPE DOWNSPOUT, INCLUDING SPECIAL (10").
3. FOR ADDITIONAL NOTES, SEE SHEET 196 OF 204.

DESIGN AGENCY
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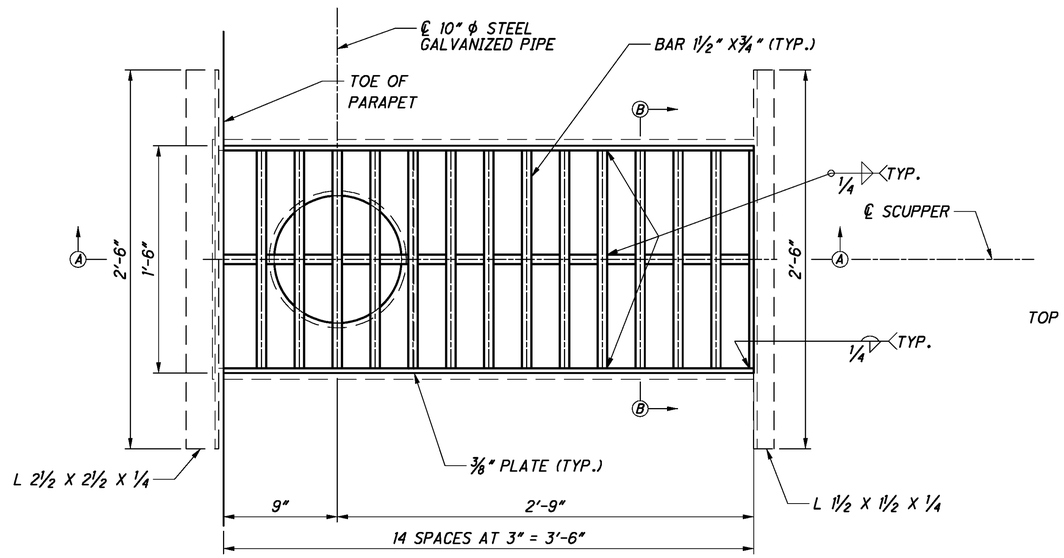
DESIGNED	DRAWN	REVIEWED	DATE
MDA	MDA	RHW	03/21/08

CHECKED	REVISED	STRUCTURE FILE NUMBER
BTA		8302278L/8302294R

DRAINAGE DETAILS 2
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

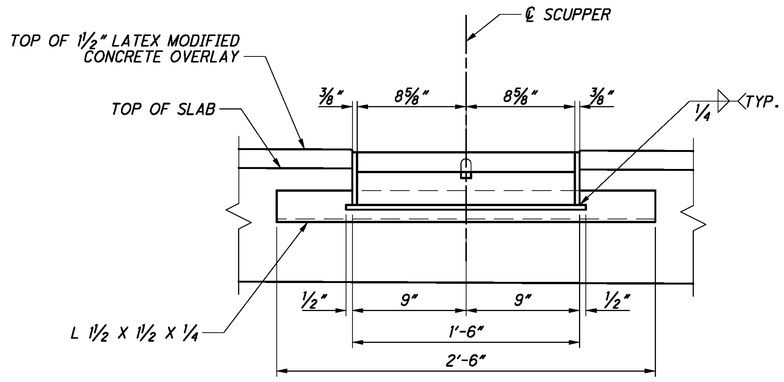
WAR-71-14.20
PID No. 22950

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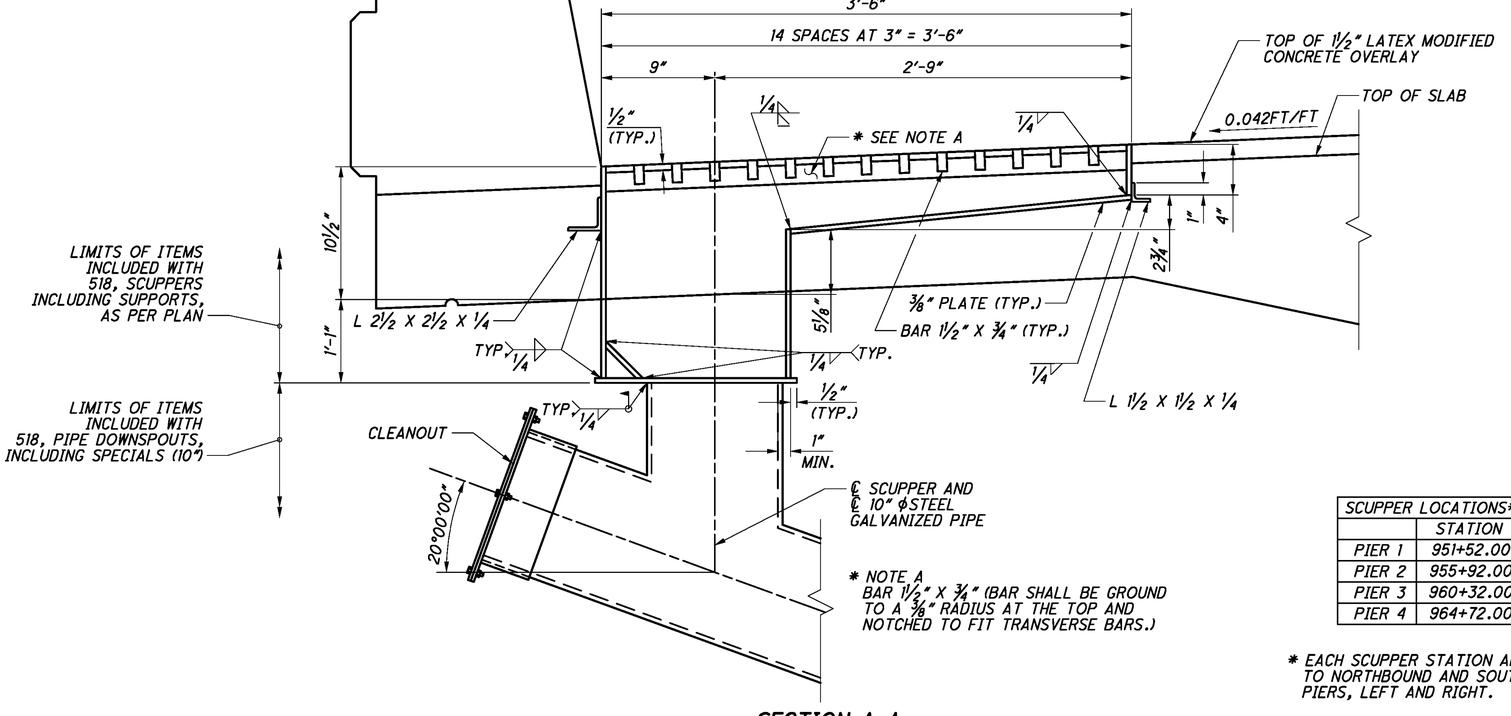


SCUPPER PLAN

(LEFT SCUPPER SHOWN, RIGHT SCUPPER SIMILAR)



SECTION B-B



SECTION A-A

SCUPPER LOCATIONS*	
	STATION
PIER 1	951+52.00
PIER 2	955+92.00
PIER 3	960+32.00
PIER 4	964+72.00

* EACH SCUPPER STATION APPLIES TO NORTHBOUND AND SOUTHBOUND PIERS, LEFT AND RIGHT.

NOTES:

1. THE SCUPPER AND SCUPPER SUPPORTS SHALL BE ASTM A709 GRADE 50 STEEL AND SHALL BE GALVANIZED IN ACCORDANCE WITH CMS 711.02.
2. 10 INCH DIAMETER PIPES SHALL BE STANDARD WEIGHT PIPE IN ACCORDANCE WITH CMS 748.06 AND SHALL BE GALVANIZED IN ACCORDANCE WITH CMS 711.02.
3. 10 INCH DOWNSPOUTS SHALL BE STANDARD WEIGHT PIPE IN ACCORDANCE WITH CMS 748.06 AND SHALL BE GALVANIZED IN ACCORDANCE WITH CMS 711.02. JOINTS SHALL BE MADE BY WELDING OR BY USE OF CLAMP TYPE COUPLINGS HAVING A RING GASKET. ALL WELDING SHALL BE DONE BEFORE GALVANIZING. SUPPORT MATERIAL FOR ATTACHING 10 INCH DOWNSPOUTS TO PIERS SHALL BE ASTM A709 GRADE 50 STEEL AND SHALL BE GALVANIZED IN ACCORDANCE WITH CMS 711.02.
4. THE SCUPPERS, SCUPPER SUPPORTS, AND ACCESSORIES SHALL BE INCLUDED WITH ITEM 518, SCUPPERS INCLUDING SUPPORTS, AS PER PLAN FOR PAYMENT.
5. THE 10 INCH DOWNSPOUTS, PIER SUPPORTS, CLEANOUTS AND ACCESSORIES SHALL BE INCLUDED WITH ITEM 518, PIPE DOWNSPOUT,INCLUDING SPECIALS (10"), FOR PAYMENT.
6. REPAIR GALVANIZING DAMAGED FROM FIELD WELDS IN ACCORDANCE WITH ASTM A780, METHOD A1 OR A3. COST FOR REPAIRING DAMAGED GALVANIZING SHALL BE CONSIDERED INCIDENTAL TO ITEM 518, PIPE DOWNSPOUTS, INCLUDING SPECIALS (10").

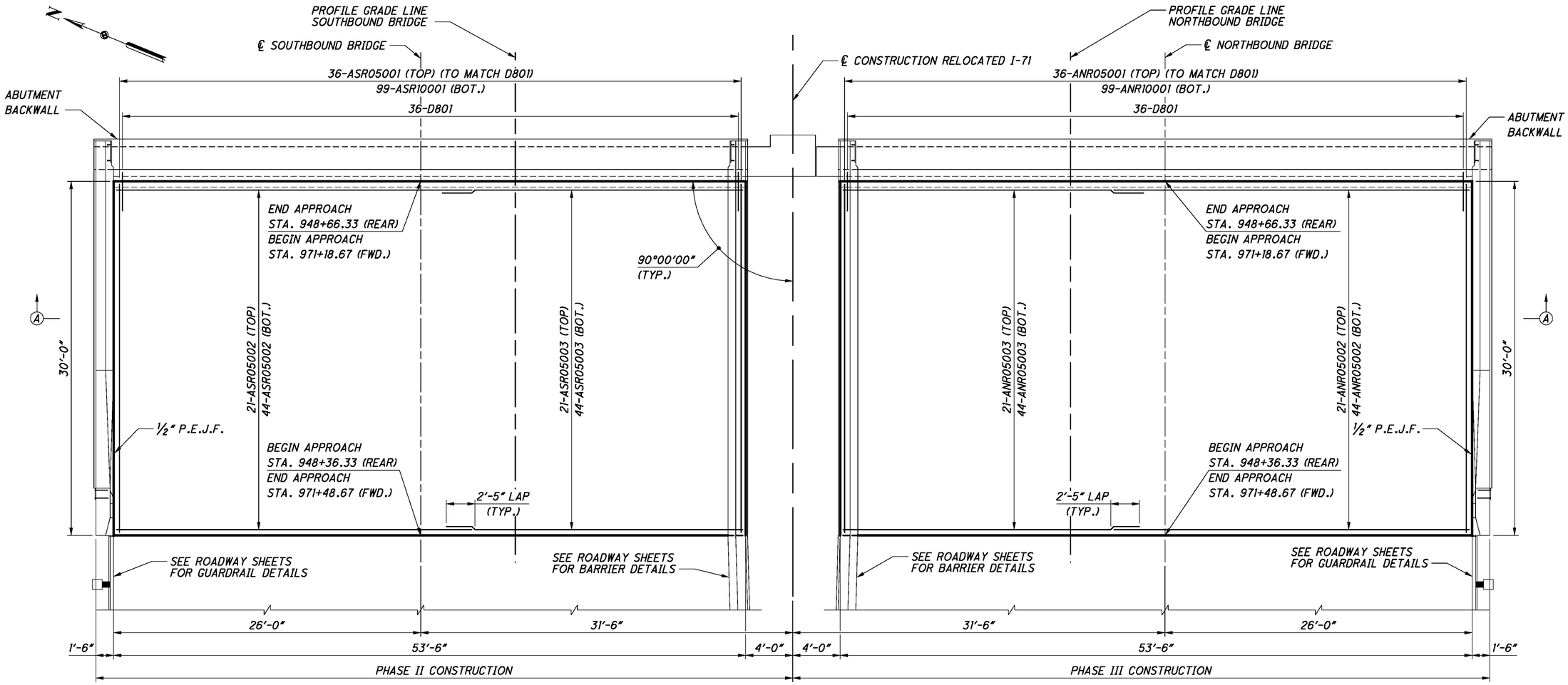
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DESIGN AGENCY
HNTB
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DESIGNED	DRAWN	REVIEWED	DATE
JJB	JJB	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BTA		8302278L/8302294R	

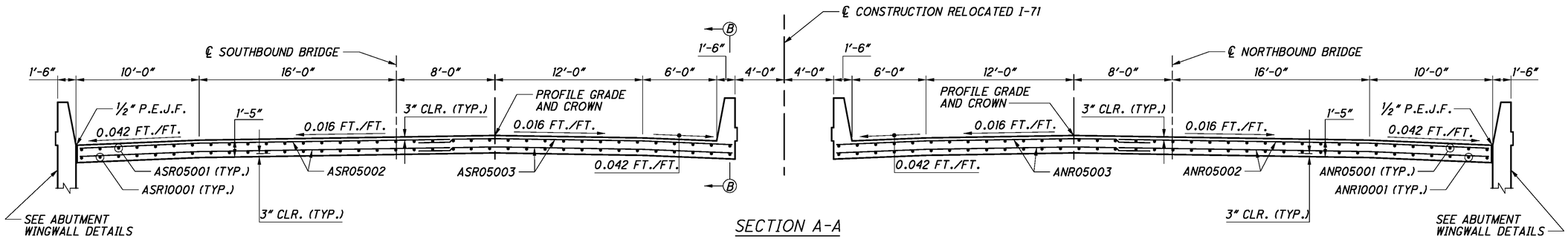
DRAINAGE DETAILS 3
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950



REAR APPROACH SLAB PLAN

(FORWARD APPROACH SLAB PLAN SIMILAR)
(WINGWALLS NOT SHOWN)



SECTION A-A

(LOOKING UPSTATION)
(PARAPET REBAR NOT SHOWN)

NOTES:

1. FOR NOTES AND ADDITIONAL DETAILS, SEE SHEET 198 OF 204.
2. FOR STANDARD NOTES AND DETAILS, SEE ODOT STANDARD DRAWINGS AS-1-81 AND SBR-1-99.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1300
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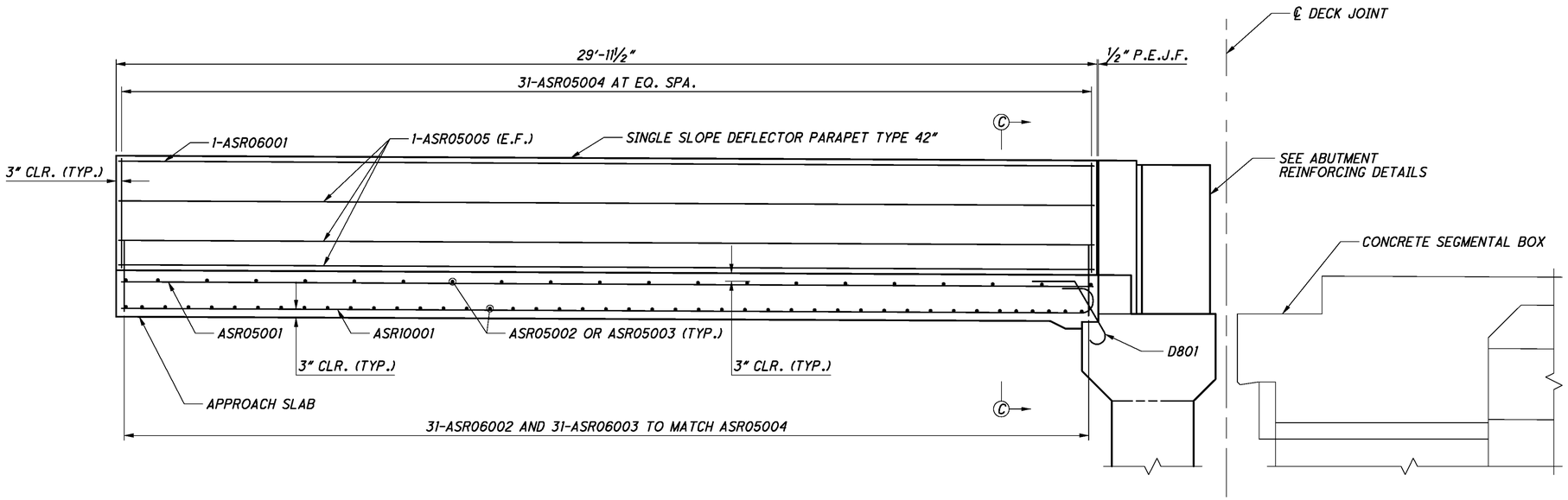
DESIGNED	DRAWN	REVIEWED	DATE
YEH/JJB	JJB	RHW	03/21/08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJE		8302278L/8302294R	

APPROACH SLAB DETAILS 1
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

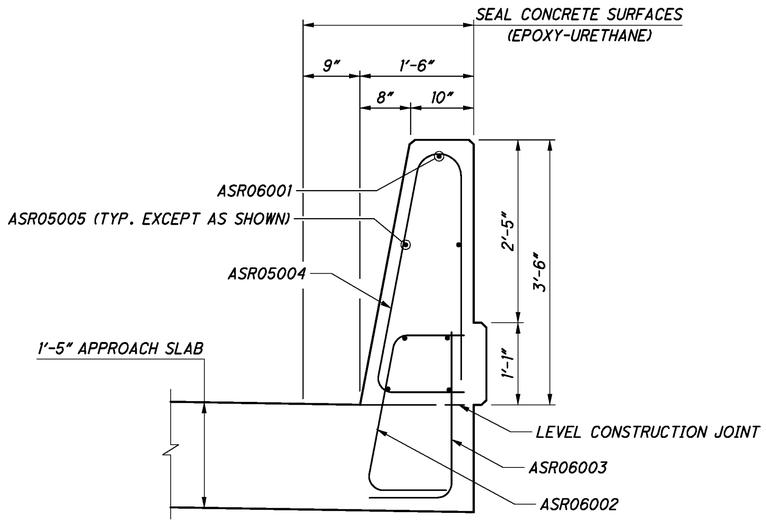
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PID No. 22950

197/204
463/470

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SECTION B-B



SECTION C-C

(APPROACH SLAB REINFORCING NOT SHOWN)

NOTES:

1. ALL REINFORCING BAR MARKS FOR THE SOUTHBOUND BRIDGE REAR APPROACH SLAB AND BARRIER SHALL BE PREFIXED ASR.
2. ALL REINFORCING BAR MARKS FOR THE NORTHBOUND BRIDGE REAR APPROACH SLAB AND BARRIER SHALL BE PREFIXED ANR.
3. ALL REINFORCING BAR MARKS FOR THE SOUTHBOUND BRIDGE FORWARD APPROACH SLAB AND BARRIER SHALL BE PREFIXED ASF.
4. ALL REINFORCING BAR MARKS FOR THE NORTHBOUND BRIDGE FORWARD APPROACH SLAB AND BARRIER SHALL BE PREFIXED ANF.
5. PAYMENT FOR ITEM 898 - QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), 17", AS PER PLAN SHALL ALSO INCLUDE THE QUANTITY OF CONCRETE, PARAPETS, REINFORCING STEEL, JOINT FILLERS, JOINT SEALER, JOINT SEALS, AND WATERPROOFING.
6. FOR APPROACH SLAB REINFORCING SPACING AND ADDITIONAL APPROACH SLAB DETAILS AND NOTES, SEE ODOT STANDARD DRAWING AS-1-81, SHEETS 1 THRU 3 OF 3.
7. FOR ADDITIONAL BARRIER DETAILS, SEE ODOT STANDARD. DRAWING SBR-1-99.
8. FOR REINFORCING SCHEDULE, SEE SHEET 199 OF 204.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

REVIEWED RHW
DATE 03/21/08
STRUCTURE FILE NUMBER 8302278L/8302294R
DRAWN JJB
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DESIGNED YEH/JJB
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APPROACH SLAB DETAILS 2
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
NORTHBOUND APPROACH SLAB - REAR ABUTMENT											
ANR05001	36	29'-6"	1108	001							
ANR05002	65	30'-0"	2034	001							
ANR05003	65	25'-6"	1729	001							
ANR05004	31	7'-5"	240	008	1'-1"	3'-2"	1'-0"	3'-0"			
ANR05005	6	29'-6"	185	001							
ANR06001	1	29'-6"	44	001							
ANR06002	31	4'-0"	186	106	1'-1"	5"	2'-2"	1'-1"			
ANR06003	31	3'-1"	144	003	1'-1"	2'-2"					
ANR10001	99	30'-11"	13170	011	29'-6"						
SUB-TOTAL			18840	(FOR INFORMATION ONLY)							
NORTHBOUND APPROACH SLAB - FORWARD ABUTMENT											
ANF05001	36	29'-6"	1108	001							
ANF05002	65	30'-0"	2034	001							
ANF05003	65	25'-6"	1729	001							
ANF05004	31	7'-5"	240	008	1'-1"	3'-2"	1'-0"	3'-0"			
ANF05005	6	29'-6"	185	001							
ANF06001	1	29'-6"	44	001							
ANF06002	31	4'-0"	186	106	1'-1"	5"	2'-2"	1'-1"			
ANF06003	31	3'-1"	144	003	1'-1"	2'-2"					
ANF10001	99	30'-11"	13170	011	29'-6"						
SUB-TOTAL			18840	(FOR INFORMATION ONLY)							

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SOUTHBOUND APPROACH SLAB - REAR ABUTMENT											
ASR05001	36	29'-6"	1108	001							
ASR05002	65	30'-0"	2034	001							
ASR05003	65	25'-6"	1729	001							
ASR05004	31	7'-5"	240	008	1'-1"	3'-2"	1'-0"	3'-0"			
ASR05005	6	29'-6"	185	001							
ASR06001	1	29'-6"	44	001							
ASR06002	31	4'-0"	186	106	1'-1"	5"	2'-2"	1'-1"			
ASR06003	31	3'-1"	144	003	1'-1"	2'-2"					
ASR10001	99	30'-11"	13170	011	29'-6"						
SUB-TOTAL			18840	(FOR INFORMATION ONLY)							
SOUTHBOUND APPROACH SLAB - FORWARD ABUTMENT											
ASF05001	36	29'-6"	1108	001							
ASF05002	65	30'-0"	2034	001							
ASF05003	65	25'-6"	1729	001							
ASF05004	31	7'-5"	240	008	1'-1"	3'-2"	1'-0"	3'-0"			
ASF05005	6	29'-6"	185	001							
ASF06001	1	29'-6"	44	001							
ASF06002	31	4'-0"	186	106	1'-1"	5"	2'-2"	1'-1"			
ASF06003	31	3'-1"	144	003	1'-1"	2'-2"					
ASF10001	99	30'-11"	13170	011	29'-6"						
SUB-TOTAL			18840	(FOR INFORMATION ONLY)							

NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. FOR EXAMPLE: ANR05001
   - A: LOCATION OF THE BAR IN THE STRUCTURE (APPROACH)
   - N: LOCATION OF THE STRUCTURE (NORTHBOUND)
   - R: LOCATION OF THE STRUCTURE (REAR ABUTMENT)
   - 05: BAR SIZE (#5 BAR)
   - 001: BAR SEQUENCE NUMBER
2. 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 BAR. STRAIGHT BARS ARE INDICATED BY "STR".
3. ALL REINFORCING STEEL IS TO BE EPOXY COATED.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED JJB | DRAWN JJB | REVIEWED RHW | DATE 03/21/08
CHECKED BTA | REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

APPROACH SLAB REINFORCEMENT

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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ITEM 625 - LUMINAIRE MISC.: 150W WALL MOUNTED LUMINAIRE

THE LUMINAIRE SHALL BE MADE OF A DIE CAST ALUMINUM HOUSING AND BE UL LISTED SUITABLE FOR WET LOCATION. THE LUMINAIRE SHALL CONSIST OF A HOUSING WHICH ENCLOSES THE BALLAST, LAMP SOCKET AND REFLECTOR: AND A REFRACTOR DOOR ASSEMBLY. THE HOUSING ASSEMBLY SHALL MOUNT AGAINST THE WALL AND THE REFRACTOR HOUSING ASSEMBLY SHALL FASTEN TO IT BY MEANS OF CONCEALED HINGES AND A SINGLE POINT, POSITIVE ACTING LATCH. THERE SHALL BE TWO STAINLESS STEEL RETAINING CABLES ATTACHED BETWEEN THE MAIN HOSING AND REFRACTOR FRAME. UNITS SHALL BE PREWIRED AND EQUIPPED TO BE WALL-MOUNTED FOR SURFACE WIRING, AND SHALL REQUIRE NO TOOLS FOR LAMP REPLACEMENT. THE INTEGRAL BALLAST SHALL OPERATE A 150W, 240V LAMP AND PROVIDE RELIABLE STARTING AT TEMPERATURES AS LOW AS -20 DEGREE F.

A 150W HPS LAMP PER ODOT STANDARD MATERIAL SPECIFICATIONS SHALL BE FURNISHED WITH EACH LUMINAIRE. FIXTURES SHALL BE CONFIGURED TO OPERATE ON 240VAC

THE LUMINAIRE SHALL PROVIDE A MINIMUM AVERAGE ILLUMINATION OF 5 FOOT CANDLES WITH AN AVERAGE TO MINIMUM RATIO NOT TO EXCEED 4, AND A MAX TO MIN RATIO NOT TO EXCEED 11. THE LUMINAIRES SHALL BE SPACED AT 50FT ON CENTER IN EACH BOX GIRDER EXCEPT AT THE PIERS. ONE LUMINAIRE SHALL BE PLACED AT THE CENTER OF EACH PIER AS SHOWN IN THE PLANS AND SHALL BE WALL MOUNTED AT A MOUNTING HEIGHT OF 10FT. ILLUMINATION PERFORMANCE CRITERIA MUST BE CALCULATED BY MANUFACTURER AND SUBMITTED TO ENGINEER FOR APPROVAL BEFORE INSTALLATION.

THE LUMINAIRES SHALL BE ONE OF THE FOLLOWING MANUFACTURER MODELS OR EQUAL APPROVED BY THE ENGINEER:
GE MODEL: V2FW-15-S-3-A-1-PWA-GR WITH PHOTOMETRIC DISTRIBUTION GE178578
HOLOPHANE MODEL: MW-15AHP-24-G WITH PHOTOMETRIC DISTRIBUTION 33429
LUMEC MODEL: VLM-150HPS-ED23½- SWB-240-FBH-WW0-M40-GLS WITH PHOTOMETRIC DISTRIBUTION C7364

ALL THE WIRE CONNECTIONS SHALL BE MADE WITH APPROVED CONNECTOR KIT RECOMMENDED BY MANUFACTURER.

PAYMENT WILL BE FOR ALL MATERIAL ABOVE AND ALL MATERIAL THAT IS NECESSARY TO INSTALL THE ABOVE ITEMS SUCH AS CONNECTORS, COUPLINGS, HANGERS, ANCHORS, SPLICE KITS, OR ANY PIECE OF MATERIAL THAT IS NECESSARY TO INSTALL AN OPERATIONAL LIGHT AS SHOWN ON THE PLANS AND DESCRIBED HEREIN.

THE LIGHTING FIXTURE AS DESCRIBED ABOVE SHALL BE PAID FOR AS EACH FOR LUMINIARE MISC.: 150W WALL MOUNTED LUMINAIRE

ITEM 625 - GROUNDING

THIS SECTION INCLUDES SOLID GROUNDING OF ELECTRICAL SYSTEMS AND EQUIPMENT. IT INCLUDES BASIC REQUIREMENTS FOR GROUNDING FOR PROTECTION OF LIFE, EQUIPMENT, CIRCUITS, AND SYSTEMS. GROUNDING REQUIREMENTS SPECIFIED IN THIS SECTION MAY BE SUPPLEMENTED IN OTHER SECTIONS OF THESE SPECIAL PROVISIONS. ELECTRICAL SYSTEM GROUNDING AND STRUCTURE GROUNDING WORK SHALL BE DONE IN ACCORDANCE WITH THE ODOT STANDARD SPECIFICATION SECTION CMS 625.16, 625.19 AND TRAFFIC ENGINEERING MANUAL SECTION 1150.12. ALL GROUND WIRES INSTALLED BENEATH THE SURFACE OF THE EARTH THAT ARE NOT IN CONDUIT SHALL BE SOLID TINNED COPPER.

ALL GROUND WIRES INSTALLED ABOVE THE SURFACE SHALL BE SOLID OR STRANDED COPPER.

AT A MINIMUM, A GROUND ROD SHALL BE INSTALLED AT EACH FOUNDATION INSTALLED FOR ANY PIECE OF EQUIPMENT, AT EACH SERVICE POINT, AND AT EACH ELECTRICAL PULL BOX IF THERE IS NO LOCAL GROUND BUS TO BOND THE METAL PULL BOX LID TO.

PROVIDE CONTINUITY OF GROUNDING BY BONDING THE METALLIC PORTIONS OF FIXTURES, APPARATUS ENCLOSURES, SUPPORTS, CONDUITS, RACEWAYS, JUNCTION BOXES AND PULL BOXES TOGETHER AND CONNECTING TO EARTH GROUND. AT A JUNCTION BOX OR A PULL BOX, INSTALL A GROUNDING BUSHING ON EACH METALLIC CONDUIT NOT BONDED TO THE BOX THROUGH THE CONDUIT CONNECTOR, AND INSTALL A BONDING CABLE BETWEEN THE GROUNDING BUSHINGS ON THE CONDUITS AND THE GROUND LUG OR BOLT IN THE BOX. PER NEC, ALL METAL PULL BOX COVERS AND OTHER EXPOSED CONDUCTIVE SURFACES SHALL BE BONDED TO GROUND TO ENSURE THE ELECTRICAL CONTINUITY AND THE CAPACITY TO CONDUCT SAFELY ANY FAULT CURRENT LIKELY TO BE IMPOSED ON THEM.

FOR EACH BRIDGE, WALL, OR OTHER STRUCTURE HAVING ELECTRICAL ELEMENTS CONTAINED THEREIN OR ATTACHED THERETO, FURNISH ALL MATERIALS NECESSARY INCLUDING GROUNDING ELECTRODES AND INSTALL A COMPLETE STRUCTURE GROUNDING SYSTEM TO BOND ALL EXPOSED METALLIC PORTIONS OF THE STRUCTURE (I.E. BEAMS, RAILINGS, ETC.) ELECTRICALLY TOGETHER AND CONNECT THOSE ITEMS TO GOOD EARTH GROUND. IN THE CASE WHERE STRUCTURES ARE SEPARATE BUT ADJACENT, CONNECT THE MULTIPLE STRUCTURES TOGETHER TO AVOID ANY DIFFERENCE IN EARTH POTENTIAL BETWEEN THE STRUCTURES.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT. NO SEPARATE PAYMENT WILL BE MADE FOR EQUIPMENT GROUNDING AND STRUCTURE GROUNDING SYSTEM UNLESS OTHERWISE SPECIFICALLY STATED HEREIN. BASIS OF PAYMENT FOR GROUNDING WILL BE CONSIDERED INCIDENTAL TO THE INSTALLATION OF ALL ELECTRICAL AND ELECTRONIC EQUIPMENT, CABINETS, PULL BOXES, AND INTEGRAL SYSTEMS.

ITEM 625 - LIGHTING, MISC.: THREE NO. 12 AWG 600V CONTROL CABLE, SHIELDED.

FURNISH AND INSTALL MANUFACTURER RECOMMENDED CONTROL FROM MINI POWER CENTER TO THE PUSH-BUTTON CONTROL AS SHOWN IN THE PLANS AND AS DIRECTED BY THE ENGINEER. THE CONTROL CABLE MUST BE SHIELDED WITH UL LISTED AND IT SHALL MEET THE REQUIREMENTS OF ODOT STANDARD SPECIFICATION SECTION CMS 625.17 AND 725.02.

FOR BIDING PURPOSE THE LIGHTING MISC.: THREE NO. 12 AWG 600V CONTROL CABLE, SHIELDED SHALL BE USED AS SHOWN IN THE PLANS. THE QUANTITY FOR THIS CABLE INCLUDED IN THE ESTIMATE.

ITEM 625 - DISTRIBUTION CABLE, MISC.: NO. 12 AWG 600 VOLT

FURNISH AND INSTALL NO. 12 AWG 600V DISTRIBUTION CABLE FROM JUNCTION BOX TO THE LUMINARIES AND RECEPTACLES AS SHOWN IN THE PLANS AND AS DIRECTED BY THE ENGINEER WITH NO IN-LINE SPLICES BETWEEN TERMINATIONS AT DEVICES UNLESS SPECIFICALLY CALLED FOR BY THE PLAN. THE CABLE SHALL MEET THE REQUIREMENTS OF ODOT STANDARD SPECIFICATION SECTION CMS 625.17 AND 725.02.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER FEET FOR DISTRIBUTION CABLE, MISC.: NO. 12 AWG 600 VOLT.

ITEM 625 - JUNCTION BOXES, AS PER PLAN

THE JUNCTION BOX SHALL HAVE AN EMBOSSMENT IN THE BACK OF THE BOX THAT SHALL BE DRILLED AND TAPPED FOR A ¼" - 20 CAP SCREW FOR CONNECTION OF GROUNDS. WHEN ENCASED IN CONCRETE, THE JUNCTION BOX SHALL HAVE INWARD FLANGED COVERS AND MAY HAVE IN LIEU OF BOSSED DRILLED AND TAPPED CONNECTIONS, SLIP HOLES FIELD DRILLED TO ACCOMMODATE THE CONDUITS ENTERING THE BOX SO LONG AS EACH METALLIC CONDUIT IS EQUIPPED WITH A GROUNDING BUSHING JUMPED TO THE BOX ITSELF.

WHEN SURFACE MOUNTED, THE JUNCTION MAY HAVE IN LIEU OF BOSSED DRILLED AND TAPPED CONNECTIONS, FIELD INSTALLED HUBS TO ACCOMMODATE THE CONDUITS ENTERING THE BOX.

ITEM 625 - PULL BOX, 725.08, 24", AS PER PLAN

FURNISH AND INSTALL A PORTLAND CEMENT CONCRETE PULL BOX OF THE SIZE SPECIFIED IN THE PLAN AND IN ACCORDANCE WITH ODOT STANDARD SPECIFICATION SECTION CMS 625.11 AND 725.08.

REFERENCE IS MADE TO THE STANDARD DRAWINGS 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 APPROXIMATELY 20 FEET (6.1 METERS). AN ANIMAL GUARD SHALL BE INCLUDED AT THE OUTLET END OF THE DRAIN.

UNDERDRAINS REQUIRED FOR THE PULL BOX SHALL BE INCIDENTAL TO THE THIS PAY ITEM.

ITEM 625 - PADLOCKS AND KEYS

THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING PADLOCKS FOR ALL CABINETS AND ENCLOSURES SPECIFIED IN THESE SPECIAL PROVISIONS.

THE PADLOCK SHALL BE CLASSIFIED AS A HIGH SECURITY PADLOCK WITH HARDENED SHACKLE, LAMINATED BODY, 4 PIN CYLINDER (MINIMUM) AND COME COMPLETE WITH A WEATHER COVER TO PROTECT THE LOCK BODY, AND CYLINDER FROM SAND, DIRT, WATER AND ICE. A WAFER CYLINDER SHALL NOT BE USED. 3 SETS OF KEYS SHALL BE PROVIDED TO THE DEPARTMENT WITH EACH PADLOCK SUPPLIED. ALL PADLOCKS SHALL BE KEYED. THE MAIN BODY WIDTH OF THE PADLOCK SHALL NOT EXCEED 3" AND HAVE A SHACKLE LENGTH OF 2.25" TO 3.75" AND A SHACKLE DIAMETER OF 5/16".

THE PADLOCKS WILL BE INCIDENTAL TO THE CABINET THAT IT IS INTENDED TO SECURE.

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DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1330
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
SPR	JRB	SJS	11/15/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MCD		8302278L/8302294R	

GENERAL NOTES 1
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

ITEM 625 - CONDUIT, MISC.: LIQUID TIGHT FLEXIBLE STEEL CONDUIT, 3"

THIS SPECIFICATION COVERS LIQUIDTIGHT FLEXIBLE STEEL CONDUIT DESIGNED FOR USE AS A RACEWAY FOR POWER, CONTROL AND COMMUNICATION CABLES IN ACCORDANCE WITH ARTICLE 350 OF THE NATIONAL ELECTRICAL CODE. THE PRODUCT IS UL LISTED FOR 80 DEGREES CELSIUS IN A DRY LOCATION, 60 DEGREES CELSIUS IN A WET LOCATION, AND 70 DEGREES CELSIUS IN AN OILY LOCATION. IT SHALL ALSO BE UL LISTED IN ALL TRADE SIZES FOR DIRECT BURIAL, OUTDOOR USE AND SUNLIGHT RESISTANCE. THE LFSC SHALL BE MANUFACTURED AND TESTED IN ACCORDANCE WITH UL STANDARD UL 360 AND CSA INTERNATIONAL STANDARD CSA C22.2 NUMBER 56. THE PRODUCT SHALL CARRY THE UL LISTING MARK AND THE CSA CERTIFICATION MARK.

A SEPARATE GROUNDING CONDUCTOR IS REQUIRED FOR ALL TRADE SIZES OF LIQUIDTIGHT FLEXIBLE METAL CONDUIT. THE GROUNDING CONDUCTOR SHALL BE SIZED PER PLAN, AND IS INCIDENTAL TO THIS PAY ITEM.

ALL FITTINGS USED WITH THE LFSC SHALL BE MALLEABLE LIQUIDTIGHT INSULATED FITTINGS LISTED FOR USE WITH THE CORRESPONDING LFSC. THE FITTING SHALL BE MANUFACTURED AND TESTED IN ACCORDANCE WITH UL STANDARD 514B.

THE PAYMENT FOR LIQUIDTIGHT FLEXIBLE STEEL CONDUIT INCLUDES COUPLINGS (PLAIN, EXPANSION, AND ALIGNMENT), BENDS, HUBS, BUSHINGS, CONDULETS AND OTHER SUCH APPURTENANCES BUT NOT JUNCTION BOXES AND PULLS BOXES. THE CONDUIT WILL BE PAID BY THE LINEAR FOOT, FROM CENTER OF JUNCTION BOX TO CENTER OF JUNCTION BOX.

THE CONDUIT WILL BE PAID FOR AS: CONDUIT, MISC.: LIQUID TIGHT FLEXIBLE STEEL CONDUIT, 3".

ITEM 625 - OVERCURRENT PROTECTIVE DEVICES

THIS SECTION INCLUDES OVERCURRENT PROTECTIVE DEVICES (OCPDS) RATED 600 V AND BELOW AND SWITCHING DEVICES COMMONLY USED WITH THEM. FOR THE PURPOSES OF THESE SPECIAL PROVISIONS, AN OCPD IS DEFINED AS A DEVICE OPERATIVE ON EXCESSIVE CURRENT THAT CAUSES AND MAINTAINS THE INTERRUPTION OF POWER IN THE CIRCUIT IT PROTECTS.

ELECTRICAL COMPONENT STANDARD: COMPONENTS AND INSTALLATION SHALL COMPLY WITH NFPA 70, NATIONAL ELECTRICAL CODE.

LISTING AND LABELING: PROVIDE PRODUCTS SPECIFIED IN THIS SECTION THAT ARE LISTED AND LABELED. THE TERMS "LISTED" AND "LABELED" SHALL BE DEFINED AS THEY ARE IN THE NATIONAL ELECTRICAL CODE, ARTICLE 100.

SINGLE SOURCE RESPONSIBILITY: OBTAIN SIMILAR OCPDS FROM A SINGLE MANUFACTURER.

MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY THE ONE OF THE FOLLOWING OR APPROVED EQUAL:
MOLDED CASE CIRCUIT BREAKERS:
- CROUSE HINDS DISTRIBUTION EQUIPMENT.
- CUTLER HAMMER INC./WESTINGHOUSE ELECTRIC, EATON CORP.
- GENERAL ELECTRIC CO.
- SIEMENS ENERGY & AUTOMATION, INC.
- SQUARE D CO.

FUSES: FERRAZ SHAWMUT
GENERAL ELECTRIC
BUSSMAN

MOLDED CASE CIRCUIT BREAKERS: UL 489, "MOLDED CASE CIRCUIT BREAKERS AND CIRCUIT BREAKER ENCLOSURES," AND NEMA AB 1, "MOLDED CASE CIRCUIT BREAKERS", DIN-RAIL BOLT IN TYPE. INDICATED FRAME SIZE, TRIP RATING, NUMBER OF POLES, AND A SHORT CIRCUIT INTERRUPTING CAPACITY RATING OF 10,000 AMPERES SYMMETRICAL, UNLESS A GREATER RATING IS INDICATED.
TRIPPING DEVICE: QUICK MAKE, QUICK BREAK TOGGLE MECHANISM WITH INVERSE TIME DELAY OVERCURRENT TRIP PROTECTION FOR EACH POLE. PROVIDE INDIVIDUAL MOUNTING WHERE INDICATED.

FUSES: UL 248-4, CLASS CC, CARTRIDGE FUSE TYPE, FAST-ACTING, 200KAIC, PROVIDE INDIVIDUAL MOUNTING IN CLASS CC FUSE BLOCK WHERE INDICATED.

VISUAL AND MECHANICAL INSPECTION: INCLUDE THE FOLLOWING INSPECTIONS AND RELATED WORK.

OVERCURRENT PROTECTIVE DEVICE RATINGS AND SETTINGS: VERIFY INDICATED RATINGS AND SETTINGS TO BE APPROPRIATE FOR FINAL SYSTEM ARRANGEMENT AND PARAMETERS. WHERE DISCREPANCIES ARE FOUND, RECOMMEND FINAL PROTECTIVE DEVICE RATINGS AND SETTINGS. USE ACCEPTED REVISED RATINGS OR SETTINGS TO MAKE THE FINAL SYSTEM ADJUSTMENTS.
INSPECT FOR DEFECTS AND PHYSICAL DAMAGE, NRTL LABELING, AND NAMEPLATE COMPLIANCE WITH CURRENT SINGLE LINE DIAGRAM.

EXERCISE AND PERFORM OPERATIONAL TESTS OF ALL MECHANICAL COMPONENTS AND OTHER OPERABLE DEVICES IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTION MANUAL.

CHECK TIGHTNESS OF ELECTRICAL CONNECTIONS OF OCPDS WITH CALIBRATED TORQUE WRENCH. REFER TO MANUFACTURER'S INSTRUCTIONS FOR PROPER TORQUE VALUES.

CLEAN OCPDS USING MANUFACTURER'S APPROVED METHODS AND MATERIALS. UPON COMPLETION OF INSTALLATION, INSPECT OCPDS.

ALL WORK UNDER THIS SECTION SHALL BE PAID FOR AS PART OF THE LIGHTING MISC.: MINI POWER CENTER WITH LIGHTING CONTACTORS AS DESCRIBED IN THESE SPECIAL PROVISIONS.

ITEM 625 - LIGHTING MISC.: MINI POWER CENTER WITH LIGHTING CONTACTOR

THIS SPECIFICATION COVERS THE FURNISHING AND INSTALLATION OF THE ELECTRICAL DISTRIBUTION MINI POWER CENTER, LIGHTING CONTACTOR, AND ALL NECESSARY CONTROL WIRES, PUSH-BUTTONS, TIMER, AND MISCELLANEOUS EQUIPMENT NECESSARY TO INSTALL A FUNCTIONAL LIGHTING SYSTEM AS SHOWN ON THE PLANS AND DESCRIBED HEREIN.

THE LIGHTING SYSTEM IS BROKEN DOWN INTO FOUR DIFFERENT CONTROL ZONES, AS SHOWN ON THE PLANS. EACH OF THE CONTROL ZONES IS CONTROLLED BY A SINGLE LIGHTING CONTACTOR, WHICH CAN BE SWITCHED ON AND OFF AT TWO LOCATIONS, AT EITHER END OF THE CONTROL ZONE. THE SWITCHES THAT CONTROL THE CONTACTOR SHALL BE LOCATED NEAR THE ENTRANCE TO THE TUNNEL, OR, WHEN LOCATED IN THE MIDDLE OF THE TUNNEL, NEXT TO THE SWITCH FOR THE NEXT CONTROL ZONE SO THAT ONE SWITCH CAN BE TURNED OFF WHILE SIMULTANEOUSLY TURNING THE NEXT ONE ON.

MINI POWER CENTER - THE ENCLOSURE SHALL BE MOUNTED ON ALLOY 316 STAINLESS STEEL SUPPORTING CHANNELS ATTACHED TO THE BOX GIRDER WALL, SUITABLE FOR DYNAMIC LOADING. THE ENCLOSURE SHALL BE RATED NEMA 3R WITH COPPER BUS AND SIZED APPROPRIATELY FOR THE CONDUCTORS AS SHOWN ON THE PLANS. THE POWER CENTER SHALL BE SERVICE ENTRANCE RATED. THE PANEL SHALL BE ABLE TO BE LOCKED WITH A PADLOCK.

THE POWER CENTER SHALL HAVE A MINIMUM OF A 40 AMP SECONDARY MAIN BREAKER. THE PRIMARY AND SECONDARY MAIN CIRCUIT BREAKERS SHALL BE SIZED AND PROVIDED BY THE MANUFACTURER OF THE MINI POWER CENTER TO ENSURE COMPATIBILITY WITH THE TRANSFORMER. THE BRANCH CIRCUIT PANEL SHALL ACCOMMODATE A MINIMUM OF 8 SINGLE-POLE OR 4 TWO-POLE POSITIONS WITH 600V BOLT-ON TYPE BRANCH CIRCUIT BREAKERS DESCRIBED IN THE OVERCURRENT PROTECTIVE DEVICES SECTION OF THE SPECIFICATIONS. THE CIRCUIT BREAKER SECTION SHALL BE AN INTEGRAL PART OF THE MINI POWER CENTER. THE MINI POWER CENTER MUST BE UL LISTED FOR BOTH INDOOR AND OUTDOOR USE.

THE TRANSFORMER SHALL BE A 7.5 KVA SINGLE PHASE, 480V PRIMARY 240/120V SECONDARY, 2-5% TAPS, AND SHALL BE INTEGRAL WITH THE POWER CENTER. ALL INSULATING MATERIALS ARE TO BE IN ACCORDANCE WITH CURRENT ANSI C89.2 AND NEMA ST20 STANDARDS FOR A 185 DEGREE CELSIUS UL COMPONENT RECOGNIZED INSULATION SYSTEM. TRANSFORMERS ARE TO BE ENCAPSULATED USING A SAND-EPOXY RESIN MIXTURE.

THE MINI POWER CENTER SHALL INCLUDE INTEGRALLY MOUNTED AND WIRED PRIMARY AND SECONDARY MAIN CIRCUIT BREAKERS IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE.

CONTACTORS- FOUR LIGHTING CONTACTORS SHALL BE PROVIDED FOR THIS PROJECT. EACH LIGHTING CONTACTOR SHALL CONTROL A CONTROL AREA AS SHOWN ON THE PLANS. EACH LIGHTING CONTACTOR SHALL BE MECHANICALLY HELD, 2-POLE, NORMALLY OPEN, AND RATED FOR 30 CONTINUOUS AMPS AT 240V FOR A BALLAST TYPE LIGHTING LOAD. THE COIL AND COIL CONTROL CIRCUIT SHALL OPERATE AT 120V. THE 3 WIRE CONTROL SHALL PROVIDE A MOMENTARY PULSE OF ENERGY THAT OPERATES THE CONTACTOR; A SECOND PULSE ON AN ALTERNATE LEG CAN RETURN CONTACTOR TO ITS ORIGINAL STATE. A MANUFACTURER RECOMMENDED FUSE KIT SHALL BE SUPPLIED FOR EACH CONTROL CIRCUIT.

CONTACTOR CONTROL - EACH CONTROL MODULE SHALL BE OPERATED BY TWO SETS OF PUSH-BUTTONS (ON AND OFF) AND AUTO RESET TIMER DEVICES. THE PUSH-BUTTONS SHALL BE LOCATED AS SHOWN ON THE PLANS. PUSH-BUTTONS SHALL BE MOUNTED IN A RIGID METALLIC OUTLET BOX WITH A WEATHERPROOF COVER. THE SWITCH SHALL BE RATED 20 AMPERE, 125 VAC. CONTRACTOR CAN USE OTHER CONTROL MODULE WITH ENGINEER'S APPROVAL. CONTRACTOR SHALL SUBMIT CONTROL MODULE'S SHOP DRAWINGS FOR APPROVAL.

ALL OF THE WIRE NECESSARY TO POWER THE COILS OR ANY CONTROL IS INCIDENTAL TO THIS PAY ITEM. THE WIRE SHALL BE PROVIDED PER MANUFACTURER RECOMMENDATIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT THE SIZING OF THE CONTACTOR CONTROL WIRE IS APPROPRIATE FOR THE DISTANCES OF THE CIRCUITS AND THE SIZE OF THE CONTACTORS.

PAYMENT WILL BE FOR ALL MATERIAL ABOVE AND ALL MATERIAL THAT IS NECESSARY TO INSTALL THE ABOVE ITEMS SUCH AS CONNECTORS, COUPLINGS, JUNCTION BOXES, HANGERS, ANCHORS, ¾ CONDUIT, SPLICE KITS, OR ANY PIECE OF MATERIAL THAT IS NECESSARY TO INSTALL FUNCTIONING POWER AND CONTROL SYSTEM FOR THE LIGHTING SYSTEM AS SHOWN ON THE PLANS AND DESCRIBED HEREIN.

THE POWER AND CONTROL AS DESCRIBED ABOVE WILL BE PAID FOR AS EACH FOR LIGHTING MISC.: MINI POWER CENTER WITH LIGHTING CONTACTORS.

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DESIGN AGENCY HNTB 1100 Superior Avenue, Suite 1300 Cleveland, OH 44114-2531
DESIGNED SPR | DRAWN JRB | CHECKED MCD | REVIEWED SJS | DATE 11/15/07
REVISED | STRUCTURE FILE NUMBER 8302278L/8302294R

GENERAL NOTES 2
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20 PID No. 22950

ITEM 625 - POWER SERVICE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF THE SPECIFICATIONS, THE FOLLOWING IS ADDED.
THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS:

POWER COMPANY : DUKE ENERGY
ADDRESS: 7600 E KEMPER RD., BUILDING 1
CINCINNATI, OH 45249
PHONE NUMBER: (513) 287-1104 - OFFICE, (513) 582-9942 - CELL
CONTACT NAME: ROBERT LOHMANN

THE ELECTRICAL POWER SERVICE SHALL BE ACCORDING TO THE STATE STANDARDS SPECIFICATION 625.15, 725.19 AND THE STATE STANDARD CONSTRUCTION DRAWING HL-40.10 AND HL-40.20 WITH THE EXCEPTIONS AS NOTED:

THE ELECTRICAL SERVICE PROVIDED UNDER THIS ITEM SHALL BE METERED. ALL METER SOCKETS SHALL BE A MANUAL BYPASS METER SOCKET TYPE OR AS REQUIRED BY THE UTILITY. THE ELECTRICAL SERVICE SHALL BE PROVIDED BY THE UTILITY COMPANY AS INDICATED ON THE PLANS, AND SHALL BE CLOSELY COORDINATED WITH THE UTILITY'S REQUIREMENTS.

CONTRACTOR SHALL PROVIDE UL LISTED STEP-UP TRANSFORMER, 37.5KVA, 1-PHASE, 120/240V PRIMARY, 480V SECONDARY IN NEMA 3R ENCLOSURE AND 125 AMPERE RATED, TWO-POLE UL LISTED PRIMARY DISCONNECT SWITCH IN NEMA 3R ENCLOSURE AS SHOWN IN THE PLANS AND AS DIRECTED BY THE ENGINEER. THE MATERIAL AND INSTALLATION COST OF THE STEP-UP TRANSFORMER AND THE PRIMARY DISCONNECT SWITCH SHALL BE INCIDENTAL TO THIS PAY ITEM. NO SEPARATE PAYMENT WILL BE MADE TO MAKE THE SERVICE INSTALLATION FULLY OPERATIONAL.

THE SECONDARY CIRCUIT BREAKER DISCONNECT SWITCHES ARE TO BE UL LISTED FOR USE WITH A SERVICE ENTRANCE. THIS SERVICE ENTRANCE SHALL CONSIST OF TWO TWO-POLE 50AMP BREAKERS, ONE BREAKER FOR THE NORTHBOUND BRIDGE AND ONE BREAKER FOR THE SOUTHBOUND BRIDGE. THE BREAKERS ARE TO BE ENCLOSED IN A NEMA 3R ENCLOSURE. THE BREAKERS SHALL BE SIZED TO TERMINATE THE CABLE SIZES AS SHOWN ON THE PLANS. PROVIDE TWO PADLOCKS FOR THE ENCLOSURE. PADLOCKS ARE TO BE IN ACCORDANCE WITH THE PADLOCK SPECIAL PROVISIONS AND ARE INCIDENTAL TO THIS PAY ITEM. THE BREAKERS ARE AS RATED ON THE PLANS AND ARE CONSIDERED INCIDENTAL TO THE POWER SERVICE, AS PER PLAN.

THIS PAY ITEM DOES NOT REQUIRE THE FURNISHING OR INSTALLATION OF A LIGHTING CONTACTOR, PHOTOELECTRIC CELL, HAND-OFF-AUTOMATIC SWITCH FOR CONTROL OF CONTACTOR, OR OVER CURRENT PROTECTION DEVICES FOR LIGHTING CIRCUITS.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE UTILITY TO ENSURE THAT ALL UTILITY RELATED WORK IS DONE TO UTILITY SPECIFICATIONS, AND TO THE SATISFACTION OF THE UTILITY. THE UTILITY WORK IS SHOWN ON THE PLANS FOR ESTIMATION PURPOSES ONLY. BEFORE ANY SERVICE RELATED WORK BEGINS, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ALL WORK WITH THE UTILITY, AND BUILD ANY SERVICE RELATED WORK OFF OF UTILITY ISSUED DESIGN SHEETS. THIS PAY ITEM SHALL INCLUDE ALL NECESSARY COORDINATION BETWEEN CONTRACTOR, ODOT, ENGINEER, AND UTILITY.

DUKE ENERGY WILL INSTALL THE WOOD POLES, AERIAL CABLE, AND TRANSFORMER NEEDED FOR THE SERVICE DROP. DUKE ENERGY'S COST FOR INSTALLING THE ELECTRIC SERVICE SUCCESSFULLY WILL BE REIMBURSED TO THE CONTRACTOR THROUGH A CHANGE ORDER.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CLEAR AND OR TRIM ANY TREES OR BRUSH FOR THE INSTALLATION OF THE POWER SERVICE. THE CLEARING AND GRUBBING WILL BE DONE UNDER THE DIRECTION OF THE ENGINEER. CLEANING AND GRUBBING OF TREES AND BRUSH WILL BE PAID UNDER PAY ITEM 201.

TERMINATIONS, CONNECTIONS, FITTINGS, DISCONNECT SWITCHES, STEP-UP TRANSFORMER, CIRCUIT BREAKERS, GROUND RODS, JUNCTION BOXES, WEATHER HEADS, METER SOCKETS, CABLES, CONDUITS DOWN TO FIRST PULL BOX, EQUIPMENT STAND NECESSARY TO MOUNT THE EQUIPMENT SHOWN IN THE PLAN, GALVANIZED STEEL PIPES, ALUMINUM CHANNELS, BRACES, AND MOUNTING SURFACES, AND OTHER MISCELLANEOUS ITEMS ETC. SHALL BE INCIDENTAL TO THIS PAY ITEM AND NO SEPARATE PAYMENT WILL BE MADE.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH CMS ITEM 625, POWER SERVICE, AS PER PLAN, WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

ITEM 625 - CONDUIT EXPANSION AND DEFLECTION

EXPANSION FITTINGS SHALL BE OZ TYPE AX, CROUSE HINDS TYPE XJG, APPLETON TYPE AX, OR EQUAL APPROVED BY THE ENGINEER. EACH EXPANSION FITTING SHALL PROVIDE EITHER 4 OR 8 INCHES (100 OR 200 MILLIMETERS) TOTAL MOVEMENT AS SPECIFIED BY THE PLAN DETAILS AND SHALL HAVE AN EXTERNAL COPPER BONDING JUMPER, UNLESS SPECIFIED OTHERWISE BY THE PLAN DETAILS.

