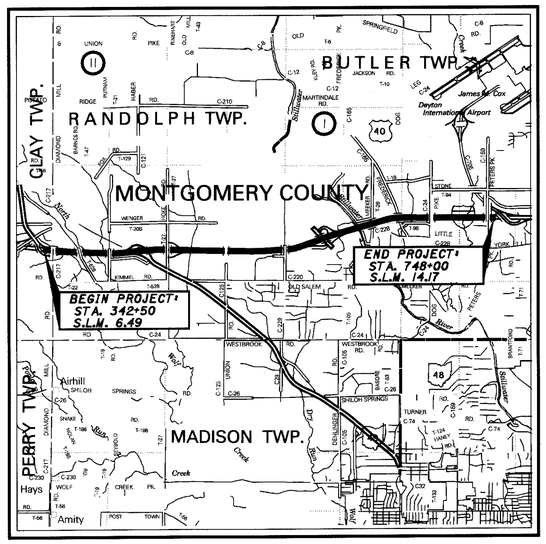


LOCATION MAP

LATITUDE: 84°28'45" LONGITUDE: 39°50'15"

SCALE IN MILES

0 1 2 3 4

N

PORTION TO BE IMPROVED

UNDIVIDED STATE & FEDERAL ROUTES

OTHER ROADS

DESIGN DESIGNATION

CURRENT ADT (2000)	50550
DESIGN YEAR ADT (2020)	62220
DESIGN HOURLY VOLUME (2020)	6,222
DIRECTIONAL DISTRIBUTION	55%
TRUCKS (24 HOUR B&C)	20%
DESIGN SPEED	70 MPH
LEGAL SPEED	65 MPH

DESIGN FUNCTIONAL CLASSIFICATION - URBAN INTERSTATE

DESIGN EXCEPTIONS

DESIGN FEATURE	APPROVAL DATE	SHEET NOS.
SHOULDER WIDTH	5/10/99	53
HORIZONTAL ALIGNMENT	5/10/99	4,5
BRIDGE WIDTH	5/10/99	53,54,56,117

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

PLAN PREPARED BY:

DISTRICT NO. 7
OHIO DEPARTMENT OF
TRANSPORTATION

ENGINEERS SEAL

STATE OF OHIO
PAUL ROBERT NARTKER
47338 REGISTERED
PROFESSIONAL ENGINEER

SIGNED: Paul Robert Nartker
DATE: 10-21-99

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

MOT-70-6.49

MONTGOMERY COUNTY
VILLAGE OF CLAYTON
CITY OF ENGLEWOOD
CLAY, RANDOLPH & BUTLER TWPS.

INDEX OF SHEETS:

SHEETS 112,113,114,115 NOT USED

PROJECT DESCRIPTION

IMPROVEMENT OF 7.63 MILES OF I.R. 70 BY RESURFACING THE EXISTING PAVEMENT, INCLUDING THE PAINTING OF SOME BRIDGES AND GUARDRAIL UPGRADE WHERE NEEDED

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 REVISED CODE OF OHIO.

1997 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. PROVISIONS FOR THE MAINTENANCE AND SAFTEY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

UNDER AUTHORITY OF SECTION 4511.21, DIVISION (I) OF THE REVISED CODE OF OHIO, 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 William L. Harrison
DATE 10-21-99 DISTRICT DEPUTY DIRECTOR

APPROVED Gordon Proctor Jr.
DATE 11-2-99 DIRECTOR, DEPARTMENT OF TRANSPORTATION

STANDARD CONSTRUCTION DRAWINGS

BP-3.1M	10-28-94	GR-4.1M	11-30-94	DM-1.1M	10-21-97	MT-35.10M	1-30-95
		GR-4.2M	10-21-97	DM-2.1M	6-30-95	MT-35.11M	1-30-95
BP-9.1	4-29-99	GR-4.3M	10-21-97				
		GR-4.4M	10-30-94	DM-4.3M	4-29-99	MT-95.30M	4-25-94
GR-1.1M	10-21-97			DM-4.4M	4-29-99		
GR-1.2M	1-3-96	GR-5.1M	4-21-95			MT-98.12M	6-24-93
GR-1.3M	11-30-96	GR-5.2M	11-30-94	CB-1.1M	7-12-95	MT-98.13M	6-24-93
		GR-5.3M	11-30-94	CB-3.2M	7-12-95	MT-98.14M	6-24-93
GR-2.1M	10-21-97			CB-3.3M	7-12-95		
		GR-6.1M	1-3-96			MT-98.15M	6-24-93
GR-3.1M	10-21-97	GR-6.2M	1-3-96	TC-7.65M	2-1-94	MT-98.16M	6-24-93
GR-3.2M	10-21-97					MT-98.17M	4-25-94
GR-3.4M	10-21-97	RM-4.2M	10-21-97	TC-21.10M	12-10-96	MT-98.18M	4-25-94
GR-3.5M	10-21-97	RM-4.3M	10-21-97	TC-22.10M	2-1-94		
		RM-4.4M	10-21-97	TC-22.20M	2-1-94		
		RM-4.5M	10-21-97	TC-82.10M	11-24-93		

SUPPLEMENTAL SPECIFICATIONS	
SS806	9-9-97
SS814	6-2-98
SS830	10-21-98
SS842	1-6-99
SS845	1-6-98
SS863	9-9-97
SS877	4-29-99
SS880	6-15-99
SS899	1-6-99
SS905	4-1-98
SS906	5-5-98
SS907	10-21-98
SS908	1-6-99
SS1082	1-6-98

SPECIAL PROVISIONS

FEDERAL PROJECT NO. TE21-G000 (078)
PID NO. 17069
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
MOT-70-6.49
1 / 201

MOT-70-6.49
000046
DIST 7

PID# 17069
02-02-00

BEGIN WORK:
STA. 342+12.50
LEFT & RIGHT

BEGIN PROJECT:
STA. 342+50
S.L.M. 6.49
LEFT & RIGHT

TE21-G000 (078)

DIAMOND MILL RD.

KIMMEL RD.

STRUCTURE MOT-70-0631

STRUCTURE MOT-70-0662

STRUCTURE MOT-70-0672 L&R

STRUCTURE MOT-70-0708

STRUCTURE MOT-70-0719 L&R

STRUCTURE MOT-49-1269L

STRUCTURE MOT-49-1279L

℄ SURVEY S.R.-49

N.B. S.R.-49

S.B. S.R.-49

℄ SURVEY I.R.-70

C.S. C-20

S.C. C-20

T.S. C-20

C-20

C-3

P.C. C-3

P.T. C-3

S.T. C-18

C.S. C-18

S.C. C-18

T.S. C-18

C-18

S.T. C-19

C.S. C-19

S.C. C-19

T.S. C-19

C-19

Sta. 243+51.02
S.B. S.R.-49

STA. 339+00.00 ℄ SURVEY I.R.-70
STA. 280+57.52 ℄ SURVEY S.R.-49

STA. 390+00

MATCH LINE

FOR CURVE DATA SEE SHEET 6.

FOR CURVE DATA SEE SHEET 6.

HORIZONTAL SCALE IN FEET

CALCULATED

CHECKED

SCHEMATIC PLAN
STA. 334+00 TO STA. 445+00

MOT-70-6.49

2
201

FOR CURVE DATA SEE SHEET 6.

FOR CURVE DATA SEE SHEET 6.

HORIZONTAL SCALE IN FEET

CALCULATED

CHECKED

SCHEMATIC PLAN
STA. 445+00 TO STA. 555+00

MOT-70-6.49

3
201

FOR CURVE DATA SEE SHEET 6.

FOR CURVE DATA SEE SHEET 6.

HORIZONTAL SCALE IN FEET
0

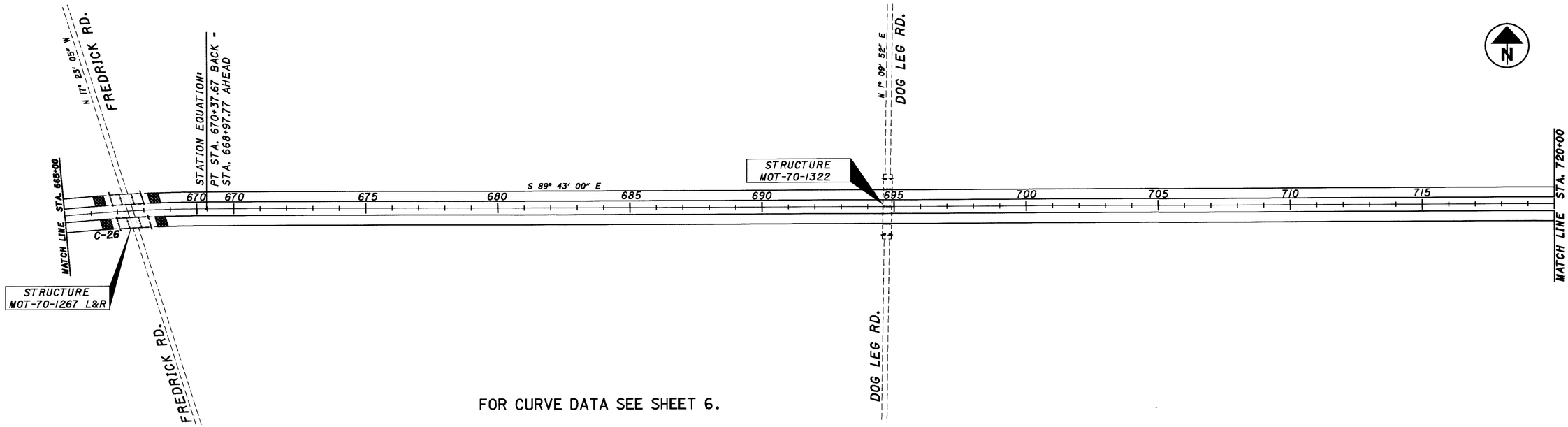
CALCULATED

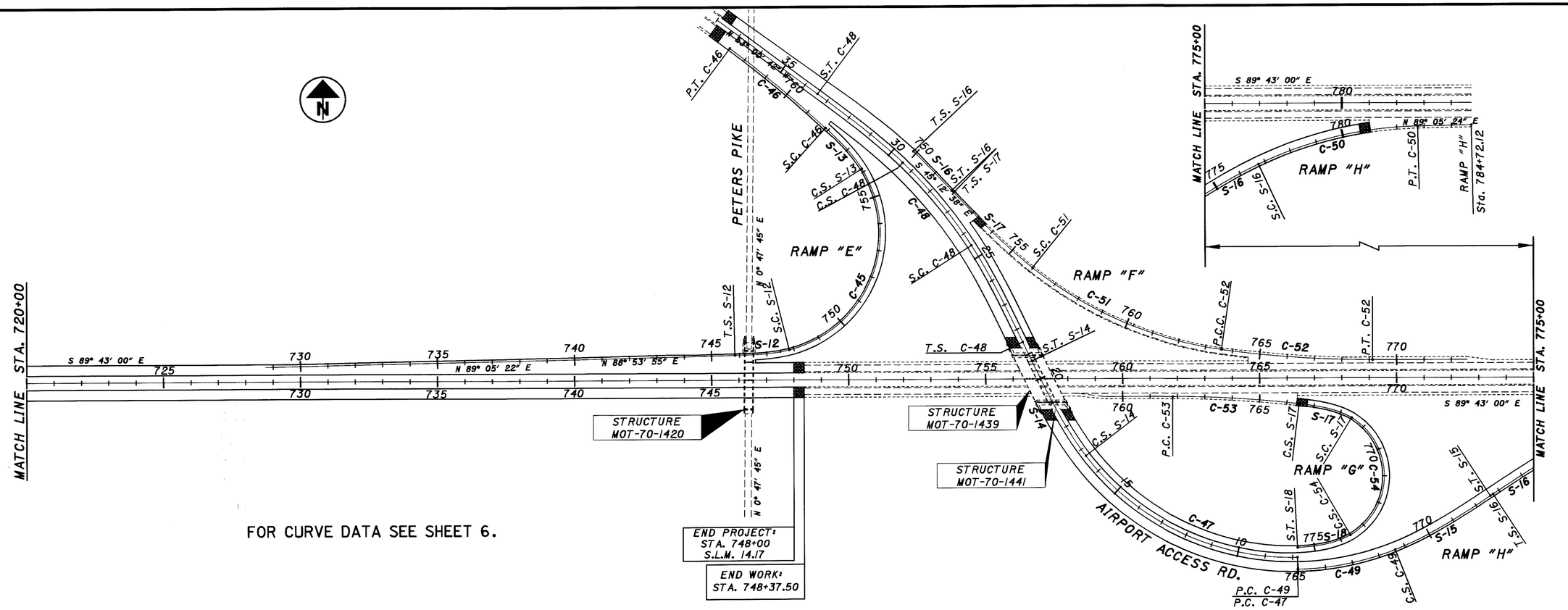
CHECKED

SCHEMATIC PLAN
STA. 555+00 TO STA. 665+00

MOT-70-6.49

4
201





HORIZONTAL SCALE IN FEET
0

CALCULATED

CHECKED

SCHEMATIC PLAN
STA. 665+00 TO STA. 785+00

MOT-70-6.49

5
201

CURVE DATA FOR INTERSTATE 70 AND INTERSECTING ROADS AND RAMPS

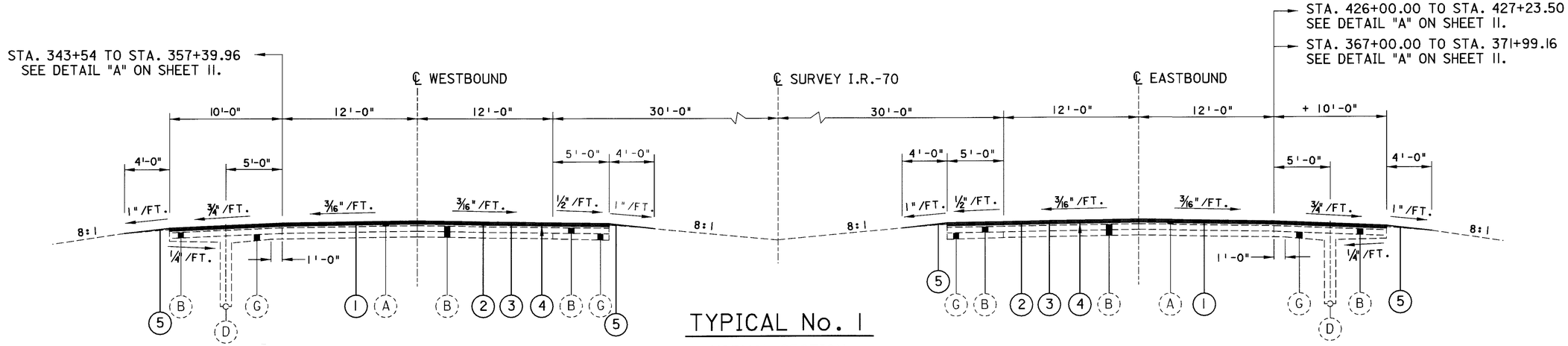
CURVE No.	REMARKS	T.S. OR C.S.	S.C., P.C., OR P.C.C.	P.I.	C.S., P.T., OR P.C.C.	S.T. OR S.C.	Δ	Dc	R	T	E	Ls	θs	LT	ST	X	Y	K	P	Δc	Lc	Ts	Es
C-3	I.R.-70		P.C. 357+39.96	P.I. 360+92.57	P.T. 364+44.96		3° 31' 30" LT.	0° 30' 00"	11,459.16'	352.61'	5.42'									3° 31' 30" LT.	705.00'		
C-21	I.R.-70		P.C. 397+34.80	P.I. 403+23.22	P.T. 409+09.80		7° 50' 00" LT.	0° 40' 00"	8,594.37'	588.42'	20.12'									7° 50' 00" LT.	1,175.00'		
C-22	I.R.-70		P.C. 436+78.21	P.I. 439+88.01	P.T. 442+97.21		6° 11' 24" RT.	1° 00' 00"	5,729.58'	309.80'	8.37'									6° 11' 24" RT.	619.00'		
C-23	I.R.-70		P.C. 528+48.16	P.I. 532+88.37	P.T. 537+28.16		4° 24' 00" LT.	0° 30' 00"	11,459.16'	440.22'	8.45'									4° 24' 00" LT.	880.00'		
C-24	I.R.-70		P.C. 559+10.84	P.I. 567+63.09	P.T. 576+02.93		16° 55' 15" LT.	1° 00' 00"	5,729.58'	852.25'	63.04'									16° 55' 15" LT.	1,692.08'		
C-25	I.R.-70		P.C. 598+32.15	P.I. 602+94.06	P.T. 607+55.48		4° 37' 00" RT.	0° 30' 00"	11,459.16'	461.92'	9.31'									4° 37' 00" RT.	923.33'		
C-18	S.B. S.R.-49	T.S. 268+14.67	S.C. 270+64.67	P.I. 275+87.60	C.S. 279+07.84	S.T. 281+57.84	76° 31' 19" RT.	7° 00' 00"	818.51'	463.30'	122.02'	250.00'	8° 45' 00"	166.87'	83.52'	249.42'	12.71'	124.90'	3.18'	59° 01' 19" RT.	843.17'	772.93'	227.96'
C-19	S.B. S.R.-49	T.S. 258+67.12	S.C. 260+67.12	P.I. 262+36.02	C.S. 263+98.35	S.T. 265+98.35	21° 14' 57" LT.	4° 00' 00"	1,432.39'	166.36'	9.63'	200.00'	4° 00' 00"	133.37'	66.70'	199.90'	4.65'	99.98'	1.16'	13° 14' 57" LT.	331.23'	368.90'	26.17'
C-20	N.B. S.R.-49	T.S. 272+88.40	S.C. 276+38.40	P.I. 282+06.11	C.S. 287+03.35	S.T. 290+53.35	42° 26' 55" RT.	3° 00' 00"	1,909.86'	546.72'	76.71'	350.00'	5° 15' 00"	233.44'	116.76'	349.71'	10.68'	174.95'	2.67'	31° 56' 55" RT.	1,064.59'	917.71'	141.84'
C-27	N.B. S.R.-49		S.C. 123+68.40	P.I. 125+73.75	C.S. 127+63.92	S.T. 130+63.92	27° 49' 15" RT.	4° 00' 00"	1,432.39'	199.03'	13.76'	300.00'	6° 00' 00"	200.12'	100.10'	299.67'	10.46'	149.95'	2.62'	15° 49' 15" RT.	395.52'	505.32'	45.97'
S-7	N.B. S.R.-49	T.S. 132+99.87	S.C. 135+99.87	P.I. 134+99.98								300.00'	6° 00' 00"	200.12'	100.11'	299.67'	10.46'	149.95'	2.62'				
C-28	N.B. S.R.-49		S.C. 135+99.87	P.I. 146+19.39	C.S. 142+00.00		6° 59' 19" RT.	4° 00' 00"	1,432.39'	304.54'	32.02'									24° 00' 20" LT.	600.14'		418.87'
S-8	N.B. S.R.-49			P.I. 144+25.20	C.S. 142+00.00	S.C. 146+00.00						400.00'	24° 00' 00"	225.20'	180.63'				4.64'				
C-29	N.B. S.R.-49		S.C. 146+00.00	P.I. 146+19.39	C.S. 150+62.43		42° 59' 39" LT.	8° 00' 00"	716.20'	239.60'	39.02'									36° 59' 39" LT.	462.43'		656.61'
S-9	N.B. S.R.-49			P.I. 151+29.37	C.S. 150+62.43	S.T. 152+62.43			716.20'			200.00'	8° 00' 00"	133.47'	66.79'	199.61'	9.30'	99.94'	2.33'				
C-30	N.B. S.R.-49	T.S. 152+80.92	S.C. 154+80.91	P.I. 155+96.60	C.S. 156+98.76	S.T. 158+98.76	33° 25' 36" RT.	8° 00' 00"	716.20'	109.77'	8.36'	200.00'	8° 00' 00"	133.47'	66.79'	199.61'	9.30'	99.94'	2.33'	17° 25' 38" RT.	217.84'	315.69'	34.02'
C-31	S.B. S.R.-49	T.S. 130+43.18	P.C. 133+43.18	P.I. 137+51.53	P.T. 140+50.46	S.T. 143+50.46	60° 26' 12" LT.	6° 00' 00"	954.93'	370.75'	69.44'	300.00'	9° 00' 00"	200.26'	100.24'	299.26'	15.68'	149.88'	3.92'	42° 26' 12" LT.	707.28'	708.35'	154.71'
C-32	S.B. S.R.-49	T.S. 122+68.14	P.C. 125+18.14	P.I. 125+97.65	P.T. 126+70.09	S.T. 129+20.09	24° 07' 01" RT.	6° 00' 00"	954.93'	76.14'	3.03'	250.00'	7° 30' 00"	166.82'	83.47'	249.57'	10.89'	124.93'	2.73'	9° 07' 01" RT.	151.95'	329.51'	24.33'
S-10	HOKE RD. RAMP "B"	T.S. 12+64.36		P.I. 13+31.13		S.T. 13+64.36			286.48'			100.00'		66.77'	33.43'	99.70'	5.81'	49.95'	1.45'				
C-33	HOKE RD. RAMP "B"	T.S. 15+13.99	S.C. 19+13.99	P.I. 19+69.91	C.S. 20+24.86	S.T. 24+24.86	7° 39' 47" LT.	1° 30' 00"	3,819.72'	55.44'	0.40'	400.00'	3° 00' 00"	266.70'	133.37'	399.89'	6.98'	199.98'	1.75'	1° 39' 47" LT.	110.87'	455.92'	10.31'
C-34	HOKE RD. RAMP "A"	T.S. 7+18.79	S.C. 9+18.79	P.I. 9+59.69	C.S. 9+99.97	S.T. 11+99.97	8° 26' 07" RT.	3° 00' 00"	1,909.86'	40.59'	0.43'	200.00'	3° 00' 00"	133.35'	66.68'	199.95'	3.49'	99.99'	0.87'	2° 26' 07" RT.	81.18'	240.90'	6.06'
C-35	S.R.-48 RAMP "CD"		P.C. 3+80.19	P.I. 6+88.22	P.T. 9+94.44		10° 44' 58" RT.	1° 45' 00"	3,274.05'	308.03'	14.46'										614.25'		
C-36	S.R.-48 RAMP "CD"		P.C. 14+07.86	P.I. 15+08.02	P.T. 16+01.27		36° 44' 48" LT.	18° 59' 59"	301.56'	100.16'	16.20'										193.41'		
S-11	S.R.-48 RAMP "A"			P.I. 15+78.85	C.S. 15+27.64	S.T. 16+77.64			150.78'			150.00'	28° 30' 00"	101.33'	51.21'	146.33'	24.44'	74.39'	6.16'				
C-37	S.R.-48 RAMP "A"		P.C.C. 13+72.67	P.I. 15+22.90	C.S. 15+27.64		87° 23' 17" RT.	37° 59' 59"	150.78'	85.11'	22.36'									58° 53' 17" RT.	154.97'		62.06'
C-38	S.R.-48 RAMP "A"		P.C. 11+74.41	P.I. 12+77.27	P.C.C. 13+27.67		37° 40' 08" RT.	18° 59' 59"	301.56'	102.86'	17.06'										198.26'		
C-39	S.R.-48 RAMP "AB"		P.C.C. 9+20.94	P.I. 10+54.79	P.T. 11+74.41		45° 30' 56" RT.	17° 57' 28"	319.06'	133.84'	26.94'										253.46'		
C-40	S.R.-48 RAMP "AB"		P.C. 8+19.84	P.I. 8+71.97	P.C.C. 9+20.94		34° 25' 26" RT.	34° 02' 52"	168.28'	52.13'	7.89'										101.10'		
C-41	S.R.-48 RAMP "B"		P.C. 12+17.86	P.I. 14+98.44	P.C.C. 17+52.69		42° 47' 12" LT.	8° 00' 00"	716.20'	280.58'	53.00'										534.83'		
C-42	S.R.-48 RAMP "B"		P.C.C. 17+52.69	P.I. 20+03.11	P.T. 22+52.82		7° 30' 07" LT.	1° 30' 00"	3,819.72	250.42'	8.20'										500.12'		
C-43	S.R.-48 RAMP "E"		P.C. 5+40.91	P.I. 7+14.37	P.T. 7+98.81		98° 00' 03" RT.	37° 59' 59"	150.78'	173.46'	79.05'										257.90'		
C-44	S.R.-48 RAMP "E"		P.C. 9+24.68	P.I. 10+38.06	P.T. 12+38.58		18° 50' 03" RT.	6° 00' 00"	954.93'	158.38'	13.04'										313.90'		
S-19	S.R.-48 RAMP "A"	T.S. 5+17.03	S.C. 6+67.03	P.I. 6+18.36					150.78'			150.00'	28° 30' 00"	101.33'	51.21'	146.33'	24.44'	74.39'	6.16'		152.81'		
C-55	S.R.-48 RAMP "A"		S.C. 6+67.03	P.I. 7+50.73	P.T. 8+19.84		58° 04' 02" RT.	37° 59' 59"	150.78'	83.67'	21.67'												
S-12	A.A.R. RAMP "E"	T.S. 745+83.55	S.C. 747+83.55	P.I. 747+17.25					440.74'			200.00'		133.70'	67.00'	198.97'	15.07'	99.83'	3.78'				
C-45	A.A.R. RAMP "E"		S.C. 747+83.55	P.I. 756+14.31	C.S. 756+12.53		123° 46' 00" LT.	13° 00' 00"	440.74'	604.04'	307.00'									107° 46' 00" LT.	828.98'		499.70'
S-13	A.A.R. RAMP "E"			P.I. 756+92.28		S.C. 758+12.53						200.00'		121.46'	79.75'								
C-46	A.A.R. RAMP "E"		S.C. 758+12.53	P.I. 760+40.71	P.T. 762+68.14		6° 50' 03" LT.	1° 30' 00"	3,819.72'	228.08'	6.80'										445.62'		
C-47	AIRPORT ACC. RD.		P.C. 7+81.67	P.I. 14+02.29	C.S. 16+71.53		65° 23' 29" RT.	6° 00' 00"	954.93'	480.19'	113.94'										889.86'		183.96'
S-14	AIRPORT ACC. RD.			P.I. 18+05.42	C.S. 16+71.53	S.T. 20+71.53						400.00'		267.28'	133.89'	398.25'	27.84'	199.71'	6.97'				
C-48	AIRPORT ACC. RD.	T.S. 21+49.02	S.C. 25+49.02	P.I. 27+55.20	C.S. 29+43.59	S.T. 33+43.59	27° 48' 36" LT.	3° 30' 00"	1,637.02'	198.25'	11.96'	400.00'	7° 00' 00"	266.88'	133.52'	399.40'	16.27'	199.90'	4.07'	13° 48' 36" LT.	3.94.57'	606.18'	53.61'
C-49	A.A.R. RAMP "H"		P.C. 764+98.33	P.I. 768+00.91	C.S. 768+63.06		32° 23' 30" LT.	5° 44' 09"	998.93'	184.42'	16.88'									20° 55' 12" LT.	364.73'		44.32'
S-15	A.A.R. RAMP "H"			P.I. 769+96.91	C.S. 768+63.06	S.T. 772+63.06			998.91'			400.00'		267.23'	398.40'	146.33'	26.62'	199.73'	6.66'				
S-16	A.A.R. RAMP "H"	T.S. 772+74.83	S.C. 776+74.83	P.I. 775+41.77					1,432.39'			400.00'		266.94'	399.22'	146.33'	18.59'	199.87'	4.56'				
C-50	A.A.R. RAMP "H"		S.C. 776+74.83	P.I. 779+80.27	P.T. 782+76.70		24° 04' 28" RT.	4° 00' 00"	1,432.40'	305.44'	32.20'										601.87'		
S-16	A.A.R. RAMP "F"	T.S. 749+88.11		P.I. 750+54.80		S.T. 751+88.11			1,637.02'			200.00'		133.36'	66.69'	199.93'	4.07'	99.99'	1.02'				
S-17	A.A.R. RAMP "F"	T.S. 751+98.10	S.C. 755+98.10	P.I. 754+65.04					1,432.39'			400.00'		266.94'	133.58'	399.22'	18.59'	199.87'	4.65'				
C-51	A.A.R. RAMP "F"		S.C. 755+98.10	P.I. 759+87.67	P.C.C. 763+58.54		30° 25' 46" LT.	4° 00' 00"	1,432.40'	389.57'	52.03'										700.74'		
C-52	A.A.R. RAMP "F"		P.C.C. 763+58.84	P.I. 766+36.07	P.T. 769+12.33		8° 18' 08" LT.	1° 30' 00"	3,819.72'	277.23'	10.05'										553.49'		
C-53	A.A.R. RAMP "G"		P.C.761+82.81	P.I. 766+97.53	C.S. 766+45.10		29° 58' 34" RT.	1° 30' 00"	3,819.72'	231.43'	7.00'									6° 56' 04" RT.	4.62.29'		34.52'
S-17	A.A.R. RAMP "G"			P.I. 767+75.30	C.S. 766+45.10	S.C. 768+45.10						200.00'		72.12'	130.20'								
C-54	A.A.R. RAMP "G"		S.C. 768+45.10	P.I. 776+61.18	C.S. 773+60.34		145° 27' 20" RT.	23° 00' 01"	249.11'	418.35'	237.79'									118° 27' 20" RT.	515.02'		603.94'
S-18	A.A.R. RAMP "G"			P.I. 774+38.51	C.S. 773+60.34	S.T. 775+60.34						200.00'		125.23'	78.18'				5.50'				

CALCULATED

CHECKED

SCHEMATIC PLAN - CURVE DATA

MOT-70-6.49



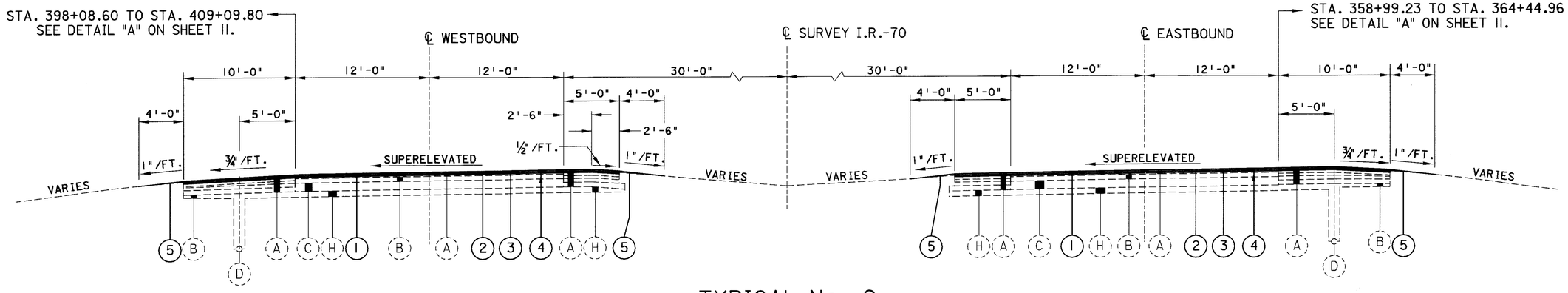
TYPICAL No. 1

NORMAL SECTION
LIMITING STATIONS

STA. 342+50.00 TO STA. 352+07.45 = 957.45 LIN. FT.
STA. 352+07.45 TO STA. 353+42.55 = BRIDGE NO. MOT-70-0664 L&R, APPROACH SLABS AND TRANSITIONS
STA. 353+42.55 TO STA. 357+39.96 = 397.41 LIN. FT.
STA. 367+00.00 TO STA. 377+12.88 = 1012.88 LIN. FT.
STA. 377+12.88 TO STA. 378+87.12 = BRIDGE NO. MOT-70-0719 L&R, APPROACH SLABS AND TRANSITIONS
STA. 378+87.12 TO STA. 381+50.37 = 263.25 LIN. FT.
STA. 426+00.00 TO STA. 436+78.21 = 1078.21 LIN. FT.
STA. 555+00.00 TO STA. 559+10.84 = 410.84 LIN. FT.

+ Sta. 427+23.50 to Sta. 428+23.50
BERM VARIES FROM 14' TO 10'

FOR PAVEMENT LEGEND
SEE SHEET 10.



TYPICAL No. 2

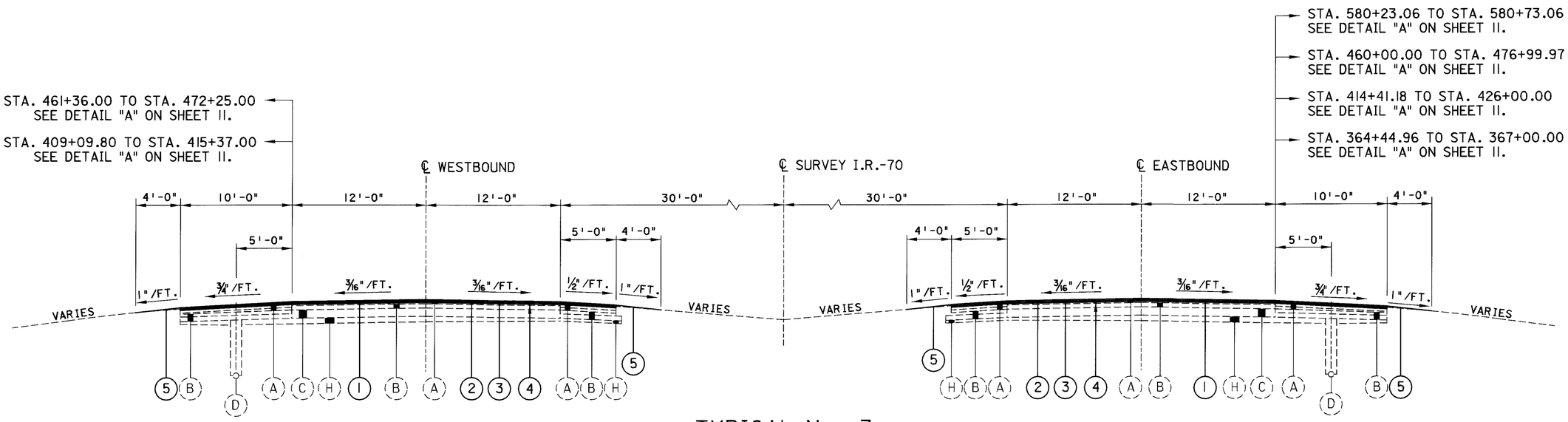
SUPERELEVATED SECTION
LIMITING STATIONS

STA. 357+39.96 TO STA. 364+44.96 = 705.00 LIN. FT.
STA. 397+34.80 TO STA. 409+09.80 = 1175.00 LIN. FT.
STA. 436+78.21 TO STA. 442+97.21 = 619.00 LIN. FT.
STA. 528+48.15 TO STA. 537+28.15 = 880.00 LIN. FT.
STA. 565+00.00 TO STA. 576+02.93 = 1102.93 LIN. FT.

CALCULATED | CHECKED

TYPICAL SECTIONS

MOT-70-6.49

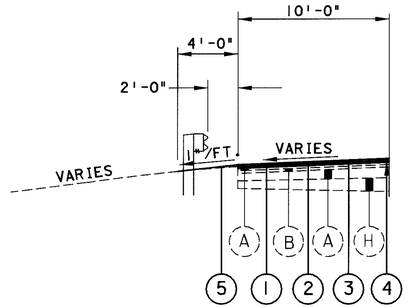


TYPICAL No. 3

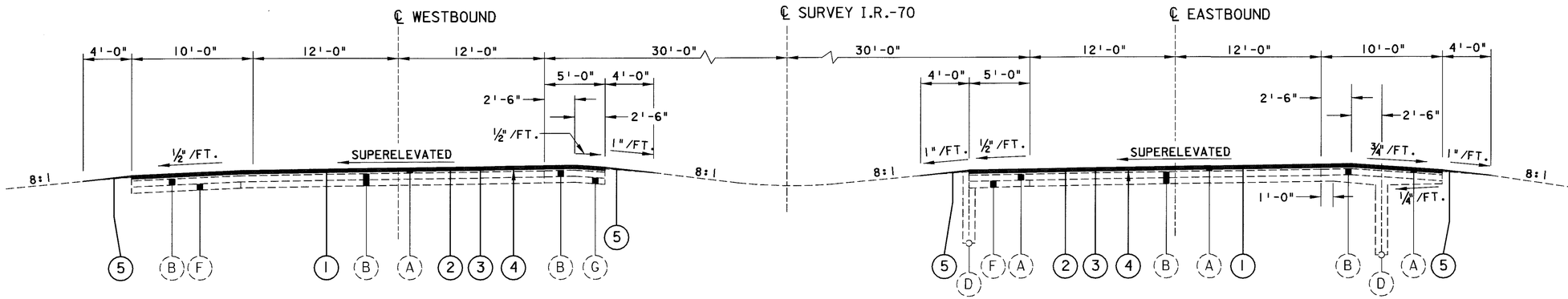
NORMAL SECTION
LIMITING STATIONS

STA. 364+44.96 TO STA. 367+00.00 = 255.04 LIN. FT.
STA. 381+50.37 TO STA. 397+34.80 = 1584.43 LIN. FT.
STA. 409+09.80 TO STA. 426+00.00 = 1690.20 LIN. FT.
STA. 442+97.21 TO STA. 528+48.15 = 8550.94 LIN. FT.
STA. 537+28.15 TO STA. 555+00.00 = 1771.85 LIN. FT.
STA. 576+02.93 TO STA. 580+73.06 = 470.13 LIN. FT.

FOR PAVEMENT LEGEND
SEE SHEET 10.



TYPICAL GUARDRAIL SECTION



TYPICAL No. 4

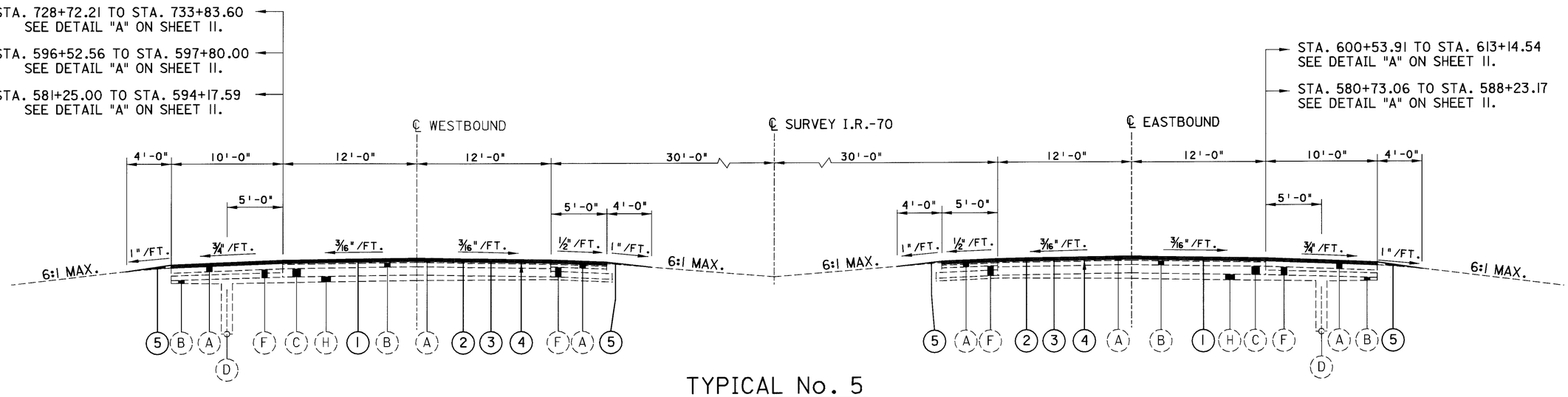
SUPERELEVATED SECTION
LIMITING STATIONS

STA. 559+10.83 TO STA. 565+00.00 = 589.17 LIN. FT.

CALCULATED
CHECKED

TYPICAL SECTIONS

MOT-70-6.49



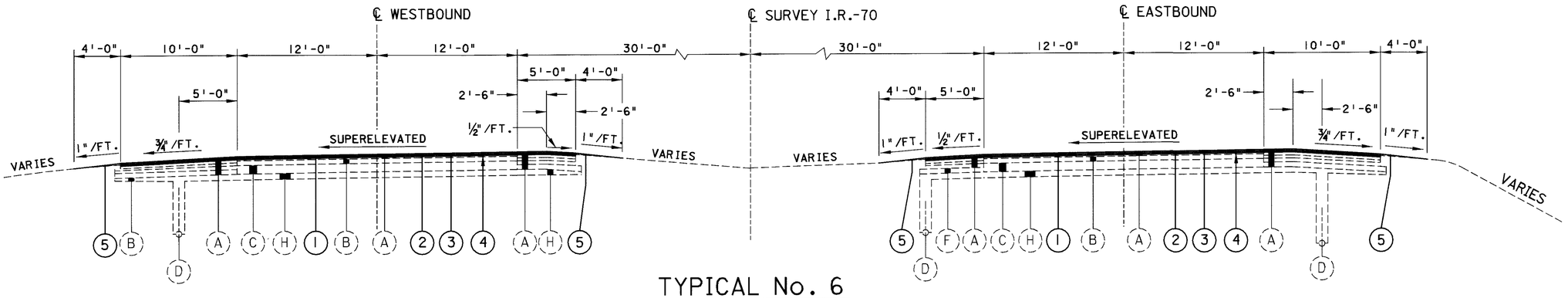
TYPICAL No. 5

NORMAL SECTION

LIMITING STATIONS

STA. 580+73.06 TO STA. 594+05.10 = 1332.04 LIN. FT.
STA. 594+05.10 TO STA. 596+85.06 = BRIDGE NO. MOT-70-1130 L&R, APPROACH SLABS AND TRANSITIONS
STA. 596+85.06 TO STA. 626+85.22 = 3000.16 LIN. FT.
STA. 626+85.22 TO STA. 630+34.78 = BRIDGE NO. MOT-70-1192 L&R, APPROACH SLABS AND TRANSITIONS
STA. 630+34.78 TO STA. 641+43.95 = 1109.17 LIN. FT.
STA. 641+43.95 TO STA. 643+31.01 = BRIDGE NO. MOT-70-1219 L&R, APPROACH SLABS AND TRANSITIONS
STA. 643+31.01 TO STA. 654+53.78 = 1122.77 LIN. FT.
(STATION EQUATION) STA. 670+37.67 BACK = STA. 668+97.77 AHEAD
STA. 668+97.77 TO STA. 733+83.60 = 6485.83 LIN. FT.

FOR PAVEMENT LEGEND
SEE SHEET 10 .



TYPICAL No. 6

SUPERELEVATED SECTION

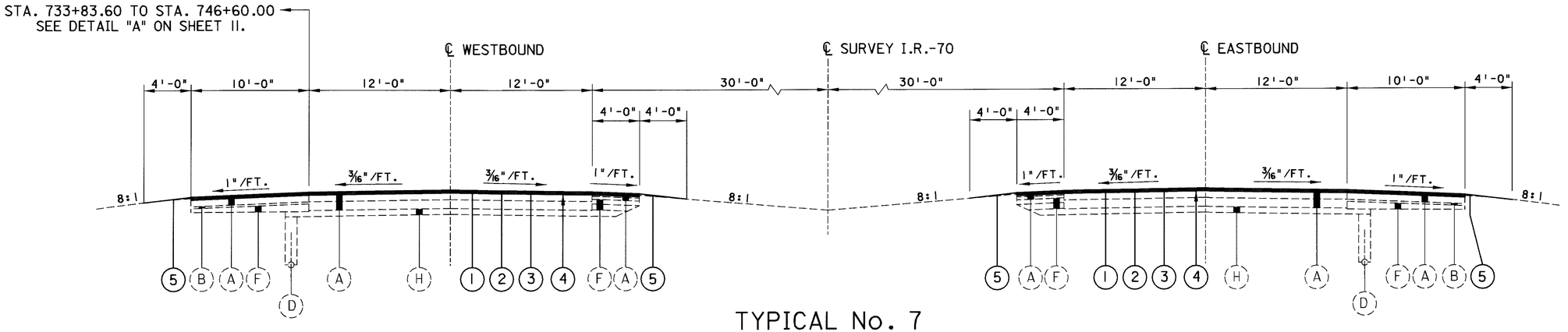
LIMITING STATIONS

STA. 654+53.78 TO STA. 666+52.50 = 1198.72 LIN. FT.
STA. 666+52.50 TO STA. 668+46.05 = BRIDGE NO. MOT-70-1267 L&R, APPROACH SLABS AND TRANSITIONS
STA. 668+46.05 TO STA. 670+37.67 = 191.62 LIN. FT.
(STATION EQUATION) STA. 670+37.67 BACK = STA. 668+97.77 AHEAD

CALCULATED
CHECKED

TYPICAL SECTIONS

MOT-70-6.49



TYPICAL No. 7

NORMAL SECTION
LIMITING STATIONS
STA. 733+83.60 TO STA. 748+00.00 = 1416.40 LIN. FT.

EXISTING LEGEND

- (A) — EXISTING ASPHALT CONCRETE
- (B) — EXISTING BITUMINOUS AGGREGATE BASE
- (C) — EXISTING REINFORCED CONCRETE
- (D) — EXISTING PIPE UNDERDRAIN
- (E) — EXISITNG SHALLOW PIPE UNDERDRAIN
- (F) — EXISTING WATERPROOF AGGREGATE BASE, ON POROUS BASE COURSE
- (G) — EXISTING AGGREGATE BASE
- (H) — EXISTING SUBBASE

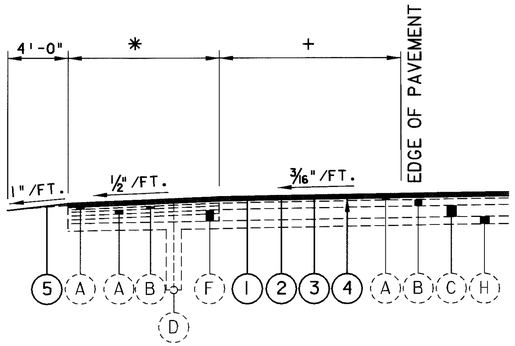
PROPOSED LEGEND

- (1) — ITEM 446 - 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE 1H
- (2) — ITEM 446 - 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-28
- (3) — ITEM 254 - 1¾" PAVEMENT PLANING, BITUMINOUS
- (4) — ITEM 407 - TACK COAT (SEE GENERAL NOTE)
- (5) — ITEM 617 - COMPACTED AGGREGATE
- (6) — ITEM 446 - VARIABLE DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE 1H
- (7) — ITEM 446 - VARIABLE DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG64-28
- (8) — ITEM 254 - 1½" PAVEMENT PLANING, BITUMINOUS

CALCULATED | CHECKED

TYPICAL SECTIONS

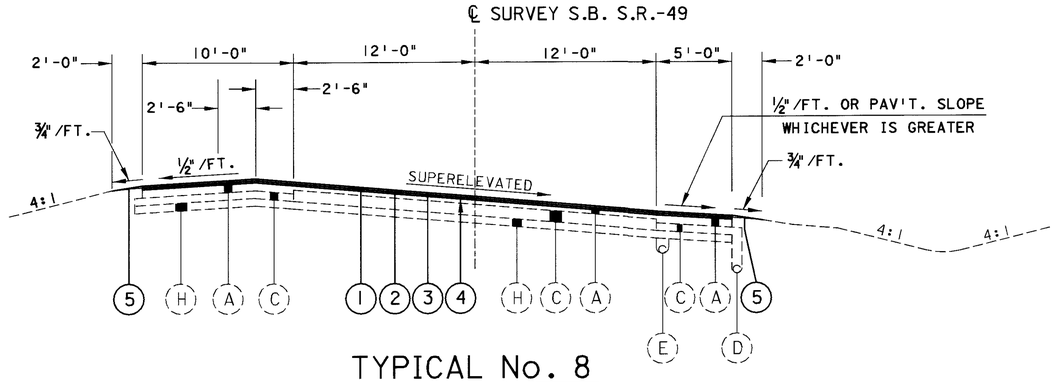
MOT-70-6.49



DETAIL "A"

ACCELERATION/DECELERATION DETAIL

LOCATON	STATION TO STATION		LENGTH	*	+
I.R.-70 AT S.R.-49					
NORTHBOUND 49	343+54	352+07.45	853.45'	10'	51' to 18.82'
STA. 352+07.45 TO STA. 353+42.55 BRIDGE NO. MOT-70-0672 L&R, APPR. SLABS AND TRANSITIONS					
	353+42.55	356+39.96	297.41'	10'	16.7' TO 12'
	356+39.96	357+39.96	100'	10'	12' to 0'
	398+08.60	415+37.00	1728.40	10'	0' to 44.5'
SOUTHBOUND 49	358+99.23	371+99.16	1299.93'	10'	40' TO 0'
	414+41.18	415+41.18	100'	10'	0' to 12'
	415+41.18	427+23.50	1182.32'	10'	12' to 41.8'
I.R.-70 AT HOKE ROAD					
RAMP "A"	460+00.00	476+99.97	1699.97'	10'	40' to 0'
RAMP "B"	461+36.00	471+25.00	989'	10'	41.5' to 12'
	471+25.00	472+25.00	100'	10'	12' to 0'
I.R.-70 AT S.R.-48					
RAMP "A"	581+25.00	583+75.00	250'	10'	0' to 12'
	583+75.00	594+05.10	1030.10'	10'	12'
STA. 594+05.10 TO STA. 596+85.06 BRIDGE NO. MOT-70-1130 L&R, APPR. SLABS AND TRANSITIONS					
	596+85.06	597+80.00	89.94	10' to 3'	12.1' to 39.0'
RAMP "B"	603+89.71	607+91.50	401.79'	8'	39' to 12'
	607+91.50	610+89.71	298.21'	8'	12'
	610+89.71	611+89.71	100'	8' to 10'	12' to 0'
RAMP "C"	580+23.06	581+23.06	100'	10' to 8'	0' to 12'
	581+23.06	584+02.53	279.47'	8'	12'
	584+02.53	588+23.17	420.64'	8'	12' to 39'
RAMP "E"	600+53.91	602+81.52	197.61	8'	39' to 12'
	602+81.52	609+64.54	683.02	8'	12'
	609+64.54	613+14.54	350'	8' to 10'	12' to 0'
I.R.-70 AT AIRPORT ACCESS RD.					
RAMP "E"	728+72.21	729+68.10	95.89	10' TO 8'	0' TO 2'
	729+68.10	743+71.60	1403.50'	8'	2' TO 32.25'
	743+71.60	744+21.60	50'	8' to 6'	32.25' TO 33.45'
	744+21.60	746+60.00	238.40'	6'	33.45' TO 39'

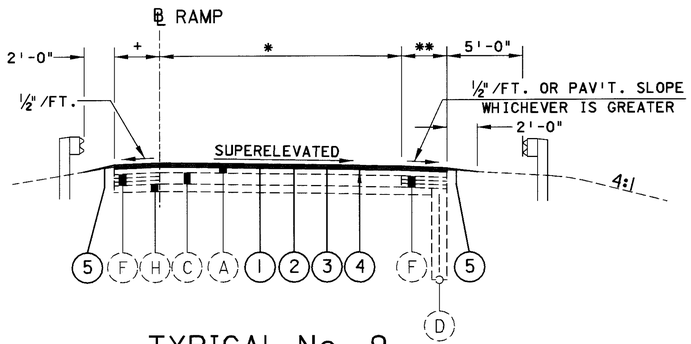


TYPICAL No. 8

SOUTHBOUND S.R.-49
SUPERELEVATED SECTION
LIMITING STATIONS

STA. 256+55.00 TO STA. 261+66.50 = 511.50 LIN. FT.

FOR PAVEMENT LEGEND
SEE SHEET 10.



TYPICAL No. 9

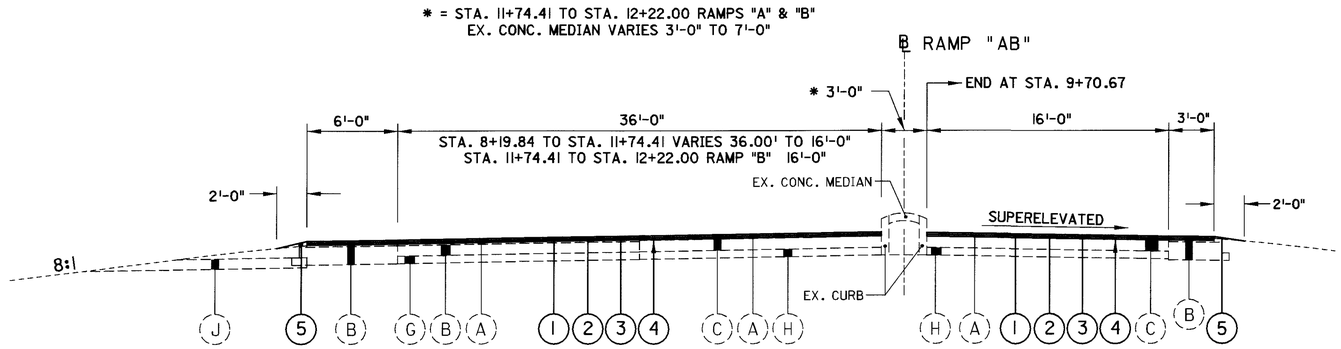
RAMPS
SUPERELEVATED SECTION

LIMITING STATIONS						
LOCATON	STATION TO STATION		LENGTH	*	+	**
HOKE RD.						
RAMP "A"	2+41.97	10+00.00	758.03'	16'	10'-0"	3'-0"
RAMP "B"(OPP. HAND)	12+41.82	21+36.68	894.86	16'	10'-0"	3'-0"
S.R. 48						
RAMP "A"(OPP. HAND)	6+67.03	7+45.74	78.71'	16' to 14'	EX. 6" CURB	EX. 6" CURB
	12+22.00	15+42.14	320.14'	16'	3'-0"	3'-0"
RAMP "B"	12+22.00	17+50.55	528.55	16'	6'-0"	3'-0"
	17+50.55	18+50.55	100'	16'	6'-0" TO 8'-0"	3'-0"
RAMP "C"(OPP. HAND)	8+00	9+94.44	194.44'	16'	8'-0" to 3'-0"	3'-0"
	STATION EQUATION STA. 9+94.44 BACK = STA. 10+20.58 AHEAD					
	10+20.58	12+42.69	222.11	16'	3'-0"	3'-0"
RAMP "E"	8+36.31	9+79.50	142.59	16'	3'-0"	EX. 6" CURB
	9+79.50	10+13.97	34.47'	16'	3'-0"	8'-0"

CALCULATED | CHECKED

TYPICAL SECTIONS

MOT-70-6.49



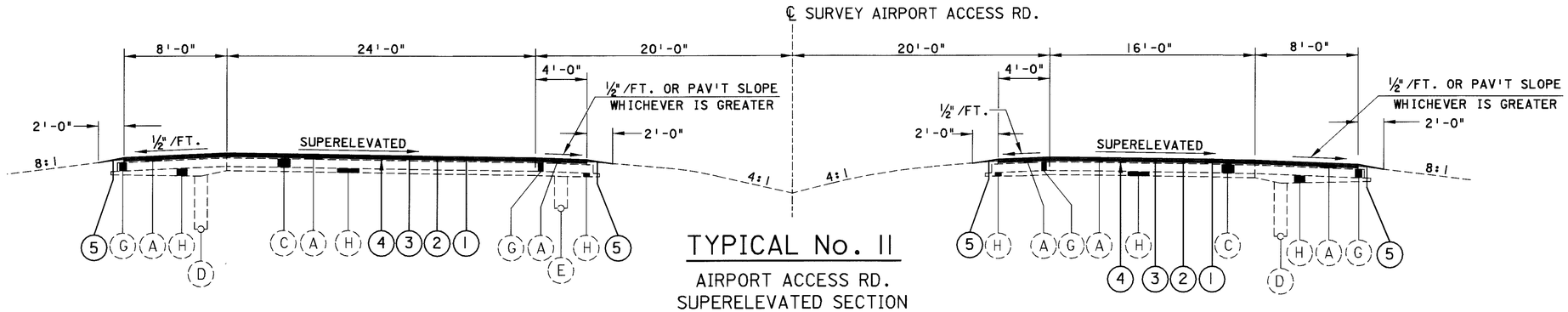
TYPICAL No. 10

RAMP "AB", RAMP "A", RAMP "B"
SUPERELEVATED TWO-WAY RAMP SECTION
LIMITING STATIONS

RAMP "AB" STA. 7+87.50 TO STA. 11+74.41 = 386.91 LIN. FT.

(RAMP "A" Sta. 11+74.41 to Sta. 12+22.00
RAMP "B" Sta. 11+74.41 to Sta. 12+22.00) = 47.59 LIN. FT.

FOR PAVEMENT LEGEND
SEE SHEET 10.



TYPICAL No. 11

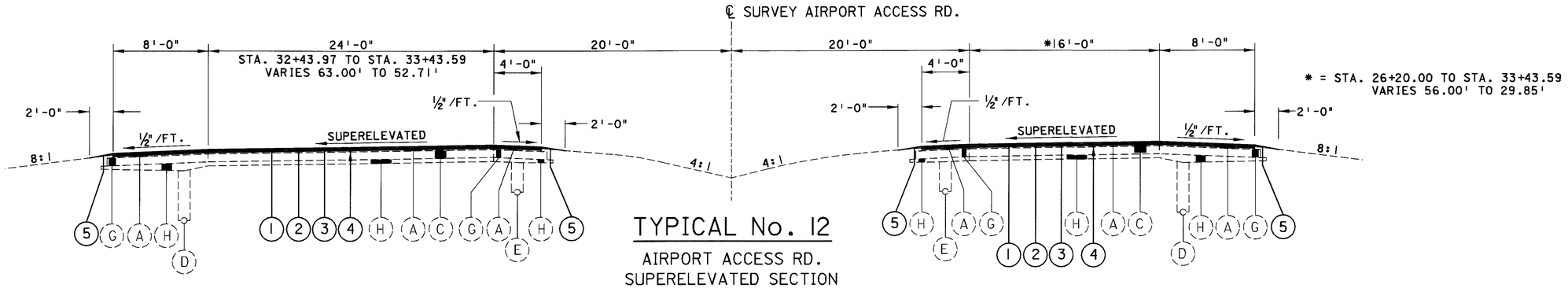
AIRPORT ACCESS RD.
SUPERELEVATED SECTION
LIMITING STATIONS

STA. 7+81.67 TO STA. 18+33.31 = 1051.64 LIN. FT.
STA. 18+33.31 TO STA. 21+62.81 = BRIDGE NO. MOT-70-1433 L & R, APPROACH SLABS AND TRANSITIONS

CALCULATED
CHECKED

TYPICAL SECTIONS

MOT-70-6.49

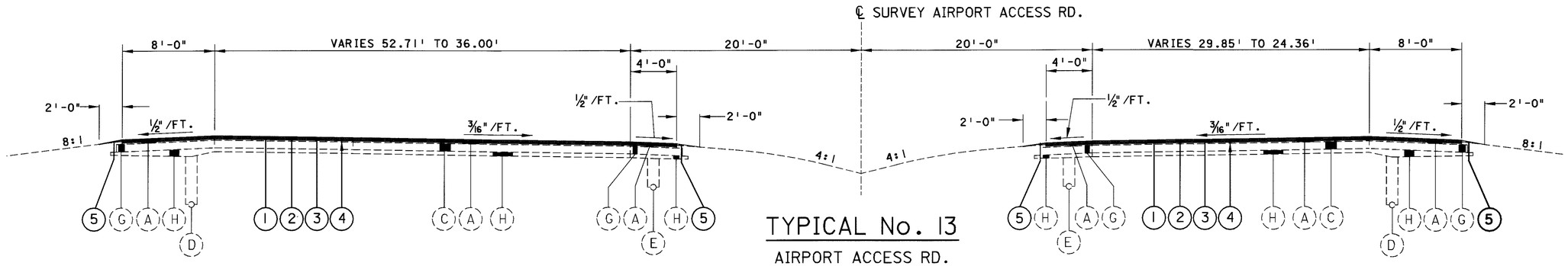


TYPICAL No. 12

AIRPORT ACCESS RD.
SUPERELEVATED SECTION
LIMITING STATIONS

STA. 21+62.81 TO STA. 33+43.59 = 1180.78 LIN. FT.

FOR PAVEMENT LEGEND
SEE SHEET 10.



TYPICAL No. 13

AIRPORT ACCESS RD.
NORMAL SECTION
LIMITING STATIONS

STA. 33+43.59 TO STA. 37+00.00 = 356.41 LIN. FT.

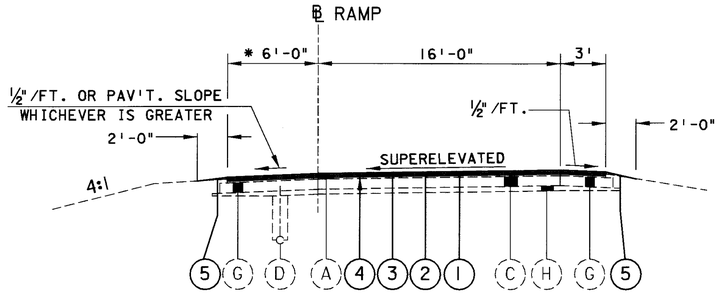
CALCULATED | CHECKED

TYPICAL SECTIONS

MOT-70-6.49

13
201

* = VARIES 8'-0" TO 6'-0"
RAMP "E" STA. 746+57.66 TO STA. 747+83.55
RAMP "G" STA. 766+36.30 TO STA. 766+95.03

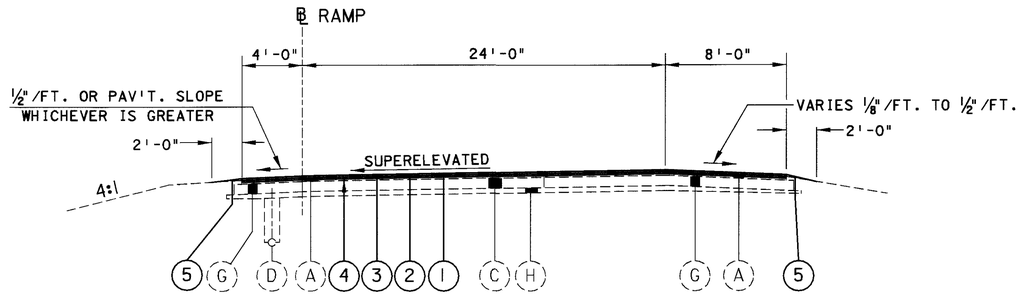


TYPICAL No. 14

AIRPORT ACCESS RD. RAMP "E" AND RAMP "G"
SUPERELEVATED SECTION

RAMP "E" STA. 746+57.66 TO STA. 758+12.53 = 1154.87 LIN. FT.
RAMP "G" STA. 766+73.80 TO STA. 775+60.34 = 886.54 LIN. FT. (OPPOSITE HAND)

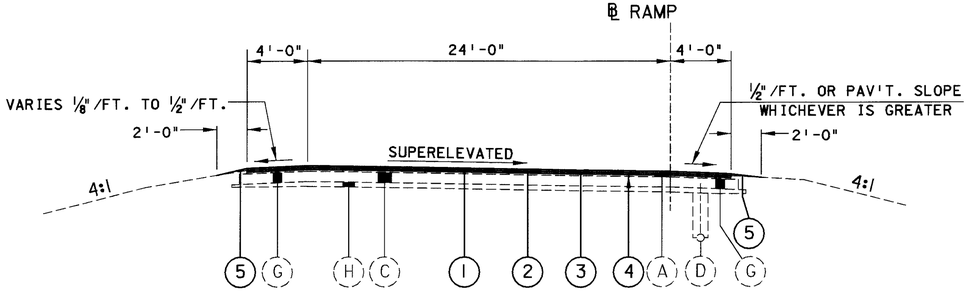
FOR PAVEMENT LEGEND
SEE SHEET 10.



TYPICAL No. 15

AIRPORT ACCESS RD. RAMP "H"
SUPERELEVATED SECTION

RAMP "H" STA. 764+98.33 TO STA. 772+63.06 = 764.73 LIN. FT.



TYPICAL No. 16

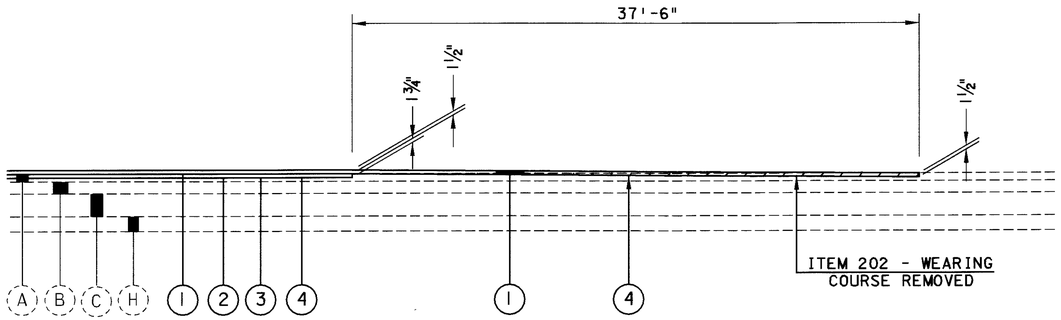
AIRPORT ACCESS RD. RAMP "H"
SUPERELEVATED SECTION

RAMP "H" STA. 772+63.06 TO STA. 780+65.00 = 801.94 LIN. FT.

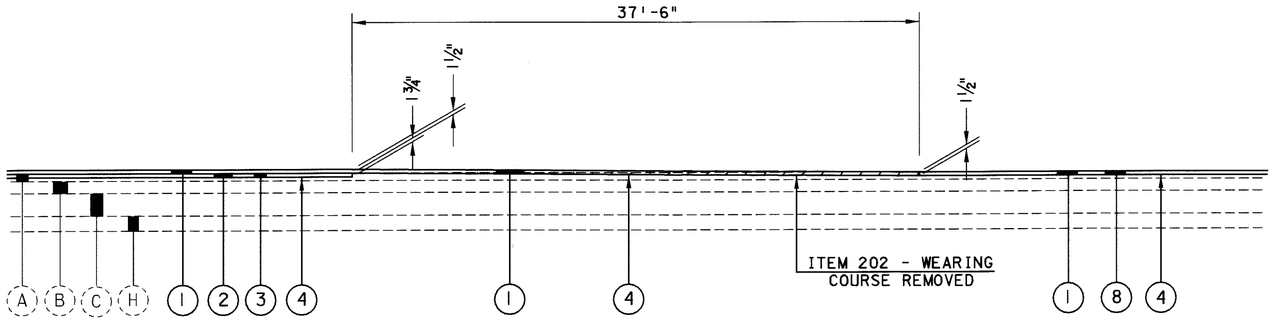
CALCULATED | CHECKED

TYPICAL SECTIONS

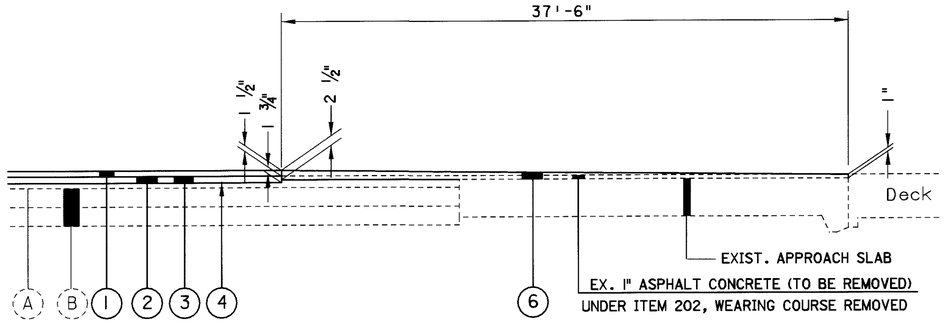
MOT-70-6.49



TRANSITION DETAIL "A"

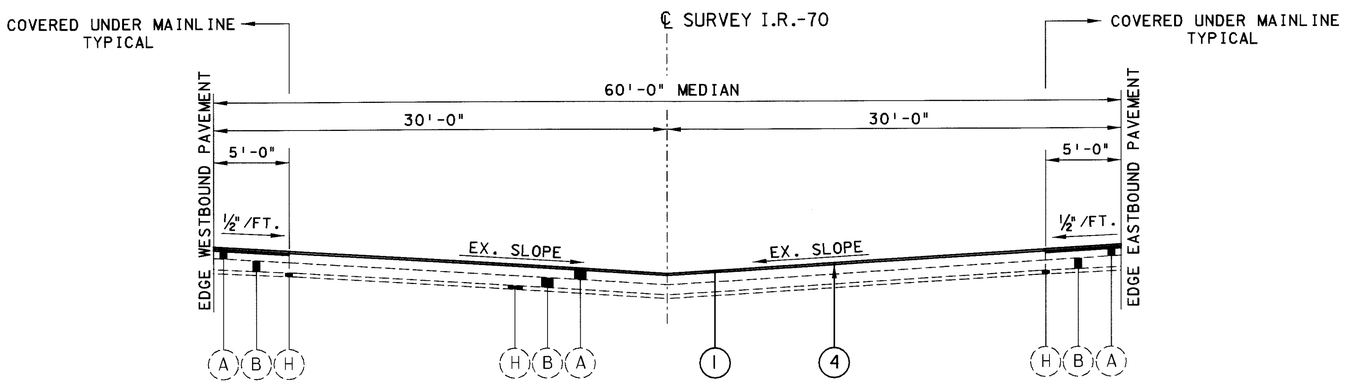


TRANSITION DETAIL "B"



TRANSITION DETAIL "C"

FOR PAVEMENT LEGEND
SEE SHEET 10.



TYPICAL MEDIAN U-TURN

PAVEMENT SYMBOLS

— TRANSITION AREA (SEE TRANSITION DETAIL)

— ITEM 254 1½" PAVEMENT PLANNING, BITUMINOUS WITH
ITEM 446 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE 1H
ON ITEM 407 TACK COAT ON EXISTING PAVEMENT.

CALCULATED | CHECKED

TRANSITION DETAILS AND TYPICAL MEDIAN U-TURN

MOT-70-6.49

UTILITIES

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

TELEPHONE

AMERITECH
3233 WOODMAN DRIVE
DAYTON, OHIO 45420
PH: (937)-296-3604
GARY LEIS

ELECTRIC

DAYTON POWER AND LIGHT
COURTHOUSE PLAZA, SW
P.O. BOX 1247
DAYTON, OHIO 45401
PH: (937)-331-4491
NORMAN RUPPERT

GAS

DAYTON POWER AND LIGHT
COURTHOUSE PLAZA, SW
P.O. BOX 1247
DAYTON, OHIO 45401
PH: (937)-331-4491
NORMAN RUPPERT

CABLE TV

MEDIA ONE
4233 DISPLAY LANE
KETTERING, OHIO 45429
PH: (937)-294-6800
FRANK MINNICK

WATER AND SANITARY

MONTGOMERY COUNTY
SANITARY ENGINEERING DEPARTMENT
4221 LAMME ROAD
DAYTON, OHIO 45439-2799
PH: (937)-496-7020
JUDY HOLTVOGT

TRAFFIC SIGNALS

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT SEVEN
1001 ST. MARYS AVE.
SIDNEY, OHIO 45365
PH: 492-1141
PHIL STORMER

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

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

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. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

REMOVAL OF TREES AND STUMPS

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

SIZES	NO. TREES	NO. STUMPS	TOTAL
18" 30" 48" 60"	NONE		

CONTROL OF SPILLS

SPILLS OF FUELS, OILS, CHEMICALS OR OTHER MATERIAL WHICH COULD POSE A THREAT TO GROUNDWATER SHALL BE CLEANED UP IMMEDIATELY BY THE CONTRACTOR. IF SPILL IS A REPORTABLE AMOUNT THE CONTRACTOR SHOULD CONTACT THE COUNTY SHERIFF'S OFFICE BY DIALING 911, FOR CLEAN UP OF THE SPILL. USE OF CHEMICALS AND REFUELING ACTIVITIES SHALL BE CAREFULLY CONTROLLED TO MINIMIZE THE POTENTIAL FOR SPILLS.

STREAM CHANNEL EXCAVATION

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

DEMOLITION DEBRIS

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

INSTREAM WORK

INSTREAM WORK WILL BE LIMITED WHERE PRACTICABLE AND ONLY CLEAN NON-ERODIBLE MATERIAL WILL BE USED FOR FORDS OR COFFERDAMS. THIS TEMPORARY PLACED MATERIAL WILL BE REMOVED AND THE STREAM BOTTOM RESTORED TO NEAR NATURAL CONDITIONS WHEN THE WORK IS COMPLETED.

ITEM 603 - CORRUGATED STEEL PIPE ARCH, FIELD PAVING OF EXISTING PIPE, AS PER PLAN

THIS ITEM OF WORK SHALL INCLUDE: THE REMOVAL OF ALL DIRT AND DEBRIS FROM INSIDE THE STRUCTURE, EQUIPMENT, LABOR, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS DETAILED IN THESE PLANS.THE BOTTOM OF THE CONDUIT SHALL BE FIELD PAVED WITH CLASS "C" PORTLAND CEMENT CONCRETE. THE PAVING SHALL BE REINFORCED WITH #4 STEEL BARS AND 6 GAUGE WIRE MESH HAVING OPENINGS OF 6' X 6" (OR COMPARABLE) AS PER 709.10 OR 709.11. THE MESH SHALL BE GALVANIZED AS PER 709.08 AND HAVE A WIDTH 4" LESS THAN THE FINISHED PAVING. THE #4 STEEL BARS ARE TO SECURELY WELDED TO THE EXISTING BOLT LINE OR TO THE TOP OF THE CORRUGATION. THE MESH SHALL BE CAREFULLY FASTENED TO THE CONDUIT BY TACK WELDING, OR ANOTHER METHOD APPROVED BY THE ENGINEER. THE MESH SHALL BE CAREFULLY SECURED NEAR EACH EDGE AND AT THE CENTER OF THE MESH POINTS NOT MORE THAN FOUR FEET APART ALONG THE FLOWLINE OF THE CONDUIT.

THE CONCRETE PAVING SHALL BE 3" THICK MEASURED FROM THE TOP OF THE CORRUGATIONS OF THE CONDUIT. AFTER PLACING, THE CONCRETE SHALL BE STRUCK OFF WITH A TEMPLATE TO PRODUCE THE PROPER RADIUS AND FINISHED WITH A FLOAT TO PRODUCE A SMOOTH FINISH. THE CURING OF THE CONCRETE SHALL BE IN ACCORDANCE WITH 451.10.

THE COST OF THE PAVING MATERIAL, WIRE MESH, #4 STEEL BARS, LABOR AND EQUIPMENT NEEDED TO COMPLETE THIS ITEM OF WORK SHALL BE INCLUDED IN THE UNIT PRICE BID MEASURED IN LINEAL FEET FOR ITEM 603 - CORRUGATED STEEL PIPE ARCH, FIELD PAVING OF EXISTING PIPE, AS PER PLAN.

ITEM 659, SEEDING AND MULCHING, AS PER PLAN

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER FOR THE REPAIR TO ORIGINAL CONDITION OF THE AREAS DISTURBED BY THE WORK. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO CONFINE THE WORK IN ORDER TO MINIMIZE THE DAMAGED AREAS.

ITEM 659, SEEDING AND MULCHING, AS PER PLAN	2000 SQ. YD.
ITEM 659, COMMERCIAL FERTILIZER	0.2 TON

WATERING PERMANENT SEEDED AREAS

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED, AS DIRECTED BY THE ENGINEER, TO PROMOTE GROWTH AND CARE FOR THE PERMANENT SEEDED AREAS, AS PER 659.09:

ITEM 659, WATER	0.3 M GAL.

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES:

ITEM 877, TEMPORARY SEEDING AND MULCHING	400 SQ. YD.
ITEM 877, TEMPORARY PERIMETER FILTER FABRIC FENCE	600 LIN. FT.
ITEM 659, REPAIR SEEDING AND MULCHING	100 SQ. YD.
ITEM 659, COMMERCIAL FERTILIZER	0.10 TON

ITEM 407, TACK COAT

THE RATE OF APPLICATION OF THE 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.075 GALLON PER SQUARE YARD OF TACK COAT FOR ESTIMATING PURPOSES ONLY.

ITEM 203, LINEAR GRADING

GRADED SHOULDERS AT LOCATIONS WERE EXISTING GUARDRAIL IS REMOVED, OR WHERE NEW GUARDRAIL IS TO BE ERECTED, SHALL BE RESHAPED AS DIRECTED BY THE ENGINEER TO INSURE A SMOOTH DRAINABLE SURFACE FREEE OF ALL IRREGULARITES. EXCESS EXCAVATION RESULTING FROM RESHAPING SHOULDERS SHALL BE DISPOSED OF AS DIRECTED BY THE ENGINEER. PAYMENT FOR RESHAPING GRADED SHOULDERS AS DESCRIBED SHALL BE INCLUDED IN THE CONTRACT PRICE PER STATION FOR ITEM 203, LINEAR GRADING.

ITEM 202, GUARDRAIL REMOVED FOR STORAGE

THE CONTRACTOR SHALL CAREFULLY REMOVE AND STORE GUARDRAIL WITHIN THE RIGHT OF WAY ON THIS PROJECT. THE CONTRACTOR SHALL CONTACT THE MONTGOMERY COUNTY HIGHWAY MANAGER FOR GUARDRAIL TO BE PICKED UP BY STATE FORCES.

PROFILE AND ALIGNMENT FOR RESURFACING PROJECTS

THE PROPOSED PAVEMENT RESURFACING SHALL FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. THE PROPOSED ASPHALT CONCRETE OVERLAY SHALL HAVE A UNIFORM THICKNESS OF 3 1/4" WITH 1 3/4" PAVEMENT PLANNING OF THE EXISTING ASPHALT CONCRETE AS SHOWN OF THE TYPICAL SECTIONS

THE EXISITNG VERTICAL ALIGNMENT HAS BEEN EXAMINED AND MEETS DESIGN SPEED CRITERIA.

CONSTRUCTION PLANS, SHOWING THE ORIGINAL ALIGNMENT AND PROFILE, ARE AVAILABLE FOR INSPECTION AT THE DISTRICT 7 OFFICE.

MOT-70-2.73 (1962)
MOT-70-5.98 (1958)
MOT-49-12.45
MOT-70-11.07 (1956)
MOT-70-13.87 (1983)
MOT-70-14.20 (1980)
MOT-70-11.02 (1982)

ITEM 202, RAISED PAVEMENT MARKERS REMOVED FOR STORAGE

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE PLANS TO REMOVE RAISED PAVEMENT MARKERS FOR STORAGE. THE MONTGOMERY COUNTY MANAGER SHALL BE CONTACTED FOR INSTRUCTIONS ON WHERE TO DELIVER THE RAISED PAVEMENT MARKERS.

ITEM 202, RAISED PAVEMENT MARKERS REMOVED FOR STORAGE	962 EACH

CONNECTION BETWEEN EXISITNG AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED OR PUNCHED. THE CONNECTION SHALL BE MADE USING A "W-BEAM RAIL SPLICE" AS SHOWN ON STANDARD CONSTRUCTION DRAWING GR-1.IM. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

ITEM 252, FULL DEPTH RIGID PAVEMENT REMOVAL AND FLEXIBLE REPLACEMENT

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE PLANS TO REPLACE DETERIORATED AREAS OF PAVEMENT ON THE RAMPS AND MAINLINE ROADWAY WITHIN THE PROJECT LIMITS TO BE USED AS DIRECTED BY THE ENGINEER:

ITEM 252, FULL DEPTH RIGID PAVEMENT REMOVAL AND FLEXIBLE REPLACEMENT	160 CU. YD.
ITEM 255, FULL DEPTH PAVEMENT SAWING	720 LIN. FT.

CROSSINGS AND CONNECTORS TO EXISTING PIPES AND UTILITIES

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

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

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED, AS SHOWN IN 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 AND EXISTING UTILITY.

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

CALCULATED | CHECKED

GENERAL NOTES

MOT-70-6.49

ITEM 632, DETECTOR LOOP

DURING THE COURSE OF THIS CONTRACT, IT MAY BE NECESSARY FOR THE CONTRACTOR TO COORDINATE LOOP DETECTOR WORK WITH THE DISTRICT ROADWAY SERVICES ENGINEER AND OTHER CONTRACTORS INVOLVED WITH ASPHALT PLANING AND RESURFACING PROJECTS. THE INTENT OF THIS WORK IS TO REPLACE LOOP DETECTORS REMOVED BY ASPHALT PLANING OPERATIONS AND THE INSTALLATION OF NEW LOOP DETECTORS PRIOR TO ASPHALT RESURFACING.

THE DISTRICT TRAFFIC ENGINEER WILL SUBMIT TO THE CONTRACTOR A SET OF PLANS SHOWING THE LOCATION OF THE LOOPS TO BE REPLACED AND THE ESTIMATE DATE WHEN LOOP WORK CAN BE PERFORMED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE ASPHALT PLANING/PAVING CONTRACTOR(S) TO CORDINATE ALL NECESSARY WORK. THE CONTRACTOR SHALL COMPLETE THE LOOP REPLACEMENTS WITHIN (3) DAYS FOLLOWING THE COMPLETION OF THE ASPHALT PLANING OPERATIONS IN THE AREA OF THE LOOP REPLACEMENT.

ITEM 632, DETECTOR LOOP

THIS WORK SHALL CONSIST OF MAKING CONNECTIONS TO EXISTING LOOP DECTOR LEAD-IN WIRE, WHETHER THAT WIRE IS UNDERGROUND OR AERIAL. INCLUDED IN THIS ITEM IS THE CONNECTOR KIT OR CABLE SPLICE KIT (CONFORMING TO 713.15) THAT MUST BE USED IN MAKING THESE CONNECTIONS.

THIS ITEM IS NEEDED ONLY WHEN A TIE-IN SITUATION EXISTS. WHEN ALL NEW LEAD-IN WIRE IS SPECIFIED IN THE PLAN, THIS ITEM OF WORK IS NOT REQUIRED.

PAYMENT FOR THIS ITEM WILL INCLUDE ALL NECESSARY LABOR, MISCELLANEOUS HARDWARE AND EQUIPMENT REQUIRED TO PROVIDE FOR THE LOOP DETECTOR TIE-IN AND OPERATION. BASIS OF PAYMENT WILL BE AT THE CONTRACT BID PRICE PER EACH.

ITEM 606, ANCHOR ASSEMBLY, TYPE B-98

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

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

   THE LENGTH OF THE SRT-350 SYSTEM IS CONSIDERED 37.5', INCLUSIVE OF THREE 12'-6" LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

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

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

   THE LENGTH OF THE FLEAT-350 IS CONSIDERED TO BE 37.5', INCLUSIVE OF THREE 12'-6" LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

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

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

THE FACE OF THE TYPE B-98 IMPACT HEAD SHALL BE COVERED WITH TYPE G REFLECTIVE SHEETING, PER CMS 730.19: APPROXIMATELY 36" W × 12" H FOR THE SRT-350 AND 13 3/4" W × 19 3/4" 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 AND GRADING, NOT SEPERATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM 606, IMPACT ATTENUATOR, TYPE I-98 (UNIDIRECTIONAL OR BIDIRECTIONAL)

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

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

1. THE LENGTH OF THE C-A-T SYSTEM IS CONSIDERED TO BE 31.25' LONG. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG #	DRAWING NAME	DWG/REV. DATE	ODOT APPROVAL DATE
SS245M	CRASH-CUSHION ATTENTUATING TERMINAL PLAN, ELEVATION & SECTIONS FOR USE AS A LONGITUDINAL MEDIAN BARRIER TERMINAL OR CRASH CUSHION ATTENUATOR	4/10/97	3/6/98
SS244M	C-A-T- TRANSITION TO MEDIAN BARRIER GUARDRAIL PLAN, ELEVATION & SECTION	4/26/96	3/6/98
SS246M	C-A-T- TRANSITION TO VERTICAL WALL OR PIER PLAN, ELEVATION & SECTION	4/26/96	3/6/98

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

   THE LENGTH OF THE BRAKEMASTER SYSTEM IS CONSIDERED TO BE 32.66' LONG. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS.

DWG #	DRAWING NAME	DWG/REV. DATE	ODOT APPROVAL DATE
92-00-01	BRAKEMASTER GENERAL ASSEMBLY (UNIDIRECTIONAL SYSTEM)	3/6/97	3/6/98
92-00-81	BRAKEMASTER (UNIDIRECTIONAL) WITH FOUNDATION TUBES	2/9/98	3/6/98
92-00-02	BRAKEMASTER GENERAL ASSEMBLY (BIDIRECTIONAL SYSTEM)	3/10/97	3/6/98
92-00-81	BRAKEMASTER (BIDIRECTIONAL) WITH FOUNDATION TUBES	2/9/98	3/6/98
9202024-0000	ANCHOR ASSEMBLY, FOUNDATION TUBE, 6 1/2FT., BRS	3/12/97	3/6/98

THE FACE OF THE TYPE I-98 IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19, APPROXIMATELY 3.0' W × 1.0' H. PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT BID PRICE FOR ITEM 606, IMPACT ATTENUATOR, TYPE I-98 [(UNIDIRECTIONAL OR BIDIRECTIONAL)], EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, HARDWARE, REFLECTIVE SHEETING AND GRADING, NOT SEPERATELY 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.

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

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

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

   THE LENGTH OF THE SKT-350 SYSTEM IS CONSIDERED TO BE 50.0', 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 #	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 TYPE G REFLECTIVE SHEETING, PER CMS 730.19: APPROXIMATELY 1'-6" X 1'-6".

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

ITEM 606, IMPACT ATTENUATOR, TYPE 2-98 (UNIDIRECTIONAL OR BIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING OF QUADGUARD IMPACT ATTENUATORS MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC., ONE EAST WACKER DRIVE, CHICAGO, IL. 60601 (TELEPHONE: 312-467-6750)

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG #	DRAWING NAME	DWG/REV. DATE	ODOT APPROVAL DATE
QST SCVR-U	QuadGuard System with Tension Strut Backup	7/10/96	3/6/98
QCS BCVR-U	QuadGuard System with Concrete Backup	4/28/97	3/6/98

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, IMPACT ATTENUATOR, TYPE 2-98 [(2 - MODEL # QS2406Y), (BIDIRECTIONAL)] AND [(2 - MODEL # QS2408Y), (UNIDIRECTIONAL)], EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

CALCULATED | CHECKED

GENERAL NOTES

MOT-70-6.49

GENERAL REQUIREMENTS

IT IS THE INTENTION TO PERFORM THE REQUIRED WORK WITHIN THESE PLANS WITH THE LEAST INCONVENIENCE TO AND THE MAXIMUM SAFETY OF THE CONTRACTOR AND THE TRAVELING PUBLIC. THE REQUIREMENTS FOR MAINTAINING TRAFFIC AS SPECIFIED IN THE "OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" (CURRENT EDITION, LATEST REVISION), PERTINENT PROVISIONS OF THE "OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS" (INCLUDING SUPPLEMENTAL SPECIFICATIONS) AND APPLICABLE STANDARD DRAWINGS SHALL APPLY TO THIS PROJECT IN ADDITION TO THE FOLLOWING NOTES AND DETAILS.

ITEM 614, MAINTAINING TRAFFIC

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING SAFE AND EFFECTIVE TRAFFIC CONTROL 24 HOURS A DAY FOR THE DURATION OF THIS PROJECT. THIS WILL INCLUDE PROVIDING, PLACING, MAINTAINING AND SUBSEQUENTLY REMOVING ALL NECESSARY TRAFFIC CONTROL MEASURES FOR ALL PROPOSED CONSTRUCTION OPERATIONS ON IR-70.

BEFORE ANY WORK BEGINS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER THE NAME(S) AND TELEPHONE NUMBER(S) OF A PERSON OR PERSONS WHO CAN BE CONTACTED TWENTY-FOUR (24) HOURS A DAY BY THE OHIO DEPARTMENT OF TRANSPORTATION, THE HIGHWAY PATROL OR ANY OTHER INTERESTED POLICE AGENCY.

THIS PERSON(S) SHALL BE RESPONSIBLE FOR REPAIRING AND/OR REPLACING ALL TRAFFIC CONTROL DEVICES NEEDED TO MAINTAIN THE SAFETY OF THE TRAVELED PAVEMENT FOR THE DURATION OF THIS PROJECT. THIS PERSON(S) SHALL HAVE AVAILABLE ALL MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY TO PERFORM THE REQUIRED REPAIRS WITHIN A REASONABLE PERIOD OF TIME AS PER C.M.S. 614.04.

THE CONTRACTOR WILL BE REQUIRED TO PROVIDE, ERECT, MAINTAIN (IN PROPER POSITION, CLEAN AND LEGIBLE, AND IN GOOD WORKING CONDITION) AND REMOVE ALL LIGHTS, SIGNS, CONES, DRUMS AND ANY OTHER TRAFFIC CONTROL DEVICES NECESSARY FOR THE MAINTENANCE OF TRAFFIC ACCORDING TO PLAN NOTES AND DETAILS.

THE ORIGINAL LOCATION, PLACEMENT, SPACING AND SUBSEQUENT RELOCATION OR REMOVAL OF ALL TRAFFIC CONTROL DEVICES SHALL BE SUBJECT TO THE ENGINEERS APPROVAL.

THRU TRAFFIC SHALL BE MAINTAINED IN A UNIFORM PATTERN THROUGHOUT THE ENTIRE LENGTH OF THE PROJECT AND SHALL NOT BE SUBJECTED TO CONSTANT LANE SHIFTS.

IT IS INTENDED THAT THE TRAFFIC NOT BE SUBJECTED TO ANY LANE CLOSURE UNLESS ACTIVE WORK IS BEING PERFORMED IN OR IMMEDIATELY ADJACENT TO THE CLOSED LANE. THE ROADWAY SHALL NOT BE RESTRICTED TO ANY LANE CLOSURE DURING PERIODS ON INTERMITTENT OR IRREGULAR WORK, NOR CLOSED SOLELY FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER SHALL MAKE THE FINAL DETERMINATION AS TO WHAT CONSTITUTES ACTIVE WORK AND WHETHER OR NOT THE LANE CLOSURE IS JUSTIFIED.

IF IN THE OPINION OF THE ENGINEER THE LANE CLOSURE IS NOT JUSTIFIED HE MAY ORDER ALL OR PART OF THE LANE CLOSURE REOPENED TO TRAFFIC UNTIL SUCH TIME THIS CONDITION IS CORRECTED.

THE CONTRACTOR SHALL FURNISH AND INSTALL ADVANCE WARNING "ROAD CONSTRUCTION AHEAD" (OW-128) SIGNS AND "END CONSTRUCTION" (OC-8) SIGNS ON I.R.-70. THE SIGNS SHALL BE DUAL INSTALLATIONS AND THE ACTUAL LOCATION SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER. THE CONTRACTOR SHALL ALSO FURNISH 4 ADDITIONAL SETS OF ADVANCE WARNING "ROAD CONSTRUCTION AHEAD" (OW-128) TO BE USED AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL PERFORM ALL CONSTRUCTION OPERATIONS SO AS TO PRECLUDE ANY UNNECESSARY INTERFERENCE TO THE NORMAL FLOW OF TRAFFIC.

TRAFFIC ON IR-70 SHALL BE MAINTAINED AS SHOWN IN THE DETAILS WITHIN THESE PLANS, STANDARD CONSTRUCTION DRAWINGS, OR AS DIRECTED BY THE ENGINEER

VEHICLES AND OTHER EQUIPMENT SHALL NOT BE PERMITTED TO STOP OR TO BE PARKED ALONG THE ROADWAY EXCEPT WITHIN DESIGNATED WORK AREAS AND SHALL NOT ENTER OR LEAVE WORK AREAS IN A MANNER WHICH WILL BE HAZARDOUS TO, OR INTERFERE WITH THE NORMAL FLOW OF TRAFFIC. PERSONAL VEHICLES WILL NOT BE PERMITTED TO PARK WITHIN THE RIGHT-OR-WAY EXCEPT WITHIN SPECIFIC AREAS DESIGNATED BY THE ENGINEER.

THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY INTENDED CHANGES TO ANY EXISTING OR TEMPORARY TRAFFIC CONTROL DEVICES AND SHALL OBTAIN THE ENGINEER'S APPROVAL PRIOR TO MAKING THE CHANGES. THE CONTRACTOR SHALL ALSO NOTIFY THE ENGINEER FORTY-EIGHT (48) HOURS IN ADVANCE OF ANY INTENDED LANE CLOSURES, OR LANE SHIFTS.

ACCESS TO AND FROM ALL RAMPS WITHIN THE LIMITS OF THIS PROJECT SHALL BE MAINTAINED AT ALL TIMES ON EITHER THE EXISTING OR PROPOSED RAMP PAVEMENTS, UNLESS OTHERWISE SHOWN IN THESE PLANS OR OTHERWISE DIRECTED BY THE ENGINEER.

UNLESS OTHERWISE NOTED IN THESE PLANS, THE STANDARD CHANNELIZING DEVICE FOR CLOSING ANY LANES TO TRAFFIC SHALL BE PROPERLY WEIGHTED AND REFLECTORIZED PLASTIC DRUMS LOCATED AND SPACED ACCORDING TO APPLICABLE STANDARD DRAWINGS OR PLAN NOTES AND DETAILS.

ALL PAVEMENT OPERATIONS AND BRIDGE OPERATIONS WHICH INVOLVE CLOSING OF A LANE ASSOCIATED WITH THESE PLANS SHALL BE PERFORMED DURING A NIGHT TIME SHIFT BETWEEN THE HOURS OF 10:00 PM AND 6:00 AM, MONDAY NIGHT THRU FRIDAY MORNING ALL LANES SHALL BE OPENED TO THE TRAVELING PUBLIC DURING THE DAYTIME OPERATIONS OF THESE PLANS. SHORT LENGTH MAINTENANCE CLOSURES 9:00 AM TO 2:30 PM MONDAY THRU THURSDAY.

PUBLIC DURING THE DAYTIME OPERATIONS OF THESE PLANS.
A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED ON IR-70 DURING THE GRINDING AND RESURFACING OF THE INSIDE AND OUTSIDE LANES.

