

SEL
PROJECT ID: 4869-00-72
WITH: N/A
COUNTY: WASHINGTON

MAY 2016

ORDER OF SHEETS

Section No. 1	Title
Section No. 2	Typical Sections, Details, and Erosion Control
Section No. 3	Miscellaneous Quantities
Section No. 4	Right of Way Plat
Section No. 5	Plan and Profile
Section No. 6	Standard Detail Drawings
Section No. 7	Sign Plates
Section No. 8	Structure Plans
Section No. 9	Computer Earthwork Data
Section No. 9	Cross Sections

TOTAL SHEETS = 88



DESIGN DESIGNATION

A.A.D.T. (2016)	= 2,300
A.A.D.T. (2036)	= 3,500
D.H.V. (2036)	= 11.6%
D.D. (2036)	= 60/40
T.	= 3.0%
DESIGN SPEED	= 60 MPH
ESALS	= 350,000

CONVENTIONAL SYMBOLS

PLAN	
CORPORATE LIMITS	////
PROPERTY LINE	---
LOT LINE	- - -
LIMITED HIGHWAY EASEMENT	L - - -
EXISTING RIGHT OF WAY	---
PROPOSED OR NEW R/W LINE	---
SLOPE INTERCEPT	---
REFERENCE LINE	---
EXISTING CULVERT	---
PROPOSED CULVERT (Box or Pipe)	---
COMBUSTIBLE FLUIDS	CAUTION
MARSH AREA	***
WOODED OR SHRUB AREA	~~~~~

PROFILE	
GRADE LINE	---
ORIGINAL GROUND	---
MARSH OR ROCK PROFILE (To be noted as such)	---
SPECIAL DITCH	---
GRADE ELEVATION	95.36
CULVERT (Profile View)	---
UTILITIES	
ELECTRIC	E
FIBER OPTIC	FO
GAS	G
SANITARY SEWER	SAN
STORM SEWER	SS
TELEPHONE	T
WATER	W
UTILITY PEDESTAL	---
POWER POLE	---
TELEPHONE POLE	---

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT
CTH D
BRIDGE OVER KOHLVILLE RIVER B-66-196
CTH D
WASHINGTON COUNTY

STATE PROJECT NUMBER
4869-00-72



LAYOUT
SCALE 0 0.5 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.057 MI.

Coordinates on this plan are referenced to the Wisconsin County Coordinate System (WCCS), Washington, NAD 1983 (2011)
Elevations shown on this plan are referenced to the North American Vertical Datum of 1988 NAVD 88 (2011).

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4869-00-72		

ACCEPTED FOR
WASHINGTON COUNTY

Date: 1/27/16
SIGNATURE AND TITLE OF OFFICIAL

ORIGINAL PLANS PREPARED BY:

SA
STRAND ASSOCIATES
910 WEST WINGRA DRIVE
MADISON, WISCONSIN 53715
(608) 251-4843

WISCONSIN
DAVID J. WALKER
E-23400
VERONA WI
PROFESSIONAL ENGINEER
1/28/2016

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	STRAND ASSOCIATES, INC.
Designer	STRAND ASSOCIATES, INC.
Management Consultant	DAAR CORPORATION INC.
C.O. Examiner	

APPROVED FOR THE DEPARTMENT
DATE: 1/30/16
SIGNATURE
(Management Consultant Signature)

E

GENERAL NOTES

NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

EROSION CONTROL FEATURES AS SHOWN ON THE PLANS ARE AT SUGGESTED LOCATIONS. THE ENGINEER MAY MODIFY LOCATIONS AS NEEDED. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

THE LOCATION OF PROPOSED SIGNS AS SHOWN ON THE PLANS ARE APPROXIMATE. THE EXACT NUMBER OF SIGNS AND SIGN LOCATIONS ARE TO BE APPROVED BY THE ENGINEER IN THE FIELD.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY SHALL BE RESTORED AS DIRECTED BY THE ENGINEER.

MISCELLANEOUS REMOVAL ITEMS SHALL BE REMOVED TO AN EXISTING JOINT, SAWCUT WHERE SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

A SAWED JOINT SHALL BE REQUIRED WHERE NEW PAVEMENT IS TO MEET AN EXISTING PAVED SURFACE.

SILT FENCE SHALL BE PLACED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER AND IN PLACE PRIOR TO CONSTRUCTION.

ASPHALT BID/MIX SPECIFICATIONS

	THICKNESS	BID/MIX SPECIFICATION
UPPER LAYER	2"	4 LT 58-28 S
LOWER LAYER	3"	3 LT 58-28 S

UTILITIES

WE ENERGIES GAS

SEND ALL CORRESPONDENCE TO:
LATROY BRUMFIELD
333 W EVERETT ST - A299
MILWAUKEE, WI 53203
PH: (414) 221-5617
latroy.brumfield@we-energies.com

CONSTRUCTION FIELD CONTACT:
MICHAEL KARTH
500 S. 116TH STREET
WEST ALLIS, WI 53214
PH: (414) 944-5542
CELL: (414) 587-5105
michael.karth@we-energies.com

WE ENERGIES ELECTRIC

SEND ALL CORRESPONDENCE TO:
LATROY BRUMFIELD
333 W EVERETT ST - A299
MILWAUKEE, WI 53203
PH: (414) 221-5617
latroy.brumfield@we-energies.com

CONSTRUCTION FIELD CONTACT:
AL SCHMITT
245 SAND DR
WEST BEND, WI 53095
PH: (262) 338-7662
alan.schmitt@we-energies.com

CHARTER COMMUNICATIONS

TOM HARYCKI
1515 W WASHINGTON STREET
WEST BEND, WI 53095
PH: (262) 429-1235 EXT. 20702
tom.haryckie@charter.com

FRONTIER

RYAN OSNESS
118 DIVISION STREET
PLYMOUTH, WI 53073
PH: (920) 893-7455
ryan.d.osnes@ftr.com

OTHER CONTACTS

DESIGN CONSULTANT

DAVID J. WALKER
STRAND ASSOCIATES, INC.
910 W WINGRA DR
MADISON, WI 53715
PH: (608) 251-4843
david.walker@strand.com

WASHINGTON COUNTY ENGINEER/SUPERVISOR

SCOTT M. SCHMIDT
WASHINGTON COUNTY PUBLIC AGENCY CENTER (PAC)
333 EAST WASHINGTON ST., SUITE 2300
WEST BEND, WI 53095-2003
PH: (262) 335-6881
scott.schmidt@co.washington.wi.us

WISDNR

KRISTINA BETZOLD
DNR SOUTHEAST REGION
2300 N. DR. MARTIN LUTHER KING JR. DR
MILWAUKEE, WI 53212
PH: (414) 263-8517
kristina.betzold@wisconsin.gov

DIGGERS



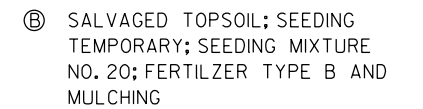
HOTLINE

Dial  or (800)242-8511

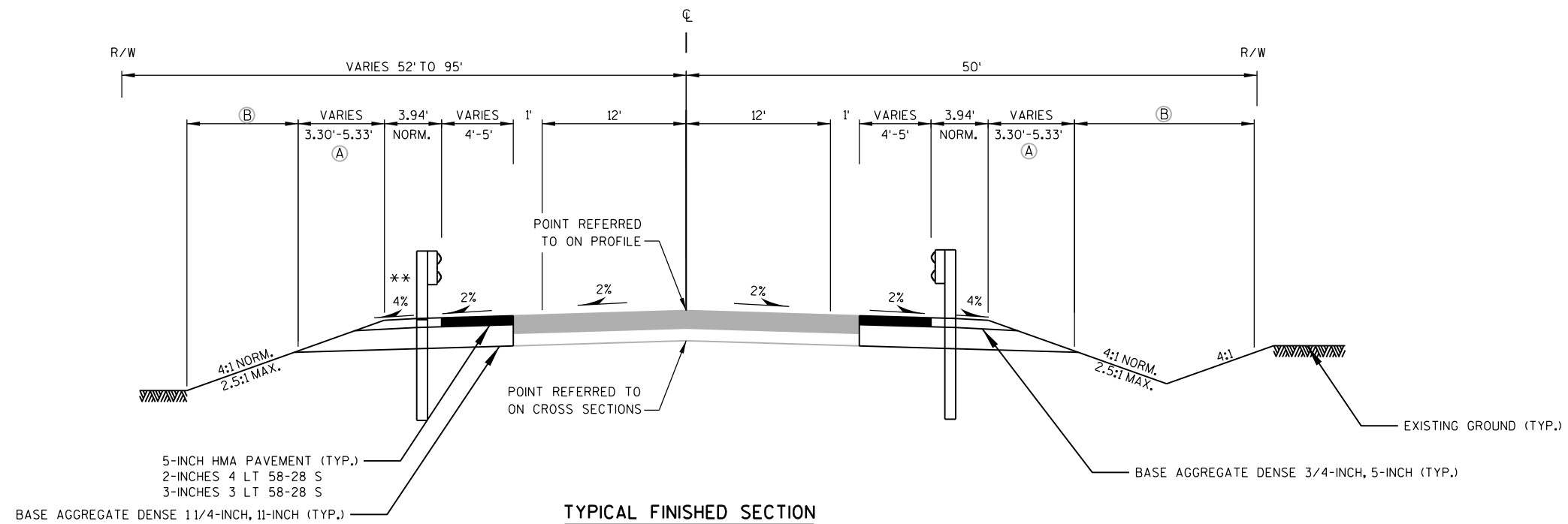
www.DiggersHotline.com



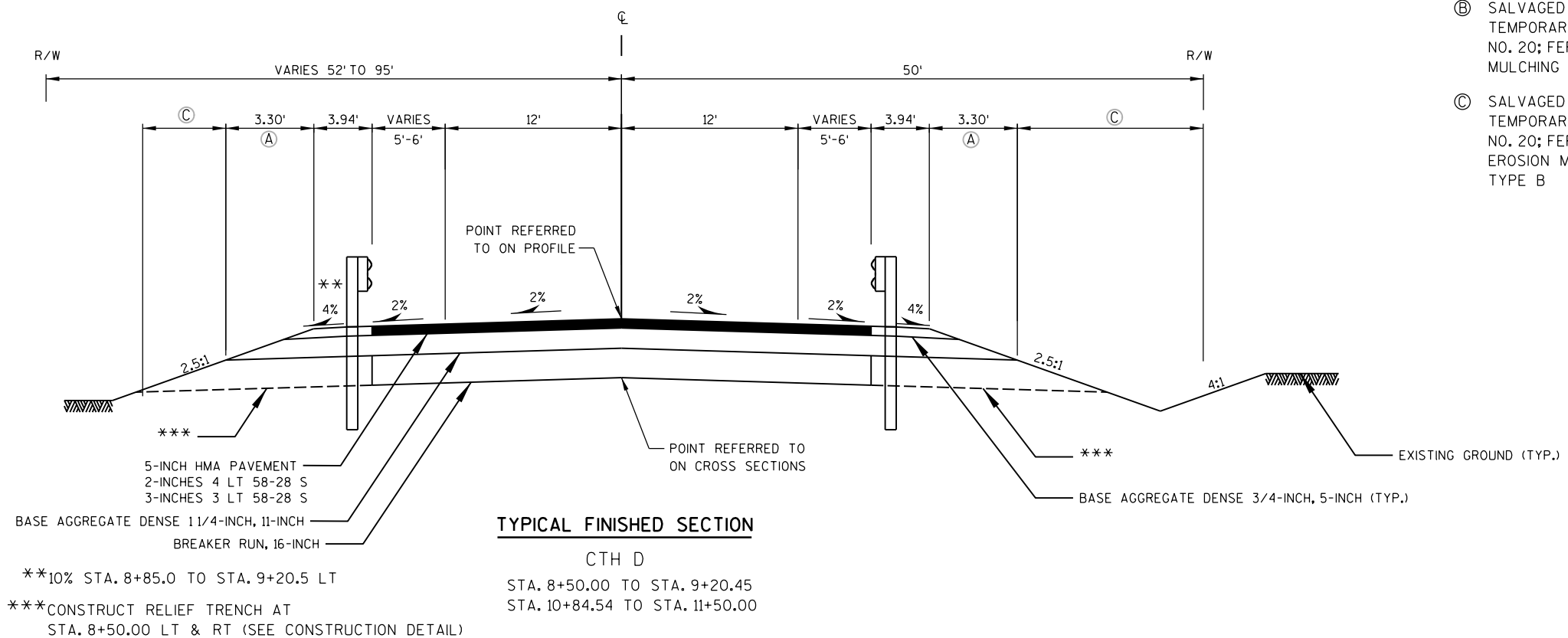
STA. 7+59.88 TO STA. 12+45.68



STA. 7+90.22 TO STA. 8+06.73 LT
STA. 12+16.15 TO STA. 12+45.68 LT
STA. 7+59.88 TO STA. 7+88.85 RT
STA. 11+66.74 TO STA. 12+24.80 RT



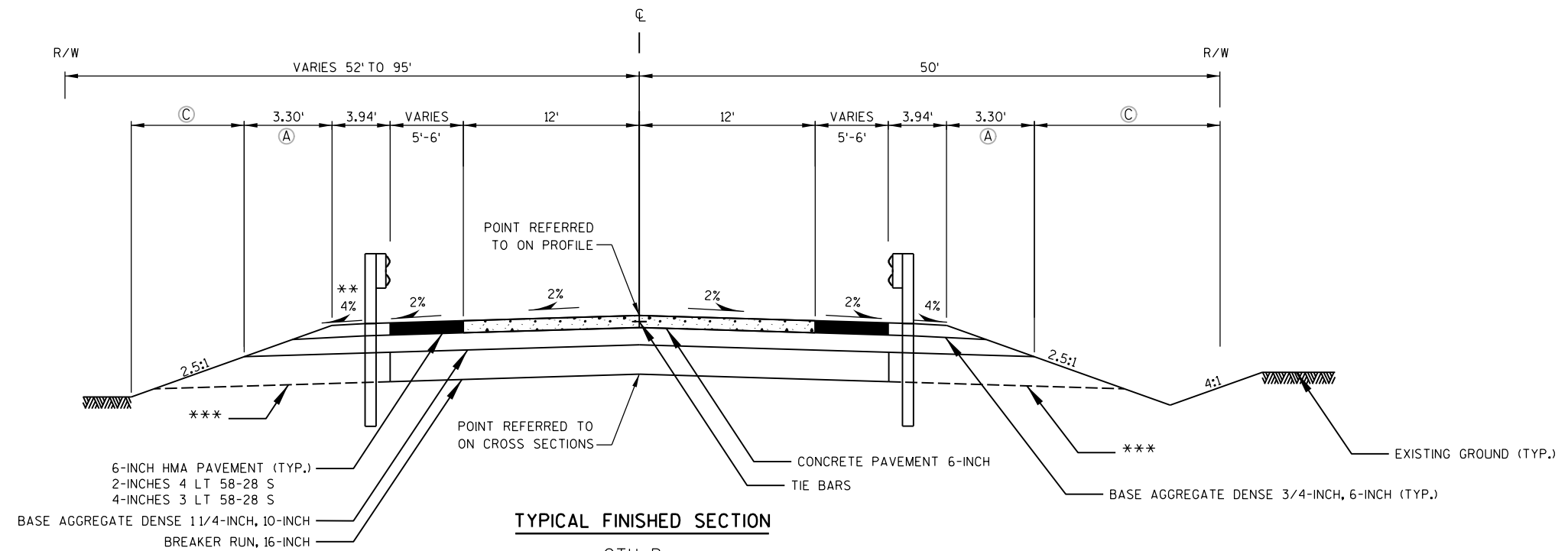
**10% STA. 8+06.7 TO STA. 8+85.0 LT



**10% STA. 8+85.0 TO STA. 9+20.5 LT

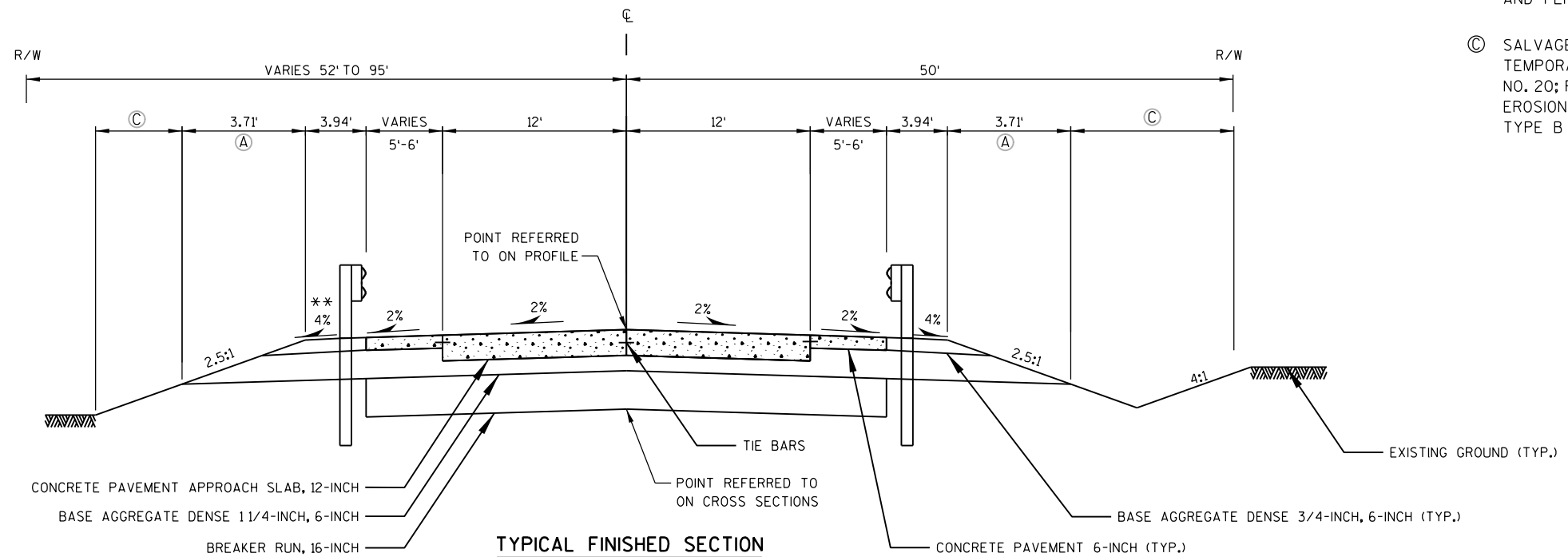
***CONSTRUCT RELIEF TRENCH AT
STA. 8+50.00 LT & RT (SEE CONSTRUCTION DETAIL)

- Ⓐ SEEDING TEMPORARY;
SEEDING MIXTURE NO. 20;
AND FERTILIZER TYPE B
- Ⓑ SALVAGED TOPSOIL; SEEDING
TEMPORARY; SEEDING MIXTURE
NO. 20; FERTILIZER TYPE B AND
MULCHING
- Ⓒ SALVAGED TOPSOIL; SEEDING
TEMPORARY; SEEDING MIXTURE
NO. 20; FERTILIZER TYPE B AND
EROSION MAT URBAN CLASS 1
TYPE B



**10% STA. 9+20.5 TO STA. 9+56.5 LT
***CONSTRUCT RELIEF TRENCH AT STA. 10+50.00 LT
& STA. 10+75.00 RT (SEE CONSTRUCTION DETAIL)

- (A) SEEDING TEMPORARY;
SEEDING MIXTURE NO. 20;
AND FERTILIZER TYPE B
- (C) SALVAGED TOPSOIL; SEEDING
TEMPORARY; SEEDING MIXTURE
NO. 20; FERTILIZER TYPE B AND
EROSION MAT URBAN CLASS 1
TYPE B

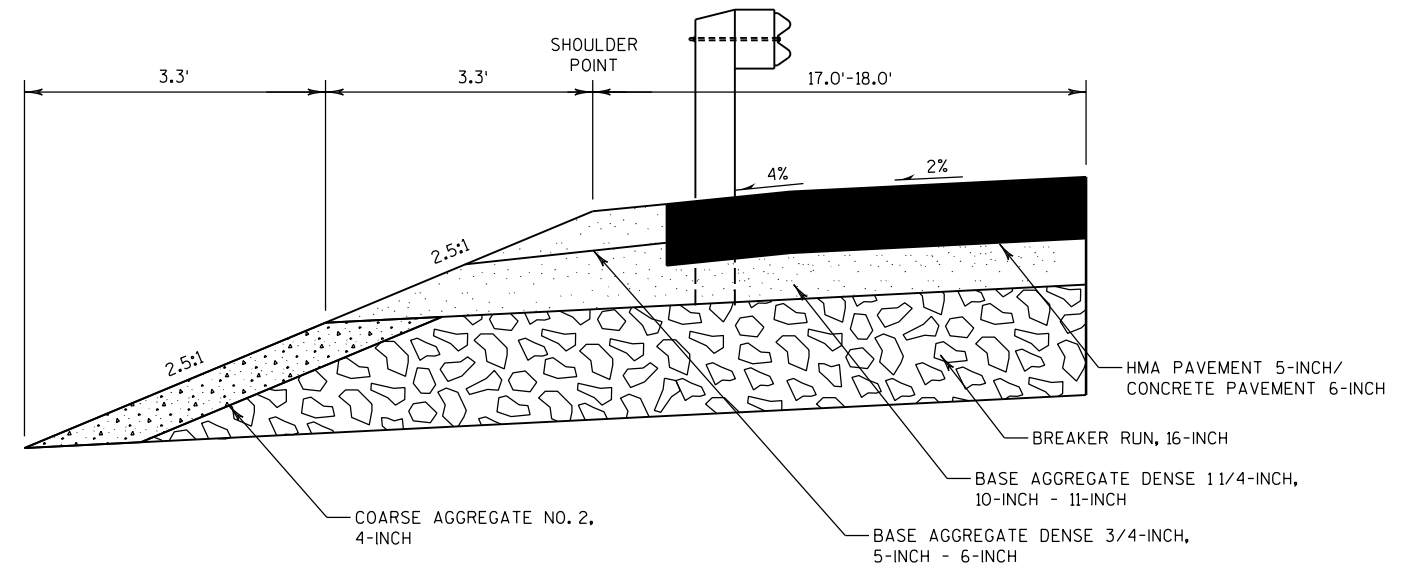


**10% STA. 9+20.5 TO STA. 9+56.5 LT

RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIP- TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPE- TURF			.25 .32			.27 .34			.28 .36			.30 .38
PAVEMENT:												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

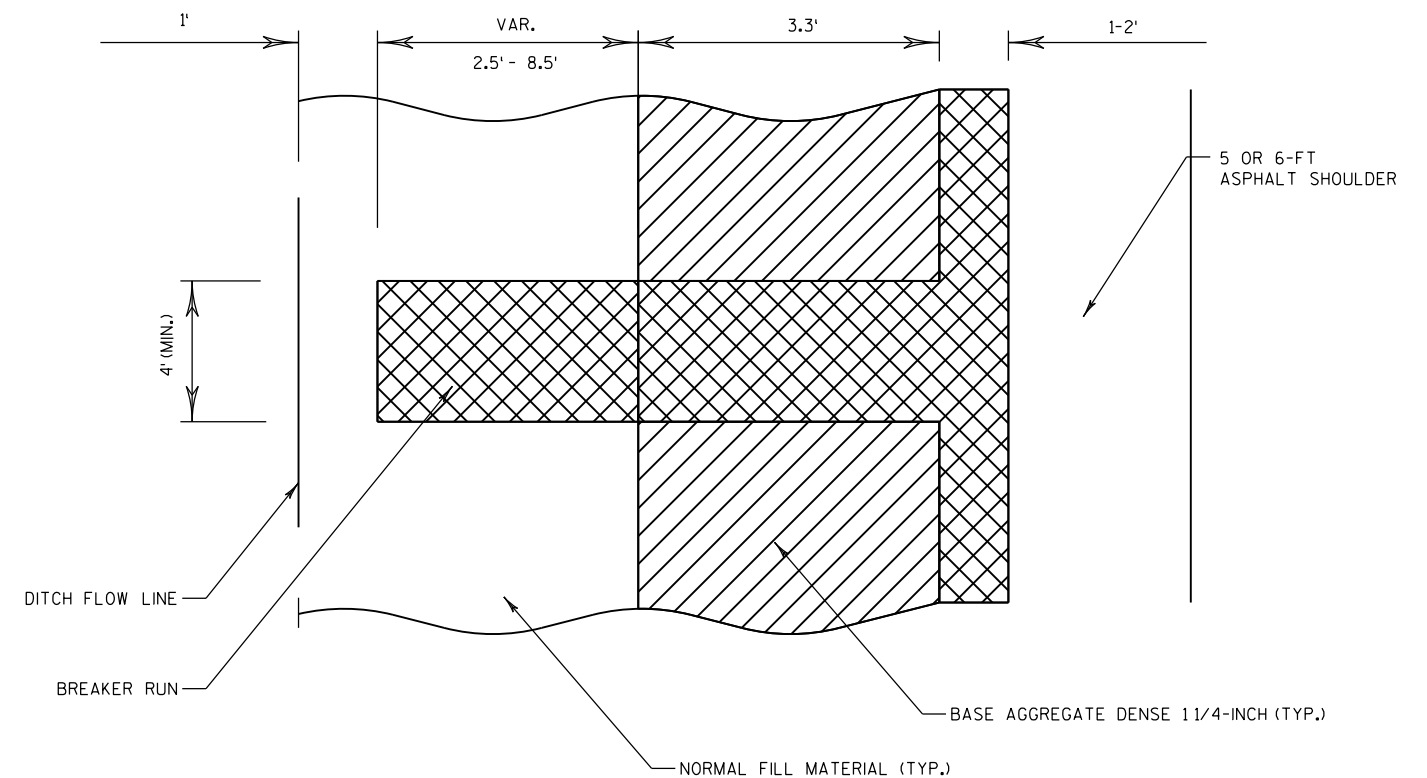
TOTAL PROJECT AREA = 1.38 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.52 ACRES

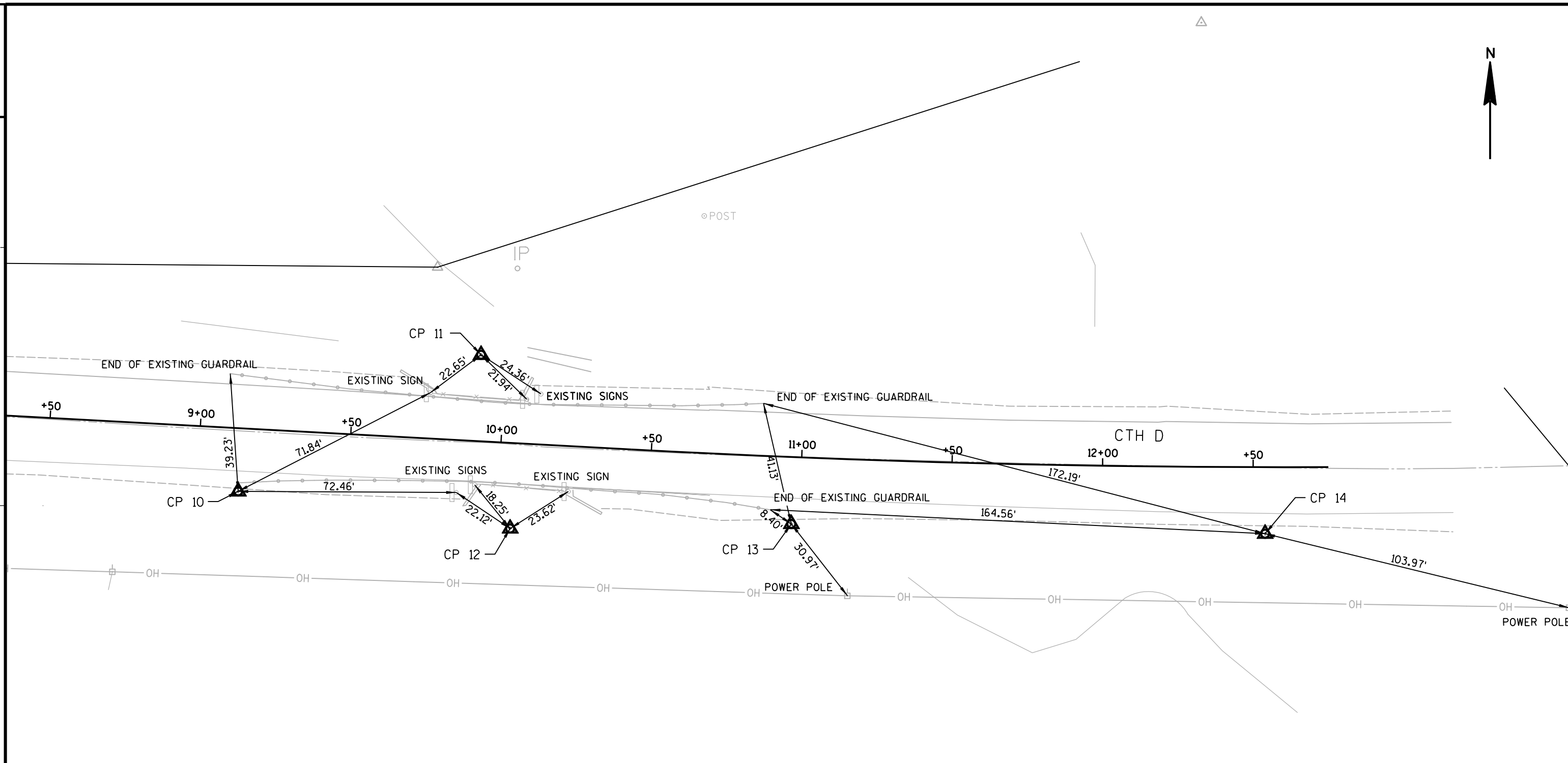


TYPICAL HALF SECTION WITH RELIEF TRENCH

RELIEF TRENCH DETAILS

CONSTRUCT RELIEF TRENCHES AT
STA 8+50.00 LT & RT, STA 10+50.00 LT,
AND STA 10+75.00 RT

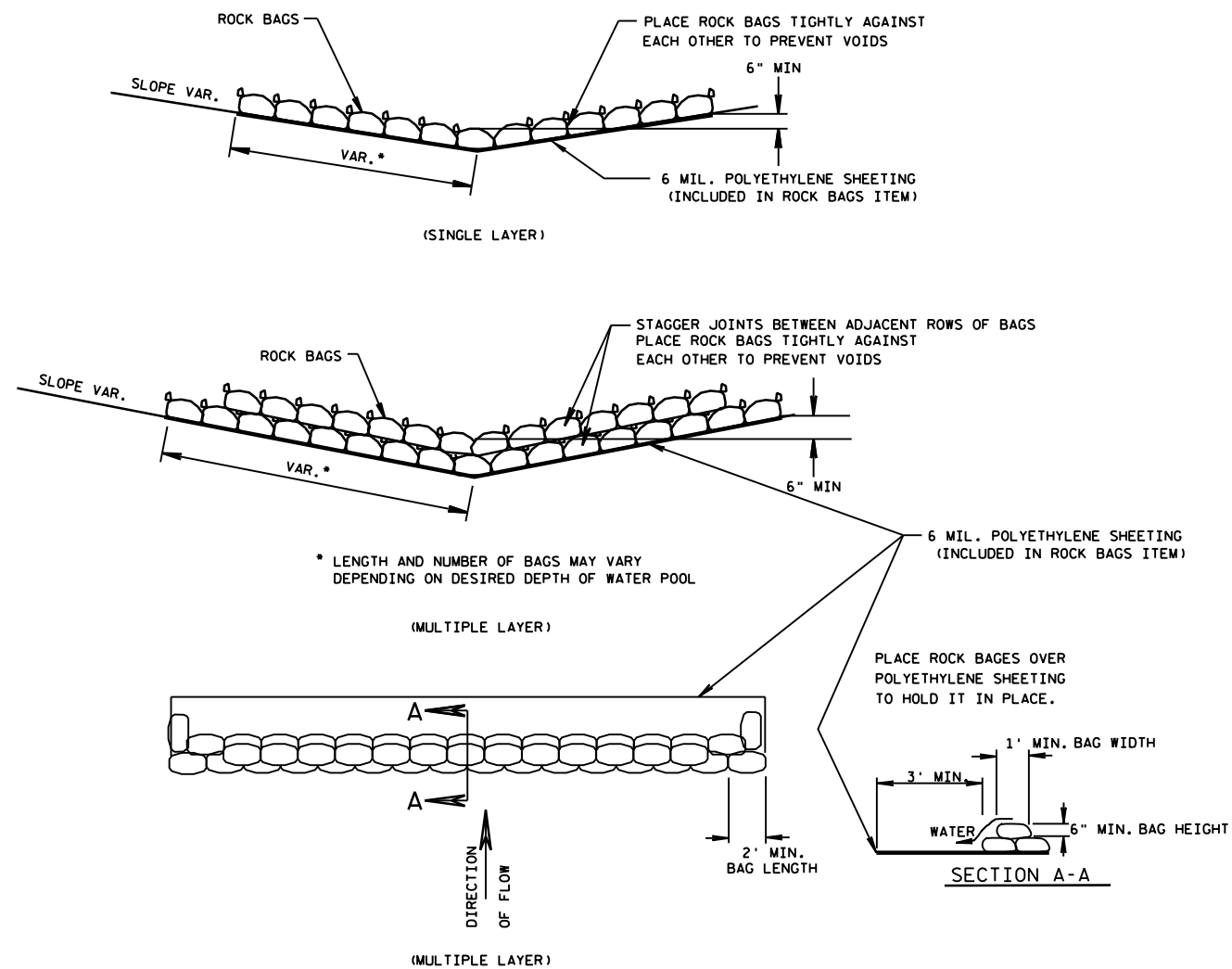




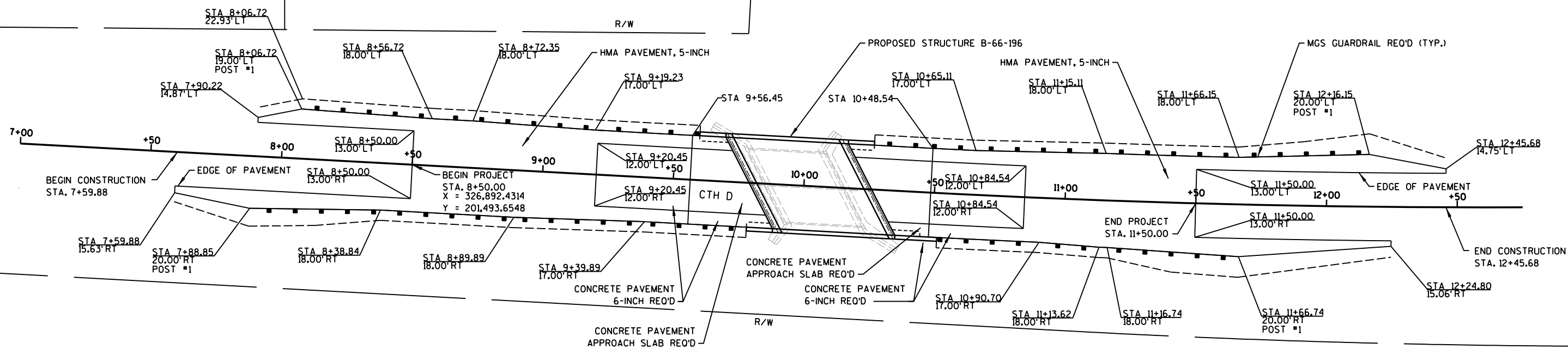
NO.	STATION	OFFSET	Y	X	DESCRIPTION
10	9+18.31	24.02'LT	201,469.27	326,954.88	SPIKE
11	10+15.97	86.12'LT	201,514.66	327,035.58	SPIKE
12	10+31.93	14.71'LT	201,456.94	327,045.24	SPIKE
13	11+48.96	21.53'LT	201,458.45	327,138.62	SPIKE
14	12+75.00	18.80'LT	201,455.20	327,296.02	SPIKE

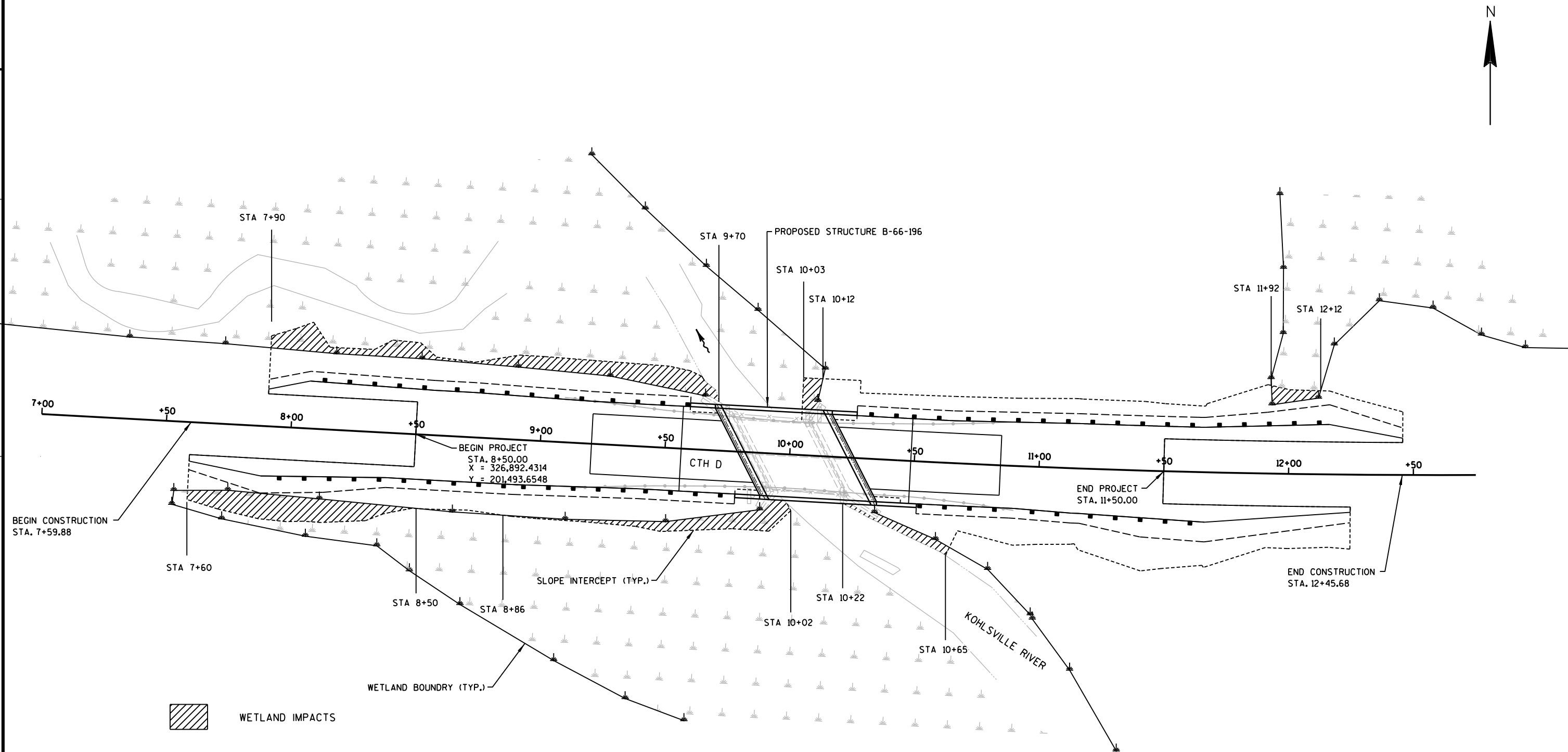
CONTROL POINT DETAIL

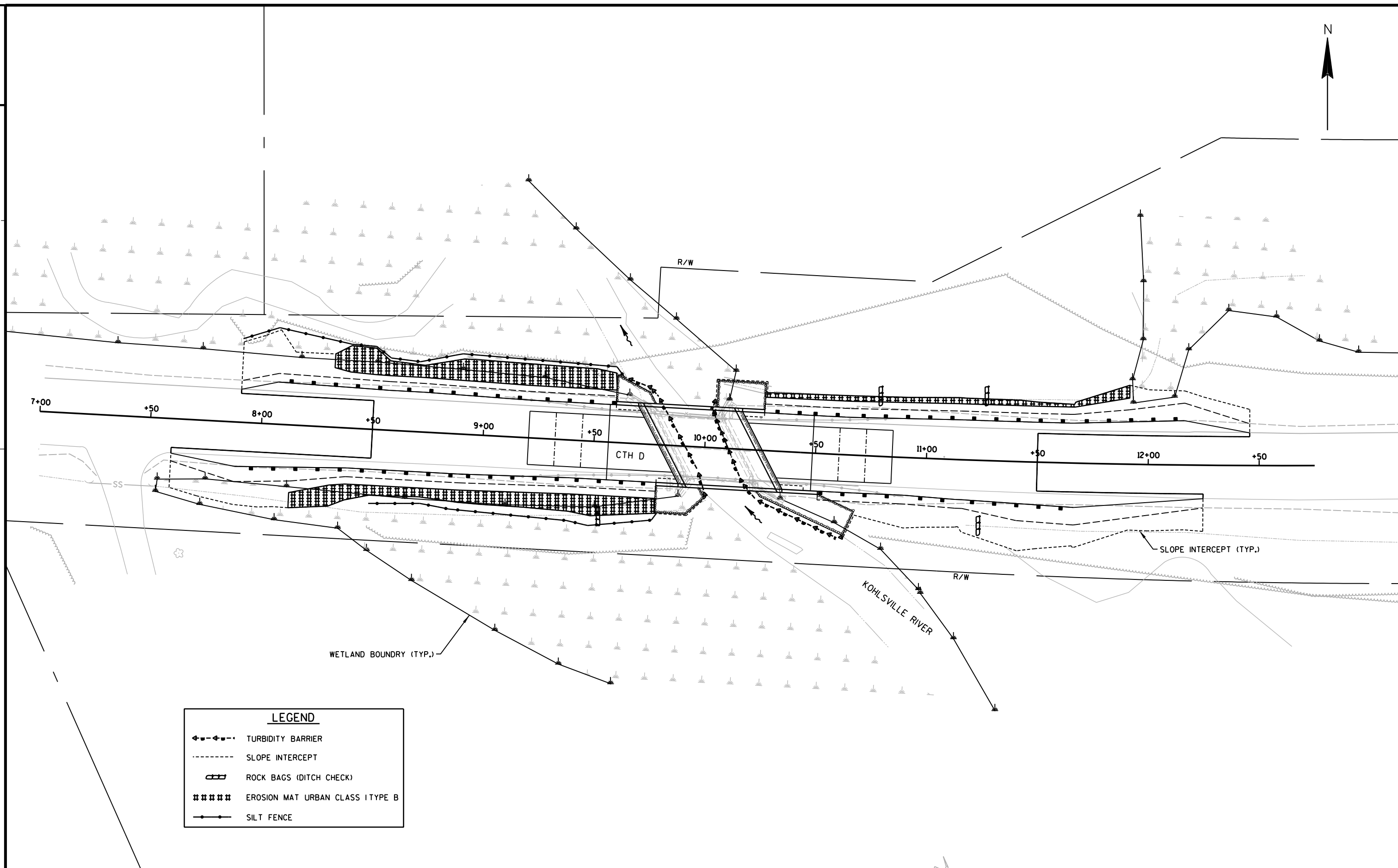
▲ CONTROL POINTS



ROCK BAGS (DITCH CHECK)





**LEGEND**

-  TURBIDITY BARRIER
-  SLOPE INTERCEPT
-  ROCK BAGS (DITCH CHECK)
-  EROSION MAT URBAN CLASS I TYPE B
-  SILT FENCE

TRAFFIC CONTROL SUMMARY (FOR INFORMATION ONLY)

CATEGORY	LOCATION	DESCRIPTION	SIGN CODE	SIZE INCH X INCH	EACH
0010	DETOUR	TRAFFIC CONTROL BARRICADES TYPE III	---	---	8
		DETOUR AHEAD	W20-2A	48X48	4
		END DETOUR	M4-8A	24X18	1
		END DETOUR	M4-8A	30X24	1
		BRIDGE OUT XX MILES AHEAD	R11-3B	60X30	6
		CTH D	M1-5A	24X24	21
		DETOUR	M4-8	24X12	16
		DETOUR	M4-8	36X18	5
		EAST	M3-2	24X12	11
		EAST	M3-2	36X18	1
		WEST	M3-4	24X12	3
		WEST	M3-4	36X18	4
		ARROW AHEAD/LT/RT	M06-1	21X21	13
		ARROW AHEAD/LT/RT	M06-1	30X30	4
		ARROW RT TURN	M05-1R	21X12	6
		ARROW RT TURN	M05-1R	30X30	1
		DETOUR RT ARROW	M4-9R	30X24	1
		DETOUR LT ARROW	M4-9L	30X24	1
		SUBTOTAL SIGNS			99
ROAD CLOSURE	TRAFFIC CONTROL BARRICADES TYPE III TRAFFIC CONTROL WARNING LIGHTS TYPE A	---	---	---	14
		---	---	---	12
		ROAD CLOSED AHEAD	W20-3A	48X48	2
		ROAD CLOSED 1000 FT	W20-3C	48X48	1
		ROAD CLOSED 500 FT	W20-3D	48X48	2
		BRIDGE OUT	R11-2B	48X30	6
		SUBTOTAL SIGNS			11

GENERAL NOTES

THE EXACT LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING THAT CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE COVERED. THE COVERING OF WOOD POST MOUNTED SIGNS IS INCLUDED UNDER ITEM 643.0100 TRAFFIC CONTROL (PROJECT). IN LIEU OF COVERING WOOD POST MOUNTED SIGNS, THE CONTRACTOR MAY CHOOSE TO REMOVE AND REINSTALL THEM.

ALL "W" SIGNS SHALL BE 48"X48" UNLESS OTHERWISE NOTED.

IMMEDIATELY RE-ESTABLISH "STOP" SIGNS THAT ARE REMOVED FOR A CONSTRUCTION OPERATION.

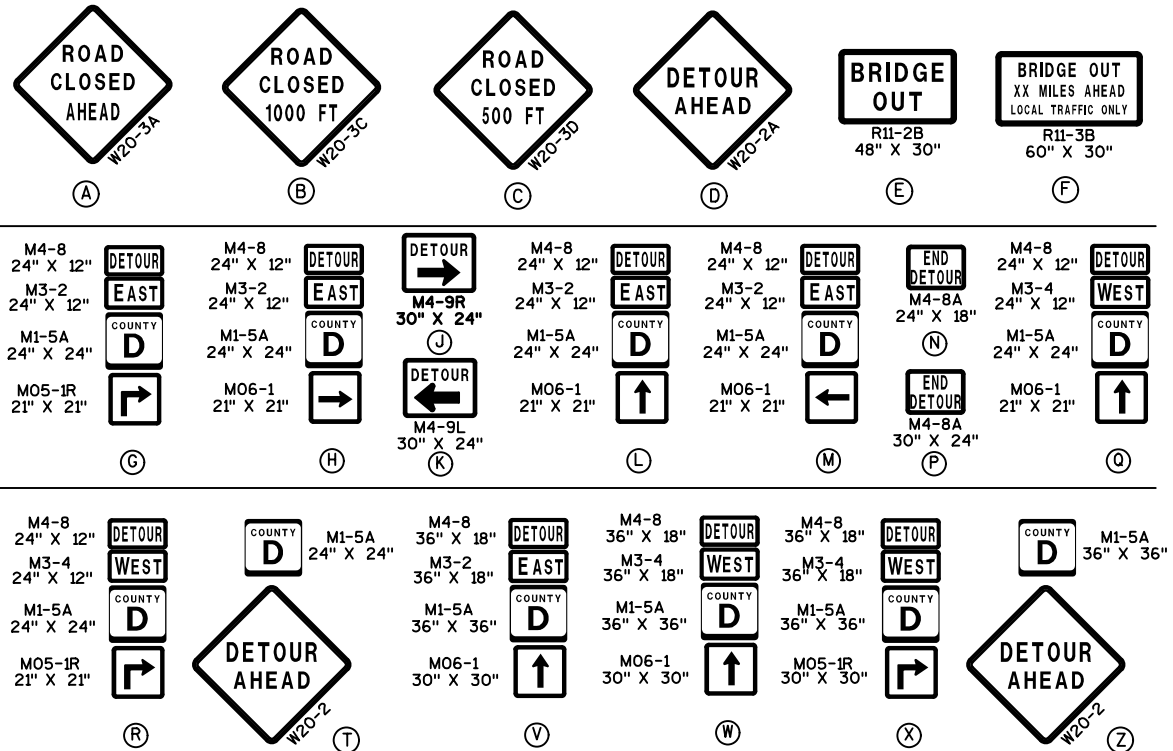
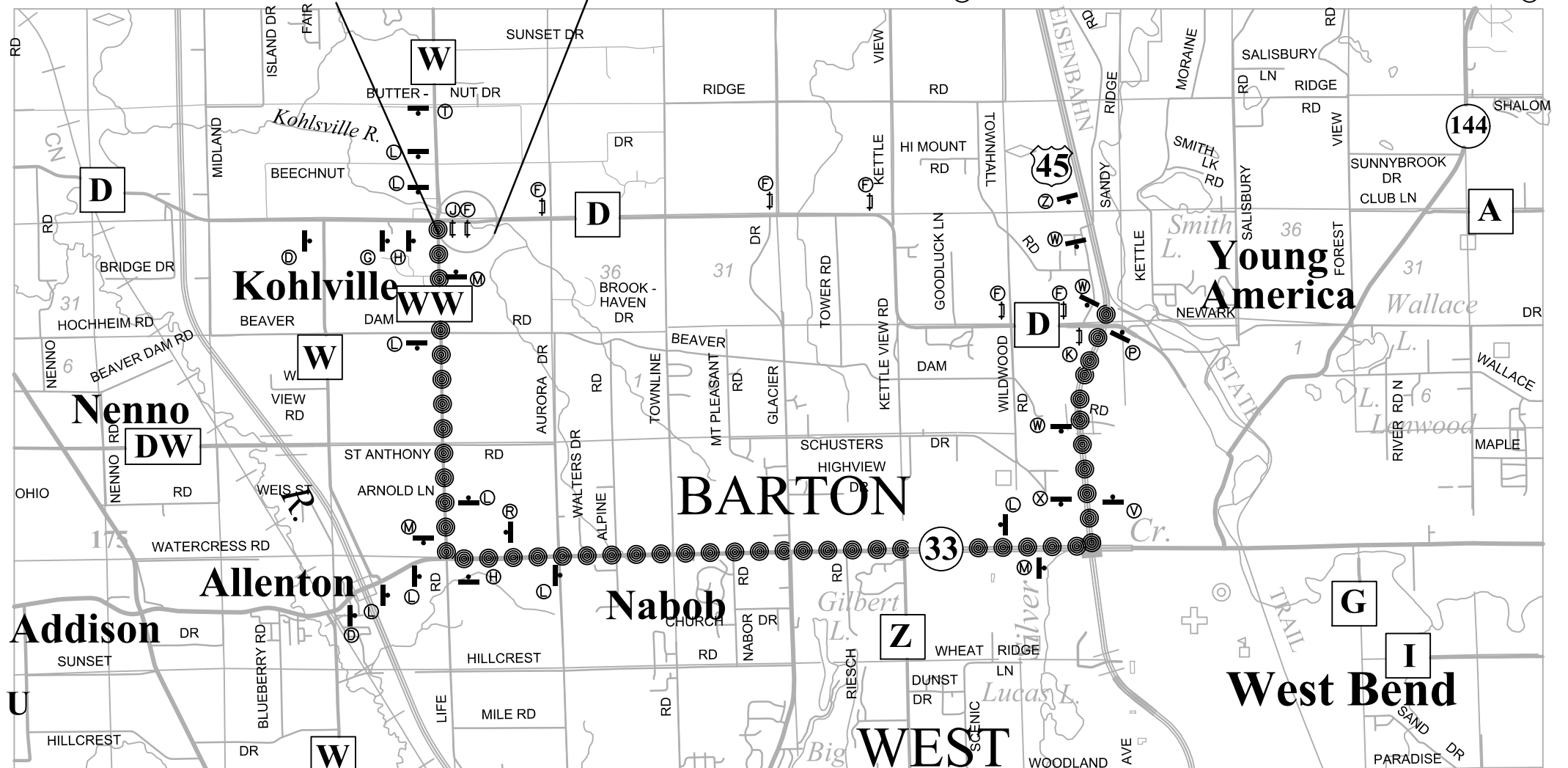
COORDINATE DETOUR ROUTE WITH PROJECT I.D. 2220-03-70.