DEFLECTION COUPLINGS SHALL BE OZ TYPE DX, CROUSE HINDS TYPE XD, APPLETON TYPE DF, OR EQUAL APPROVED BY THE ENGINEER. EACH DEFLECTION COUPLING SHALL HAVE AN EXTERNAL COPPER BONDING JUMPER, UNLESS SPECIFIED OTHERWISE BY THE PLAN DETAILS.

ITEM 625 - LIGHTING MISC.: 120V ELECTRICAL OUTLET

RECEPTACLES SHALL BE DUPLEX TYPE, 20 AMPERE, 125 VAC, 2 POLE, 3 WIRE TYPE AND COLOR IVORY/WHITE. RECEPTACLES SHALL BE NEMA CLASS 5-20R OF SPECIFICATION GRADE, GROUNDING TYPE WITH SIDE AND BACK TERMINAL SCREW CONNECTIONS.

RECEPTACLES SHALL BE MOUNTED IN A RIGID METALLIC OUTLET BOX WITH A WEATHERPROOF COVER.

PAYMENT WILL BE FOR ALL MATERIAL ABOVE AND ALL MATERIAL THAT IS NECESSARY TO INSTALL THE ABOVE ITEMS SUCH AS CONNECTORS, COUPLINGS, WEATHER PROOF OUTLET BOXES, SPLICE KITS, HANGERS, ANCHORS, OR ANY PIECE OF MATERIAL THAT IS NECESSARY TO INSTALL AN OPERATIONAL ELECTRICAL OUTLET AS SHOWN ON THE PLANS AND DESCRIBED HEREIN.

THE ELECTRICAL OUTLETS AS DESCRIBED ABOVE SHALL BE PAID FOR AS EACH FOR LIGHTING MISC.: 120V ELECTRICAL OUTLET.

LEGEND

- 120V ELECTRICAL OUTLET
- 150W WALL MOUNTED LUMINAIRE
- (C) LIGHTING CONTACTOR
- ELECTRICAL WIRE PER PLAN
- PULLBOX, T25.08, 24" (PORTLAND CEMENT)
- CONDUIT, PER PLAN
- POWER SERVICE, PER PLAN
- EXISTING UTILITY
- PROPOSED UTILITY POLE WITH UTILITY OWNED TRANSFORMER
- —A— AERIAL PRIMARY CABLE BY UTILITY
- (T) 12 HOURS AUTO RESET TIMER

ABREVIATIONS

GND	GROUND
RGC	RIGID GALVANIZED CONDUIT
I/C	ONE CONDUCTOR
CKT	CIRCUIT
LFSC	LIQUIDTIGHT FLEXIBLE STEEL CONDUIT
MIN.	MINIMUM
MAX.	MAXIMUM
MFR	MANUFACTURER
M.H.	MOUNTING HEIGHT
TYP.	TYPICAL
STA.	STATION
℄	CENTERLINE
U.N.O.	UNLESS NOTED OTHERWISE

DESIGN AGENCY HNTB 1100 Superior Avenue, Suite 1300 Cleveland, OH 44114-2531
DESIGNED SPR | DRAWN JRB | CHECKED MCD | REVIEWED SJS | DATE 11/15/07
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GENERAL NOTES 3
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20 PID No. 22950

200B/204
466B/470

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WAR-71-1514R - LIGHTING QUANTITIES

QUANTITY	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
FROM SHEET NO.466D						
4648	625	23000	4648	FT	NO. 4 AWG 600 VOLT DISTRIBUTION CABLE	468A
5556	625	23100	5556	FT	NO. 2 AWG 600 VOLT DISTRIBUTION CABLE	468 & 468A
3894	625	23304	3894	FT	NO. 8 AWG 600 VOLT DISTRIBUTION CABLE	468A
916	625	23308	916	FT	DISTRIBUTION CABLE, MISC: NO. 12 AWG 600 VOLT	468A
424	625	25100	424	FT	CONDUIT, 1", 725.04	468B & 468D
3862	625	25400	3862	FT	CONDUIT, 2", 725.04	468A & 468B
53	625	25500	53	FT	CONDUIT, 3", 725.04	468B & 468D
6	625	25920	6	FT	CONDUIT, MISC.: LIQUID TIGHT FLEXIBLE STEEL CONDUIT, 3"	468B & 468D
46	625	27600	46	EACH	LUMINAIRE MISC.: 150W WALL MOUNTED LUMINAIRE	468A & 468B
50	625	29901	50	EACH	JUNCTION BOX, AS PER PLAN 16"	468B & 468D
2	625	29901	2	EACH	JUNCTION BOX, AS PER PLAN 18"	468B & 468D
2	625	98000	2	EACH	LIGHTING MISC.: MINI POWER CENTER WITH LIGHTING CONTACTORS	468A
11	625	98000	11	EACH	LIGHTING MISC.: 120V ELECTRICAL OUTLET	468A & 468B
2276	625	98100	2276	FT	LIGHTING, MISC.: THREE NO. 12 AWG 600 VOLT CONTROL CABLE, SHIELDED	468A

WAR-71-1514L - LIGHTING QUANTITIES

QUANTITY	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
FROM SHEET NO.466D						
4648	625	23000	4648	FT	NO. 4 AWG 600 VOLT DISTRIBUTION CABLE	468A
7735	625	23100	7735	FT	NO. 2 AWG 600 VOLT DISTRIBUTION CABLE	468 & 468A
3894	625	23304	3894	FT	NO. 8 AWG 600 VOLT DISTRIBUTION CABLE	468A
916	625	23308	916	FT	DISTRIBUTION CABLE, MISC: NO. 12 AWG 600 VOLT	468A
424	625	25100	424	FT	CONDUIT, 1", 725.04	468B & 468D
3862	625	25400	3862	FT	CONDUIT, 2", 725.04	468A & 468B
30	625	25500	30	FT	CONDUIT, 3", 725.04	468B & 468D
385	625	25502	385	FT	CONDUIT, 3", 725.05	468 & 468A
6	625	25920	6	FT	CONDUIT, MISC.: LIQUID TIGHT FLEXIBLE STEEL CONDUIT, 3"	468B & 468D
46	625	27600	46	EACH	LUMINAIRE MISC.: 150W WALL MOUNTED LUMINAIRE	468A & 468B
385	625	29002	385	FT	TRENCH, 24" DEEP	468
50	625	29901	50	EACH	JUNCTION BOX, AS PER PLAN 16"	468B & 468D
3	625	29901	3	EACH	JUNCTION BOX, AS PER PLAN 18"	468B & 468D
2	625	30707	2	EACH	PULL BOX, 725.08, 24", AS PER PLAN	468
1	625	34001	1	EACH	POWER SERVICE, AS PER PLAN	468 & 468C
2	625	98000	2	EACH	LIGHTING MISC.: MINI POWER CENTER WITH LIGHTING CONTACTORS	468A
11	625	98000	11	EACH	LIGHTING MISC.: 120V ELECTRICAL OUTLET	468A & 468B
2276	625	98100	2276	FT	LIGHTING, MISC.: THREE NO. 12 AWG 600 VOLT CONTROL CABLE, SHIELDED	468A

DESIGN AGENCY
HNTB 1100 Superior Avenue Suite 1300 Cleveland, OH 44114-2531

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GENERAL SUMMARY - LIGHTING
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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SUBSUMMARY OF QUANTITIES

SHEET NO.	SIDE	ROADWAY	STATION TO STATION	625 NO. 4 AWG 600 VOLT DISTRIBUTION CABLE FT	625 NO. 2 AWG 600 VOLT DISTRIBUTION CABLE FT	625 NO. 8 AWG 600 VOLT DISTRIBUTION CABLE FT	625 DISTRIBUTION CABLE, MISC: NO. 12 AWG 600 VOLT FT	625 CONDUIT, 1", 725.04 FT	625 CONDUIT, 2", 725.04 FT	625 CONDUIT, 3", 725.04 FT	625 CONDUIT, 3", 725.05 FT	625 CONDUIT, MISC.: LIQUID TIGHT FLEXIBLE STEEL CONDUIT, 3" FT	625 LUMINAIRE MISC.: 150W WALL MOUNTED LUMINAIRE EACH	625 TRENCH, 24" DEEP FT	625 JUNCTION BOX, 16", AS PER PLAN EACH	625 JUNCTION BOX, 18", AS PER PLAN EACH	625 PULL BOX, 725.08, 24", AS PER PLAN EACH	625 POWER SERVICE, AS PER PLAN EACH	625 LIGHTING MISC.: MINI POWER CENTER WITH LIGHTING CONTACTORS EACH	625 LIGHTING MISC.: 120V ELECTRICAL OUTLET EACH	625 LIGHTING, MISC.: THREE NO. 12 AWG 600 VOLT CONTROL CABLE, SHIELDED FT
467	SB	I-71	STA. 929+35.82 TO STA. 942+54.51																		
468	SB	I-71	STA. 942+54.5 TO STA. 948+75.0		2350						385			385			2	1			
468A	SB	I-71	STA. 948+75 TO STA. 971+10	4648	5385	3894	916	424	3862	30		6	46		50	3			2	11	2276
			SOUTHBOUND SUBTOTAL	4648	7735	3894	916	424	3862	30	385	6	46	385	50	3	2	1	2	11	2276
468A	NB	I-71	STA. 948+75 TO STA. 971+10	4648	5556	3894	916	424	3862	53		6	46		50	2			2	11	2276
			NORTHBOUND SUBTOTAL	4648	5556	3894	916	424	3862	53		6	46		50	2			2	11	2276
			TOTAL	9296	13291	7788	1832	848	7724	83	385	12	92	385	100	5	2	1	4	22	4552

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DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1300
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
SPR	JRB	SJS	11/15/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MCD		8302278L/8302294R	

ELECTRICAL SUBSUMMARY OF QUANTITIES
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

GENERAL ELECTRICAL NOTES

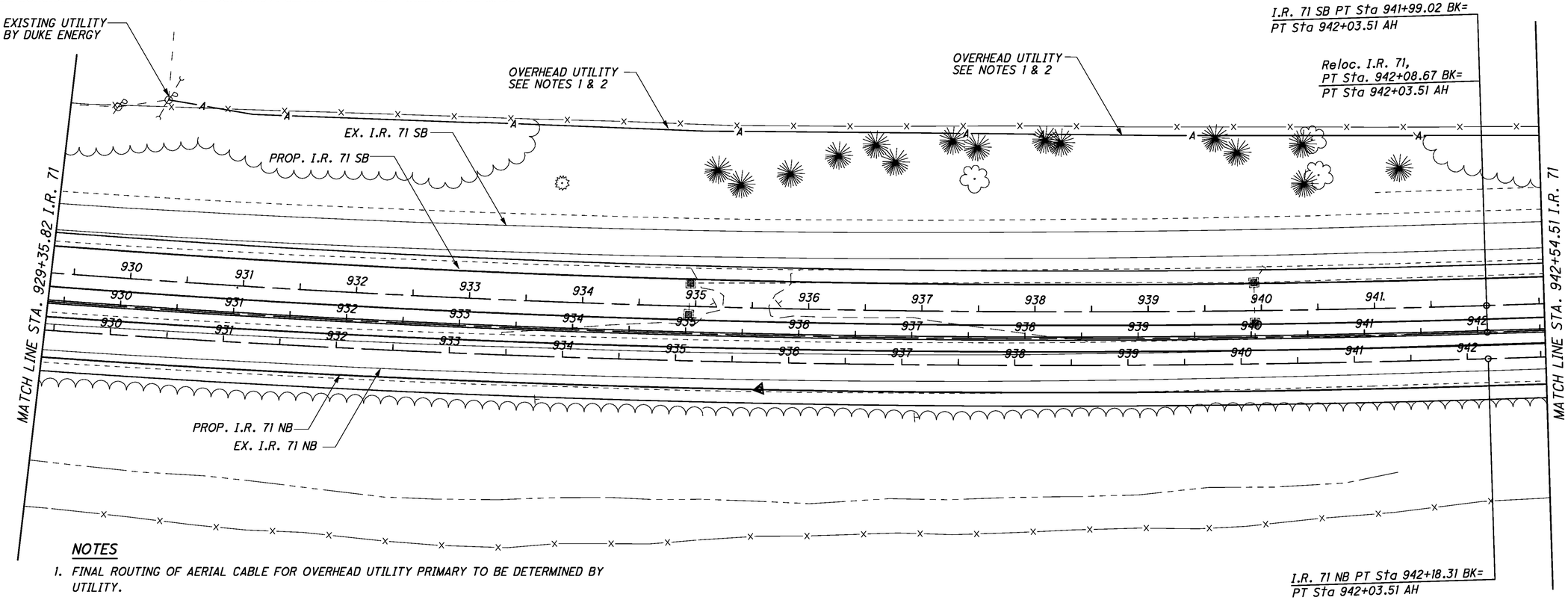
1. ALL CONDUIT IN A BOX GIRDER SHALL BE GALVANIZED RIGID METALLIC CONDUIT. MAINTAIN SEPARATION OF 480V AND 120V CONDUCTORS/CONDUITS THROUGHOUT.
2. A MINIMUM OF 5 FEET SLACK CABLE SHALL BE COILED IN EACH ELECTRICAL PULL BOX. 10 FEET OF CABLE AT ALL TERMINATIONS AND 5 FEET OF CABLE FOR EACH PULL BOX HAS BEEN ACCOUNTED FOR IN THE UNIT DUCT QUANTITIES. NO EXTRA QUANTITY SHALL BE PROVIDED FOR UNDER THE UNIT DUCT PAY ITEM. EXTRA CABLE NEEDED WILL BE CONSIDERED INCIDENTAL TO THE NECESSARY EQUIPMENT PAY ITEMS.
3. ALL NEW CABLE DUCT, CONDUIT, JUNCTION BOXES AND APPURTENANCES ARE ILLUSTRATED DIAGRAMMATICALLY. THE ACTUAL LOCATION IN THE FIELD SHALL MEET WITH THE APPROVAL OF THE ENGINEER.
4. CONDUIT AND CABLE DUCT SHALL BE POSITIONED IN THE FIELD TO AVOID CONFLICT WITH UNDERDRAINS.
5. IT IS THE CONTRACTORS RESPONSIBILITY TO ASCERTAIN EXISTING FIELD CONDITIONS BEFORE BIDDING ON THIS PROJECT, SPECIFICALLY AS THEY RELATE TO LUMP SUM ITEMS.
6. ELECTRICAL MATERIALS SHALL BE NEW AND OF THE TYPES AND KINDS APPROVED BY THE FOLLOWING ORGANIZATIONS:
   - NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
   - INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS
   - ILLUMINATING ENGINEERING SOCIETY
   - AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
   - U.S DEPARTMENT OF TRANSPORTATION
   - UNDERWRITERS LABORATORIES
   - AMERICAN NATIONAL STANDARDS INSTITUTE
   - INSULATED CABLE ENGINEERS ASSOCIATION
7. ALL DISTURBED AREAS WHERE RESTORATION IS NOT COVERED BY APPLICABLE SECTIONS OF THE SPECIAL PROVISIONS SHALL BE RESTORED WITH TOPSOIL AND GRASS SEEDING. DAMAGED SHOULDER AREAS SHALL BE RESTORED TO THE SATISFACTION OF THE ENGINEER. THE WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT. SEPARATE PAYMENT WILL NOT BE MADE.

GENERAL ELECTRICAL NOTES (CONTINUED)

8. INSTALL A UL LABELED EXPANSION FITTING FOR SPECIFIED RGS CONDUIT AT EXPANSION JOINTS. INCIDENTAL TO COST OF CONDUIT.
9. USE ONLY ALLOY 316 STAINLESS STEEL SUPPORTING HARDWARE. PROVIDE MINIMUM 3/16 DIA. FASTENERS. FOR CONCRETE OR SLIP FORM MOUNTING, PROVIDE ANCHOR BOLTS (EXPANSION, DROP-IN, OR ADHESIVE) SUITABLE FOR DYNAMIC LOADING (DUE TO VIBRATION CAUSED BY TRAFFIC). INSTALL FASTENERS TO AVOID CONFLICTS WITH REINFORCING STEEL AND PT DUCTS. FOR STRUCTURAL STEEL MOUNTING, DO NOT ATTACH FASTENERS TO MAIN MEMBERS, I.E. WEBS AND FLANGES.
10. PROVIDE ENOUGH SLACK IN ALL INTERIOR CABLE TERMINATIONS TO ALLOW FOR MINOR SHIFTING OF THE STRUCTURE.
11. FURNISH AND INSTALL 120V DUPLEX RECEPTACLES, IN METALLIC OUTLET BOXES AT 200 FT. MAXIMUM ON CENTERS. PROVIDE EACH RECEPTACLE WITH A GASKETED WEATHER-PROTECTIVE OUTDOOR PLATE. MAXIMUM WIRE SIZE TO CONNECT TO RECEPTACLES IS #12AWG.
12. LOCATE PUSH-BUTTONS (ON AND OFF)/CONTACTOR AS SHOWN ON PLAN. PUSH-BUTTONS SHALL BE LOCATED NEAR ENTRANCES.
13. PROVIDE TWELVE HOUR RESET TIMERS FOR EACH CIRCUIT TO TURN OFF THE LIGHTING SYSTEM AUTOMATICALLY.

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NOTES

1. FINAL ROUTING OF AERIAL CABLE FOR OVERHEAD UTILITY PRIMARY TO BE DETERMINED BY UTILITY.
2. ALL UTILITY RELATED WORK SHALL BE COORDINATED WITH THE UTILITY AND SHALL BE ACCORDING TO PROJECT SPECIAL PROVISIONS. DUKE ENERGY IS INSTALLING WOOD POLES, PRIMARY AERIAL FEED, AND TRANSFORMER. CONTRACTOR IS RESPONSIBLE FOR ALL TREE TRIMMING AND BRUSH CLEARING PER UTILITY'S REQUIREMENTS. THIS WORK SHALL BE DONE AFTER OBTAINING THE ENGINEER'S CONCURRENCE.

DESIGN AGENCY
HNTB
1100 Superior Avenue, Suite 1300
Cleveland, OH 44114-2531

DESIGNED	DRAWN	REVIEWED	DATE
SPR	JRB	SJS	11/15/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MCD		8302278L/8302294R	

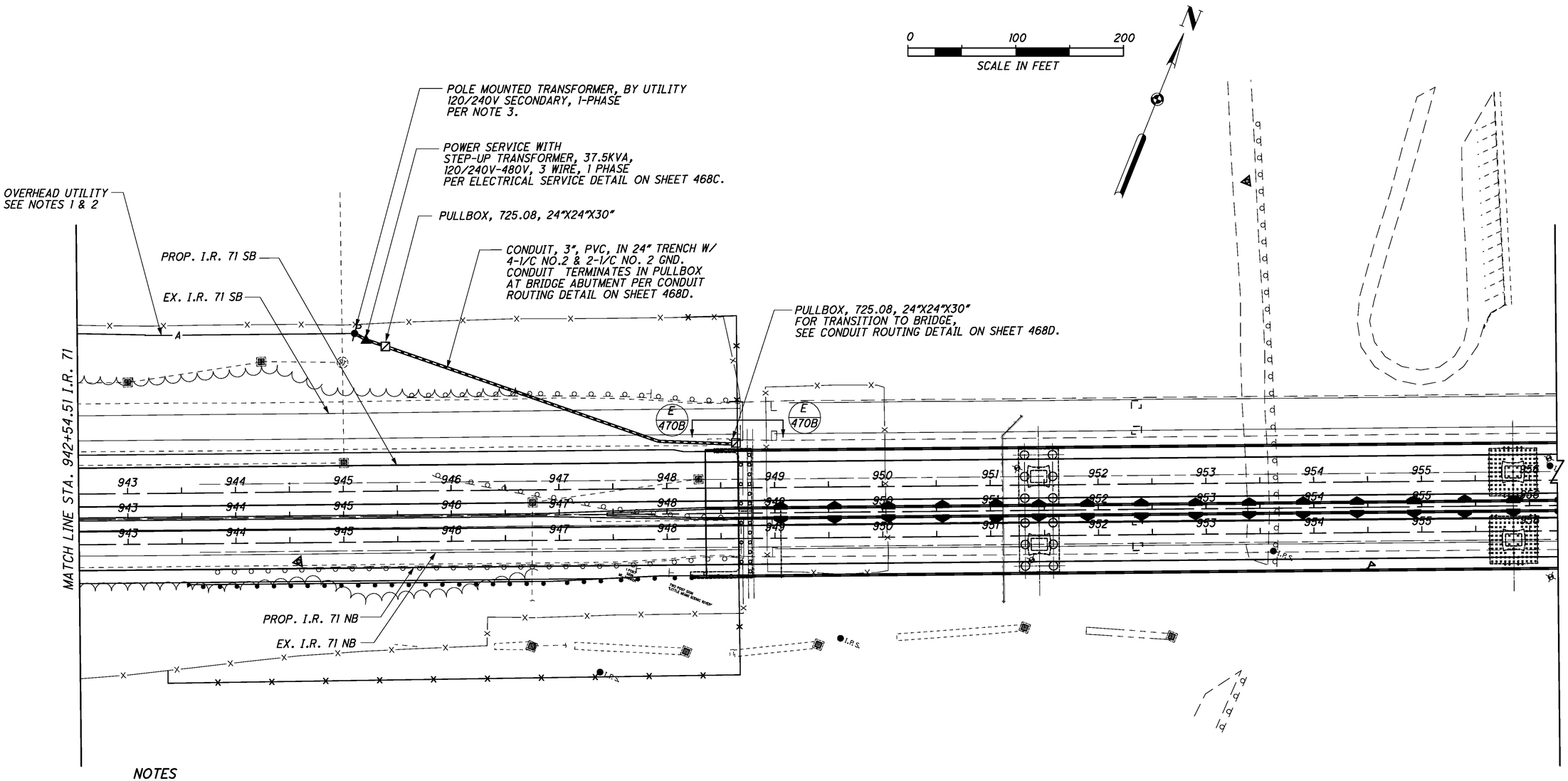
LIGHTING PLAN 1
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

202/204

467/470

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NOTES

1. FINAL ROUTING OF AERIAL CABLE FOR OVERHEAD UTILITY PRIMARY TO BE DETERMINED BY UTILITY.
2. ALL UTILITY RELATED WORK SHALL BE COORDINATED WITH THE UTILITY AND SHALL BE ACCORDING TO PROJECT SPECIAL PROVISIONS. DUKE ENERGY IS INSTALLING WOOD POLES, PRIMARY AERIAL FEED, AND TRANSFORMER. CONTRACTOR IS RESPONSIBLE FOR ALL TREE TRIMMING AND BRUSH CLEARING PER UTILITY'S REQUIREMENTS. THIS WORK SHALL BE DONE AFTER OBTAINING THE ENGINEER'S CONCURRENCE.
3. FINAL LOCATION OF TRANSFORMER BY UTILITY.
4. SEE SINGLE LINE DIAGRAM FOR REMAINDER OF LIGHTING EQUIPMENT.

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SPR	JRB	SJS	11/15/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MCD		8302278L/8302294R	

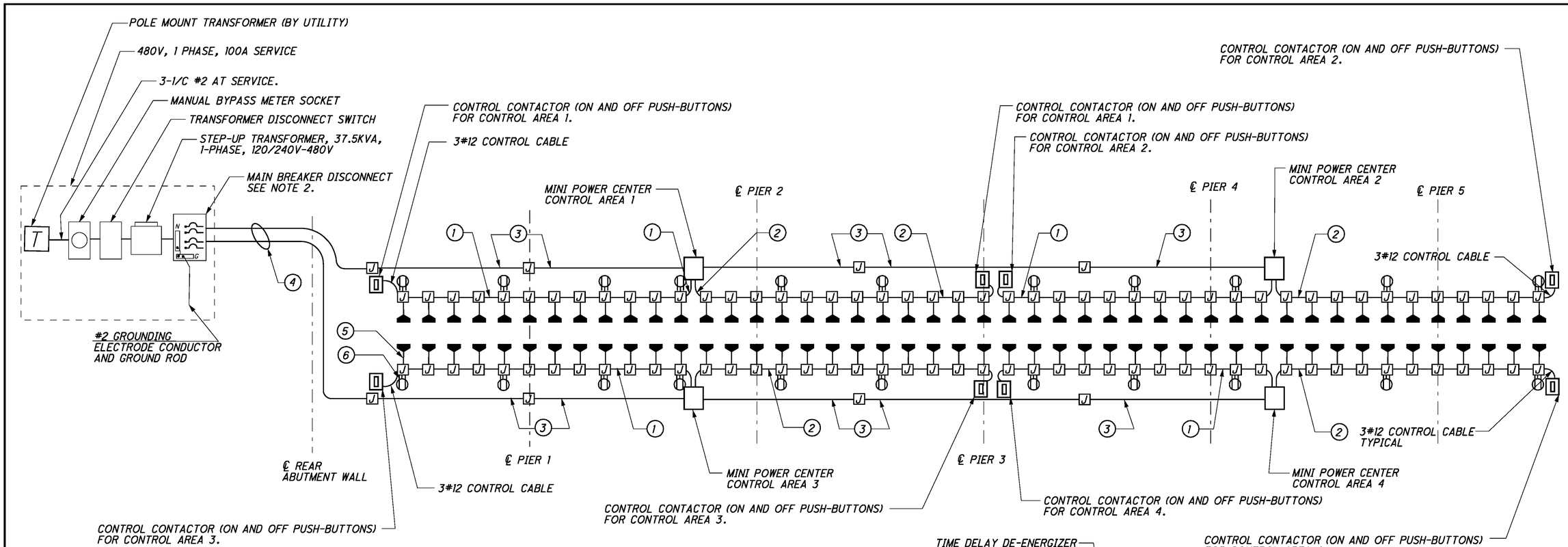
LIGHTING PLAN 2

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

202A / 204

468 / 470



CABLE CALLOUTS

(1) 240/120V CIRCUIT IN 2" RGS CONDUIT
CIRCUIT 1 - 2 #4, LIGHTING (240V)
CIRCUIT 3 - 2 #8, RECEPTACLES (120V)
MFR. RECOMMENDED CONTROL CABLE,
FOR BIDDING ASSUME 3#12 (MUST BE SHIELDED)

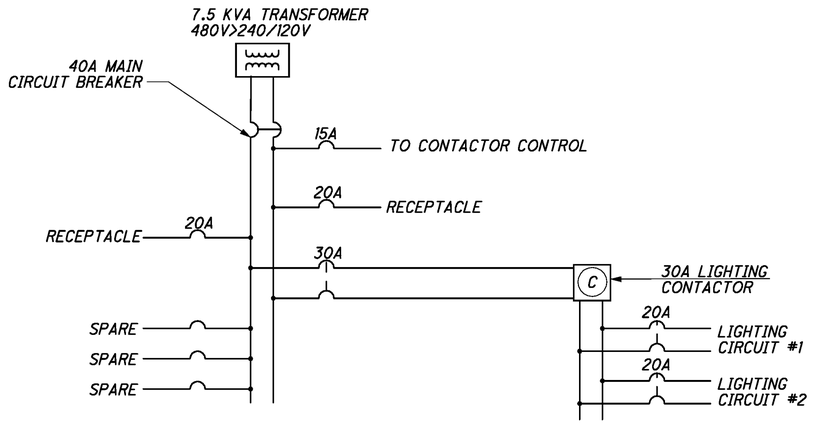
(2) 240/120V CIRCUIT IN 2" RGS CONDUIT
CIRCUIT 2 - 2 #4, LIGHTING (240V)
CIRCUIT 4 - 2 #8, RECEPTACLES (120V)
MFR. RECOMMENDED CONTROL CABLE,
FOR BIDDING ASSUME 3#12 (MUST BE SHIELDED)

(3) 480V CIRCUIT IN 2" RGS CONDUIT
2 - 1/C #2 AWG CABLES (480V)
1 - 1/C #2 AWG CABLE (GND)

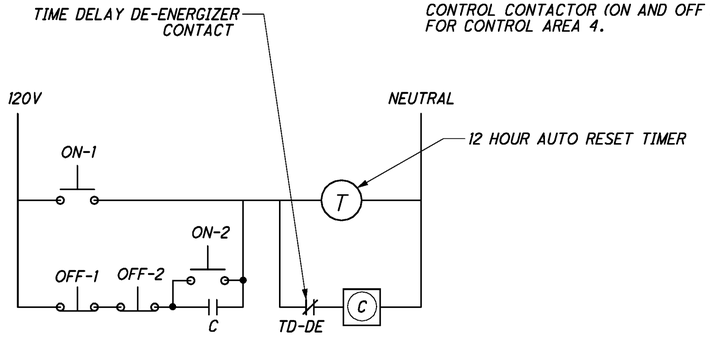
(4) 480V CIRCUIT IN 3" PVC CONDUIT
(2) 2 - 1/C #2 AWG CABLE (480V)
(2) 1 - 1/C #2 AWG CABLE (GND)

(5) 2 - 1/C #12 AWG CABLE (240V)

(6) 2 - 1/C #12 AWG CABLE (120V)



TYPICAL MINI POWER CENTER



CONTROL WIRING DIAGRAM FOR CONTROL CONTACTOR

(SEE NOTE 3)

NOTES

1. REFER TO PLANS AND DETAILS FOR CONDUIT DETAILS.
2. EQUIPMENT GROUND AND GROUNDED CONDUCTOR ARE BONDED AT THE SERVICE.
3. TWO PUSH-BUTTONS (ON AND OFF) AS SHOWN IN THE SINGLE LINE DIAGRAM AND AUTO RESET TIMER SHALL BE USED TO CONTROL THE CONTACTOR. CONTRACTOR CAN USE OTHER CONTROL MODULE WITH ENGINEER'S APPROVAL. CONTRACTOR SHALL SUBMIT CONTROL MODULE'S SHOP DRAWINGS FOR APPROVAL.

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REVIEWED SJS | DATE 11/15/07
STRUCTURE FILE NUMBER 8302278L/8302294R

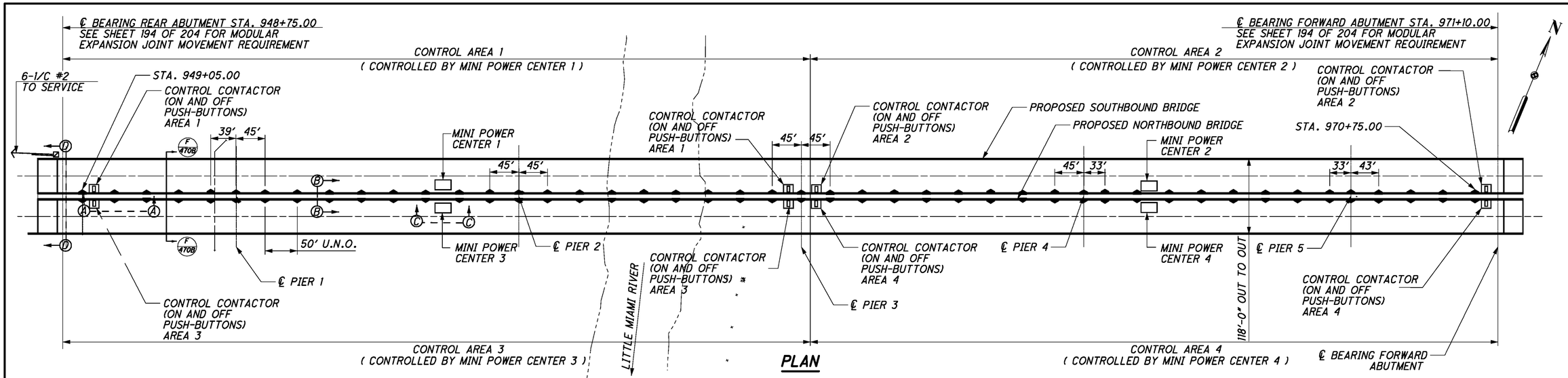
SINGLE LINE DIAGRAM
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

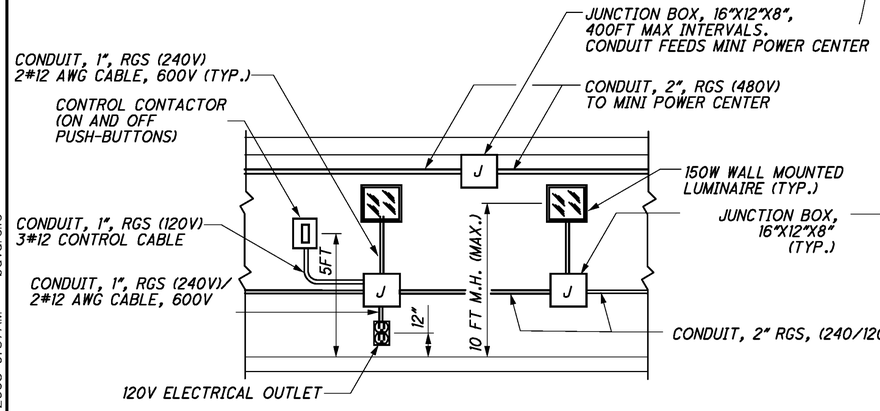
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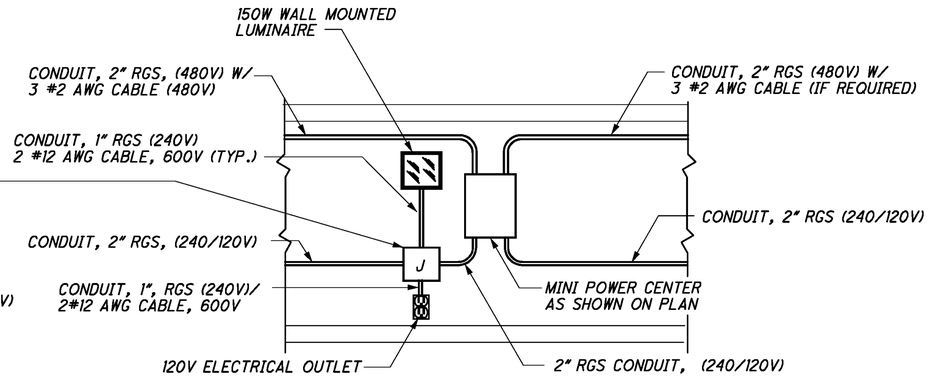
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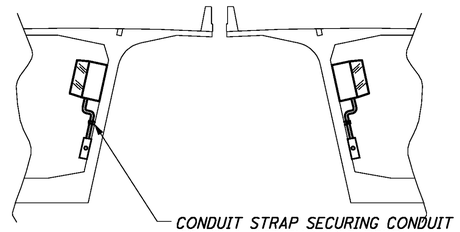
PLAN



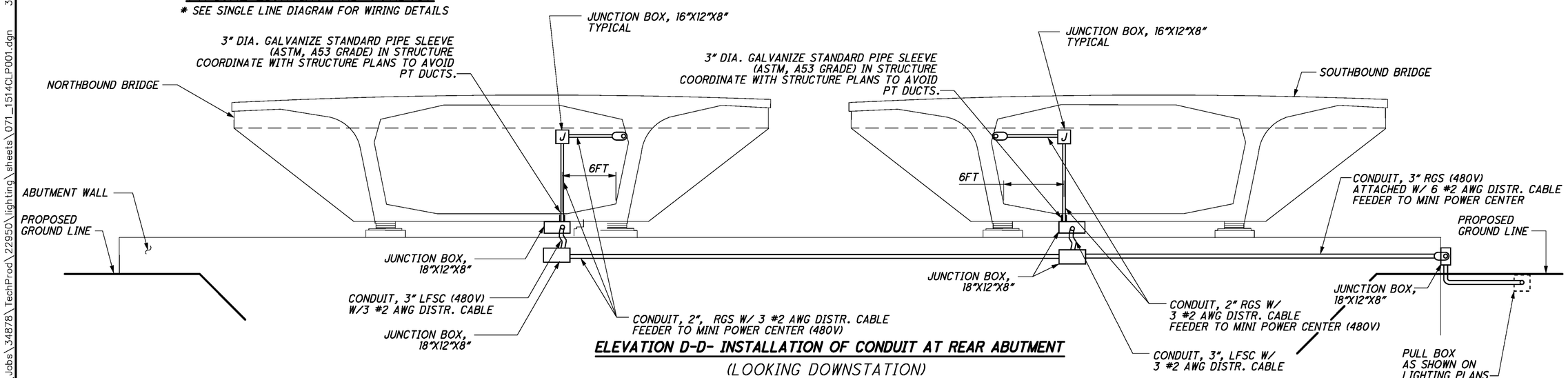
ELEVATION A-A
TYPICAL LIGHTING AND CONDUIT
* SEE SINGLE LINE DIAGRAM FOR WIRING DETAILS



ELEVATION C-C
* SEE SINGLE LINE DIAGRAM FOR WIRING DETAILS



ELEVATION B-B
LIGHTING AND CONDUIT



ELEVATION D-D- INSTALLATION OF CONDUIT AT REAR ABUTMENT
(LOOKING DOWNSTATION)
* CONDUIT ROUTING DETAIL FOR SECTION VIEW

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STRUCTURE FILE NUMBER: 8302278L/8302294R

LIGHTING PLAN OVERVIEW
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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WORK BY UTILITY:

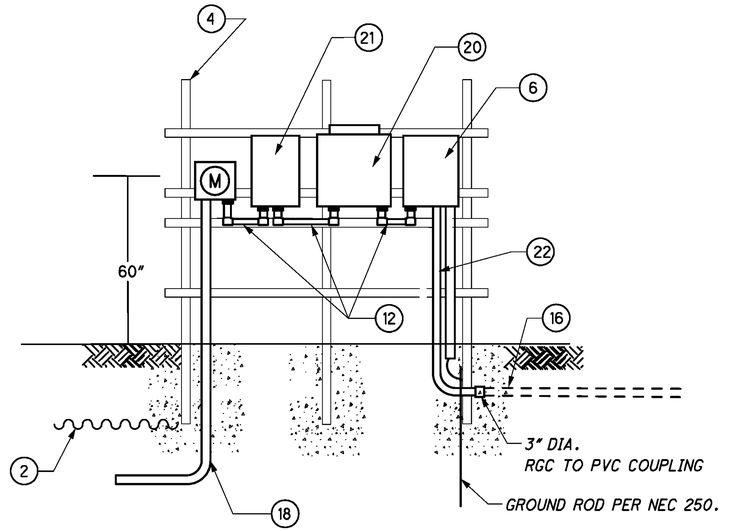
1. TERMINATION OF CONTRACTOR SUPPLIED SERVICE ENTRANCE CABLE ONTO POLE MOUNT UTILITY TRANSFORMER BY UTILITY.
2. UTILITY POLE BY DUKE ENERGY.

WORK BY CONTRACTOR:

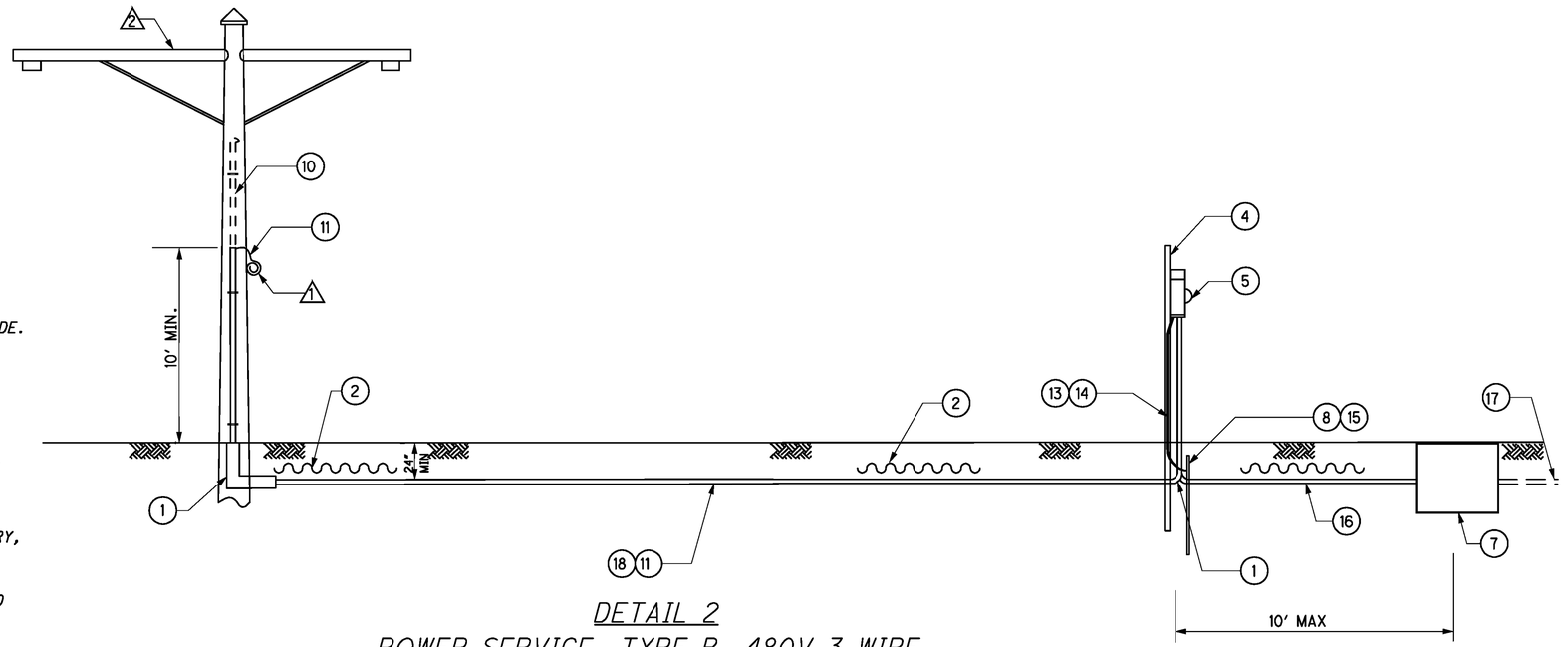
1. INSTALL 90° - 24" RADIUS PVC BEND, SCHEDULE 40.
2. WARNING RIBBON 12" ABOVE ALL UNDERGROUND CONDUCTORS.
3. NOTE NOT USED
4. CONTRACTOR SHALL INSTALL EQUIPMENT STAND AND FOUNDATION SUITABLE FOR THE EQUIPMENT LOAD, PER APPLICABLE PORTION OF DETAIL HL-40.20, AND AS DIRECTED BY THE ENGINEER.
5. UTILITY METER. CONTRACTOR TO SUPPLY MANUAL BYPASS SOCKET.
6. NEMA 3R CIRCUIT BREAKER ENCLOSURE WITH TWO 2-POLE, 50 AMP., 600V UL LISTED BOLT-ON TYPE CIRCUIT BREAKERS. ENCLOSURE SHALL BE SERVICE ENTRANCE RATED. PROVIDE ONE PADLOCK FOR EACH ENCLOSURE. PADLOCK SHALL BE KEYED IN ACCORDANCE WITH SPECIAL PROVISIONS.
7. PORTLAND CONCRETE PULL BOX, 24" WILL BE INSTALLED WITHIN 10FT OF ELECTRICAL SERVICE.
8. ⅝" x 10' COPPER CLAD GROUNDING ROD ELECTRODE. TOP OF GROUND ROD INSTALLED 30" BELOW GRADE AND AT LEAST 1' OFF EDGE OF POLE OR EQUIPMENT FOUNDATION.
9. NOTE NOT USED.
10. 3" SCHEDULE 40 PVC CONDUIT ATTACHED TO EQUIPMENT STAND OR POLE.
11. SERVICE ENTRANCE CABLE IN CONDUIT BY CONTRACTOR. ALL SERVICE ENTRANCE CABLE SHALL BE #2-USE-600V
12. THREADED HUB TYPE CONDUIT COUPLING BETWEEN ENCLOSURES SIZED TO ACCOMMODATE CONDUCTORS.
13. 1" SCHEDULE 80 PVC CONDUIT FOR GROUND.
14. 1#2 XHHW GROUNDING ELECTRODE CONDUCTOR IN CONDUIT TO DISCONNECT SWITCH NEUTRAL BUS.
15. GROUNDING ELECTRODE CONDUCTOR ATTACHED TO GROUNDING ELECTRODE AT LEAST 24" BELOW GRADE WITH GROUND CLAMPS SUITABLE FOR DIRECT BURIAL. FROM THE DISCONNECT SWITCH NEUTRAL BUS, THE GROUNDING ELECTRODE CONDUCTOR MUST ALWAYS BE DIRECTED DOWNWARD OR HORIZONTAL.
16. SCHEDULE 40 PVC CONDUIT IN TRENCH. CONDUIT SHALL BE 3" MIN. TERMINATE THIS CONDUIT IN HANDHOLE. CONDUIT INSTALLED A MINIMUM OF 24" BELOW GRADE. SEE PLAN FOR CONDUCTORS.
17. CONDUIT AND CABLE PER PLAN BY CONTRACTOR. NO SPLICES PERMITTED IN PULLBOX.
18. 3" PVC SCHEDULE 40 CONDUIT INSTALLED A MINIMUM OF 24" BELOW GRADE. CONDUIT RUN IS CONTINUOUS BETWEEN EQUIPMENT STAND AND UTILITY POLE/ TRANSFORMER OR AS INDICATED ON PLAN SHEETS. SEE PLAN FOR CONDUCTORS.
19. NOTE NOT USED.
20. STEP-UP TRANSFORMER, 37.5KVA, 1-PHASE, 120/240V PRIMARY, 480V SECONDARY, 3 WIRE, UL LISTED WITH NEMA 3R ENCLOSURE.
21. NEMA 3R CIRCUIT BREAKER ENCLOSURE WITH 2-POLE, 125 AMP. 600V UL LISTED DISCONNECT SWITCH. ENCLOSURE SHALL BE SERVICE ENTRANCE RATED. PROVIDE ONE PADLOCK FOR EACH ENCLOSURE. PADLOCK SHALL BE KEYED IN ACCORDANCE WITH SPECIAL PROVISIONS.
22. 3" DIA. GALVANIZED STEEL CONDUIT

NOTES:.

1. CONTRACTOR MUST COORDINATE WITH UTILITY'S FIELD ENGINEER. CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING AND COORDINATING OF ALL UTILITY RELATED WORK AND INSPECTIONS AS NECESSITATED BY THE PROJECT. CONTRACTOR MUST DETERMINE THE COST OF LOCAL INSPECTIONS BY CITIES. CONTRACTOR IS RESPONSIBLE FOR THE COSTS.
2. ALL WORK AND MATERIALS SHOWN ON ELECTRICAL SERVICE DETAILS IS INCIDENTAL TO POWER SERVICE PAY ITEMS.
3. UTILITY CONDUIT SYSTEMS SHALL BE INSTALLED PER NEC AND LOCAL REQUIREMENTS.
4. DO NOT EXTEND CONDUIT ABOVE THE SECONDARY OR NEUTRAL POSITION AT ANY TIME.
5. CONDUIT SHALL MAINTAIN A MINIMUM CLEARANCE OF 6" BELOW THE SECONDARY OR NEUTRAL.
6. ALL PROPOSED SERVICE TYPES AND LOCATIONS ARE SUBJECT TO APPROVAL FROM UTILITY. CONTRACTOR IS RESPONSIBLE FOR FURNISHING AND INSTALLING ALL EQUIPMENT ACCORDING TO ENGINEER'S APPROVAL



DETAIL 6
POWER SERVICE, 480V 3 WIRE, 1 PHASE, PER PLAN
(FOR MORE DETAILS, SEE STANDARD CONSTRUCTION DRAWING HL-40.20)



DETAIL 2
POWER SERVICE, TYPE B, 480V 3 WIRE, 1 PHASE, PER PLAN
(FOR MORE DETAILS, SEE STANDARD CONSTRUCTION DRAWING HL-40.20)

DESIGN AGENCY
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MCD		8302278L/8302294R	

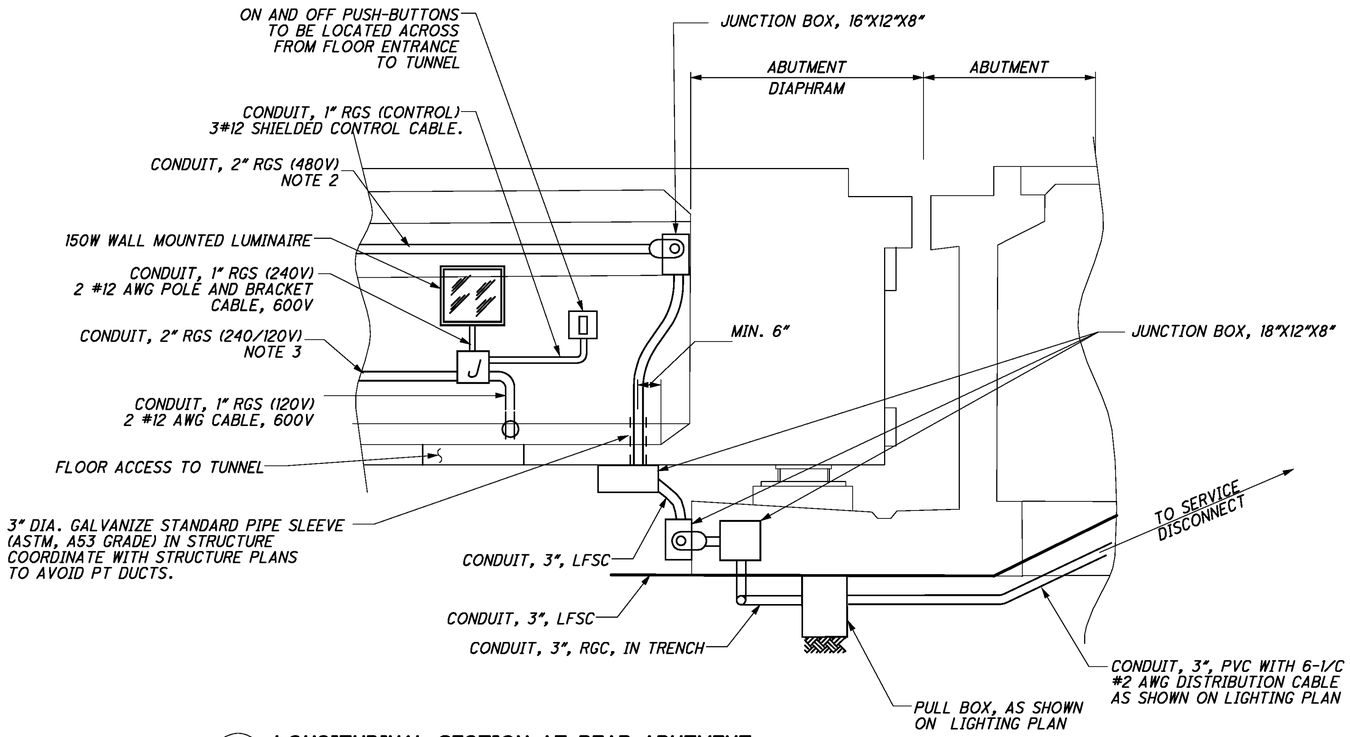
ELECTRICAL SERVICE DETAIL
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

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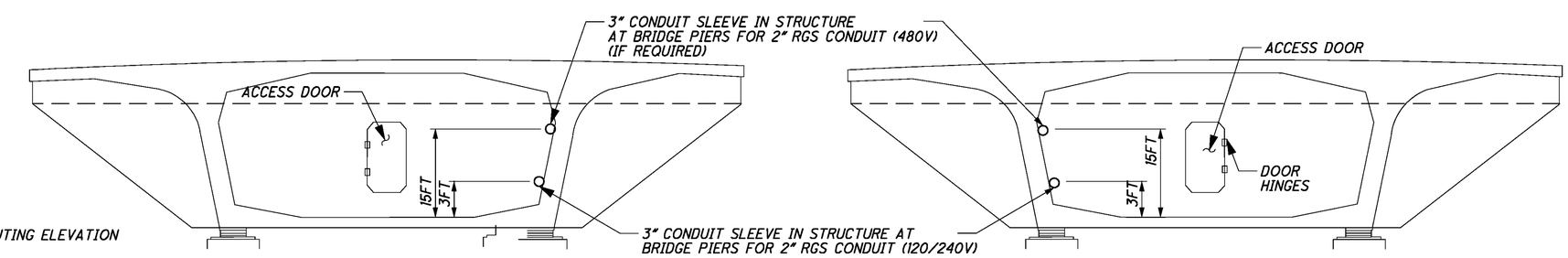
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E-E 470B **LONGITUDINAL SECTION AT REAR ABUTMENT**



F-F 470B **CONDUIT OPENING AT BRIDGE PIERS (LOOKING UPSTATION)**

NOTES

1. SEE LIGHTING PLAN OVERVIEW FOR ADDITIONAL CONDUIT ROUTING ELEVATION VIEWS.
2. CONDUIT 2" RGS (480V) SHALL BE ATTACHED ALONG THE INSIDE SURFACE OF BOX GIRDER AT 15FT ABOVE THE INSIDE BOTTOM SURFACE OF BOX GIRDER AS SHOWN IN THE PLAN AND AS DIRECTED BY THE ENGINEER. SEE DETAIL CONDUIT OPENING AT BRIDGE PIERS FOR LOCATION OF CONDUIT OPENING AT BRIDGE PIERS.
3. CONDUIT 2" RGS (240/120V) SHALL BE ATTACHED ALONG THE INSIDE SURFACE OF BOX GIRDER AT 3FT ABOVE THE INSIDE BOTTOM SURFACE OF BOX GIRDER AS SHOWN IN THE PLAN AND AS DIRECTED BY THE ENGINEER. SEE DETAIL CONDUIT OPENING AT BRIDGE PIERS FOR LOCATION OF CONDUIT OPENING AT BRIDGE PIERS.

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CONDUIT ROUTING DETAIL

BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

468D/470

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RIGHT OF WAY
LEGEND SHEET
WAR-71-14.20

WARREN COUNTY
TURTLE CREEK TOWNSHIP
SECTIONS 4, 5, 10, 11 - T5E - R3N
BETWEEN THE MIAMIS
WASHINGTON TOWNSHIP
V.M.S. 737 & 1505

UTILITIES

DUKE-ELECTRIC
GINNY MEYER
139 E. FOURTH ST.
ROOM 467-ANNEX
CINCINNATI. OH 45202
PHONE (513) 287-1748

WESTERN WATER COMPANY
KURT MEEKER
1775 STATE ROUTE 28
GOSHEN, OH 45122
PHONE (877) 513-899-3211 x22

SPRINT
KEITH SCHNEIDER
20 N. MECHANIC ST.
LEBANON, OH 45036
PHONE (513) 933-3591

DAYTON POWER & LIGHT
JOHN KENTON
1900 DRYDEN ROAD
DAYTON, OH 45439
PHONE (937) 331-4132
FAX (937) 331-4267

LEGEND

WL - FEE SIMPLE WITH LIMITATION OF ACCESS

MONUMENT LEGEND

- STONE FOUND
- 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
- I.P.F. IRON PIN FOUND W/ ID CAP
- I.P.S. IRON PIN SET W/ ID CAP
- P.F. IRON PIPE FOUND
- P.S. IRON PIPE SET
- P.K.F. P.K. NAIL FOUND
- P.K.S. P.K. NAIL SET

NOTE: THE CONTRACTOR IS RESPONSIBLE FOR REPLACING ANY EXISTING CONCRETE MONUMENTS DESTROYED DURING CONSTRUCTION

INDEX OF SHEETS

LEGEND SHEET	*1*
CENTERLINE PLATS	*2-3*
PROPERTY MAP	*4*
SUMMARY OF ADDITIONAL R/W	*5*
R/W DETAIL SHEETS	*6-8*

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 PRO-VISIONS OF SECTION 5511.02 OF THE REVISED CODE OF OHIO.

THE PROPOSED RIGHT OF WAY SHALL BE REFERENCED FROM THE CENTERLINE OF THE EXISTING RIGHT OF WAY.

ADJUSTABLE CENTERLINE MONUMENTS, REFERENCE MONUMENTS AND RIGHT OF WAY MONUMENTS ARE SHOWN ON STANDARD CONSTRUCTION DRAWING RM 1.1 (REV. 4-21-06) 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 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____
BOOK _____ PAGE _____

COUNTY RECORDER

PROJECT DESCRIPTION

REPLACEMENT OF EXISTING STRUCTURE OVER LITTLE MIAMI RIVER AND REALIGNMENT OF I-71 ROADWAY.