A MINIMUM LANE WIDTH OF 12 FEET SHALL BE PROVIDED FOR THE MAINTENANCE OF TRAFFIC PURPOSES AT ALL TIMES UNLESS OTHERWISE SHOWN IN THESE PLANS OR OTHERWISE DIRECTED BY THE ENGINEER.

THE CONTRACTOR RESPONSIBLE FOR MAINTAINING THE TRAFFIC SIGNALS LOCATED WITHIN THE LIMITS OF THIS PROJECT.

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

NEW YEARS	LABOR DAY
MEMORIAL DAY	THANKSGIVING
DAYTON AIR SHOW	CHRISTMAS
FOURTH OF JULY	

THE PERIOD OF TIME THAT THE LANES ARE TO 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:

WEEK DAY	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00 NOON FRIDAY THROUGH 12:00 NOON MONDAY
MONDAY	12:00 NOON FRIDAY THROUGH 12:00 NOON TUESDAY
TUESDAY	12:00 NOON MONDAY THROUGH 12:00 NOON WEDNESDAY
WEDNESDAY	12:00 NOON TUESDAY THROUGH 12:00 NOON THURSDAY
THURSDAY	12:00 NOON WEDNESDAY THROUGH 12:00 NOON MONDAY
FRIDAY	12:00 NOON THURSDAY THROUGH 12:00 NOON MONDAY
SATURDAY	12:00 NOON FRIDAY THROUGH 12:00 NOON 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.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO USED AS DIRECTED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC:

ITEM 614	BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC	30 CU. YD.

PAYMENT FOR ALL MAINTENANCE OF TRAFFIC EXCEPT FOR ITEMS DESIGNATED AS ITEM 614 BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC, ITEM 614 TEMPORARY PAVEMENT MARKING, ITEM 614 WORK ZONE SPEED LIMIT SIGN, ITEM 616 WATER, ITEM SPECIAL REPLACEMENT SIGNS AND ITEM SPECIAL REPLACEMENT DRUMS SHALL BE INCLUDED IN THE LUMP SUM ITEM 614 MAINTAINING TRAFFIC. ESTIMATED QUANTITIES CARRIED TO THE GENERAL SUMMARY

FOR ADDITIONAL TRAFFIC CONTROL DETAILS APPLICABLE TO THE THE MAINTENANCE OF TRAFFIC ON THIS PROJECT SEE STANDARD CONSTRUCTION DRAWINGS: MT-35.10M, MT-35.11M, MT-95.30M, MT-98.12M, MT-98.13M, MT-98.14M, MT-98.15M, MT-98.16M AND MT-98.17M.

ITEM SPECIAL REPLACEMENT SIGN

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

PAYMENT FOR THE NEW SIGNS SHALL BE MADE AT THE CONTRACT PRICE PER SQUARE METER FOR ITEM SPECIAL, REPLACEMENT SIGN, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF THE DAMAGED SIGNS, HARDWARE AND SUPPORTS, AND PROVIDING THE NECESSARY REPLACEMENT HARDWARE, SUPPORTS, ETC.

THE FOLLOWING ESTIMATED QUANTITY HAD BEEN PROVIDED IN THESE PLANS TO BE USED FOR THE MAINTENANCE OF TRAFFIC:

ITEM SPECIAL	REPLACEMENT SIGN	500 SQ. FT.

ITEM SPECIAL 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 SPECIAL, REPLACEMENT DRUM, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF THE DAMAGED DRUM, AND PROVIDING AND MAINTAINING THE REPLACEMENT DRUM IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS FOR THE ORIGINAL DRUM.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN PROVIDED IN THESE PLANS TO BE USED FOR THE MAINTENANCE OF TRAFFIC:

ITEM SPECIAL	REPLACEMENT DRUM	400 EACH

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 SIGNS AND SUPPORTS (R-10) (55 MPH) WITHIN THE WORK LIMITS IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS.

THE CONTRACTOR SHALL COVER OR REMOVE ANY EXISTING SPEED LIMIT OR MINIMUM SPEED SIGNS WITHIN THE REDUCED SPEED ZONE. THE 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 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 4 HOURS BEFORE THE ACTUAL START OF WORK. THE SIGNS SHALL BE REMOVED OR COVERED NO LATER THAN 4 HOURS FOLLOWING RESTORATION OF ALL LANES TO TRAFFIC WITH NO RESTRICTIONS, OR SOONER AS DIRECTED BY THE ENGINEER.

A SIGN(S) TO INDICATE THE RESUMPTION OF THE STATURORY SPEED LIMIT SHALL BE ERECTED AT THE END OF ANY REDUCED SPEED ZONE. R-10 SIGNS (55 MPH) SHALL BE USED ON UNDIVIDED ROADWAY. R-10 (65 MPH) AND R-9A SIGNS (55 MPH) SHALL BE USED ON DIVIDED ROADWAYS. WHEN USED THE R-10 AND R-9A SIGNS SHALL BE MOUNTED SIDE-BY-SIDE ON SEPERATE SUPPORTS.

THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED BUT GOOD CONDITION PROVIDED THE SIGNS MEET CURRENT ODOT SPECIFICATIONS. SIGN FACES SHALL BE REFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF 730.19 AND U.S. DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATION FOR TYPE III-C SHEETING, FP-85. WORK ZONE SPEED LIMIT SIGNS SHALL BE MOUNTED ON TWO (2) ITEM 630 GROUND MOUNTED SUPPORTS, NO. 3 POSTS.

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

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

ITEM 614,	WORK ZONE SPEED LIMIT SIGN	14 EACH

THE SIGNS WILL BE PLACED AT THE FOLLOWING LOCATIONS:

2 LOCATIONS - AT BEGINNING OF PROJECT ON EASTBOUND I-70
1 LOCATION - S.R.-49 (S.B.) RAMP ENTRANCE ON EASTBOUND I-70
1 LOCATION - RAMP A (HOKE RD.) ENTRANCE ON EASTBOUND I-70
1 LOCATION - RAMP E (S.R.-48) ENTRANCE ON EASTBOUND I-70
2 LOCATIONS - AT END OF PROJECT ON EASTBOUND I-70

2 LOCATIONS - AT BEGINNING OF PROJECT ON WESTBOUND I-70
1 LOCATION - S.R.-49 (N.B.) RAMP ENTRANCE ON WESTBOUND I-70
1 LOCATION - RAMP A (S.R.-48) ENTRANCE ON WESTBOUND I-70
1 LOCATION - RAMP E (A.A.R.) ENTRANCE ON WESTBOUND I-70
2 LOCATIONS - AT END OF PROJECT ON WESTBOUND I-70

CALCULATED | CHECKED

MAINTENANCE OF TRAFFIC NOTES

MOT-70-6.49

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WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TRAFFIC CONTROL AND TRAFFIC CONTROL DEVICES REQUIRED BY THE "OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" (CURRENT EDITION, LATEST REVISION) SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

EXISTING PAVEMENT MARKINGS

EXISTING PAVEMENT MARKINGS IN CONFLICT WITH THE MAINTENANCE OF TRAFFIC SCHEMES SHALL BE REMOVED BY THE CONTRACTOR. PAYMENT FOR THE REMOVAL OF EXISTING CONFLICTING PAVEMENT MARKINGS SHALL BE INCLUDED IN THE LUMP SUM PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

FLOODLIGHTING

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

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

GUARDRAIL REPLACEMENT

NO HAZARD SHALL BE LEFT UNPROTECTED EXCEPT FOR THE ACTUAL TIME NECESSARY TO REMOVE THE EXISTING GUARDRAIL, PREPARE THE SITE, AND INSTALL NEW GUARDRAIL IN A CONTINUOUS OPERATION. THE REMOVAL OF ALL GUARDRAIL SHALL AT ALL TIMES BE AS DIRECTED BY THE ENGINEER. NO GUARDRAIL SHALL BE REMOVE UNTIL THE REPLACEMENT MATERIAL IS ON THE SITE, READY FOR INSTALLATION. FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL BE DEEMED SUFFICIENT CAUSE TO ORDER WORK SUSPENDED UNTIL SUCH A TIME AS THE ENGINEER IS ASSURED OF COMPLIANCE.

ITEM 622-PORTABLE CONCRETE BARRIER

THE END TERMINALS FOR THE PORTABLE CONCRETE BARRIER ARE ALSO INCLUDED IN THE UNIT PRICE BID FOR ITEM 622 PORTABLE CONCRETE BARRIER.

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 THE APPROPRIATE PROPOSAL NOTE AND ITEM 626 EXCEPT THAT THE SPACING SHALL BE 25 FEET. AN ESTIMATED QUANTITY HAS BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY.

MAINTENANCE OF TRAFFIC TABLE

LOCATION	STATION		ITEM - 614									622
			TEMP. WHITE EDGE LINE, CLASS I	TEMP. YELLOW EDGE LINE, CLASS I	TEMP. WHITE LANE LINE, CLASS I	TEMP. 8" WHITE CHANNELIZING LINE, CLASS I	TEMP. 12" WHITE TRANSVERSE LINE, CLASS I	TEMP. 24" STOP LINE, CLASS I	TEMP. LANE ARROW	TEMP. WORD ON PAVEMENT, 96"	BARRIER REFLECTOR, TYPE B		PORTABLE CONCRETE BARRIER, 32"
	FROM	TO	MILE	MILE	MILE	LIN. FT.	METER	LIN. FT.			EACH		LIN. FT.
STRUCTURE MOT-70-0672 (RIGHT)	350+80	353+60									12		280
I.R-70, RAMPS AND AIRPORT ACCESS RD. TEMPORARY PAVEMENT MARKINGS FOR PAVING OPERATIONS	342+12.50	748+37.50	37.70	22.00	18.68	12757	4321	301	10	4			
TOTALS CARRIED TO GENERAL SUMMARY			59.70		18.68	12757	4321	301	10	4	12		280

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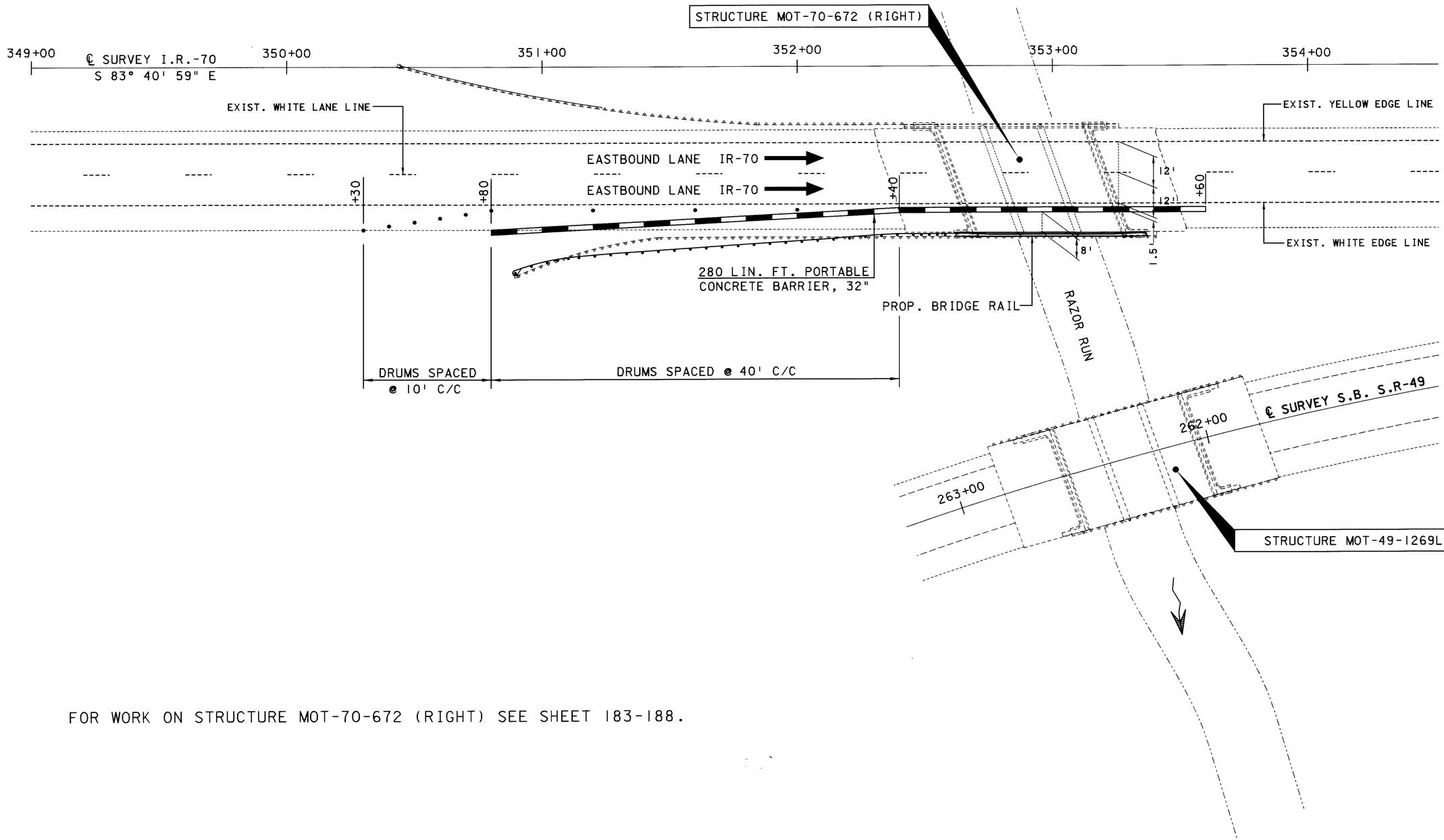
MAINTENANCE OF TRAFFIC NOTES

MOT-70-6.49



FOR WORK ON STRUCTURE MOT-70-672 (RIGHT) SEE SHEET 183-188.

HORIZONTAL SCALE IN FEET

CALCULATED

CHECKED

MAINTENANCE OF TRAFFIC DETAIL AT STRUCTURE MOT-70-0672 (RIGHT)

MOT-70-6.49

SHEET NUMBER											ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
16		18	19	25	29	30	31	32	111	165						
															ROADWAY	
LUMP											201	11000	LUMP		CLEARING AND GRUBBING	
				7567							202	23500	7567	SQ. YD.	WEARING COURSE REMOVED	
					91						202	30700	91	LIN. FT.	CONCRETE BARRIER REMOVED	
								55			202	32600	55	LIN. FT.	GUTTER REMOVED	
					320			68			202	35100	388	LIN. FT.	PIPE REMOVED, 24" AND UNDER	
					19418.25						202	38100	19418.25	LIN. FT.	GUARDRAIL REMOVED FOR STORAGE	
					75						202	42000	75	EACH	ANCHOR ASSEMBLY REMOVED, TYPE A	
962											202	54100	962	EACH	RAISED PAVEMENT MARKERS REMOVED FOR STORAGE	
					6						202	58100	6	EACH	CATCH BASIN REMOVED	
							2642	125			203	12000	125	CU. YD.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	
							966	307			203	20000	307	CU. YD.	EMBANKMENT	
					171						203	60000	171	STATION	LINEAR GRADING	
					19025.0			75			606	13000	19100.0	LIN. FT.	GUARDRAIL, TYPE 5	
					25			362.5			606	13050	387.5	LIN. FT.	GUARDRAIL, TYPE 5A	
					75						606	15500	75	LIN. FT.	GUARDRAIL, BARRIER DESIGN, TYPE 5	
					1			1			606	22000	2	EACH	ANCHOR ASSEMBLY, TYPE B-98	
					35			2			606	22010	37	EACH	ANCHOR ASSEMBLY, TYPE E-98	
					1			3			606	25000	4	EACH	ANCHOR ASSEMBLY, TYPE A	
					1						606	25500	1	EACH	ANCHOR ASSEMBLY, BARRIER DESIGN, TYPE A	
					27						606	26500	27	EACH	ANCHOR ASSEMBLY, TYPE T	
					34			2			606	35000	36	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
					1						606	35004	1	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1, BARRIER DESIGN	
					6						606	35100	6	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 2	
					6						606	35140	6	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 4	
					31						606	60000	31	EACH	IMPACT ATTENUATOR, TYPE 1-98 (UNIDIRECTIONAL)	
					2						606	60010	2	EACH	IMPACT ATTENUATOR, TYPE 1-98 (BIDIRECTIONAL)	
								2			606	60020	2	EACH	IMPACT ATTENUATOR, TYPE 2-98 MODEL No. QS2406Y (UNIDIRECTIONAL)	
					132.25						622	23300	132.25	LIN. FT.	CONCRETE BARRIER, TYPE A	
					82.7			340.5			622	24000	423.2	LIN. FT.	CONCRETE BARRIER, TYPE D	
					335						626	00100	335	EACH	BARRIER REFLECTOR, TYPE A	
					11						626	00200	11	EACH	BARRIER REFLECTOR, TYPE B	
								13			626	00300	13	EACH	BARRIER REFLECTOR, TYPE A2	
								6			626	00400	6	EACH	BARRIER REFLECTOR, TYPE B2	
										4	632	26500	4	EACH	LOOP DETECTOR	
										4	632	27201	4	EACH	LOOP DETECTOR TIE-IN, AS PER PLAN	
															PAVEMENT	
160											252	01002	160	CU. YD.	FULL DEPTH RIGID PAVEMENT REMOVAL AND FLEXIBLE REPLACEMENT	
					418884						254	01000	418884	SQ. YD.	PAVEMENT PLANING, BITUMINOUS	
720											255	20000	720	LIN. FT.	FULL DEPTH PAVEMENT SAWING	
					32115						407	10000	32115	GALLON	TACK COAT	
					20215						446	46040	20215	CU. YD.	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-28	
					17872						446	50000	17872	CU. YD.	ASPHALT CONCRETE SURFACE COURSE, TYPE 1H	
					1610						617	10100	1610	CU. YD.	COMPACTED AGGREGATE, TYPE A	
						129109	30150				618	40100	159259	LIN. FT.	RUMBLE STRIPS, TYPE 2 (ASPHALT)	

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GENERAL SUMMARY

MOT-70-6.49

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SHEET NUMBER											ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
16		18	19	25	29	30	31	32	111	165						
															DRAINAGE	
								3			601	10000	3	SQ. YD.	RIPRAP	
					30			48			603	04400	78	LIN. FT.	12" CONDUIT, TYPE B	
								26			603	04600	26	LIN. FT.	12" CONDUIT, TYPE C	
								36			603	04900	36	LIN. FT.	12" CONDUIT, TYPE D	
								252			603	06100	252	LIN. FT.	15" CONDUIT, TYPE C	
					3						604	01600	3	EACH	CATCH BASIN NO. 5	
								1			604	02800	1	EACH	CATCH BASIN NO. 8	
								3			604	04500	3	EACH	CATCH BASIN NO. 2-2B	
					642						603	96551	642	LIN. FT.	96" CONDUIT, CORRUGATED STEEL , FIELD PAVING OF EXISTING PIPE (3 PIPES X 214' LONG), AS PER PLAN	
					270						603	96551	270	LIN. FT.	139"X89" CONDUIT, CORRUGATED STEEL PIPE ARCH, FIELD PAVING OF EXISTING PIPE, AS PER PLAN	
					396						603	96551	396	LIN. FT.	161"X101" CONDUIT, CORRUGATED STEEL PIPE ARCH, FIELD PAVING OF EXISTING PIPE, AS PER PLAN (2 PIPES X 198' LONG)	
									484		603	96551	396	LIN. FT.	114"X77" CONDUIT, CORRUGATED STEEL PIPE ARCH, FIELD PAVING OF EXISTING PIPE, AS PER PLAN	
									63		603	98400	63	SQ. YD.	CONDUIT, MISC.; FIELD PLATING OF EXISITNG MULTI-PLATE ARCH, AS PER PLAN	
															EROSION CONTROL	
							30876	3304			659	10000	34180	SQ. YD.	SEEDING AND MULCHING	
2000											659	10001	2000	SQ. YD.	SEEDING AND MULCHING, AS PER PLAN	
0.3							2.8	0.3			659	20000	3.4	TON	COMMERCIAL FERTILIZER	
100											659	14000	100	SQ. YD.	REPAIR SEEDING AND MULCHING	
0.3											659	35000	0.3	M GAL.	WATER	
400											877	10000	400	SQ. YD.	TEMPORARY SEEDING AND MULCHING	
600											877	30100	600	LIN. FT.	TEMPORARY PERIMETER FILTER FABRIC FENCE	
															MAINTENANCE OF TRAFFIC	
		14									614	12470	14	EACH	WORK ZONE SPEED LIMIT SIGN	
		500									SPECIAL	61412500	500	SQ. FT.	REPLACEMENT SIGN	
		400									SPECIAL	61412600	400	EACH	REPLACEMENT DRUMS	
		30									614	13000	30	CU. YD.	BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC	
			12								614	13300	12	EACH	BARRIER REFLECTOR, TYPE B	
			18.68								614	20000	18.68	MILE	TEMPORARY LANE LINE, CLASS I	
			59.70								614	22000	59.70	MILE	TEMPORARY EDGE LINE, CLASS I	
			12757								614	23000	12757	LIN. FT.	TEMPORARY CHANNELIZING LINE, CLASS I	
			4321								614	25000	4321	LIN. FT.	TEMPORARY TRANSVERSE LINE, CLASS I	
			301								614	26000	301	LIN. FT.	TEMPORARY STOP LINE, CLASS I	
			10								614	30000	10	EACH	TEMPORARY LANE ARROW, CLASS I	
			4								614	31640	4	EACH	TEMPORARY WORD ON PAVEMENT, 96", CLASS I	
			280								622	40020	280	LIN. FT.	PORTABLE CONCRETE BARRIER, 32"	
											614	11000	LUMP		MAINTAINING TRAFFIC	
											623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
											624	10000	LUMP		MOBILIZATION	
											806	16010	5	MONTHS	FIELD OFFICE, TYPE B	
															FOR TRAFFIC CONTROL SUMMARY SEE SHEET *143*.	
															FOR BRIDGE SUMMARY SEE SHEET *182*.	

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GENERAL SUMMARY

MOT-70-6.49

LOCATION	STATION FROM	STATION TO	DESCRIPTION	SIDE	LENGTH	AVERAGE WIDTH PAVEMENT & BERM	SURFACE AREA	202 WEARING COURSE REMOVED		254 1½" PAVEMENT PLANING, BITUMINOUS	254 1¾" PAVEMENT PLANING, BITUMINOUS		407 TACK COAT 0.075 GALLON PER S.Y.		446 VARIABLE DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE 1H	446 VARIABLE DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE 1H	446 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE 1H		446 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-28		617 COMPACTED AGGREGATE, TYPE A VAR. 1½" TO 0"
							SQ. FT.	SQ. YD.		SQ. YD.	SQ. YD.		GALLON		INCHES	CU. YD.	CU. YD.		CU. YD.		CU. YD.
I.R. - 70	342+12.50	324+50.00	TRANSITION (A)	RIGHT	37.5'	39'	1463	163					12.2				6.8				0.7
	342+12.50	324+50.00	TRANSITION (A)	LEFT	37.5'	39'	1463	163					12.2				6.8				0.7
	342+50.00	352+07.45	RESURFACE	LEFT	957.45'	62.29'	59534				6615		496.1				275.6		321.6		17.7
	342+50.00	352+07.45	RESURFACE	RIGHT	957.45'	39.66'	37972				4219		316.4				175.8		205.1		17.7
	352+07.45	352+44.95	TRANSITION (C)	RIGHT	37.5'	40.13'	1505	167					12.5		1.75"	8.1					0.7
	352+07.45	352+44.95	TRANSITION (C)	LEFT	37.5'	57.65'	2162	240					18.0		1.75"	11.7					0.7
	353+05.05	353+42.55	TRANSITION (C)	RIGHT	37.5'	40.11'	1504	167					12.5		1.75"	8.1					0.7
	353+05.05	353+42.55	TRANSITION (C)	LEFT	37.5'	56.69'	2126	236					17.7		1.75"	11.5					0.7
	353+42.55	358+99.23	RESURFACE	RIGHT	556.68	37.87'	21079				2342		175.7				97.6		113.9		10.3
	353+42.55	357+39.96	RESURFACE	LEFT	397.41'	53.75'	21361				2373		178.0				98.9		115.4		7.4
	358+99.23	377+12.88	RESURFACE	RIGHT	1813.65	50.72'	91999				10222		766.7				425.9		496.9		33.6
	357+39.96	377+12.88	RESURFACE	LEFT	1972.92	38.50'	75942				8438		632.9				351.6		410.2		36.5
	377+12.88	377+50.38	TRANSITION (C)	RIGHT	37.5'	40.69'	1526	170					12.7		1.75"	8.2					0.7
	377+12.88	377+50.38	TRANSITION (C)	LEFT	37.5'	40.69'	1526	170					12.7		1.75"	8.2					0.7
	378+49.62	378+87.12	TRANSITION (C)	RIGHT	37.5'	40.72'	1527	170					12.7		1.75"	8.2					0.7
	378+49.62	378+87.12	TRANSITION (C)	LEFT	37.5'	40.72'	1527	170					12.7		1.75"	8.2					0.7
	378+87.12	414+41.18	RESURFACE	RIGHT	3554.06'	38.71'	137606				15290		1146.7				637.1		743.2		65.8
	378+87.12	398+08.60	RESURFACE	LEFT	1921.48'	39.52'	75940				8438		632.8				351.6		410.2		35.6
	398+08.60	415+37.00	RESURFACE	LEFT	1728.40'	56.27'	97258				10806		810.5				450.3		525.3		32.0
	414+41.18	427+23.50	RESURFACE	RIGHT	1282.32'	59.40'	76175				8464		634.8				352.7		411.4		23.7
	415+37.00	461+36.00	RESURFACE	LEFT	4599'	39'	179361				19929		1494.7				830.4		968.8		85.2
	427+23.50	428+23.50	RESURFACE	RIGHT	100'	42'	4200				467		35.0				19.4		22.7		1.9
	428+23.50	460+00.00	RESURFACE	RIGHT	3176.5'	39'	123884				13765		1032.4				573.5		669.1		58.8
	460+00.00	476+99.97	RESURFACE	RIGHT	1699.97'	56.98'	96886				10765		807.4				448.5		523.3		31.5
	461+36.00	472+25.00	RESURFACE	LEFT	1089'	62.84	68429				7603		570.2				316.8		369.6		20.2
	476+99.97	580+23.06	RESURFACE	RIGHT	10323.09'	39'	402601				44733		3355.0				1863.9		2174.5		191.2
	472+25.00	581+25.00	RESURFACE	LEFT	10900'	39'	425100				47233		3542.5				1968.1		2296.1		201.9
	580+23.06	581+23.06	RESURFACE	RIGHT	100'	44'	4400				489		36.7				20.4		23.8		1.9
	581+23.06	584+02.53	RESURFACE	RIGHT	279.47'	49'	13694				1522		114.2				63.4		74.0		5.2
	584+02.53	588+23.17	RESURFACE	RIGHT	420.64'	58'	24382				2709		203.2				112.9		131.7		7.8
	581+25.00	583+75.00	RESURFACE	LEFT	250'	45'	11250				1250		93.8				52.1		60.8		4.6
	588+23.17	594+05.10	RESURFACE	RIGHT	581.93'	40.39'	23504				2612		195.9				108.8		127.0		10.8
	583+75.00	594+05.10	RESURFACE	LEFT	1030.10'	49.83'	51334				5704		427.8				237.7		277.3		19.1
	594+05.10	594+42.60	TRANSITION (C)	LEFT	37.5'	52.56'	1971	219					16.4		1.75"	10.6					0.7
	594+05.10	594+42.60	TRANSITION (C)	RIGHT	37.5'	39.33'	1475	164					12.3		1.75"	8.0					0.7
	596+27.56	596+85.06	TRANSITION (C)	LEFT	37.5'	52.61'	1973	219					16.4		1.75"	10.6					0.7
	596+27.56	596+85.06	TRANSITION (C)	RIGHT	37.5'	39.23'	1471	164					12.3		1.75"	8.0					0.7
	596+85.06	600+53.91	RESURFACE	RIGHT	368.85'	38.83'	14322				1592		119.4				66.3		77.4		6.8
	596+85.06	597+80.00	RESURFACE	LEFT	94.94	78.47'	7450				828		62.1				34.5		40.2		1.8
	597+80.00	603+89.71	RESURFACE	LEFT	609.71'	39'	23779				2642		198.2				110.1		128.4		11.3
	600+53.91	613+14.54	RESURFACE	RIGHT	1260.63'	50.39'	63528				7059		529.4				294.1		343.1		23.3
	603+89.71	610+89.71	RESURFACE	LEFT	700'	54.41'	38084				4232		317.4				176.3		205.7		13.0
I.R. - 70	610+89.71	611+89.71	RESURFACE	LEFT	100'	44'	4400				489		36.7				20.4		23.8		1.9
TOTALS CARRIED TO SHEET 25.								2582			252830		19155.9			109.4	10548.3		12290.5		988.3

CALCULATED

CHECKED

PAVEMENT CALCULATIONS

MOT-70-6.49

PAVEMENT CALCULATIONS

CALCULATED

CHECKED

LOCATION	STATION FROM	STATION TO	DESCRIPTION	SIDE	LENGTH	AVERAGE WIDTH PAVEMENT & BERM	SURFACE AREA	202 WEARING COURSE REMOVED		254 1½" PAVEMENT PLANING, BITUMINOUS	254 1¾" PAVEMENT PLANING, BITUMINOUS		407 TACK COAT 0.075 GALLON PER S.Y.		446 VARIABLE DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE IH	446 VARIABLE DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE IH	446 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE IH		446 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, P664-28		617 COMPACTED AGGREGATE, TYPE A VAR. 1½" TO 0"
							SQ. FT.	SQ. YD.		SQ. YD.	SQ. YD.		GALLON		INCHES	CU. YD.	CU. YD.		CU. YD.		CU. YD.
I.R. - 70	613+14.54	626+85.22	RESURFACE	RIGHT	1370.68'	39.13'	53629				5959		446.9				248.3		289.7		25.4
	611+89.71	626+85.22	RESURFACE	LEFT	1495.51'	38.78'	57990				6443		483.3				268.5		313.2		27.7
	626+85.22	627+22.72	TRANSITION (C)	RIGHT	37.5'	32.67'	1225	136					10.2		1.75"	6.6					0.7
	626+85.22	627+22.72	TRANSITION (C)	LEFT	37.5'	34.19'	1282	143					10.7		1.75"	6.9					0.7
	629+97.28	630+34.78	TRANSITION (C)	RIGHT	37.5'	34.91'	1309	146					10.9		1.75"	7.1					0.7
	629+97.28	630+34.78	TRANSITION (C)	LEFT	37.5'	32.24'	1209	135					10.1		1.75"	6.5					0.7
	630+34.78	641+43.95	RESURFACE	RIGHT	1109.17	38.27'	42453				4717		353.8				196.5		229.3		20.5
	630+34.78	641+43.95	RESURFACE	LEFT	1109.17	39.66'	43989				4888		366.6				203.7		237.6		20.5
	641+43.95	641+81.45	TRANSITION (C)	RIGHT	37.5'	42.48'	1593	177					13.3		1.75"	8.6					0.7
	641+43.95	641+81.45	TRANSITION (C)	LEFT	37.5'	42.24'	1584	176					13.2		1.75"	8.6					0.7
	642+93.51	643+31.01	TRANSITION (C)	RIGHT	37.5'	42.24'	1584	176					13.2		1.75"	8.6					0.7
	642+93.51	643+31.01	TRANSITION (C)	LEFT	37.5'	42.48'	1593	177					13.3		1.75"	8.6					0.7
	643+31.01	666+52.50	RESURFACE	RIGHT	2321.49'	39.34'	91328				10148		761.1				422.8		493.3		43.0
	643+31.01	666+52.50	RESURFACE	LEFT	2321.49'	38.66'	89757				9973		748.0				415.5		484.8		43.0
	666+52.50	666+90.00	TRANSITION (C)	RIGHT	37.5'	39.04'	1464	163					12.2		1.75"	7.9					0.7
	666+52.50	666+90.00	TRANSITION (C)	LEFT	37.5'	38.96'	1461	162					12.2		1.75"	7.9					0.7
	668+08.55	668+46.05	TRANSITION (C)	RIGHT	37.5'	38.96'	1461	162					12.2		1.75"	7.9					0.7
	668+08.55	668+46.05	TRANSITION (C)	LEFT	37.5'	38.88'	1458	162					12.2		1.75"	7.9					0.7
	668+46.05	670+37.67	RESURFACE	LEFT	191.62'	41.71'	7992				888		66.6				37.0		43.2		3.6
	668+46.05	670+37.67	RESURFACE	RIGHT	191.62'	36.15'	6927				770		57.7				32.1		37.4		3.6
	I.R. - 70 STATION EQUATION STA. 670+37.67 (BACK)= STA. 668+97.77 (AHEAD)																				
	668+97.77	748+00.00	RESURFACE	RIGHT	7902.23'	39'	308187				34243		2568.2				1426.8		1664.6		146.3
	668+97.77	728+72.21	RESURFACE	LEFT	5974.44'	39'	233003				25889		1941.7				1078.7		1258.5		110.6
	728+72.21	746+60.00	RESURFACE	LEFT	1787.79'	55.79'	99744				11083		831.2				461.8		538.7		33.1
	746+60.00	748+00.00	RESURFACE	LEFT	140'	39'	5460				607		45.5				25.3		29.5		2.6
	748+00.00	748+37.50	TRANSITION (A)	RIGHT	37.5'	39'	1463	163					12.2				6.8				0.7
I.R. - 70	748+00.00	748+37.50	TRANSITION (A)	LEFT	37.5'	39'	1463	163					12.2				6.8				0.7
N.B. S.R.-49	277+19.87	277+57.37	TRANSITION (A)	LT.&RT.	37.5'	39'	1463	163					12.2				6.8				0.7
N.B. S.R.-49	156+34.32	156+71.82	TRANSITION (A)	LT.&RT.	37.5'	39'	1463	163					12.2				6.8				0.7
S.B. S.R.-49	261+66.50	262+04.00	TRANSITION (C)	LT.&RT.	37.5'	39'	1463	163					12.2		1.75"	7.9					0.7
S.B. S.R.-49	256+55.00	261+66.50	RESURFACE	LT.&RT.	511.5'	39'	19949				2217		166.2				92.4		107.8		9.5
S.B. S.R.-49	140+32.20	140+69.70	TRANSITION (A)	LT.&RT.	37.5'	31'	1163	129					9.7				5.4				0.7
HOKE RD.																					
RAMP "A"	2+04.47	2+41.97	TRANSITION (A)	LT.&RT.	37.5'	54.98'	2062	229					17.2				9.5				0.4
RAMP "A"	2+41.97	9+99.97	RESURFACE	LT.&RT.	758'	29'	21982				2442		183.2				101.8		118.7		7.0
RAMP "B"	12+04.32	12+41.82	TRANSITION (A)	LT.&RT.	37.5'	57.01'	2138	238					17.8				9.9				0.4
RAMP "B"	12+41.82	21+36.68	RESURFACE	LT.&RT.	894.86'	29'	25951				2883		216.2				120.1		140.2		8.3
S.R.- 48																					
RAMP "A"	5+17.03	7+45.74	RESURFACE	LEFT	228.71'	16.50'	3774			419			31.5				17.5				
RAMP "A"	12+24.94	15+42.14	RESURFACE	LT.&RT.	317.20'	22'	6979				775		58.2				32.3		37.7		2.9
RAMP "B"	12+24.94	18+50.55	RESURFACE	LT.&RT.	625.61'	25.16'	15738				1749		131.2				72.9		85.0		5.8
TOTALS CARRIED TO SHEET 25.								3326		419	125674		9706.5			101.0	5306.0		6109.2		526.8

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LOCATION	STATION FROM	STATION TO	DESCRIPTION	SIDE	LENGTH	AVERAGE WIDTH PAVEMENT & BERM	SURFACE AREA	202 WEARING COURSE REMOVED		254 1½" PAVEMENT PLANING, BITUMINOUS	254 1¾" PAVEMENT PLANING, BITUMINOUS		407 TACK COAT 0.075 GALLON PER S.Y.		446 VARIABLE DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE 1H	446 VARIABLE DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE 1H	446 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE 1H		446 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-28		617 COMPACTED AGGREGATE, TYPE A VAR. 1½" TO 0"
							SQ. FT.	SQ. YD.		SQ. YD.	SQ. YD.		GALLON		INCHES	CU. YD.	CU. YD.		CU. YD.		CU. YD.
S.R.- 48																					
RAMP "AB"	6+47.01	7+50.00	RESURFACE	LEFT	102.99'	42.89'	4418			491			36.8				20.5				
RAMP "AB"	7+50.00	7+87.50	TRANSITION (B)	LEFT	37.5'	42'	1575	175					13.1				7.3				0.2
RAMP "AB"	6+47.01	9+33.17	RESURFACE	RIGHT	286.16'	17.40'	4978			553			41.5				23				
RAMP "AB"	9+33.17	9+70.67	TRANSITION (B)	RIGHT	37.5'	19.62'	736	82					6.1				3.4				0.2
RAMP "AB"	7+87.50	12+24.94	RESURFACE	LEFT	437.44'	33.93'	14843				1649		123.7				68.7		80.2		2.0
RAMP "AB"	9+70.67	12+24.94	RESURFACE	RIGHT	254.27'	19'	4831				537		40.3				22.4		26.1		1.2
RAMP "C"	8+00.00	9+94.44	RESURFACE	LT.&RT.	194.44	24.52'	4768				530		39.7				22.1		25.8		1.8
	RAMP "C" STATION EQUATION STA. 9+94.44 (BACK)= STA. 10+20.58 (AHEAD)																				
RAMP "C"	10+20.58	12+42.69	RESURFACE	LT.&RT.	222.11'	22'	4887				543		40.7				22.6		26.4		2.1
RAMP "C"	12+42.69	12+80.19	TRANSITION (B)	RIGHT	37.5'	22'	825	92					6.9				3.8				0.3
RAMP "C"	12+80.19	16+07.25	RESURFACE	RIGHT	327.06'	22.60'	7393			821			61.6				34.2				
RAMP "E"	6+11.10	8+00.00	RESURFACE	RIGHT	188.9'	19.12'	3612			401			30.1				16.7				
RAMP "E"	8+00.00	8+37.50	TRANSITION (B)	LT.&RT.	37.5'	19'	713	79					5.9				3.3				0.3
RAMP "E"	8+37.50	10+13.97	RESURFACE	LT.&RT.	176.47'	20.63'	3641				405		30.4				16.9		19.7		1.6
RAMP "F"	5+13.00	7+21.79	RESURFACE	RIGHT	208.79'	15'	3132			348			26.1				14.5				
AIRPORT AC. RD.	7+81.67	18+33.31	RESURFACE	RIGHT	1051.64'	24.82'	26105				2900		217.5				120.9		141.0		9.7
↑	7+81.67	18+33.31	RESURFACE	LEFT	1051.64'	37.90'	39853				4428		332.1				184.5		215.3		9.7
	18+33.31	18+70.81	TRANSITION (A)	RIGHT	37.5'	26.03'	976	108					8.1				4.5				0.3
	18+33.31	18+70.81	TRANSITION (A)	LEFT	37.5'	35.68'	1338	149					11.2				6.2				0.3
	21+25.31	21+62.81	TRANSITION (A)	RIGHT	37.5'	25.89'	971	108					8.1				4.5				0.3
	21.25.31	21+62.91	TRANSITION (A)	LEFT	37.5'	35.89'	1346	150					11.2				6.2				0.3
	21+62.81	26+20.00	RESURFACE	RIGHT	457.19'	27.06'	12371				1375		103.1				57.3		66.8		4.2
	21+62.81	32+43.97	RESURFACE	LEFT	1081.16'	34.91'	37744				4194		314.5				174.7		203.9		10.0
	26+20.00	37+50.00	RESURFACE	RIGHT	1130'	45.13	50999				5667		425.0				236.1		275.5		10.5
	32+43.97	37+50.00	RESURFACE	LEFT	506.03'	56.39'	28534				3170		237.8				132.1		154.1		4.7
↓	37+50.00	37+87.50	TRANSITION (A)	RIGHT	37.5'	36'	1350	150					11.3				6.3				0.3
AIRPORT AC. RD.	37+50.00	37+87.50	TRANSITION (A)	LEFT	37.5'	48'	1800	200					15.0				8.3				0.3
RAMP "E"	746+57.66	758+12.53	RESURFACE	LT.&RT.	1154.87'	25.07'	28947				3216		241.2				134.0		156.3		10.7
RAMP "F"	753+22.55	753+60.05	TRANSITION (A)	LT.&RT.	37.5'	25.04'	939	104					7.8				4.3				0.3
RAMP "G"	766+36.30	766+73.80	TRANSITION (A)	LT.&RT.	37.5'	26.69'	1001	111					8.3				4.6				0.3
RAMP "G"	766+73.80	775+60.34	RESURFACE	LT.&RT.	886.54'	25.04'	22196				2466		185.0				102.8		119.9		8.2
RAMP "H"	764+98.33	780+65.00	RESURFACE	LT.&RT.	1566.67'	36'	56400				6267		470.0				261.1		304.6		14.5
RAMP "H"	780+65.00	781+02.50	TRANSITION (A)	LT.&RT.	37.5'	36.24'	1359	151					11.3				6.3				0.3
MEDIAN U-TURN	384+04.20	388+65.80	RESURFACE	MEDIAN	259.14'	15.2'	3939						32.8				18.2				
MEDIAN U-TURN	483+34.20	487+95.80	RESURFACE	MEDIAN	259.14'	15.2'	3939						32.8				18.2				
MEDIAN U-TURN	568+19.20	572+80.60	RESURFACE	MEDIAN	259.14'	15.2'	3940						32.8				18.2				
MEDIAN U-TURN	620+74.20	625+35.80	RESURFACE	MEDIAN	259.14'	15.2'	3939						32.8				18.2				
SUB-TOTALS FROM THIS SHEET								1659		2614	37347		3252.6				1806.9		1815.6		94.6
TOTALS BROUGHT FORWARD FROM SHEET 23.								2582			252830		19155.9			109.4	10548.3		12290.5		988.3
TOTALS BROUGHT FORWARD FROM SHEET 24.								3326		419	125674		9706.5			101.0	5306.0		6109.2		526.8
TOTALS CARRIED TO GENERAL SUMMARY								7567		418884			32115			17872			20215		1610

CALCULATED

CHECKED

PAVEMENT CALCULATIONS

MOT-70-6.49

ESTIMATED QUANTITIES

CALCULATED

CHECKED

REFERENCE NO.	SHEET NO.	STATION TO STATION FROM	STATION TO STATION TO	SIDE	202 GUARDRAIL REMOVED FOR STORAGE	202 PIPE REMOVED, 24" AND UNDER	202 CATCH BASIN REMOVED	202 ANCHOR ASSEMBLY REMOVED, TYPE A	202 CONCRETE BARRIER REMOVED	203 LINEAR GRADING	603 12" CONDUIT, TYPE B	603 139" X 89" CONDUIT, CORRUGATED STEEL PIPE ARCH, FIELD PAVING OF EXISITNG PIPE, AS PER PLAN	603 161" X 101" CONDUIT, CORRUGATED STEEL PIPE ARCH, FIELD PAVING OF EXISITNG PIPE, AS PER PLAN (2- PIPES X 198' LONG)	603 96" CONDUIT, CORRUGATED CONDUIT, FIELD PAVING OF EXISTING PIPE, (3 PIPES X 214' LONG)	604 CATCH BASIN, No. 5	606 GUARDRAIL, TYPE 5	606 GUARDRAIL, TYPE 5A	606 GUARDRAIL, BARRIER DESIGN, TYPE 5	606 ANCHOR ASSEMBLY, BARRIER DESIGN, TYPE A	606 ANCHOR ASSEMBLY				606 BRIDGE TERMINAL ASSEMBLY			606 BRIDGE TERMINAL ASSEMBLY, TYPE I, BARRIER DESIGN	606 IMPACT ATTENUATOR, TYPE I-98 (UNIDIRECTIONAL)	606 IMPACT ATTENUATOR, TYPE I-98 (BIDIRECTIONAL)		622 CONCRETE BARRIER, TYPE A	622 CONCRETE BARRIER, TYPE D	626 BARRIER REFLECTOR, TYPE A	626 BARRIER REFLECTOR, TYPE B
																			TYPE A	TYPE B-98	TYPE E-98	TYPE T	TYPE I	TYPE 2	TYPE 4								
					L.F.	L.F.	EA.	EA.	L.F.	STA.	L.F.	L.F.	L.F.	L.F.	EA.	L.F.	L.F.	L.F.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.		L.F.	L.F.	EA.	EA.
R-1	33	346+05.10	347+30.10	RT.	125.0			1																								
R-2	33	346+05.00	348+92.50	L&R	575.0			2																								
R-3	33	350+87.75	352+44.00	RT.	156.25			1																								
R-4	33	350+90.00	352+40.00	RT.	150.0			1																								
R-5	33	347+63.20	348+88.20	LT.	125.0			1																								
GR-1	33	345+81.60	347+31.60	RT.						2						100.0						1		1							3	
GR-2	33	346+41.35	347+72.60	RT.												87.5						1						1			3	
GR-2A	33	347+24.75	348+56.00	LT.												87.5						1						1			3	
GR-2B	33	350+25.25	352+44.00	RT.												187.5							1					1			4	
GR-3	33	347+68.60	352+64.20	RT.						5						475.0							1	1						21.7	6	1
GR-4	33	347+63.20	348+88.20	LT.						2						75.0						1									3	
R-6	33-34	353+10.00	354+60.00	LT.	150.0			1																								
R-7	33-34	353+08.50	355+08.50	LT.	200.0			1																								
GR-5	33-34	353+10.00	356+22.50	LT.						3						262.5						1			1						5	
GR-6	33-34	353+08.50	355+39.75	LT.												200.0									1			1			4	
R-8	35	370+60.60	371+85.60	RT.	125.0			1																								
R-9	35	371+78.50	373+16.00	LT.	137.5			1																								
R-10	35	375+53.75	377+60.00	RT.	206.25			1																								
R-11	35	370+31.70	373+19.20	L&R	575.0			2																								
R-12	35	376+48.50	377+86.00	RT.	137.5			1																								
R-13	35	378+39.00	380+39.00	LT.	200.0			1																								
R-14	35	378+14.00	379+64.00	LT.	150.0			1																								
GR-7	35	370+32.00	371+82.00	RT.						2						100.0						1		1							3	
GR-8	35	371+78.50	374+78.50	LT.						3						250.0						1		1							5	
GR-9	35	370+67.65	371+98.90	RT.												87.5							1					1			3	
GR-9A	35	371+52.05	372+83.30	LT.												87.5							1					1			3	
GR-9B	35	375+41.25	377+60.00	RT.												187.5									1			1			4	
GR-10	35	374+73.50	377+86.00	RT.						3						262.5						1			1						5	
GR-11	35	378+39.00	380+70.25	LT.												200.0									1			1			4	
GR-12	35	378+14.00	381+26.50	LT.						3						262.5						1			1						5	
D-1	36	389+00.00		L&R								270																				
R-15	37	397+52.90	400+40.40	L&R	575.0			2																								
R-16	37	396+74.80	398+74.80	RT.	200.0			1																								
R-17	37	399+19.50	400+57.00	LT.	137.5			1																								
GR-13	37	398+01.85	399+20.60	RT.												75.0							1					1			3	
GR-14	37	398+72.70	399+91.45	LT.												75.0							1					1			3	
GR-15	37	397+12.30	398+74.80	RT.						2						112.5						1		1							3	
GR-16	37	399+19.50	400+82.00	LT.						2						112.5						1		1							3	
R-18	39	430+09.60	433+22.10	L&R	625.0			2																								
R-19	39	430+59.20	431+84.20	RT.	125.0			1																								
R-20	39	431+44.50	432+69.50	LT.	125.0			1																								
SUB-TOTALS CARRIED TO SHEET 29					4800			24		27		270				3287.5						9	6	8	1	6		10			21.7	75	1

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REFERENCE NO.	SHEET NO.	STATION TO STATION		SIDE	202	202	202	202	202	203	603	603	603	603	604	606	606	606	606	606		606		606	606	606		622	622	626	626
					GUARDRAIL REMOVED FOR STORAGE	PIPE REMOVED, 24" AND UNDER	CATCH BASIN REMOVED	ANCHOR ASSEMBLY REMOVED, TYPE A	CONCRETE BARRIER REMOVED	LINEAR GRADING	12" CONDUIT, TYPE B	139" X 89" CONDUIT, CORRUGATED STEEL PIPE ARCH, FIELD PAVING OF EXISITNG PIPE, AS PER PLAN	161" X 101" CONDUIT, CORRUGATED STEEL PIPE ARCH, FIELD PAVING OF EXISITNG PIPE, AS PER PLAN (2- PIPES X 198' LONG)	96" CONDUIT, CORRUGATED CONDUIT, FIELD PAVING OF EXISTING PIPE, (3 PIPES X 214' LONG)	CATCH BASIN, No. 5	GUARDRAIL, TYPE 5	GUARDRAIL, TYPE 5A	GUARDRAIL, BARRIER DESIGN, TYPE 5	ANCHOR ASSEMBLY, BARRIER DESIGN, TYPE A	ANCHOR ASSEMBLY				BRIDGE TERMINAL ASSEMBLY			BRIDGE TERMINAL ASSEMBLY, TYPE I, BARRIER DESIGN	IMPACT ATTENUATOR, TYPE I-98 (UNIDIRECTIONAL)	IMPACT ATTENUATOR, TYPE I-98 (BIDIRECTIONAL)		CONCRETE BARRIER, TYPE A	CONCRETE BARRIER, TYPE D	BARRIER REFLECTOR, TYPE A	BARRIER REFLECTOR, TYPE B
		FROM	TO																	TYPE A	TYPE B-98	TYPE E-98	TYPE T	TYPE I	TYPE 2	TYPE 4							
					L.F.	L.F.	EA.	EA.	L.F.	STA.	L.F.	L.F.	L.F.	L.F.	EA.	L.F.	L.F.	L.F.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.		L.F.	L.F.	EA.	EA.
GR-17	39	430+50.15	432+06.40	RT.												112.5							1				1				3	
GR-18	39	431+30.40	432+86.65	LT.												112.5							1				1				3	
GR-19	39	430+34.20	431+84.20	RT.						2						100.0						1		1							3	
GR-20	39	431+44.90	432+94.90	LT.						2						100.0						1		1							3	
R-21	40-41	450+50.00	453+50.00	L&R	600.0			2																								
R-22	40	450+52.85	451+59.10	RT.	106.25			1																								
GR-21	40-41	450+96.25	452+40.00	RT.												100.0							1				1				3	
GR-22	40	449+84.10	451+59.10	RT.						2						125.0						1		1							3	
R-23	41	452+40.80	453+65.80	LT.	125.0			1																								
R-23A	41	19+40 (RAMP "B")	19+65(RAMP"B")	LT.	25.0			1																								
R-24	41	464+07.00	465+57.00	LT.	150.0			1																								
R-25	41	464+10.00	465+35.00	LT.	125.0			1																								
GR-23	40-41	451+60.00	453+03.75	LT.												100.0							1				1				3	
GR-23A	41	19+40(RAMP"B")	19+90(RAMP"B")	LT.						1												1									1	
GR-24	41	452+40.80	454+15.80	LT.						2						125.0						1		1							3	
GR-25	41	464+04.00	465+72.75	LT.												100.0	25.0						1				1				3	
GR-26	41	464+03.50	467+16.00	LT.						3						250.0						1	1								5	
D-2	42	473+14.00		L&R									396																			
R-26	44	504+45.50	507+33.00	L&R	575.0			2																								
R-27	44	503+68.60	505+68.60	RT.	200.0			1																								
R-28	44	506+17.00	507+29.50	LT.	112.5			1																								
GR-27	44	505+49.75	508+06.00	LT.												212.5							1				1				4	
GR-28	44	504+80.65	506+24.40	RT.												100.0							1				1				3	
GR-29	44	504+43.60	505+68.60	RT.						2						75.0						1		1							3	
GR-30	44-45	506+17.00	508+92	LT.						2						225.0						1		1							4	
R-29	48	556+60.00	559+35.00	L&R	275.0			1																								
R-30	48	558+78.00	561+53.00	L&R	275.0			1																								
GR-31	48	556+72.95	559+41.70	RT.												225.0							1				1				4	
GR-32	48	558+57.21	560+25.96	LT.												125.0							1				1				3	
R-31	50	585+00.00	588+75.00	LT.	375.0			1																								
GR-33	50	585+00.00	590+12.50	LT.						5						450.0						1	1								6	
R-32	51	591+91.90	594+54.40	RT.	262.5			1																								
R-33	51	592+75.00	594+00.00	RT.		125.0	2																									
R-34	51	596+12.90	598+12.90	LT.	200.0			1																								
R-35	51	593+15.60	594+78.10	RT.	162.5			1																								
R-36	51	595+86.40	597+48.90	LT.	162.5			1																								
CB-1	51	594+00		℄							10				1																	
SUB-TOTALS CARRIED TO SHEET 29					3731.25	125.0	2	18		21	10		396		1	2637.5	25.0					9	11	6				9				60	

CALCULATED

CHECKED

ESTIMATED QUANTITIES

MOT-70-6.49

ESTIMATED QUANTITIES

CALCULATED | CHECKED

REFERENCE NO.	SHEET NO.	STATION TO STATION FROM	STATION TO STATION TO	SIDE	202 GUARDRAIL REMOVED FOR STORAGE	202 PIPE REMOVED, 24" AND UNDER	202 CATCH BASIN REMOVED	202 ANCHOR ASSEMBLY REMOVED, TYPE A	202 CONCRETE BARRIER REMOVED	203 LINEAR GRADING	603 12" CONDUIT, TYPE B	603 139" X 89" CONDUIT, CORRUGATED STEEL PIPE ARCH, FIELD PAVING OF EXISITNG PIPE, AS PER PLAN	603 161" X 101" CONDUIT, CORRUGATED STEEL PIPE ARCH, FIELD PAVING OF EXISITNG PIPE, AS PER PLAN (2- PIPES X 198' LONG)	603 96" CONDUIT, CORRUGATED CONDUIT, FIELD PAVING OF EXISTING PIPE, (3 PIPES X 214' LONG)	604 CATCH BASIN, No. 5	606 GUARDRAIL, TYPE 5	606 GUARDRAIL, TYPE 5A	606 GUARDRAIL, BARRIER DESIGN, TYPE 5	606 ANCHOR ASSEMBLY, BARRIER DESIGN, TYPE A	606 ANCHOR ASSEMBLY				606 BRIDGE TERMINAL ASSEMBLY			606 BRIDGE TERMINAL ASSEMBLY, TYPE I, BARRIER DESIGN	606 IMPACT ATTENUATOR, TYPE I-98 (UNIDIRECTIONAL)	606 IMPACT ATTENUATOR, TYPE I-98 (BIDIRECTIONAL)		622 CONCRETE BARRIER, TYPE A	622 CONCRETE BARRIER, TYPE D	626 BARRIER REFLECTOR, TYPE A	626 BARRIER REFLECTOR, TYPE B
																				TYPE A	TYPE B-98	TYPE E-98	TYPE T	TYPE I	TYPE 2	TYPE 4							
					L.F.	L.F.	EA.	EA.	L.F.	STA.	L.F.	L.F.	L.F.	L.F.	EA.	L.F.	L.F.	L.F.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.		L.F.	L.F.	EA.	EA.
GR-34	51	591+73.15	594+54.40	RT.												250.0								1				1				4	
GR-35	51	596+15.90	598+72.15	LT.												225.0								1				1				4	
GR-36	50-51	591+40.60	594+78.10	RT.						4						287.5						1		1								5	
GR-37	51	595+86.40	15+31.90 (RAMP "A")	LT.						2						162.5					1			1								3	
R-37	52	607+07.00	612+94.50	LT.	587.5			1																									
R-38	52	607+57.50	612+57.50	RT.	500.0			1																									
GR-38	52	607+40.00	612+90.00	RT.						6						487.5						1	1									7	
R-39	52-53	616+00.00	621+25.00	LT.	525			1																									
GR-39	52-53	606+99.50	627+12.00	LT.						20						2000.0							1		1							22	
R-40	53	624+99.50	627+12.00	LT.	212.5																												
R-41	53	625+83.80	627+33.80	RT.	150.0			1																									
R-42	53	625+27.30	627+27.30	RT.	200.0			1																									
R-43	53	629+92.70	631+80.20	LT.	187.5			1																									
R-44	53	629+86.20	631+36.20	LT.	150.0			1																									
R-45	53	630+25.00	631+25.00	LT.		100	2																										
CB-2	53	630+25.00		℄							10				1																		
GR-40	53	624+83.55	627+27.30	RT.						4						212.5									1				1			4	
GR-41	53	623+33.80	627+33.80	RT.												350.0						1			1							5	
GR-42	53	629+92.70	632+36.45	LT.												212.5									1				1			4	
GR-43	53	629+86.20	633+98.70	LT.						4						362.5						1			1							6	
R-46	54	639+78.00	641+78.00	LT.	200.0			1																									
R-47	54	640+15.20	641+65.20	RT.	150.0			1																									
R-48	54	642+97.20	645+09.70	LT.	212.5			1																									
R-49	54	643+25.00	644+20.00	LT.		95.0	2																										
R-50	54	643+09.20	644+59.20	LT.	150.0			1																									
CB-3	54	643+25.00		℄							10				1																		
GR-44	54	639+46.75	641+78.00	RT.												200.0									1				1			4	
GR-45	54	638+27.70	641+65.20	RT.						4						287.5						1			1							5	
GR-46	54	642+97.20	645+03.45	LT.												175.0									1				1			4	
GR-47	54	643+09.20	646+46.70	LT.						4						287.5						1			1							5	
R-51	56	664+94.40	666+94.40	RT.	200.0			1																									
R-52	56	665+58.50	667+08.50	RT.	150.0			1																									
R-53	56	667+89.20	669+51.70	LT.	162.5			1																									
R-54	56	*668+03.60	*669+13.70	LT.	250.0			1																									
GR-48	56	664+50.65	666+94.40	RT.												212.5									1				1			4	
GR-49	56	662+83.50	667+08.50	RT.						5						375.0						1			1							6	
GR-50	56	*667+89.20	*669+86.80	LT.						4						287.5						1			1							5	
GR-51	56	*668+03.60	*669+07.12	LT.												212.5									1				1			4	
* STATION EQUATION STA. 670+37.67 (BACK) = STA. 668+97.77 (AHEAD)																																	
SUB-TOTALS CARRIED TO SHEET 29					3987.5	195.0	4	15		57	20				2	6587.5					1	8	2	12	5			8				101	

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ESTIMATED QUANTITIES

CALCULATED

CHECKED

REFERENCE NO.	SHEET NO.	STATION TO STATION FROM	STATION TO STATION TO	SIDE	202 GUARDRAIL REMOVED FOR STORAGE	202 PIPE REMOVED, 24" AND UNDER	202 CATCH BASIN REMOVED	202 ANCHOR ASSEMBLY REMOVED, TYPE A	202 CONCRETE BARRIER REMOVED	203 LINEAR GRADING	603 12" CONDUIT, TYPE B	603 139" X 89" CONDUIT, CORRUGATED STEEL PIPE ARCH, FIELD PAVING OF EXISITNG PIPE, AS PER PLAN	603 161" X 101" CONDUIT, CORRUGATED STEEL PIPE ARCH, FIELD PAVING OF EXISITNG PIPE, AS PER PLAN (2- PIPES X 198' LONG)	603 96" CONDUIT, CORRUGATED CONDUIT, FIELD PAVING OF EXISTING PIPE, (3 PIPES X 214' LONG)	604 CATCH BASIN, No. 5	606 GUARDRAIL, TYPE 5	606 GUARDRAIL, TYPE 5A	606 GUARDRAIL, BARRIER DESIGN, TYPE 5	606 ANCHOR ASSEMBLY, BARRIER DESIGN, TYPE A	606 ANCHOR ASSEMBLY				606 BRIDGE TERMINAL ASSEMBLY			606 BRIDGE TERMINAL ASSEMBLY, TYPE 1, BARRIER DESIGN	606 IMPACT ATTENUATOR, TYPE 1-98 (UNIDIRECTIONAL)	606 IMPACT ATTENUATOR, TYPE 1-98 (BIDIRECTIONAL)		622 CONCRETE BARRIER, TYPE A	622 CONCRETE BARRIER, TYPE D	626 BARRIER REFLECTOR, TYPE A	626 BARRIER REFLECTOR, TYPE B
																				TYPE A	TYPE B-98	TYPE E-98	TYPE T	TYPE 1	TYPE 2	TYPE 4							
					L.F.	L.F.	EA.	EA.	L.F.	STA.	L.F.	L.F.	L.F.	L.F.	EA.	L.F.	L.F.	L.F.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.		L.F.	L.F.	EA.	EA.
R-55	56-57	670+90.00	679+90.00	RT.	900.0			1																								
R-56	56-57	672+85.00	680+10.00	LT.	725.0			1																								
GR-52	56-57	*670+27.40	*680+00.00	RT.						11						1050.0						1	1								12	
GR-53	56-57	672+75.00	681+62.50	LT.						9						825.0						1	1								10	
D-3	57	677+18.04		L&R										642																		
R-57	58	693+37.25	696+12.25	L&R	550.0			2																								
R-58	58	693+19.90	694+44.90	RT.	125.0			1																								
R-59	58	695+04.60	696+17.10	LT.	112.5			1																								
GR-54	58	693+65.85	694+97.10	RT.												87.5							1								3	
GR-55	58	694+52.40	695+83.65	LT.												87.5							1								3	
GR-56	58	693+69.90	694+44.90	RT.						1						25.0						1		1						2	
GR-57	58	695+04.60	698+17.10	LT.						4						262.5						1		1						5	
R-60	60-61	720+65.00	729+02.50	RT.	837.5			1																								
R-61	60-61	720+20.00	730+45.00	LT.	1025.0			1																								
GR-58	60	718+15.00	728+27.50	RT.						11						950.0						1	1								12	
GR-59	60-61	720+12.50	731+12.50	LT.						11						1037.5						1	1								12	
R-62	62	744+09.60	745+48.50	RT.	125.0			1																								
R-63	62	744+92.25	747+79.75	L&R	575.0			2																								
R-64	62	746+61.0	748+74.90	LT.	125.0			1	91																							
R-65	62	746+56.20(RAMP"E")	749+31.20(RAMP"E")	RT.	275.0			1																								
R-66	62	745+78.00(RAMP"E")	747+78.00(RAMP"E")	LT.	200.0			1																								
GR-60	62	745+27.15	746+58.40	RT.												87.5							1								3	
GR-61	62	746+13.00	747+44.25	LT.												87.5							1								3	
GR-62	62	744+59.60	745+48.50	RT.						1						25.0						1		1						16.0	2	1
GR-63	62	745+79.50(RAMP"E")	749+35.00(RAMP"E")	LT.						3						275.0				1				1						45.0	5	3
GR-64	62	746+61.0	748+89.2	LT.						1								75.0	1						1				132.25		4	6
GR-65	AAR-2&3	9+32.0	18+32.0	RT.						9						850						1		1							11	
GR-66	AAR2	17+01.55	18+95.3	L&R												162.5								1				1			3	
GR-67	AAR-1&2	21+70.8	26+33.3	LT.						5						412.5						1		1							6	
GR-68	AAR2	21+00.5	24+19.25	L&R												287.5								1				1			3	
R-67	AAR2	10+57.0	18+32.0	RT.	775			1																								
R-68	AAR2	17+70.3	18+95.3	L&R	125			1																								
R-69	AAR2	21+70.8	24+95.8	LT.	300			1																								
R-70	AAR2	21+00.5	22+25.0	L&R	124.5			1																								
		SUB-TOTALS FROM THIS SHEET			6899.5			18	91	66				642		6512.5		75.0	1	1		9	8	8			1	4	2		132.25	61.0	99	10
		SUB-TOTALS FROM SHEET 26			4800			24		27		270				3287.5						9	6	8	1	6		10			21.7	75	1
		SUB-TOTALS FROM SHEET 27			3731.25	125.0	2	18		21	10		396		1	2637.5	25.0					9	11	6				9				60	
		SUB-TOTALS FROM SHEET 28			3987.5	195.0	4	15		57	20				2	6587.5					1	8	2	12	5			8				101	
TOTALS		**CARRIED TO GENERAL SUMMARY**			19418.25	320.0	6	75	91	171	30	270	396	642	3	19025.0	25.0	75	1	1	1	35	27	34	6	6	1	31	2		132.25	82.7	335	11

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SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	618 RUMBLE STRIPS, TYPE 2 (ASPHALT)
					LIN. FT.
147	RS-1	342+12.50	345+18.04	LT.	305.5
147	RS-2	345+18.04	352+19.95	LT.	701.9
147	RS-3	353+30.46	354+00.00	LT.	69.5
147	RS-4	342+12.50	352+19.95	LT.	1007.5
147	RS-5	353+30.46	354+00.00	LT.	69.5
147	RS-6	342+12.50	352+19.95	RT.	1007.5
147	RS-7	353+30.46	354+00.00	RT.	69.5
147	RS-8	342+12.50	352+19.95	RT.	1007.5
147	RS-9	353+30.46	354+00.00	RT.	69.5
148	RS-10	354+00.00	368+00.00	LT.	1400.0
148	RS-11	354+00.00	368+00.00	LT.	1400.0
148	RS-12	354+00.00	368+00.00	RT.	1400.0
148	RS-13	354+00.00	359+97.65	RT.	597.7
148	RS-14	359+97.65	368+00.00	RT.	802.4
149	RS-15	368+00.00	377+25.38	LT.	925.4
149	RS-16	378+74.62	382+00.00	LT.	325.4
149	RS-17	368+00.00	377+25.38	LT.	925.4
149	RS-18	378+74.62	382+00.00	LT.	325.4
149	RS-19	368+00.00	377+25.38	RT.	925.4
149	RS-20	378+74.62	382+00.00	RT.	325.4
149	RS-21	368+00.00	377+25.38	RT.	925.4
149	RS-22	378+74.62	382+00.00	RT.	325.4
150	RS-23	382+00.00	396+00.00	LT.	1400.0
150	RS-24	382+00.00	396+00.00	LT.	1400.0
150	RS-25	382+00.00	396+00.00	RT.	1400.0
150	RS-26	382+00.00	396+00.00	RT.	1400.0
151	RS-27	396+00.00	410+00.00	LT.	1400.0
151	RS-28	396+00.00	410+00.00	LT.	1400.0
151	RS-29	396+00.00	410+00.00	RT.	1400.0
151	RS-30	396+00.00	410+00.00	RT.	1400.0
152	RS-31	410+00.00	414+38.35	LT.	438.4
152	RS-32	414+38.35	424+00.00	LT.	961.7
152	RS-33	410+00.00	424+00.00	LT.	1400.0
152	RS-34	410+00.00	424+00.00	RT.	1400.0
152	RS-35	410+00.00	424+00.00	RT.	1400.0
153	RS-36	424+00.00	438+00.00	LT.	1400.0
153	RS-37	424+00.00	438+00.00	LT.	1400.0
153	RS-38	424+00.00	438+00.00	RT.	1400.0
153	RS-39	424+00.00	425+59.46	RT.	159.5
153	RS-40	425+59.46	438+00.00	RT.	1240.5
154	RS-41	438+00.00	452+00.00	LT.	1400.0
154	RS-42	438+00.00	452+00.00	LT.	1400.0
154	RS-43	438+00.00	452+00.00	RT.	1400.0
154	RS-44	438+00.00	452+00.00	RT.	1400.0
TOTALS CARRIED FORWARD					42911.3

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	618 RUMBLE STRIPS, TYPE 2 (ASPHALT)
					LIN. FT.
TOTALS BROUGHT FORWARD					42911.3
155	RS-45	452+00.00	463+00.00	LT.	1100.0
155	RS-46	463+00.00	466+00.00	LT.	300.0
155	RS-47	452+00.00	466+00.00	LT.	1400.0
155	RS-48	452+00.00	466+00.00	RT.	1400.0
155	RS-49	452+00.00	460+98.42	RT.	898.4
155	RS-50	460+98.42	466+00.00	RT.	501.6
156	RS-51	466+00.00	480+00.00	LT.	1400.0
156	RS-52	466+00.00	480+00.00	LT.	1400.0
156	RS-53	466+00.00	480+00.00	RT.	1400.0
156	RS-54	466+00.00	480+00.00	RT.	1400.0
157	RS-55	480+00.00	494+00.00	LT.	1400.0
157	RS-56	480+00.00	494+00.00	LT.	1400.0
157	RS-57	480+00.00	494+00.00	RT.	1400.0
157	RS-58	480+00.00	494+00.00	RT.	1400.0
158	RS-59	494+00.00	508+00.00	LT.	1400.0
158	RS-60	494+00.00	508+00.00	LT.	1400.0
158	RS-61	494+00.00	508+00.00	RT.	1400.0
158	RS-62	494+00.00	508+00.00	RT.	1400.0
159	RS-63	508+00.00	522+00.00	LT.	1400.0
159	RS-64	508+00.00	522+00.00	LT.	1400.0
159	RS-65	508+00.00	522+00.00	RT.	1400.0
159	RS-66	508+00.00	522+00.00	RT.	1400.0
160	RS-67	522+00.00	536+00.00	LT.	1400.0
160	RS-68	522+00.00	536+00.00	LT.	1400.0
160	RS-69	522+00.00	536+00.00	RT.	1400.0
160	RS-70	522+00.00	536+00.00	RT.	1400.0
161	RS-71	536+00.00	550+00.00	LT.	1400.0
161	RS-72	536+00.00	550+00.00	LT.	1400.0
161	RS-73	536+00.00	550+00.00	RT.	1400.0
161	RS-74	536+00.00	550+00.00	RT.	1400.0
162	RS-75	550+00.00	564+00.00	LT.	1400.0
162	RS-76	550+00.00	564+00.00	LT.	1400.0
162	RS-77	550+00.00	564+00.00	RT.	1400.0
162	RS-78	550+00.00	564+00.00	RT.	1400.0
163	RS-79	564+00.00	578+00.00	LT.	1400.0
163	RS-80	564+00.00	578+00.00	LT.	1400.0
163	RS-81	564+00.00	578+00.00	RT.	1400.0
163	RS-82	564+00.00	578+00.00	RT.	1400.0
164	RS-83	578+00.00	592+00.00	LT.	1400.0
164	RS-84	578+00.00	592+00.00	LT.	1400.0
164	RS-85	578+00.00	592+00.00	RT.	1400.0
164	RS-86	578+00.00	586+59.13	RT.	859.1
164	RS-87	586+59.13	592+00.00	RT.	540.9
TOTAL CARRIED FORWARD					98911.3

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	618 RUMBLE STRIPS, TYPE 2 (ASPHALT)
					LIN. FT.
TOTALS BROUGHT FORWARD					98911.3
165	RS-88	592+00.00	594+17.61	LT.	217.6
165	RS-89	596+52.56	596+81.58	LT.	29.0
165	RS-90	596+81.58	605+53.76	LT.	872.2
165	RS-91	605+53.76	606+00.00	LT.	46.2
165	RS-92	592+00.00	594+17.61	LT.	217.6
165	RS-93	596+52.56	606+00.00	LT.	947.4
165	RS-94	592+00.00	594+17.61	RT.	217.6
165	RS-95	596+52.56	606+00.00	RT.	947.4
165	RS-96	592+00.00	594+17.61	RT.	217.6
165	RS-97	596+52.56	601+52.33	RT.	499.8
165	RS-98	601+52.33	606+00.00	RT.	447.7
166	RS-99	606+00.00	620+00.00	LT.	1400.0
166	RS-100	606+00.00	620+00.00	LT.	1400.0
166	RS-101	606+00.00	620+00.00	RT.	1400.0
166	RS-102	606+00.00	620+00.00	RT.	1400.0
167	RS-103	620+00.00	627+07.72	LT.	707.7
167	RS-104	630+12.28	634+00.00	LT.	387.7
167	RS-105	620+00.00	627+07.72	LT.	707.7
167	RS-106	630+12.28	634+00.00	LT.	387.7
167	RS-107	620+00.00	627+07.72	RT.	707.7
167	RS-108	630+12.28	634+00.00	RT.	387.7
167	RS-109	620+00.00	627+07.72	RT.	707.7
167	RS-110	630+12.28	634+00.00	RT.	387.7
168	RS-111	634+00.00	641+55.31	LT.	755.3
168	RS-112	643+19.65	648+00.00	LT.	480.4
168	RS-113	634+00.00	641+55.31	LT.	755.3
168	RS-114	643+19.65	648+00.00	LT.	480.4
168	RS-115	634+00.00	641+55.31	RT.	755.3
168	RS-116	643+19.65	648+00.00	RT.	480.4
168	RS-117	634+00.00	641+55.31	RT.	755.3
168	RS-118	643+19.65	648+00.00	RT.	480.4
169	RS-119	648+00.00	662+00.00	LT.	1400.0
169	RS-120	648+00.00	662+00.00	LT.	1400.0
169	RS-121	648+00.00	662+00.00	RT.	1400.0
169	RS-122	648+00.00	662+00.00	RT.	1400.0
170	RS-123	622+00.00	666+64.97	LT.	647.0
170	RS-124	668+33.61	670+37.67	LT.	204.1
170	RS-125	668+97.77	673+00.00	LT.	402.2
170	RS-126	662+00.00	666+64.97	LT.	647.0
STA. EQU. STA. 670+37.67 BACK = STA.668+97.77 AHEAD					
170	RS-127	668+33.61	670+37.67	LT.	204.1
170	RS-128	668+97.77	673+00.00	LT.	402.2
170	RS-129	622+00.00	666+64.97	RT.	647.0
170	RS-130	668+33.61	670+37.67	RT.	204.1
170	RS-131	668+97.77	673+00.00	RT.	402.2
170	RS-132	662+00.00	666+64.97	RT.	647.0
170	RS-133	668+33.61	670+37.67	RT.	204.1
170	RS-134	668+97.77	673+00.00	RT.	402.2
TOTALS CARRIED TO GENERAL SUMMARY					129109.0

CALCULATED

CHECKED

ESTIMATED QUANTITIES

MOT-70-6.49

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	618 RUMBLE STRIPS, TYPE 2 (ASPHALT)
					LIN. FT.
171	RS-135	673+00.00	687+00.00	LT.	1400.0
171	RS-136	673+00.00	687+00.00	LT.	1400.0
171	RS-137	673+00.00	687+00.00	RT.	1400.0
171	RS-138	673+00.00	687+00.00	RT.	1400.0
172	RS-139	687+00.00	701+00.00	LT.	1400.0
172	RS-140	687+00.00	701+00.00	LT.	1400.0
172	RS-141	687+00.00	701+00.00	RT.	1400.0
172	RS-142	687+00.00	701+00.00	RT.	1400.0
173	RS-143	701+00.00	715+00.00	LT.	1400.0
173	RS-144	701+00.00	715+00.00	LT.	1400.0
173	RS-145	701+00.00	715+00.00	RT.	1400.0
173	RS-146	701+00.00	715+00.00	RT.	1400.0
174	RS-147	715+00.00	729+00.00	LT.	1400.0
174	RS-148	715+00.00	729+00.00	LT.	1400.0
174	RS-149	715+00.00	729+00.00	RT.	1400.0
174	RS-150	715+00.00	729+00.00	RT.	1400.0
175	RS-151	729+00.00	743+00.00	LT.	1400.0
175	RS-152	729+00.00	743+00.00	LT.	1400.0
175	RS-153	729+00.00	743+00.00	RT.	1400.0
175	RS-154	729+00.00	743+00.00	RT.	1400.0
176	RS-155	743+00.00	745+61.58	LT.	261.6
176	RS-156	745+61.58	748+37.50	LT.	275.9
176	RS-157	743+00.00	748+37.50	LT.	537.5
176	RS-158	743+00.00	748+37.50	RT.	537.5
176	RS-159	743+00.00	748+37.50	RT.	537.5
TOTALS CARRIED TO GENERAL SUMMARY					30150.0

EARTHWORK TABLE

SHEET NO.	STATION TO STATION FROM	TO	LOCATION	203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	203 EMBANKMENT		659 SEEDING AND MULCHING	659 COMMERCIAL FERTILIZER	
				CU. YD.	CU. YD.		SQ. YD.	TON	
65	345+50	347+50		27	11		569		
66	348+00	350+00		88	44		1058		
67	350+50	350+00		172	38		897		
68	353+50	355+50		67	7		639		
69	369+00	371+00		63	2		705		
70	371+50	373+50		113	30		1239		
71	374+00	376+00		146	52		1188		
72	376+50	379+50		125	3		680		
73	380+00	381+50		103	14		744		
74	396+00	398+00		41	41		750		
75	398+50	400+00		60	25		1112		
76	400+50	402+00		18	5		472		
77	429+00	430+50		37	2		325		
78	431+00	432+50		168	13		1112		
79	433+00	434+50		34	11		750		
80	449+50	451+50		61	21		750		
81	452+00	453+50		102	30		1112		
82	454+00	455+50		21	18		225		
83	463+00	465+00		2	6		177		
84	465+50	467+00		0	19		308		
85	502+50	504+50		4	21		375		
86	505+00	507+00		129	22		1112		
87	507+50	509+50		83	39		775		
88	555+50	557+50		0	3		278		
89	558+00	560+00		32	26		1068		
90	560+50	562+00		6	22		597		
91	590+50	592+00		0	2		167		
92	592+50	594+00		11	46		566		
93	596+50	598+00		18	16		323		
94	598+50	600+00		17	10		425		
95	624+00	625+50		18	4		306		
96	626+00	627+00		48	0		416		
97	630+00	631+50		5	22		303		
98	632+00	633+50		9	49		523		
99	637+50	639+00		0	4		200		
100	639+50	641+50		26	22		631		
101	643+00	644+50		4	16		247		
102	645+00	646+50		10	45		433		
103	663+50	665+50		76	7		148		
104	666+00	669+50		71	4		703		
105	670+00 (STA. EQU.)	670+00		69	6		643		
106	693+00	695+00		147	9		961		
107	695+50	697+00		110	12		1028		
108	743+50	745+50		69	55		1028		
109	746+00	747+00		91	39		1112		
110	747+50	749+50		93	56		1028		
120	17+00	18+50	A.A.R.	26	9		278		
121	21+50	23+00	A.A.R.	18	4		222		
122	23+50	25+00	A.A.R.	4	4		168		
TOTALS CARRIED TO GENERAL SUMMARY				2642	966		30876	2.8	

30876 X 9 + 1000 X 20 + 2000 = 2.8 TON

CALCULATED

CHECKED

ESTIMATED QUANTITIES AND EARTHWORK TABLE

MOT-70-6.49

REF NO.	SHEET NO.	STATION TO STATION FROM	STATION TO STATION TO	SIDE	202 PIPE REMOVED, 24" AND UNDER (LIN. FT.)	202 GUTTER REMOVED (LIN. FT.)		601 RIPRAP (SQ. YD.)	603 12" CONDUIT, TYPE B (LIN. FT.)	603 12" CONDUIT, TYPE C (LIN. FT.)	603 12" CONDUIT, TYPE D (LIN. FT.)	603 15" CONDUIT, TYPE C (LIN. FT.)	604 CATCH BASIN, NO. 8 (EACH)	604 CATCH BASIN, NO. 2-2B (EACH)		606 GUARDRAIL, TYPE 5 (LIN. FT.)	606 GUARDRAIL, TYPE 5A (LIN. FT.)	606 BRIDGE TERMINAL ASSEMBLY, TYPE I (EACH)	606 ANCHOR ASSEMBLY, TYPE A (EACH)	606 ANCHOR ASSEMBLY, TYPE B-98 (EACH)	606 ANCHOR ASSEMBLY, TYPE E-98 (EACH)	606 IMPACT ATTENUATOR, TYPE 2-98 (QS2406Y) (UNIDIRECTIONAL) (EACH)	622 CONCRETE BARRIER, TYPE D (EACH)	626 BARRIER REFLECTOR, TYPE B2 (EACH)	626 BARRIER REFLECTOR, TYPE A2 (EACH)
MEEKER RD.																									
R-71	123	48+30	48+66	LT.	36																				
R-72	123	50+75.7	50+84.4	LT.		55																			
D-4	123	48+30	48+66	LT.							36														
D-5	123	50+86.13	51+29.80	LT.				3.0	48				1												
GR-69	123	48+82.4	50+76.7	LT.													200		2						5
GR-70	123	48+76.1	51+01.1	RT.													162.5		1	1					4
FREDRICK RD.																									
GR-71	135	48+77.92	51+78.40	LT.												50		1				1	1	180.5	3	2
GR-72	135	48+89.91	51+44.89	RT.												25		1				1	1	160	3	2
D-6	135	48+75	51+50	RT.	32					26		252		3											
TOTALS CARRIED TO GENERAL SUMMARY					68	55		3.0	48	26	36	252	1	3		75	362.5	2	3	1	2	2	340.5	6	13

SHEET NO.	STATION TO STATION FROM	STATION TO STATION TO		203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION (CU. YD.)		203 EMBANKMENT (CU. YD.)		659 SEEDING AND MULCHING (SQ. YD.)	659 COMMERCIAL FERTILIZER (TON)	
MEEKER RD.										
125	47+25	48+00		0		0		0		
126	48+25	48+75		10		1		223		
127	49+00	49+20		8		3		247		
128	49+30	49+50		18		1		184		
129	49+60	49+80		12		0		175		
130	49+90	50+10		6		2		161		
131	50+20	50+40		5		3		158		
132	50+50	50+70		10		6		174		
133	50+80	51+00		20		12		130		
134	51+10	51+30		11		0		50		
FREDRICK RD.										
136	47+50	48+50		0		0		0		
137	48+69.5	48+90		4		21		212		
138	49+00	49+50		2		75		348		
139	49+75	50+00		2		42		220		
140	50+25	50+50		2		50		220		
141	50+75	51+25		3		66		431		
142	51+50	52+25		12		25		371		
TOTALS CARRIED TO GENERAL SUMMARY				125		307		3304	0.3	

(3304 X 9 + 1000) X 20 + 2000 = 0.3 TON

CALCULATED

CHECKED

ESTIMATED QUANTITIES FOR MEEKER RD. AND FREDRICK RD.

MOT-70-6.49

FOR CURVE DATA SEE SCHEMATIC PLAN ON SHEETS 2-6.
FOR TRANSITION DETAILS SEE SHEET 15.
FOR WORK ON STRUCTURE MOT-70-0672 R SEE SHEETS 183-188.
FOR BALLOONED QUANTITIES SEE SHEETS 26-29.
FOR MEDIAN GUARDRAIL CROSS-SECTIONS SEE SHEETS. 65-68

BEGIN WORK
STA. 342+12.50

BEGIN PROJECT
STA. 342+50
S.L.M. 6.49

TE21-G000 (078)

37.5' SEE TRANSITION DETAIL "A" ON SHEET 15.

37.5' SEE TRANSITION DETAIL "A" ON SHEET 15.

℄ SURVEY N.B. S.R.-49

℄ SURVEY I.R.-70

S 83° 40' 59" E

DIAMOND MILL RD.
N 0° 19' 11" E

EX. L/A

EX. CONC. BARRIER

EX. C.B.(ABANDONED) (USED AS A JUNCTION BOX)

EX. 12" CONDUIT

S.C. C-20 +38.40

T.S. C-20 +88.40

L.O.N. +64.05

L.O.N. +22.9

L.O.N. +00.7

L.O.N. +74.5

L.O.N. +53.04

STRUCTURE MOT-70-672 L&R

STRUCTURE MOT-70-0662

37.5' TRANSITION L&R SEE DETAIL "C" ON SHEET 15.

37.5' TRANSITION L&R SEE DETAIL "C" ON SHEET 15.

RAZOR RUN

STA. 354+00

MATCH LINE

STA. 347+48.69 ℄ SURVEY I.R.-70
STA. 53+00.12 ℄ SURVEY DIAMOND MILL RD.

R-1 GR-1 GR-2 GR-2A R-2 GR-3 GR-4 R-5 R-3 GR-2B R-4

STRUCTURE MOT-49-1279L ℄ SURVEY S.B. S.R-49

STRUCTURE MOT-49-1269L

EX. L/A

S 70° 20' 55" W

N 0° 19' 11" E

S.C. C-18 +64.67

T.S. C-18 +14.67

C.S. C-18 +98.35

S.T. C-18 +98.35

37.5' TRANSITION SEE DETAIL "C" ON SHEET 15

RAZOR RUN

BM #1 ELEV. 983.25 SQUARE CUT IN S. END OF W. BRIDGE RAIL OVER I-70 ON DIAMOND MILL RD.

BM #2 ELEV. 976.47 W. MOST BOLT AT S. END OF W. GUARDRAIL BR. MOT-49-12.69L 17.1 LT. STA. 47+42.29 (DIAMOND MILL)

BM #3 ELEV. 969.39 SQUARE CUT IN N.E. CORNER OF BRIDGE ON DIAMOND MILL RD. 14.9 RT. STA. 44+12.43 (DIAMOND MILL)

BM #4 ELEV. 958.61 N. MOST GUARDRAIL BOLT SR. 49 S. BOUND 27.1 RT. STA. 264+33.49 (SR.49)

N

HORIZONTAL SCALE IN FEET
0

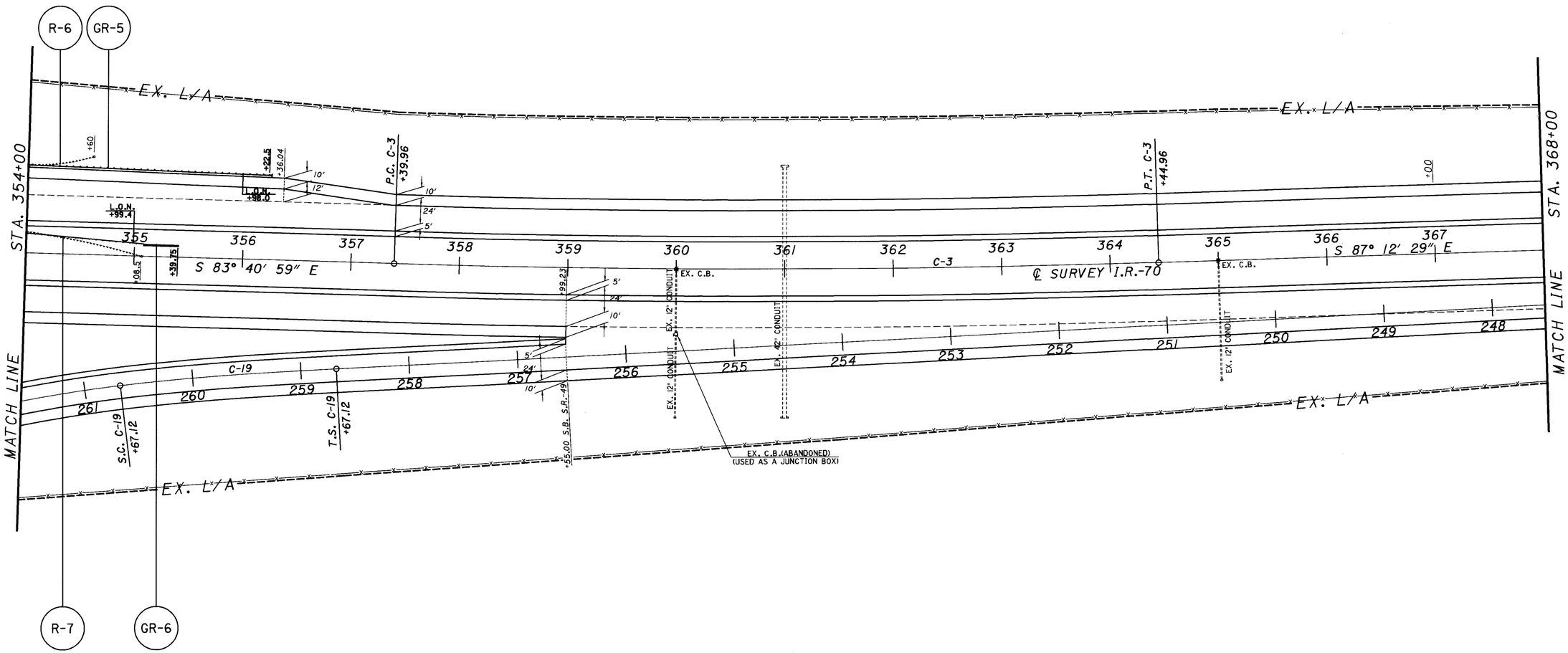
CALCULATED

CHECKED

PLAN SHEET - I.R.-70
STA. 340+00.00 TO STA. 354+00.00

MOT-70-6.49

33
201



BM #4 N. MOST GUARDRAIL BOLT
ELEV. 958.61 SR.-49 S. BOUND
27.1 RT. STA. 264+33.49 (SR.-49)

BM#5 ELV. 953.91 4' SIGN POST
39.1 LT. STA. 261+17.01 (SR.-49)

FOR CURVE DATA SEE SCHEMATIC PLAN ON SHEETS 2 TO 6.
FOR BALLOONED QUANTITIES SEE SHEETS 26-29.
FOR MEDIAN GUARDRAIL CROSS-SECTIONS SEE SHEETS. 65-68

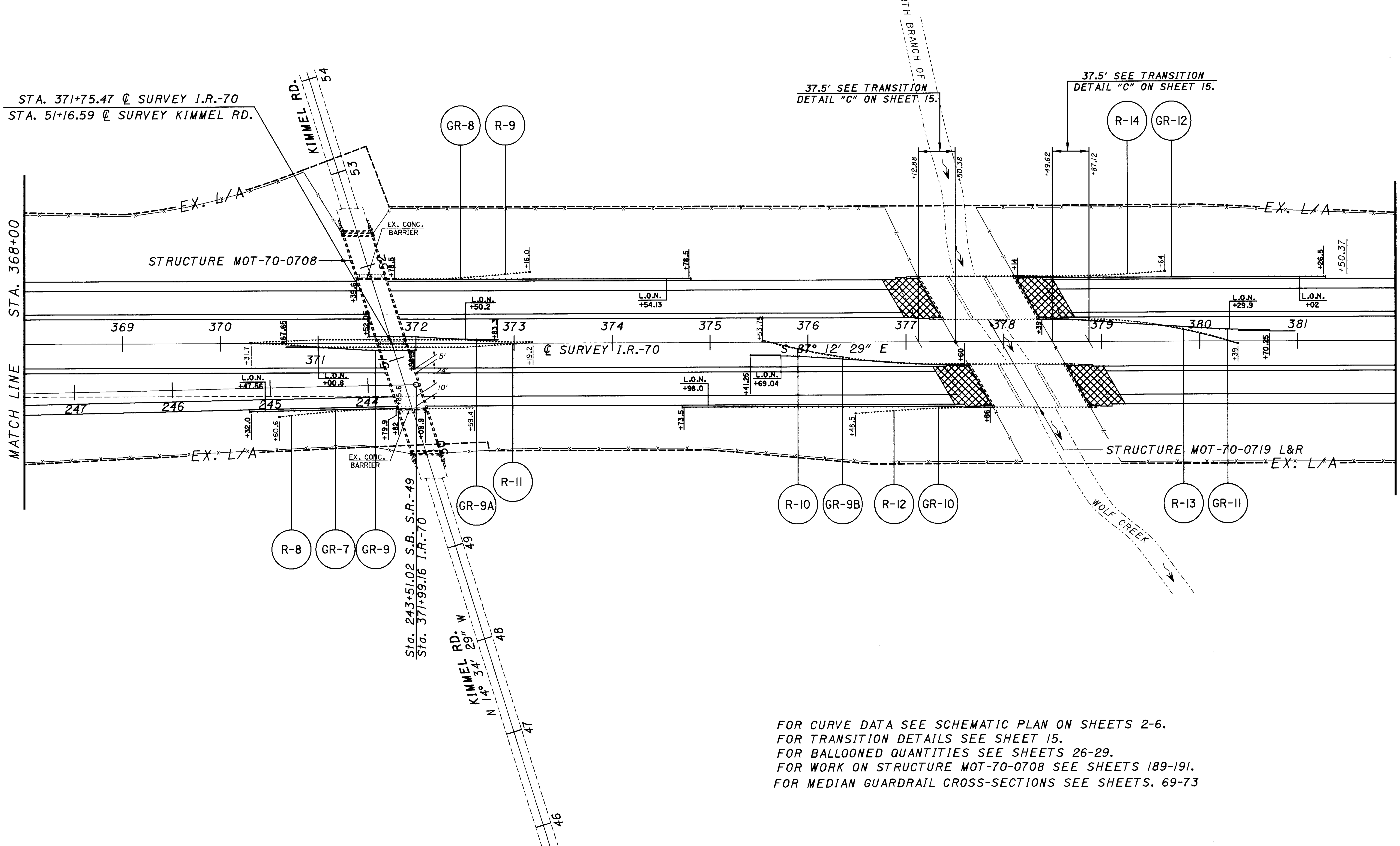
HORIZONTAL SCALE IN FEET
0

CALCULATED
CHECKED

PLAN SHEET - I.R.-70
STA. 354+00.00 TO STA. 368+00.00

MOT-70-6.49

34
201


STA. 371+75.47 ℄ SURVEY I.R.-70
STA. 51+16.59 ℄ SURVEY KIMMEL RD.
KIMMEL RD.
STRUCTURE MOT-70-0708
EX. CONC. BARRIER
EX. L/A
STA. 368+00
MATCH LINE
STA. 382+00
℄ SURVEY I.R.-70
S 87° 12′ 29″ E
37.5′ SEE TRANSITION DETAIL "C" ON SHEET 15.
NORTH BRANCH OF WOLF CREEK
STRUCTURE MOT-70-0719 L&R
Sta. 243+51.02 S.B. S.R.-49
Sta. 371+99.6 I.R.-70
KIMMEL RD.
N 14° 34′ 29″ W
GR-8
R-9
R-14
GR-12
R-8
GR-7
GR-9
GR-9A
R-11
R-10
GR-9B
R-12
GR-10
R-13
GR-11
L.O.N.
369
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380
381
247
246
245
244

FOR CURVE DATA SEE SCHEMATIC PLAN ON SHEETS 2-6.
FOR TRANSITION DETAILS SEE SHEET 15.
FOR BALLOONED QUANTITIES SEE SHEETS 26-29.
FOR WORK ON STRUCTURE MOT-70-0708 SEE SHEETS 189-191.
FOR MEDIAN GUARDRAIL CROSS-SECTIONS SEE SHEETS. 69-73

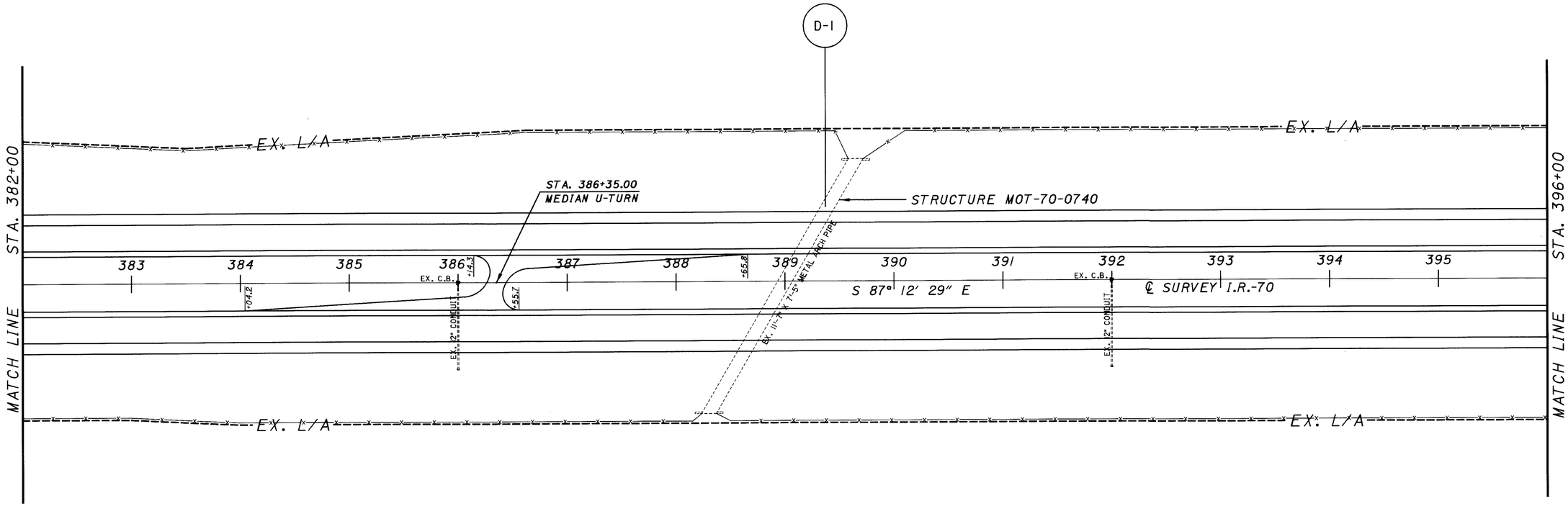
N

HORIZONTAL SCALE IN FEET

CALCULATED | CHECKED

PLAN SHEET - I.R.-70
STA. 368+00.00 TO STA. 382+00.00

MOT-70-6.49



FOR U-TURN MEDIAN OPENING DETAILS SEE SHEET 15.
FOR BALLOONED QUANTITIES SEE SHEETS 26-29.