LEGEND

- DETOUR ROUTE
- BARRICADES TYPE III WITH ATTACHED TRAFFIC CONTROL SIGN (2 WARNING LIGHTS TYPE A REQ'D.)
- BARRICADES TYPE III WITHOUT SIGN (1 WARNING LIGHT TYPE A REQ'D.)
- BARRICADES TYPE III WITH ATTACHED TRAFFIC CONTROL SIGN
- WOOD POST WITH ATTACHED TRAFFIC CONTROL SIGN

SEE S.D.D "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"



DATE 28MAR16		E S T I M A T E O F Q U A N T I T I E S			
LINE					4869-00-72
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	201.0220	Grubbing	ID	12.000	12.000
0020	203.0700.S	Removing Old Structure Over Waterway With Debris Capture System (station) 01. 10+00	LS	1.000	1.000
0030	204.0165	Removing Guardrail	LF	355.000	355.000
0040	205.0100	Excavation Common	CY	1,038.000	1,038.000
0050	206.1000	Excavation for Structures Bridges (structure) 01. B-66-196	LS	1.000	1.000
0060	210.0100	Backfill Structure	CY	266.000	266.000
0070	213.0100	Finishing Roadway (project) 01. 4869-00-72	EACH	1.000	1.000
0080	305.0110	Base Aggregate Dense 3/4-Inch	TON	125.000	125.000
0090	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	885.000	885.000
0100	311.0110	Breaker Run	TON	800.000	800.000
0110	415.0060	Concrete Pavement 6-Inch	SY	240.000	240.000
0120	415.0410	Concrete Pavement Approach Slab	SY	122.000	122.000
0130	455.0605	Tack Coat	GAL	50.000	50.000
0140	460.2000	Incentive Density HMA Pavement	DOL	140.000	140.000
0150	460.5223	HMA Pavement 3 LT 58-28 S	TON	138.000	138.000
0160	460.5224	HMA Pavement 4 LT 58-28 S	TON	89.000	89.000
0170	502.0100	Concrete Masonry Bridges	CY	254.000	254.000
0180	502.3200	Protective Surface Treatment	SY	171.000	171.000
0190	502.3210	Pigmented Surface Sealer	SY	69.000	69.000
0200	505.0400	Bar Steel Reinforcement HS Structures	LB	5,410.000	5,410.000
0210	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	33,100.000	33,100.000
0220	516.0500	Rubberized Membrane Waterproofing	SY	22.000	22.000
0230	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	425.000	425.000
0240	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	192.000	192.000
0250	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0260	614.2300	MGS Guardrail 3	LF	287.500	287.500
0270	614.2500	MGS Thrie Beam Transition	LF	157.560	157.560
0280	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0290	619.1000	Mobilization	EACH	1.000	1.000
0300	624.0100	Water	MGAL	4.100	4.100
0310	625.0500	Salvaged Topsoil	SY	460.000	460.000
0320	627.0200	Mulching	SY	205.000	205.000
0330	628.1504	Silt Fence	LF	385.000	385.000
0340	628.1520	Silt Fence Maintenance	LF	385.000	385.000
0350	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000
0360	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0370	628.2008	Erosion Mat Urban Class I Type B	SY	370.000	370.000
0380	628.6005	Turbidity Barriers	SY	46.000	46.000
0390	628.7570	Rock Bags	EACH	20.000	20.000
0400	629.0210	Fertilizer Type B	CWT	3.000	3.000
0410	630.0120	Seeding Mixture No. 20	LB	19.000	19.000
0420	630.0200	Seeding Temporary	LB	28.000	28.000
0430	633.5200	Markers Culvert End	EACH	8.000	8.000
0440	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0450	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0460	638.2102	Moving Signs Type II	EACH	3.000	3.000
0470	638.2602	Removing Signs Type II	EACH	4.000	4.000
0480	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0490	638.4000	Moving Small Sign Supports	EACH	3.000	3.000

DATE 28MAR16		E S T I M A T E O F Q U A N T I T I E S			
LINE					4869-00-72
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0500	642.5201	Field Office Type C	EACH	1.000	1.000
0510	643.0100	Traffic Control (project) 01. 4869-00-72	EACH	1.000	1.000
0520	643.2000	Traffic Control Detour (project) 01. 4869-00-72	EACH	1.000	1.000
0530	645.0120	Geotextile Fabric Type HR	SY	304.000	304.000
0540	646.0106	Pavement Marking Epoxy 4-Inch	LF	1,295.000	1,295.000
0550	650.4500	Construction Staking Subgrade	LF	420.000	420.000
0560	650.5000	Construction Staking Base	LF	420.000	420.000
0570	650.6500	Construction Staking Structure Layout (structure) 01. B-66-196	LS	1.000	1.000
0580	650.7000	Construction Staking Concrete Pavement	LF	72.000	72.000
0590	650.9910	Construction Staking Supplemental Control (project) 01. 4869-00-72	LS	1.000	1.000
0600	650.9920	Construction Staking Slope Stakes	LF	420.000	420.000
0610	690.0150	Sawing Asphalt	LF	382.000	382.000
0620	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
0630	715.0502	Incentive Strength Concrete Structures	DOL	1,524.000	1,524.000
0640	SPV.0035	Special 01. Riprap Heavy Special	CY	140.000	140.000
0650	SPV.0035	Special 02. Coarse Aggregate No. 2	CY	4.000	4.000

3

3

EARTHWORK SUMMARY											
			(1)	(2)	(3)	(4)	(5)	(5)			
			205.0100 EXCAVATION COMMON	SALVAGED/ UNUSABLE PAVEMENT MATERIAL REMOVAL	AVAILABLE MATERIAL	UNEXPANDED FILL	EXPANDED FILL	MASS ORDINATE	208.0100 -BORROW	624.0100 +WASTE	624.0100 WATER*
FACTOR 1.25											
CATEGORY	STATION - STATION	LOCATION	CY	CY	CY	CY	CY		CY		MGAL
0010	7+59.88 - 9+79.06	LT & RT	474	61	413	139	174	239	-	239	0.9
	10+25.94 - 12+45.68	LT & RT	564	62	502	17	21	481	-	481	1.1
TOTALS			1,038	123	915	156	195	720	-	720	2.1
PAY QUANTITIES			1,038	-	-	-	-	-	-	-	2.1

- 1) SALVAGED/UNUSABLE MATERIALS ARE INCLUDED IN EXCAVATION COMMON COLUMN
- 2) AVAILABLE MATERIAL = EXCAVATION COMMON - SALVAGED MATERIALS
- 3) EXPANDED FILL FACTOR = 1.25
- 4) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE CATEGORY.
PLUS QTY INDICATES AN EXCESS OF MATERIAL WITHIN THE CATEGORY,
MINUS QTY INDICATES A SHORTAGE OF MATERIAL WITHIN THE CATEGORY
- 5) WASTE = POSITIVE MASS ORDINATE, BORROW = NEGATIVE MASS ORDINATE

* ADDITIONAL QUANTITIES LISTED ELSEWHERE

REMOVING GUARDRAIL			
CATEGORY	STATION - STATION	LOCATION	204.0165 LF
0010	8+50.00 - 9+79.06	LT/RT	177
	10+25.94 - 11+50.00	LT/RT	178
TOTAL			355

BASE AGGREGATE SUMMARY					
			305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	624.0100 WATER MGAL*
CATEGORY	STATION - STATION	LOCATION			
0010	7+59.88 - 9+79.06	LT & RT	55	435	1.0
	10+25.94 - 12+45.68	LT & RT	70	450	1.0
TOTALS			125	885	2.0

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

GRUBBING			
CATEGORY	STATION	LOCATION	201.0220 GRUBBING ID
0010	8+00	LT	6
	9+50	LT	6
TOTALS			12

FINISHING ROADWAY		
CATEGORY	PROJECT I.D.	213.0100 EACH
0010	4869-00-72	1

BREAKER RUN			
CATEGORY	STATION - STATION	LOCATION	311.0110 TON
0010	8+50.00 - 9+79.06	LT/RT	400
	10+25.94 - 11+50.00	LT/RT	400
TOTAL			800

COARSE AGGREGATE NO. 2			
CATEGORY	STATION	LOCATION	SPV.0035.02 CY
0010	8+50.00	LT/RT	2
	10+50.00	LT	1
	10+75.00	RT	1
TOTAL			4

3

CONCRETE PAVEMENT APPROACH SLAB		
CATEGORY	STATION - STATION	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY
0010	9+56.45 - 9+79.06	61
	10+25.94 - 10+48.54	61
	TOTAL	122

CONCRETE PAVEMENT 6-INCH			
CATEGORY	STATION - STATION	LOCATION	415.0060 SY
0010	9+20.45 - 9+56.45	LT/RT	120
	10+48.54 - 10+84.54	LT/RT	120
	TOTAL		240

MGS THRIE BEAM TRANSITION			
CATEGORY	STATION - STATION	LOCATION	614.2500 LF
0010	9+22.35 - 9+61.75	LT	39.39
	9+41.98 - 9+81.38	RT	39.39
	10+23.63 - 10+63.03	LT	39.39
	10+49.22 - 10+88.62	RT	39.39
	TOTAL		157.56

MGS GUARDRAIL TERMINAL EAT			
CATEGORY	STATION - STATION	LOCATION	614.2610 EACH
0010	7+88.85 - 8+41.98	RT	1
	8+06.72 - 8+59.85	LT	1
	11+13.62 - 11+66.74	RT	1
	11+63.03 - 12+16.15	LT	1
	TOTAL		4

MGS GUARDRAIL 3			
CATEGORY	STATION - STATION	LOCATION	614.2300 LF
0010	8+41.98 - 9+41.98	RT	100.0
	8+59.85 - 9+22.35	LT	62.5
	10+88.62 - 11+13.62	RT	25.0
	10+63.03 - 11+63.03	LT	100.0
	TOTAL		287.5

ASPHALTIC ITEMS						
CATEGORY	STATION - STATION	LOCATION	455.0605 TACK COAT GAL	460.5223 HMA PAVEMENT 3 LT 58-28 S TON	460.5224 HMA PAVEMENT 4LT 58-28 S TON	460.2000 INCENTIVE DENSITY HMA PAYMENT DOL
0010	7+59.88 - 9+56.45	LT & RT	30	70	45	70
	10+48.54 - 12+45.68	LT & RT	20	68	44	70
	TOTALS		50	138	89	140

INCENTIVE STRENGTH CONCRETE PAVEMENT		
CATEGORY	PROJECT	715.0415 DOL
0010	4869-00-72	500

MOBILIZATION		
CATEGORY	PROJECT I.D.	619.1000 EACH
0010	4869-00-72	1

TURBIDITY BARRIERS			
CATEGORY	STATION	LOCATION	628.6005 SY
0010	9+91	LT & RT	26
	10+10	LT & RT	20
	TOTALS		46

3

3

SILT FENCE				
CATEGORY	STATION - STATION	LOCATION	628.1504	628.1520
			SILT FENCE LF	SILT FENCE MAINTENANCE LF
0010	7+90 - 9+62	LT/RT	310	310
	UNDISTRIBUTED	---	75	75
		TOTALS	385	385

MOBILIZATIONS EROSION CONTROL	
CATEGORY	628.1905 EACH
0010	2

MOBILIZATIONS EMERGENCY EROSION CONTROL	
CATEGORY	628.1910 EACH
0010	2

ROCK BAGS			
CATEGORY	STATION	LOCATION	628.7570 EACH
0010	9+50	RT	5
	10+75	LT	5
	11+75	LT & RT	10
		TOTALS	20

MARKERS CULVERT END				
CATEGORY	STATION	LOCATION	633.5200	EACH
0010	8+50	LT&RT	4	
	10+50	LT	2	
	10+75	RT	2	
		TOTALS	8	

REMOVING SIGNS SUMMARY				
CATEGORY	LOCATION	SIGN MESSAGE	638.2602	638.3000
			REMOVING SIGNS TYPE II EACH	REMOVING SMALL SIGN SUPPORTS EACH
0010	BRIDGE CORNERS	CLEARANCE STRIPE	4	4
		TOTALS	4	4

FINISHING ITEMS						
CATEGORY	STATION - STATION	LOCATION	625.0500	627.0200	629.0210	630.0120
			SALVAGED TOPSOIL SY	MULCHING SY	FERTILIZER TYPE B CWT	SEEDING MIXTURE NO. 20 LB
0010	7+59.88 - 9+79.06	LT & RT	320	75	1	9
	10+48.54 - 12+45.68	LT & RT	140	90	1	6
	UNDISTRIBUTED		---	40	1	4
		TOTALS	460	205	3	19

EROSION MAT SUMMARY			
CATEGORY	STATION - STATION	LOCATION	628.2008
			URBAN CLASS I TYPE B SY
0010	7+59.88 - 9+79.06	LT & RT	250
	10+48.54 - 12+45.68	LT & RT	45
	UNDISTRIBUTED		75
		TOTALS	370

FIELD OFFICE TYPE C		
CATEGORY	PROJECT I.D.	642.5201 EACH
0010	4896-00-72	1

3

3

3

PERMANENT SIGNING QUANTITIES										
CATEGORY	STATION	LOCATION	SIGN CODE	SIGN MESSAGE	SIGN SIZE (W x H) IN X IN	637.2230	634.0612	638.2102	638.4000	REMARKS
						SIGNS REFLECTIVE TYPE II SF	POSTS WOOD 4X6-INCH X12-FT EACH	MOVING SIGNS TYPE II EACH	MOVING SMALL SIGN SUPPORTS EACH	
0010	9+60	LT	W5-52L	CLEARANCE STRIPE	12X36	3.00	1	---	---	INSTALL AT END OF BRIDGE
	9+79	RT	W5-52R	CLEARANCE STRIPE	12X36	3.00	1	---	---	INSTALL AT END OF BRIDGE
	10+25	LT	W5-52L	CLEARANCE STRIPE	12X36	3.00	1	---	---	INSTALL AT END OF BRIDGE
	10+44	RT	W5-52R	CLEARANCE STRIPE	12X36	3.00	1	---	---	INSTALL AT END OF BRIDGE
	9+85	RT	D3-1	KOHLVILLE RIVER	---	---	---	1	1	INSTALL IN SAME LOCATION
	10+12	LT	D3-1	KOHLVILLE RIVER	---	---	---	1	1	INSTALL IN SAME LOCATION
	10+90	LT	W3-5	REDUCED SPEED AHEAD 45 MPH	---	---	---	1	1	INSTALL AT STA 11+90
TOTALS						12.00	4	3	3	

TRAFFIC CONTROL		
CATEGORY	PROJECT I.D.	643.0100 EACH
0010	4869-00-72	1
TRAFFIC CONTROL DETOUR		
CATEGORY	PROJECT I.D.	643.2000 EACH
0010	4869-00-72	1

PAVEMENT MARKING						
CATEGORY	STATION - STATION	LOCATION	646.0106	646.0106	REMARKS	
			EPOXY 4-INCH (WHITE) LF	EPOXY 4-INCH (YELLOW) LF		
0010	7+59 - 12+45	LT & RT	920	---	EDGE LINE	
	8+50 - 11+50	CL	---	375	CENTERLINE SKIP DASH/SOLID	
TOTALS			920	375		
ITEM TOTAL			1,295			

CONSTRUCTION STAKING SUMMARY						
CATEGORY	STATION - STATION	LOCATION	650.4500	650.5000	650.9920	
			SUBGRADE LF	BASE LF	SLOPE STAKES LF	
0010	7+59.88 - 9+79.06	LT & RT	220	220	220	
	10+48.54 - 12+45.68	LT & RT	200	200	200	
TOTALS			420	420	420	

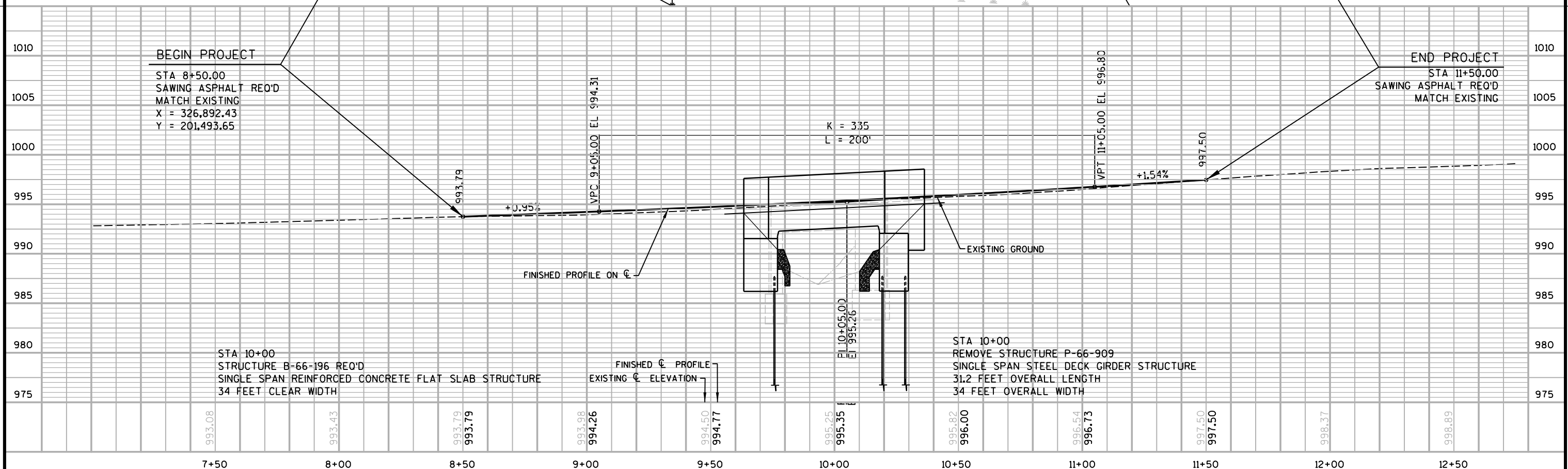
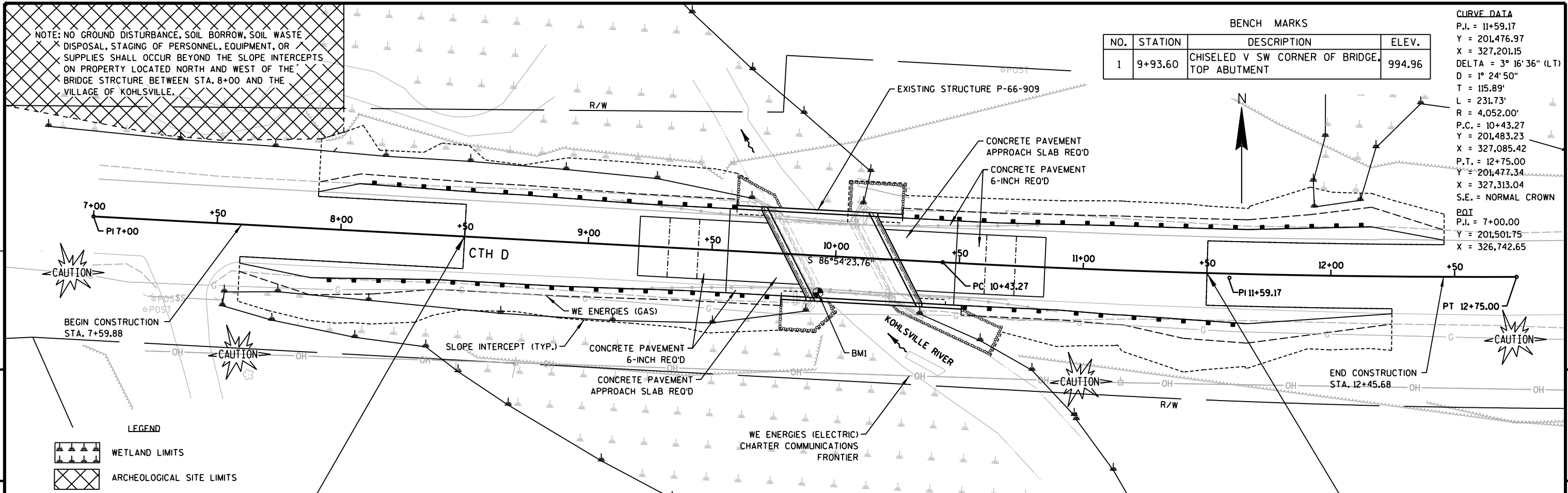
CONSTRUCTION STAKING STRUCTURE LAYOUT		
CATEGORY	STRUCTURE	650.6500 LS
0010	B-66-196	1

CONSTRUCTION STAKING CONCRETE PAVEMENT			
CATEGORY	STATION - STATION	LOCATION	650.7000 LF
0010	9+20.45 - 9+56.45	LT/RT	36
	10+48.54 - 10+84.54	LT/RT	36
TOTALS			72

SAWING ASPHALT			
CATEGORY	STATION - STATION	LOCATION	690.0150 LF
0010	7+59.88 - 8+50.00	RT	93
	7+90.22 - 8+50.00	LT	62
	8+50	LT & RT	26
	11+50	LT & RT	26
	11+50 - 12+24.80	RT	78
	11+50 - 12+45.68	LT	97
TOTALS			382

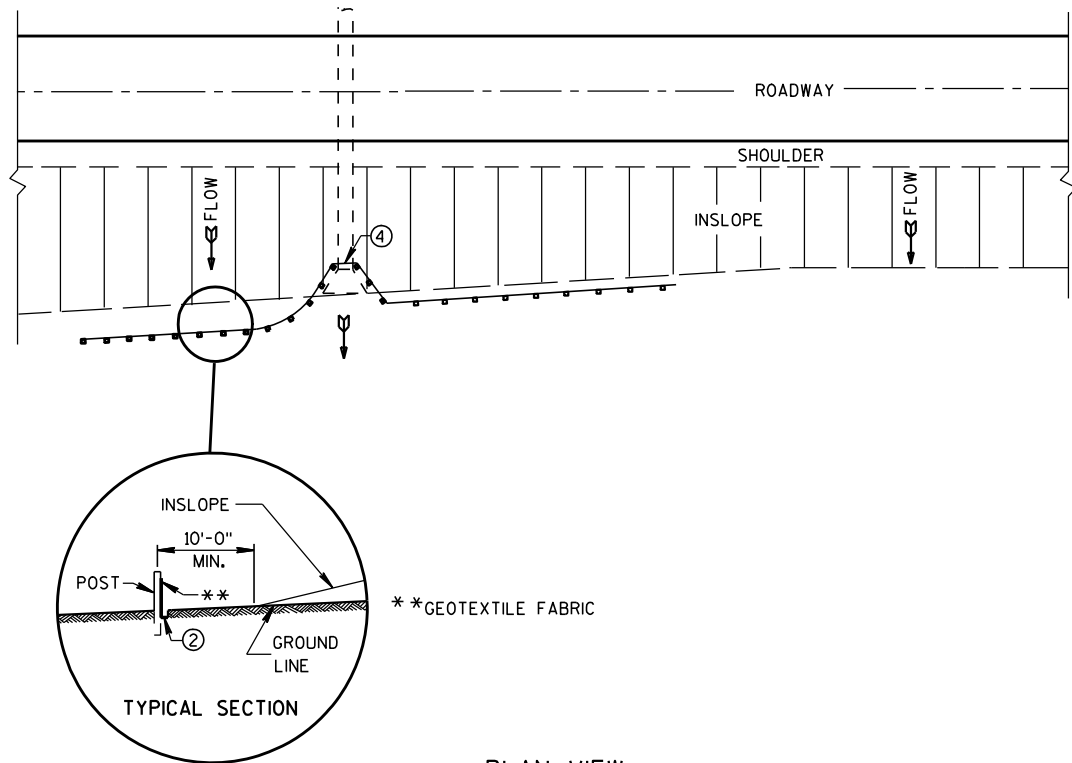
CONSTRUCTION STAKING SUPPLEMENTAL CONTROL		
CATEGORY	PROJECT	650.9910 LS
0010	4869-00-72	1

INCENTIVE STRENGTH CONCRETE STRUCTURES		
CATEGORY	PROJECT	715.0502 DOL
0020	4869-00-72	1,524

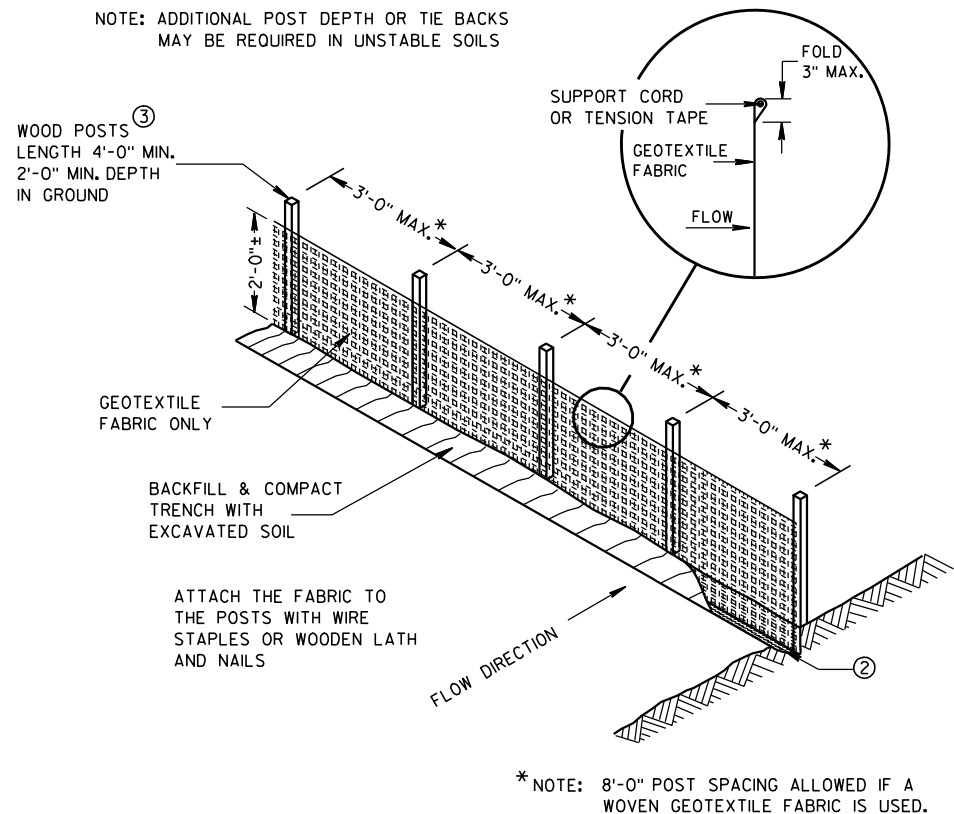


Standard Detail Drawing List

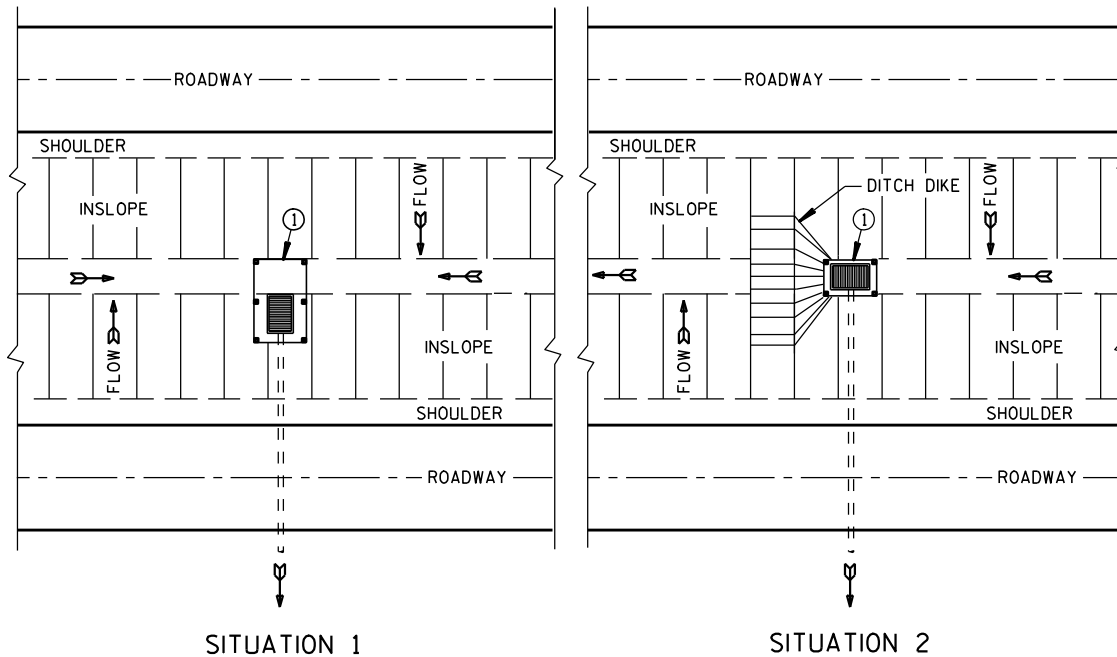
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
13B02-08B	STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB
14B42-03A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-04A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C06-07	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-16A	PAVEMENT MARKING (MAINLINE)



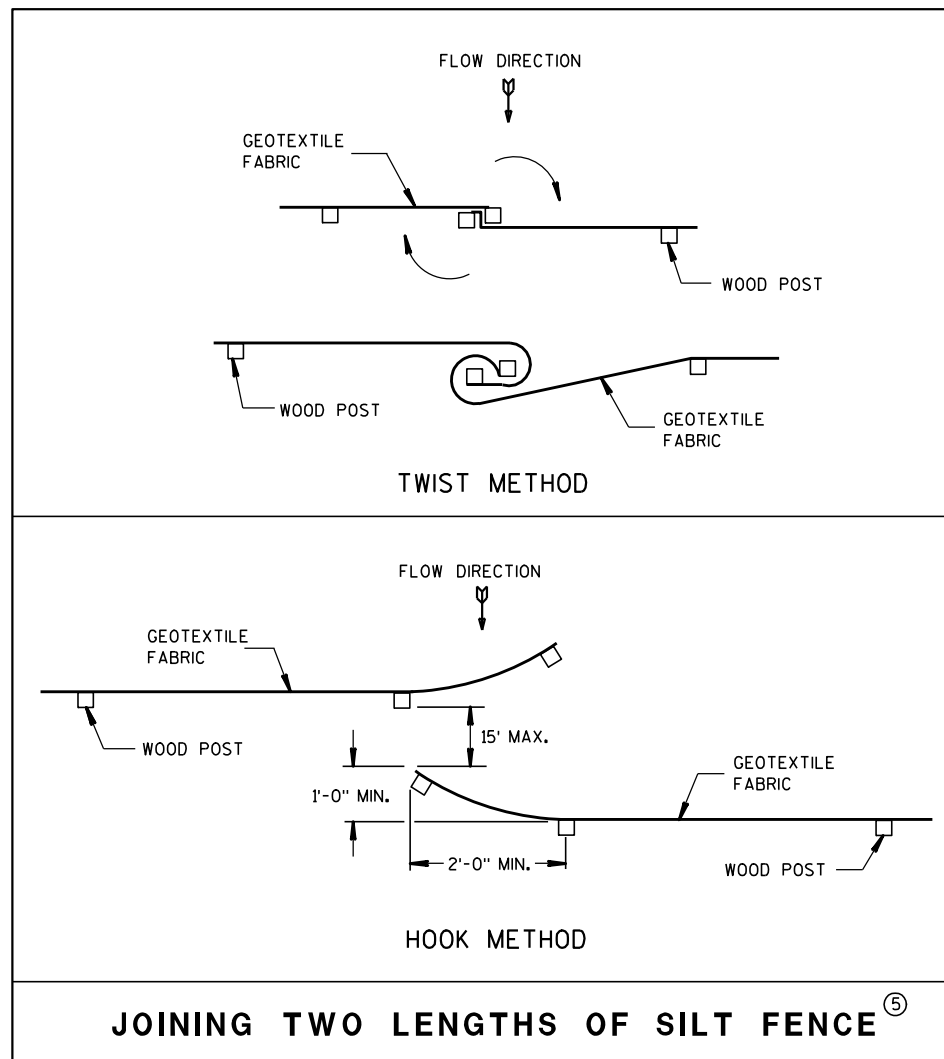
PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

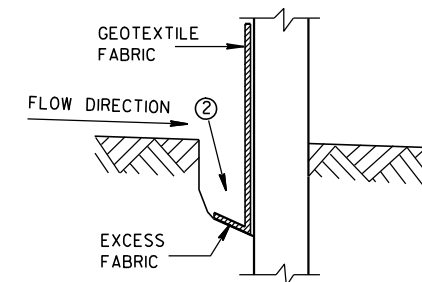


JOINING TWO LENGTHS OF SILT FENCE (5)

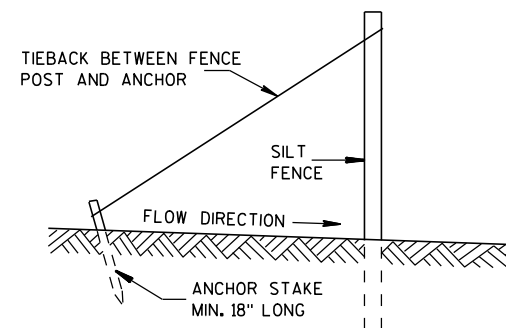
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

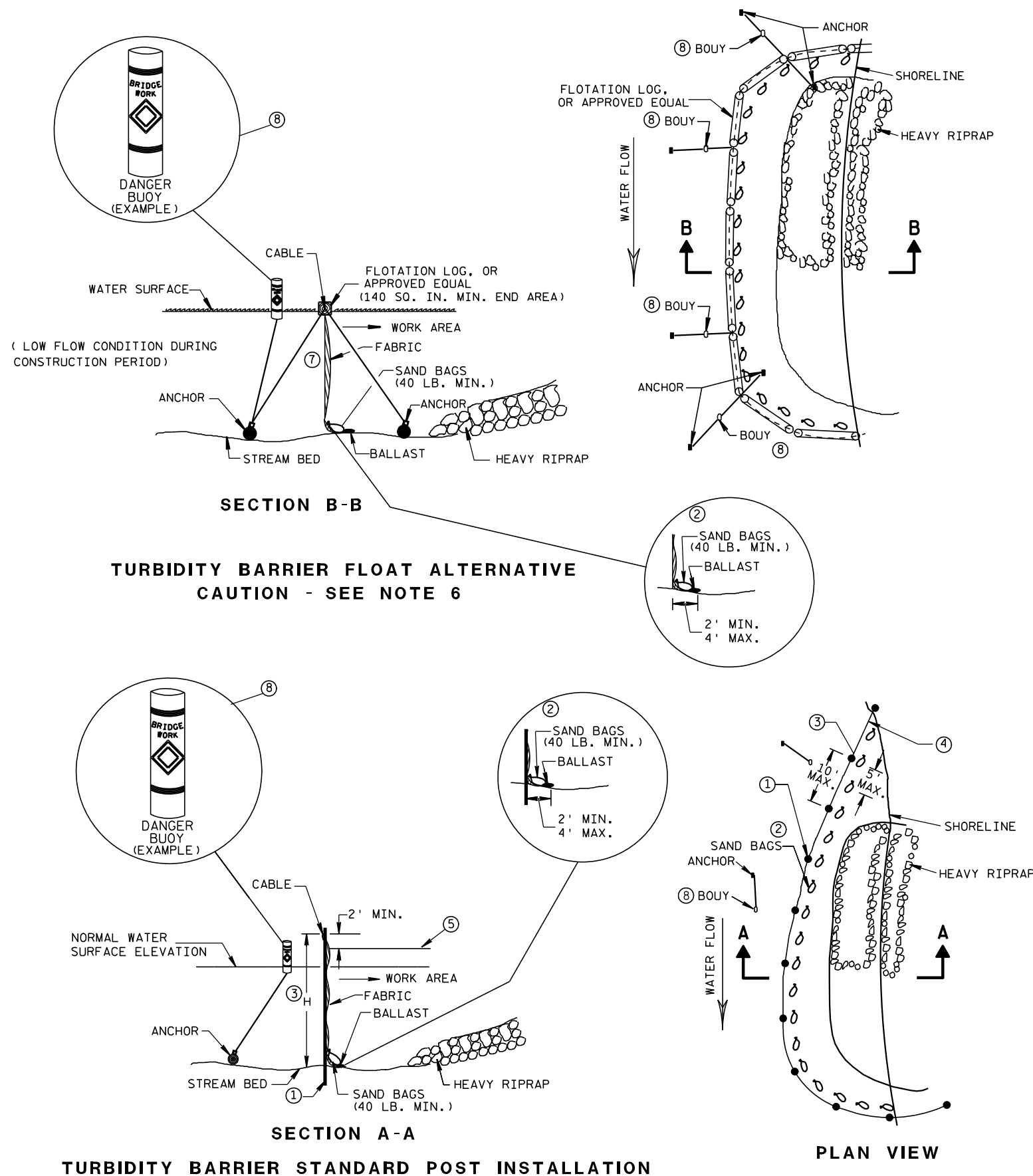


TRENCH DETAIL



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4-29-05 DATE	/S/ Beth Canestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

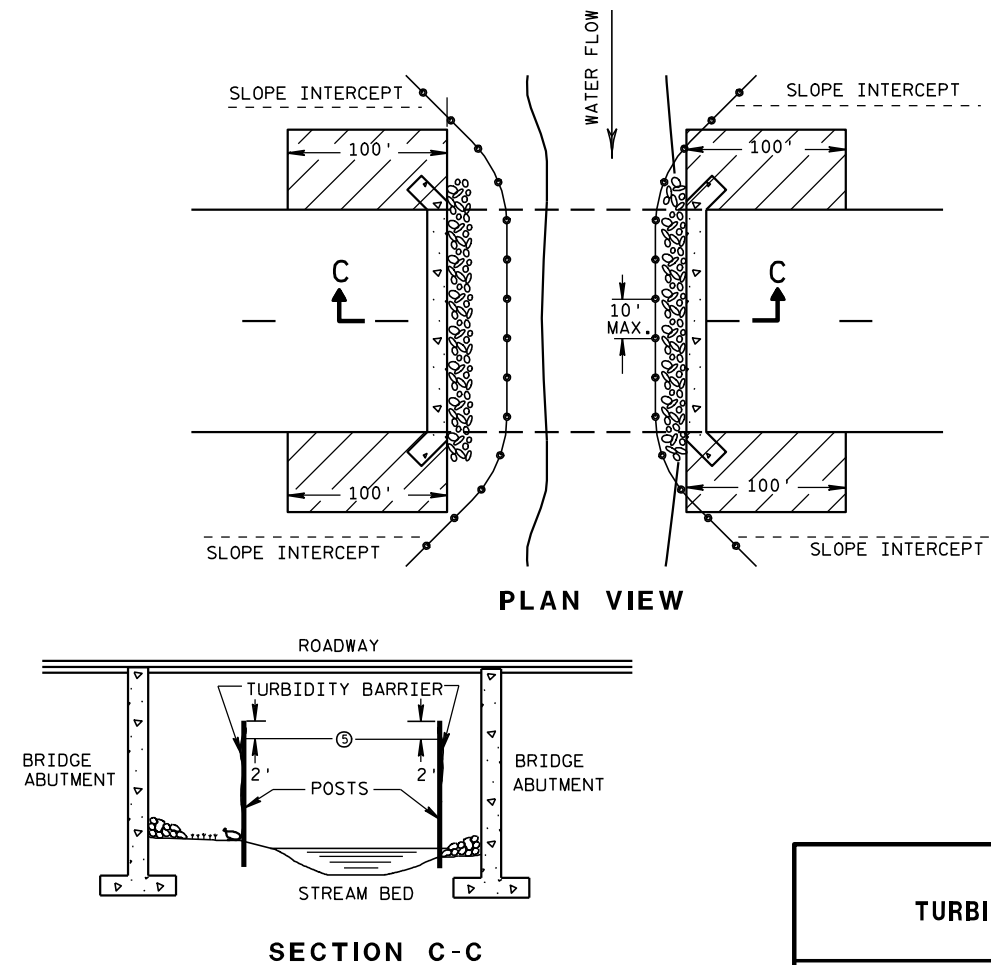


GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

- ① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
- ② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.
- ③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.
- ④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.
- ⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE 02 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.
- ⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.
- ⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.
- ⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

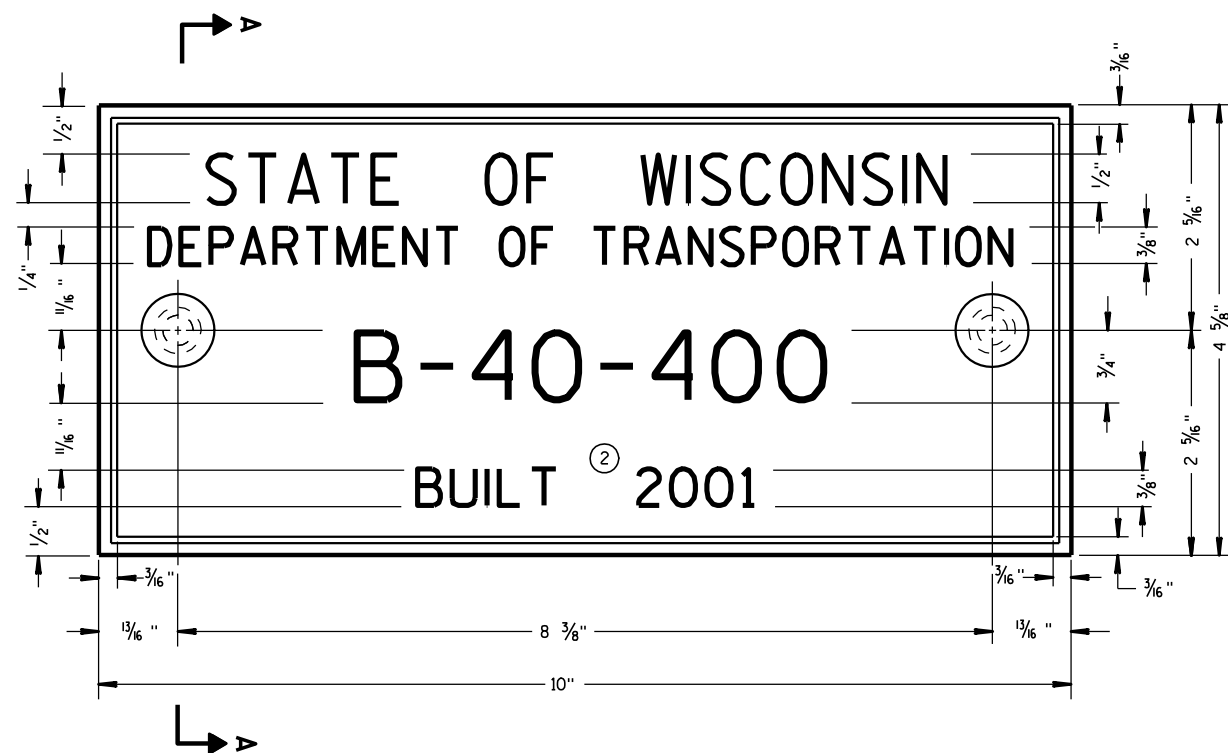
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

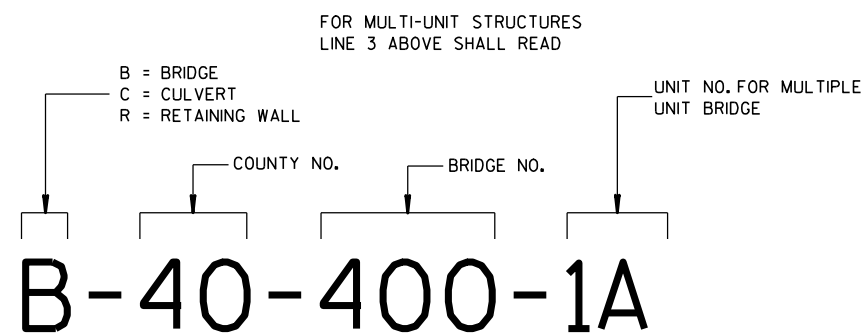
6/04/02
DATE

FHWA

/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)



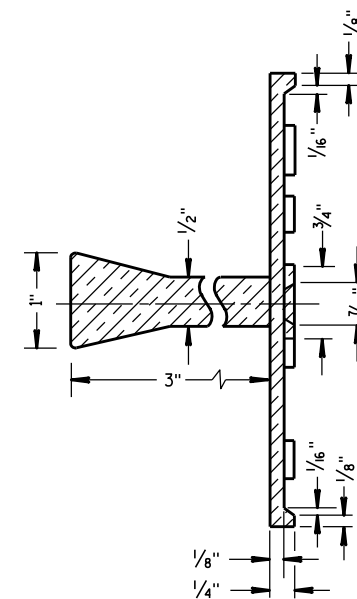
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

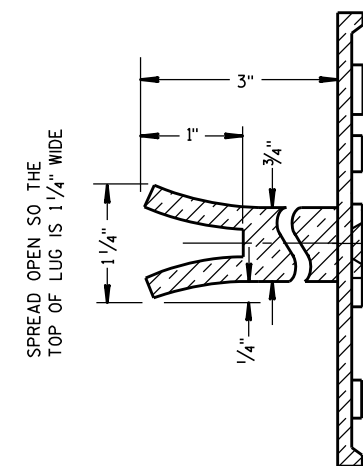
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.

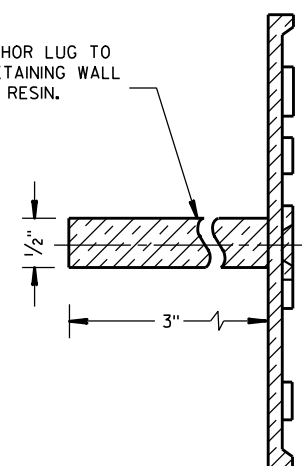


SECTION A-A



ALTERNATE LUG

- ① ADHERE ANCHOR LUG TO PRECAST RETAINING WALL WITH EPOXY RESIN.



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

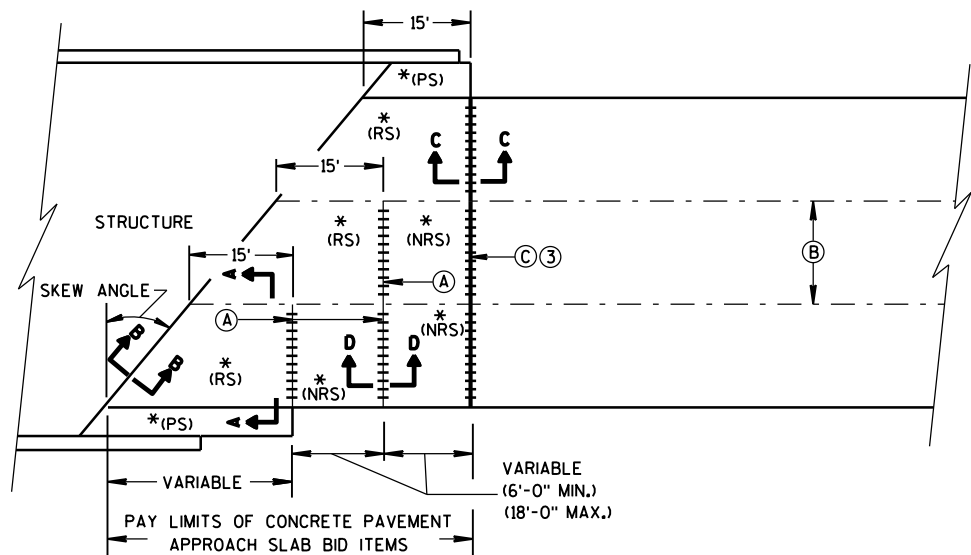
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

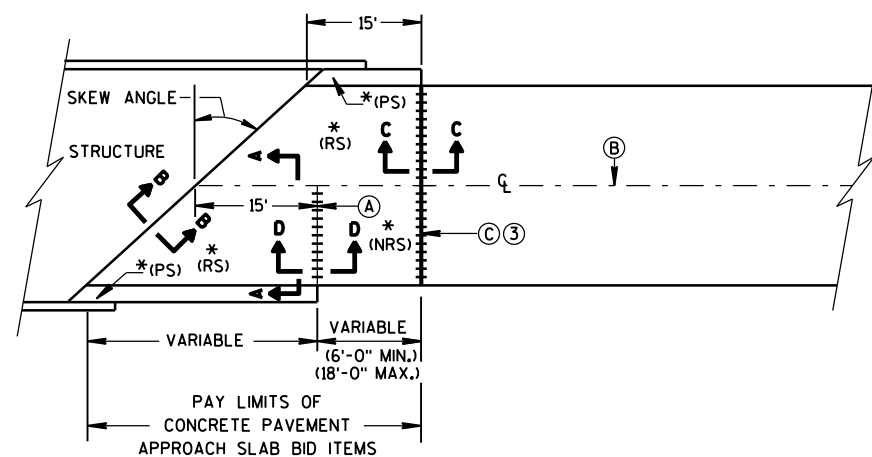
3/26/10
DATE

FHWA

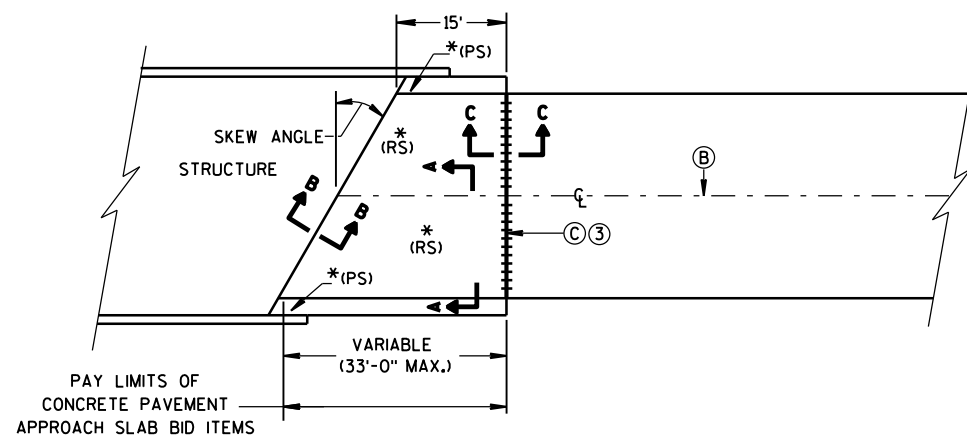
/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER



**SKewed APPROACH
(PAVEMENT MORE THAN 2 LANES)**



**SKews > 20°
(PAVEMENT WIDTH ≤ 30')**

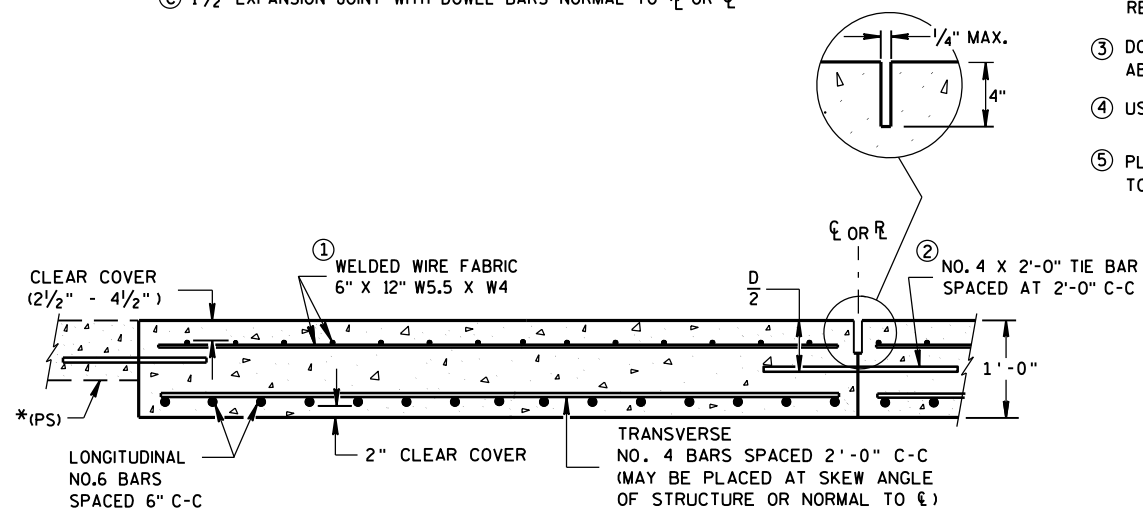


**SKews ≤ 20°
(PAVEMENT WIDTH ≤ 30')
APPROACH SLAB AND ADJACENT PAVEMENT**

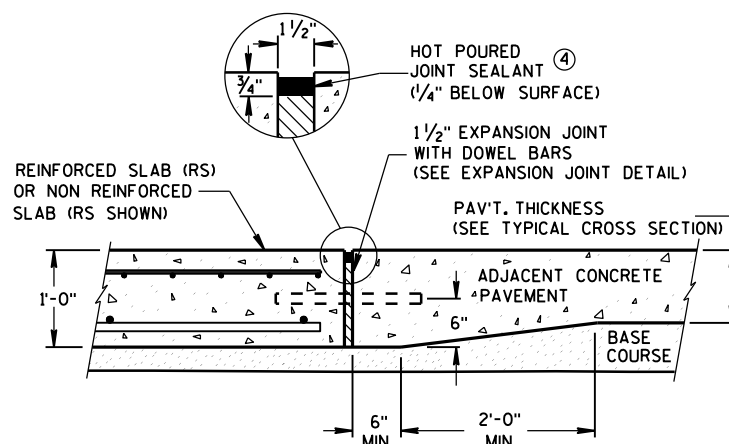
* (RS) = REINFORCED CONCRETE SLAB
* (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
* (NRS) = NON-REINFORCED CONCRETE SLAB

*** STANDARD DOWEL BAR DIAMETER
(SEE SDD 13C11, & SDD 13C13)

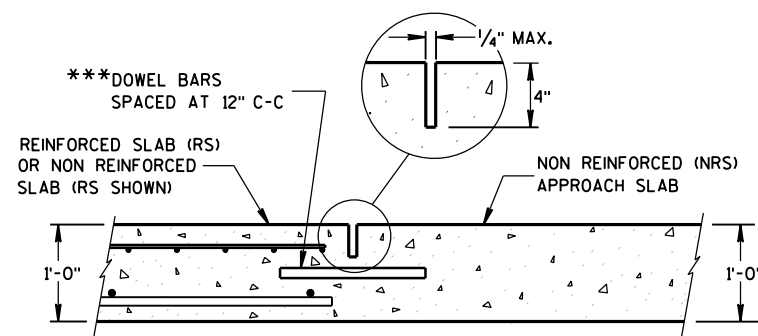
- (A) STANDARD CONTRACTION JOINT NORMAL TO ℓ OR ℓ_c
(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.
(C) 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℓ OR ℓ_c



**SECTION A-A
REINFORCEMENT POSITIONING DETAIL**



**SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT**



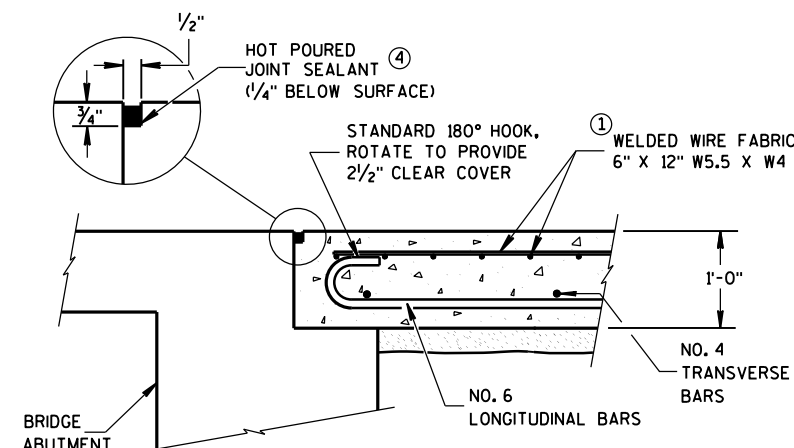
**SECTION D-D
CONTRACTION JOINT**

GENERAL NOTES

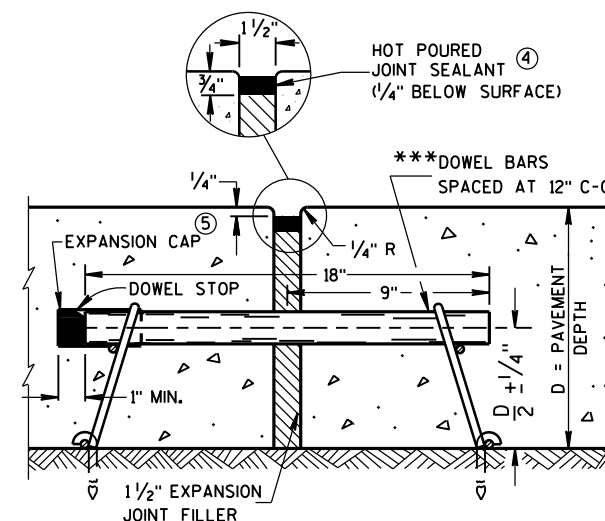
THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

- THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.
- THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
- DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.
- USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.
- PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.



**SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT**

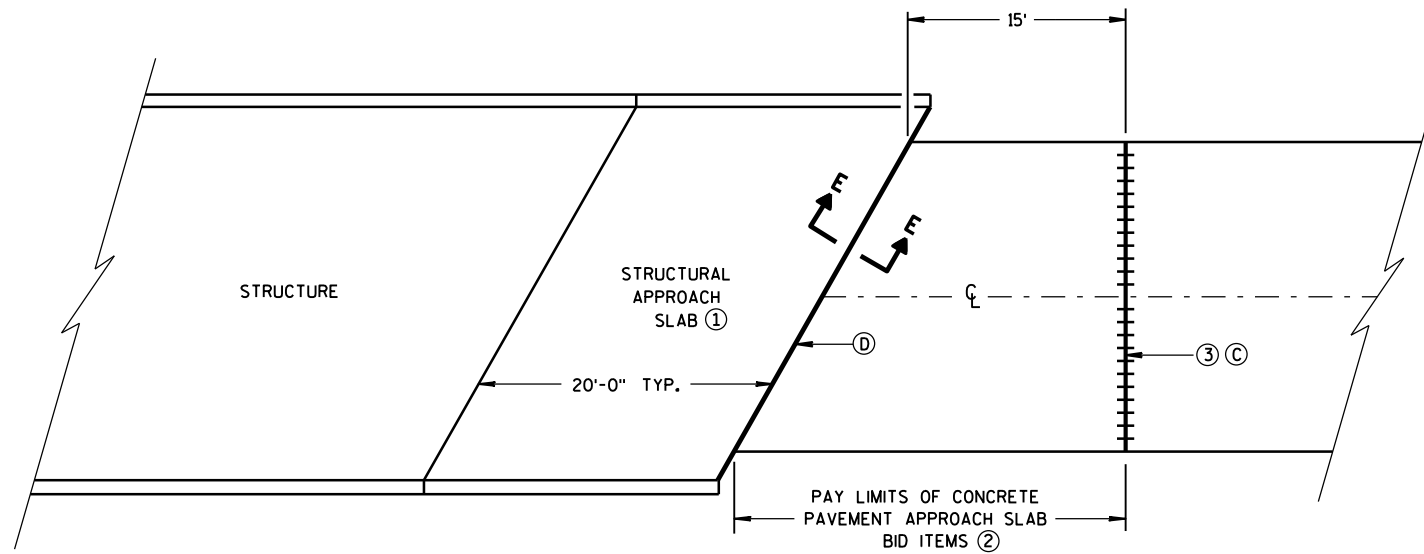


EXPANSION JOINT DETAIL

**CONCRETE PAVEMENT
APPROACH SLAB**

**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

APPROVED
June, 2015 /S/ Peter Kemp, P.E.
DATE PAVEMENT SUPERVISOR
FHWA

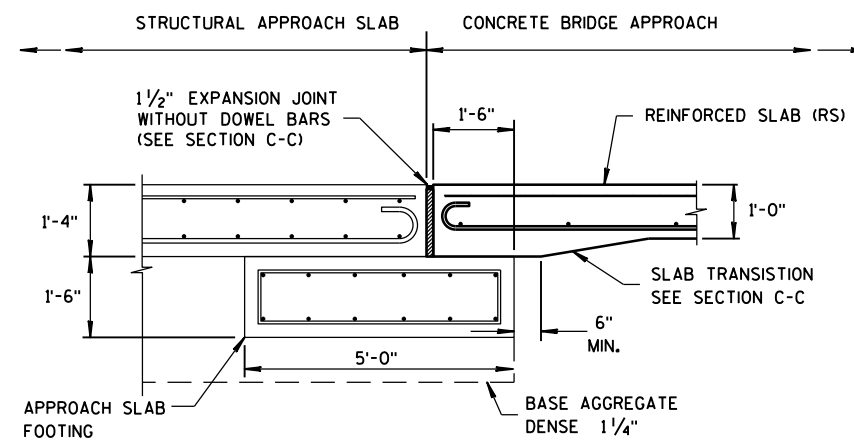
**BRIDGE APPROACHES****GENERAL NOTES**

ALL PROJECTS THAT INVOLVE A STRUCTURAL APPROACH SLAB WILL ALSO HAVE A CONCRETE PAVEMENT APPROACH SLAB.

- ① SEE BRIDGE PLAN.
- ② CONFORM TO SHEET 13 B 2(A) FOR CONCRETE PAVEMENT APPROACH SLAB DETAILS.
- ③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

③ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO R_L OR C_L

④ 1½" EXPANSION JOINT (NO DOWELS)

**SECTION E-E****FOOTING DETAIL**

STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH

**STRUCTURAL APPROACH SLAB
AND CONCRETE PAVEMENT
APPROACH SLAB**

**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

APPROVED

June, 2015
DATE

FHWA

/S/ Peter Kemp, P.E.
PAVEMENT SUPERVISOR

6

- S.D.D. 14 B 42-3a**



S.D.D. 14 B 42-3a

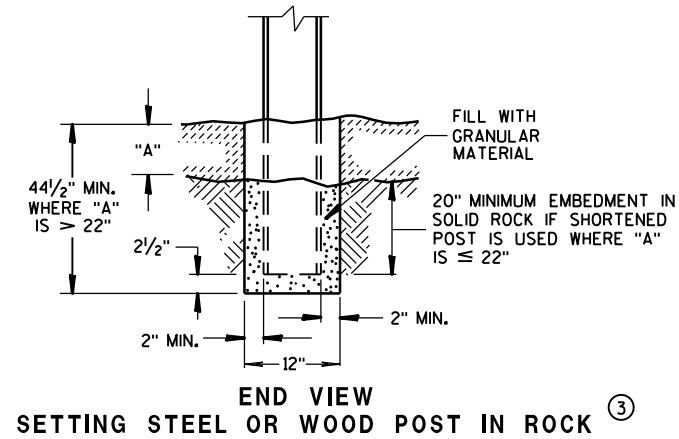
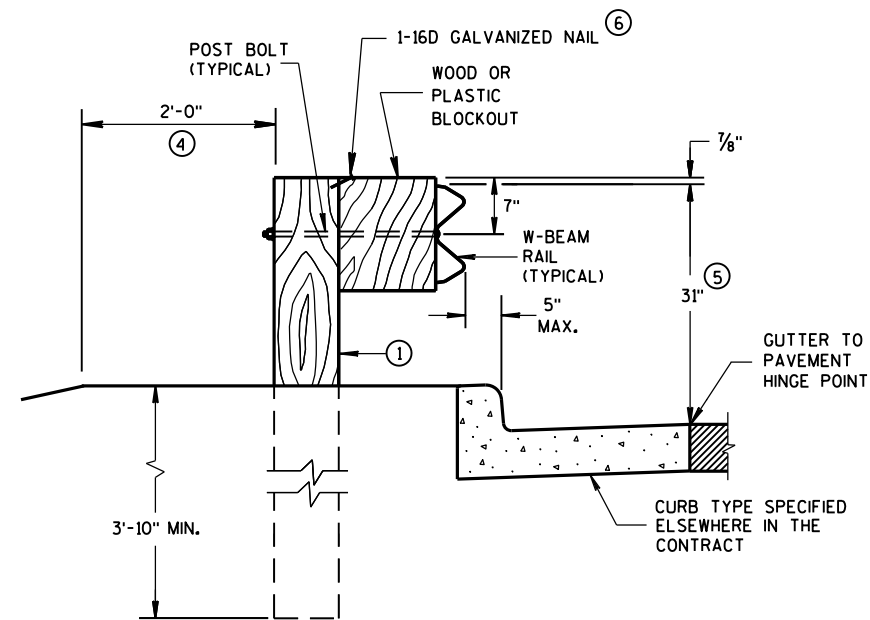


Diagram illustrating the end view of a post set in rock. The post is 12" wide and 2" thick. The rock is filled with granular material. The post is embedded in the rock with a minimum of 20" (20" MINIMUM EMBEDMENT IN SOLID ROCK IF SHORTENED POST IS USED WHERE "A" IS ≤ 22"). The distance from the top of the post to the rock surface is 44 1/2" MIN. WHERE "A" IS ≥ 22". The diagram is labeled "END VIEW" and "SETTING STEEL OR WOOD POST IN ROCK".



POST BOLT (TYPICAL)

2'-0"

④

1-16D GALVANIZED NAIL

WOOD OR PLASTIC BLOCKOUT

7"

7/8"

W-BEAM RAIL (TYPICAL)

5" MAX.

31"

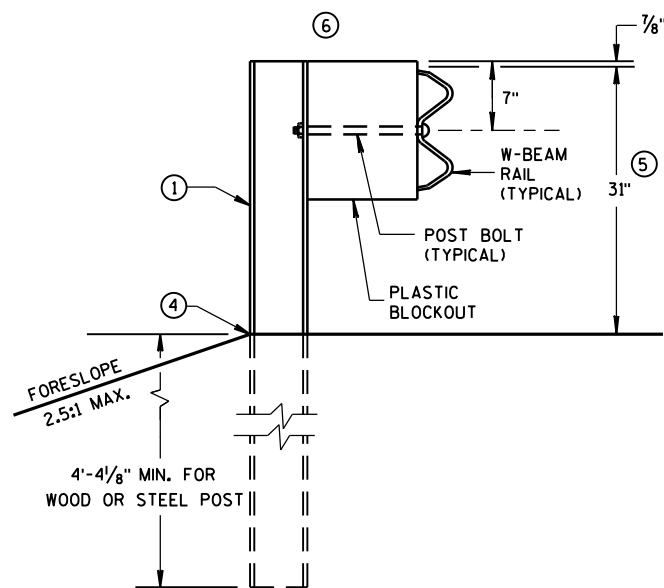
⑤

①

GUTTER TO PAVEMENT HINGE POINT

3'-10" MIN.

CURB TYPE SPECIFIED ELSEWHERE IN THE CONTRACT



Technical drawing of a bridge railing cross-section. The drawing includes the following labels and dimensions:

- ①**: Points to the vertical post.
- ④**: Points to the base of the post where it meets the ground.
- ⑥**: Points to the top of the post.
- ⑤**: Points to the total height of the railing from the ground to the top of the rail.
- 7"**: Dimension for the height of the rail above the post.
- 31"**: Dimension for the total height of the railing from the ground to the top of the rail.
- 7/8"**: Dimension for the thickness of the rail.
- W-BEAM RAIL (TYPICAL)**: Label for the rail.
- POST BOLT (TYPICAL)**: Label for the bolt connecting the rail to the post.
- PLASTIC BLOCKOUT**: Label for the blockout material.
- FORESLOPE 2.5:1 MAX.**: Label for the slope of the ground.
- 4'-4 1/8" MIN. FOR WOOD OR STEEL POST**: Dimension for the minimum height of the post.

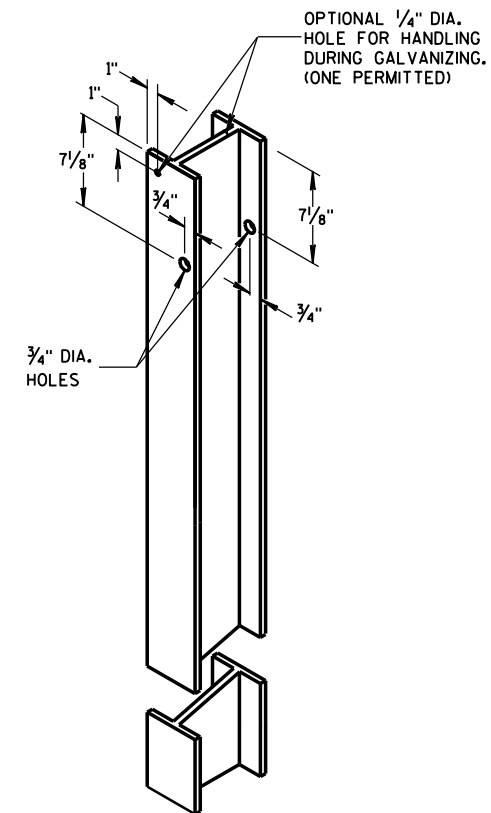
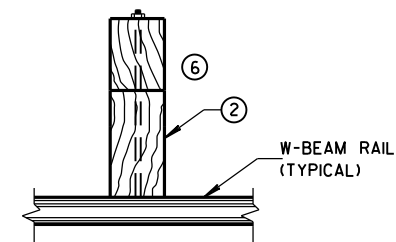
[illegible]

Diagram illustrating a vertical post assembly. A W-beam rail (typical) is shown at the base, with a vertical post (6) mounted on it. Callout 2 points to the post, and callout 6 points to the rail.

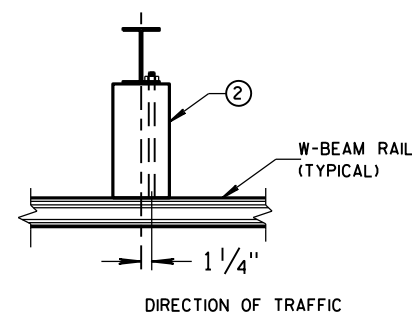
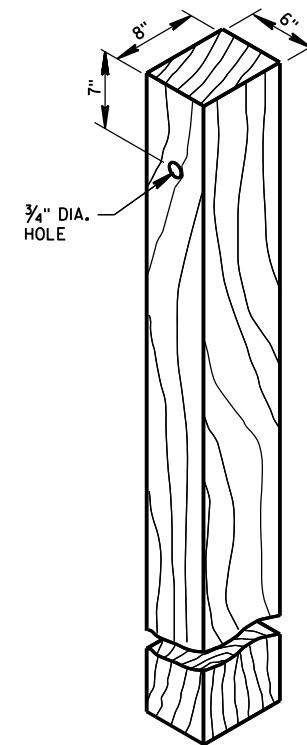


Diagram illustrating a W-BEAM RAIL (TYPICAL) with a vertical post. The dimension 1 1/4" is indicated between the centerline of the rail and the centerline of the post. The text "DIRECTION OF TRAFFIC" is shown below the rail.

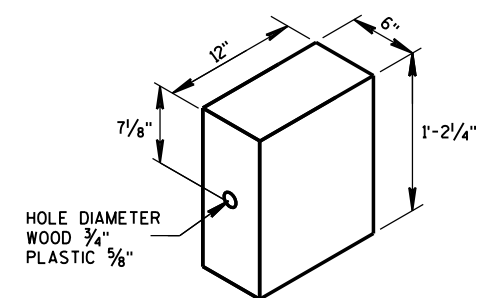


8"

6"

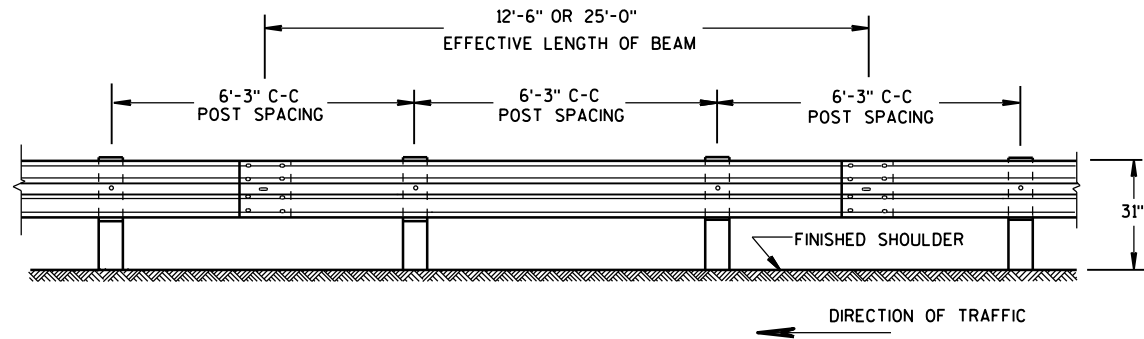
7"

$\frac{3}{4}$ " DIA.
HOLE



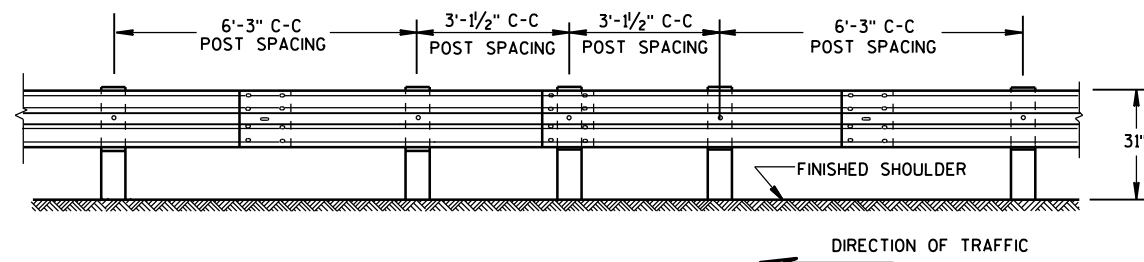
Isometric drawing of a rectangular box with the following dimensions:

- Length: 12"
- Width: 6"
- Height: 1'-2 1/4"
- Hole Diameter:
 - WOOD: 3/4"
 - PLASTIC: 5/8"



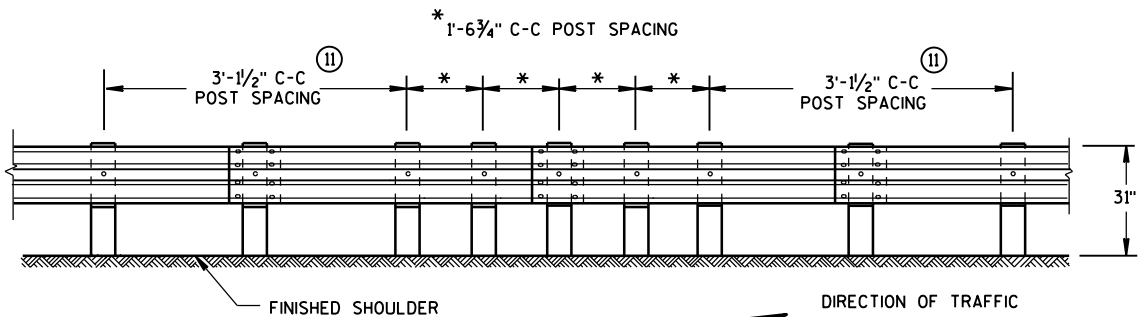
FRONT VIEW

POST SPACING STANDARD INSTALLATION



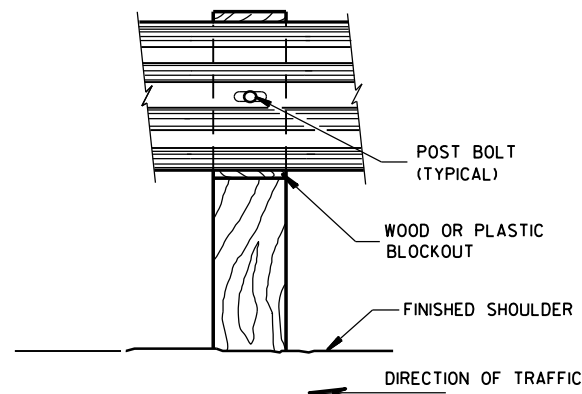
FRONT VIEW

HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)

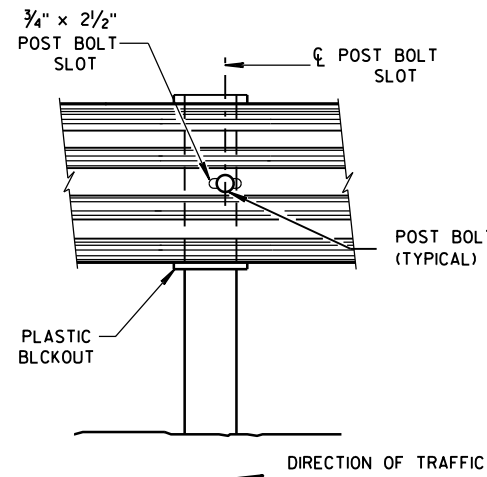


FRONT VIEW

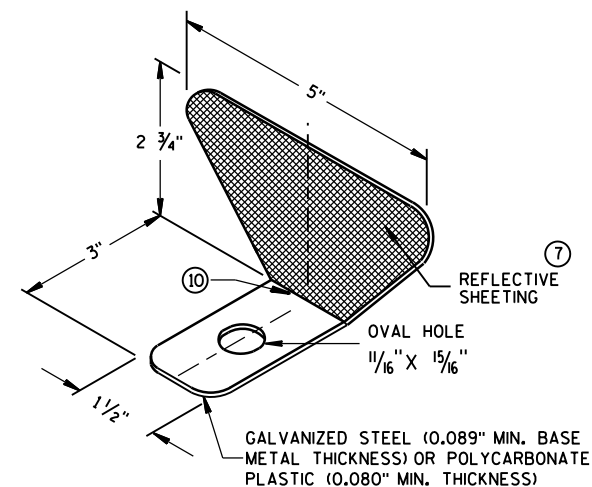
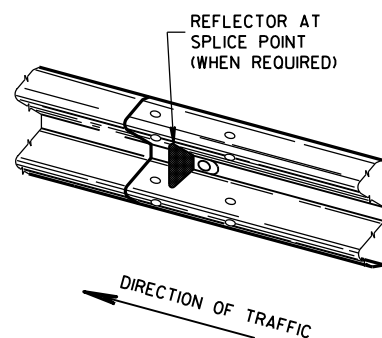
QUARTER POST SPACING (QS)



FRONT VIEW AT WOOD POST



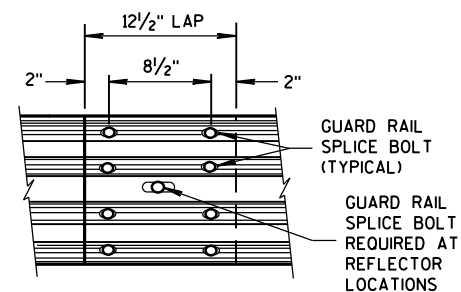
FRONT VIEW AT STEEL POST



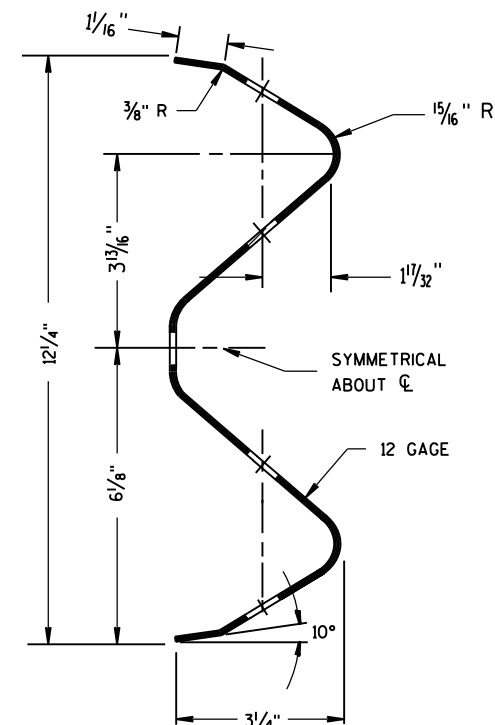
ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

GENERAL NOTES

- ⑦ PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.
 - ⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
 - ⑨ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
 - ⑩ PROVIDE AN ANGLE OF BEND OF $90^\circ \pm 1^\circ$ FOR TWO-SIDED REFLECTORS.
 - ⑪ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.
- POST BOLTS ARE A $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND $\frac{5}{8}$ " DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.
- GUARD RAIL SPLICE BOLTS ARE A $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



FRONT VIEW
MID-SPAN BEAM SPLICE



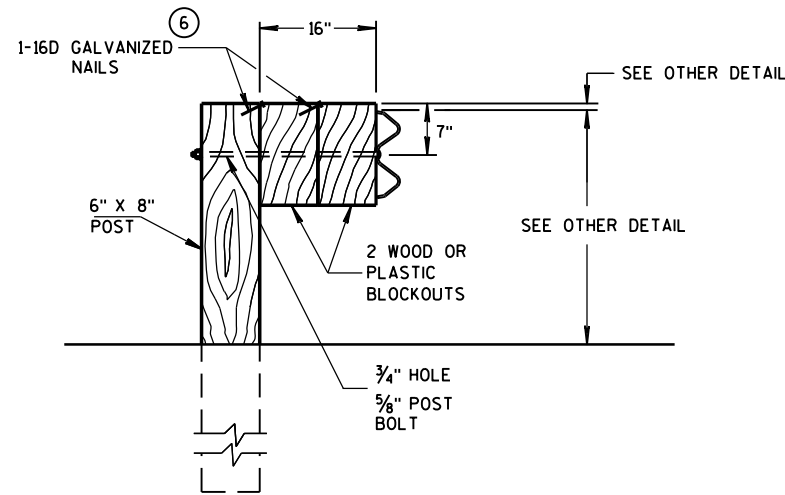
SECTION THRU W-BEAM RAIL

REFLECTOR SPACING

	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 ⑨	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2 ⑩	3
	> 200'	100' C-C	2	

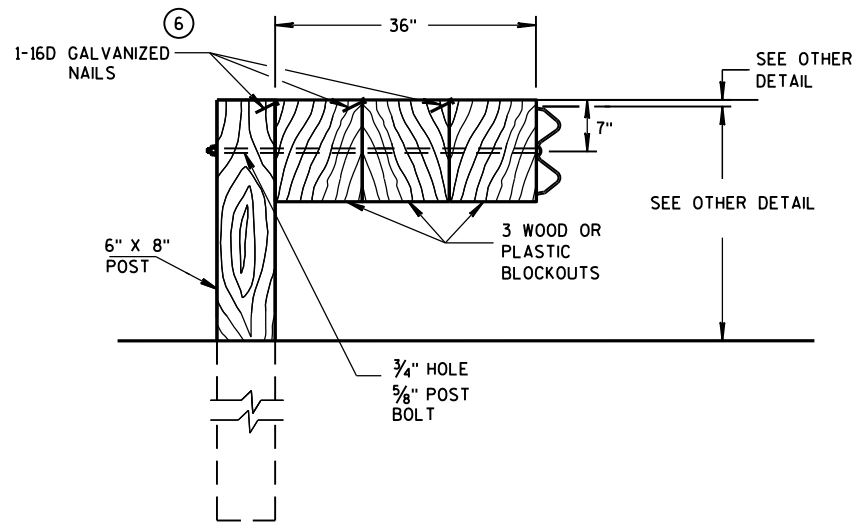
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR 16" BLOCKOUT DEPTH

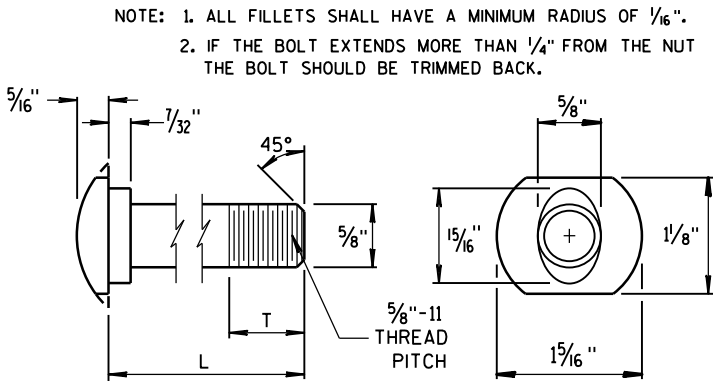
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



DETAIL FOR 36" BLOCKOUT DEPTH

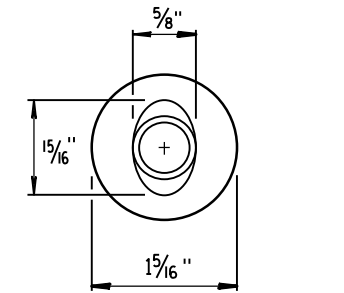
NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

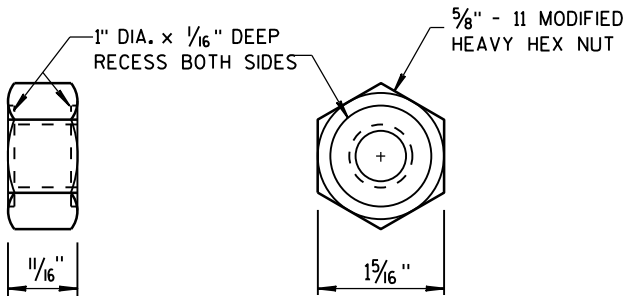


POST BOLT TABLE

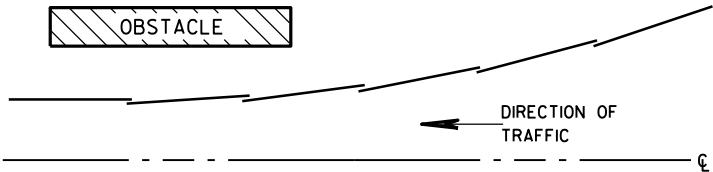
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



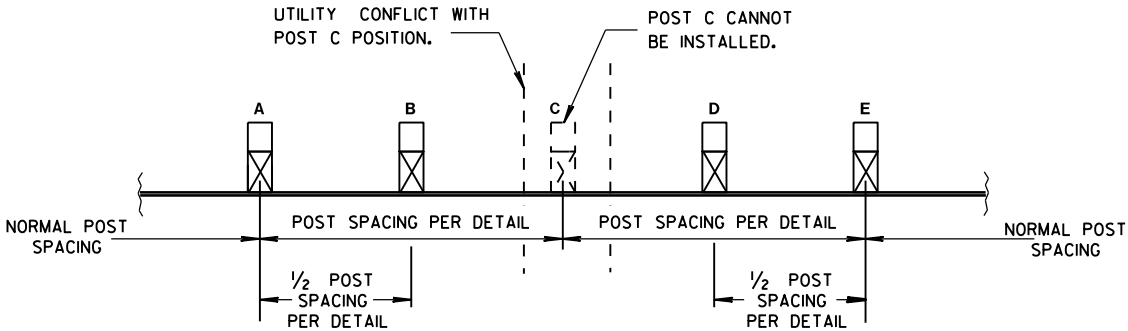
ALTERNATE BOLT HEAD



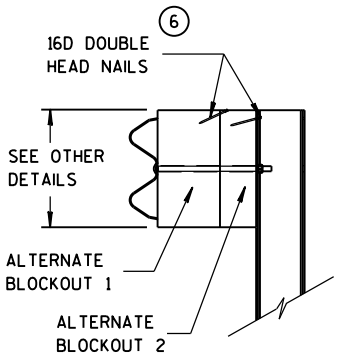
POST BOLT
AND RECESS NUT



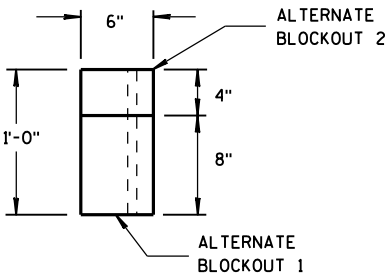
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014
DATE /S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA

6

- S.D.D. 14 B 44-23**

S.D.D. 14 B 44-23

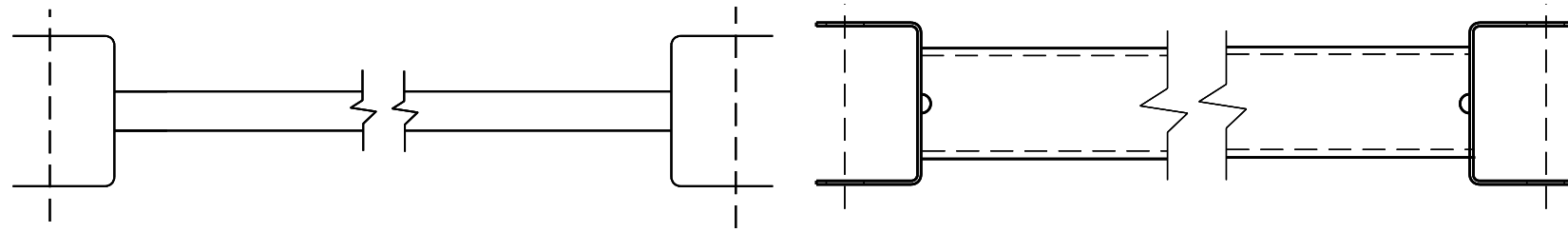
S.D.D. 14 B 44-23

S.D.D. 14 B 44-23

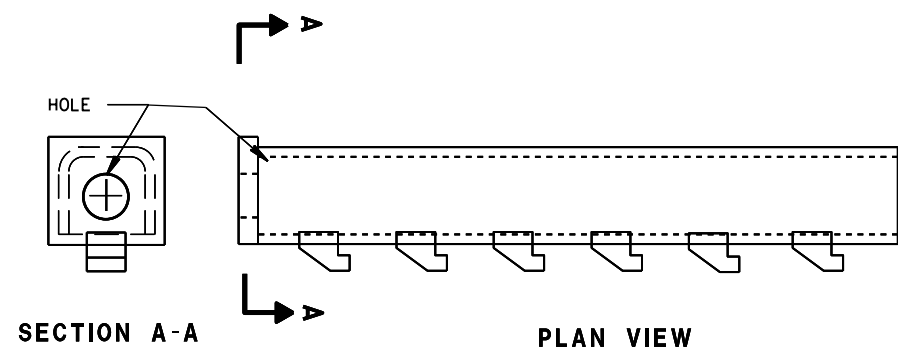
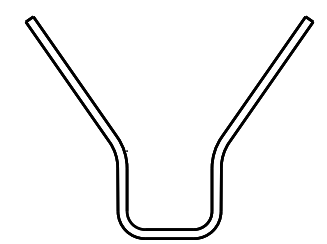
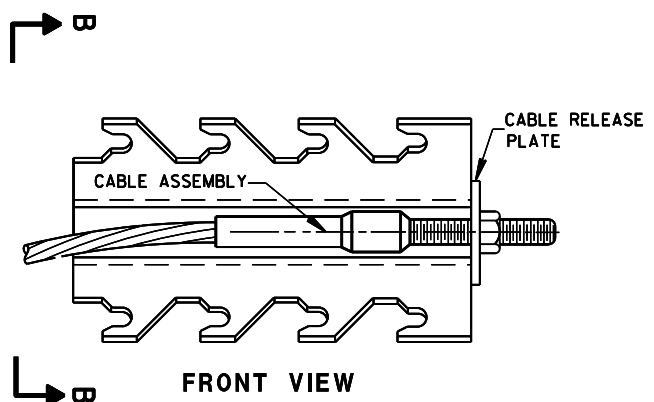
S.D.D. 14 B 44-23

S.D.D. 14 B 44-23





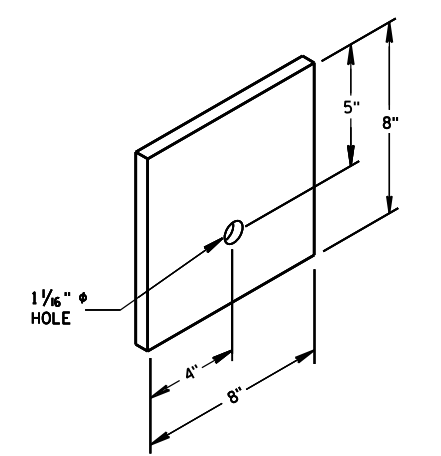
9 H
GENERIC GROUND STRUT



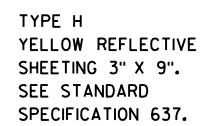
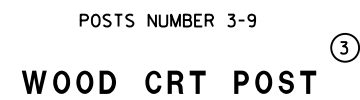
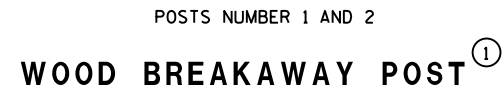
8 H
GENERIC ANCHOR CABLE BOX

BILL OF MATERIALS

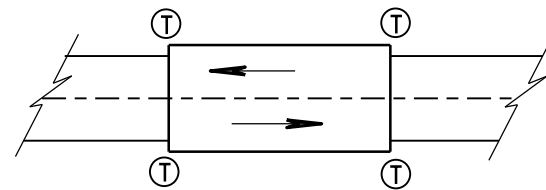
PART NO.	DESCRIPTION
MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.	
①	WOOD BREAKAWAY POST
②	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	END SECTION EAT
⑬	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
⑭	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



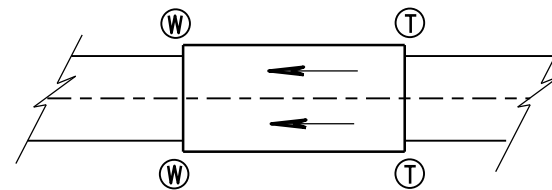
⑥
BEARING PLATE



MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2014	<i>/S/ Jerry H. Zogg</i>
DATE	ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



TWO WAY TRAFFIC



ONE WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

GENERAL NOTES

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

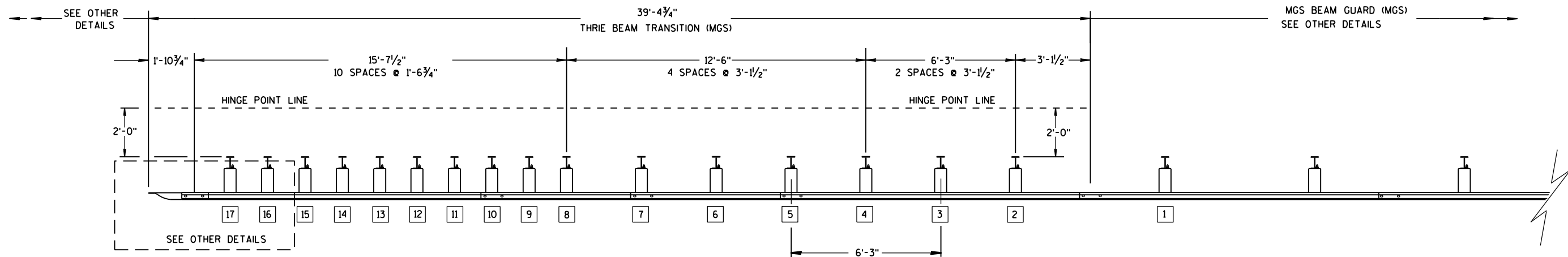
TRANSITION USES STEEL POSTS ONLY.

SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

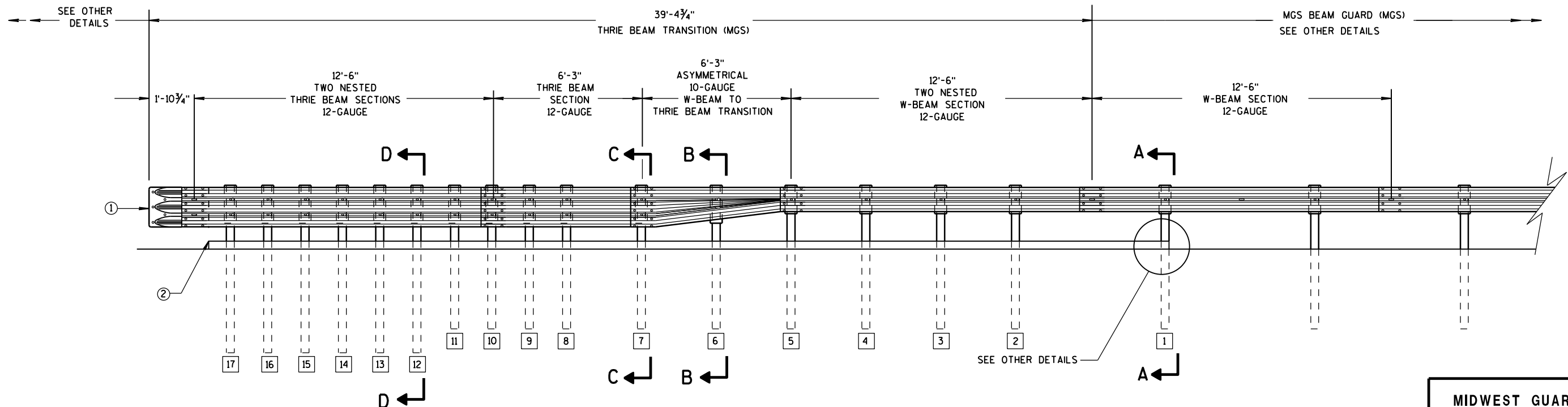
① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE



PLAN VIEW



ELEVATION VIEW

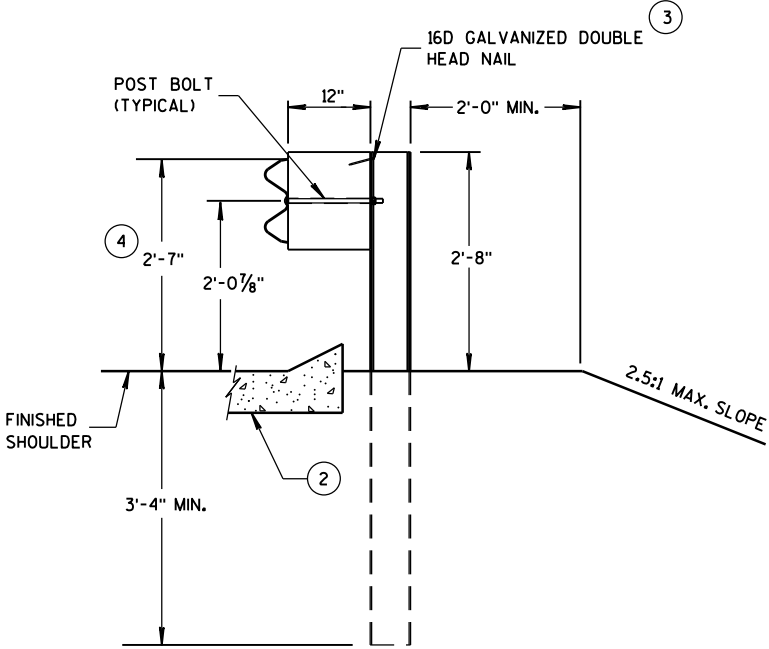
MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

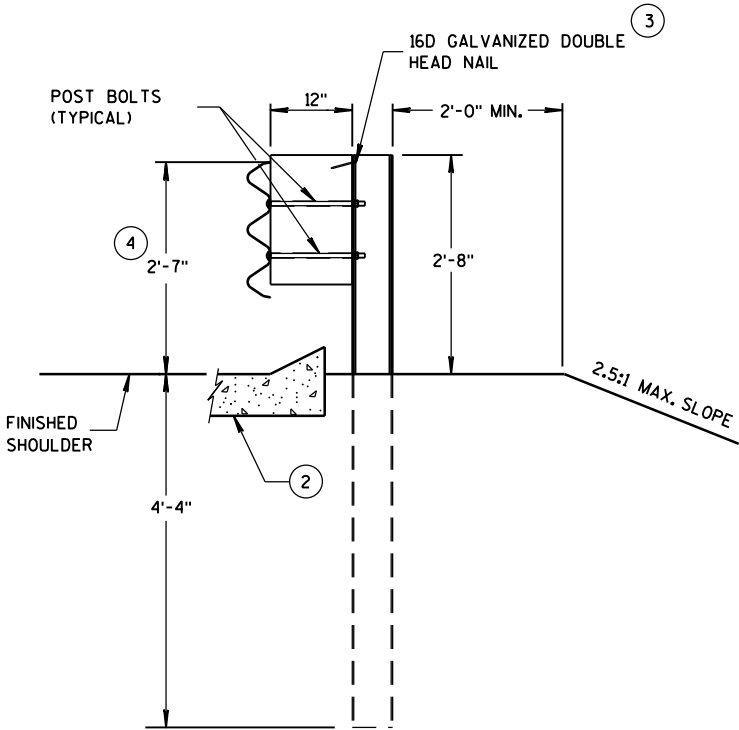
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

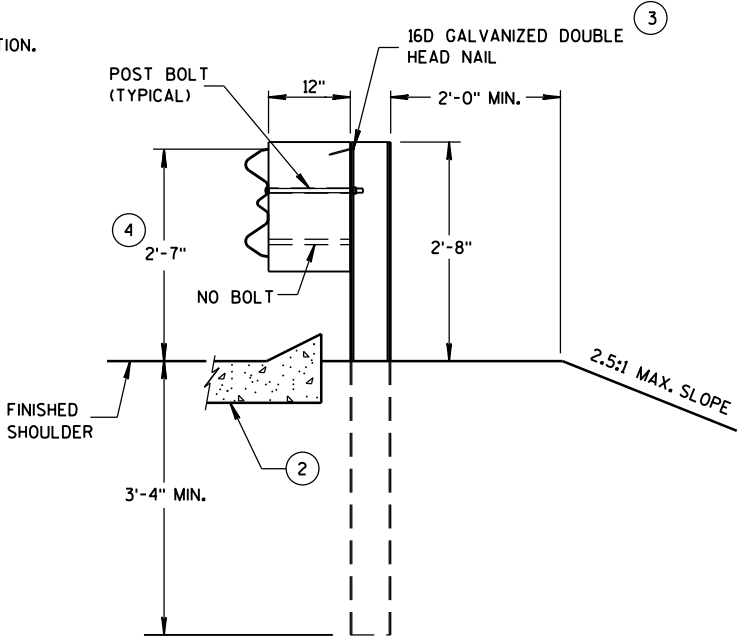
- 2 OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- 3 WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- 4 TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



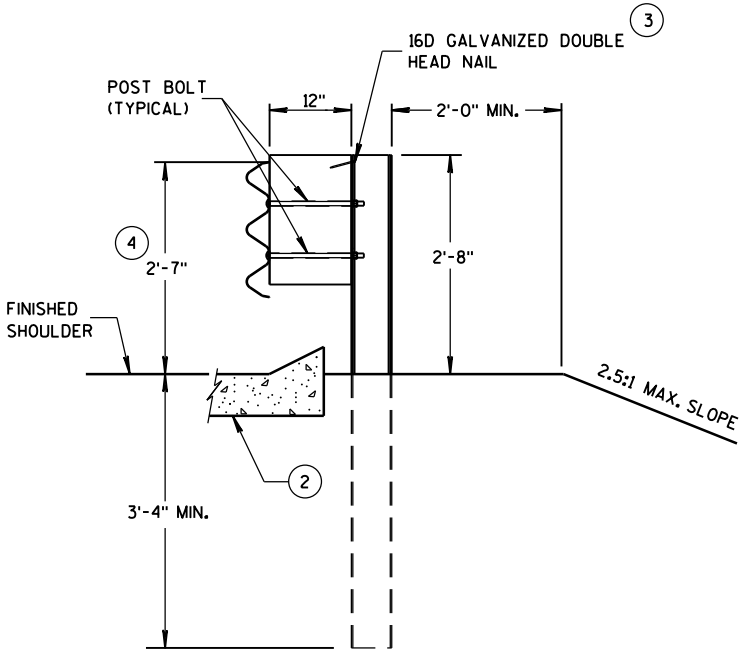
SECTION A-A
POSTS 1-5



SECTION D-D
POSTS 12-17



SECTION B-B
POST 6



SECTION C-C
POSTS 7-11

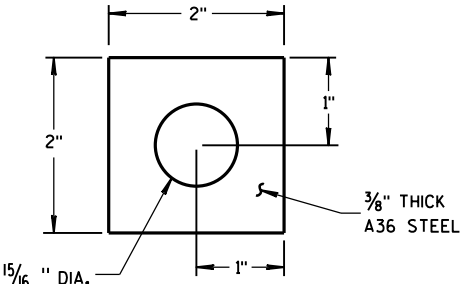
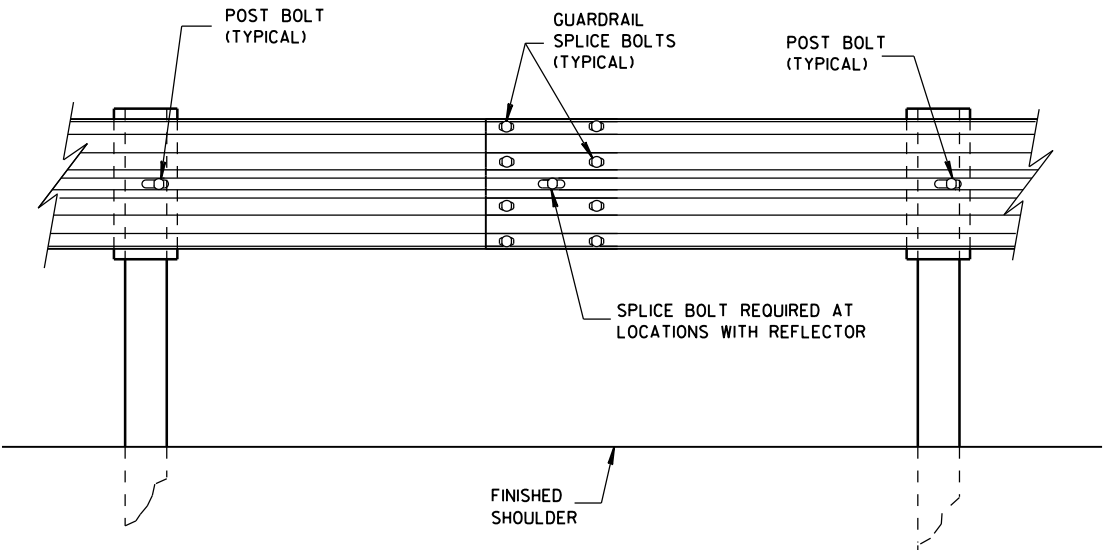
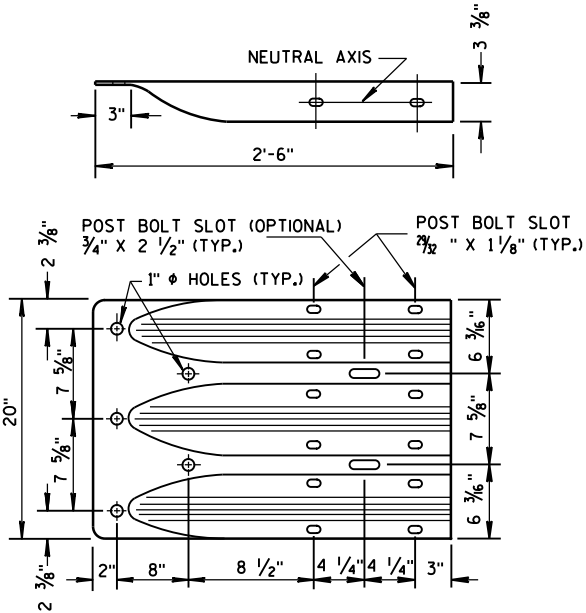