PROJECT CONTROL

STATE PLANE GRID - OHIO SOUTH , NAD1983 (1995 ADJUSTMENT)
PROJECT SCALE FACTOR IS 1.000104002

BASIS FOR BEARINGS:

ALL BEARINGS SHOWN ARE FOR PROJECT USE ONLY. BEARINGS SHOWN HEREON ARE BASED ON TRUE NORTH OBSERVED BY PREFERRED SURVEYING COMPANY, INC. USING TRIMBLE 4700 RECIEVERS. PUBLISHED ODOT STATE PLANE VALUES FOR CENTERLINE MONUMENTS BASED ON THE 1985 ADJUSTMENT OF NAD 1983.

I HEREBY CERTIFY THAT THIS PLAT IS A TRUE DELINEATION OF A SURVEY MADE FOR THE OHIO DEPARTMENT OF TRANSPORTATION IN SEPT 2006 BY PREFERRED SURVEYING COMPANY, 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 _____
PARTICK S. FINN

SURVEYOR NO. 7181 DATE 25 July 2007

CONVENTIONAL SIGNS

- County Line
- Township Line
- Section Line
- Corporation Line or
- Fence Line (existing) (proposed)
- Center Line
- Trees, Stumps (to be removed)
- Utility Poles: Telephone, Power, Light
- Right of Way (only) R/W
- Standard Highway Ease. SH
- Temp. Right of Way TMP
- Exist. Right of Way Ex R/W
- Exist. Stand. High. Ease. Ex SH
- Exist. Channel Ease. Ex CH
- Exist. Utility Ease. Ex U
- Property Line (in existing fence)
- Railroad or
- Guardrail (existing) (proposed)
- Construction Limits

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING STATE OF OHIO DEPARTMENT OF HIGHWAYS WAR-71-(14.21-15.00)(14.82) RIGHT OF WAY PLANS AND STATE OF OHIO DEPARTMENT OF HIGHWAYS CENTER LINE SURVEY PLAT OF STATE ROUTE 1 - SEC. (15.64-20.84)

STATE OF OHIO
PATRICK S. FINN
S-7181
REGISTERED
PROFESSIONAL SURVEYOR

PID NO. 22950

R/W DESIGNER BCF
R/W REVIEWER PSF

RIGHT OF WAY LEGEND SHEET

WAR-71-14.20

1 / 8

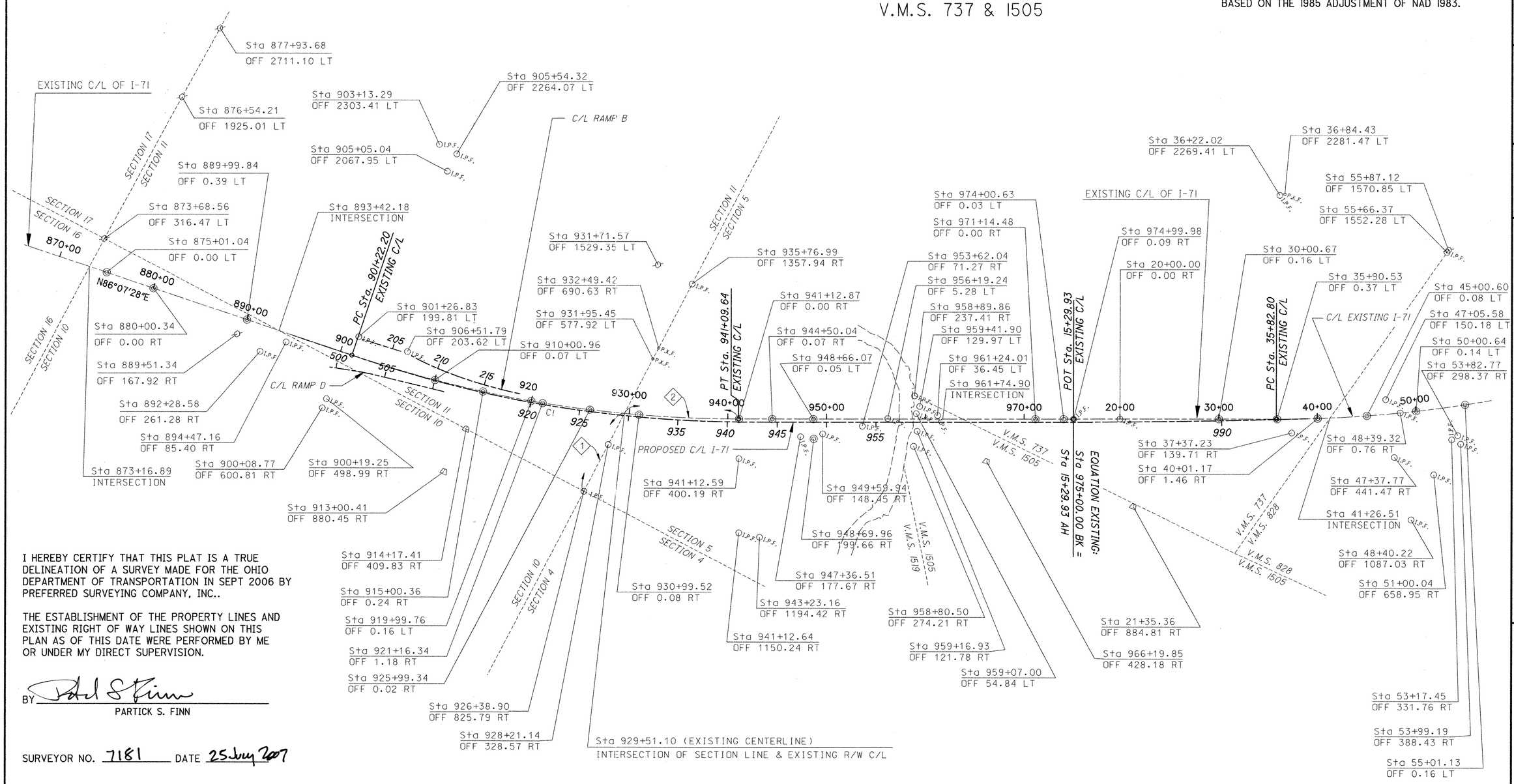
469
470

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 PRO-VISIONS OF SECTION 5511.02 OF THE REVISED CODE OF OHIO.

WARREN COUNTY
TURTLE CREEK TOWNSHIP
SECTIONS 4, 5, 10, 11 - T5E - R3N
BETWEEN THE MIAMIS
WASHINGTON TOWNSHIP
V.M.S. 737 & 1505

BASIS FOR BEARINGS:

ALL BEARINGS SHOWN ARE FOR PROJECT USE ONLY. BEARINGS SHOWN HEREON ARE BASED ON TRUE NORTH OBSERVED BY PREFERRED SURVEYING COMPANY, INC. USING TRIMBLE 4700 RECIEVERS. PUBLISHED ODOT STATE PLANE VALUES FOR CENTERLINE MONUMENTS BASED ON THE 1985 ADJUSTMENT OF NAD 1983.



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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 _____
PARTICK S. FINN

SURVEYOR NO. 7181 DATE 25 July 2007

RECEIVED _____, 20___
RECORDED _____, 20___
BOOK _____ PAGE _____
COUNTY RECORDER

NOTE
SEE CENTERLINE PLAT SHEET 3 OF 8 FOR LIST OF MONUMENTS TO BE SET DURING CONSTRUCTION AND PROPOSED RIGHT OF WAY CENTERLINES.

CONTRACTOR IS TO REPLACE ANY CONCRETE MONUMENTS DESTROYED DURING CONSTRUCTION

1 N 04°59'49"E 886.54' - SECTION LINE TO INTERSECTION OF EXISTING R/W C/L

2 - SECTION LINE INTERSECTION TO PT STA 941+09.64
I=05°24'24''(LT)
R=12277.67'
A=1,158.55'
Ch=N 70°13'11''E - 1,158.12'

STATE OF OHIO
PATRICK S. FINN
S-7181
REGISTERED PROFESSIONAL SURVEYOR

SCALE IN FEET
0 250 500 1000

PID NO. 22950

R/W DESIGNER BCF
R/W REVIEWER PSF

CENTERLINE PLAT

WAR-71-14.20

2 / 8

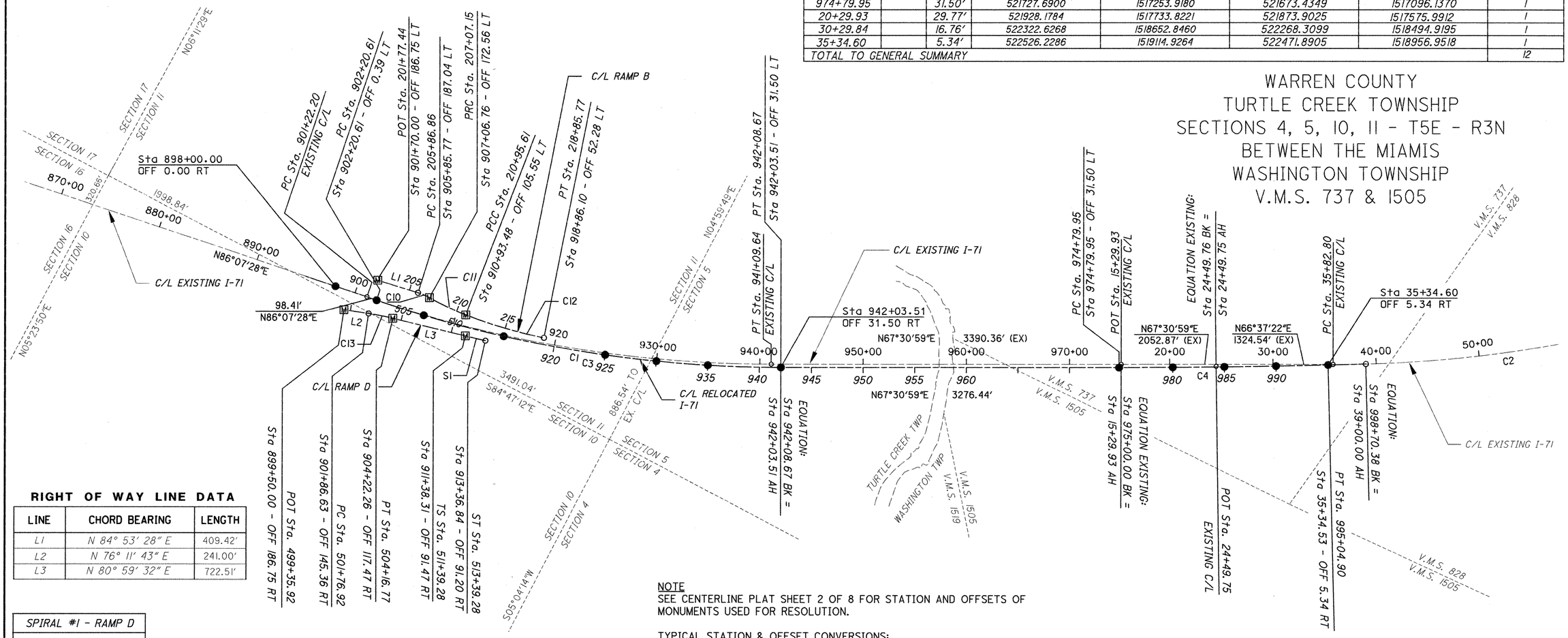
469A
470

INVERSE COMBINED SCALE FACTOR (GRID TO GROUND) = 1.000104002

STATION	DIST. FROM ℄ OF R/W		STATE PLANE GRID COORDINATES		GROUND COORDINATES		(M) PROPOSED ADJUSTABLE ℄ MONUMENT
	LEFT	RIGHT	NORTHING (Y)	EASTING (X)	NORTHING (Y)	EASTING (X)	
901+70.00	186.75'		519752.1624	1510295.9771	519698.1128	1510138.9196	1
907+06.76	172.56'		519787.3578	1510823.9094	519733.3045	1510666.7970	1
910+93.48	105.55'		519770.8717	1511211.7572	519716.8201	1511054.6045	1
899+50.00		186.75'	519364.5645	1510102.4358	519310.5552	1509945.3985	1
904+22.26		117.47'	519469.5018	1510571.5687	519415.4816	1510414.4826	1
911+38.31		91.47'	519582.6353	1511285.2403	519528.6033	1511128.0800	1
TOTAL TO GENERAL SUMMARY							6

INVERSE COMBINED SCALE FACTOR (GRID TO GROUND) = 1.000104002

STATION	DIST. FROM ℄ OF R/W		STATE PLANE GRID COORDINATES		GROUND COORDINATES		(●) PROPOSED CONCRETE MONUMENT
	LEFT	RIGHT	NORTHING (Y)	EASTING (X)	NORTHING (Y)	EASTING (X)	
898+00.00			519540.7677	1509940.1399	519486.7400	1509783.1194	1
902+20.61		0.39'	519569.1987	1510359.8294	519515.1681	1510202.7653	1
907+00.00		4.24'	519610.9312	1510837.4213	519556.8962	1510680.3075	1
914+99.38		10.64'	519721.9666	1511629.6195	519667.9201	1511472.4233	1
924+98.16		18.58'	519932.8800	1512606.9479	519878.8116	1512449.6501	1
929+97.31		22.51'	520067.9957	1513088.3638	520013.9132	1512931.0159	1
934+96.30		26.41'	520222.5963	1513563.8804	520168.4977	1513406.4831	1
942+03.51		31.50'	520474.5893	1514226.2038	520420.4645	1514068.7376	1
974+79.95		31.50'	521727.6900	1517253.9180	521673.4349	1517096.1370	1
20+29.93		29.77'	521928.1784	1517733.8221	521873.9025	1517575.9912	1
30+29.84		16.76'	522322.6268	1518652.8460	522268.3099	1518494.9195	1
35+34.60		5.34'	522526.2286	1519114.9264	522471.8905	1518956.9518	1
TOTAL TO GENERAL SUMMARY							12



WARREN COUNTY
TURTLE CREEK TOWNSHIP
SECTIONS 4, 5, 10, 11 - T5E - R3N
BETWEEN THE MIAMIS
WASHINGTON TOWNSHIP
V.M.S. 737 & 1505

RIGHT OF WAY LINE DATA

LINE	CHORD BEARING	LENGTH
L1	N 84° 53' 28" E	409.42'
L2	N 76° 11' 43" E	241.00'
L3	N 80° 59' 32" E	722.51'

SPIRAL #1 - RAMP D
P.I. STA. 512+72.61
Δ = 0° 27' 03" (LT)
Dc = 0° 27' 03"
R = 12705.96'
Ls = 200.00'
θs = 0° 27' 03"
LT = 133.33'
ST = 66.67'
Ts = 133.33'
Lc = 0.00'
e_{max} = 0.019

RECEIVED _____, 20___
RECORDED _____, 20___
BOOK _____ PAGE _____
COUNTY RECORDER

EXISTING C/L RIGHT OF WAY CURVE DATA

CURVE	DELTA	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING
C1	18°36'29"	12277.67'	3987.44'	3969.94'	N76°49'14"E
C2	15°51'46"	12277.67'	3399.15'	3388.30'	N59°35'06"E

PROPOSED C/L RIGHT OF WAY CURVE DATA

CURVE	DELTA	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING
C3	18°36'29"	12279.57'	3988.06'	3970.55'	N76°49'14"E
C4	01°28'49"	78379.36'	2024.94'	2024.89'	N66°46'35"E

PROPOSED RIGHT OF WAY RAMP CURVE DATA

CURVE #10 - RAMP B	CURVE #11 - RAMP B	CURVE #12 - RAMP B	CURVE #13 - RAMP D
P.I. STA. 206+47.21	P.I. STA. 209+01.68	P.I. STA. 214+91.67	P.I. STA. 502+96.92
Δ = 11° 25' 39" (RT)	Δ = 7° 46' 09" (LT)	Δ = 9° 52' 38" (LT)	Δ = 4° 47' 49" (RT)
Dc = 9° 30' 00"	Dc = 2° 00' 00"	Dc = 1° 15' 00"	Dc = 2° 00' 00"
R = 603.11'	R = 2,864.79'	R = 4,583.66'	R = 2,864.79'
T = 60.35'	T = 194.53'	T = 396.06'	T = 120.00'
L = 120.29'	L = 388.46'	L = 790.17'	L = 239.85'
E = 3.01'	E = 6.60'	E = 17.08'	E = 2.51'
		e_{max} = 0.035	e_{max} = 0.027

NOTE
SEE CENTERLINE PLAT SHEET 2 OF 8 FOR STATION AND OFFSETS OF MONUMENTS USED FOR RESOLUTION.

TYPICAL STATION & OFFSET CONVERSIONS:

(PROPOSED CENTERLINE STAION) — POT Sta. 499+35.92
(EXISTING CENTERLINE STATION) — Sta 899+50.00 - OFF 186.75 RT

I HEREBY CERTIFY THAT THIS PLAT IS A TRUE DELINEATION OF A SURVEY MADE FOR THE OHIO DEPARTMENT OF TRANSPORTATION IN SEPT 2006 BY PREFERRED SURVEYING COMPANY, 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 _____
PARTICK S. FINN

SURVEYOR NO. 7181 DATE 25 July 2007

STATE OF OHIO
PATRICK S. FINN
S-7181
REGISTERED PROFESSIONAL SURVEYOR

SCALE IN FEET
0 250 500 1000

PID NO. 22950

R/W DESIGNER: BCF
R/W REVIEWER: PSF

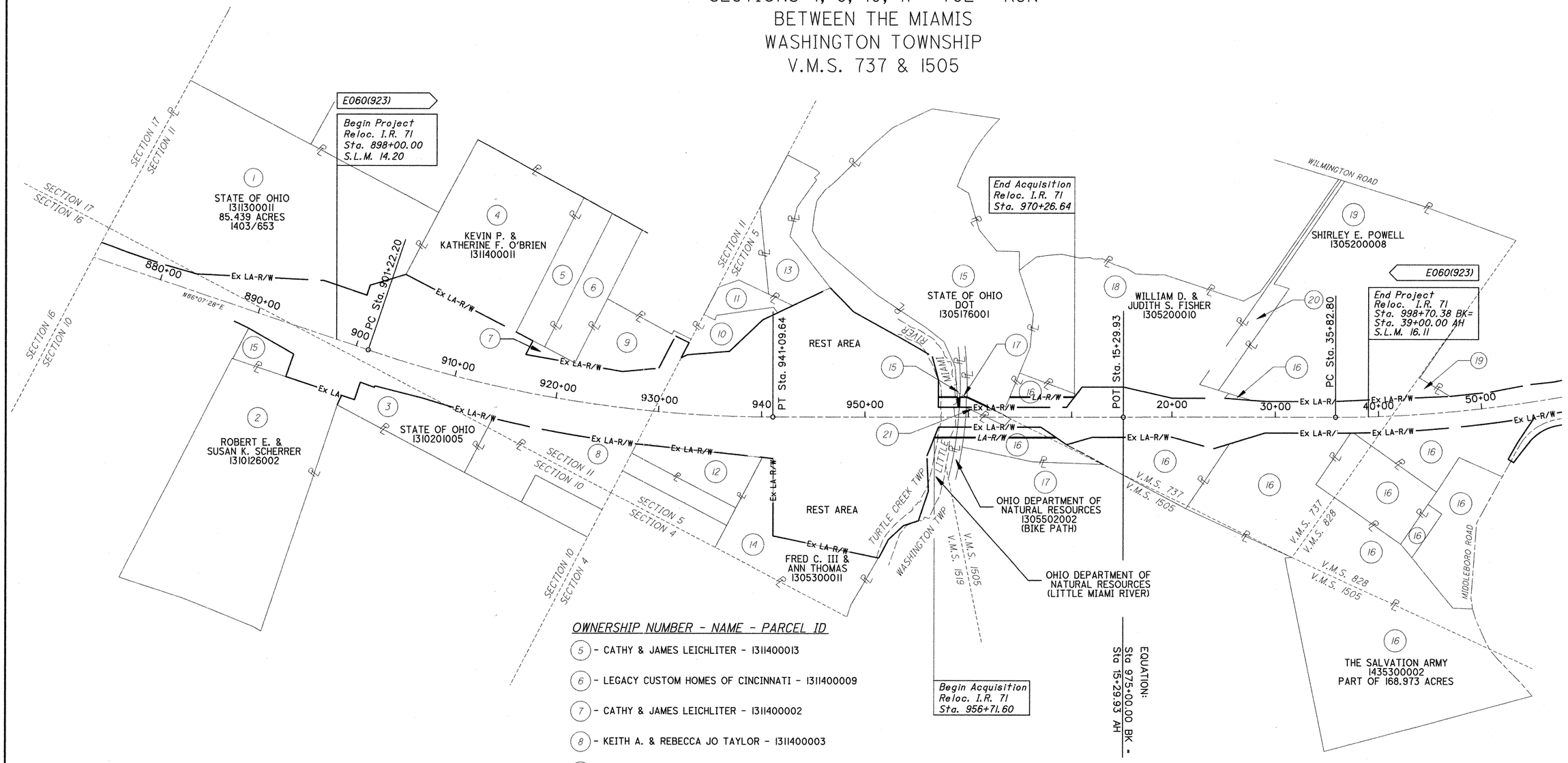
CENTERLINE PLAT

WAR-71-14.20

3 / 8

469B / 470

WARREN COUNTY
TURTLE CREEK TOWNSHIP
SECTIONS 4, 5, 10, 11 - T5E - R3N
BETWEEN THE MIAMIS
WASHINGTON TOWNSHIP
V.M.S. 737 & 1505



OWNERSHIP NUMBER - NAME - PARCEL ID

(5) - CATHY & JAMES LEICHLITER - 1311400013

(6) - LEGACY CUSTOM HOMES OF CINCINNATI - 1311400009

(7) - CATHY & JAMES LEICHLITER - 1311400002

(8) - KEITH A. & REBECCA JO TAYLOR - 1311400003

(9) - KENNETH J. SMITH - 1311400005

(10) - ROBERT & IRENE JENKINS - 1305300003

(11) - STATE OF OHIO - 13053000080

(12) - JOE & KATHY MERLAND - 1305300013

(13) - TOM L. & JANET L. COBLE - 1305151002

(16) - THE SALVATION ARMY - 1305400001, 1305407098 & 1305400003

(20) - JOSHUA A. & SARAH CREECH - 1305200009

(21) - EDWARD C. EVANS - 1305300007

REV. BY	DATE	DESCRIPTION

DATE COMPLETED

SCALE IN FEET: 0, 250, 500, 1000

PID NO. 22950

R/W DESIGNER: BCF
R/W REVIEWER: PSF

PROPERTY MAP

WAR-71-14.20

4 / 8

469C
470

TOTAL NUMBER OF :

03 OWNERSHIPS
21 PARCELS
1 TOTAL TAKES

0 OWNERSHIPS WITH STRUCTURES INVOLVED
0 OWNERSHIPS WITH "P" ITEMS

NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE

NOTE: UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR UNLESS NOTED OTHERWISE.

ALL AREAS IN ACRES

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	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
1	STATE OF OHIO		1403	653	1311300011	85.439 AC	-	-	-	-	-				NOT USED		
2	ROBERT E. & SUSAN K. SCHERRER		2462	279	1310126002	56.00 AC	-	-	-	-	-				NOT USED		
3	STATE OF OHIO		1403	651	1310201005	13.472 AC	-	-	-	-	-				NOT USED		
4	KEVIN P. & KATHERINE F. O'BRIEN		3884	433	1311400011	40.5671 AC	-	-	-	-	-				NOT USED		
5	CATHY & JAMES LEICHLITER		4000	620	1311400013	10.000 AC	-	-	-	-	-				NOT USED		
6	LEGACY CUSTOM HOMES OF CINCINNATI		3827	323	1311400009	10.000 AC	-	-	-	-	-				NOT USED		
7	CATHY & JAMES LEICHLITER		4112	695	1311400002	0.72 AC	-	-	-	-	-				NOT USED		
8	KEITH A. & REBECCA JO TAYLOR		256	787	1311400003	10.154 AC	-	-	-	-	-				NOT USED		
9	KENNETH J. SMITH		3593	632	1311400005	9.7221 AC	-	-	-	-	-				NOT USED		
10	ROBERT & IRENE JENKINS		785	26	1305300003	5.053 AC	-	-	-	-	-				NOT USED		
11	STATE OF OHIO		474	285	1305300008	3.762 AC	-	-	-	-	-				NOT USED		
12	JOE & KATHY MERLAND		1429	165	1305300013	8.1013 AC	-	-	-	-	-				NOT USED		
13	TOM L. & JANET L. COBLE		1237	235	1305151002	12.085 AC	-	-	-	-	-				NOT USED		
14	FRED C. III & ANN THOMAS		595	669	1305300011	9.654 AC	-	-	-	-	-				NOT USED		
15	STATE OF OHIO DEPT. OF TRANSPORTATION	6	463	532	1305176001		-	0.034 AC	-	0.034 AC	-				NOT NEEDED		
15		6 & 7			1305176001	75.852 AC	-	0.906 AC	-	0.906 AC	-				NOT NEEDED		
	TOTAL							0.940 AC		0.940 AC		74.912 AC					
16-WL1	THE SALVATION ARMY (1305407098)	6, 7 & 8	262	63	1305400001&	1305400003	-	1.873 AC	-	1.873 AC	-		31.791 AC	STATE	BRIDGE REPLACEMENT		
16-WL2		7 & 8	262	63	1305400003		-	1.401 AC	-	1.401 AC	-	1.903 AC		STATE	BRIDGE REPLACEMENT		
	TOTAL					36.968 AC	-	3.274 AC	-	3.274 AC	-						
16			294	454	1435300002	1.844 AC	-	-	-	-	-				NOT USED		
16			272	545	1435300002	14.131 AC	-	-	-	-	-				NOT USED		
16			260	132	1435300002	104.928 AC	-	-	-	-	-				NOT USED		
16			345	96	1435300002	0.493 AC	-	-	-	-	-				NOT USED		
16			345	98	1435300002	12.712 AC	-	-	-	-	-				NOT USED		
	TOTAL					171.076 AC	-	-	-	-	-						
							-	-	-	-	-						
17-WL1	OHIO DEPARTMENT OF NATURAL RESOURCES	6	31	913	1305502002		-	0.160 AC	-	0.160 AC	-			STATE	BRIDGE REPLACEMENT - BIKE PATH		
17-WL2		6	31	913	1305502002		-	0.151 AC	-	0.151 AC	-			STATE	BRIDGE REPLACEMENT - BIKE PATH		
17-WL3		6					-	0.456 AC	-	0.456 AC	-			STATE	BRIDGE REPLACEMENT - LITTLE MIAMI RIVER		
17-WL4		6					-	0.432 AC	-	0.432 AC	-			STATE	BRIDGE REPLACEMENT - LITTLE MIAMI RIVER		
	TOTAL							1.210 AC		1.210 AC							
							-	-	-	-	-						
18	WILLIAM D. & JUDITH S. FISHER		423	135	1305200010	53.107 AC	-	-	-	-	-				NOT USED		
19	SHIRLEY E. POWELL		3135	359	1305200008	81.936 AC	-	-	-	-	-				NOT USED		
						0.11 AC	-	-	-	-	-				NOT USED		
20	JOSHUA A. & SARAH CREECH		3307	191	1305200009	6.932 AC	-	-	-	-	-				NOT USED		
21-WL	EDWARD C. EVANS	6 & 7	1501	313	1305300007	0.952 AC	0.698 AC	0.952 AC	0.698 AC	0.254 AC	-				BRIDGE REPLACEMENT		

LEGEND
WL - FEE SIMPLE WITH LIMITATION OF ACCESS

REV. BY	DATE	DESCRIPTION

FIELD REVIEW BY DATE:
OWNERSHIP VERIFIED BY DATE:
DATE COMPLETED

FEDERAL PROJECT NO. E060(923)
PID NO. 22950
STATE JOB NO. 487590
R/W DESIGNER BCF
R/W REVIEWER PSF

SUMMARY OF ADDITIONAL RIGHT OF WAY

WAR-71-14.20

WARREN COUNTY
TURTLE CREEK TOWNSHIP
SECTIONS 4, 5, 10, 11 - T5E - R3N
BETWEEN THE MIAMIS
WASHINGTON TOWNSHIP
V.M.S. 737 & 1505

Sta 957+10.64
Off 192.96 LT

LA-R/W

N67°30'54"E
183.40'

LA-R/W

Sta 959+15.12
Off 192.96 LT

STA. 959+81.19
194.51 LT.

N67°30'54"E
66.02'

SET PINS (2)

SEE DETAIL

15
STATE OF OHIO
DOT
1305176001
75.852 ACRES

PROP. LA R/W

Sta 958+94.04
Off 192.96 LT

N27°50'47"W

R=3585.80'
I=1°35'57''
A=100.08'
LCh=N 20°12'58''W
- 100.08'

LITTLE MIAMI RIVER

STA. 959+81.15
192.97 LT.

17-WL2

S87°08'05"E
237.17

V.M.S. 737
V.M.S. 1505

C2

N22°31'04"W
100.00'

7.74'
N67°30'54"E

100.44'

15

17

OHIO DEPARTMENT OF
NATURAL RESOURCES
1305502002
O.R. 31 PG. 913
65.91'

STORM STRUCTURE
DO NOT DISTURB

21
EDWARD C. EVANS
1305300007
O.R. 1501 PG. 313
0.91 ACRES

Sta 957+10.70
Off 92.96 LT

EX. LA R/W

17-WL4

192.72'

Sta 959+77.08
Off 92.97 LT

218.44'

CONST. LMTS

Ex LA-R/W

N67°30'54"E

Ex LA-R/W

Ex LA-R/W

C1

Ex LA-R/W

Ex LA-

Begin Acquisition
Reloc. I.R. 71
Sta. 956+71.60

Sta 959+03.42
Off 92.96 LT

Sta 959+11.16
Off 92.96 LT

BIKE PATH

21-WL

N87°25'44"W
412.66

Sta 959+77.00
Off 91.53 LT

N22°29'01"W 92.96'

N22°29'00"W 91.53'

Sta 957+10.70

N22°29'01"W 92.96'

Sta 959+11.16

Sta 959+77.00

1

EXISTING I-71 C/L

957

958

4

959

6

960

N67°30'59"E EX C/L

2

3

5

Sta 959+65.82

Sta 957+11.35

PROPOSED I-71 C/L

Sta 958+96.08

957

958

N 67° 30' 59" E

959

960

S22°29'01"E 95.71'

S22°29'01"E 95.70'

S22°29'01"E 95.70'

Sta 957+11.35
Off 95.71 RT

Sta 958+96.08
Off 95.70 RT

Sta 959+65.82
Off 95.70 RT

Ex LA-R/W

N67°30'54"E

Ex LA-R/W

184.67'

Ex LA-R/W

69.75'

Ex LA-R/W

N67°30'54"E

Ex LA-R/W

735.55'

EX. FENCE

17-WL3

17

17-WL1

EX. LA R/W

CONST. LMTS

TURTLE CREEK TWP

N00°48'12"W
Ex LA-R/W
107.61'

LITTLE MIAMI RIVER

WASHINGTON TWP

R=3585.80'
I=1°36'34''
A=100.73'
LCh=N 15°36'16''W
- 100.72'

OHIO DEPARTMENT OF
NATURAL RESOURCES
1305502002
O.R. 31 PG. 913

15" RCP

BIKE PATH

R=3651.80'
I=1°34'48''
A=100.71'
LCh=N 15°42'59''W
- 100.70'

16-WL1

16
THE SALVATION ARMY
1305400001, 13054070098 & 1305400003
PART OF 168.973 ACRES

Sta 956+71.60
Off 195.71 RT

LA-R/W

212.36'

LA-R/W

69.95'

LA-R/W

PROP. LA R/W

896.67'

LA-R/W

N67°30'54"E

Sta 958+83.96
Off 195.70 RT

Sta 959+53.94
Off 195.70 RT

N67°30'54"E

LEAD-IN LINE TABLE

(DISTANCE TO PT STA 941+09.64)

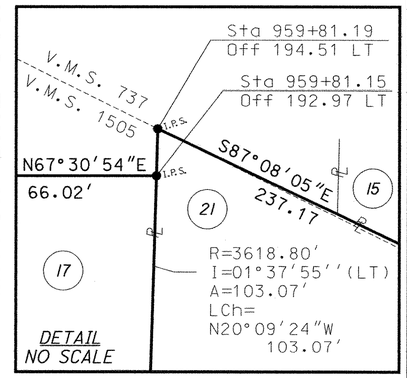
1 - N67°30'59"E - 1,601.06'
2 - N67°30'59"E - 1,601.71'
3 - N67°30'59"E - 1,786.44'
4 - N67°30'59"E - 1,801.52'
5 - N67°30'59"E - 1,856.18'
6 - N67°30'59"E - 1,867.44'

C1
R=3618.80'
I=00°01'22''(LT)
A=1.44'
LCh= N19°18'56"W
1.44'

C2
R=3618.80'
I=01°33'05''(RT)
A=100.09'
LCh= S20°09'17"E
100.08'

MATCH LINE STA 961+00 (SEE SHEET 7)

RIGHT OF WAY DETAIL SHEET
STA. 956+00 TO STA. 961+00



REV. BY	DATE	DESCRIPTION
DATE COMPLETED		

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 22950

R/W DESIGNER BCF
R/W REVIEWER PSF

WAR-71-14.20

6 / 8

469E
470

LEAD-IN LINE TABLE

(DISTANCE TO PT STA 941+09.64)

(1) – N67°30'59"E – 2,248.44'

WARREN COUNTY
TURTLE CREEK TOWNSHIP
SECTIONS 4, 5, 10, 11 - T5E - R3N
BETWEEN THE MIAMIS
WASHINGTON TOWNSHIP
V.M.S. 737 & 1505

MATCH LINE STA 961+00 (SEE SHEET 6)

MATCH LINE STA 966+00 (SEE SHEET 8)

(15)
STATE OF OHIO
DOT
1305176001
75.852 ACRES

(16-WL2)

(16)
THE SALVATION ARMY
1305400003
PART OF 168.973 ACRES

LA-R/W S87°08'05"E 237.17'

Sta 961+95.52
Off 92.97 LT

R/W 218.44'
S67°30'54"W

Ex LA-R/W

162.56'

HEAVY BRUSH LINE

108.11'
N00°9'15"W

LA-R/W

Sta 963+99.15
Off 192.97 LT

N67°30'54"E
627.49'
LA-R/W

Sta 963+58.08
Off 92.97 LT

CONST. LMTS.

592.62'
Ex LA-R/W
S67°30'54"W

EX. LA R/W

(21-WL)

(21)
EDWARD C. EVANS
1305300007
O.R. 1501 PG. 313
0.91 ACRES

S87°08'05"E 150.60'

N22°29'01"W 92.97'

Sta 963+31.62
Off 28.50 LT

S82°35'14"E 89.45'

EXISTING I-71 C/L

961 962 963 964 965

N87°25'44"W 412.66'

N67°30'59"E EX C/L

Sta 963+58.08

STA. 963+76.47

Sta 964+09.17
Off 16.09 RT

PROPOSED I-71 C/L

N67°30'59"E PROP C/L

Sta 963+50.83
Off 83.22 RT

88.94'
S18°30'16"W

V.M.S. 737
V.M.S. 1505

N67°30'54"E
735.55'

Ex LA-R/W

EX. FENCE

CONST. LMTS.

HEAVY BRUSH LINE

EX. LA R/W

(16)
THE SALVATION ARMY
1305400001, 13054070098 & 1305400003
PART OF 168.973 ACRES

(16-WL1)

PROP. LA R/W

LA-R/W

896.67'
N67°30'54"E

REV. BY	DATE	DESCRIPTION
BCF	6/30/07	ADD PARCEL 21WL
DATE COMPLETED		

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 22950

R/W DESIGNER BCF
R/W REVIEWER PSF

RIGHT OF WAY DETAIL SHEET
STA. 961+00 TO STA. 966+00

WAR-71-14.20

7 / 8

469F
470

WARREN COUNTY
TURTLE CREEK TOWNSHIP
SECTIONS 4, 5, 10, 11 - T5E - R3N
BETWEEN THE MIAMIS
WASHINGTON TOWNSHIP
V.M.S. 737 & 1505

N67°30'54"E
627.49'
LA-R/W — LA-R/W — LA-R/W — LA-R/W
I.P.S.
PROP. LA R/W

Sta 970+26.64
Off 192.99 LT

125.57'
EX LA-R/W
S14°43'50"W

16-WL2

16
THE SALVATION ARMY
1305400003
PART OF 168.973 ACRES

Sta 969+50.70
Off 92.99 LT

EX. LA R/W
Ex LA-R/W — Ex LA-R/W — Ex LA-R/W — Ex LA-R/W
592.62'
S67°30'54"W
CONST. LMTS.
I.P.S.

End Acquisition
Reloc. I.R. 71
Sta. 970+26.64

HEAVY BRUSH LINE
RIP RAP
RIP RAP
PIER
RIP RAP
PIER

EXISTING I-71 C/L
966 967 968 969 970
N67°30'59"E EX C/L

PROPOSED I-71 C/L
966 967 N67°30'59"E PROP C/L 968 969 970
RIP RAP
PIER
RIP RAP
RIP RAP
PIER

Sta 967+01.35
Off 95.68 RT
N67°30'54"E
735.55'
Ex LA-R/W
I.P.S.
Ex LA-R/W
CONST. LMTS.

EX. LA R/W
16-WL1
V.M.S. 737
V.M.S. 1505
EX. FENCE
S78°39'46"E
179.66'
Ex LA-R/W

16
THE SALVATION ARMY
1305400001, 13054070098 & 1305400003
PART OF 168.973 ACRES

Sta 968+50.61
Off 195.68 RT
PROP. LA R/W
896.67'
LA-R/W — LA-R/W
I.P.S.
N67°30'54"E

MATCH LINE STA 966+00 (SEE SHEET 7)

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 22950

R/W DESIGNER BCF
R/W REVIEWER PSF

RIGHT OF WAY DETAIL SHEET
STA. 966+00 TO STA. 970+26.64

WAR-71-14.20

8 / 8

470
470

GENERAL INFORMATION

INTRODUCTION

THIS REPORT CONSISTS OF THE SOILS INVESTIGATION FOR THE WIDENING OF THE INTERSTATE 71 BRIDGE OVER THE LITTLE MIAMI RIVER. THE REALIGNMENT AND WIDENING OF THE NORTHBOUND AND SOUTHBOUND LANES OF INTERSTATE 71 IS TO ACCOMMODATE THE PROPOSED BRIDGE CROSSING. IT IS UNDERSTOOD THAT THE REALIGNMENT BEGINS AT STATION 898+00 AND ENDS APPROXIMATELY AT STATION 999+00.

THE PROJECT INDEX IS ON THE FOLLOWING SHEET.

GEOLOGY AND OBSERVATIONS OF THE PROJECT

THE SITE IS LOCATED IN THE GLACIATED PLAINS SECTION OF OHIO, IN ROLLING TERRAIN WITH A RELIEF OF 100 TO 200 FEET. THE ALIGNMENT CROSSES THE LITTLE MIAMI RIVER VALLEY, WHICH IS ORIENTATED IN A NEARLY NORTH-SOUTH DIRECTION AT THE SITE.

OVERBURDEN AT THE ROADWAY SURFACE VARIES FROM A FEW FEET TO OVER 100 FEET ON THE EAST SIDE OF THE LITTLE MIAMI RIVER. BEDROCK IS GENERALLY INTERBEDDED SHALE AND LIMESTONE OF ORDOVICIAN AGE.

EXPLORATION

THE EXPLORATION CONSISTED OF DRILLING 33 ROADWAY BORINGS, R-1 THROUGH R-40 ALONG THE PROPOSED ALIGNMENT. BORINGS R-16, R-19, R-22, R-25, R-27, R-29 AND R-34 WERE OMITTED FROM THE INVESTIGATION PLAN. ELEVEN OF THE BORINGS WERE DRILLED WITHIN THE TRAVEL LANES OF THE EXISTING I-71 PAVEMENT TO DETERMINE ITS COMPOSITION. THESE ROADWAY BORINGS INCLUDE R-1, R-2, R-6, R-9, R-13, R-17, R-24, R-30, R-35, R-38 AND R-40. TWELVE BORINGS WERE DRILLED IN THE SHOULDER OF THE EXISTING I-71 PAVEMENT SURFACE. THESE SHOULDER BORINGS INCLUDE R-3, R-5, R-7, R-10, R-11, R-12, R-15, R-20, R-28, R-31, R-37 AND R-39. THE REMAINING TEN BORINGS WERE DRILLED OFF OF THE EXISTING PAVEMENT SURFACE ALONG THE PROPOSED I-71 REALIGNMENT. BORINGS R-32 AND R-36 WERE DRILLED FOR A PREVIOUS ALIGNMENT.

THE LOCATIONS OF SOME BRIDGE BORINGS ARE SHOWN ON THE PLANS. HOWEVER, THE RESULTS OF THE BRIDGE BORINGS ARE NOT INCLUDED IN THE SOIL SUMMARY OR SHOWN ON THE PROFILE.

ALL BORINGS EXCEPT R-32 AND R-36 WERE DRILLED BETWEEN SEPTEMBER 21 AND OCTOBER 4, 2005 AND WERE ADVANCED TO DEPTHS RANGING FROM 6.0 TO 10.7 FEET. THESE BORINGS WERE DRILLED USING A TRUCK-MOUNTED, ROTARY-TYPE DRILL RIG. BORINGS R-32 AND R-36 WERE DRILLED ON FEBRUARY 23, 2006 AND WERE ADVANCED TO DEPTHS OF 30.0 FEET AND 24.1 FEET, RESPECTIVELY. THESE BORINGS WERE DRILLED USING A TRACK-MOUNTED, ROTARY-TYPE DRILL RIG.

IT SHOULD BE NOTED THAT BORINGS DRILLED FOR THE EXISTING STRUCTURE ARE SHOWN IN PLAN VIEW ONLY. THESE BORINGS WERE DRILLED IN 1962 FOR THE WAR-1-15.14 PROJECT. FOR INFORMATION CONCERNING THE SOIL AND ROCK ENCOUNTERED IN THESE BORINGS, PLEASE REFER TO THE ORIGINAL 1962 SUBSURFACE AND FOUNDATION INVESTIGATION REPORT (WAR-1-15.14) PREPARED BY LOUIS BERGER AND ASSOCIATES.

LEGEND FOR PROJECT AND AVERAGE RESULTS OF TESTS - 69 SAMPLES TESTED

DESCRIPTION	ODOT CLASS	% AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
GRAVEL	A-1-a(0)	66	20	8	-7-		NP	NP	3	2
GRAVEL WITH SAND	A-1-b(0)	30	40	16	8	5	NP	NP	7	1
GRAVEL WITH SAND AND SILT	A-2-4(0)	56	9	5	-29-		NP	NP	8	1
COARSE AND FINE SAND	A-3a	VISUAL CLASSIFICATION								
SANDY SILT	A-4a(4)	18	11	18	32	21	19	7	9	11
SILT AND CLAY	A-6a(6)	17	10	13	31	29	27	13	11	11
SILTY CLAY	A-6b(12)	9	5	6	40	40	36	19	18	24
CLAY	A-7-6(17)	7	3	8	33	50	47	28	22	19
ASPHALT CONCRETE PAVEMENT	VISUAL CLASSIFICATION									
BERM MATERIAL/AGGREGATE BASE	VISUAL CLASSIFICATION									
PORTLAND CEMENT CONCRETE	VISUAL CLASSIFICATION									
LIMESTONE	VISUAL CLASSIFICATION									
WEATHERED LIMESTONE	VISUAL CLASSIFICATION									

W/X/Y/Z — NUMBER OF BLOWS FOR "STANDARD PENETRATION" TEST
W-NUMBER OF BLOWS FOR FIRST 6 INCHES
X-NUMBER OF BLOWS FOR SECOND 6 INCHES
Y-NUMBER OF BLOWS FOR THIRD 6 INCHES
Z-NUMBER OF BLOWS FOR FOURTH 6 INCHES, IF APPLICABLE

TR — TOP OF ROCK

W.O.H. — WEIGHT OF HAMMER

NOTE: FIGURES BESIDE BORINGS INDICATE WATER CONTENT IN PERCENT e.g. 15

W — FREE WATER

STATIC WATER LEVEL

STATIC WATER LEVEL (INCLUDES DRILLING WATER)

HISTORIC BORING - PLAN VIEW

DRIVE SAMPLE AND/OR CORE BORING - PLAN VIEW

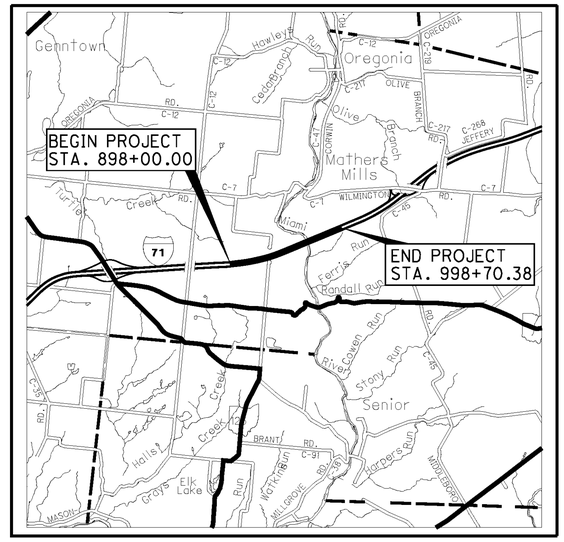
DRIVE SAMPLE AND/OR CORE BORING - PROFILE VIEW

NOTE

ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN ON THE SOIL PROFILE SHEETS HAS BEEN SO REPORTED. ADDITIONAL SUBSURFACE INVESTIGATIONS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE OFFICE OF GEOTECHNICAL ENGINEERING AT 1600 WEST BROAD STREET, OR THE OFFICE OF STRUCTURAL ENGINEERING AT 1980 WEST BROAD STREET.

RECON - P.P.P - 9/10/00
DRILLING 1 - D.W. - 5/10/04 TO 8/5/04
DRILLING 2 - D.W. - 2/13/06 TO 3/9/06
DRAFTING - R.L.S., S.J.R. - 9/27/07

PREPARED BY:
DLZ OHIO, INC.
6121 HUNTLEY ROAD
COLUMBUS, OHIO 43229



LOCATION MAP
LATITUDE: N40° 9' 8" LONGITUDE: W82° 2 '59"
SCALE IN MILES
0 1 2 3 4

N

DLZ

DRAWN RLS CHECKED SJR

SOIL PROFILE

WAR-71-14.20
PID 22950

1 / 16

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GENERAL INFORMATION (CONT.)

INVESTIGATIONAL FINDINGS

THE ELEVEN BORINGS DRILLED WITHIN THE TRAVEL LANES OF I-71 ENCOUNTERED FOUR TO SIX INCHES OF ASPHALT CONCRETE OVER TEN TO FOURTEEN INCHES OF PORTLAND CEMENT CONCRETE OVER TWO TO ELEVEN INCHES OF AGGREGATE BASE. BORINGS ON THE SHOULDER ENCOUNTERED ELEVEN TO FIFTEEN INCHES OF ASPHALT CONCRETE PAVEMENT OVER SIX TO TEN INCHES OF AGGREGATE BASE. BORINGS DRILLED OFF THE ROAD SURFACE ENCOUNTERED TWO TO SIX INCHES OF TOPSOIL AT THE GROUND SURFACE.

BELOW THE PAVEMENT AND TOPSOIL LAYERS, THE BORINGS GENERALLY ENCOUNTERED A MEDIUM STIFF TO HARD COHESIVE SOIL CONSISTING PRIMARILY OF CLAY (A-7-6), SILTY CLAY (A-6b), SILT AND CLAY (A-6a), AND SANDY SILT (A-4a) EITHER TO THE TOP OF BEDROCK OR TO THE COMPLETION DEPTHS. LAYERS OF LOOSE TO VERY DENSE GRANULAR SOILS WERE ALSO IN A FEW OF THE BORINGS.

BEDROCK WAS GENERALLY ENCOUNTERED AT A DEPTH OF 3.0 TO 5.7 FEET BELOW THE SURFACE FROM STATION 925+00 TO 943+00. ALSO, BEDROCK WAS GENERALLY ENCOUNTERED AT A DEPTH OF 3.0 TO 5.0 FEET BELOW THE GROUND SURFACE FROM STATION 988+00 TO 997+00. A DECOMPOSED LAYER OF ROCK WAS GENERALLY ENCOUNTERED ABOVE THE MORE COMPETENT ROCK AND BEDROCK WAS CONFIRMED BY CORING A 4.5 OR 5.0-FOOT LONG SECTION IN THE BORINGS WHERE ROCK WAS ENCOUNTERED ABOVE DEPTHS OF 6.0 FEET. THE BEDROCK ENCOUNTERED CONSISTED PRIMARILY OF A HARD, GRAY LIMESTONE WITH INTERBEDDED SHALE. A SOFT GRAY SHALE WAS ALSO ENCOUNTERED IN BORINGS NEAR STATIONS 941+00 AND 943+00.

SEEPAGE WAS ENCOUNTERED IN FIVE BORINGS, R-3, R-9, R-23, R-26, AND R-36, AT DEPTHS OF 3.0 TO 13.0 FEET BELOW THE GROUND SURFACE. ON THE COMPLETION OF DRILLING, FINAL WATER LEVELS WERE OBSERVED IN ONLY ONE BORING, R-36, AT A DEPTH OF 12.0 FEET.

PROJECT INDEX

STATION		PLAN	PROFILE	NORTHBOUND		SOUTHBOUND	
FROM	TO	SHEET	SHEET	MAXIMUM CUT (ft)	MAXIMUM FILL (ft)	MAXIMUM CUT (ft)	MAXIMUM FILL (ft)
895 + 00	920 + 00	5	6	1	1	1	3
920 + 00	945 + 00	7	8	0	1	1	3
945 + 00	970 + 00	10	11	0	1	0	4
970 + 00	995 + 00	12	13	0	1	0	4
995 + 00	60 + 00*	14	15	0	0	1	1

*STATION EQUATION AT STA. 998+69.61

*STATION EQUATION AT STA. 998+69.61

DRAWN RLS
CHECKED SJR

SOIL PROFILE

WAR-71-14.20
PID 22950

2 / 16

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SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.