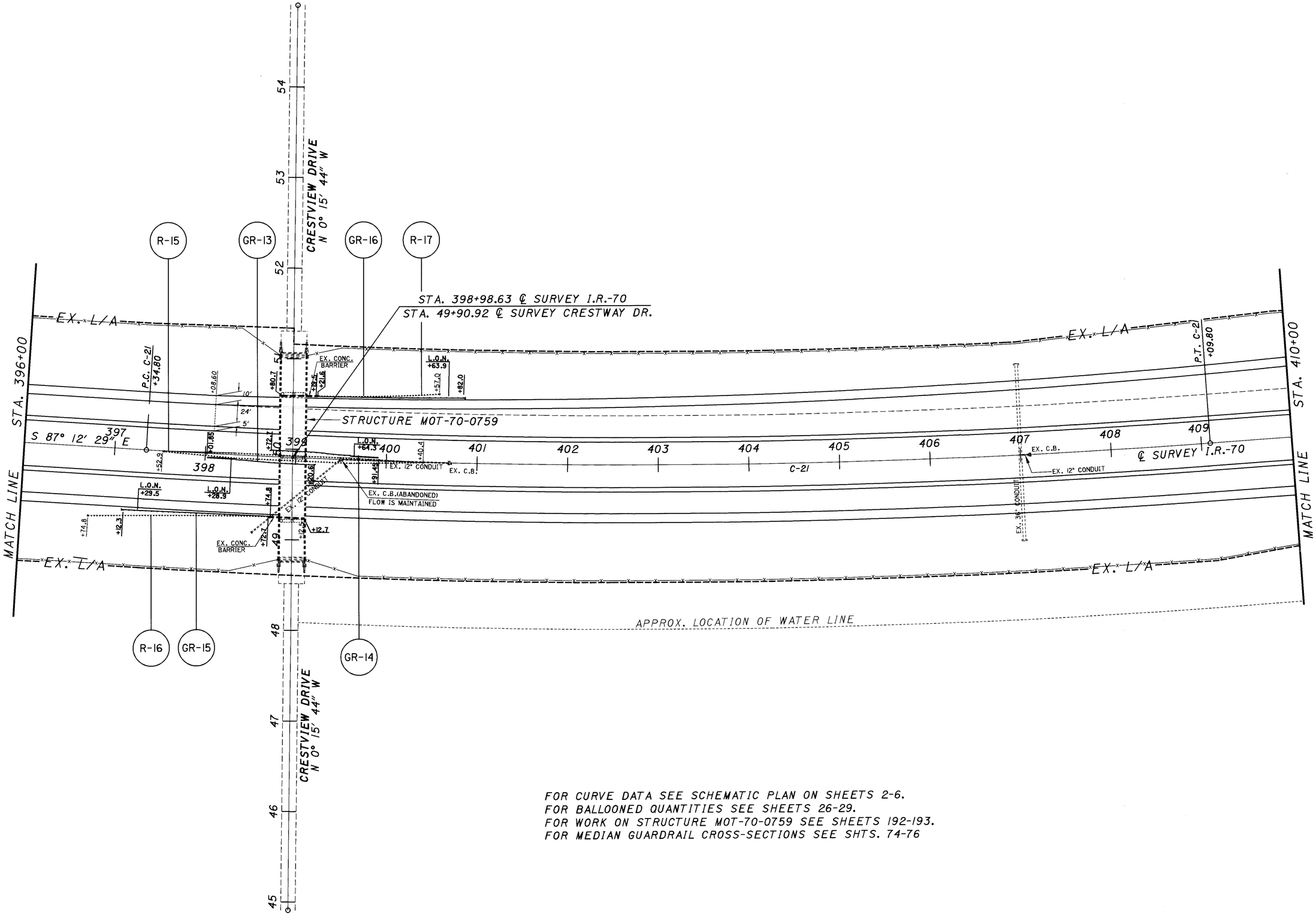
HORIZONTAL SCALE IN FEET
0

CALCULATED | CHECKED

PLAN SHEET - I.R.-70
STA. 382+00.00 TO STA. 396+00.00

MOT-70-6.49

36
201



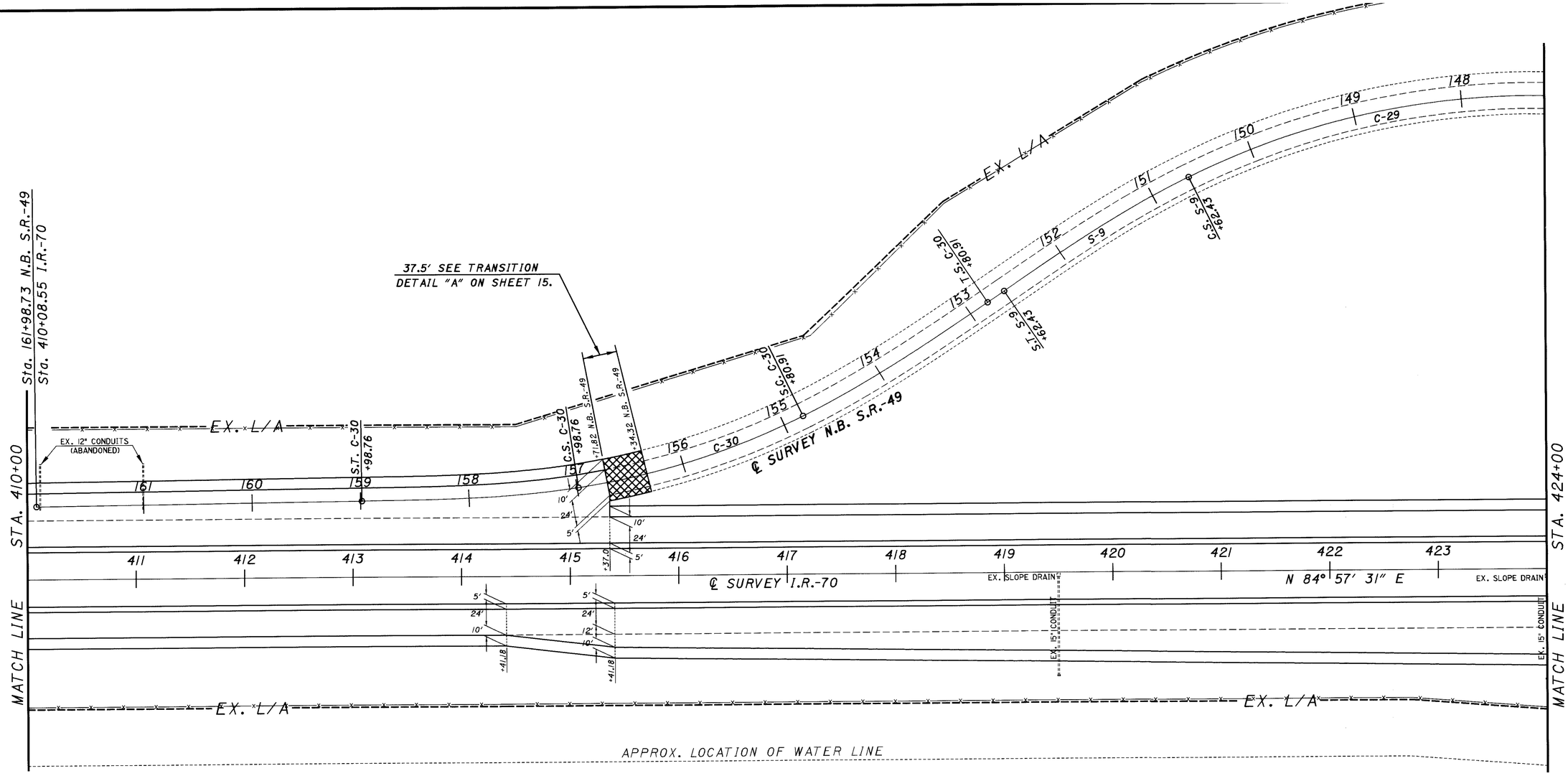
FOR CURVE DATA SEE SCHEMATIC PLAN ON SHEETS 2-6.
FOR BALLOONED QUANTITIES SEE SHEETS 26-29.
FOR WORK ON STRUCTURE MOT-70-0759 SEE SHEETS 192-193.
FOR MEDIAN GUARDRAIL CROSS-SECTIONS SEE SHTS. 74-76

HORIZONTAL SCALE IN FEET

CALCULATED | CHECKED

PLAN SHEET - I.R.-70
STA. 396+00.00 TO STA. 410+00.00

MOT-70-6.49



FOR CURVE DATA SEE SCHEMATIC PLAN ON SHEETS 2-6.
FOR TRANSITION DETAILS SEE SHEET 15.

HORIZONTAL SCALE IN FEET

CALCULATED

CHECKED

PLAN SHEET - I.R.-70
STA. 410+00.00 TO STA. 424+00.00

MOT-70-6.49

38
201

FOR CURVE DATA SEE SCHEMATIC PLAN ON SHEETS 2-6.
FOR TRANSITION DETAILS SEE SHEET 15.
FOR BALLOONED QUANTITIES SEE SHEETS 26-29.
FOR WORK ON STRUCTURE MOT-49-1112 R SEE SHEETS 194-195.
FOR MEDIAN GUARDRAIL CROSS-SECTIONS SEE SHTS. 77-79

HORIZONTAL SCALE IN FEET

CALCULATED | CHECKED

PLANS SHEET - I.R.-70
STA. 424+00.00 TO STA. 438+00.00

MOT-70-6.49

39
201

FOR CURVE DATA SEE SCHEMATIC PLAN ON SHEETS 2-6
FOR BALLOONED QUANTITIES SEE SHEETS 26-29.
FOR MEDIAN GUARDRAIL CROSS-SECTIONS SEE SHTS. 80-84

HORIZONTAL SCALE IN FEET
0

CALCULATED | CHECKED

PLAN SHEET - I.R.-70
STA. 438+00.00 TO STA. 452+00.00

MOT-70-6.49

40
201

FOR CURVE DATA SEE SCHEMATIC PLAN ON SHEETS 2-6.
FOR TRANSITION DETAILS SEE SHEET 15.
FOR BALLOONED QUANTITIES SEE SHEETS 26-29.
FOR MEDIAN GUARDRAIL CROSS-SECTIONS SEE SHTS. 80-84

HORIZONTAL SCALE IN FEET

CALCULATED | CHECKED

PLAN SHEET - I.R.-70
STA. 452+00.00 STA. 466+00.00

MOT-70-6.49

41
201

STA. 452+00

STA. 466+00

MATCH LINE

MATCH LINE

HOKE RD.
N 0° 22' 35" E

N 0° 22' 35" E

37.5' SEE TRANSITION DETAIL "A" ON SHEET 15.

37.5' SEE TRANSITION DETAIL "A" ON SHEET 15.

STA. 452+00.00 ℄ SURVEY I.R.-70
STA. 55+71.89 ℄ SURVEY HOKE RD.

℄ SURVEY I.R.-70

S 88° 51' 05" E

EX. L/A

EX. L/A

EX. L/A

EX. L/A

EX. L/A

EX. L/A

℄ RAMP "B"

℄ RAMP "A"

STRUCTURE MOT-70-0873

STRUCTURE MOT-70-0859

FOR WORK ON STRUCTURE NO. MOT-70-0873
SEE SHEETS TO

R-23 | R-23A | GR-23A | GR-26 | R-25

GR-24 | GR-23 | GR-25 | R-24

Sta. 14+75.00

Sta. 14+99.97

T.S. S-10 +64.36

S.T. S-10 +64.36

T.S. C-33 +13.99

S.C. C-33 +13.99

C.S. C-33 +24.86

S.T. C-33 +24.86

T.S. C-34 +18.79

S.C. C-34 +18.79

C.S. C-34 +99.97

S.T. C-34 +99.97

L.O.N. +75.95

L.O.N. +81.9

L.O.N. +56.3

L.O.N. +40.3

EX. 2" CONDUIT

EX. 12" CONDUIT

EX. 12" CONDUIT (ABANDONED)

EX. C.B. (ABANDONED) (FLOW MAINTAINED)

EX. C.B.

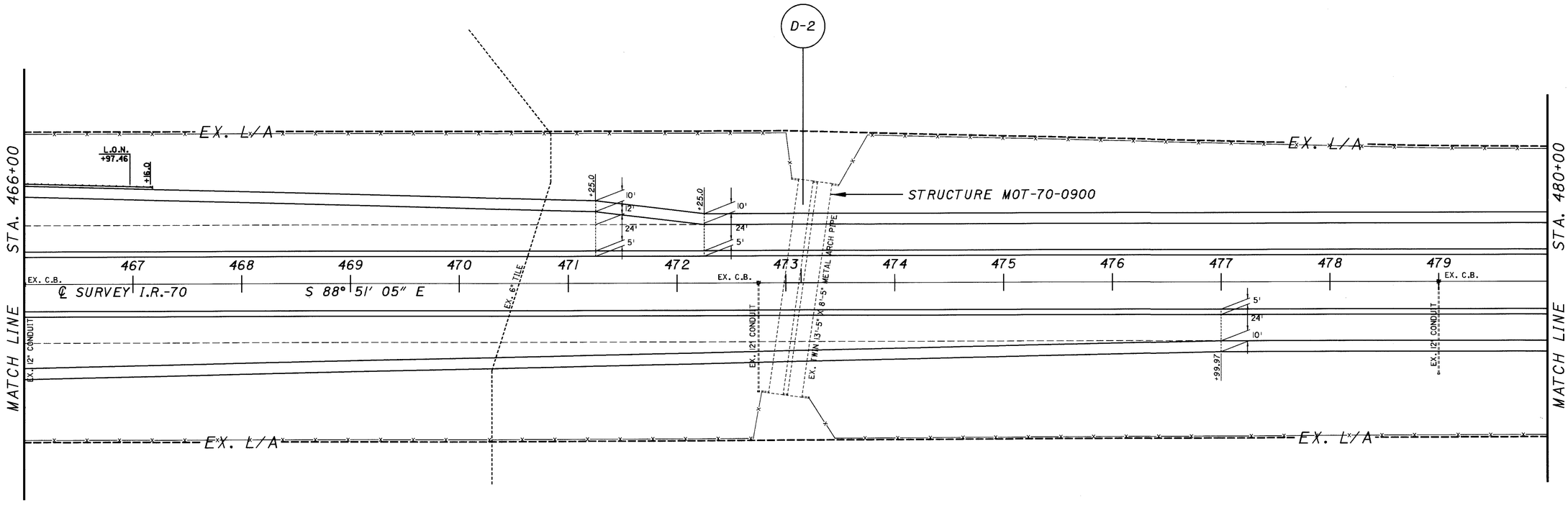
EX. OVERHEAD SIGN

EX. 91'-6" x 6'-5" METAL ARCH PIPE

C-33

C-34

FOR BALLOONED QUANTITIES SEE SHEETS 26-29.



HORIZONTAL SCALE IN FEET

CALCULATED

CHECKED

PLAN SHEET - I.R.-70

STA. 466+00.00 TO STA. 480+00.00

MOT-70-6.49

FOR U-TURN MEDIAN OPENING DETAILS SEE SHEET 15.

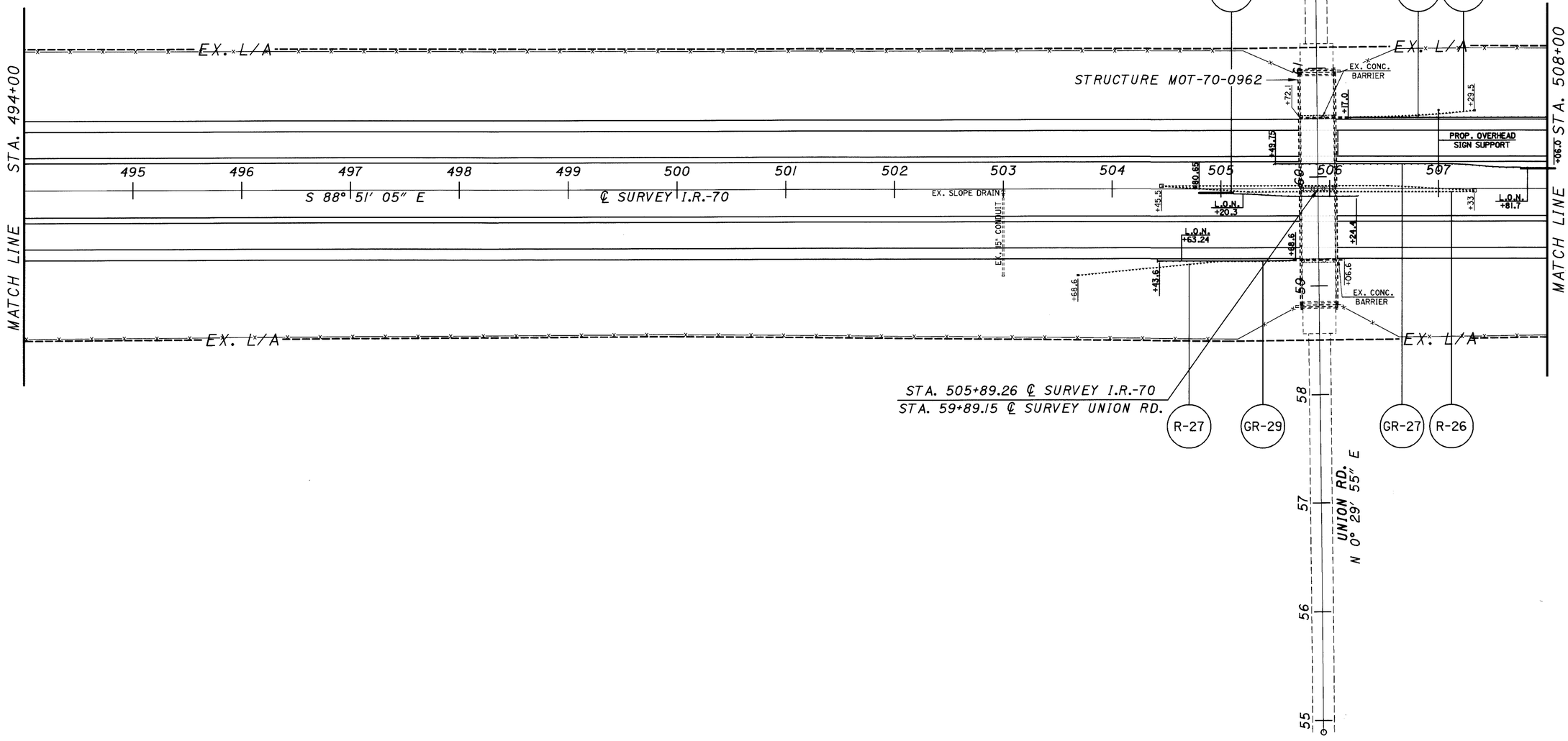
HORIZONTAL SCALE IN FEET

CALCULATED | CHECKED

PLAN SHEET - I.R.-70
STA. 480+00.00 TO STA. 494+00.00

MOT-70-6.49

FOR BALLOONED QUANTITIES SEE SHEETS 26-29.
FOR WORK ON STRUCTURE MOT-70-0962 SEE SHEETS 196-198.
FOR PROPOSED OVERHEAD SIGN SEE SHEET 146.
FOR MEDIAN GUARDRAIL CROSS-SECTIONS SEE SHTS. 85-87



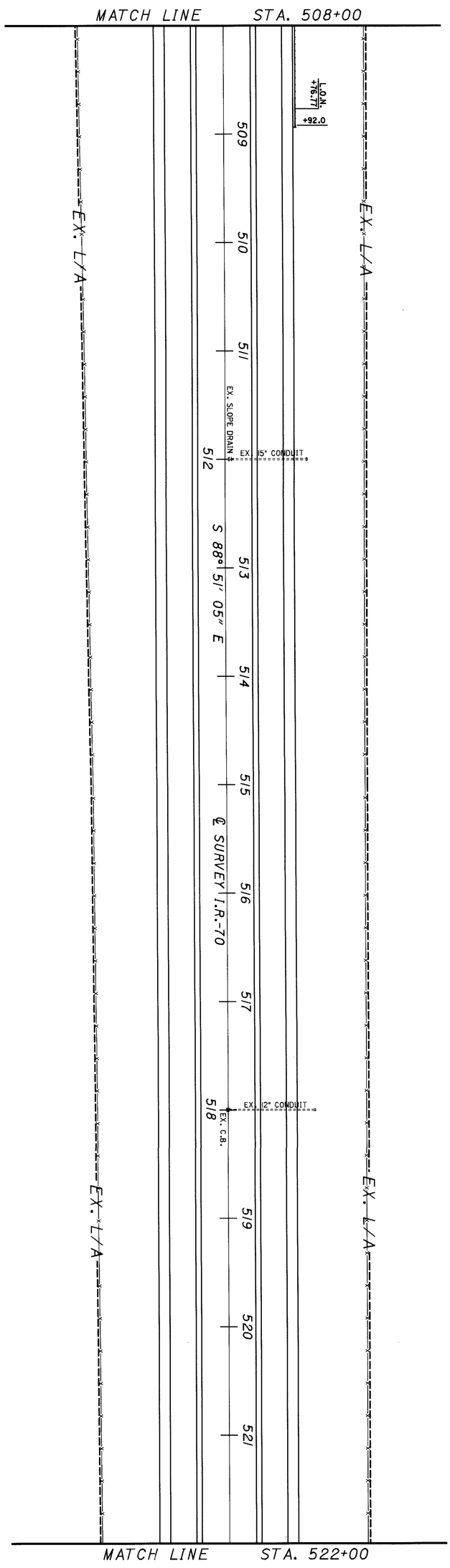
HORIZONTAL SCALE IN FEET
0

CALCULATED | CHECKED

PLAN SHEET - I.R.-70
STA. 494+00.00 TO STA. 508+00.00

MOT-70-6.49

44
201



45/201	MOT-70-6.49	PLAN SHEET - I.R.-70 STA. 508+00.00 TO STA. 522+00.00	CALCULATED CHECKED	0 HORIZONTAL SCALE IN FEET

FOR CURVE DATA SEE SCHEMATIC PLAN ON SHEETS 2-6.

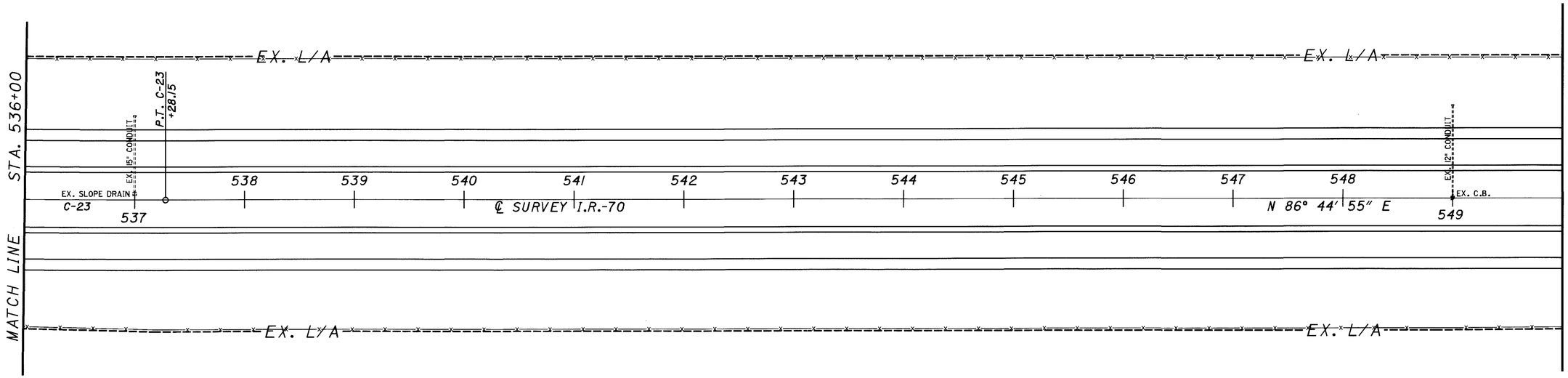
HORIZONTAL SCALE IN FEET

CALCULATED

CHECKED

PLAN SHEET - I.R.-70
STA. 522+00.00 TO STA. 536+00.00

MOT-70-6.49



FOR CURVE DATA SEE SCHEMATIC PLAN ON SHEETS 2-6.

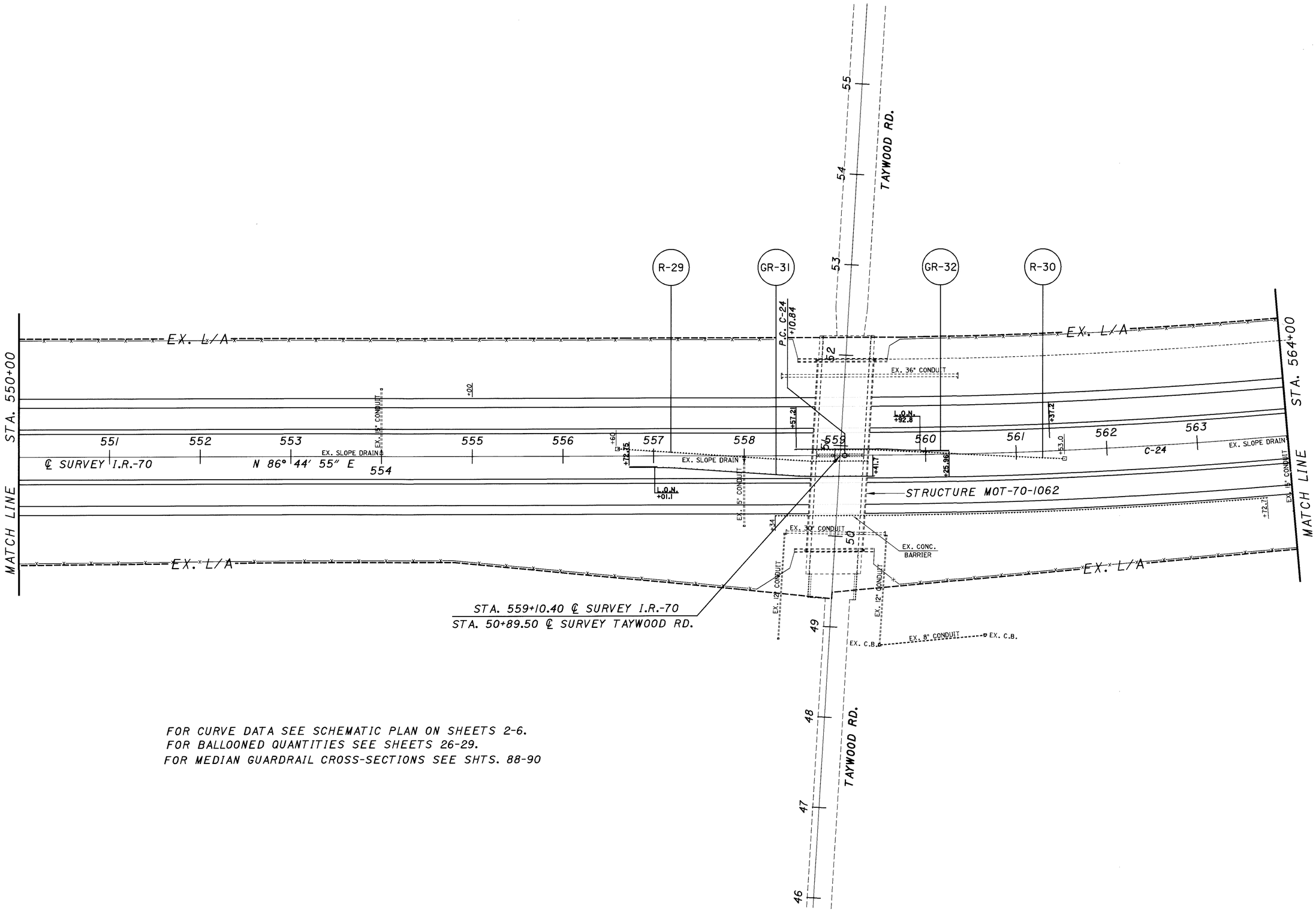
HORIZONTAL SCALE IN FEET

CALCULATED | CHECKED

PLAN SHEET - I.R.-70
STA. 536+00.00 TO STA. 550+00.00

MOT-70-6.49

47
201



FOR CURVE DATA SEE SCHEMATIC PLAN ON SHEETS 2-6.
FOR BALLOONED QUANTITIES SEE SHEETS 26-29.
FOR MEDIAN GUARDRAIL CROSS-SECTIONS SEE SHTS. 88-90

N

0 HORIZONTAL SCALE IN FEET

CALCULATED | CHECKED

PLAN SHEET - I.R.-70
STA. 550+00.00 TO STA. 564+00.00

MOT-70-6.49

48
201

FOR CURVE DATA SEE SCHEMATIC PLAN ON SHEETS 2-6.
FOR U-TURN MEDIAN OPENING DETAILS SEE SHEET 15.

N

HORIZONTAL SCALE IN FEET
0

CALCULATED | CHECKED

PLAN SHEET - I.R.-70
STA. 564+00.00 TO STA. 578+00.00

MOT-70-6.49

49
201

FOR CURVE DATA SEE SCHEMATIC PLAN ON SHEETS 2-6.
FOR BALLOONED QUANTITIES SEE SHEETS 26-29.

HORIZONTAL SCALE IN FEET
0

CALCULATED | CHECKED

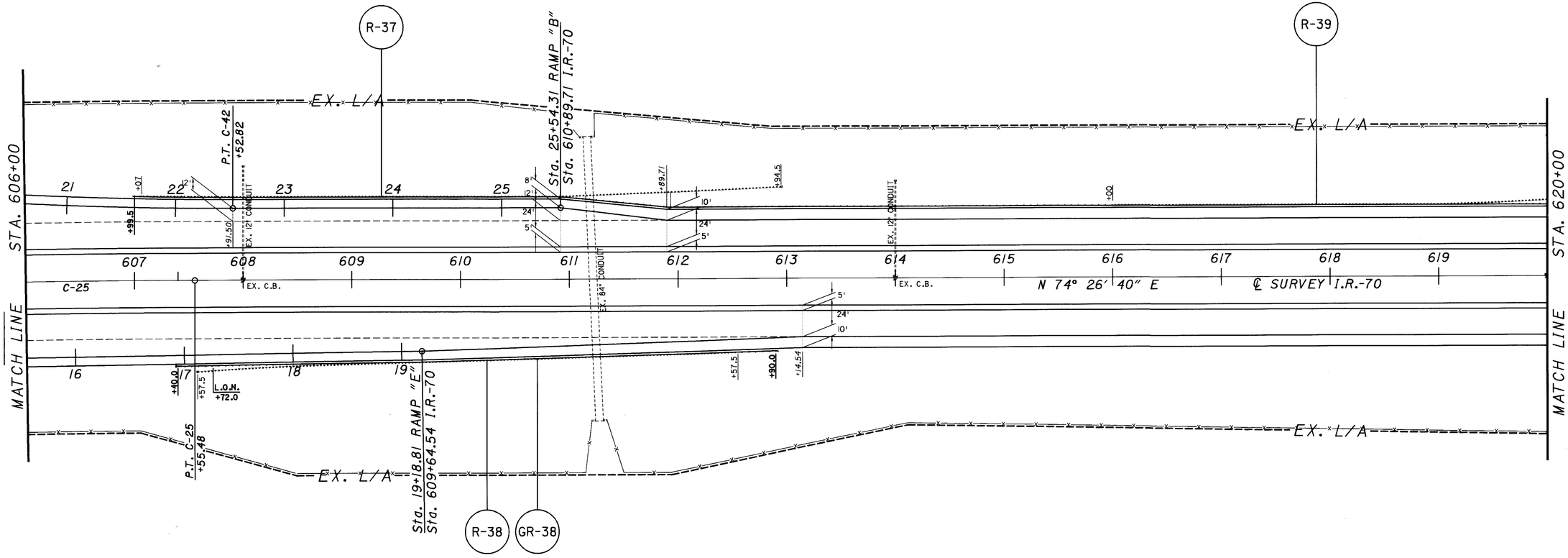
PLAN SHEET - I.R.-70
STA. 578+00.00 TO STA. 592+00.00

MOT-70-6.49

FOR CURVE DATA SEE SCHEMATIC PLAN ON SHEETS 2-6.
FOR TRANSITION DETAILS SEE SHEET 15.
FOR PAVEMENT SYMBOLS SEE SHEET 15.
FOR BALLOONED QUANTITIES SEE SHEETS 26-29.
FOR WORK ON STRUCTURES MOT-70-1130 L&R SEE SHEETS 199.
FOR MEDIAN GUARDRAIL CROSS-SECTIONS SEE SHTS. 91-94

37.5' SEE TRANSITION DETAIL "B" ON SHEET 15.
P.C. C-40 +19.84
℄ RAMP "AB"
P.T. C-55 +19.84
P.C.C. C-40 +20.94
℄ RAMP "A"
37.5' SEE TRANSITION DETAIL "B" ON SHEET 15.
Sta. 11+74.41
P.C. C-41 +17.86
+24.94 RAMP "AB"
RAMP "B"
EX. L/A
Sta. 314+49.81 S.R.-48
Sta. 6+10.92 RAMP "AB"
S.C. S-19 +67.03
S.T. S-19 +17.03
℄ SURVEY S.R.-48
P.T. C-39 +74.41
P.C. C-38 +74.41
+24.94 RAMP "A"
STA. 595+35.08 ℄ SURVEY I.R.-70
STA. 309+61.27 ℄ SURVEY S.R.-48
P.C.C. C-38 +72.67
℄ RAMP "B"
EX. C.B.
EX. 18" CONDUIT
EX. 8" CONDUIT
P.C.C. C-41 +52.69
+50.55 RAMP "B"
GR-34
R-32
R-33
GR-37
R-36
37.5' SEE TRANSITION DETAIL "C" ON SHEET 15.
+00-PROP. CATCH BASIN, NO.5 GRATE ELEV. 874.60 ℄ PROP. 12" 872.00
+00-EX. C.B. (TO BE REMOVED)
S.T. S-11 +77.64
+40.61 I.R.-70
P.C. C-37 +27.64
L.O.N. +44.4
L.O.N. +25.5
℄ SURVEY I.R.-70
EX. C.B.
EX. 12" CONDUIT
EX. C.B. (ABANDONED) (USED AS A JUNCTION BOX)
P.C. C-25 +32.75
Std. 8+00.00
P.C. C-44 +24.68
P.T. C-44 +38.58 I.R.-70 +81.52
EX. L/A
MATCH LINE STA. 592+00
MATCH LINE STA. 606+00
L.O.N. +18.5
+75 - EX. C.B. (TO BE REMOVED)
EX. 12" CONDUIT (TO BE REMOVED)
PROP 10" & 12" CONDUIT TYPE B @ 15.0%
PROP. MASONRY COLLAR
STRUCTURE MOT-70-1130 L&R
GR-36
R-35
CB-1
R-34
GR-35
RAMP "C"
P.C. C-36 +07.86
P.T. C-36 +01.27
C-36
RAMP "E"
RAMP "F"
P.C. C-43 +40.91
Sta. 5+13.00
P.T. C-43 +98.81
37.5' SEE TRANSITION DETAIL "B" ON SHEET 15.
+52.86 RAMP "F"
+21.79 RAMP "E"
+79.50 RAMP "E"
+13.97 RAMP "E"
N 45° 10' 20" W
S.R.-48

PLAN SHEET - I.R.-70
STA. 592+00.00 TO STA. 606+00.00
MOT-70-6.49
51
201
CALCULATED
CHECKED
HORIZONTAL SCALE IN FEET



FOR CURVE DATA SEE SCHEMATIC PLAN ON SHEETS 2-6.
FOR BALLOONED QUANTITIES SEE SHEETS 26-29.

HORIZONTAL SCALE IN FEET

CALCULATED

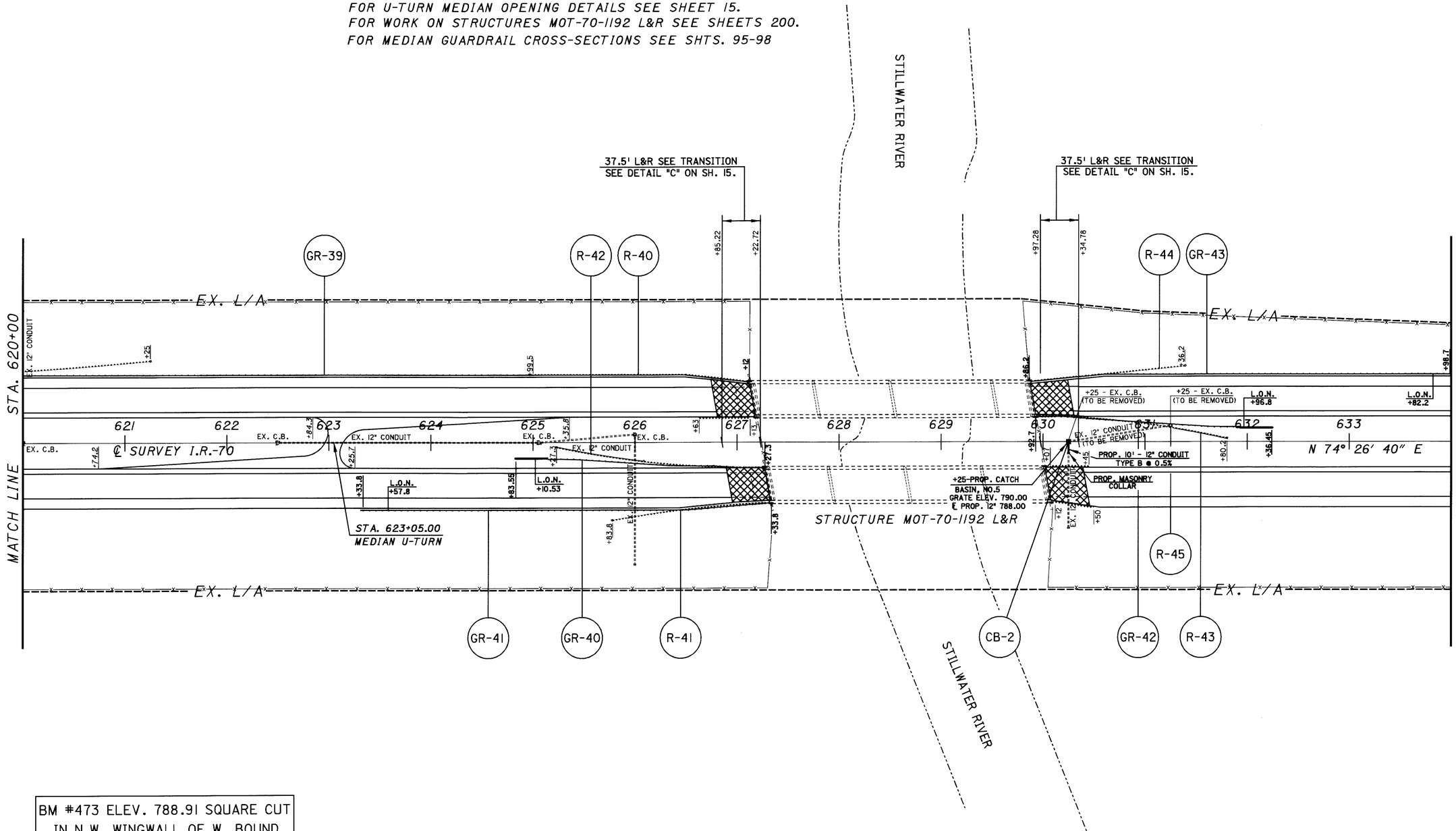
CHECKED

PLAN SHEET - I.R.-70
STA. 606+00.00 TO STA. 620+00.00

MOT-70-6.49

52
201

FOR TRANSITION DETAILS SEE SHEET 15.
FOR BALLOONED QUANTITIES SEE SHEETS 26-29.
FOR U-TURN MEDIAN OPENING DETAILS SEE SHEET 15.
FOR WORK ON STRUCTURES MOT-70-1192 L&R SEE SHEETS 200.
FOR MEDIAN GUARDRAIL CROSS-SECTIONS SEE SHTS. 95-98



BM #473 ELEV. 788.91 SQUARE CUT
IN N.W. WINGWALL OF W. BOUND
BRIDGE AT STILLWATER RIVER
66.4 LT. STA. 627+07.2

HORIZONTAL SCALE IN FEET
0

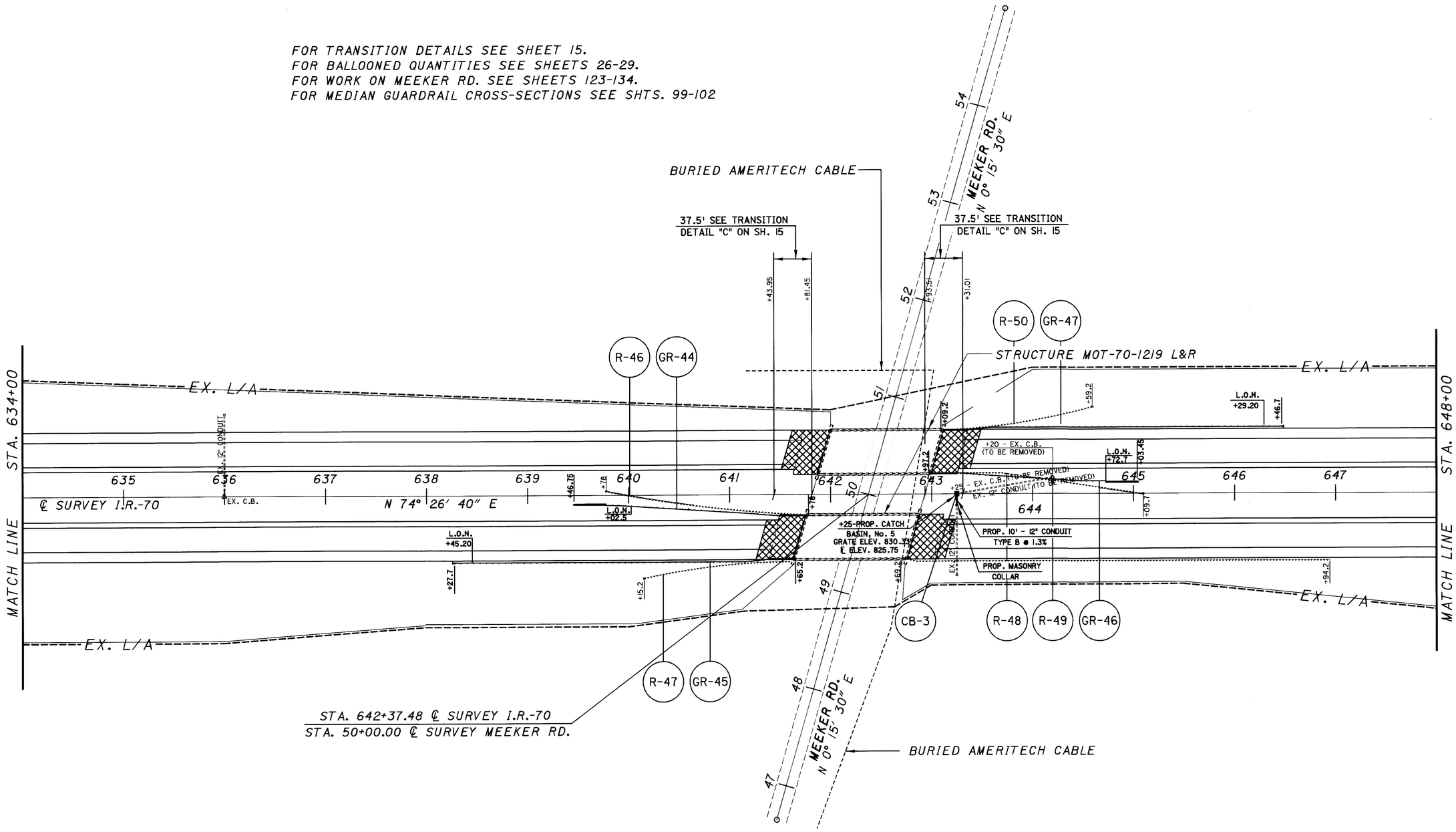
CALCULATED
CHECKED

PLAN SHEET - I.R.-70
STA. 620+00.00 TO STA. 634+00.00

MOT-70-6.49

53
201

FOR TRANSITION DETAILS SEE SHEET 15.
FOR BALLOONED QUANTITIES SEE SHEETS 26-29.
FOR WORK ON MEEKER RD. SEE SHEETS 123-134.
FOR MEDIAN GUARDRAIL CROSS-SECTIONS SEE SHTS. 99-102



BM #476 ELEV. 831.98 SQUARE CUT IN N.E. WINGWALL
N.E. WINGWALL OF W. BOUND BRIDGE OVER MEEKER RD.

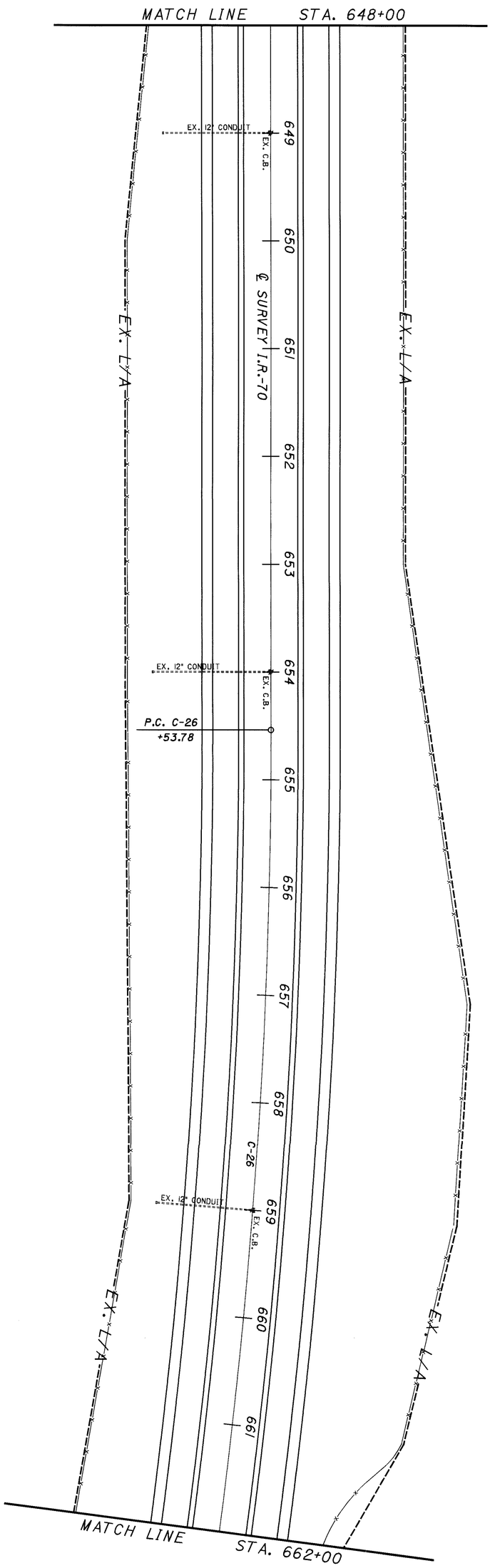
HORIZONTAL SCALE IN FEET

CALCULATED | CHECKED

PLAN SHEET - I.R.-70
STA. 634+00.00 TO STA. 648+00.00

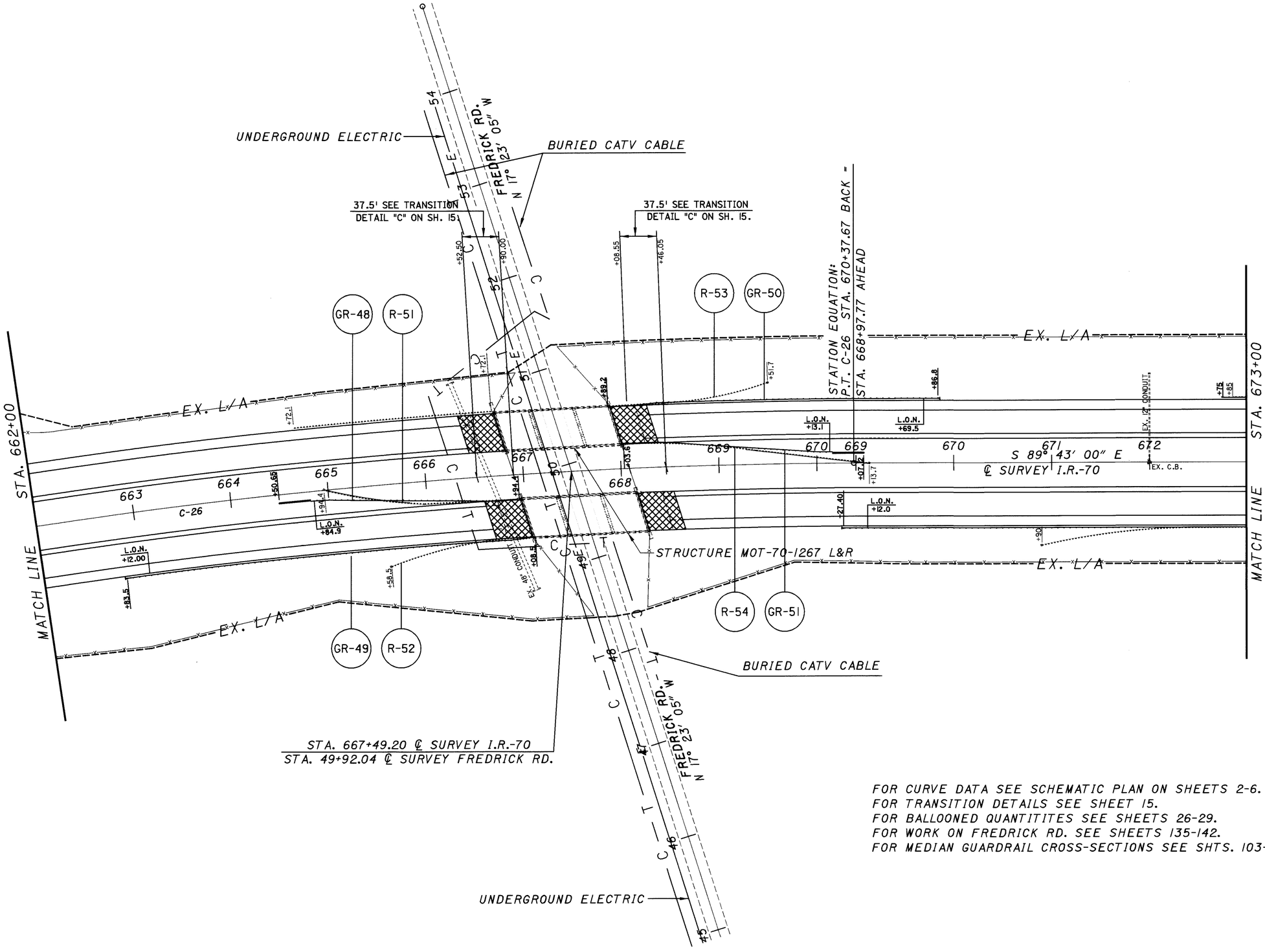
MOT-70-6.49

54
201



FOR CURVE DATA SEE SCHEMATIC PLAN ON SHEETS 2-6.

55 / 201	MOT-70-6.49	PLAN SHEET - I.R.-70 STA. 648+00.00 TO STA. 662+00.00	CALCULATED CHECKED	0 HORIZONTAL SCALE IN FEET



FOR CURVE DATA SEE SCHEMATIC PLAN ON SHEETS 2-6.
FOR TRANSITION DETAILS SEE SHEET 15.
FOR BALLOONED QUANTITITES SEE SHEETS 26-29.
FOR WORK ON FREDRICK RD. SEE SHEETS 135-142.
FOR MEDIAN GUARDRAIL CROSS-SECTIONS SEE SHTS. 103-105

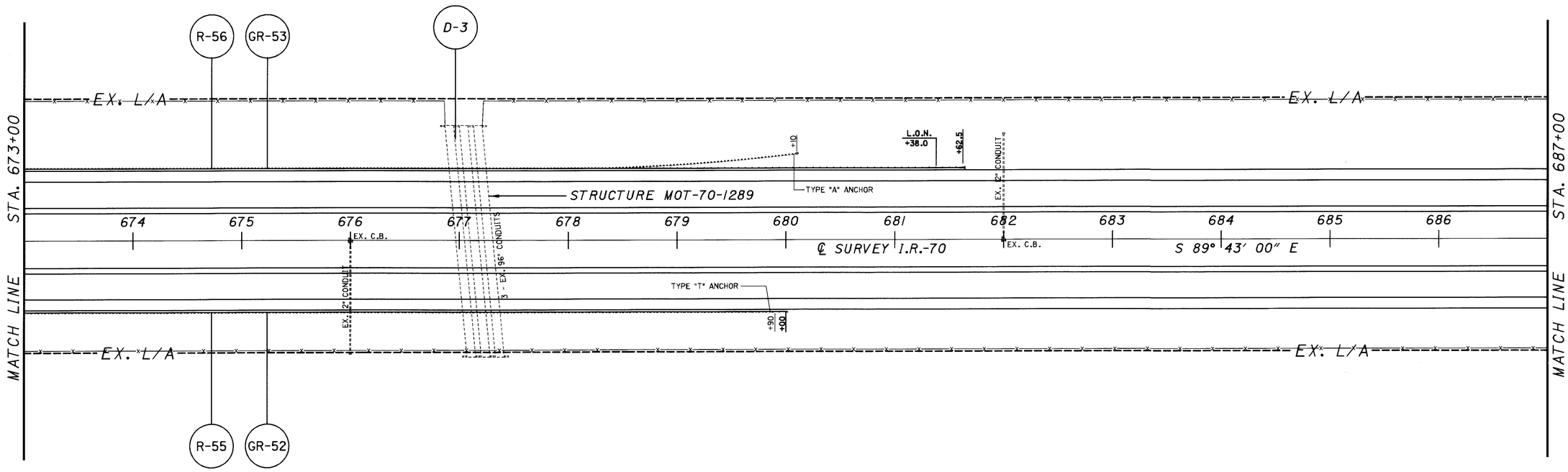
HORIZONTAL SCALE IN FEET
0

CALCULATED
CHECKED

PLAN SHEET - I.R.-70
STA. 662+00.00 TO STA. 673+00.00

MOT-70-6.49

56
201



FOR BALLOONED QUANTITIES SEE SHEETS 26-29.

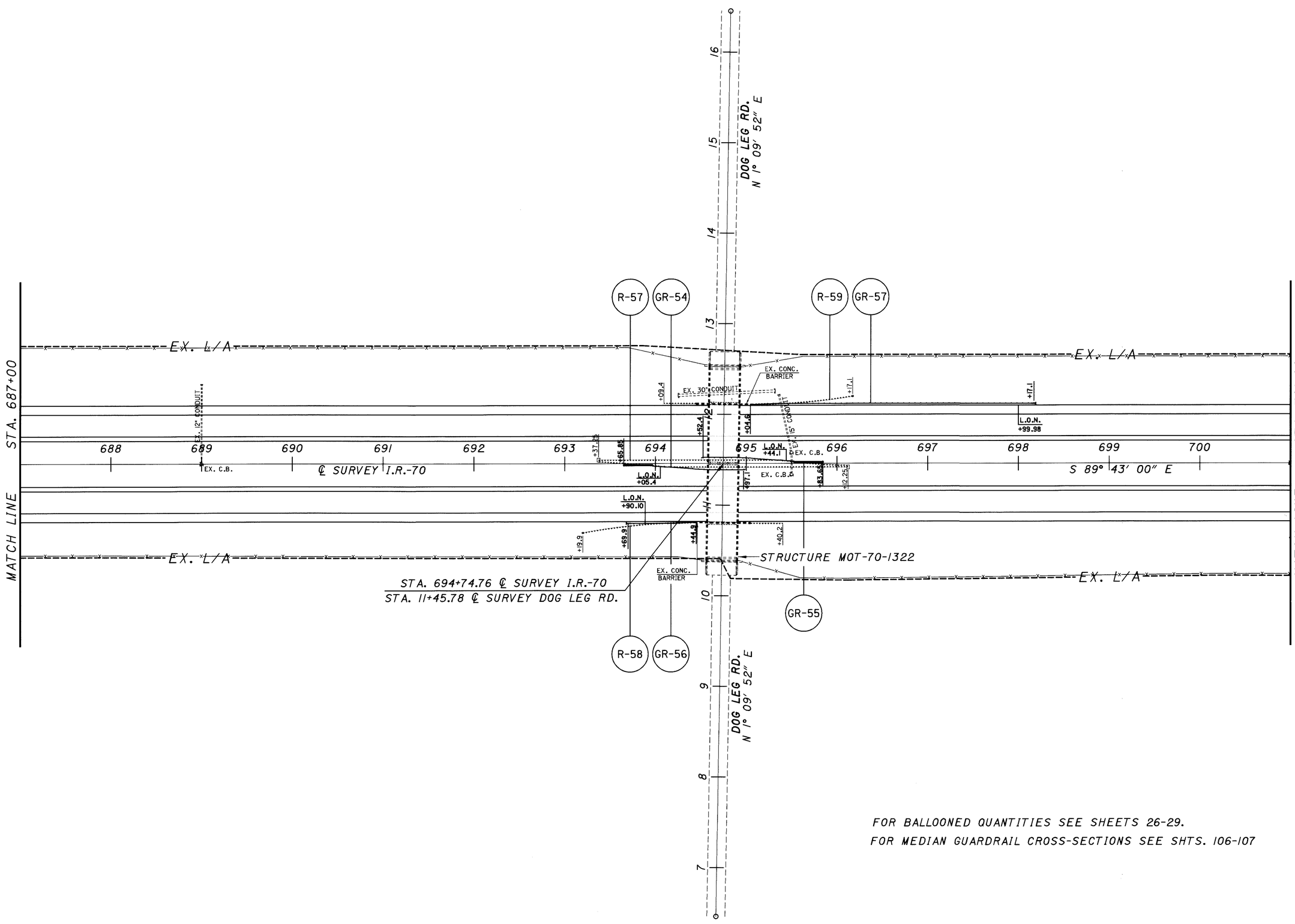
HORIZONTAL SCALE IN FEET

CALCULATED

CHECKED

PLAN SHEET - I.R.-70
STA. 673+00.00 TO STA. 687+00.00

MOT-70-6.49



FOR BALLOONED QUANTITIES SEE SHEETS 26-29.
FOR MEDIAN GUARDRAIL CROSS-SECTIONS SEE SHTS. 106-107

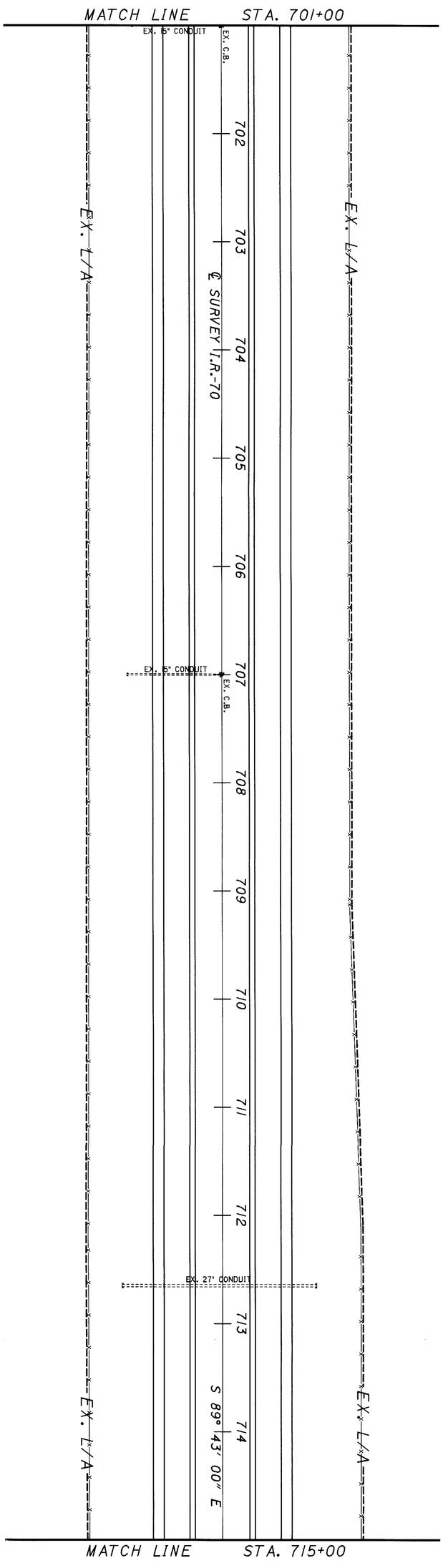
HORIZONTAL SCALE IN FEET
0

CALCULATED
CHECKED

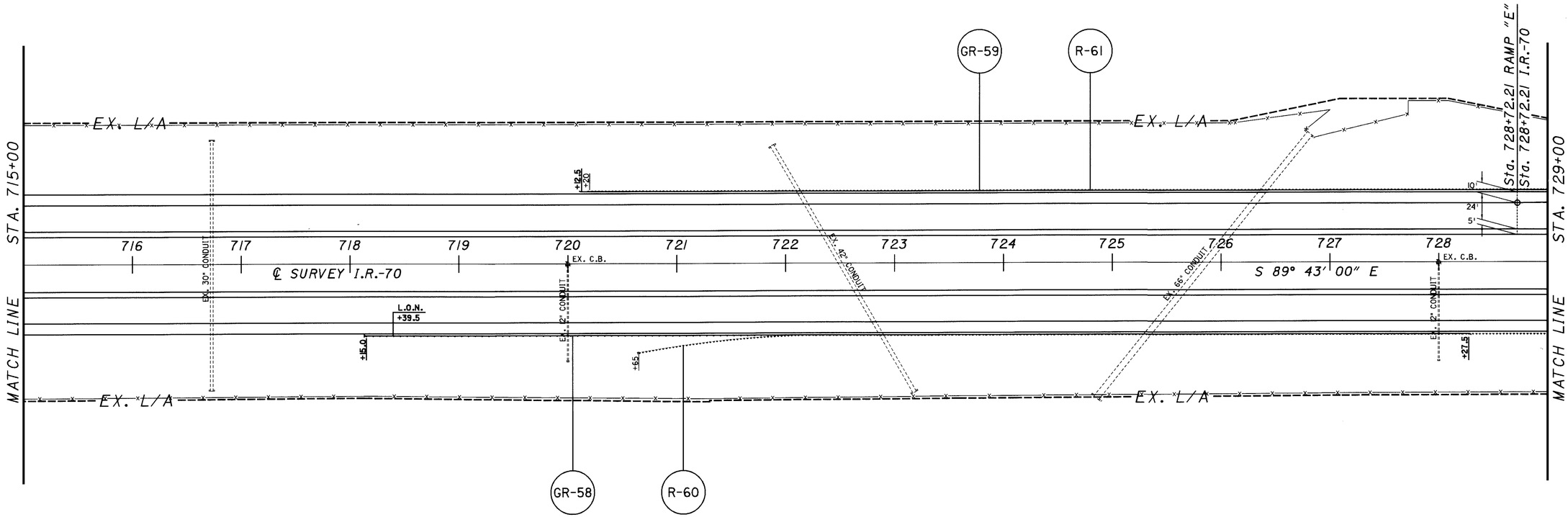
PLAN SHEET - I.R.-70
STA. 687+00.00 TO STA. 701+00.00

MOT-70-6.49

58
201



59 / 201	MOT-70-6.49	PLAN SHEET - I.R.-70 STA. 701+00.00 TO STA. 715+00.00	CALCULATED CHECKED	0 HORIZONTAL SCALE IN FEET



FOR BALLOONED QUANTITIES SEE SHEETS 26-29.

HORIZONTAL SCALE IN FEET

CALCULATED

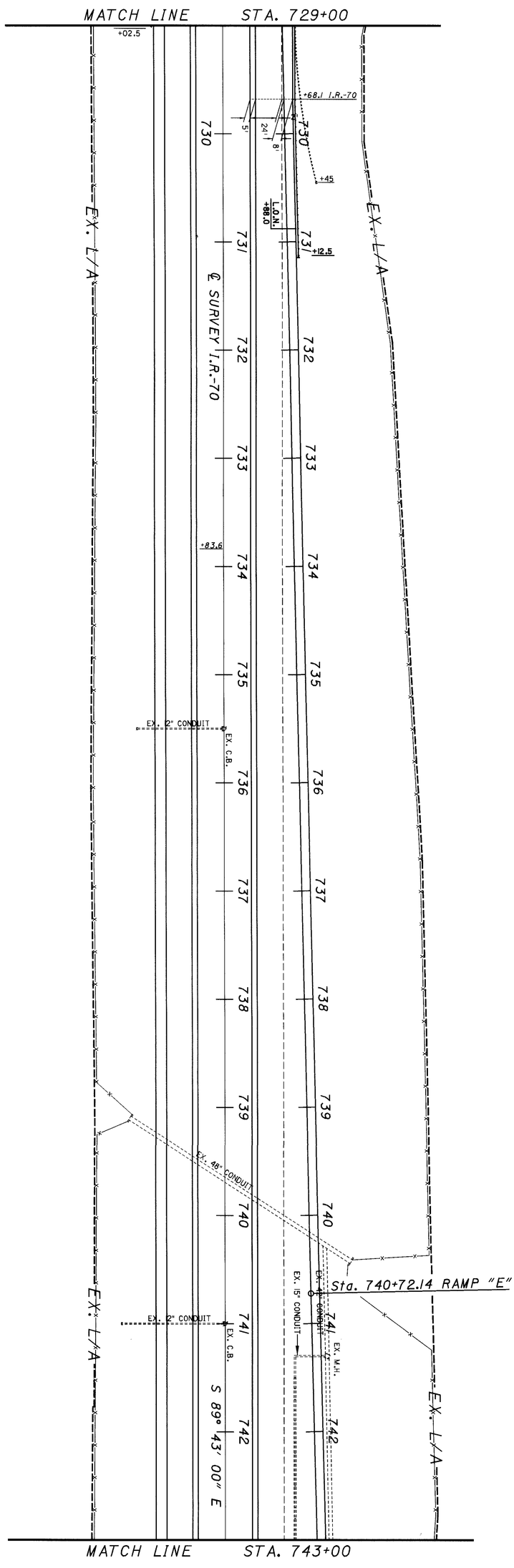
CHECKED

PLAN SHEET - I.R.-70

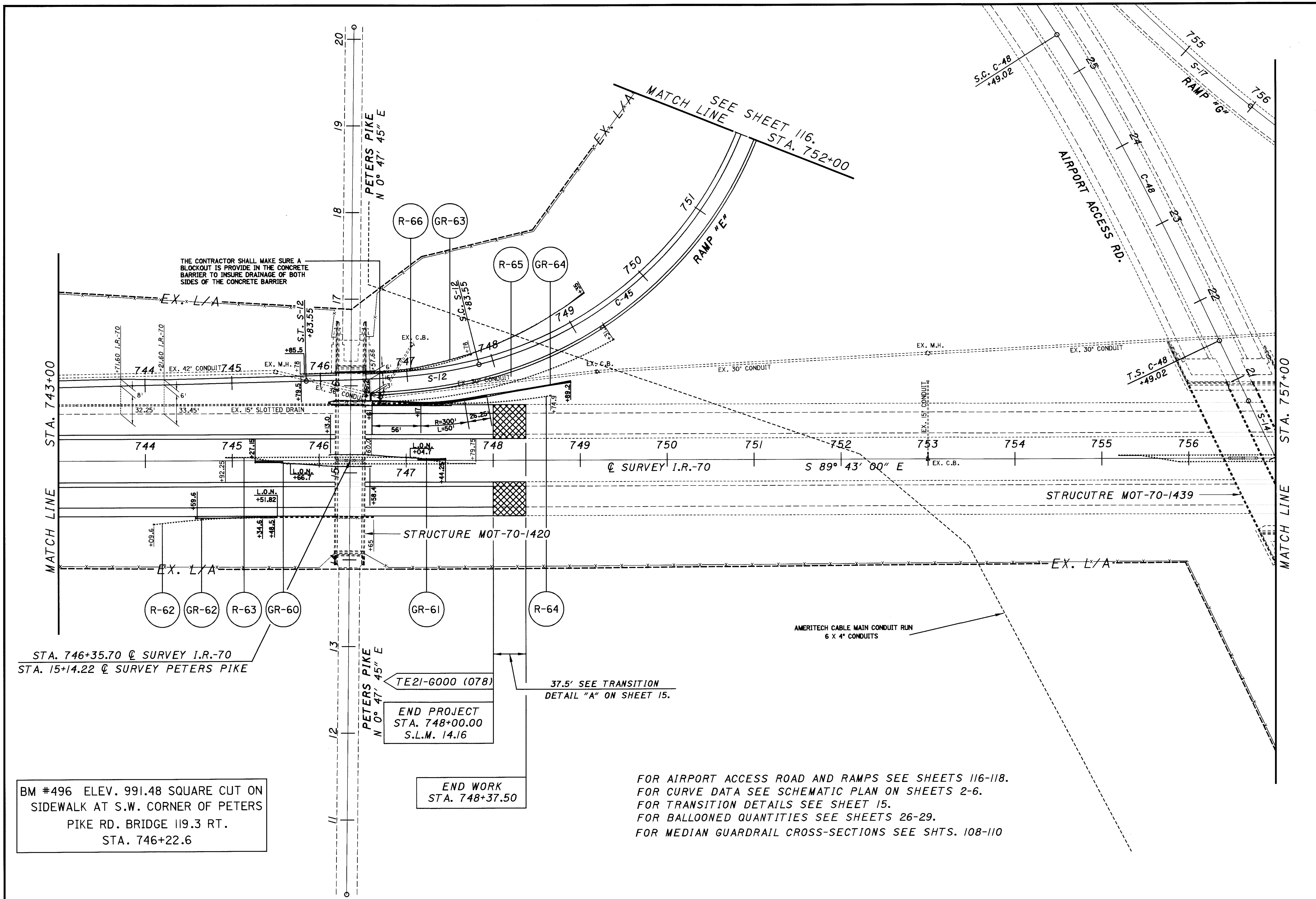
STA. 715+00.00 TO STA. 729+00.00

MOT-70-6.49

60
201



61 / 201	MOT-70-6.49	PLAN SHEET - I.R.-70 STA. 729+00.00 TO STA. 743+00.00	CALCULATED CHECKED	0 HORIZONTAL SCALE IN FEET



BM #496 ELEV. 991.48 SQUARE CUT ON SIDEWALK AT S.W. CORNER OF PETERS PIKE RD. BRIDGE 119.3 RT. STA. 746+22.6

FOR AIRPORT ACCESS ROAD AND RAMPS SEE SHEETS 116-118.
FOR CURVE DATA SEE SCHEMATIC PLAN ON SHEETS 2-6.
FOR TRANSITION DETAILS SEE SHEET 15.
FOR BALLOONED QUANTITIES SEE SHEETS 26-29.
FOR MEDIAN GUARDRAIL CROSS-SECTIONS SEE SHTS. 108-110

CALCULATED | CHECKED

PLAN SHEET - I.R.-70
STA. 743+00.00 TO STA. 757+00.00

MOT-70-6.49

EX. L/A

EX. L/A

EX. L/A

757

758

759

760

761

762

763

764

765

766

767

768

769

770

EX. 30" CONDUIT

EX. C.B.

RAMP "F"

C-51

P.C.C. C-52
+58.84

C-52

+30

+05

EX. 12" CONDUIT

P.T. C-52
+12.33

STA. 757+00.24 ℄ SURVEY I.R.-70
STA. 19+98.58 ℄ SURVEY AIRPORT ACCESS RD.

S.T. S-14
+71.53

STA. 757+00

STA. 771+00

+82

+75

-58.0

+50

-37.13

℄ SURVEY I.R.-70

EX. C.B.
768

S 89° 43′ 00″ E

MATCH LINE

MATCH LINE

STRUCUTRE MOT-70-1441

+00 OVERHEAD SIGN

Sta. 759+37.13

P.C. C-53
+82.81

C-53

+36.3

+73.8

+35.03

3'

16'

6'

S-17

RAMP "G"

C-54

C.S. S-17
+45.10

S.C. S-17
+45.10

STA. 769+00

SEE SHEET 118.

37.5′ SEE TRANSITION
DETAIL "A" ON SHEET 15.

BEGIN WORK
AIRPORT ACCESS RD.
RAMP "G" STA. 766+36.30

S-14

18

17

C.S. S-14
+71.53

16

AIRPORT ACCESS RD.

15

C-47

14

13

FOR AIRPORT ACCESS ROAD AND RAMPS SEE SHEETS 116-118.
FOR CURVE DATA SEE SCHEMATIC PLAN ON SHEETS 2-6.
FOR TRANSITION DETAILS SEE SHEET 15.

N

HORIZONTAL
SCALE IN FEET

0

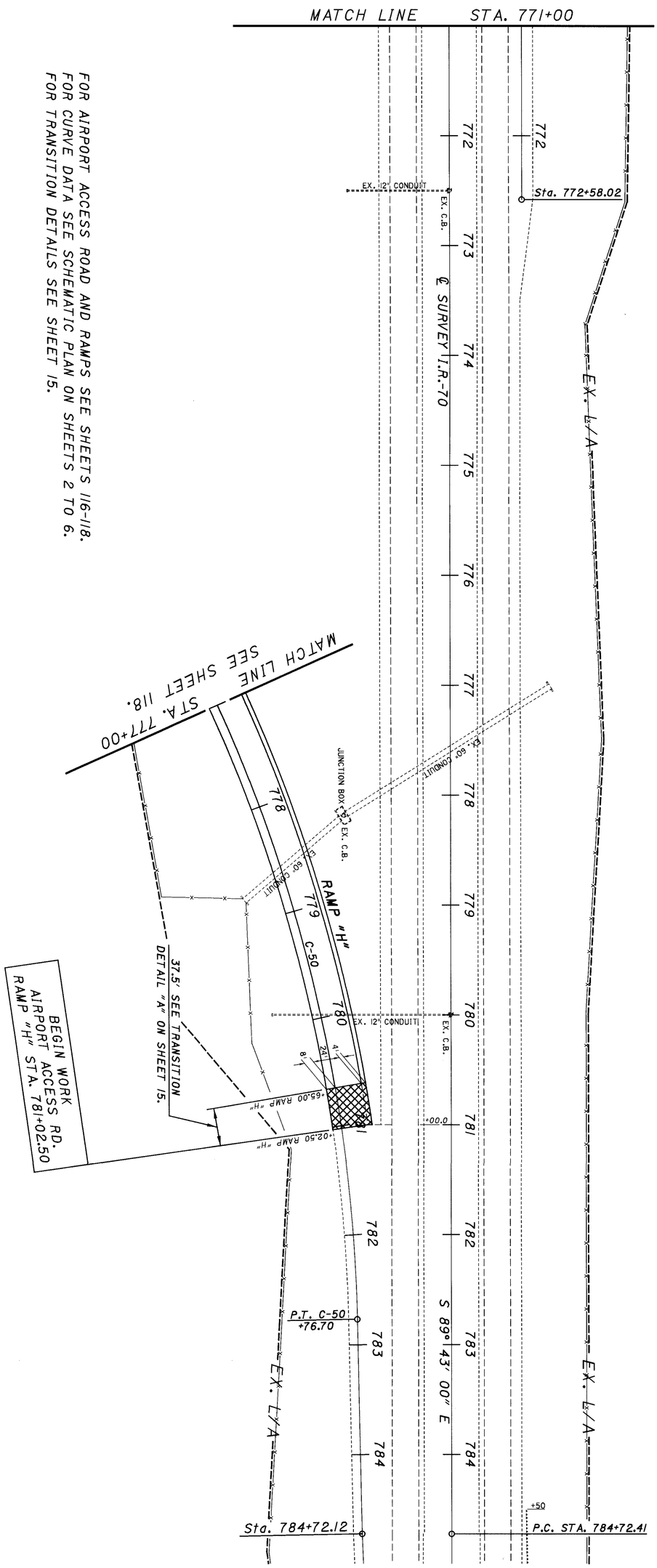
CALCULATED

CHECKED

PLAN SHEET - I.R.-70
STA. 757+00.00 TO STA. 771+00.00

MOT-70-6.49

63
201

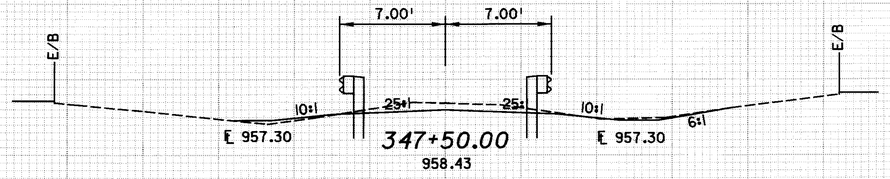


FOR AIRPORT ACCESS ROAD AND RAMPS SEE SHEETS 116-118.
FOR CURVE DATA SEE SCHEMATIC PLAN ON SHEETS 2 TO 6.
FOR TRANSITION DETAILS SEE SHEET 15.