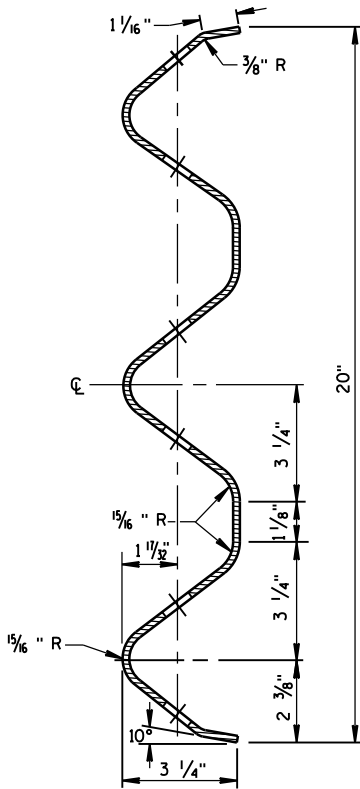
PLATE WASHER DETAIL



SPlice DETAIL



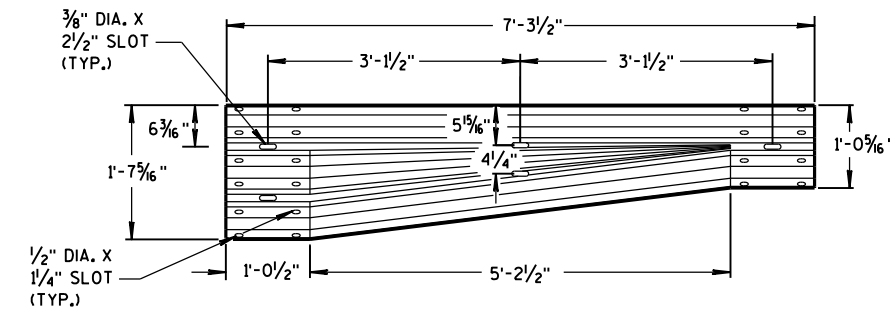
THRIE BEAM
TERMINAL CONNECTOR



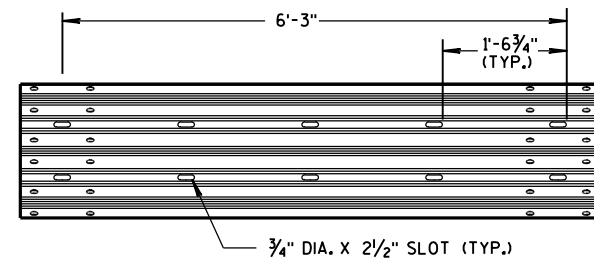
SECTION THRU THRIE
BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

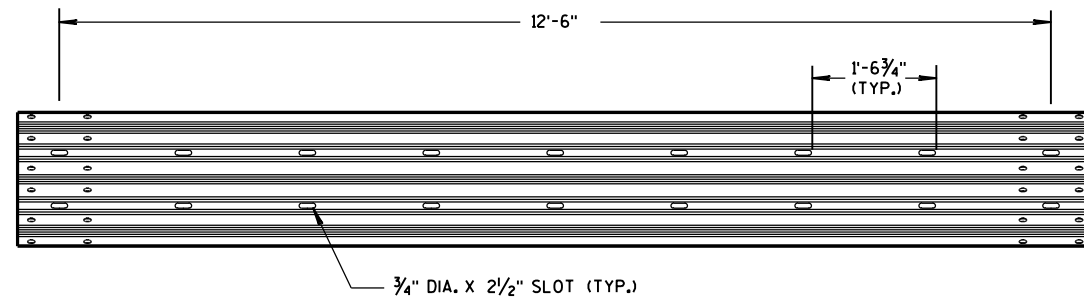
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



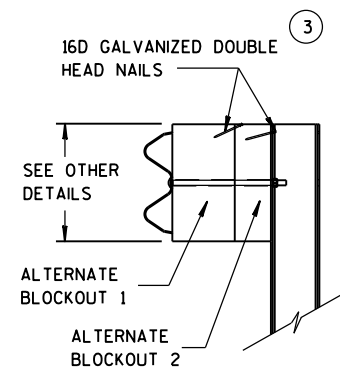
W-BEAM TO THRIE BEAM TRANSITION SECTION



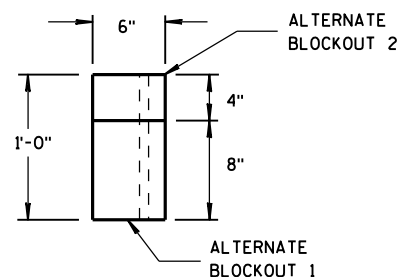
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

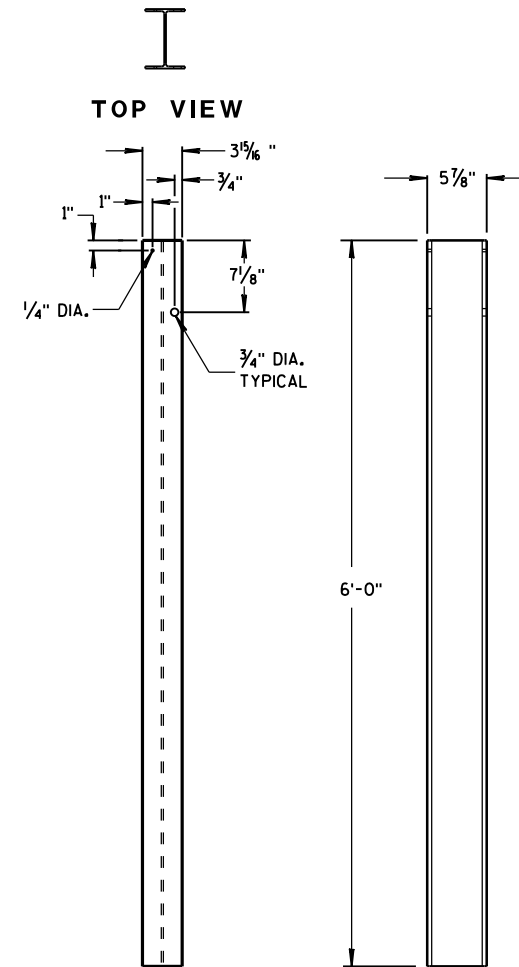


SIDE VIEW



TOP VIEW

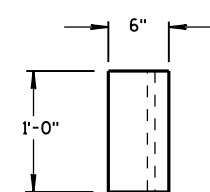
ALTERNATE WOOD BLOCKOUT DETAIL



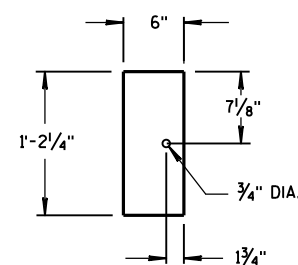
FRONT VIEW

SIDE VIEW

STEEL POSTS 1-5

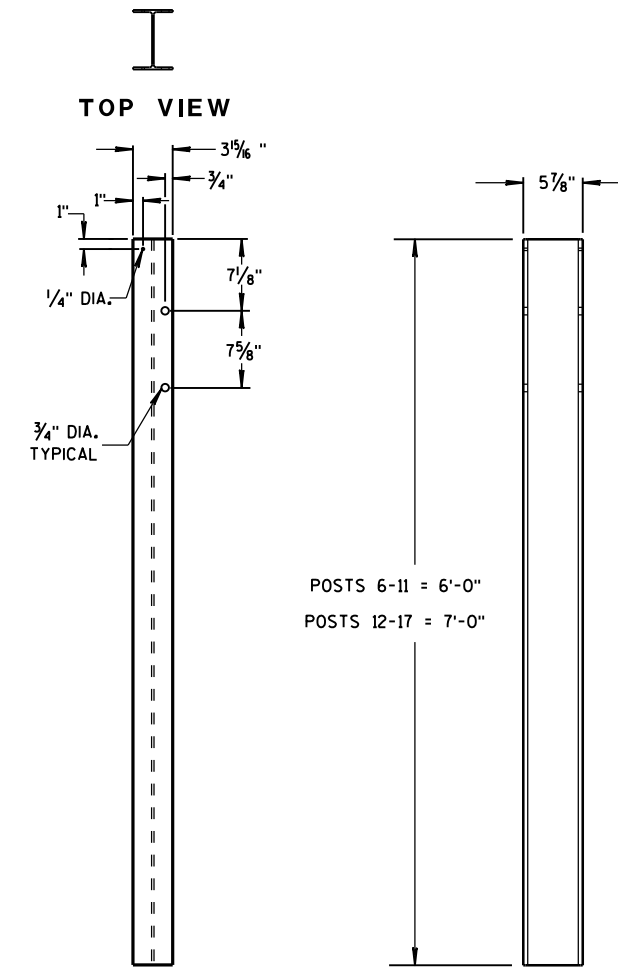


TOP VIEW



FRONT VIEW

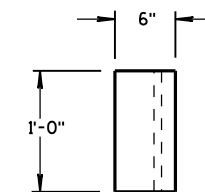
BLOCKOUT POSTS 1-5



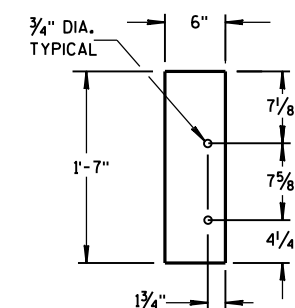
FRONT VIEW

SIDE VIEW

STEEL POSTS 6-17



TOP VIEW



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

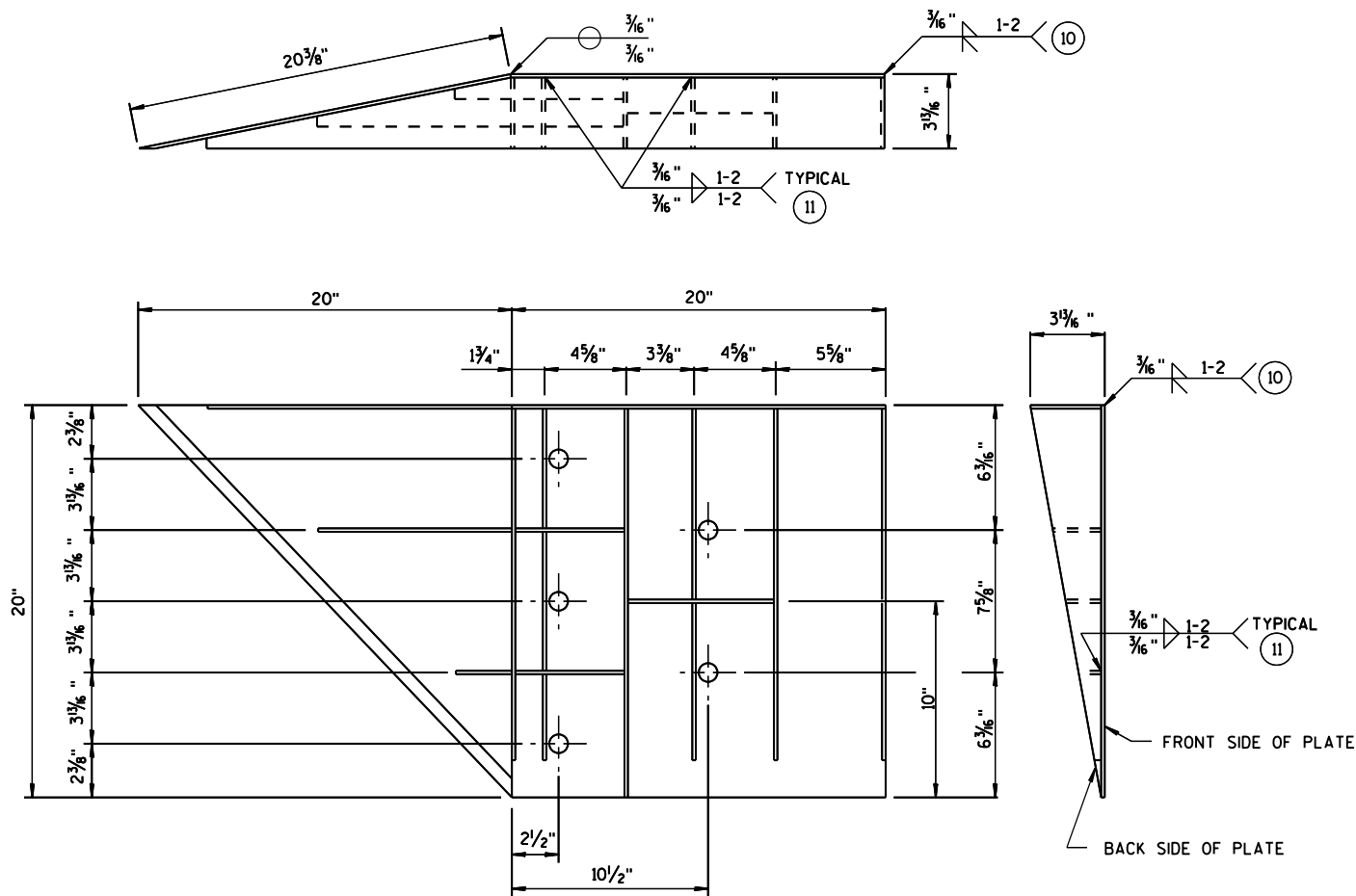
BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

③ WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

⑤ WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

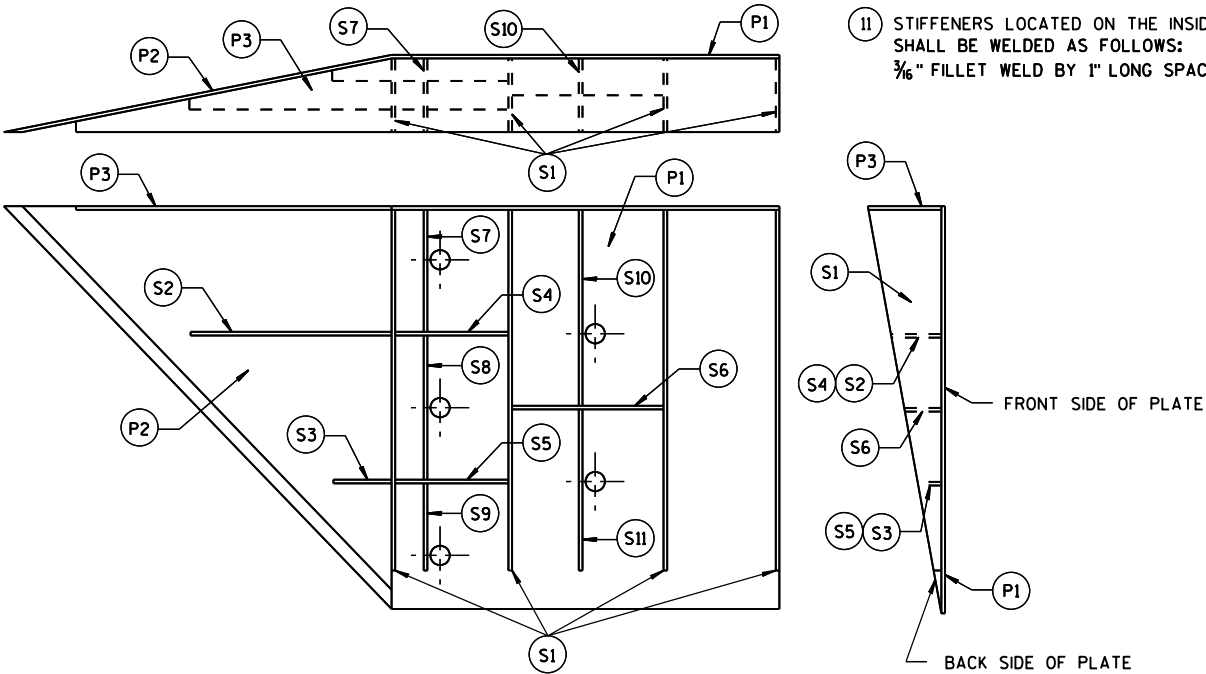


WELDING INSTRUCTION
(VIEWED FROM BACK SIDE OF PLATE)

SINGLE SLOPE CONNECTION PLATE

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)				
PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 1/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 1/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 1/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 7/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 1/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 1/16"	1/4"

PLATE AND STIFFENER IDENTIFICATION
(VIEWED FROM BACK SIDE OF PLATE)



GENERAL NOTES

- COVER PLATE PANELS ARE 3/16" THICK.
- ALL STIFFENERS ARE 1/4" THICK.
- CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.
- FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.
- ALL HOLE DIAMETERS SHALL BE 1".
- FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

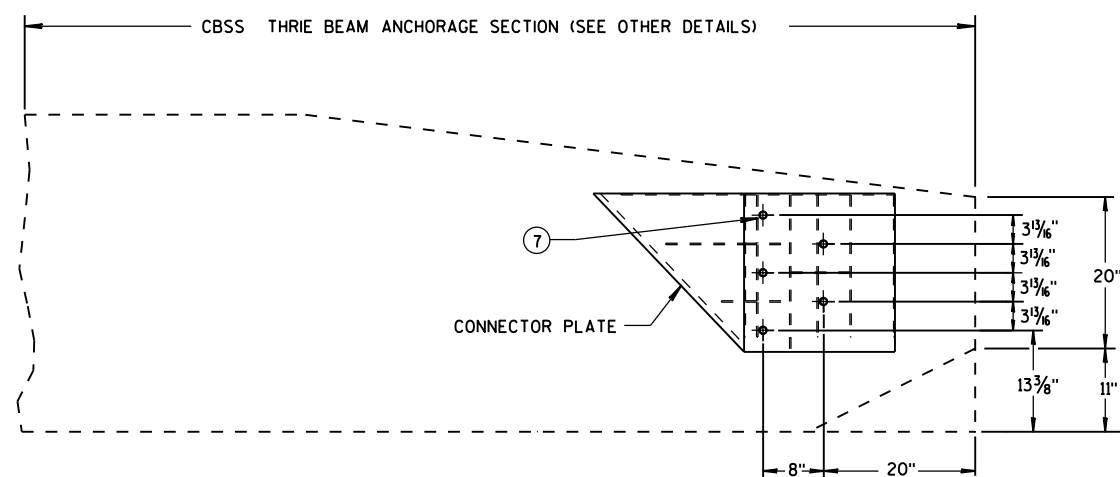
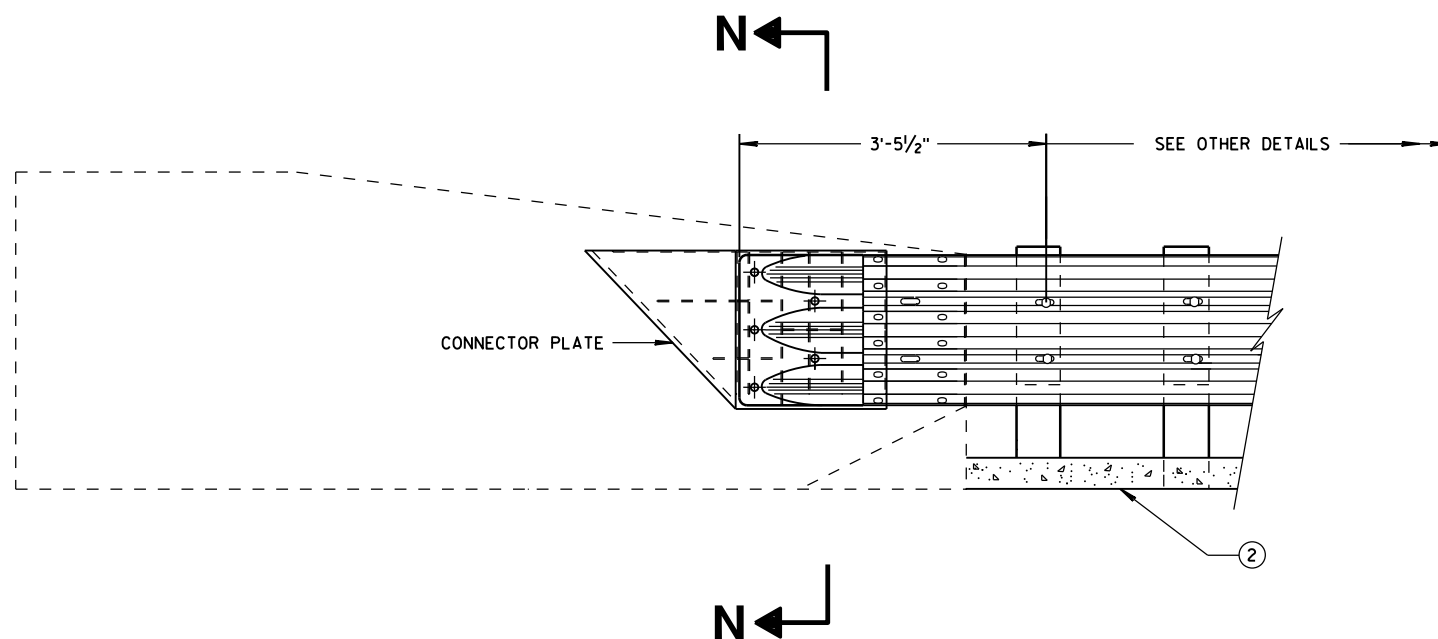
- 10 STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.
- 11 STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA ENGINEER

THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



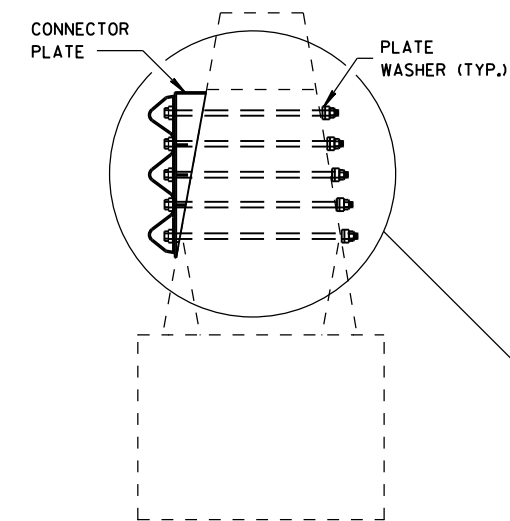
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

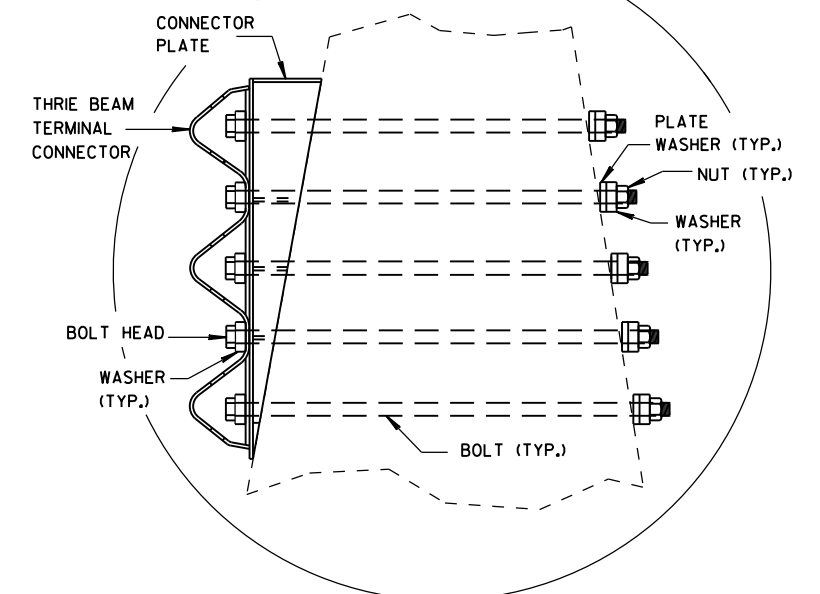
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(7) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June, 2015

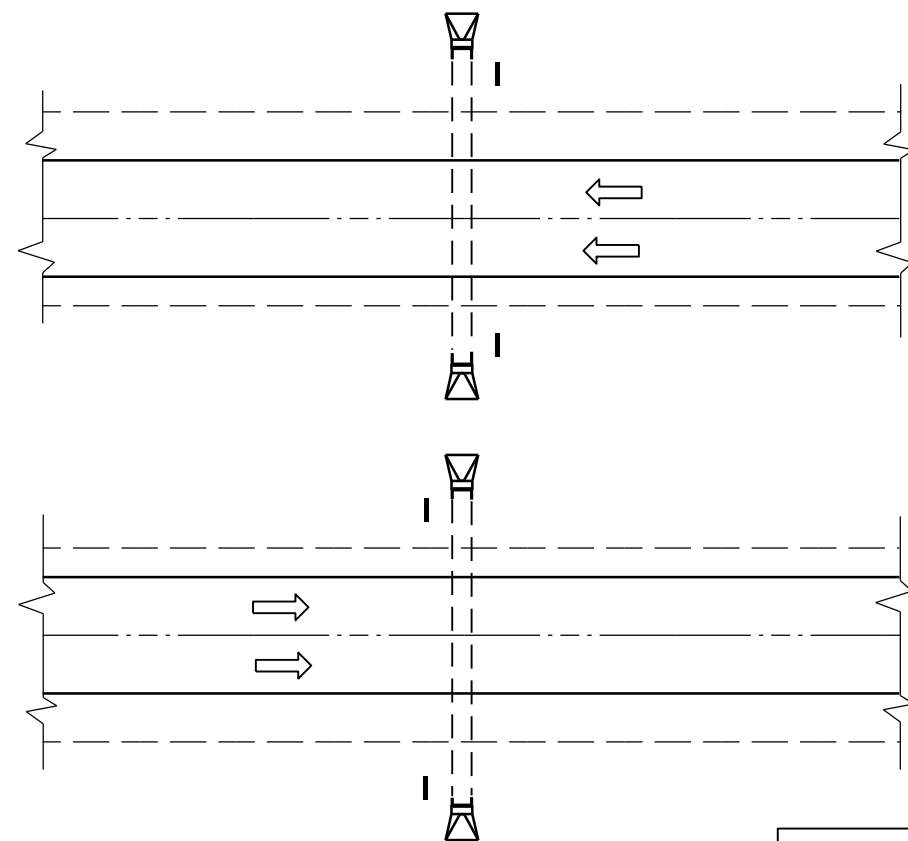
DATE

FHWA

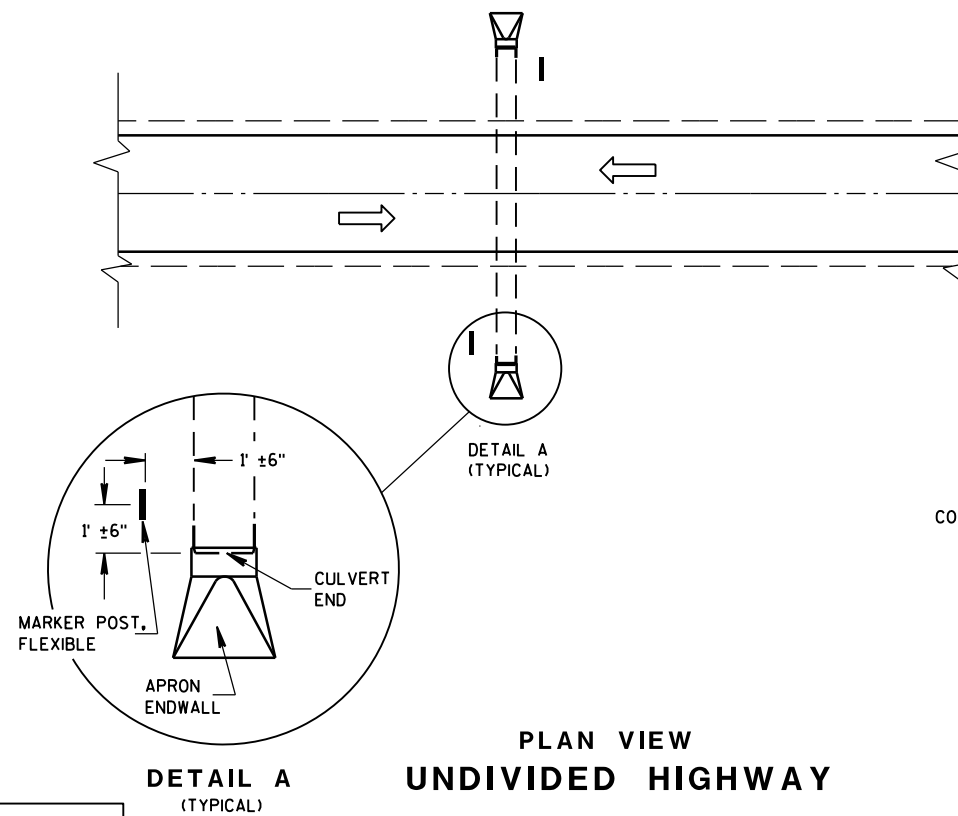
/s/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT

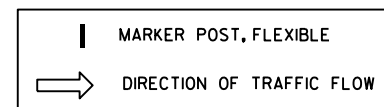
ENGINEER



PLAN VIEW
DIVIDED HIGHWAY



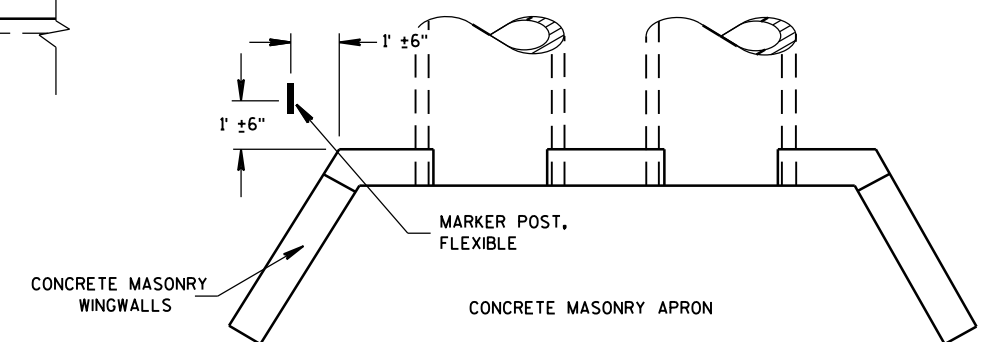
PLAN VIEW
UNDIVIDED HIGHWAY



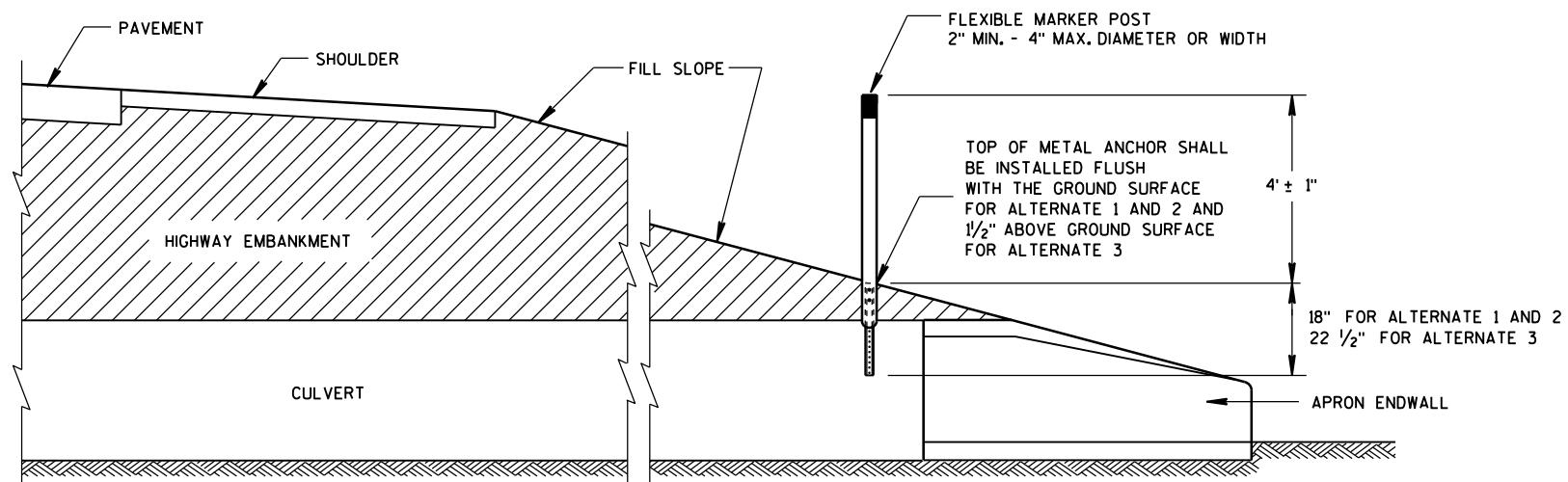
FLEXIBLE MARKER POST LOCATION

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



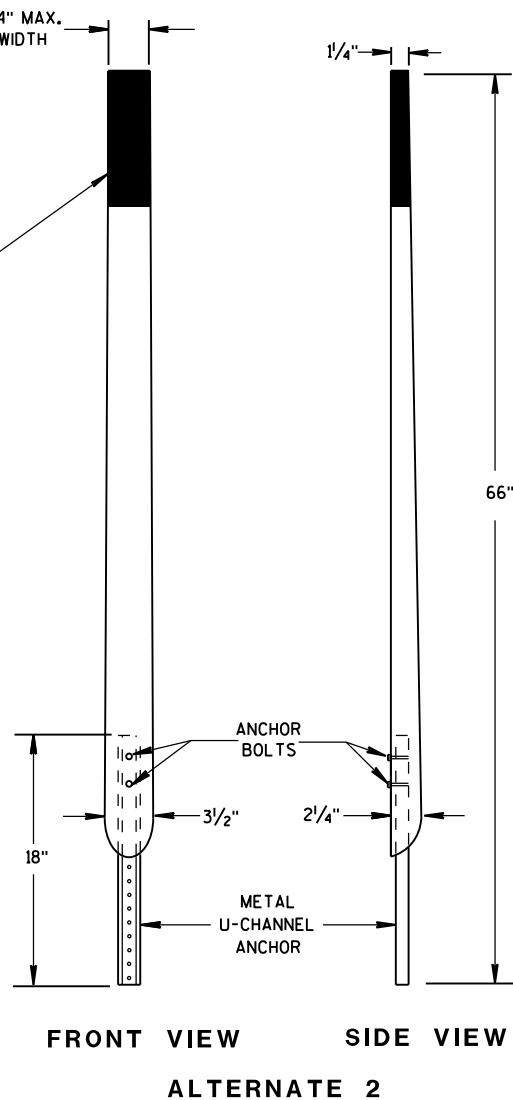
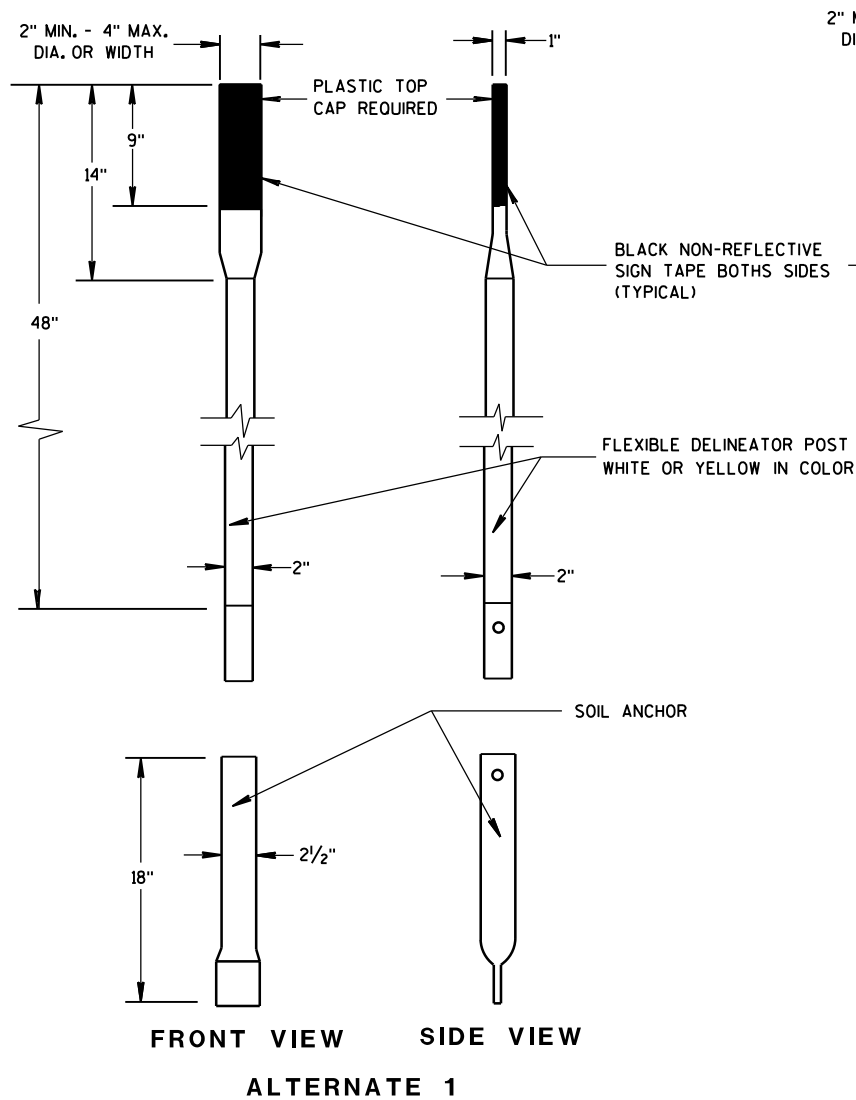
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



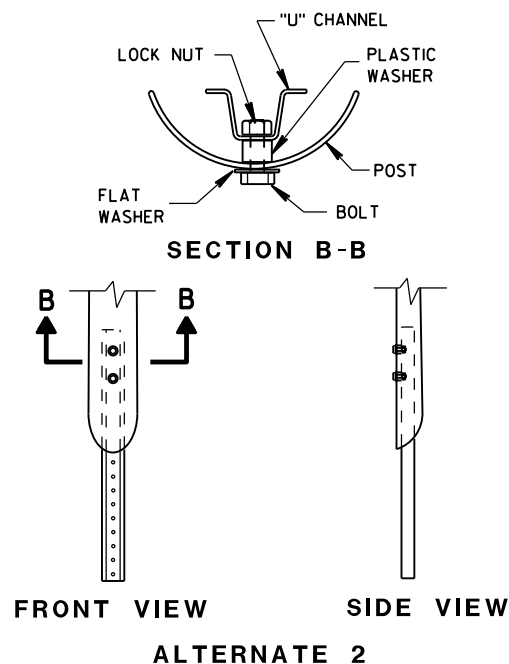
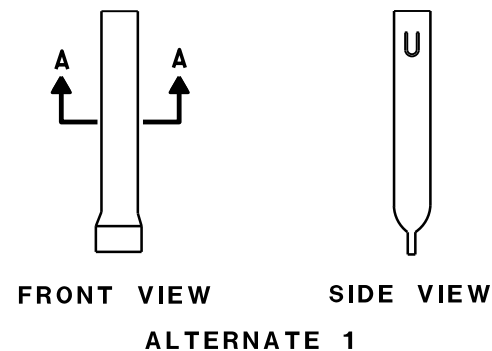
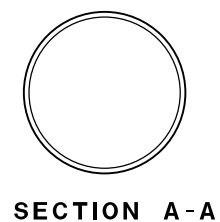
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

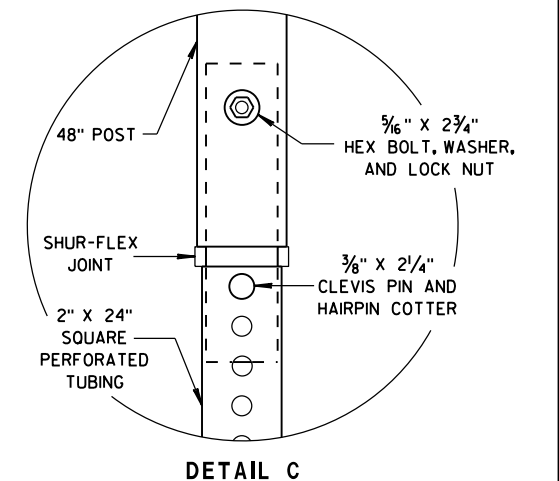
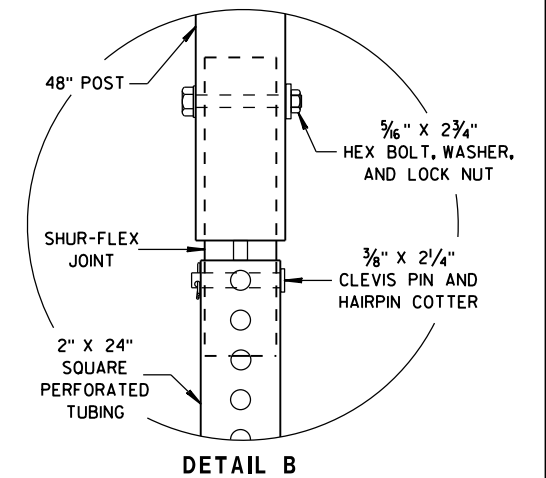
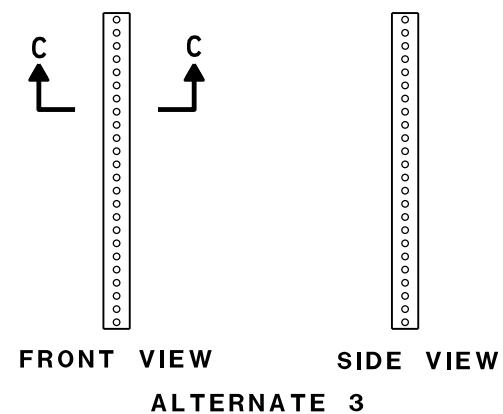
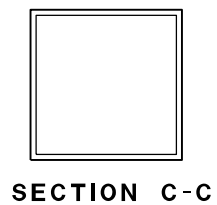
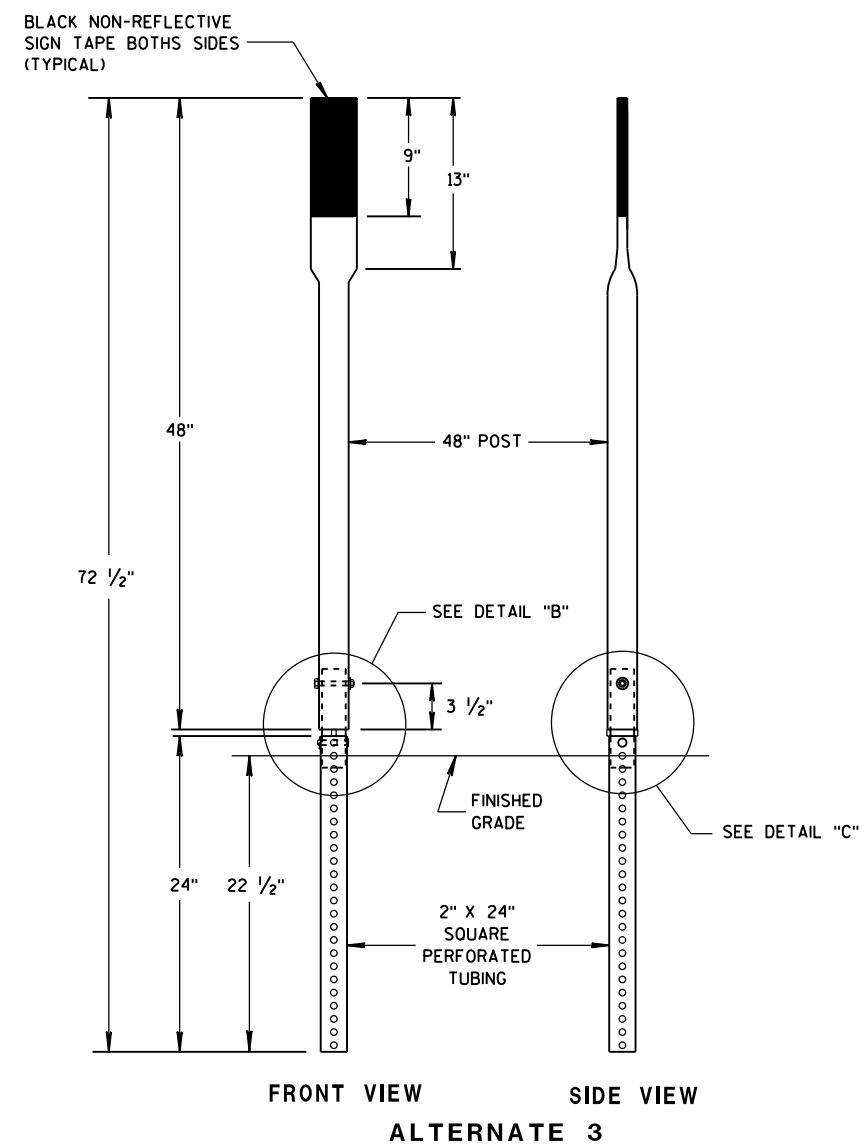
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



FLEXIBLE MARKER POSTS



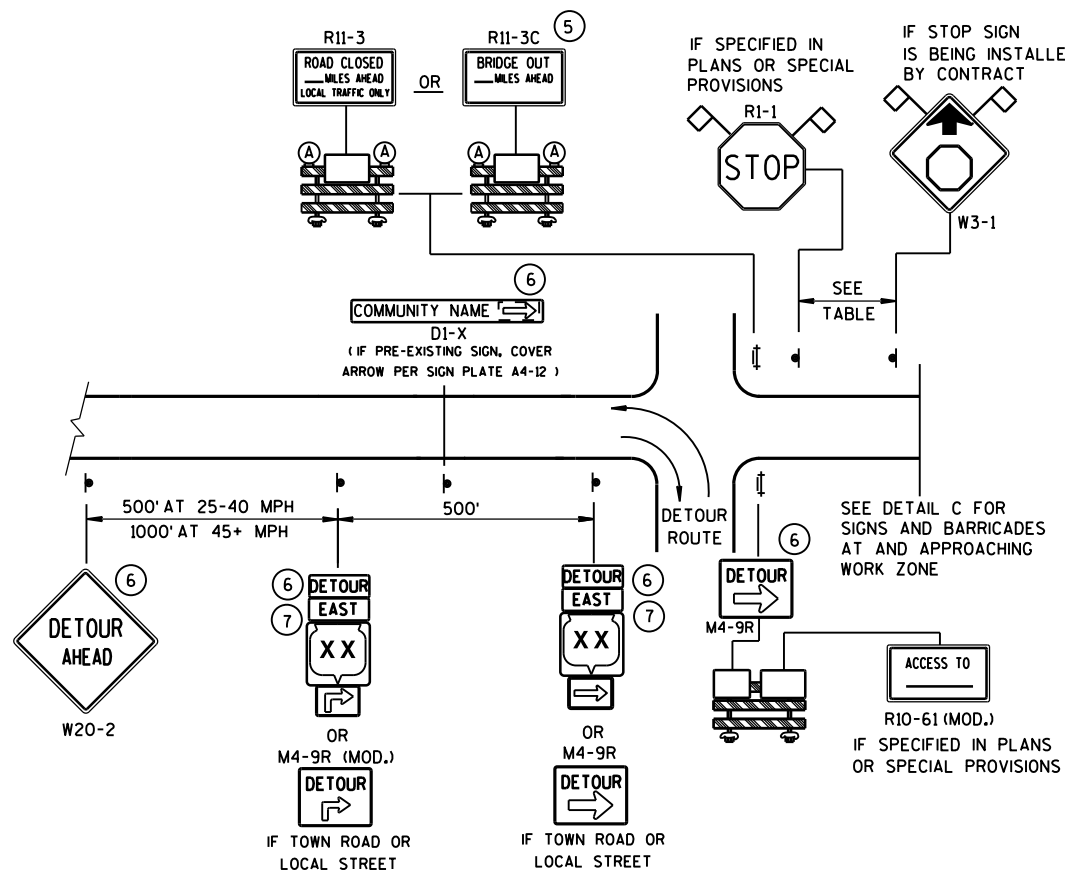
FLEXIBLE MARKER POST ANCHORS



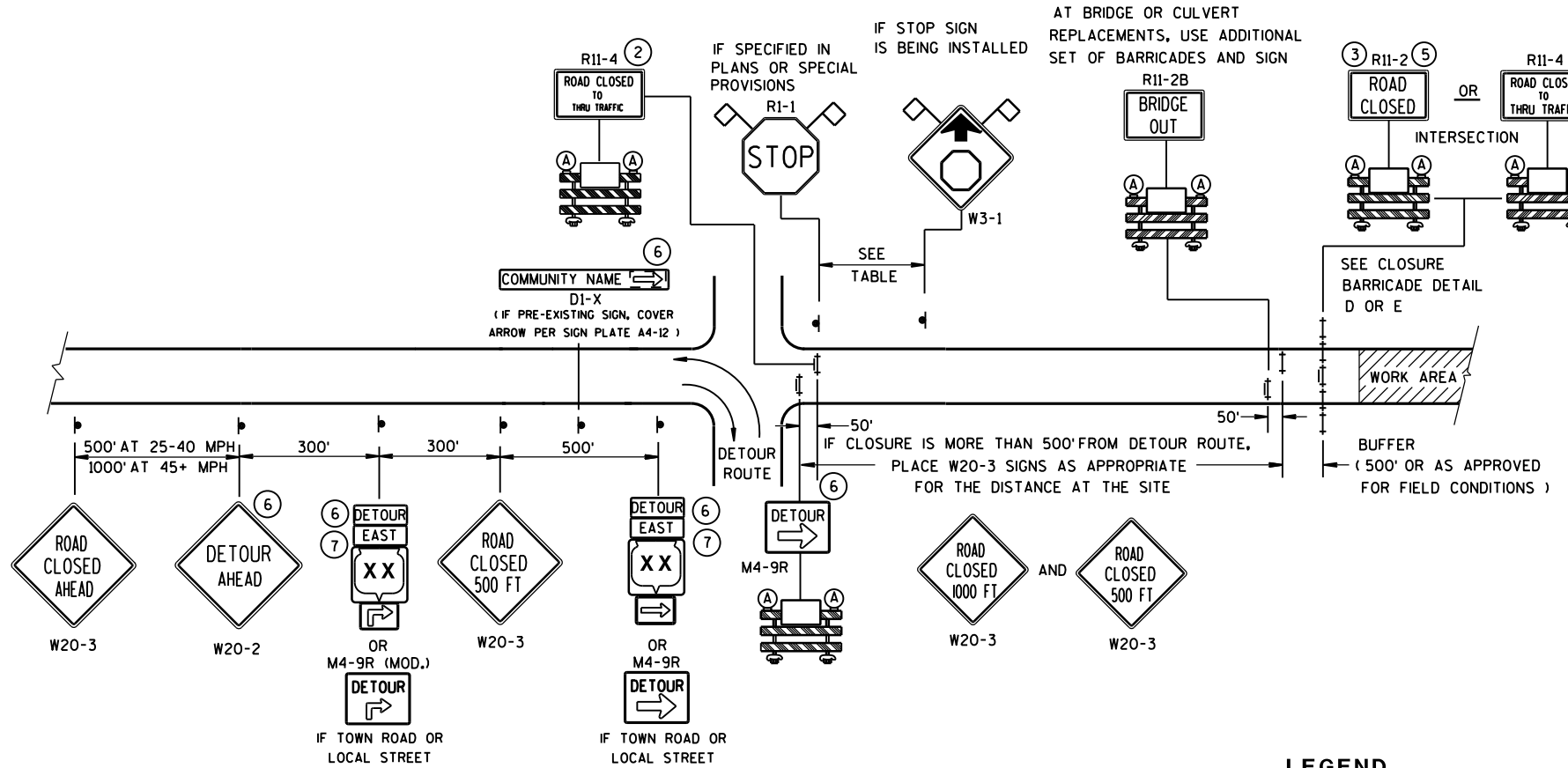
FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