** DENOTES SAMPLE TAKEN AT OR NEAR GRADE.*

BORING	STATION & OFFSET	DEPTH FROM - TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	ODOT CLASS.
R-1	901+00.18	0.0 - 2.1	ASPH. CONC., PORT. CEMENT CONC., AND AGGR. BASE								VISUAL
	76.96' Rt.	2.1 - 3.0	20	4	4	30	41	35	17	16	A-6b*
		3.0 - 4.5	BROWN SILTY CLAY (A-6b)								VISUAL
		4.5 - 6.0	9	4	4	52	31	34	18	17	A-6b
		6.0 - 7.5	0	0	1	62	37	35	17	20	A-6b
		7.5 - 9.5	BROWN SILTY CLAY (A-6b)								VISUAL
		9.5 - 10.0	BROWN CLAY (A-7-6)								VISUAL
R-2	902+99.74	0.0 - 2.1	ASPH. CONC., PORT. CEMENT CONC., AND AGGR. BASE								VISUAL
	24.75' Lt.	2.1 - 3.0	6	5	7	45	37	37	17	20	A-6b*
		3.0 - 4.5	9	7	4	34	45	31	15	12	A-6a
		4.5 - 6.0	BROWN AND GRAY SILTY CLAY (A-6b)								VISUAL
		6.0 - 8.5	BROWN AND GRAY SILTY CLAY (A-6b)								VISUAL
		8.5 - 10.0	11	5	9	30	45	37	17	21	A-6b
R-3	905+00.79	0.0 - 2.0	ASPHALT CONCRETE AND AGGREGATE BASE								VISUAL
	74.16' Rt.	2.0 - 3.0	66	18	8	- 8 -		NP	NP	3	A-1-a*
		3.0 - 5.0	GRAYISH BROWN GRAVEL (A-1-a)								VISUAL
		5.0 - 6.0	0	1	2	61	36	41	22	27	A-7-6
		6.0 - 7.5	MOTTLED BROWN AND GRAY CLAY (A-7-6)								VISUAL
		7.5 - 10.0	MOTTLED BROWN AND GRAY CLAY (A-7-6)								VISUAL
R-4	906+99.91	0.0 - 0.3	TOPSOIL								VISUAL
	27.68' Lt.	0.3 - 1.5	5	4	6	42	43	35	16	21	A-6b
		1.5 - 3.0	15	8	9	32	36	29	17	12	A-6b
		3.0 - 4.5	BROWN SILTY CLAY (A-6b)								VISUAL
		4.5 - 6.0	0	2	4	62	33	36	18	22	A-6b
		6.0 - 7.0	MOTTLED BROWN AND GRAY SILTY CLAY (A-6b)								VISUAL
		7.0 - 10.0	BROWN SILTY CLAY (A-6b)								VISUAL
R-5	909+00.76	0.0 - 1.9	ASPHALT CONCRETE AND AGGREGATE BASE								VISUAL
	67.70' Rt.	1.9 - 3.0	0	1	2	59	38	38	18	23	A-6b*
		3.0 - 4.5	0	2	3	63	33	37	20	24	A-6b
		4.5 - 6.0	BROWN SILTY CLAY (A-6b)								VISUAL
		6.0 - 8.5	BROWN SILTY CLAY (A-6b)								VISUAL
		8.5 - 10.0	19	9	6	23	43	39	20	17	A-6b
R-6	911+00.20	0.0 - 1.5	ASPH. CONC., PORT. CEMENT CONC., AND AGGR. BASE								VISUAL
	28.67' Lt.	1.5 - 3.0	0	0	1	62	36	37	19	24	A-6b*
		3.0 - 4.0	MOTTLED BROWN AND GRAY SILTY CLAY (A-6b)								VISUAL
		4.0 - 6.0	33	7	7	28	25	27	12	11	A-6a
		6.0 - 8.0	MOTTLED BROWN AND GRAY SILT AND CLAY (A-6a)								VISUAL
		8.0 - 10.0	2	4	8	25	62	46	19	22	A-7-6
R-7	913+00.91	0.0 - 2.0	ASPHALT CONCRETE AND AGGREGATE BASE								VISUAL
	75.18' Rt.	2.0 - 3.0	66	21	7	- 7 -		NP	NP	3	A-1-a*
		3.0 - 4.5	5	1	2	52	41	45	28	24	A-7-6
		4.5 - 6.0	1	1	5	47	45	41	24	19	A-7-6
		6.0 - 9.5	MOTTLED BROWN AND GRAY CLAY (A-7-6)								VISUAL
		9.5 - 10.0	YELLOWISH BROWN SILTY CLAY (A-6b)								VISUAL
R-8	915+00.56	0.0 - 0.3	TOPSOIL								VISUAL
	31.73' Lt.	0.3 - 1.5	2	1	3	57	37	43	25	23	A-7-6*
		1.5 - 3.0	MOTTLED BROWN AND GRAY CLAY (A-7-6)								VISUAL
		3.0 - 4.5	1	4	11	31	53	46	28	21	A-7-6
		4.5 - 6.0	BROWN AND GRAY CLAY (A-7-6)								VISUAL
		6.0 - 8.7	MOTTLED BROWN AND GRAY CLAY (A-7-6)								VISUAL
R-9	917+01.04	0.0 - 2.0	ASPH. CONC., PORT. CEMENT CONC., AND AGGR. BASE								VISUAL
	69.60' Rt.	2.0 - 3.0	5	3	12	33	47	42	25	20	A-7-6*
		3.0 - 4.5	BROWN CLAY (A-7-6)								VISUAL
		4.5 - 6.0	30	5	7	19	39	50	32	20	A-7-6
		6.0 - 9.0	YELLOWISH BROWN CLAY (A-7-6)								VISUAL
		9.0 - 9.3	GRAY WEATHERED LIMESTONE								VISUAL
R-10	919+00.95	0.0 - 1.5	ASPHALT CONCRETE AND AGGREGATE BASE								VISUAL
	45.84' Lt.	1.5 - 3.0	1	2	11	35	53	48	32	21	A-7-6*
		3.0 - 4.5	GRAY CLAY (A-7-6)								VISUAL
		4.5 - 6.0	3	2	11	31	54	45	30	21	A-7-6
		6.0 - 7.0	GRAY CLAY (A-7-6)								VISUAL
		7.0 - 8.8	YELLOWISH BROWN CLAY (A-7-6)								VISUAL
R-11	921+01.24	0.0 - 1.7	ASPHALT CONCRETE AND AGGREGATE BASE								VISUAL
	60.95' Rt.	1.7 - 3.0	13	2	6	25	55	48	27	23	A-7-6*
		3.0 - 4.5	BROWN CLAY (A-7-6)								VISUAL
		4.5 -6.0	11	1	5	22	60	50	32	20	A-7-6
		6.0 - 8.7	YELLOWISH BROWN CLAY (A-7-6)								VISUAL
R-12	923+01.43	0.0 - 1.9	ASPHALT CONCRETE AND AGGREGATE BASE								VISUAL
	49.02' Lt.	1.9 - 3.0	7	5	10	32	46	33	18	16	A-6b*
		3.0 - 4.0	36	11	8	26	19	27	15	11	A-6a
		4.0 - 6.0	39	15	10	- 36 -		NP	NP	4	A-4a
		6.0 - 8.7	BROWN GRAVEL WITH SAND AND SILT (A-2-4)								VISUAL
R-13	925+01.46	0.0 - 1.8	ASPH. CONC., PORT. CEMENT CONC., AND AGGR. BASE								VISUAL
	56.25' Rt.	1.8 - 3.0	7	3	7	42	43	37	20	19	A-6b*
		3.0 - 4.5	12	7	9	34	38	36	20	17	A-6b
		4.5 - 5.7	GRAYISH BROWN WEATHERED LIMESTONE								VISUAL
		5.7 - 10.2	GRAY LIMESTONE								VISUAL
R-14	927+01.90	0.0 - 0.2	TOPSOIL								VISUAL
	48.25' Lt.	0.2 - 1.5	33	10	13	25	19	37	19	14	A-6b*
		1.5 - 3.1	GRAYISH BROWN WEATHERED LIMESTONE								VISUAL
		3.1 - 8.1	GRAY LIMESTONE								VISUAL
R-15	929+01.69	0.0 - 1.7	ASPHALT CONCRETE AND AGGREGATE BASE								VISUAL
	52.49' Rt.	1.7 - 3.0	14	7	15	38	26	30	15	17	A-6a*
		3.0 - 4.5	45	9	6	- 40 -		NP	NP	5	A-4a
		4.5 - 8.6	GRAY SANDY SILT (A-4a)								VISUAL
R-17	931+02.36	0.0 - 1.8	ASPH. CONC., PORT. CEMENT CONC., AND AGGR. BASE								VISUAL
	53.54' Lt.	1.8 - 3.0	3	4	9	30	55	44	25	23	A-7-6*
		3.0 - 4.0	BROWN CLAY (A-7-6)								VISUAL
		4.0 - 5.0	GRAYISH BROWN WEATHERED LIMESTONE								VISUAL
		5.0 - 10.0	GRAY LIMESTONE								VISUAL
R-18	933+01.85	0.0 - 0.2	TOPSOIL								VISUAL
	53.67' Rt.	0.2 - 1.5	4	5	9	33	50	39	22	19	A-6b*
		1.5 - 3.0	4	10	5	34	46	41	23	24	A-6b
		3.0 - 4.0	6	3	6	33	51	32	15	8	A-6a
		4.0 - 5.0	GRAYISH BROWN WEATHERED LIMESTONE								VISUAL
		5.0 - 10.0	GRAY LIMESTONE								VISUAL
R-20	935+02.69	0.0 - 1.8	ASPHALT CONCRETE AND AGGREGATE BASE								VISUAL
	46.89' t.	1.8 - 3.0	11	3	7	27	52	49	29	24	A-7-6*
		3.0 - 3.5	BROWN CLAY (A-7-6)								VISUAL
		3.5 - 4.5	4	2	2	34	59	38	19	15	A-6b
		4.5 - 5.7	BROWN SILTY CLAY (A-6b)								VISUAL
		5.7 - 10.7	GRAY LIMESTONE								VISUAL
R-21	937+01.97	0.0 - 0.5	TOPSOIL								VISUAL
	50.78' Rt.	0.5 - 1.5	18	9	11	24	38	43	28	19	A-7-6*
		1.5 - 3.0	6	3	2	34	55	37	20	16	A-6b
		3.0 - 3.5	GRAYISH BROWN WEATHERED LIMESTONE								VISUAL
		3.5 - 8.5	GRAY LIMESTONE								VISUAL
R-23	939+02.96	0.0 - 0.3	TOPSOIL								VISUAL
	45.31' Lt.	0.3 - 1.5	10	5	5	35	45	37	21	16	A-6b*
		1.5 - 3.5	BROWN SILTY CLAY (A-6b)								VISUAL
		3.5 - 4.5	30	40	16	8	5	NP	NP	7	A-1-b
		4.5 - 5.0	GRAVEL AND/OR STONE FRAGS. WITH SAND (A-1-b)								VISUAL
		5.0 - 6.0	18	3	2	31	46	37	20	15	A-6b
R-24	941+02.01	0.0 - 1.5	ASPH. CONC., PORT. CEMENT CONC., AND AGGR. BASE								VISUAL
	47.83' Rt.	1.5 - 3.0	GRAYISH BROWN SILTY CLAY (A-6b)								VISUAL*
		3.0 - 8.0	GRAY LIMESTONE								VISUAL
R-26	942+97.55	0.0 - 0.3	TOPSOIL								VISUAL
	31.15' Lt.	0.3 - 1.5	BROWN SILT AND CLAY (A-6a)								VISUAL*
		1.5 - 2.5	24	18	11	27	20	29	14	13	A-6a
		2.5 - 4.5	BROWN COARSE AND FINE SAND (A-3a)								VISUAL
		4.5 - 5.5	GRAY CLAY (A-7-6)								VISUAL
		5.5 - 7.4	GRAY WEATHERED LIMESTONE								VISUAL
		7.4 - 10.5	GRAY LIMESTONE								VISUAL
R-28	974+97.81	0.0 - 0.5	AGGREGATE BASE								VISUAL
	46.66' Rt.	0.5 - 1.5	BROWN SANDY SILT (A-4a)								VISUAL*
		1.5 - 3.0	14	13	18	33	23	21	9	10	A-4a
		3.0 - 4.5	10	12	19	33	26	24	12	10	A-6a
		4.5 - 8.5	BROWN SILT AND CLAY (A-6a)								VISUAL
		8.5 - 10.0	17	11	20	34	19	21	9	9	A-4a
R-30	976+69.93	0.0 - 1.7	ASPH. CONC., PORT. CEMENT CONC., AND AGGR. BASE								VISUAL
	35.11' Lt.	1.7 - 3.0	11	11	19	35	24	32	10	10	A-4a*
		3.0 - 3.5	BROWN SANDY SILT (A-4a)								VISUAL
		3.5 - 4.5	19	10	18	31	23	23	11	10	A-6a
		4.5 - 10.0	BROWN SILT AND CLAY (A-6a)								VISUAL
R-31	978+70.68	0.0 - 1.6	ASPHALT CONCRETE AND AGGREGATE BASE								VISUAL
	42.96' Rt.	1.6 - 3.0	11	13	19	32	25	30	16	12	A-6b*
		3.0 - 3.5	BROWN SILTY CLAY (A-6b)								VISUAL
		3.5 - 4.5	12	10	19	34	25	23	11	10	A-6a
		4.5 - 6.5	BROWN SILT AND CLAY (A-6a)								VISUAL
		6.5 - 7.5	11	11	20	36	22	22	9	10	A-4a
		7.5 - 10.0	GRAY SANDY SILT (A-4a)								VISUAL

DRAWN RLS
CHECKED SJR

SOIL PROFILE

WAR-71-14.20
PID 22950

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SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.
** DENOTES SAMPLE TAKEN AT OR NEAR GRADE.*

BORING	STATION & OFFSET	DEPTH FROM - TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	% L.L.	P.I.	% W.C.	ODOT CLASS.
R-32	978+71.44	0.0 - 0.3	TOPSOIL								VISUAL
	134.96' Rt.	0.3 - 3.5	BROWN CLAY (A-7-6)								VISUAL
		3.5 - 5.0	8	6	13	27	47	42	24	24	A-7-6
		5.0 - 5.5	BROWN CLAY (A-7-6)								VISUAL
		5.5 - 8.5	BROWN SANDY SILT (A-4a)								VISUAL
		8.5 - 10.0	17	11	21	31	20	22	9	10	A-4a
		10.0 - 12.0	BROWN SANDY SILT (A-4a)								VISUAL
		12.0 - 13.0	BROWN COARSE AND FINE SAND (A-3a)								VISUAL
		13.0 - 21.0	GRAY SANDY SILT (A-4a)								VISUAL
		21.0 - 23.5	10	12	21	34	22	21	9	11	A-4a
		23.5 - 30.0	GRAY SANDY SILT (A-4a)								VISUAL
R-33	980+70.08	0.0 - 0.3	TOPSOIL								VISUAL
	41.45' Lt.	0.3 - 1.5	15	11	17	30	27	25	11	11	A-6a*
		1.5 - 3.0	11	13	17	32	27	23	11	10	A-6a
		3.0 - 8.5	BROWN SILT AND CLAY (A-6a)								VISUAL
		8.5 - 10.0	11	12	20	35	22	21	10	9	A-4a
R-35	982+70.46	0.0 - 1.7	ASPH. CONC., PORT. CEMENT CONC., AND AGGR. BASE								VISUAL
	40.64' Rt.	1.7 - 3.0	BROWN SILT AND CLAY (A-6a)								VISUAL*
		3.0 - 4.5	13	11	19	34	24	24	10	10	A-4a
		4.5 - 6.0	8	9	20	34	29	24	7	13	A-4a
		6.0 - 10.0	BROWN SANDY SILT (A-4a)								VISUAL
R-36	983+20.84	0.0 - 0.2	TOPSOIL								VISUAL
	197.50' Rt.	0.2 - 6.0	BROWN CLAY (A-7-6)								VISUAL
		6.0 - 7.5	6	6	14	28	47	42	25	24	A-7-6
		7.5 - 12.5	BROWN CLAY (A-7-6)								VISUAL
		12.5 - 15.5	GRAY SANDY SILT (A-4a)								VISUAL
		15.5 - 18.0	BROWN SILT (A-4b)								VISUAL
		18.0 - 18.5	BROWN GRAVEL WITH SAND AND SILT (A-2-4)								VISUAL
		18.5 - 19.5	56	9	5	- 29 -		NP	NP	8	A-2-4
		19.5 - 24.1	BROWN GRAVEL WITH SAND AND SILT (A-2-4)								VISUAL
R-37	984+70.21	0.0 - 1.6	ASPHALT CONCRETE AND AGGREGATE BASE								VISUAL
	48.86' Lt.	1.6 - 3.0	6	1	4	32	57	58	39	24	A-7-6*
		3.0 - 4.5	1	2	4	30	63	64	41	25	A-7-6
		4.5 - 6.5	BROWN CLAY (A-7-6)								VISUAL
		6.5 - 10.0	GRAY SILT AND CLAY (A-6a)								VISUAL
R-38	988+70.45	0.0 - 1.5	ASPH. CONC., PORT. CEMENT CONC., AND AGGR. BASE								VISUAL
	46.03' Lt.	1.5 - 3.0	GRAY SILTY CLAY (A-6b)								VISUAL*
		3.0 - 8.0	GRAY LIMESTONE								VISUAL
R-39	992+70.70	0.0 - 1.7	ASPHALT CONCRETE AND AGGREGATE BASE								VISUAL
	47.15' Lt.	1.7 - 30	15	9	10	34	33	32	18	13	A-6b*
		3.0 - 5.0	GRAY WEATHERED LIMESTONE								VISUAL
		5.0 - 10.0	GRAY LIMESTONE								VISUAL
R-40	996+70.76	0.0 - 1.5	ASPH. CONC., PORT. CEMENT CONC., AND AGGR. BASE								VISUAL
	37.40' Lt.	1.5 - 3.0	GRAYISH BROWN WEATHERED LIMESTONE								VISUAL*
		3.0 - 8.0	GRAY LIMESTONE								VISUAL

BORING	STATION & OFFSET	DEPTH FROM - TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	% L.L.	P.I.	% W.C.	ODOT CLASS.

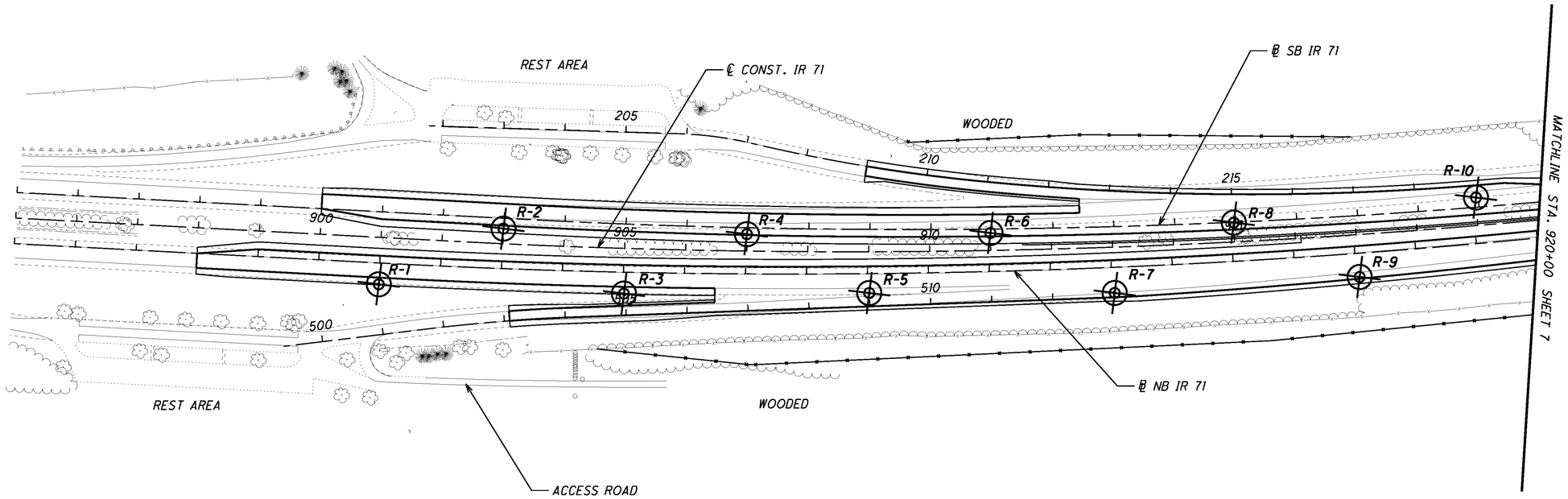
BORING	STATION & OFFSET	DEPTH FROM - TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	% L.L.	P.I.	% W.C.	ODOT CLASS.

DRAWN RLS
CHECKED SJR

SOIL PROFILE

WAR-71-14.20
PID 22950

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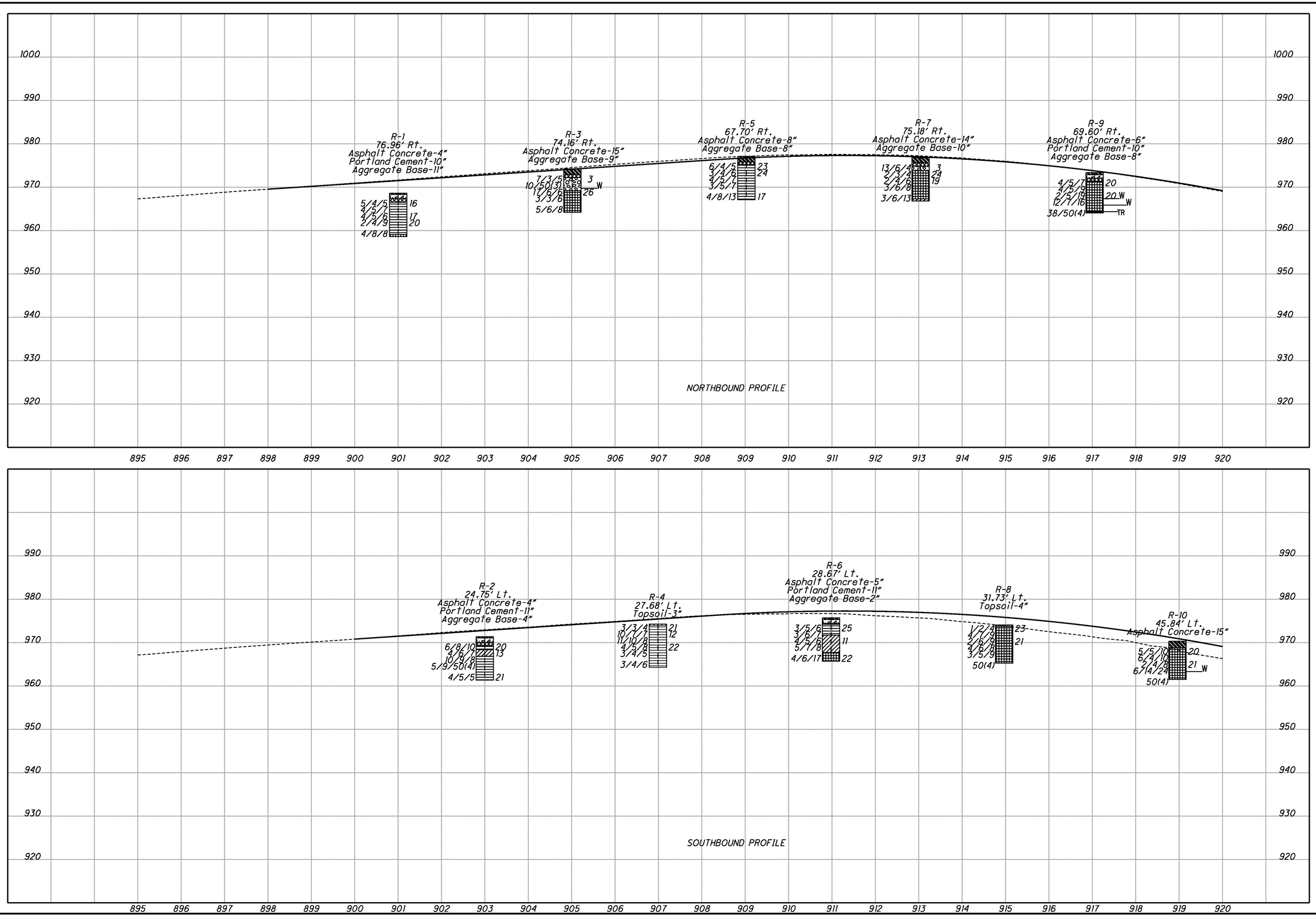
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HORIZONTAL SCALE IN FEET

DRAWN RLS
CHECKED SJR

SOIL PROFILE
STA. 895+00 TO STA. 920+00

WAR-71.14.20
PID 22950

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DRAWN RLS | CHECKED SJR

SOIL PROFILE

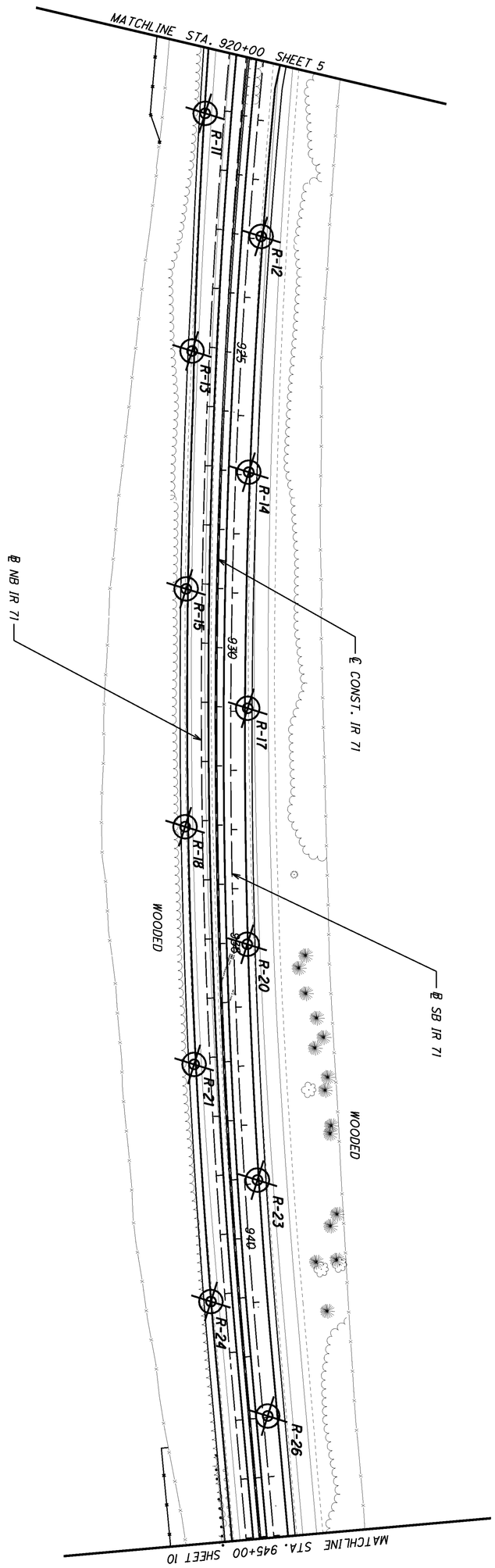
STA. 895+00 TO STA. 920+00

WAR-71-14.20

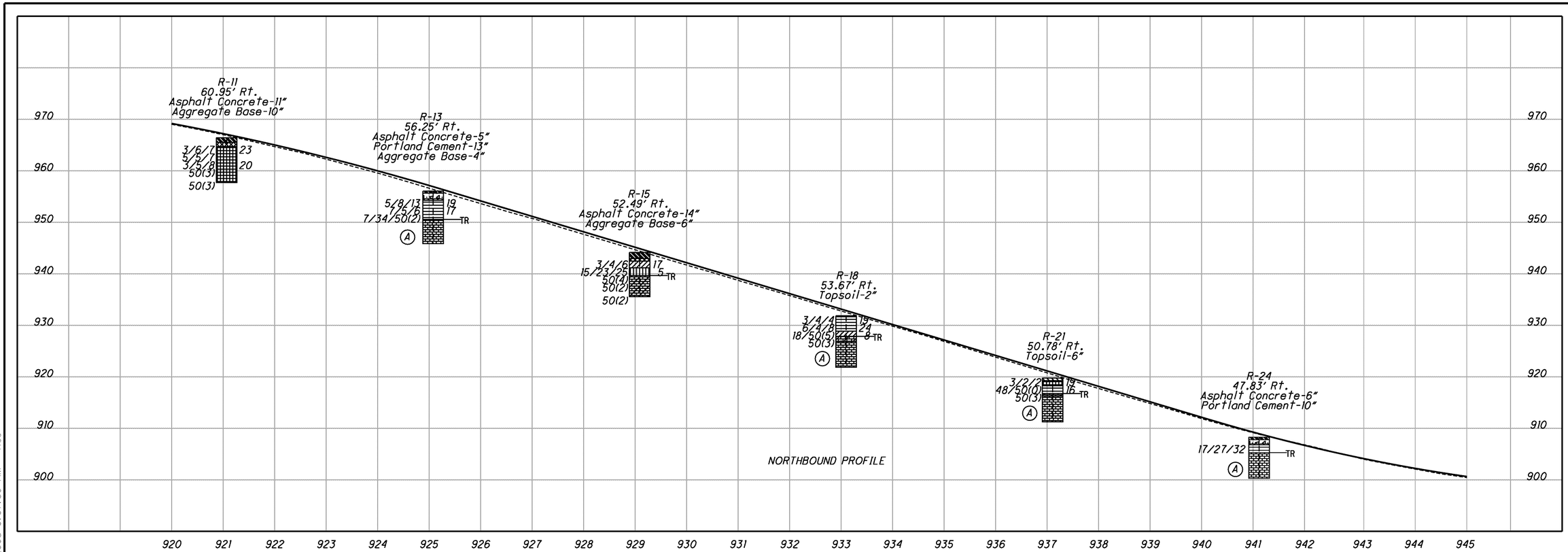
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	7 / 16	WAR-71.14.20 PID 22950	SOIL PROFILE STA. 920+00 TO STA. 945+00	DRAWN RLS CHECKED SJR	0 100 50 200 HORIZONTAL SCALE IN FEET



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DRAWN RLS | CHECKED SJR

SOIL PROFILE
STA. 920+00 TO STA. 945+00

WAR-71-14.20
PID 22950

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R-13

(A) Hard gray LIMESTONE;fossiliferous, thinly bedded, highly fractured, fractures infilled with calcareous clayey silt.

Core Loss = 0% RQD = 54%

R-14

(A) Medium hard to hard gray LIMESTONE; fossiliferous,argillaceous, highly fractured, fractures infilled with calcareous clayey silt.

Core Loss = 13% RQD = 22%

R-17

(A) Hard gray LIMESTONE; fossiliferous, thinly bedded to medium bedded, highly fractured, fractures infilled with calcareous clayey silt.

Core Loss = 0% RQD = 60%

R-18

(A) Hard gray LIMESTONE; fossiliferous, thinly bedded, moderately fractured, fractures infilled with calcareous clayey silt, and soft gray, shale, very fine grained, thin to medium bedded, slightly fractured.

Core Loss = 33% RQD = 7%

R-20

(A) Hard gray LIMESTONE; medium bedded, highly fractured, fractures infilled with calcareous clayey silt.

Core Loss = 12% RQD = 30%

R-21

(A) Hard gray LIMESTONE; fossiliferous, thinly bedded to medium bedded, moderately fractured, fractures infilled with calcareous clayey silt and soft gray shale, medium bedded, slightly fractured.

Core Loss = 0% RQD = 45%

R-24

(A) Soft gray LIMESTONE with interbedded shale; medium bedded, argillaceous, arenaceous, moderately fractured.

Core Loss = 15% RQD = 17%

R-26

(A) Hard gray LIMESTONE; fossiliferous, thinly bedded, slightly fractured.

Core Loss = 8% RQD = 17%

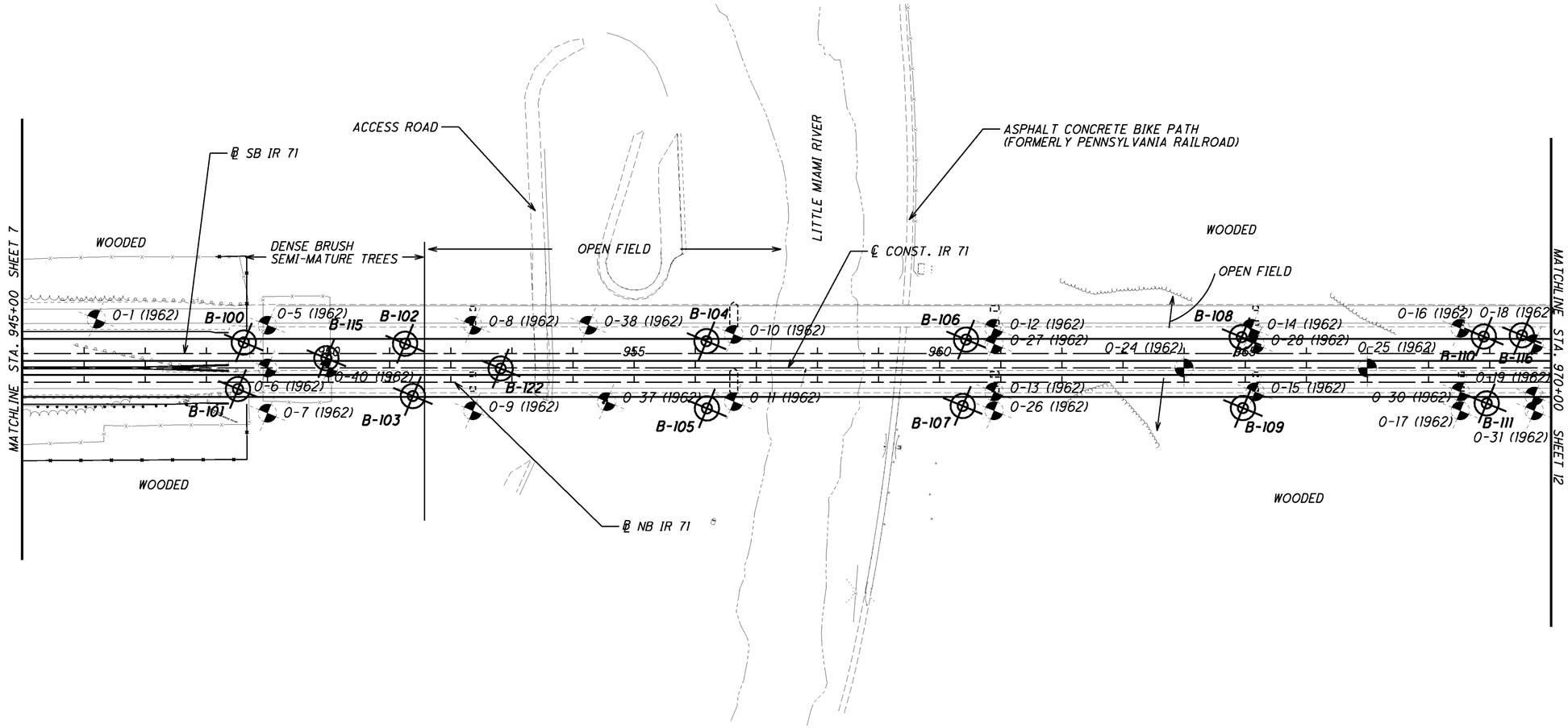
DRAWN RLS CHECKED SJR

SOIL PROFILE

STA. 920+00 TO STA. 945+00

WAR-71-14.20
PID 22950

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NOTE: NOT ALL BRIDGE BORINGS ARE SHOWN FOR CLARITY. PROFILES FOR BRIDGE BORINGS SHOWN ON STRUCTURE FOUNDATION INVESTIGATIONS SHEETS.

NOTE: BORING LOCATIONS FROM THE 1962 INVESTIGATION ARE PRESENTED IN PLAN VIEW ONLY. FOR INFORMATION CONCERNING THE SOIL AND ROCK ENCOUNTERED IN THESE BORINGS, PLEASE REFER TO THE ORIGINAL 1962 SUBSURFACE AND FOUNDATION INVESTIGATION REPORT (WAR-1-15.14) PREPARED BY LOUIS BERGER AND ASSOCIATES.

HORIZONTAL SCALE IN FEET
0 50 100 200

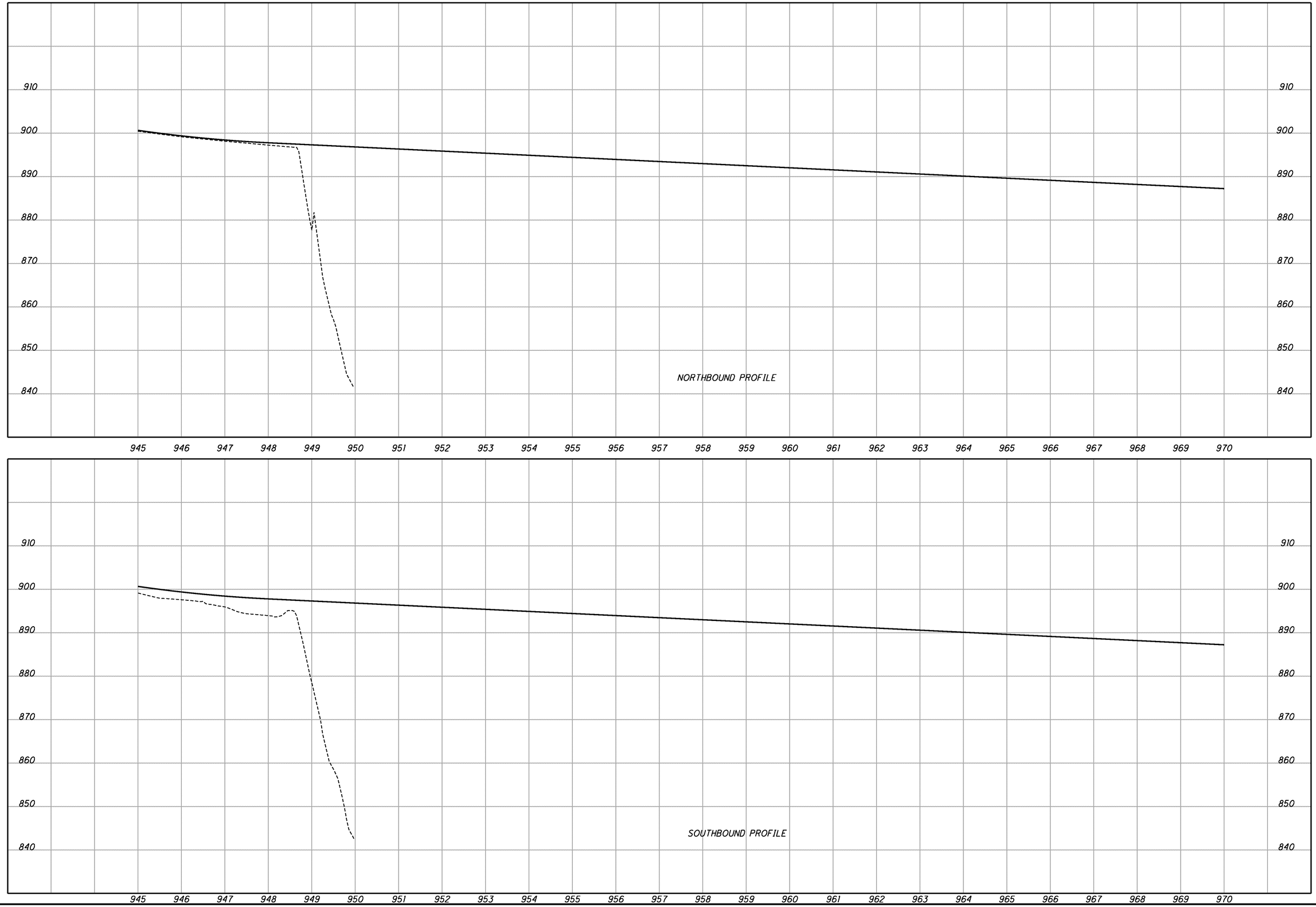
DRAWN RLS
CHECKED SJR

SOIL PROFILE
STA. 945+00 TO STA. 970+00

WAR-71.14.20
PID 22950

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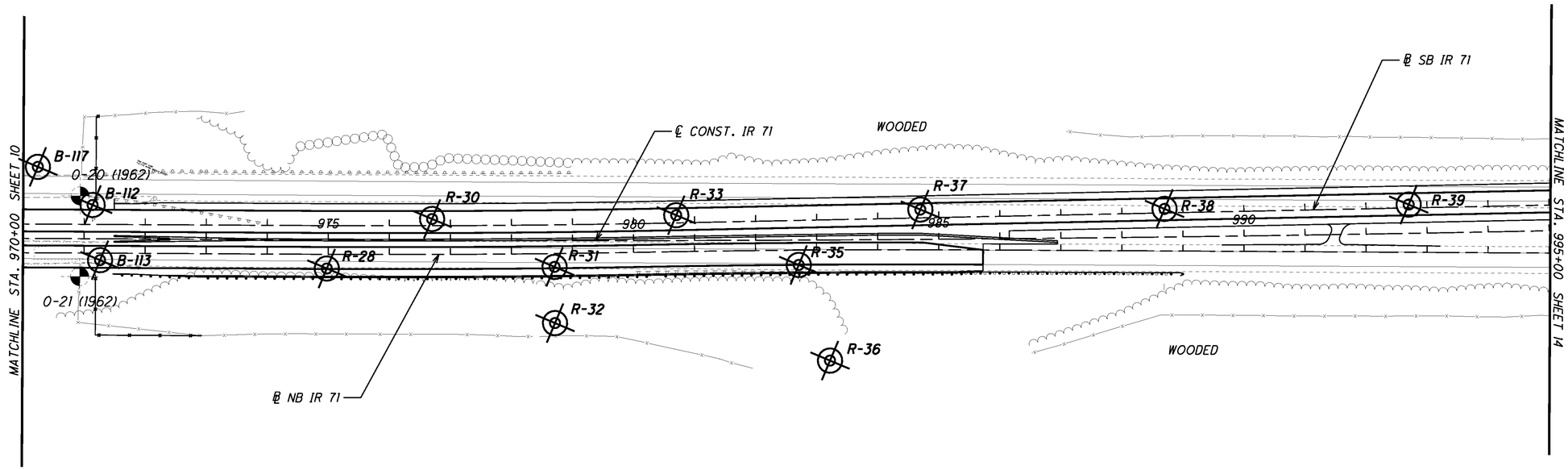
DRAWN RLS
CHECKED SJR

SOIL PROFILE
STA. 945+00 TO STA. 970+00

WAR-71-14.20
PID 22950

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NOTE: NOT ALL BRIDGE BORINGS ARE SHOWN FOR CLARITY. PROFILES FOR BRIDGE BORINGS SHOWN ON STRUCTURE FOUNDATION INVESTIGATIONS SHEETS.

CROSS SECTION INDEX	
STATION	SHEET
978+50	16
982+50	16

HORIZONTAL SCALE IN FEET
0 50 100 200

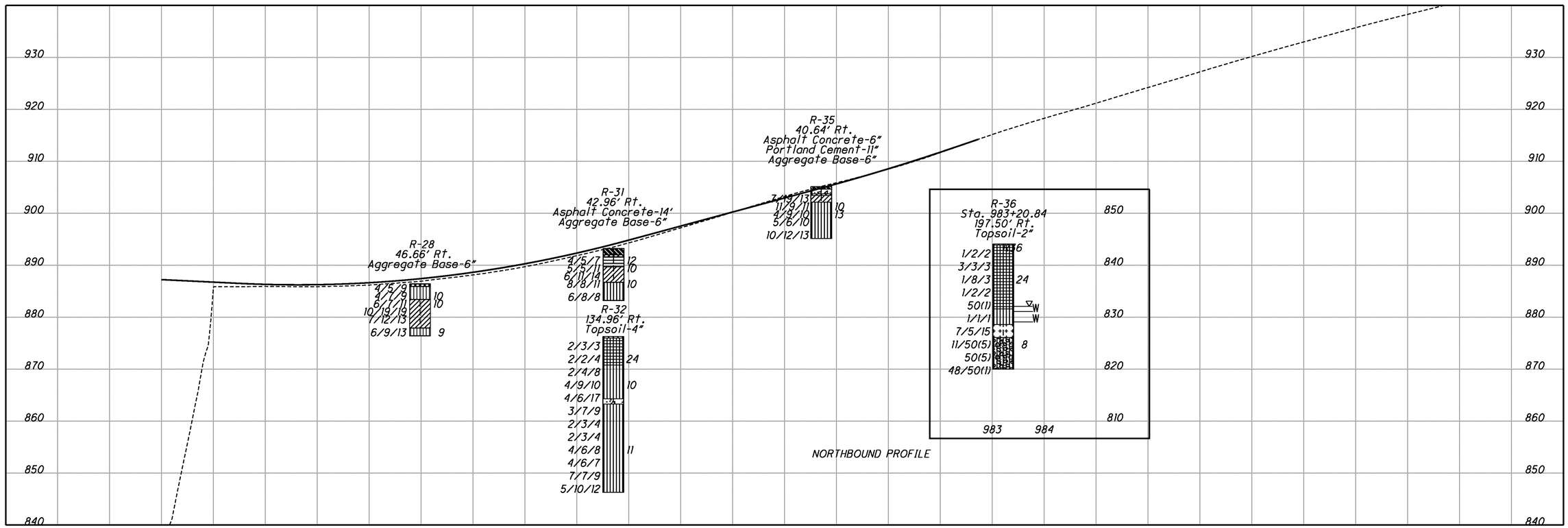
DRAWN RLS
CHECKED SJR

SOIL PROFILE
STA. 970+00 TO STA. 995+00

WAR-71.14.20
PID 22950

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DRAWN RLS
CHECKED SJR

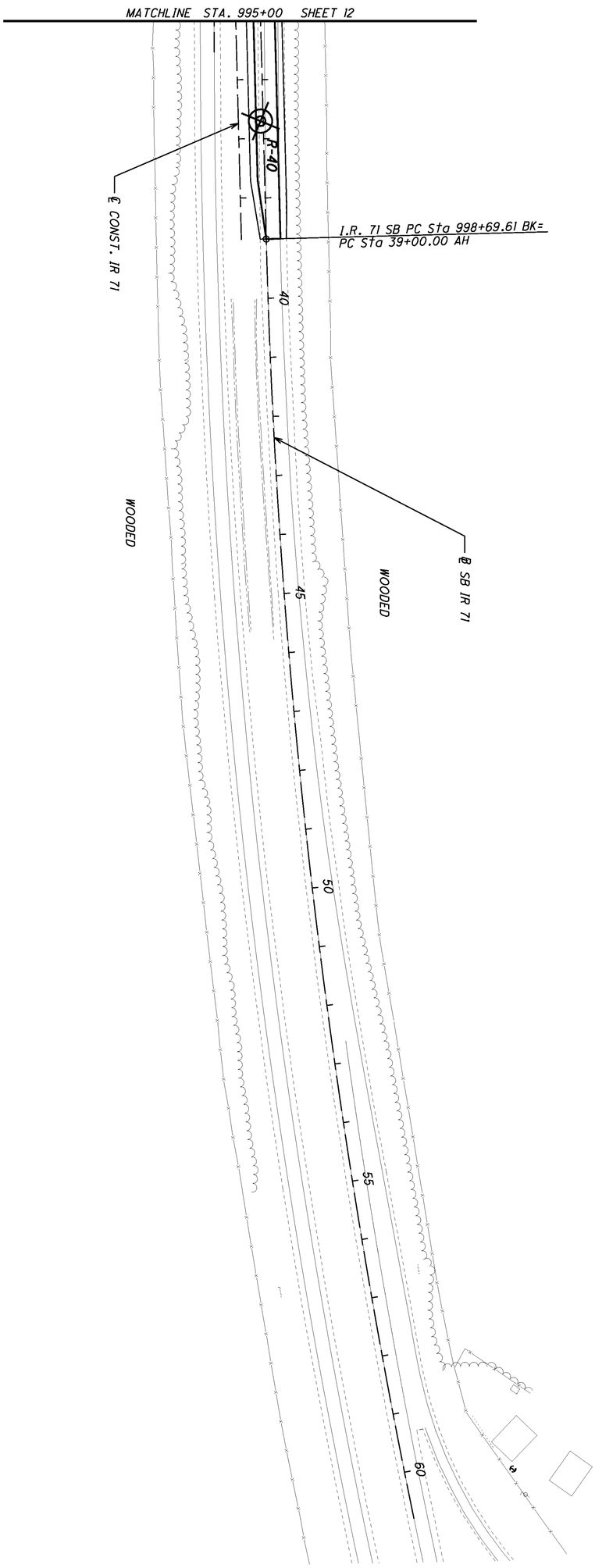
SOIL PROFILE
STA. 970+00 TO STA.995+00

WAR-71-14.20
PID 22950

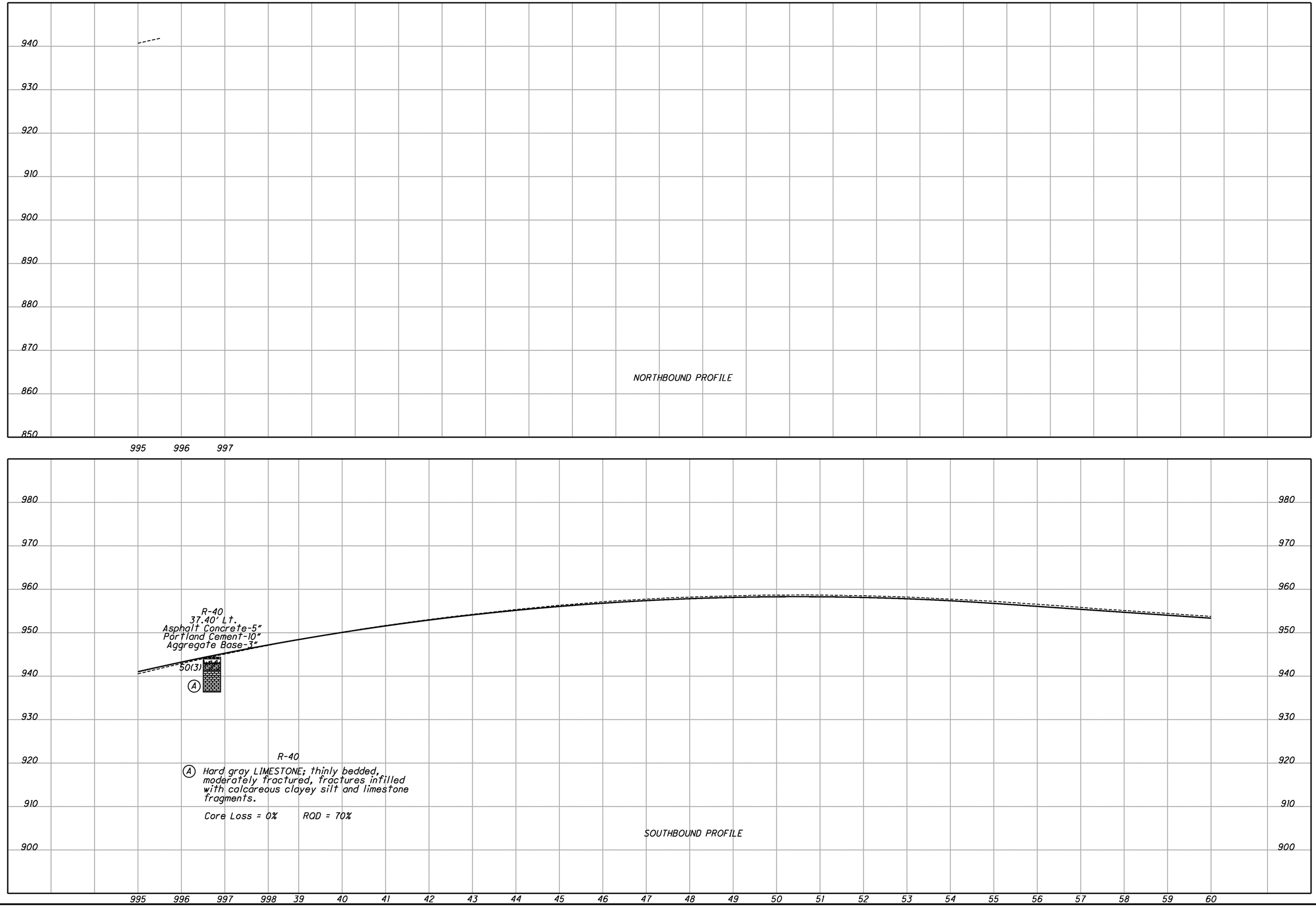
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14/16	WAR-71.14.20 PID 22950	SOIL PROFILE STA. 995+00 TO STA. 60+00	DRAWN RLS CHECKED SJR	0 100 50 200 HORIZONTAL SCALE IN FEET	N



DRAWN RLS
CHECKED SJR

SOIL PROFILE

STA. 995+00 TO STA. 60+00

WAR-71-14.20
PID 22950

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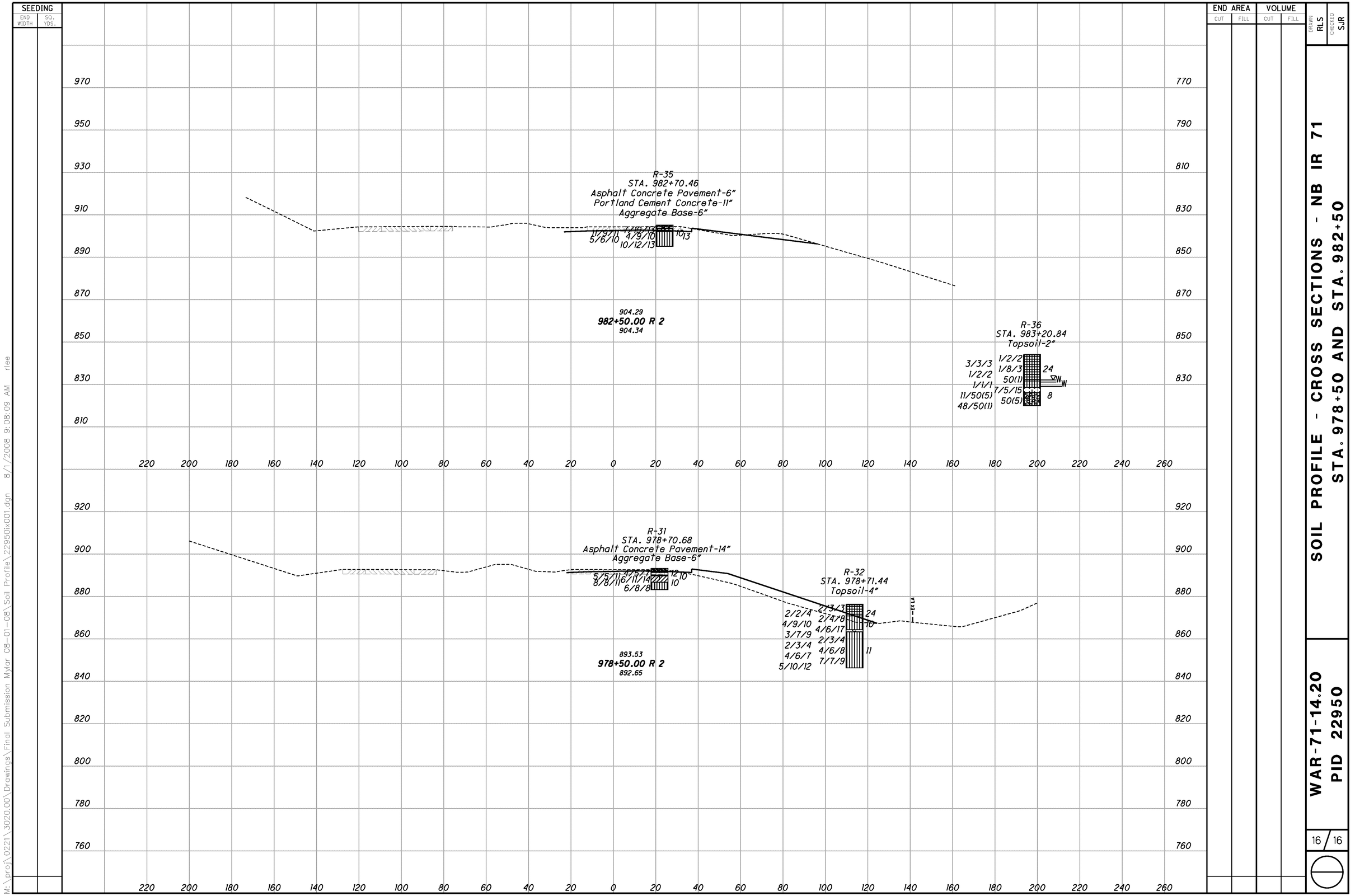
SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

DRAWN RLS

CHECKED SJR



SOIL PROFILE - CROSS SECTIONS - NB IR 71
STA. 978+50 AND STA. 982+50

WAR-71-14.20
PID 22950

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GEOLOGY OF THE SITE

THE PROJECT IS LOCATED WITHIN THE SOUTHERN OHIO LOAMY TILL PLAIN OF THE CENTRAL LOWLAND TILL PLAINS PHYSIOGRAPHIC PROVINCE. THIS AREA IS CHARACTERIZED BY MODERATE RELIEF THAT IS DEVELOPED BY STEEP-VALLEY STREAMS BETWEEN RELATIVELY FLAY-LYING GROUND AND OCCASIONAL END MORAINES. BOULDER BELTS ARE COMMONLY FOUND WITHIN THESE AREAS.

THE PROJECT AREA IS REPORTED TO CONTAIN OVERBURDEN SOILS COMPOSED OF GROUND MORAINE TILLS OF ILLINOIAN AGE. ALONG THE LITTLE MIAMI RIVER, ALLUVIAL DEPOSITS UNDERLAIN BY THIN ILLINOIAN TILLS ARE ENCOUNTERED.

OVERBURDEN VARIES GREATLY IN THICKNESS ACROSS THE PROJECT. THE WESTERN VALLEY SLOPE HAS RELATIVELY THIN OVERBURDEN WHILE THE EASTERN VALLEY SLOPE HAS THIN TO VERY THICK OVERBURDEN DEPOSITS. OVERBURDEN THICKNESS ALONG THE WEST VALLEY SLOPE RANGED BETWEEN 18 AND 22 FEET AT THE ABUTMENT AND FROM 8 TO 15.5 FEET FURTHER DOWN THE SLOPE. WITHIN THE FLOOD PLAIN, THE OVERBURDEN THICKNESS RANGES FROM 28 TO 46.5 FEET. ALONG THE EAST VALLEY SLOPE, OVERBURDEN WAS GREATER THAN 85 FEET AT THE ABUTMENT AND RANGED FROM 15 TO GREATER THAN 120 FEET FURTHER DOWN THE SLOPE. THE UNDERLYING BEDROCK CONSISTS OF RELATIVELY FLAT LYING ORDOVICIAN AGED SHALES AND LIMESTONES. THE BEDROCK IS OF THE RICHMOND GROUP, WHICH IS SUBDIVIDED INTO THE WHITEWATER, LIBERTY, WAYNESVILLE, AND ARNHEIM FORMATIONS. THESE FORMATIONS ARE CHARACTERIZED AS HAVING THIN (< ONE INCH) TO THICK (>TWELVE INCHES) BEDS OF INTERBEDDED LIMESTONES AND SHALES, WITH SOME OF THE LIMESTONE LAYERS BEING VERY FOSSILIFEROUS. THE BEDROCK OF THE LOWER VALLEY WALLS AND THE LITTLE MIAMI RIVER CHANNEL ARE REPORTED TO BE SHALES AND LIMESTONES OF THE MAYSVILLE GROUP, MCMILLIAN FORMATION.

EXPLORATION

1. BORING PROGRAM

BORINGS FROM THE INITIAL EXPLORATION WERE DRILLED BETWEEN MAY 10 AND AUGUST 5, 2004 TO DEPTHS RANGING FROM 24 TO 85 FEET. THE INITIAL FIELD EXPLORATION FOR THIS INVESTIGATION CONSISTED OF DRILLING A TOTAL OF 18 BORINGS, DESIGNATED B-100 THROUGH B-113 FOR THE PROPOSED STRUCTURES, AND B-114 THROUGH B-117 FOR SLOPE STABILITY EVALUATIONS OF BOTH VALLEY SLOPES. BORINGS B-100 AND B-101 WERE DRILLED FOR THE WEST (REAR) ABUTMENT, B-102 AND B-103 FOR PIER 1, B-104 AND B-105 FOR PIER 2 WITHIN THE VALLEY BOTTOM, B-106 THROUGH B-111 FOR THE EAST VALLEY SLOPE PIER LOCATIONS, AND B-112 AND B-113 FOR THE EAST (FORWARD) ABUTMENT. BORINGS B-114 AND B-115 WERE DRILLED ALONG THE WEST VALLEY UPPER SLOPE AND B-116 AND B-117 WERE DRILLED ALONG THE EAST VALLEY UPPER SLOPE FOR THE STABILITY INVESTIGATION. ADDITIONALLY, BORINGS B-102, B-103 AND B-110 WERE ALSO CONSIDERED FOR THE SLOPE STABILITY EVALUATION. BORINGS FROM THE SUPPLEMENTAL EXPLORATION WERE DRILLED BETWEEN FEBRUARY 13 AND MARCH 9, 2006 TO DEPTHS RANGING FROM 23 TO 84.5 FEET. THE SUPPLEMENTAL FIELD EXPLORATION FOR THIS INVESTIGATION CONSISTED OF DRILLING FOURTEEN BORINGS. BORINGS B-118 AND B-119 THROUGH B-129 WERE DRILLED FOR THE PROPOSED STRUCTURES. BORINGS B-119 AND B-120 WERE DRILLED FOR A PROPOSED RETAINING WALL ON THE WEST VALLEY SLOPE. BORINGS B-102A AND B-103A WERE DRILLED WITH INCLINOMETER CASING INSTALLED TO REPLACE DAMAGED B-102 AND B-103 INCLINOMETERS. ALL BORINGS WERE DRILLED WITH EITHER A TRUCK OR ATV-MOUNTED, ROTARY DRILL RIG. THE OVERBURDEN SOILS WERE INVESTIGATED USING 3-INCH HOLLOW STEM AUGERS AND SPLIT-SPOON SAMPLER TO DEVELOP STANDARD PENETRATION DATA (SPT). THE CONDITION OF THE BEDROCK WAS EVALUATED BY COLLECTING CONTINUOUS CORE SAMPLES BY NQ WIRELINE METHODS.