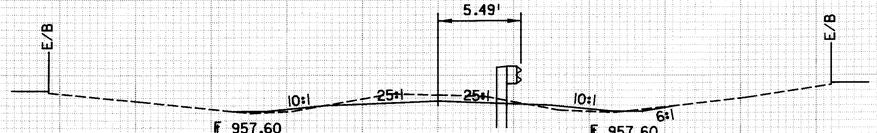
64 / 201	MOT-70-6.49	PLAN SHEET - I.R.-70 STA. 771+00.00 TO STA. 785+00.00	CALCULATED / CHECKED	0 HORIZONTAL SCALE IN FEET

SEEDING END WIDTH	SEEDING SQ. YDS.
33	172
29	189
39	158
18	50
0	
	569

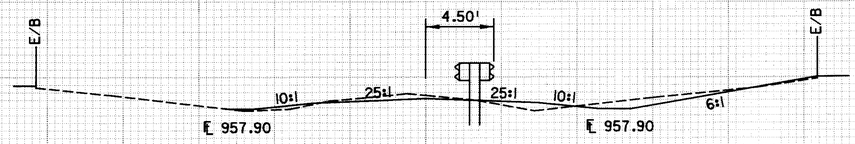
60 50 40 30 20 10 0 10 20 30 40 50 60



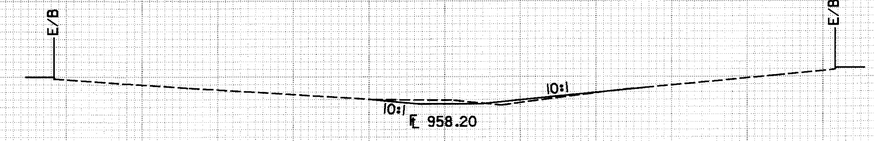
347+50.00
958.43



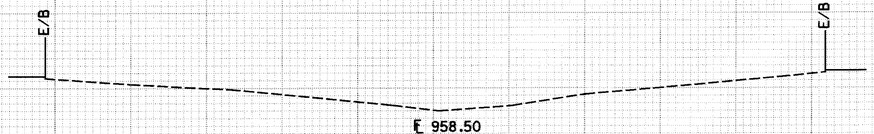
347+00.00
958.69



346+50.00
958.80



346+00.00
958.44



345+50.00
958.53

965 960

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
6	1		
		10	3
5	2		
		10	4
5	3		
		6	3
1	1		
		1	1
0	0		
		27	11

SHEET TOTAL

CALCULATED

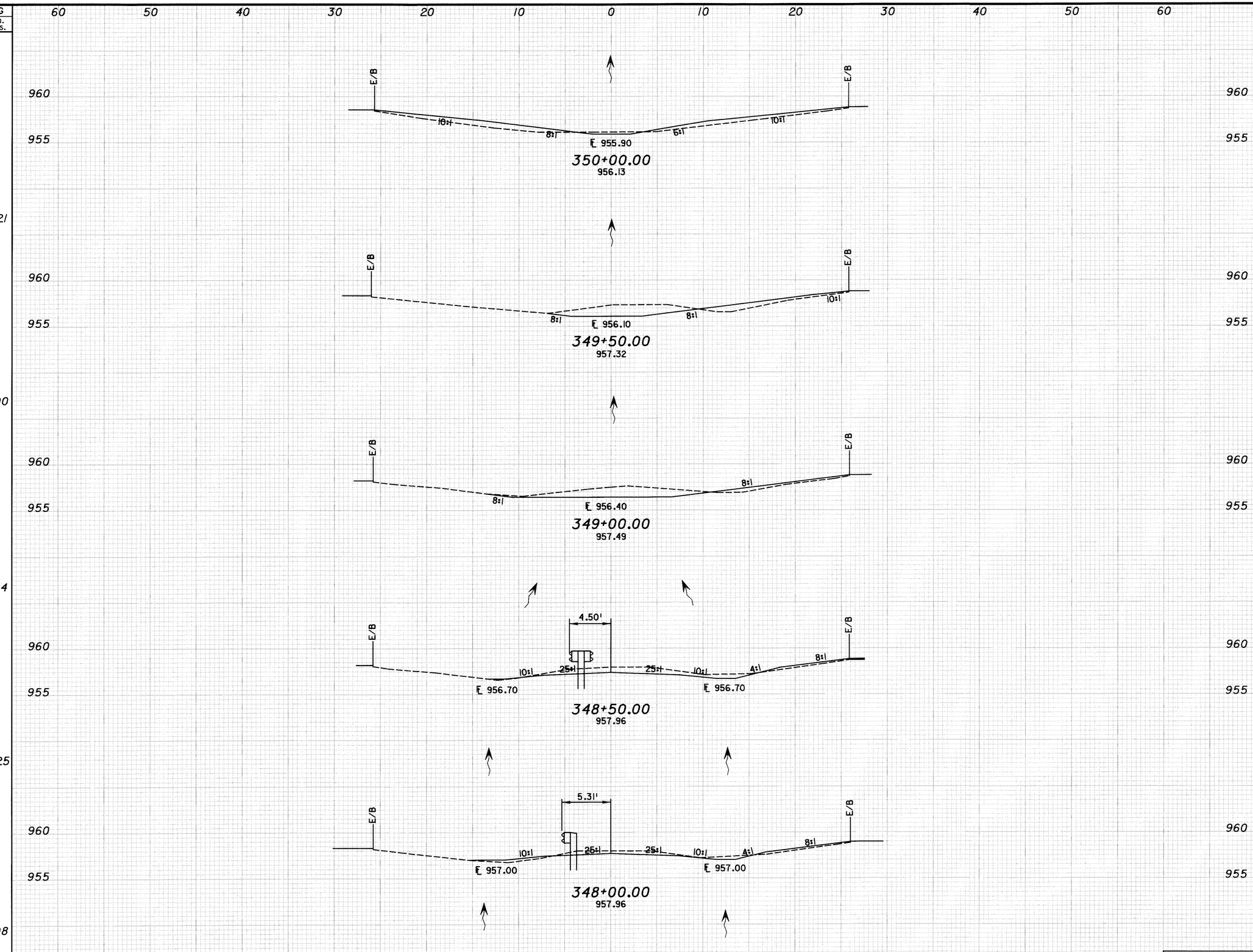
CHECKED

CROSS SECTIONS
STA. 345+50 TO STA 347+50

IR-70 ST

MOT-70-6.49

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
50	321	1	15	14	20
33	200	14	6	27	9
39	194	15	4	24	5
39	225	11	2	14	5
42	208	4	4	9	5
	1148 SHEET TOTAL			88	44



CALCULATED

CHECKED

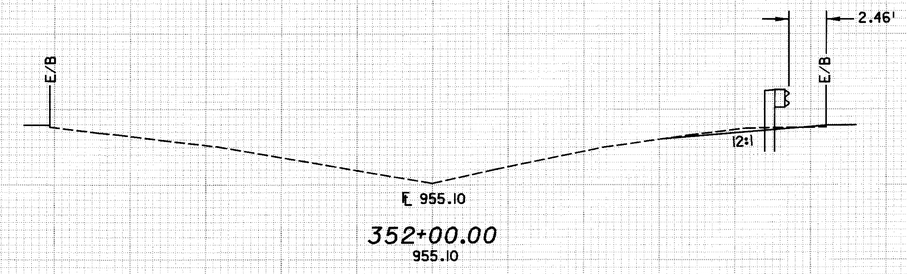
CROSS SECTIONS

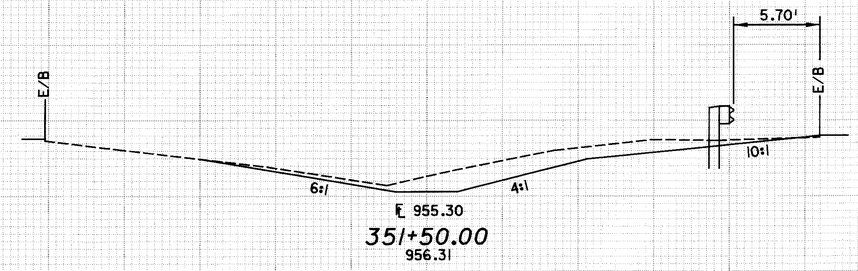
IR-70 STA. 348+00 TO STA. 350+00

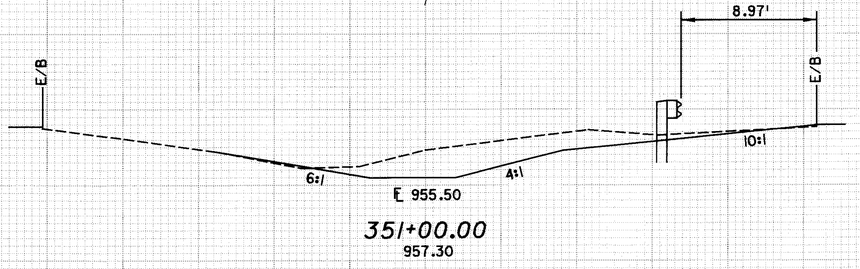
MOT-70-6.49

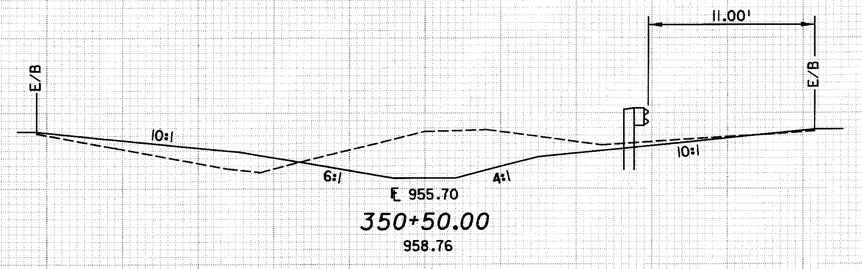
66
201

SEEDING END WIDTH	SEEDING SQ. YDS.	60	50	40	30	20	10	0	10	20	30	40	50	60	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		965												965				
11		BACK ONLY																
		960												960				
		955												BACK ONLY	1	0		
														955				
	144																23	0
		965												965				
41		960												960	24	0		
		955												955				
	225																49	1
		965												965				
40		960												960	29	1		
		955												955				
	250																62	12
		965												965				
50		960												960	38	12		
		955												955				
	278																38	25
	897	SHEET TOTAL												SHEET TOTAL			172	38









CALCULATED

CHECKED

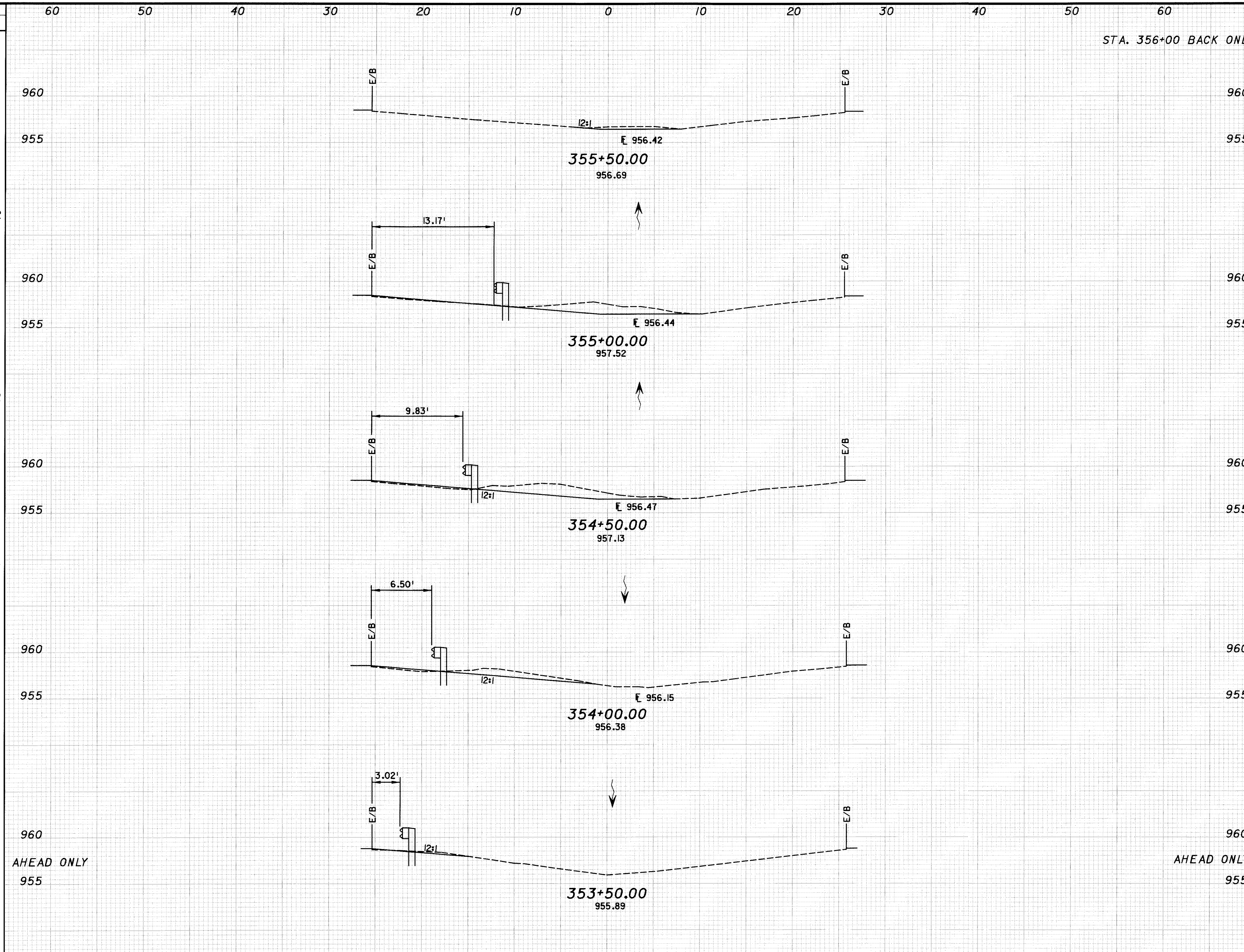
CROSS SECTIONS
STA. 350+50 TO STA. 352+00

IR-70 S

MOT-70-6.49

67
201

CROSS SECTIONS
IR-70 STA. 353+50 TO STA. 355+50



SEEDING

END WIDTH	SQ. YDS.
33	
	192
36	
	192
33	
	158
24	
	97
11	
SHEET TOTAL	639

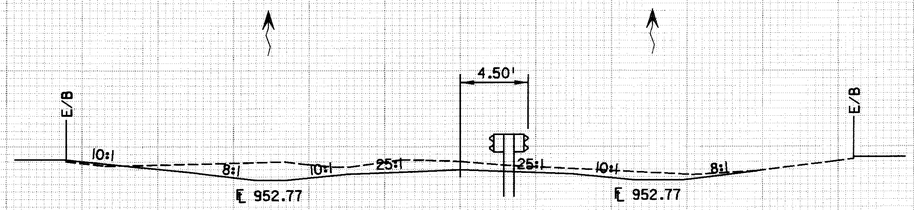
END AREA / VOLUME

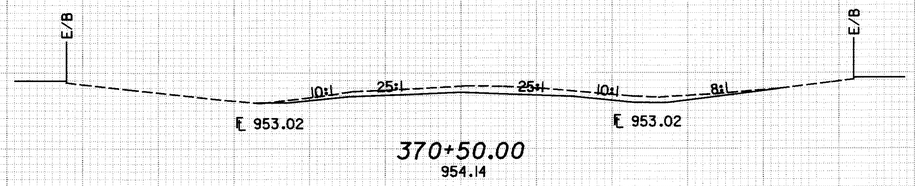
Station	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
STA. 356+00 BACK ONLY	0	0		
			2	0
355+50.00	2	0		
			13	1
355+00.00	12	1		
			25	2
354+50.00	14	2		
			20	3
354+00.00	7	1		
			7	1
353+50.00 AHEAD ONLY	1	0		
SHEET TOTAL			67	7

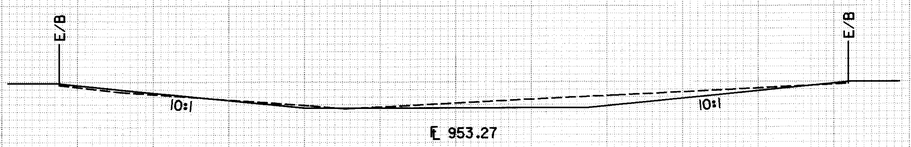
CALCULATED | CHECKED

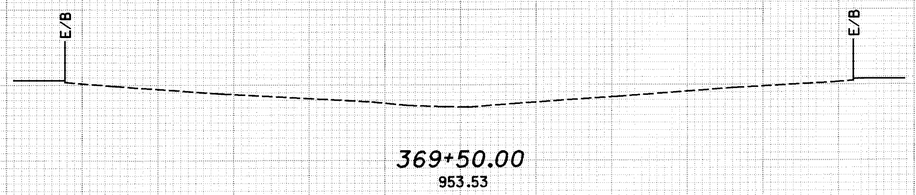
MOT-70-6.49

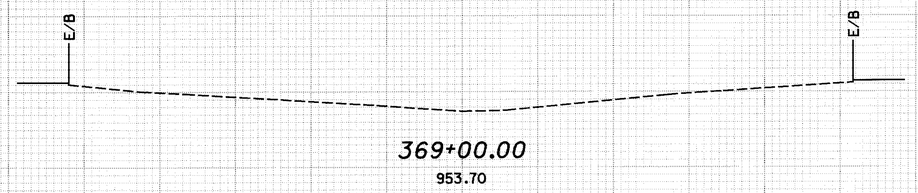
SEEDING				END AREA		VOLUME	
END WIDTH	SQ. YDS.			CUT	FILL	CUT	FILL
46	222	955 / 950	371+00.00 954.01	23	0	31	0
34	233	955 / 950	370+50.00 954.14	11	0	21	1
50	194	955 / 950	370+00.00 953.59	12	1	11	1
20	56	955 / 950	369+50.00 953.53	0	0	0	0
0		955 / 950	369+00.00 953.70	0	0		
	705	SHEET TOTAL				63	2











CALCULATED

CHECKED

CROSS SECTIONS

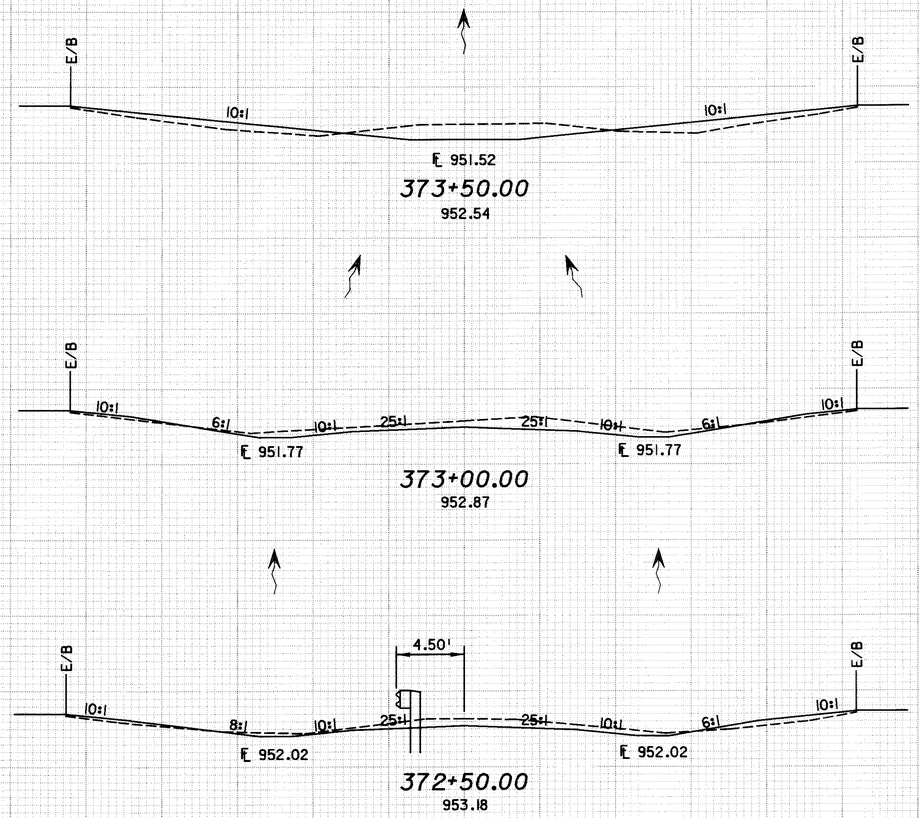
IR-70 STA. 369+00 TO STA. 371+00

MOT-70-6.49

69
201

SEEDING END WIDTH	SEEDING SQ. YDS.
50	278
50	278
50	250
40	208
35	225
	1239

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



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
13	13		
		25	14
14	2		
		22	6
10	4		
8	3	17	6
		18	3
11	1		
		31	1
		113	30

SHEET TOTAL

SHEET TOTAL

CALCULATED

CHECKED

CROSS SECTIONS

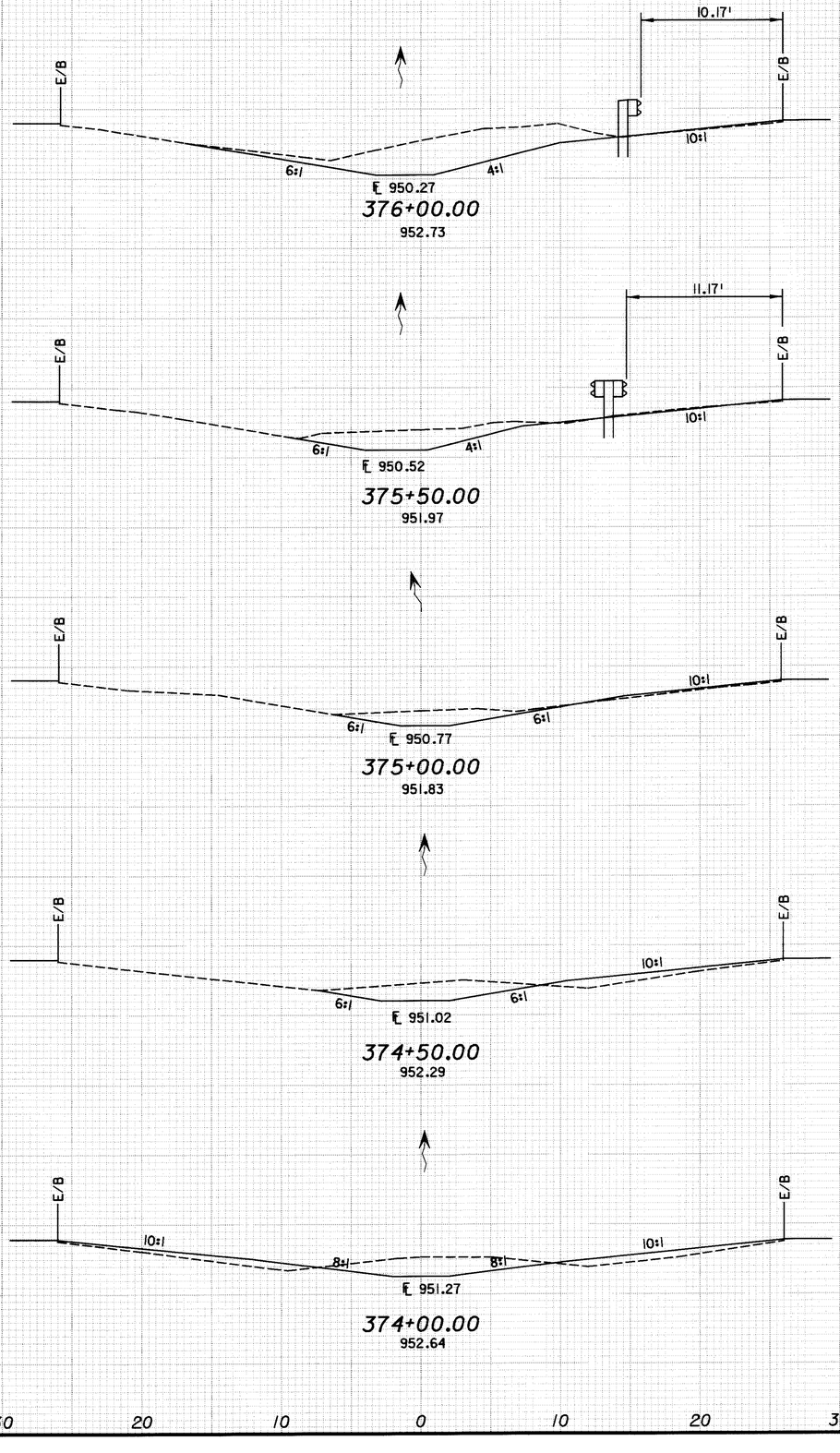
IR-70 STA. 371+50 TO STA. 373+50

MOT-70-6.49

70
201

inside

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
43	219	37	1	49	1
36	189	16	1	24	2
32	181	10	2	22	8
33	231	13	6	26	17
50	278	14	12	25	24
	1098 SHEET TOTAL			146	52



CALCULATED

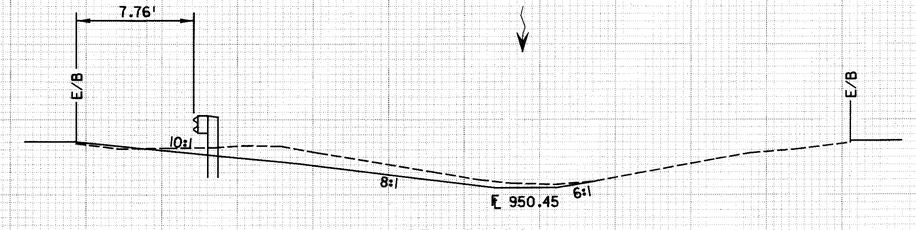
CHECKED

CROSS SECTIONS
IR-70 STA. 374+00 TO STA. 376+00

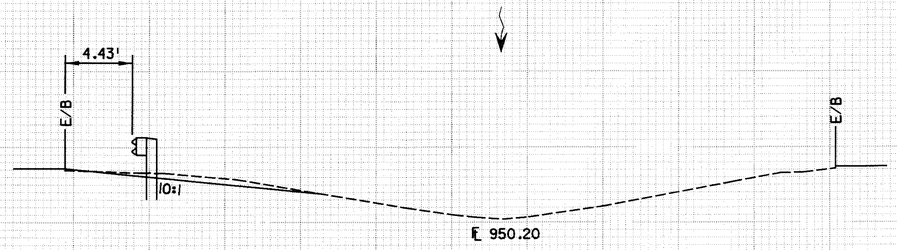
MOT-70-6.49

71
201

SEEDING END WIDTH	SEEDING SQ. YDS.		60	50	40	30	20	10	0	10	20	30	40	50	60		END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		955														955				
34		950														950	16	1		
	142																		18	1
		955														955				
17	AHEAD ONLY	950														950	4	0		
		955														955				
31	BACK ONLY	950														950	19	0		
	186																		45	1
		955														955				
36		950														950	30	1		
	219																		62	1
	547	SHEET TOTAL														SHEET TOTAL			125	3

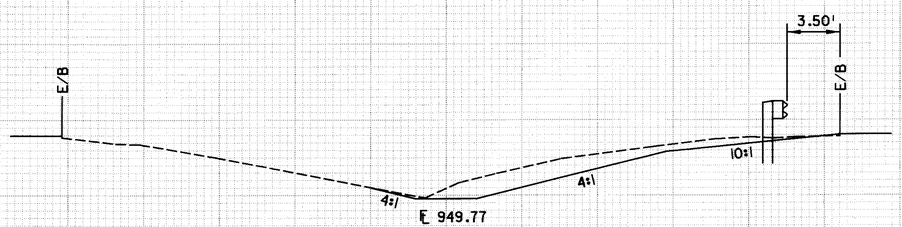


379+50.00
951.16

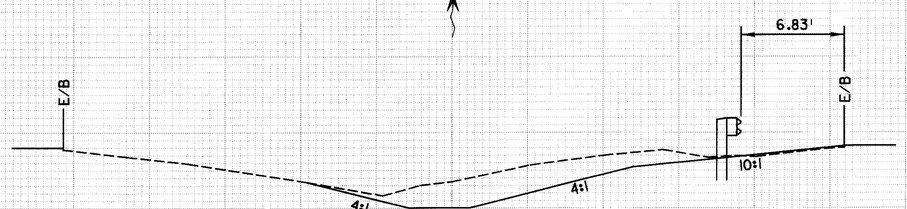


379+00.00
950.51

STRUCTURE NO. MOT-70-0719 L&R



377+00.00
950.46



376+50.00
951.74

CALCULATED

CHECKED

CROSS SECTIONS

IR-70 STA. 376+50 TO STA. 379+50

MOT-70-6.49

SEEDING END WIDTH	SEEDING SQ. YDS.
20	144
32	192
37	208
38	200
	744

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

955
950

E/B E/B

38I+50.00
950.95

955
950

E/B E/B
10:1
℄ 951.20

38I+00.00
951.22

12.87'
E/B E/B
10:1 10:1
℄ 950.95

380+50.00
952.58

11.10'
E/B E/B
10:1 8:1 8:1
℄ 950.70

380+00.00
952.34

	SHEET TOTAL
744	SHEET TOTAL

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	0		
		1	3
1	3		
		19	5
19	3		
		43	4
27	2		
		40	2
		103	14

CALCULATED

CHECKED

CROSS SECTIONS
STA. 380+00 TO STA. 381+50

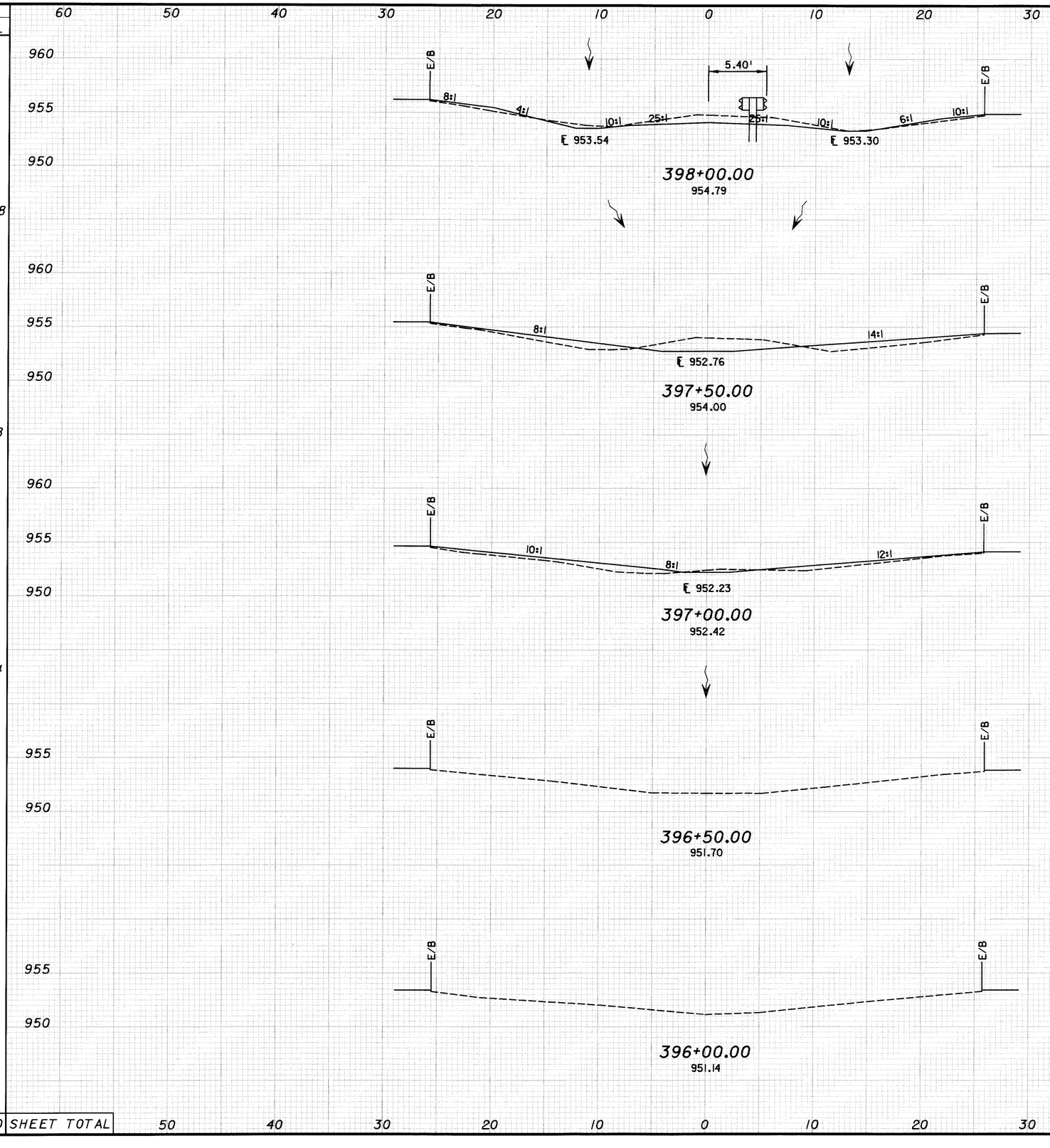
IR-70 STA.

MOT-70-6.49

73
201

1:xde

SEEDING END WIDTH	SEEDING SQ. YDS.
50	278
50	278
50	194
20	
0	
	750



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
10	4		
		21	16
13	14		
		16	19
5	6		
		4	6
0	0		
0	0		
SHEET TOTAL		41	41

CALCULATED

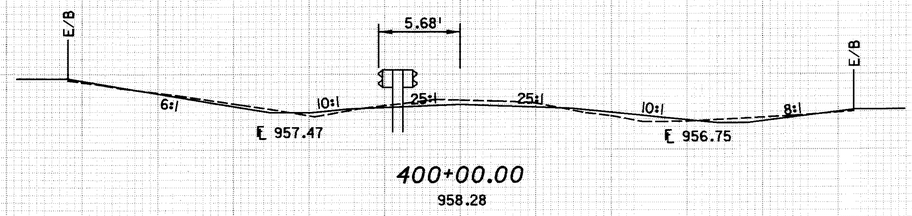
CHECKED

CROSS SECTIONS
IR-70 STA. 396+00 TO STA. 398+00

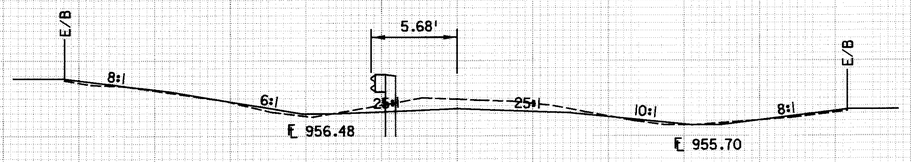
MOT-70-6.49

74
201

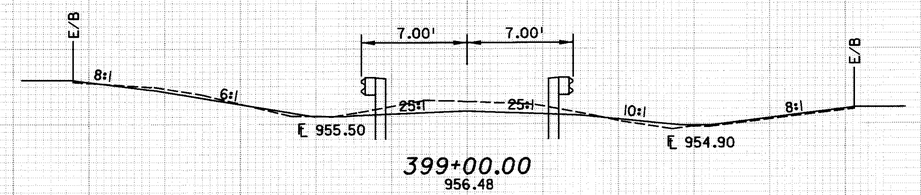
SEEDING END WIDTH	SEEDING SQ. YDS.	
50	278	400+00.00
50	278	399+50.00
50	278	399+00.00
50	278	398+50.00
	1112	SHEET TOTAL



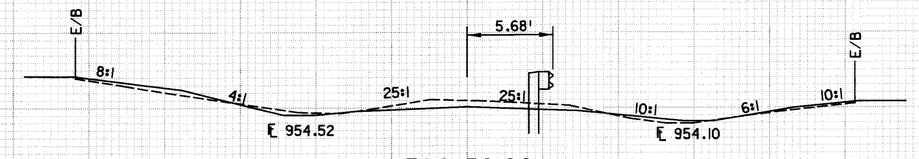
400+00.00
958.28



399+50.00
957.43



399+00.00
956.48



398+50.00
955.48

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
6	3		
9	3	13	6
10	3	17	5
6	4	15	7
		15	7
		60	25

SHEET TOTAL

CALCULATED

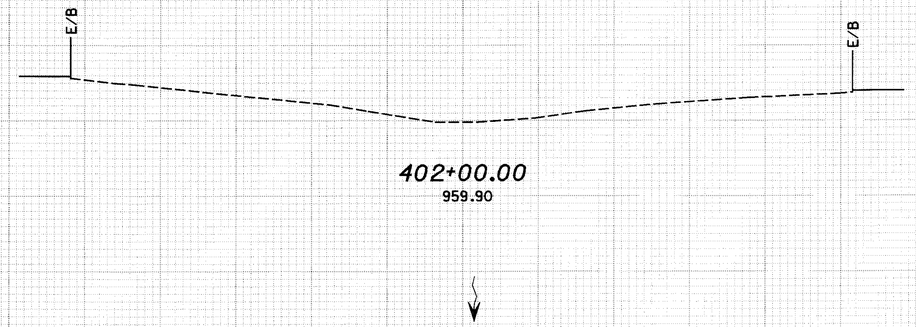
CHECKED

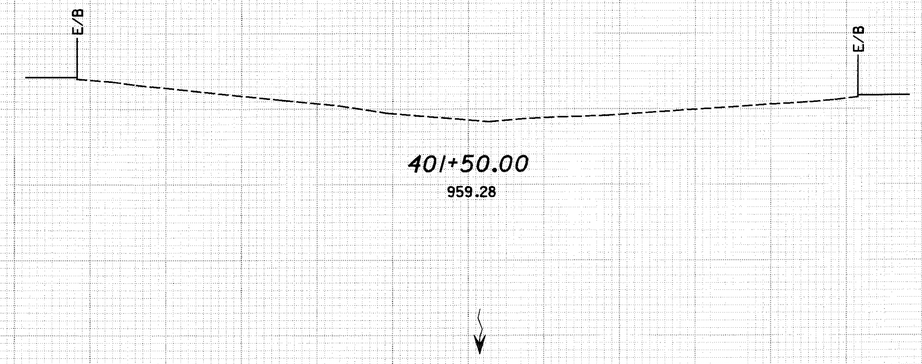
CROSS SECTIONS

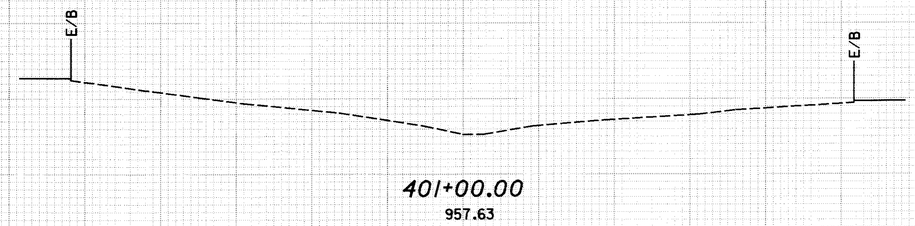
IR-70 STA. 398+50 TO STA. 400+00

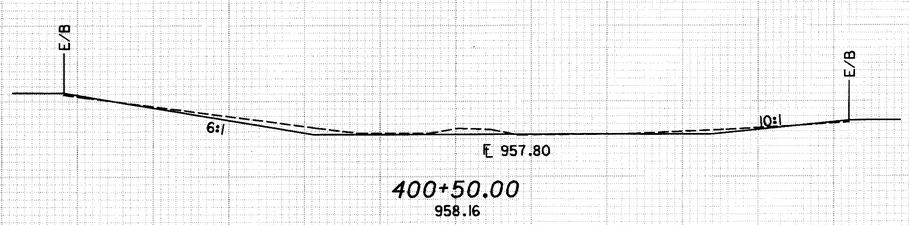
MOT-70-6.49

SEEDING		END AREA		VOLUME		
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL	
						CALCULATED
						CHECKED
20	194	0	0	6	1	
50	278	7	1	12	4	
	472 SHEET TOTAL			18	5	









CROSS SECTIONS

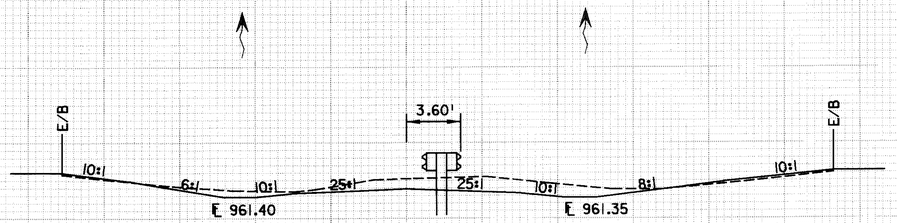
IR-70 STA. 400+50 TO STA. 402+00

MOT-70-6.49

76
201

SEEDING		END AREA		VOLUME		
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL	
						CALCULATED
						CHECKED

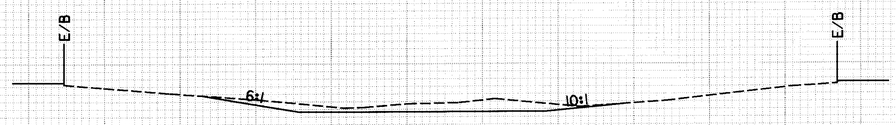
60 50 40 30 20 10 0 10 20 30 40 50 60



430+50.00
962.61

965 960

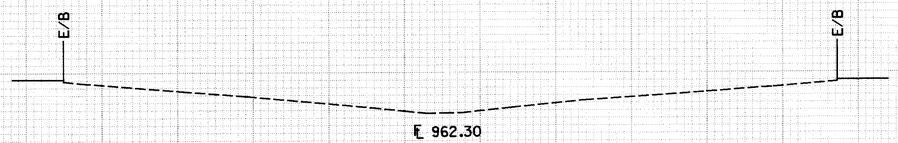
50 | 217 | 18 | 2



430+00.00
962.34

965 960

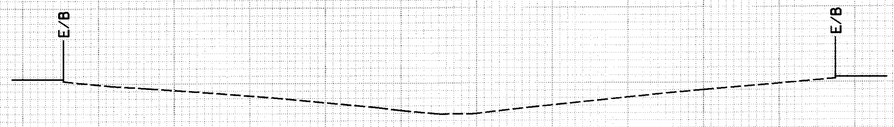
28 | 108 | 11 | 0



429+50.00
962.44

965 960

11 | 11 | 0 | 0 | 10 | 0



429+00.00
963.19

965 960

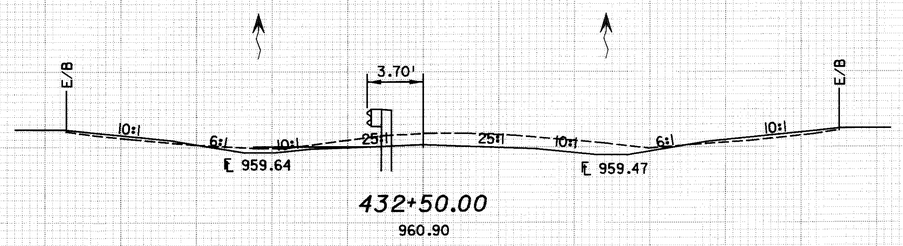
325	SHEET TOTAL			SHEET TOTAL		37	2

CROSS SECTIONS
IR-70 STA. 429+00 TO STA. 430+50

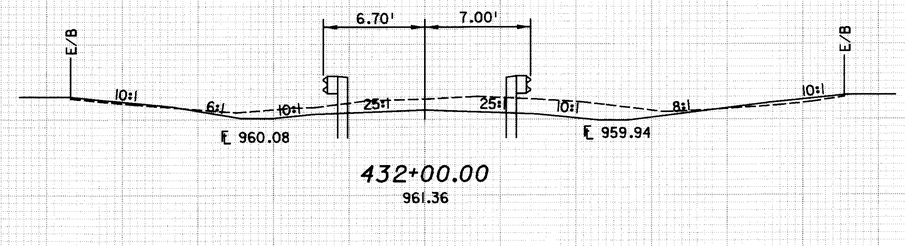
MOT-70-6.49

77
201

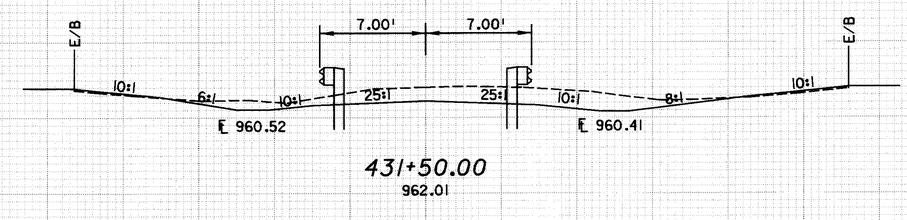
SEEDING END WIDTH	SEEDING SQ. YDS.
50	278
50	278
50	278
50	278
	1112



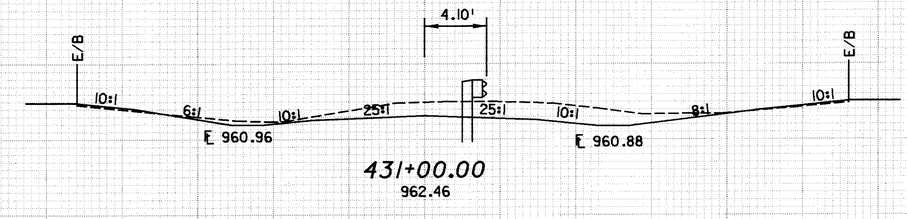
432+50.00
960.90



432+00.00
961.36



431+50.00
962.01



431+00.00
962.46

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
16	3		
		36	5
23	2		
		46	3
27	1		
		47	2
24	1		
		39	3
SHEET TOTAL		168	13

CALCULATED

CHECKED

CROSS SECTIONS

IR-70 STA. 431+00 TO STA. 432+50

MOT-70-6.49

CROSS SECTIONS

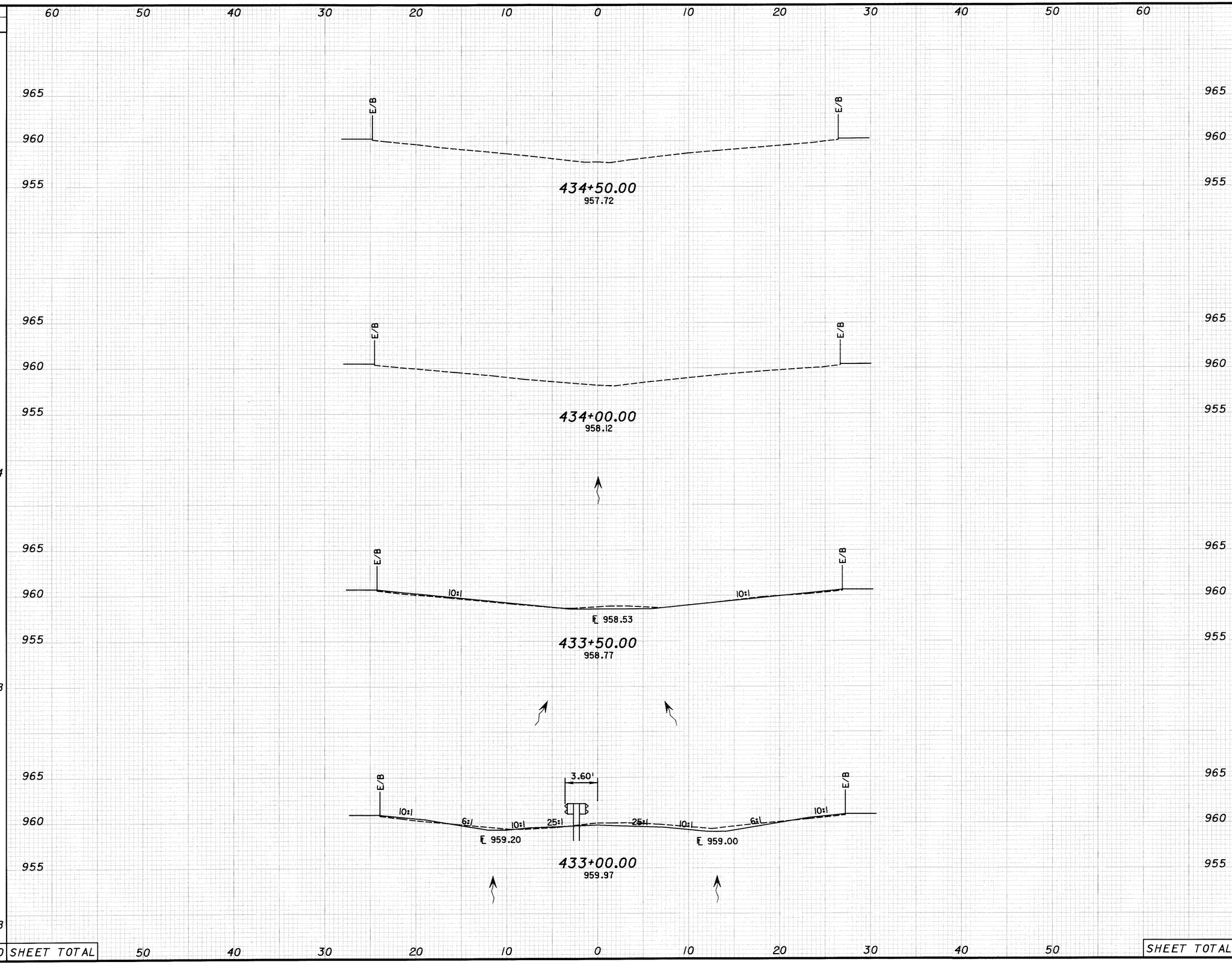
IR-70 STA. 433+00 TO STA. 434+50

MOT-70-6.49

CALCULATED

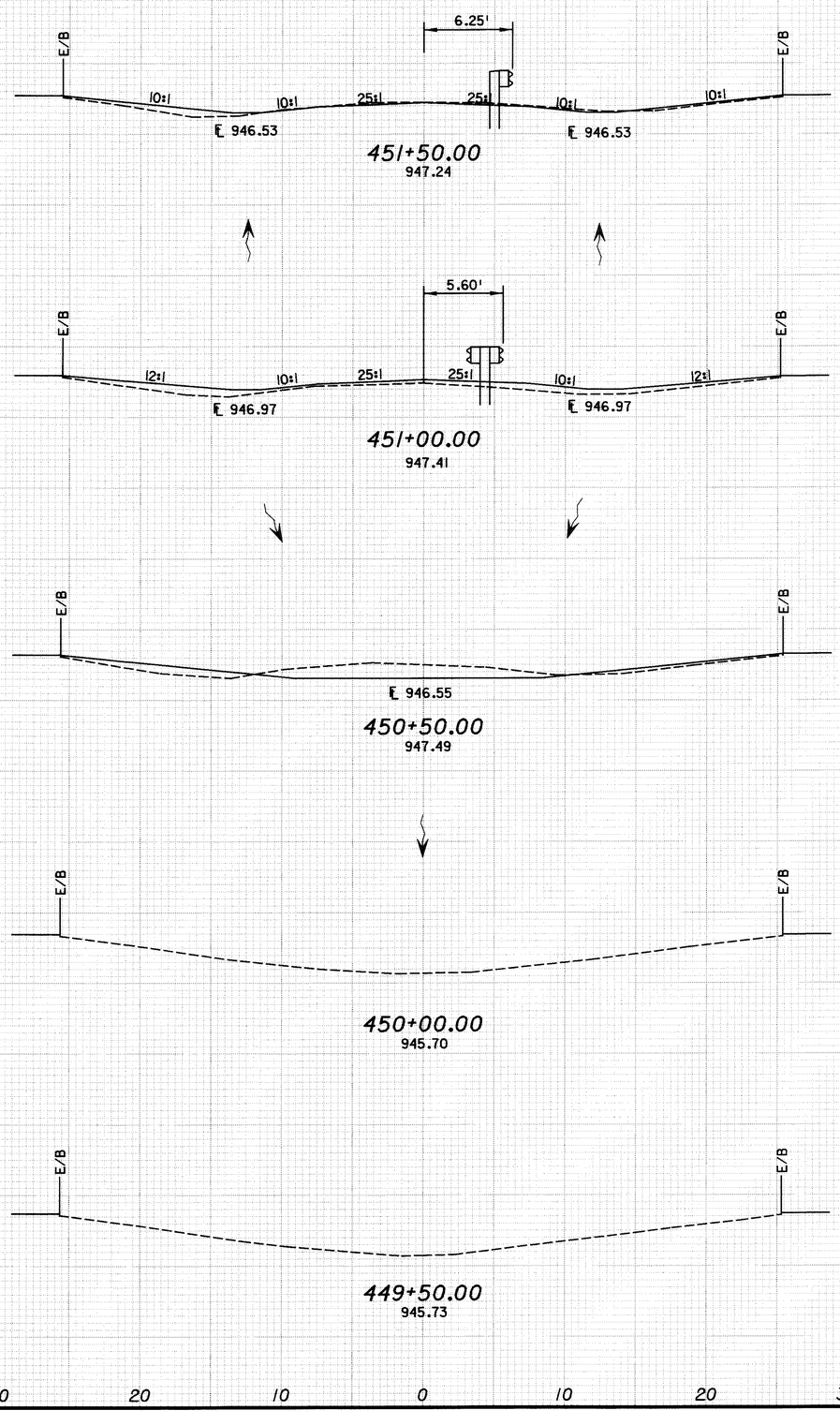
CHECKED

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
20		0	0		
	194			2	2
50		3	3		
	278			10	4
50		8	2		
	278			22	5
750	SHEET TOTAL			34	11



SEEDING END WIDTH	SEEDING SQ. YDS.
50	278
50	278
50	194
20	
	750

SHEET TOTAL



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
2	6		
		17	5
16	0		
		29	8
16	8		
		15	8
0	0		
		0	0
0	0		
		61	21

SHEET TOTAL

CALCULATED

CHECKED

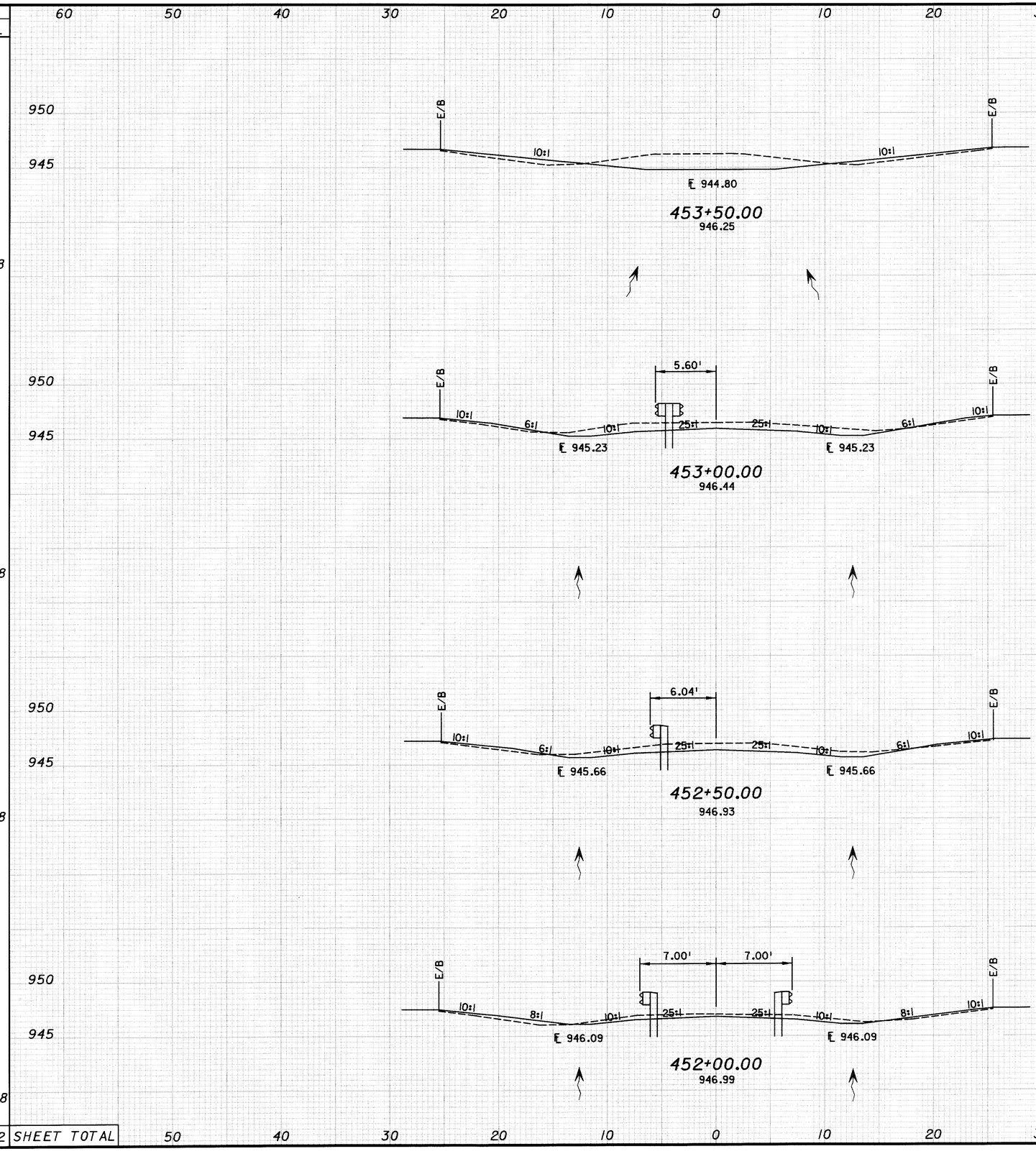
CROSS SECTIONS

IR-70 STA. 449+50 TO STA. 451+50

MOT-70-6.49

80
201

SEEDING END WIDTH	SEEDING SQ. YDS.
50	278
50	278
50	278
50	278
	1112



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
23	7		
		38	9
18	3		
		32	5
17	3		
		23	7
8	5		
		9	9
SHEET TOTAL		102	30

CALCULATED

CHECKED

CROSS SECTIONS

IR-70 STA. 452+00 TO STA. 453+50

MOT-70-6.49

81
201

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					CALCULATED / CHECKED
		950 / 945 / 940 — E/B … E/B — 455+50.00 942.80					
		950 / 945 / 940 — E/B … E/B — 455+00.00 942.68					
5	50	950 / 945 / 940 — E/B … E/B — 454+50.00 943.23	0	0			
					0	9	
13	175	950 / 945 / 940 — E/B … E/B — ℄ 944.05 — 454+00.00 943.82	0	3			
					21	9	
	225	SHEET TOTAL 50 40 30 20 10 0 10 20 30 40 50	SHEET TOTAL		21	18	

CROSS SECTIONS
STA 454+00 TO STA. 455+50

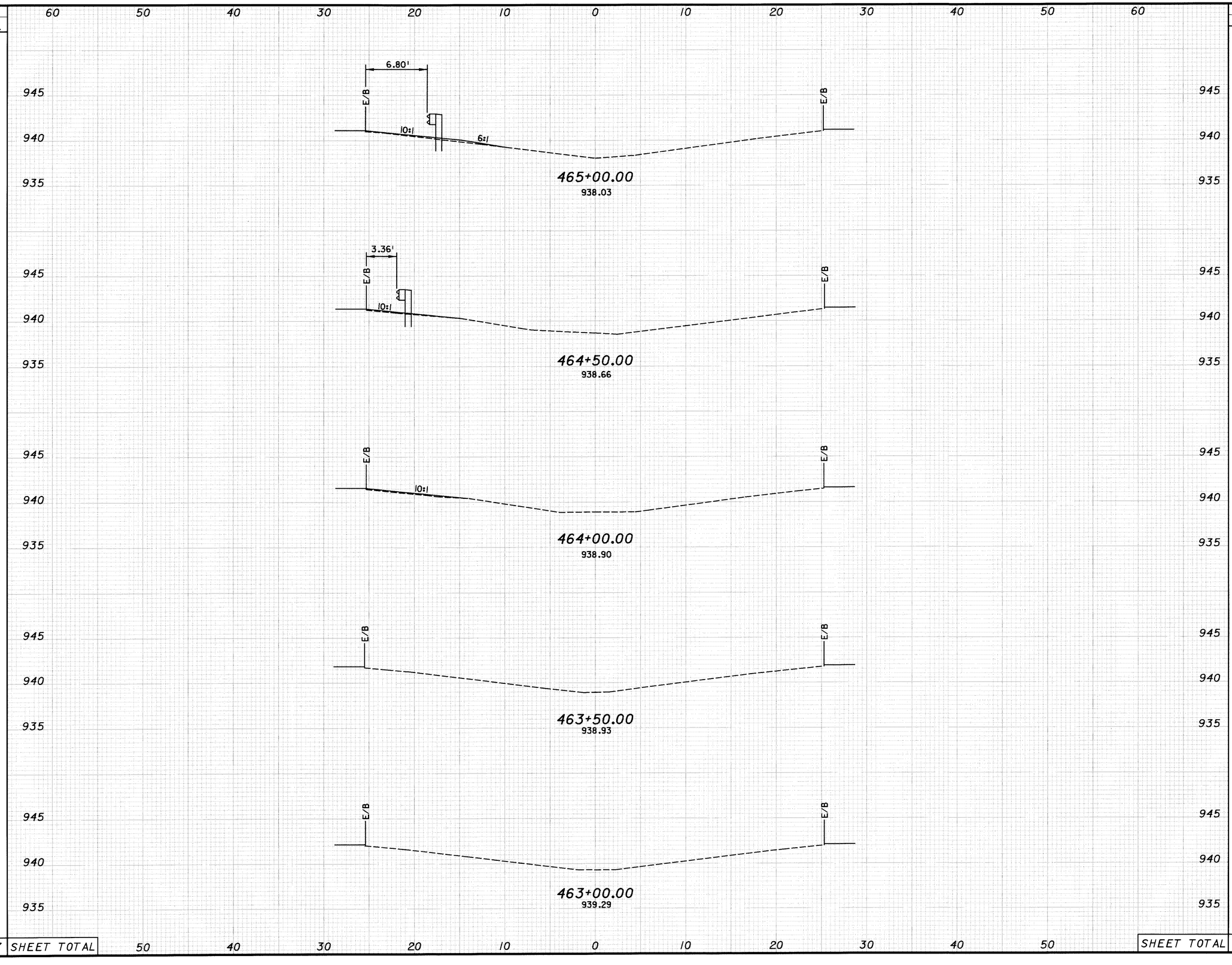
IR-70 S

MOT-70-6.49

82
201

i:\de

SEEDING END WIDTH	SEEDING SQ. YDS.	
15		
	72	
11		
	61	
11		
	44	
5		
	177	SHEET TOTAL



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0		2	
		0	3
0	1		
		0	2
0	1		
		0	1
0	0		
		0	0
0	0		
		2	6

CALCULATED

CHECKED

CROSS SECTIONS
STA. 463+00 TO STA. 465+00
IR-70 STA.

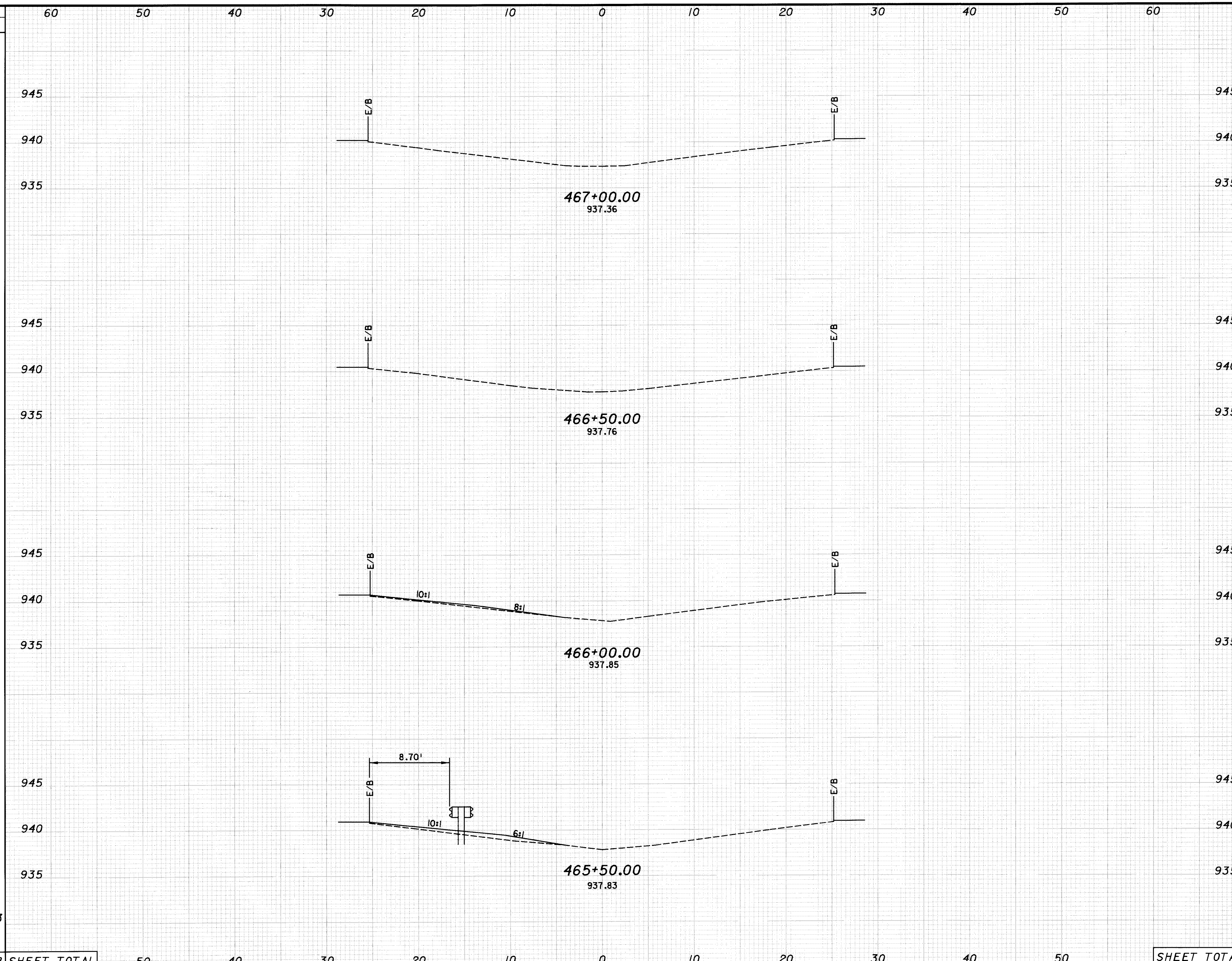
MOT-70-6.49

83
201

CROSS SECTIONS
IR-70 STA. 465+50 TO STA. 467+00

MOT-70-6.49

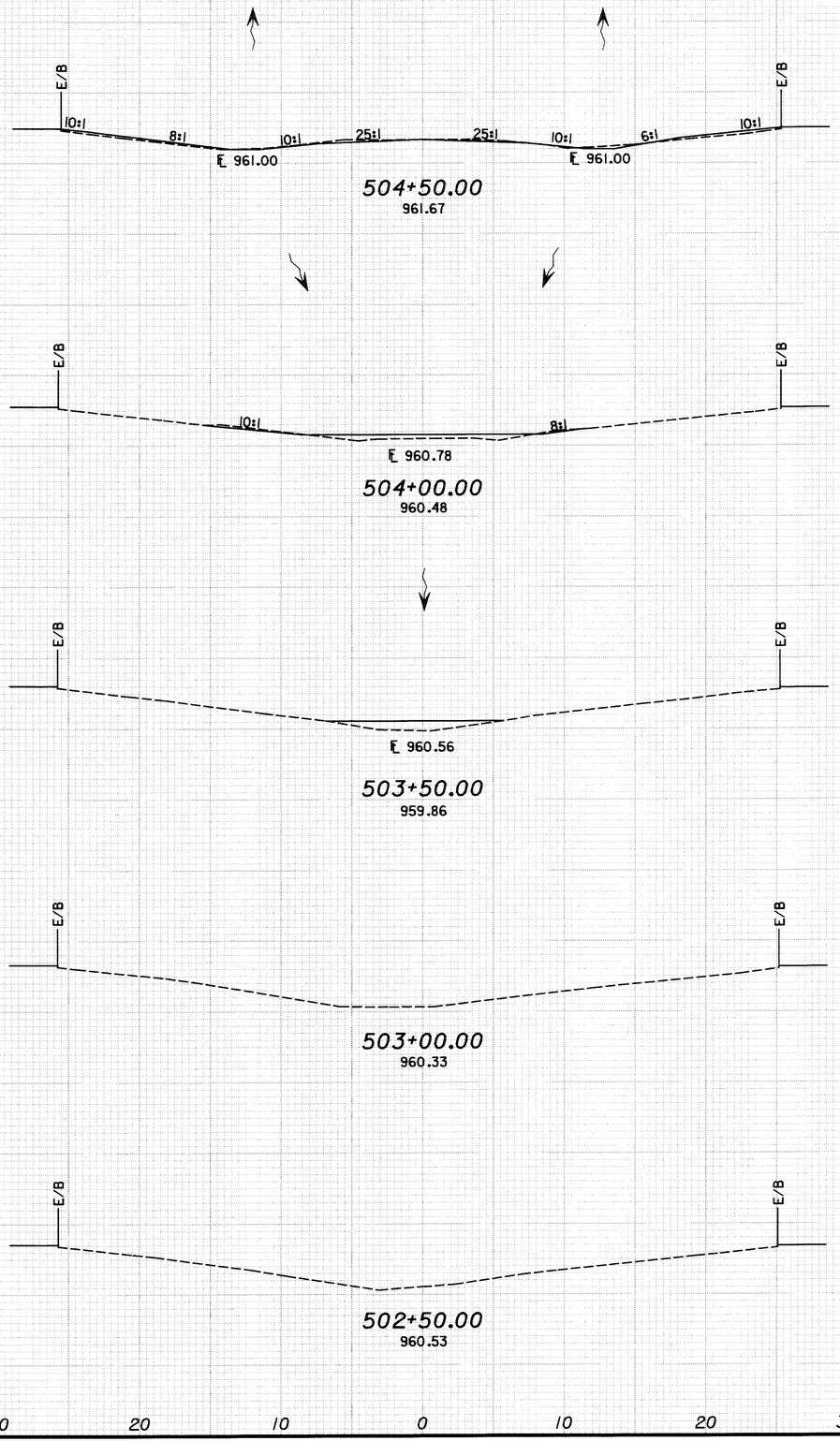
CALCULATED	CHECKED



SEEDING END WIDTH	SEEDING SQ. YDS.
10	
	86
21	
	119
22	
	103
	308 SHEET TOTAL

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	0		
		0	3
0	3		
		0	8
0	6		
		0	8
SHEET TOTAL		0	19

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
50		2	3		
	214			3	7
27		1	5		
	111			1	9
13		0	5		
	50			0	5
5		0	0		
	375			4	21



SHEET TOTAL

CALCULATED

CHECKED

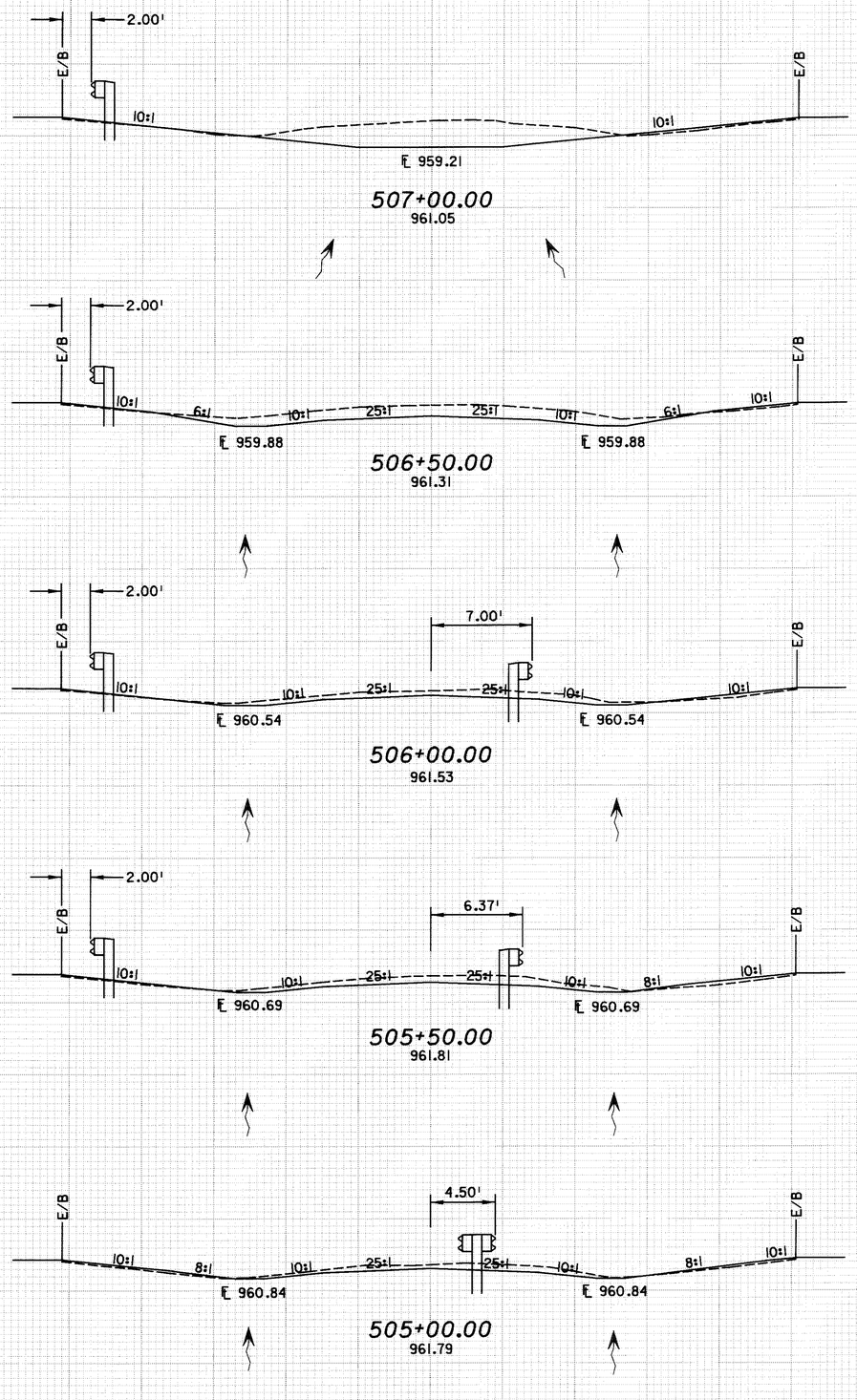
CROSS SECTIONS

IR-70 STA. 502+50 TO STA. 504+50

MOT-70-6.49

85
201

SEEDING END WIDTH	SEEDING SQ. YDS.	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		507+00.00	32	3		
50	278				51	4
		506+50.00	23	1		
50	278				31	3
		506+00.00	11	2		
50	278				20	4
		505+50.00	11	3		
50	278				18	5
		505+00.00	8	3		
	1112	SHEET TOTAL			129	22
					9	6



CALCULATED

CHECKED

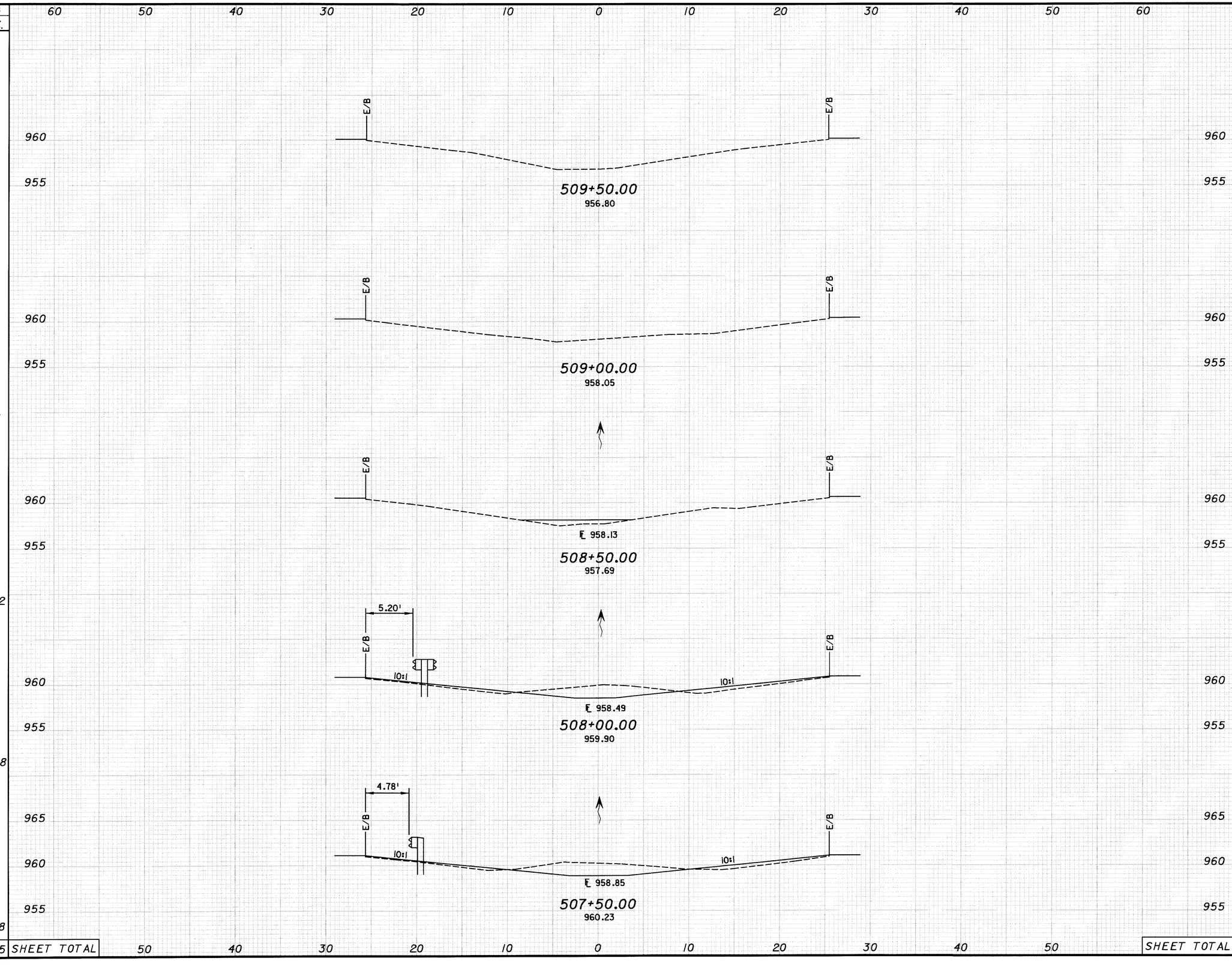
CROSS SECTIONS

IR-70 STA. 505+00 TO STA. 507+00

MOT-70-6.49

86
201

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
5	47	0	0	0	4
12	172	0	5	14	12
50	278	15	8	23	14
50	278	18	7	46	9
SHEET TOTAL	775			83	39



CALCULATED

CHECKED

CROSS SECTIONS
STA. 507+50 TO STA. 509+50

IR-70 STA.

MOT-70-6.49

87
201

SEEDING END WIDTH	SEEDING SQ. YDS.	60	50	40	30	20	10	0	10	20	30	40	50	60	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
14								9.86' E/B E/B 10:1 557+50.00 938.66							0	0		
	100																0	1
22								12.10' E/B E/B 10:1 557+00.00 939.34							0	1		
	103																0	1
15								E/B E/B 10:1 556+50.00 939.76							0	1		
	56																0	1
5								E/B E/B 10:1 556+00.00 940.54							0	0		
	19																0	0
2								E/B E/B 555+50.00 941.40							0	0		
	278	SHEET TOTAL												SHEET TOTAL			0	3

CALCULATED

CHECKED

CROSS SECTIONS

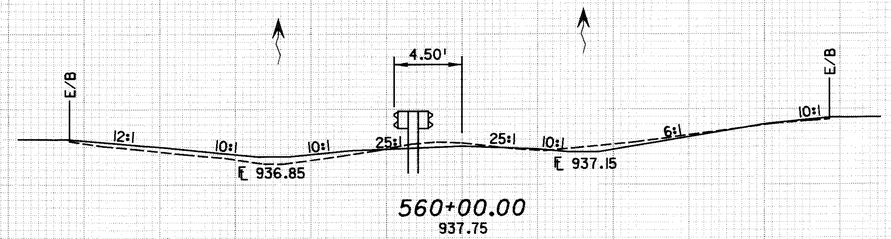
IR-70 STA. 555+50 TO STA. 557+50

MOT-70-6.49

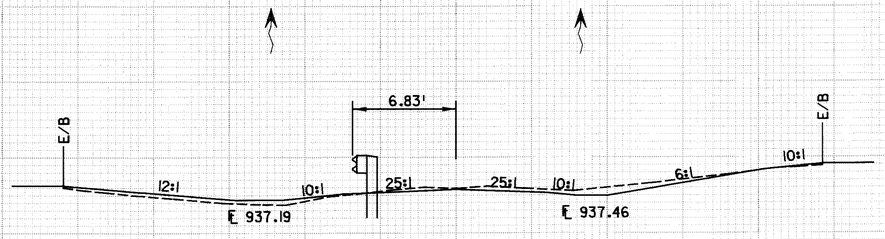
88
201

1:xde

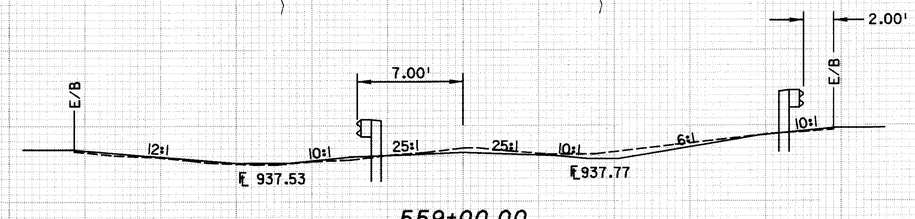
SEEDING END WIDTH	SEEDING SQ. YDS.
50	278
50	278
50	278
50	278
50	167
10	67
	1068



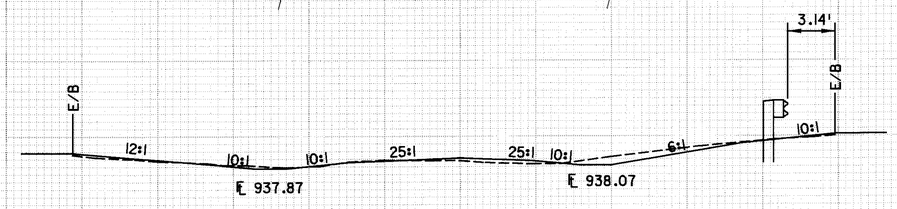
560+00.00
937.75



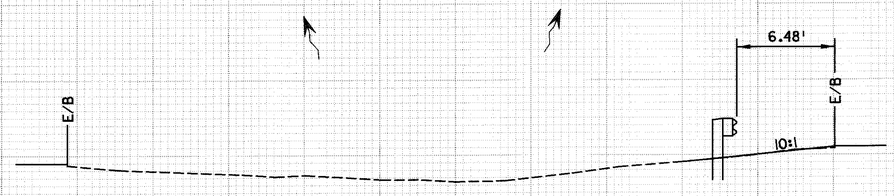
559+50.00
937.94



559+00.00
938.51



558+50.00
938.39



558+00.00
938.20

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
4	7		
		9	11
6	5		
		10	7
6	3		
		9	5
5	3		
		4	3
0	0		
		0	0
	SHEET TOTAL	32	26

CALCULATED

CHECKED

CROSS SECTIONS

IR-70 STA. 558+00 TO STA. 560+00

MOT-70-6.49

SEEDING	
END WIDTH	SQ. YDS.
13	108
26	211
50	278
	597

SHEET TOTAL

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

940
935

E/B E/B

562+00.00
935.81

940
935

E/B E/B

561+50.00
935.99

940
935

E/B E/B 10:1 8:1

℄ 936.17

561+00.00
936.38

940
935

E/B E/B 10:1 12:1 10:1 25:1 25:1 8:1

℄ 936.51 ℘ 936.84

560+50.00
937.11

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

SHEET TOTAL

END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0		
		0	3
0	3		
		1	8
1	6		
		5	11
		6	22

CALCULATED

CHECKED

CROSS SECTIONS

IR-70 STA. 560+50 TO STA. 562+00

MOT-70-6.49

SEEDING		END AREA		VOLUME		
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL	
						CALCULATED
						CHECKED

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

885
880

12.00'
E/B
E/B
10:1

592+00.00
881.28

22		885		0	2	
		880				
	106			0	2	

885
880

E/B
E/B
10:1

591+50.00
882.65

16		885		0	0	
		880				
	61			0	0	

890
885
880

E/B
E/B

591+00.00
884.08

6		890				
		885		0	0	
		880				

890
885
880

E/B
E/B

590+50.00
885.74

		890				
		885				
		880				

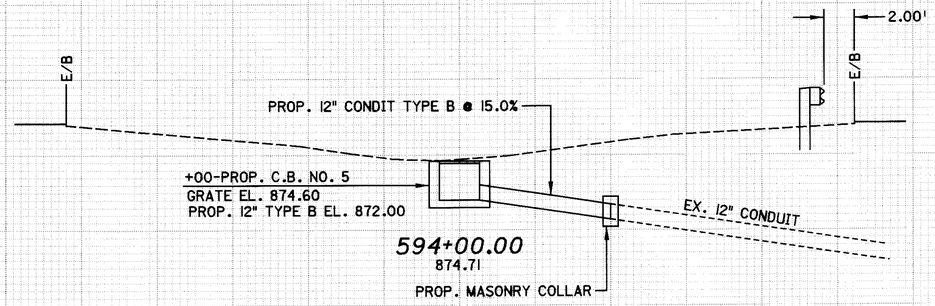
60 50 40 30 20 10 0 10 20 30 40 50 60

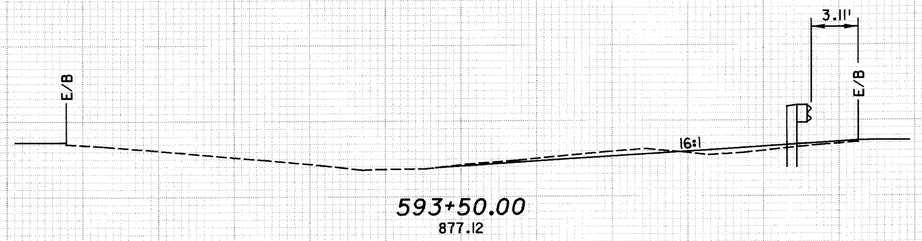
	167	SHEET TOTAL			0	2

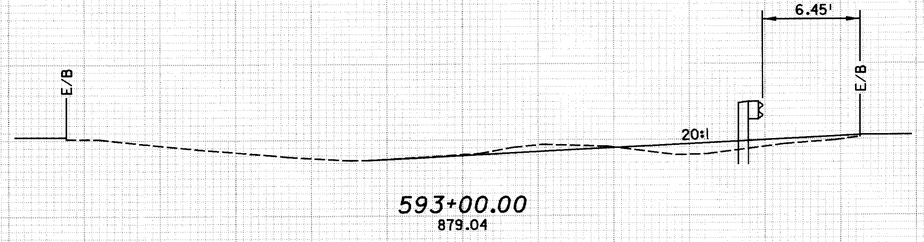
CROSS SECTIONS
STA. 590+50 TO STA. 592+00

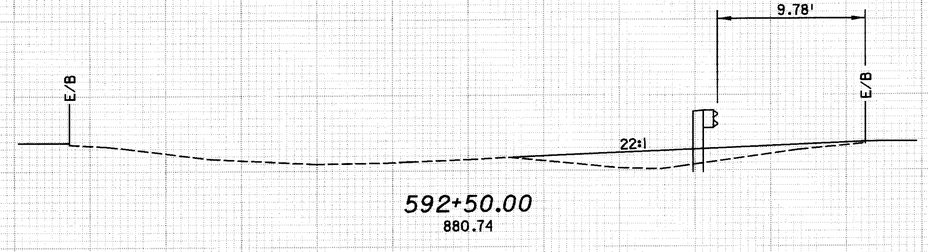
MOT-70-6.49

SEEDING END WIDTH	SEEDING SQ. YDS.		END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		60 50 40 30 20 10 0 10 20 30 40 50 60				
		880				
12		BACK ONLY	0	0		
		875				
		870				
	111				3	2
		880				
28			3	3		
		875				
	169				5	9
		880				
33			3	7		
		875				
	158				3	20
		885				
24			0	15		
		880				
	128				0	15
	566	SHEET TOTAL 50 40 30 20 10 0 10 20 30 40 50		SHEET TOTAL	11	46









CALCULATED

CHECKED

CROSS SECTIONS
STA. 592+50 TO STA. 594+00

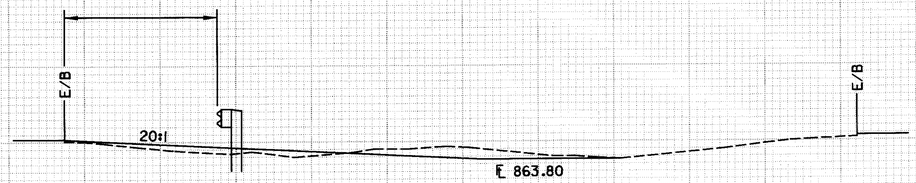
IR-70 STA.

MOT-70-6.49

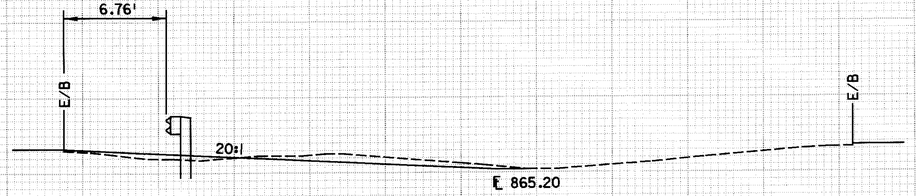
92
201

SEEDING		END AREA		VOLUME		CALCULATED	CHECKED
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL		

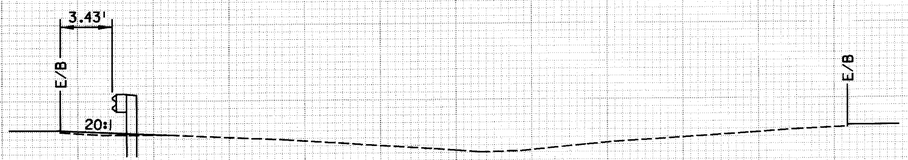
60 50 40 30 20 10 0 10 20 30 40 50 60



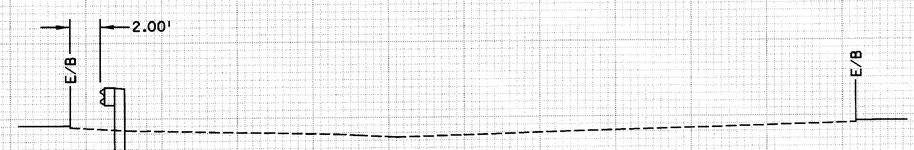
598+00.00
864.60



597+50.00
865.62



597+00.00
866.65



596+50.00
868.81

SEEDING END WIDTH	SEEDING SQ. YDS.		END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
37		870 / 865 / 860	7	5		
	189				12	8
31		870 / 865	6	3		
	106				6	5
7		870 / 865	0	3		
	28				0	3
3		870 / AHEAD ONLY / 865	0	0		
	323	SHEET TOTAL			18	16

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

SHEET TOTAL

CROSS SECTIONS
STA. 596+50 TO STA. 598+00

MOT-70-6.49

93
201

inside

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				
		860 / 855				
		E/B E/B				
		600+00.00				
		856.87				
		865 / 860 / 855				
8		E/B E/B	0	0		
		599+50.00				
		858.35				
	69				0	0
		865 / 860				
		E/B E/B, 10:1				
17		E 860.07	0	1		
		599+00.00				
		860.07				
	150				5	3
		865 / 860				
		12.00', E/B E/B, 12:1, 12:1				
37		E 862.00	6	2		
		598+50.00				
		862.43				
	206				12	7
	425	SHEET TOTAL			17	10

CALCULATED

CHECKED

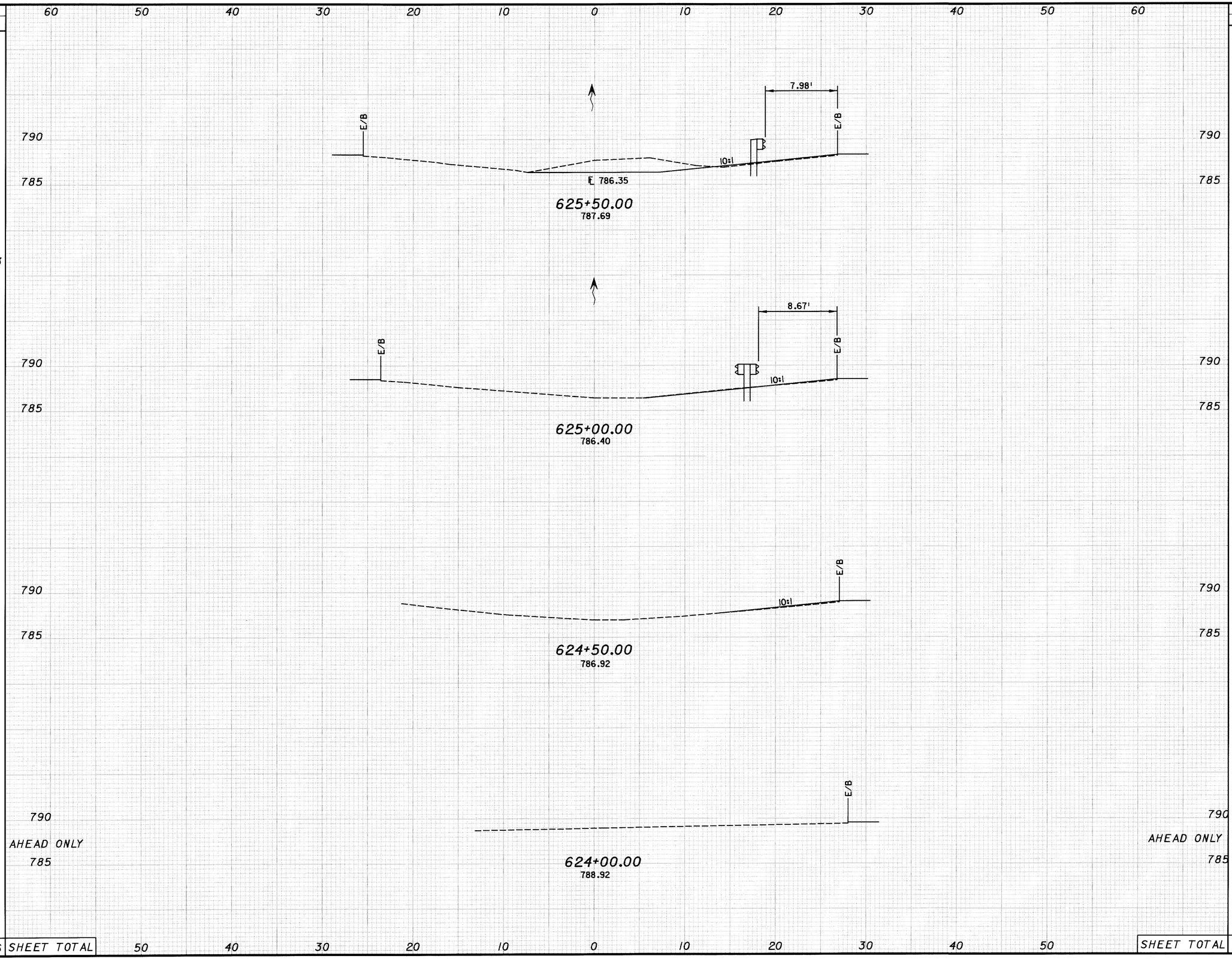
CROSS SECTIONS
STA. 598+50 TO STA. 600+00

IR-70 STA.