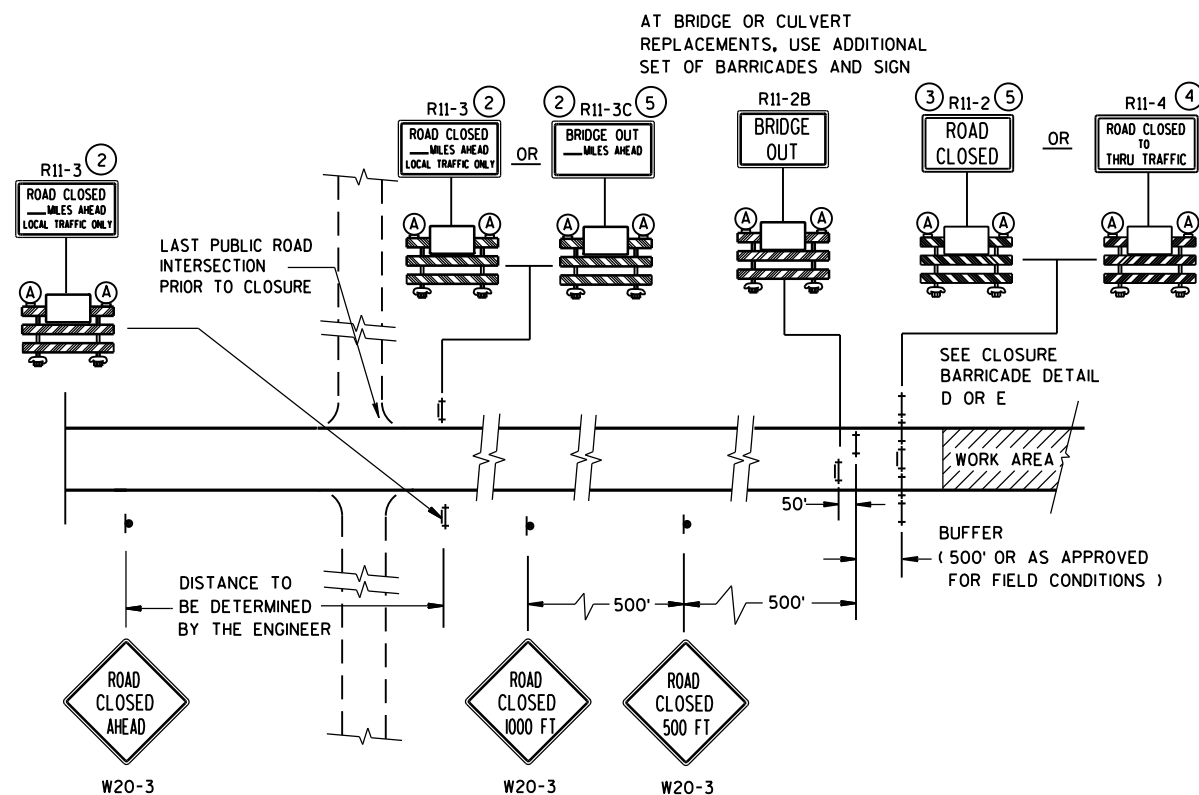
APPROVED
10/1/2012 DATE /S/ Travis Feltes
STATE TRAFFIC ENGINEER OF DESIGN
FHWA



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE GREATER THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE LESS THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

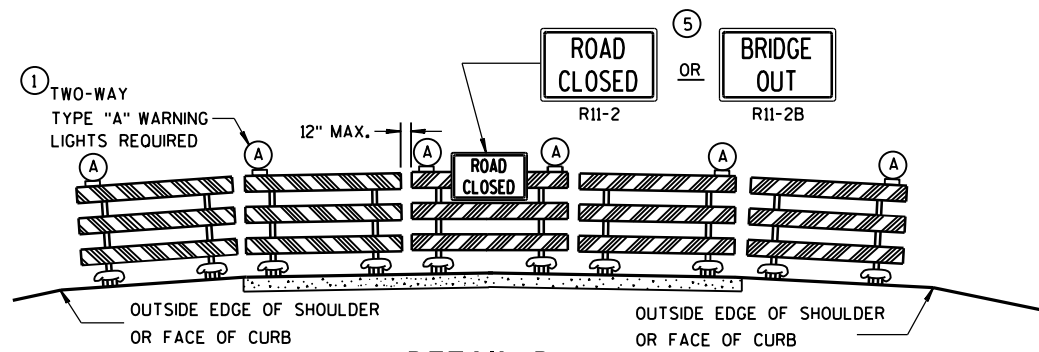


DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

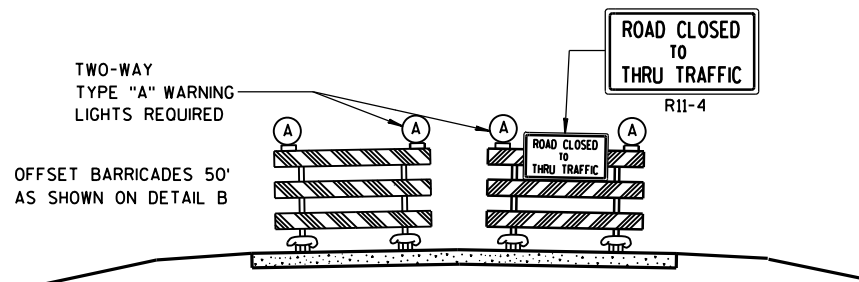
SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

BARRICADES AND SIGNS FOR MAINLINE CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
8/2013 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2-SHEET "a" FOR LEGEND

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL D FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3, M4-9, R11-4 AND R10-61 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

"WO" AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

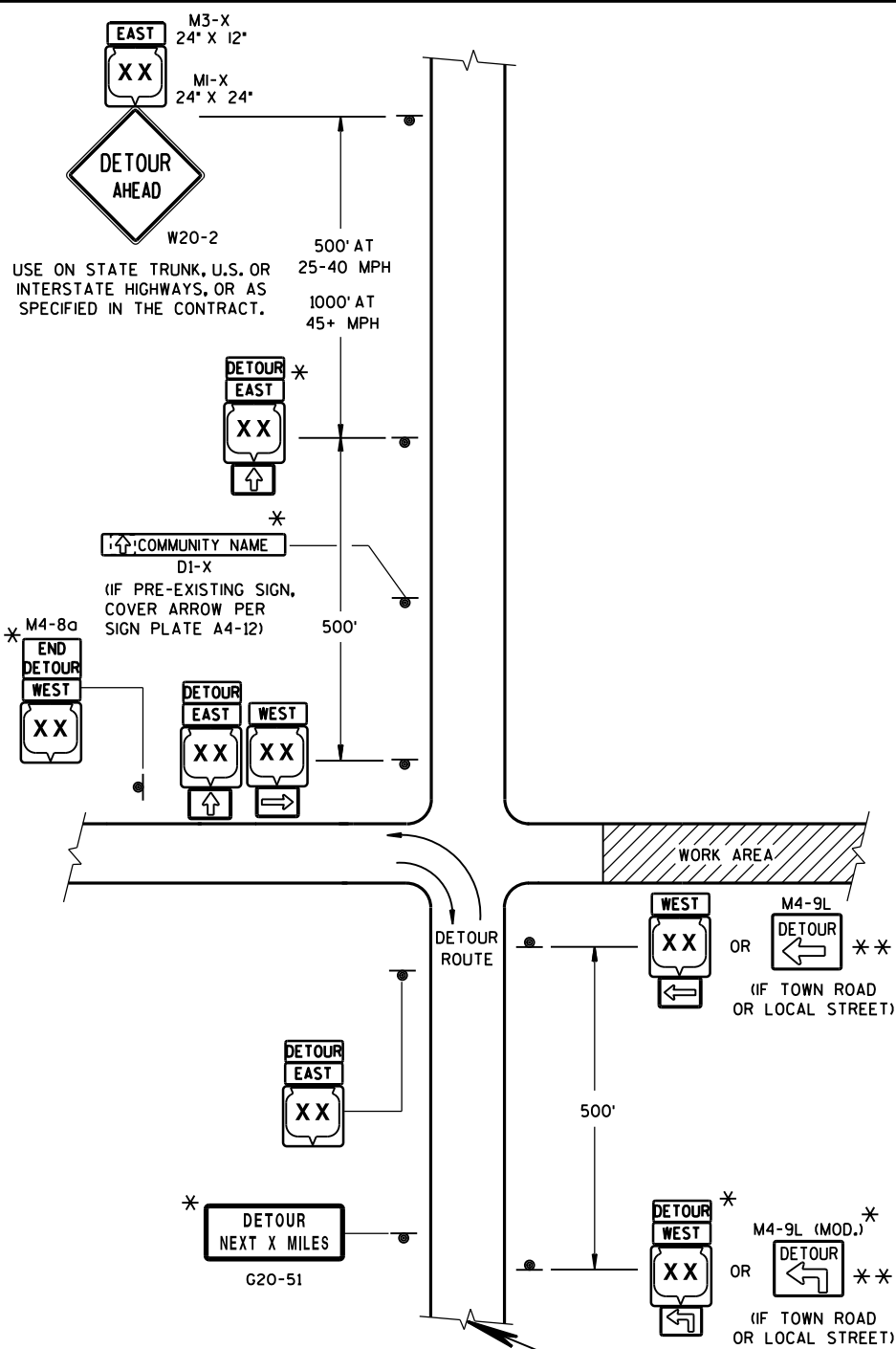
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

- 1 TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).
- 2 THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.
- 3 FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.
- 4 FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.
- 5 FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.
- 6 INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- 7 "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA



LEGEND

● SIGN ON PERMANENT SUPPORT

▨ WORK AREA

DETOUR EAST M4-8 M3-X

DETOUR WEST M4-8a M4-9L

DETOUR NEXT X MILES G20-51

DETOUR AHEAD W20-2

DETOUR EAST M3-X

DETOUR WEST M4-8a

DETOUR NEXT X MILES G20-51

DETOUR AHEAD W20-2

DETOUR EAST M3-X

DETOUR WEST M4-8a

DETOUR NEXT X MILES G20-51

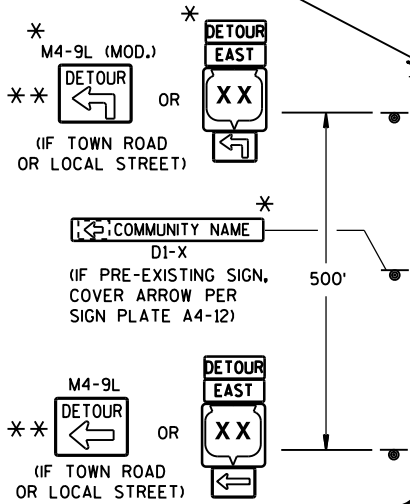
SEE SPECIFIC PROJECT DETOUR
SIGNING DETAIL SHEETS AND
DETAIL A OR B ON SDD 15C2-SHEET "a"

THIS DRAWING PROVIDES GENERAL GUIDANCE
ON TYPICAL DETOUR SIGN LAYOUT AND SPACING.
SEE PROJECT DETOUR SIGNING SHEETS FOR
SPECIFIC DETAILS FOR EACH PROJECT.

MATCH POINT

DETAIL F
DETOUR SIGNING

USE ON STATE TRUNK, U.S. OR
INTERSTATE HIGHWAYS, OR AS
SPECIFIED IN THE CONTRACT.



GENERAL NOTES

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS, MODIFY EXISTING SIGNS WHERE POSSIBLE.

THE SPACING BETWEEN TRAFFIC CONTROL AND DETOUR SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

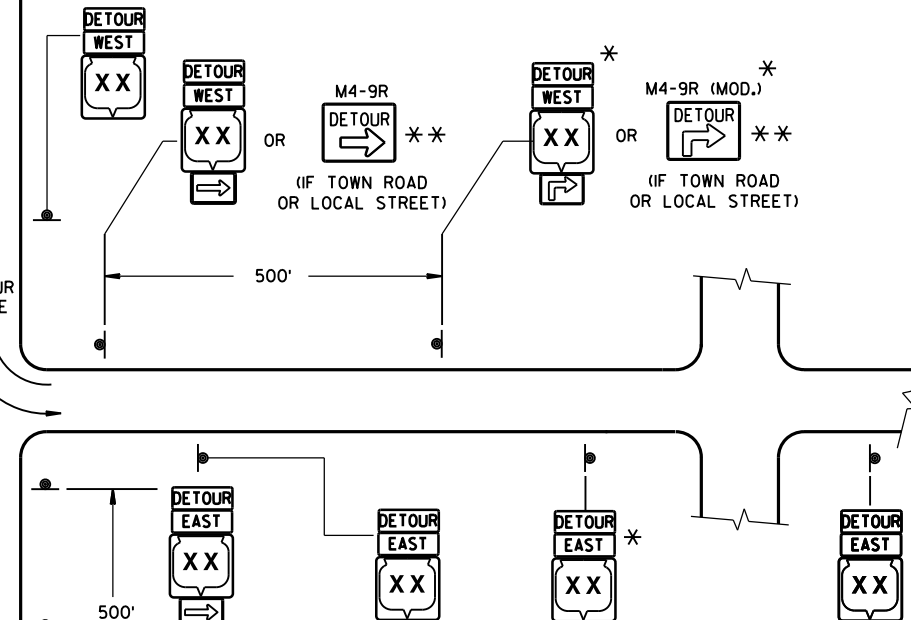
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-9 SHALL BE 30" X 24".
- M4-8a SHALL BE 24" X 18".
- G20-51 SHALL BE 60" X 24".
- W20-2 SHALL BE 48" X 48".
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.

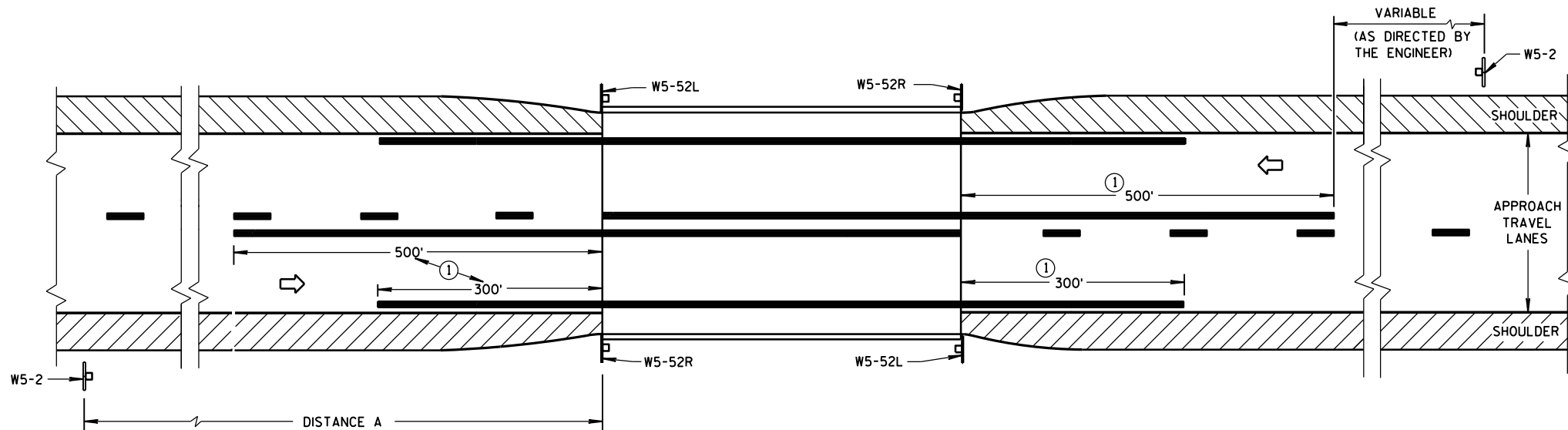


PLACE SIGNS BEYOND INTERSECTIONS WITH
STATE OR COUNTY TRUNK HIGHWAYS OR
AT 4 MILE MAXIMUM SPACING (4 BLOCKS IF
URBAN AREA.)

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA



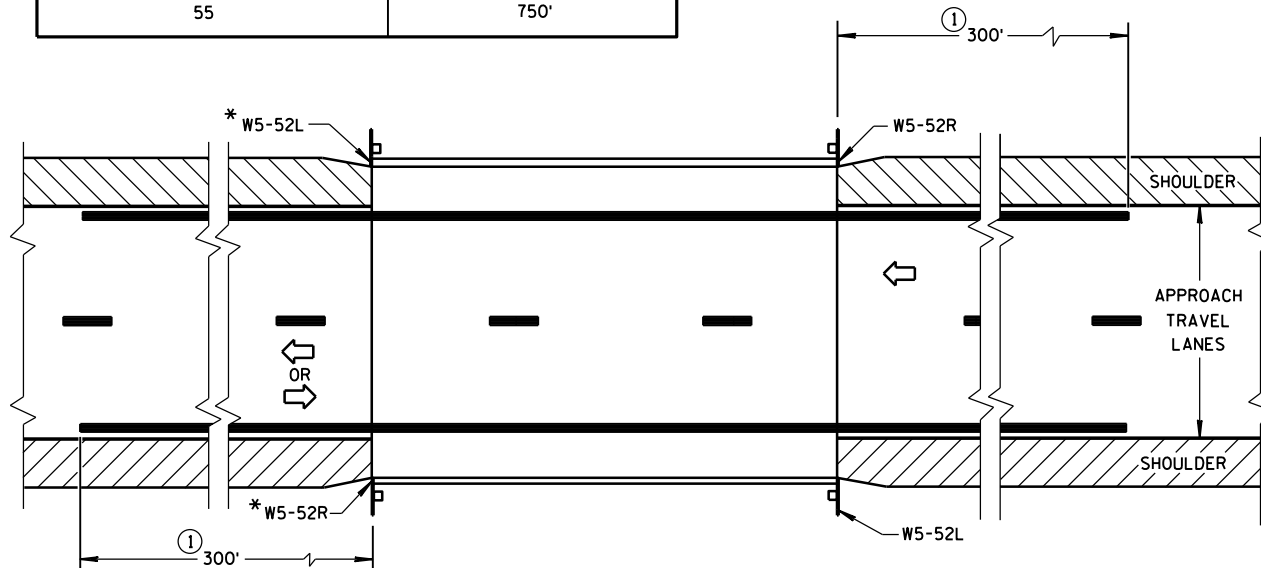
SITUATION 1

WARRANTING CRITERIA:

BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	750'

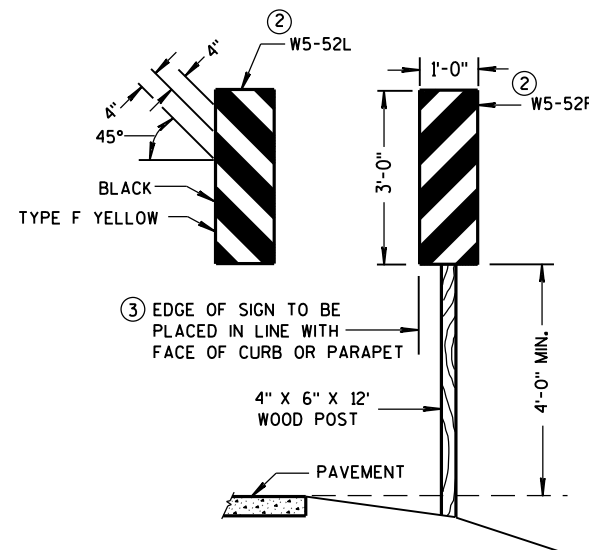


*OMIT ON ONE-WAY TRAVELLED WAYS

SITUATION 2

WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE IS LESS THAN 6 FEET WIDER (ON EACH SIDE) THAN APPROACH TRAVEL LANES.



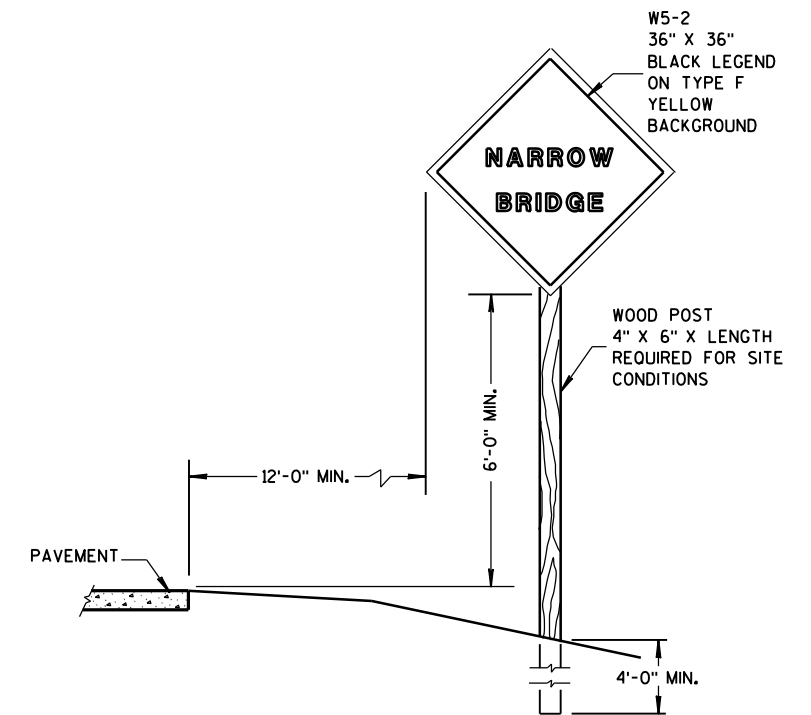
OBJECT MARKER PLACEMENT

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

PAVEMENT MARKING SHOWN ON THIS DRAWING IS NOT REQUIRED UNLESS OTHERWISE SPECIFIED IN THE CONTRACT. WHEN SPECIFIED, PAVEMENT MARKING SHALL CONFORM TO THIS DRAWING AND OTHER CONTRACT REQUIREMENTS.

- ① MINIMUM DISTANCE UNLESS OTHERWISE SHOWN ON THE PLAN.
- ② FACE OF OBJECT MARKERS W5-52R, AND W5-52L SHALL BE COVERED WITH TYPE F REFLECTIVE SHEETING.
- ③ LOCATE OBJECT MARKER POST(S) BEHIND GUARDRAIL WHEN PRESENT.



SIGN PLACEMENT

SIGNING & MARKING FOR TWO LANE BRIDGES

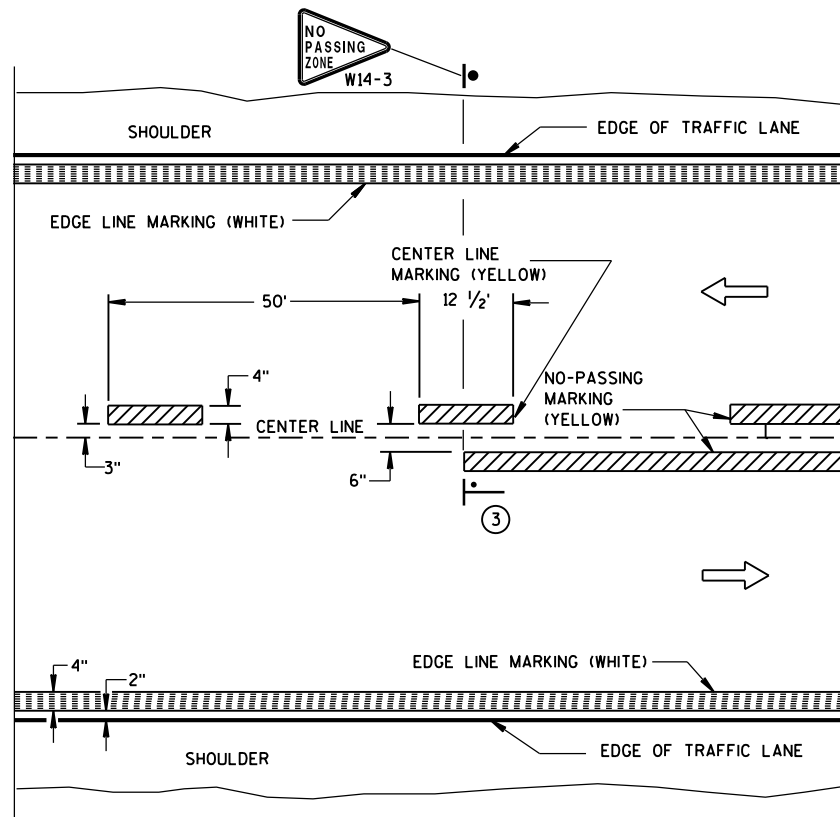
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

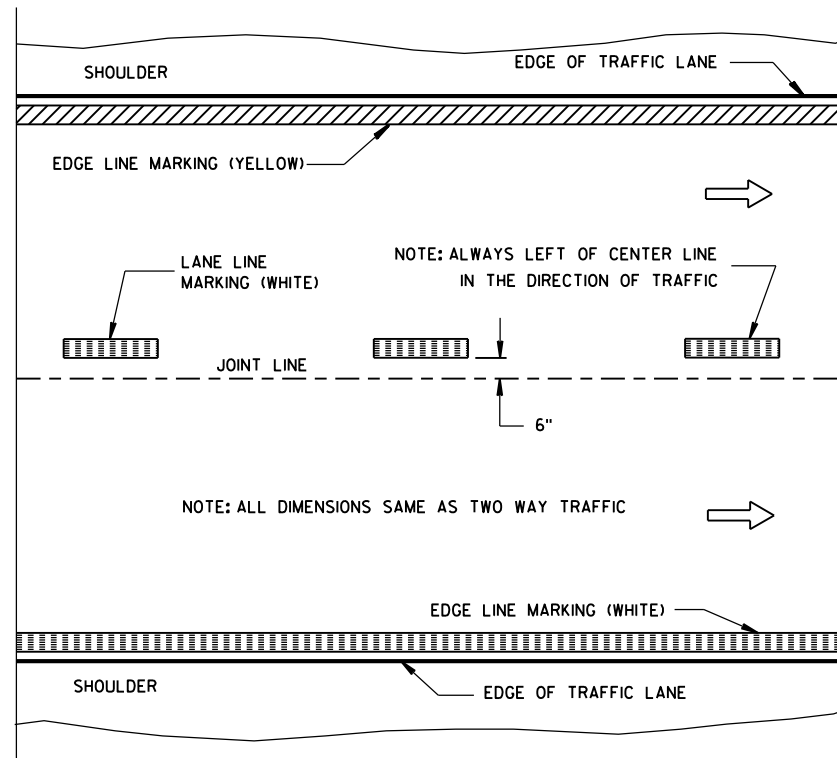
3-2014
DATE

FHWA

/S/ Travis Fettes
STATE TRAFFIC ENGINEER OF DESIGN

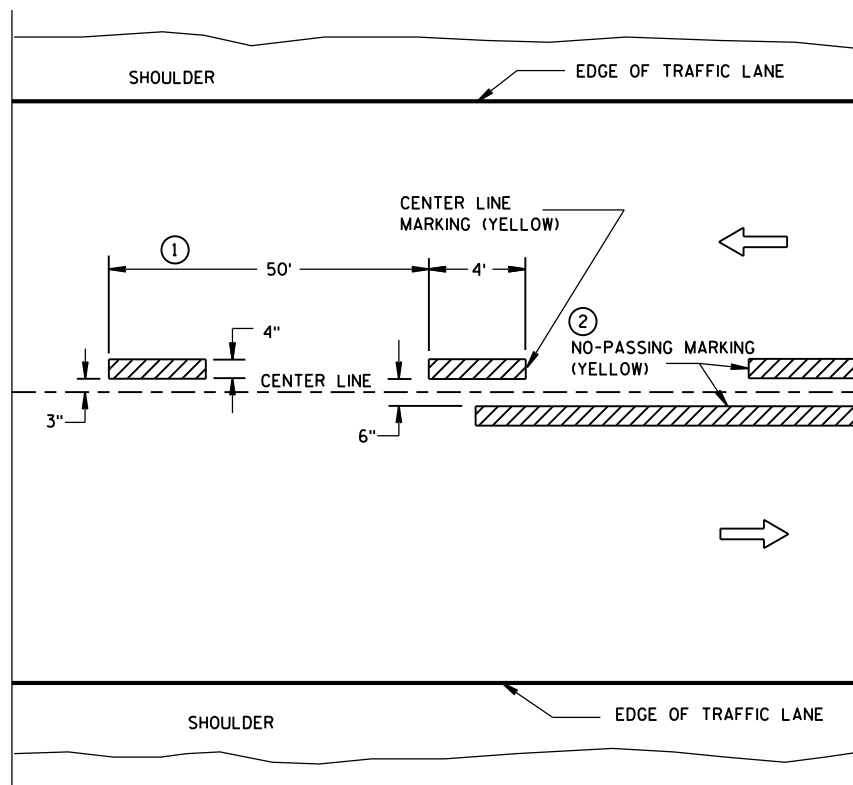


TWO WAY TRAFFIC

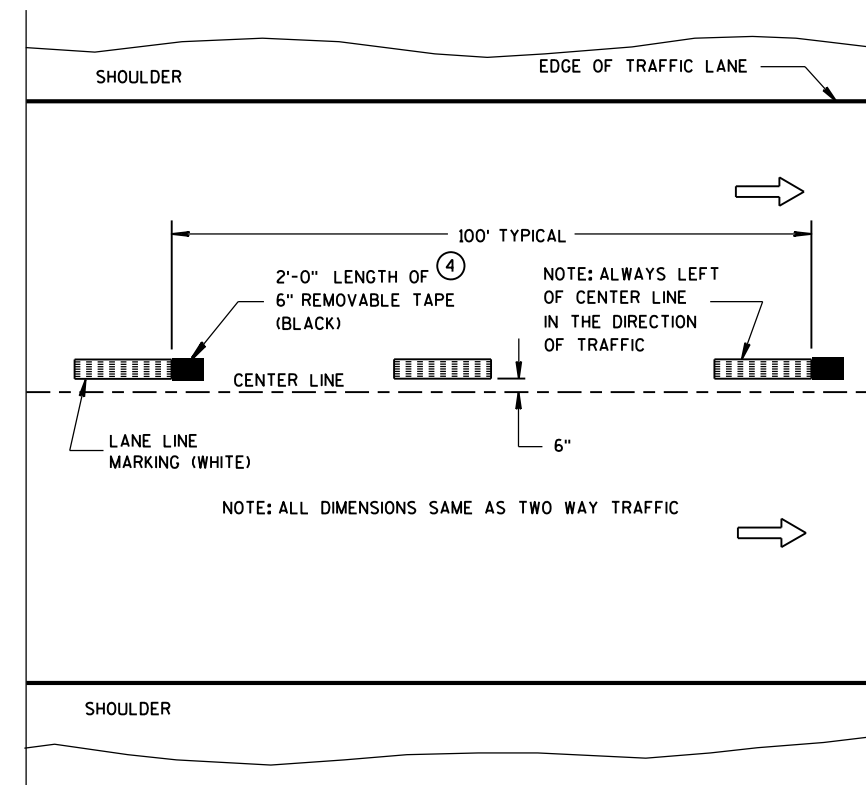


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING
(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

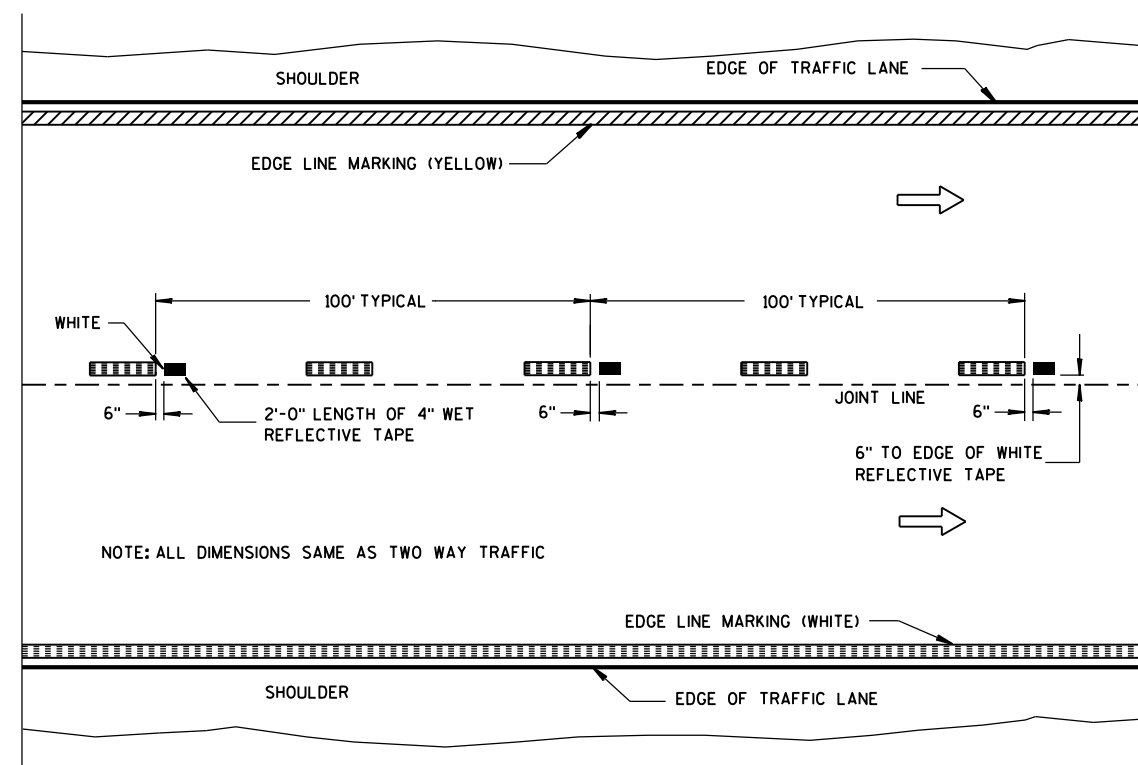
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

- ① HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
- ② NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
- ③ NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
- ④ CONCRETE ONLY.

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

- "T" MARKING
- POST MOUNTED SIGN

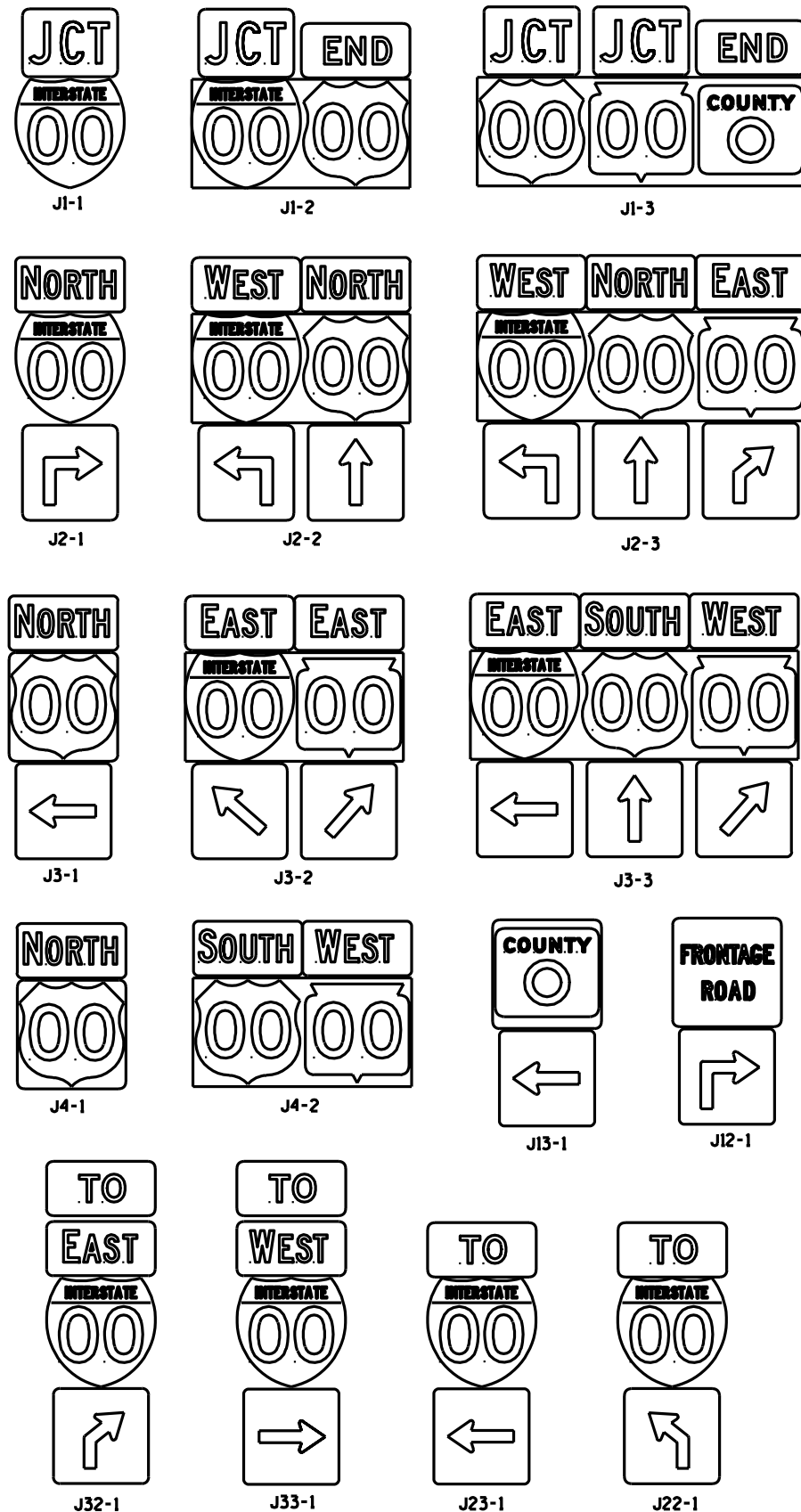
PAVEMENT MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

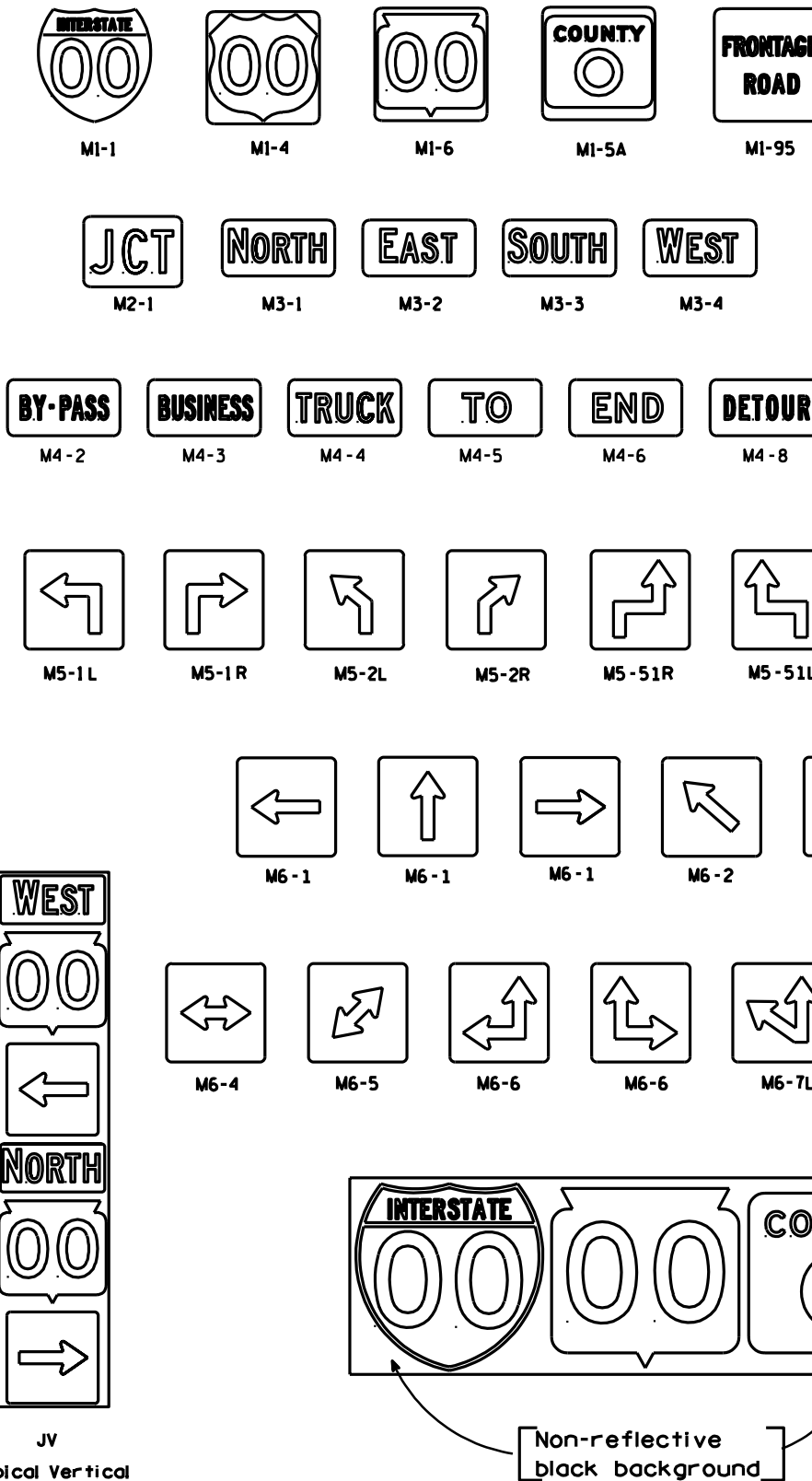
APPROVED
5-13-2013
DATE
FHWA

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

TYPICAL ASSEMBLIES



INDIVIDUAL COMPONENTS OF ASSEMBLIES



GENERAL NOTES

1. All components within any individual assembly shall be the same "size". The following table illustrates that situation:

SIZE	M1'S	M2	M3'S & M4'S	M5'S & M6'S
2	24 x 24	21 x 15	24 x 12	21 x 21
3,4-5	36 x 36	30 x 21	30 x 15	30 x 30

2. For any assembly containing two or more route markers, the route markers SHALL be placed on a single high density overlay PLYWOOD panel. All other materials within the assembly can be either plywood or aluminum.

3. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 marker shall be blue.

4. All vertical J assemblies are given a sign code of JV.

JV
(Typical Vertical
J- Assembly
See Note 4)

ROUTE MARKERS & COMPONENTS IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/06/00

A2-1.6

PROJECT NO:

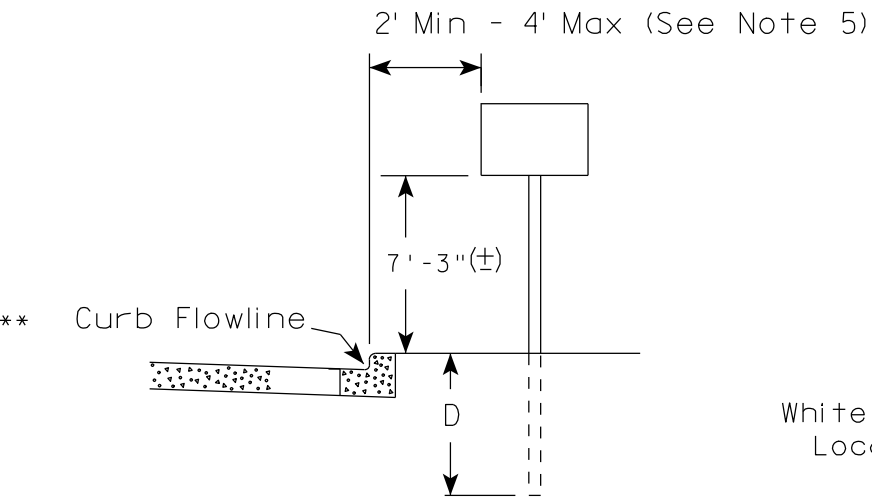
HWY:

COUNTY:

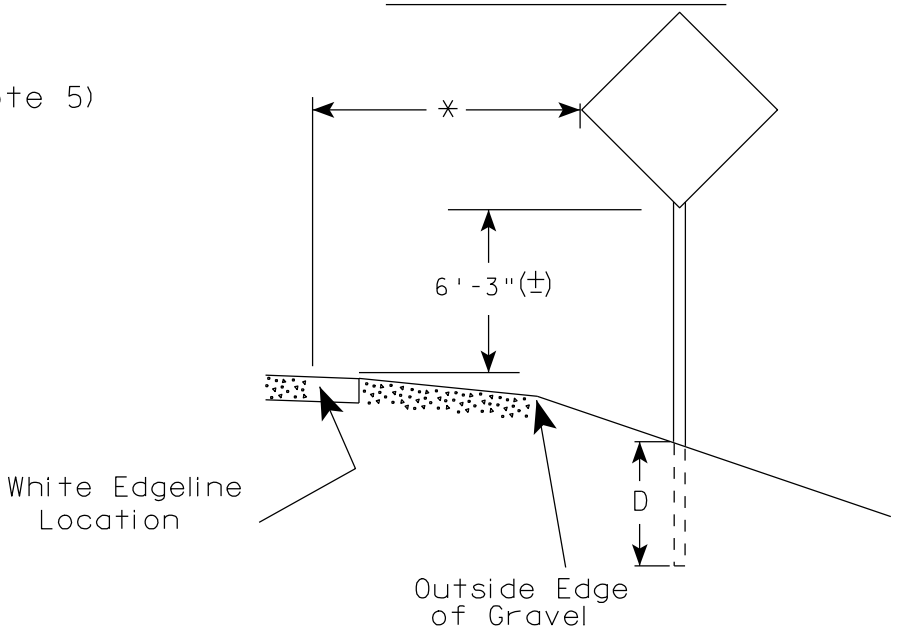
SHEET NO:

E

URBAN AREA



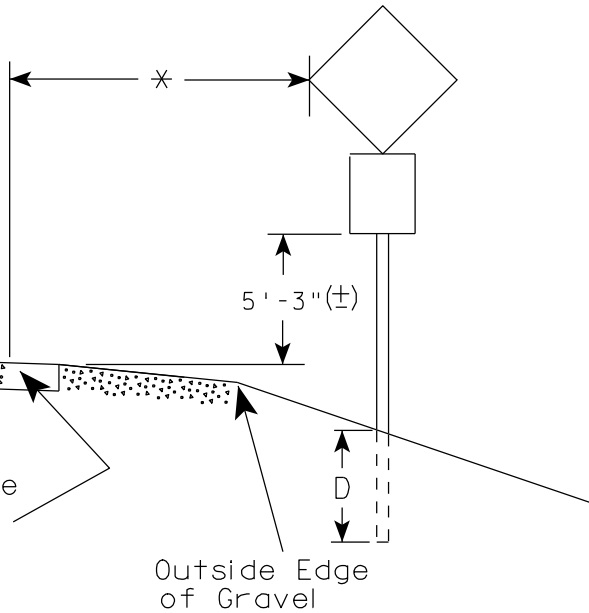
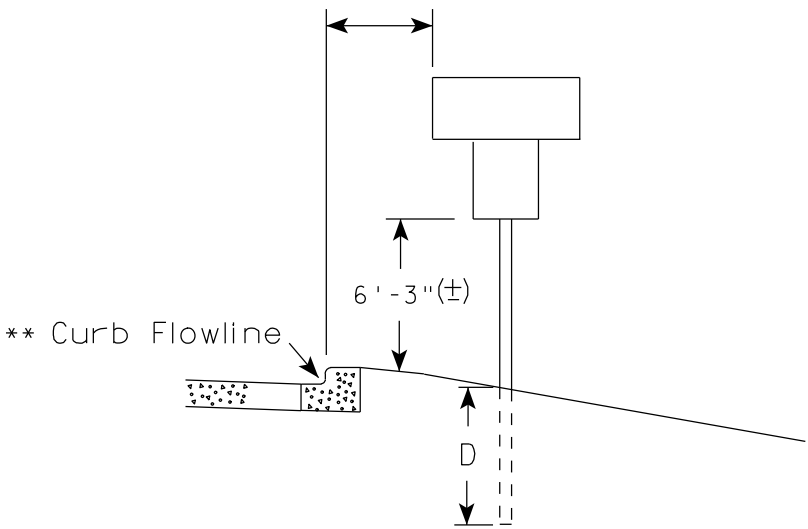
RURAL AREA (See Note 2)



GENERAL NOTES

1. Signs wider than 4 feet or larger than 20 sq. ft. shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series) & End of Road Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (±).

2' Min - 4' Max (See Note 5)



POST EMBEDMENT DEPTH

Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

✱✱ The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

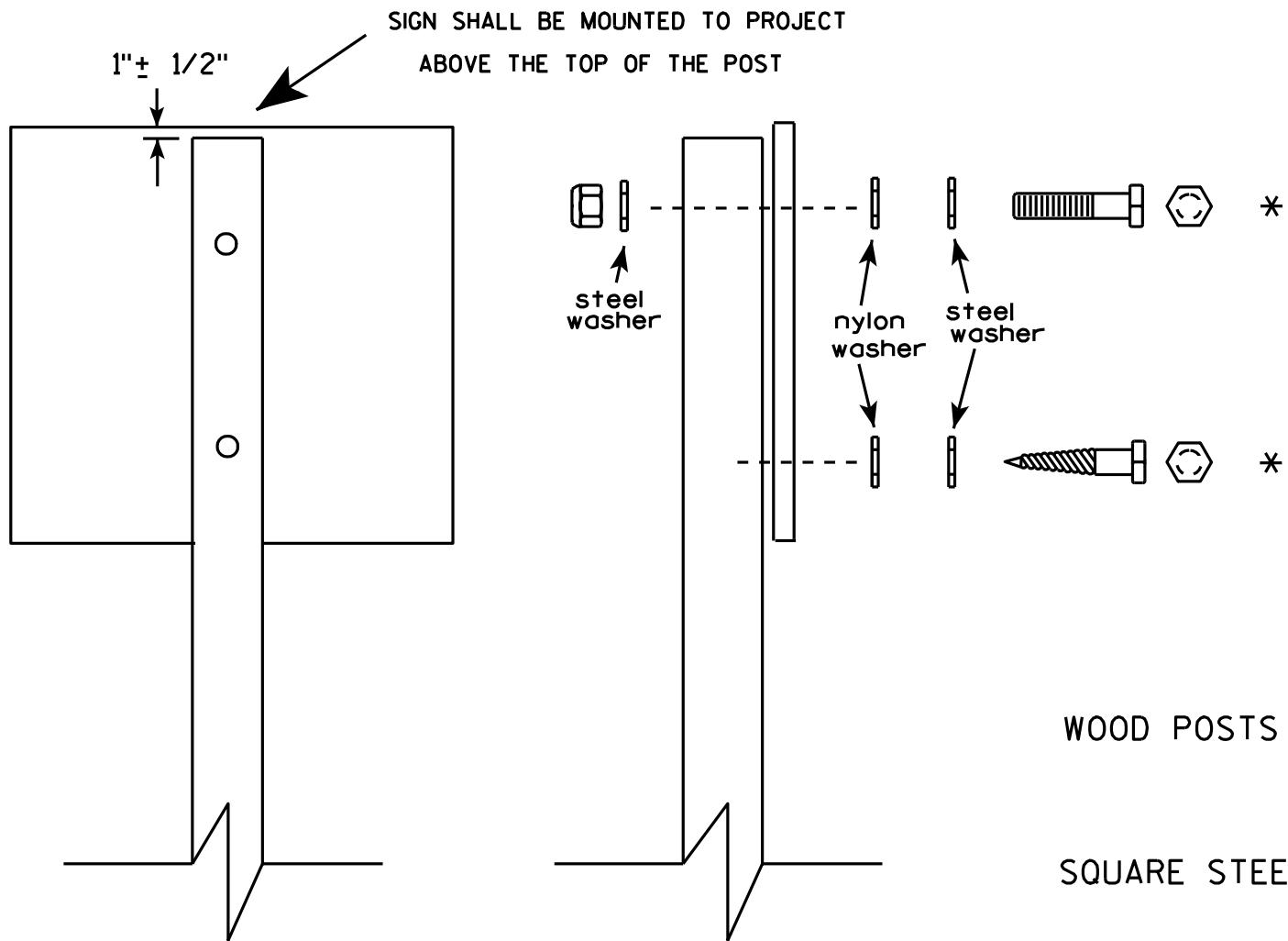
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 9/21/2011 PLATE NO. A4-3.16

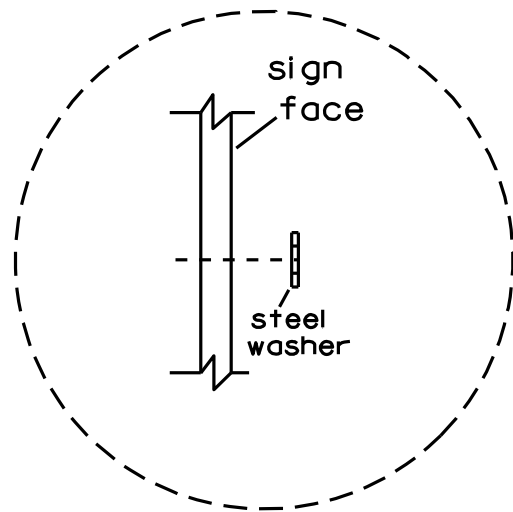


Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts
- SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.