A SUBSURFACE INVESTIGATION WAS PERFORMED FOR THE EXISING BRIDGE STURCTURE IN 1962. THE BORINGS DRILLED FOR THIS INVESTIGATION ARE NOT PRESENTED ON THESE DRAWINGS.

LEGEND

PRESS SAMPLE, DRIVE SAMPLE, AND/OR CORE BORING LOCATION - PLAN VIEW

HISTORIC BORING - PLAN VIEW

PRESS SAMPLE, DRIVE SAMPLE, AND/OR CORE BORING LOCATION - PROFILE VIEW

W —— INDICATES FREE WATER ELEVATION

INDICATES STATIC WATER ELEVATION

INDICATES STATIC WATER ELEVATION (DRILLING WATER USED)

X/Y/Z — FIGURES BESIDE THE BORING 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

50(n) — INDICATES NUMBER OF BLOWS (50) TO DRIVE A SPLIT-BARREL SAMPLER A DEPTH OF (n) INCHES OTHER THAN THE NORMAL 6 INCH INCREMENT.

SYMBOLS OF SOIL AND ROCK TYPES

- GRAVEL (A-1-a)
- GRAVEL WITH SAND (A-1-b)
- COARSE AND FINE SAND (A-3a)
- GRAVEL WITH SAND AND SILT (A-2-4)
- GRAVEL WITH SAND SILT AND CLAY (A-2-6)
- SANDY SILT (A-4a)
- SILT (A-4b)
- SILT AND CLAY (A-6a)
- SILTY CLAY (A-6b)
- CLAY (A-7-6)
- TOPSOIL
- AGGREGATE BASE
- WEATHERED LIMESTONE
- WEATHERED SHALE
- SHALE
- LIMESTONE
- INTERBEDDED SHALE AND LIMESTONE
- WEATHERED INTERBEDDED SHALE AND LIMESTONE

PARTICLE SIZE DEFINITIONS

12"	3"	2.0 mm		0.42 mm		0.074 mm	0.005 mm
Boulders	Cobbles	Gravel	Coarse Sand		Fine Sand	Silt	Clay
		No. 10 SIEVE		No. 40 SIEVE		No. 200 SIEVE	

GENERAL INFORMATION

DRIVE SAMPLES

DRIVE SAMPLE BORINGS ARE MADE BY MEANS OF A MECHANICALLY-POWERED, ROTARY-TYPE DRILL RIG EMPLOYING A 2" O.D., 1-3/8" I.D., SPLIT-SPOON SAMPLER, AT CONTINUOUS, 2-1/2' AND/OR 5' DEPTH INTERVALS, DRIVEN BY MEANS OF A 140 lb HAMMER WITH A FREE FALL OF 30 INCHES. THE NUMBER OF BLOWS REQUIRED TO DRIVE THE SAMPLER THREE 6-INCH INCREMENTS IS CONSIDERED THE STANDARD PENETRATION TEST.

PRESS SAMPLES

PRESS SAMPLES ARE TAKEN BY MEANS OF A MECHANICALLY POWERED, ROTARY-TYPE DRILL RIG, EMPLOYING A 3-INCH O.D. THIN-WALL PRESS SAMPLING TUBE. THE PRESS SAMPLING TUBE IS ADVANCED BY CONTINUOUS UNIFORM PRESSURE APPLIED BY THE DRILL RIG.

CORE BORINGS

CORE BORINGS ARE MADE BY MEANS OF A MECHANICALLY-POWERED, ROTARY-TYPE DRILL RIG, EMPLOYING A NQ2 OR NXM 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-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.

NOTES

ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN ON THE STRUCTURE FOUNDATION INVESTIGATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL SUBSURFACE INVESTIGATION MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE OFFICE OF GEOTECHNICAL ENGINEERING AT 1600 WEST BROAD STREET OR THE OFFICE OF STRUCTURAL ENGINEERING AT 1980 WEST BROAD STREET, COLUMBUS, OHIO 43223.

RECON - P.P.P - 9/10/00
DRILLING 1 - D.W. - 5/10/04 TO 8/5/04
DRILLING 2 - D.W. - 2/13/06 TO 3/9/06
DRAFTING - R.L.S., S.J.R. - 9/27/07

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GEOLOGY OF THE SITE (cont.)

2. IN-SITU TESTING PROGRAM

IN-SITU PRESSUREMETER AND DILATOMETER TESTS WERE PERFORMED IN SEVERAL OF THE BORINGS FOR THE SUPPLEMENTAL FIELD EXPLORATION. THE TEST RESULTS WERE USED TO DETERMINE SOIL-STRUCTURE INTERACTION PARAMETERS AND TO HELP OPTIMIZE THE DESIGN VALUES, ESPECIALLY THE ALLOWABLE BEARING CAPACITY OF THE BEDROCK. IN ADDITION, THE TEST RESULTS WERE USED TO ESTIMATE THE ANTICIPATED SETTLEMENTS OF THE SUBSTRUCTURES FOUNDED ON THE GLACIAL TILLS. PRESSUREMETER TESTING OF THE SOIL WAS PERFORMED IN BORINGS B-126, B-127, B-128 AND B-129. DILATOMETER TESTING OF THE ROCK WAS PERFORMED IN BORINGS B-121, B-123, B-124 AND B-125.

INVESTIGATIONAL FINDINGS AND OBSERVATIONS

1. SOILS

ALONG THE WEST VALLEY SLOPE, THIN OVERBURDEN SOILS WERE ENCOUNTERED WITH TOPSOIL BEING ENCOUNTERED AT THE GROUND SURFACE TO A DEPTH OF APPROXIMATELY 5 INCHES. BORING B-101 ENCOUNTERED ASPHALT CONCRETE TO A DEPTH OF 10 INCHES UNDERLAIN BY AGGREGATE BASE TO A DEPTH OF 2.5 FEET. IN BORING B-100, BELOW THE TOPSOIL, AN AGGREGATE BASE WAS ENCOUNTERED TO A DEPTH OF 3.0 FEET. FILL AND/OR POSSIBLE FILL MATERIALS WERE ENCOUNTERED IN THREE BORINGS: B-100, B-104, AND B-105, RANGING IN DEPTH FROM 5.5 TO 18 FEET. THE SUSPECTED FILL MATERIALS CONSISTED OF GRAVEL WITH SAND (A-1-b) AT THE TOP OF THE VALLEY SLOPE AND SILT AND CLAY AT THE BASE OF THE HILLSIDE. NATURAL SOILS ENCOUNTERED BY THE BORINGS ON THE WEST VALLEY SLOPE CONSISTED GENERALLY OF COHESIVE SOILS TO DEPTHS OF APPROXIMATELY 8.0 TO 25 FEET BELOW THE GROUND SURFACE. THESE SOILS GENERALLY WERE SILT AND CLAY (A-6a), SILTY CLAY (A-6b), AND CLAY (A-7-6) THAT RANGED FROM VERY STIFF TO HARD IN CONSISTENCY. GENERALLY, THE SOILS LOCATED ALONG THE WEST VALLEY SLOPE WERE RESIDUAL SOILS FORMED IN PLACE FROM THE WEATHERED BEDROCK OR COLLUVIAL SOILS DEPOSITED FROM THE DOWN-SLOPE TRANSPORT OF THE RESIDUAL SOILS. IT IS ANTICIPATED THAT SOME FILL WAS PLACED ACROSS THE SLOPE DURING PAST REGRADING OF THE SLOPE, BUT NOT IN ANY SIGNIFICANT AMOUNTS. A NARROW FLOOD PLAIN IS LOCATED AT THE BASE OF THE WEST VALLEY SLOPE CONSISTING OF INTERBEDDED GRANULAR AND COHESIVE LAYER TO DEPTHS OF APPROXIMATELY 28 TO 38 FEET BELOW GROUND SURFACE. THE GRANULAR LAYERS ENCOUNTERED RANGED FROM GRAVEL WITH SAND AND SILT (A-2-4) TO GRAVEL (A-1-a) RANGING FROM LOOSE TO MEDIUM DENSE IN COMPACTNESS. THE GRANULAR LAYERS COMPOSE THE MAJORITY OF THE OVERBURDEN SOILS WITHIN THE FLOOD PLAIN. THE COHESIVE LAYERS RANGED FROM SANDY SILT (A-4a) TO SILTY CLAY (A-6b) AND WERE SOFT TO MEDIUM STIFF IN CONSISTENCY. THE COHESIVE LAYERS WERE GENERALLY 2.6 TO 10.0 FEET IN THICKNESS AND LOCATED AT OR NEAR THE GROUND SURFACE.

ALONG THE EAST VALLEY SLOPE, THE OVERBURDEN SOILS WERE MUCH DEEPER THAN BENEATH THE WESTERN VALLEY SLOPE. OVERBURDEN SOILS RANGED IN THICKNESS FROM APPROXIMATELY 15 FEET TO GREATER THAN 120 FEET. AT THE GROUND SURFACE, TOPSOIL WAS NOTED BETWEEN DEPTHS OF 2 AND 7 INCHES. ONE BORING, B-113, ENCOUNTERED 9 INCHES OF ASPHALT CONCRETE AT THE GROUND SURFACE. SUSPECTED FILL MATERIALS WERE ENCOUNTERED IN FIVE OF THE BORINGS ACROSS THE EAST VALLEY SLOPE IN BORINGS B-106, B-107, B-109, B-111, AND B-112. THE SUSPECTED FILL DEPTHS RANGED FROM 2.0 TO 23.0 FEET BELOW THE GROUND SURFACE AND CONSISTED OF COHESIVE (A-6a AND A-6b) AND GRANULAR (A-4a AND A-2-4) SOILS. NATURAL SOILS ENCOUNTERED WERE GENERALLY GLACIALLY DEPOSITED TILLS AND WERE COMPOSED OF BOTH GRANULAR AND COHESIVE MATERIALS. THE PREDOMINANT SOIL STRATA WITHIN THE EASTERN VALLEY SLOPE WERE COHESIVE SANDY SILT (A-4a), SILT AND CLAY (A-6a), AND SILTY CLAY (A-6b). GRANULAR DEPOSITS WERE NOTED THROUGHOUT THE SLOPE AND WERE PREDOMINATELY GRAVEL (A-1-a) AND GRAVEL WITH SAND (A-1-b) WITH LESSER AMOUNTS OF SILT (A-4b) AND GRAVEL WITH SAND, SILT AND CLAY (A-2-6). THE TILLS WERE GENERALLY EITHER HARD OR VERY DENSE IN CONSISTENCY.

1. SOILS (cont.)

A PETROLEUM ODOR WAS NOTED IN BORING B-104 WITHIN A SATURATED GRANULAR LAYER. HOWEVER, IT SHOULD BE NOTED THAT NO ANALYTICAL TESTING OF THE SAMPLES WAS PERFORMED FOR CONTAMINATION, NOR HAS THE SITE BEEN EVALUATED BY DLZ FOR THE POTENTIAL PRESENCE OF CONTAMINATED SOIL, GROUNDWATER, OR WETLAND AREAS.

2. BEDROCK

THE DEPTH TO BEDROCK VARIES GREATLY ACROSS THE PROJECT. WHEN BEDROCK WAS ENCOUNTERED IN THE BORINGS, THE CONDITION OF THE BEDROCK WAS GENERALLY CONFIRMED THROUGH ROCK CORING. BEDROCK CORES WERE OBTAINED TO DETERMINE THE TYPE, CONDITION, AND CHARACTERISTICS OF THE IN-PLACE BEDROCK.

ALONG THE WEST VALLEY SLOPE THE DEPTH TO THE TOP OF ROCK RANGED FROM 8.0 TO 24.0 FEET BELOW GROUND SURFACE AND UP TO 47.0 FEET DEEP BENEATH THE FLOODPLAIN. GENERALLY, THE BEDROCK ENCOUNTERED ALONG THE HILLSIDE WAS COMPOSED OF INTERBEDDED SHALES AND LIMESTONES. THE SHALES WERE THE PREDOMINATE ROCK TYPE AND GENERALLY WERE SOFT TO MEDIUM HARD AND SLIGHTLY WEATHERED TO DECOMPOSED. LIMESTONE LAYERS WERE NOTED THROUGHOUT THE SHALE LAYERS AND RANGED IN THICKNESS FROM LESS THAN ONE INCH TO FIVE INCHES IN THICKNESS AND WERE GENERALLY MEDIUM HARD TO HARD. BORINGS B-104, B-105 AND B-129 DRILLED WITHIN THE FLOOD PLAIN, ENCOUNTERED HARD LIMESTONE WITH SHALE LAYERS. RECOVERY OF THE ROCK CORE SAMPLES RANGED FROM 75 TO 100% WITH AND AVERAGE RECOVERY OF 93%. ROCK QUALITY DESIGNATION (RQD) VALUES RANGED FROM 5 TO 76% WITH AN AVERAGE RQD VALUE OF 47%.

BEDROCK WAS NOT AS UNIFORM ALONG THE EAST VALLEY SLOPE AS IT WAS ALONG THE WEST VALLEY SLOPE. BEDROCK WAS FIRST ENCOUNTERED IN NINE OUT OF FOURTEEN BORINGS: B-106 THROUGH B-109, B-111 AND B-124 THROUGH B-127 RANGING FROM 15 TO 67 FEET BELOW THE GROUND SURFACE. THE REMAINING BORINGS DID NOT ENCOUNTER BEDROCK PRIOR TO THEIR TERMINATION DEPTHS.

GENERALLY, THE BEDROCK ENCOUNTERED CONSISTED OF SHALE INTERBEDDED WITH LIMESTONE. SHALE WAS THE PREDOMINATE ROCK TYPE AND GENERALLY WAS SOFT TO MEDIUM HARD AND SLIGHTLY WEATHERED TO DECOMPOSED. LIMESTONE LAYERS WERE NOTED THROUGHOUT THE SHALE LAYERS AND RANGED IN THICKNESS FROM LESS THAN ONE INCH TO FIVE INCHES IN THICKNESS AND WAS GENERALLY MEDIUM HARD TO HARD. RECOVERY OF THE ROCK CORE SAMPLES RANGED FROM 68 TO 100% WITH AN AVERAGE RECOVERY OF 96%. ROCK QUALITY DESIGNATION (RQD) VALUES RANGED FROM 13 TO 92% WITH AN AVERAGE RQD VALUE OF 55%. IT SHOULD BE NOTED THAT BEDROCK WAS NOT CORED IN BORING B-111, BUT SPLIT SPOON SAMPLES OF THE WEATHERED BEDROCK WERE COLLECTED.

3. GROUNDWATER

SUBSURFACE SEEPAGE WAS ENCOUNTERED ALONG THE WEST VALLEY SLOPE PRIMARILY IN THE BORINGS DRILLED WITHIN THE FLOOD PLAIN. SUBSURFACE SEEPAGE WAS NOTED WITHIN THE ALLUVIAL GRANULAR DEPOSITS BELOW ELEVATION 653.4. WATER LEVELS RECORDED AT COMPLETION OF THE DRILLING RANGED FROM ELEVATION 651.0 TO 672.9. DURING THE FIELD RECONNAISSANCE, SURFACE SEEPAGE WAS OBSERVED COMING FROM THE SLOPE JUST ABOVE THE ACCESS ROAD LEADING TO THE FORMER PARK. THIS SEEPAGE WAS NOTED AT APPROXIMATE ELEVATION 760.

3. GROUNDWATER (cont.)

IN THE EASTERN VALLEY SLOPE BORINGS, SUBSURFACE SEEPAGE WAS NOTED PRIMARILY WITHIN THE GRANULAR LAYERS LOCATED THROUGHOUT THE TILL. SEEPAGE WAS ENCOUNTERED BETWEEN 7.0 AND 79.3 FEET BELOW THE GROUND SURFACE WITH THE MAJORITY OF THE SEEPAGE ISOLATED WITHIN THE GRANULAR LAYERS. WATER LEVELS RECORDED AT THE COMPLETION OF THE DRILLING ACTIVITIES RANGED FROM 16.0 TO 63.5 FEET BELOW THE GROUND SURFACE. DURING THE FIELD RECONNAISSANCE, SEEPAGE WAS NOTED ALONG THE SOUTHERN SLOPE OUTSIDE OF THE AREA OF THE BRIDGE. IT APPEARS THAT A PORTION OF THE SOUTH SIDE OF THE EASTERN VALLEY SLOPE HAS BEEN REGRADED DURING PREVIOUS CONSTRUCTION ACTIVITIES. AT THE BASE OF THE RE-GRADED SLOPE, WETLAND VEGETATION AND SEEPAGE WERE NOTED. THIS AREA WAS PRESENT BETWEEN APPROXIMATE ELEVATIONS 760 AND 800 AND EXTENDED FROM APPROXIMATELY STA. 964+00 TO 971+00. ADDITIONALLY, ISOLATED AREAS OF SEEPAGE WERE NOTED WITHIN THE DEEPLY INCISED DRAINAGE RAVINE CUTTING ACROSS THE EASTERN VALLEY SLOPE AT VARYING ELEVATIONS.

THE FIELD RECONNAISSANCE PERFORMED DURING THE 1962 SUBSURFACE INVESTIGATION NOTED WATER FLOWING ALONG BEDDING PLANES AND JOINTS WITHIN THE EXPOSED BEDROCK IN SEVERAL AREAS. MOST OF THESE AREAS HOWEVER, WERE NOT EVIDENT DURING THE FIELDWORK FOR THE CURRENT INVESTIGATION DUE TO SOIL COVER ALONG THE SLOPES.

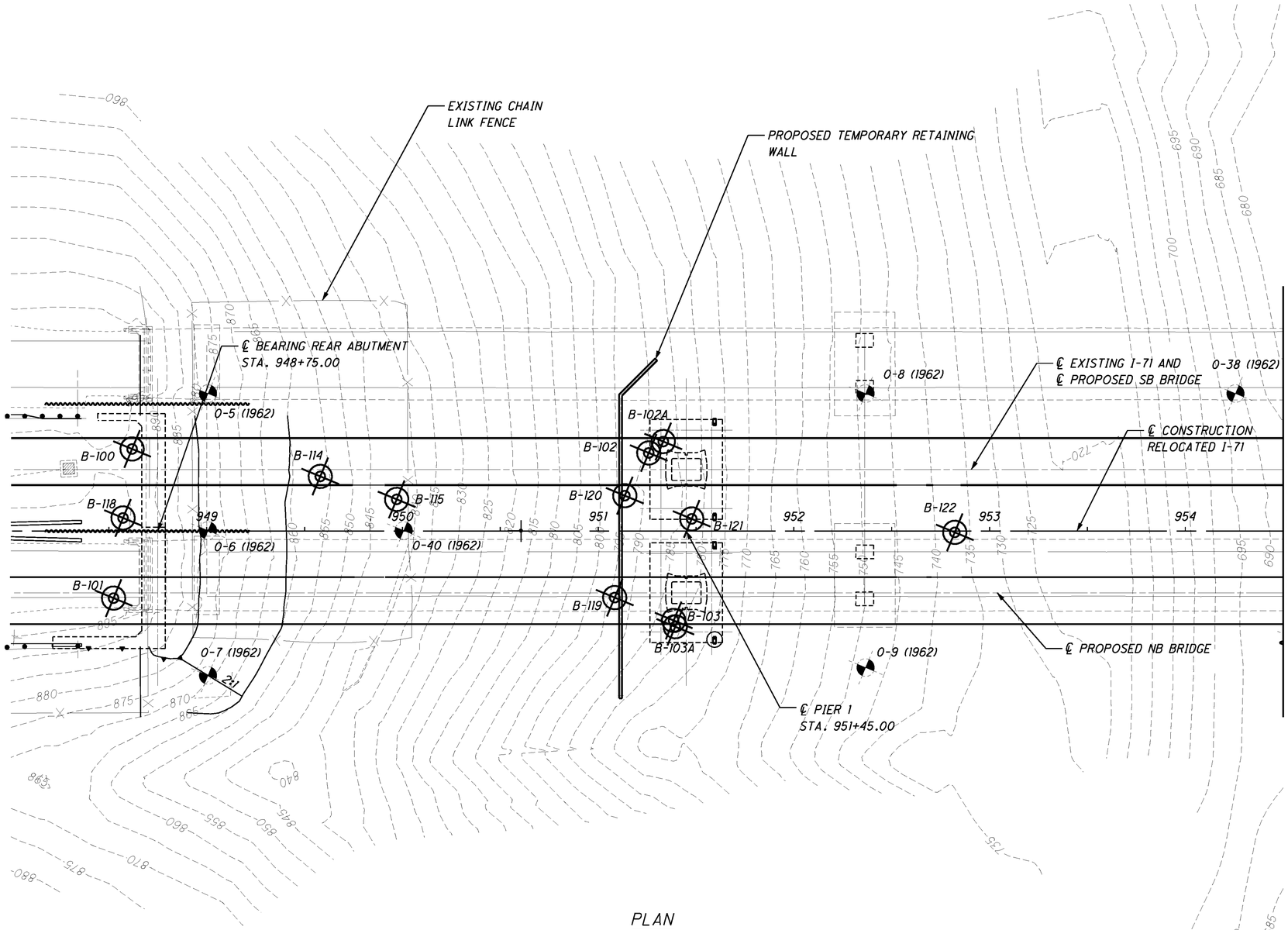
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WAR-71-14.20
PID No. 22950



PLAN

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HORIZONTAL SCALE IN FEET
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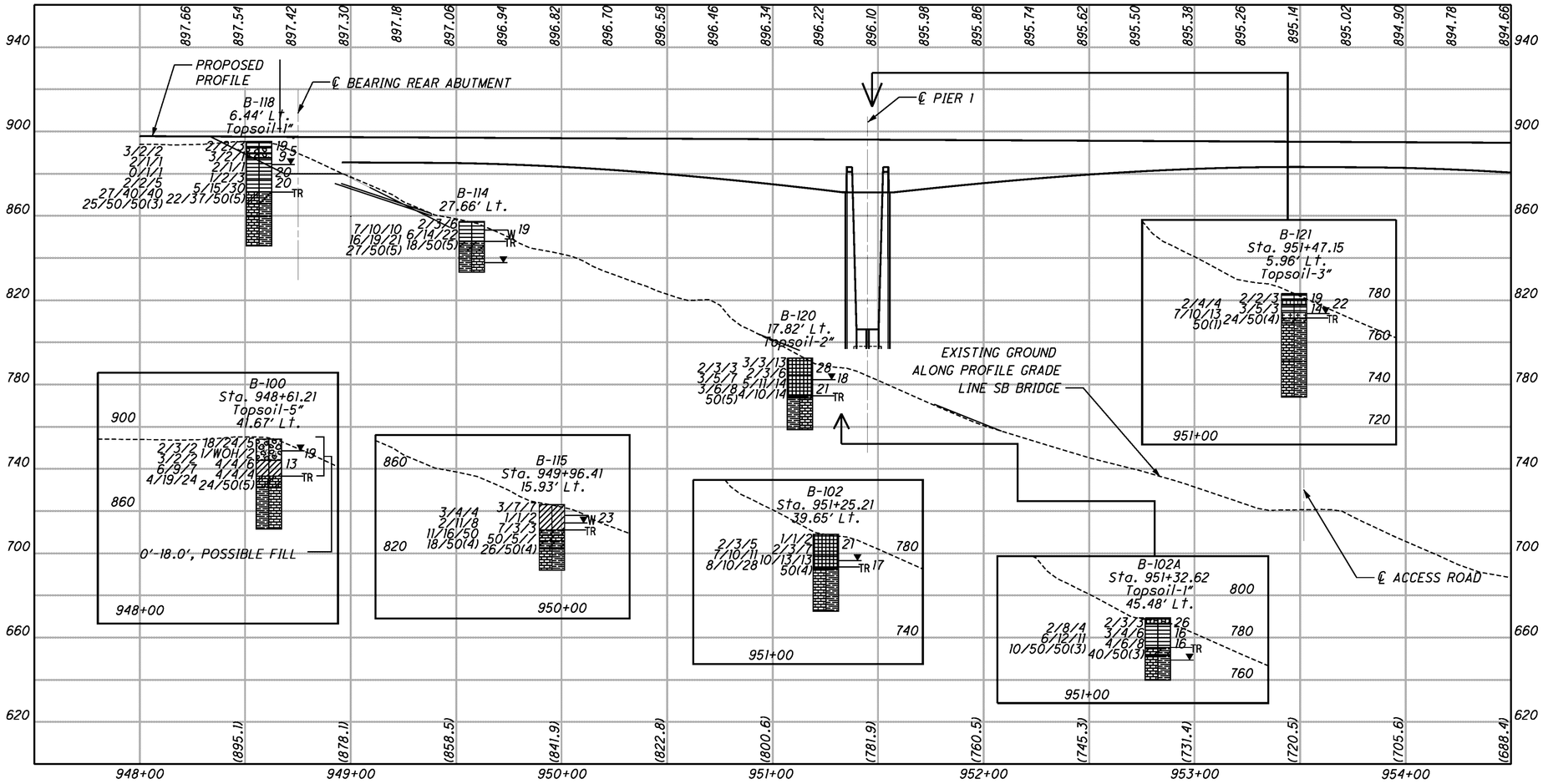
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SOUTHBOUND PROFILE

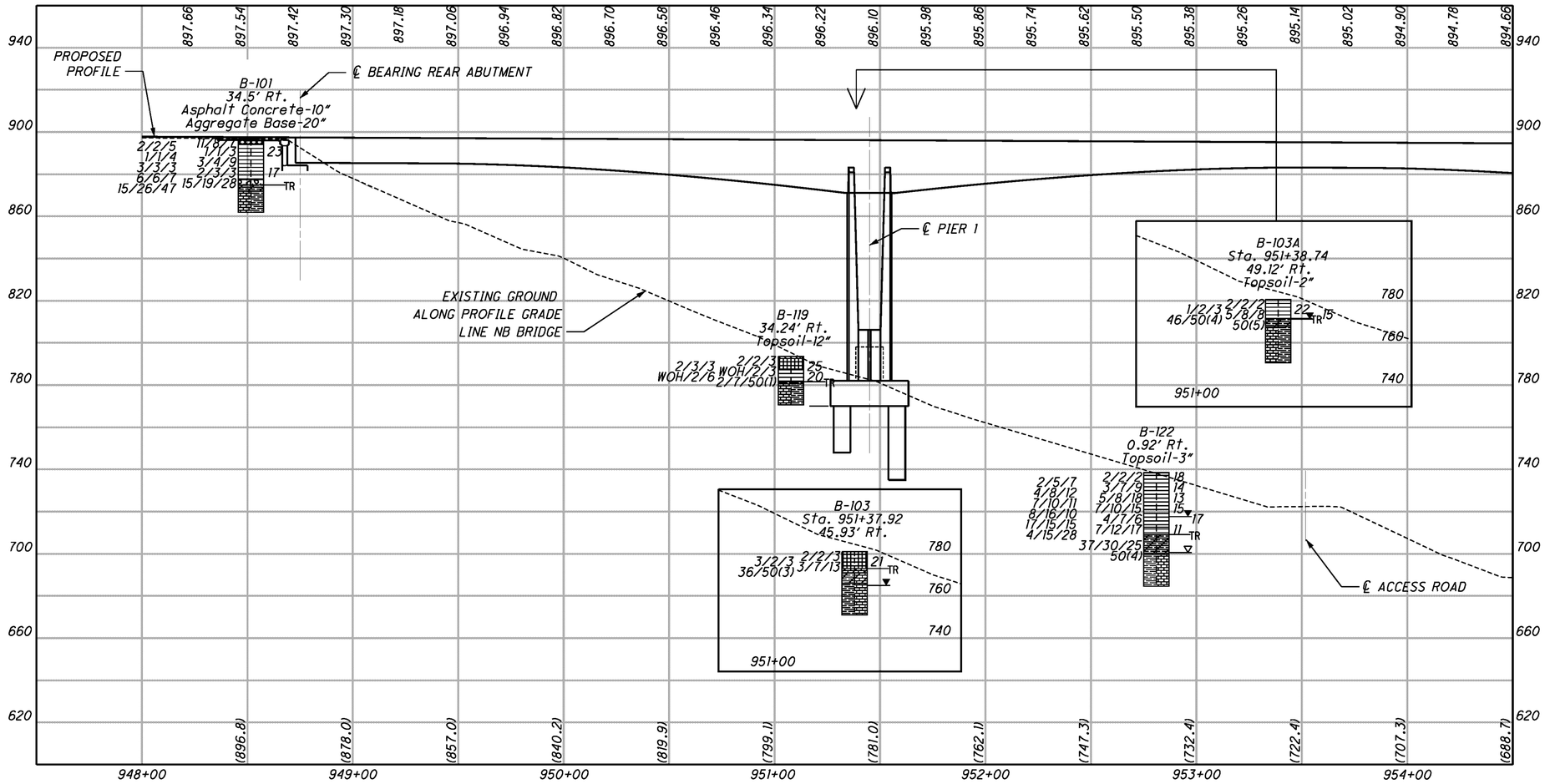
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NORTHBOUND PROFILE

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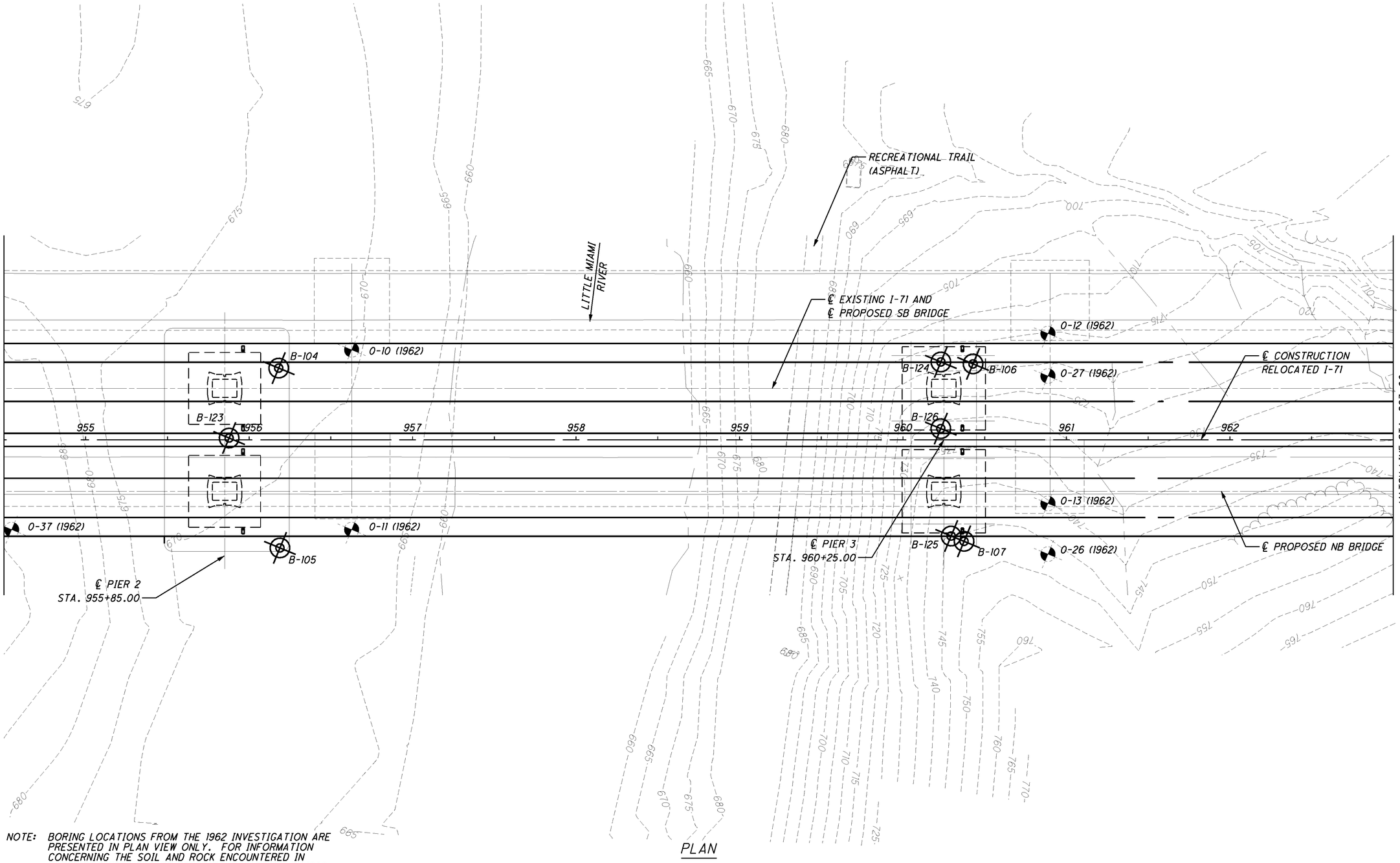
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HORIZONTAL SCALE IN FEET
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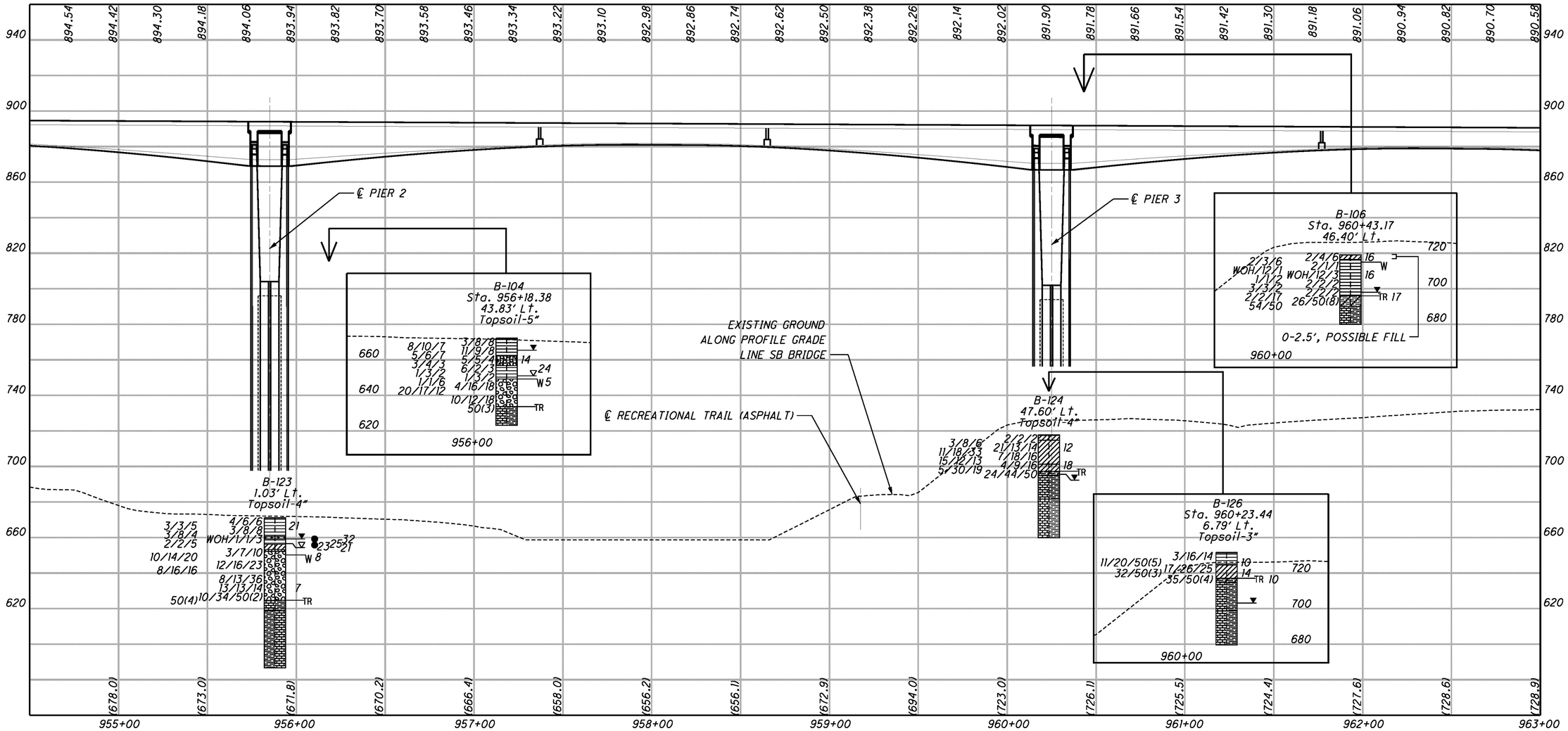
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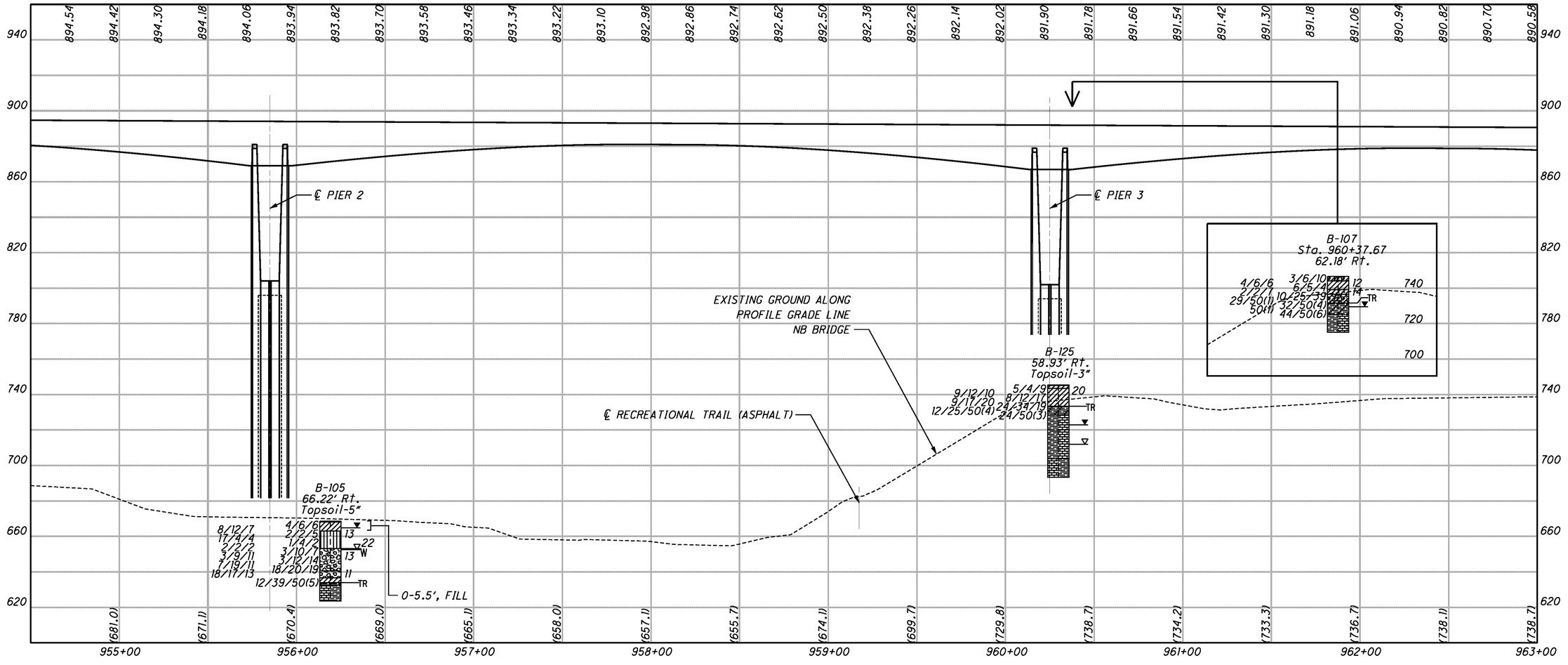
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INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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NORTHBOUND PROFILE

DLZ
600 ROCKEFELLER BLDG • 614 W SUPERIOR AVE • CLEVELAND, OH 44113

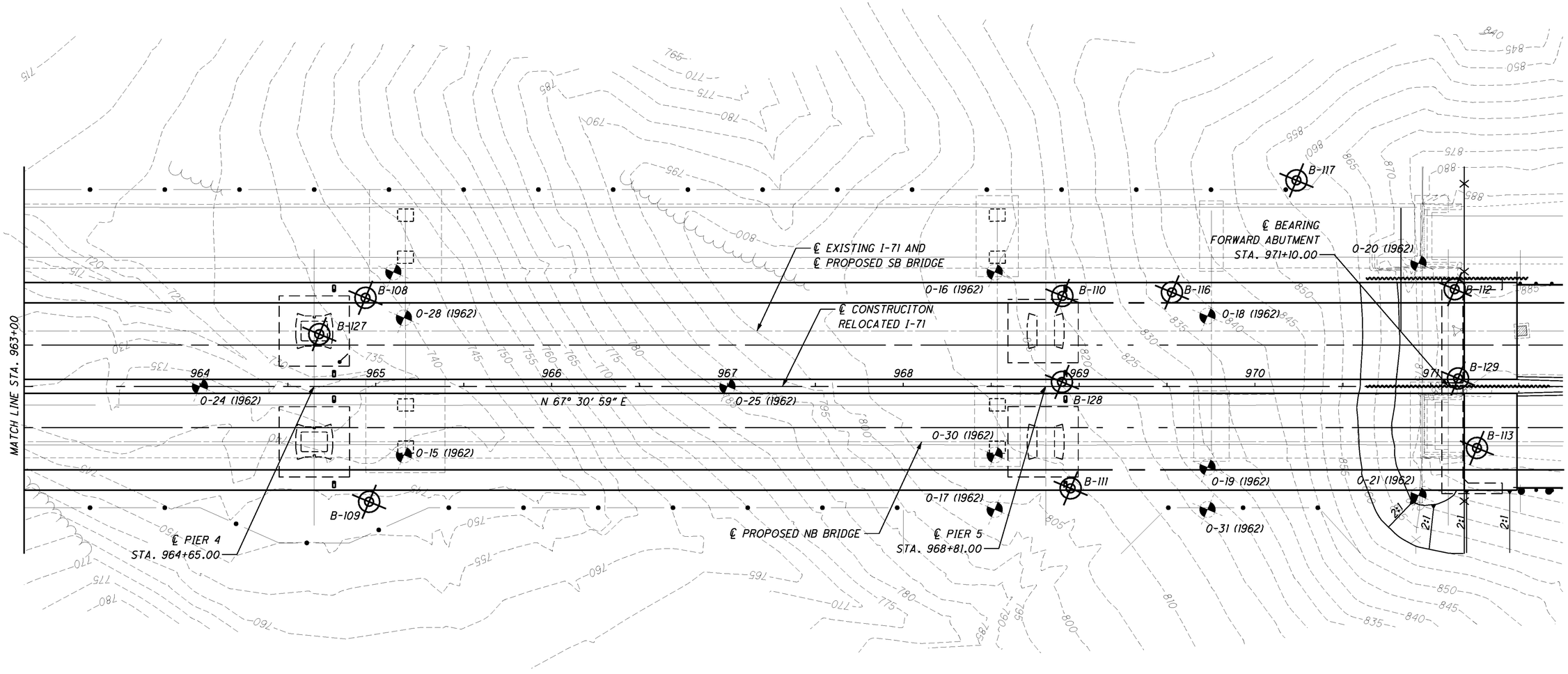
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SJR	RLS	AEN	9/27/2007
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DAA			

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER - NORTHBOUND

WAR-71-14.20
PID No. 22950

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PLAN

NOTE: BORING LOCATIONS FROM THE 1962 INVESTIGATION ARE PRESENTED IN PLAN VIEW ONLY. FOR INFORMATION CONCERNING THE SOIL AND ROCK ENCOUNTERED IN THESE BORINGS, PLEASE REFER TO THE ORIGINAL 1962 SUBSURFACE AND FOUNDATION INVESTIGATION REPORT (WAR-1-15.14) PREPARED BY LOUIS BERGER AND ASSOCIATES.

HORIZONTAL SCALE IN FEET
0 15 30 60

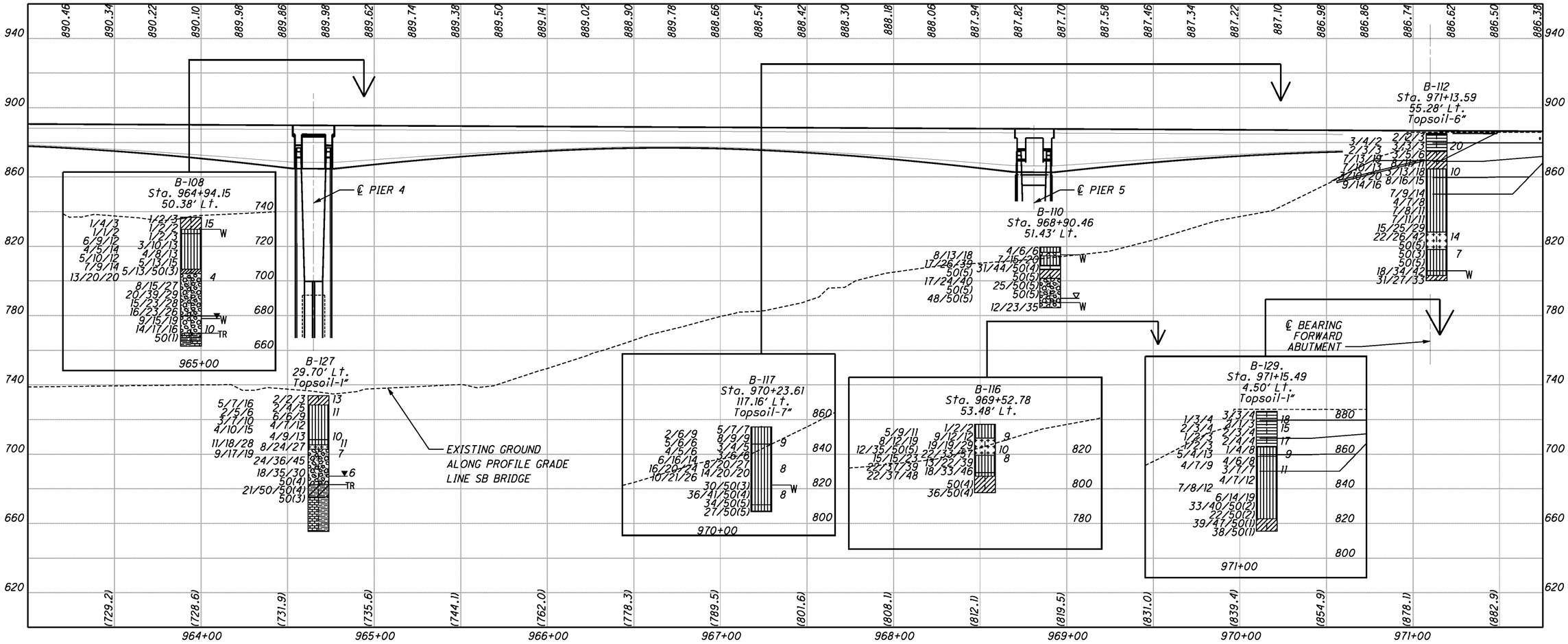
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BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

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SOUTHBOUND PROFILE

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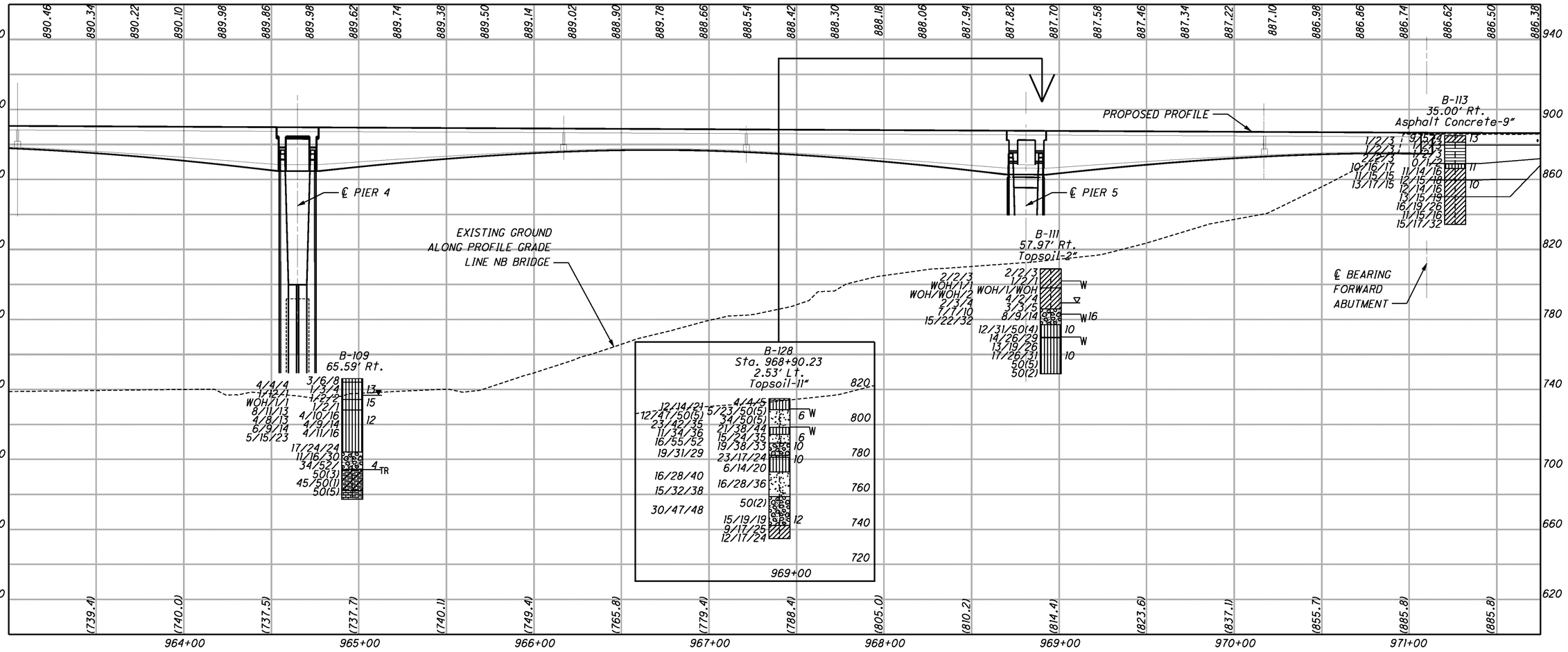
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STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER - SOUTHBOUND

WAR-71-14.20
PID No. 22950

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NORTHBOUND PROFILE

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STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER - NORTHBOUND

WAR-71-14.20
PID No. 22950

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DLZ OHIO INC. * 6121 HUNTLEY ROAD, COLUMBUS, OHIO 43229 * (614)888-0040

Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-100 | Location: STA. 948+61.21, 41.67' Lt. (Rear Abutment) | Date Drilled: 5-12-04

WATER OBSERVATIONS:
Water seepage at: None
Water level at completion: None (Prior to coring) 6.0' (Including core water inside of augers)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N)
0	894.5													Natural Moisture Content, % - ● PL ⊢ LL Blows per foot - ○ 10 20 30 40
0.4	894.1	18 24 5	12	1			5" Topsoil POSSIBLE FILL: Loose, brown ROCK FRAGMENTS WITH SAND (A-1-b), little fine to coarse sand, trace silty clay; damp.							
5		2 3 2	11	2										
		1 WOH 2	4	3			@ 6.0'-8.0', very loose.	42	29	–	14	15		
10		3 2 2	14	4										
10.5	884.0	4 4 6	12	5		3.0	POSSIBLE FILL: Stiff brown SILT AND CLAY (A-6a), little gravel, little fine to coarse sand; damp.	18	5	–	10	30	37	
15		6 9 7	13	6		2.0								
		4 4 4	12	7		1.5	@ 16.0', wood chips, damp to moist.							
18.0	876.5						Soft to medium hard brownish gray, LIMESTONE, highly weathered to decomposed.							
20		4 19 24	18	8										
		24 50/5	11	9										50+
23.0	871.5						Soft to medium hard gray and brown SHALE, calcareous.							
25		Core 120"	Rec 103"	RQD 50%	R-1	7033*	@ 25.0'-25.5', 26.6'-26.9', limestone layer.							
30														
35		Core 120"	Rec 110"	RQD 71%	R-2		@ 33.0'-33.4', 37.0', 38.3', limestone layer.							
40							@ 39.6'-39.8', 40.2'-40.4', 40.9'-41.1', limestone layer.							
43.0	851.5						Bottom of Boring - 43.0'							
45														
50														
55														
60														

DLZ OHIO INC. * 6121 HUNTLEY ROAD, COLUMBUS, OHIO 43229 * (614)888-0040

Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-101 | Location: STA. 948+51.74, 34.50' Rt. (Rear Abutment) | Date Drilled: 8-5-04

WATER OBSERVATIONS:
Water seepage at: None
Water level at completion: None (Prior to coring)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N)
0	896.9													Natural Moisture Content, % - ● PL ⊢ LL Blows per foot - ○ 10 20 30 40
0.8	896.1	11 8 7	18	1			10" Asphalt Concrete Aggregate Base - 20"							
2.5	894.4	2 2 5	18	2		2.5	Stiff to very stiff brown and gray SILTY CLAY (A-6b), trace fine to coarse sand, trace gravel; moist.							
5		1 1 3	18	3		1.5		0	2	–	8	46	43	
		1 1 4	18	4		2.0	@ 7.5', light brown and light gray							
10		3 4 9	18	5		2.0								
		3 3 3	18	6		3.0								
15		2 3 3	18	7		1.5	@ 15.0', brown and light gray.	2	8	–	14	37	41	
		8 6 7	3	8		2.5								
19.5	877.4						Dense gray ROCK FRAGMENTS WITH SAND (A-1-b), little silty clay (consists of broken limestone); damp.							
20		15 19 28	10	9										
22.0	874.9						Soft to medium hard grayish brown SHALE, decomposed.							
		15 26 47	18	10										73
25.0	871.9						Soft blueish gray SHALE, very fossiliferous, calcareous, interbedded with hard light gray LIMESTONE, fossiliferous.							
30		Core 120"	Rec 90"	RQD 5%	R-1	7092*								
35.0	861.9						Bottom of Boring - 35.0'							
40														
45														
50														
55														
60														

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STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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DLZ OHIO INC. * 6121 HUNTLEY ROAD, COLUMBUS, OHIO 43229 * (614)888-0040

Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-102 | Location: STA. 951+25.21, 39.65' Lt. (Pier 1) | Date Drilled: 5-10-04 to 5-11-04

WATER OBSERVATIONS:
Water seepage at: None
Water level at completion: 12.5' (measured inside of augers)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N)
0	789.0						Stiff mottled brown and gray CLAY (A-7-6), trace fine to coarse sand, trace gravel; damp.							
		1 1 2	12	1		1.5	@ 0.0 - 3.5', contains few rootlets.							
		2 3 5	18	2		2.5	@ 3.5', very stiff.	4	3	–	4	34	55	
5		2 3 7	18	3		3.0								
		7 10 11	16	4		3.75								
10														
10.5	778.5						Hard gray CLAY (A-7-6), little fine to coarse sand, trace gravel, contains limestone fragments; damp.							
		10 13 13	14	5		4.5+								
		8 10 28	18	6		4.5+		5	5	–	6	20	63	
15														
15.5	773.5						Medium hard gray LIMESTONE, highly weathered.							
16.5	772.5	50/4	4	7		---	Soft blueish gray SHALE, contains limestone clasts.							
		Core 60"	Rec 53"	RQD 7%	R-1									
20						8933*								
		Core 60"	Rec 59"	RQD 27%	R-2		@ 22.1'-22.3', 23.3'-23.4', 23.8'-23.9'; limestone layer.							
25														
		Core 60"	Rec 59"	RQD 62%	R-3		@ 27.2'-27.5'; limestone layer.							
30							@ 29.0'-29.3'; limestone layer.							
		Core 60"	Rec 59"	RQD 62%	R-4		@ 32.6'-32.9'; limestone layer.							
36.5	752.5						Bottom of Boring - 36.5'							
40														
45														
50														
55														
60														

STANDARD PENETRATION (N): Natural Moisture Content, % - ● PL ⊢ LL; Blows per foot - ○; 10 20 30 40; 50+

DLZ OHIO INC. * 6121 HUNTLEY ROAD, COLUMBUS, OHIO 43229 * (614)888-0040

Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-102A | Location: STA. 951+32.62, 45.48' Lt. (Pier 1) | Date Drilled: 3/7/06

WATER OBSERVATIONS:
Water seepage at: None Observed
Water level at completion: None (Prior to coring rock) 20.0' (includes drill water) (Measured inside augers)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N)
0.0	789.3						Topsoil - 1"							
	789.2	2 3 3	16	1		1.75	Stiff to very stiff brown CLAY (A-7-6), trace fine sand, trace coarse sand; moist.	0	1	–	7	28	64	
3.0	786.3						Stiff to very stiff yellowish brown SILTY CLAY (A-6b), trace to little fine sand, trace to little coarse sand, little gravel; damp.							
5		2 8 4	7	2		2.0								
		3 4 6	12	3		2.0	@ 7.0' to 8.0', Encountered weathered limestone fragments.	17	12	–	10	21	40	
		6 12 11	13	4		4.5+	@ 8.0', Hard, brown, trace coarse sand, little to some gravel.							
10							@ 9.5', Encountered weathered limestone fragments.							
		4 6 8	13	5		3.0		19	5	–	10	23	44	
14.0	775.3	10 50 50/3	15	6			Soft gray SHALE; highly weathered to decomposed, arenaceous, contains weathered limestone fragments.							
15		40 50/3	9	7										
18.0	771.3	Core 78"	Rec 78"	RQD 86%	R-1		Soft dark gray SHALE, interbedded with hard gray LIMESTONE, very fine to fine grained, argillaceous, calcareous, fossiliferous, thinly bedded to thickly bedded, highly fractured to broken, limestone clasts interbedded throughout. @ 20.0' to 20.1', High angle fracture. @ 22.2'-22.5', 24.2'-24.3', Broken zones.							
20														
		Core 60"	Rec 60"	RQD 78%	R-2		@ 24.9'-25.2', 26.0'-26.2 ', 26.5'-26.8', 27.8'-27.9 ', 28.3'-28.5', High angle fractures with little iron staining.							
25														
29.5	759.8													
30														

STANDARD PENETRATION (N): Natural Moisture Content, % - ● PL ⊢ LL; Blows per foot - ○; 10 20 30 40; 50+

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BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
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Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-103 | Location: STA. 951+37.92, 45.93' Rt. (Pier 1) | Date Drilled: 5-11-04

WATER OBSERVATIONS:
Water seepage at: None
Water level at completion: None (Prior to coring) 16.0' (including core water).