MOT-70-6.49

94
201

SEEDING END WIDTH	SEEDING SQ. YDS.	
34		
	153	
21		
	97	
14		
	56	
6		
	306	SHEET TOTAL



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
19	2		
		18	2
0	1		
		0	1
0	1		
		0	1
0	0		
		18	4

CALCULATED

CHECKED

CROSS SECTIONS

STA. 624+00 TO STA. 625+50

IR-70 STA. 624+00 TO STA. 625+50

MOT-70-6.49

95
201

SEEDING END WIDTH	SEEDING SQ. YDS.		END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		60 50 40 30 20 10 0 10 20 30 40 50 60				
		790				
12		BACK ONLY	0	0		
		785				
		627+00.00				
		786.86				
	100				3	0
		790	3	1		
24		785				
		626+50.00				
		785.50				
	144				15	0
		790	13	0		
28		785				
		626+00.00				
		785.67				
	172				30	2
64	416	SHEET TOTAL			48	0

CALCULATED

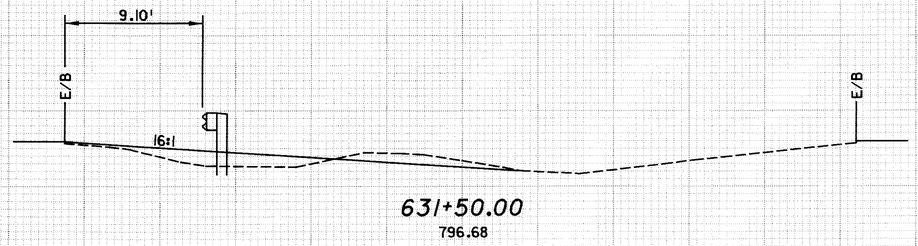
CHECKED

CROSS SECTIONS

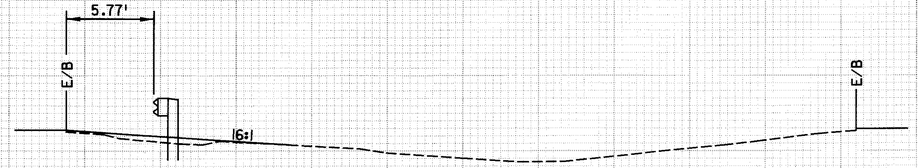
IR-70 STA. 626+00 TO STA. 627+00

MOT-70-6.49

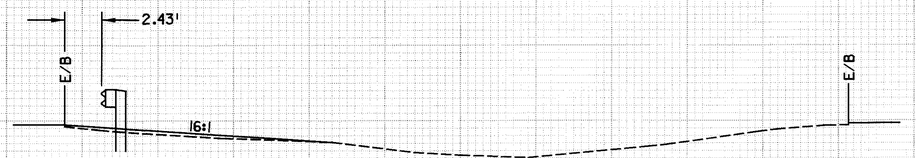
SEEDING END WIDTH	SEEDING SQ. YDS.		END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		800				
30		795	5	10		
	125				5	12
		800				
15		795	0	3		
		790				
	92				0	5
		795				
18		790	0	3		
	86				0	5
		795				
13	AHEAD ONLY	790	0	3		
	303	SHEET TOTAL			5	22



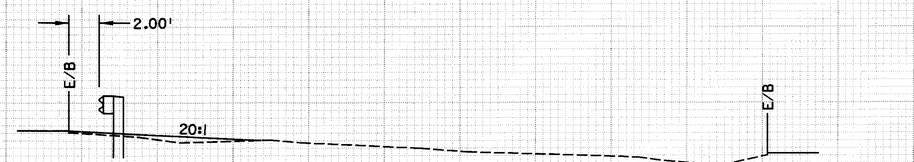
631+50.00
796.68



631+00.00
794.50



630+50.00
792.69



630+00.00
791.77

CALCULATED

CHECKED

CROSS SECTIONS

IR-70 STA. 630+00 TO STA. 631+50

MOT-70-6.49

97
201

SEEDING END WIDTH	SEEDING SQ. YDS.	60	50	40	30	20	10	0	10	20	30	40	50	60	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		805												805				
8		BACK ONLY												BACK ONLY	0	0		
		800												800				
								633+50.00 801.19										
	75																0	2
		805												805				
19		800												800	0	2		
								633+00.00 799.91										
	117																0	7
		805												805				
23		800												800	0	6		
		795						632+50.00 798.55						795				
	156																2	18
		800												800				
33		795						632+00.00 798.36						795	2	14		
	175																7	22
	523	SHEET TOTAL												SHEET TOTAL			9	49

E/B

10:1

8:1

18:1

10.28'

CALCULATED

CHECKED

CROSS SECTIONS

IR-70 STA. 632+00 TO 633+50

MOT-70-6.49

98
201

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				
		825				
17		820	0	2		
		815				
		E/B E/B 10:1				
		639+00.00 818.24				
	111				0	3
		820				
23		815	0	1		
		E/B E/B 10:1				
		638+50.00 816.67				
	89				0	1
		820				
9		815	0	0		
		E/B E/B				
		638+00.00 815.00				
		815				
		E/B E/B				
		637+50.00 813.76				
		810				
	200	SHEET TOTAL 50 40 30 20 10 0 10 20 30 40 50	SHEET TOTAL		0	4

CALCULATED

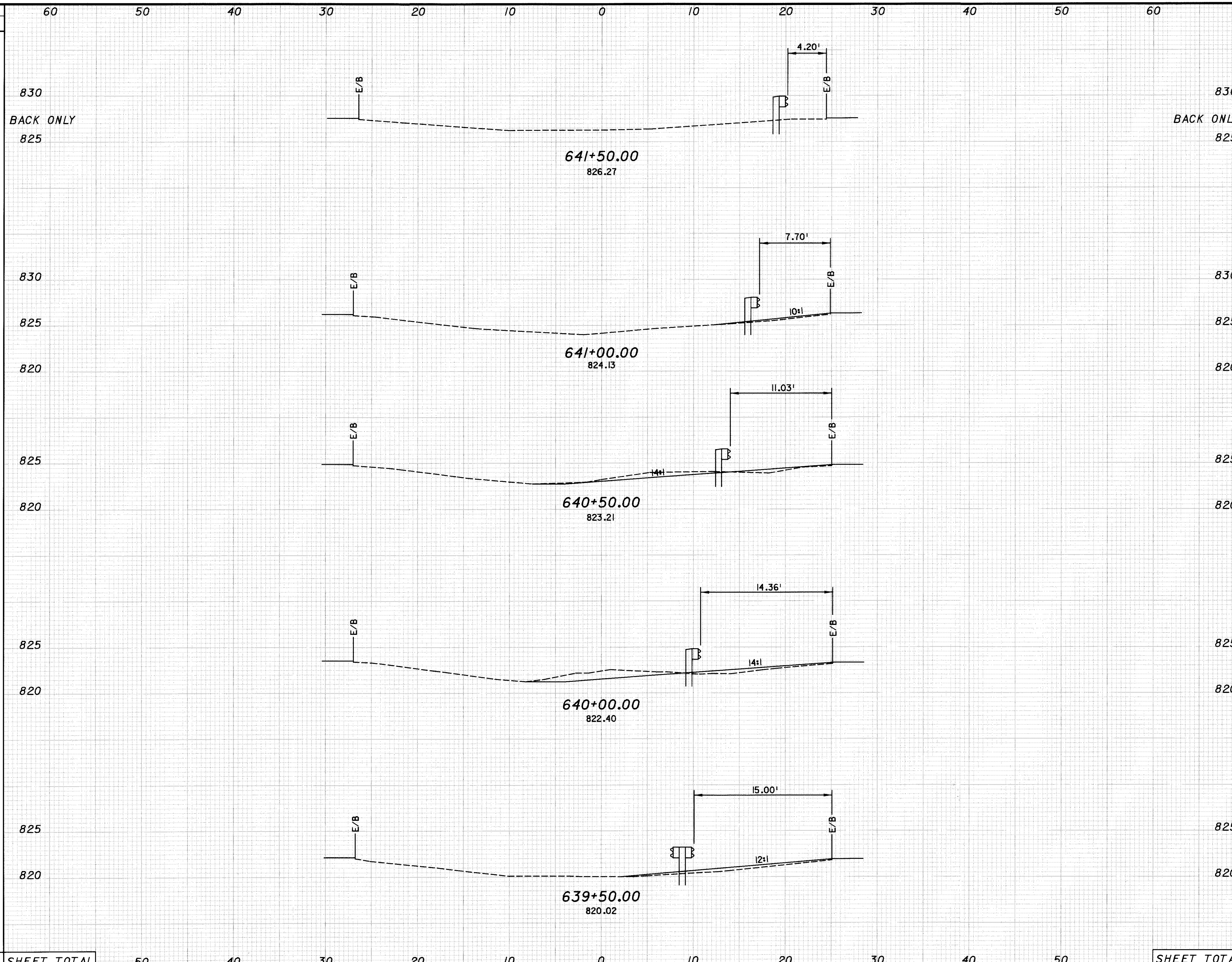
CHECKED

CROSS SECTIONS

STA. 637+50 TO STA. 639+00

IR-70

MOT-70-6.49



SEEDING END WIDTH	SEEDING SQ. YDS.
6	
	53
13	
	128
33	
	183
33	
	156
23	
	111
SHEET TOTAL	631

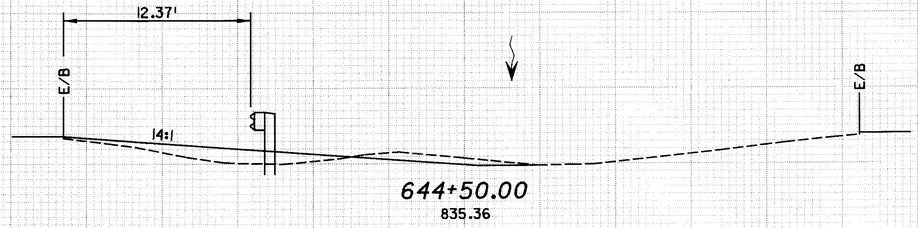
Station	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
641+50.00	0	0		
			0	2
641+00.00	0	2		
			5	4
640+50.00	5	2		
			13	6
640+00.00	9	4		
			8	9
639+50.00	0	5		
			0	1
SHEET TOTAL			26	22

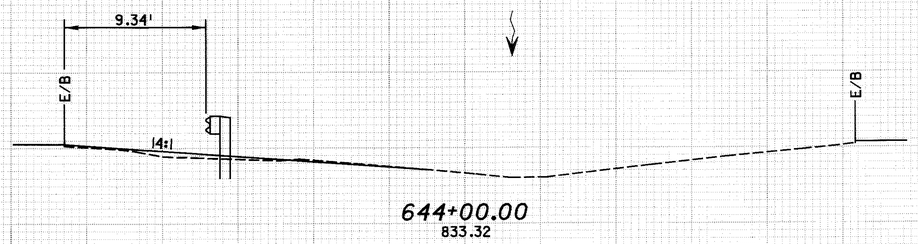
CALCULATED | CHECKED

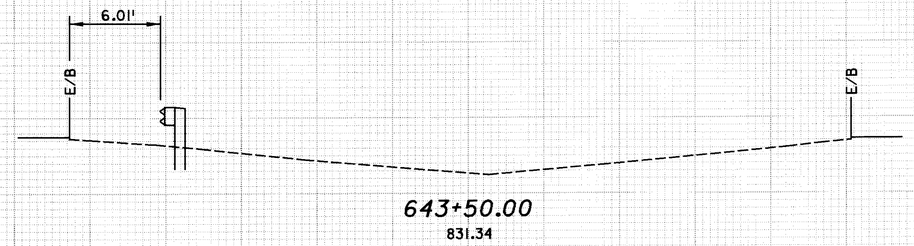
CROSS SECTIONS
IR-70 STA. 639+50 TO STA. 641+50

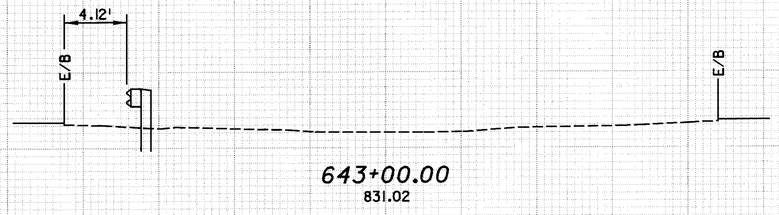
MOT-70-6.49

SEEDING END WIDTH	SEEDING SQ. YDS.
31	153
24	94
10	50
8	AHEAD ONLY
	297









END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
4	11		
		4	13
1	3		
		0	3
0	0		
		0	0
0	0		
SHEET TOTAL		4	16

CALCULATED

CHECKED

CROSS SECTIONS
STA. 643+00 TO STA. 644+50
IR-70 STA. 643+00 TO STA. 644+50

MOT-70-6.49

101
201

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					
		845 / 840 — E/B … E/B — 646+50.00, 840.16					
		845 / 840 — E/B … E/B — 646+00.00, 838.81					
11		BACK ONLY	0	0			
	94				0	7	
		840 / 835 — E/B … E/B, 10:1 — 645+50.00, 837.75	0	8			
	158				3	18	
		840 / 835 — E/B … E/B, 12.49', 14:1 — 645+00.00, 837.06	4	11			
	181				7	20	
	433	SHEET TOTAL			10	45	

CALCULATED

CHECKED

CROSS SECTIONS

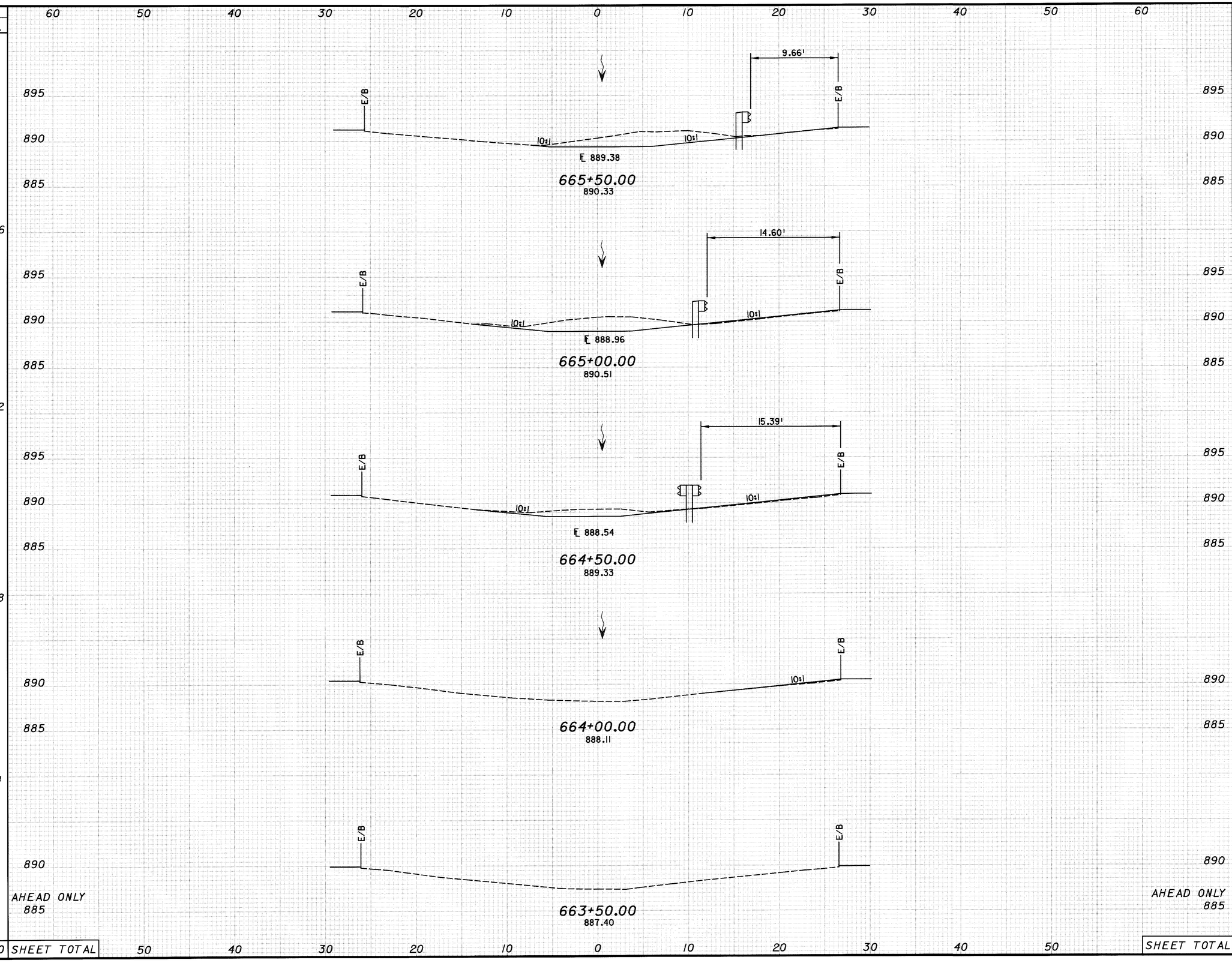
IR-70 STA. 645+00 TO STA. 646+50

MOT-70-6.49

102
201

1:\de

SEEDING END WIDTH	SEEDING SQ. YDS.
34	206
40	222
40	178
24	94
10	AHEAD ONLY
	700



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
22	0		
		39	1
21	1		
		28	3
9	2		
		9	2
0	1		
		0	1
0	0		
		76	7

CALCULATED

CHECKED

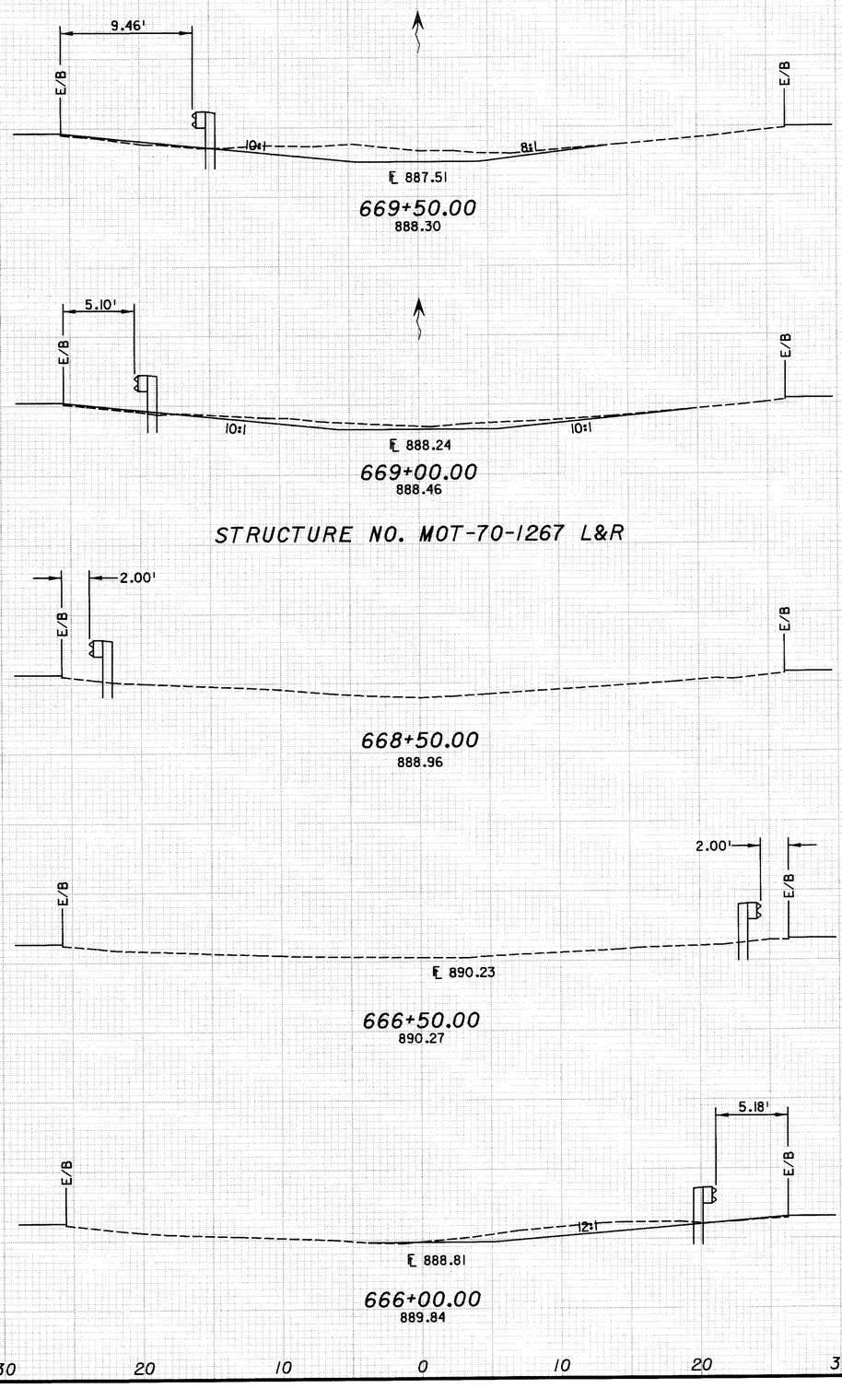
CROSS SECTIONS

IR-70 STA. 663+50 TO STA. 665+50

MOT-70-6.49

103
201

SEEDING END WIDTH	SEEDING SQ. YDS.	
39	233	
45	175	
18		AHEAD ONLY
12	117	BACK ONLY
30	178	
	703	SHEET TOTAL



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
17	1		
		24	2
10	1		
		9	1
0	0		
10	1		
		9	0
		29	1
		71	4

CALCULATED

CHECKED

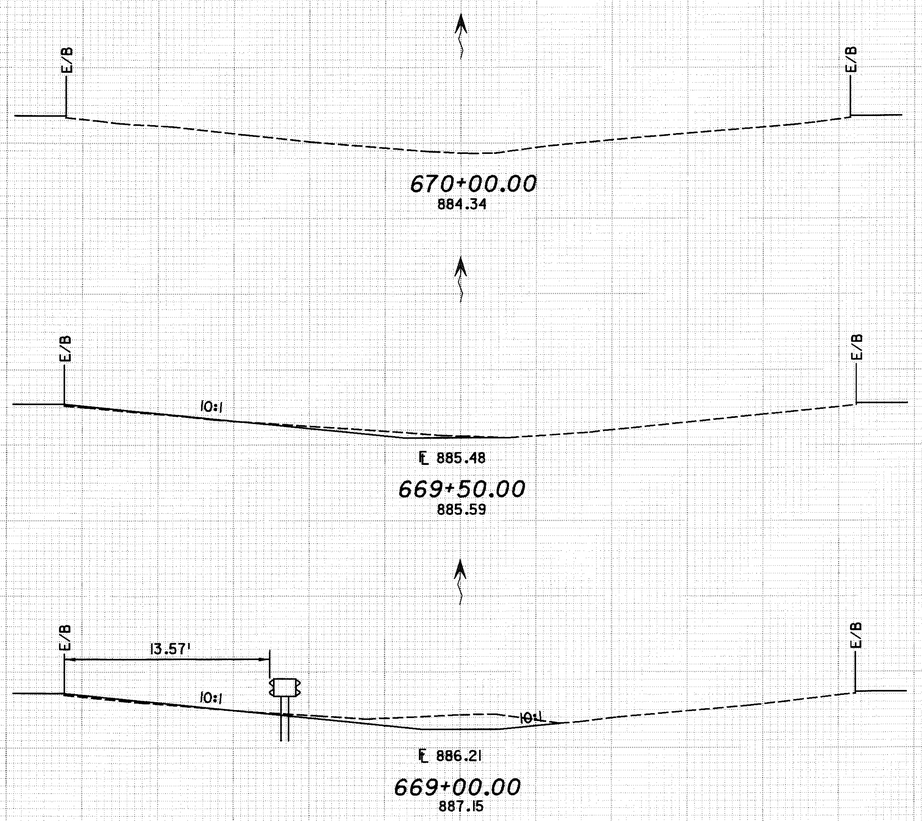
CROSS SECTIONS

IR-70 STA. 666+00 TO STA. 669+50

MOT-70-6.49

104
201

SEEDING END WIDTH	SEEDING SQ. YDS.		END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		890				
12		BACK ONLY	0	0		
		885				
	114				3	1
		890				
29			3	1		
		885				
	172				12	2
		890				
33			10	1		
		885				
	151				21	1
		890				
35			19	1		
		885				
	206				33	2
	643	SHEET TOTAL			69	6



STATION EQUATION STA. 670+37.67 BACK = STA. 668+97.77 AHEAD

CALCULATED

CHECKED

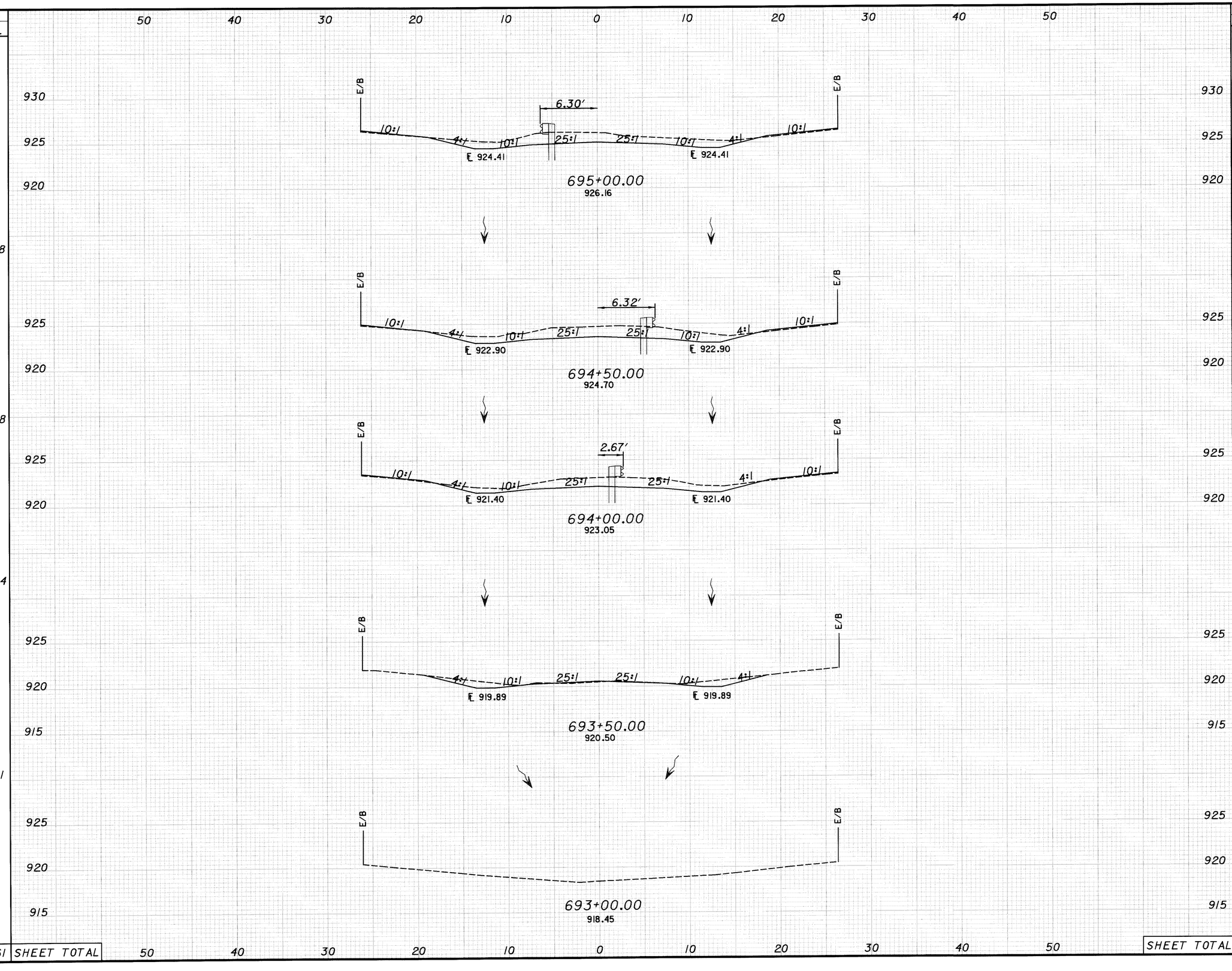
CROSS SECTIONS
STA. 670+00 TO STA. 670+00
IR-70

MOT-70-6.49

105
201

1"=de

SEEDING	
END WIDTH	SQ. YDS.
50	
	278
50	
	278
50	
	244
38	
	161
20	
	961



END AREA		VOLUME	
CUT	FILL	CUT	FILL
29	2		
		56	3
32	2		
		52	3
25	2		
		31	2
9	1		
		8	1
0	0		
SHEET TOTAL		147	9

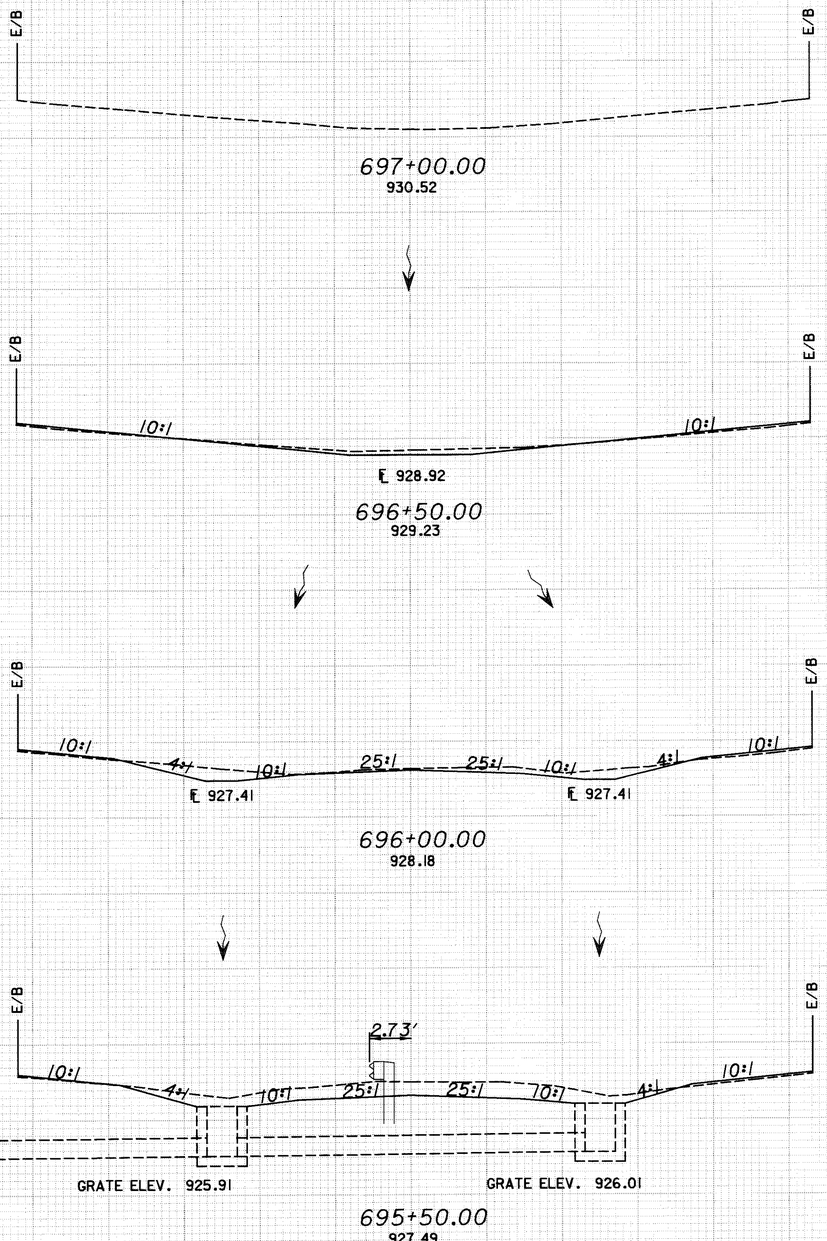
CALCULATED

CHECKED

CROSS SECTIONS
IR-70 STA. 693+00 TO STA. 695+00
MOT-70-6.49

106
201

SEEDING END WIDTH	SEEDING SQ. YDS.
20	194
50	278
50	278
50	278
	1028



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	0		
		5	2
5	2		
		16	4
12	2		
		37	3
28	2		
		52	3
		110	12

SHEET TOTAL

CALCULATED

CHECKED

CROSS SECTIONS
STA. 695+50 TO STA. 697+00

IR-70

MOT-70-6.49

107
201

1:\de

SEEDING				END AREA		VOLUME		
END WIDTH	SQ. YDS.			CUT	FILL	CUT	FILL	
		50 40 30 20 10 0 10 20 30 40 50						
		975	E/B 2.68' E/B					
50		970	10:1 8:1 10:1 25:1 25:1 10:1 8:1 10:1	20	6			
		965	℄ 969.90 ℄ 969.90					
			745+50.00 971.42					
	278					36	12	
		975	E/B E/B					
50		970	10:1 4:1 10:1 25:1 25:1 10:1 4:1 10:1	19	8			
		965	℄ 968.77 ℄ 968.77					
			745+00.00 970.24					
	278					24	12	
		970	E/B E/B					
50		965	8:1 4:1 10:1 25:1 25:1 10:1 4:1 8:1	7	6			
			℄ 967.64 ℄ 967.64					
			744+50.00 968.29					
	278					8	18	
		970	E/B E/B					
50		965	10:1 6:1 6:1 10:1	1	14			
			℄ 966.51					
			744+00.00 966.52					
	194					1	13	
		970						
20		965		0	0			
			743+50.00 965.94					
	1028	SHEET TOTAL	50 40 30 20 10 0 10 20 30 40 50			69	55	

CALCULATED

CHECKED

CROSS SECTIONS

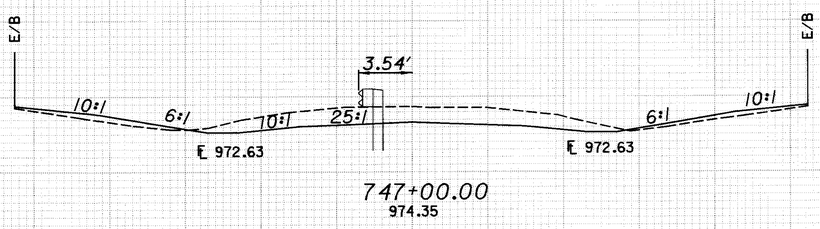
STA. 743+50 TO STA. 745+50

IR-70

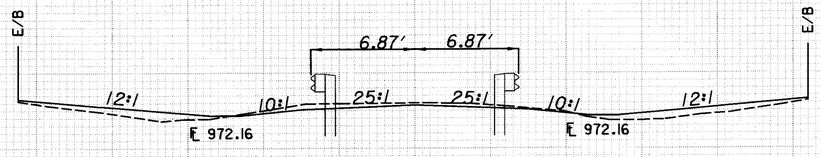
MOT-70-6.49

SEEDING	
END WIDTH	SQ. YDS.
50	278
50	278
50	278
50	278
	1112

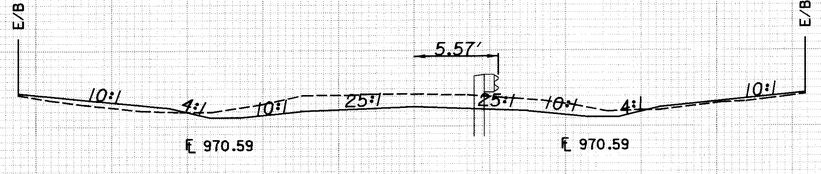
50 40 30 20 10 0 10 20 30 40 50



747+00.00
974.35



746+50.00
973.00



746+00.00
972.13

END AREA		VOLUME	
CUT	FILL	CUT	FILL
26	6		
4	11		
22	5		
		28	15
		24	14
		39	10
SHEET TOTAL		91	39

CALCULATED

CHECKED

CROSS SECTIONS

IR-70 STA. 746+00 TO STA. 747+00

MOT-70-6.49

SEEDING			END AREA		VOLUME	
END WIDTH	SQ. YDS.		CUT	FILL	CUT	FILL
		50 40 30 20 10 0 10 20 30 40 50				
		980				
20		975	0	0		
		E/B E/B				
		℄ 979.13				
		749+50.00				
		979.17				
	194	E/B E/B			6	15
		980				
		10:1 8:1 8:1 10:1				
50		975	7	17		
		℄ 977.86				
		749+00.00				
		978.65				
	278	E/B E/B			18	1
		980				
		12:1 12:1				
50		975	13	18		
		℄ 976.68				
		748+50.00				
		977.82				
	278	E/B E/B			16	18
		980				
		10:1 8:1 25:1 25:1 8:1 10:1				
50		975	5	1		
		℄ 975.55 ℄ 975.55				
		748+00.00				
		976.78				
	278	E/B E/B			17	9
		980				
		10:1 10:1 25:1 25:1 10:1 10:1				
50		975	13	8		
		℄ 974.42 ℄ 974.42				
		747+50.00				
		975.72				
		970				
		50 40 30 20 10 0 10 20 30 40 50				
	1028	SHEET TOTAL			36	13
		SHEET TOTAL			93	56

CALCULATED

CHECKED

CROSS SECTIONS

STA. 747+50 TO STA. 749+50

IR-70 STA. 747+50 TO STA. 749+50

MOT-70-6.49

110
201

ITEM 603 - CORRUGATED STEEL PIPE ARCH, FIELD PAVING OF EXISTING PIPE, AS PER PLAN

THIS ITEM OF WORK SHALL INCLUDE: THE REMOVAL OF ALL DIRT AND DEBRIS FROM INSIDE THE STRUCTURE, EQUIPMENT, LABOR, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS DETAILED IN THESE PLANS.THE BOTTOM OF THE CONDUIT SHALL BE FIELD PAVED WITH CLASS "C" PORTLAND CEMENT CONCRETE. THE PAVING SHALL BE REINFORCED WITH #4 STEEL BARS AND 6 GAUGE WIRE MESH HAVING OPENINGS OF 6' X 6" (OR COMPARABLE) AS PER 709.10 OR 709.11. THE MESH SHALL BE GALVANIZED AS PER 709.08 AND HAVE A WIDTH 4" LESS THAN THE FINISHED PAVING. THE #4 STEEL BARS ARE TO SECURELY WELDED TO THE EXISTING BOLT LINE OR TO THE TOP OF THE CORRUGATION. THE MESH SHALL BE CAREFULLY FASTENED TO THE CONDUIT BY TACK WELDING, OR ANOTHER METHOD APPROVED BY THE ENGINEER. THE MESH SHALL BE CAREFULLY SECURED NEAR EACH EDGE AND AT THE CENTER OF THE MESH POINTS NOT MORE THAN FOUR FEET APART ALONG THE FLOWLINE OF THE CONDUIT.

THE CONCRETE PAVING SHALL BE 3" THICK MEASURED FROM THE TOP OF THE CORRUGATIONS OF THE CONDUIT. AFTER PLACING, THE CONCRETE SHALL BE STRUCK OFF WITH A TEMPLATE TO PRODUCE THE PROPER RADIUS AND FINISHED WITH A FLOAT TO PRODUCE A SMOOTH FINISH. THE CURING OF THE CONCRETE SHALL BE IN ACCORDANCE WITH 451.10.

THE COST OF THE PAVING MATERIAL, WIRE MESH, #4 STEEL BARS, LABOR AND EQUIPMENT NEEDED TO COMPLETE THIS ITEM OF WORK SHALL BE INCLUDED IN THE UNIT PRICE BID MEASURED IN LINEAL FEET FOR ITEM 603 - CORRUGATED STEEL PIPE ARCH, FIELD PAVING OF EXISTING PIPE, AS PER PLAN.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR STRUCTURE NO. MOT-70-0873.

ITEM 603, 114" X 77" CONDUIT, CORRUGATED STEEL PIPE ARCH, FIELD PAVING OF EXISTING PIPE, AS PER PLAN	484	LIN. FT.

ITEM 603 - CONDUIT, MISC.; FIELD PLATING OF EXISTING MULTI-PLATE ARCH, AS PER PLAN

IN SOME LOCATIONS ON STRUCTURE MOT-70-0873 THE SEAMS OF THE STRUCTURE HAVE EXPERIENCED SOME RUSTING, AND ARE ALMOST RUSTED THROUGH IN SOME LOCATIONS. THIS IS NOT A GENERAL CONDITION, BUT IS ONLY OVER A RELATIVELY SMALL PORTION OF THE STRUCTURE. THE CONTRACTOR SHALL PLACE NEW SECTIONS OF PLATES OVER THE RUSTED SECTIONS OF THE OLD PLATES. THIS SHOULD BE DONE AS OUTLINED BELOW.

THE CONTRACTOR SHALL REMOVE THE BOLT HEADS AND NUTS BEFORE A NEW PLATE SECTION CAN BE PLACED. IT IS RECOMMENDED THAT ALL BOLTS IN A GIVEN PLATE NOT BE REMOVED AT ONCE, BUT THE BOLTS BE REMOVED IN SHORTER SECTIONS AND THE NEW PLATE WELDED IN PLACE BEFORE THE BOLTS IN THE NEXT SECTIONS ARE REMOVED.

THE NEW PLATES SHOULD EXTEND CIRCUMFERENTIAL AT LEAST 12 INCHES TO EITHER SIDE OF THE JOINT, OR TO A DISTANCE WHICH IS AT LEAST 6 INCHES BEYOND THE RUSTED AREA, WHICHEVER IS GREATER. THE NEW PLATES SHOULD BE INSTALLED IN APPROXIMATELY 30 INCH SECTIONS AT ONE TIME. THE NEW PLATE SHOULD BE 10 GAGE.

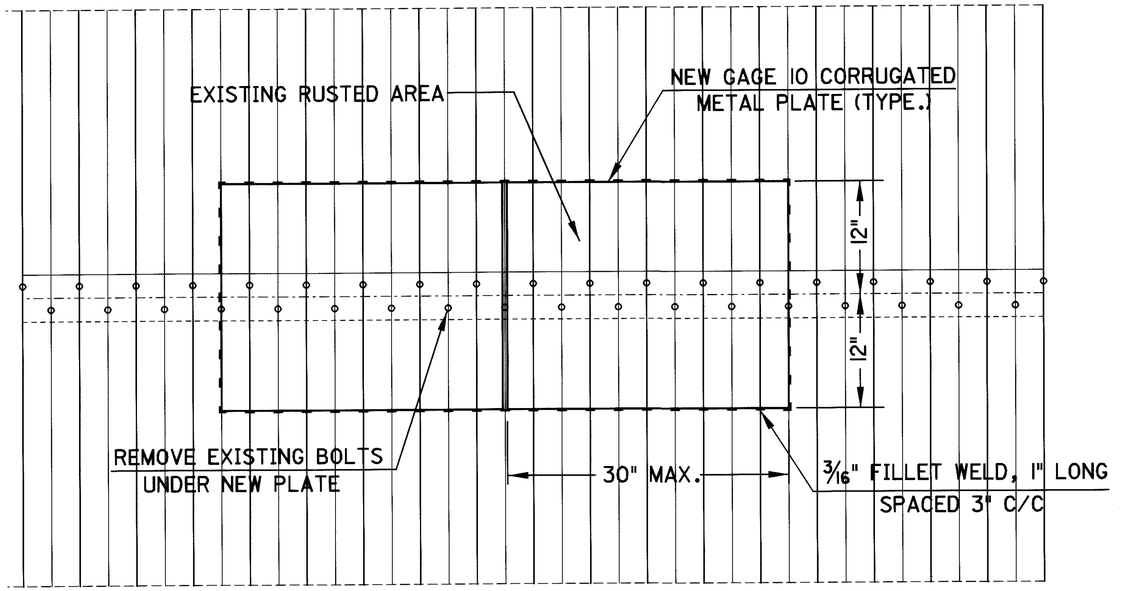
THE PROCEDURE FOR INSTALLING THE NEW PLATE SHOULD BE TO REMOVE THE BOLT HEADS AND NUTS WITHIN THAT SECTION TO BE REPAIRED, TO PLACE A NEW SECTION OF PLATE, AND TO WELD THE ENDS OF THE PLATE TO THE NEW PLATE. THE WELD MUST BE 1 INCH IN LENGTH AND NOT SPACED MORE THAN 3 INCHES FROM CENTER OF WELD TO CENTER OF WELD. A 3/16 FILLET WELD, E70XX, MEETING THE REQUIREMENTS OF AISI AND AWS WELDING CODE SHOULD BE USED. AFTER THE FIRST SECTION IS INSTALLED, THE SECOND SECTION CAN BE INSTALLED, ETC. THE FIGURE TO THE RIGHT SHOWS THE PROPOSED SEAM REMEDIATION IS A CROSS-SECTION AND LONGITUDINAL TO THE PIPE.

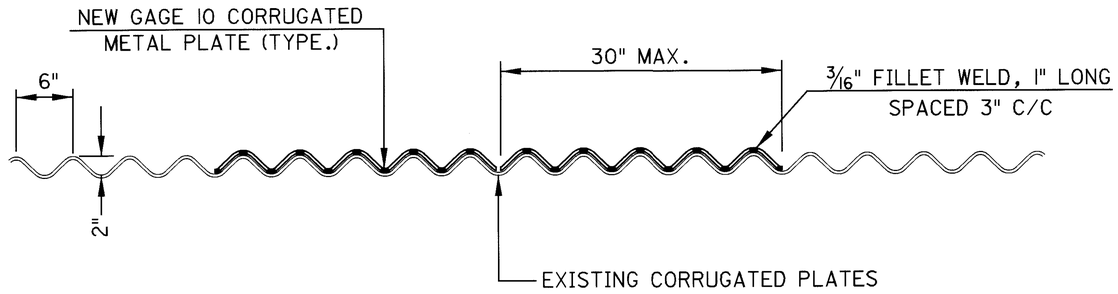
PRECAUTIONS SHOULD BE FOLLOWED IN REPAIRING THE AREAS TO BE REMEDIATED TO INSURE THAT NO SECTION LARGER THAT 30 INCHES OF BOLTS ARE REMOVED AT ANY ONE TIME SO THAT DAMAGE TO THE PLATE DOES NOT OCCUR. THE STRUCTURE IS GALVANIZED, SPECIAL PRECAUTIONS MUST BE TAKEN DURING THE WELDING PROCESS, AS WELDING FUMES FROM FROM GALVANIZED METAL MAY BE TOXIC.

A COMPLETE INSPECTION OF THE STRUCTURE SHOULD BE MADE TO DETERMINE THOSE AREAS WHICH DO REQUIRE REMEDIATION. A DETERMINATION OF THOSE AREAS SHICH DO REQUIRE SOME SORT OF REMEDIATION SHOULD BE MADE.

THE FOLLOWING ESTIMATED QUANTITIY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THE REMEDIATION AREAS ON THE STRUCTURE NO. MOT-70-0873

ITEM 603 - CONDUIT, MISC.; FIELD PLATING OF EXISTING MULTI-PLATE ARCH, AS PER PLAN	63	SQ. YD.



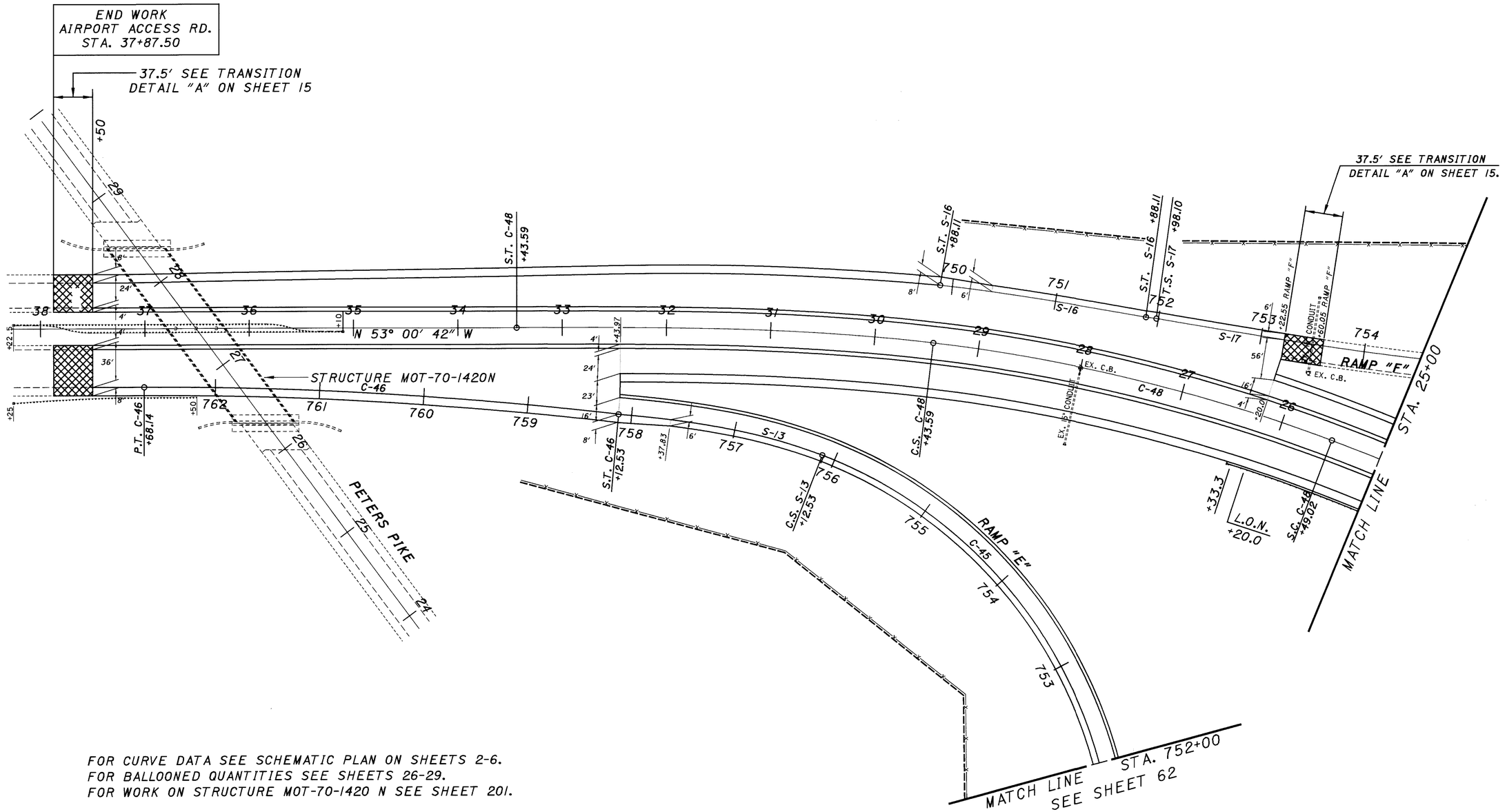


SEAM CORROSION REMEDIATION

CALCULATED | CHECKED

CONDUIT DETAIL (MOT-70-0873)

MOT-70-6.49



FOR CURVE DATA SEE SCHEMATIC PLAN ON SHEETS 2-6.
FOR BALLOONED QUANTITIES SEE SHEETS 26-29.
FOR WORK ON STRUCTURE MOT-70-1420 N SEE SHEET 201.

N

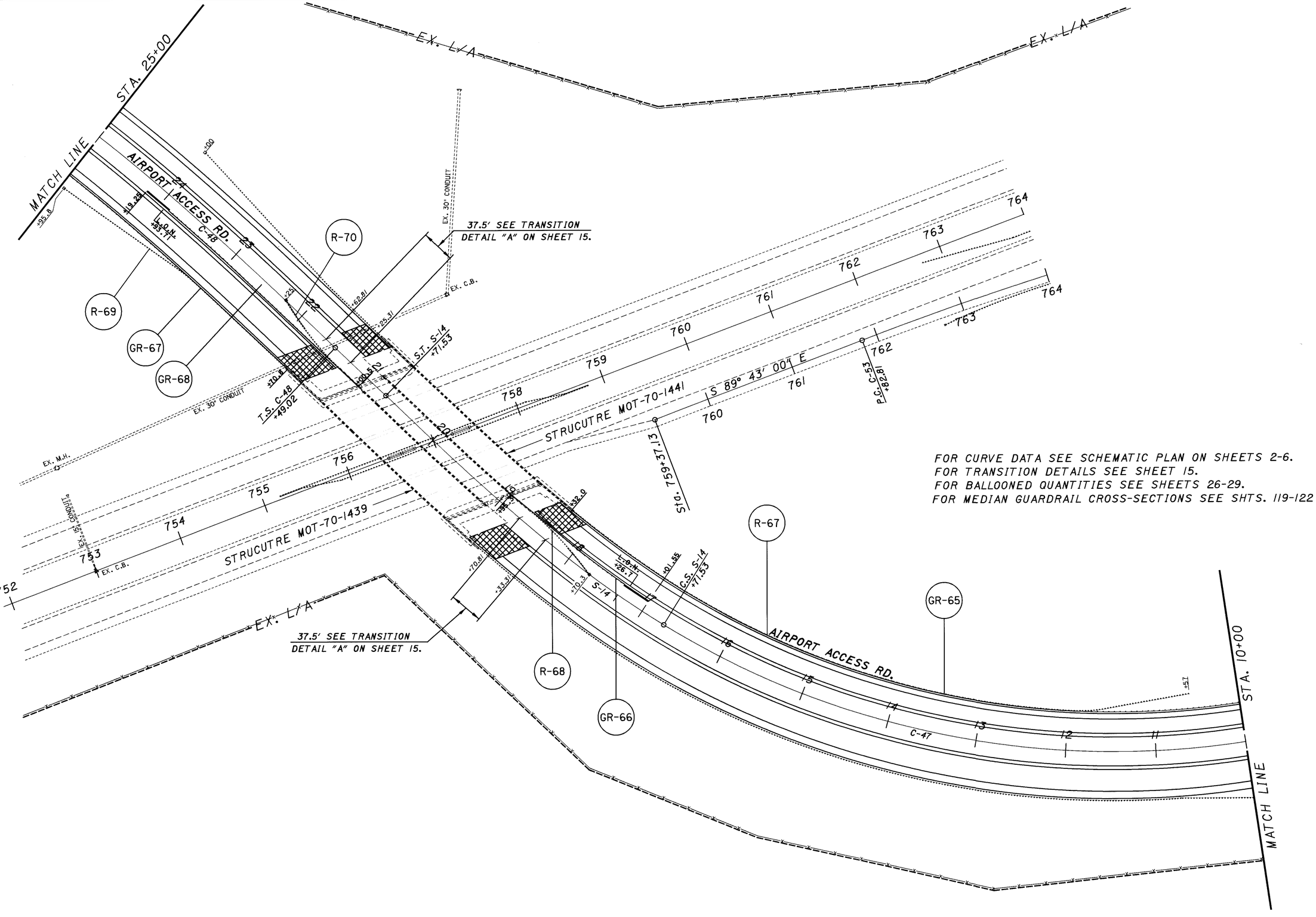
HORIZONTAL SCALE IN FEET
0

CALCULATED
CHECKED

AIRPORT ACCESS ROAD
STA. 25+00 TO STA. 38+00

MOT-70-6.49

116
201



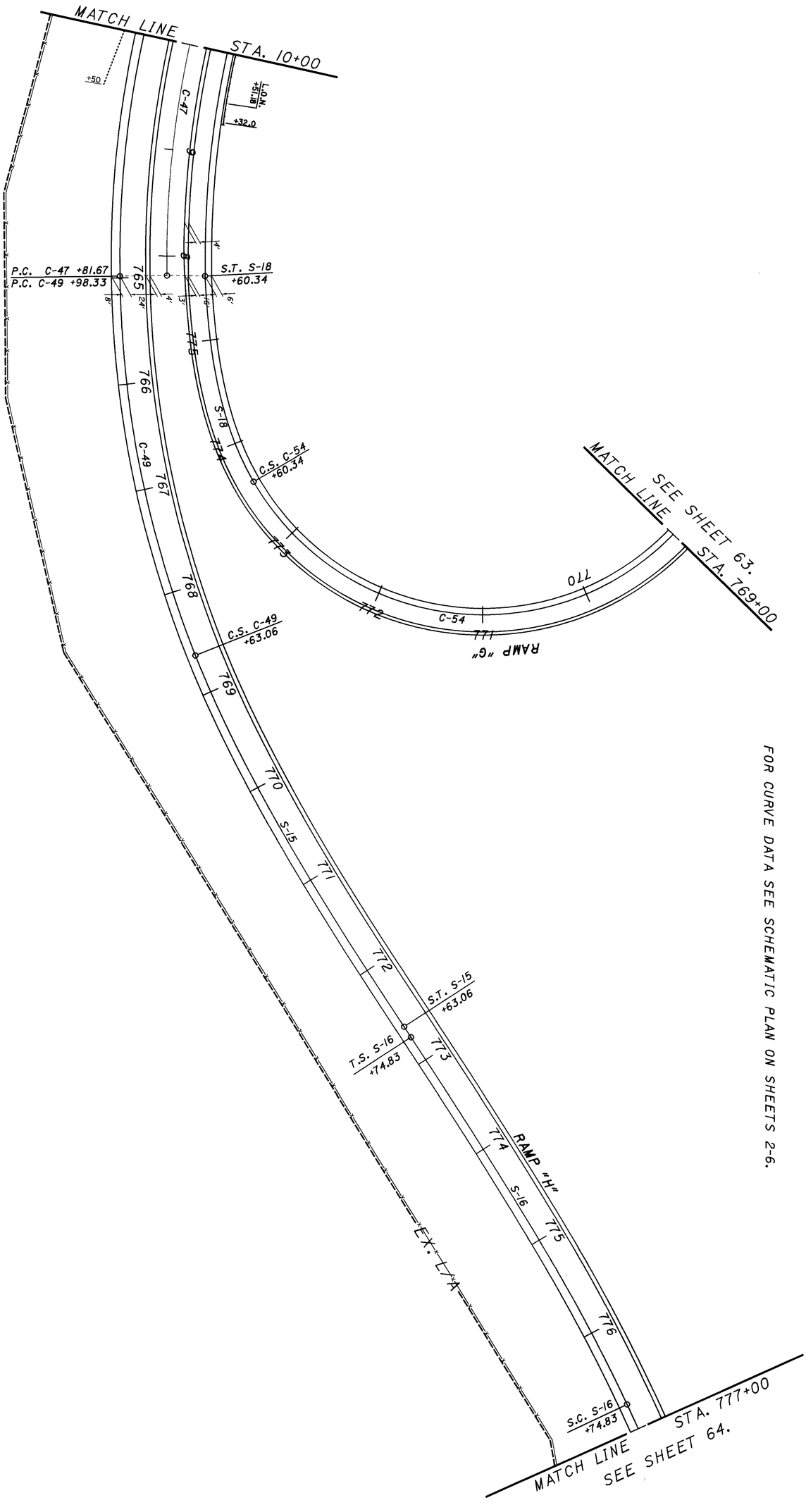
FOR CURVE DATA SEE SCHEMATIC PLAN ON SHEETS 2-6.
FOR TRANSITION DETAILS SEE SHEET 15.
FOR BALLOONED QUANTITIES SEE SHEETS 26-29.
FOR MEDIAN GUARDRAIL CROSS-SECTIONS SEE SHTS. 119-122

HORIZONTAL SCALE IN FEET
0

CALCULATED | CHECKED

AIRPORT ACCESS ROAD STA. 10+00 TO STA. 25+00

MOT-70-6.49



FOR CURVE DATA SEE SCHEMATIC PLAN ON SHEETS 2-6.

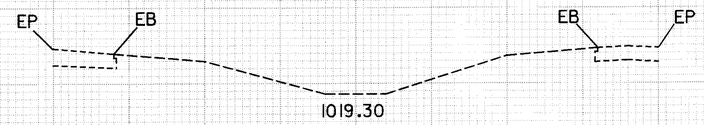
118 / 201	MOT-70-6.49	AIRPORT ACCESS ROAD STA. 777+00 RAMP "H" TO STA. 10+00 A.A.R.	CALCULATED CHECKED	0 HORIZONTAL SCALE IN FEET

SEEDING	
END WIDTH	SQ. YDS.

50 40 30 20 10 ℄ 10 20 30 40 50

1025
1020
1015

℄ SOUTHBOUND

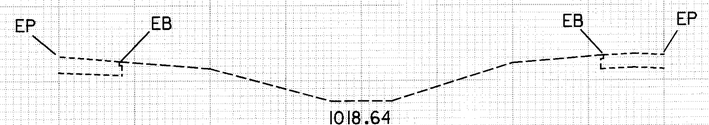


16+50

℄ NORTHBOUND

1025
1020
1015

℄ SOUTHBOUND

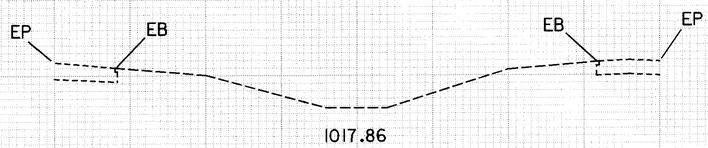


16+00

℄ NORTHBOUND

1025
1020
1015

℄ SOUTHBOUND

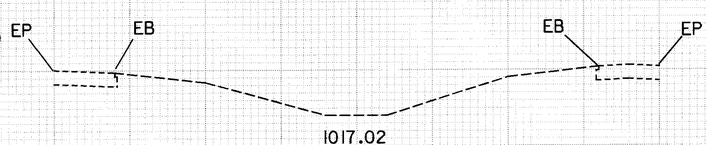


15+50

℄ NORTHBOUND

1025
1020
1015

℄ SOUTHBOUND



15+00

℄ NORTHBOUND

1025
1020
1015

CROSS SECTIONS WERE GENERATED FROM EXISTING PLAN, SUBJECT TO CHANGE IN THE FIELD.

END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0		

CALCULATED

CHECKED

CROSS SECTIONS - AIRPORT ACCESS RD. STA. 15+00 TO STA. 16+50

MOT-70-6.49

119
201

SHEET TOTAL

50 40 30 20 10 ℄ 10 20 30 40 50

SHEET TOTAL

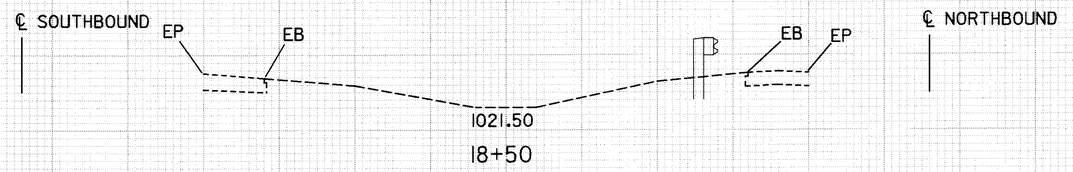
inside

SEEDING END WIDTH	SEEDING SQ. YDS.
0	
	111
40	
	111
0	
	56
20	
	278

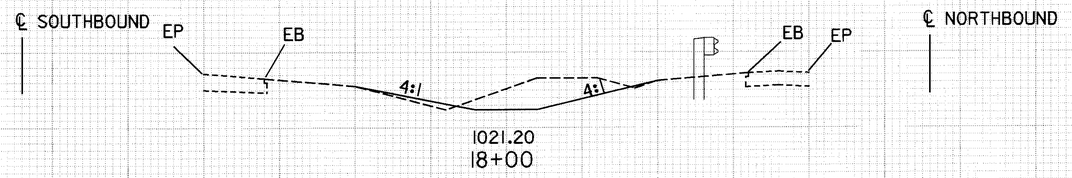
(MOT-70-1439L)

(MOT-70-1441R)

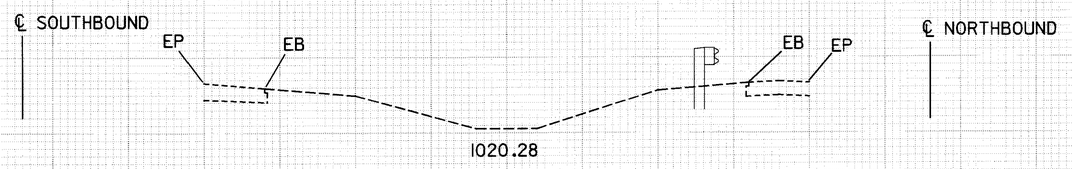
AHEAD
BEGIN BRIDGE LIMITS
STA. 19+00.92



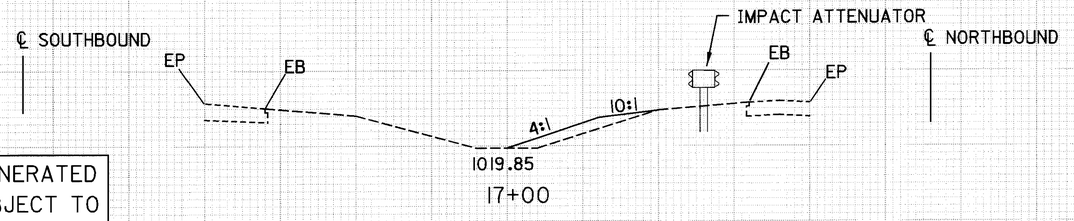
18+50



18+00



17+50



17+00

CROSS SECTIONS WERE GENERATED FROM EXISTING PLAN, SUBJECT TO CHANGE IN THE FIELD.

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	0		
		13	2
14	2		
		13	2
0	0		
		0	5
0	5		
SHEET TOTAL		26	9

CALCULATED

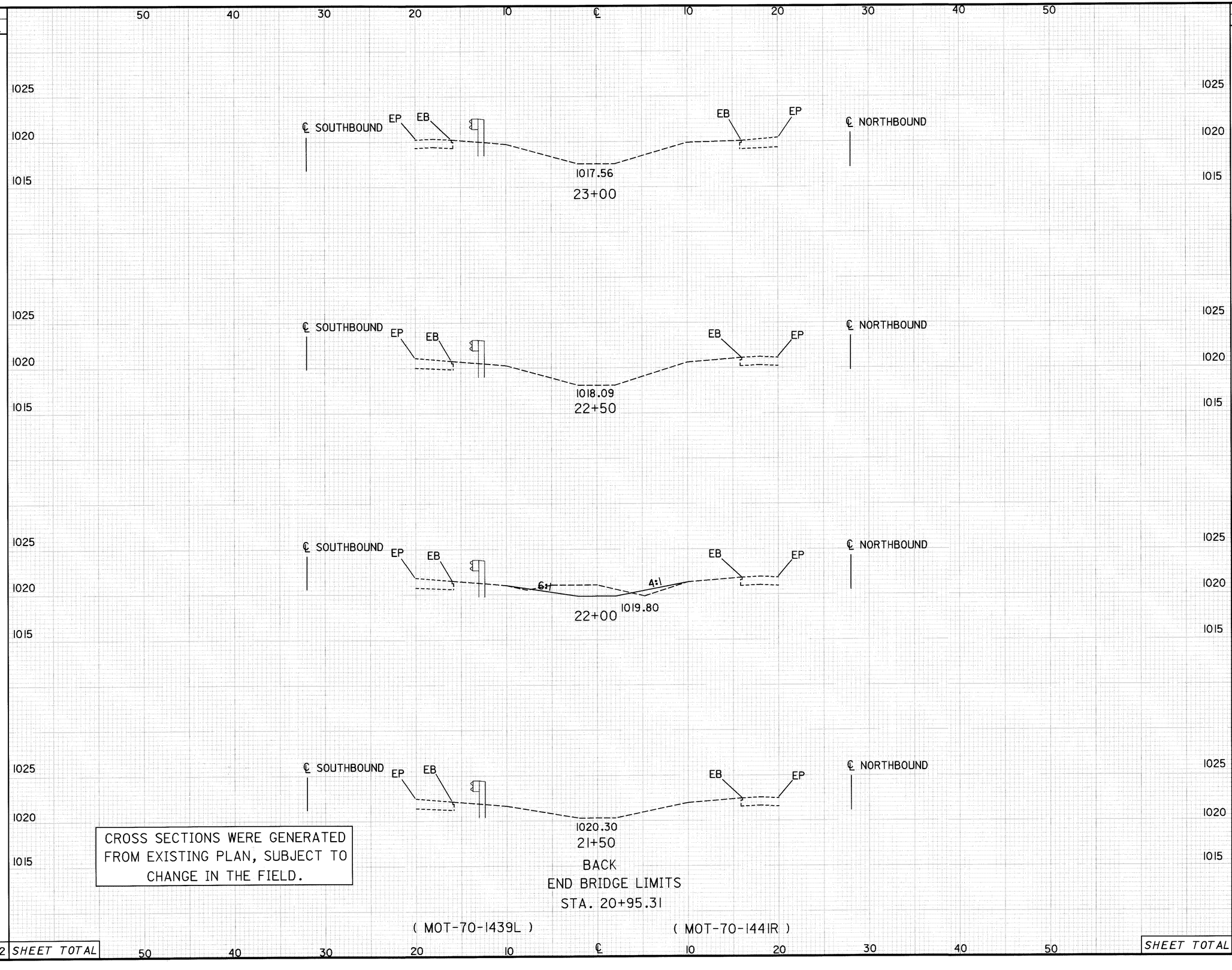
CHECKED

CROSS SECTIONS - AIRPORT ACCESS RD.
STA. 17+00 TO STA. 18+50

MOT-70-6.49

120
201

SEEDING	
END WIDTH	SQ. YDS.
0	0
0	111
40	111
0	
	222



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0		
0	0	0	0
9	2	9	2
0	0	9	2
		18	4

CALCULATED

CHECKED

CROSS SECTIONS - AIRPORT ACCESS RD.
STA. 21+50 TO STA. 23+00

MOT-70-6.49

121
201

SHEET TOTAL

SHEET TOTAL

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

50 40 30 20 10 ℄ 10 20 30 40 50

1020 / 1015 / 1010

℄ SOUTHBOUND — EP — EB — EB — EP — ℄ NORTHBOUND

1013.16
25+00

1020 / 1015 / 1010

℄ SOUTHBOUND — EP — EB — 10:1 — EB — EP — ℄ NORTHBOUND

1014.32
24+50

1020 / 1015 / 1010

IMPACT ATTENUATOR

℄ SOUTHBOUND — EP — EB — 10:1 — 4:1 — EB — EP — ℄ NORTHBOUND

1014.77
24+19.25

1020 / 1015 / 1010

IMPACT ATTENUATOR

℄ SOUTHBOUND — EP — EB — 10:1 — EB — EP — ℄ NORTHBOUND

1015.48
24+00

1020 / 1015 / 1010

℄ SOUTHBOUND — EP — EB — EB — EP — ℄ NORTHBOUND

1016.58
23+50

CROSS SECTIONS WERE GENERATED FROM EXISTING PLAN, SUBJECT TO CHANGE IN THE FIELD.

50 40 30 20 10 ℄ 10 20 30 40 50

CALCULATED

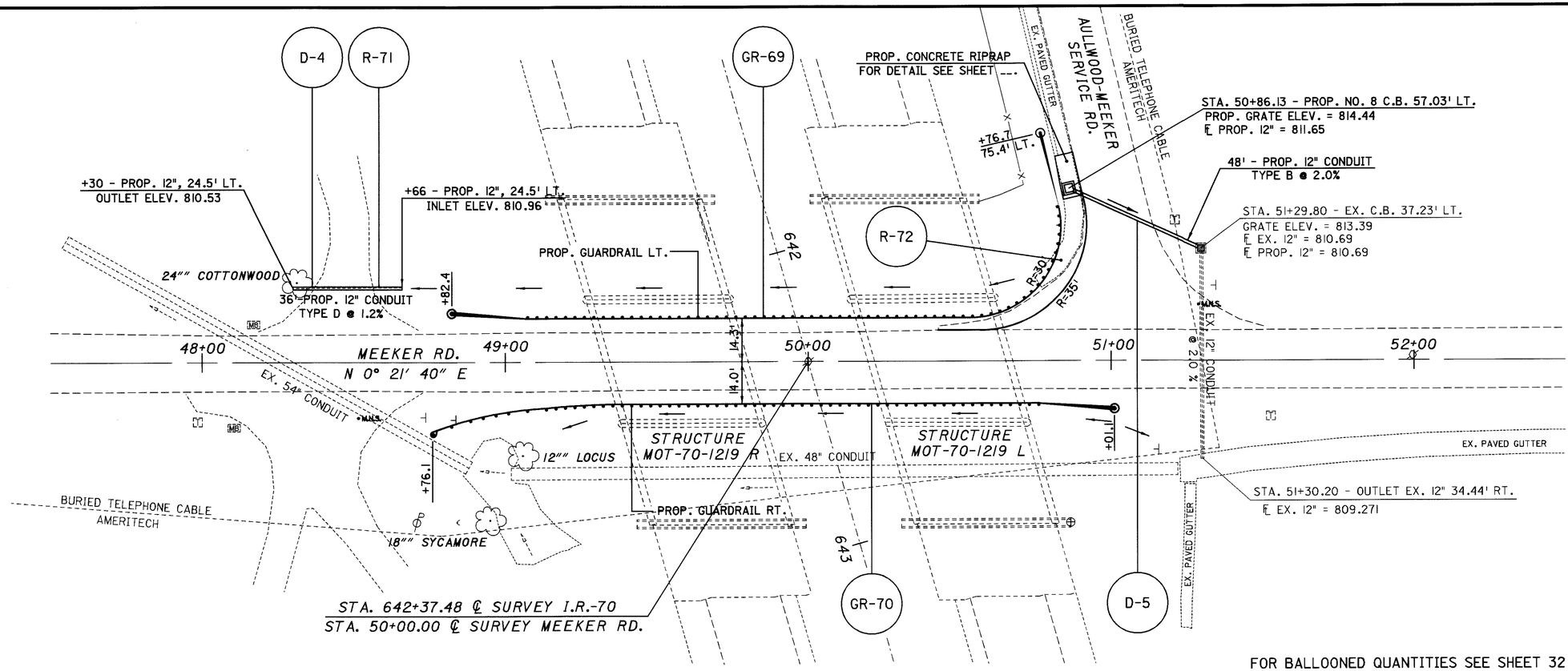
CHECKED

CROSS SECTIONS - AIRPORT ACCESS RD.
STA. 23+50 TO STA. 25+00

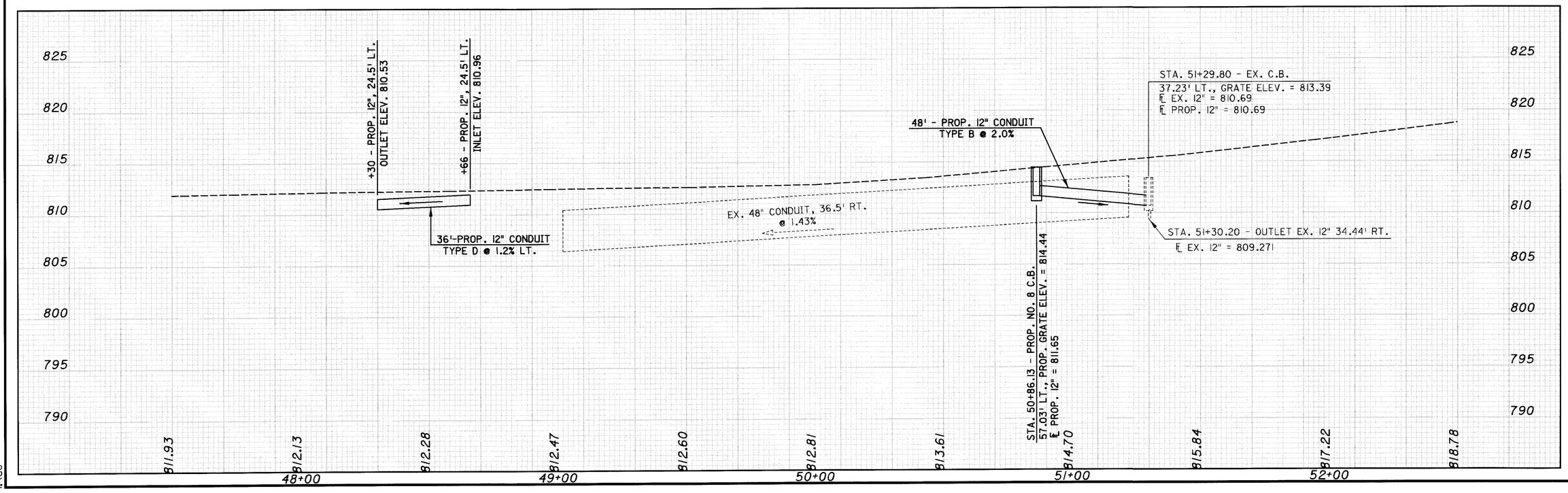
MOT-70-6.49

122
201

i:\de



FOR BALLOONED QUANTITIES SEE SHEET 32 .
FOR EARTHWORK QUANTITIES SEE SHEET 32.
FOR PROP. CONCRETE RIPRAP DETAIL SEE SHEET 124



PLAN AND PROFILE
MEEKER RD. STA. 47+50 TO STA. 52+50

HORIZONTAL SCALE IN FEET

CALCULATED | CHECKED

MOT-70-6.49

CALCULATED | CHECKED

CONCRETE RIPRAP DETAIL

MOT-70-6.49

SEEDING	
END WIDTH	SQ. YDS.
10	

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

820

AHEAD ONLY

815

810

48+00.00

820

815

810

END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0		

CALCULATED

CHECKED

815

810

815

810

47+75.00

815

810

815

810

47+50.00

815

810

815

810

47+25.00

815

810

SHEET TOTAL 50 40 30 20 10 0 10 20 30 40 50 SHEET TOTAL

XSECI

CROSS SECTIONS

MEEKER RD. STA. 47+25 TO STA. 48+00

MOT-70-6.49

SEEDING	
END WIDTH	SQ. YDS.
50	97
20	70
30	56
	223

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

820
815
810
805

+66 - PROP. 12" CONDUIT, 24.5' LT.
INLET ℄ ELEV. = 810.45

3:1 6:1 12:1 24:1

℄ 810.56

+66.04, EX. 12" CONDUIT
ELEV. 810.53

48+75.00

PROP. 12" CONDUIT 24.5' LT.

EX. 12" CONDUIT

48+50.00

+30 - PROP. 12" CONDUIT 24.5' LT.
OUTLET ℄ ELEV. = 810.00

6:1 4:1 12:1

+31.13, EX. 12" CONDUIT
ELEV. 810.66

℄ 809.93

48+25.00

SHEET TOTAL

END AREA		VOLUME	
CUT	FILL	CUT	FILL
4	1		
		2	–
0	0		
		4	0
8	0		
		4	0
		10	1

CALCULATED | CHECKED

CROSS SECTIONS
MEEKER RD. STA. 48+25 TO STA. 48+75

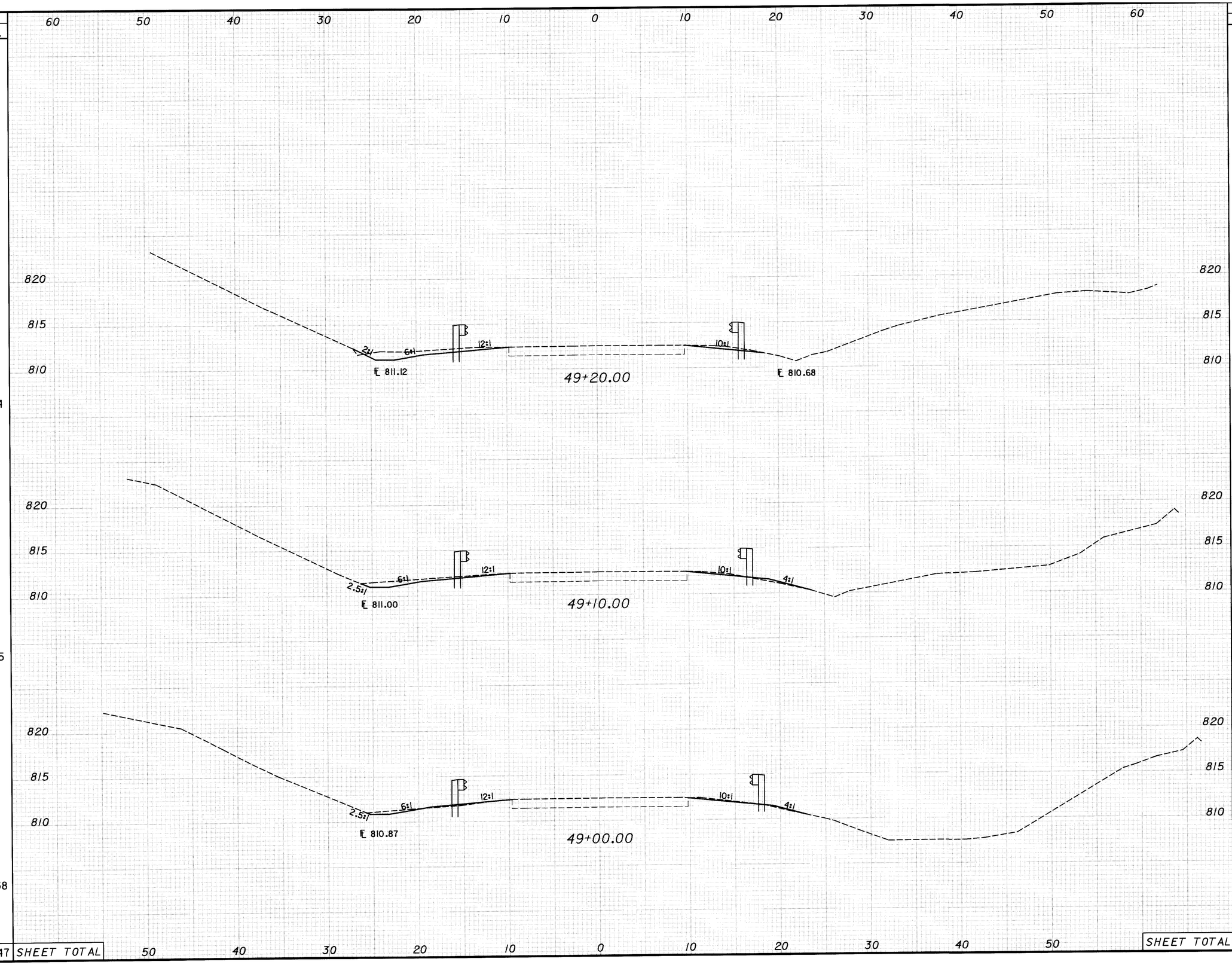
MOT-70-6.49

126
201

XSEC2

SEEDING	
END WIDTH	SQ. YDS.
46	54
50	55
49	138
	247

SHEET TOTAL



END AREA		VOLUME	
CUT	FILL	CUT	FILL
9	1		
5	1		
2	1	3	1
		2	1
		3	1
		8	3

SHEET TOTAL

CALCULATED

CHECKED

CROSS SECTIONS
MEEKER RD. STA. 49+00 TO STA. 49+20

MOT-70-6.49

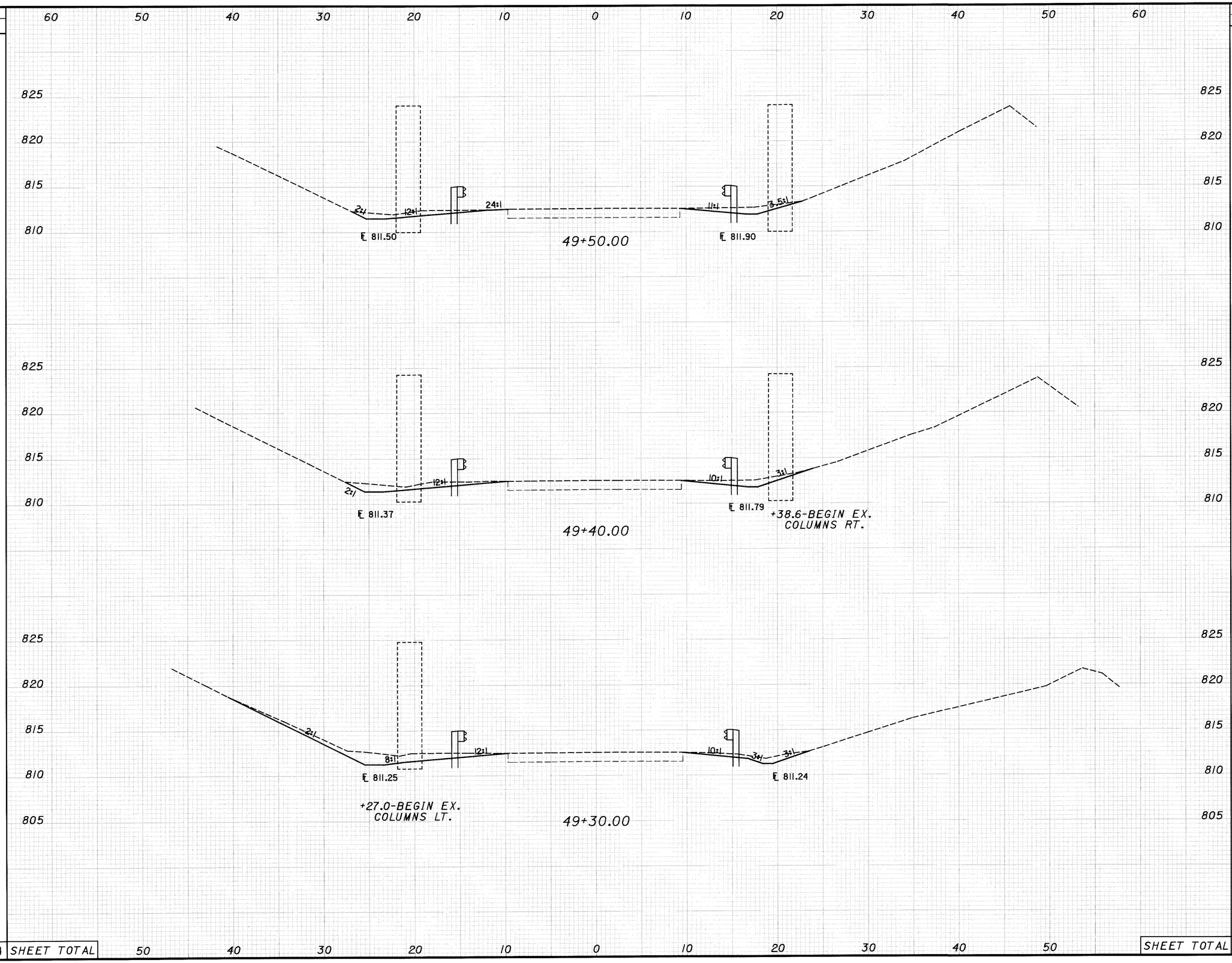
127
201

XSEC3

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
51	58	12	0	5	0
53	65	14	0	7	0
64	61	22	0	6	1
	184 SHEET TOTAL			18	1

CALCULATED

CHECKED



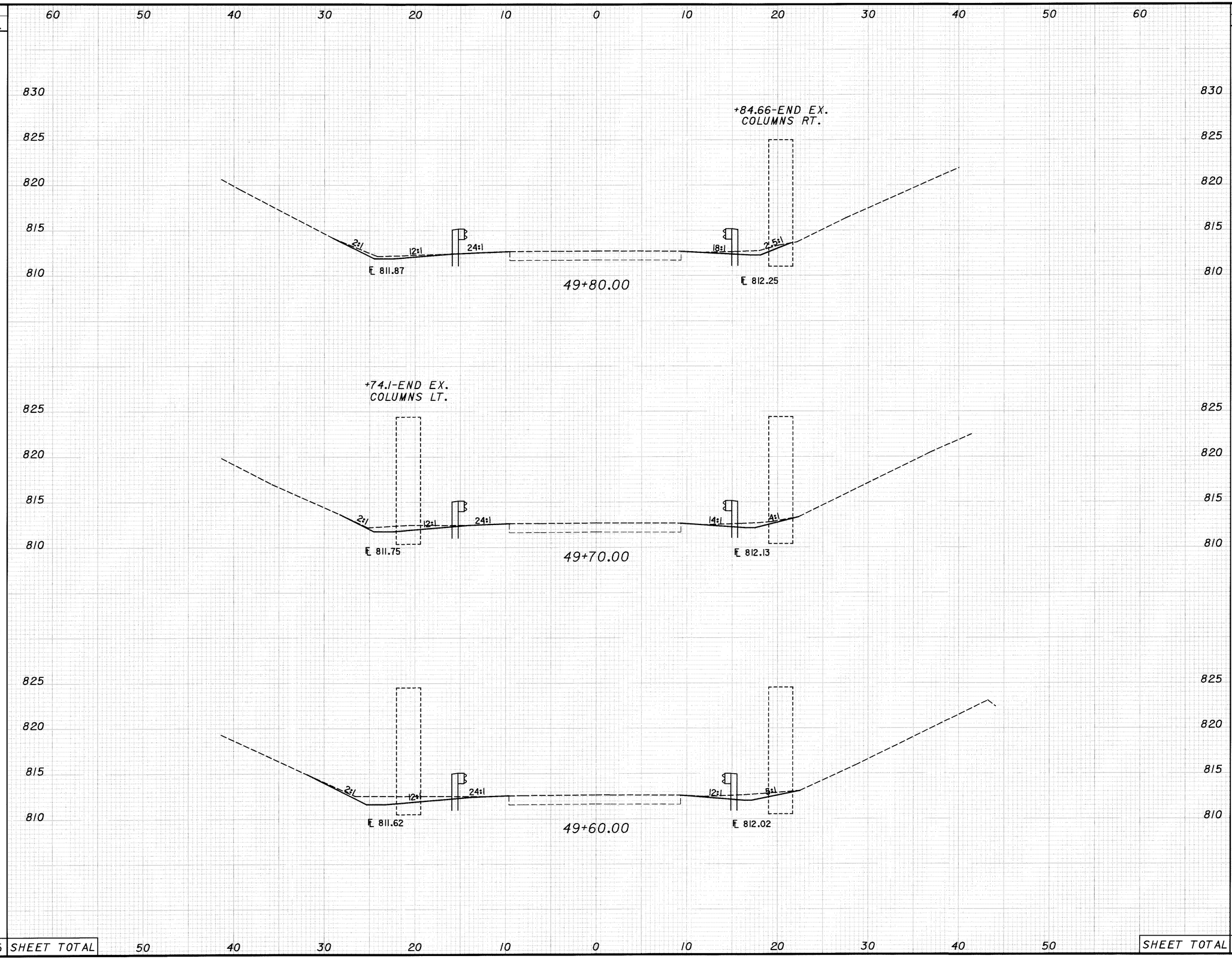
CROSS SECTIONS
MEEKER RD. STA. 49+30 TO STA. 49+50

MOT-70-6.49

128
201

XSEC4

SEEDING	
END WIDTH	SQ. YDS.
51	
	57
52	
	59
55	
	59
	175



END AREA		VOLUME	
CUT	FILL	CUT	FILL
6	0		
		3	0
8	0		
		4	0
12	0		
		5	0
		12	0

CALCULATED

CHECKED

CROSS SECTIONS

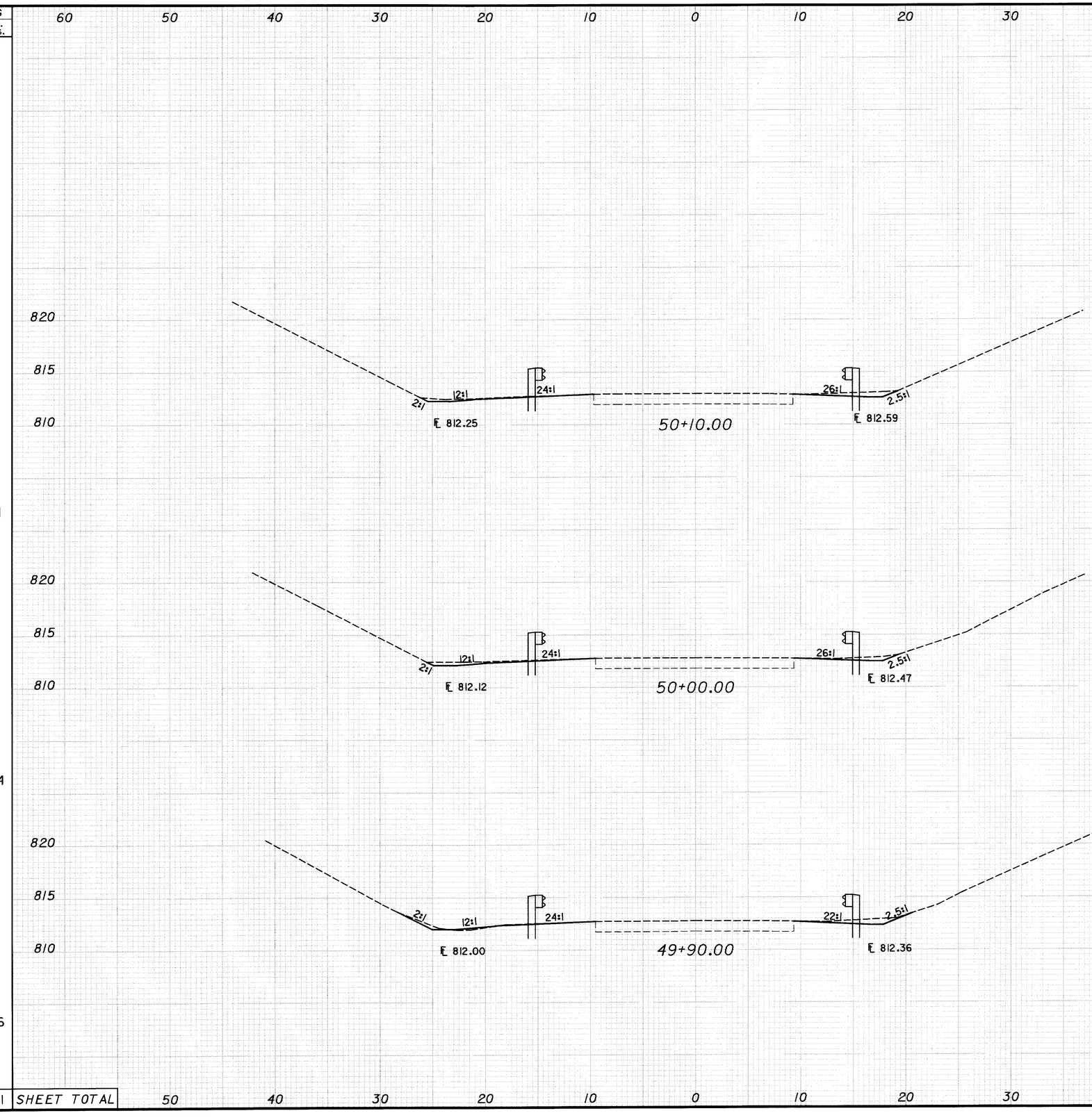
MEEKER RD. STA. 49+60 TO STA. 49+80

MOT-70-6.49

129
201

XSECS

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
46		4	0		
	51			2	0
46		4	0		
	54			2	1
50		4	1		
	56			2	1
	161 SHEET TOTAL			6	2



CALCULATED

CHECKED

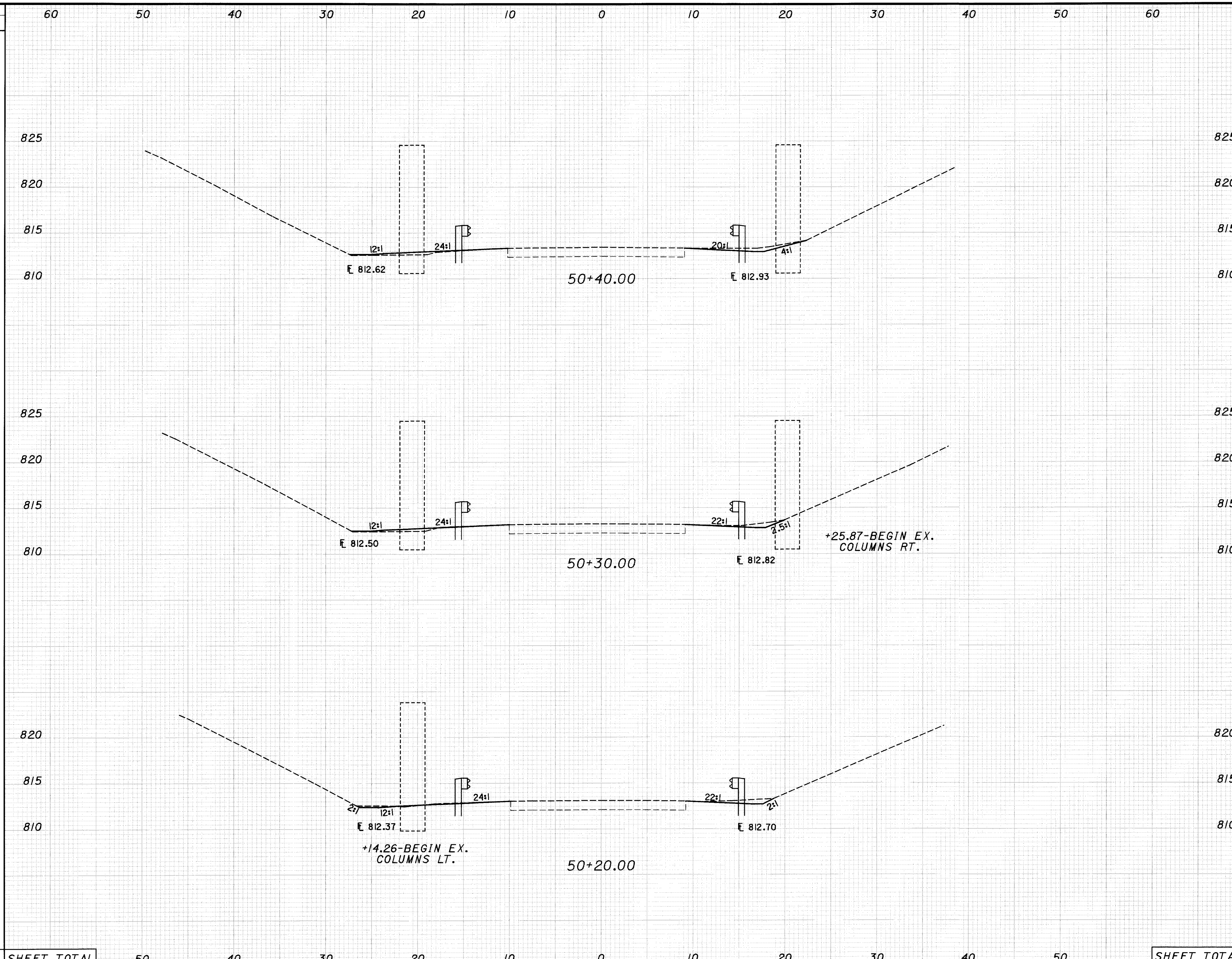
CROSS SECTIONS

MEEKER RD. STA. 49+90 TO STA. 50+10

MOT-70-6.49

130
201

XSEC6



SEEDING END WIDTH	SEEDING SQ. YDS.	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
51		50+40.00	3	2		
	55				2	1
48		50+30.00	2	2		
	52				1	1
46		50+20.00	3	1		
	51				2	1
	158	SHEET TOTAL			5	3

CALCULATED | CHECKED

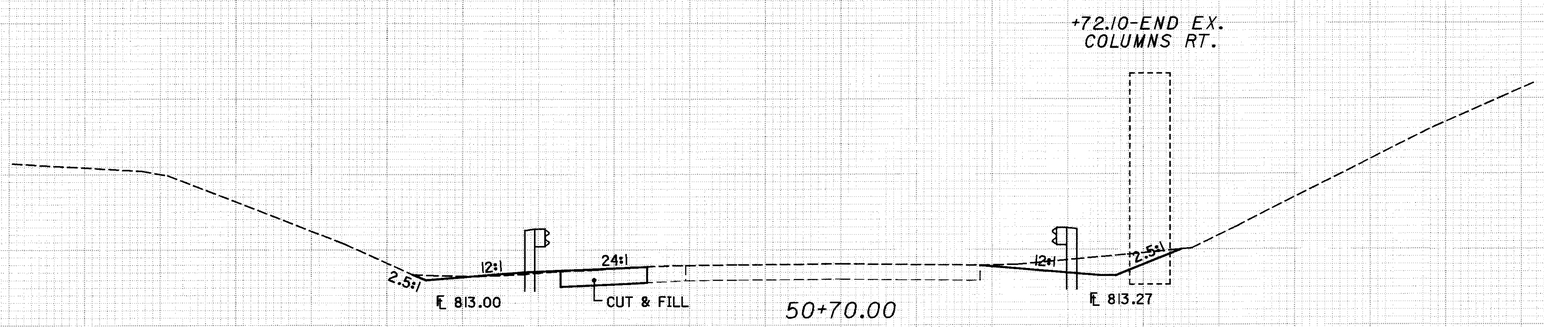
CROSS SECTIONS
MEEKER RD. STA. 50+20 TO STA. 50+40

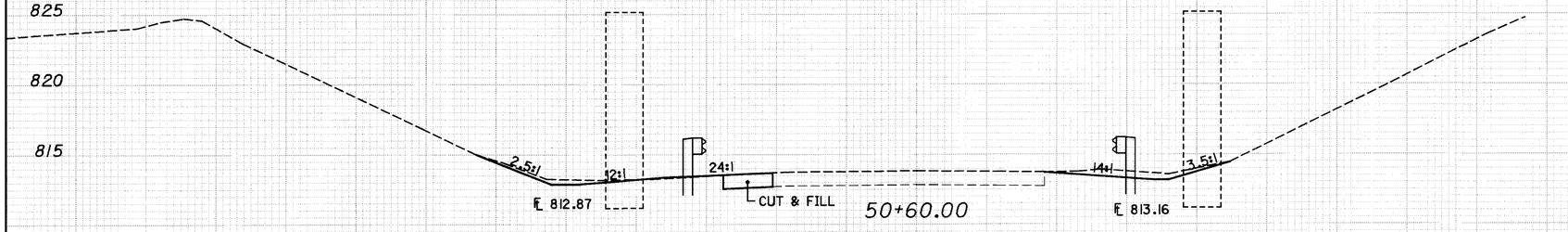
MOT-70-6.49

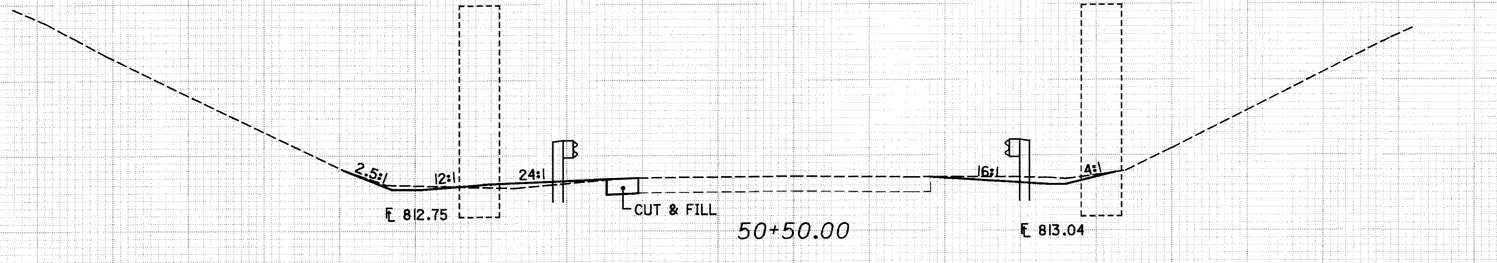
XSEC7

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
50	58	15	7	5	2
54	59	10	4	3	2
52	57	6	4	2	2
	174 SHEET TOTAL			10	6

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







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

SHEET TOTAL

XSEC8

CALCULATED

CHECKED

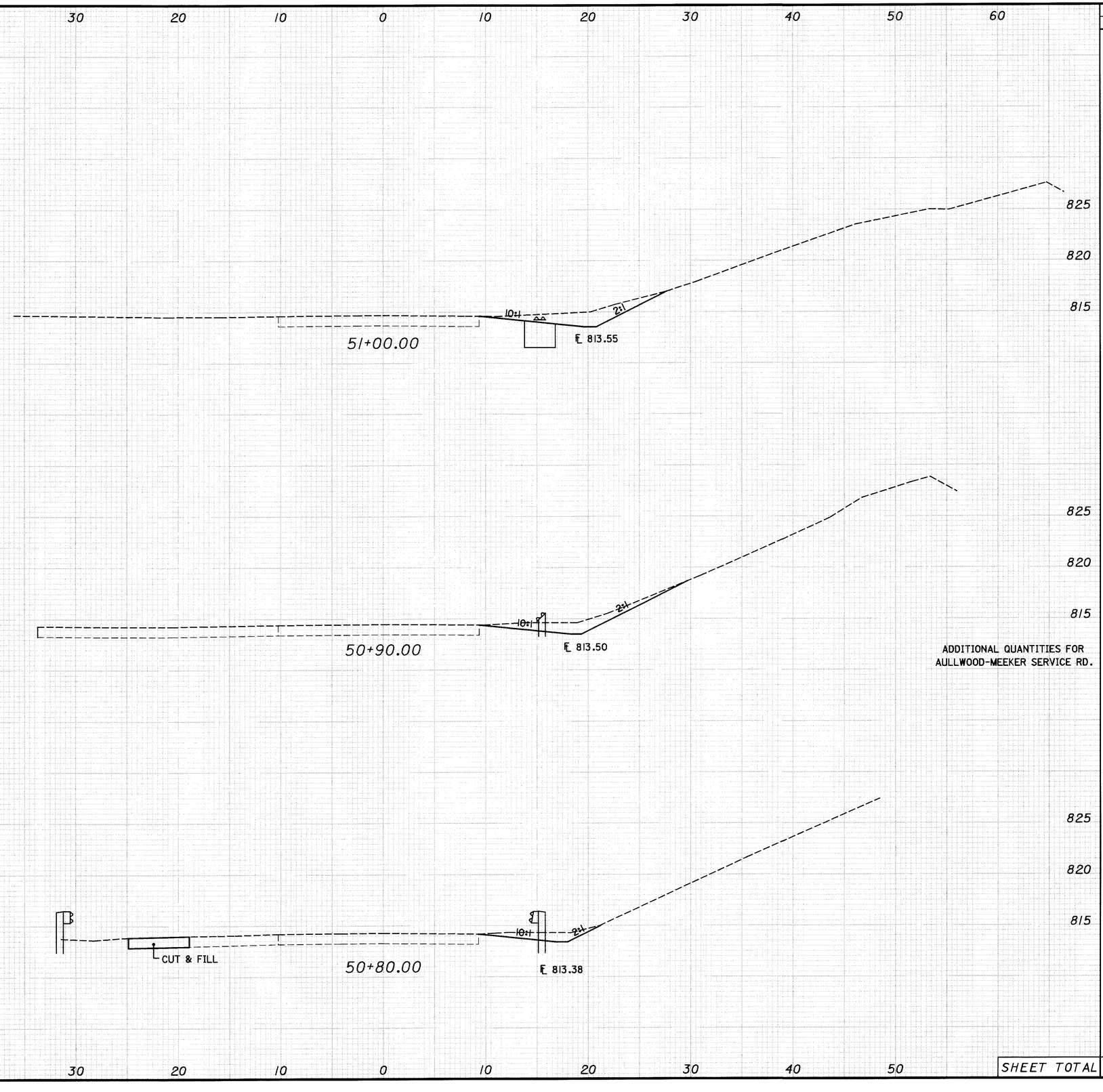
CROSS SECTIONS

MEEKER RD. STA. 50+50 TO STA. 50+70

MOT-70-6.49

132
201

SEEDING			END AREA		VOLUME	
STA.	END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
51+00.00	28	38	15	0	5	0
50+90.00	40	43	13	0	5	8
					5	1
50+80.00	38	49	12	6	5	3
ADDITIONAL QUANTITIES FOR AULLWOOD-MEEKER SERVICE RD.						
SHEET TOTAL		130			20	12



CALCULATED

CHECKED

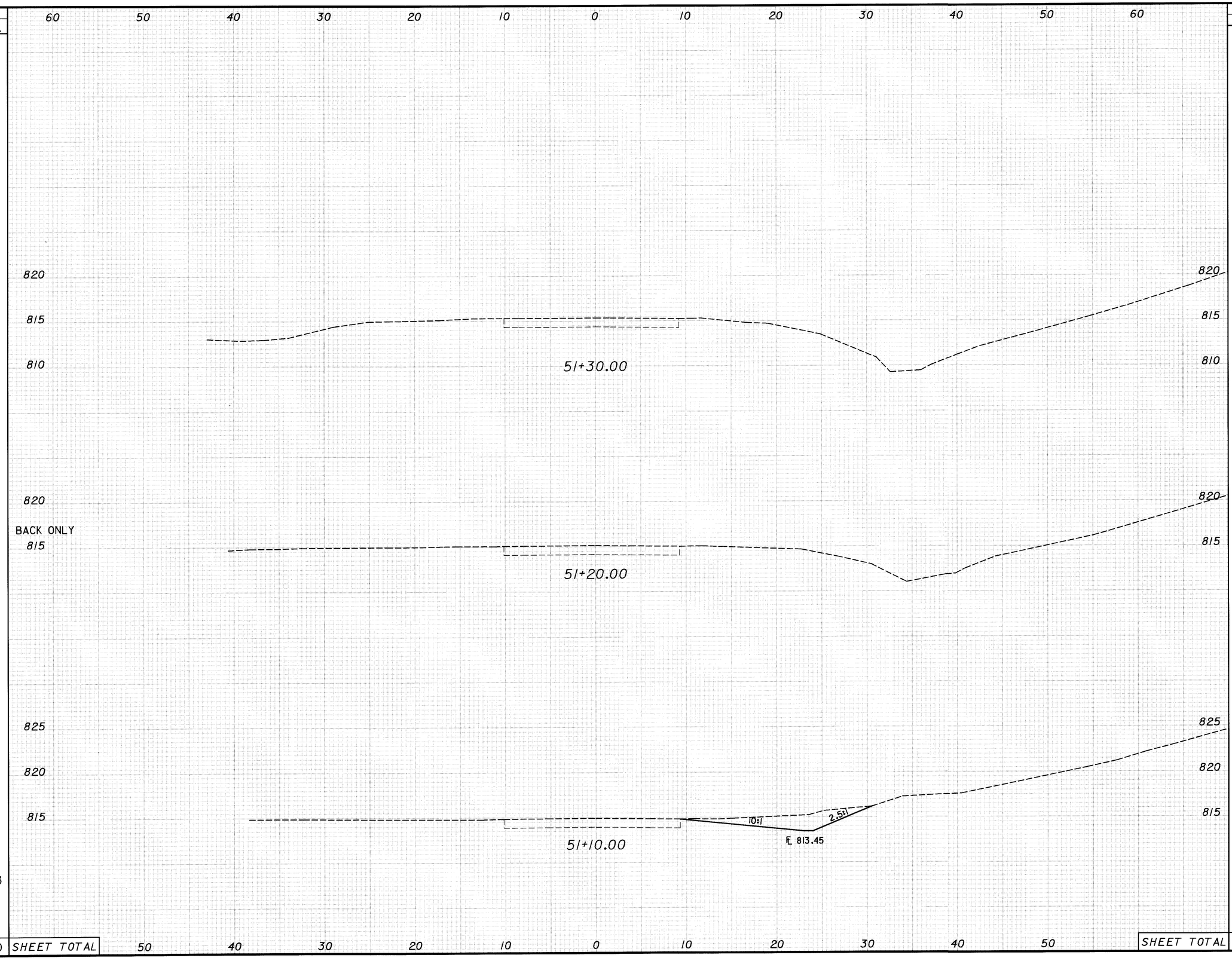
CROSS SECTIONS
AULLWOOD-MEEKER RD. STA. 50+80 TO STA. 51+00

MOT-70-6.49

133
201

XSEC9

SEEDING		END AREA		VOLUME		
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL	
						CALCULATED
						CHECKED

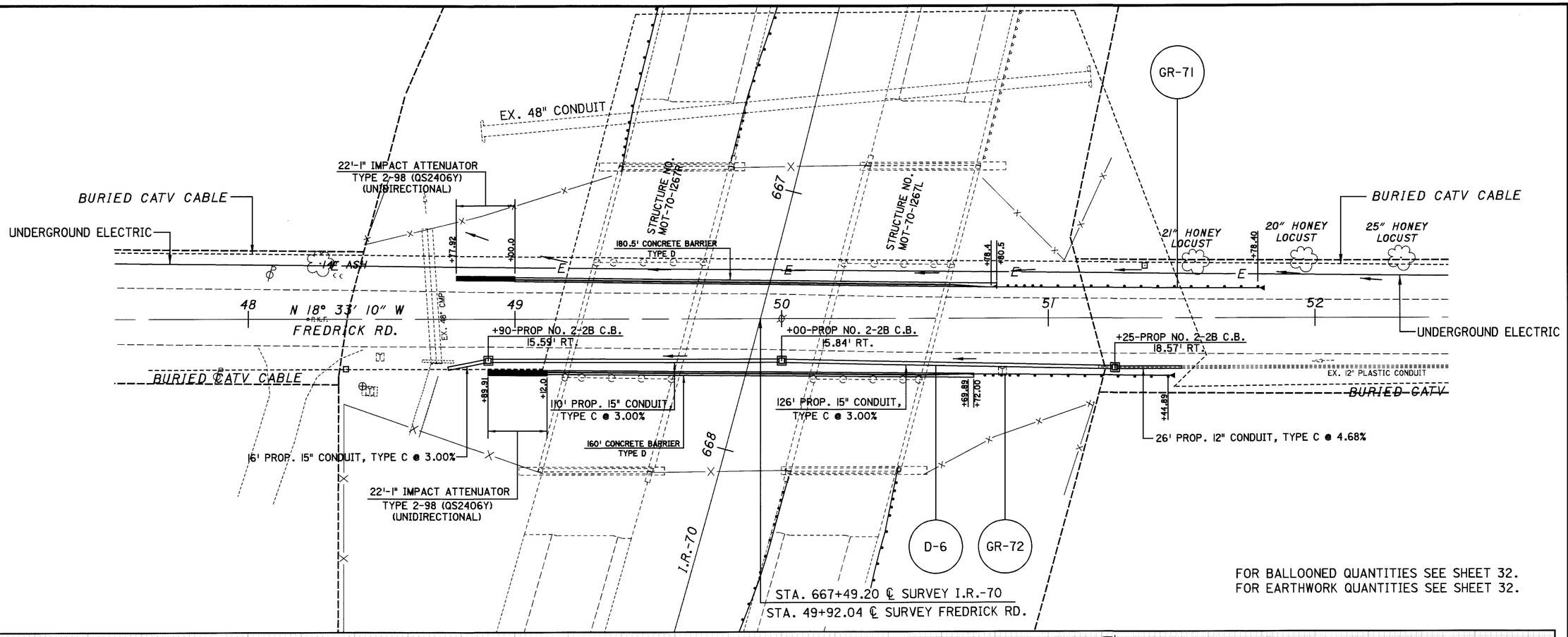


XSECIO

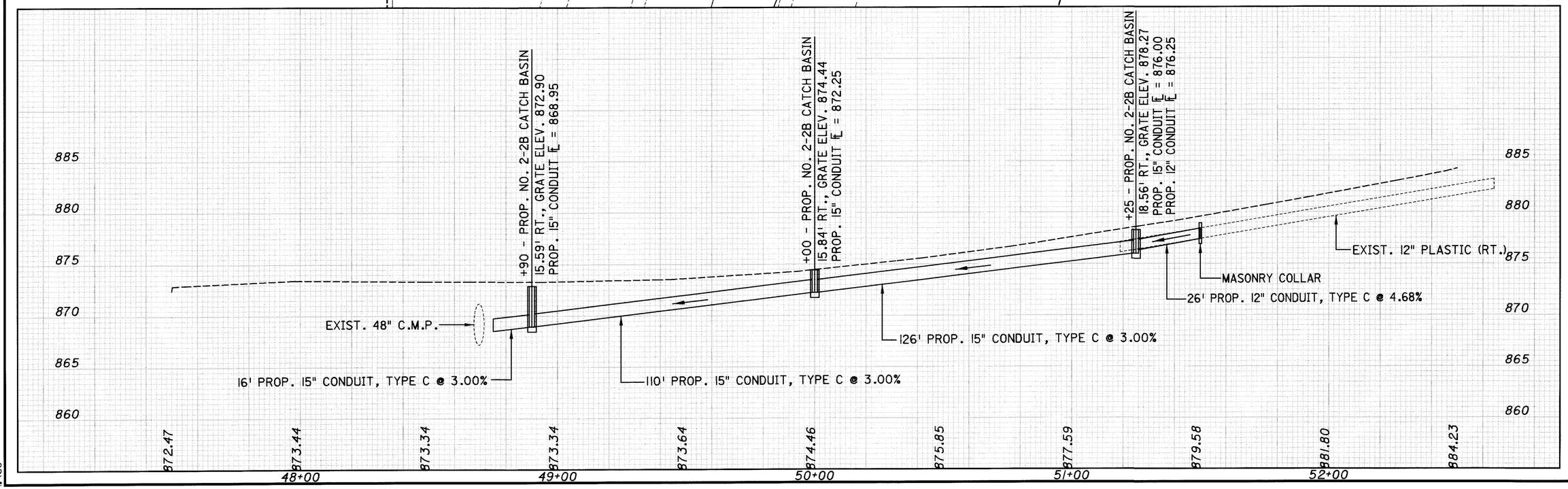
CROSS SECTIONS

MEEKER RD. STA. 51+10 TO STA. 51+30

MOT-70-6.49



FOR BALLOONED QUANTITIES SEE SHEET 32.
FOR EARTHWORK QUANTITIES SEE SHEET 32.