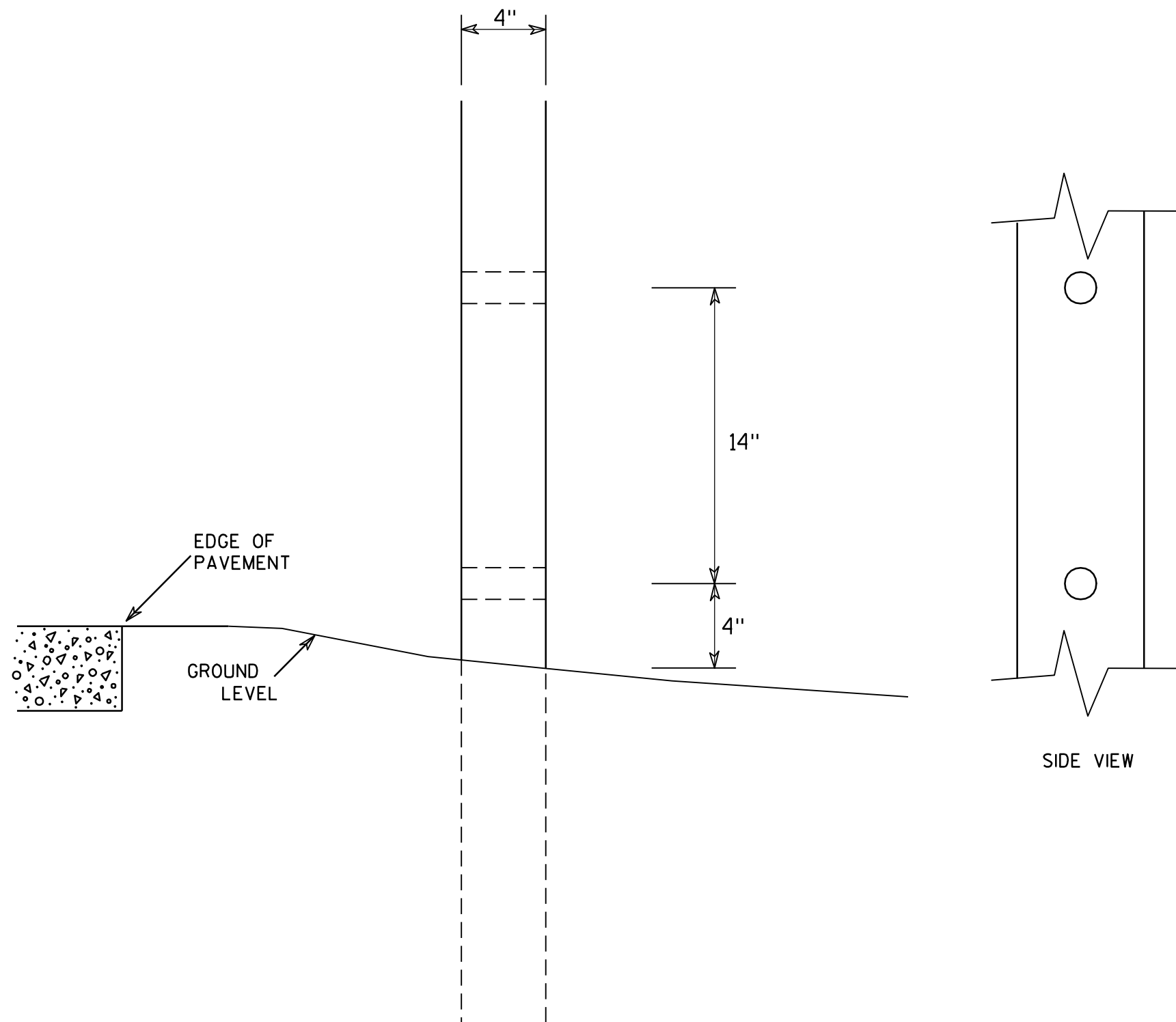


Washer Placement when Sign Has Other Than Type H or Type F Face

* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 3/23/10	PLATE NO. A4-8.7

7

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

7

**4 X 6 WOOD POST
MODIFICATIONS**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

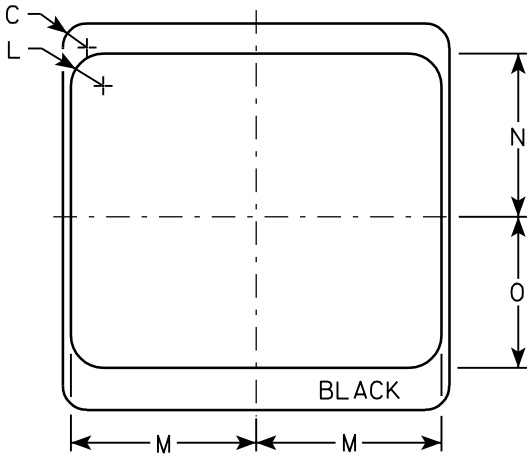
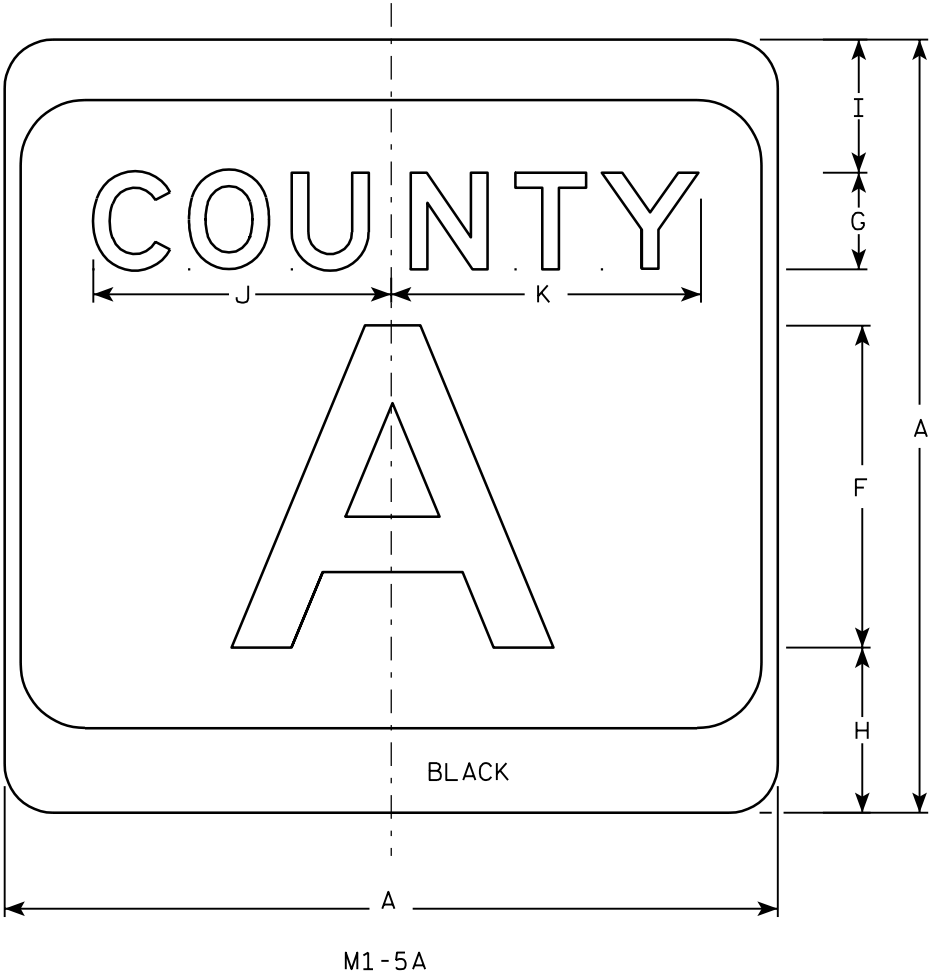
7

Metric equivalent
for this sign is:

SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m ²
1																												
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8												4.0	.36
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14												9.0	.81
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14												9.0	.81
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14												9.0	.81

PROJECT NO:			HWY:			COUNTY:													SHEET NO:			E
-------------	--	--	------	--	--	---------	--	--	--	--	--	--	--	--	--	--	--	--	-----------	--	--	---



NOTES

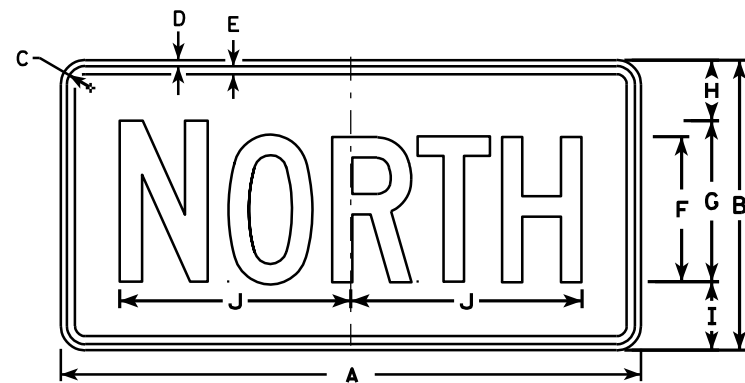
- Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - White & Black - See Note 7
Message - Black
- Message Series - see Note 5
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- Message Series E for 1 letter.
Message Series D for 2 letters unless message is too big then Series C.
Message Series C for 3 letters unless message is too big then Series B.
- Substitute appropriate letters & optically adjust spacing to achieve proper balance.
- Permanent Signs
Background - Type H Reflective
Detour or temporary Signs
Background - Reflective

CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Christa J. Spang
for State Traffic Engineer

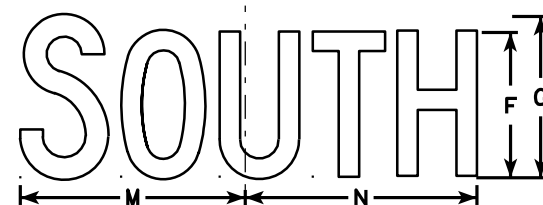
DATE 3/20/02
PLATE NO. M1-5A.7



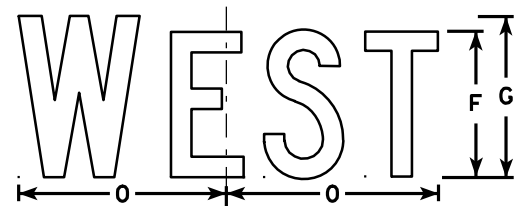
M3-1
MK3-1
M03-1



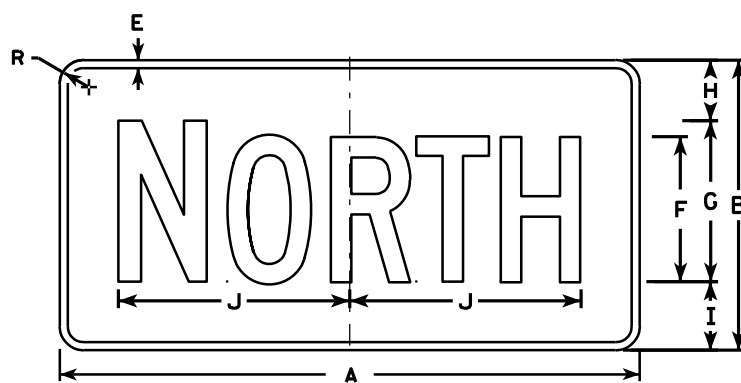
M3-2
MK3-2
M03-2



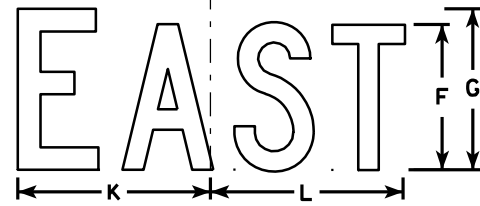
M3-3
MK3-3
M03-3



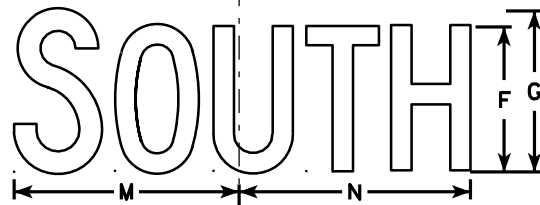
M3-4
MK3-4
M03-4



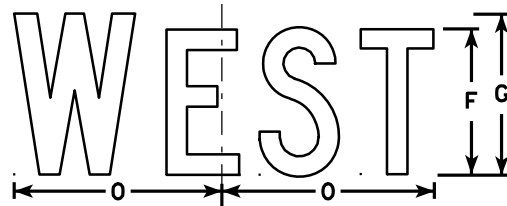
MB3-1
MG3-1
MM3-1
MN3-1



MB3-2
MG3-2
MM3-2
MN3-2



MB3-3
MG3-3
MM3-3
MN3-3



MB3-4
MG3-4
MM3-4
MN3-4

NOTES

1. All Signs Type II - See Note 5 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - See note 5
Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White - Type H Reflective (Detour or temporary signs - Reflective)
Message - Black
MB3-1 thru MB3-4 Background - Blue
Message - White - Type H Reflective (Detour or temporary signs - Reflective)
MG3-1 thru MG3-4 Background - Green
Message - White - Type H Reflective
MK3-1 thru MK3-4 Background - Green
Message - White - Type H Reflective
MM3-1 thru MM3-4 Background - White - Type H Reflective
Message - Green
MN3-1 thru MN3-4 Background - Brown
Message - White - Type H Reflective
M03-1 thru M03-4 Background - Orange - Reflective
Message - Black
6. Note the first letter of each direction is larger than the remainder of the message.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

PROJECT NO: HWY: COUNTY: SHEET NO: E

STANDARD SIGNS M3-1 thru M3-4 SERIES

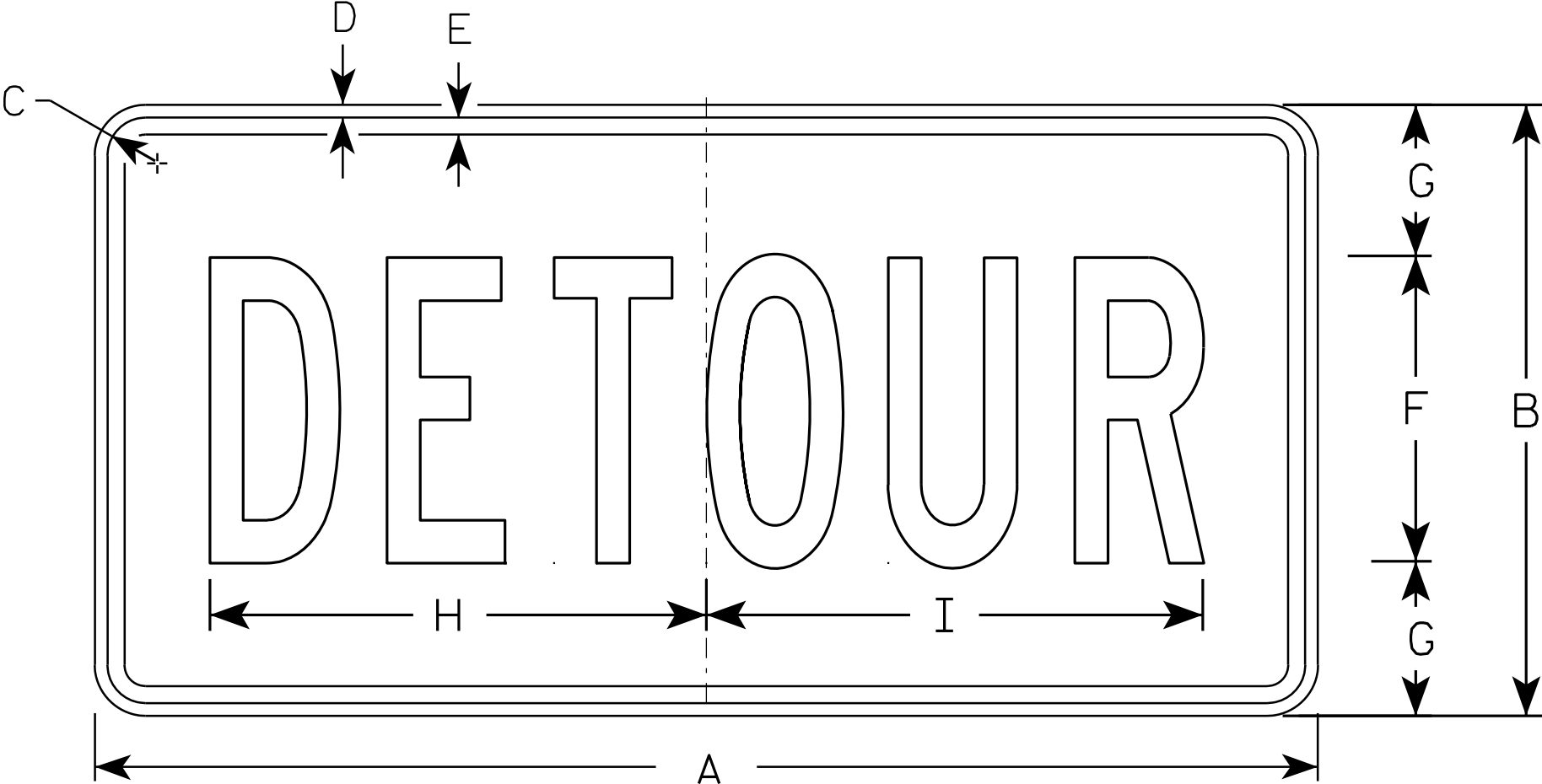
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M3-1.12

NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
 - Background - Orange
 - Message - Black
- 3. Message Series - B
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



M4 - 8

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/8	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4																											
5																											

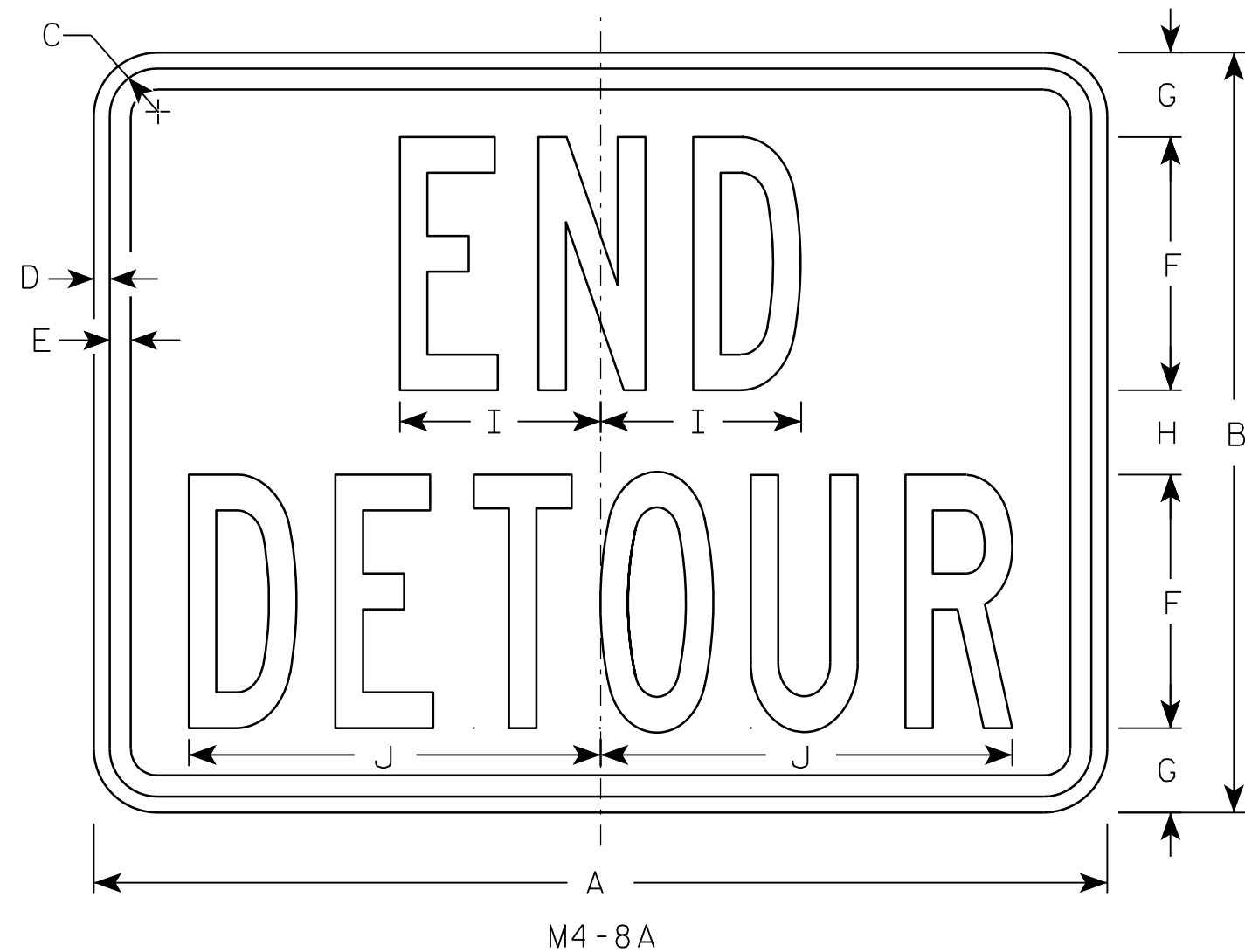
STANDARD SIGN
M4 - 8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2

7



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	18	1 1/8	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/8	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4																											
5																											

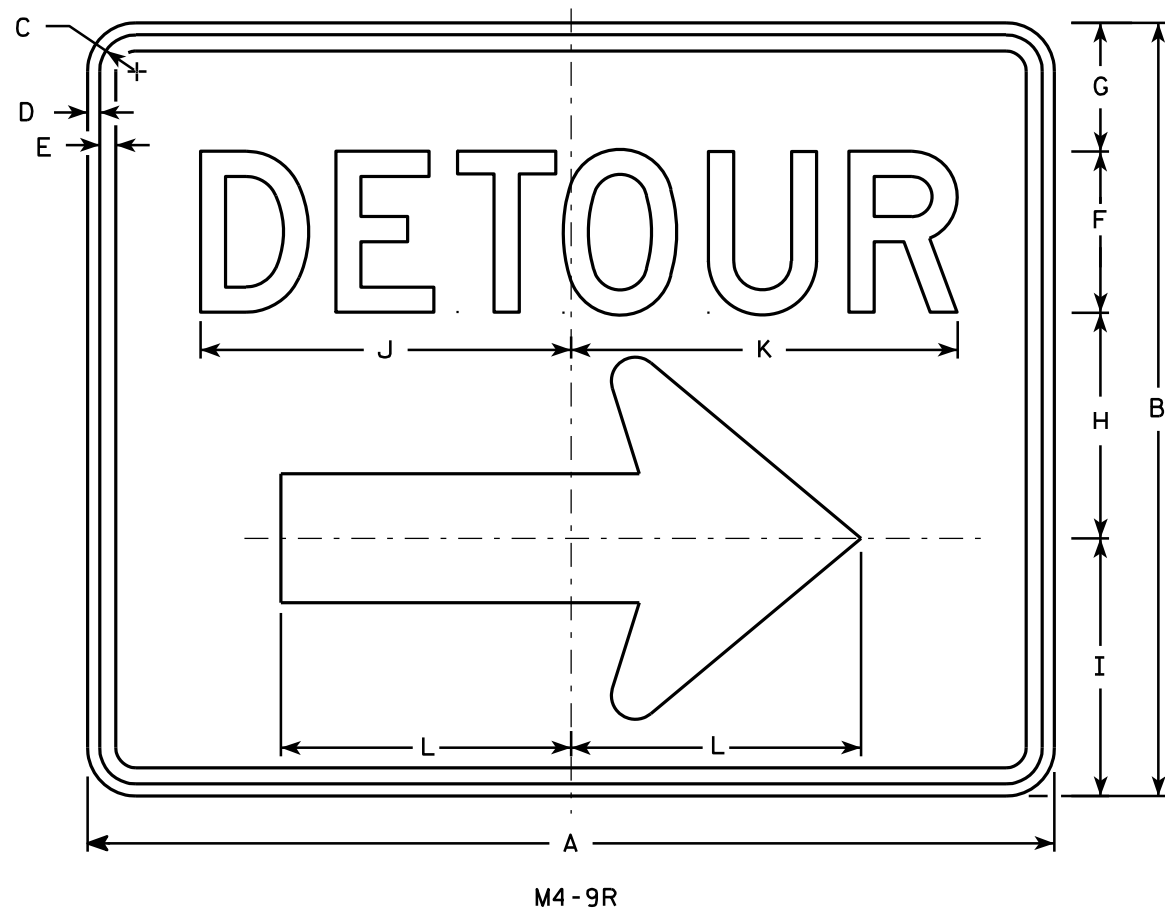
PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
-------------	------	---------	-----------	---

STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

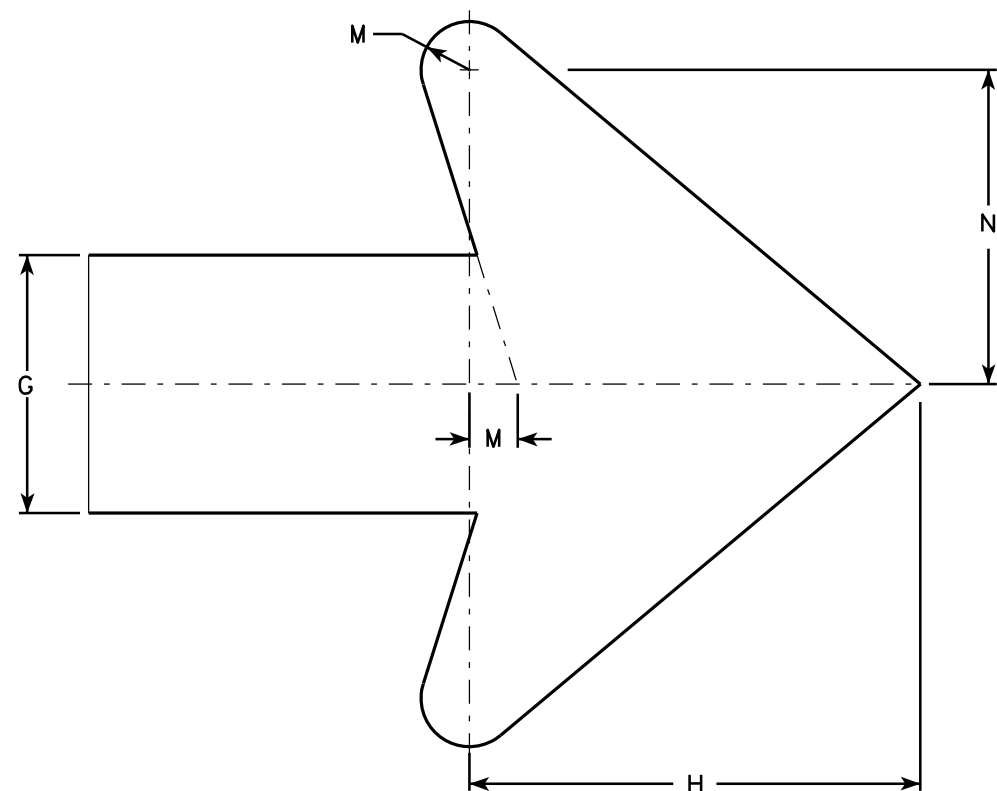
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-8A.2



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-9L is the same as M4-9R except the arrow is reversed.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
4	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0
5	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0

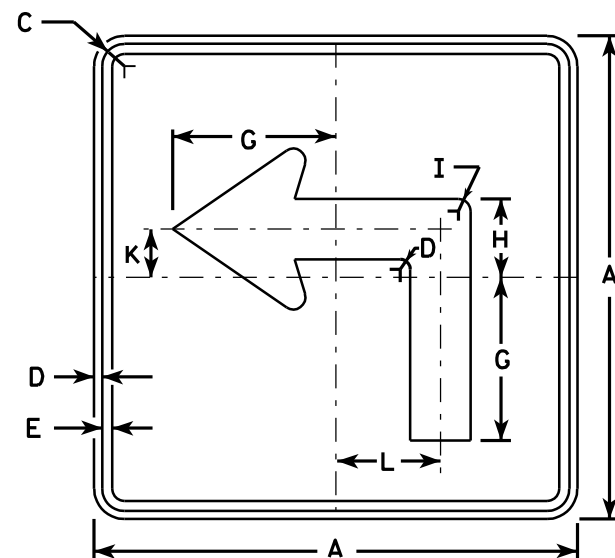
STANDARD SIGN
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

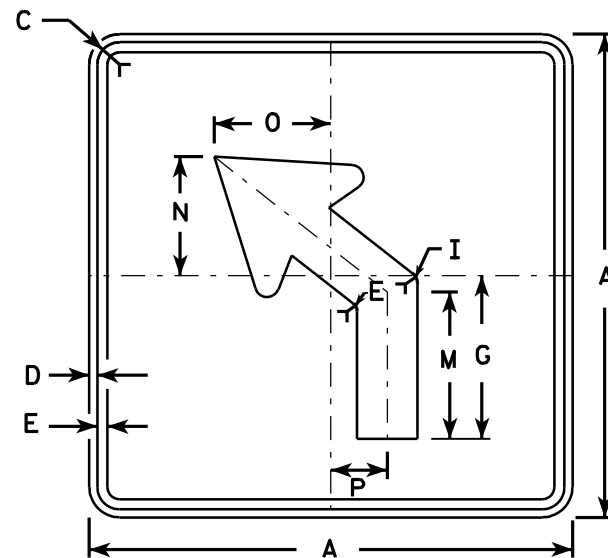
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-9R.4

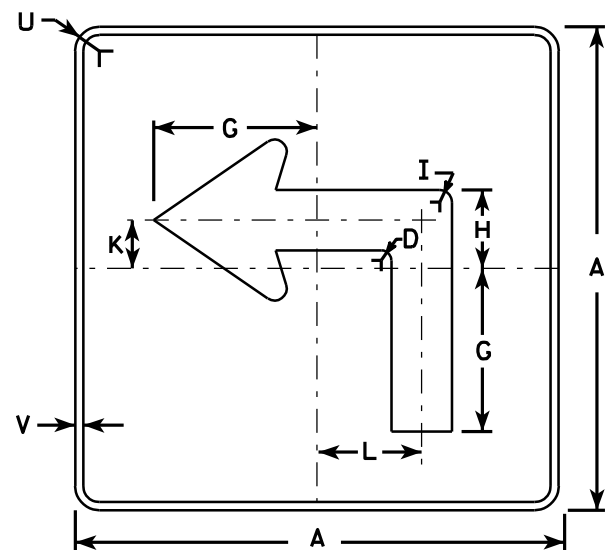
PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
-------------	------	---------	-----------	---



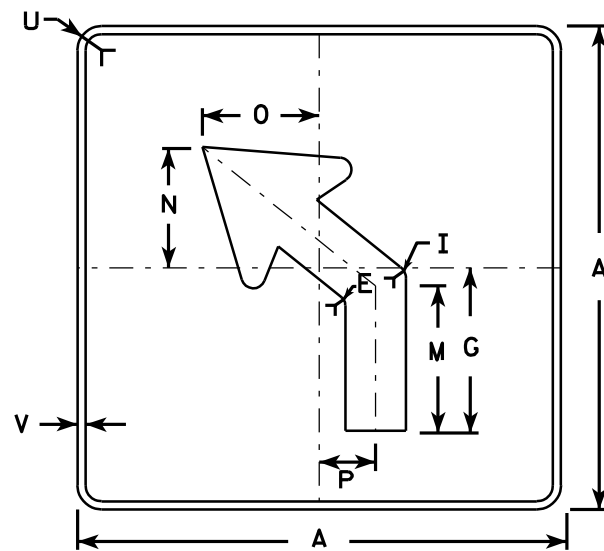
M5-1L
MK5-1L
MM5-1L
MO5-1L
MR5-1L



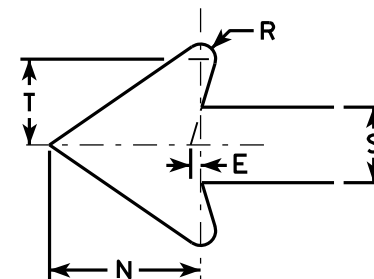
M5-2L
MK5-2L
MM5-2L
MO5-2L
MR5-2L



MB5-1L
MG5-1L
MN5-1L



MB5-2L
MG5-2L
MN5-2L



Metric equivalent
for this sign is:

SIZE	
1	
2	525 mm X 525 mm
3	750 mm X 750 mm
4	750 mm X 750 mm
5	750 mm X 750 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area sq.
1																												
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06	0.28
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25	0.56
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25	0.56
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25	0.56

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
-------------	------	---------	-----------	---

NOTES

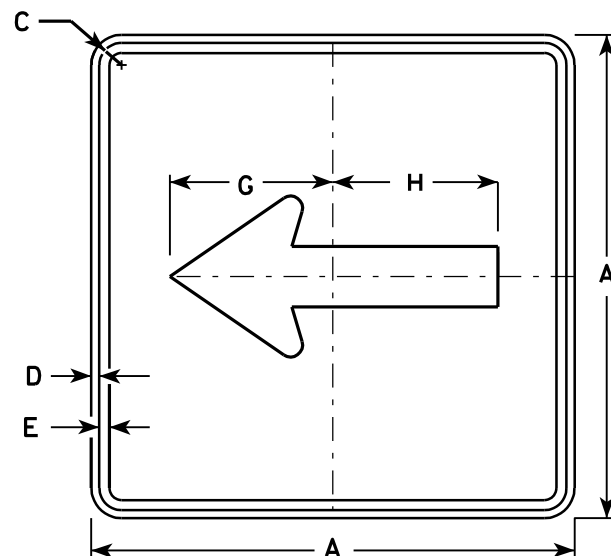
- Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - See note 4
Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M5-1 and M5-2 Background - White - Type H Reflective (Detour or temporary Signs - Reflective) Message - Black
MB5-1 and MB5-2 Background - Blue Message - White - Type H Reflective (Detour or temporary Signs - Reflective)
MG5-1 and MG5-2 Background - Green Message - White - Type H Reflective
MK5-1 and MK5-2 Background - Green Message - White Type H Reflective
MM5-1 and MM5-2 Background - White - Type H Reflective Message - Green
MN5-1 and MN5-2 Background - Brown Message - White - Type H Reflective
MO5-1 and MO5-2 Background - Orange - Reflective Message - Black
MR5-1 and MR5-2 Background - Brown Message - Yellow - Type H Reflective
- M5-1R same as M5-1L except arrow points right.
- M5-2R same as M5-2L except arrow tilts right.

STANDARD SIGN
M5-1 & M5-2

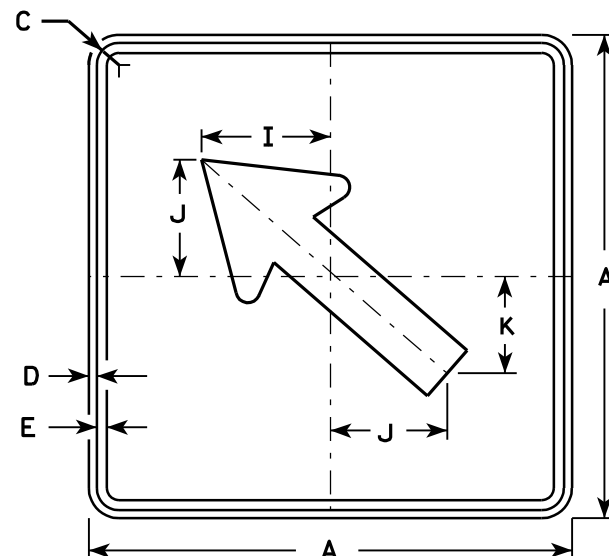
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

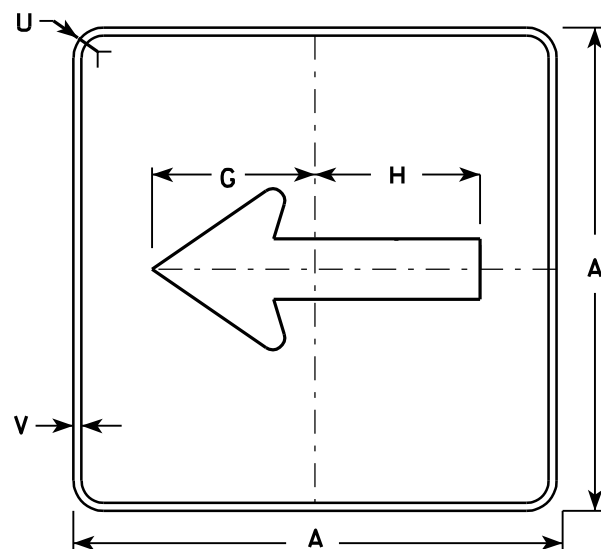
DATE 3/16/10 PLATE NO. M5-1.11



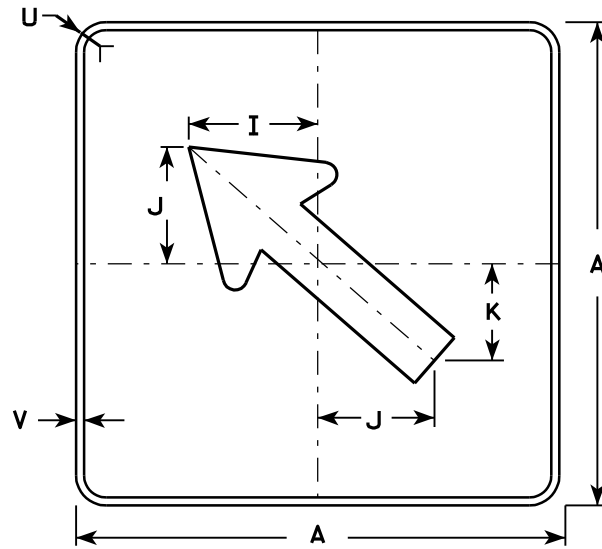
M6-1
MK6-1
MM6-1
MO6-1
MR6-1



M6-2
MK6-2
MM6-2
MO6-2
MR6-2



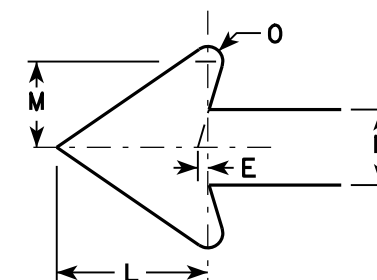
MB6-1
MG6-1
MN6-1



MB6-2
MG6-2
MN6-2

NOTES

- Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - See note 4
Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M6-1 and M6-2 Background - White - Type H Reflective
(Detour or temporary Signs - Reflective)
Message - Black
MB6-1 and MB6-2 Background - Blue
Message - White - Type H Reflective
(Detour or temporary Signs - Reflective)
MG6-1 and MG6-2 Background - Green
Message - White - Type H Reflective
MK6-1 and MK6-2 Background - Green
Message - White - Type H Reflective
MM6-1 and MM6-2 Background - White - Type H Reflective
Message - Green
MN6-1 and MN6-2 Background - Brown
Message - White - Type H Reflective
MO6-1 and MO6-2 Background - Orange - Reflective
Message - Black
MR6-1 and MR6-2 Background - Brown
Message - Yellow - Type H Reflective



Metric equivalent
for this sign is:

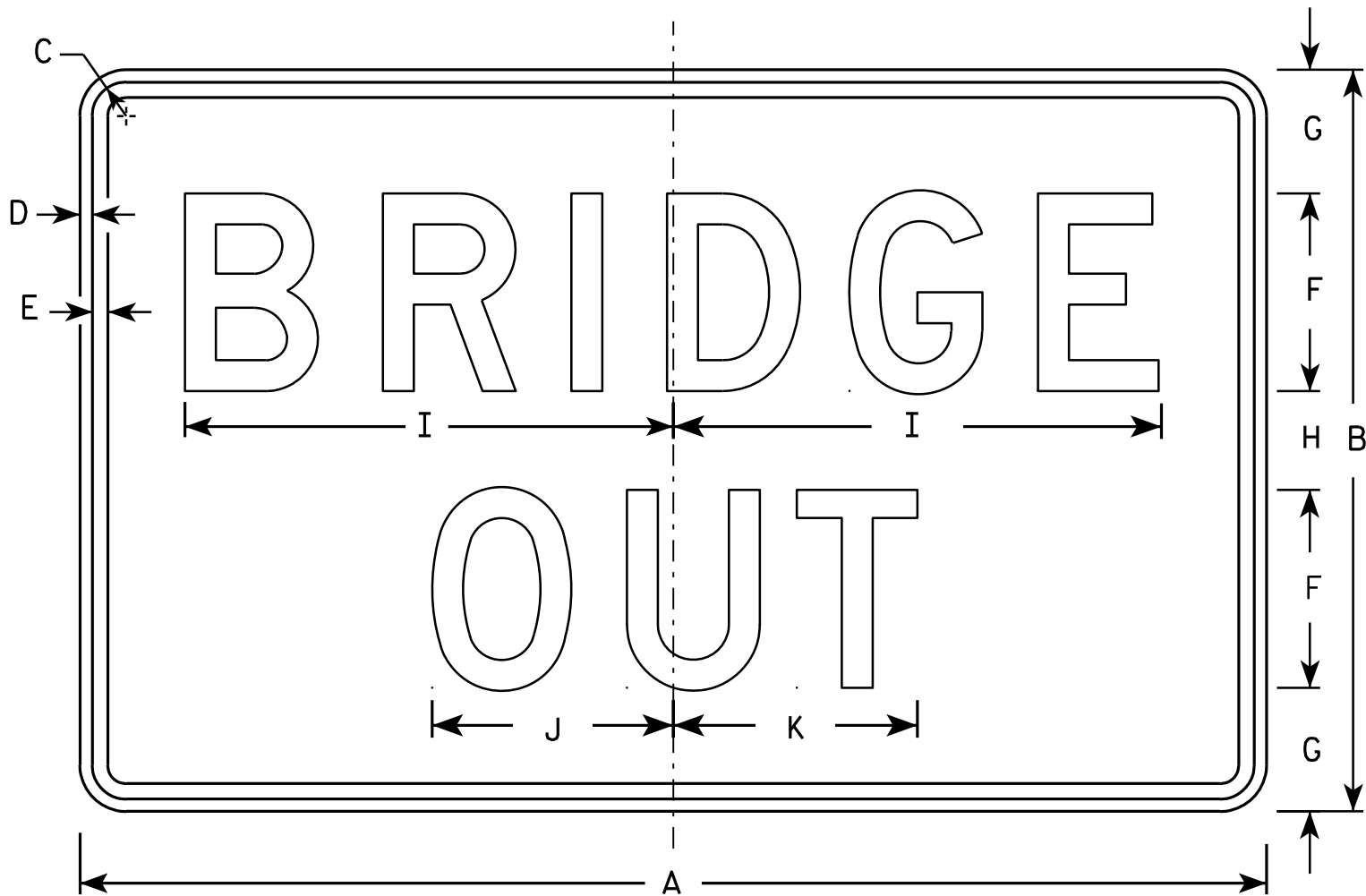
SIZE	
1	
2	525 mm X 525 mm
3	750 mm X 750 mm
4	750 mm X 750 mm
5	750 mm X 750 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06	0.28
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25	0.56
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25	0.56
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25	0.56

PROJECT NO: HWY: COUNTY: SHEET NO: E

NOTES

- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
 - Background - White
 - Message - Black
- 3. Message Series - D
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



R11-2B

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	19 3⁄4	9 3⁄4	9 7⁄8																10.0
2M	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	19 3⁄4	9 3⁄4	9 7⁄8																10.0
3	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	19 3⁄4	9 3⁄4	9 7⁄8																10.0
4	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	19 3⁄4	9 3⁄4	9 7⁄8																10.0
5	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	19 3⁄4	9 3⁄4	9 7⁄8																10.0

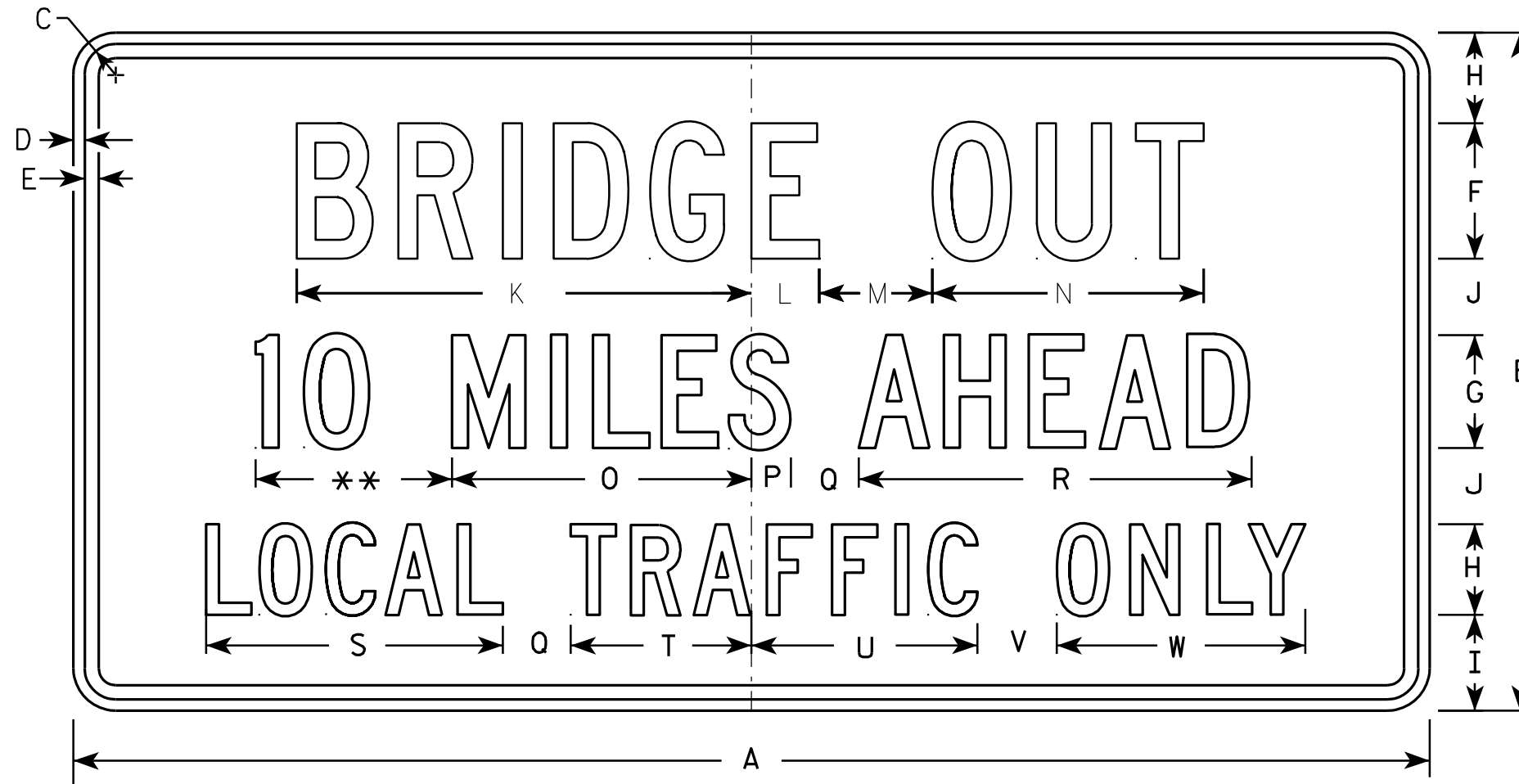
STANDARD SIGN

R11-2B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2B.2



R11-3B

NOTES

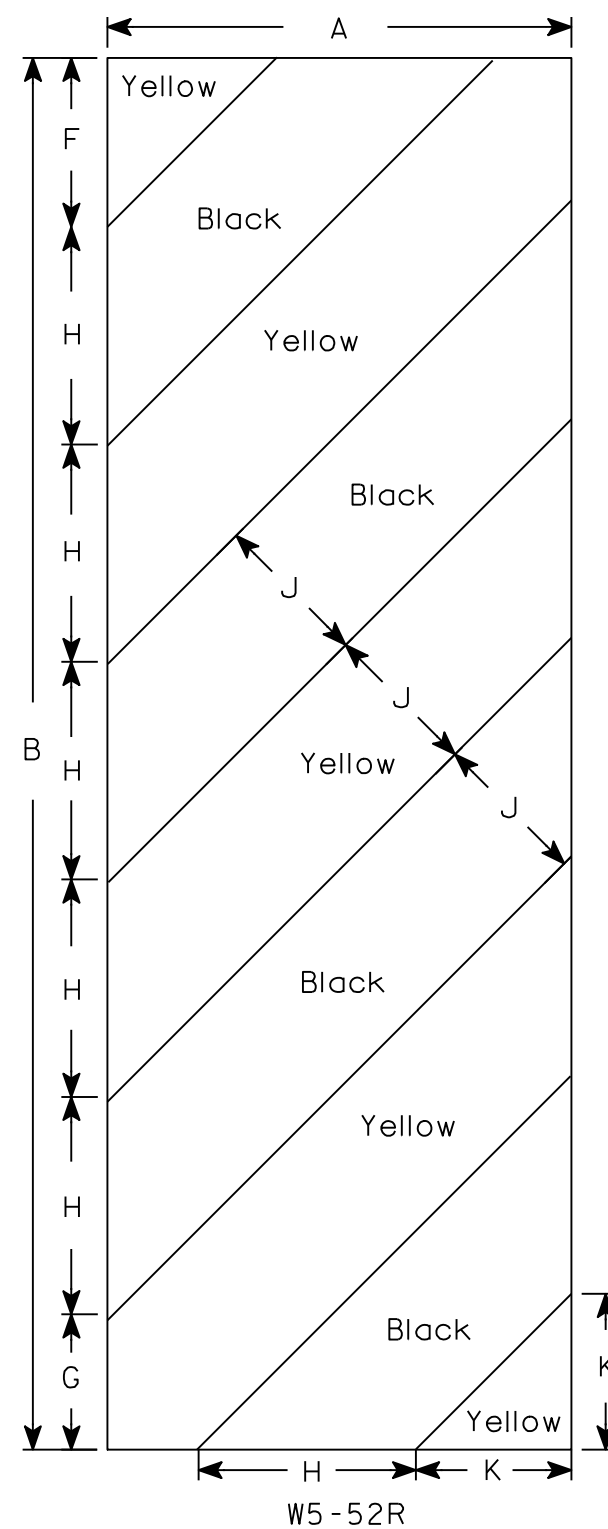
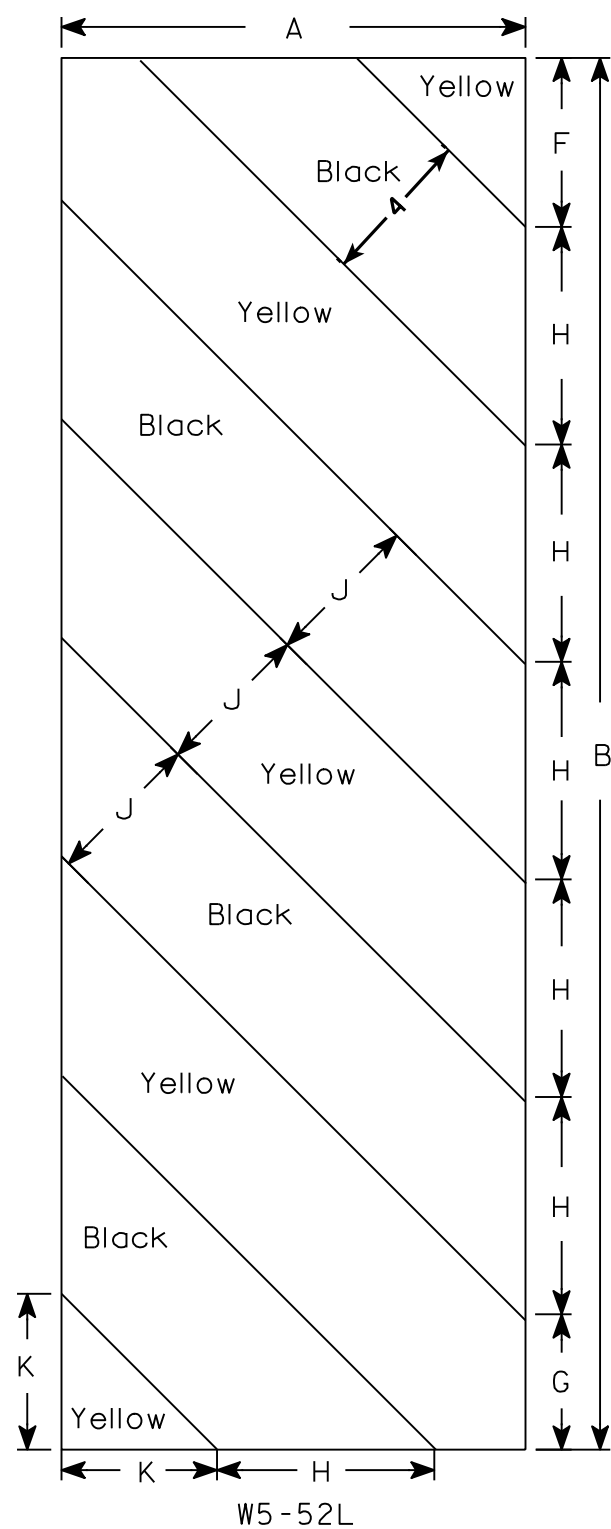
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

** See Note 5

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 3/8	1/2	5/8	4	3	2 1/2	2	2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4	8 3/8	4 3/4	6 1/2	2	6 3/4				4.5
2S	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11				12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11				12.5
3																											
4																											
5																											

STANDARD SIGN R11-3B	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 4/1/11	PLATE NO. R11-3B.2

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
-------------	------	---------	-----------	---



NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
 - Background - Yellow
 - Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Alternate colors of stripes as shown.