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetro-meter (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N)
0	780.1						Stiff brown CLAY (A-7-6), little fine to coarse sand, trace gravel, contains limestone fragments; damp.							
		2 2 3	8	1		1.0								
		3 2 3	6	2		1.75		7	10	--	7	23	53	
5							@ 6.0', very stiff (decomposed gray shale).							
		3 7 13	18	3		4.0								
8.0	772.1						Hard gray LIMESTONE, highly weathered.							
		36 50/3	8	4		---								
10.0	770.1						Soft blueish gray SHALE, contains limestone clasts.							
		Core 60"	Rec 59"	RQD 17%	R1									
15.0	765.1					7251*	Medium hard gray SHALE, contains limestone clasts.							
		Core 60"	Rec 59"	RQD 65%	R2		@ 16.7'-16.9', 17.3'-17.8', 19.2'-19.4'; limestone layer.							
20		Core 60"	Rec 60"	RQD 63%	R3		@ 21.4'-21.8'; limestone layer.							
							@ 24.0'-24.2', 24.5'; limestone layer.							
25		Core 60"	Rec 59"	RQD 75%	R4		@ 26.0'-26.3', 27.0'-27.3'; limestone layer.							
							@ 28.8'-29.0', 29.6'-30.0'; limestone layer.							
30.0	750.1						Bottom of Boring - 30.0'							

GRADATION

STANDARD PENETRATION (N)
Natural Moisture Content, % -
PL ⊢ LL
Blows per foot - ○
10 20 30 40

DLZ OHIO INC. * 6121 HUNTLEY ROAD, COLUMBUS, OHIO 43229 * (614)888-0040

Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-103A | Location: STA. 951+38.74, 49.12' Rt. (Pier 1) | Date Drilled: 3/8/06

WATER OBSERVATIONS:
Water seepage at: None Observed
Water level at completion: None (Prior to coring) 9.3' (Includes drill water) (Measured inside augers)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetro-meter (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N)
0	780.6													
0.2	780.4						Topsoil - 2"							
		2 2 2	10	1		1.5	Stiff brown SILTY CLAY (A-6b), trace to little fine sand, trace to little coarse sand, trace gravel; moist.							
		1 2 3	15	2		1.25		5	7	--	11	28	49	
5							@ 5.5', Hard, grayish brown, trace to little gravel, damp.							
		5 8 8	15	3		4.5+		10	9	--	9	22	50	
9.0	771.6	46 50/4	10	4			Soft gray SHALE; highly weathered to decomposed, arenaceous, contains weathered limestone fragments.							
10		50/5	5	5										
13.0	767.6						Soft to medium hard dark gray SHALE, interbedded with hard gray LIMESTONE, very fine to fine grained, calcareous, arenaceous, fossiliferous, thinly bedded to massive, highly fractured to broken.							
15		Core 84"	Rec 84"	RQD 61%	R-1		@ 17.2' to 17.5', Broken zone.							
20							@ 14.5'-14.6',19.5'-19.7', High angle fractures.							
25		Core 120"	Rec 120"	RQD 78%	R-2		@ 25.4', Moderately fractured. @ 27.8' to 28.0', High angle fracture.							
30.0	750.6						Bottom of Boring - 30.0'							

GRADATION

STANDARD PENETRATION (N)
Natural Moisture Content, % -
PL ⊢ LL
Blows per foot - ○
10 20 30 40

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DESIGNED SJR | DRAWN RLS | REVIEWED AEN | DATE 9/27/2007
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DLZ OHIO INC. * 6121 HUNTLEY ROAD, COLUMBUS, OHIO 43229 * (614)888-0040

Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-104 | Location: 956+18.38, 43.83' Lt. (Pier 2) | Date Drilled: 5/11/04

WATER OBSERVATIONS: Water seepage at: 23.0'-38.5' | Water level at completion: 21.2' (Prior to adding water), 6.8' (Including drill water)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay
0	672.2												
0.4	671.8	3 8 8	18	1		2.5	5" Topsoil FILL: Stiff brownish gray SILTY CLAY (A-6b), little some gravel, little fine to coarse sand; damp.	2	4	--	7	56	31
		8 10 7	18	2		1.0	@ 3.5', trace gravel.	1	3	--	3	56	37
5		11 9 8	18	3		0.5		1	5	--	6	55	34
		5 6 7	3	4		0.75	@ 8.5', wood chips.						
10.0	662.2												
		5 5 4	14	5		1.75	Stiff brownish gray GRAVEL WITH SAND AND SILT (A-2-4); damp.	29	17	--	19	23	12
		3 4 3	9	6		--		1	7	--	11	57	24
15													
15.5	656.7	6 2 3	14	7		0.5	Medium stiff gray SILTY CLAY (A-6b); some fine to coarse sand, trace gravel; moist.	2	7	--	15	40	36
		1 3 2	18	8		0.5							
20		1 3 2	18	9		0.5							
23.0	649.2												
		1 1 6	18	10			Loose brown GRAVEL (A-1-a), little fine to coarse sand; wet.	82	9	--	3	6	
25		4 16 18	15	11			@ 26.0', medium dense to dense.						
		20 17 12	15	12			@ 28.5', brownish gray.						
30													
		10 12 18	9	13									
35													
38.5	633.7	50/3	3	14			Hard light gray LIMESTONE, contains occassional shale layers.						
40		Core 120"	Rec 120"	RQD 76%	R-1	7732*							
45													
49.0	623.2						Bottom of Boring - 49.0'						
50													
55													
60													

GRADATION: % Aggregate | % C. Sand | % M. Sand | % F. Sand | % Silt | % Clay

STANDARD PENETRATION (N)

Natural Moisture Content, % - ●

PL ⊢ LL

Blows per foot - ○

10 20 30 40

50+

DLZ OHIO INC. * 6121 HUNTLEY ROAD, COLUMBUS, OHIO 43229 * (614)888-0040

Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-105 | Location: STA. 956+19.13, 66.22' Rt. (Pier 2) | Date Drilled: 5-10-04

WATER OBSERVATIONS: Water seepage at: 15.5'-34.6' | Water level at completion: 16.0' (Prior to adding water), 3.8' (Including drill water)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay
0	668.9												
0.4	668.5	4 6 6	18	1		3.25	5" Topsoil FILL: Very stiff brown SILT AND CLAY (A-6a), trace gravel, trace fine to coarse sand, wood chips; damp.	13	5	--	6	46	30
		8 12 7	12	2		2.0		8	7	--	11	46	28
5													
5.5	663.4	2 2 5	18	3		0.5	Soft, gray SANDY SILT (A-4a), some gravel, trace organics; damp.	32	16	--	18	21	12
		17 4 4	18	4		0.5		14	6	--	6	40	33
10							@ 10.5', little gravel.						
		1 4 2	17	5		0.25		13	10	--	17	37	23
		2 2 2	3	6		0.75							
15													
15.5	653.4	3 10 7	12	7			Medium dense brown GRAVEL WITH SAND (A-1-b), little silty clay, wet.						
		3 9 11	16	8			@ 18.0', dense. @ 15.5' - 18.5', petroleum odor.	49	26	--	14	12	
20		3 12 14	18	9									
		7 19 11	9	10									
25		18 20 19	18	11									
28.0	640.9	18 17 13	14	12			Dense brown GRAVEL (A-1-a), trace silty clay, some fine to coarse sand; wet.	62	17	--	9	13	
30													
32.0	636.9						Soft, gray SILT AND CLAY (A-6a), some fine to coarse sand, little gravel; moist.						
34.6	634.3	12 39 50/5	17	13a 13b			Soft, gray, SHALE, highly weathered.						
35													
36.0	632.9	Core 120"	Rec 120"	RQD 72%	R-1	7986*	Hard light gray LIMESTONE, interbedded with medium hard gray SHALE, argillaceous, moderately to highly fractured. @ 37.5'-37.7', 39.0'-39.4', 39.9-'40.4'; shale layer.						
40							@ 42.0'-42.1'; shale layer.						
45.0	623.9						Bottom of Boring - 45.0'						
50													
55													
60													

GRADATION: % Aggregate | % C. Sand | % M. Sand | % F. Sand | % Silt | % Clay

STANDARD PENETRATION (N)

Natural Moisture Content, % - ●

PL ⊢ LL

Blows per foot - ○

10 20 30 40

50+

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DESIGNED SJR | DRAWN RLS | CHECKED DAA | REVIEWED AEN | DATE 9/27/2007 | REVISED | STRUCTURE FILE NUMBER

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-106 | Location: STA. 960+43.17, 46.40' Lt. (Pier 3) | Date Drilled: 7-20-04

WATER OBSERVATIONS: Water seepage at: 4.0' - 23.0'; Water level at completion: 21.0' (Including core water)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N) Blows per foot
0	719.0	2 4 6	18	1		4.5+	POSSIBLE FILL: Hard brown and gray SILT AND CLAY (A-6a), little fine to coarse sand, trace gravel; trace organics and rootlets; damp.	7	7	–	10	35	41	
2.5	716.5	2 3 6	18	2		1.5	Stiff brown and gray SILTY CLAY (A-6b), little to some fine to coarse sand, trace to little gravel; moist.							
5		2 1 1	12	3		0.75	@ 5.0', medium stiff. @5.0' - 6.5', organic odor, wood fragments.							
		WOH 12 1	12	4		0.5	@ 7.5' - 11.5', brown.							
10		WOH 12 3	6	5		0.5		14	10	–	15	30	31	
		1 1 2	18	6		1.0	@ 12.0', medium stiff to stiff.							
15		2 2 2	10	7		1.0								
		3 3 2	18	8		1.0	@ 17.5', contains shale fragments.							
20		2 2 2	0	9										
							@ 22.0', trace fine to coarse sand, trace gravel.							
23.0	696.0	2 2 17		10			Soft to medium hard dark gray SHALE, calcareous, highly weathered to decomposed; contains limestone fragments.	3	1	–	4	52	40	
25		26 50/8	10	11										
		54 50	6	12										
29.0	690.0	Core 36"	Rec 30"	RQD 13%	R-1	9904*	Medium hard bluish gray SHALE, fossiliferous, contains thin limestone interbeds.							
30														
35		Core 84"	Rec 80"	RQD 48%	R-2									
39.0	680.0						Bottom of Boring - 39.0'							
40														
45														
50														
55														
60														

GRADATION: % Aggregate, % C. Sand, % M. Sand, % F. Sand, % Silt, % Clay

STANDARD PENETRATION (N): Natural Moisture Content, % - ● ; PL ⊢ LL ; Blows per foot - ○ ; 10 20 30 40

DLZ OHIO INC. * 6121 HUNTLEY ROAD, COLUMBUS, OHIO 43229 * (614)888-0040

Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-107 | Location: STA. 960+37.67, 62.18' Rt. (Pier 3) | Date Drilled: 7-16-04

WATER OBSERVATIONS: Water seepage at: None; Water level at completion: None (Prior to coring) 17.1' (Including core water)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N) Blows per foot
0	746.6	3 6 10	10	1			Medium dense GRAVEL WITH SAND, SILT AND CLAY (A-2-6); trace organics and rootlets; damp.							
2.5	744.1	4 6 6	18	2		2.0	Stiff brown SILT AND CLAY (A- 6a) and fine to coarse sand; damp.	8	13	–	19	33	27	
5		6 5 4	2	3			@ 5.0' topsoil with rock fragments.							
7.5	739.1	2 2 7	18	4		2.25	Stiff brown SILT AND CLAY (A-6a); some fine to coarse sand; little gravel; damp.	4	11	–	19	33	34	
10.0	736.6	10 25 39	18	5			Medium hard gray GRAVEL WITH SAND SILT AND CLAY (A-2-6), contains shale and limestone fragments.							
		29 50/1	6	6										
15.0	731.6	32 50/4	8	7			Medium hard gray SHALE, highly weathered to decomposed, contains limestone fragments.							
		50/1	3	8										
20		44 50/6	8	9										
21.5	725.1	Core 60"	Rec 60"	RQD 92%	R-1	1714*	Soft blueish gray SHALE, very fossiliferous, calcareous, with interbedded hard light gray LIMESTONE.							
25						8578*								
30		Core 60"	Rec 60"	RQD 75%	R-2									
31.5	715.1													
35														
40														
45														
50														
55														
60														

GRADATION: % Aggregate, % C. Sand, % M. Sand, % F. Sand, % Silt, % Clay

STANDARD PENETRATION (N): Natural Moisture Content, % - ● ; PL ⊢ LL ; Blows per foot - ○ ; 10 20 30 40

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STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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DLZ OHIO INC. * 6121 HUNTLEY ROAD, COLUMBUS, OHIO 43229 * (614)888-0040

Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-108 | Location: STA. 964+94.15, 50.38' Lt. (Pier 4) | Date Drilled: 7-21-04

WATER OBSERVATIONS:
Water seepage at: 7.0'-9.5' & 57.0'-67.0'
Water level at completion: 58.5' (Including core water).

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N)
0	736.8	1 2 3	18	1		2.5	Stiff to very stiff brown SILT AND CLAY (A-6a), some fine to coarse sand, little gravel; damp.							
		1 4 3	18	2		1.0		18	10	--	13	33	26	
5		1 2 2	18	3		2.0								
7.0	729.8	1 1 2	2	4		--	Very loose brown SANDY SILT (A-4a), trace gravel; moist to wet.							
9.5	727.3													
10		1 2 3	18	5		3.0	Very stiff dark brown SANDY SILT (A-4a), little fine to coarse sand, trace to little gravel; damp. @ 12.0', hard.							
		6 9 12	8	6		4.5+								
15		3 10 13	18	7		4.5+								
		4 5 14	18	8		4.5+								
20		4 8 13	18	9		4.5+								
		5 10 12	18	10		4.5+								
25		5 13 15	18	11		4.5+								
		7 9 14	18	12		4.5+								
30		5 13 50/3	12	13		4.5+	Very stiff dark brown SILT AND CLAY (A-6a), little fine to coarse sand, trace to little gravel; damp.							
32.5	704.3						Dense brown GRAVEL WITH SAND (A-1-b), little silt and clay; dry to damp.							
35		13 20 20	18	14				32	47	--	13	9		Non-Plastic
40		8 15 27	18	15										
45		20 39 29	18	16										58
50		15 23 28	18	17										51
55		16 23 26	18	18										
57.0	679.8						Dense brown and gray GRAVEL (A-1-a), some fine to coarse sand; wet.							
60		9 15 19	18	19										50+

DLZ OHIO INC. * 6121 HUNTLEY ROAD, COLUMBUS, OHIO 43229 * (614)888-0040

Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-108 | Location: STA. 964+94.15, 50.38' Lt. (Pier 4) | Date Drilled: 7-21-04

WATER OBSERVATIONS:
Water seepage at: 7.0'-9.5' & 57.0'-67.0'
Water level at completion: 58.5' (Including core water).

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N)
60	676.8						Dense brown and gray GRAVEL (A-1-a), some fine to coarse sand; wet.							
		14 17 16	18	20				67	16	--	6	12		Non-Plastic
67.0	669.8						Hard gray SHALE WITH LIMESTONE, highly weathered.							
		50/1	1	21										50+
69.5	667.3													
70							Medium hard blueish gray SHALE.							
71.3	665.5	Core 60"	Rec 60"	RQD 25%	R1		Hard light gray LIMESTONE, contains shaley layers.							
74.5	662.3						Bottom of Boring - 74.5'							
75														
80														
85														
90														

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DESIGNED SJR | DRAWN RLS | CHECKED DAA | REVIEWED AEN | DATE 9/27/2007 | REVISED | STRUCTURE FILE NUMBER

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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DLZ OHIO INC. * 6121 HUNTLEY ROAD, COLUMBUS, OHIO 43229 * (614)888-0040

Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-109 | Location: STA. 964+96.22, 65.59' Rt. (Pier 4) | Date Drilled: 7-15-04

WATER OBSERVATIONS: Water seepage at: None; Water level at completion: 9.5' (Including Core Water)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	GRADATION % Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N) Blows per foot
0	746.2	3 6 8	18	1			Medium dense brown SANDY SILT (A-4a), trace gravel; damp.							
2.0	744.2	4 4 4	18	2		4.0	Very stiff dark brown SANDY SILT (A-4a), trace gravel; damp.							
5		1 3 4	18	3		2.0		9	13	–	22	31	25	
		1 12 1	18	4		1.0	@ 7.5', stiff, damp to moist.							
10		1 2 2	18	5		1.25								
12.0	734.2	WOH 1 1	18	6			Very loose brown SANDY SILT (A-4a), trace gravel; damp.	8	15	–	23	30	25	
15		1 2 1	0	7										
18.0	728.2	8 11 13	2	8			Hard brown SANDY SILT (A- 4a), trace gravel; damp.							
20		4 10 16	18	9		4.5+								
		4 8 13	18	10		4.5+		4	8	–	22	40	27	
25		4 9 14	18	11		4.5+								
		6 9 14	18	12		4.5+								
30		4 11 16	18	13		4.5+								
		5 15 23	14	14		4.5+								
35														
		17 24 24	18	15		4.0								
40														
42.0	704.2						Dense brown GRAVEL WITH SAND (A-1-b), trace silt and clay; dry.							
45		11 16 30	18	16										
		34 52	12	17			@ 48.5', very dense.	58	21	–	7	14		Non-Plastic 50+
50														
52.0	694.2						Soft to medium hard gray SHALE, highly weathered.							
55		50/3	0	18										50+
60		45 50/1	10	19										50+

DLZ OHIO INC. * 6121 HUNTLEY ROAD, COLUMBUS, OHIO 43229 * (614)888-0040

Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-109 | Location: STA. 964+96.22, 65.59' Rt. (Pier 4) | Date Drilled: 7-15-04

WATER OBSERVATIONS: Water seepage at: None; Water level at completion: 9.5' (Including Core Water)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	GRADATION % Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N) Blows per foot
60	686.2						Soft to medium hard gray SHALE, highly weathered.							
64.0	682.2	50/5	10	20										50+
65		Core 60"	Rec 58"	RQD 78%	R-1		Medium hard blueish gray SHALE, calcareous. @ 64.8'-64.9', 65.4'-65.5', 66.0'-66.1', hard limestone beds.							
69.0	677.2						Bottom of Boring - 69.0'							
70														
75														
80														
85														
90														

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BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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DLZ OHIO INC. * 6121 HUNTLEY ROAD, COLUMBUS, OHIO 43229 * (614)888-0040

Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-110 | Location: STA. 968+90.46, 51.43' Lt. (Pier 5) | Date Drilled: 5-18-04

WATER OBSERVATIONS: Water seepage at: 4.4'-4.5 & 32.0' to 35'
Water level at completion: 29.5' (inside augers)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N)
0	819.5	4 6 6	18	1			Medium dense gray SANDY SILT (A-4a); damp.							
3.0	816.5	8 13 18	18				Medium dense brown GRAVEL (A- 1-a), little fine to coarse sand; moist @ 4.4', 0.1' A-2-6 wet layer.							
5.0	814.5	7 15 20	18	3		4.5+	Hard grayish brown SANDY SILT (A-4a), some gravel; damp.							
10		17 26 39	18	4		4.5+								65
10.5	809.0	31 44 50/4	18	5			Very dense brown SILTY CLAY (A-6b); damp.							50+
13.0	806.5	50/5	4	6			Very stiff to hard gray SILT AND CLAY(A-6a), some fine to coarse sand, trace gravel; contains limestone cobbles and boulders; damp.							50+
15		50/5	4	7										50+
18.0	801.5	17 24 40	18	8			Very dense brown GRAVEL WITH SAND (A-1-b), little silt and clay; dry.							64
20		25 50/5	10	9										50+
		50/5	4	10			@ 23.5'; contains limestone fragments.							50+
25		50/5	4	11										50+
		48 50/5	10	12										50+
32.0	787.5	12 23 35	18	13			Dense brown GRAVEL (A-1-a), trace fine to coarse sand; wet.							58
35.0	784.5						Bottom of Boring - 35.0'							
40														
45														
50														
55														
60														

DLZ OHIO INC. * 6121 HUNTLEY ROAD, COLUMBUS, OHIO 43229 * (614)888-0040

Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-111 | Location: STA. 968+95.17, 57.97' Rt. (Pier 5) | Date Drilled: 5-13-04

WATER OBSERVATIONS: Water seepage at: 7.0', 26.0'-28.5', 30', 39.1'-39.5'
Water level at completion: None
19.5' (start of shift 5/17/04);

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N)
0	809.0													
0.2	808.8						2" topsoil							
		2 2 3	13	1		1.25	FILL: Stiff brown SILT AND CLAY (A-6a), little to some fine to coarse sand, trace gravel; damp.							
5		2 2 3	18	2		1.5								
		1 2 1	18	3		1.25								
10		WOH 1 1	6	4		1.0	@ 8.5'-10.0', trace organics.							
11.0	798.0	WOH 1 WOH	10	5		0.75	FILL: Medium stiff brown SILT AND CLAY (A-6a), little to little to some fine to coarse sand, little gravel, trace organics; moist to wet.							
15		WOH WOH 2	18	6		0.5								
		4 2 4	18	7		0.75	@ 16.0', black and brown, little organics; moist.							
20		2 3 4	18	8		0.5	@ 18.5', trace organics; moist.							
		3 3 5	18	9		0.5								
23.0	786.0	7 7 10	10	10			Medium loose brown GRAVEL WITH SAND (A-1-b), little to some silt and clay; moist.							
25		8 9 14	18	11			@ 26.0', wet.	27	27	--	25	21		
		15 22 32	18	12										54
32.0	777.0						Hard gray SANDY SILT (A-4a), little gravel; damp.							
35		12 31 50/4	14	13		4.5+		12	14	--	18	34	22	50+
39.1	769.9	14 26 29	18	14a		4.5+	Dense gray GRAVEL (A-1-a); moist.							
39.5	769.5			14b			Hard gray SANDY SILT (A-4a), little gravel; damp.							55
40														
45		13 19 26	18	15		4.5+								
50		17 26 31	18	16		4.5+		18	16	--	20	27	20	57
		50/5	4	17		4.5+	@ 53.5', limestone fragments.							50+
55							@ 54.9', limestone fragments.							
		50/2	2	18		–								50+
60.0	749.0						Bottom of Boring - 60.0'							

STANDARD PENETRATION (N): Natural Moisture Content, % - ● PL ⊢ LL Blows per foot - ○ (10 20 30 40)

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BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-112 | Location: STA. 971+13.59, 55.28' Lt. (Forward Abutment) | Date Drilled: 5-11-04 to 5-12-04

WATER OBSERVATIONS: Water seepage at: 79.3' Water level at completion: None

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N) Natural Moisture Content, % - ● PL ⊢ LL Blows per foot - ○
0	885.2													
0.5	884.7						6" Topsoil							
		2 2 3	18	1		1.0	FILL: Stiff brown SILTY CLAY (A-6b), some fine to coarse sand, trace to little gravel; damp.							
		3 4 2	18	2		1.0								
5		3 3 3	18	3		1.5		3	8	–	16	31	42	
		2 3 3	18	4		0.75	@ 8.5', medium stiff, contains wood chips.							
10														
10.5	874.7						Hard brownish gray SILT AND CLAY (A-6a), little gravel, trace fine to coarse sand; dry-damp.							
		3 5 6	18	5		4.5+								
		7 13 19	18	6		4.5+								
15		8 11 11	18	7		4.5+								
		7 10 13	18	8		4.5+								
20														
20.5	864.7						Hard gray SANDY SILT (A-4a), trace gravel; damp.							
		3 13 18	18	9		4.5+		13	12	–	22	32	21	
		3 10 20	18	10		4.5+								
25		8 16 15	18	11		4.5+								
		9 14 16	18	12		3.75	@ 28.0', very stiff.							
30														
		7 9 14	18	13		3.5								
35														
		4 7 8	18	14		2.5								
40														
		7 8 11	18	15		3.0								
45														
		7 11 11	18	16		4.5+	@ 47.0', hard.							
50														
		15 25 29	18	17		4.5+								
55														
57.0	828.2						Very dense gray SILT (A-4b), trace fine to coarse sand; damp.	1	1	–	9	71	19	
		22 26 42	18	18										
60														

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Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-112 | Location: STA. 971+13.59, 55.28' Lt. (Forward Abutment) | Date Drilled: 5-11-04 to 5-12-04

WATER OBSERVATIONS: Water seepage at: 79.3' Water level at completion: None

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N) Natural Moisture Content, % - ● PL ⊢ LL Blows per foot - ○
60	825.2						Very dense gray SILT (A-4b), trace fine to coarse sand; damp.							
		50/5	5	19										
65														
67.0	818.2						Hard grayish brown SANDY SILT (A-4a), trace to little gravel; damp.							
		50/3	3	20		4.5+		11	12	–	18	37	21	
70														
		50/5	5	21		—	@ 73.5', moist.							
75														
		18 34 42	18	22a 22b		—	@ 78.5', moist to wet.							
79.3	805.9						Very dense brown SANDY SILT (A-4a), trace gravel; damp.							
80														
82.0	803.2						Hard gray SILT AND CLAY (A-6a), trace gravel, trace fine to coarse sand; damp.							
		31 27 33	18	23										
85.0	800.2						Bottom of Boring - 85.0'							
90														

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DATE 9/27/2007
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STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

20 / 32

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Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-113 | Location: STA. 971+26.24, 35.00' Rt. (Forward Abutment) | Date Drilled: 8-4-04

WATER OBSERVATIONS:
Water seepage at: None
Water level at completion: None (Measured inside augers)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay
0	885.8						9" Asphalt Concrete						
0.8	885.0	9 5 4	18	1		1.0	Medium stiff brown SILT AND CLAY (A-6a), little fine to coarse sand, trace gravel; damp.	32	9	–	13	25	21
		1 2 3	10	2		1.0							
4.5	881.3						Stiff brown SILTY CLAY (A-6b), little fine to coarse sand; moist.						
5		1 2 3	18	3		2.25							
		1 2 3	11	4		2.0							
10		1 2 3	18	5		1.0							
		2 2 3	18	6		1.5							
15		0 1 2	18	7		1.0	@ 15.0', little fine to coarse sand.						
17.0	868.8	10 16 17	18	8		4.5+	Hard brown SANDY SILT (A-4a), trace gravel; damp.	17	10	–	18	31	25
19.5	866.3						Hard gray SILT AND CLAY (A- 6a), little fine to coarse sand, trace to little gravel; damp.						
20		11 14 16	18	9		4.5+							
		11 15 15	18	10		4.5+							
25		12 15 18	18	11		4.5+							
		13 17 15	18	12		4.5+		9	12	–	22	35	22
30		12 14 16	18	13		4.0							
35		13 15 19	12	14		4.5+							
40		16 19 26	18	15		4.5+							
45		11 15 16	18	16		4.5+							
50		15 17 32	18	17		4.5+							
51.5	834.3						Bottom of Boring - 51.5'						
55													
60													

GRADATION

STANDARD PENETRATION (N)
Natural Moisture Content, % - ●
PL ⊢ LL
Blows per foot - ○
10 20 30 40

DLZ OHIO INC. * 6121 HUNTLEY ROAD, COLUMBUS, OHIO 43229 * (614)888-0040

Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-114 | Location: STA. 949+57.36, 27.66' Lt. (Upper West Valley Slope) | Date Drilled: 7-29-04 to 7-30-04

WATER OBSERVATIONS:
Water seepage at: 4'
Water level at completion: 19.5' (Including core water)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay
0	857.3	2 3 6	12	1		4.0	Hard light brown SILTY CLAY (A-6b), little fine to coarse sand, trace gravel; damp.						
		7 10 10	14	2		4.0		1	3	–	3	34	58
5		6 14 22	18	3		4.5+							
		16 19 21	18	4		4.5+	@ 7.5', contains thin limestone layers.						
9.5	847.8						Soft gray SHALE, calcareous, highly weathered to decomposed.						
10		18 50/5	10	5									
		27 50/5	6	6									
14.0	843.3						Soft to medium hard blueish gray SHALE.						
15							@ 14.0'-14.3', 16.5'-16.7', 17.0'-17.5', 17.9'-18.0'; limestone layer.						
		Core 120"	Rec 120"	RQD 24%	R-1								
20							@ 20.0'-20.7', 21.1'-21.2', 21. 8'-22.0', 22.2'-22.4'; limestone layer.						
24.0	833.3						Bottom of Boring - 24.0'						
25													
30													

GRADATION

STANDARD PENETRATION (N)
Natural Moisture Content, % - ●
PL ⊢ LL
Blows per foot - ○
10 20 30 40

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DESIGNED SJR | DRAWN RLS | REVIEWED AEN | DATE 9/27/2007
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STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-115 | Location: STA. 949+96.41, 15.93' Lt. (Upper West Valley Slope) | Date Drilled: 7-29-04

WATER OBSERVATIONS: Water seepage at: 5' | Water level at completion: 8.7' (Including core water)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	GRADATION % Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N) Natural Moisture Content, % - ● PL ⊢ LL Blows per foot - ○
0	843.0	3 7 7	14	1		4.5+	Very stiff to hard light brown SILT AND CLAY (A-6a), little fine to coarse sand trace gravel; damp.							
		3 4 4	12	2		4.5+								
5		1 1 2	12	3		1.0	@ 5.0', trace fine to coarse sand; moist.	3	4	–	7	36	51	
		2 11 8	12	4		2.5	@ 7.5', trace limestone; damp.							
10		7 3 3	2	5		1.0								
12.0	831.0	11 16 50	16	6			Soft to medium hard gray SHALE, decomposed.							
14.5	828.5	50/5	3	7			Medium hard gray LIMESTONE, highly weathered, contains decomposed shale layers.							
17.0	826.0	18 50/4	8	8			Soft to medium hard gray SHALE, highly weathered to decomposed.							
20		26 50/4	8	9										
21.0	822.0	Core 84"	Rec 74"	RQD 36%	R-1		Medium hard blueish gray SHALE, fossiliferous, highly fractured to broken. @ 21.0'-21.3', 21.7'-21.9', 23.1'-23.3'; limestone layer.							
25														
28.0	815.0	Core 36"	Rec 36"	RQD 50%	R-2		@ 28.0'-28.3', 28.5'-28.7'; limestone layer.							
31.0	812.0						Bottom of Boring - 31.0'							

STANDARD PENETRATION (N) scale: 10 20 30 40; 50+; 66; 50+; 50+; 50+

DLZ OHIO INC. * 6121 HUNTLEY ROAD, COLUMBUS, OHIO 43229 * (614)888-0040

Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-116 | Location: STA. 969+52.78, 53.48' Lt. (Upper East Valley Slope) | Date Drilled: 5-19-04 to 5-21-04

WATER OBSERVATIONS: Water seepage at: None | Water level at completion: None (Measured inside augers)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	GRADATION % Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N) Natural Moisture Content, % - ● PL ⊢ LL Blows per foot - ○
0.0	837.3						No Topsoil - Bench Cut 1.5'							
		1 2 2	6	1		1.75	Stiff brown SANDY SILT (A-4a), trace to little gravel; damp.							
5		5 9 11	18	2		4.5+	@ 3.5', hard.							
		9 12 12	18	3		4.5+	@ 6.0', gray.	13	12	–	23	34	19	
8.0	829.3	8 12 19	18	4		4.5+	Hard gray SILT (A-4b), some fine to coarse sand, trace gravel; damp.							
10		19 19 29	18	5		4.5+								
		12 35 50/5	17	6		4.5+		3	8	–	19	50	20	
15		22 33 57	18	7		4.0								
18.0	819.3	15 15 23	18	8		4.5+	Hard gray SANDY SILT (A-4a), trace to little gravel; damp.	9	14	–	22	33	22	
20		13 22 39	18	9		4.5+								
		22 37 39	18	10		4.5+								
25		18 33 46	18	11										
28.0	809.3						Very dense brown SANDY SILT (A-4a), trace gravel; damp-moist.							
		22 37 48	18	12			Hard gray SILT AND CLAY (A-6a), little fine to coarse sand, little gravel; damp.							
30.0	807.3	50/4	3	13		4.5+	@ 33.5'; limestone fragments.							
35														
		36 50/4	8	14		4.5+	@ 38.5'; limestone fragments.							
39.5	797.8						Bottom of Boring - 39.5'							

STANDARD PENETRATION (N) scale: 10 20 30 40; 50+; 90; 81; 76; 79; 85; 50+; 50+

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DESIGNED SJR | DRAWN RLS | CHECKED DAA | REVIEWED AEN | DATE 9/27/2007 | REVISED | STRUCTURE FILE NUMBER

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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DLZ OHIO INC. * 6121 HUNTLEY ROAD, COLUMBUS, OHIO 43229 * (614)888-0040

Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-117 | Location: STA. 970+23.61, 117.16' Lt. (Upper East Valley Slope) | Date Drilled: 5-19-04

WATER OBSERVATIONS:
Water seepage at: 34.1'-36.0'
Water level at completion: None (Measured inside augers)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay
0	856.3												
0.6	855.7	5 7 7	18	1		4.5+	Cutout 2.5' topsoil evident to 7" Hard brownish gray SANDY SILT (A-4a), little gravel; damp.						
		2 6 9	18	2		4.5+							
5		8 9 9	18	3		4.0							
		5 6 6	11	4		4.0		19	11	–	17	31	22
10													
10.5	845.8	3 4 5	12	5		2.75	Very stiff gray Sandy Silt (A-4a), trace gravel; damp.						
		4 5 6	12	6		2.75	@ 13.5', one large rock fragment in spoon.						
15		3 6 6	17	7		2.75							
		6 16 14	17	8		4.5+	@ 18.0', hard.						
20		8 20 27	10	9		4.5+							
		16 20 24	17	10		4.5+		9	13	–	24	35	19
25		14 20 20	18	11		4.5+							
		10 21 26	18	12		4.5+	@ 28.5', two large rocks in spoon.						
30		30 50/3	9	13a 13b		4.5+	@ 34.1', little gravel, moist. @ 36.0', damp.						
35		36 41 50/4	16	14				15	12	–	17	34	23
40		34 50/5	11	15									
45													
45.5	810.8						Dense brown SANDY SILT (A-4a); dry to damp.						
49.2	807.1	27 50/5	11	16a 16b									
49.5	806.8						Hard brown SILT AND CLAY (A-6a), some fine to coarse sand, trace to little gravel; damp.						
50							Bottom of Boring - 49.5'						
55													
60													

GRADATION

STANDARD PENETRATION (N)
Natural Moisture Content, % - ●
PL ⊢ LL
Blows per foot - ○
10 20 30 40

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Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-118 | Location: STA. 948+56.59, 6.44' Lt. (Rear Abutment) | Date Drilled: 3/9/06

WATER OBSERVATIONS:
Water seepage at: None Observed
Water level at completion: None (Prior to coring)
11.0' (Includes drill water)
(Measured inside augers)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay
0	895.3												
0.1	895.2						Topsoil - 1"						
		2 2 3	16	1		1.5	Stiff brown SILTY CLAY (A-6b), trace to little fine sand, trace coarse sand, trace gravel; damp to moist.	3	7	–	10	30	50
3.0	892.3	3 2 2	17	2			Very loose to loose brown GRAVEL (A-1-a), trace silty clay, trace fine sand, trace to little gravel; damp.	81	10	–	3	6	Non-Plastic
5													
5.5	889.8	3 2 1	14	3		1.0	Medium stiff to stiff brown GRAVEL WITH SAND, SILT, AND CLAY (A-2-6); damp.	51	9	–	7	18	16
8.0	887.3												
		2 1 1	12	4		0.5	Soft to medium stiff mottled brown and gray SILTY CLAY (A-6b), trace to little fine sand, trace coarse sand, trace gravel; moist.						
10													
		2 1 1	15	5		0.5							
		0 1 1	16	6		0.75		6	6	–	15	31	42
15													
		1 2 3	18	7		0.50							
18.5	876.8												
		2 2 5	18	8		1.25/2.0	Stiff to very stiff yellowish brown SILTY CLAY (A-6b), trace fine sand, trace coarse sand, trace gravel; damp to moist.	3	2	–	5	26	63
20		5 15 30	18	9		3.0	@ 21.5', Little to some gravel, little to some fine to coarse sand.						
24.0	871.3												
25		27 40 40	16	10			Soft gray SHALE; highly weathered to decomposed, arenaceous, contains weathered limestone fragments.						
		22 37 50/5	17	11									
		25 50 50/3	15	12									
29.5	865.8						Very soft to soft gray SHALE, interbedded with hard gray LIMESTONE, arenaceous, thinly bedded to massive, highly fractured to broken. @ 29.5'-31.2', 33.1'-34.5', Soft clay infilling. @ 31.4' to 32.2', Clay with shale fragments.						
30		Core 120"	Rec 107"			RQD 29% R-1							
35							@ 34.5' to 35.4', Possible recovery loss.						
35.5	859.8						Soft to medium hard dark gray SHALE, interbedded with LIMESTONE, very fine to medium grained, calcareous, arenaceous, fossiliferous, thinly bedded to thickly bedded, highly to moderately fractured. @ 35.5' to 36.3', Broken zone. @ 37.0' to 37.3', High angle fracture. @ 39.5' to 39.6', High angle fracture. @ 39.9'-40.0', 41.2'- 41.4',43.1'-43.2,48.2'-48.3', Broken zones.						
40		Core 120"	Rec 120"			RQD 68% R-2							
45													
49.5	845.8						Bottom of Boring - 49.5'						
50													
55													
60													

GRADATION

STANDARD PENETRATION (N)
Natural Moisture Content, % - ●
PL ⊢ LL
Blows per foot - ○
10 20 30 40

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STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-119 | Location: STA. 951+07.80, 34.24' Rt. (Retaining Wall) | Date Drilled: 02/28/2006

WATER OBSERVATIONS:
Water seepage at: None Observed
Water level at completion: None

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N)
0	793.6						Topsoil - 12"							
1.0	792.6	2 2 3	14	1		2.0	Very stiff brown CLAY (A-7-6), trace gravel, trace fine sand, trace coarse sand; moist. @ 1.0' to 7.5', Encountered roots and organic material.							
5		2 3 3	8	2		2.25		7	7	–	9	27	51	
6.0	787.6	WOH 2 3	6	3		1.0	Medium stiff to stiff gray SILTY CLAY (A-6b), little coarse sand, trace fine sand, little gravel; moist.							
10		WOH 2 6	11	4		0.5	@ 8.5', Encountered limestone fragments.	18	12	–	8	21	41	
12.0	781.6	2 7 50/1	13	5A 5B		1.0	@ 11.0', Greenish brown.							
13.0	780.6						Soft gray SHALE; highly weathered to decomposed.							
15							Soft to medium hard gray SHALE, interbedded with hard gray LIMESTONE, very fine grained, calcareous, highly fractured, very thinly bedded. @ 13.6'-13.7', 13.8'-14.0', 17.1'-17.3', High angle fractures.							
		Core 120"	Rec 120"	RQD 51%	R-1									
20							@ 19.9'-20.2', 22.1'-23.0', Broken zones.							
23.0	770.6						Bottom of Boring - 23.0'							
25														
30														

STANDARD PENETRATION (N): Natural Moisture Content, % - ● PL ⊢ LL Blows per foot - ○ (10 20 30 40)

DLZ OHIO INC. * 6121 HUNTLEY ROAD, COLUMBUS, OHIO 43229 * (614)888-0040

Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-120 | Location: STA. 951+12.97, 17.82' Lt. (Retaining Wall) | Date Drilled: 3/7/05

WATER OBSERVATIONS:
Water seepage at: None Observed
Water level at completion: None (Prior to coring rock) 10.3' (Includes drill water) (Measured inside augers)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N)
0.0	792.5						Topsoil - 1 to 2"							
5		3 3 13	9	1		1.5	Stiff brown CLAY (A-7-6), trace fine sand, trace coarse sand, trace gravel; moist. @ 3.0', Mottled brown and gray.							
		2 3 3	14	2		1.25		2	3	–	6	27	62	
		2 3 6	8	3		1.25								
8.0	784.6						Hard brown CLAY (A-7-6), trace fine sand, trace coarse sand, trace gravel, contains limestone fragments; damp.							
10		3 5 7	18	4		4.5+		9	5	–	5	26	56	
		5 11 14	16	5		4.5+								
		3 6 8	17	6		2.5	@ 13.0', Very stiff, damp to moist.	6	5	–	8	25	56	
18.0	774.6	4 10 14	18	7		2.0								
19.0	773.6	50/5	5	8			Soft gray SHALE; highly weathered to decomposed, arenaceous, contains weathered limestone fragments.							
20							Medium hard to gray SHALE, interbedded with hard gray LIMESTONE, very fine to fine grained, argillaceous, calcareous, fossiliferous, thinly bedded to medium bedded, highly fractured to broken, limestone clasts interbedded throughout. @ 19.4'-19.7', 21.7'-21. 9', 25.0'-25.2', 28.0'-28.1', 28.3'-29.0', Broken zones. @ 20.6' to 21.5', Possible core loss.							
		Core 120"	Rec 105"	RQD 68%	R-1									
25							@ 27.1' to 27.3', High angle fracture.							
30							@ 29.6'-29.8', 32.7'-32.9', High angle fractures. @ 31.0' to 31.2', Broken zone.							
		Core 60"	Rec 60"	RQD 92%	R-2									
34.0	758.6						Bottom of Boring - 34.0'							
35														
40														
45														
50														
55														
60														

STANDARD PENETRATION (N): Natural Moisture Content, % - ● PL ⊢ LL Blows per foot - ○ (10 20 30 40)

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DATE 9/27/2007 | REVIEWED AEN | STRUCTURE FILE NUMBER
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DESIGNED SJR | CHECKED DAA

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

24 / 32

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DLZ OHIO INC. * 6121 HUNTLEY ROAD, COLUMBUS, OHIO 43229 * (614)888-0040

Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-121 | Location: 951+47.15, 5.96' Lt. (Pier 1) | Date Drilled: 3/3/2006 to 3/6/2006

WATER OBSERVATIONS:
Water seepage at: None Observed
Water level at completion: None (Prior to coring rock) 9.5' (Includes drill water) (Measured inside augers)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N) Natural Moisture Content, % - ● PL ⊢ LL Blows per foot - ○ 10 20 30 40
0	783.1													
0.3	782.8						Topsoil - 3"							
		2 2 3	14	1		2.0	Stiff to very stiff brown SILTY CLAY (A-6b), trace to little coarse sand, trace fine sand; trace gravel; damp to moist.	1	9	--	8	23	60	
3.0	780.1						Very stiff brown CLAY (A-7-6), trace fine sand, trace coarse sand, trace gravel; damp to moist.	1	5	--	6	28	61	
5		2 4 4	7	2		2.5								
5.5	777.6						Very stiff brown SILTY CLAY (A-6b), little coarse sand, trace to little fine sand, little to some gravel; damp.	23	13	--	10	20	34	
		3 5 3	12	3		2.5								
9.0	774.1						Hard brown SILT (A-4b), trace fine sand, trace gravel; damp.							
10		7 10 13	15	4		4.5+								
11.5	771.6	24 50/4	10	5			Soft gray SHALE; highly weathered to decomposed, arenaceous.							
14.0	769.1	50/1	1	6			Soft light gray SHALE, interbedded with LIMESTONE, very fine to fine grained, calcareous, thinly laminated to thinly bedded, highly fractured. @ 15.5'-15.7', 20.6'-20.9', 22.6'-22.7', High angle fracture with iron staining. @ 16.7'-16.8', 17.2'- 17.3', 17.7'-17.8', Broken zones.							
15						703*								
		Core 120"	Rec 120"		RQD 63% R-1									
20						2808*								
25							@ 24.9'-25.1', 25.3'- 25.7', 27.3'-27.5', 31.9'-32.0', 32.9'-33.4', High angle fractures.							
		Core 120"	Rec 120"		RQD 78% R-2	1138*	@ 28.4'-29.0', 30.9'-31.2', Broken zones.							
30						2183* 1208*	@ 29.0', Highly to moderately fractured.							
32.0	751.1						Medium hard dark gray SHALE, interbedded with hard gray LIMESTONE, very fine to fine grained, calcareous, arenaceous, fossiliferous, laminated to medium bedded, moderately fractured. @ 34.1'-34.6', 36.7'-37.4', Broken zones. @ 35.4' to 35.6', High angle fracture.							
35														
		Core 120"	Rec 120"		RQD 63% R-3	3707*	@ 38.5'-38.6', 43.0'-43.2', High angle fracture. @ 39.0'-39.2', 43.5'-43.8', Broken zones.							
40														
45		Core 60"	Rec 60"		RQD 92% R-4		@ 45.4'-45.6', 48.2'-48.3', High angle fractures.							
49.0	734.1						Bottom of Boring - 49.0'							
50														
55														
60														

DLZ OHIO INC. * 6121 HUNTLEY ROAD, COLUMBUS, OHIO 43229 * (614)888-0040

Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-122 | Location: STA. 952+81, 0.92' Rt. (Upper West Slope) | Date Drilled: 3-2-06

WATER OBSERVATIONS:
Water seepage at: None Observed
Water level at completion: 38' (Prior to adding water) 21' (Includes drill water) (Measured inside augers)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N) Natural Moisture Content, % - ● PL ⊢ LL Blows per foot - ○ 10 20 30 40
0	738.6													
0.3	738.3						Topsoil - 3"							
		2 2 2	12	1		2.5	Very stiff to hard brownish gray SILTY CLAY (A-6b), little gravel, trace fine sand, trace coarse sand; damp to moist.	11	7	--	6	23	53	
5		2 5 7	16	2		4.25								
		3 7 9	15	3		4.5+	@ 5.5', Damp.	12	5	--	4	24	56	
10		4 8 12	13	4		4.5+								
		5 8 18	16	5		4.5+	@ 10.5', Trace to little coarse sand, trace gravel.	5	10	--	7	26	51	
15		7 10 11	15	6		4.5+								
		7 10 15	18	7		4.5+	@ 15.5', Trace to little fine sand.	3	12	--	11	26	47	
20		8 16 10	3	8		4.0	@ 19.0', Possible cobble encountered.							
		4 7 6	18	9		1.5	@ 21.0'-22.5', Stiff, gray, moist.	4	7	--	8	33	49	
25		17 15 15	0	10			@ 23.5', Possible cobble encountered.							
26.0	712.6	7 12 17	16	11		4.5+	Hard gray SILTY CLAY (A-6b), little gravel, little coarse sand, trace to little fine sand; damp.	17	12	--	9	22	40	
29.5	709.1	4 15 28	16	12		4.5+	Soft gray SHALE, highly weathered to decomposed, contains weathered limestone fragments throughout.							
30														
		37 30 25	11	13										
35														
39.0	699.6	50/4	4	14			Medium hard to hard SHALE, interbedded with hard gray LIMESTONE, fine to coarse grained, medium to thinly bedded, highly fractured, calcareous, fossiliferrous. @ 39.0'-39.8', 39.9'-40.1', 41.9'-42.0', 45.0'-45.1'. 47.4-47.6', High angle fractures. @ 39.3'-39.8', Highly weathered to decomposed shale zone. @ 40.5'-40.8', 42.2'-42.4', 44.0'-44.3', Broken zones.							
40														
		Core 120"	Rec 118"		RQD 59% R-1									
45														
50		Core 60"	Rec 60"		RQD 93% R-2		@ 52.6', Moderately to highly fractured.							
54.0	684.6						Bottom of Boring - 54.0'							
55														
60														

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STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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DLZ OHIO INC. * 6121 HUNTLEY ROAD, COLUMBUS, OHIO 43229 * (614)888-0040

Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-123 | Location: STA. 955+88.04, 1.03' Lt. (Pier 2) | Date Drilled: 3/1/06

WATER OBSERVATIONS:
Water seepage at: 21.0'-44.0'
Water level at completion: 14.6' (Prior to adding core water)
12.0' (After 12 hours)
(Measured inside augers)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	GRADATION % Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N)
0	671.2													Natural Moisture Content, % - ● PL ⊢ LL Blows per foot - ○ 10 20 30 40
0.3	670.9						Topsoil - 4"							
		4 6 6	15	1		3.5	Very stiff mottled brown and gray SILTY CLAY (A-6b), trace gravel, little fine sand, trace coarse sand; moist.							
		3 3 5	15	2		2.0		1	6	–	13	33	47	
5		3 8 8	16	3		3.5								
		3 8 4	16	4		3.25								
10														
10.5	660.7						Very loose gray SILT (A-4b), little fine to coarse sand; wet.							
12.0	659.2	WOH 1 1	22	5A 5B		1.0	Medium stiff gray SILTY CLAY (A-6b), little fine sand, trace coarse sand; moist. @ 13.5', Mottled brown and gray.	0	2	–	24	52	23	
		2 2 5	18	6		1.0		0	2	–	16	35	47	
15.0	656.2				P-1	0.25 0.50	Soft gray SILT AND CLAY (A-6a), little to some fine sand, trace coarse sand, trace to little gravel; moist.	5 9	13 2	– –	30 22	28 37	24 31	
18.0	653.2						Very soft gray SANDY SILT (A-4a), little clay, trace gravel; wet.							
19.0	652.2	3 7 10	11	7A 7B		<0.25	Medium dense to dense gray GRAVEL (A-1-a), little to some fine to coarse sand, little silty clay; wet.							
20		10 14 20	10	8				63	17	–	8	12		Non-Plastic
25		12 16 23	10	9										
		8 16 16	11	10										
30														
		8 13 36	13	11										
35														
		13 13 14	12	12				64	21	–	8	8		Non-Plastic
40														
		10 34 50/2	4	13										50+
45		50/4	3	14										50+
46.5	624.7						Medium hard gray SHALE, interbedded with hard gray LIMESTONE, very fine grained, calcareous, medium to thinly bedded, highly fractured.							
		Core 96"	Rec 96"	RQD 80%	R-1	5188* 12476*								
52.4	618.8						Medium hard to hard gray SHALE, interbedded with hard gray LIMESTONE, calcareous, fossiliferous, highly to moderately fractured, medium to thinly bedded. @ 54.2' to 54.3', broken zone.							
55						7569*								
60		Core 120"	Rec 120"	RQD 100%	R-2									

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Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-123 | Location: STA. 955+88.04, 1.03' Lt. (Pier 2) | Date Drilled: 3/1/06

WATER OBSERVATIONS:
Water seepage at: 21.0'-44.0'
Water level at completion: 14.6' (Prior to adding core water)
12.0' (After 12 hours)
(Measured inside augers)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	GRADATION % Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N)
60	611.2					3034* 8311*	Medium hard to hard gray SHALE, interbedded with hard gray LIMESTONE, calcareous, fossiliferous, highly to moderately fractured, medium to thinly bedded.							Natural Moisture Content, % - ● PL ⊢ LL Blows per foot - ○ 10 20 30 40
65						7806* 7684*	@ 64.3' to 64.5', Broken zone.							
70		Core 120"	Rec 120"	RQD 100%	R-3	8469*								
75							@ 74.9' to 75.0' and 82.3' to 82.5', coarse grained.							
80		Core 120"	Rec 120"	RQD 100%	R-4									
84.5	586.7						Bottom of Boring - 84.5'							
85														
90														

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STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-124 | Location: STA. 960+23.49, 47.60' Lt. (Pier 3) | Date Drilled: 2/15/06

WATER OBSERVATIONS:
Water seepage at: None Observed
Water level at completion: None (Prior to Coring); 22.2' (includes drilling water); (Measured inside augers)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N)
0	717.8													Natural Moisture Content, % - ● PL ⊢ LL Blows per foot - ○ 10 20 30 40
0.3	717.5						Topsoil - 3 to 4"							
		2 2 2	14	1		2.5	Very stiff brown SILT AND CLAY (A-6a), little gravel, little fine to coarse sand; moist.							
3.0	714.8													
		3 8 6	14	2		4.0	Very stiff to hard brown SILT AND CLAY (A-6a), little gravel, little fine sand, little coarse sand, trace gravel, contains cobbles; damp.							
5														
		21 13 14	15	3		4.5+		8	15	–	15	22	40	
		11 18 33	13	4		4.5+								51 →
10														
		7 18 16	10	5		3.5	@ 11.0', Contains limestone and shale fragments.							
		15 12 13	8	6										
15														
16.5	701.3	4 9 16	18	7		4.5+	Hard brown SILT AND CLAY (A-6a), trace fine to coarse sand, contains limestone and shale fragments; damp.	0	1	–	2	45	52	
		5 30 19	14	8		4.5+								
20														
20.5	697.3	24 44 50	18	9			Very soft gray and brown SHALE, highly weathered to decomposed.							94 →
23.0	694.8						Soft to medium hard gray and brown SHALE, interbedded with hard gray LIMESTONE, very fine to medium grained, calcareous, fossiliferous, thinly laminated to medium bedded, broken to moderately fractured. @ 25.1'-25.2', 26.5'-26.6', 28.9'-29.1', High angle fractures. @ 23.2'-24.0', 26.5'-28.0', 32.2'-33.0' Possible core loss.							
25		Core 120"	Rec 82"	RQD 18%	R-1									
30														
		Core 120"	Rec 120"	RQD 78%	R-2	3440*	@ 33.0'-33.2', 33.8'-33.9', 34.0'-34.4', Gray limestone, fine grained. @ 33.2' to 33.8', Gray shale, moderately fractured. @ 33.9'-34.0', 34.4'-34.6', Brown shale, highly weathered to decomposed.							
36.1	681.7						Medium hard to hard gray SHALE, interbedded with hard gray LIMESTONE; very fine to coarse grained, calcareous, fossiliferous, thinly laminated to thickly bedded, highly to moderately fractured; contains fossiliferous turbidity beds. @ 38.0' to 39.0', 39.2', Gray shale, highly to moderately weathered. @ 39.0' to 39.2', Gray Limestone, fine grained. @ 39.2', Gray shale, moderately weathered. @ 40.6' to 40.9', High angle fracture. @ 41.3' to 42.1', Fossiliferous turbidity zone. @ 41.7' to 42.0', Gray shale, contains limestone fragments. @ 42.0' to 42.1', Gray limestone, fossiliferous. @ 42.1'-42.9', 44.0'-44.3', 44.4'-45.0', Gray shale. @ 42.9' to 43.6', Gray limestone, very fine to fine grained. @ 44.3' to 44.4', Gray limestone, fine grained. @ 47.6'-47.8', 48.0'-48.4', 48.7'-49.0', 50.1'-50.5', 50.6'-50.7', 50.8'-50.9', 51.0'-51.1', 55.9'-56.2', 57.5'-58.0', Fossiliferous, turbidity bed.							
40						2727*								
						12597*								
45		Core 120"	Rec 120"	RQD 83%	R-3	3380*								
50							@ 51.9' to 52.2', 55.1'-55.5', High angle fracture.							
55		Core 60"	Rec 58"	RQD 78%	R-4		@ 56.2' to 57.5', Shale with interspersed limestone fragments.							
58.0	659.8						Bottom of Boring - 58.0'							
60														