HORIZONTAL SCALE IN FEET

CALCULATED | CHECKED

PLAN AND PROFILE
FREDRICK RD.

MOT-70-6.49

SEEDING	
END WIDTH	SQ. YDS.
10	

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

875
870
865

AHEAD ONLY

48+50.00

48+25.00

48+00.00

47+75.00

47+50.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0		

SHEET TOTAL

CALCULATED

CHECKED

CROSS SECTIONS

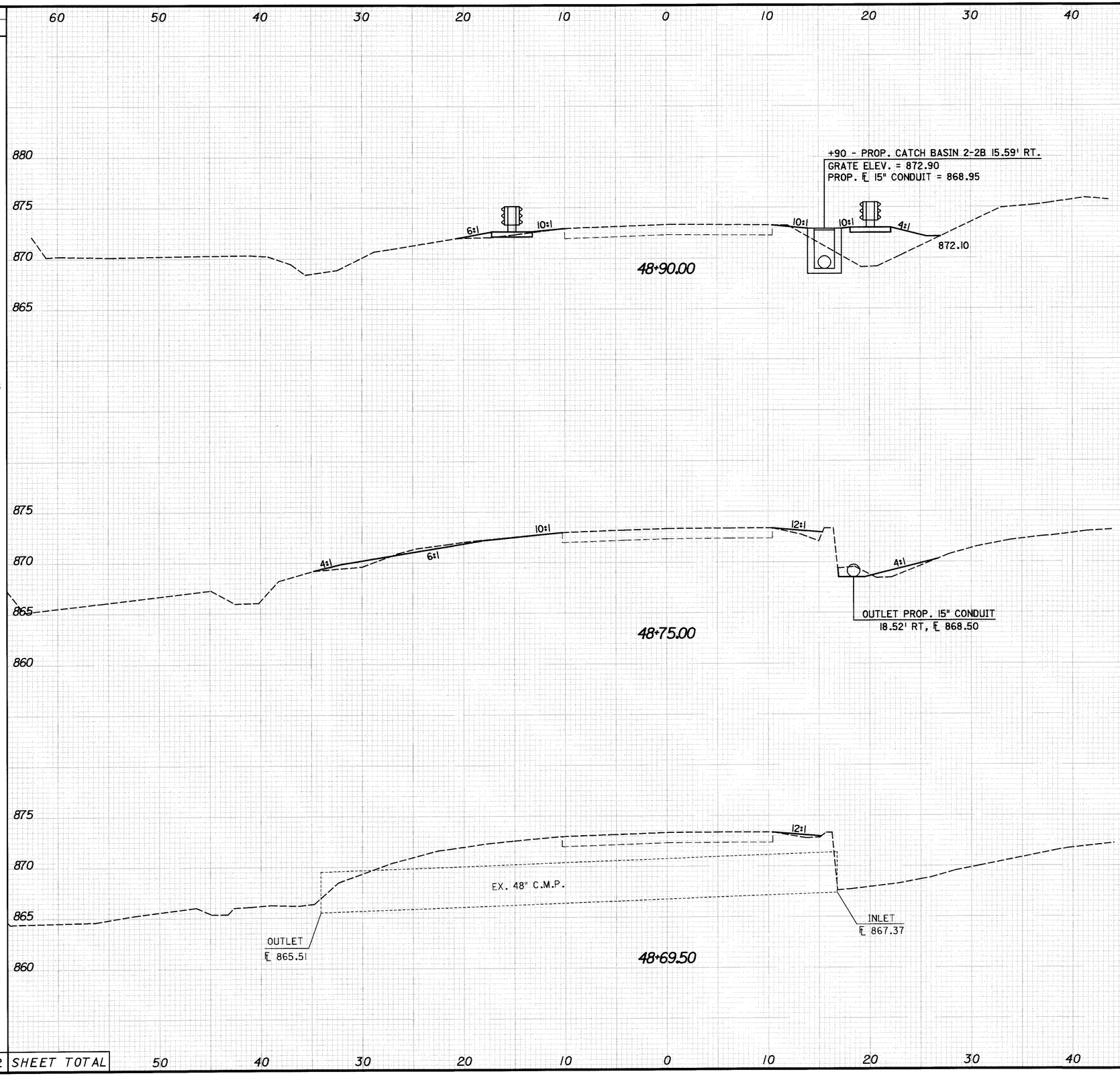
FREDRICK RD. STA. 47+50 TO STA. 48+50

MOT-70-6.49

136
201

XSEC1

SEEDING END WIDTH	SEEDING SQ. YDS.
48	148
58	26
25	38
	212



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
1	33		
		3	19
5	7		
		1	1
0	1		
		0	1
SHEET TOTAL		4	21

CALCULATED

CHECKED

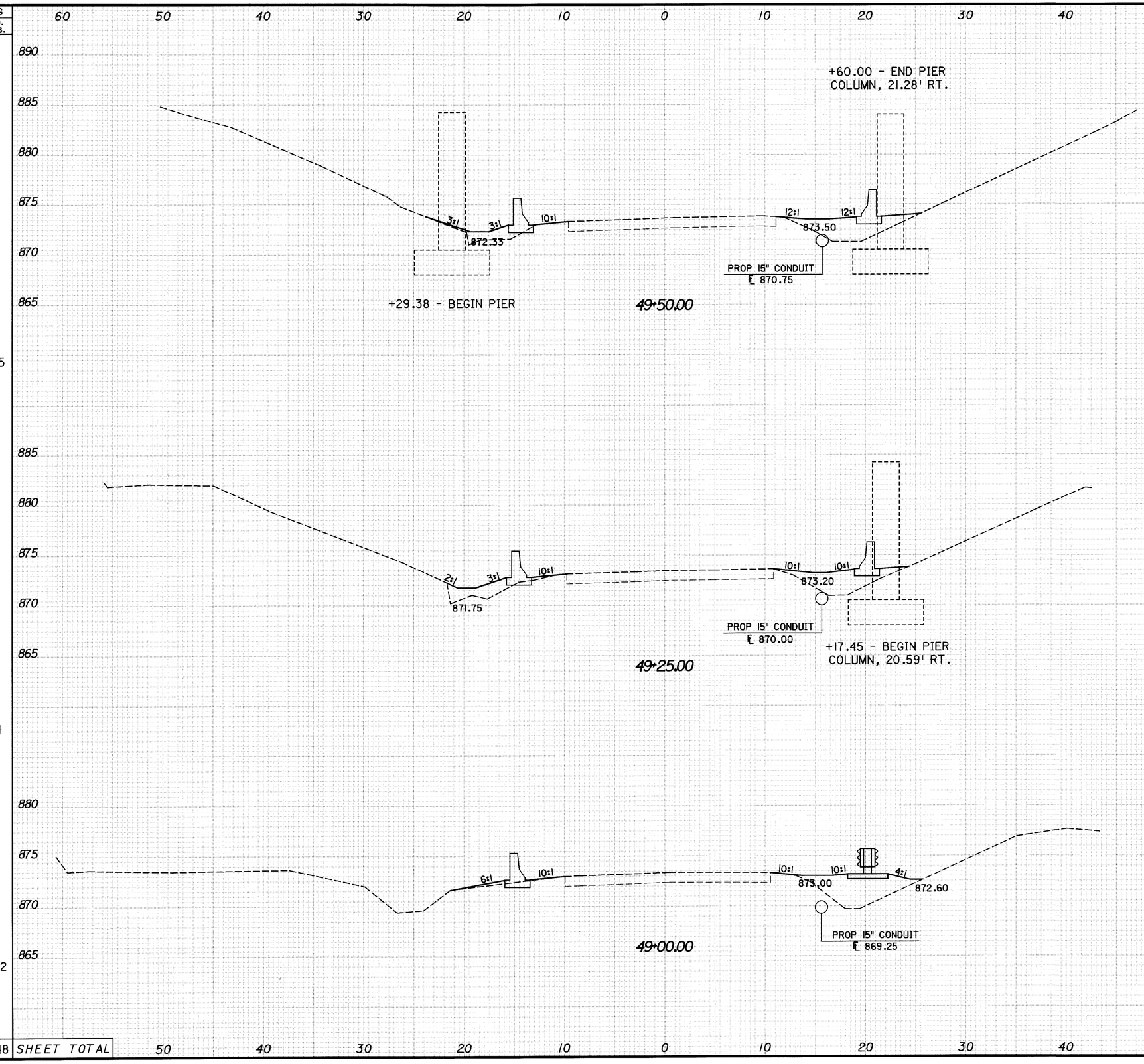
CROSS SECTIONS
FREDRICK RD. STA. 48+69.5 TO STA. 48+90

MOT-70-6.49

137
201

XSEC2

SEEDING END WIDTH	SEEDING SQ. YDS.
43	115
40	111
40	122
	348



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	25		
		0	24
0	26		
		1	24
1	26		
		1	27
SHEET TOTAL		2	75

CALCULATED

CHECKED

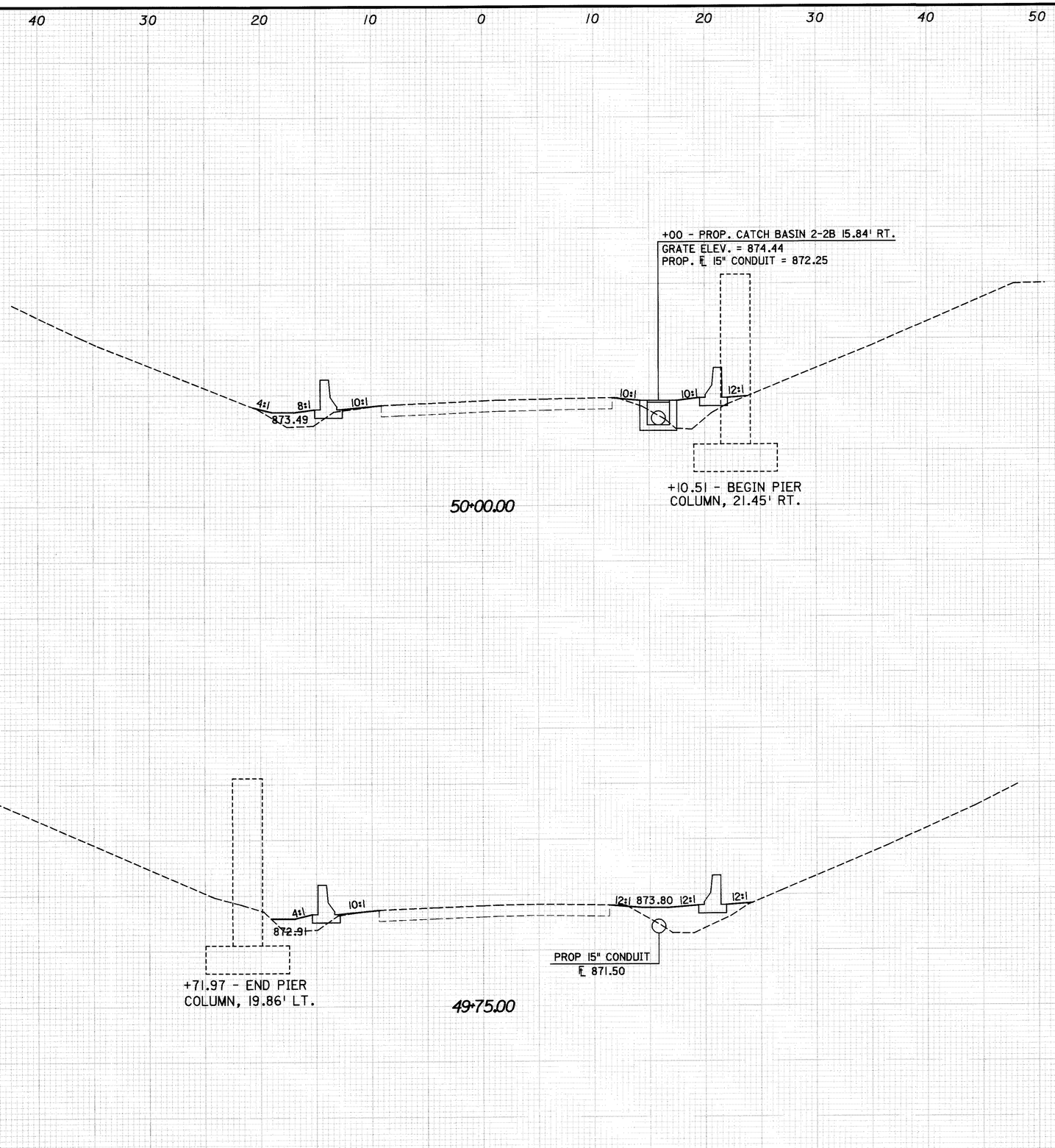
CROSS SECTIONS
FREDRICK RD. 49+00 TO STA. 49+50

MOT-70-6.49

138
201

XSEC3

SEEDING END WIDTH	SEEDING SQ. YDS.
39	107
38	113
	220



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	22		
		1	20
1	21		
		1	22
SHEET TOTAL		2	42

CALCULATED

CHECKED

CROSS SECTIONS

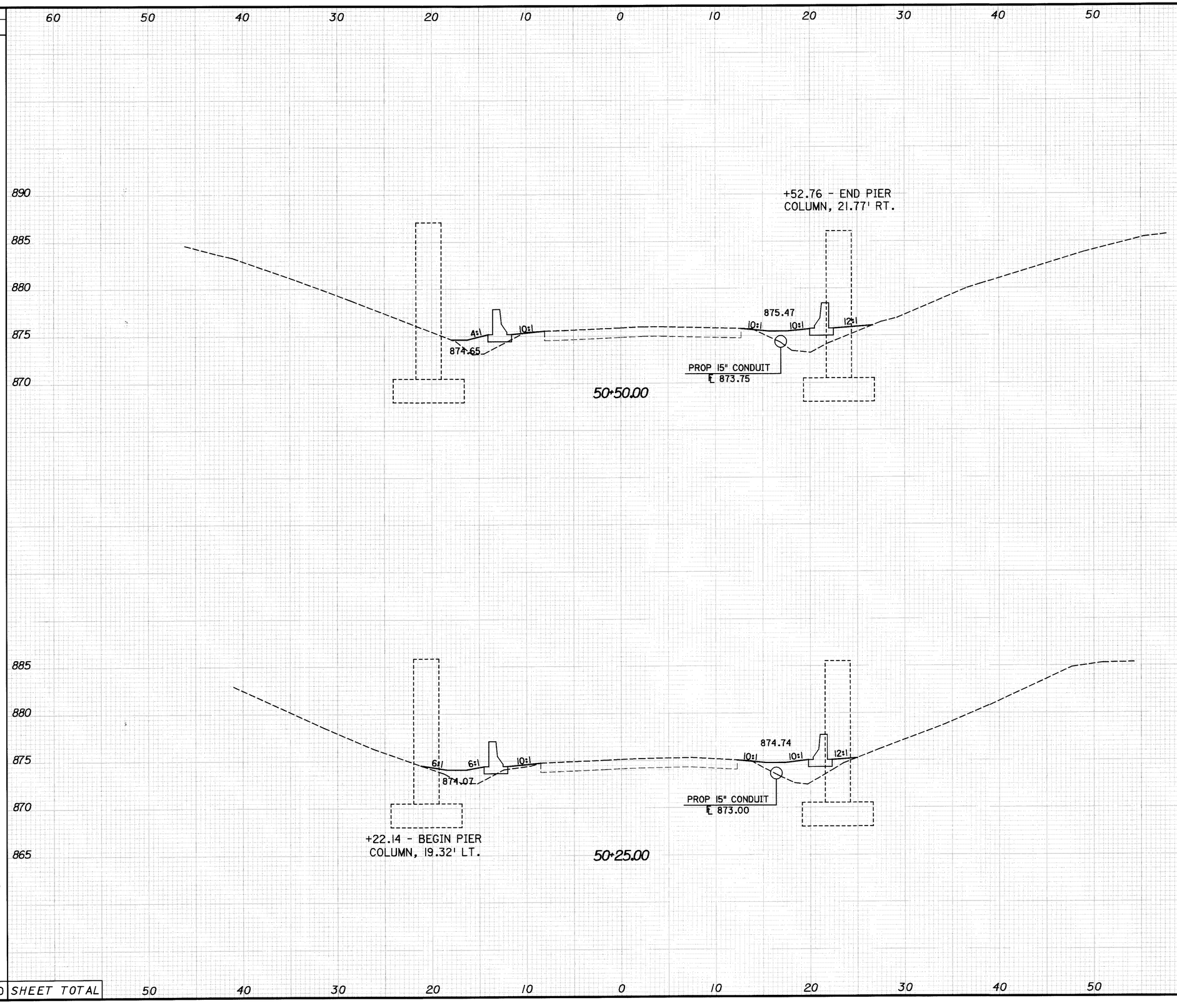
FREDRICK RD. STA. 49+75 TO STA. 50+00

MOT-70-6.49

139
201

XSEC4

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	39	1	23		
	110			1	22
	40	1	23		
	110			1	28
	220			2	50



CALCULATED

CHECKED

CROSS SECTIONS

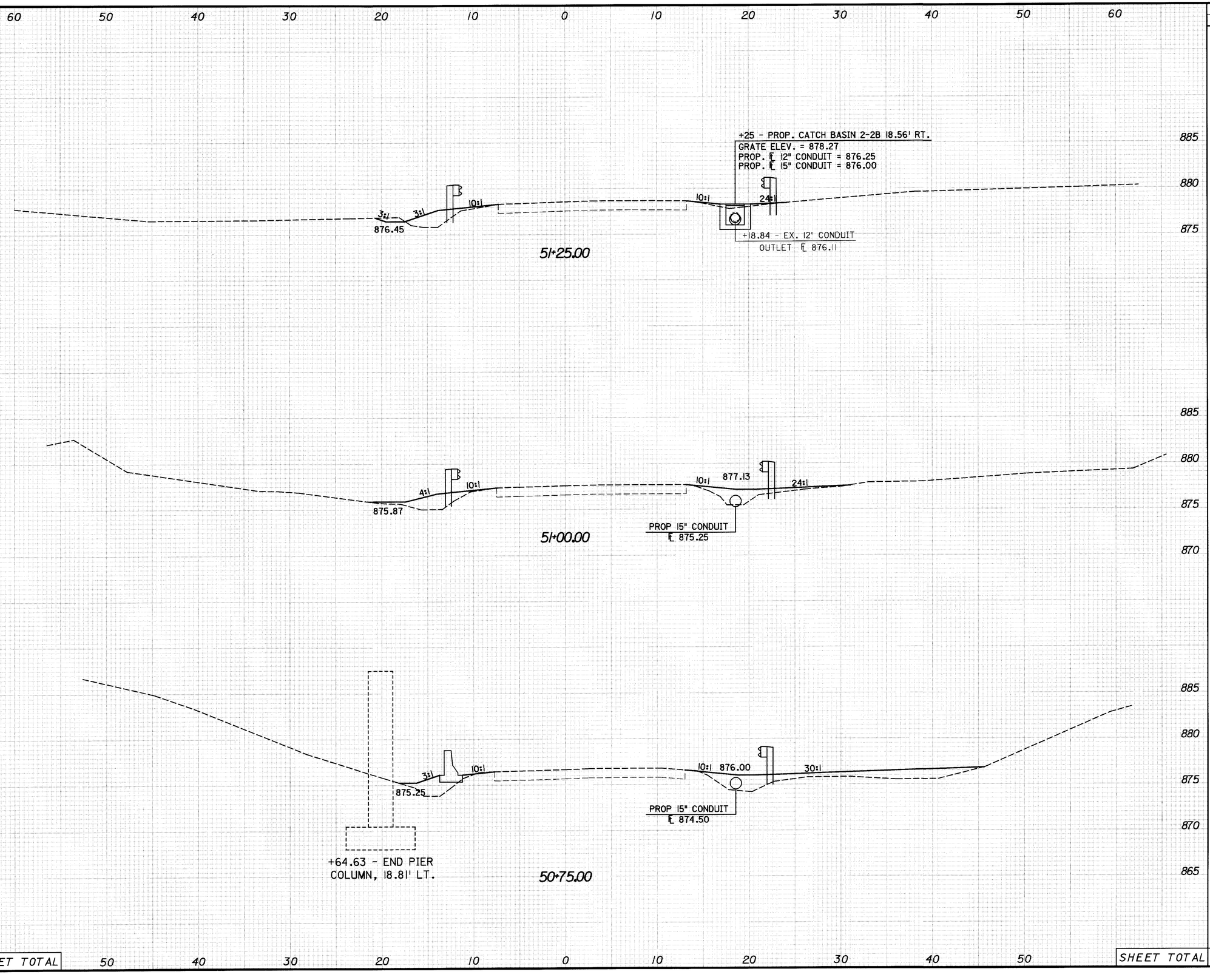
FREDRICK RD. STA. 50+25 TO STA. 50+50

MOT-70-6.49

140
201

XSEC5

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
45	135	1	10	1	14
52	157	0	19	1	25
61	139	1	34	1	27
	431	SHEET TOTAL		3	66



CALCULATED

CHECKED

CROSS SECTIONS

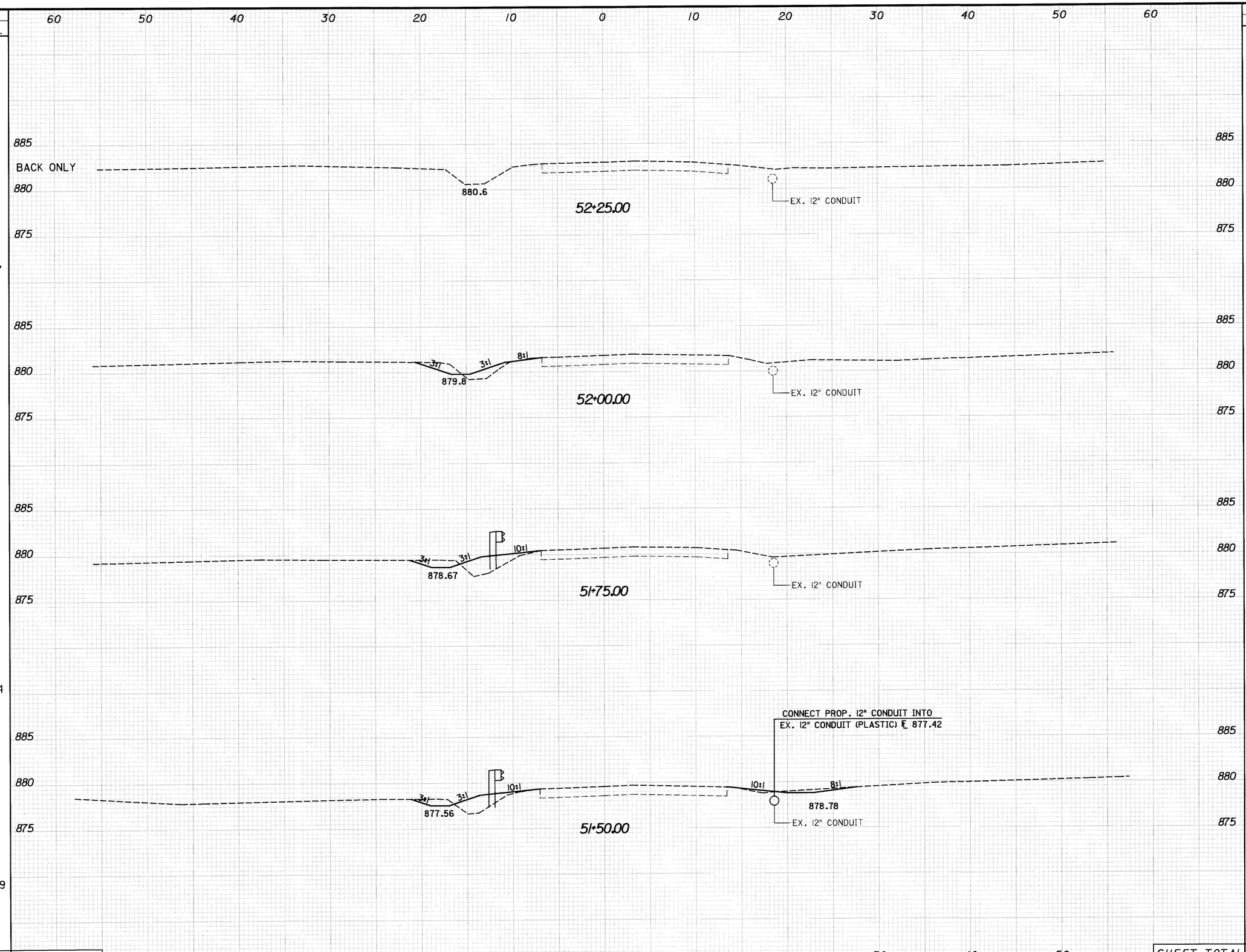
FREDRICK RD. STA. 50+75 TO STA. 51+25

MOT-70-6.49

141
201

XSEC6

SEEDING END WIDTH	SEEDING SQ. YDS.		END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		52+25.00				
10		BACK ONLY	0	0		
	47				2	2
		52+00.00				
24			3	4		
	81				3	6
		51+75.00				
34			3	9		
	114				4	8
		51+50.00				
48			4	8		
	129				3	9
	371	SHEET TOTAL			12	25



CALCULATED

CHECKED

CROSS SECTIONS

FREDRICK RD. STA. 51+50 TO STA. 52+25

MOT-70-6.49

142
201

XSEC7

SHEET NUMBER								PARTICIPATION			ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
	144		145		146											
			1064								621	00200	1064	EACH	RAISED PAVEMENT MARKER, INSTALLATION ONLY	
					1						625	32000	1	EACH	GROUND ROD	
											630	03100	12.5	LIN. FT.	GROUND MOUNTED SUPPORT, NO. 3 POST	
					1						630	35500	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 6	
					2						630	84510	2	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	
					1						630	85100	1	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
					1						630	86002	1	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
					4						630	86320	4	EACH	REMOVAL OF STRUCTURE MOUNTED SIGN AND REERECTION	
	46.04		3.97								644	00100	50.01	MILE	EDGE LINE	
	15.98		1.07								644	00200	17.05	MILE	LANE LINE	
	5826.07		552.46								644	00400	6378.53	LIN. FT.	CHANNELIZING LINE	
	150.42										644	00500	150.42	LIN. FT.	STOP LINE	
	1840.44		319.75								644	00700	2160.19	LIN. FT.	TRANSVERSE LINE	
	5										644	01300	5	EACH	LANE ARROW	
	2										644	01410	2	EACH	WORD ON PAVEMENT, 96"	

CALCULATED

CHECKED

TRAFFIC CONTROL SUMMARY

MOT-70-6.49

LOCATION	STATION FROM	STATION TO	SIDE	644 WHITE EDGE LINE	644 YELLOW EDGE LINE	644 WHITE LANE LINE	644 WHITE CHANNELIZING LINE	644 WHITE TRANSVERES LINE	644 STOP LINE	644 LANE ARROW	644 WORD ON PAVEMENT, 96"
				LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	EACH
I.R.-70	342+12.50	670+37.67	LT./RT.		65650.34	65650.34					
	STA. EQUA.: Sta. 670+37.67 BACK = Sta. 668+97.77 AHEAD										
	668+97.77	748+37.50	LT./RT.		15879.46	15879.46					
					65650.34	65650.34					
	342+12.50	363+58.62	RT.	2146.12							
	342+12.50	343+54.00	LT.	141.5							
	343+54.00	348+36.05	LT.				964.10	323.97			
	357+39.96	398+08.60	LT.	4068.64							
	371+99.16	414+41.18	RT.	4242.02							
	405+82.11	461+36.00	LT.	5553.89							
	424+73.56	427+23.50	RT.				499.88	242.87			
	427+23.50	468+34.08	RT.	4110.58							
	461+36.00	468+75.00	LT.				1478.44	783.06			
	472+25.00	581+25.00	LT.	10900							
	477+00.00	580+23.06	RT.	10323.06							
	585+64.72	588+23.17	RT.				516.90	297.96			
	597+23.26	603+89.71	LT.	666.45							
	588+23.17	601+96.23	RT.	1373.06							
	603+89.71	606+32.99	LT.				486.56	141.47			
	611+89.71	728+72.21	LT.	11682.50							
	613+14.54	748+37.50	RT.	13522.96							
I.R.-70	737+39.17	748+37.50	LT.	1098.33							
N.B.-49	264+34.70	277+57.39	LT.	1322.69							
N.B.-49	269+38.61	277+57.39	LT.			818.78					
N.B.-49	277+19.87	277+57.39	LT.		37.52						
S.B.-49	243+51.02	262+20.81	RT.	1869.79							
S.B.-49	249+39.83	251+95.78	RT.			255.95					
S.B.-49	251+95.78	253+86.38	RT.				190.60				
S.B.-49	253+86.38	262+20.81	RT.		834.43						
N.B.-49	156+34.32	173++98.68	LT.	1764.36							
N.B.-49	156+34.32	161+98.73	LT.		564.41						
N.B.-49	161+98.73	166+25.17	LT.				426.44				
S.B.-49	140+32.20	153+52.20	RT.	1320.00							
S.B.-49	140+32.20	140+70.31	RT.		38.11						
S.B.-49	143+17.82	147+70.10	RT.			452.28					
HOKE RD.											
RAMP A	2+04.47	2+47.90	LT.	43.43							
RAMP A	2+04.47	2+41.97	RT.	37.5							
RAMP A	2+41.97	26+99.79	RT.	2457.82							
RAMP A	2+47.90	14+99.79	LT.		1251.89						
RAMP A	14+99.79	18+33.87	LT.				334.08				
TOTALS CARRIED TO NEXT COLUMN				78644.70	149906.50	83056.81	4897.00	1789.33			

LOCATION	STATION FROM	STATION TO	SIDE	644 WHITE EDGE LINE	644 YELLOW EDGE LINE	644 WHITE LANE LINE	644 WHITE CHANNELIZING LINE	644 WHITE TRANSVERES LINE	644 STOP LINE	644 LANE ARROW	644 WORD ON PAVEMENT, 96"
				LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	EACH
HOKE RD.											
RAMP B	12+04.32	12+54.09	LT.	78.54							
RAMP B	12+54.09	32+25.68	LT.	1971.59							
RAMP B	12+04.32	12+08.32	RT.	4.00							
RAMP B	12+08.32	21+36.68	LT.		928.36						
RAMP B	12+08.32		LT./RT.								
S.R.-48											
RAMP A	5+17.03	7+57.00	RT.	239.97							
RAMP A	6+32.12	7+27.00	LT.		94.88						
RAMP A	5+17.03	5+82.11	LT.			65.08			61.18		
RAMP A	5+82.11	6+32.12	LT.				100.16	27.82			
RAMP A	7+27.00	7+57.00	LT.				30.00				
RAMP A	12+24.94	31+91.89	RT.	1966.95							
RAMP A	12+24.94	15+40.40	LT.		315.46						
RAMP A	15+40.40	15+93.63	LT.				53.23				
RAMP A	15+93.63	22+67.76	LT.			674.13					
RAMP B	12+24.94	26+52.07	LT.	1427.13							
RAMP B	12+24.94	18+50.55	RT.		625.61						
RAMP B	20+95.22	23+25.95	RT.			230.73					
RAMP AB	6+47.10	7+22.00	RT.	74.90							
RAMP AB	7+57.00	12+24.94	RT.	467.94							
RAMP AB	6+47.10	12+24.94	LT.	577.84							
RAMP AB	6+47.10	12+24.94	LT./RT.		1155.68						
RAMP AB	6+47.10	8+20.00	LT.				345.80				
RAMP AB	7+22.00	7+51.00	RT.				29.00				
RAMP AB	6+57.00								56.34		
RAMP AB	6+85.93									3	
RAMP AB	8+12.00										2
RAMP C	0+00.58	9+94.44	RT.	993.86							
RAMP C	3+21.41	5+42.24	LT.			220.83					
RAMP C	8+00.00	9+94.44	LT.		194.44						
STA. EQU.: Sta.9+94.44 BACK = Sta. 10+20.58 AHEAD											
RAMP C	10+20.58	16+07.31	RT.	586.73							
RAMP C	10+20.58	15+98.00	LT.		577.42						
RAMP C	15+98.00	16+07.31	LT.	14.94							
RAMP C	15+00.00	15+98.00	LT./RT.				98.00				
RAMP C	15+68.00								2		
RAMP C	15+98.00								32.90		
RAMP E	6+11.17	6+19.86	LT.	14.31							
RAMP E	6+11.17	7+01.00	RT.	89.83							
RAMP E	7+37.00	22+74.21	RT.	1537.21							
RAMP E	6+19.86	10+13.97	LT.		394.11						
RAMP E	7+01.00	7+34.00	RT.				33.00				
RAMP E	10+13.97	11+55.90	LT.				141.93				
RAMP E	11+55.90	13+05.50	LT.			149.60					
RAMP F	5+13.00	7+37.00	RT.	224.00							
RAMP F	5+83.00	6+16.00	LT.				66.95	23.29			
RAMP F	7+06.00	7+37.00	LT.				31.00				
TOTALS FROM THIS COLUMN				10269.74	4285.96	1340.37	929.07	51.11	150.42	5	2
TOTALS FROM PREVIOUS COLUMN				78644.70	149906.5	83056.81	4897.00	1789.33			
SUB-TOTALS				88914.44	154192.46	84397.18	5826.07	1840.44	150.42	5	2
TOTALS CARRIED TO TRAFFIC CONTROL SUMMARY				46.04 MI.		15.98 MI.	5826.07	1840.44	150.42	5	2

CALCULATED

CHECKED

PAVEMENT MARKING SUBSUMMARY

MOT-70-6.49

LOCATION	STATION FROM	STATION TO	SIDE	644 WHITE EDGE LINE	644 YELLOW EDGE LINE	644 WHITE LANE LINE	644 WHITE CHANNELIZING LINE	644 WHITE TRANSVERES LINE	644 STOP LINE	644 LANE ARROW	644 WORD ON PAVEMENT, 96"
				LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	EACH
AIRPORT ACCESS RD.											
	7+81.67	37+87.50	RT.		3005.83						
	7+81.67	37+87.50	LT.		3005.83						
	7+81.67	37+87.50	LT.			3005.83					
	7+81.67	32+43.97	LT.	2462.30							
	7+81.67	29+31.20	RT.	2149.53							
	29+31.90	37+87.50	RT.	855.60							
	29+31.90	37+87.50	RT.			855.60					
	32+43.97	35+20.02	LT.				275.72				
	32+43.97	35+20.02	LT.				276.74				
	32+43.97	35+20.02	LT.					319.75			
	35+20.02	37+27.90	LT.			207.88					
	35+20.02	37+87.50	LT.	267.48							
RAMP E	740+71.88	760+87.65	LT.	2015.77							
RAMP E	740+71.88	758+11.85	LT.		1739.97						
RAMP F	750+00.00	753+60.05	RT.	360.05							
RAMP F	753+22.44	753+60.05	RT.		37.61						
RAMP G	766+36.30	775+60.34	RT.	924.04							
RAMP G	766+36.30	775+60.34	RT.		924.04						
RAMP H	764+98.33	781+02.50	LT.	1604.17							
RAMP H	764+98.33	781+02.50	LT.		1604.17						
RAMP H	764+98.33	781+02.50	LT.			1604.17					
SUB-TOTALS				10638.94	10317.45	5673.48	552.46	319.75			
TOTALS CARRIED TO TRAFFIC CONTROL SUMMARY				3.97 MI.		1.07 MI.	552.46	319.75			

ITEM 621 RAISED PAVEMENT MARKERS, INSTALLATION ONLY

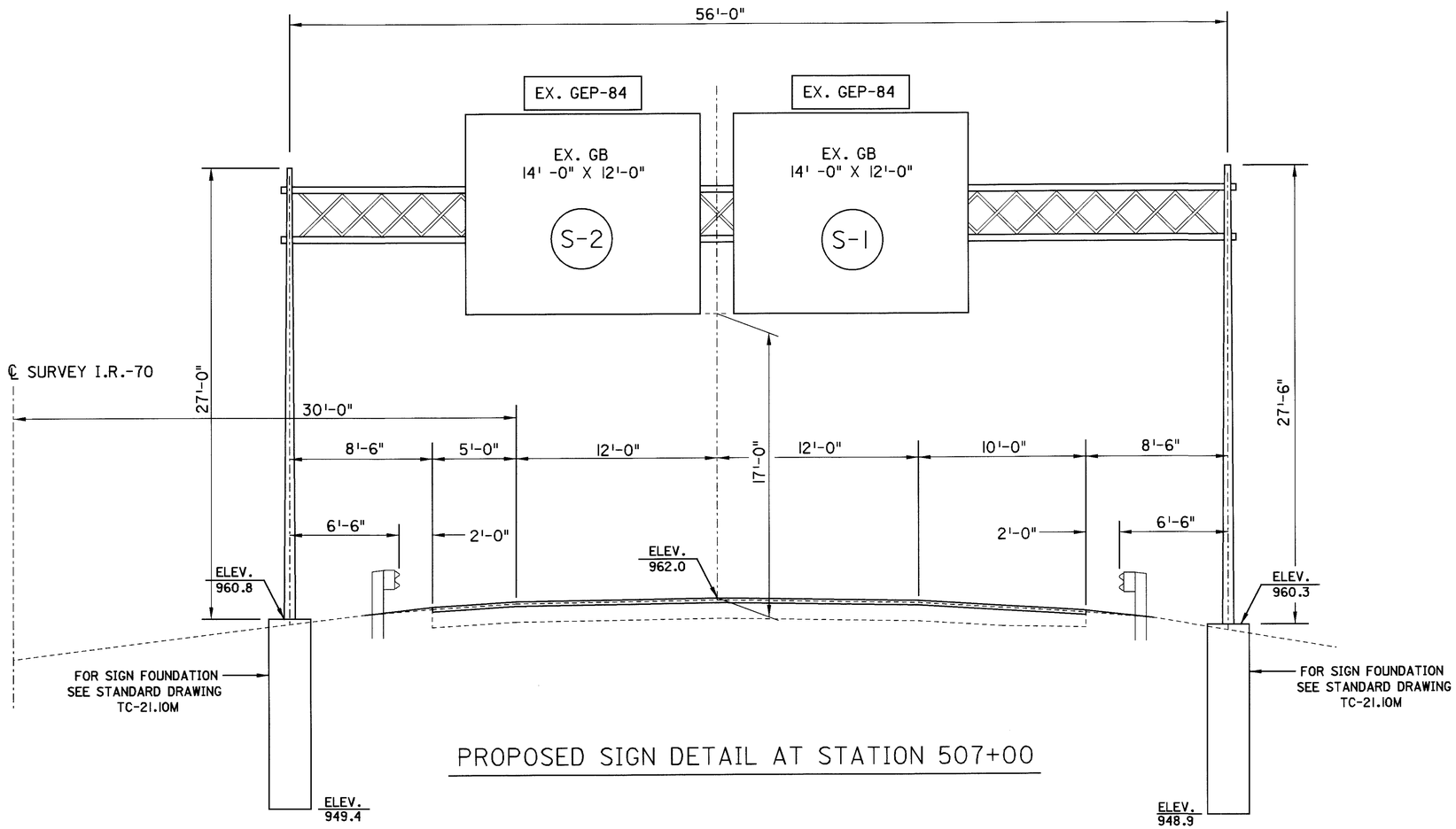
LOCATION	STATION FROM	STATION TO	SIDE	SPACING		621 ONE-WAY WHITE	621 TWO-WAY WHITE/RED	621 TWO-WAY YELLOW/RED
				FEET		EACH	EACH	EACH
I-70	342+50	748+37.50	L	120		333		
I-70	342+50	748+37.50	R	120		332		
I-70	343+54	348+36.05	L	40			25	
I-70	405+82.11	410+08.55	L	40		11		
I-70	420+23.28	424+73.56	R	120			4	
I-70	424+73.56	427+23.50	R	40			13	
I-70	461+36	468+75	L	40			37	
I-70	465+00	468+34.08	R	40			8	
I-70	583+43.89	585+64.72	R	120			2	
I-70	585+64.72	588+23.17	R	40			13	
I-70	590+49.13	597+23.26	L	120			6	
I-70	601+96.23	604+05.50	R	120			2	
I-70	603+89.71	606+32.99	L	40			13	
I-70	606+32.99	608+65.59	L	120			2	
SOUTHBOUND S.R.-49								
	140+32.20	140+69.70	L	80				1
	249+39.83	251+95.78	R	120			3	
	251+95.78	253+86.38	R	40			5	
	253+86.38	262+20.81	R	80				11
NORTHBOUND S.R.-49								
	156+34.32	161+97.73	L	80				7
	269+38.61	277+57.39	℄	120		7		
	277+19.87	277+57.39	L					1
HOKE RD.								
RAMP A	2+41.97	14+99.79	L	80				16
RAMP B	12+41.82	21+36.68	L	80				11
S.R.-48								
RAMP A	12+24.94	16+00	L	80				5
RAMP B	12+24.94	18+50.55	R	80				8
RAMP C	8+00	15+95.68	L	80				10
RAMP E	6+19.70	11+55.90	L	80				7
AIRPORT ACCESS RD.								
	7+81.67	37+87.50	L	80			38	
	32+43.97	35+20.02	L	40			14	
	35+20.02	37+27.90	L	120			2	
	7+81.67	26+20	R	80				23
	26+20	29+31.90	R	40			16	
	29+31.90	37+87.50	R	80			11	
RAMP E	734+48.01	737+39.17	R	120			3	
RAMP E	737+39.17	740+71.88	R	40			9	
RAMP E	740+71.88	758+12.53	R	80				22
RAMP F	753+22.44	753+60.05	R	80				1
RAMP G	766+36.30	775+60.34	L	80				12
RAMP H	764+98.33	781+02.50	℄	80			20	
TOTALS CARRIED TO TRAFFIC CONTROL SUMMARY						683	246	135

CALCULATED

CHECKED

PAVEMENT MARKING SUBSUMMARY AND RAISED PAVEMENT MARKERS

MOT-70-6.49



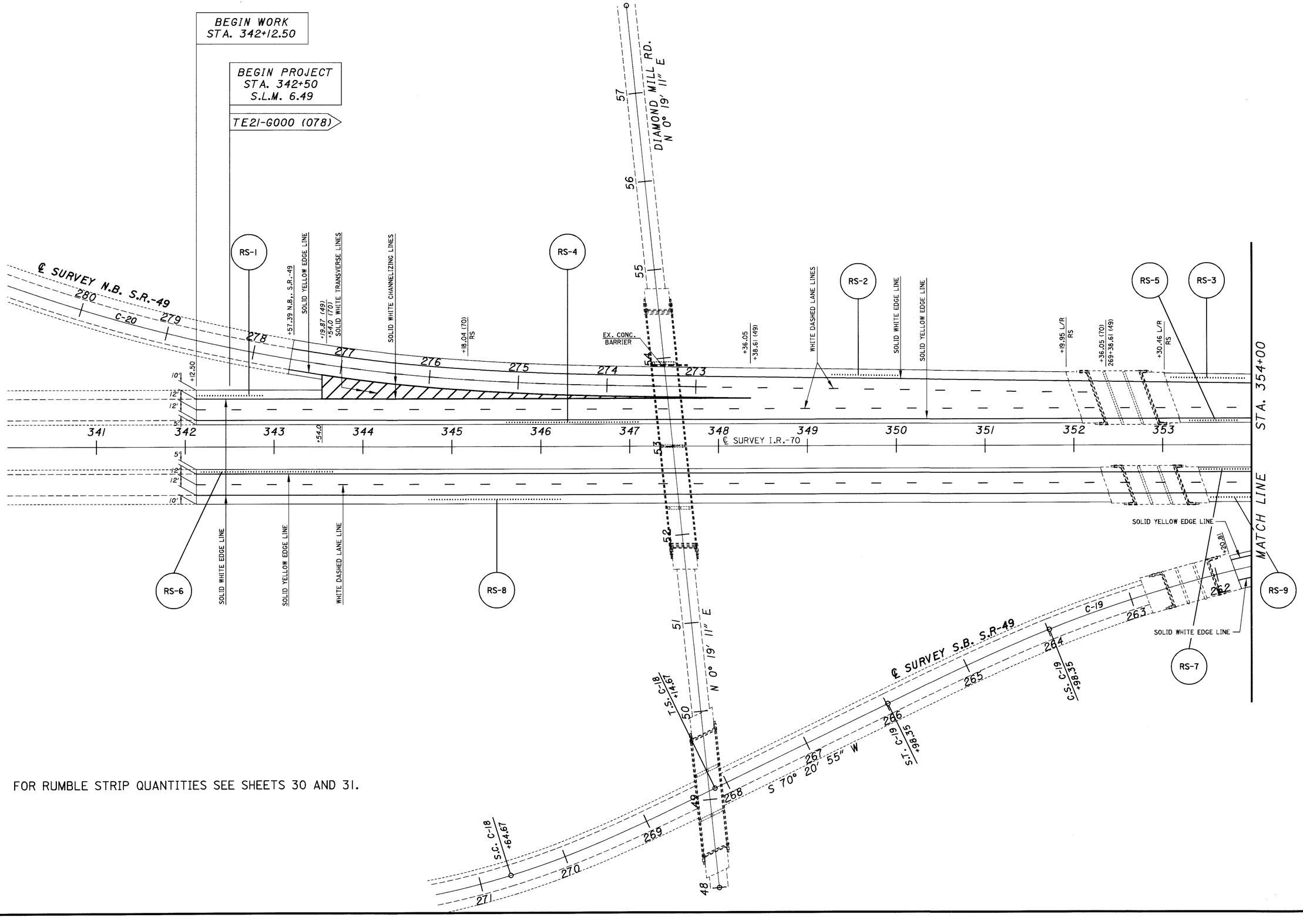
PROPOSED SIGN DETAIL AT STATION 507+00

SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)		625 GROUND ROD EACH		630 RIGID OVERHEAD SIGN SUPPORT FOUNDATION EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN -6 EACH		630 REMOVAL OF STRUCTURE MOUNTED SIGN AND REERECTION EACH		630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION EACH		630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL LIN. FT.		630 GROUND MOUNTED SUPPORT, NO. 3 POST LIN. FT.	
158	S-1	WESTBOUND I.R.-70	507+00	LT.	GB	168" X 144"		1		2	1		1							
				LT.	GEP	84" X 24"							1							
158	S-2	WESTBOUND I.R.-70	507+00	LT.	GB	168" X 144"							1							
				LT.	GEP	84" X 24"							1							
168	S-2	MEEKER RD.	50+88	LT.	R-1-30	30" X 30"									1		1		12.5	
TOTALS CARRIED TO TRAFFIC CONTROL SUMMARY								1		2	1		4		1		1		12.5	

CALCULATED | CHECKED

SIGNING SUB SUMMARY AND SIGN DETAIL

MOT-70-6.49



FOR RUMBLE STRIP QUANTITIES SEE SHEETS 30 AND 31.

HORIZONTAL SCALE IN FEET

CALCULATED

CHECKED

PAVEMENT MARKING - I.R.-70
STA. 340+00.00 TO STA. 354+00.00

MOT-70-6.49

147
201

FOR RUMBLE STRIP QUANTITIES SEE SHEETS 30 AND 31.

HORIZONTAL SCALE IN FEET

CALCULATED | CHECKED

PAVEMENT MARKING - I.R.-70
STA. 354+00.00 TO STA. 368+00.00

MOT-70-6.49

FOR RUMBLE STRIP QUANTITIES SEE SHEETS 30 AND 31.

HORIZONTAL SCALE IN FEET

CALCULATED

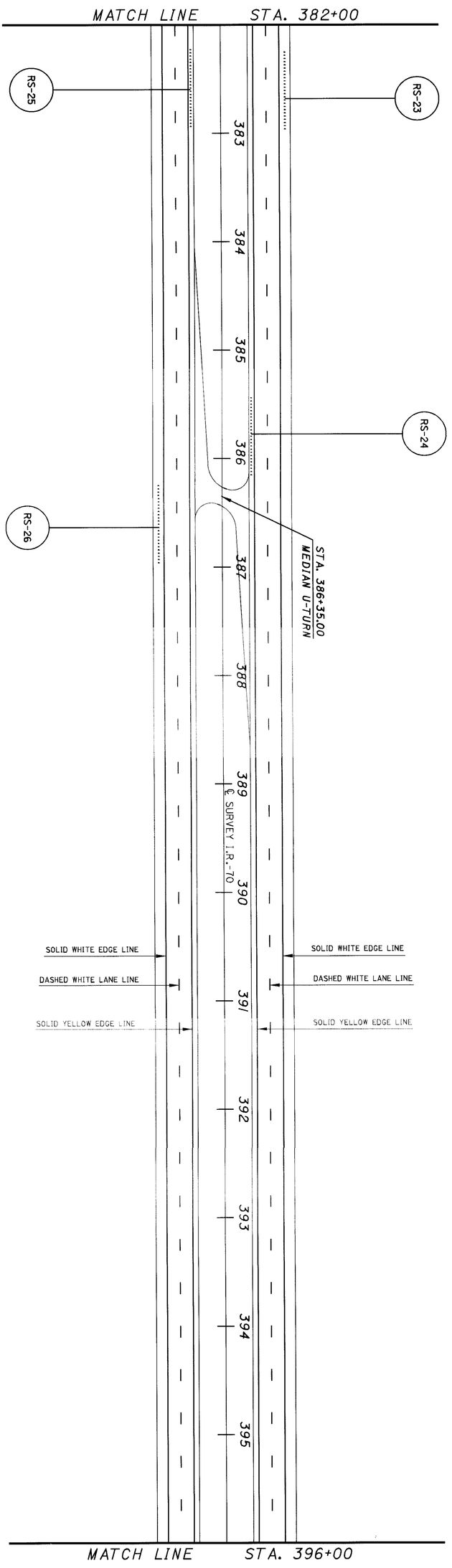
CHECKED

PAVEMENT MARKING - I.R.-70
STA. 368+00.00 TO STA. 382+00.00

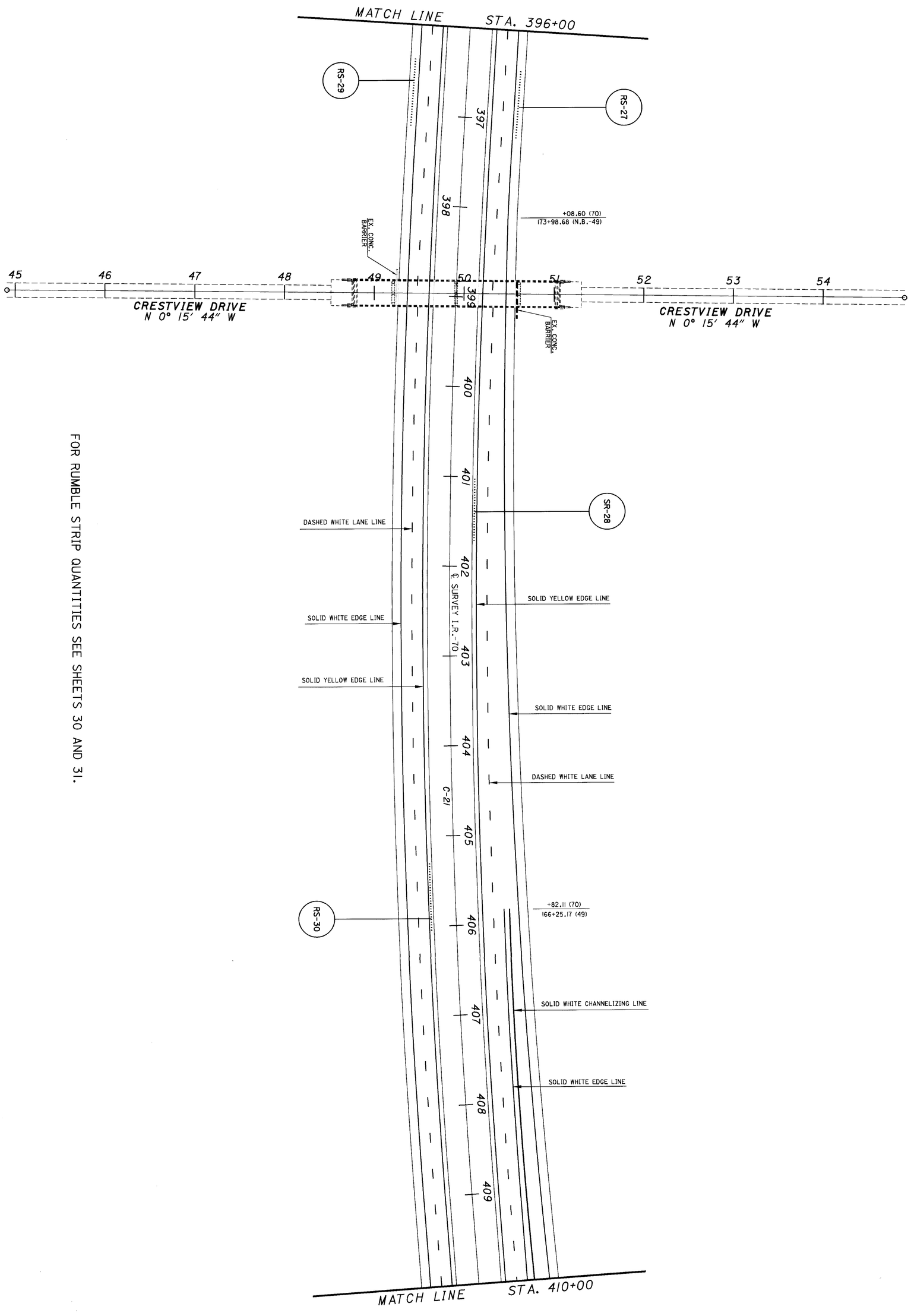
MOT-70-6.49

149
201

FOR RUMBLE STRIP QUANTITIES SEE SHEETS 30 AND 31.



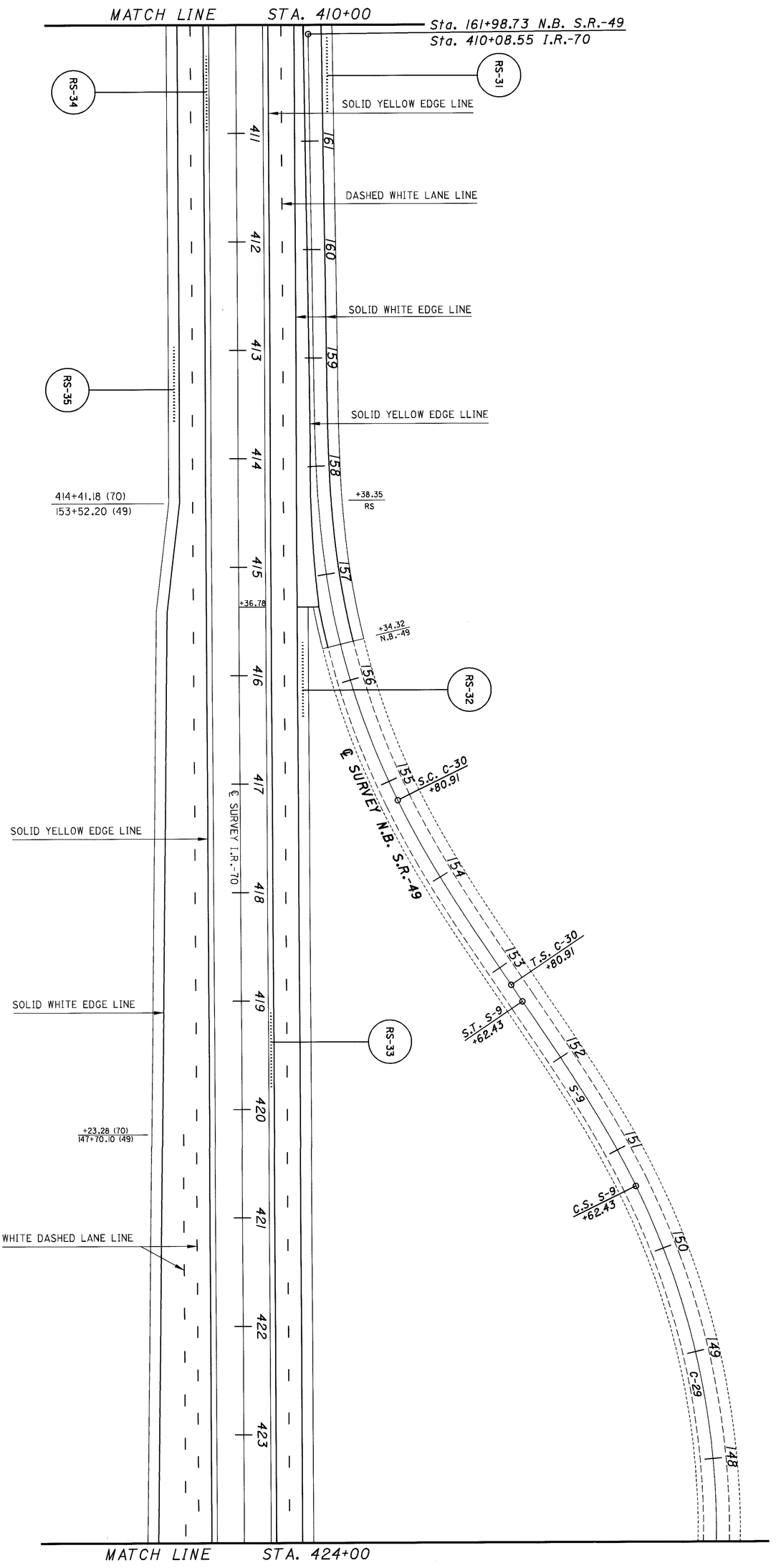
150/201	MOT-70-6.49	PAVEMENT MARKING - I.R.-70 STA. 382+00.00 TO STA. 396+00.00	CALCULATED CHECKED	0 HORIZONTAL SCALE IN FEET



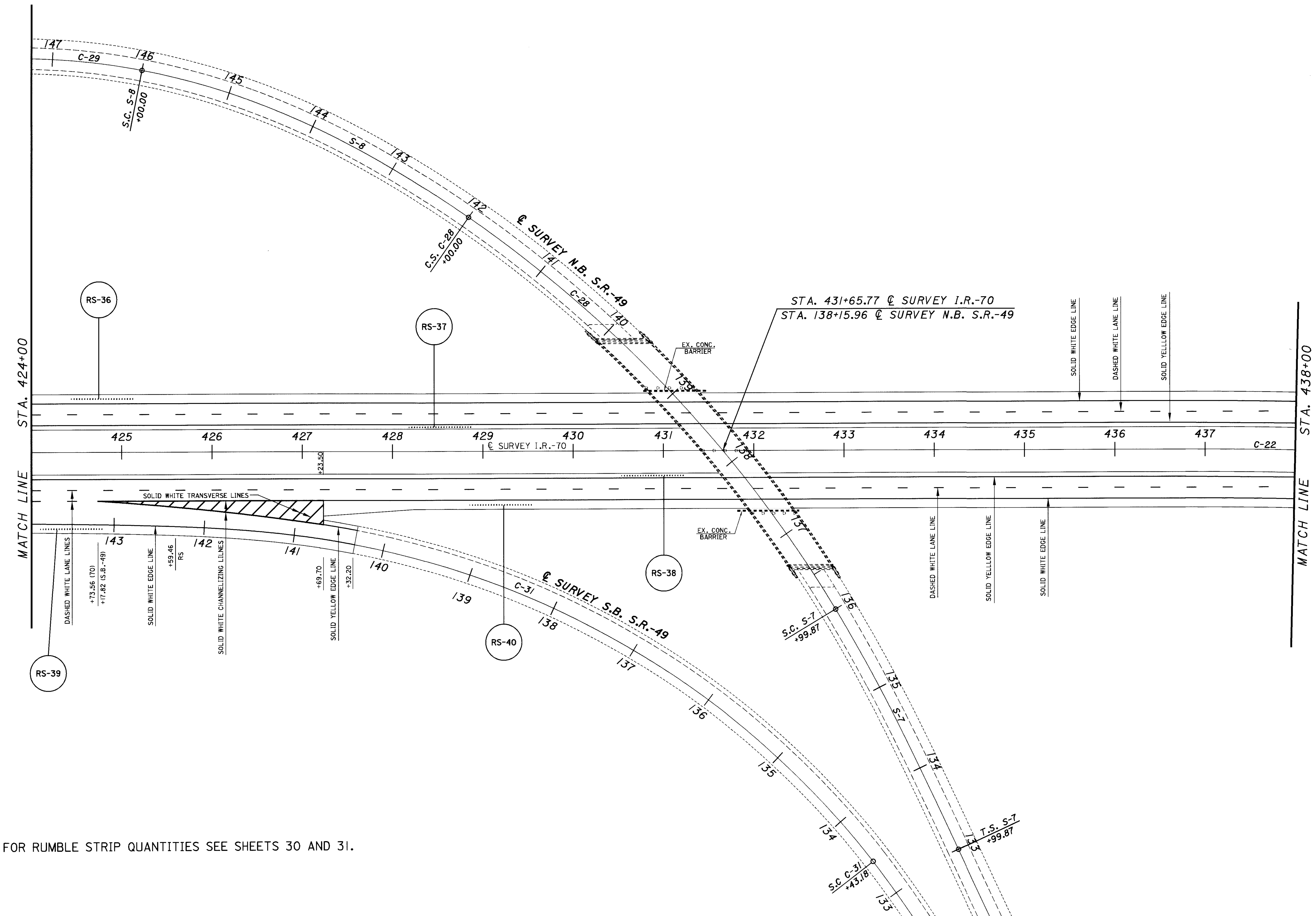
FOR RUMBLE STRIP QUANTITIES SEE SHEETS 30 AND 31.

151 / 201	MOT-70-6.49	PAVEMENT MARKING - I.R.-70 STA. 396+00.00 TO STA. 410+00.00	CALCULATED CHECKED	0 HORIZONTAL SCALE IN FEET

FOR RUMBLE STRIP QUANTITIES SEE SHEETS 30 AND 31.



152 / 201	MOT-70-6.49	PAVEMENT MARKING - I.R.-70 STA. 410+00.00 TO STA. 424+00.00	CALCULATED / CHECKED	0 HORIZONTAL SCALE IN FEET



FOR RUMBLE STRIP QUANTITIES SEE SHEETS 30 AND 31.

HORIZONTAL SCALE IN FEET

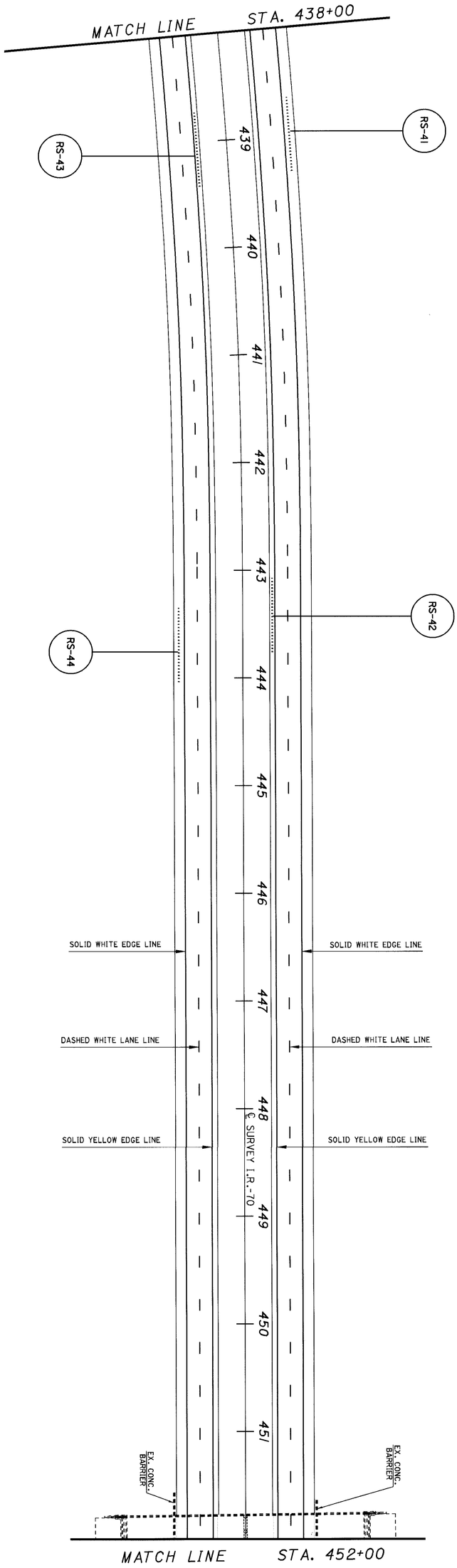
CALCULATED

CHECKED

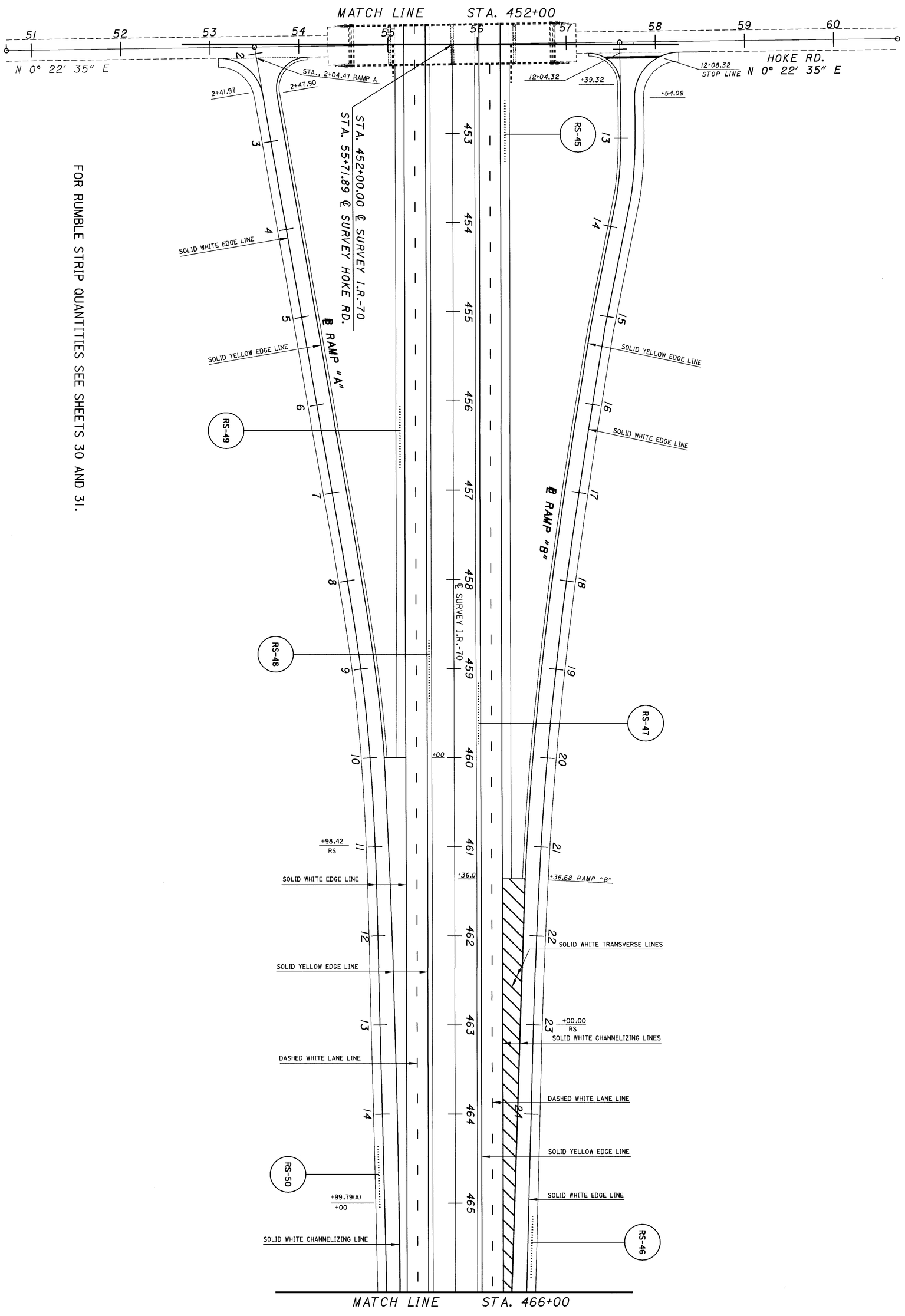
PAVEMENT MARKING - I.R.-70
STA. 424+00.00 TO STA. 438+00.00

MOT-70-6.49

FOR RUMBLE STRIP QUANTITIES SEE SHEETS 30 AND 31.



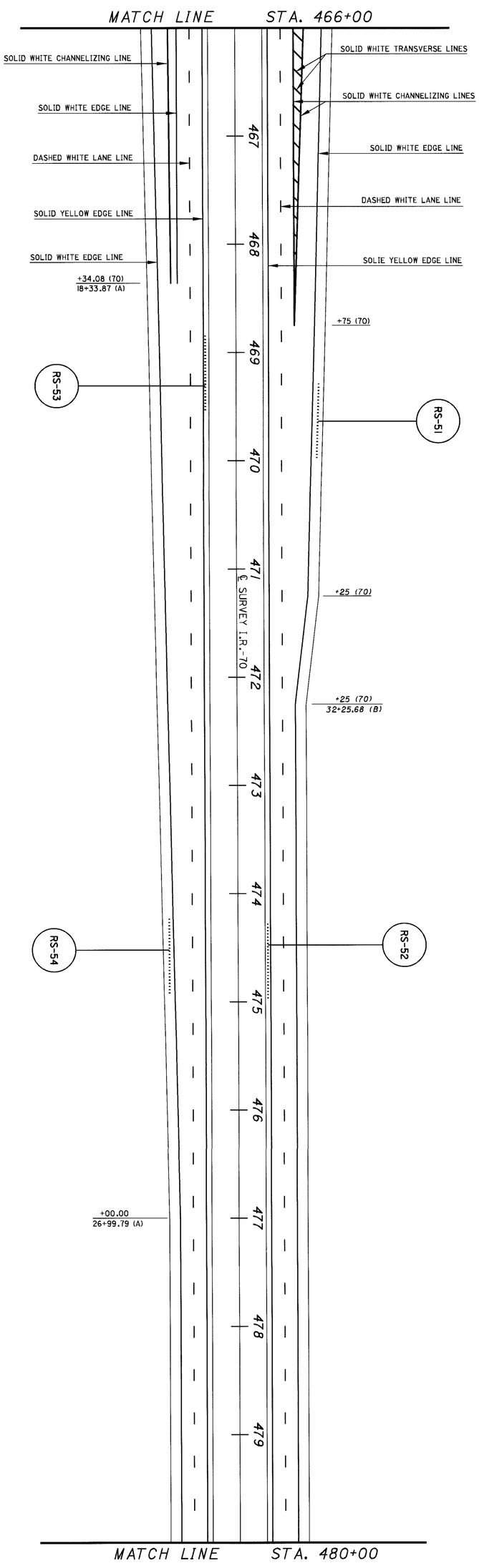
154 / 201	MOT-70-6.49	PAVEMENT MARKING - I.R.-70 STA. 438+00.00 TO STA. 452+00.00	CALCULATED / CHECKED	0 HORIZONTAL SCALE IN FEET



FOR RUMBLE STRIP QUANTITIES SEE SHEETS 30 AND 31.

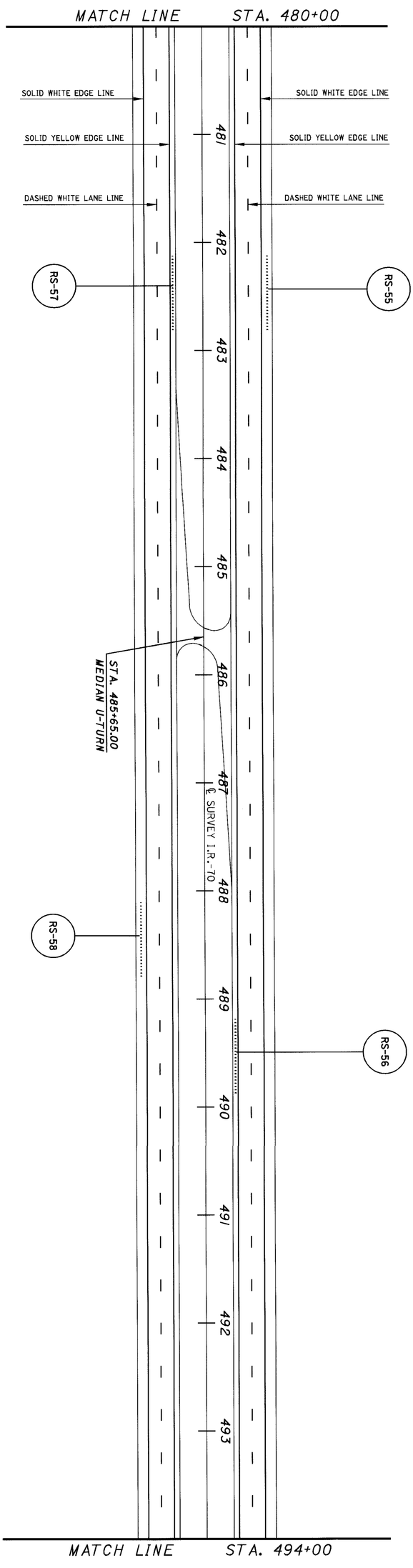
155/201	MOT-70-6.49	PAVEMENT MARKING - I.R.-70 STA. 452+00.00 STA. 466+00.00	CALCULATED CHECKED 0 HORIZONTAL SCALE IN FEET N

FOR RUMBLE STRIP QUANTITIES SEE SHEETS 30 AND 31.



156/201	MOT-70-6.49	PAVEMENT MARKING - I.R.-70 STA. 466+00.00 TO STA. 480+00.00	CALCULATED CHECKED	0 HORIZONTAL SCALE IN FEET

FOR RUMBLE STRIP QUANTITIES SEE SHEETS 30 AND 31.



MOT-70-6.49

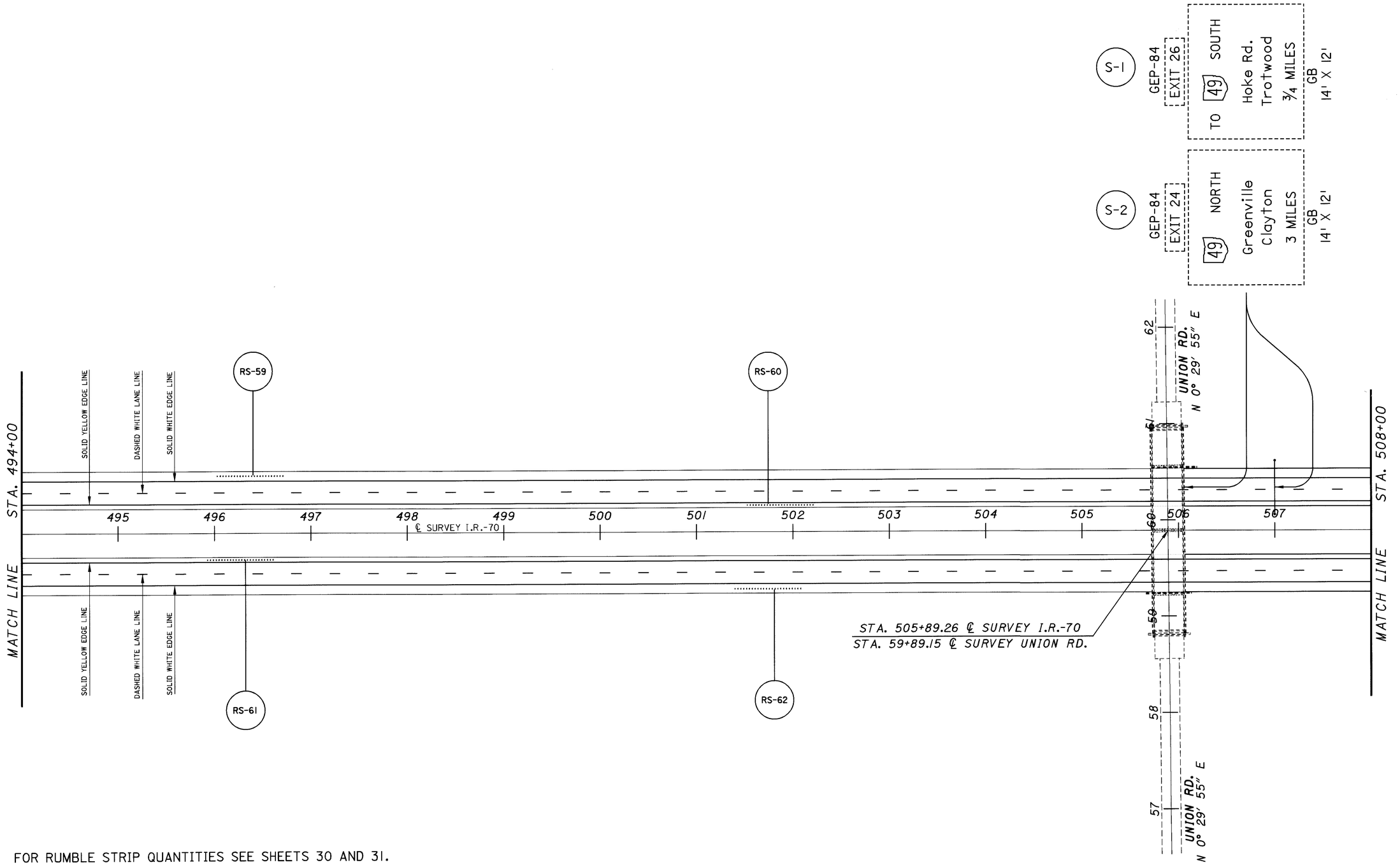
PAVEMENT MARKING - I.R.-70
STA. 480+00.00 TO STA. 494+00.00

CALCULATED
CHECKED

0
HORIZONTAL SCALE IN FEET

N

STA. 506+05 REMOVE AND RE-ERECT EXISTING SIGNS
ON NEW SUPPORT AT STA. 507+00
(REMOVE EXISTING SUPPORTS ON STRUCTURE)
FOR SIGNING SUB-SUMMARY AND DETAIL SEE SHEET 146.



FOR RUMBLE STRIP QUANTITIES SEE SHEETS 30 AND 31.

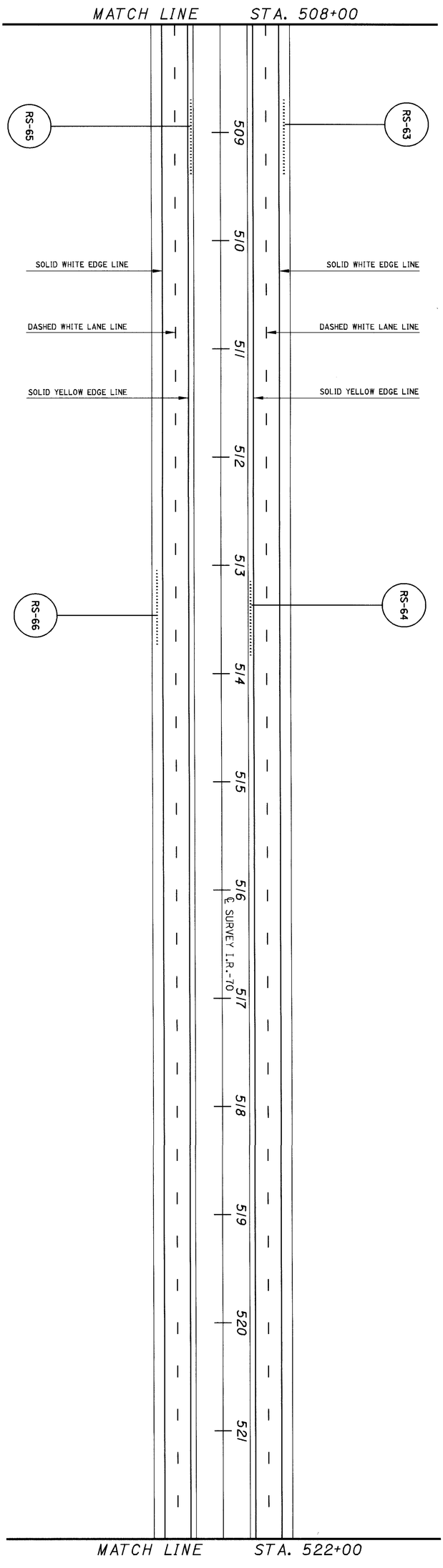
HORIZONTAL SCALE IN FEET
0

CALCULATED
CHECKED

PAVEMENT MARKING - I.R.-70
STA. 494+00.00 TO STA. 508+00.00

MOT-70-6.49

FOR RUMBLE STRIP QUANTITIES SEE SHEETS 30 AND 31.