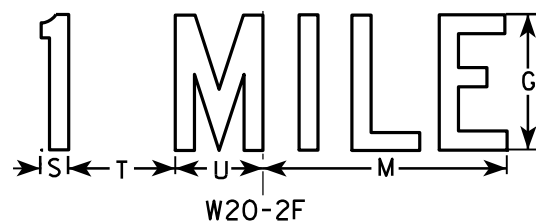
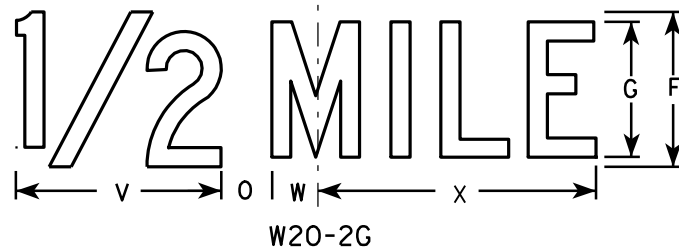
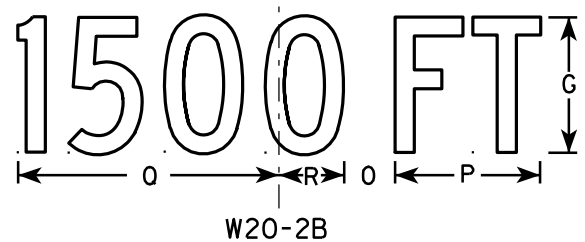
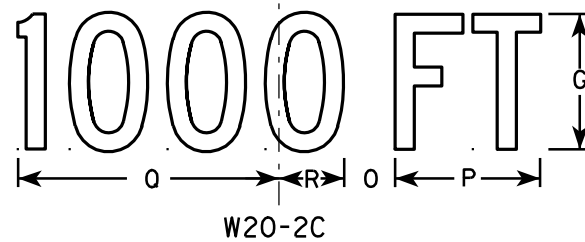
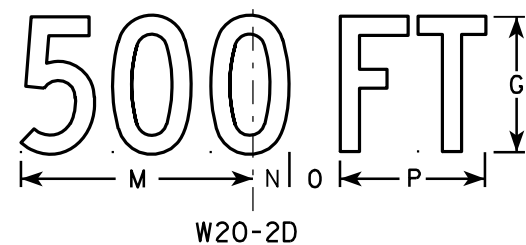
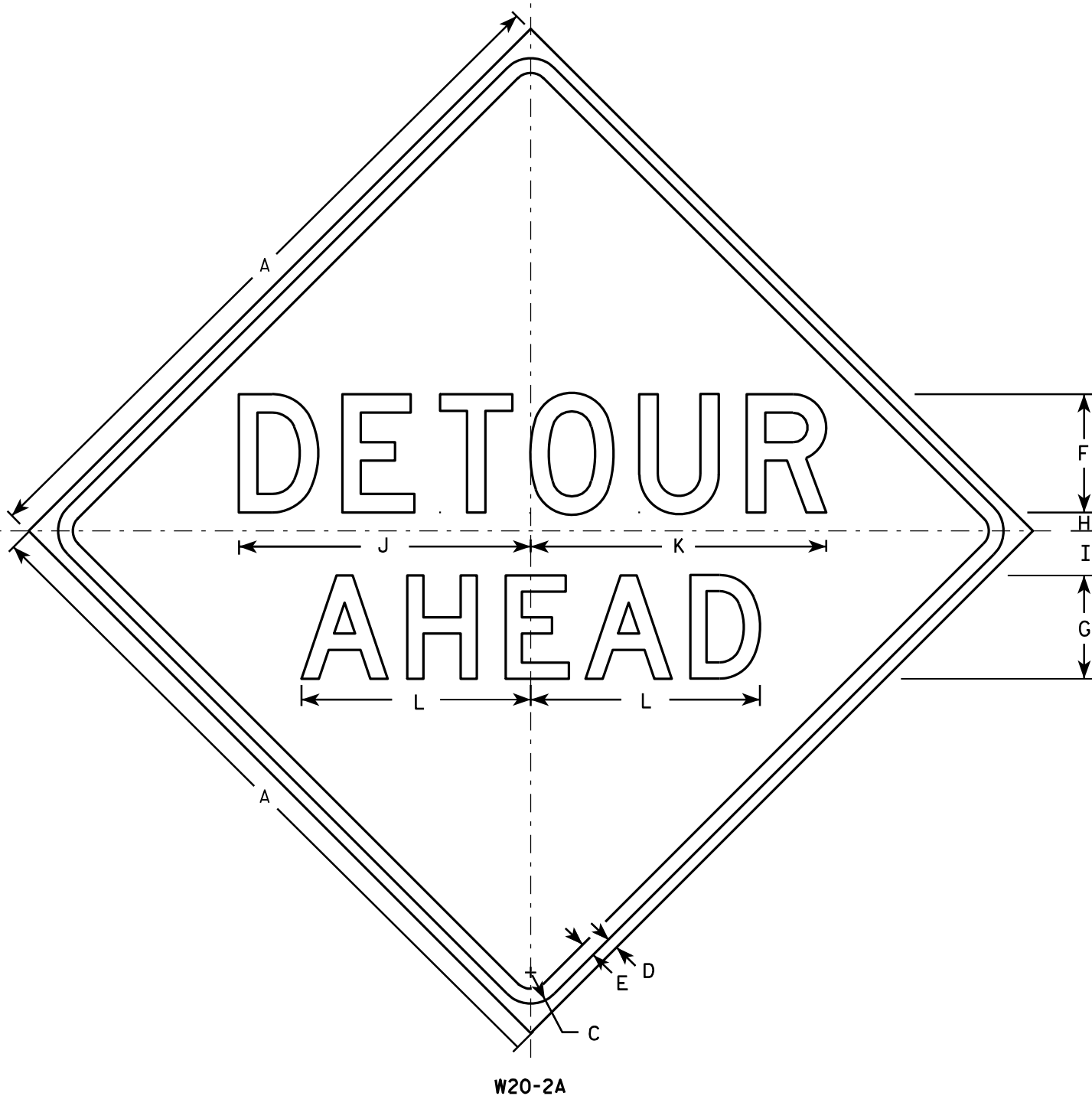
[illegible]

STANDARD SIGN
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 3/22/11 PLATE NO. W5-52.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E
-------------	------	---------	--	-----------	----------

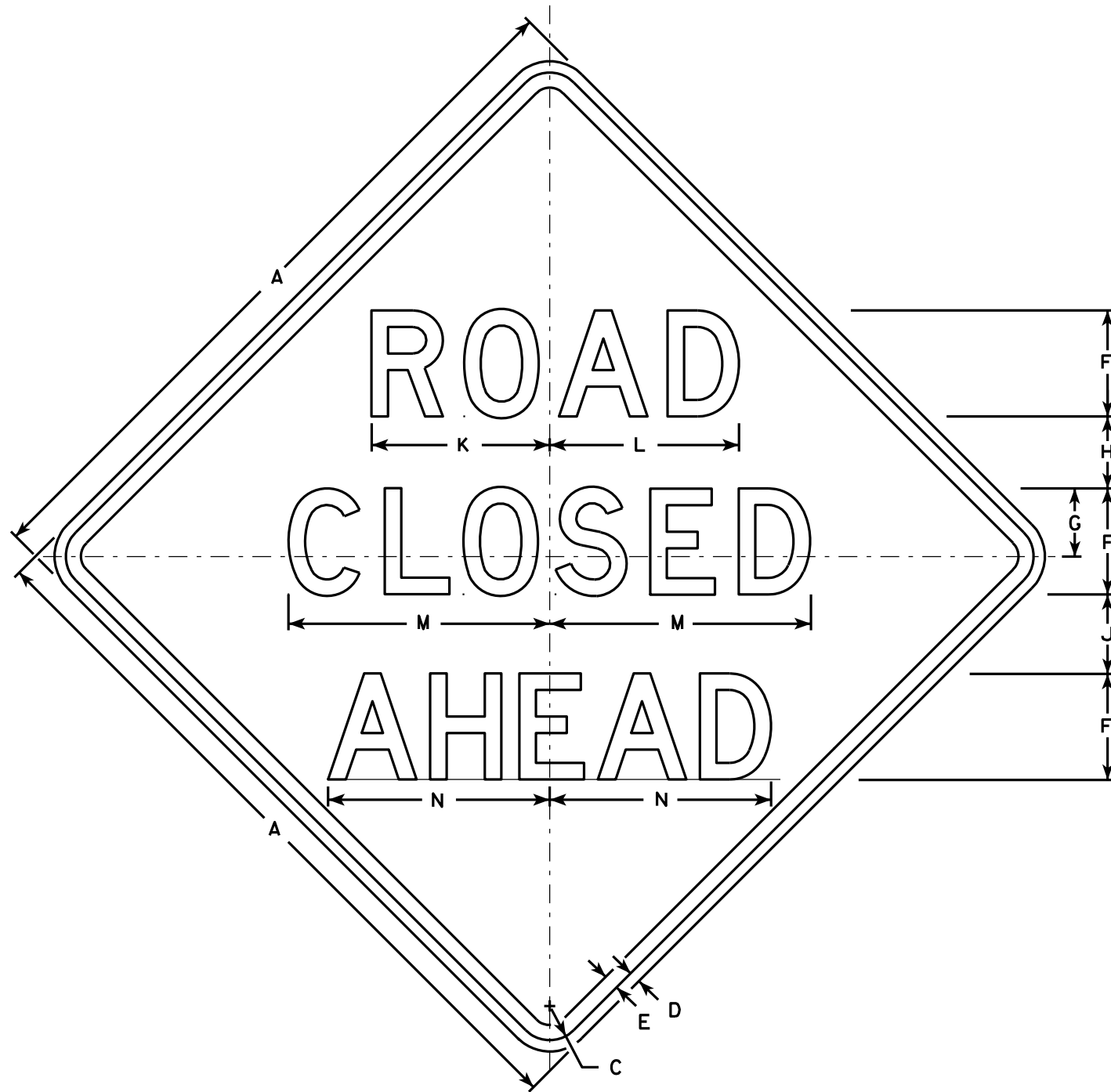


NOTES

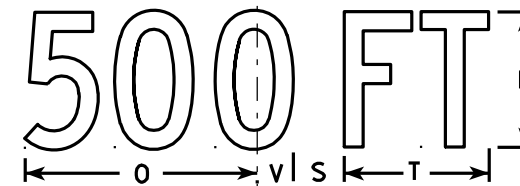
1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series D.
Line 2 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

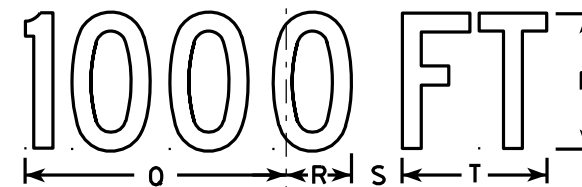
STANDARD SIGN	
W20-2A,B,C,D,F & G	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 3/18/11	PLATE NO. W20-2.6



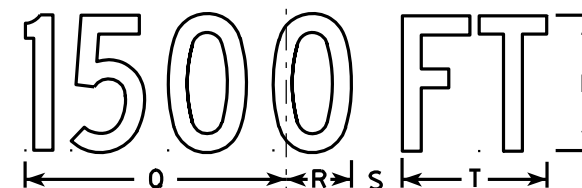
W20-3A



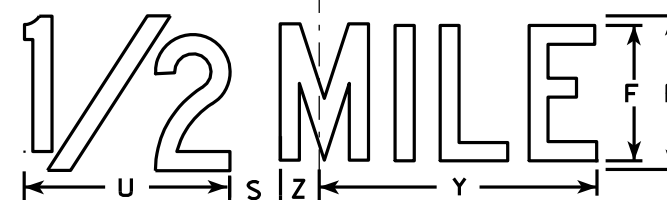
W20-3D



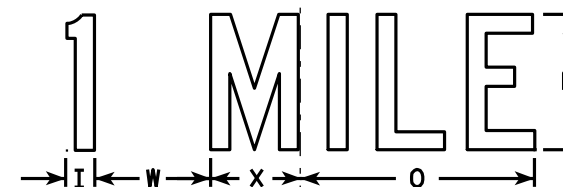
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

- Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - Orange
Message - Black
- Message Series - see note 5
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- Lines 1 and 2 are Series D.
Line 3 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-3.7

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

DESIGN DATA

STRUCTURE DESIGNED FOR A FUTURE WEARING SURFACE OF 20 */S.F.

LIVE LOAD:
DESIGN LOAD _____ HL-93
INVENTORY RATING _____ RF=1.00
OPERATING RATING _____ RF=1.30
WISCONSIN STD. PERMIT _____
VEHICLE (WIS-SPV) _____ 250 KIPS

ULTIMATE DESIGN STRESSES:
CONCRETE SUPERSTRUCTURE _____ f'_c = 4,000 PSI
CONCRETE SUBSTRUCTURE _____ f'_c = 3,500 PSI
HIGH STRENGTH BAR STEEL _____ F_y = 60,000 PSI
REINFORCEMENT

TRAFFIC DATA:
A.D.T. (2014): 2200
A.D.T. (2036): 3500
DESIGN SPEED = 60 MPH

FOUNDATION DATA:
ABUTMENTS TO BE SUPPORTED ON HP 10X42 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS* PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 30 FEET LONG WEST ABUT.
ESTIMATED 35 FEET LONG EAST ABUT.

* THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

HYDRAULIC DATA

Q_{100} _____ 325 C.F.S.
VELOCITY _____ 4.05 F.P.S.
 HW_{100} ELEV. _____ 990.87 FT.
WATERWAY AREA (BRIDGE) _____ 80 S.F.
DRAINAGE AREA _____ 7.7 SQ. MI.
SCOUR CRITICAL CODE _____ 8
ROADWAY OVERTOPPING FREQUENCY _____ N/A
 Q_2 _____ 133 C.F.S.
 HW_2 _____ 992.91 FT.
REGULATORY _____ 910 C.F.S.

DESIGN CONTACT:
KEITH BEHREND (608) 251-4843

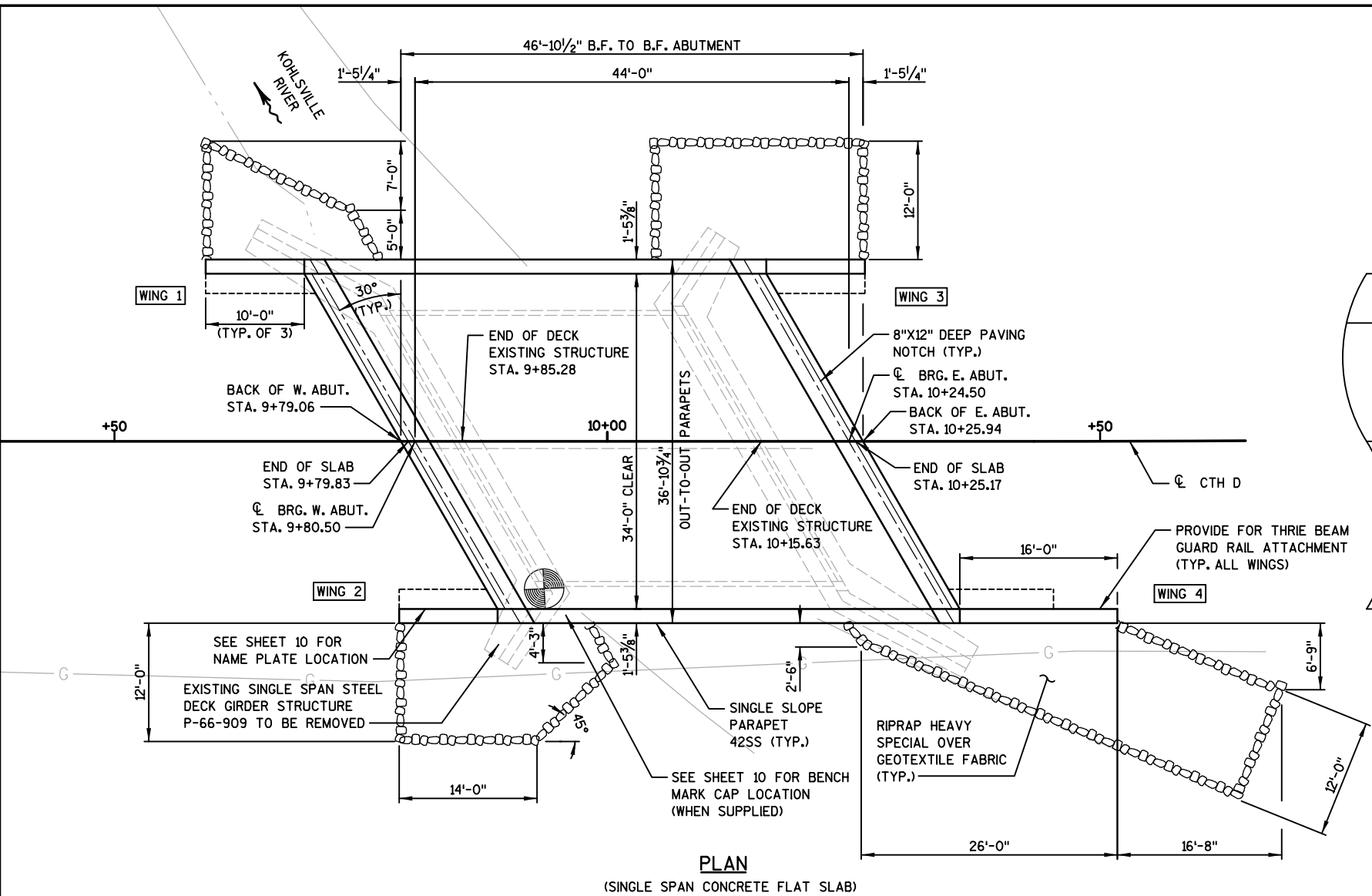
BUREAU OF STRUCTURE CONTACT:
WILLIAM DREHER (608) 261-8205



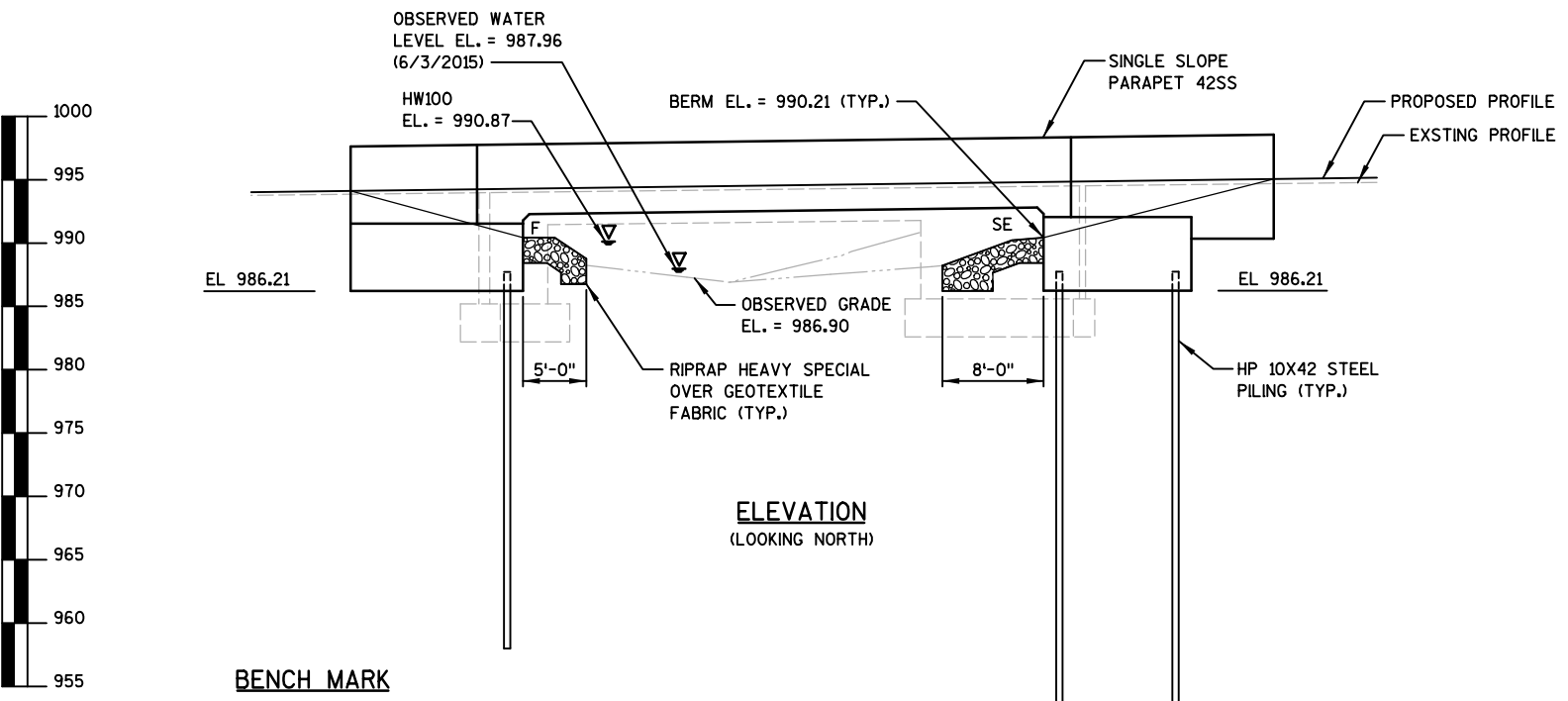
LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION, QUANTITIES AND NOTES
3. SUBSURFACE EXPLORATION
4. WEST ABUTMENT
5. WEST ABUTMENT DETAILS
6. EAST ABUTMENT
7. EAST ABUTMENT DETAILS
8. SUPERSTRUCTURE PLAN, SECTION AND DETAILS
9. SUPERSTRUCTURE SECTION AND DETAILS
10. SINGLE SLOPE PARAPET 42SS

NO.	DATE	REVISION	BY
910 WEST WINGRA DRIVE MADISON, WISCONSIN 53715 (608)-251-4843 (608) 251-8655 FAX WWW.STRAND.COM			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION ACCEPTED <i>William C. Dreher</i> SDR 02/09/16 CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE B-66-196			
CTH D OVER KOHLVILLE RIVER			
COUNTY	WASHINGTON	TOWN/CITY/VILLAGE	WAYNE
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	KRB	DESIGN CK'D.	DJW
DRAWN BY	DTH	PLANS CK'D.	DJW
GENERAL PLAN			SHEET 1 OF 10



PLAN
(SINGLE SPAN CONCRETE FLAT SLAB)

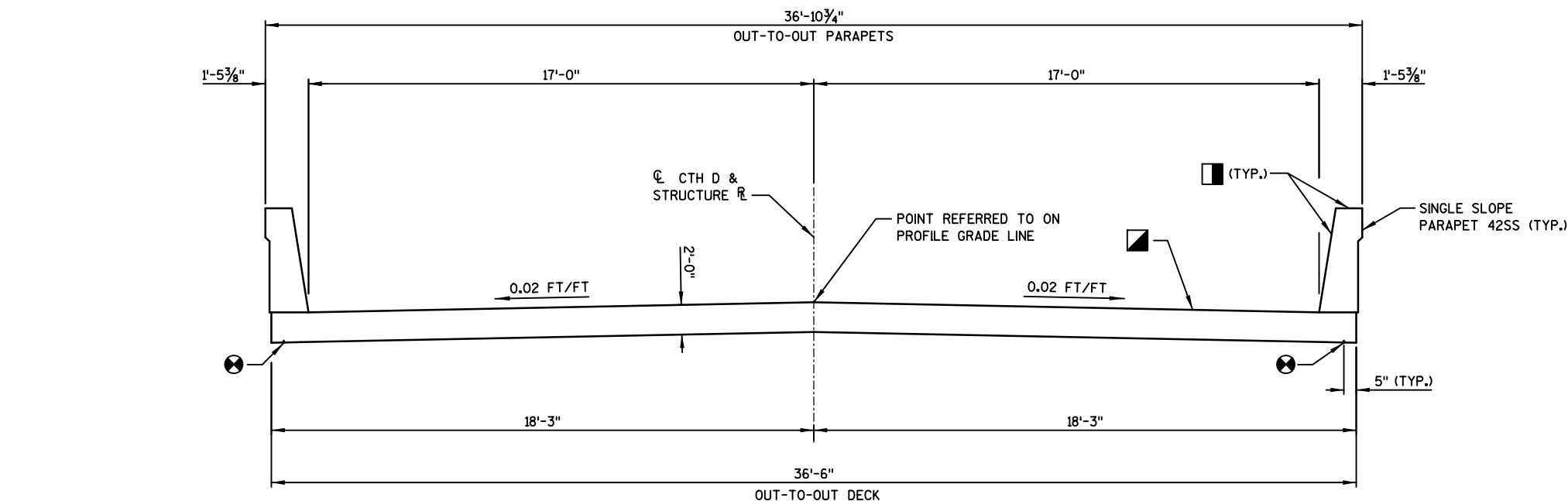


ELEVATION
(LOOKING NORTH)

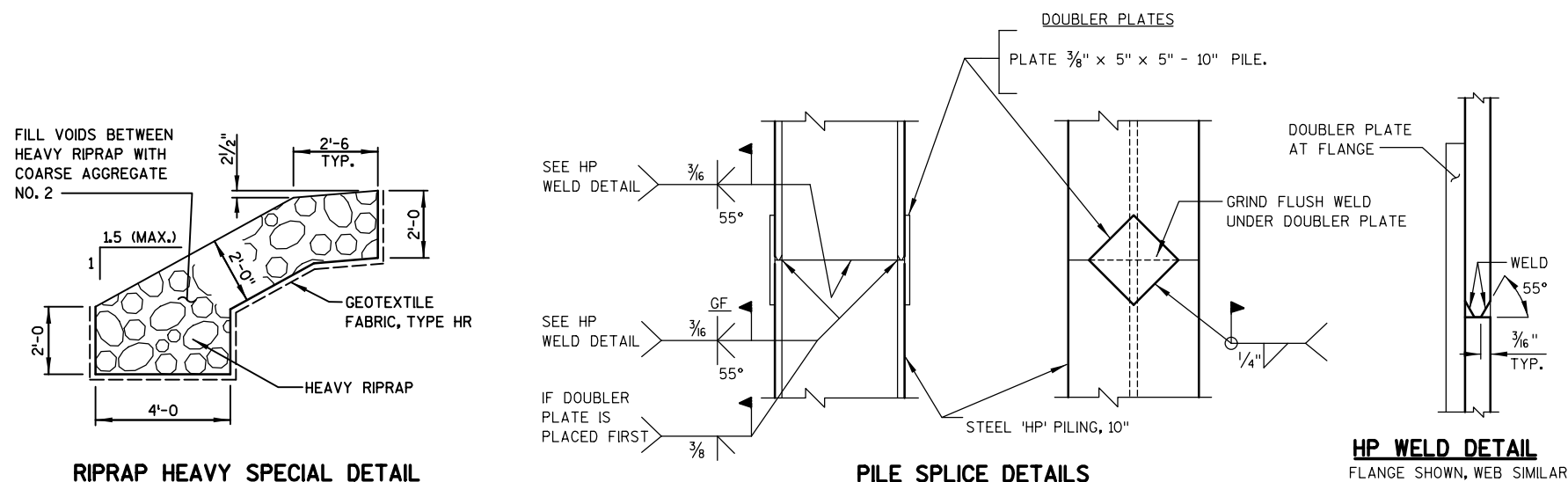
NO.	STATION	DESCRIPTION	ELEV.
1	9+93.60/ 15' RT	CHISLED 'V' SW CORNER OF BRIDGE, TOP OF ABUTMENT	994.96

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE NORTH AMERICAN DATUM OF 1988 (NAVD88).

☐ COAT WITH "PIGMENTED SURFACE SEALER" AS PER THE STANDARD SPECIFICATIONS.

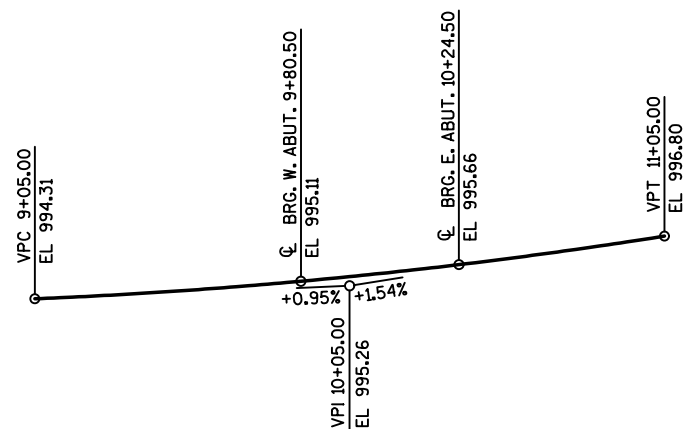


CROSS SECTION THRU SUPERSTRUCTURE



TOTAL ESTIMATED QUANTITIES

NO.	BID ITEM	UNIT	WEST ABUT.	SUPER.	EAST ABUT.	TOTAL
203.0700.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH DEBRIS CAPTURE SYSTEM STATION 10+00	L.S.	-	-	-	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGE B-66-196	L.S.	-	-	-	1
210.0100	BACKFILL STRUCTURE	C.Y.	125	-	141	266
502.0100	CONCRETE MASONRY BRIDGES	C.Y.	42	164	48	254
502.3200	PROTECTIVE SURFACE TREATMENT	S.Y.	-	171	-	171
502.3210	PIGMENTED SURFACE SEALER	S.Y.	10	46	13	69
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB.	2,670	-	2,740	5,410
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB.	3,370	27,210	2,480	33,100
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	S.Y.	11	-	11	22
550.1100	PILING STEEL HP 10-INCH X 42 LB.	L.F.	180	-	245	425
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	L.F.	96	-	96	192
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2	-	2	4
645.0120	GEOTEXTILE FABRIC TYPE HR	S.Y.	118	-	186	304
SPV.0035.01	RIPRAP HEAVY SPECIAL	C.Y.	51	-	89	140
	NON-BID ITEMS					
	FILLER	SIZE	-	-	-	1/2" & 3/4"

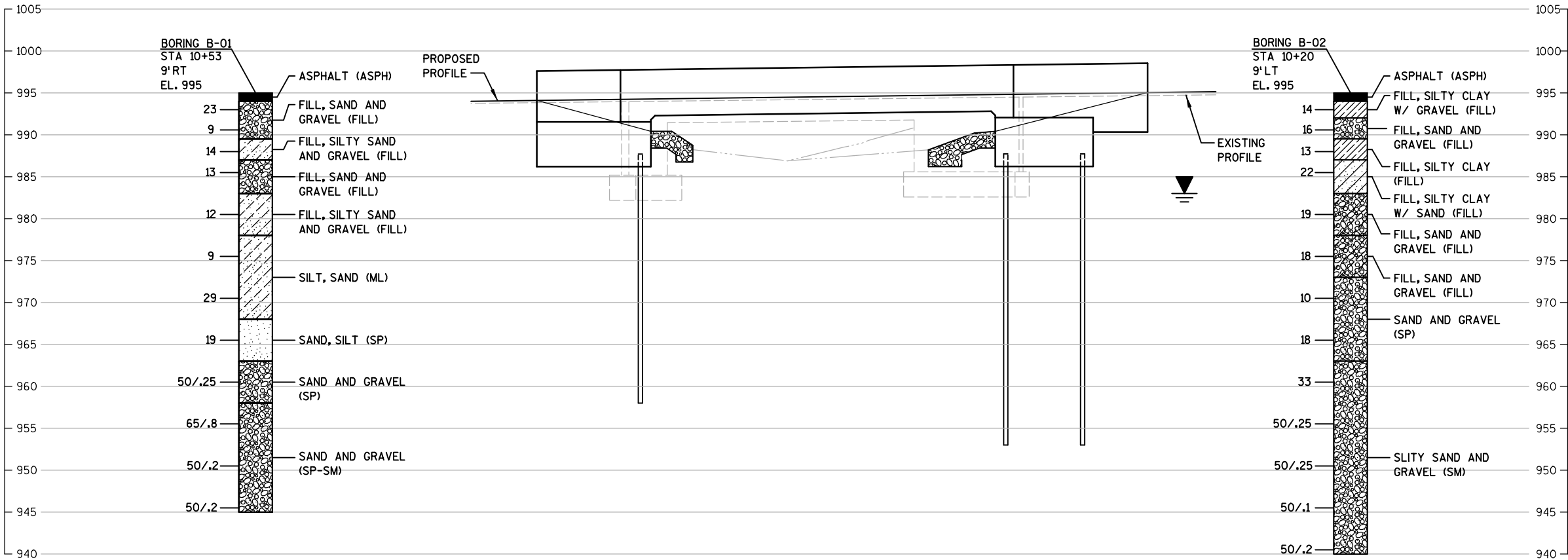
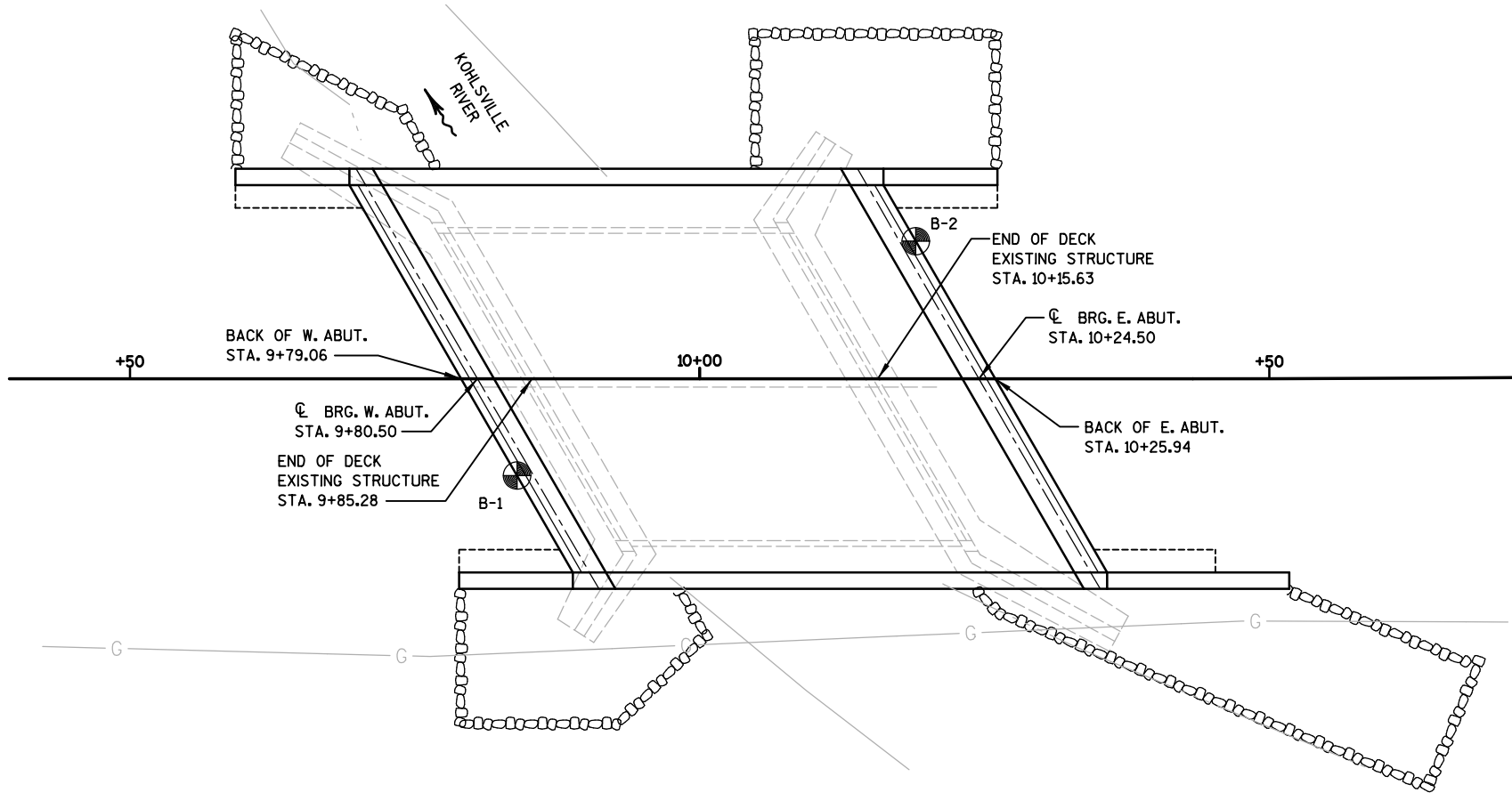


PROFILE GRADE LINE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-66-196			
DRAWN BY		DTH	PLANS CK'D. DJW
CROSS SECTION, QUANTITIES, AND NOTES		SHEET 2	



BORINGS PREPARED BY:
PROFESSIONAL SERVICE INDUSTRIES
821 CORPORATE COURT
WAUKESHA, WI 53189
ON APRIL 21, 2015



STATE PROJECT NUMBER

4869-00-72

ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

MATERIAL SYMBOLS

TOPSOIL SILT SANDSTONE
SAND PEAT LIMESTONE
GRAVEL CLAY IGNEOUS ROCK

LEGEND OF PROBING

PROBING NO.
STA.
ELEVATION
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6
95/6=95 BLOWS FOR 6" PENETRATION
PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

LEGEND OF BORING

BORING NO.
STA.
ELEV.
UNCONFINED STRENGTH 7.7
BLOWS PER FT. USING 140# WT. FALLING 30"
WASH SAMPLE
SHELBY TUBE — S.T.
GROUND WATER ELEVATION
NO GROUND WATER OBSERVED ABOVE THIS ELEVATION
SANDY GRAVEL
F. BOULDERS OR COBBLES
SAND
SILTY CLAY
SO
LIMESTONE

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CAGED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-66-196			
DRAWN BY		DTH	PLANS CK'D. DJW
SUBSURFACE EXPLORATION		SHEET 3	

NOTES

SEE SHEET 2 SHEET FOR PILE SPLICE DETAILS.

SEE SHEET 5 SHEET FOR REINFORCING DETAILS.

ADJUST A501BARS INTERFERING WITH PILES.

WEST ABUTMENT TO BE SUPPORTED ON HP 10 X 42 STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 30 FEET LONG EACH.

LEGEND

● 1/2" FILLER, EXTEND FROM ABUT. SEAT TO TOP OF WING. INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE. EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

■ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

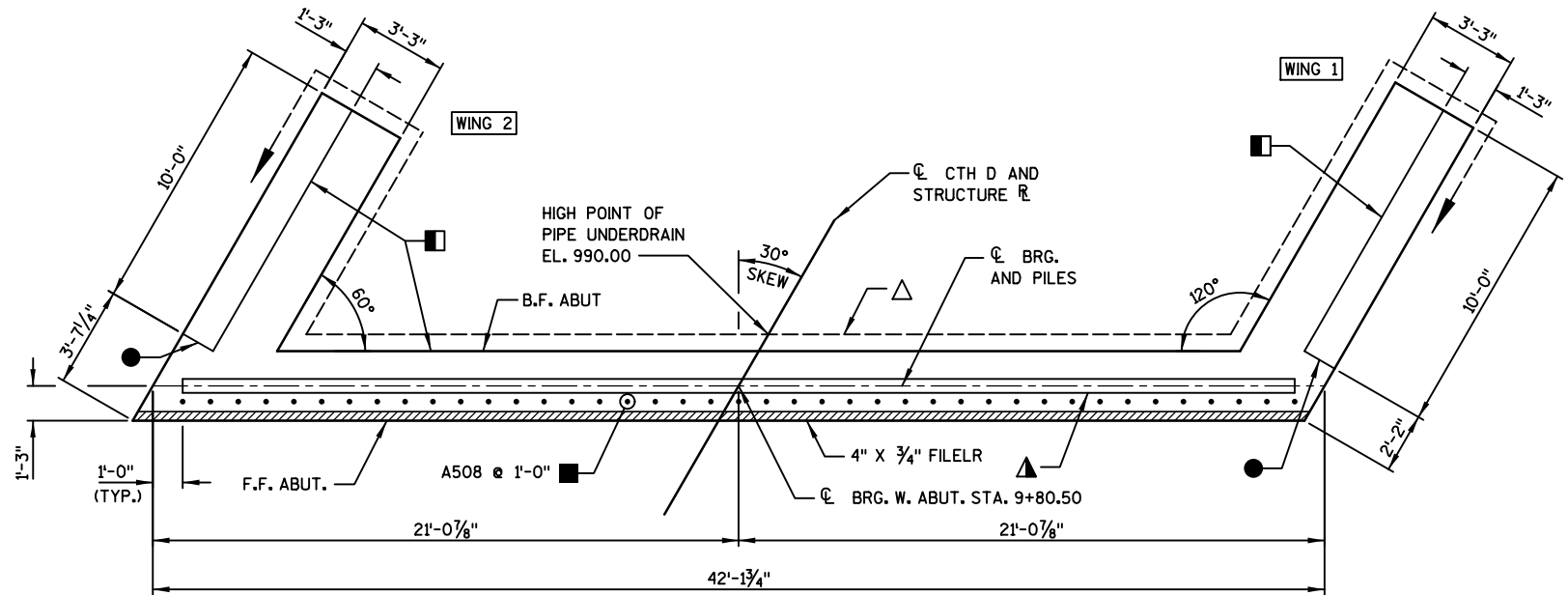
△ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAIL THIS SHEET.

▲ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6".

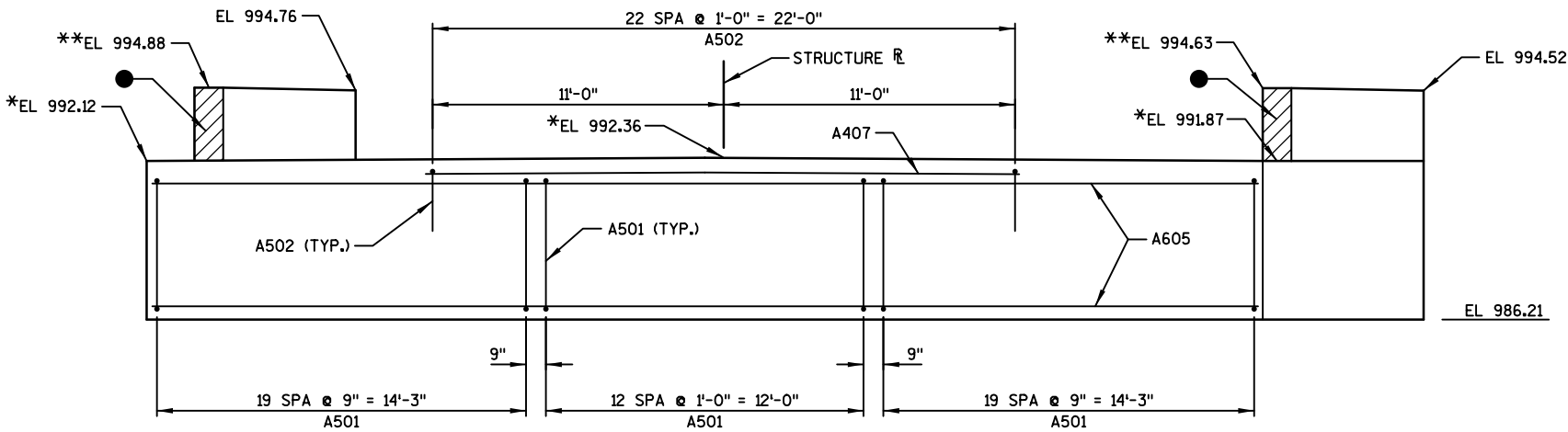
■ THESE BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.

* THESE ELEVATIONS GIVEN AT C. BRG. ABUT.

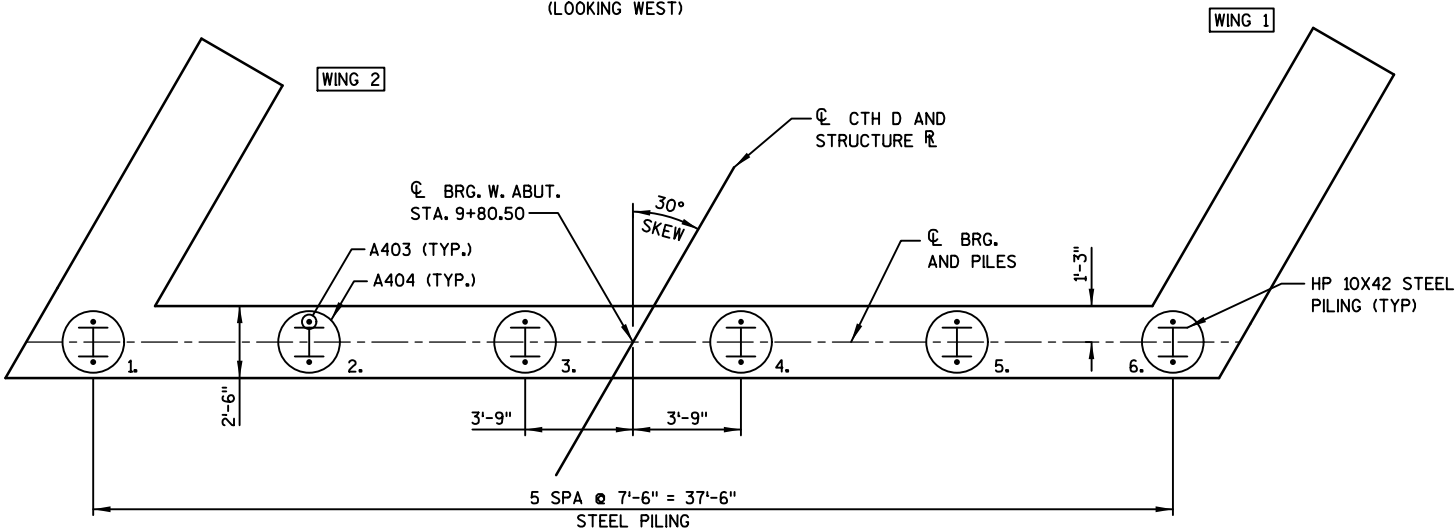
** THESE ELEVATIONS GIVEN AT B.F. ABUT.



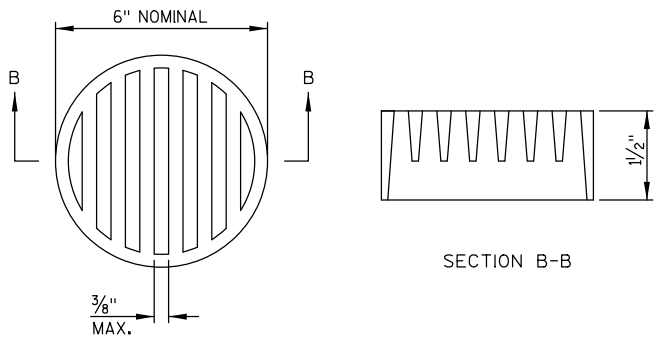
PLAN



ELEVATION
(LOOKING WEST)



PILE PLAN



NOTES:

DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

ORIENT SHIELD SO SLOTS ARE VERTICAL.

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH SS SCREWS.

RODENT SHIELD

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-66-196			
DRAWN BY		DTH	PLANS CK'D. DJW
WEST ABUTMENT		SHEET 4	

LEGEND

- ▲ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6".
- 18" RUBBERIZED MEMBRANE WATERPROOFING.
- THESE BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INTIAL SET HAS TAKEN PLACE.

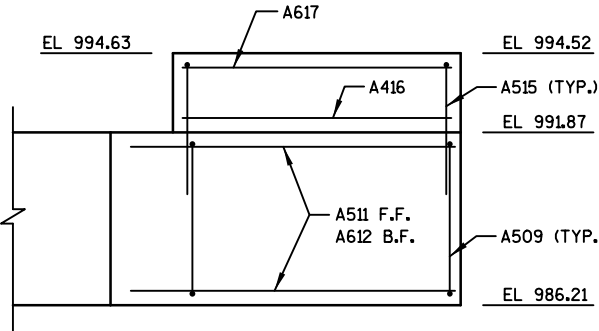
WEST ABUTMENT

UNCOATED = 2,670 LBS

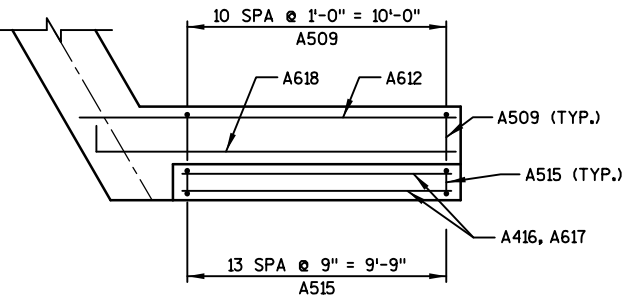
COATED = 1,400 LBS

BILL OF BARS

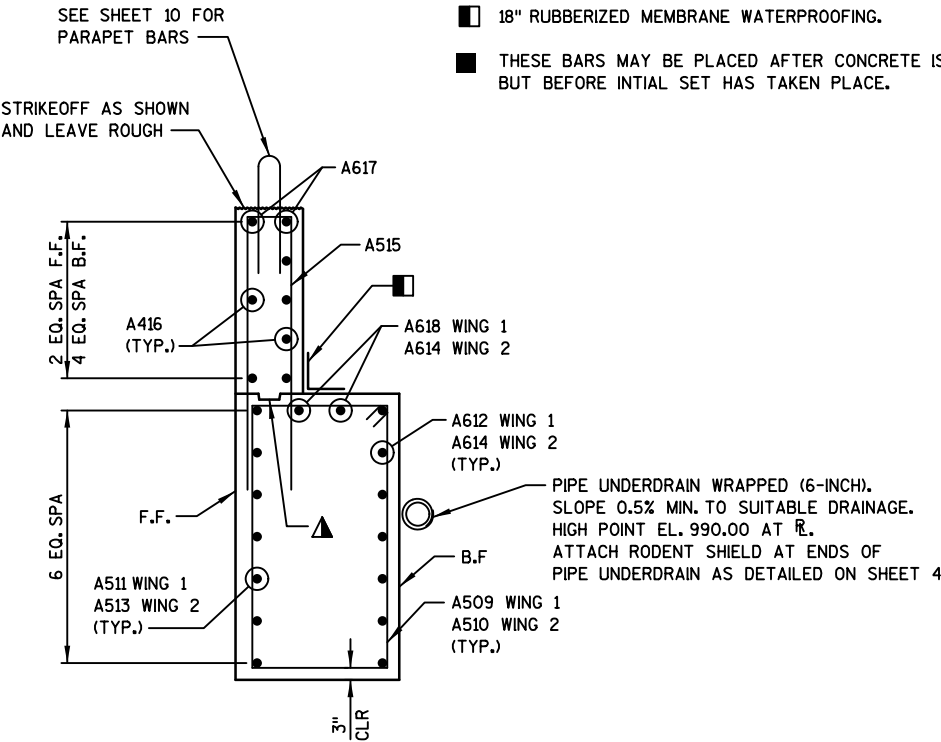
MARK	NO.	LENGTH	BENT	COAT	LOCATION
A501	53	15'-5"	X		BODY - VERT. - STIRRUPS
A502	23	5'-3"	X		BODY - TOP - VERT.
A403	12	2'-3"			BODY - PILES - VERT.
A404	6	28'-0"	X		BODY - PILES - SPIRAL
A605	11	41'-9"			BODY - F.F. TOP, BTM. - HORIZ.
A806	7	44'-0"	X		BODY - B.F. - HORIZ.
A407	3	22'-0"			BODY - TOP - HORIZ.
A508	41	2'-0"		X	BODY - TOP - VERT.
A509	11	16'-11"	X	X	WING 1 - LOWER - STIRRUPS
A510	10	17'-5"	X	X	WING 2 - LOWER - STIRRUPS
A511	7	11'-10"		X	WING 1 - LOWER - F.F. - HORIZ.
A612	7	13'-6"		X	WING 1 - LOWER - B.F. - HORIZ.
A513	7	13'-3"		X	WING 2 - LOWER - F.F. - HORIZ.
A614	9	11'-6"		X	WING 2 - LOWER - B.F., TOP - HORIZ.
A515	28	10'-8"	X	X	WINGS - UPPER - VERT.
A416	12	9'-7"		X	WINGS - UPPER - F.F., B.F. - HORIZ.
A617	2	9'-7"		X	WINGS - UPPER - TOP - HORIZ.
A618	2	13'-3"	X	X	WING 1 - LOWER - TOP - HORIZ.