DLZ OHIO INC. * 6121 HUNTLEY ROAD, COLUMBUS, OHIO 43229 * (614)888-0040

Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-125 | Location: STA. 960+29.75, 58.93' Rt. (Pier 3) | Date Drilled: 2/13/06 to 2/14/06

WATER OBSERVATIONS:
Water seepage at: None Observed
Water level at completion: 22.5' (includes drilling water); 33.4' (After 17 hours); (Measured inside augers)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N)
0	745.4													Natural Moisture Content, % - ● PL ⊢ LL Blows per foot - ○ 10 20 30 40
0.3	745.1						Topsoil - 2-3"							
		5 4 9	12	1A 1B		3.0 1.0	Very stiff brown SILT AND CLAY (A-6a), little gravel, trace to little fine to coarse sand; moist.	3	4	–	9	29	56	
2.0	743.4						Medium Stiff to stiff light brown SILT AND CLAY (A-6a), trace gravel, trace to little fine to coarse sand, contains limestone and shale fragments; damp to moist. @ 2.0', Very stiff to hard.							
		9 12 10	11	2		4.0								
5														
		8 12 17	13	3		4.5+								
		9 17 20	16	4		4.5+								53 →
10														
12.0	733.4	24 34 19	18	5A 5B			Very soft gray SHALE, highly weathered to decomposed.							
		12 25 50/4	16	6										50+
15														
17.0	728.4	24 50/3	9	7			Soft to medium hard gray and brown SHALE, interbedded with hard gray LIMESTONE, very fine to medium grained, argillaceous, calcareous, fossiliferous, thinly laminated to thickly bedded, broken to highly fractured; shale zones contain limestone inclusions and fossils. @ 18.3' to 19.5', Possible core loss. @ 19.8 to 21.8', Gray Shale decomposed to highly weathered, contains limestone inclusions.							50+
20														
		Core 120"	Rec 106"	RQD 39%	R-1									
25						10716*	@ 25.5' to 26.2', Gray Limestone, moderately weathered, argillaceous, turbidity, fossiliferous. @ 26.2' to 26.6', Gray Shale highly weathered, contains limestone inclusions.							
30														
		Core 120"	Rec 120"	RQD 48%	R-2	1318*	@ 32.8' to 33.5', Gray Shale highly to moderately weathered. @ 33.5' to 33.6', Gray Limestone. @ 33.6' to 34.2', Gray Shale highly weathered to decomposed. @ 34.2' to 34.3', Gray Limestone, moderately weathered. @ 34.3' to 34.5', Gray Shale decomposed, contains Limestone inclusions. @ 35.8 to 36.2', High angle fracture. @ 37.3'-37.7',37.9'-38.1', 39. 2'-39.3', Broken Zones. @ 39.4'-39.5', 42.0'-42.1', Decomposed Shale Bands.							
35						1310*								
40														
41.5	703.9						@ 41.2' to 41.4', High angle fractures.							
		Core 120"	Rec 120"	RQD 69%	R-3	1745*	Medium hard to hard gray SHALE, interbedded with hard gray LIMESTONE, very fine to medium grained, argillaceous, calcareous, fossiliferous, thinly laminated to thickly bedded, moderately to highly fractured; shale zones contain limestone inclusions and fossils. @ 42.3' to 45.3', Gray Shale moderately weathered.							
45														
		Core 60"	Rec 60"	RQD 77%	R-4		@ 49.8'-49.9', 51.5'-50.3', 51.5'-51.9', High angle fracture.							
52.0	693.4						Bottom of Boring - 52.0'							
55														
60														

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STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
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DLZ OHIO INC. * 6121 HUNTLEY ROAD, COLUMBUS, OHIO 43229 * (614)888-0040

Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-126 | Location: STA. 960+23.44, 6.79' Lt. (Pier 3) | Date Drilled: 2/16/06

WATER OBSERVATIONS:
Water seepage at: None Observed
Water level at completion: None (prior to coring) 28.5' (includes drilling water) (Measured inside augers)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N)
0	731.6													Natural Moisture Content, % - ● PL ⊢ LL Blows per foot - ○ 10 20 30 40
0.3	731.3						Topsoil - 3"							
		3 16 14	15	1		2.0	Very stiff to hard brown SILTY CLAY (A-6b), little gravel, trace fine to coarse sand, contains limestone fragments; damp to moist. @ 3.5' Little fine sand, little coarse sand.							
5		11 20 50/5	17	2		4.5+		18	15	--	16	20	31	50+
7.0	724.6						Stiff brown SILTY CLAY (A-6a), trace to little gravel, little to some fine sand, little coarse sand, contains rock fragments; moist.							
		17 26 25	18	3		1.0								51
10		32 50/3	9	4		1.25	@ 10.5', Gray.	16	19	--	20	23	22	50+
							@ 13.0', Hard, brown, trace gravel, encountered limestone fragments, damp.							
14.5	717.1	35 50/4	10	5		4.5+	Very soft gray SHALE, highly weathered to decomposed, contains limestone fragments.	4	14	--	20	27	35	50+
15														
17.0	714.6						Soft to medium hard gray and brown SHALE, interbedded with hard gray LIMESTONE, very fine to medium grained, calcareous, fossiliferous, thinly laminated to thickly bedded, highly to moderately fractured, contains fossiliferous limestone / shale turbidity deposits.							
20		Core 120"	Rec 81"	RQD 24%	R-1		@ 23.7 to 24.3', Broken / Decomposed Zone. @ 24.5 to 27.0', Possible core loss.							
25							@ 27.3' to 27.4', High angle fracture. @ 27.4', Highly to moderately fractured.							
30		Core 120"	Rec 112"	RQD 49%	R-2		@ 32.0', Soft to hard, slightly to moderately weathered. @ 32.6' to 32.7', High angle fracture.							
32.8	698.8						Medium hard to hard gray SHALE, interbedded with hard gray LIMESTONE, very fine grained, calcareous, fossiliferous, medium to thinly bedded, highly fractured.							
35							@ 35.6' to 36.1', Broken zone. @ 36.4' to 37.0', Possible core loss. @ 37.7'-37.9', 40.1'-40.2', High angle fracture. @ 38.8'-39.1', 40.4'-40.7', Broken zone.							
40		Core 120"	Rec 119"	RQD 48%	R-3		@ 41.5' to 41.7', Fossil inclusions in shale bed. @ 43.3'-44.2', 44.5'-44.6', 44.8'-45.0, 47.0'-47.7', 47.5'-47.7', 48.0'-48.1', Decomposed shale zones. @ 43.3'-43.5',45.8'-46.1', High angle fracture.							
45														
50		Core 60"	Rec 59"	RQD 72%	R-4		@ 47.2' to 47.5', Broken. @ 47.9' to 48.1', High angle fracture.							
52.0	679.6						Bottom of Boring - 52.0'							
55														
60														

GRADATION

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DESIGNED SJR | DRAWN RLS | CHECKED DAA | REVIEWED AEN | DATE 9/27/2007 | REVISED | STRUCTURE FILE NUMBER

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

28 / 32

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DLZ OHIO INC. * 6121 HUNTLEY ROAD, COLUMBUS, OHIO 43229 * (614)888-0040

Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-127 | Location: STA. 964+67.88, 29.70' Lt. (Pier 4) | Date Drilled: 2-21-06

WATER OBSERVATIONS:
Water seepage at: None Observed
Water level at completion: None (Prior to coring) 46.6' (includes drilling water) (Measured inside augers)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N) Natural Moisture Content, % - ● PL ⊢ LL Blows per foot - ○ 10 20 30 40
0	733.8						Topsoil - 1"							
0.9	733.0	2 2 3	15	1		1.25	Stiff brown SILT AND CLAY (A-6a), little to some fine sand, trace to little coarse sand, some gravel; damp to moist.	22	11	--	21	27	20	
		5 7 16	18	2		4.5+	@ 3.5', Hard, encountered limsestone fragments.							
5														
5.5	728.4	2 4 5	14	3		3.75	Very stiff gray SANDY SILT (A-4a), little to some fine sand, trace to little coarse sand, little gravel; damp.							
		2 5 6	18	4		4.0		14	10	--	21	35	21	
10														
		6 6 9	18	5		3.5								
		3 7 10	18	6		4.5+	@ 14.5', Hard.							
15														
		4 7 12	18	7		4.5+								
		4 10 15	18	8		4.5+								
20							@ 21.0', Trace to little gravel.							
		4 9 13	18	9		4.5+		10	11	--	21	35	23	
25														
25.5	708.4	11 18 28	16	10		4.5+	Dense gray SANDY SILT (A-4a), some to "and" fine sand, trace to little coarse sand, little gravel; damp.	6	10	--	32	36	16	Non-Plastic
28.5	705.4	8 24 27	17	11		1.5	Stiff light brown SILT (A-4b), trace to little clay; moist.							51 →
30														
31.0	702.9	9 17 19	14	12			Dense brown GRAVEL WITH SAND (A-1-b), little to some silty clay; damp.	9	46	--	26	19		Non-Plastic
35							@ 35.0', Very dense.							
		24 36 45	15	13										81 →
40														
		18 35 30	14	14				43	36	--	10	12		Non-Plastic
45														85 →
		50/4	4	15										50+
50														
51.5	682.4						Soft light gray SHALE; highly weathered to decomposed, broken.							
		21 50 50/4	16	16										50+
55														
		50/3	3	17										50+
58.5	675.4						Soft to medium hard gray SHALE interbedded with LIMESTONE.							
60														

DLZ OHIO INC. * 6121 HUNTLEY ROAD, COLUMBUS, OHIO 43229 * (614)888-0040

Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-127 | Location: STA. 964+67.88, 29.70' Lt. (Pier 4) | Date Drilled: 2-21-06

WATER OBSERVATIONS:
Water seepage at: None Observed
Water level at completion: None (Prior to coring) 46.6' (includes drilling water) (Measured inside augers)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N) Natural Moisture Content, % - ● PL ⊢ LL Blows per foot - ○ 10 20 30 40
60	673.9	Core 120"	Rec 120"	RQD 86%	R-1		Soft to medium hard gray SHALE, interbedded with hard gray LIMESTONE, fine to medium grained, calcareous, fossiliferous, laminated to medium bedded, highly fractured. @ 58.7'-58.8', 60.6'- 60.7, 62.3'-62.4', 65.6'- 65.9', High angle fractures. @ 63.9'-64.0', 65.3'- 65.5', Broken zones.							
65														
70		Core 120"	Rec 120"	RQD 95%	R-2		@ 71.9'-72.1', 73.9'-74.1', Broken zones. @ 74.4' to 74.5', Coarse grained.							
75														
78.5	655.4						Bottom of Boring - 78.5'							
80														
85														
90														

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DESIGNED SJR | DRAWN RLS | REVIEWED AEN | DATE 9/27/2007
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STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

29/32

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DLZ OHIO INC. * 6121 HUNTLEY ROAD, COLUMBUS, OHIO 43229 * (614)888-0040

Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-128 | Location: STA. 968+90.23, 2.53' Lt. (Pier 5) | Date Drilled: 2/17/06

WATER OBSERVATIONS: Water seepage at: 6.0", 16.3" | Water level at completion: None

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N)
0	814.8						Topsoil - 11"							
0.9	813.9	4 4 5	17	1		4.5+	Hard brownish gray SANDY SILT (A-4a), trace to little clay, trace to little gravel; damp.							
5		12 14 21	18	2		4.5+								
6.4	808.4	5 23 50/5	11 7	3A 3B		4.25	Very dense brown COARSE AND FINE SAND (A-3a), some silty clay; damp.							50+
10		12 47 50/5	17	4				14	23	--	37	26		Non-Plastic 50+
		34 50/5	14	5			@ 11.0', some gravel.							50+
15		23 42 35	17	6										77
16.5	798.3	21 38 44	13 2	7A 7B		1.5	@ 16.3' to 16.5', Silt seam. Stiff brown SANDY SILT (A-4a), little gravel, contains limestone fragments; damp.							82
20		11 34 36	14	8		--								70
20.5	794.3	15 24 35	17	9		3.5	Very dense brown COARSE AND FINE SAND (A-3a), some silty clay, some gravel; damp.	27	24	--	19	18	12	Non-Plastic 59
25		16 55 52	18	10A 10B		4.5+ 4.5+	@ 24.5', Gray.							107
25.5	789.3	19 38 33	16	11			Very dense brown GRAVEL WITH SAND (A-1-b), some silty clay; wet.	26	33	--	18	15	7	H 71
30		19 31 29	13	12A 12B										80
32.5	782.3	23 17 24	16	13A 13B		2.5	Very dense gray GRAVEL WITH SAND (A-1-b), trace clay; wet. Very stiff gray SANDY SILT (A-4a), some fine sand, little coarse sand, little gravel; damp.	13	17	--	22	32	17	
35														
40		6 14 20	18	14		4.0								
42.0	772.8	16 28 40	18	15		3.0	Very dense gray COARSE AND FINE SAND (A-3a), some to "and" silty clay, little gravel; damp.	28	21	--	19	13	19	Non-Plastic 58
45														
		16 28 36	18	16		3.5	@ 47.5'-49.0', Moist.							64
50														
		15 32 38	18	17		1.5	@ 51.5', Stiff.							70
55														
56.0	758.8						Very dense brown GRAVEL WITH SAND (A-1-b), trace silty clay; wet.							
60		50/2	2	18										50+

DLZ OHIO INC. * 6121 HUNTLEY ROAD, COLUMBUS, OHIO 43229 * (614)888-0040

Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-128 | Location: STA. 968+90.23, 2.53' Lt. (Pier 5) | Date Drilled: 2/17/06

WATER OBSERVATIONS: Water seepage at: 6.0", 16.3" | Water level at completion: None

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N)
60	754.8						Very dense brown GRAVEL WITH SAND (A-1-b), trace silty clay; wet.							95
		30 47 48	15	19										
65														
		15 19 19	16	20				43	32	--	11	13		Non-Plastic
70														
72.5	742.3						Stiff gray SILT AND CLAY (A-6a), trace gravel, trace fine to coarse sand; moist.							
		9 17 25	18	21		2.0								
75														
80.0	734.8	12 17 24	18	22		4.5+	@ 78.5', Hard; damp. Bottom of Boring - 80.0'							
85														
90														

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STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

30 / 32

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Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-129 | Location: STA. 971+15.49, 4.50' Lt. (Forward Abutment) | Date Drilled: 2/27/06 to 2/28/06

WATER OBSERVATIONS: Water seepage at: None Observed; Water level at completion: None

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay
0.0	884.7						Topsoil - 1"						
0.1	884.6	3 3 4	18	1		3.25	Very stiff greenish brown SILTY CLAY (A-6b), trace fine sand, trace coarse sand, trace to little gravel; moist.						
5		1 3 4	18	2		2.0		10	4	–	7	40	38
		2 1 3	18	3		1.5							
		2 3 4	18	4		2.25	@ 8.5', very stiff, gray and brown, little to some fine sand, trace to little coarse sand.	8	11	–	19	34	28
10		2 3 4	18	5		3.5							
		1 2 3	16	6		2.0							
15		2 4 4	14	7		2.0		3	7	–	15	35	40
		1 2 3	14	8		1.5							
20.5	864.2	1 4 8	14	9		4.5+	Hard brown SANDY SILT (A-4a), little fine sand, trace coarse sand, trace gravel; damp.						
25		5 4 13	18	10B 10A		4.5+ 4.5+	@ 24.5', Encountered limestone fragments.	32	8	–	14	26	20
26.0	858.7						Very stiff gray SANDY SILT (A-4a), little fine sand, trace coarse sand, some gravel; moist.						
		4 6 8	16	11		2.5							
30		4 7 9	18	12		2.5							
		3 7 7	16	13		3.0		9	13	–	21	34	23
35													
		4 7 12	13	14		4.0	@ 38.5', Damp.	14	13	–	18	32	23
40													
		7 8 12	16	15		2.75							
45													
		8 14 19	18	16		4.5+							
50													
		33 40 50/2	14	17B 17A		4.5+	@ 53.5'-55.0', Contains sand and gravel seam.						
55													
		22 50/2	8	18		4.5+							
60													

STANDARD PENETRATION (N)

Natural Moisture Content, % - ●

PL ⊢ LL

Blows per foot - ○

10 20 30 40

DLZ OHIO INC. * 6121 HUNTLEY ROAD, COLUMBUS, OHIO 43229 * (614)888-0040

Client: HNTB Corporation | Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950 | Job No. 0221-3020.00

LOG OF: Boring B-129 | Location: STA. 971+15.49, 4.50' Lt. (Forward Abutment) | Date Drilled: 2/27/06 to 2/28/06

WATER OBSERVATIONS: Water seepage at: None Observed; Water level at completion: None

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay
60	824.7												
62.0	822.7						Hard gray SILT AND CLAY (A-6a), little fine to coarse sand, little gravel, contains limestone fragments; damp.						
		39 47 50/1	13	19A 19B		4.5+ 4.5+							
65													
69.1	815.6	38 50/1	7	20		4.5+	Bottom of Boring - 69.1'						
70													
75													
80													
85													
90													

STANDARD PENETRATION (N)

Natural Moisture Content, % - ●

PL ⊢ LL

Blows per foot - ○

10 20 30 40

50+

50+

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STRUCTURE FOUNDATION INVESTIGATION

BRIDGE NO. WAR-71-1514L/R

INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20

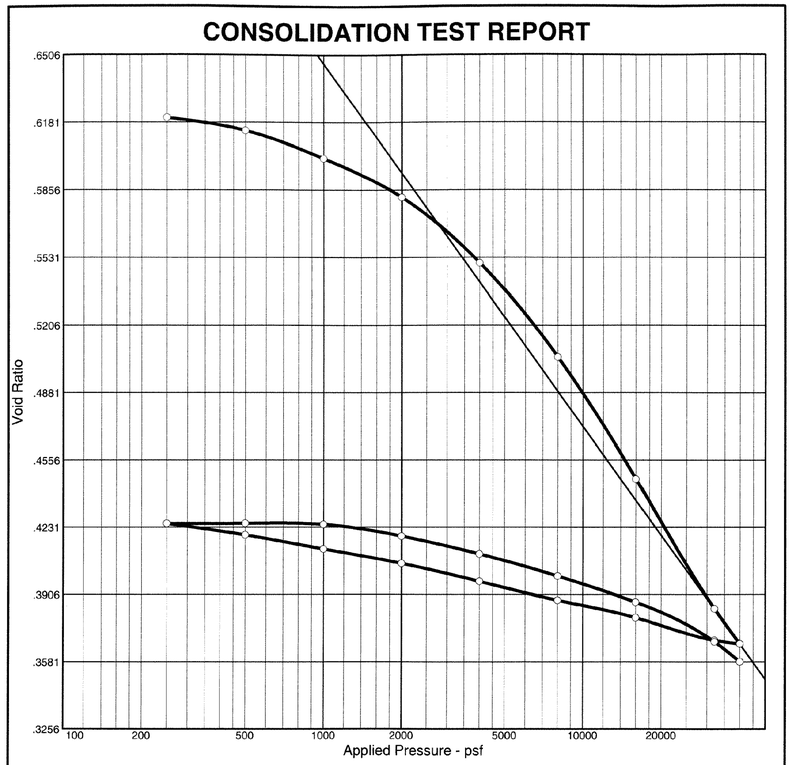
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DATA FOR SCOUR ANALYSIS (PIER 2)

D_{50} VALUES (mm)	
B-104	B-105
SAMPLE NO. S-1 (1.0'-2.5') = 0.0140	SAMPLE NO. S-1 (1.0'-2.5') = 0.0157
SAMPLE NO. S-2 (3.5'-5.0') = 0.0114	SAMPLE NO. S-2 (3.5'-5.0') = 0.0194
SAMPLE NO. S-3 (6.0'-7.5') = 0.0135	SAMPLE NO. S-3 (6.0'-7.5') = 0.372
SAMPLE NO. S-5 (11.0'-12.5') = 0.305	SAMPLE NO. S-4 (8.5'-10.0') = 0.0159
SAMPLE NO. S-6 (13.5'-15.0') = 0.0179	SAMPLE NO. S-5 (11.0'-12.5') = 0.0378
SAMPLE NO. S-7 (16.0'-17.5') = 0.0116	SAMPLE NO. S-8 (18.5'-20.0') = 1.83
SAMPLE NO. S-10 (23.5'-25.0') = 4.15	SAMPLE NO. S-12 (28.5'-30.0') = 4.24



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	USCS	AASHTO	Initial Void Ratio
Saturation	Moisture							
91.4 %	20.9 %	105.0	30	14	2.73	CL	A-6(7)	0.624

MATERIAL DESCRIPTION

Project No. 0221- **Client:** HNTB Corporation
Project: WAR-71-14.20 (Jeremiah Morrow Bridge) PID 22950
Source: B-123 **Sample No.:** P-1B **Elev./Depth:** 16

DLZ

Remarks:

Figure

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DAA			

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. WAR-71-1514L/R
INTERSTATE 71 OVER LITTLE MIAMI RIVER

WAR-71-14.20
PID No. 22950

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PROJECT DESCRIPTION

IT IS UNDERSTOOD THAT ODOT WILL SUGGEST THE CONTRACTOR USE SITE NO. 1 AS A TEMPORARY STOCKPILE AREA FOR MATERIAL EXCAVATED FROM THE UPCOMING CONSTRUCTION OF THE REPLACEMENT PIER FOUNDATIONS FOR THE JEREMIAH MORROW BRIDGE. THE STOCKPILE AREA WILL BE POSITIONED ADJACENT TO THE EXISTING PAVED LOOP ROAD (BETWEEN THE UPPER LOOP ROAD AND THE LOWER PARKING AREA), TO THE NORTH OF THE EXISTING SOUTHBOUND IR-71 JEREMIAH MORROW BRIDGE. THE SITE IS GENERALLY BETWEEN THE EXISTING BRIDGE PIERS NO. 1 AND NO. 2.

SITE NO. 2 IS AN ACTIVE SLOPE FAILURE LOCATED WITHIN AND TO THE EAST (DOWN SLOPE) OF THE EXISTING PAVED LOOP ACCESS ROAD WHICH IS POSITIONED TO THE EAST (AND DOWN SLOPE) OF THE NORTHBOUND IR-71 OBSERVATION AREA. THE SLOPE FAILURE STRADDLES A NATURAL DRAINAGE SWALE WITHIN WHICH A CULVERT HAD BEEN PLACED TO CARRY RUNOFF UNDER THE LOOP ACCESS ROAD. THE SLOPE FAILURE AREA EXTENDS APPROXIMATELY 75 SOUTH OF THE CENTERLINE OF THE SWALE TO APPROXIMATELY 75 FEET NORTH OF THE SWALE, AND EXTENDS DOWN SLOPE FOR AN ESTIMATED 150 FEET.

THIS SUBSURFACE INVESTIGATION WAS GENERALLY PERFORMED IN ACCORDANCE WITH THE JULY 2008 ODOT "SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS" (SGE).

GEOLOGY AND OBSERVATIONS

THE PROJECT AREAS ARE LOCATED IN THE LITTLE MIAMI RIVER VALLEY ON THE BORDER OF THE SOUTHERN OHIO LOAMY TILL PLAIN AND THE ILLINOIAN TILL PLAIN OF THE CENTRAL LOWLAND TILL PLAIN PHYSIOGRAPHIC REGION OF THE STATE. THE OVERBURDEN SOILS IN THE AREA CONSIST PREDOMINANTLY OF ALLUVIAL SOILS WITHIN THE LITTLE MIAMI RIVER FLOOD PLAIN AND GLACIAL TILL OF ILLINOIAN AGE AND RESIDUAL SOILS FROM THE PARENT BEDROCK ON THE RIVER VALLEY SLOPES. THESE OVERBURDEN SOILS OVERLIE INTERBEDDED SHALE AND LIMESTONE FROM THE MIAMITOWN SHALE-FAIRVIEW FORMATION UNDIVIDED IN THE LITTLE MIAMI RIVER FLOOD PLAIN AND FROM THE ORDOVICIAN UNDIVIDED AND WAYNESVILLE FORMATION ON THE RIVER VALLEY SLOPES. BOTH OF THE BEDROCK FORMATIONS ARE OF ORDOVICIAN AGE. AVAILABLE BEDROCK TOPOGRAPHIC MAPPING SUGGESTS THAT THE TOP OF BEDROCK IN THE PROJECT AREA IS AT DEPTHS OF APPROXIMATELY 10 TO 50 FEET BELOW EXISTING GRADES. THE BORINGS AT SITE NO. 1 DID NOT ENCOUNTER BEDROCK WITHIN THE MAXIMUM EXPLORATION DEPTH OF 40.0 FEET. THE BORINGS AT SITE NO. 2 ENCOUNTERED BEDROCK AT DEPTHS RANGING FROM 10.0 TO 33.5 FEET. THE INTERBEDDED SHALE AND LIMESTONE FORMATIONS RANGE IN THICKNESS FROM 0 TO 145 FEET.

RECONNAISSANCE

ON JANUARY 14, 2008 A SITE RECONNAISSANCE WAS PERFORMED BY BBCM PERSONNEL AND MR. JOE SMITHSON, DGE OF ODOT DISTRICT 8, AT BOTH PROJECT SITES. SITE NO. 1 APPEARED GENERALLY GRASS AND ASPHALT COVERED WITH SOME SMALL DECIDUOUS AND PINE TREES POSITIONED ON THE HILLSIDE. THE HEIGHT OF SLOPE ASSOCIATED WITH SITE NO. 1 IS APPROXIMATELY 35 FEET. THE EXISTING SLOPE AT SITE NO. 1 HAS NOT EXPERIENCED NOTABLE MOVEMENT. PORTIONS OF THE ASPHALT DRIVE WERE COVERED WITH SILT DEPOSITS AND ARE NOW GRASS COVERED.

THE SLOPE FAILURE AT SITE NO. 2 WAS GENERALLY VOID OF VEGETATION; HOWEVER, THE LANDSLIDE AREA WAS EXTREMELY HUMMOCKY AND COVERED WITH DEBRIS SUCH AS PAVEMENT MATERIALS, AND DISPLACED GUARDRAILS AND SOLDIER PILES (REMNANTS OF PAST ATTEMPTS TO STABILIZE THIS SLIDE). THE CULVERT POSITIONED UNDER THE LOOP ROAD HAD BEEN SEVERED. SINCE THE SCARP OF THIS SLIDE TOTALLY ENGULFED THE LOOP ROAD PAVEMENT, A TEMPORARY UNPAVED ACCESS ROAD HAS BEEN FORMED ABOVE AND AROUND THE SCARP. THE HEIGHT OF SLOPE ASSOCIATED WITH SITE NO. 2 IS APPROXIMATELY 30 FEET.

SUBSURFACE EXPLORATION

BETWEEN APRIL 14, 2008 AND APRIL 18, 2008, EIGHT (8) BORINGS (BORINGS B-001-0-08, B-001-1-08, B-002-0-08, B-002-1-08, B-003-0-08, B-004-0-08, B-004-1-08 AND B-005-0-08, SUBSEQUENTLY REFERRED TO AS B-001-0, B-001-1, B-002-0, B-002-1, B-003-0, B-004-0, B-004-1 AND B-005-0) WERE EXTENDED TO DEPTHS RANGING FROM 23.0 TO 44.0 FEET BELOW EXISTING GRADES. THE BORING LOCATIONS WERE SELECTED AND FIELD LOCATED BY BBCM. THE GROUND SURFACE ELEVATIONS AS WELL AS BORING LOCATIONS OF THE BORINGS WERE ESTIMATED FROM SURVEY INFORMATION PROVIDED BY ODOT DISTRICT 8.

THE BORINGS WERE DRILLED BY ATV-MOUNTED DRILL RIGS USING A 3-1/4 INCH I.D. HOLLOW-STEM AUGER. AT REGULAR INTERVALS, THE DRILL RODS WERE WITHDRAWN FROM THE AUGER AND DISTURBED, BUT REPRESENTATIVE, SOIL SAMPLES WERE OBTAINED BY DRIVING A 2-INCH O.D. SPLIT-BARREL SAMPLER INTO THE SOIL WITH BLOWS FROM A 140-POUND HAMMER FREELY FALLING 30 INCHES (ASTM D 1586-STANDARD PENETRATION TEST). WHERE THE INITIAL SAMPLER FAILED TO RETRIEVE A SAMPLE, THE SAMPLER WAS RE-DRIVEN THROUGH AND SIX INCHES DEEPER THAN THE ORIGINAL SAMPLE INTERVAL. UNDISTURBED SAMPLES WERE ATTEMPTED BY HYDRAULICALLY PRESSING STAINLESS STEEL (SHELBY) TUBES INTO THE SOIL.

SPT SAMPLES WERE OBTAINED EITHER AT 2.5-FOOT INTERVALS TO 20 FEET BELOW GRADE AND THEN 5-FOOT INTERVALS THEREAFTER (SITE NO. 1) OR CONTINUOUSLY UNTIL BEDROCK WAS ENCOUNTERED (SITE NO. 2). UPON ENCOUNTERING BEDROCK AT DEPTHS RANGING FROM 10.3 TO 34.0 FEET IN EACH OF THE SITE NO. 2 BORINGS, 10.0 FEET OF BEDROCK WAS CORED USING AN NQ DIAMOND BIT ROCK CORE BARREL WITH WATER AS A CIRCULATING FLUID. ALL DISTURBED SAMPLES WERE EXAMINED IN THE FIELD AND REPRESENTATIVE PORTIONS WERE PRESERVED IN AIRTIGHT GLASS JARS. RETRIEVED ROCK CORE SAMPLES WERE STORED IN COMPARTMENTAL CORE BOXES. THE RECOVERED SOIL AND ROCK SAMPLES WERE THEN TRANSPORTED TO THE SOILS LABORATORY OF BBCM FOR FURTHER EXAMINATION AND TESTING. UPON COMPLETION, WATER LEVELS WERE MEASURED AND INCLINOMETER CASING WAS INSTALLED IN BORING B-004-1 AND GROUTED IN PLACE. THE REMAINING BORINGS WERE SEALED IN ACCORDANCE WITH ODOT REQUIREMENTS.

IN ACCORDANCE WITH THE 2008 ODOT "SGE", THE HAMMER SYSTEM ON THE DRILLING RIG WAS CALIBRATED ON NOVEMBER 19, 2007 AND FEBRUARY 19, 2007 (ASTM D 4633). DRILL ROD ENERGY RATIOS OF 82% AND 83% WERE MEASURED.

EXPLORATION FINDINGS - SITE NO. 1

IN GENERAL, EACH OF THE FOUR BORINGS ENCOUNTERED 5 TO 11 INCHES OF TOPSOIL. BENEATH THE TOPSOIL, EACH OF THE FOUR BORINGS ENCOUNTERED EXISTING FILL TO DEPTHS RANGING FROM 8.0 TO 18.0 FEET. THE EXISTING FILL GENERALLY CONSISTED OF STIFF TO HARD BROWN AND/OR GRAY SILT AND CLAY (A-6a), SILTY CLAY (A-6b) AND CLAY (A-7-6). THIN LAYERS OF EXISTING FILL CONSISTING OF LOOSE TO MEDIUM-DENSE BROWN AND GRAY GRAVEL (A-1-a) AND GRAVEL WITH SAND AND SILT (A-2-4) WERE ENCOUNTERED BELOW THE TOPSOIL IN BORING B-001-0 AND B-002-1 TO DEPTHS OF 3.0 AND 2.5 FEET, RESPECTIVELY.

BENEATH THE EXISTING FILL SOILS, NATURAL SOILS GENERALLY CONSISTING OF STIFF TO HARD BROWN AND/OR GRAY SANDY SILT (A-4a), SILT AND CLAY (A-6a), SILTY CLAY (A-6b) AND CLAY (A-7-6) WERE ENCOUNTERED IN EACH OF THE FOUR BORINGS TO DEPTHS RANGING FROM 13.0 TO 35.0 FEET. A LAYER OF VERY-SOFT TO MEDIUM-STIFF SANDY SILT WAS ENCOUNTERED IN BORINGS B-001-1 AND B-002-1 BETWEEN DEPTHS OF 13.0 AND 26.0 FEET. BORINGS B-001-1, B-002-0 AND B-002-1 ENCOUNTERED MEDIUM-DENSE TO VERY-DENSE BROWN AND GRAY GRAVEL (A-1-a), GRAVEL WITH SAND (A-1-b), GRAVEL WITH SAND AND SILT (A-2-4), AND GRAVEL WITH SAND SILT AND CLAY (A-2-6) AT DEPTHS RANGING FROM 22.0 TO 27.0 FEET, AND WERE TERMINATED WITHIN THESE SOILS AT DEPTHS RANGING FROM 35.0 TO 40.0 FEET. BORING B-001-0 WAS TERMINATED WITHIN HARD SILTY CLAY (A-6b) AT A DEPTH OF 35.0 FEET.

DURING DRILLING, GROUNDWATER SEEPAGE WAS ENCOUNTERED IN BORINGS B-001-1, B-002-0 AND B-002-1 AT DEPTHS 18.0, 23.0 AND 21.0 FEET BELOW THE GROUND SURFACE, RESPECTIVELY. GROUNDWATER SEEPAGE WAS NOT ENCOUNTERED IN BORING B-001-0. DRILLING MUD WAS ADDED TO BORINGS B-001-1, B-002-0 AND B-002-1 TO MINIMIZE SAND FROM HEAVING INTO THE AUGER; THEREFORE, GROUNDWATER MEASUREMENTS AT THE COMPLETION OF DRILLING WERE NOT OBTAINED IN THESE BORINGS. BORING B-001-0 WAS "DRY" AT THE COMPLETION OF DRILLING, THAT IS TO SAY NO SIGNIFICANT WATER HAD ACCUMULATED AT THE BOTTOM OF THE BORE HOLE.

EXPLORATION FINDINGS - SITE NO. 2

IN GENERAL, BORINGS B-003-0 AND B-005-0 ENCOUNTERED 7 INCHES OF GRANULAR BASE AND 5 INCHES OF ASPHALT, RESPECTIVELY. BENEATH THE SURFICIAL MATERIALS, EACH OF THE FOUR BORINGS ENCOUNTERED EXISTING/POSSIBLE FILL TO DEPTHS RANGING FROM 8.5 TO 19.0 FEET. THE EXISTING/POSSIBLE FILL GENERALLY CONSISTED OF STIFF TO HARD BROWN AND/OR GRAY SILT AND CLAY (A-6a), SILTY CLAY (A-6b) AND CLAY (A-7-6) AND LOOSE TO VERY-DENSE BROWN AND GRAY GRAVEL (A-1-a), GRAVEL WITH SAND (A-1-b), GRAVEL WITH SAND AND SILT (A-2-4) AND GRAVEL WITH SAND, SILT AND CLAY (A-2-6).

BENEATH THE EXISTING/POSSIBLE FILL SOILS, NATURAL SOILS GENERALLY CONSISTING OF STIFF TO HARD BROWN AND/OR GRAY SILTY CLAY (A-6b) AND CLAY (A-7-6) WERE ENCOUNTERED IN EACH OF THE FOUR BORINGS TO DEPTHS RANGING FROM 10.0 TO 33.5 FEET. BORINGS B-004-0, B-004-1 AND B-005-0 ENCOUNTERED MEDIUM-DENSE TO VERY-DENSE BROWN AND GRAY GRAVEL WITH SAND AND SILT (A-2-4) AND GRAVEL WITH SAND, SILT AND CLAY (A-2-6) AT DEPTHS RANGING FROM 23.0 TO 31.0 FEET.

EACH OF THE THREE BORINGS ENCOUNTERED VERY WEAK TO SLIGHTLY STRONG INTERBEDDED SHALE AND LIMESTONE BEDROCK BENEATH THE NATURAL SOILS AT DEPTHS RANGING FROM 10.0 TO 33.5 FEET. THE BEDROCK ENCOUNTERED WAS HIGHLY TO MEDIUM WEATHERED. THE BEDROCK CONSISTED OF 30 TO 85 PERCENT SHALE. EACH OF THE BORINGS WAS TERMINATED WITHIN THE INTERBEDDED SHALE AND LIMESTONE BEDROCK.

DURING DRILLING, GROUNDWATER SEEPAGE WAS ENCOUNTERED IN BORINGS B-003-0, B-004-0 AND B-005-0 AT DEPTHS OF 10.0, 5.5 AND 8.0 FEET BELOW THE GROUND SURFACE, RESPECTIVELY. AT THE COMPLETION OF DRILLING, GROUNDWATER WAS MEASURED IN BORINGS B-003-0 AND B-005-0 AT DEPTHS OF 4.7 AND 6.3 FEET, RESPECTIVELY. GROUNDWATER SEEPAGE WAS NOT ENCOUNTERED IN BORING B-004-1, AND BORING B-004-1 WAS "DRY" PRIOR TO CORING.

AVAILABLE INFORMATION

ALL AVAILABLE SOIL AND BEDROCK INFORMATION THAT CAN BE CONVENIENTLY SHOWN ON THE GEOTECHNICAL EXPLORATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL EXPLORATIONS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE OFFICE OF GEOTECHNICAL ENGINEERING AT 1600 WEST BROAD STREET, OR THE OFFICE OF STRUCTURAL ENGINEERING AT 1980 WEST BROAD STREET.

SUMMARY OF BEDROCK UNCONFINED COMPRESSIVE STRENGTH (UCS) TESTING DATA

BORING NO.	BEDROCK SAMPLE ELEVATION	MEASURED UNCONFINED COMPRESSIVE STRENGTH (PSI)	MEASURED REC(%)/RQD(%) OF THE CORE RUN TESTED	ROCK DESCRIPTION
B-003-0	784.7 - 785.2	1,929	78/17	SHALE, GRAY, WEAK
B-004-0	760.8 - 761.3	3,541	100/39	SHALE, GRAY, WEAK TO MODERATELY STRONG
B-004-1	735.2 - 735.7	7,380	100/43	LIMESTONE, GRAY, STRONG

PARTICLE SIZE DEFINITIONS

12"		3"	2.0 mm		0.42 mm		0.074 mm	0.005 mm
BOULDERS	COBBLES		GRAVEL	COARSE SAND		FINE SAND		SILT	CLAY
			No. 10 SIEVE		No. 40 SIEVE		No. 200 SIEVE	

RECON. - RLW (1/14/08)
DRILLING - BBCM (4/14-18/08)
DRAWN - TJM (11/24/08-12/4/08)
REVIEWED - BCD (12/4/08)

LEGEND

	DESCRIPTION	ODOT CLASS	CLASSIFIED MECH./VISUAL	
	GRAVEL AND/OR STONE FRAGMENTS	A-1-a	2	4
	GRAVEL AND/OR STONE FRAGMENTS WITH SAND	A-1-b	2	4
	GRAVEL AND/OR STONE FRAGMENTS WITH SAND AND SILT	A-2-4	4	5
	GRAVEL AND/OR STONE FRAGMENTS WITH SAND, SILT AND CLAY	A-2-6	4	6
	SANDY SILT	A-4a	3	3
	SILT AND CLAY	A-6a	6	6
	SILTY CLAY	A-6b	13	22
	CLAY	A-7-6	12	17
		TOTAL	46	67
	INTERBEDDED SHALE AND LIMESTONE			
	INTERBEDDED SHALE AND LIMESTONE WEATHERED			
	PAVEMENT OR BASE = X = APPROXIMATE THICKNESS	*VISUAL*		
	GRANULAR BASE = X = APPROXIMATE THICKNESS	*VISUAL*		
	SOD AND TOPSOIL = X = APPROXIMATE THICKNESS	*VISUAL*		

BBCM BORING LOCATION - PLAN VIEW - APRIL, 2008

DLZ BORING LOCATION - PLAN VIEW - MAY, 2004 AND MARCH, 2006

DRIVE SAMPLE AND/OR ROCK CORE BORING PLOTTED TO VERTICAL SCALE ONLY. HORIZONTAL BAR INDICATES A CHANGE IN STRATIGRAPHY.

SH INDICATES SPLIT-BARREL SAMPLER ADVANCED BY COMBINED WEIGHT OF RODS AND DRIVE HAMMER

WC INDICATES WATER CONTENT IN PERCENT.

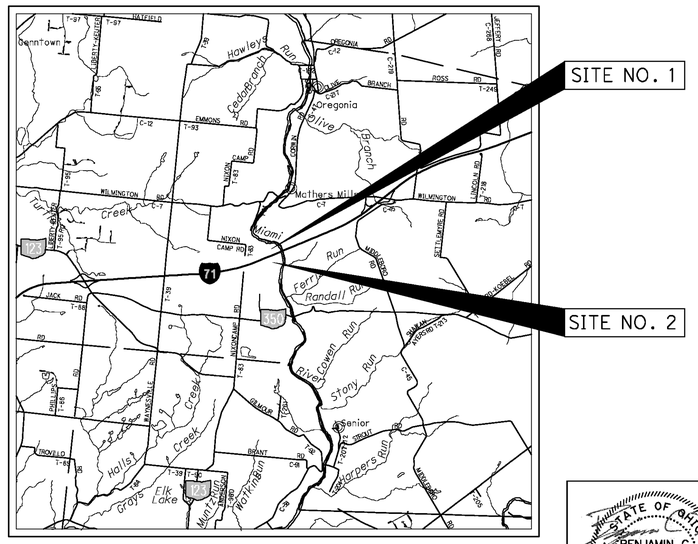
N_{60} INDICATES STANDARD PENETRATION RESISTANCE NORMALIZED TO 60% DRILL ROD ENERGY RATIO.

W INDICATES FREE WATER ELEVATION.

● WATER CONTENT NEARLY EQUAL TO OR GREATER THAN LIQUID LIMIT

INDICATES A NON-PLASTIC MATERIAL WITH A HIGH WATER CONTENT

TR INDICATES TOP OF BEDROCK



LOCATION MAP
SCALE IN MILES
0 1 2 3 4

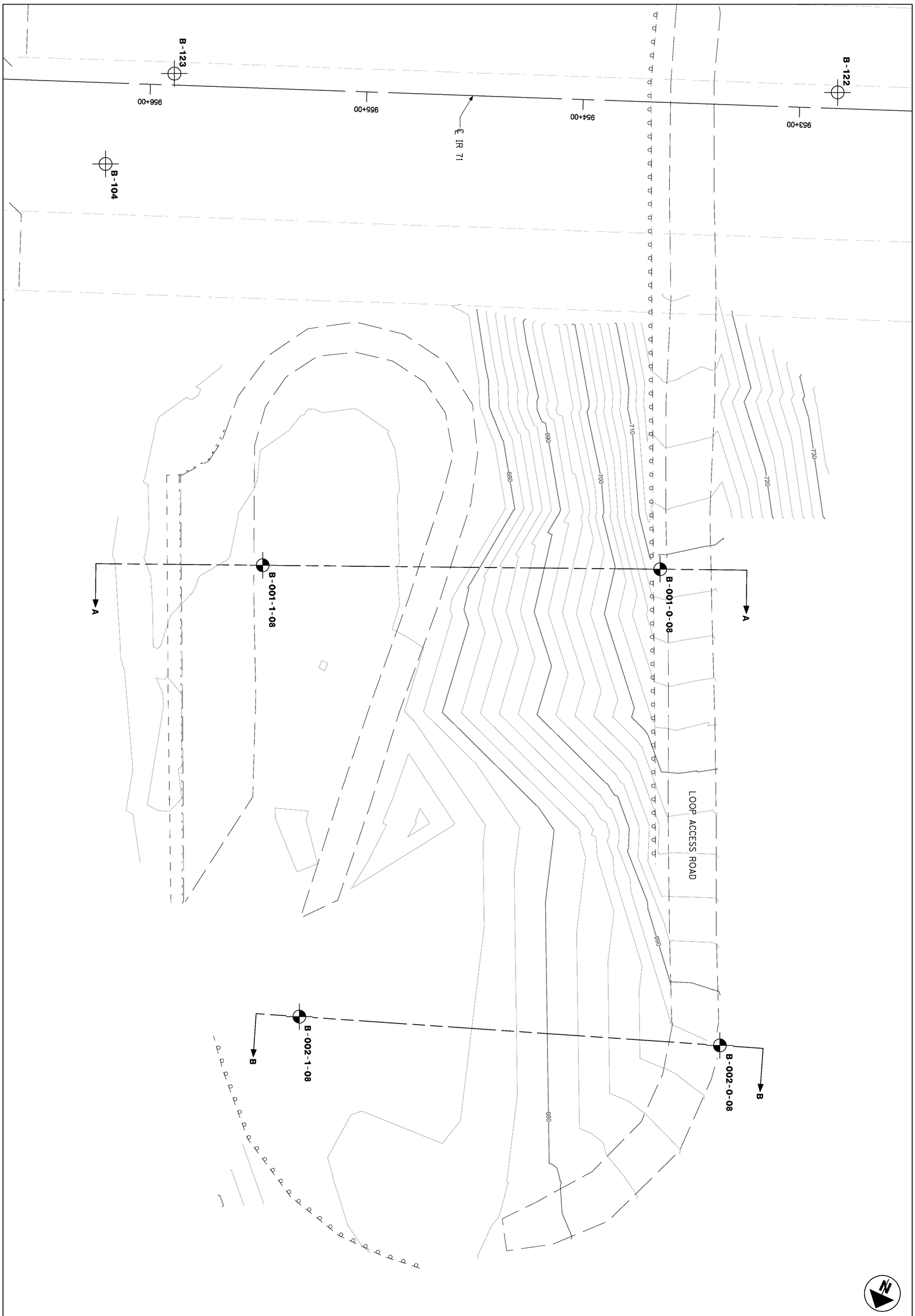
STATE OF OHIO
BENJAMIN C. DUSINA
E-71785
REGISTERED
PROFESSIONAL ENGINEER

BBCM

PID NO. 22950

GEOHAZARD EXPLORATION

WAR-71-14.20

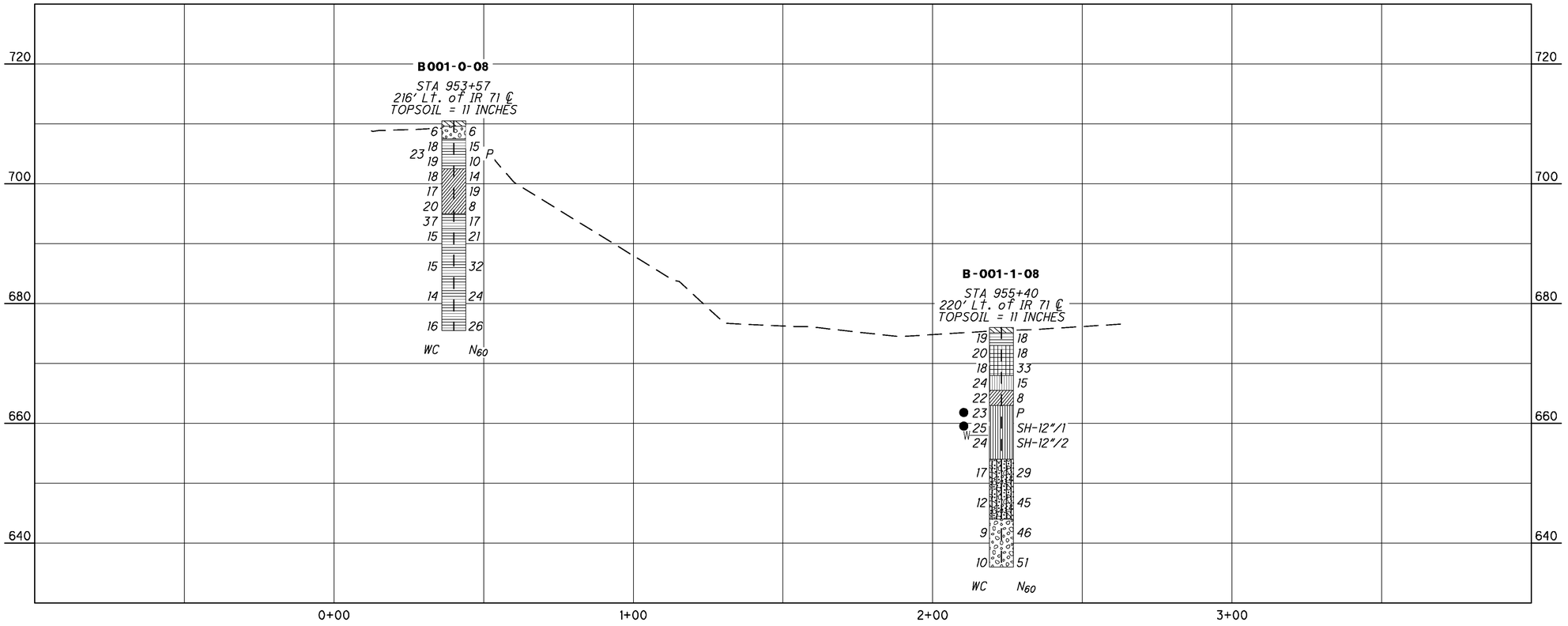


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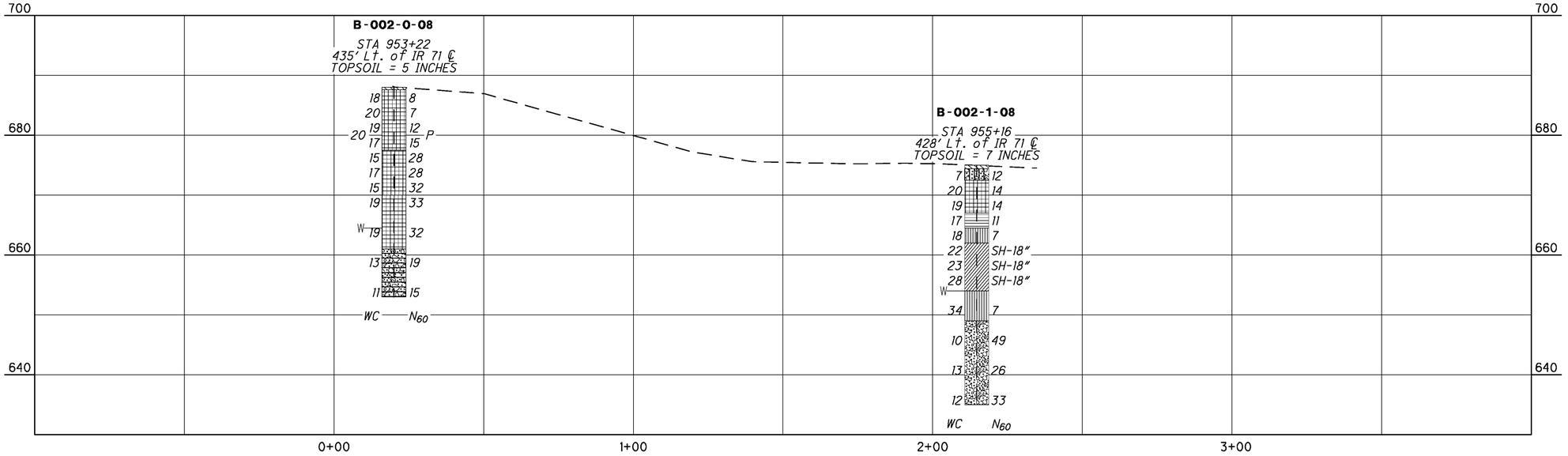
GEOHAZARD EXPLORATION
SITE NO. 1
PLAN VIEW

0 20 40
HORIZONTAL SCALE IN FEET

BBCM



SECTION A-A



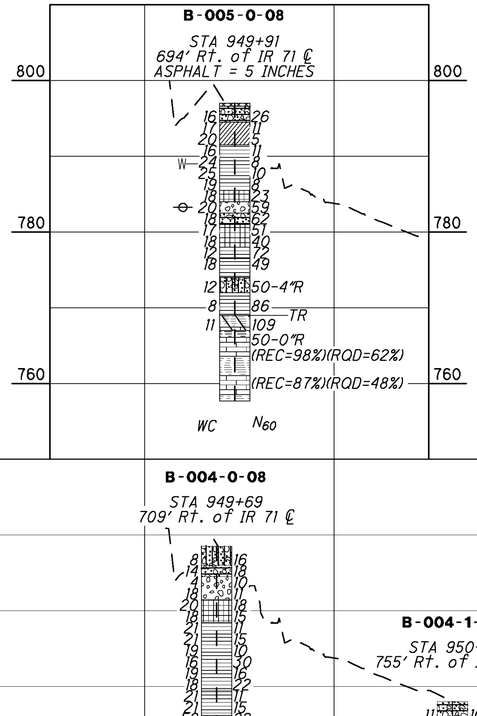
SECTION B-B

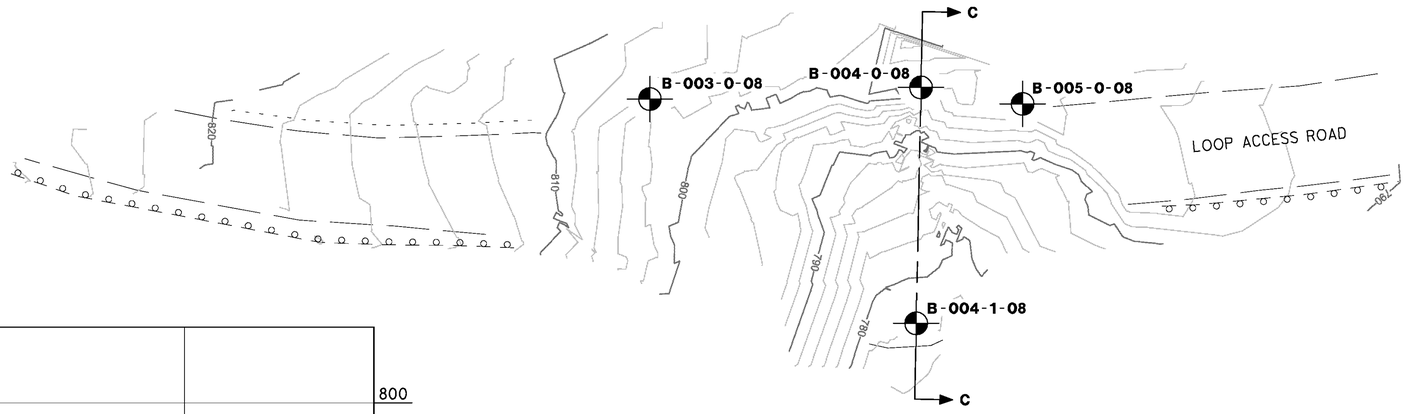
BBCM

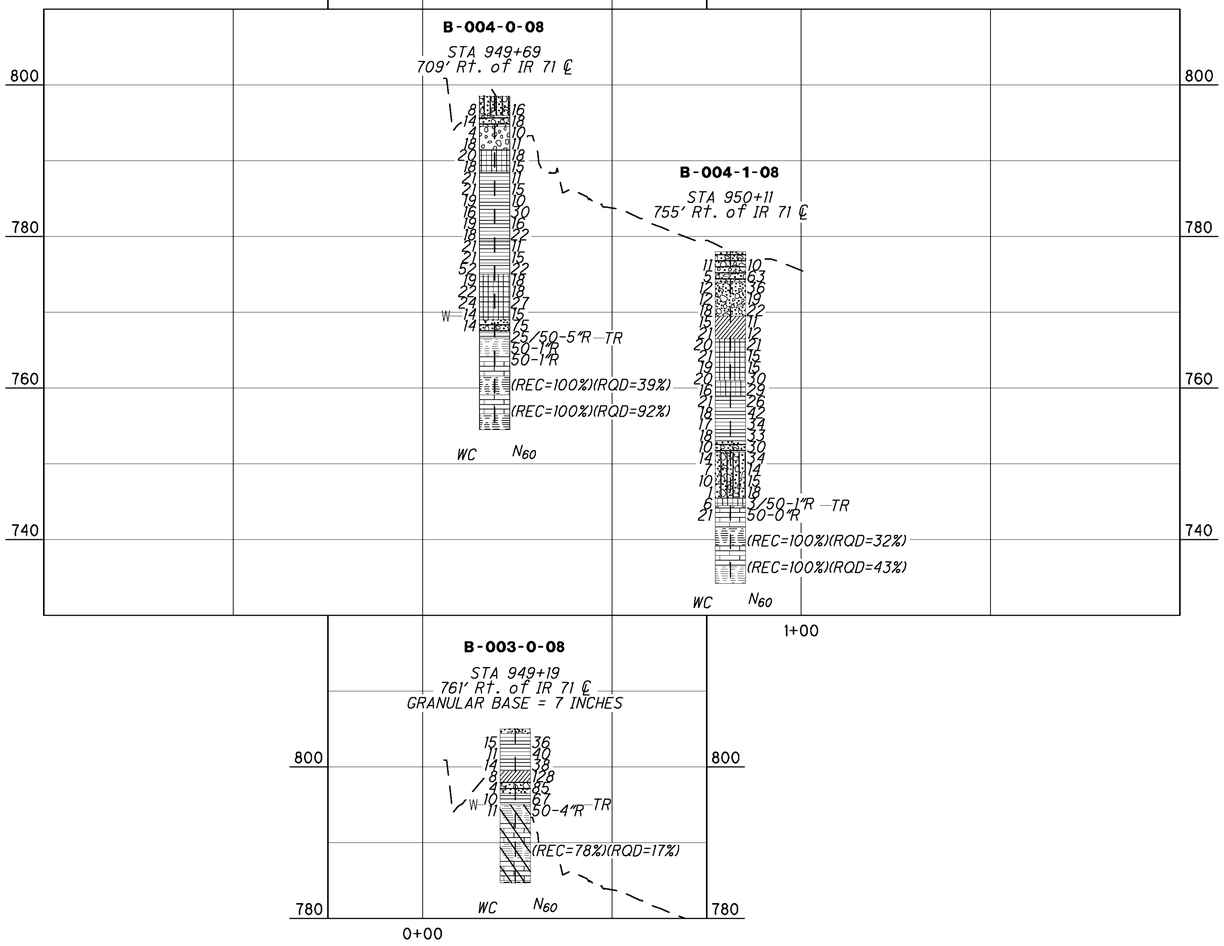
0 20 40
HORIZONTAL SCALE IN FEET

GEOHAZARD EXPLORATION
SITE NO.1
CROSS SECTION

WAR-71-14.20







SECTION C-C

BBCM

HORIZONTAL SCALE IN FEET
0 20 40

GEOHAZARD EXPLORATION
SITE NO. 2
PLAN VIEW AND CROSS SECTION

WAR-71-14.20

4 / 15

BBC&M JOB: 013.00740.003

Page 1 of 2

C-R-S : WAR-71-14.20
PID No. : 22950
Bridge No. : WAR-71-0142

LOG OF BORING NO. B-001-0-08
WAR-71-14.20
WARREN COUNTY, OHIO

TYPE: 3-1/4" I.D. Hollow-stem Auger
2" and 2-1/2" O.D. Split-barrel Samplers

LOCATION: STA 953+57, 216' Lt. of S.R. 71 centerline
COORDINATES : N 521067; E 1515052