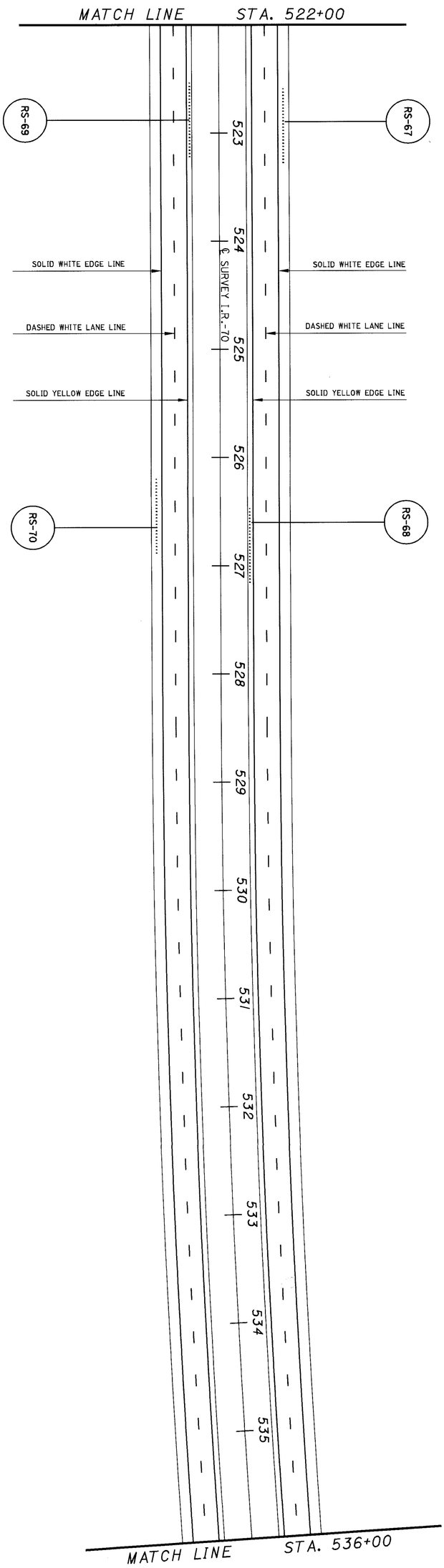
PAVEMENT MARKING - I.R.-70
STA. 508+00.00 TO STA. 522+00.00

CALCULATED
CHECKED

0
HORIZONTAL SCALE IN FEET

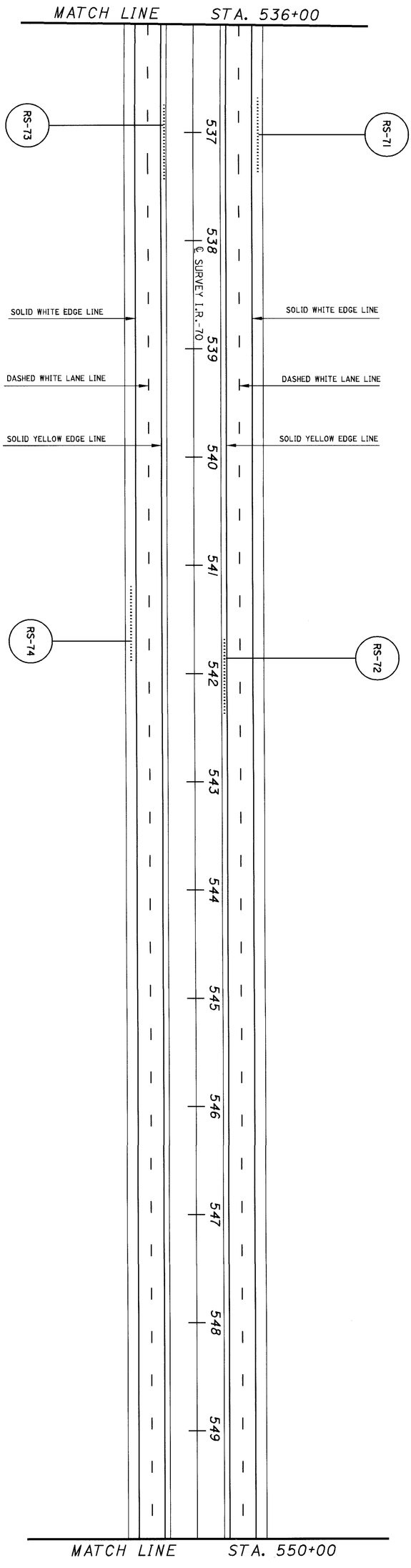
N

FOR RUMBLE STRIP QUANTITIES SEE SHEETS 30 AND 31.



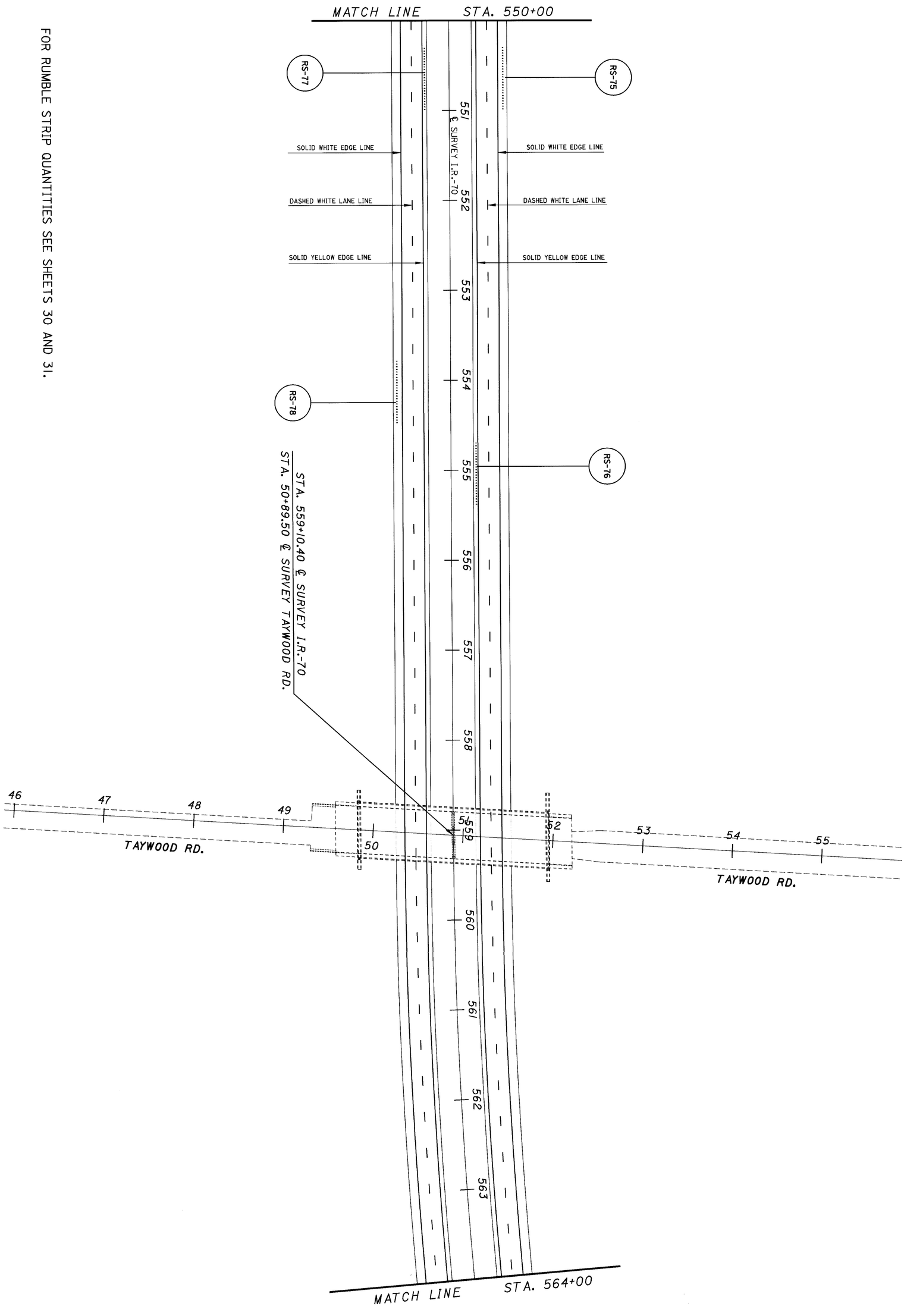
160/201	MOT-70-6.49	PAVEMENT MARKING - I.R.-70 STA. 522+00.00 TO STA. 536+00.00	CALCULATED CHECKED	0 HORIZONTAL SCALE IN FEET

FOR RUMBLE STRIP QUANTITIES SEE SHEETS 30 AND 31.



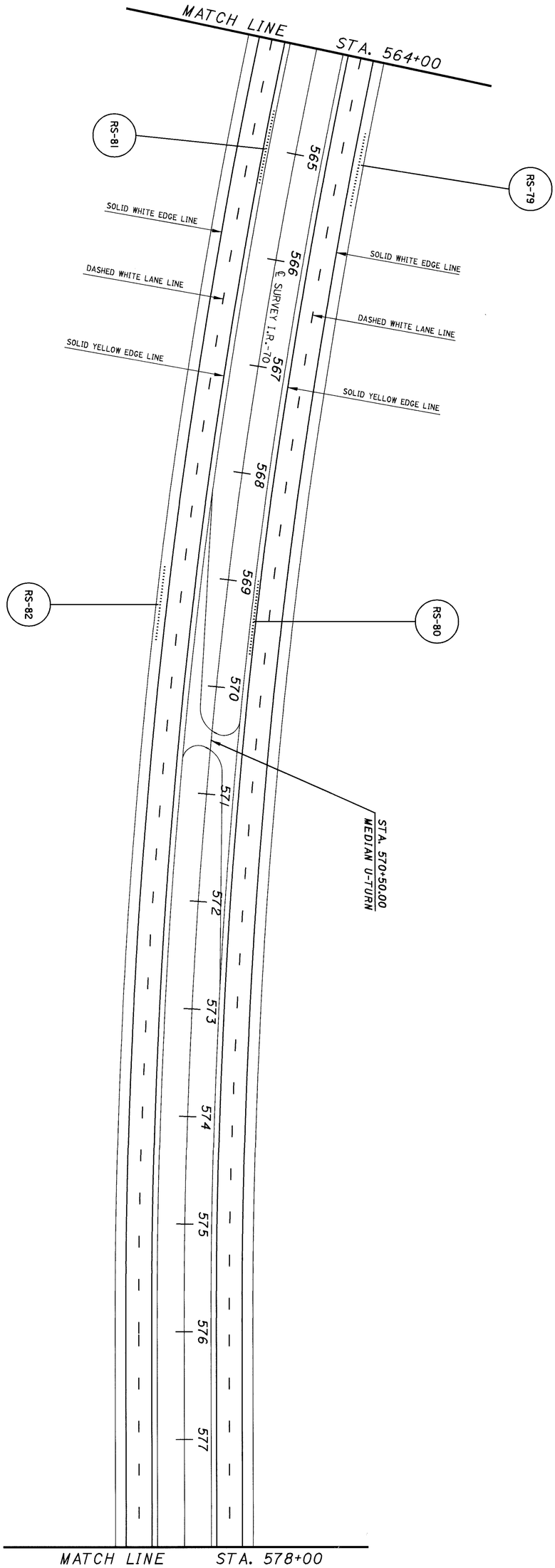
161/201	MOT-70-6.49	PAVEMENT MARKING - I.R.-70 STA. 536+00.00 TO STA. 550+00.00	CALCULATED CHECKED	0 HORIZONTAL SCALE IN FEET

FOR RUMBLE STRIP QUANTITIES SEE SHEETS 30 AND 31.



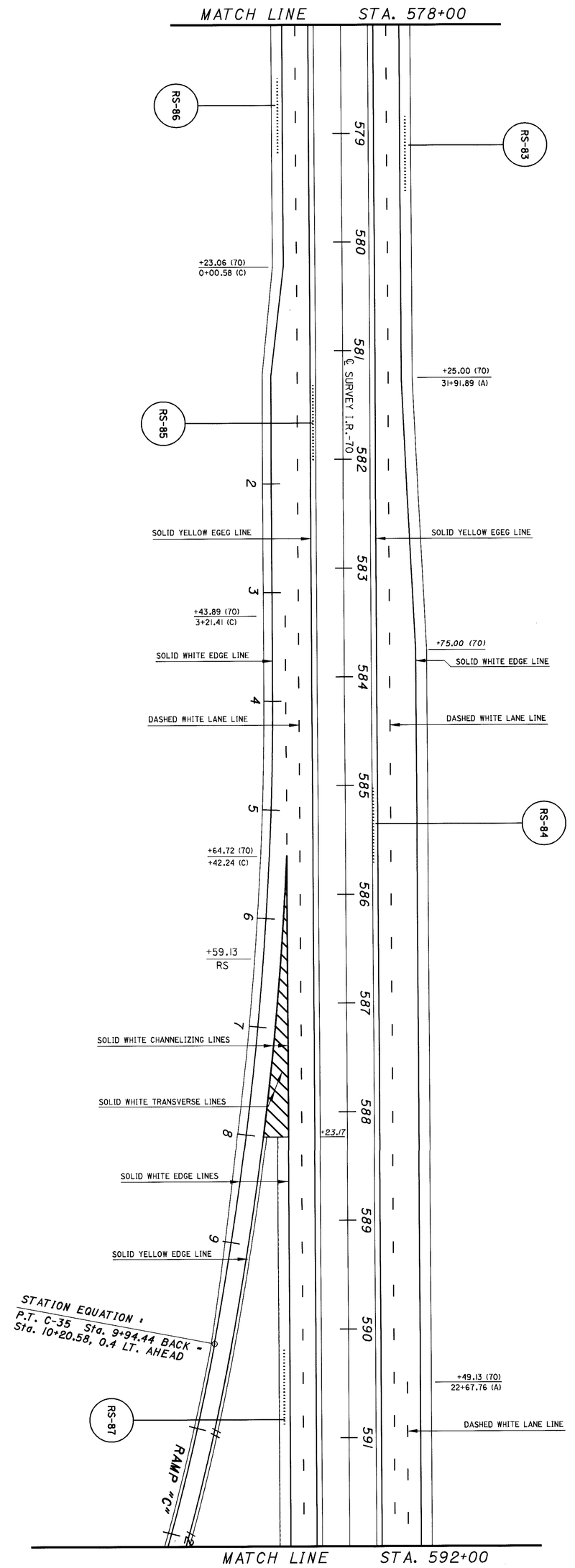
162/201	MOT-70-6.49	PAVEMENT MARKING - I.R.-70 STA. 550+00.00 TO STA. 564+00.00	CALCULATED CHECKED	0 HORIZONTAL SCALE IN FEET

FOR RUMBLE STRIP QUANTITIES SEE SHEETS 30 AND 31.

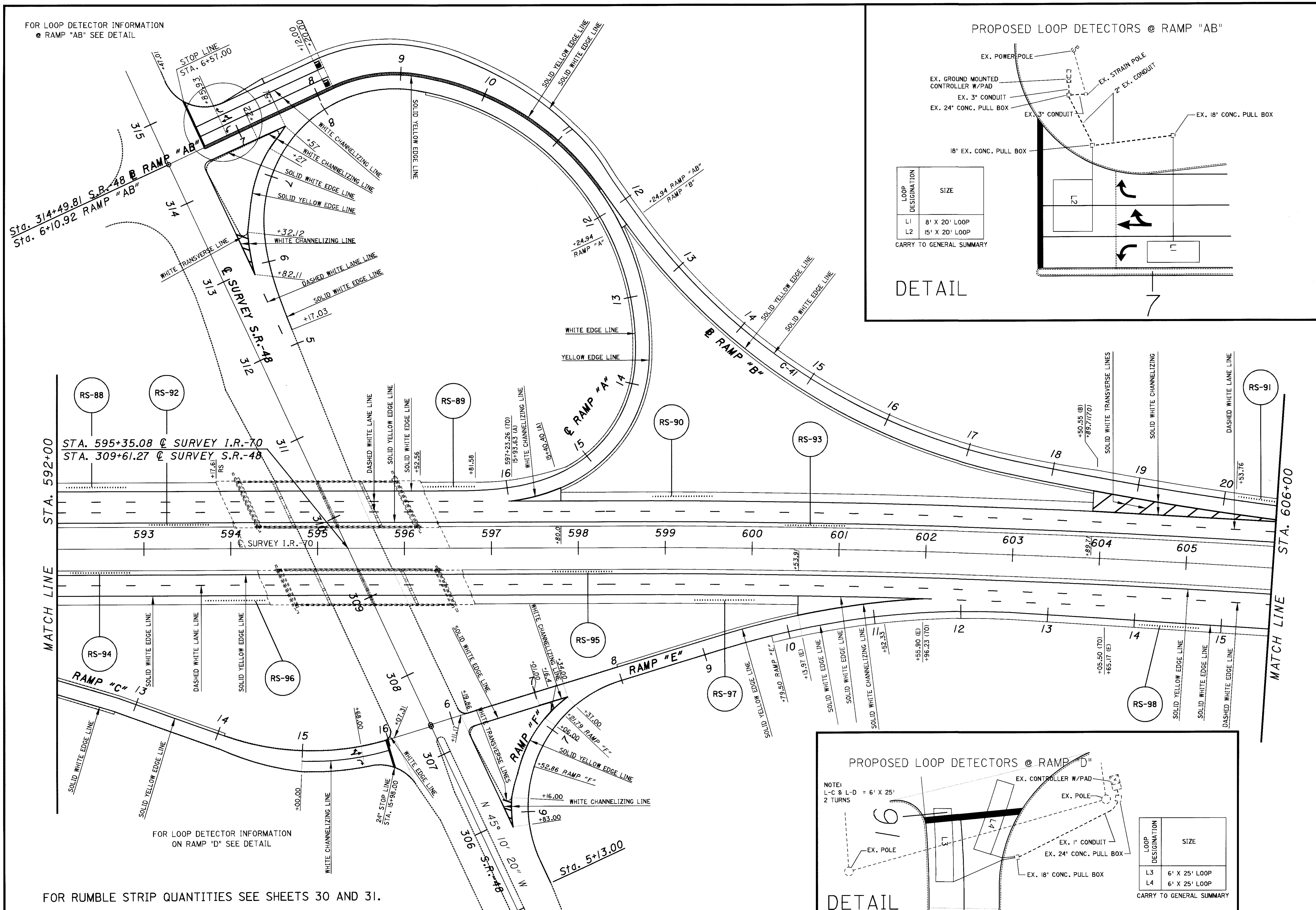


163/201	MOT-70-6.49	PAVEMENT MAARKING - I.R.-70 STA. 564+00.00 TO STA. 578+00.00	CALCULATED / CHECKED	0 HORIZONTAL SCALE IN FEET

FOR RUMBLE STRIP QUANTITIES SEE SHEETS 30 AND 31.



164 / 201	MOT-70-6.49	PAVEMENT MARKING - I.R.-70 STA. 578+00.00 TO STA. 592+00.00	CALCULATED / CHECKED	0 HORIZONTAL SCALE IN FEET



FOR LOOP DETECTOR INFORMATION @ RAMP "AB" SEE DETAIL
STOP LINE STA. 6+57.00
Sta. 314+49.81 S.R.-48 ℄ RAMP "AB"
Sta. 6+10.92 RAMP "AB"
℄ SURVEY S.R.-48
℄ RAMP "A"
℄ RAMP "B"
RAMP "E"
RAMP "F"
RAMP "C"
STA. 595+35.08 ℄ SURVEY I.R.-70
STA. 309+61.27 ℄ SURVEY S.R.-48
℄ SURVEY I.R.-70
STA. 592+00
STA. 606+00
MATCH LINE
MATCH LINE
N 45° 10' 20" W
Sta. 5+13.00
SOLID YELLOW EDGE LINE
SOLID WHITE EDGE LINE
WHITE CHANNELIZING LINE
DASHED WHITE LANE LINE
WHITE TRANSVERSE LINE
WHITE EDGE LINE
YELLOW EDGE LINE
RS-88
RS-89
RS-90
RS-91
RS-92
RS-93
RS-94
RS-95
RS-96
RS-97
RS-98
24" STOP LINE STA. 15+98.00
FOR LOOP DETECTOR INFORMATION ON RAMP "D" SEE DETAIL
PROPOSED LOOP DETECTORS @ RAMP "AB"
EX. POWER POLE
EX. GROUND MOUNTED CONTROLLER W/PAD
EX. 3" CONDUIT
EX. 24" CONC. PULL BOX
EX. STRAIN POLE
2" EX. CONDUIT
EX. 18" CONC. PULL BOX
18" EX. CONC. PULL BOX
DETAIL
PROPOSED LOOP DETECTORS @ RAMP "D"
NOTE: L-C & L-D = 6' X 25' 2 TURNS
EX. CONTROLLER W/PAD
EX. POLE
EX. 1" CONDUIT
EX. 18" CONC. PULL BOX
DETAIL
HORIZONTAL SCALE IN FEET

PROPOSED LOOP DETECTORS @ RAMP "AB"

LOOP DESIGNATION	SIZE
L1	8' X 20' LOOP
L2	15' X 20' LOOP

CARRY TO GENERAL SUMMARY

PROPOSED LOOP DETECTORS @ RAMP "D"

LOOP DESIGNATION	SIZE
L3	6' X 25' LOOP
L4	6' X 25' LOOP

CARRY TO GENERAL SUMMARY

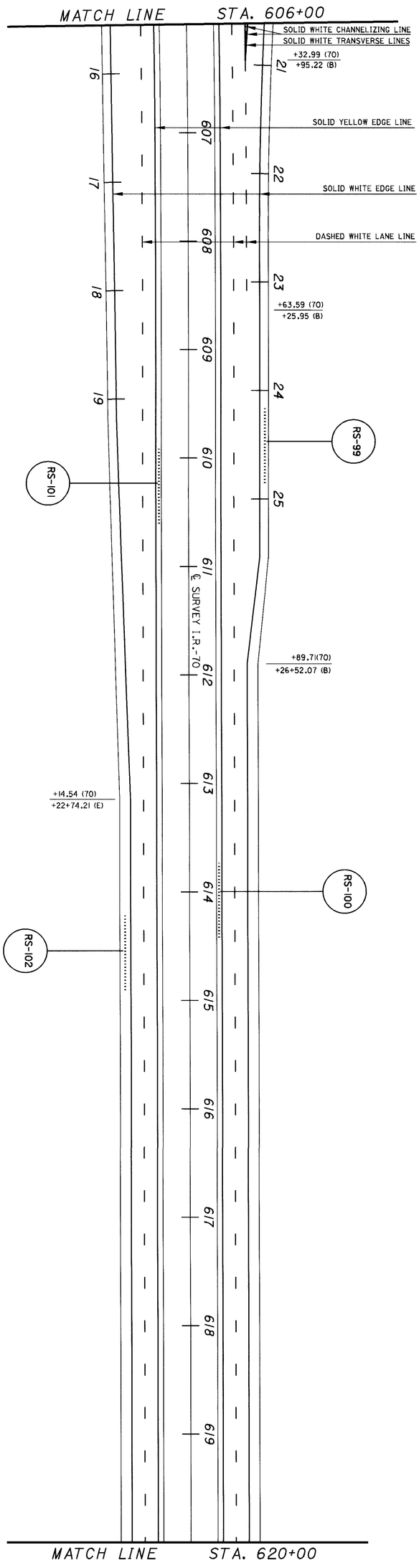
FOR RUMBLE STRIP QUANTITIES SEE SHEETS 30 AND 31.

PAVEMENT MARKING - I.R.-70
STA. 592+00.00 TO STA. 606+00.00

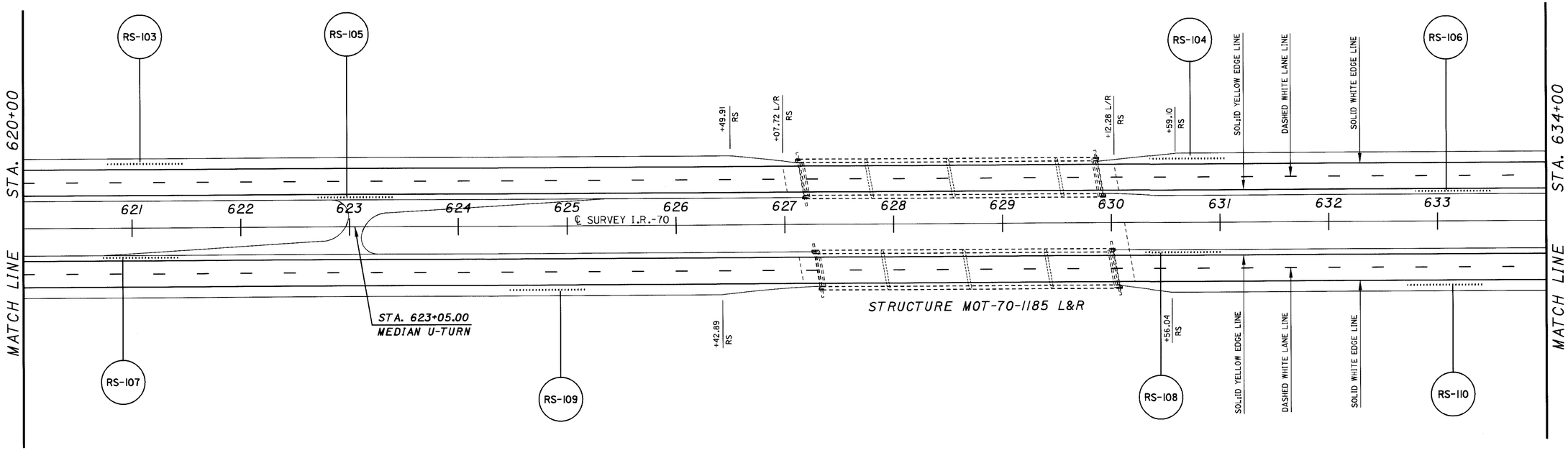
CALCULATED | CHECKED

MOT-70-6.49

FOR RUMBLE STRIP QUANTITIES SEE SHEETS 30 AND 31.



99/201	MOT-70-6.49	PAVEMENT MARKING - I.R.-70 STA. 606+00.00 TO STA. 620+00.00	CALCULATED CHECKED	0 HORIZONTAL SCALE IN FEET



FOR RUMBLE STRIP QUANTITIES SEE SHEETS 30 AND 31.

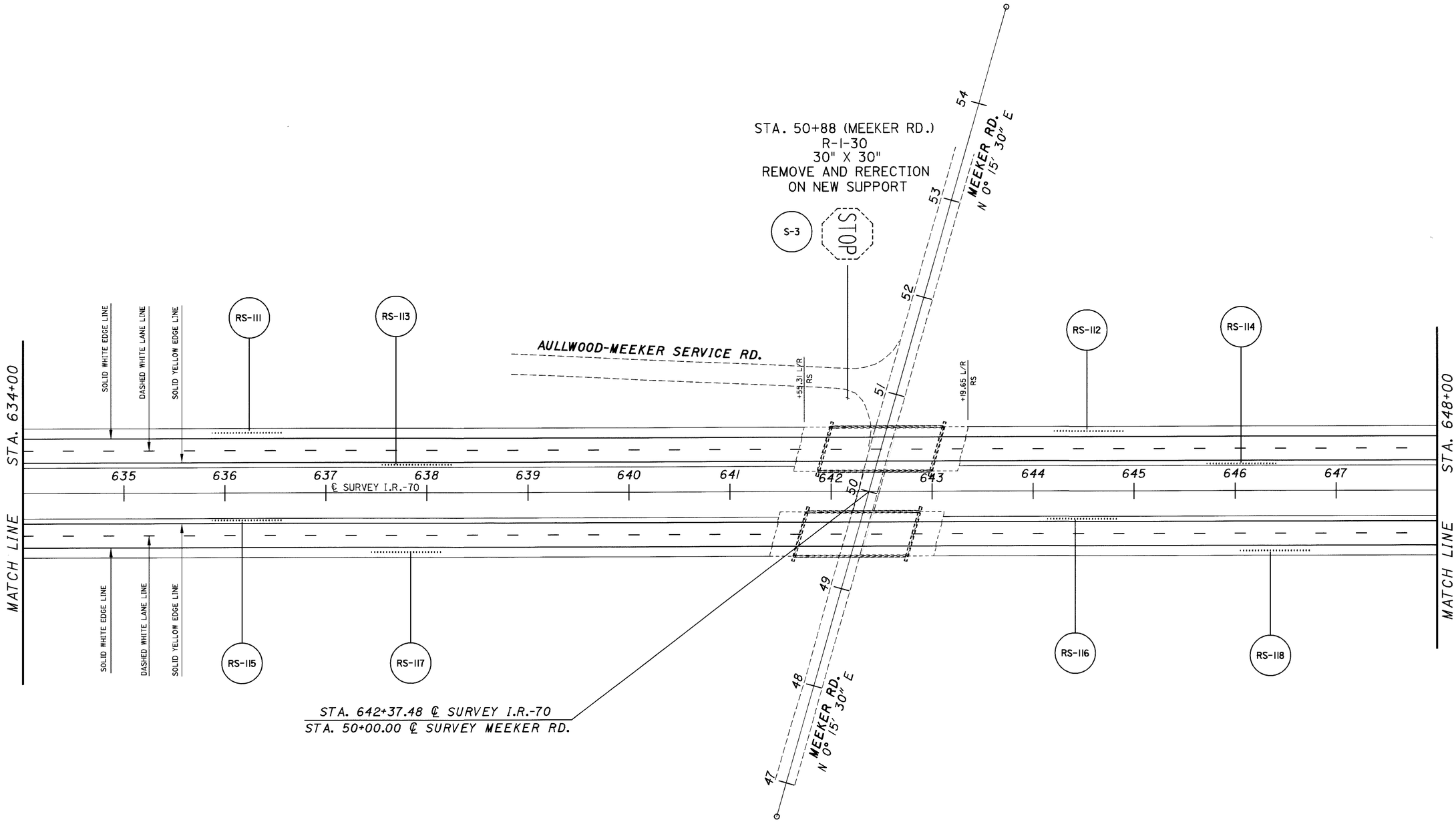
HORIZONTAL SCALE IN FEET
0

CALCULATED
CHECKED

PAVEMENT MARKING - I.R.-70
STA. 620+00.00 TO STA. 634+00.00

MOT-70-6.49

167
201



FOR RUMBLE STRIP QUANTITIES SEE SHEETS 30 AND 31.
FOR SIGNING SUB-SUMMARY SEE SHEET 146.

HORIZONTAL SCALE IN FEET
0

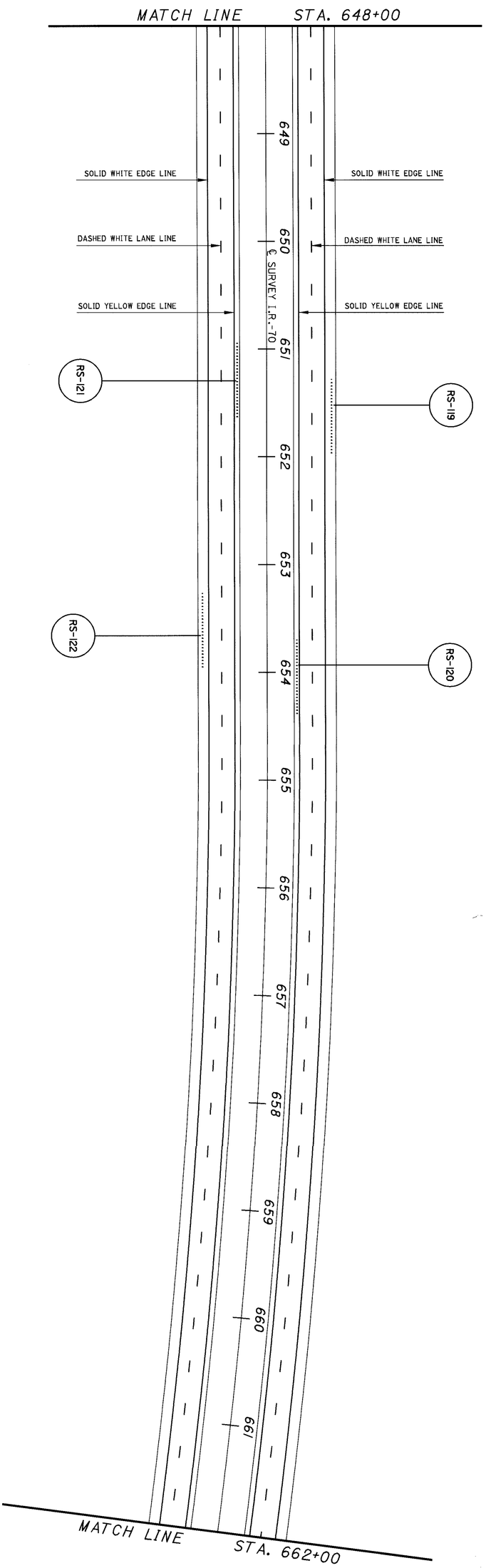
CALCULATED
CHECKED

PAVEMENT MARKING - I.R.-70
STA. 634+00.00 TO STA. 648+00.00

MOT-70-6.49

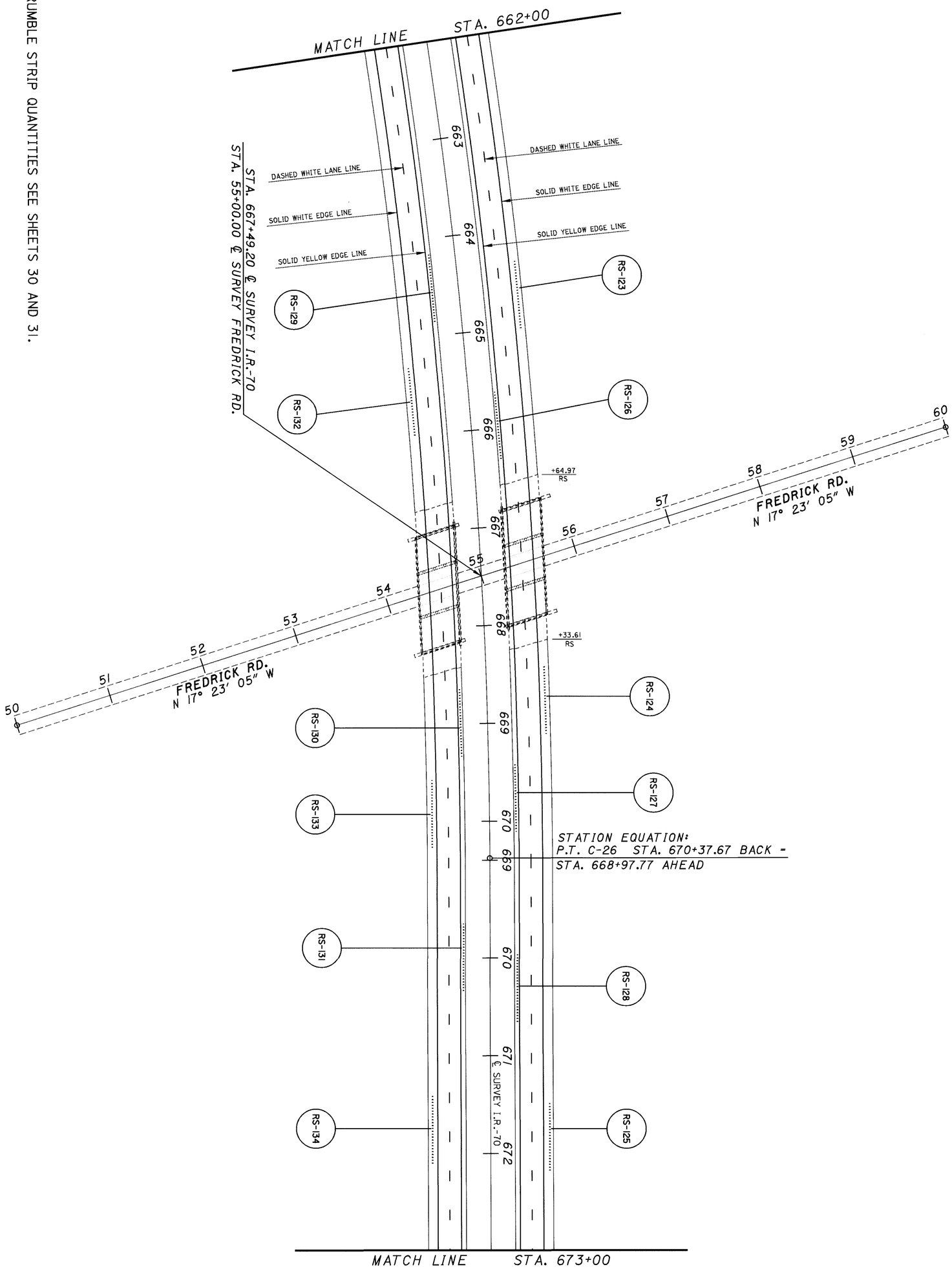
168
201

FOR RUMBLE STRIP QUANTITIES SEE SHEETS 30 AND 31.



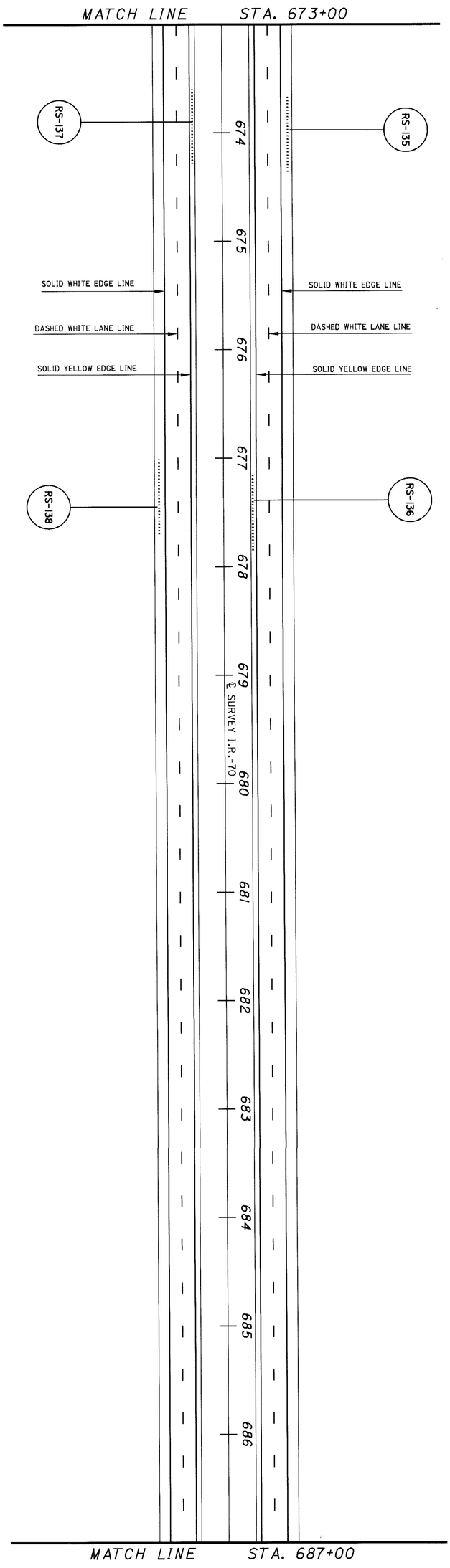
169/201	MOT-70-6.49	PAVEMENT MARKING - I.R.-70 STA. 648+00.00 TO STA. 662+00.00	CALCULATED CHECKED	0 HORIZONTAL SCALE IN FEET

FOR RUMBLE STRIP QUANTITIES SEE SHEETS 30 AND 31.

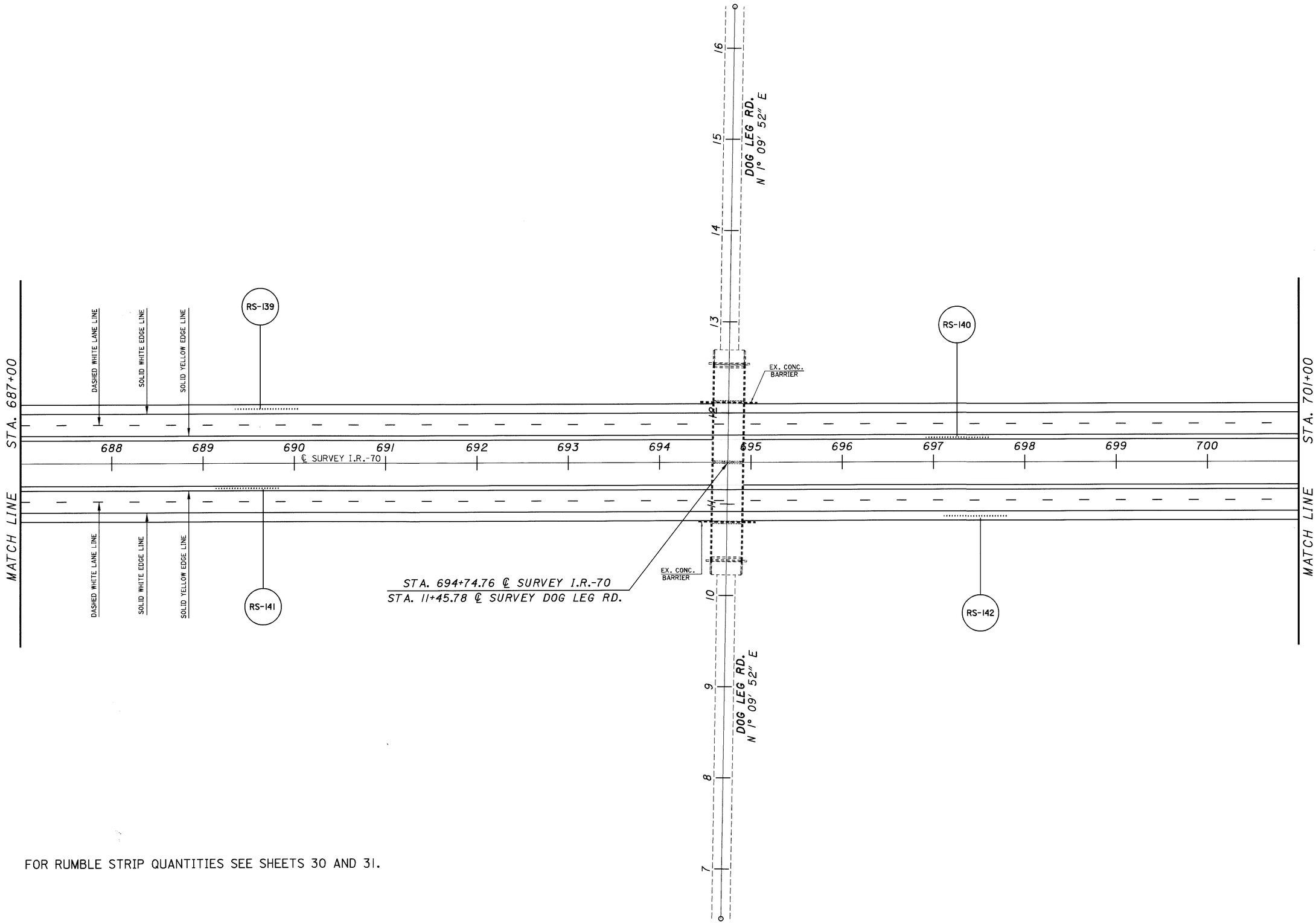


170 / 201	MOT-70-6.49	PAVEMENT MARKING - I.R.-70 STA. 662+00.00 TO STA. 673+00.00	CALCULATED CHECKED	0 HORIZONTAL SCALE IN FEET

FOR RUMBLE STRIP QUANTITIES SEE SHEETS 30 AND 31.



17/201	MOT-70-6.49	PAVEMENT MARKING - I.R.-70 STA. 673+00.00 TO STA. 687+00.00	CALCULATED CHECKED	0 HORIZONTAL SCALE IN FEET



FOR RUMBLE STRIP QUANTITIES SEE SHEETS 30 AND 31.

HORIZONTAL SCALE IN FEET

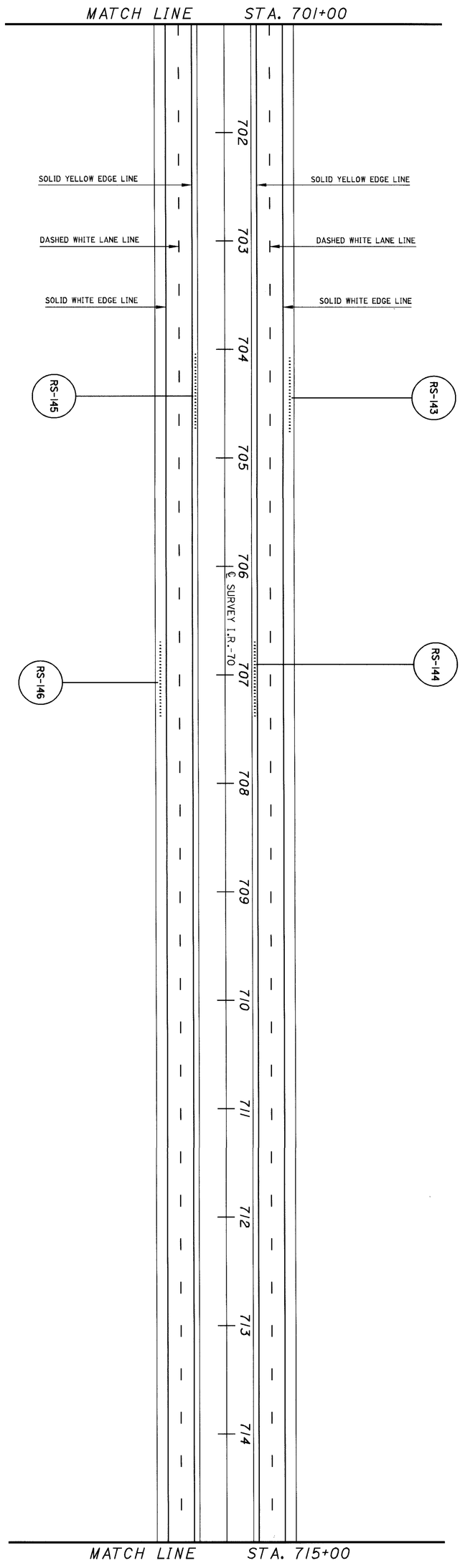
CALCULATED

CHECKED

PAVEMENT MARKING - I.R.-70
STA. 687+00.00 TO STA. 701+00.00

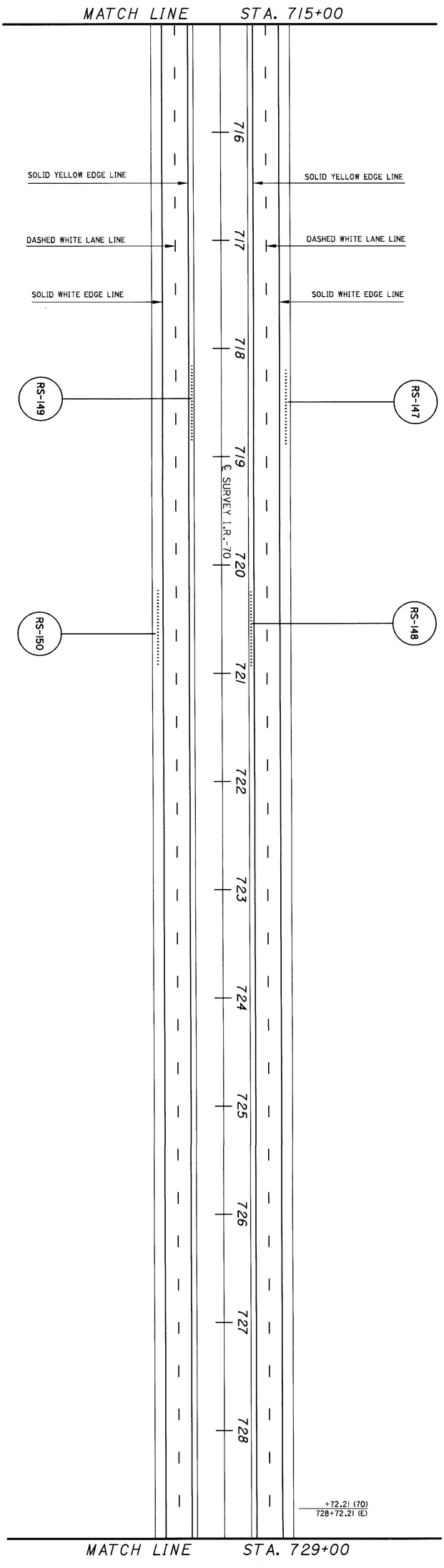
MOT-70-6.49

FOR RUMBLE STRIP QUANTITIES SEE SHEETS 30 AND 31.

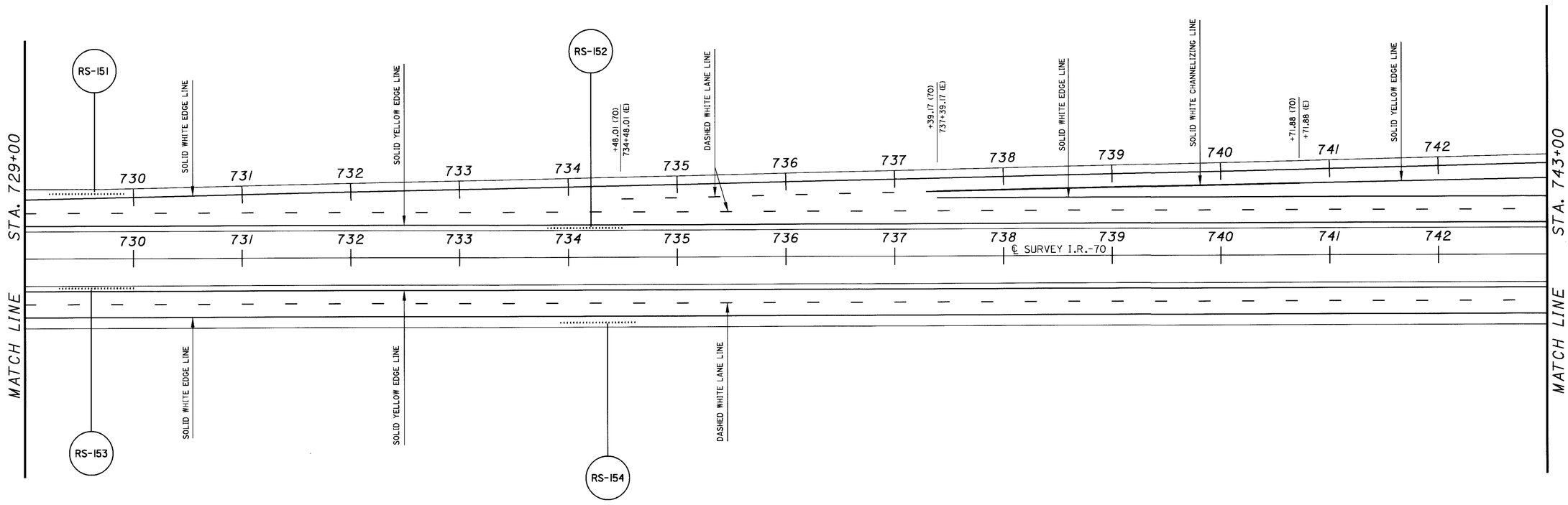


173/201	MOT-70-6.49	PAVEMENT MARKING - I.R.-70 STA. 701+00.00 TO STA. 715+00.00	CALCULATED CHECKED	0 HORIZONTAL SCALE IN FEET

FOR RUMBLE STRIP QUANTITIES SEE SHEETS 30 AND 31.



174/201	MOT-70-6.49	PAVEMENT MARKING - I.R.-70 STA. 715+00.00 TO STA. 729+00.00	CALCULATED CHECKED	0 HORIZONTAL SCALE IN FEET



FOR RUMBLE STRIP QUANTITIES SEE SHEETS 30 AND 31.

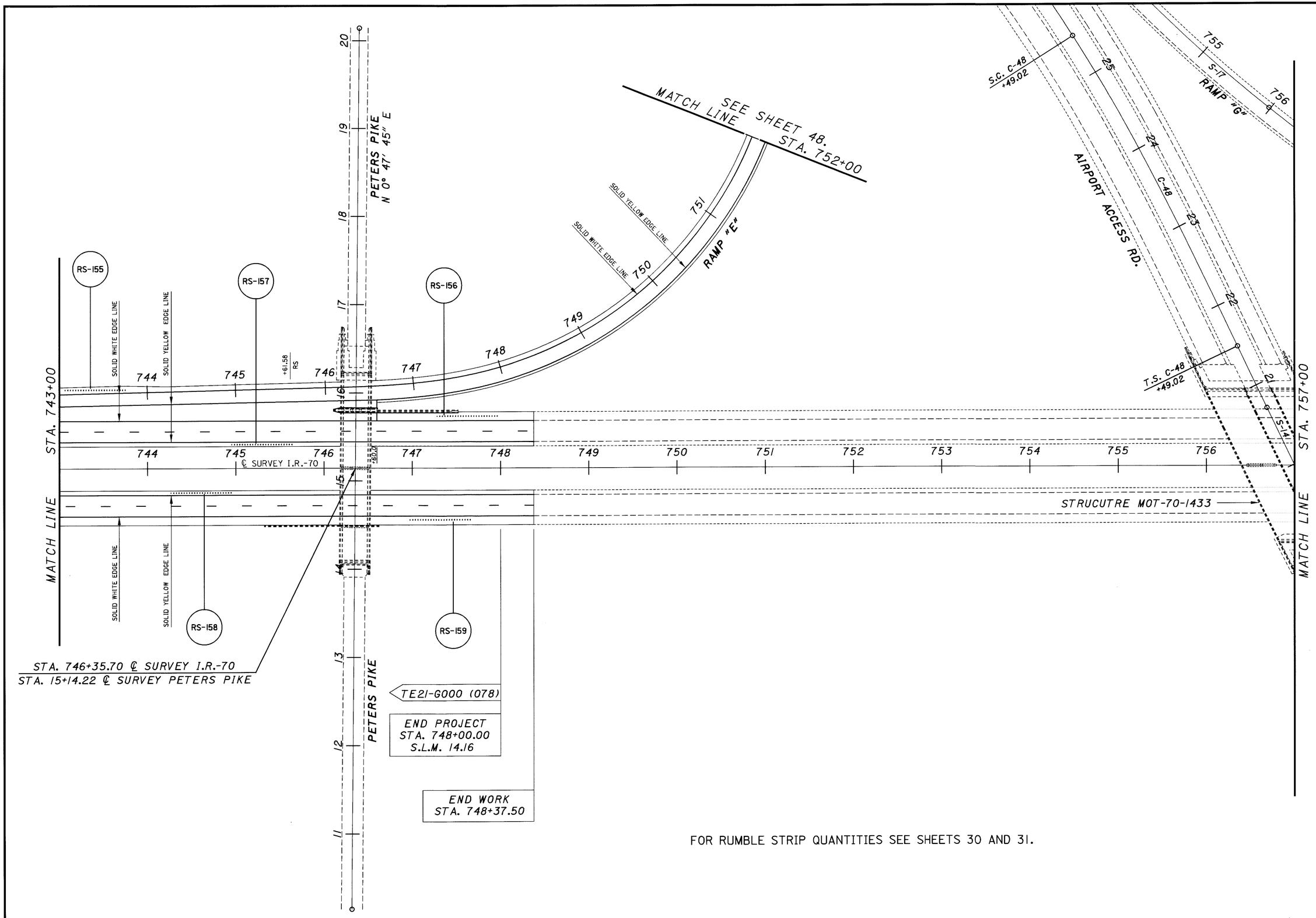
HORIZONTAL SCALE IN FEET

CALCULATED

CHECKED

PAVEMENT MARKING - I.R.-70
STA. 729+00.00 TO STA. 743+00.00

MOT-70-6.49



FOR RUMBLE STRIP QUANTITIES SEE SHEETS 30 AND 31.

HORIZONTAL SCALE IN FEET

CALCULATED

CHECKED

PAVEMENT MARKING - I.R.-70
STA. 743+00.00 TO STA. 757+00.00

MOT-70-6.49

176
201

HORIZONTAL SCALE IN FEET

CALCULATED

CHECKED

PAVEMENT MARKING - I.R.-70
STA. 757+00.00 TO STA. 771+00.00

MOT-70-6.49

MATCH LINE STA. 771+00

772 Sta. 772+58.02

772 773 774 ℄ SURVEY I.R.-75 775 776 777 778 779 780 781 782 783 784

P.C. STA. 784+72.41

781+00.0

MATCH LINE STA. 777+00 SEE SHEET 50.

RAMP "H"

778 779 780 781 782 783 784

DASHED WHITE LANE LINE

SOLID YELLOW EDGE LINE

SOLID WHITE EDGE LINE

P.T. C-50 +76.70

Sta. 784+72.12

END WORK
AIRPORT ACCESS RD.
RAMP "H" STA. 781+02.50

N

0

HORIZONTAL SCALE IN FEET

CALCULATED

CHECKED

PAVEMENT MARKING - I.R.-70
STA. 771+00.00 TO STA. 785+00.00

MOT-70-6.49

178
201

END WORK
AIRPORT ACCESS RD.
STA. 37+87.50

SOLID WHITE EDGE LINE
DASHED WHITE EDGE LINE
SOLID YELLOW EDGE LINE
℄ SURVEY AIRPORT ACCESS RD.
SOLID WHITE CHANNELIZING LINE
SOLID WHITE TRANSVERSE LINES
SOLID YELLOW EDGE LINE
SOLID WHITE EDGE LINE
RAMP "F"
RAMP "E"
SOLID WHITE EDGE LINE
SOLID YELLOW EDGE LINE
SOLID WHITE EDGE LINE
SOLID WHITE EDGE LINE
DASHED WHITE EDGE LINE
SOLID YELLOW EDGE LINE
SOLID WHITE CHANNELIZING LINE
SOLID WHITE TRANSVERSE LINES
SOLID WHITE EDGE LINE
SOLID YELLOW EDGE LINE

37+27.90
35+20.02
+87.65 (E)
+43.97
+31.90
+12.53
+22.44
+60.05
+20
C.S. S-13
+12.53

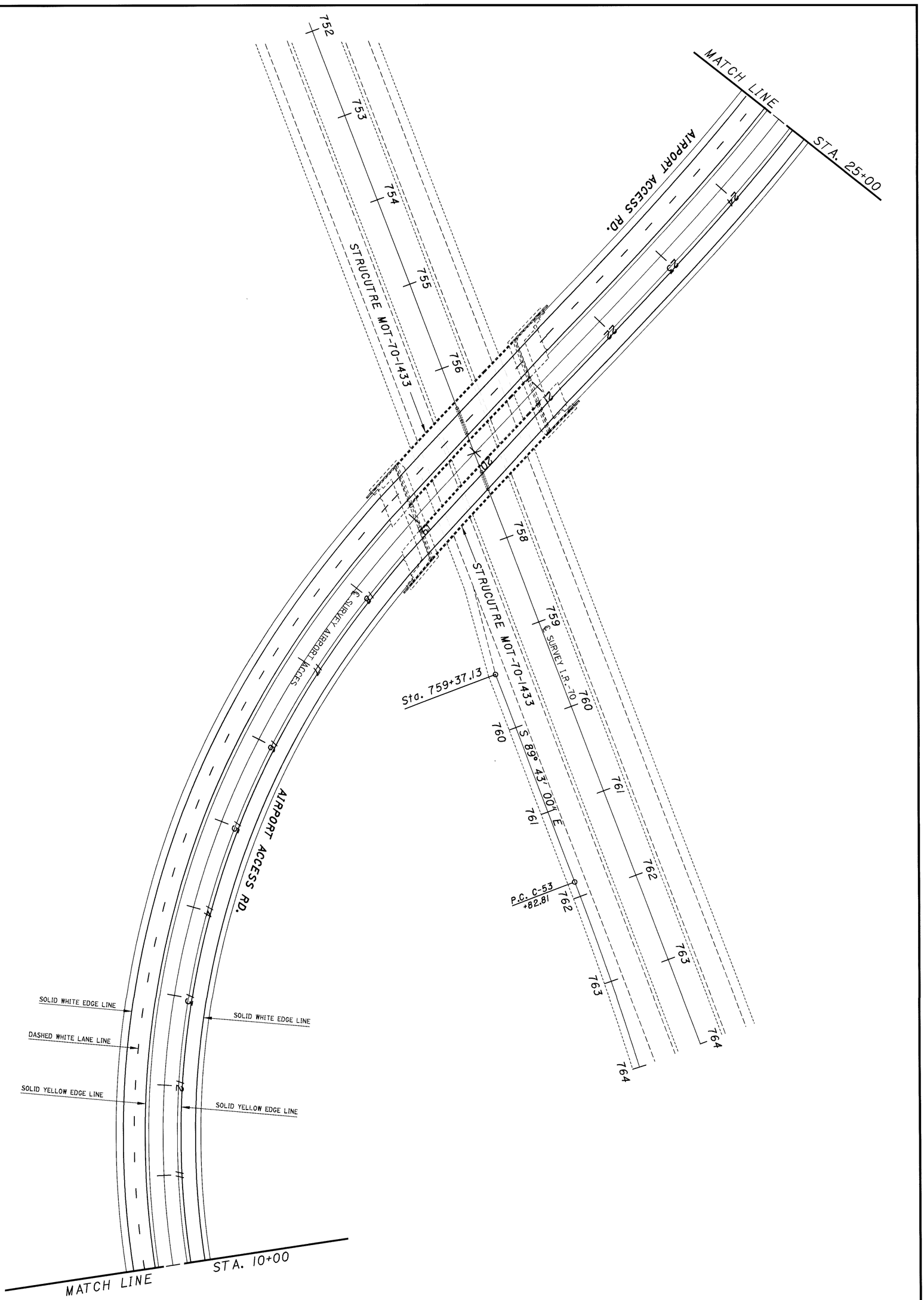
38 37 36 35 34 33 32 31 30 29 28 27 26
762 761 760 759 758 757 756 755 754 753
750 751 752 753 754

STA. 25+00
MATCH LINE
MATCH LINE
STA. 752+00
SEE SHEET 45

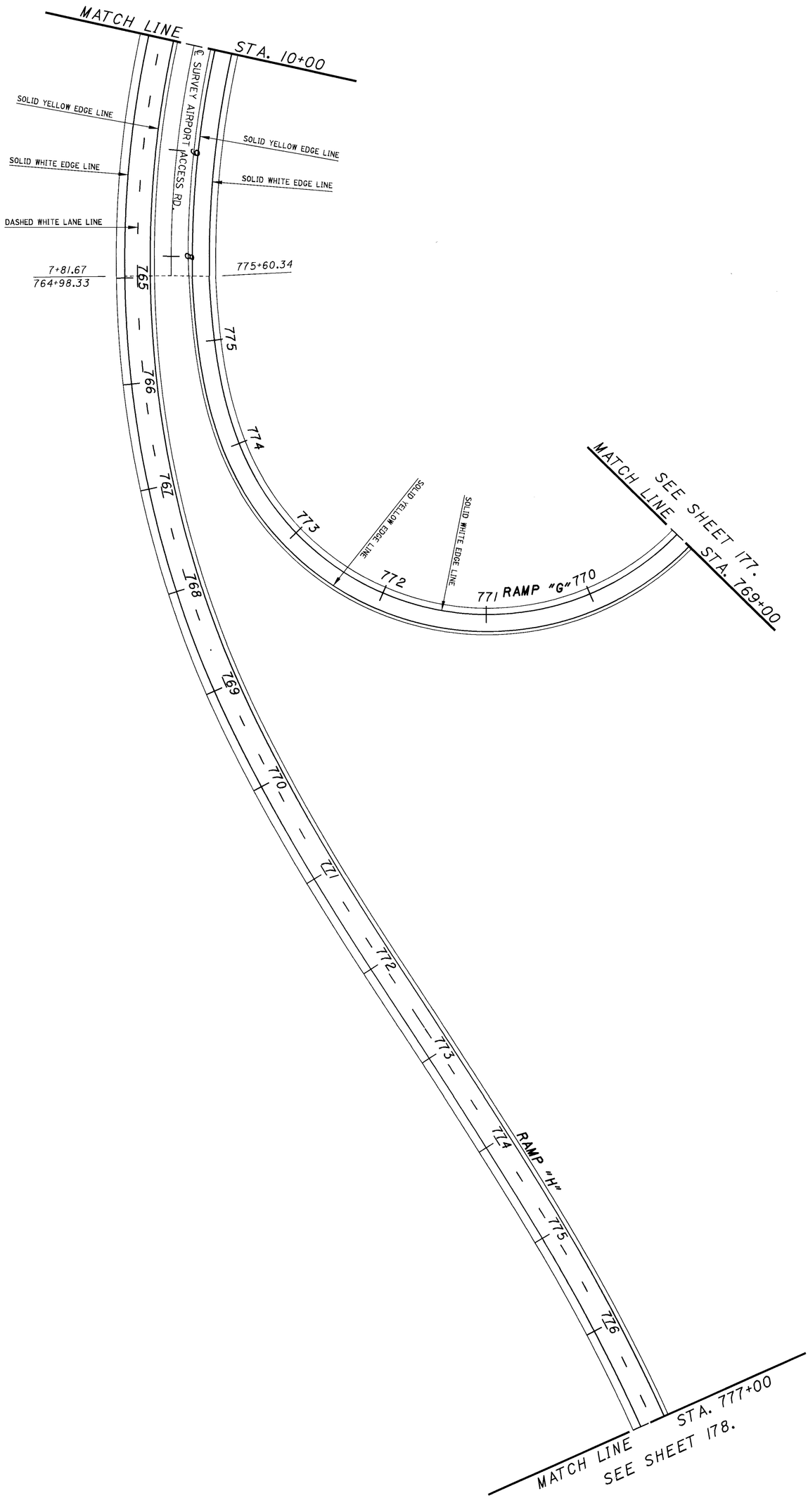
HORIZONTAL SCALE IN FEET
0
CALCULATED
CHECKED

PAVEMENT MARKING AIRPORT ACCESS RD
STA. 25+00 TO STA. 38+00

MOT-70-6.49



180 / 201	MOT-70-6.49	PAVEMENT MARKING - AIRPORT ACCESS RD. STA. 10+00 TO STA. 25+00	CALCULATED CHECKED	0 HORIZONTAL SCALE IN FEET



181 / 201	MOT-70-6.49	PAVEMENT MARKING AIRPORT ACCESS RD. STA. 777+00 RAMP "H" TO STA. 10+00 A.A.R.	CALCULATED / CHECKED	0 HORIZONTAL SCALE IN FEET

SHEET NUMBER AND STRUCTURE NUMBER											ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
184 MOT-70-0672 R		191 MOT-70-0708	193 MOT-70-0759	195 MOT-49-1112 R		198 MOT-70-0962	199 MOT-70-1130 L/R	200 MOT-70-1192 L/R	201 MOT-70-1420N							
LUMP											202	11201	LUMP	LUMP	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	
137.5											202	38500	137.5	LIN.FT.	BRIDGE RAILING REMOVED	
74		455		904		666	1282	124	3830		SPECIAL	51267502	7335	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY) (LIGHT GRAY) (SEE PROPOSAL NOTE)	
		8				8					516	45305	16	EACH	REFURBISH BEARING DEVICES, AS PER PLAN (SEE NOTE)	
		LUMP				LUMP					516	47001	LUMP	LUMP	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN (SEE NOTE)	
				30		20	40				519	11100	90	SQ. FT.	PATCHING CONCRETE STRUCTURE (ABUTMENTS)	
		480	480	1450		860					SPECIAL	53000600	3270	SQ. FT.	STRUCTURE MISC.: COMPOSITE FIBER WRAP SYSTEM, PIER COLUMNS	
3											626	00200	3	EACH	BARRIER REFLECTOR, TYPE B	
477		9234	180	207		9567			18032		815	00050	37697	SQ. FT.	SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU	
477		9234	180	207		9567			18032		815	00056	37697	SQ. FT.	FIELD PAINTING OF EXISTING STEEL, PRIME COAT, SYSTEM OZEU	
477		9234	180	207		9567			18032		815	00060	37697	SQ. FT.	FIELD PAINTING OF EXISTING STEEL, INTERMEDIATE COURSE, SYSTEM OZEU	
477		9234	180	207		9567			18032		815	00066	37697	SQ. FT.	FIELD PAINTING OF EXISTING STEEL, FINISH COAT, SYSTEM OZEU	
		240	20	20		215			207		815	00500	702	LIN. FT.	CAULKING	
		40	10	10		40			40		815	00504	140	MAN HOUR	GRINDING FINS, TEARS, SLIVERS	
		1248	80	80		1248			1680		815	00508	4336	LIN. FT.	GRINDING FLANGE EDGES	
9.10											842	32202	9.10	CU. YD.	CLASS S CONCRETE, SUPERSTRUCTURE	

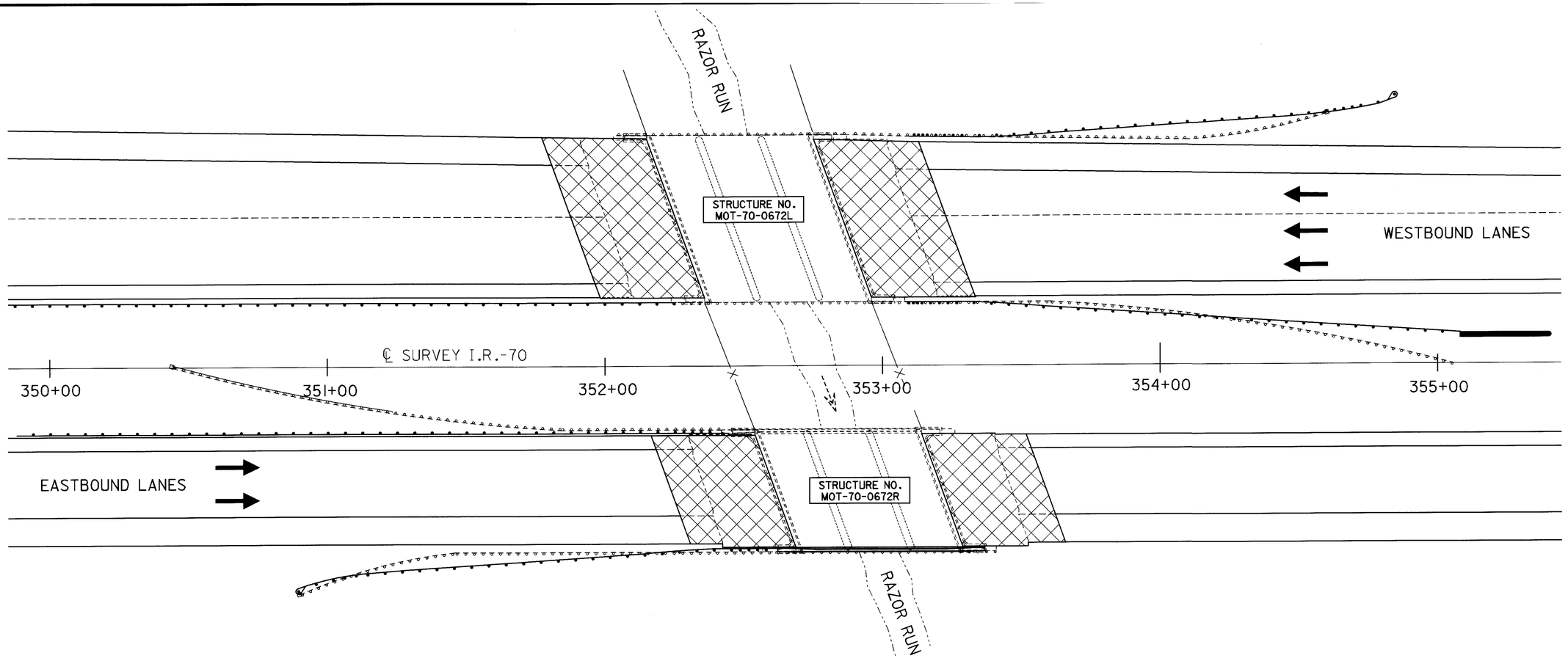
CALCULATED

CHECKED

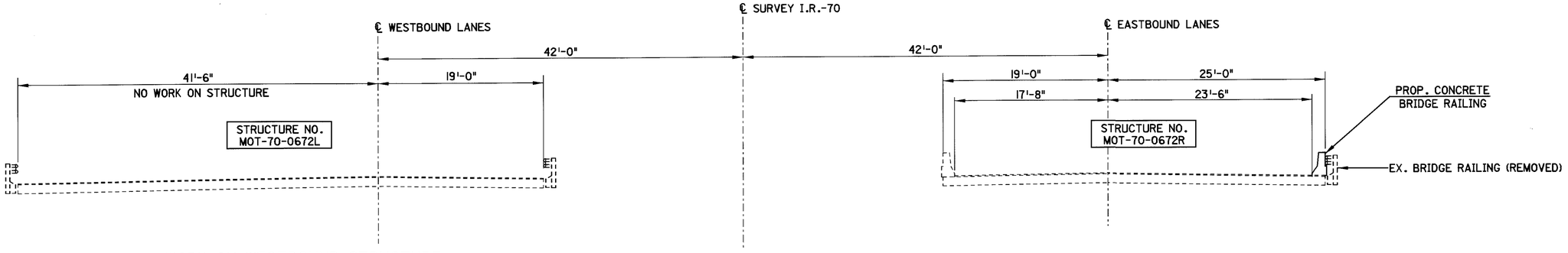
BRIDGE SUMMARY

MOT-70-6.49

1:1.0de



EXISITNG STRUCTURES	
MOT-70-0672 (LT.)	**MOT-70-0672 (RT.)**
TYPE: CONTINUOUS CONCRETE SLAB WITH CAPPED PILE ABUTMENT AND CAPPED PIERS. **SPAN:** 18'-0", 22'-6", 18'-0" **ROADWAY:** 62'-6" F/F GUARDRAIL **LOAD FREQUENCY:** CF=2000(57) **WEARING SURFACE:** 1¼" LATEX MODIFIED CONCRETE **SKEW:** 20° 00' 00" RT. FORWARD **ALIGNMENT:** TANGENT **APPROACH SLABS:** AS-1-54 (25' LONG)	**TYPE:** CONTINUOUS CONCRETE SLAB WITH CAPPED PILE ABUTMENT AND CAPPED PIERS. **SPAN:** 18'-0", 22'-6", 18'-0" **ROADWAY:** 42'-8" FACE OF CONCRETE BRIDGE RAILING (LT.) TO FACE OF GUARDRAIL (RT.) **LOAD FREQUENCY:** CF=2000(57) **WEARING SURFACE:** 1¼" LATEX MODIFIED CONCRETE **SKEW:** 20° 00' 00" RT. FORWARD **ALIGNMENT:** TANGENT **APPROACH SLABS:** AS-1-54 (25' LONG)



NO WORK ON WESTBOUND STRUCTURE

DESIGN AGENCY

DESIGNED	DRAWN	REVIEWED	DATE
CHECKED	REVISED	STRUCTURE FILE NUMBER	

SITE PLAN
BRIDGE NO. MOT-70-0672 L&R
I.R.-70 OVER RAZOR RUN

MOT-70-6.49

1 / 6

183
201

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/OR 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 102.05, 105.02 AND 513.02.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

EXISTING BRIDGE PLANS

EXISTING BRIDGE PLANS MAY BE INSPECTED AT THE BUREAU OF BRIDGES AND STRUCTURAL DESIGN IN COLUMBUS, OHIO OR IN THE DISTRICT 7 OFFICE IN SIDNEY, OHIO.

STANDARD DRAWINGS

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:

BR-1 DATED 1-06-99

FIELD PAINTING OF EXISTING STEEL, SYSTEM OZEU

THE SURFACE AREA PAY QUANTITY IS BASED ON THE SURFACE AREA OF THE PIER COLUMNS TO BE CLEANED AND PAINTED - SEE CHART TO THE RIGHT.

THE COLOR OF THE FINISH COAT FOR MOT-70-0672R SHALL BE BLUE AS SELECTED BY THE ENGINEER FROM THE TWO DIFFERENT PAINT CHARTS PROVIDED BY THE CONTRACTOR.

SEE THE PROPOSAL NOTE FOR THE SURFACE PREPARATION REQUIREMENTS, APPLICATION RATES, MATERIAL REQUIREMENTS AND APPLICATION PROCEDURES.

ITEM SPECIAL, SEALING OF CONCRETE SURFACES (EPOXY) (SEE PROPOSAL NOTE)

THE FOLLOWING EXPOSED CONCRETE SURFACES SHALL BE SEALED USING AN EPOXY SEALER:

1. FROM 9" ON BRIDGE DECK, FRONT, FACE, TOP AND BACKSIDES OF BRIDGE RAILING (RT. SIDE ONLY) INCLUDING THE FASCIA FROM THE BRIDGE DECK SURFACE TO A 6" UNDERDECK RETURN ON THE BRIDGE DECK.
2. BRIDGE TRANSITION PARAPETS (RIGHT SIDE ONLY) FROM EDGE OF PAVEMENT FRONT, FACE, TOP, AND BACKSIDES OF PARAPET TO THE GROUND LINE.

PRIOR TO APPLICATION OF THE SURFACE SEALER, THE ENGINEER SHALL INSURE ALL FOREIGN MATERIAL, INCLUDING GRAFFITI HAS BEEN REMOVED BY THE SURFACE PREPARATION PROCESS.

PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

SHALL INCLUDE THE ELEMENTS IN THE PLANS AND GENERAL NOTES AND ARE NOT SEPARATELY LISTED FOR PAYMENT. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. ALL WORK SHALL BE DONE IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL BE HEAVIER THAN THE NORMAL 90 POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE THE REBUILT STRUCTURE.

ESTIMATED QUANTITIES (MOT-70-0672 R)

ITEM	ITEM EXTENSION	QUANTITY	UNIT	DESCRIPTION
202	11201	LUMP	LUMP	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
202	38500	137.5	LIN. FT.	BRIDGE RAILING REMOVED
842	32202	9.10	CU. YD.	CLASS S CONCRETE, SUPERSTRUCTURE
SPECIAL	51267502	74	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY) (LIGHT GRAY) (SEE PROPOSAL NOTE)
626	00400	3	EACH	BARRIER REFLECTOR, TYPE B
815	00050	477	SQ. FT.	SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU
815	00056	477	SQ. FT.	FIELD PAINTING OF EXISTING STEEL, PRIME COAT, SYSTEM OZEU
815	00060	477	SQ. FT.	FIELD PAINTING OF EXISTING STEEL, INTERMEDIATE COURSE, SYSTEM OZEU
815	00066	477	SQ. FT.	FIELD PAINTING OF EXISTING STEEL, FINISH COAT, SYSTEM OZEU

* ESTIMATED QUANTITIES CARRIED TO BRIDGE SUMMARY ON SHEET 182.

ESTIMATED QUANTITIES FOR FIELD PAINTING OF EXISTING STEEL, SYSTEM OZEU

BRIDGE NO.	LOCATION		ITEM 815 SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU	ITEM 815 FIELD PAINTING OF EXISTING STEEL PRIME COAT, SYSTEM OZEU	ITEM 815 FIELD PAINTING OF EXISTING STEEL INTERMEDIATE COAT, SYSTEM OZEU	ITEM 815 FIELD PAINTING OF EXISTING STEEL FINISH COAT, SYSTEM OZEU
			SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.
MOT-70-0672R	IR-70 OVER RAZOR RUN		477	477	477	477
TOTALS CARRIED TO ESTIMATED QUANTITIES			477	477	477	477

ESTIMATED QUANTITIES FOR ITEM SPECIAL, SEALING OF CONCRETE SURFACES (EPOXY)

BRIDGE NO.	LOCATION	RAILING (RT. SIDE ONLY INCLUDING PARAPET TRANSITIONS)			TOTALS CARRIED TO ESTIMATED QUANTITIES
		SQ. YD.			SQ. YD.
MOT-70-0672 R	IR-70 OVER RAZOR RUN	74			74

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 7

DESIGNED	DRAWN	REVIEWED	DATE
J.B.S.	J.B.S.		
CHECKED	REVISED		STRUCTURE FILE NUMBER

BRIDGE GENERAL NOTES & ESTIMATED QUANTITIES
BRIDGE NO. MOT-70-0672 R
I.R.-70 OVER RAZOR RUN

MOT-70-6.49

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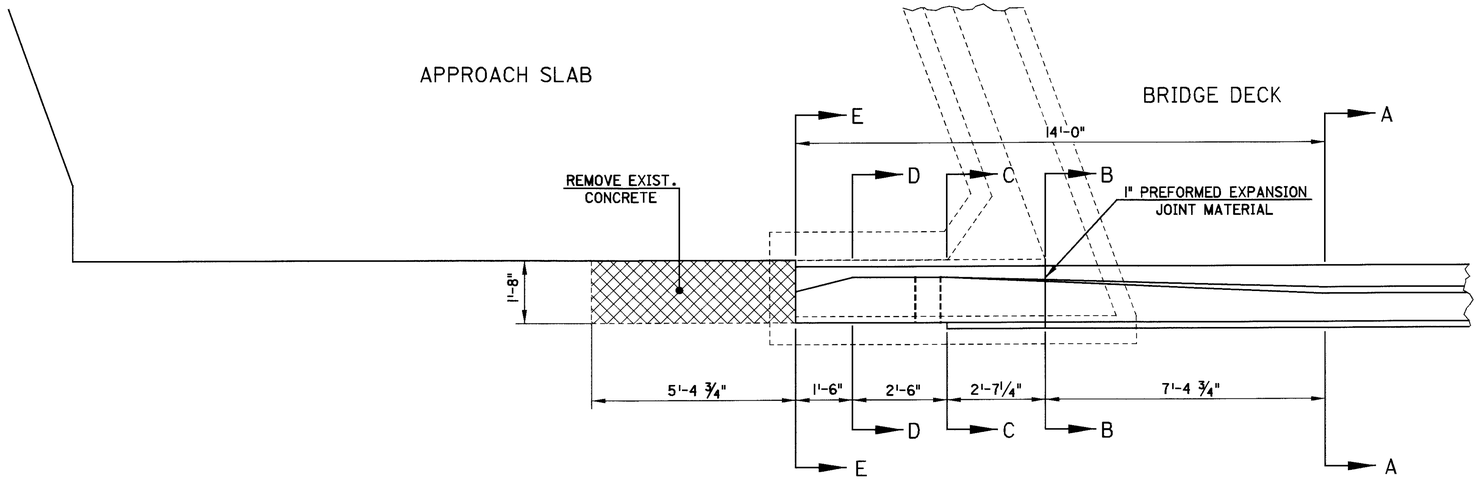


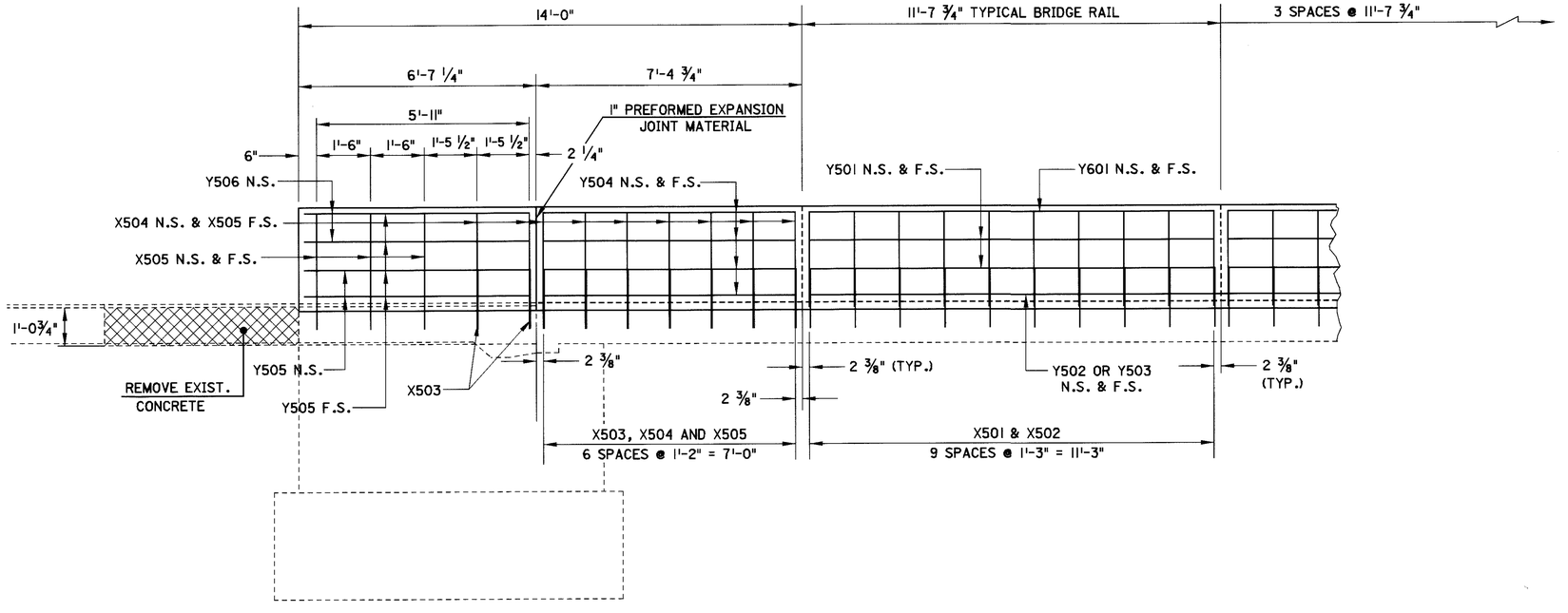
PLAN (MOT-70-0672 RIGHT)

SOUTHWEST BRIDGE TERMINAL

FOR BRIDGE SECTIONS
SEE SHEET 187.

LEGEND

N.S. = NEAR SIDE
F.S. = FAR SIDE



WINGWALL ELEVATION (MOT-70-0672 RIGHT)

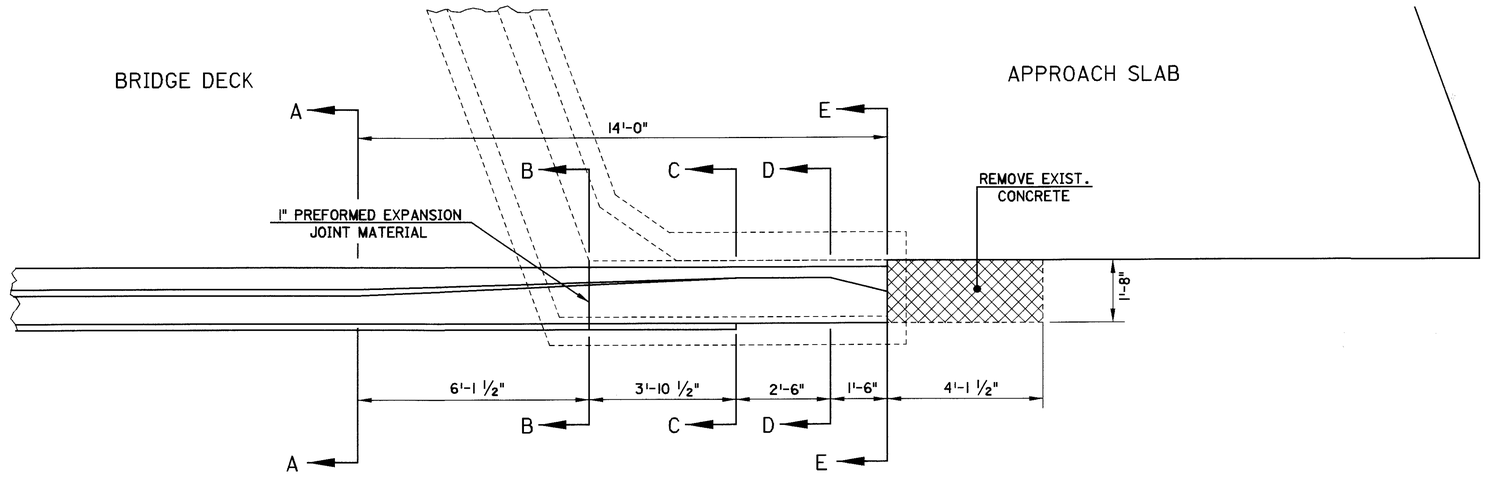
SOUTHWEST BRIDGE TERMINAL

DESIGN AGENCY

DESIGNED	DRAWN	REVIEWED	DATE
CHECKED	REVISED	STRUCTURE FILE NUMBER	

BRIDGE RAILING
BRIDGE NO. MOT-70-0672 R
I.R.-70 OVER RAZOR RUN

MOT-70-6.49



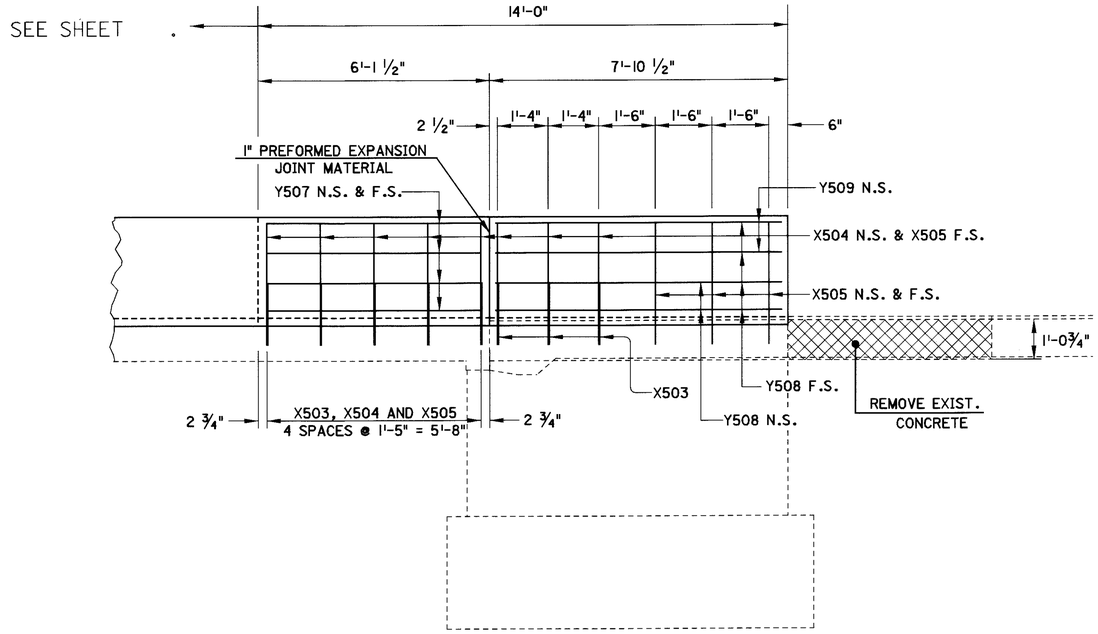
LEGEND

N.S. = NEAR SIDE
F.S. = FAR SIDE

PLAN (MOT-70-0672 RIGHT)

SOUTHEAST BRIDGE TERMINAL

FOR BRIDGE SECTIONS
SEE SHEET 187.