COMPLETION DEPTH: 35.0'
ELEVATION: 710.5
DATE: 4/18/08

Elev. (feet)	Depth (feet)	Samp.	Std. Pen. / RQD-%	N_{60}	Hand Pen. (tsf)	Sample Rec-%	CLASSIFICATION: Description	Samp. No.	Physical Characteristics % Agg.	% CS	% FS	% Silt	% Clay	LL	PL	PI	WC	ODOT Class
709.6	0						TOPSOIL - 11 INCHES (0.9)											
707.5			3/2/2	6		20	FILL: Loose brown and dark-gray GRAVEL, little fine to coarse sand, little silt, trace clay, contains few cobbles, and cinders, dry. (3.0)	1	67	13	5	10	5				6	A-1-a (0)
			1/5/6	15	1.0-2.0	40	FILL: Stiff to very-stiff brown mottled with gray SILTY CLAY, little to some fine to coarse sand, little to some fine to coarse gravel, contains few cobbles, moist.	2	21	6	7	30	36	40	17	23	18	A-6b (11)
	5		P		1.25-2.0	45		12									23	A-6b (Vis.)
			2/2/5	10	1.25-2.25	40		3									19	A-6b (Vis.)
702.5							(8.0)											
			2/3/7	14	2.8-3.75	80	FILL: Very-stiff brown mottled with gray SILT AND CLAY, little to some fine to coarse sand, trace fine gravel, contains limestone and shale fragments, moist.	4									18	A-6a (Vis.)
	10																	
			3/3/11	19	2.5-3.0	47		5	1	7	8	32	52	34	19	15	17	A-6a (10)
			2/3/3	8	2.5-2.75	33		6									20	A-6a (Vis.)
695.0	15						(15.5)											
			2/5/7	17	2.25-3.0	100	Very-stiff brown mottled with gray SILTY CLAY, trace fine to coarse sand, trace fine gravel, trace roots, moderately organic (LOI=5.3%), moist.	7									37	A-6b (Vis.)
692.5							(18.0)											
			5/6/9	21	2.5-3.0	73	Very-stiff to hard brown SILTY CLAY, little to some fine to coarse sand, trace to little fine to coarse gravel, dry.	8									15	A-6b (Vis.)
	20																	
			8/13/10	32	4.0-4.5+	100		9									15	A-6b (Vis.)
	25																	

WATER LEVEL: ▽ "Dry"
WATER NOTE: Inside Auger
DATE: 4/18/08

Drill Rod Energy Ratio : 0.83
Last Calibration Date : 02/19/07
Drill Rig Number : ATV 550

-CONTINUED-

BBC&M JOB: 013.00740.003

Page 2 of 2

C-R-S : WAR-71-14.20
PID No. : 22950
Bridge No. : WAR-71-0142

LOG OF BORING NO. B-001-0-08
WAR-71-14.20
WARREN COUNTY, OHIO

TYPE: 3-1/4" I.D. Hollow-stem Auger
2" and 2-1/2" O.D. Split-barrel Samplers

LOCATION: STA 953+57, 216' Lt. of S.R. 71 centerline
COORDINATES : N 521067; E 1515052

COMPLETION DEPTH: 35.0'
ELEVATION: 710.5
DATE: 4/18/08

Elev. (feet)	Depth (feet)	Samp.	Std. Pen. / RQD-%	N_{60}	Hand Pen. (tsf)	Sample Rec-%	CLASSIFICATION: Description	Samp. No.	Physical Characteristics % Agg.	% CS	% FS	% Silt	% Clay	LL	PL	PI	WC	ODOT Class
	25						Very-stiff to hard brown SILTY CLAY, little to some fine to coarse sand, trace to little fine to coarse gravel, dry.											
			5/8/9	24				10	9	9	10	31	41	37	17	20	14	A-6b (11)
	30	2S	20		4.0-4.5+	25												
675.5			4/7/12	26	4.0-4.5+	53	(35.0)	11									16	A-6b (Vis.)
	35						- No seepage encountered. - Encountered cobbles at 1.0', 2.0', 3.0', and 6.5'. - Obtained Shelby tube (Sample S-12) from an offset boring.											
	40																	
	45																	
	50																	

WATER LEVEL: ▽ "Dry"
WATER NOTE: Inside Auger
DATE: 4/18/08

Drill Rod Energy Ratio : 0.83
Last Calibration Date : 02/19/07
Drill Rig Number : ATV 550

BBCM

GEOHAZARD EXPLORATION
SITE NO. 1
BORING LOGS

WAR-71-14.20

BBC&M JOB: 013.00740.003

Page 1 of 2

C-R-S : WAR-71-14.20
PID No. : 22950
Bridge No. : WAR-71-0142

LOG OF BORING NO. B-001-1-08
WAR-71-14.20
WARREN COUNTY, OHIO

TYPE: 3-1/4" I.D. Hollow-stem Auger
2" O.D. Split-barrel Sampler
3" O.D. Shelby Tube Sampler

LOCATION: STA 955+40, 220' Lt. of S.R. 71 centerline
COORDINATES : N 521142; E 1515219

COMPLETION DEPTH: 40.0'
ELEVATION: 676.0
DATE: 4/18/08

Elev. (feet)	Depth (feet)	Samp.	Std. Pen. / RQD-%	N_{60}	Hand Pen. (tsf)	Sample Rec-%	CLASSIFICATION: Description	Samp. No.	Physical Characteristics: % Agg.	% CS	% FS	% Silt	% Clay	LL	PL	PI	WC	ODOT Class
675.1	0						TOPSOIL - 11 INCHES (0.9)											
673.0			13/9/4	18	1.8-2.1	47	FILL: Stiff to very-stiff gray mottled with gray-brown and brown SILTY CLAY, some fine to coarse sand, trace fine gravel, damp. (3.0)	1									19	A-6b (Vis.)
	5		4/6/7	18	3.2-4.5	67	FILL: Very-stiff to hard brown, gray and dark-gray CLAY, some silt, little fine to coarse sand, little fine to coarse gravel, damp.	2									20	A-7-6 (Vis.)
668.0			4/11/13	33	2.2-3.8	47	(8.0)	3	14	7	8	26	45	47	21	26	18	A-7-6 (15)
665.5	10		4/5/6	15	2.2-4.5	100	Very-stiff to hard dark-gray SANDY SILT, some clay, trace roots, moderately organic (LOI=9.3%), damp. (10.5)	4									24	A-4a (Vis.)
663.0			2/2/4	8	1.3-1.6	53	Stiff black-gray and brown SILT AND CLAY, some fine to coarse sand, little fine to coarse gravel, slightly organic (LOI=2.4%), damp to moist. (13.0)	5	12	4	35	29	20	30	16	14	22	A-6a (4)
	15		P		0.0-0.3	75	Very-soft to medium-stiff brown mottled with gray SANDY SILT, little clay, trace fine gravel, contains shell fragments, moderately organic, moist to wet.	6	3	10	36	35	16	26	16	10	22 23 24 22	A-4a (3)
			SH-12"/1		0.0	60		7	4	20	26	32	18	23	15	8	25	A-4a (3)
	20		SII-12"/2		0.0-0.5	80		8									24	A-4a (Vis.)
654.0							(22.0)											
	25		8/9/12	29		67	Medium-dense to dense brown and gray fine to coarse GRAVEL WITH SAND AND SILT, trace clay, contains few cobbles, wet.	9	39	17	18	20	6				17	A-2-4 (0)

WATER LEVEL:
WATER NOTE:
DATE:

Drill Rod Energy Ratio : 0.82
Last Calibration Date : 11/19/07
Drill Rig Number : D50

-CONTINUED-

BBC&M JOB: 013.00740.003

Page 2 of 2

C-R-S : WAR-71-14.20
PID No. : 22950
Bridge No. : WAR-71-0142

LOG OF BORING NO. B-001-1-08
WAR-71-14.20
WARREN COUNTY, OHIO

TYPE: 3-1/4" I.D. Hollow-stem Auger
2" O.D. Split-barrel Sampler
3" O.D. Shelby Tube Sampler

LOCATION: STA 955+40, 220' Lt. of S.R. 71 centerline
COORDINATES : N 521142; E 1515219

COMPLETION DEPTH: 40.0'
ELEVATION: 676.0
DATE: 4/18/08

Elev. (feet)	Depth (feet)	Samp.	Std. Pen. / RQD-%	N_{60}	Hand Pen. (tsf)	Sample Rec-%	CLASSIFICATION: Description	Samp. No.	Physical Characteristics: % Agg.	% CS	% FS	% Silt	% Clay	LL	PL	PI	WC	ODOT Class
	25						Medium-dense to dense brown and gray fine to coarse GRAVEL WITH SAND AND SILT, trace clay, contains few cobbles, wet.											
644.0	30		11/16/17	45		53	(32.0)	10									12	A-2-4 (Vis.)
	35		16/17/17	46		47	Dense to very-dense brown and gray GRAVEL, some fine to coarse sand, trace silt, trace clay, contains few cobbles, wet.	11	54	27	8	10	1			9	A-1-a (0)
636.0	40		13/16/21	51		40	(40.0)	12									10	A-1-a (Vis.)
	45						- Encountered groundwater at 18.0'. - Encountered cobbles at 25.5' and 28.3'. - Added water to augers at 23.5' to minimize sand from heaving.											
	50																	

WATER LEVEL:
WATER NOTE:
DATE:

Drill Rod Energy Ratio : 0.82
Last Calibration Date : 11/19/07
Drill Rig Number : D50

BBCM

GEOHAZARD EXPLORATION
SITE NO. 1
BORING LOGS

WAR-71-14.20

BBC&M JOB: 013.00740.003

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C-R-S : WAR-71-14.20
PID No. : 22950
Bridge No. : WAR-71-0142

LOG OF BORING NO. B-002-0-08
WAR-71-14.20
WARREN COUNTY, OHIO

TYPE: 3-1/4" I.D. Hollow-stem Auger
2" O.D. Split-barrel Sampler
3" O.D. Shelby Tube Sampler

LOCATION: STA 953+22, 435' Lt. of S.R. 71 centerline
COORDINATES : N 521256; E 1514935

COMPLETION DEPTH: 35.0'
ELEVATION: 688.0
DATE: 4/17/08

Elev. (feet)	Depth (feet)	Samp.	Std. Pen. / RQD-%	N_{60}	Hand Pen. (tsf)	Sample Rec-%	CLASSIFICATION: Description	Samp. No.	Physical Characteristics: % Agg.	% CS	% FS	% Silt	% Clay	LL	PL	PI	WC	ODOT Class
687.6	0						0.4 TOPSOIL - 5 INCHES											
			3/3/3	8	2.0-2.25	40	FILL: Stiff to very-stiff brown mottled with gray CLAY, some silt, some fine to coarse sand, trace fine gravel, dry to moist.	1	2	6	16	33	43	42	19	23	18	A-7-6 (14)
			2/2/3	7	2.0-2.5	100		2									20	A-7-6 (Vis.)
	5		2/3/6	12	1.0-1.5	80		3									19	A-7-6 (Vis.)
			P			42		12									20	A-7-6 (Vis.)
			2/4/7	15	3.0-4.0	80		4									17	A-7-6 (Vis.)
677.5	10						10.5											
			3/8/12	28	2.0-3.0	53	FILL: Very-stiff to hard brown mottled with gray CLAY, some fine to coarse gravel, little silt, trace fine to coarse sand, dry.	5	35	5	5	16	39	50	20	30	15	A-7-6 (13)
			5/9/11	28	4.0-4.5+	100		6									17	A-7-6 (Vis.)
	15																	
			9/10/13	32	4.0-4.5+	100		7									15	A-7-6 (Vis.)
670.0							18.0											
			9/12/12	33	2.0-3.0	47	Very-stiff brown mottled with gray and dark-gray CLAY, some silt, little fine to coarse sand, trace fine gravel, contains few cobbles, moist to wet.	8	8	6	13	29	44	45	18	27	19	A-7-6 (15)
	20																	
			5/11/12	32	2.0-3.0	40		9									19	A-7-6 (Vis.)
	25																	

WATER LEVEL: ▽ 29.7
WATER NOTE: Inside Auger
DATE: 4/17/08

Drill Rod Energy Ratio : 0.83
Last Calibration Date : 02/19/07
Drill Rig Number : ATV 550

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BBC&M JOB: 013.00740.003

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C-R-S : WAR-71-14.20
PID No. : 22950
Bridge No. : WAR-71-0142

LOG OF BORING NO. B-002-0-08
WAR-71-14.20
WARREN COUNTY, OHIO

TYPE: 3-1/4" I.D. Hollow-stem Auger
2" O.D. Split-barrel Sampler
3" O.D. Shelby Tube Sampler

LOCATION: STA 953+22, 435' Lt. of S.R. 71 centerline
COORDINATES : N 521256; E 1514935

COMPLETION DEPTH: 35.0'
ELEVATION: 688.0
DATE: 4/17/08

Elev. (feet)	Depth (feet)	Samp.	Std. Pen. / RQD-%	N_{60}	Hand Pen. (tsf)	Sample Rec-%	CLASSIFICATION: Description	Samp. No.	Physical Characteristics: % Agg.	% CS	% FS	% Silt	% Clay	LL	PL	PI	WC	ODOT Class
	25																	
661.0							27.0 Very-stiff brown mottled with gray and dark-gray CLAY, some silt, little fine to coarse sand, trace fine gravel, contains few cobbles, moist to wet.											
			4/6/8	19		53	Medium-dense brown and gray fine to coarse GRAVEL WITH SAND, SILT AND CLAY, wet.	10	45	18	9	14	14	26	14	12	13	A-2-6 (0)
	30																	
653.0			4/5/6	15		67	35.0	11									11	A-2-6 (Vis.)
	35						- Encountered seepage at 23.0'. - Encountered groundwater at 23.5'. - Encountered cobbles at 23.0' and 26.0'. - Obtained Shelby tube (Sample S-12) from an offset boring.											
	40																	
	45																	
	50																	

WATER LEVEL: ▽ 29.7
WATER NOTE: Inside Auger
DATE: 4/17/08

Drill Rod Energy Ratio : 0.83
Last Calibration Date : 02/19/07
Drill Rig Number : ATV 550

GEOHAZARD EXPLORATION
SITE NO. 1
BORING LOGS

WAR-71-14.20

BBC&M JOB: 013.00740.003

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C-R-S : WAR-71-14.20
PID No. : 22950
Bridge No. : WAR-71-0142

LOG OF BORING NO. B-002-1-08
WAR-71-14.20
WARREN COUNTY, OHIO

TYPE: 3-1/4" I.D. Hollow-stem Auger; 2" O.D. Split-barrel Sampler

LOCATION: STA 955+16, 428' Lt. of S.R. 71 centerline

COORDINATES : N 521325; E 1515118

COMPLETION DEPTH: 40.0'
ELEVATION: 675.0
DATE: 4/17/08

Elev. (feet)	Depth (feet)	Samp.	Std. Pen. / RQD-%	N_{60}	Hand Pen. (tsf)	Sample Rec-%	CLASSIFICATION: Description	Samp. No.	Physical Characteristics: % Agg.	% CS	% FS	% Silt	% Clay	LL	PL	PI	WC	ODOT Class
674.4	0						0.6 TOPSOIL - 7 INCHES											
672.5			22/5/4	12		33	2.5 FILL: Medium-dense brown and dark-gray GRAVEL WITH SAND AND SILT, trace clay, contains asphalt fragments, dry.	1	50	18	10	19	3	23	15	8	7	A-2-4 (0)
	5		5/4/6	14	2.2-2.8	53	FILL: Very-stiff brown and gray CLAY, some silt, trace to little fine to coarse sand, trace fine gravel, damp.	2	5	6	7	25	57	48	21	27	20	A-7-6 (16)
			3/4/6	14	3.2-3.6	40		3									19	A-7-6 (Vis.)
667.0							8.0											
			3/4/4	11	2.1-2.4	60	Very-stiff gray SILTY CLAY, some fine to coarse sand, slightly organic (LOI=2.8%), damp.	4									17	A-6b (Vis.)
664.5	10						10.5											
			2/2/3	7	1.5-1.7	87	Stiff gray SANDY SILT, some clay, trace fine gravel, slightly organic, damp to moist.	5	1	2	40	34	23	23	15	8	18	A-4a (4)
662.0							13.0											
			SH-18"		0.5	67	Very-soft to medium-stiff brown mottled with gray SILT AND CLAY, some fine to coarse sand, trace fine gravel, moist.	6									22	A-6a (Vis.)
	15		SH-18"		0.5	73		7	3	7	27	39	24	29	15	14	23	A-6a (7)
			SH-18"		0.0	73		8									28	A-6a (Vis.)
654.0	20						21.0											
			2/2/3	7	0.0-0.4	60	Very-soft to soft gray SANDY SILT, little clay, trace fine gravel, slightly organic, contains many sand seams, wet.	9									34	A-4a (Vis.)
	25																	

WATER LEVEL: ▽ ▼ ▼
WATER NOTE:
DATE:

Drill Rod Energy Ratio : 0.82
Last Calibration Date : 11/19/07
Drill Rig Number : D50

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BBC&M JOB: 013.00740.003

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C-R-S : WAR-71-14.20
PID No. : 22950
Bridge No. : WAR-71-0142

LOG OF BORING NO. B-002-1-08
WAR-71-14.20
WARREN COUNTY, OHIO

TYPE: 3-1/4" I.D. Hollow-stem Auger; 2" O.D. Split-barrel Sampler

LOCATION: STA 955+16, 428' Lt. of S.R. 71 centerline

COORDINATES : N 521325; E 1515118

COMPLETION DEPTH: 40.0'
ELEVATION: 675.0
DATE: 4/17/08

Elev. (feet)	Depth (feet)	Samp.	Std. Pen. / RQD-%	N_{60}	Hand Pen. (tsf)	Sample Rec-%	CLASSIFICATION: Description	Samp. No.	Physical Characteristics: % Agg.	% CS	% FS	% Silt	% Clay	LL	PL	PI	WC	ODOT Class
649.0	25						26.0 Very-soft to soft gray SANDY SILT, little clay, trace fine gravel, slightly organic, contains many sand seams, wet.												
			11/19/17	49		53	Medium-dense to dense brown and gray fine to coarse GRAVEL WITH SAND, trace silt, trace clay, contains few cobbles, wet.	10									10	A-1-b (Vis.)
	30																	
			10/11/8	26		33		11									13	A-1-b (Vis.)
	35																	
			10/14/10	33		47	40.0	12	33	38	16	9	4				12	A-1-b (0)
635.0	40																	
	45						- Encountered groundwater at 21.0'. - Encountered cobble at 31.0'. - Added water to augers at 28.5' to minimize sand from heaving.											
	50																	

WATER LEVEL: ▽ ▼ ▼
WATER NOTE:
DATE:

Drill Rod Energy Ratio : 0.82
Last Calibration Date : 11/19/07
Drill Rig Number : D50

BBCM

GEOHAZARD EXPLORATION
SITE NO. 1
BORING LOGS

WAR-71-14.20

BBC&M JOB: 013.00740.003

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C-R-S : WAR-71-14.20
PID No. : 22950
Bridge No. : WAR-71-0142

LOG OF BORING NO. B-003-0-08
WAR-71-14.20
WARREN COUNTY, OHIO

TYPE: 3-1/4" I.D. Hollow-stem Auger; 2" O.D. Split-barrel Sampler; NQ Rock Core Barrel

LOCATION: STA 949+19, 761' Rt. of S.R. 71 centerline

COORDINATES : N 519998; E 1515020

COMPLETION DEPTH: 20.3'
ELEVATION: 805.0
DATE: 4/14/08

Elev. (feet)	Depth (feet)	Samp.	Std. Pen. / RQD-%	N_{60}	Hand Pen. (tsf)	Sample Rec-%	CLASSIFICATION: Description	Samp. No.	Physical Characteristics: % Agg.	% CS	% FS	% Silt	% Clay	LL	PL	PI	WC	ODOT Class
804.4	0						0.6 GRANULAR BASE - 7 INCHES											
			8/13/13	36	4.5	47	FILL: Hard brown SILTY CLAY, some fine to coarse gravel, little fine to coarse sand, dry.	1									15	A-6b (Vis.)
			8/13/16	40	4.5	47		2	22	11	7	20	40	39	19	20	11	A-6b (9)
799.5	5		8/12/16	38	4.5	33	5.5	3									14	A-6b (Vis.)
			32/48/46	128	4.5	67	FILL: Hard brown SILT AND CLAY, some fine to coarse sand, little fine to coarse gravel, dry. 7.0	4	14	10	11	27	38	28	17	11	8	A-6a (6)
796.5			29/29/33	85		33	FILL: Very-dense brown and gray fine to coarse GRAVEL WITH SAND, SILT AND CLAY, dry. 8.5	5	52	11	8	14	15	28	15	13	4	A-2-6 (0)
795.0	10		30/21/28	67	4.5	47	Hard brown SILTY CLAY, some fine to coarse gravel, trace fine to coarse sand, dry. 10.0	6	23	5	4	25	43	40	20	20	10	A-6b (11)
			50-4"R			67	INTERBEDDED SHALE (80%) and LIMESTONE (20%), brown and gray, highly weathered, weak, very-thin to thin, fossiliferous, fractured to moderately fractured, RQD 17%, REC 78%.	7									11	Visual
	15		RQD 17%			78	Qu=1,929 psi (Depth=19.8' to 20.3')	8										Visual
784.7	20						20.3											
	25						- Encountered groundwater at 10.0'.											

WATER LEVEL: ▽ 4.7
WATER NOTE: After Coring
DATE: 4/14/08

Drill Rod Energy Ratio : 0.82
Last Calibration Date : 11/19/07
Drill Rig Number : D50

BBC&M JOB: 013.00740.003

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C-R-S : WAR-71-14.20
PID No. : 22950
Bridge No. : WAR-71-0142

LOG OF BORING NO. B-004-0-08
WAR-71-14.20
WARREN COUNTY, OHIO

TYPE: 3-1/4" I.D. Hollow-stem Auger; 2" O.D. Split-barrel Sampler; NQ Rock Core Barrel

LOCATION: STA 949+69, 709' Rt. of S.R. 71 centerline

COORDINATES : N 520065; E 1515046

COMPLETION DEPTH: 44.0'
ELEVATION: 798.5
DATE: 4/16/08

Elev. (feet)	Depth (feet)	Samp.	Std. Pen. / RQD-%	N_{60}	Hand Pen. (tsf)	Sample Rec-%	CLASSIFICATION: Description	Samp. No.	Physical Characteristics: % Agg.	% CS	% FS	% Silt	% Clay	LL	PL	PI	WC	ODOT Class
	0						FILL: Medium-dense brown fine to coarse GRAVEL WITH SAND AND SILT, trace clay, damp. 2.5											
796.0			4/5/7	16		53	FILL: Medium-dense brown fine GRAVEL WITH SAND, SILT AND CLAY, contains few cobbles, damp. 4.0	1	42	22	11	15	10	24	15	9	8	A-2-4 (0)
794.5			6/6/7	18		60	FILL: Loose to medium-dense brown and gray fine to coarse GRAVEL, some fine to coarse sand, trace silt, trace clay, damp to moist.	2									14	A-2-6 (Vis.)
	5		3/3/4	10		13		3	59	17	10	8	6				4	A-1-a (Vis.)
791.5			2/4/4	11		13	7.0	4									18	A-1-a (Vis.)
			6/7/6	18	3.6	27	FILL: Very-stiff brown mottled with gray CLAY, some silt, trace fine to coarse sand, trace fine gravel, damp.	5									20	A-7-6 (Vis.)
788.5	10		4/5/6	15	2.4-3.5	67	10.0	6	4	4	4	34	54	41	22	19	18	A-7-6 (12)
			6/4/4	11	2.8	33	FILL: Very-stiff brown intermixed with gray SILTY CLAY, little to some fine to coarse gravel, trace to little fine to coarse sand, damp.	7									21	A-6b (Vis.)
			4/4/7	15	2.1	33		8									21	A-6b (Vis.)
			3/3/4	10	2.9	20		9									19	A-6b (Vis.)
	15		4/7/15	30	3.9	27		10	26	4	4	21	45	38	20	18	16	A-6b (9)
			6/5/7	16	3.6	33		11									19	A-6b (Vis.)
779.5			4/10/6	22	2.2	13		12									18	A-6b (Vis.)
	20		3/3/5	11	1.7-2.0	40	19.0 Stiff to very-stiff brown mottled with gray SILTY CLAY, little fine to coarse sand, little fine to coarse gravel, damp.	13	12	7	5	25	51	40	21	19	21	A-6b (12)
776.5			4/4/7	15	1.9-2.6	47		14									21	A-6b (Vis.)
775.0			3/4/12	22		20	22.0 Very-stiff brown SILTY CLAY, trace fine to coarse sand, trace fine gravel, damp, contains wood fragments. 23.5	15									52	A-6b (Vis.)
	25		6/7/6	18		0	Stiff to very-stiff gray CLAY, some silt, little fine to coarse gravel, trace fine to coarse sand, damp.											

WATER LEVEL:
WATER NOTE:
DATE:

Drill Rod Energy Ratio : 0.82
Last Calibration Date : 11/19/07
Drill Rig Number : D50

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BBCM

GEOHAZARD EXPLORATION
SITE NO. 2
BORING LOGS

WAR-71-14.20

BBC&M JOB: 013.00740.003

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C-R-S : WAR-71-14.20
PID No. : 22950
Bridge No. : WAR-71-0142

LOG OF BORING NO. B-004-0-08
WAR-71-14.20
WARREN COUNTY, OHIO

TYPE: 3-1/4" I.D. Hollow-stem Auger
2" O.D. Split-barrel Sampler
NQ Rock Core Barrel

LOCATION: STA 949+69, 709' Rt. of S.R. 71 centerline
COORDINATES : N 520065; E 1515046

COMPLETION DEPTH: 44.0'
ELEVATION: 798.5
DATE: 4/16/08

Elev. (feet)	Depth (feet)	Samp.	Std. Pen. / RQD-%	N_{60}	Hand Pen. (tsf)	Sample Rec-%	CLASSIFICATION: Description	Samp. No.	Physical Characteristics: % Agg.	% CS	% FS	% Silt	% Clay	LL	PL	PI	WC	ODOT Class
	25		4/5/8	18	1.8-2.1	33	Stiff to very-stiff gray CLAY, some silt, little fine to coarse gravel, trace fine to coarse sand, damp.	16	13	5	4	21	57	41	20	21	19	A-7-6 (13)
			4/10/10	27	2.1-3.5	40		17									22	A-7-6 (Vis.)
769.0			2/4/7	15	1.7-2.4	33	29.5	18									24	A-7-6 (Vis.)
767.5	30		42/28/27	75		47	Very-dense gray and brown fine to coarse GRAVEL WITH SAND, SILT AND CLAY, wet. 31.0	19	41	13	11	15	20	30	17	13	14	A-2-6 (1)
766.6			25/50-5"R		4.5	78	Hard gray SILTY CLAY, little fine to coarse sand, little fine to coarse gravel, damp. 31.9	20	11	10	10	30	39	33	16	17	14	A-6b (10)
			50-1"R			100	INTERBEDDED LIMESTONE and SHALE, gray, highly weathered, weak, very-thin to thin, highly fractured. 34.4	21										Visual
764.1			50-1"R			100		22										Visual
	35		RQD 39%			100	INTERBEDDED SHALE (60%) and LIMESTONE (40%), gray, moderately weathered, weak to slightly strong, very-thin to thin, fossiliferous, fractured to moderately fractured, RQD 76%, REC 100%.	23										Visual
							Qu=3,541 psi (Depth=37.2' to 37.7')											
	40		RQD 92%			100		24										Visual
754.5							44.0											
	45						- Encountered cobble at 3.0'. - Encountered seepage at 5.5'. - Encountered groundwater at 29.0'.											
	50																	

WATER LEVEL:
WATER NOTE:
DATE:

Drill Rod Energy Ratio : 0.82
Last Calibration Date : 11/19/07
Drill Rig Number : D50

BBC&M JOB: 013.00740.003

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C-R-S : WAR-71-14.20
PID No. : 22950
Bridge No. : WAR-71-0142

LOG OF BORING NO. B-004-1-08
WAR-71-14.20
WARREN COUNTY, OHIO

TYPE: 3-1/4" I.D. Hollow-stem Auger
2" O.D. Split-barrel Sampler
NQ Rock Core Barrel

LOCATION: STA 950+11, 755' Rt. of S.R. 71 centerline
COORDINATES : N 520038; E 1515102

COMPLETION DEPTH: 43.8'
ELEVATION: 778.0
DATE: 4/15/08

Elev. (feet)	Depth (feet)	Samp.	Std. Pen. / RQD-%	N_{60}	Hand Pen. (tsf)	Sample Rec-%	CLASSIFICATION: Description	Samp. No.	Physical Characteristics: % Agg.	% CS	% FS	% Silt	% Clay	LL	PL	PI	WC	ODOT Class
	0		2/3/4	10		20	FILL: Loose to medium-dense brown fine to coarse GRAVEL WITH SAND, SILT AND CLAY, contains plastic and steel fragments, dry to damp.	1	42	25	14	7	12	35	17	18	11	A-2-6 (0)
774.0			22/42/4	63		7	4.0	2									5	A-2-6 (Vis.)
	5		22/17/9	36		33	FILL: Medium-dense to dense brown, gray and dark-gray fine to coarse GRAVEL WITH SAND, little silt, trace clay, contains limestone, concrete, slag and asphalt fragments, moist to wet.	3									12	A-1-b (Vis.)
			6/6/8	19		33		4	54	19	10	11	6				12	A-1-b (0)
			6/12/4	22		47		5									18	A-1-b (Vis.)
769.5			1/3/5	11	2.6	40	8.5 FILL: Stiff to very-stiff gray SILT AND CLAY, little fine to coarse sand, little fine gravel, damp.	6	19	10	4	26	41	31	19	12	15	A-6a (7)
	10		4/4/5	12	1.6-2.6	20		7									21	A-6a (Vis.)
766.5			5/6/9	21	1.7-2.6	33	11.5 FILL: Stiff to very-stiff brown mottled with gray CLAY, some silt, trace fine to coarse sand, trace fine to coarse gravel, damp.	8									20	A-7-6 (Vis.)
			4/5/6	15	1.7	20		9									21	A-7-6 (Vis.)
	15		4/5/6	15	1.8-2.2	47		10	6	6	4	27	57	41	21	20	19	A-7-6 (12)
761.0			9/10/12	30	2.1-2.6	100	17.0	11A									20	A-7-6 (Vis.)
					3.1	100	FILL: Very-stiff gray CLAY, little silt, little fine to coarse gravel, trace to little fine to coarse sand, contains few roots, damp.	11B	20	6	4	19	51	50	21	29	16	A-7-6 (16)
759.0			6/9/12	29	3.4	33	19.0	12									21	A-7-6 (Vis.)
	20		12/9/10	26	3.2-4.5	47	Very-stiff to hard brown mottled with gray SILTY CLAY, trace to little fine to coarse sand, trace to some fine to coarse gravel, damp.	13									18	A-6b (Vis.)
			9/14/17	42	4.1-4.5	100		14	3	5	4	26	62	37	21	16	17	A-6b (10)
			6/10/15	34	4.1-4.5	20		15									18	A-6b (Vis.)
753.0	25		9/10/14	33	4.1-4.5	60	25.0	16	33	9	6	18	34	39	18	21	10	A-6b (7)

WATER LEVEL: "Dry"
WATER NOTE: Before Coring
DATE: 4/15/08

Drill Rod Energy Ratio : 0.82
Last Calibration Date : 11/19/07
Drill Rig Number : D50

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BBCM

GEOHAZARD EXPLORATION
SITE NO. 2
BORING LOGS

WAR-71-14.20

BBC&M JOB: 013.00740.003

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C-R-S : WAR-71-14.20
PID No. : 22950
Bridge No. : WAR-71-0142

LOG OF BORING NO. B-004-1-08
WAR-71-14.20
WARREN COUNTY, OHIO

TYPE: 3-1/4" I.D. Hollow-stem Auger; 2" O.D. Split-barrel Sampler; NQ Rock Core Barrel

LOCATION: STA 950+11, 755' Rt. of S.R. 71 centerline

COORDINATES : N 520038; E 1515102

COMPLETION DEPTH: 43.8'
ELEVATION: 778.0
DATE: 4/15/08

Elev. (feet)	Depth (feet)	Samp.	Std. Pen. / RQD-%	N_{60}	Hand Pen. (tsf)	Sample Rec-%	CLASSIFICATION: Description	Samp. No.	Physical Characteristics: % Agg.	% CS	% FS	% Silt	% Clay	LL	PL	PI	WC	ODOT Class
	25		12/12/10	30		13	Medium-dense gray fine to coarse GRAVEL WITH SAND, SILT AND CLAY, damp.	17									14	A-2-6 (Vis.)
751.5							26.5											
			12/19/6	34		13	Medium-dense to dense gray fine to coarse GRAVEL WITH SAND AND SILT, trace to little clay, dry to damp.	18									7	A-2-4 (Vis.)
			5/5/5	14		7		19									10	A-2-4 (Vis.)
	30		5/5/6	15		7		20									1	A-2-4 (Vis.)
			3/8/5	18		13		21	64	6	3	11	16				6	A-2-4 (0)
745.5							32.5											
744.5			1/3/50-1" 50-0"R		3.5	18	Very-stiff brown mottled with gray CLAY, some silt, trace fine to coarse sand, trace fine gravel, damp.	22	4	4	6	32	54	41	20	21	21	A-7-6 (13)
	35						33.5 INTERBEDDED LIMESTONE (70%) and SHALE (30%), gray, medium weathered, weak to medium strong, very-thin to thin, fossiliferous, fractured to medium fractured, RQD 38%, REC 100%.											
			RQD 32%			100		23										Visual
							Qu=7,380 psi (Depth=42.3' to 42.8')											
	40		RQD 43%			100		24										Visual
734.2							43.8											
	45						- No seepage encountered. - Piece of steel encountered at 2.0'. - No water return during rock coring. - Installed 45' of inclinometer casing, grouted in place, 2' of stick-up.											
	50																	

WATER LEVEL: ▽ "Dry"
WATER NOTE: Before Coring
DATE: 4/15/08

Drill Rod Energy Ratio : 0.82
Last Calibration Date : 11/19/07
Drill Rig Number : D50

BBC&M JOB: 013.00740.003

Page 1 of 2

C-R-S : WAR-71-14.20
PID No. : 22950
Bridge No. : WAR-71-0142

LOG OF BORING NO. B-005-0-08
WAR-71-14.20
WARREN COUNTY, OHIO

TYPE: 3-1/4" I.D. Hollow-stem Auger; 2" O.D. Split-barrel Sampler; NQ Rock Core Barrel

LOCATION: STA 949+91, 694' Rt. of S.R. 71 centerline

COORDINATES : N 520087; E 1515061

COMPLETION DEPTH: 39.3'
ELEVATION: 797.0
DATE: 4/17/08

Elev. (feet)	Depth (feet)	Samp.	Std. Pen. / RQD-%	N_{60}	Hand Pen. (tsf)	Sample Rec-%	CLASSIFICATION: Description	Samp. No.	Physical Characteristics: % Agg.	% CS	% FS	% Silt	% Clay	LL	PL	PI	WC	ODOT Class
796.6	0						0.4 ASPHALT - 5 INCHES											
			8/11/8	26		13	FILL: Medium-dense gray and brown fine to coarse GRAVEL WITH SAND, SILT AND CLAY, damp.	1									16	A-2-6 (Vis.)
794.5							2.5											
			4/4/4	11	3.9-4.5	53	FILL: Very-stiff to hard brown mottled with gray SILT AND CLAY, little fine to coarse sand, trace fine gravel, damp.	2	7	9	7	28	49	35	20	15	17	A-6a (10)
			2/2/2	5	2.3	40		3									20	A-6a (Vis.)
791.5	5						5.5											
			2/4/4	11	1.6-2.0	40	POSSIBLE FILL: Stiff to very-stiff gray mottled with brown SILTY CLAY, little fine to coarse sand, trace to little fine to coarse gravel, damp to moist.	4	15	8	7	27	43	38	20	18	16	A-6b (10)
			3/2/4	8	1.7-2.6	40		5									24	A-6b (Vis.)
			3/3/4	10	1.5	40		6	2	5	4	26	63	40	20	20	25	A-6b (12)
	10																	
785.5			2/3/3	8	1.7-2.7	33		7									19	A-6b (Vis.)
							11.5											
784.0			22/7/10	23	4.5	40	POSSIBLE FILL: Hard brown mottled with gray CLAY, some silt, little fine to coarse sand, trace fine to coarse gravel, damp.	8	8	8	8	25	51	41	21	20	18	A-7-6 (12)
							13.0											
782.5			18/22/21	59		7	POSSIBLE FILL: Very-dense gray fine to coarse GRAVEL, trace fine to coarse sand, trace silt, moist to wet.	9									20	A-1-a (Vis.)
	15						14.5											
781.0			8/21/24	62		13		10									18	A-2-6 (Vis.)
							16.0											
			12/16/21	51	4.5	67	POSSIBLE FILL: Very-dense gray fine to coarse GRAVEL WITH SAND, SILT AND CLAY, wet.	11	4	6	6	26	58	44	22	22	17	A-7-6 (14)
							Hard gray-brown CLAY, some silt, little fine to coarse sand, trace fine gravel, damp to moist.											
778.0			10/11/18	40	4.5	53	19.0	12									18	A-7-6 (Vis.)
							Hard gray SILTY CLAY, "and" fine to coarse gravel, little fine to coarse sand, wet.											
776.5	20		21/27/26	72		27	20.5	13	38	8	7	18	29	35	18	17	12	A-6b (5)
							Very-stiff to hard brown mottled with gray SILTY CLAY, some fine to coarse sand, trace fine gravel, damp.											
			9/17/19	49	3.6-4.5	47		14									18	A-6b (Vis.)
774.0							23.0											
			50-4"R			33	Very-dense gray fine to coarse GRAVEL WITH SAND AND SILT, trace clay.	15									12	A-2-4 (Vis.)
772.0	25						25.0											

WATER LEVEL: ▽ 6.3
WATER NOTE: After Coring
DATE: 4/17/08

Drill Rod Energy Ratio : 0.82
Last Calibration Date : 11/19/07
Drill Rig Number : D50

-CONTINUED-

BBCM

GEOHAZARD EXPLORATION
SITE NO. 2
BORING LOGS

WAR-71-14.20

BBC&M JOB: 013.00740.003

Page 2 of 2

C-R-S : WAR-71-14.20
PID No. : 22950
Bridge No. : WAR-71-0142

LOG OF BORING NO. B-005-0-08
WAR-71-14.20
WARREN COUNTY, OHIO

BBCM

TYPE: 3-1/4" I.D. Hollow-stem Auger
2" O.D. Split-barrel Sampler
NQ Rock Core Barrel

LOCATION: STA 949+91, 694' Rt. of S.R. 71 centerline

COORDINATES : N 520087; E 1515061

COMPLETION DEPTH: 39.3'
ELEVATION: 797.0
DATE: 4/17/08

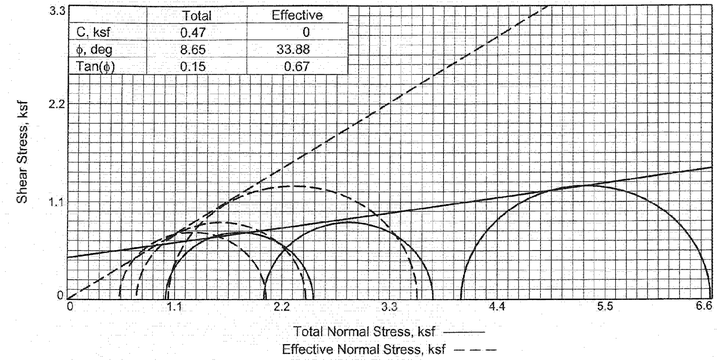
Elev. (feet)	Depth (feet)	Samp.	Std. Pen. / RQD-%	N_{60}	Hand Pen. (tsf)	Sample Rec-%	CLASSIFICATION: Description	Samp. No.	Physical Characteristics % Agg.	% CS	% FS	% Silt	% Clay	LL	PL	PI	WC	ODOT Class
	25						Hard gray SILTY CLAY, "and" fine to coarse gravel, little fine to coarse sand, damp.											
			19/26/37	86	4.5	67		16	33	9	10	19	29	34	17	17	8	A-6b (5)
769.0							28.0											
							INTERBEDDED SHALE and LIMESTONE, gray, highly weathered, very-weak to weak, laminated, highly fractured.											
767.0	30		21/35/45 50-0"R	109	4.5	80	30.0	17									11	Visual
							INTERBEDDED SHALE (85%) and LIMESTONE (15%), gray, moderately weathered, weak to slightly strong, very-thin to thin, fossiliferous, fractured to slightly fractured, RQD 55%, REC 92%.											
			RQD 62%			98		18										Visual
	35																	
			RQD 48%			87		19										Visual
757.7							39.3											
	40						- Encountered groundwater at 8.0'.											
	45																	
	50																	

WATER LEVEL: ▽ 6.3 ▽ ▽
WATER NOTE: After Coring
DATE: 4/17/08

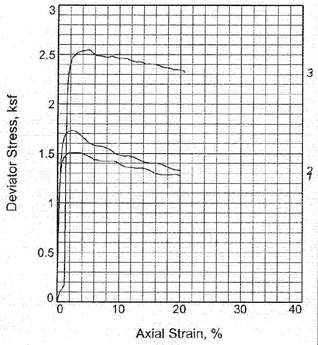
Drill Rod Energy Ratio : 0.82
Last Calibration Date : 11/19/07
Drill Rig Number : D50

GEOHAZARD EXPLORATION
SITE NO. 2
BORING LOGS

WAR-71-14.20



	Total	Effective
C, ksf	0.47	0
ϕ, deg	8.65	33.88
Tan(ϕ)	0.15	0.67



Sample No.		1	2	3
Initial	Water Content, %	22.3	23.5	22.0
	Dry Density, pcf	101.0	99.7	103.8
	Saturation, %	95.3	94.5	98.3
	Void Ratio	0.6077	0.6589	0.5930
	Diameter, in.	2.877	2.877	2.877
	Height, in.	4.870	5.600	5.590
At Test	Water Content, %	20.3	22.0	19.7
	Dry Density, pcf	106.2	104.5	108.6
	Saturation, %	100.0	100.0	100.0
	Void Ratio	0.5283	0.5824	0.5219
	Diameter, in.	2.829	2.832	2.833
	Height, in.	4.789	5.513	5.506
Strain rate, %/min.		0.01	0.01	0.01
Eff. Cell Pressure, psi		7.00	14.00	28.00
Fail. Stress, ksf		1.51	1.73	2.55
Excess Pore Pr., ksf		0.48	1.31	3.00
Strain, %		2.8	2.1	4.8
Ult. Stress, ksf		1.27	1.33	2.32
Excess Pore Pr., ksf		0.58	1.57	3.18
Strain, %		20.1	20.1	20.7
$\bar{\sigma}_1$ Failure, ksf		2.04	2.44	3.59
$\bar{\sigma}_3$ Failure, ksf		0.53	0.71	1.04

Type of Test: CU with Pore Pressures
Sample Type: Shelby Tube
Description: Very-soft to soft gray SANDY SILT, little clay, trace fine gravel.
LL= 26 **PL=** 16 **PI=** 10
Specific Gravity= 2.6
Remarks: ODOT A-4A(3)
Contains shell fragments
Moderately organic

Figure 05/08/08

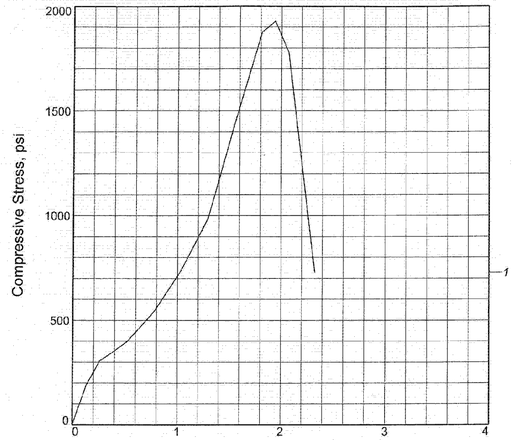
Client: ODOT District 8

Project: WAR-71-14.20
Warren County, Ohio
Location: B-001-1-08
Sample Number: 6 Sec. II,III,IV **Depth:** 13.5' to 15.4'
Proj. No.: 013.00740.003 **Date Sampled:** 04/30/08

TRIAXIAL SHEAR TEST REPORT
BBC&M Engineering, Inc.

Tested By: JJ **Checked By:** JJ

UNCONFINED COMPRESSION TEST



Sample No.	1			
Unconfined strength, psi	1928.64			
Undrained shear strength, psi	964.32			
Failure strain, %	1.9			
Strain rate, %/min.	0.02			
Water content, %	1.0			
Wet density, pcf	151.2			
Dry density, pcf	149.7			
Saturation, %	25.7			
Void ratio	0.1049			
Specimen diameter, in.	1.977			
Specimen height, in.	3.866			
Height/diameter ratio	1.96			

Description: SHALE, gray, weak.

LL =	PL =	PI =	GS= 2.65	Type: Rock Core

Project No.: 013.00740.003
Date Sampled: 05/09/08
Remarks:

Figure _____

Client: ODOT District 8

Project: WAR-71-14.20
Warren County, Ohio
Location: B-003-0-08
Sample Number: 8 **Depth:** 19.8' to 20.3'

UNCONFINED COMPRESSION TEST
BBC&M Engineering, Inc.

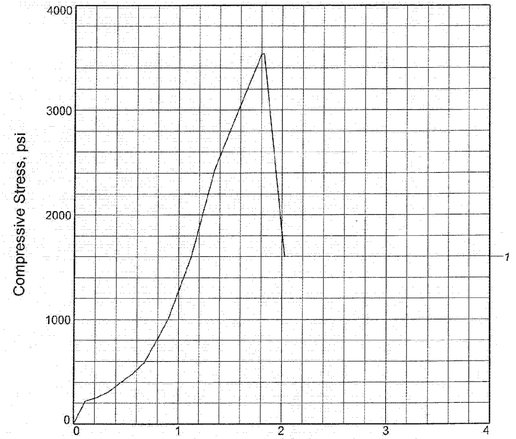
Tested By: JJ **Checked By:** JJ

BBCM

GEOHAZARD EXPLORATION
STRENGTH DATA

WAR-71-14.20

UNCONFINED COMPRESSION TEST



Sample No.	1			
Unconfined strength, psi	3541.15			
Undrained shear strength, psi	1770.57			
Failure strain, %	1.8			
Strain rate, %/min.	0.02			
Water content, %	0.8			
Wet density, pcf	157.9			
Dry density, pcf	156.7			
Saturation, %	37.2			
Void ratio	0.0558			
Specimen diameter, in.	1.975			
Specimen height, in.	4.441			
Height/diameter ratio	2.25			

Description: SHALE, gray, weak to moderately strong, contains Limestone nodules.

LL =	PL =	PI =	GS= 2.65	Type: Rock Core

Project No.: 013.00740.003
Date Sampled: 05/09/08
Remarks:

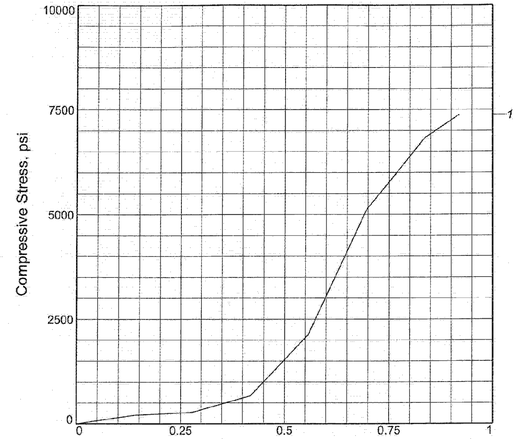
Client: ODOT District 8
Project: WAR-71-14.20
Warren County, Ohio
Location: B-004-0-08
Sample Number: 23 **Depth:** 37.2' to 37.7'

UNCONFINED COMPRESSION TEST
BBC&M Engineering, Inc.

Figure _____

Tested By: JJ **Checked By:** JJ

UNCONFINED COMPRESSION TEST



Sample No.	1			
Unconfined strength, psi	7379.87			
Undrained shear strength, psi	3689.93			
Failure strain, %	0.9			
Strain rate, %/min.	0.02			
Water content, %	0.2			
Wet density, pcf	165.6			
Dry density, pcf	165.3			
Saturation, %	531.6			
Void ratio	0.0011			
Specimen diameter, in.	1.986			
Specimen height, in.	3.593			
Height/diameter ratio	1.81			

Description: LIMESTONE, gray, strong, contains shale lenses.

LL =	PL =	PI =	GS= 2.65	Type: Rock Core

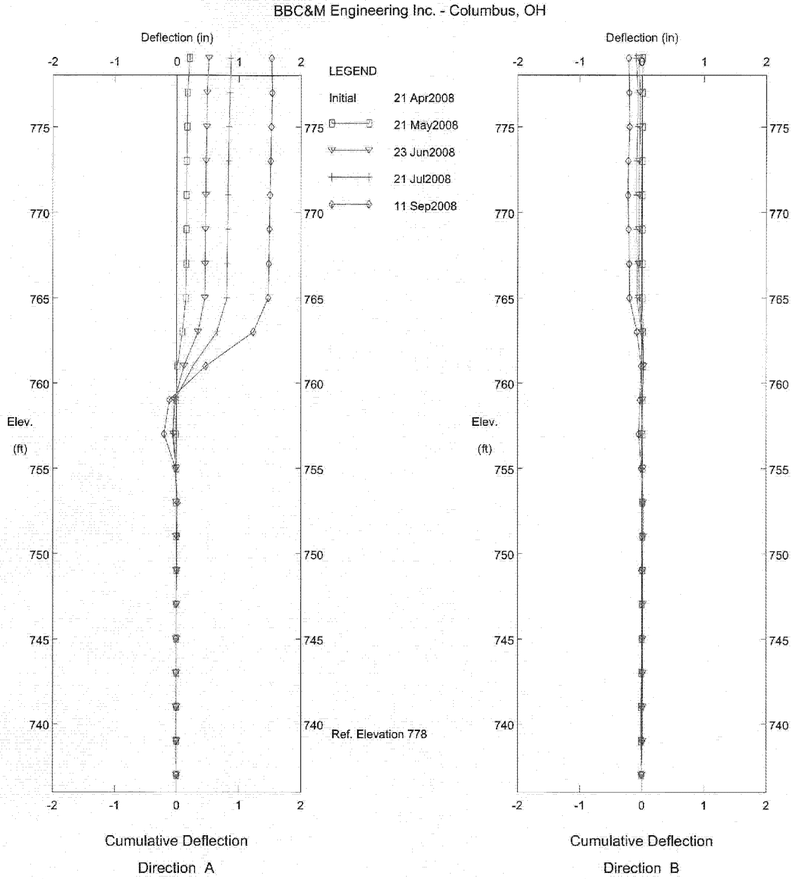
Project No.: 013.00740.003
Date Sampled: 05/09/08
Remarks:

Client: ODOT District 8
Project: WAR-71-14.20
Warren County, Ohio
Location: B-004-1-08
Sample Number: 24 **Depth:** 42.3' to 42.8'

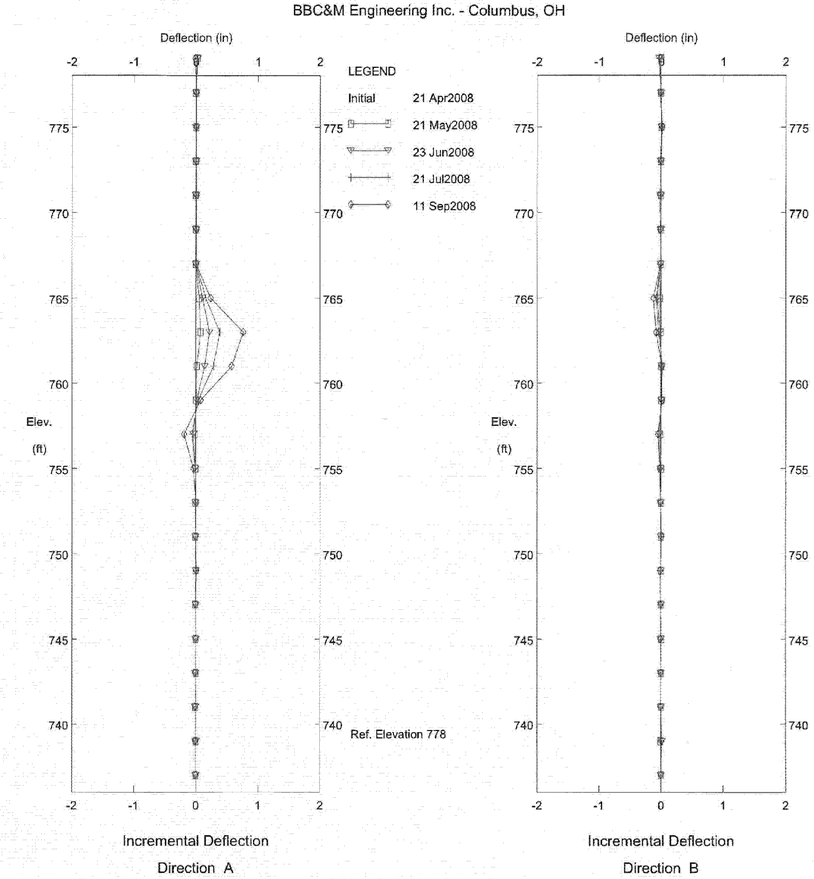
UNCONFINED COMPRESSION TEST
BBC&M Engineering, Inc.

Figure _____

Tested By: JJ **Checked By:** JJ



WAR-71-14.2 PID 22950, Inclinometer B-004-1-08



WAR-71-14.2 PID 22950, Inclinometer B-004-1-08

GEOHAZARD EXPLORATION
INCLINOMETER DATA

WAR-71-14.20

15 / 15