WINGWALL ELEVATION (MOT-70-0672 RIGHT)

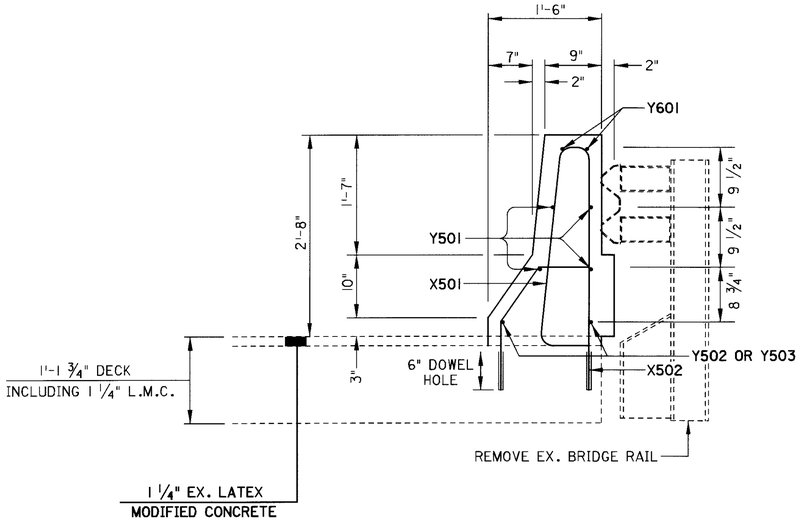
SOUTHEAST BRIDGE TERMINAL

DESIGN AGENCY

DESIGNED	DRAWN	REVIEWED	DATE
CHECKED	REVISED	STRUCTURE FILE NUMBER	

BRIDGE RAILING
BRIDGE NO. MOT-70-0672 R
I.R.-70 OVER RAZOR RUN

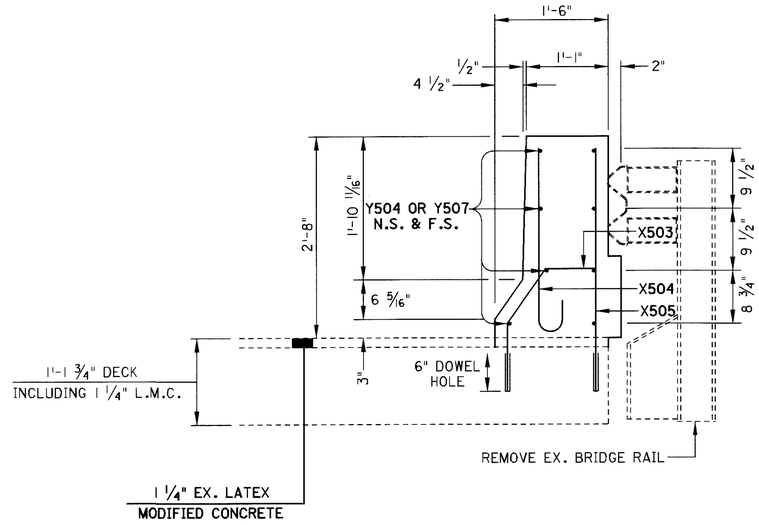
MOT-70-6.49



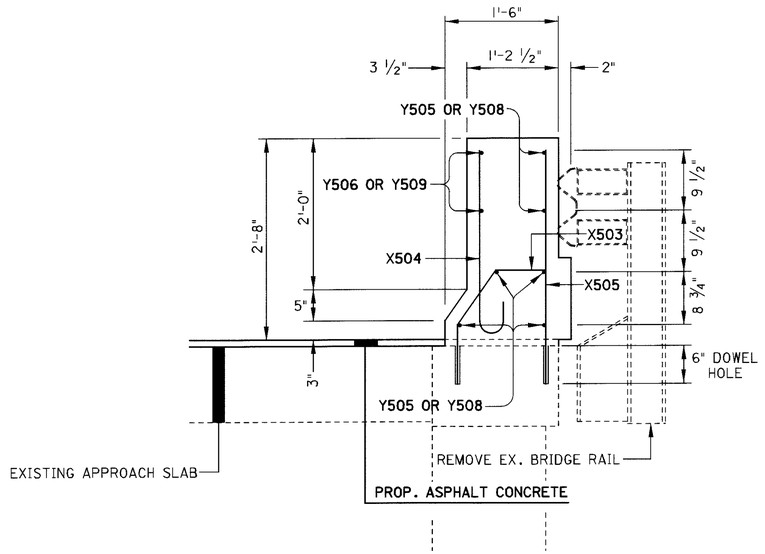
SECTION A-A

LEGEND

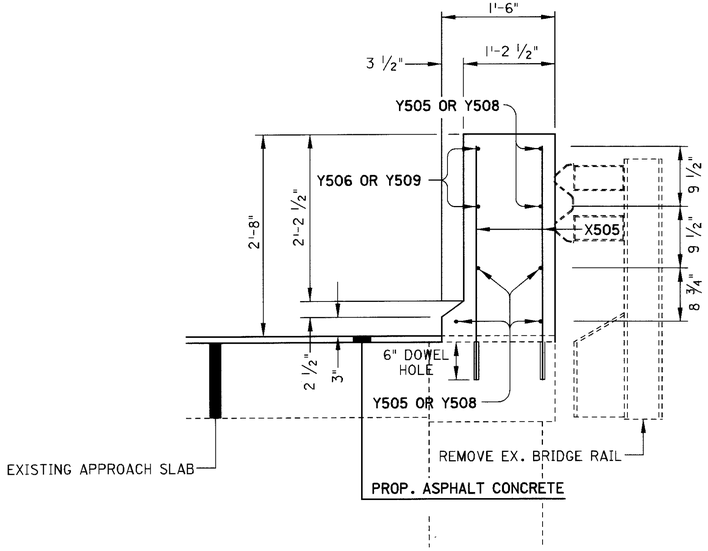
N.S. = NEAR SIDE
F.S. = FAR SIDE



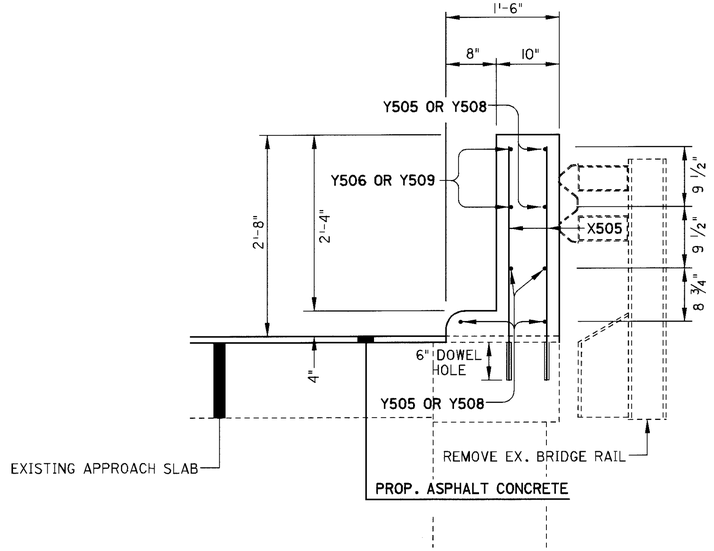
SECTION B-B



SECTION C-C



SECTION D-D



SECTION E-E

DESIGN AGENCY

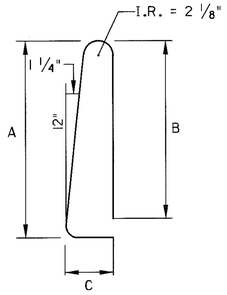
DESIGNED	DRAWN	REVIEWED	DATE
CHECKED	REVISED	STRUCTURE FILE NUMBER	

BRIDGE RAILING DETAILS
BRIDGE NO. MOT-70-0672 R
I.R.-70 OVER RAZOR RUN

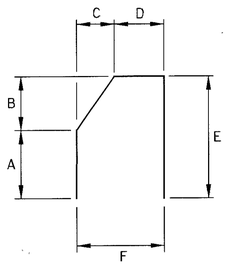
MOT-70-6.49

5/6

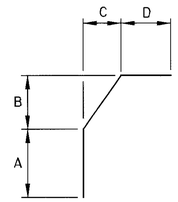
187/201



TYPE 1



TYPE 2



TYPE 3

TYPE 4

TYPE 5

REINFORCING STEEL LIST

ALL REINFORCING STEEL IN THIS TABLE SHALL BE EPOXY COATED AND INCLUDED IN THE COST FOR ITEM 511, CLASS S CONCRETE, SUPERSTRUCTURE

BAR NO.	NUMBER OF BARS	BAR LENGTH	SHAPE	TYPE	A	B	C	D	E	F	INCR.	DESCRIPTION
BRIDGE RAIL MOT-70-0672R (SOUTH BRIDGE RAIL ONLY)												
X501	40	5'-10"	BENT	1	2'-7 1/2"	2'-4 1/2"	0'-7 1/2"					(10 BARS PER PANEL X 4 PANELS)
X502	40	4'-0"	BENT	2	0'-10 7/8"	0'-8 5/8"	0'-6"	0'-8"	1'-9 1/2"	1'-2"		(10 BARS PER PANEL X 4 PANELS)
Y501	16	11'-3"	STR.									(4 BARS PER PANEL X 4 PANELS)
Y502	1	30'-0"	STR.									CONTINUOUS BOTTOM BAR
Y503	1	18'-0"	STR.									
Y601	8	11'-3"	STR.									(2 BARS PER PANEL X 4 PANELS)
			DEFLECTOR TYPE PARAPET MOT-70-0672R (SOUTHWEST PARAPET)									
X503	9	2'-6"	BENT	3	0'-10 7/8"	0'-8 5/8"	0'-6"	0'-8"				
X504	9	3'-0"	BENT	4	2'-5"							
X505	15	3'-3"	STR.									
Y504	8	7'-0"	STR.									
Y505	6	6'-3"	STR.									
Y506	2	6'-4"	BENT	5	0'-4"	1'-4 1/4"	2'-5 3/4"	2'-5 1/2"	0'-1 3/8"			
			DEFLECTOR TYPE PARAPET MOT-70-0672R (SOUTHEAST PARAPET)									
X503	8	2'-6"	BENT	3	0'-10 7/8"	0'-8 5/8"	0'-6"	0'-8"				
X504	8	3'-0"	BENT	4	2'-5"							
X505	14	3'-3"	STR.									
Y507	8	5'-8"	STR.									
Y508	6	7'-6"	STR.									
Y509	2	7'-8"	BENT	5	0'-4"	1'-4 1/4"	2'-5 3/4"	3'-9 "	0'-1 1/2"			

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 7

DESIGNED	DRAWN	REVIEWED	DATE
J.B.S.	J.B.S.		
CHECKED	REVISED		STRUCTURE FILE NUMBER

REINFORCING STEEL LIST
BRIDGE NO. MOT-70-0672 R
I.R.-70 OVER RAZOR RUN

MOT-70-6.54

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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/OR 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 102.05, 105.02 AND 513.02.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

EXISTING BRIDGE PLANS

EXISTING BRIDGE PLANS MAY BE INSPECTED AT THE BUREAU OF BRIDGES AND STRUCTURAL DESIGN IN COLUMBUS, OHIO OR IN THE DISTRICT 7 OFFICE IN SIDNEY, OHIO.

ITEM 516 - REFURBISHING BEARING DEVICES, AS PER PLAN

THIS ITEM SHALL INCLUDE ALL WORK NECESSARY TO PROPERLY ALIGN BRIDGE BEARINGS AS WELL AS THEIR CLEANING AND PAINTING AT BOTH ABUTMENTS ON BRIDGE MOT-70-0708 THIS WORK SHALL INCLUDE THE DISASSEMBLY OF THE BEARINGS, SANDBLASTING, REPLACEMENT OF ANY DAMAGED SHEET LEAD (711.19), INSTALLATION OF ANY NECESSARY STEEL SHIMS OF THE SAME SIZE AS THE BEARINGS TO PROVIDE A SNUG FIT, REALIGNMENT OF THE UPPER BEARING PLATE BY REMOVING EXISTING WELDS AND REWELDING SO THAT THE BEARINGS ARE VERTICALLY ALIGNED AT 60 DEGREES F, LUBRICATING SLIDING SURFACES, AND REASSEMBLY OF THE BEARINGS.

THE CONTRACTOR SHALL BE SURE THAT ALL BEARINGS ARE SHIMMED ADEQUATELY AND THAT NO BEAMS AND/OR BEARING DEVICES ARE FLOATING. AT THE OPTION OF THE CONTRACTOR AND AT NO ADDITIONAL COST TO THE STATE, NEW BEARINGS OF THE SAME TYPE AS THE EXISTING MAY BE INSTALLED IN LIEU OF REFURBISHING THE BEARINGS. ALL WORK SHALL BE PERFORMED TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL THE ABOVE DESCRIBED, LABOR AND MATERIALS WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 516, REFURBISH BEARINGS DEVICES, AS PER PLAN.

THE FOLLOWING QUANTITY HAS BEEN ADDED TO THE ESTIMATED QUANTITIES:

ITEM 516	REFURBISH BEARING DEVICES, AS PER PLAN	8 EACH

ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN

THIS ITEM SHALL CONSIST OF FURNISHING ALL NECESSARY LABOR, MATERIALS, AND EQUIPMENT TO RAISE OR REPOSITION THE EXISTING STRUCTURES FOR THE PURPOSES DEFINED IN THE PROJECT PLANS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, INSTALLATION, AND OPERATION OF AN ADEQUATE JACKING SYSTEM, INCLUDING ANY TEMPORARY OR PERMANENT SUPPORTS NECESSARY TO PERFORM THE WORK IN THE PROJECT PLANS. THREE (3) SETS OF JACKING PLANS, WHICH INCLUDE THE INFORMATION INCLUDED IN THIS NOTE, SHALL BE SUBMITTED TO THE DIRECTOR FOR APPROVAL AT LEAST THIRTY (30) DAYS BEFORE ACTUAL WORK IS TO BEGIN. THE PLANS SHALL BE PREPARED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER.

JACKING SUBMITTALS SHALL INCLUDE AT LEAST THE FOLLOWING:

1. THE SIGNATURE AND NUMBER, OR PROFESSIONAL SEAL, OF THE REGISTERED PROFESSIONAL ENGINEER WHO PREPARED THE SUBMITTAL.
2. CALCULATIONS AND ANALYSIS OF THE STRUCTURE TO DETERMINE AND DEFINE THE ACTUAL LOADING APPLIED AT THE CONTRACTOR'S SELECTED JACKING POINTS.
3. A DRAWING SHOWING THE PHYSICAL AND DIMENSIONAL POSITION OF THE JACKS WITH RESPECT TO THE STRUCTURE INCLUDING CLEARANCES AND CENTER OF LIFT.
4. A SCHEMATIC LAYOUT OF JACKS, CHECK VALVES, PUMPS WITH 3 WAY RETRACTOR VALVE, PRESSURE GAGES, FLOW CONTROL VALVES, ETC. IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. ALL JACKS FOR EACH ABUTMENT OR PIER SHALL BE CONNECTED TOGETHER. ALL JACKS AT EACH ABUTMENT OR PIER SHALL BE THE SAME SIZE.
5. ANALYSIS AND CALCULATIONS OF THE STRESSES INDUCED OR CREATED IN THE STRUCTURE AND ANY TEMPORARY OR PERMANENT SUPPORTS. DESIGN CALCULATIONS FOR ANY TEMPORARY OF PERMANENT SUPPORTS.
6. PHYSICAL DIMENSIONS, MATERIALS,AND FABRICATION DETAILS OF ANY TEMPORARY OR PERMANENT SUPPORT. HORIZONTAL AND VERTICAL MOVEMENT RESTRAINT SHALL BE PROVIDED.
7. A STEP BY STEP PROCEDURE DETAILING ALL STEPS IN THE JACKING PLAN
8. METHOD OF ATTACHMENT OF STRUCTURAL MEMBERS. WELDING TO TENSION ARES WILL NOT BE PERMITTED.

THE ENTIRE SYSTEM INCLUDING JACKS SHALL HAVE 20% MORE CAPACITY THAN REQUIRED BASED ON CLACULATED LOADS.

FOR LIFTS GREATER THAN 1", JACKS SHALL HAVE LOCKING NUTS TO POSITIVELY LOCK AND SUPPORT THE STRUCTURE DURING THE LIFT.

JACKS SHALL HAVE A SWIVEL LOAD CAP, A DOMED PISTON HEAD OR SOME OTHER DEVICE TO PROTECT AGAINST THE EFFECTS OF SIDE LOAD ON THE JACK.

JACKS ALONE SHALL NOT BE USED TO SUPPORT LOADS EXCEPT DURING THE ACTUAL JACKING OPERATION. TEMPORARY SUPPORTS, BLOCKING OR OTHER METHODS APPROVED BY THE DIRECTOR SHALL BE USED.

SINGLE ACTING RAMS WITH NO OVER-TRAVEL PROTECTION SHALL NOT BE USED.

SPARE EQUIPMENT SHALL BE AVAILABLE ON SITE FOR THE REQUIRED STRUCTURE RAISING TO PROCEED IN THE EVENT OF A BREAKDOWN. A LIST OF SPARE EQUIPMENT SHALL BE PROVIDED TO THE ENGINEER.

AT A MINIMUM, A JACKING OPERATION SHALL LIFT ALL BEAMS AT ANY ONE ABUTMENT OR PIER SIMULTANEOUSLY. THE ONLY EXCEPTION IS WHEN THE FOLLOWING ARE MET: THE WORK INVOLVES REPLACING OR REHABILITATING INDIVIDUAL BEARINGS, NO PERMANENT SHIMMING IS REQUIRED, AND THE HEIGHT OF THE LIFT SHALL NOT EXCEED ONE QUATER OF AN INCH (1/4").

MAXIMUM DIFFERENTIAL JACKING HEIGHT BETWEEN ANY ADJACENT ABUTMENTS OR PIERS SHALL BE ONE INCH (1") OR LESS

IF DURING THE JACKING OPERATIONS, CRACKING OF THE CONCRETE SUPERSTRUCTURE, SEPERATION OF THE CONCRETE DECK FROM THE STEEL STRINGERS, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, THE JACKING OPERATION SHALL IMMEDIATELY CEASE AND APPROVED SUPPORTS SHALL BE INSTALLED. THE CONTRACTOR SHALL THEN ANALYZE THE DAMAGE SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. ANY BEAMS THAT SEPERATE FRON THE DECK SHALL BE EPOXY INJECTED FOR THE DISTANCE OF SEPRATION IN ACCORDANCE WITH THE PROPOSAL NOTE " CONCRETE REPAIR BY EPOXY INJECTION". COST OF THIS EPOXY INJECTION OR OTHER REQUIRED REPAIRS SHALL BE BORNE BY THE CONTRACTOR.

THE CONTRACTOR SHALL DEMONSTRATE TO THE ENGINEER THAT THE BRIDGE BEARINGS ARE FULLY SEATED BETWEEN ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED MEANS OR REPAIR, SUBJECT TO THE APPROVAL OF THE ENGINEER, WILL BE REQUIRED AT THE CONTRACTOR'S EXPENSE.

THE JACKING OPERATION SHALL BE DIRECTED BY A PROFESSIONAL ENGINEER EMPLOYED BY THE CONTRACTOR. FAILURE TO HAVE A PROFESSIONAL ENGINEER PRESENT SHALL BE CAUSE FOR CEASING JACKING OPERATIONS.

PAYMENT SHALL BE MADE AT THE LUMP SUM PRICE BID FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN AND SHALL INCLUDE ALL NECESSARY TOOLS, LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THIS ITEM OF WORK.

ITEM SPECIAL, SEALING OF CONCRETE SURFACES (EPOXY) (SEE PROPOSAL NOTE)

THE FOLLOWING EXPOSED CONCRETE SURFACES SHALL BE SEALED USING AN EPOXY SEALER:

1. PIERS FROM GROUND LINE TO BOTTOM OF PIER CAP (CENTER PIER ONLY)
2. PIER CAPS BOTTOM AND BOTH SIDES OF PIER CAP
3. ABUTMENTS AND BACKWALLS FROM TOP TO BACKWALL TO BRIDGE SEAT, THE BRIDGE SEAT, AND FROM BRIDGE SEAT TO THE GROUND LINE.
4. FROM 9" ON BRIDGE DECK, FRONT, FACE, TOP, AND BACKSIDES OF BRIDGE RAILING INCLUDING THE FASCIA FROM THE BRIDGE DECK SURFACE TO A 6" UNDERDECK RETURN ON THE BRIDGE DECK.
5. BRIDGE TRANSITION PARAPETS FROM EDGE OF PAVEMENT FRONT, FACE, TOP, AND BACKSIDES OF PARAPET TO THE GROUND LINE.

PRIOR TO APPLICATION OF THE SURFACE SEALER, THE ENGINEER SHALL INSURE THAT ALL FOREIGN MATERIAL, INCLUDING GRAFFITI HAS BEEN REMOVED BY THE SURFACE PREPARATION PROCESS.

FIELD PAINTING OF EXISTING STEEL, SYSTEM OZEU

THE SURFACE AREA PAY QUANTITY IS BASED ON THE SURFACE AREA OF THE MAIN MEMBERS INCREASED BY A PERCENT TO ACCOUNT FOR THE AREA OF CROSSFRAMES, BEARINGS, AND OTHER STRUCTURAL STEEL INCIDENTALS TO BE CLEANED AND PAINTED - SEE CHART ON SHEET 191.

THE COLOR OF THE FINISH COAT FOR MOT-70-0708 SHALL BE BLUE AS SELECTED BY THE ENGINEER FROM TWO DIFFERENT PAINT CHARTS PROVIDED BY THE CONTRACTOR.

SEE THE PROPOSAL NOTE FOR THE SURFACE PREPARATION REQUIREMENTS, APPLICATION RATES, MATERIAL REQUIREMENTS AND APPLICATION PROCEDURES.

ALL PAINTING OPERATIONS WHICH INVOLVE THE CLOSING OF ONE LANE OF TRAFFIC ON I.R.-70 SHALL BE PERFORMED BETWEEN THE HOURS OF 10:00 PM AND 6:00 AM. BETWEEN THE HOURS OF 6:00 AM AND 10:00 PM ALL LANES OF TRAFFIC SHALL BE OPEN.

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 7

DESIGNED	DRAWN	REVIEWED	DATE
J.B.S.	J.B.S.		
CHECKED	REVISED		STRUCTURE FILE NUMBER

BRIDGE GENERAL NOTES
BRIDGE NO. MOT-70-0708
KIMMEL RD. OVER I.R.-70

MOT-70-6.49

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201

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ITEM SPECIAL - STRUCTURE, MISC.: COMPOSITE FIBER WRAP SYSTEM, PIER COLUMNS

DESCRIPTION

1.01 THIS WORK SHALL CONSIST OF PROVIDING A FIBER WRAP CASING SYSTEM USING HIGH STRENGTH, HYRID FIBER/EPOXY COMPOSITES FIELD APPLIED TO THE SURFACE OF THE BERM PIER COLUMNS. THE COLUMN IS TO BE CLEANED AND PREPARED AS TO THE MANUFACTURER'S RECOMMENDATIONS.

DESIGN

2.01 THE SUPPLIER SHALL DETAIL THE NUMBER OF LAYERS OF FABRIC NEEDED AND SHALL SUBMIT DETAILED CALCULATIONS. NOTES, THERE MAY BE A DIFFERENT NUMBER OF WRAPS NEEDED AT DIFFERENT LOCATIONS ON THE SAME COLUMN.

MATERIALS

3.01 ALL MATERIALS AND INSTALLATION DIRECTIONS SHALL BE SUPPLIED BY THE MANUFACTURER. THE SUGGESTED MANUFACTURE IS R.J. WATSON, INC. P.O. BOX 85, EAST AMHERST, NEW YORK 14051 (PH. 716-741-2166) OR APPROVED EQUAL.

ALL SUPPLIERS AND APPLICATORS MUST HAVE FIELD EXPERIENCE WITH A MINIMUM OF 10 INSTALLATIONS AND FURNISH CERTIFIED TEST REPORTS INCLUDING 3,000 HOUR DURABILITY TESTS AT 140° F FOR WATER, SALT WATER, ALKALINE SOIL, OZONE, EFFERVESCENCE AND OTHER FACTORS (REFER TO PARAGRAPH 3.04). FIBER COMPOSITE SUPPLIER SHALL ALSO HAVE CONDUCTED LABORATORY RESEARCH ON DELAMINATED COLUMNS DEMOSTRATING THAT THE REPAIRED COLUMN EXCEEDS THE ORGINAL DESIGN IN AXIAL STRENGTH AND DUCILITY.

3.02 THE FABRIC FOR THE COMPOSITE CASING SYSTEM SHALL BE CONTINUOUS FILAMENT WOVEN FABRIC. PRIMARY FIBERS FOR THE FABRIC SHALL BE ELECTRICAL (E) GLASS FIBERS (SEH-51) OR CARBON (SCH-41).

3.03 THE EPOXY SHALL BE SUPPLIED BY THE MANUFACTURER TO MEET THE COMPOSITE STRENGTH GIVEN IN 3.04. POLYESTER RESIN SHALL NOT BE ALLOWED AS A SUBSTITUTE FOR EPOXY RESIN.

3.04 THE COMPOSTIE OF THE FIBER WRAPPED COLUMN CASING SYSTEM SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

PROPERTY	REQUIREMENT SEH-51/TYFO®	REQUIREMENT SCH-41/TYFO®	ASTM TEST METHOD
ULTIMATE TENSILE STRENGTH, PSI IN PRIMARY FIBER DIRECTIONS	60,000 PSI	110,000 PSI	D 3039
PERCENT TENSILE STRENGTH RETAINED 7 DAYS EXPOSURE AT: 100% HUMIDITY 3000 HOURS EXPOSURE TO OZONE 3000 HOURS EXPOSURE TO ALKALI 3000 HOURS EXPOSURE TO SALT WATER 3000 HOURS EXPOSURE AT 140°	 100% 90% 90% 90% 90%	 100% 90% 90% 90% 90%	
ELONGATION PERCENT, MIN. PERCENT, MAX.	 1.7% 4.0%	 0.8% 1.5%	
TENSILE MODULUS, PSI MIN. BASED ON CROSS SECTIONAL AREA OF PRIMARY FIBERS	3×10^6	8×10^6	
ULTIMATE TENSILE STRENGTH AT 90°F TO PRIMARY FIBERS, PSI, MIN.	5,500 PSI	225 PSI	
VISUAL DEFECTS	ACCEPTANCE LEVEL III	ACCEPTANCE LEVEL III	D 2563
COEFFICENT OF THERMAL EXPANSION IN PRIMARY DIF.	4.3 X 10° PPM/DEG. F (+15%)	1.0 X 10° PPM/DEG. F (+15%)	E 1142

COLUMN PREPARATION

4.01.1 THE SURFACE SHALL BE FREE FROM FINS, SHARP EDGES, AND PROTRUSIONS THAT WILL CAUSE VOIDS BEHIND THE CASING OR THAT, IN THE OPINION OF THE ENGINEER, WILL DAMAGE FIBER.

4.01.2 THE SURFACES TO RECEIVE THE COMPOSITE WRAP SHALL BE SMOOTH AND FREE OF VOIDS OR UNDULATIONS THAT WOULD PREVENT FULL CONTACT BETWEEN THE CONCRETE AND THE WRAP.

4.01.3 THE CONTACT SURFACES SHALL BE COMPLETELY DRY AT THE TIME OF APPLICATION OF THE COMPOSITE. NEWLY REPAIRED OR PATCHED SURFACES THAT HAVE SET, BUT NOT CURED A MINIMUM OF 7 DAYS, SHALL BE COATED WITH WATER-BASED EPOXY PAINT OR OTHER APPROVED SEALER.

COMPOSITE APPLICATION

4.02.1 THE AMBIENT TEMPERATURE AND THE TEMPERATURE OF THE EPOXY RESIN COMPONENTS SHALL BE BETWEEN 55°F AND 95°F AT THE TIME OF MIXING. THE COMPOSITE SHALL BE APPLIED WHEN THE RELATIVE HUMIDITY IS LESS THAN 85% AND THE SURFACE TEMPERATURE IS MORE THAN 5%F ABOVE THE DEW POINT. APPLICATIONS SHALL BEGIN WITHIN ONE HOUR AFTER THE BATCH HAS BEEN MIXED.

4.02.2 THE COMPONENTS OF THE EPOXY RESIN SHALL BE MIXED WITH A MECHANICAL MIXER FOR A MINIMUM OF 5 MINUTES AND APPLIED UNIFORMLY TO THE FIBER AT A RATE THAT SHALL INSURE COMPLETE SATURATION OF THE FABRIC.

4.02.3 A PRIMER OF EPOXY SHALL BE APPLIED TO THE SURFACE OF THE CONCRETE.

4.02.4 THE FABRIC/EPOXY COMPOSITE SHALL BE APPLIED TO THE PREPARED SURFACE BY WRAPPING USING METHODS THAT PRODUCE A UNIFORM FORCE THAT IS DISTRIBUTED ACROSS THE ENTIRE WIDTH OF THE FABRIC. THE PRIMARY FIBERS OF THE FABRIC SHALL NOT DEVIATE FROM A HORIZONTAL LINE MORE THAN $\frac{1}{2}$INCH PER FOOT, AND THE TRANSVERSE FIBERS SHALL BE PERPENDICULAR TO THE PRIMARY. ENTRAPPED AIR SHALL BE RELEASED OR ROLLED OVER BEFORE THE EPOXY SETS.

4.02.5 SUCCESSIVE LAYERS OF COMPOSITE MATERIALS SHALL BE PLACED BEFORE POLYMERIZATION OF THE PREVIOUS LAYER OF EPOXY IS TOO COMPLETE TO ACHIEVE COMPLETE BOND BETWEEN LAYERS. IF POLYMERIZATION DOES OCCUR BETWEEN LAYERS THE SURFACE MUST BE ROUGHENED USING A LIGHT ABRASIVE THAT WILL NOT DAMAGE THE FIBER.

4.02.6 A FINAL LAYER OF EPOXY SHALL BE APPLED TO THE FINAL LAYER, WITH CARE TAKEN TO INSURE COATING OF ALL EDGES AND SEAMS.

COATING SYSTEM APPLICATION

4.03.1 A FINAL COATING IS REQUIRED TO PROTECT THE FIBERS FROM THE ELEMENTS, SPECIFICALLY UV RADIATION AND TO GIVE THE FINAL AESTHETIC EFFECT.

4.03.2 (AFTER 96 HOURS FROM FINAL APPLICATION OF EPOXY) IF THE FINAL EPOXY COAT IS COMPLETELY POLYMERIZED THE EXTERIOR SURFACE OF THE COMPOSITE WRAP SHALL BE CLEANED AND ROUGHENED BY A LIGHT ABRASIVE. CARE SHOULD BE TAKEN DURING THE ROUGHENING PROCESS SO THAT THE FIBERS ARE NOT DAMAGED. ALL CLEANED AND ROUGHENED SURFACES SHALL BE DRY BEFORE PAINTING.

4.03.2 THE AREA TO BE PAINTED SHALL BE A TOTAL DRY FILM THICKNESS OF NOT LESS THAN 4 MILS.

MEASUREMENT AND PAYMENT

5.01 THIS ITEM WILL BE PAYED FOR BY SQUARE FOOTAGE COVERED AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 7

DESIGNED J.B.S. | DRAWN J.B.S. | REVIEWED | DATE
CHECKED | REVISED | STRUCTURE FILE NUMBER

BRIDGE GENERAL NOTES
BRIDGE NO. MOT-70-0708
KIMMEL RD. OVER I.R.-70

MOT-70-6.49

c68 0664.dgn

ESTIMATED QUANTITIES (MOT-70-0708)

ITEM	ITEM EXTENSION	QUANTITY	UNIT	DESCRIPTION
SPECIAL	51267502	455	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY) (LIGHT GRAY) (SEE PROPOSAL NOTE)
516	45305	8	EACH	REFURBISH BEARING DEVICES, AS PER PLAN (SEE NOTE)
516	47001	LUMP	LUMP	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN (SEE NOTE)
SPECIAL	53000060	480	SQ. FT.	STRUCTURE MISC.: COMPOSITE FIBER WRAP SYSTEM, PIER COLUMNS
815	00050	9234	SQ. FT.	SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU
815	00056	9234	SQ. FT.	FIELD PAINTING OF EXISTING STEEL, PRIME COAT, SYSTEM OZEU
815	00060	9234	SQ. FT.	FIELD PAINTING OF EXISTING STEEL, INTERMEDIATE COURSE, SYSTEM OZEU
815	00066	9234	SQ. FT.	FIELD PAINTING OF EXISTING STEEL, FINISH COAT, SYSTEM OZEU
815	00500	240	LIN. FT.	CAULKING
815	00504	40	MAN HOUR	GRINDING FINS, TEARS, SLIVERS
815	00508	1248	LIN. FT.	GRINDING FLANGE EDGES

* ESTIMATED QUANTITIES CARRIED TO BRIDGE SUMMARY ON SHEET 182.

ESTIMATED QUANTITIES FOR ITEM SPECIAL, SEALING OF CONCRETE SURFACES (EPOXY)

BRIDGE NO.	LOCATION	RAILINGS (INCLUDING PARAPET TRANSITIONS)	FORWARD ABUTMENT	REAR ABUTMENT	PIER NO. 1 (PIER CAP ONLY)	PIER NO. 2 (PIER COLUMNS & & PIER CAP)	PIER NO. 3 (PIER CAP ONLY)	TOTAL CARRIED TO ESTIMATED QUANTITIES
		SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.
MOT-70-0708	KIMMEL RD. OVER I-70	269	22	22	30	82	30	455

ESTIMATED QUANTITIES FOR FIELD PAINTING OF EXISTING STEEL, SYSTEM OZEU

BRIDGE NO.	LOCATION	ITEM 815							
		PERCENT INCREASE FOR INCIDENTALS	SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU	FIELD PAINTING OF EXISTING STEEL PRIME COAT, SYSTEM OZEU	FIELD PAINTING OF EXISTING STEEL INTERMEDIATE COAT, SYSTEM OZEU	FIELD PAINTING OF EXISTING STEEL FINISH COAT, SYSTEM OZEU	GRINDING FINS, TEARS, SLIVERS	GRINDING FLANGE EDGES	CAULKING
			SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	MAN HOURS	LIN. FT.	LIN. FT.
MOT-70-0708	KIMMEL RD. OVER I-70	16%	9234	9234	9234	9234	40	1248	240
TOTALS CARRIED TO ESTIMATED QUANTITIES			9234	9234	9234	9234	40	1248	240

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 7

DESIGNED	DRAWN	REVIEWED	DATE
J.B.S.	J.B.S.		
CHECKED	REVISED	STRUCTURE FILE NUMBER	

ESTIMATED QUANTITIES
BRIDGE NO. MOT-70-0708
KIMMEL RD. OVER I.R.-70

MOT-70-6.49

3 / 3

191
201

c68 0664.dgn

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/OR 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 102.05, 105.02 AND 513.02.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

EXISTING BRIDGE PLANS

EXISTING BRIDGE PLANS MAY BE INSPECTED AT THE BUREAU OF BRIDGES AND STRUCTURAL DESIGN IN COLUMBUS, OHIO OR IN THE DISTRICT 7 OFFICE IN SIDNEY, OHIO.

FIELD PAINTING OF EXISTING STEEL, SYSTEM OZEU

THE SURFACE AREA PAY QUANTITY IS BASED ON THE 20' SECTION OF THE SURFACE AREA OF THE WESTBOUND DRIVING LANE MAIN MEMBER ONLY.

THE COLOR OF THE FINISH COAT SHALL MATCH THE EXISING PAINT COLOR (GRAY) FOR MOT-70-0759.

SEE THE PROPOSAL NOTE FOR THE SURFACE PREPARATION REQUIREMENTS, APPLICATION RATES, MATERIAL REQUIREMENTS AND APPLICATION PROCEDURES.

ALL PAINTING OPERATIONS WHICH INVOLVE THE CLOSING OF ONE LANE OF TRAFFIC ON I.R.-70 SHALL BE PERFORMED BETWEEN THE HOURS OF 10:00 PM AND 6:00 AM. BETWEEN THE HOURS OF 6:00 AM AND 10:00 PM ALL LANES OF TRAFFIC SHALL BE OPEN.

ITEM SPECIAL - STRUCTURE, MISC.: COMPOSITE FIBER WRAP SYSTEM, PIER COLUMNS

DESCRIPTION

1.01 THIS WORK SHALL CONSIST OF PROVIDING A FIBER WRAP CASING SYSTEM USING HIGH STRENGTH, HYRID FIBER/EPOXY COMPOSITES FIELD APPLIED TO THE SURFACE OF THE BERM PIER COLUMNS. THE COLUMN IS TO BE CLEANED AND PREPARED AS TO THE MANUFACTURER'S RECOMMENDATIONS.

DESIGN

2.01 THE SUPPLIER SHALL DETAIL THE NUMBER OF LAYERS OF FABRIC NEEDED AND SHALL SUBMIT DETAILED CALCULATIONS. NOTES, THERE MAY BE A DIFFERENT NUMBER OF WRAPS NEEDED AT DIFFERENT LOCATIONS ON THE SAME COLUMN.

MATERIALS

3.01 ALL MATERIALS AND INSTALLATION DIRECTIONS SHALL BE SUPPLIED BY THE MANUFACTURER. THE SUGGESTED MANUFACTURE IS R.J. WATSON, INC. P.O. BOX 85, EAST AMHERST, NEW YORK 14051 (PH. 716-741-2166) OR APPROVED EQUAL.

ALL SUPPLIERS AND APPLICATORS MUST HAVE FIELD EXPERIENCE WITH A MINIMUM OF 10 INSTALLATIONS AND FURNISH CERTIFIED TEST REPORTS INCLUDING 3,000 HOUR DURABILITY TESTS AT 140° F FOR WATER, SALT WATER, ALKALINE SOIL, OZONE, EFFERVESCENCE AND OTHER FACTORS (REFER TO PARAGRAPH 3.04). FIBER COMPOSITE SUPPLIER SHALL ALSO HAVE CONDUCTED LABORATORY RESEARCH ON DELAMINATED COLUMNS DEMOSTRATING THAT THE REPAIRED COLUMN EXCEEDS THE ORGINAL DESIGN IN AXIAL STRENGTH AND DUCILITY.

3.02 THE FABRIC FOR THE COMPOSITE CASING SYSTEM SHALL BE CONTINUOUS FILAMENT WOVEN FABRIC. PRIMARY FIBERS FOR THE FABRIC SHALL BE ELECTRICAL (E) GLASS FIBERS (SEH-51) OR CARBON (SCH-41).

3.03 THE EPOXY SHALL BE SUPPLIED BY THE MANUFACTURER TO MEET THE COMPOSITE STRENGTH GIVEN IN 3.04. POLYESTER RESIN SHALL NOT BE ALLOWED AS A SUBSTITUTE FOR EPOXY RESIN.

3.04 THE COMPOSTIE OF THE FIBER WRAPPED COLUMN CASING SYSTEM SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

PROPERTY	REQUIREMENT SEH-51/TYFO®	REQUIREMENT SCH-41/TYFO®	ASTM TEST METHOD
ULTIMATE TENSILE STRENGTH, PSI IN PRIMARY FIBER DIRECTIONS	60,000 PSI	110,000 PSI	D 3039
PERCENT TENSILE STRENGTH RETAINED 7 DAYS EXPOSURE AT: 100% HUMIDITY 3000 HOURS EXPOSURE TO OZONE 3000 HOURS EXPOSURE TO ALKALI 3000 HOURS EXPOSURE TO SALT WATER 3000 HOURS EXPOSURE AT 140°	 100% 90% 90% 90% 90%	 100% 90% 90% 90% 90%	
ELONGATION PERCENT, MIN. PERCENT, MAX.	1.7% 4.0%	0.8% 1.5%	
TENSILE MODULUS, PSI MIN. BASED ON CROSS SECTIONAL AREA OF PRIMARY FIBERS	3 X 10^6	8 X 10^6	
ULTIMATE TENSILE STRENGTH AT 90°F TO PRIMARY FIBERS, PSI, MIN.	5,500 PSI	225 PSI	
VISUAL DEFECTS	ACCEPTANCE LEVEL III	ACCEPTANCE LEVEL III	D 2563
COEFFICENT OF THERMAL EXPANSION IN PRIMARY DIF.	4.3 X 10° PPM/DEG. F (+15%)	1.0 X 10° PPM/DEG. F (+15%)	E 1142

COLUMN PREPARATION

4.01.1 THE SURFACE SHALL BE FREE FROM FINS, SHARP EDGES, AND PROTRUSIONS THAT WILL CAUSE VOIDS BEHIND THE CASING OR THAT, IN THE OPINION OF THE ENGINEER, WILL DAMAGE FIBER.

4.01.2 THE SURFACES TO RECEIVE THE COMPOSITE WRAP SHALL BE SMOOTH AND FREE OF VOIDS OR UNDULATIONS THAT WOULD PREVENT FULL CONTACT BETWEEN THE CONCRETE AND THE WRAP.

4.01.3 THE CONTACT SURFACES SHALL BE COMPLETELY DRY AT THE TIME OF APPLICATION OF THE COMPOSITE. NEWLY REPAIRED OR PATCHED SURFACES THAT HAVE SET, BUT NOT CURED A MINIMUM OF 7 DAYS, SHALL BE COATED WITH WATER-BASED EPOXY PAINT OR OTHER APPROVED SEALER.

COMPOSITE APPLICATION

4.02.1 THE AMBIENT TEMPERATURE AND THE TEMPERATURE OF THE EPOXY RESIN COMPONENTS SHALL BE BETWEEN 55°F AND 95°F AT THE TIME OF MIXING. THE COMPOSITE SHALL BE APPLIED WHEN THE RELATIVE HUMIDITY IS LESS THAN 85% AND THE SURFACE TEMPERATURE IS MORE THAN 5%F ABOVE THE DEW POINT. APPLICATIONS SHALL BEGIN WITHIN ONE HOUR AFTER THE BATCH HAS BEEN MIXED.

4.02.2 THE COMPONENTS OF THE EPOXY RESIN SHALL BE MIXED WITH A MECHANICAL MIXER FOR A MINIMUM OF 5 MINUTES AND APPLIED UNIFORMLY TO THE FIBER AT A RATE THAT SHALL INSURE COMPLETE SATURATION OF THE FABRIC.

4.02.3 A PRIMER OF EPOXY SHALL BE APPLIED TO THE SURFACE OF THE CONCRETE.

4.02.4 THE FABRIC/EPOXY COMPOSITE SHALL BE APPLIED TO THE PREPARED SURFACE BY WRAPPING USING METHODS THAT PRODUCE A UNIFORM FORCE THAT IS DISTRIBUTED ACROSS THE ENTIRE WIDTH OF THE FABRIC. THE PRIMARY FIBERS OF THE FABRIC SHALL NOT DEVIATE FROM A HORIZONTAL LINE MORE THAN ½INCH PER FOOT, AND THE TRANSVERSE FIBERS SHALL BE PERPENDICULAR TO THE PRIMARY. ENTRAPPED AIR SHALL BE RELEASED OR ROLLED OVER BEFORE THE EPOXY SETS.

4.02.5 SUCCESSIVE LAYERS OF COMPOSITE MATERIALS SHALL BE PLACED BEFORE POLYMERIZATION OF THE PREVIOUS LAYER OF EPOXY IS TOO COMPLETE TO ACHIEVE COMPLETE BOND BETWEEN LAYERS. IF POLYMERIZATION DOES OCCUR BETWEEN LAYERS THE SURFACE MUST BE ROUGHENED USING A LIGHT ABRASIVE THAT WILL NOT DAMAGE THE FIBER.

4.02.6 A FINAL LAYER OF EPOXY SHALL BE APPLED TO THE FINAL LAYER, WITH CARE TAKEN TO INSURE COATING OF ALL EDGES AND SEAMS.

COATING SYSTEM APPLICATION

4.03.1 A FINAL COATING IS REQUIRED TO PROTECT THE FIBERS FROM THE ELEMENTS, SPECIFICALLY UV RADIATION AND TO GIVE THE FINAL AESTHETIC EFFECT.

4.03.2 (AFTER 96 HOURS FROM FINAL APPLICATION OF EPOXY) IF THE FINAL EPOXY COAT IS COMPLETELY POLYMERIZED THE EXTERIOR SURFACE OF THE COMPOSITE WRAP SHALL BE CLEANED AND ROUGHENED BY A LIGHT ABRASIVE. CARE SHOULD BE TAKEN DURING THE ROUGHENING PROCESS SO THAT THE FIBERS ARE NOT DAMAGED. ALL CLEANED AND ROUGHENED SURFACES SHALL BE DRY BEFORE PAINTING.

4.03.2 THE AREA TO BE PAINTED SHALL BE A TOTAL DRY FILM THICKNESS OF NOT LESS THAN 4 MILS.

MEASUREMENT AND PAYMENT

5.01 THIS ITEM WILL BE PAYED FOR BY SQUARE FOOTAGE COVERED AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 7

DESIGNED	DRAWN	REVIEWED	DATE
J.B.S.	J.B.S.		
CHECKED	REVISED	STRUCTURE FILE NUMBER	

BRIDGE GENERAL NOTES
BRIDGE NO. MOT-70-0759
CRESTWAY DR. OVER I.R.-70

MOT-70-6.49

ESTIMATED QUANTITIES (MOT-70-0759)

ITEM	ITEM EXTENSION	QUANTITY	UNIT	DESCRIPTION
SPECIAL	53000060	480	SQ. FT.	STRUCTURE MISC.: PIER COLUMN REPAIR USING EPOXY FIBERWRAP
815	00050	180	SQ. FT.	SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU
815	00056	180	SQ. FT.	FIELD PAINTING OF EXISTING STEEL, PRIME COAT, SYSTEM OZEU
815	00060	180	SQ. FT.	FIELD PAINTING OF EXISTING STEEL, INTERMEDIATE COURSE, SYSTEM OZEU
815	00066	180	SQ. FT.	FIELD PAINTING OF EXISTING STEEL, FINISH COAT, SYSTEM OZEU
815	00500	20	LIN. FT.	CAULKING
815	00504	10	MAN HOUR	GRINDING FINS, TEARS, SLIVERS
815	00508	80	LIN. FT.	GRINDING FLANGE EDGES

* ESTIMATED QUANTITIES CARRIED TO BRIDGE SUMMARY ON SHEET 182.

ESTIMATED QUANTITIES FOR FIELD PAINTING OF EXISTING STEEL, SYSTEM OZEU

BRIDGE NO.	LOCATION	ITEM 815						
		SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU	FIELD PAINTING OF EXISTING STEEL PRIME COAT, SYSTEM OZEU	FIELD PAINTING OF EXISTING STEEL INTERMEDIATE COAT, SYSTEM OZEU	FIELD PAINTING OF EXISTING STEEL FINISH COAT, SYSTEM OZEU	GRINDING FINS, TEARS, SLIVERS	GRINDING FLANGE EDGES	CAULKING
		SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	MAN HOURS	LIN. FT.	LIN. FT.
MOT-70-0759	CRESTWAY DR. OVER I-70 (20' SECTION OF W.B. DRIVING LANE MAIN MEMBER)	180	180	180	180	10	80	20
TOTALS CARRIED TO ESTIMATED QUANTITIES		180	180	180	180	10	80	20

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 7

REVIEWED | DATE | STRUCTURE FILE NUMBER

DESIGNED J.B.S. | DRAWN J.B.S. | REVISED | CHECKED

ESTIMATED QUANTITIES
BRIDGE NO. MOT-70-0759
CRESTWAY DR. OVER I.R.-70

MOT-70-6.49

2 / 2

193
201

c68 0664.dgn

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/OR 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 102.05, 105.02 AND 513.02.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

EXISTING BRIDGE PLANS

EXISTING BRIDGE PLANS MAY BE INSPECTED AT THE BUREAU OF BRIDGES AND STRUCTURAL DESIGN IN COLUMBUS, OHIO OR IN THE DISTRICT 7 OFFICE IN SIDNEY, OHIO.

FIELD PAINTING OF EXISTING STEEL, SYSTEM OZEU

THE SURFACE AREA PAY QUANTITY IS BASED ON THE 20' SECTION OF THE SURFACE AREA OF THE EASTBOUND DRIVING LANE MAIN MEMBER ONLY.

THE COLOR OF THE FINISH COAT SHALL MATCH THE EXISING PAINT COLOR (SKYBLUE) FOR MOT-49-1112R

SEE THE PROPOSAL NOTE FOR THE SURFACE PREPARATION REQUIREMENTS, APPLICATION RATES, MATERIAL REQUIREMENTS AND APPLICATION PROCEDURES.

ALL PAINTING OPERATIONS WHICH INVOLVE THE CLOSING OF ONE LANE OF TRAFFIC ON I.R.-70 SHALL BE PERFORMED BETWEEN THE HOURS OF 10:00 PM AND 6:00 AM. BETWEEN THE HOURS OF 6:00 AM AND 10:00 PM ALL LANES OF TRAFFIC SHALL BE OPEN.

ITEM SPECIAL - STRUCTURE, MISC.: COMPOSITE FIBER WRAP SYSTEM, PIER COLUMNS

DESCRIPTION

1.01 THIS WORK SHALL CONSIST OF PROVIDING A FIBER WRAP CASING SYSTEM USING HIGH STRENGTH, HYRID FIBER/EPOXY COMPOSITES FIELD APPLIED TO THE SURFACE OF THE BERM PIER COLUMNS. THE COLUMN IS TO BE CLEANED AND PREPARED AS TO THE MANUFACTURER'S RECOMMENDATIONS.

DESIGN

2.01 THE SUPPLIER SHALL DETAIL THE NUMBER OF LAYERS OF FABRIC NEEDED AND SHALL SUBMIT DETAILED CALCULATIONS. NOTES, THERE MAY BE A DIFFERENT NUMBER OF WRAPS NEEDED AT DIFFERENT LOCATIONS ON THE SAME COLUMN.

MATERIALS

3.01 ALL MATERIALS AND INSTALLATION DIRECTIONS SHALL BE SUPPLIED BY THE MANUFACTURER. THE SUGGESTED MANUFACTURE IS R.J. WATSON, INC. P.O. BOX 85, EAST AMHERST, NEW YORK 14051 (PH. 716-741-2166) OR APPROVED EQUAL.

ALL SUPPLIERS AND APPLICATORS MUST HAVE FIELD EXPERIENCE WITH A MINIMUM OF 10 INSTALLATIONS AND FURNISH CERTIFIED TEST REPORTS INCLUDING 3,000 HOUR DURABILITY TESTS AT 140° F FOR WATER, SALT WATER, ALKALINE SOIL, OZONE, EFFERVESCENCE AND OTHER FACTORS (REFER TO PARAGRAPH 3.04). FIBER COMPOSITE SUPPLIER SHALL ALSO HAVE CONDUCTED LABORATORY RESEARCH ON DELAMINATED COLUMNS DEMOSTRATING THAT THE REPAIRED COLUMN EXCEEDS THE ORGINAL DESIGN IN AXIAL STRENGTH AND DUCILITY.

3.02 THE FABRIC FOR THE COMPOSITE CASING SYSTEM SHALL BE CONTINUOUS FILAMENT WOVEN FABRIC. PRIMARY FIBERS FOR THE FABRIC SHALL BE ELECTRICAL (E) GLASS FIBERS (SEH-51) OR CARBON (SCH-41).

3.03 THE EPOXY SHALL BE SUPPLIED BY THE MANUFACTURER TO MEET THE COMPOSITE STRENGTH GIVEN IN 3.04. POLYESTER RESIN SHALL NOT BE ALLOWED AS A SUBSTITUTE FOR EPOXY RESIN.

3.04 THE COMPOSTIE OF THE FIBER WRAPPED COLUMN CASING SYSTEM SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

PROPERTY	REQUIREMENT SEH-51/TYFO®	REQUIREMENT SCH-41/TYFO®	ASTM TEST METHOD
ULTIMATE TENSILE STRENGTH, PSI IN PRIMARY FIBER DIRECTIONS	60,000 PSI	110,000 PSI	D 3039
PERCENT TENSILE STRENGTH RETAINED 7 DAYS EXPOSURE AT: 100% HUMIDITY 3000 HOURS EXPOSURE TO OZONE 3000 HOURS EXPOSURE TO ALKALI 3000 HOURS EXPOSURE TO SALT WATER 3000 HOURS EXPOSURE AT 140°	 100% 90% 90% 90% 90%	 100% 90% 90% 90% 90%	
ELONGATION PERCENT, MIN. PERCENT, MAX.	 1.7% 4.0%	 0.8% 1.5%	
TENSILE MODULUS, PSI MIN. BASED ON CROSS SECTIONAL AREA OF PRIMARY FIBERS	3 X 10^6	8 X 10^6	
ULTIMATE TENSILE STRENGTH AT 90°F TO PRIMARY FIBERS, PSI, MIN.	5,500 PSI	225 PSI	
VISUAL DEFECTS	ACCEPTANCE LEVEL III	ACCEPTANCE LEVEL III	D 2563
COEFFICENT OF THERMAL EXPANSION IN PRIMARY DIF.	4.3 X 10^{-6} PPM/DEG. F (+15%)	1.0 X 10^{-6} PPM/DEG. F (+15%)	E 1142

COLUMN PREPARATION

4.01.1 THE SURFACE SHALL BE FREE FROM FINS, SHARP EDGES, AND PROTRUSIONS THAT WILL CAUSE VOIDS BEHIND THE CASING OR THAT, IN THE OPINION OF THE ENGINEER, WILL DAMAGE FIBER.

4.01.2 THE SURFACES TO RECEIVE THE COMPOSITE WRAP SHALL BE SMOOTH AND FREE OF VOIDS OR UNDULATIONS THAT WOULD PREVENT FULL CONTACT BETWEEN THE CONCRETE AND THE WRAP.

4.01.3 THE CONTACT SURFACES SHALL BE COMPLETELY DRY AT THE TIME OF APPLICATION OF THE COMPOSITE. NEWLY REPAIRED OR PATCHED SURFACES THAT HAVE SET, BUT NOT CURED A MINIMUM OF 7 DAYS, SHALL BE COATED WITH WATER-BASED EPOXY PAINT OR OTHER APPROVED SEALER.

COMPOSITE APPLICATION

4.02.1 THE AMBIENT TEMPERATURE AND THE TEMPERATURE OF THE EPOXY RESIN COMPONENTS SHALL BE BETWEEN 55°F AND 95°F AT THE TIME OF MIXING. THE COMPOSITE SHALL BE APPLIED WHEN THE RELATIVE HUMIDITY IS LESS THAN 85% AND THE SURFACE TEMPERATURE IS MORE THAN 5%F ABOVE THE DEW POINT. APPLICATIONS SHALL BEGIN WITHIN ONE HOUR AFTER THE BATCH HAS BEEN MIXED.

4.02.2 THE COMPONENTS OF THE EPOXY RESIN SHALL BE MIXED WITH A MECHANICAL MIXER FOR A MINIMUM OF 5 MINUTES AND APPLIED UNIFORMLY TO THE FIBER AT A RATE THAT SHALL INSURE COMPLETE SATURATION OF THE FABRIC.

4.02.3 A PRIMER OF EPOXY SHALL BE APPLIED TO THE SURFACE OF THE CONCRETE.

4.02.4 THE FABRIC/EPOXY COMPOSITE SHALL BE APPLIED TO THE PREPARED SURFACE BY WRAPPING USING METHODS THAT PRODUCE A UNIFORM FORCE THAT IS DISTRIBUTED ACROSS THE ENTIRE WIDTH OF THE FABRIC. THE PRIMARY FIBERS OF THE FABRIC SHALL NOT DEVIATE FROM A HORIZONTAL LINE MORE THAN ½INCH PER FOOT, AND THE TRANSVERSE FIBERS SHALL BE PERPENDICULAR TO THE PRIMARY. ENTRAPPED AIR SHALL BE RELEASED OR ROLLED OVER BEFORE THE EPOXY SETS.

4.02.5 SUCCESSIVE LAYERS OF COMPOSITE MATERIALS SHALL BE PLACED BEFORE POLYMERIZATION OF THE PREVIOUS LAYER OF EPOXY IS TOO COMPLETE TO ACHIEVE COMPLETE BOND BETWEEN LAYERS. IF POLYMERIZATION DOES OCCUR BETWEEN LAYERS THE SURFACE MUST BE ROUGHENED USING A LIGHT ABRASIVE THAT WILL NOT DAMAGE THE FIBER.

4.02.6 A FINAL LAYER OF EPOXY SHALL BE APPLED TO THE FINAL LAYER, WITH CARE TAKEN TO INSURE COATING OF ALL EDGES AND SEAMS.

COATING SYSTEM APPLICATION

4.03.1 A FINAL COATING IS REQUIRED TO PROTECT THE FIBERS FROM THE ELEMENTS, SPECIFICALLY UV RADIATION AND TO GIVE THE FINAL AESTHETIC EFFECT.

4.03.2 (AFTER 96 HOURS FROM FINAL APPLICATION OF EPOXY) IF THE FINAL EPOXY COAT IS COMPLETELY POLYMERIZED THE EXTERIOR SURFACE OF THE COMPOSITE WRAP SHALL BE CLEANED AND ROUGHENED BY A LIGHT ABRASIVE. CARE SHOULD BE TAKEN DURING THE ROUGHENING PROCESS SO THAT THE FIBERS ARE NOT DAMAGED. ALL CLEANED AND ROUGHENED SURFACES SHALL BE DRY BEFORE PAINTING.

4.03.2 THE AREA TO BE PAINTED SHALL BE A TOTAL DRY FILM THICKNESS OF NOT LESS THAN 4 MILS.

MEASUREMENT AND PAYMENT

5.01 THIS ITEM WILL BE PAYED FOR BY SQUARE FOOTAGE COVERED AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK

ITEM SPECIAL, SEALING OF CONCRETE SURFACES (EPOXY) (SEE PROPOSAL NOTE)

THE FOLLOWING EXPOSED CONCRETE SURFACES SHALL BE SEALED USING AN EPOXY SEALER:

1. PIER COLUMN FROM GROUND LINE TO TOP OF PIER COLUMNS (CENTER PIER ONLY)
2. ABUTMENTS AND BACKWALLS FROM TOP TO BACKWALL TO BRIDGE SEAT, THE BRIDGE SEAT, AND FROM BRIDGE SEAT TO THE GROUND LINE.
3. FROM 9" ON BRIDGE DECK, FRONT, FACE, TOP, AND BACKSIDES OF BRIDGE RAILING INCLUDING THE FASCIA FROM THE BRIDGE DECK SURFACE TO A 6" UNDERDECK RETURN ON THE BRIDGE DECK.
4. BRIDGE TRANSITION PARAPETS FROM EDGE OF PAVEMENT FRONT, FACE, TOP, AND BACKSIDES OF PARAPET TO THE GROUND LINE.

PRIOR TO APPLICATION OF THE SURFACE SEALER, THE ENGINEER SHALL INSURE THAT ALL FOREIGN MATERIAL, INCLUDING GRAFFITI HAS BEEN REMOVED BY THE SURFACE PREPARATION PROCESS.

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 7

DESIGNED	DRAWN	REVIEWED	DATE
J.B.S.	J.B.S.		
CHECKED	REVISED	STRUCTURE FILE NUMBER	

BRIDGE GENERAL NOTES
BRIDGE NO. MOT-49-1112 R
S.R.-49 (NORTHBOUND) OVER I.R.-70

MOT-70-6.49

ESTIMATED QUANTITIES (MOT-49-1112 R)

ITEM	ITEM EXTENSION	QUANTITY	UNIT	DESCRIPTION
SPECIAL	51267502	904	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY) (LIGHT GRAY) (SEE PROPOSAL NOTE)
519	11100	30	SQ. FT.	PATCHING CONCRETE STRUCTURE (ABUTMENTS)
SPECIAL	53000060	1450	SQ. FT.	STRUCTURE MISC.: PIER COLUMN REPAIR USING EPOXY FIBERWRAP
815	00050	207	SQ. FT.	SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU
815	00056	207	SQ. FT.	FIELD PAINTING OF EXISTING STEEL, PRIME COAT, SYSTEM OZEU
815	00060	207	SQ. FT.	FIELD PAINTING OF EXISTING STEEL, INTERMEDIATE COURSE, SYSTEM OZEU
815	00066	207	SQ. FT.	FIELD PAINTING OF EXISTING STEEL, FINISH COAT, SYSTEM OZEU
815	00500	20	LIN. FT.	CAULKING
815	00504	10	MAN HOUR	GRINDING FINS, TEARS, SLIVERS
815	00508	80	LIN. FT.	GRINDING FLANGE EDGES

* ESTIMATED QUANTITIES CARRIED TO BRIDGE SUMMARY ON SHEET 182.

ESTIMATED QUANTITIES FOR ITEM SPEICAL, SEALING OF CONCRETE SURFACES (EPOXY)

BRIDGE NO.	LOCATION	RAILINGS (INCLUDING PARAPET TRANSITIONS)	FORWARD ABUTMENT	REAR ABUTMENT		PIER NO. 2 (PIER COLUMNS)		TOTAL CARRIED TO ESTIMATED QUANTITIES
		SQ. YD.	SQ. YD.	SQ. YD.		SQ. YD.		SQ. YD.
MOT-49-1112R	N.B. S.R.-49 OVER I.R.-70	701	65	55		84		904

ESTIMATED QUANTITIES FOR FIELD PAINTING OF EXISTING STEEL, SYSTEM OZEU

BRIDGE NO.	LOCATION	ITEM 815						
		SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU	FIELD PAINTING OF EXISTING STEEL PRIME COAT, SYSTEM OZEU	FIELD PAINTING OF EXISTING STEEL INTERMEDIATE COAT, SYSTEM OZEU	FIELD PAINTING OF EXISTING STEEL FINISH COAT, SYSTEM OZEU	GRINDING FINS, TEARS, SLIVERS	GRINDING FLANGE EDGES	CAULKING
		SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	MAN HOURS	LIN. FT.	LIN. FT.
MOT-49-1112R	N.B. S.R.-49 OVER I.R.-70 (20' SECTION OF E.B. DRIVING LANE MAIN MEMBER)	207	207	207	207	10	80	20
TOTALS CARRIED TO ESTIMATED QUANTITIES		207	207	207	207	10	80	20

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 7

DESIGNED	DRAWN	REVIEWED	DATE
J.B.S.	J.B.S.		
CHECKED	REVISED	STRUCTURE FILE NUMBER	

ESTIMATED QUANTITIES
BRIDGE NO. MOT-49-1112 R
S.R.-49 (NORTHBOUND) OVER I.R.-70

MOT-70-6.49

c68 0664.dgn

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/OR 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 102.05, 105.02 AND 513.02.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

EXISTING BRIDGE PLANS

EXISTING BRIDGE PLANS MAY BE INSPECTED AT THE BUREAU OF BRIDGES AND STRUCTURAL DESIGN IN COLUMBUS, OHIO OR IN THE DISTRICT 7 OFFICE IN SIDNEY, OHIO.

ITEM 516 - REFURBISHING BEARING DEVICES, AS PER PLAN

THIS ITEM SHALL INCLUDE ALL WORK NECESSARY TO PROPERLY ALIGN BRIDGE BEARINGS AS WELL AS THEIR CLEANING AND PAINTING AT BOTH ABUTMENTS ON BRIDGE MOT-70-0962 THIS WORK SHALL INCLUDE THE DISASSEMBLY OF THE BEARINGS, SANDBLASTING, REPLACEMENT OF ANY DAMAGED SHEET LEAD (711.19), INSTALLATION OF ANY NECESSARY STEEL SHIMS OF THE SAME SIZE AS THE BEARINGS TO PROVIDE A SNUG FIT, REALIGNMENT OF THE UPPER BEARING PLATE BY REMOVING EXISTING WELDS AND REWELDING SO THAT THE BEARINGS ARE VERTICALLY ALIGNED AT 60 DEGREES F, LUBRICATING SLIDING SURFACES, AND REASSEMBLY OF THE BEARINGS.

THE CONTRACTOR SHALL BE SURE THAT ALL BEARINGS ARE SHIMMED ADEQUATELY AND THAT NO BEAMS AND/OR BEARING DEVICES ARE FLOATING. AT THE OPTION OF THE CONTRACTOR AND AT NO ADDITIONAL COST TO THE STATE, NEW BEARINGS OF THE SAME TYPE AS THE EXISTING MAY BE INSTALLED IN LIEU OF REFURBISHING THE BEARINGS. ALL WORK SHALL BE PERFORMED TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL THE ABOVE DESCRIBED, LABOR AND MATERIALS WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 516, REFURBISH BEARINGS DEVICES, AS PER PLAN.

THE FOLLOWING QUANTITY HAS BEEN ADDED TO THE ESTIMATED QUANTITIES:

ITEM 516	REFURBISH BEARING DEVICES, AS PER PLAN	8 EACH

ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN

THIS ITEM SHALL CONSIST OF FURNISHING ALL NECESSARY LABOR, MATERIALS, AND EQUIPMENT TO RAISE OR REPOSITION THE EXISTING STRUCTURES FOR THE PURPOSES DEFINED IN THE PROJECT PLANS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, INSTALLATION, AND OPERATION OF AN ADEQUATE JACKING SYSTEM, INCLUDING ANY TEMPORARY OR PERMANENT SUPPORTS NECESSARY TO PERFORM THE WORK IN THE PROJECT PLANS. THREE (3) SETS OF JACKING PLANS, WHICH INCLUDE THE INFORMATION INCLUDED IN THIS NOTE, SHALL BE SUBMITTED TO THE DIRECTOR FOR APPROVAL AT LEAST THIRTY (30) DAYS BEFORE ACTUAL WORK IS TO BEGIN. THE PLANS SHALL BE PREPARED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER.

JACKING SUBMITTALS SHALL INCLUDE AT LEAST THE FOLLOWING:

1. THE SIGNATURE AND NUMBER, OR PROFESSIONAL SEAL, OF THE REGISTERED PROFESSIONAL ENGINEER WHO PREPARED THE SUBMITTAL.
2. CALCULATIONS AND ANALYSIS OF THE STRUCTURE TO DETERMINE AND DEFINE THE ACTUAL LOADING APPLIED AT THE CONTRACTOR'S SELECTED JACKING POINTS.
3. A DRAWING SHOWING THE PHYSICAL AND DIMENSIONAL POSITION OF THE JACKS WITH RESPECT TO THE STRUCTURE INCLUDING CLEARANCES AND CENTER OF LIFT.
4. A SCHEMATIC LAYOUT OF JACKS, CHECK VALVES, PUMPS WITH 3 WAY RETRACTOR VALVE, PRESSURE GAGES, FLOW CONTROL VALVES, ETC. IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. ALL JACKS FOR EACH ABUTMENT OR PIER SHALL BE CONNECTED TOGETHER. ALL JACKS AT EACH ABUTMENT OR PIER SHALL BE THE SAME SIZE.
5. ANALYSIS AND CALCULATIONS OF THE STRESSES INDUCED OR CREATED IN THE STRUCTURE AND ANY TEMPORARY OR PERMANENT SUPPORTS. DESIGN CALCULATIONS FOR ANY TEMPORARY OF PERMANENT SUPPORTS.
6. PHYSICAL DIMENSIONS, MATERIALS,AND FABRICATION DETAILS OF ANY TEMPORARY OR PERMANENT SUPPORT. HORIZONTAL AND VERTICAL MOVEMENT RESTRAINT SHALL BE PROVIDED.
7. A STEP BY STEP PROCEDURE DETAILING ALL STEPS IN THE JACKING PLAN
8. METHOD OF ATTACHMENT OF STRUCTURAL MEMBERS. WELDING TO TENSION ARES WILL NOT BE PERMITTED.

THE ENTIRE SYSTEM INCLUDING JACKS SHALL HAVE 20% MORE CAPACITY THAN REQUIRED BASED ON CLACULATED LOADS.

FOR LIFTS GREATER THAN 1", JACKS SHALL HAVE LOCKING NUTS TO POSITIVELY LOCK AND SUPPORT THE STRUCTURE DURING THE LIFT.

JACKS SHALL HAVE A SWIVEL LOAD CAP, A DOMED PISTON HEAD OR SOME OTHER DEVICE TO PROTECT AGAINST THE EFFECTS OF SIDE LOAD ON THE JACK.

JACKS ALONE SHALL NOT BE USED TO SUPPORT LOADS EXCEPT DURING THE ACTUAL JACKING OPERATION. TEMPORARY SUPPORTS, BLOCKING OR OTHER METHODS APPROVED BY THE DIRECTOR SHALL BE USED.

SINGLE ACTING RAMS WITH NO OVER-TRAVEL PROTECTION SHALL NOT BE USED.

SPARE EQUIPMENT SHALL BE AVAILABLE ON SITE FOR THE REQUIRED STRUCTURE RAISING TO PROCEED IN THE EVENT OF A BREAKDOWN. A LIST OF SPARE EQUIPMENT SHALL BE PROVIDED TO THE ENGINEER.

AT A MINIMUM, A JACKING OPERATION SHALL LIFT ALL BEAMS AT ANY ONE ABUTMENT OR PIER SIMULTANEOUSLY. THE ONLY EXCEPTION IS WHEN THE FOLLOWING ARE MET: THE WORK INVOLVES REPLACING OR REHABILITATING INDIVIDUAL BEARINGS, NO PERMANENT SHIMMING IS REQUIRED, AND THE HEIGHT OF THE LIFT SHALL NOT EXCEED ONE QUATER OF AN INCH (1/4").

MAXIMUM DIFFERENTIAL JACKING HEIGHT BETWEEN ANY ADJACENT ABUTMENTS OR PIERS SHALL BE ONE INCH (1") OR LESS

IF DURING THE JACKING OPERATIONS, CRACKING OF THE CONCRETE SUPERSTRUCTURE, SEPERATION OF THE CONCRETE DECK FROM THE STEEL STRINGERS, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, THE JACKING OPERATION SHALL IMMEDIATELY CEASE AND APPROVED SUPPORTS SHALL BE INSTALLED. THE CONTRACTOR SHALL THEN ANALYZE THE DAMAGE SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. ANY BEAMS THAT SEPERATE FRON THE DECK SHALL BE EPOXY INJECTED FOR THE DISTANCE OF SEPRATION IN ACCORDANCE WITH THE PROPOSAL NOTE " CONCRETE REPAIR BY EPOXY INJECTION". COST OF THIS EPOXY INJECTION OR OTHER REQUIRED REPAIRS SHALL BE BORNE BY THE CONTRACTOR.

THE CONTRACTOR SHALL DEMONSTRATE TO THE ENGINEER THAT THE BRIDGE BEARINGS ARE FULLY SEATED BETWEEN ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED MEANS OR REPAIR, SUBJECT TO THE APPROVAL OF THE ENGINEER, WILL BE REQUIRED AT THE CONTRACTOR'S EXPENSE.

THE JACKING OPERATION SHALL BE DIRECTED BY A PROFESSIONAL ENGINEER EMPLOYED BY THE CONTRACTOR. FAILURE TO HAVE A PROFESSIONAL ENGINEER PRESENT SHALL BE CAUSE FOR CEASING JACKING OPERATIONS.

PAYMENT SHALL BE MADE AT THE LUMP SUM PRICE BID FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN AND SHALL INCLUDE ALL NECESSARY TOOLS, LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THIS ITEM OF WORK.

ITEM SPECIAL, SEALING OF CONCRETE SURFACES (EPOXY) (SEE PROPOSAL NOTE)

THE FOLLOWING EXPOSED CONCRETE SURFACES SHALL BE SEALED USING AN EPOXY SEALER:

1. PIERS FROM GROUND LINE TO BOTTOM OF PIER CAP (CENTER PIER ONLY)
2. PIER CAPS BOTTOM AND BOTH SIDES OF PIER CAP
3. ABUTMENTS AND BACKWALLS FROM TOP TO BACKWALL TO BRIDGE SEAT, THE BRIDGE SEAT, AND FROM BRIDGE SEAT TO THE GROUND LINE.
4. FROM 9" ON BRIDGE DECK, FRONT, FACE, TOP, AND BACKSIDES OF BRIDGE RAILING INCLUDING THE FASCIA FROM THE BRIDGE DECK SURFACE TO A 6" UNDERDECK RETURN ON THE BRIDGE DECK.
5. BRIDGE TRANSITION PARAPETS FROM EDGE OF PAVEMENT FRONT, FACE, TOP, AND BACKSIDES OF PARAPET TO THE GROUND LINE.

PRIOR TO APPLICATION OF THE SURFACE SEALER, THE ENGINEER SHALL INSURE THAT ALL FOREIGN MATERIAL, INCLUDING GRAFFITI HAS BEEN REMOVED BY THE SURFACE PREPARATION PROCESS.

FIELD PAINTING OF EXISTING STEEL, SYSTEM OZEU

THE SURFACE AREA PAY QUANTITY IS BASED ON THE SURFACE AREA OF THE MAIN MEMBERS INCREASED BY A PERCENT TO ACCOUNT FOR THE AREA OF CROSSFRAMES, BEARINGS, AND OTHER STRUCTURAL STEEL INCIDENTALS TO BE CLEANED AND PAINTED - SEE CHART ON SHEET 198.

THE COLOR OF THE FINISH COAT FOR MOT-70-0962 SHALL BE BLUE AS SELECTED BY THE ENGINEER FROM TWO DIFFERENT PAINT CHARTS PROVIDED BY THE CONTRACTOR.

SEE THE PROPOSAL NOTE FOR THE SURFACE PREPARATION REQUIREMENTS, APPLICATION RATES, MATERIAL REQUIREMENTS AND APPLICATION PROCEDURES.

ALL PAINTING OPERATIONS WHICH INVOLVE THE CLOSING OF ONE LANE OF TRAFFIC ON I.R.-70 SHALL BE PERFORMED BETWEEN THE HOURS OF 10:00 PM AND 6:00 AM. BETWEEN THE HOURS OF 6:00 AM AND 10:00 PM ALL LANES OF TRAFFIC SHALL BE OPEN.

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 7

DESIGNED	DRAWN	REVIEWED	DATE
J.B.S.	J.B.S.		
CHECKED	REVISED		STRUCTURE FILE NUMBER

BRIDGE GENERAL NOTES
BRIDGE NO. MOT-70-0962
UNION RD. OVER I.R.-70

MOT-70-6.49

c68 0664.dgn

ITEM SPECIAL - STRUCTURE, MISC.: COMPOSITE FIBER WRAP SYSTEM, PIER COLUMNS

DESCRIPTION

1.01 THIS WORK SHALL CONSIST OF PROVIDING A FIBER WRAP CASING SYSTEM USING HIGH STRENGTH, HYRID FIBER/EPOXY COMPOSITES FIELD APPLIED TO THE SURFACE OF THE BERM PIER COLUMNS. THE COLUMN IS TO BE CLEANED AND PREPARED AS TO THE MANUFACTURER'S RECOMMENDATIONS.

DESIGN

2.01 THE SUPPLIER SHALL DETAIL THE NUMBER OF LAYERS OF FABRIC NEEDED AND SHALL SUBMIT DETAILED CALCULATIONS. NOTES, THERE MAY BE A DIFFERENT NUMBER OF WRAPS NEEDED AT DIFFERENT LOCATIONS ON THE SAME COLUMN.

MATERIALS

3.01 ALL MATERIALS AND INSTALLATION DIRECTIONS SHALL BE SUPPLIED BY THE MANUFACTURER. THE SUGGESTED MANUFACTURE IS R.J. WATSON, INC. P.O. BOX 85, EAST AMHERST, NEW YORK 14051 (PH. 716-741-2166) OR APPROVED EQUAL.

ALL SUPPLIERS AND APPLICATORS MUST HAVE FIELD EXPERIENCE WITH A MINIMUM OF 10 INSTALLATIONS AND FURNISH CERTIFIED TEST REPORTS INCLUDING 3,000 HOUR DURABILITY TESTS AT 140° F FOR WATER, SALT WATER, ALKALINE SOIL, OZONE, EFFERVESCENCE AND OTHER FACTORS (REFER TO PARAGRAPH 3.04). FIBER COMPOSITE SUPPLIER SHALL ALSO HAVE CONDUCTED LABORATORY RESEARCH ON DELAMINATED COLUMNS DEMOSTRATING THAT THE REPAIRED COLUMN EXCEEDS THE ORGINAL DESIGN IN AXIAL STRENGTH AND DUCILITY.

3.02 THE FABRIC FOR THE COMPOSITE CASING SYSTEM SHALL BE CONTINUOUS FILAMENT WOVEN FABRIC. PRIMARY FIBERS FOR THE FABRIC SHALL BE ELECTRICAL (E) GLASS FIBERS (SEH-51) OR CARBON (SCH-41).

3.03 THE EPOXY SHALL BE SUPPLIED BY THE MANUFACTURER TO MEET THE COMPOSITE STRENGTH GIVEN IN 3.04. POLYESTER RESIN SHALL NOT BE ALLOWED AS A SUBSTITUTE FOR EPOXY RESIN.

3.04 THE COMPOSTIE OF THE FIBER WRAPPED COLUMN CASING SYSTEM SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

PROPERTY	REQUIREMENT SEH-51/TYFO®	REQUIREMENT SCH-41/TYFO®	ASTM TEST METHOD
ULTIMATE TENSILE STRENGTH, PSI IN PRIMARY FIBER DIRECTIONS	60,000 PSI	110,000 PSI	D 3039
PERCENT TENSILE STRENGTH RETAINED 7 DAYS EXPOSURE AT: 100% HUMIDITY 3000 HOURS EXPOSURE TO OZONE 3000 HOURS EXPOSURE TO ALKALI 3000 HOURS EXPOSURE TO SALT WATER 3000 HOURS EXPOSURE AT 140°	 100% 90% 90% 90% 90%	 100% 90% 90% 90% 90%	
ELONGATION PERCENT, MIN. PERCENT, MAX.	 1.7% 4.0%	 0.8% 1.5%	
TENSILE MODULUS, PSI MIN. BASED ON CROSS SECTIONAL AREA OF PRIMARY FIBERS	3×10^6	8×10^6	
ULTIMATE TENSILE STRENGTH AT 90°F TO PRIMARY FIBERS, PSI, MIN.	5,500 PSI	225 PSI	
VISUAL DEFECTS	ACCEPTANCE LEVEL III	ACCEPTANCE LEVEL III	D 2563
COEFFICENT OF THERMAL EXPANSION IN PRIMARY DIF.	4.3 X 10° PPM/DEG. F (+15%)	1.0 X 10° PPM/DEG. F (+15%)	E 1142

COLUMN PREPARATION

4.01.1 THE SURFACE SHALL BE FREE FROM FINS, SHARP EDGES, AND PROTRUSIONS THAT WILL CAUSE VOIDS BEHIND THE CASING OR THAT, IN THE OPINION OF THE ENGINEER, WILL DAMAGE FIBER.

4.01.2 THE SURFACES TO RECEIVE THE COMPOSITE WRAP SHALL BE SMOOTH AND FREE OF VOIDS OR UNDULATIONS THAT WOULD PREVENT FULL CONTACT BETWEEN THE CONCRETE AND THE WRAP.

4.01.3 THE CONTACT SURFACES SHALL BE COMPLETELY DRY AT THE TIME OF APPLICATION OF THE COMPOSITE. NEWLY REPAIRED OR PATCHED SURFACES THAT HAVE SET, BUT NOT CURED A MINIMUM OF 7 DAYS, SHALL BE COATED WITH WATER-BASED EPOXY PAINT OR OTHER APPROVED SEALER.

COMPOSITE APPLICATION

4.02.1 THE AMBIENT TEMPERATURE AND THE TEMPERATURE OF THE EPOXY RESIN COMPONENTS SHALL BE BETWEEN 55°F AND 95°F AT THE TIME OF MIXING. THE COMPOSITE SHALL BE APPLIED WHEN THE RELATIVE HUMIDITY IS LESS THAN 85% AND THE SURFACE TEMPERATURE IS MORE THAN 5°F ABOVE THE DEW POINT. APPLICATIONS SHALL BEGIN WITHIN ONE HOUR AFTER THE BATCH HAS BEEN MIXED.

4.02.2 THE COMPONENTS OF THE EPOXY RESIN SHALL BE MIXED WITH A MECHANICAL MIXER FOR A MINIMUM OF 5 MINUTES AND APPLIED UNIFORMLY TO THE FIBER AT A RATE THAT SHALL INSURE COMPLETE SATURATION OF THE FABRIC.

4.02.3 A PRIMER OF EPOXY SHALL BE APPLIED TO THE SURFACE OF THE CONCRETE.

4.02.4 THE FABRIC/EPOXY COMPOSITE SHALL BE APPLIED TO THE PREPARED SURFACE BY WRAPPING USING METHODS THAT PRODUCE A UNIFORM FORCE THAT IS DISTRIBUTED ACROSS THE ENTIRE WIDTH OF THE FABRIC. THE PRIMARY FIBERS OF THE FABRIC SHALL NOT DEVIATE FROM A HORIZONTAL LINE MORE THAN ½INCH PER FOOT, AND THE TRANSVERSE FIBERS SHALL BE PERPENDICULAR TO THE PRIMARY. ENTRAPPED AIR SHALL BE RELEASED OR ROLLED OVER BEFORE THE EPOXY SETS.

4.02.5 SUCCESSIVE LAYERS OF COMPOSITE MATERIALS SHALL BE PLACED BEFORE POLYMERIZATION OF THE PREVIOUS LAYER OF EPOXY IS TOO COMPLETE TO ACHIEVE COMPLETE BOND BETWEEN LAYERS. IF POLYMERIZATION DOES OCCUR BETWEEN LAYERS THE SURFACE MUST BE ROUGHENED USING A LIGHT ABRASIVE THAT WILL NOT DAMAGE THE FIBER.

4.02.6 A FINAL LAYER OF EPOXY SHALL BE APPLED TO THE FINAL LAYER, WITH CARE TAKEN TO INSURE COATING OF ALL EDGES AND SEAMS.

COATING SYSTEM APPLICATION

4.03.1 A FINAL COATING IS REQUIRED TO PROTECT THE FIBERS FROM THE ELEMENTS, SPECIFICALLY UV RADIATION AND TO GIVE THE FINAL AESTHETIC EFFECT.

4.03.2 (AFTER 96 HOURS FROM FINAL APPLICATION OF EPOXY) IF THE FINAL EPOXY COAT IS COMPLETELY POLYMERIZED THE EXTERIOR SURFACE OF THE COMPOSITE WRAP SHALL BE CLEANED AND ROUGHENED BY A LIGHT ABRASIVE. CARE SHOULD BE TAKEN DURING THE ROUGHENING PROCESS SO THAT THE FIBERS ARE NOT DAMAGED. ALL CLEANED AND ROUGHENED SURFACES SHALL BE DRY BEFORE PAINTING.

4.03.2 THE AREA TO BE PAINTED SHALL BE A TOTAL DRY FILM THICKNESS OF NOT LESS THAN 4 MILS.

MEASUREMENT AND PAYMENT

5.01 THIS ITEM WILL BE PAYED FOR BY SQUARE FOOTAGE COVERED AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 7

DESIGNED	DRAWN	REVIEWED	DATE
J.B.S.	J.B.S.		
CHECKED	REVISED	STRUCTURE FILE NUMBER	

BRIDGE GENERAL NOTES
BRIDGE NO. MOT-70-0962
UNION RD. OVER I.R.-70

MOT-70-6.49

c68 0664.dgn

ESTIMATED QUANTITIES (MOT-70-0962)

ITEM	ITEM EXTENSION	QUANTITY	UNIT	DESCRIPTION
SPECIAL	51267502	666	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY) (LIGHT GRAY) (SEE PROPOSAL NOTE)
516	45305	8	EACH	REFURBISH BEARING DEVICES, AS PER PLAN (SEE NOTE)
516	47001	LUMP	LUMP	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN (SEE NOTE)
519	11100	20	SQ. FT.	PATCHING CONCRETE STRUCTURE (ABUTMENT)
SPECIAL	53000060	860	SQ. FT.	STRUCTURE MISC.: PIER COLUMN REPAIR USING EPOXY FIBERWRAP
815	00050	9567	SQ. FT.	SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU
815	00056	9567	SQ. FT.	FIELD PAINTING OF EXISTING STEEL, PRIME COAT, SYSTEM OZEU
815	00060	9567	SQ. FT.	FIELD PAINTING OF EXISTING STEEL, INTERMEDIATE COURSE, SYSTEM OZEU
815	00066	9567	SQ. FT.	FIELD PAINTING OF EXISTING STEEL, FINISH COAT, SYSTEM OZEU
815	00500	215	LIN. FT.	CAULKING
815	00504	40	MAN HOUR	GRINDING FINS, TEARS, SLIVERS
815	00508	1248	LIN. FT.	GRINDING FLANGE EDGES

* ESTIMATED QUANTITIES CARRIED TO BRIDGE SUMMARY ON SHEET 182.

ESTIMATED QUANTITIES FOR ITEM SPECIAL, SEALING OF CONCRETE SURFACES (EPOXY)

BRIDGE NO.	LOCATION	RAILINGS (INCLUDING PARAPET TRANSITIONS)	FORWARD ABUTMENT	REAR ABUTMENT	PIER NO. 1 (PIER CAP ONLY)	PIER NO. 2 (PIER COLUMNS & PIER CAP)	PIER NO. 3 (PIER CAP ONLY)	TOTAL CARRIED TO ESTIMATED QUANTITIES
		SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.
MOT-70-0962	UNION RD. OVER I-70	457	38	38	30	73	30	666

ESTIMATED QUANTITIES FOR FIELD PAINTING OF EXISTING STEEL, SYSTEM OZEU

BRIDGE NO.	LOCATION	ITEM 815							
		PERCENT INCREASE FOR INCIDENTALS	SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU	FIELD PAINTING OF EXISTING STEEL PRIME COAT, SYSTEM OZEU	FIELD PAINTING OF EXISTING STEEL INTERMEDIATE COAT, SYSTEM OZEU	FIELD PAINTING OF EXISTING STEEL FINISH COAT, SYSTEM OZEU	GRINDING FINS, TEARS, SLIVERS	GRINDING FLANGE EDGES	CAULKING
			SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	MAN HOURS	LIN. FT.	LIN. FT.
MOT-70-0962	UNION RD. OVER I-70	21%	9567	9567	9567	9567	40	1248	215
TOTALS CARRIED TO ESTIMATED QUANTITIES			9567	9567	9567	9567	40	1248	215

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 7

DESIGNED	DRAWN	REVIEWED	DATE
J.B.S.	J.B.S.		
CHECKED	REVISED	STRUCTURE FILE NUMBER	

ESTIMATED QUANTITIES
BRIDGE NO. MOT-70-0962
UNION RD. OVER I.R.-70

MOT-70-6.49

3 / 3

198
201

c68 0664.dgn

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/OR 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 102.05, 105.02 AND 513.02.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

EXISTING BRIDGE PLANS

EXISTING BRIDGE PLANS MAY BE INSPECTED AT THE BUREAU OF BRIDGES AND STRUCTURAL DESIGN IN COLUMBUS, OHIO OR IN THE DISTRICT 7 OFFICE IN SIDNEY, OHIO.

ITEM SPECIAL, SEALING OF CONCRETE SURFACES (EPOXY) (SEE PROPOSAL NOTE)

THE FOLLOWING EXPOSED CONCRETE SURFACES SHALL BE SEALED USING AN EPOXY SEALER:

1. PIERS FROM GROUND LINE TO BOTTOM OF PIER CAP
2. PIER CAPS BOTTOM AND BOTH SIDES OF PIER CAP
3. ABUTMENTS AND BACKWALLS FROM TOP TO BACKWALL TO BRIDGE SEAT, THE BRIDGE SEAT, AND FROM BRIDGE SEAT TO THE GROUND LINE.
4. FROM 9" ON BRIDGE DECK, FRONT, FACE, TOP, AND BACKSIDES OF BRIDGE RAILING INCLUDING THE FASCIA FROM THE BRIDGE DECK SURFACE TO A 6" UNDERDECK RETURN ON THE BRIDGE DECK.
5. BRIDGE TRANSITION PARAPETS FROM EDGE OF PAVEMENT FRONT, FACE, TOP, AND BACKSIDES OF PARAPET TO THE GROUND LINE.

PRIOR TO APPLICATION OF THE SURFACE SEALER, THE ENGINEER SHALL INSURE THAT ALL FOREIGN MATERIAL, INCLUDING GRAFFITI HAS BEEN REMOVED BY THE SURFACE PREPARATION PROCESS.

ESTIMATED QUANTITIES (MOT-70-1130R)

ITEM	ITEM EXTENSION	QUANTITY	UNIT	DESCRIPTION
SPECIAL	51267502	597.8	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY) (LIGHT GRAY) (SEE PROPOSAL NOTE)
519	11100	20	SQ. FT.	PATCHING CONCRETE STRUCTURE (ABUTMENT)

* ESTIMATED QUANTITIES CARRIED TO BRIDGE SUMMARY ON SHEET 182.

ESTIMATED QUANTITIES (MOT-70-1130L)

ITEM	ITEM EXTENSION	QUANTITY	UNIT	DESCRIPTION
SPECIAL	51267502	683.8	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY) (LIGHT GRAY) (SEE PROPOSAL NOTE)
519	11100	20	SQ. FT.	PATCHING CONCRETE STRUCTURE (ABUTMENT)

* ESTIMATED QUANTITIES CARRIED TO BRIDGE SUMMARY ON SHEET 182.

ESTIMATED QUANTITIES FOR ITEM SPECIAL, SEALING OF CONCRETE SURFACES (EPOXY)

BRIDGE NO.	LOCATION	RAILINGS (INCLUDING PARAPET TRANSITIONS)	FORWARD ABUTMENT INCLUDING WINGWALLS	REAR ABUTMENT INCLUDING WINGWALLS	PIER NO. 1 (PIER CAP INCLUDED)	PIER NO. 2 (PIER CAP INCLUDED)	PIER NO. 3 (PIER CAP INCLUDED)	TOTAL CARRIED TO ESTIMATED QUANTITIES
		SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.
MOT-70-1130 L	I-70 OVER S.R.- 48	322.6	71.2	74.3	71.9	71.9	71.9	683.8
MOT-70-1130 R	I-70 OVER S.R.- 48	322.6	56.8	53.4	55	55	55	597.8

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 7

DESIGNED	DRAWN	REVIEWED	DATE
J.B.S.	J.B.S.		
CHECKED	REVISED	STRUCTURE FILE NUMBER	

BRIDGE GENERAL NOTES AND ESTIMATED QUANTITIES
BRIDGE NO. MOT-70-1130 L&R
I.R.-70 OVER S.R.-48

MOT-70-6.49

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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/OR 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 102.05, 105.02 AND 513.02.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

EXISTING BRIDGE PLANS

EXISTING BRIDGE PLANS MAY BE INSPECTED AT THE BUREAU OF BRIDGES AND STRUCTURAL DESIGN IN COLUMBUS, OHIO OR IN THE DISTRICT 7 OFFICE IN SIDNEY, OHIO.

ITEM SPECIAL, SEALING OF CONCRETE SURFACES (EPOXY) (SEE PROPOSAL NOTE)

THE FOLLOWING EXPOSED CONCRETE SURFACES SHALL BE SEALED USING AN EPOXY SEALER:

1. ABUTMENTS AND BACKWALLS FROM TOP TO BACKWALL TO BRIDGE SEAT, THE BRIDGE SEAT, AND FROM BRIDGE SEAT TO THE GROUND LINE.

PRIOR TO APPLICATION OF THE SURFACE SEALER, THE ENGINEER SHALL INSURE THAT ALL FOREIGN MATERIAL, INCLUDING GRAFFITI HAS BEEN REMOVED BY THE SURFACE PREPARATION PROCESS.

ESTIMATED QUANTITIES (MOT-70-1192 R)

ITEM	ITEM EXTENSION	QUANTITY	UNIT	DESCRIPTION
SPECIAL	51267502	62	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY) (LIGHT GRAY) (SEE PROPOSAL NOTE)

* ESTIMATED QUANTITIES CARRIED TO BRIDGE SUMMARY ON SHEET 182.

ESTIMATED QUANTITIES (MOT-70-1192 L)

ITEM	ITEM EXTENSION	QUANTITY	UNIT	DESCRIPTION
SPECIAL	51267502	62	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY) (LIGHT GRAY) (SEE PROPOSAL NOTE)

* ESTIMATED QUANTITIES CARRIED TO BRIDGE SUMMARY ON SHEET 182.

ESTIMATED QUANTITIES FOR ITEM SPECIAL, SEALING OF CONCRETE SURFACES (EPOXY)

BRIDGE NO.	LOCATION		FORWARD ABUTMENT AND BACKWALL	REAR ABUTMENT AND BACKWALL				TOTAL CARRIED TO ESTIMATED QUANTITIES
			SQ. YD.	SQ. YD.				SQ. YD.
MOT-70-1192 L	I-70 OVER STILLWATER RIVER		31	31				62
MOT-70-1192 R	I-70 OVER STILLWATER RIVER		31	31				62

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 7

DESIGNED J.B.S. CHECKED
DRAWN J.B.S. REVISED
REVIEWED DATE
STRUCTURE FILE NUMBER

BRIDGE GENERAL NOTES AND ESTIMATED QUANTITIES
BRIDGE NO. MOT-70-1192 L&R
I.R.-70 OVER STILLWATER RIVER

MOT-70-6.49

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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/OR 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 102.05, 105.02 AND 513.02.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

EXISTING BRIDGE PLANS

EXISTING BRIDGE PLANS MAY BE INSPECTED AT THE BUREAU OF BRIDGES AND STRUCTURAL DESIGN IN COLUMBUS, OHIO OR IN THE DISTRICT 7 OFFICE IN SIDNEY, OHIO.

ITEM SPECIAL, SEALING OF CONCRETE SURFACES (EPOXY) (SEE PROPOSAL NOTE)

THE FOLLOWING EXPOSED CONCRETE SURFACES SHALL BE SEALED USING AN EPOXY SEALER:

1. ABUTMENTS AND BACKWALLS FROM TOP TO BACKWALL TO BRIDGE SEAT, THE BRIDGE SEAT, AND FROM BRIDGE SEAT TO THE GROUND LINE.
2. FROM 9" ON BRIDGE DECK, FRONT, FACE, TOP, AND BACKSIDES OF BRIDGE RAILING INCLUDING THE FASCIA FROM THE BRIDGE DECK SURFACE TO A 6" UNDERDECK RETURN ON THE BRIDGE DECK.
3. BRIDGE TRANSITION PARAPETS FROM EDGE OF PAVEMENT FRONT, FACE, TOP, AND BACKSIDES OF PARAPET TO THE GROUND LINE.

PRIOR TO APPLICATION OF THE SURFACE SEALER, THE ENGINEER SHALL INSURE THAT ALL FOREIGN MATERIAL, INCLUDING GRAFFITI HAS BEEN REMOVED BY THE SURFACE PREPARATION PROCESS.

FIELD PAINTING OF EXISTING STEEL, SYSTEM OZEU

THE SURFACE AREA PAY QUANTITY IS BASED ON THE SURFACE AREA OF THE MAIN MEMBERS INCREASED BY A PERCENT TO ACCOUNT FOR THE AREA OF CROSSFRAMES, BEARINGS, AND OTHER STRUCTURAL STEEL INCIDENTALS TO BE CLEANED AND PAINTED - SEE CHART.

THE COLOR OF THE FINISH COAT FOR MOT-70-1420N SHALL BE BLUE AS SELECTED BY THE ENGINEER FROM TWO DIFFERENT PAINT CHARTS PROVIDED BY THE CONTRACTOR.

SEE THE PROPOSAL NOTE FOR THE SURFACE PREPARATION REQUIREMENTS, APPLICATION RATES, MATERIAL REQUIREMENTS AND APPLICATION PROCEDURES.

ESTIMATED QUANTITIES (MOT-70-1420N)

ITEM	ITEM EXTENSION	QUANTITY	UNIT	DESCRIPTION
SPECIAL	51267502	3830	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY) (LIGHT GRAY) (SEE PROPOSAL NOTE)
815	00050	18032	SQ. FT.	SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU
815	00056	18032	SQ. FT.	FIELD PAINTING OF EXISTING STEEL, PRIME COAT, SYSTEM OZEU
815	00060	18032	SQ. FT.	FIELD PAINTING OF EXISTING STEEL, INTERMEDIATE COURSE, SYSTEM OZEU
815	00066	18032	SQ. FT.	FIELD PAINTING OF EXISTING STEEL, FINISH COAT, SYSTEM OZEU
815	00500	207	LIN. FT,	CAULKING
815	00504	40	MAN HOUR	GRINDING FINS, TEARS, SLIVERS
815	00508	1680	LIN. FT.	GRINDING FLANGE EDGES

* ESTIMATED QUANTITIES CARRIED TO BRIDGE SUMMARY ON SHEET 182.

ESTIMATED QUANTITIES FOR ITEM SPECIAL, SEALING OF CONCRETE SURFACES (EPOXY)

BRIDGE NO.	LOCATION		FORWARD ABUTMENT	REAR ABUTMENT	REAR WINGWALLS	FORWARD WINGWALLS	PARAPETS	TOTAL CARRIED TO ESTIMATED QUANTITIES
			SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.
MOT-70-1420N	PETERS PIKE OVER AIRPORT ACCESS		1785	1417	115	141	372	3830

ESTIMATED QUANTITIES FOR FIELD PAINTING OF EXISTING STEEL, SYSTEM OZEU

BRIDGE NO.	LOCATION	ITEM 815							
		PERCENT INCREASE FOR INCIDENTALS	SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU	FIELD PAINTING OF EXISTING STEEL PRIME COAT, SYSTEM OZEU	FIELD PAINTING OF EXISTING STEEL INTERMEDIATE COAT, SYSTEM OZEU	FIELD PAINTING OF EXISTING STEEL FINISH COAT, SYSTEM OZEU	GRINDING FINS, TEARS, SLIVERS	GRINDING FLANGE EDGES	CAULKING
			SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	MAN HOURS	LIN. FT.	LIN. FT.
MOT-70-1420N	PETERS PIKE OVER AIRPORT ACCESS	22%	18032	18032	18032	18032	40	1680	207
TOTALS CARRIED TO ESTIMATED QUANTITIES			18032	18032	18032	18032	40	1680	207

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 7

DESIGNED J.B.S. | DRAWN J.B.S. | CHECKED | REVISED | REVIEWED | DATE | STRUCTURE FILE NUMBER

BRIDGE GENERAL NOTES AND ESTIMATED QUANTITIES
BRIDGE NO. MOT-70-1420N
PETERS PIKE OVER AIRPORT ACCESS RD.

MOT-70-6.49

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