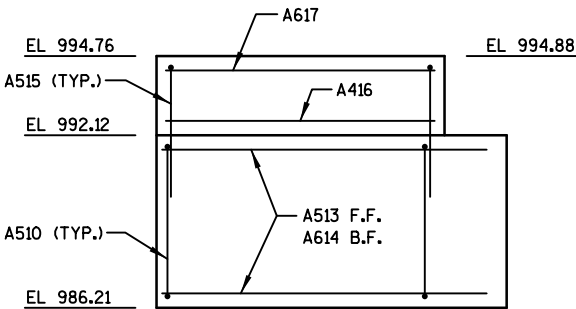
WING 1 ELEVATION
(FRONT FACE)



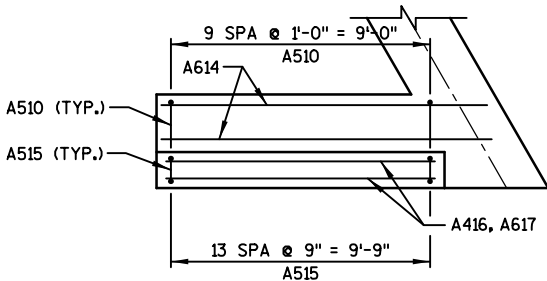
WING 1 PLAN



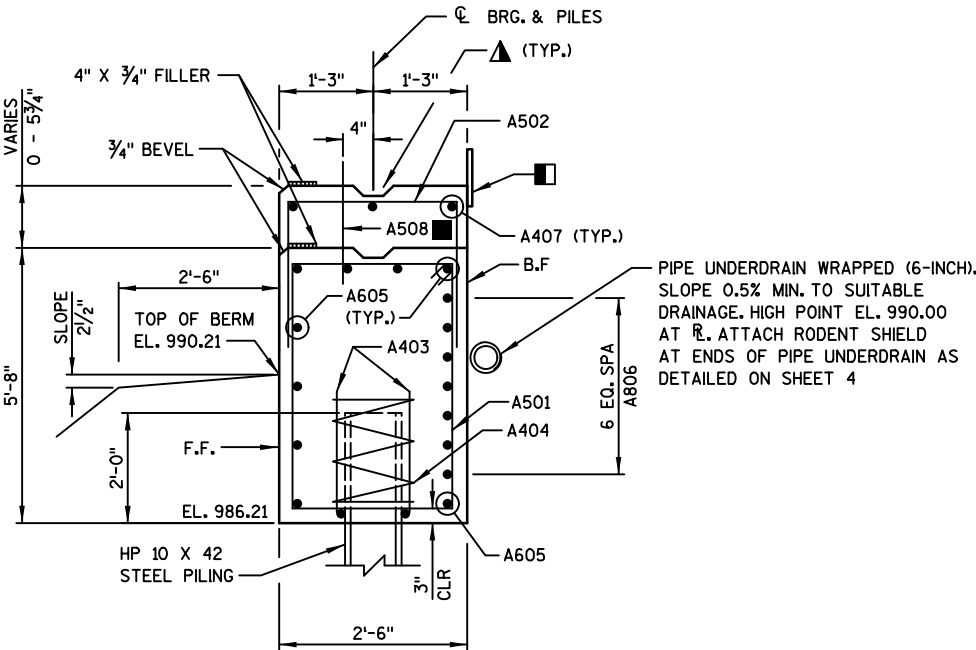
TYPICAL WING SECTION



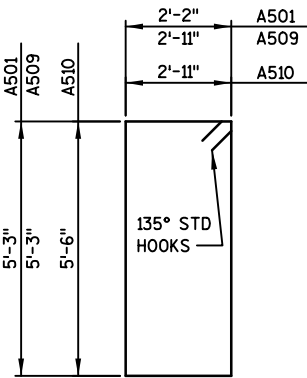
WING 2 ELEVATION
(FRONT FACE)



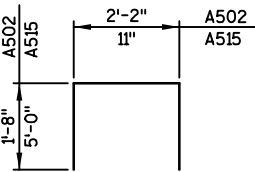
WING 2 PLAN



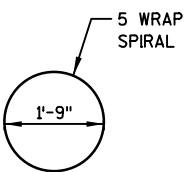
TYPICAL ABUTMENT SECTION



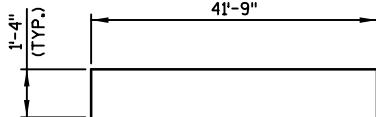
A501, A509, A510



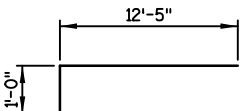
A502, A515



A404



A806



A618

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-66-196			
DRAWN BY		DTH	PLANS CK'D. DJW
WEST ABUTMENT DETAILS		SHEET 5	

NOTES

SEE SHEET 2 SHEET FOR PILE SPLICE DETAILS.

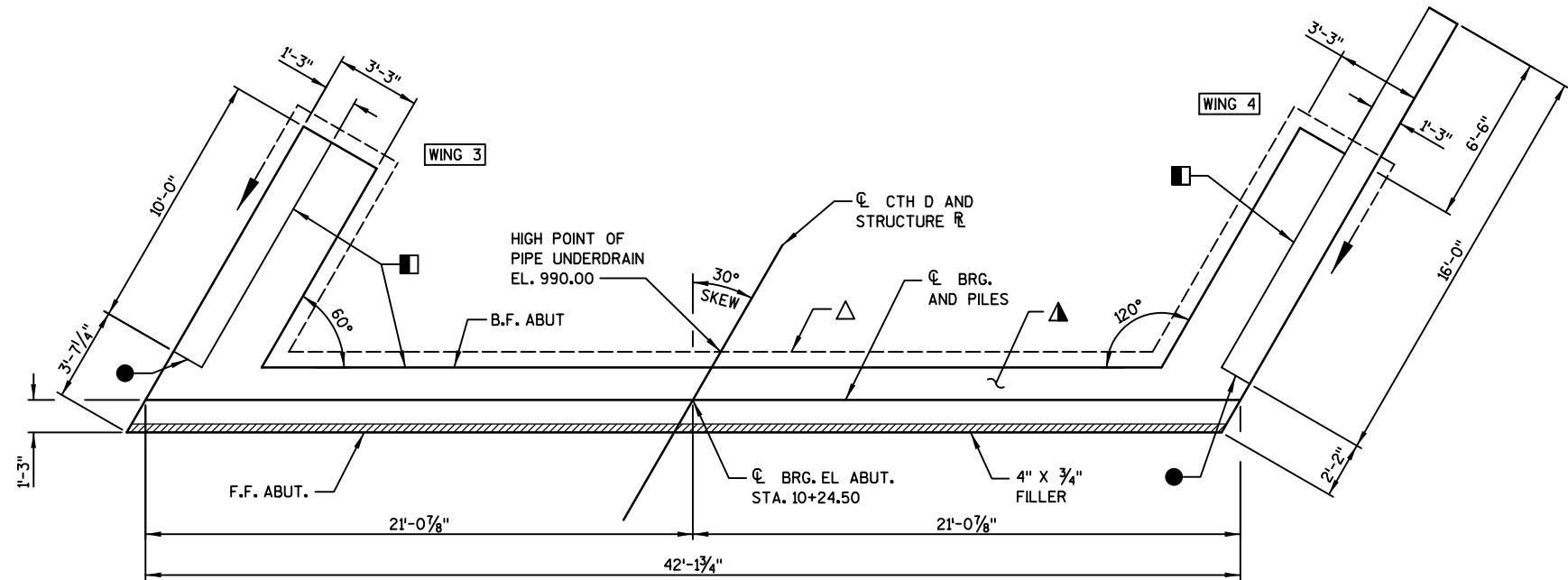
SEE SHEET 7 SHEET FOR REINFORCING DETAILS.

ADJUST A501BARS INTERFERING WITH PILES.

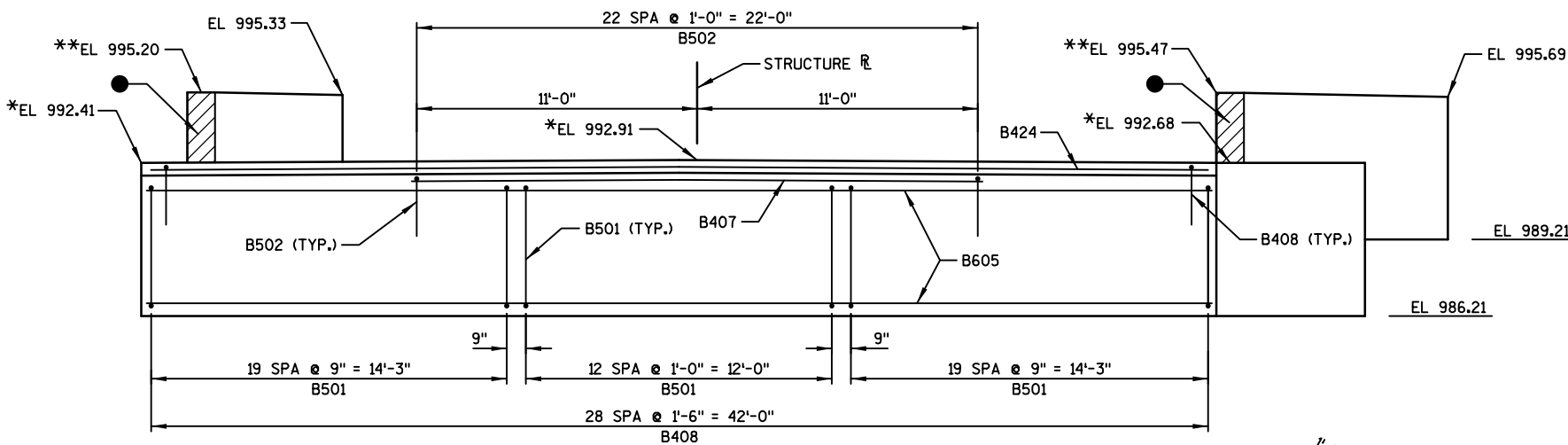
EAST ABUTMENT TO BE SUPPORTED ON HP 10 X 42 STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 35 FEET LONG EACH.

LEGEND

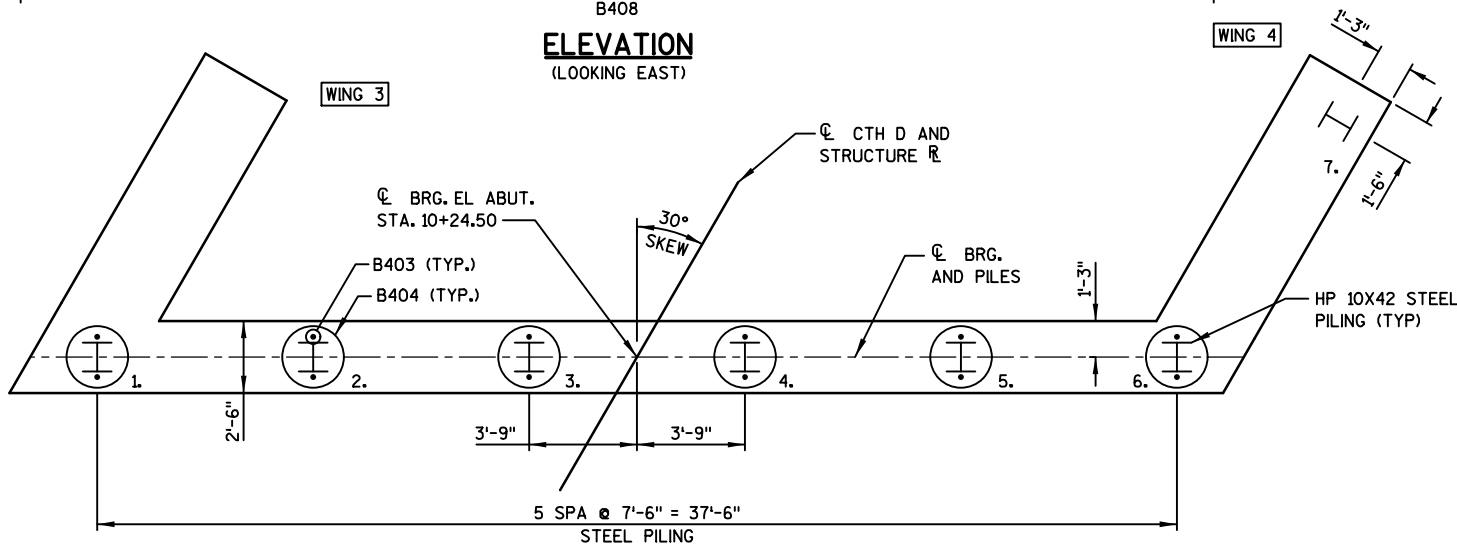
- 1/2" FILLER, EXTEND FROM ABUT. SEAT TO TOP OF WING, INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE. EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- △ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAIL SHEET 4.
- THESE BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.
- * THESE ELEVATIONS GIVEN AT C. BRG. ABUT.
- ** THESE ELEVATIONS GIVEN AT B.F. ABUT.
- ▲ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03 INCH.



PLAN



ELEVATION
(LOOKING EAST)



PILE PLAN

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-66-196			
DRAWN BY		DTH	PLANS CK'D. DJW
EAST ABUTMENT			SHEET 6

UNCOATED = 2,930 LBS
COATED = 1,660 LBS

EAST ABUTMENT
BILL OF BARS

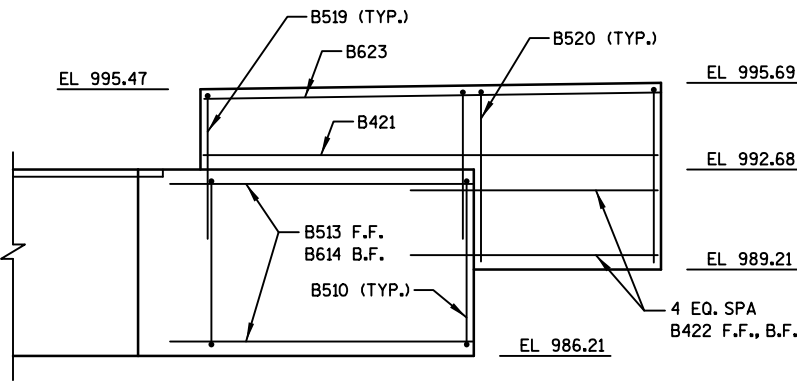
MARK	NO.	LENGTH	BENT	COAT	LOCATION
B501	53	15'-11"	X		BODY - VERT. - STIRRUPS
B502	23	5'-3"	X		BODY - TOP - VERT.
B403	12	2'-3"			BODY - PILES - VERT.
B404	6	28'-0"	X		BODY - PILES - SPIRAL
B605	11	41'-9"			BODY - F.F., TOP, BTM. - HORIZ.
B806	7	44'-0"	X		BODY - B.F. - HORIZ.
B407	3	22'-0"			BODY - TOP - HORIZ.
B408	29	4'-1"	X		BODY - TOP - VERT.
B509	10	17'-11"	X	X	WING 3 - LOWER - STIRRUPS
B510	10	18'-5"	X	X	WING 4 - LOWER - STIRRUPS
B511	7	13'-3"		X	WING 3 - LOWER - F.F. - HORIZ.
B612	9	11'-6"		X	WING 3 - LOWER - B.F., TOP - HORIZ.
B513	7	11'-4"		X	WING 4 - LOWER - F.F. - HORIZ.
B614	7	13'-0"		X	WING 4 - LOWER - B.F. - HORIZ.
B515	14	10'-8"	X	X	WING 3 - UPPER - VERT.
B416	6	9'-7"		X	WING 3 - UPPER - F.F., B.F. - HORIZ.
A617	2	9'-7"		X	WING 3 - UPPER - TOP - HORIZ.
B618	2	12'-9"	X	X	WING 4 - LOWER - TOP - HORIZ.
B519	13	10'-8"	X	X	WING 4 - UPPER - VERT.
B520	9	12'-6"	X	X	WING 4 - UPPER - VERT.
B421	6	15'-7"		X	WING 4 - UPPER - F.F., B.F. - HORIZ.
B422	10	7'-10"		X	WING 4 - UPPER - F.F., B.F. - HORIZ.
B623	2	15'-7"		X	WING 4 - UPPER - TOP - HORIZ.
B424	2	41'-9"			BODY - TOP - HORIZ.

LEGEND

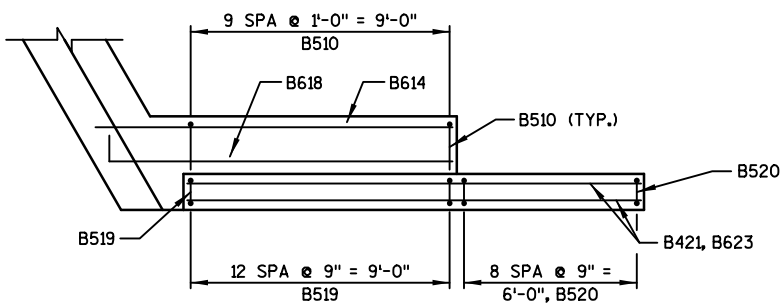
▲ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6".

■ 18" RUBBERIZED MEMBRANE WATERPROOFING.

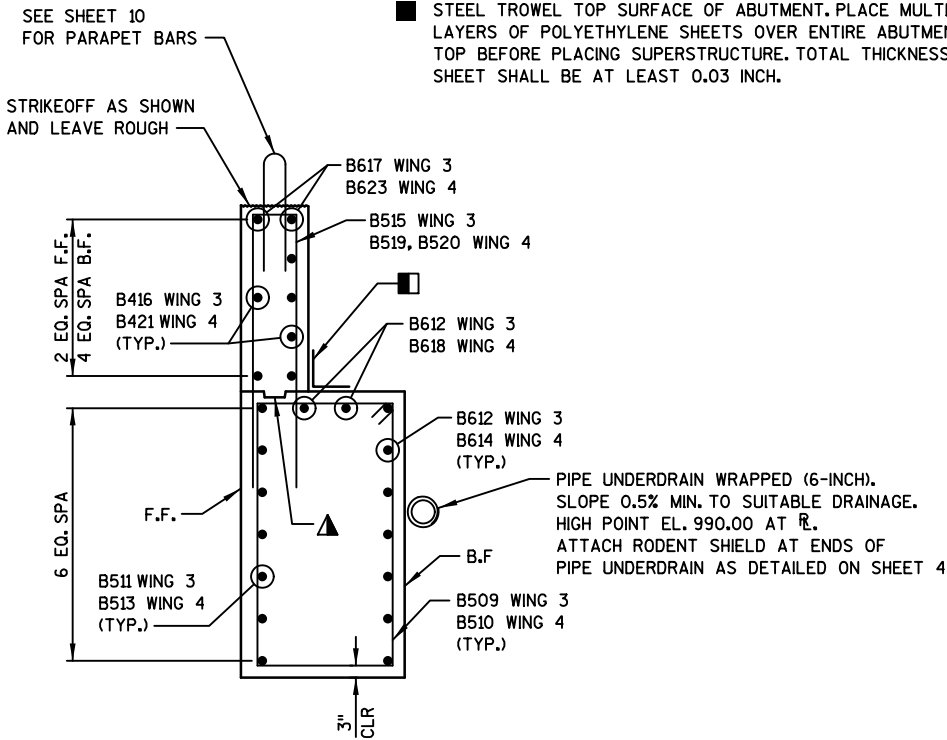
■ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING SUPERSTRUCTURE. TOTAL THICKNESS OF SHEET SHALL BE AT LEAST 0.03 INCH.



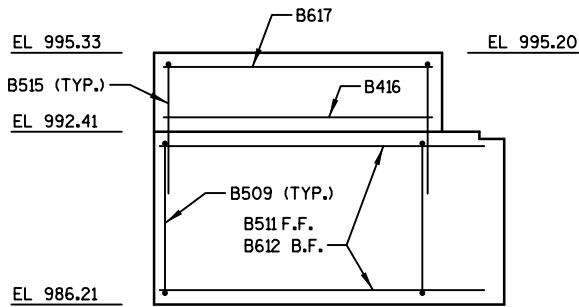
WING 4 ELEVATION
(FRONT FACE)



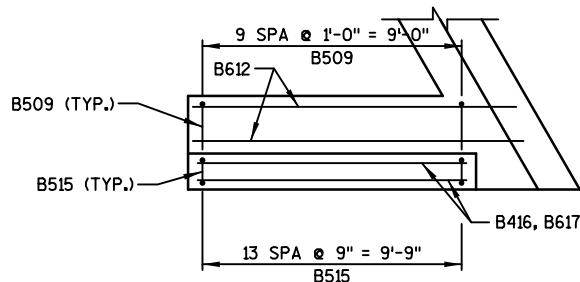
WING 4 PLAN



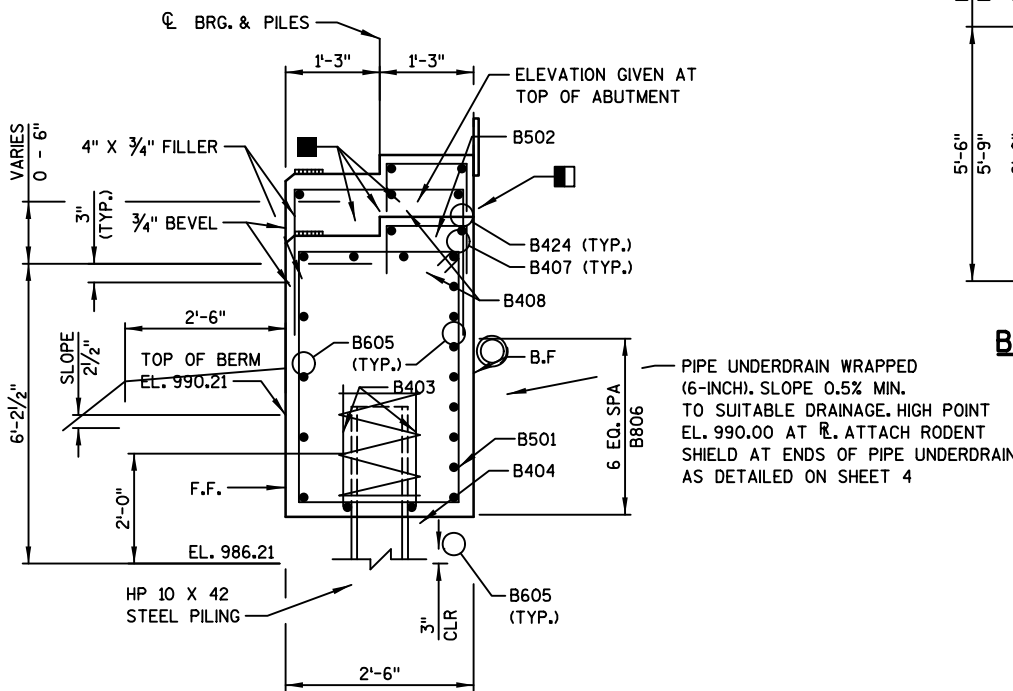
TYPICAL WING SECTION



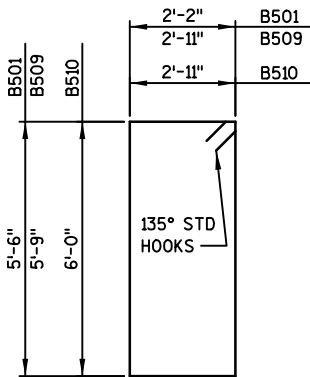
WING 3 ELEVATION
(FRONT FACE)



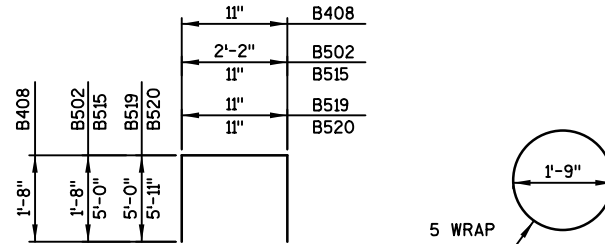
WING 3 PLAN



TYPICAL ABUTMENT SECTION

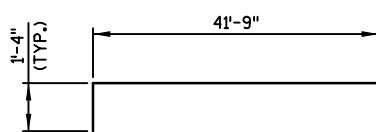


B501, B509, B510

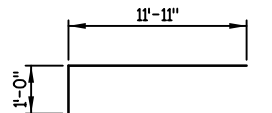


B502, B408, B515, B519, B520

B404



B806



B618

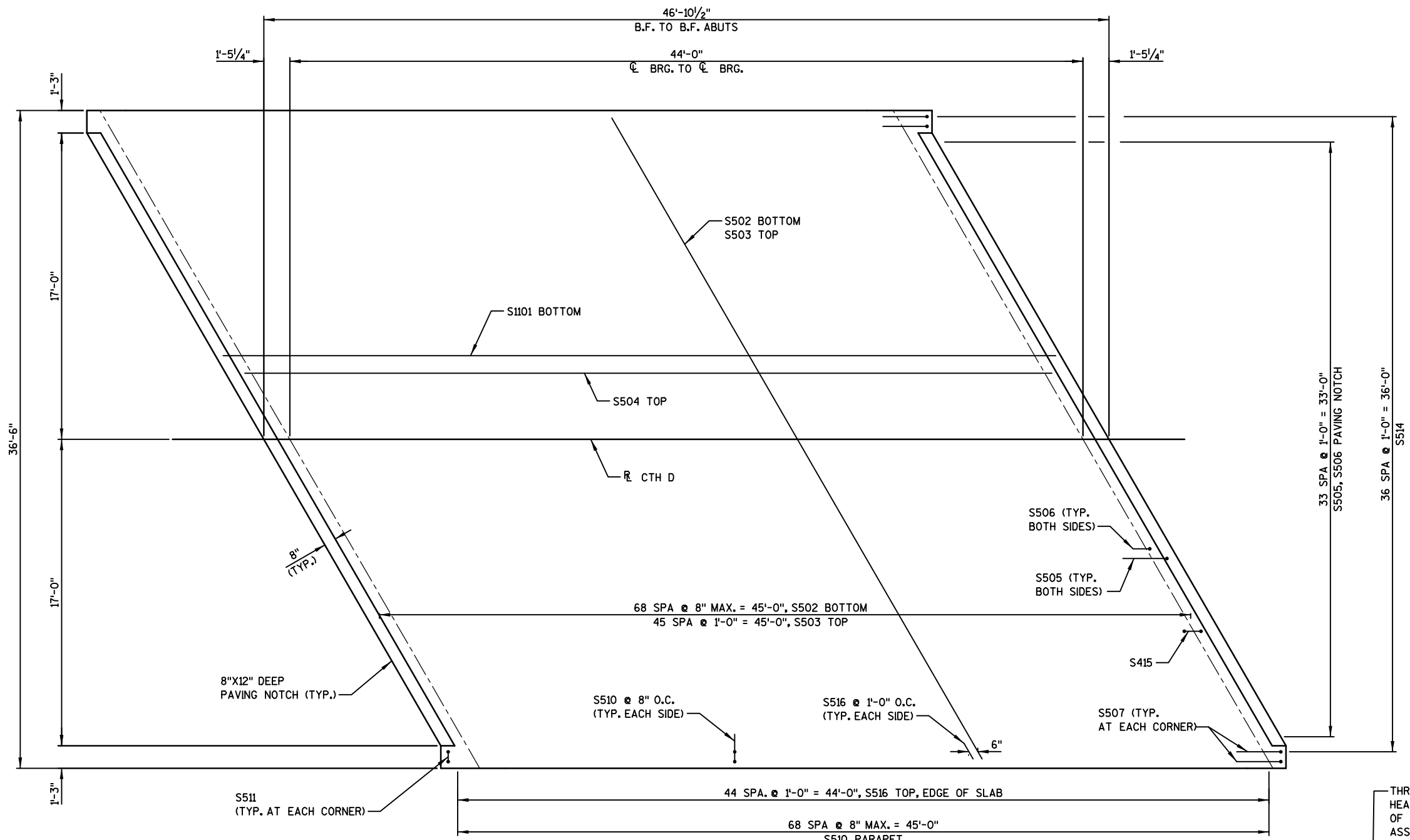
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-66-196			
DRAWN BY		DTH	PLANS CK'D. DJW
EAST ABUTMENT DETAILS			SHEET 7

LEGEND

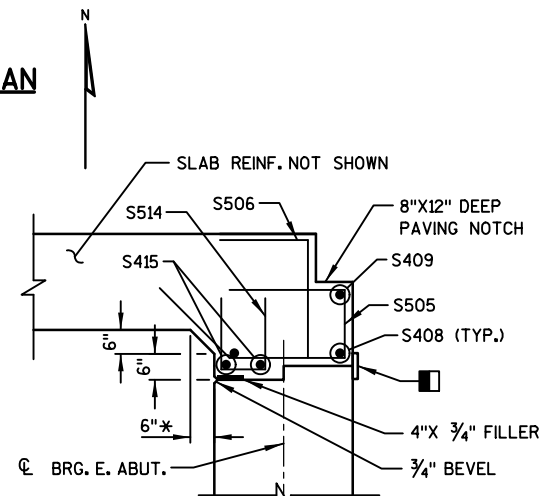
- 18" RUBBERIZED MEMBRANE WATERPROOFING.
- * DIMENSION PERPENDICULAR TO C BRG. OF SUBSTRUCTURE UNIT.

NOTE:
HEX HEAD CAP SCREWS & WASHERS
TO BE GALVANIZED IN ACCORDANCE
WITH AASHTO M232 CLASS C.

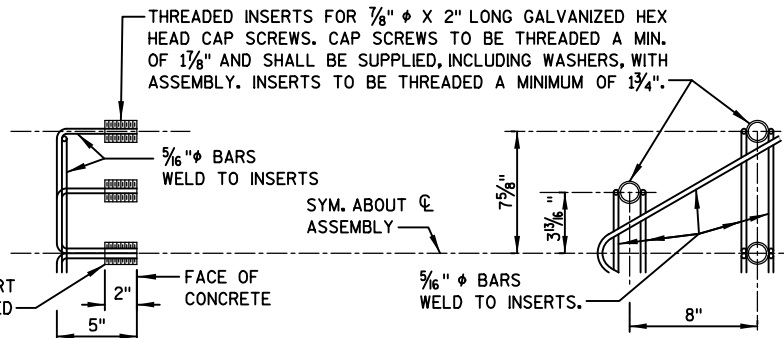
ASSEMBLY BID ITEM SHALL BE
"ANCHOR ASSEMBLIES FOR STEEL
PLATE BEAM GUARD", EACH.



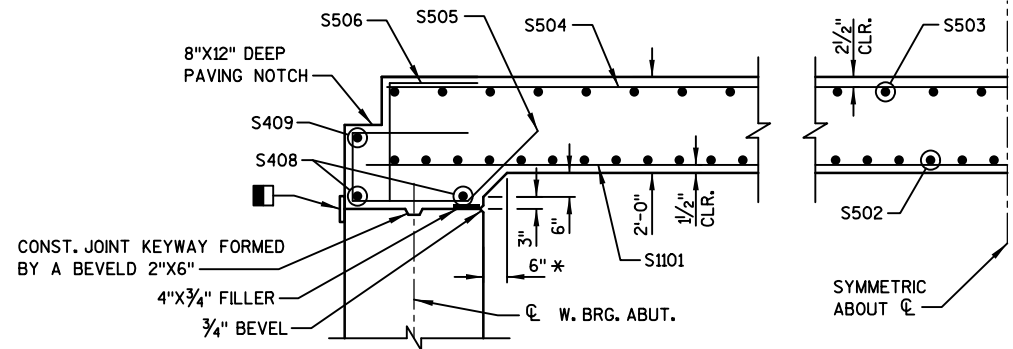
PLAN



SECTION AT EAST ABUTMENT



DETAIL OF ANCHOR ASSEMBLY



HALF LONGITUDINAL SECTION AT WEST ABUTMENT

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-66-196			
DRAWN BY		DTH	PLANS CK'D. DJW
SUPERSTRUCTURE PLAN, SECTION, AND DETAILS			SHEET 8

NOTES

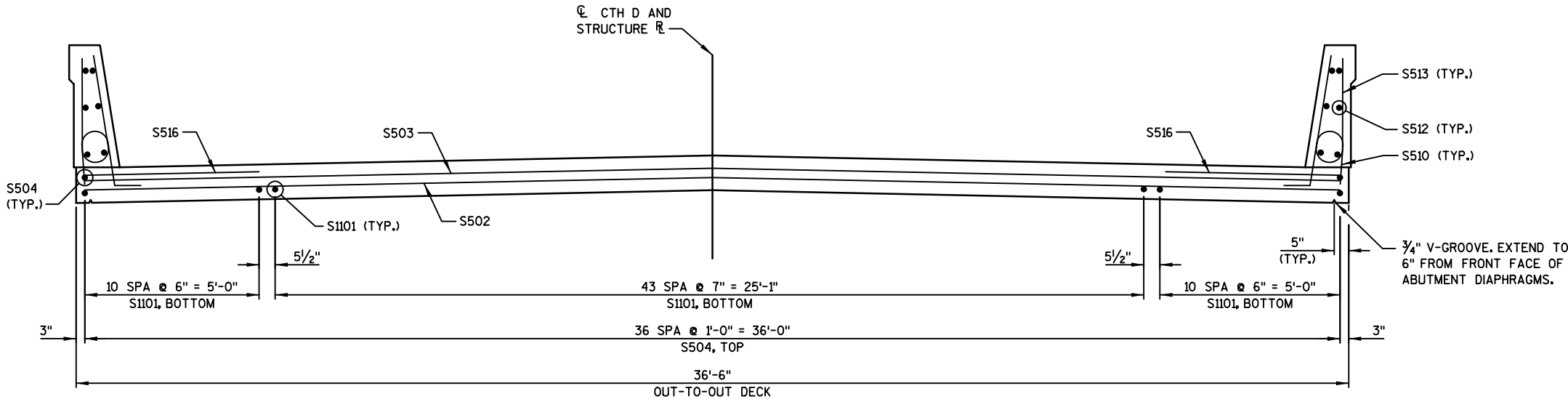
TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR SHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

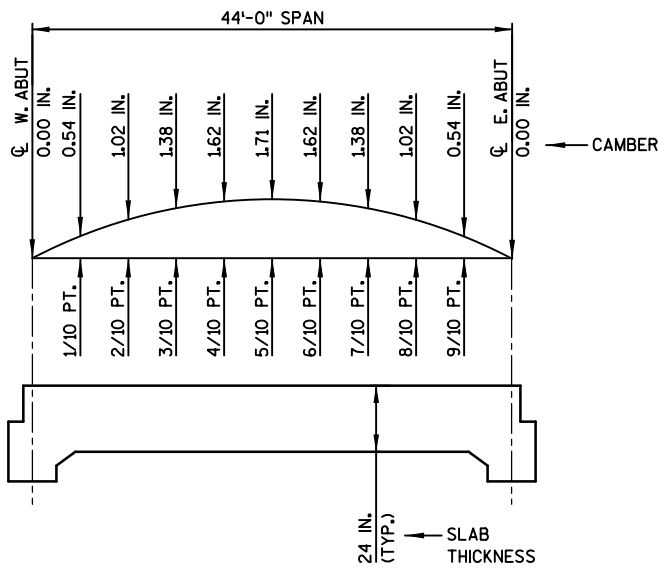
SURVEY TOP OF SLAB ELEVATIONS

	W. ABUT.	5/10 PT.	E. ABUT.
NORTH GUTTER			
CROWN ON $\bar{R}$			
SOUTH GUTTER			

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF DECK ELEVATIONS AT THE $\bar{C}$ OF ABUTMENTS AND AT 5/10 PT. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG GUTTER LINES AND CROWN OR $\bar{R}$. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS



CROSS SECTION THRU SUPERSTRUCTURE

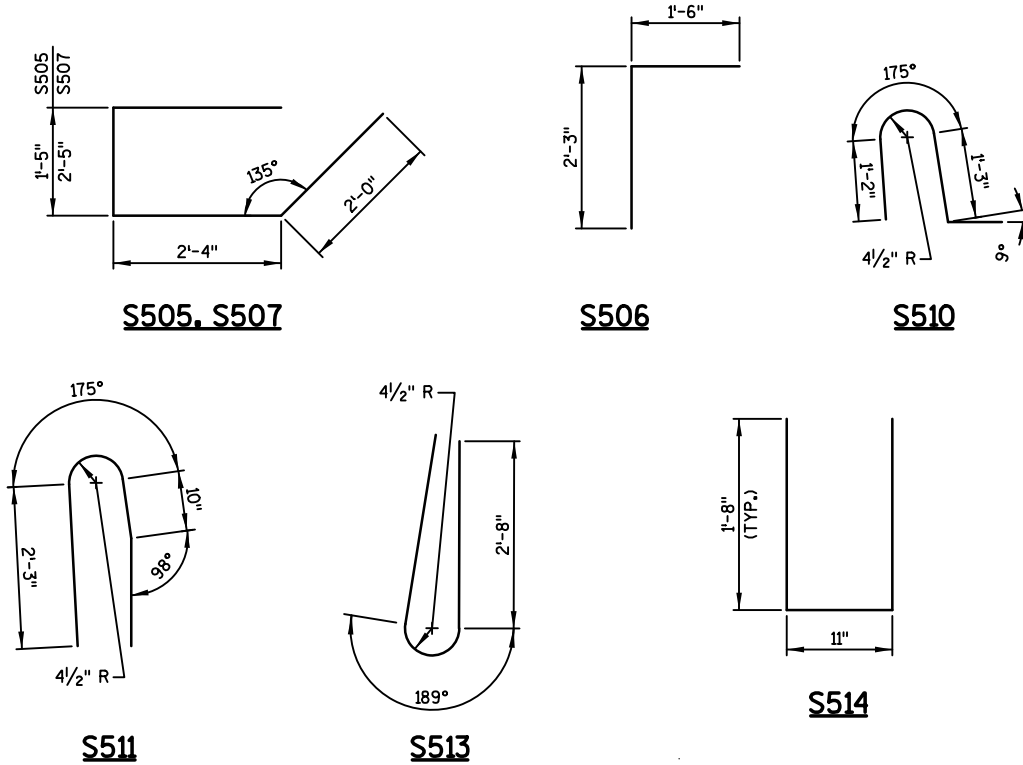


CAMBER AND SLAB THICKNESS DIAGRAM

CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS. CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT AND PARAPETS PLACED ON TOP OF THE SLAB SHALL BE POURED AFTER FALSEWORK HAS BEEN RELEASED.

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB, CROWN OR REFERENCE LINE FOLLOW THIS PROCEDURE:

LESS OF SLAB ELEVATION AT FINAL GRADE
LESS SLAB THICKNESS
PLUS CAMBER
PLUS FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR)
EQUALS TOP OF SLAB FALSEWORK ELEVATION.



SUPERSTRUCTURE
BILL OF BARS

COATED: 27,210 LBS.

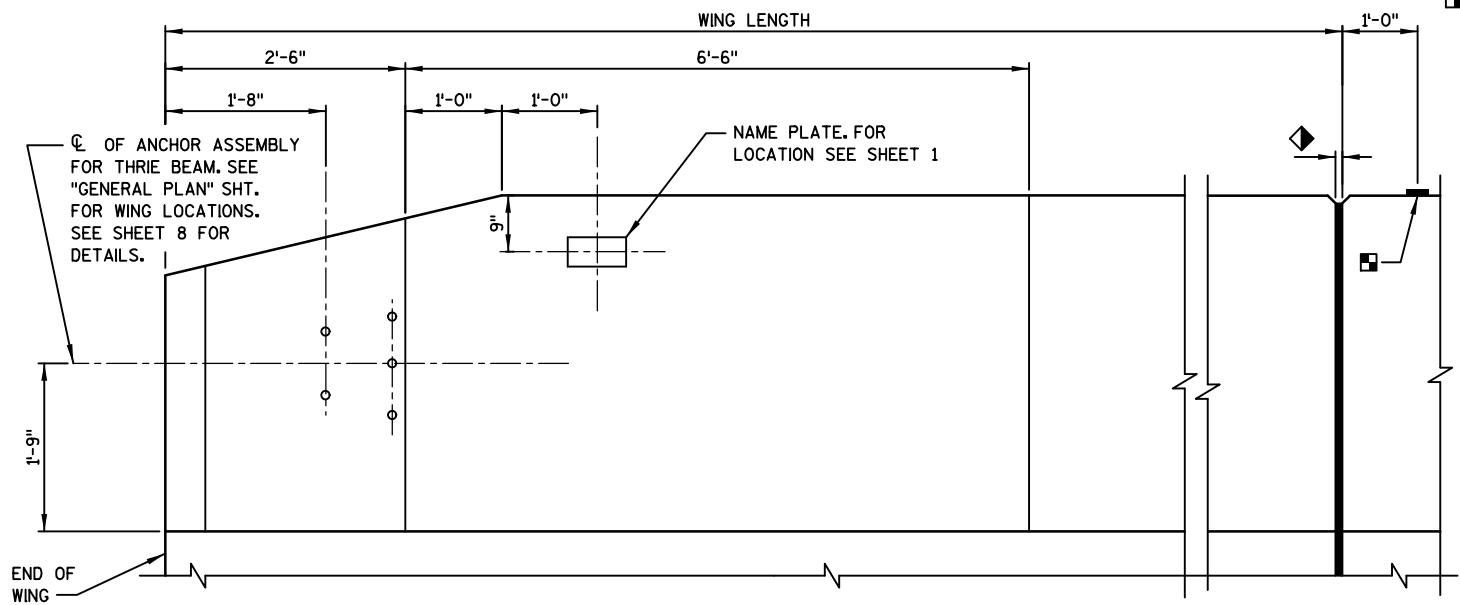
MARK	NO.	LENGTH	BENT	COAT	LOCATION
S1101	66	46'-6"		X	SLAB - LONGITUDINAL - BTM.
S502	69	41'-9"		X	SLAB - TRANSVERSE - BTM.
S503	46	41'-9"		X	SLAB - TRANSVERSE - TOP
S504	37	45'-0"		X	SLAB - LONGITUDINAL - TOP
S505	68	7'-10"	X	X	END OF DECK - VERT.
S506	68	3'-8"	X	X	END OF DECK - VERT.
S507	8	8'-10"	X	X	END OF DECK - VERT.
S408	4	41'-9"		X	END OF DECK - HORIZ.
S409	2	40'-6"		X	END OF DECK - HORIZ.
S510	138	4'-5"	X	X	PARAPET - VERT.
S511	4	5'-10"	X	X	PARAPET - VERT.
S512	16	46'-6"		X	PARAPET - HORIZ.
S513	142	6'-8"	X	X	PARAPET - VERT.
S514	37	4'-1"	X	X	END OF DECK - VERT. - E. ABUT.
S415	2	41'-9"		X	END OF DECK - HORIZ. - E. ABUT.
S516	90	5'-0"		X	SLAB - TRANSVERSE - TOP - EDGE OF DECK

TOP OF DECK ELEVATIONS

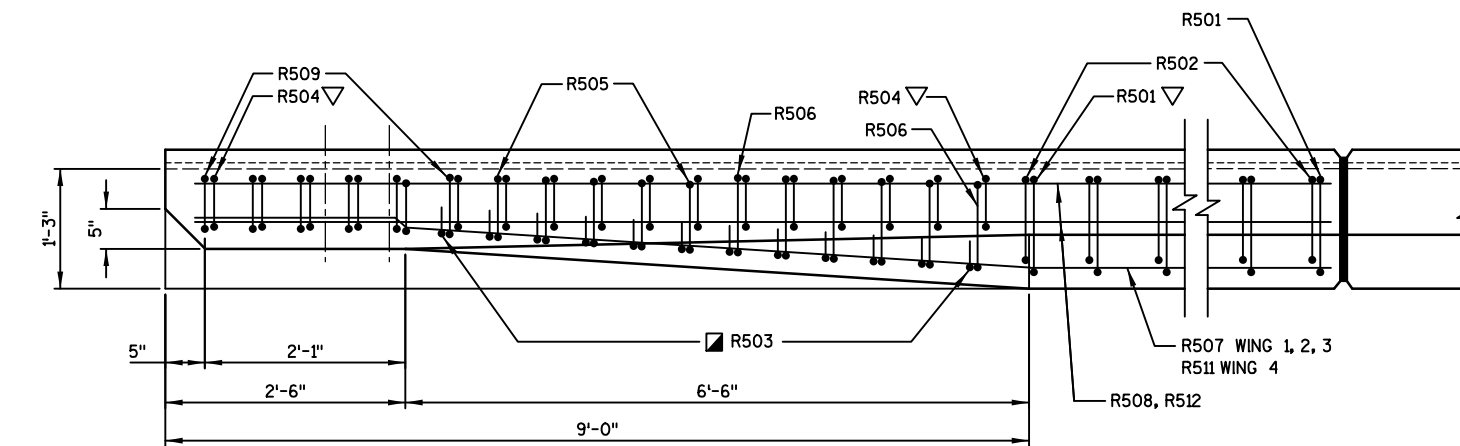
LOCATION	NORTH EDGE OF DECK 18.50' LT		C/L BRIDGE -		SOUTH EDGE OF DECK 18.50' RT	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
C/L W. ABUT.	9+69.96	994.62	9+80.50	995.11	9+91.04	994.87
0.1L POINT	9+74.36	994.67	9+84.90	995.16	9+95.44	994.92
0.2L POINT	9+78.76	994.73	9+89.30	995.22	9+99.84	994.98
0.3L POINT	9+83.16	994.78	9+93.70	995.27	10+04.24	995.03
0.4L POINT	9+87.56	994.83	9+98.10	995.32	10+08.64	995.09
0.5L POINT	9+91.96	994.88	10+02.50	995.38	10+13.04	995.14
0.6L POINT	9+96.36	994.94	10+06.90	995.43	10+17.44	995.20
0.7L POINT	10+00.76	994.99	10+11.30	995.49	10+21.84	995.26
0.8L POINT	10+05.16	995.04	10+15.70	995.54	10+26.24	995.31
0.9L POINT	10+09.56	995.10	10+20.10	995.60	10+30.64	995.37
C/L E. ABUT.	10+13.96	995.16	10+24.50	995.66	10+35.04	995.43

ELEVATIONS SHOWN ARE FINISHED GRADE ELEVATIONS.

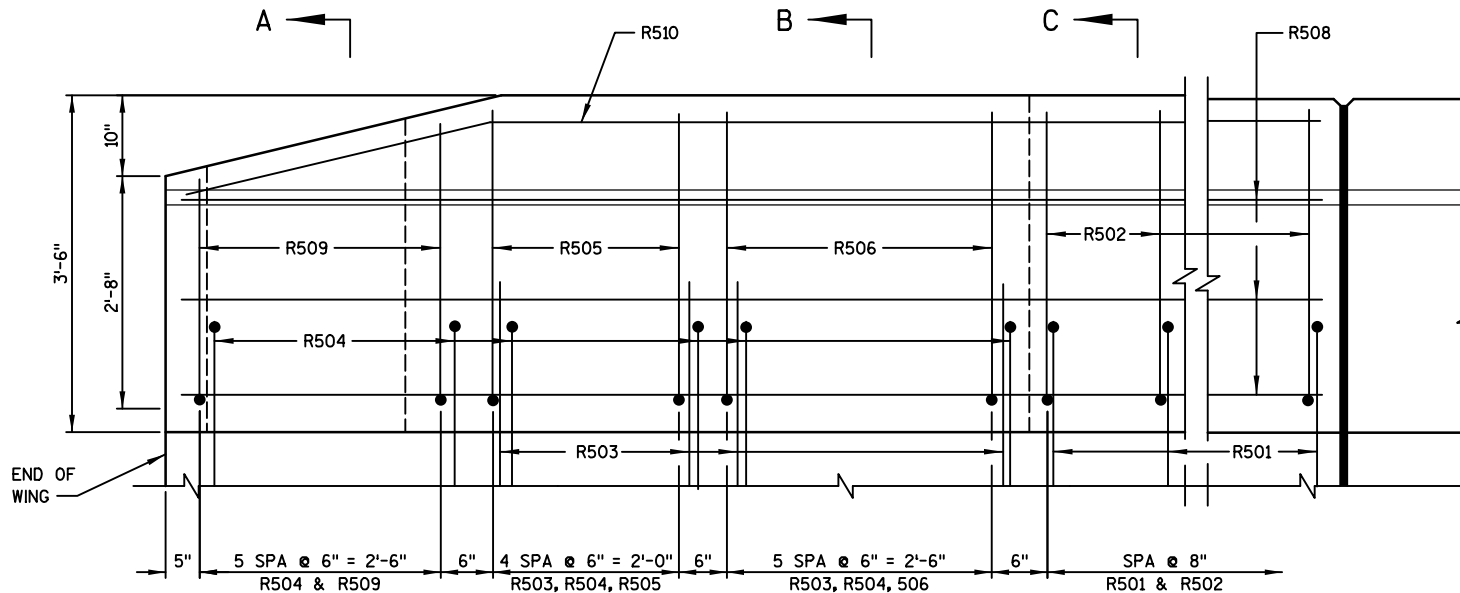
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-66-196			
DRAWN BY		DTH	PLANS CK'D. DJW
SUPERSTRUCTURE SECTION, AND DETAILS			SHEET 9



INSIDE ELEVATION

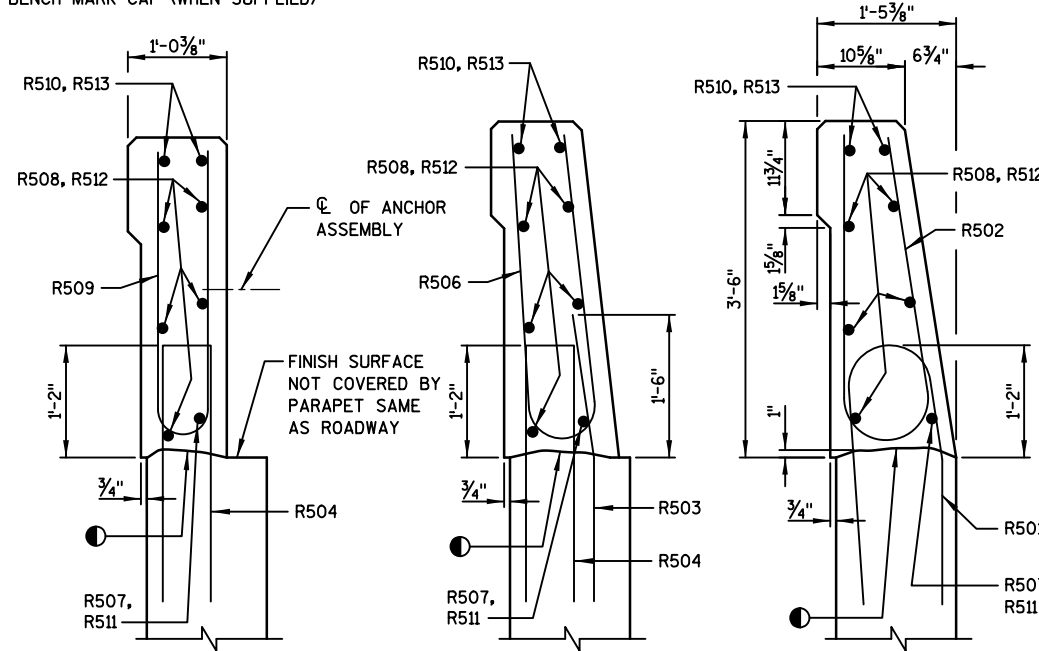


PLAN



OUTSIDE ELEVATION

BENCH MARK CAP (WHEN SUPPLIED)

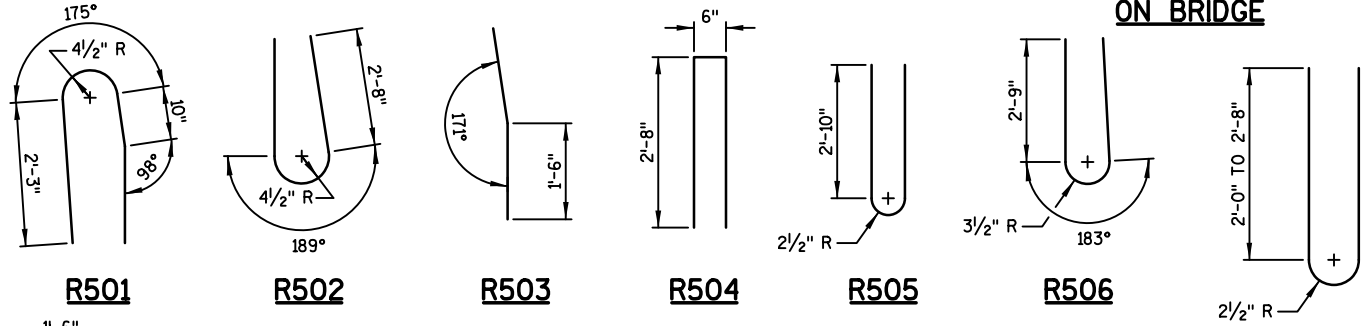


SECTION A

SECTION B

SECTION C

SECTION THRU PARAPET ON BRIDGE



BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
R509	4 SERIES OF 6	4'-9" TO 6'-1"

BUNDLE AND TAG EACH SERIES SEPARATELY.

SINGLE SLOPE PARAPET 42SS
BILL OF BARS

COATED, W. ABUT. = 700 LBS
COATED, E. ABUT. = 860 LBS

MARK	NO. REQ'D		LENGTH	BENT	COAT	LOCATION
	W. ABUT.	E. ABUT.				
R501	4	13	5'-10"	X	X	PARAPET - VERT.
R502	4	13	6'-8"	X	X	PARAPET - VERT.
R503	22	22	3'-0"	X	X	PARAPET - VERT.
R504	34	34	5'-7"	X	X	PARAPET - VERT.
R505	10	10	6'-5"	X	X	PARAPET - VERT.
R506	12	12	6'-6"	X	X	PARAPET - VERT.
R507	2	1	9'-7"	X	X	PARAPET - HORIZ. - WINGS 1, 2, & 3
R508	10	5	9'-7"		X	PARAPET - HORIZ. - WINGS 1, 2, & 3
R509	12	12	5'-5"	X	X	PARAPET - VERT.
R510	4	2	9'-7"	X	X	PARAPET - HORIZ. - WINGS 1, 2, & 3
R511	0	1	15'-7"	X	X	PARAPET - HORIZ. - WING 4
R512	0	5	15'-7"		X	PARAPET - HORIZ. - WING 4
R513	0	2	15'-7"	X	X	PARAPET - HORIZ. - WING 4

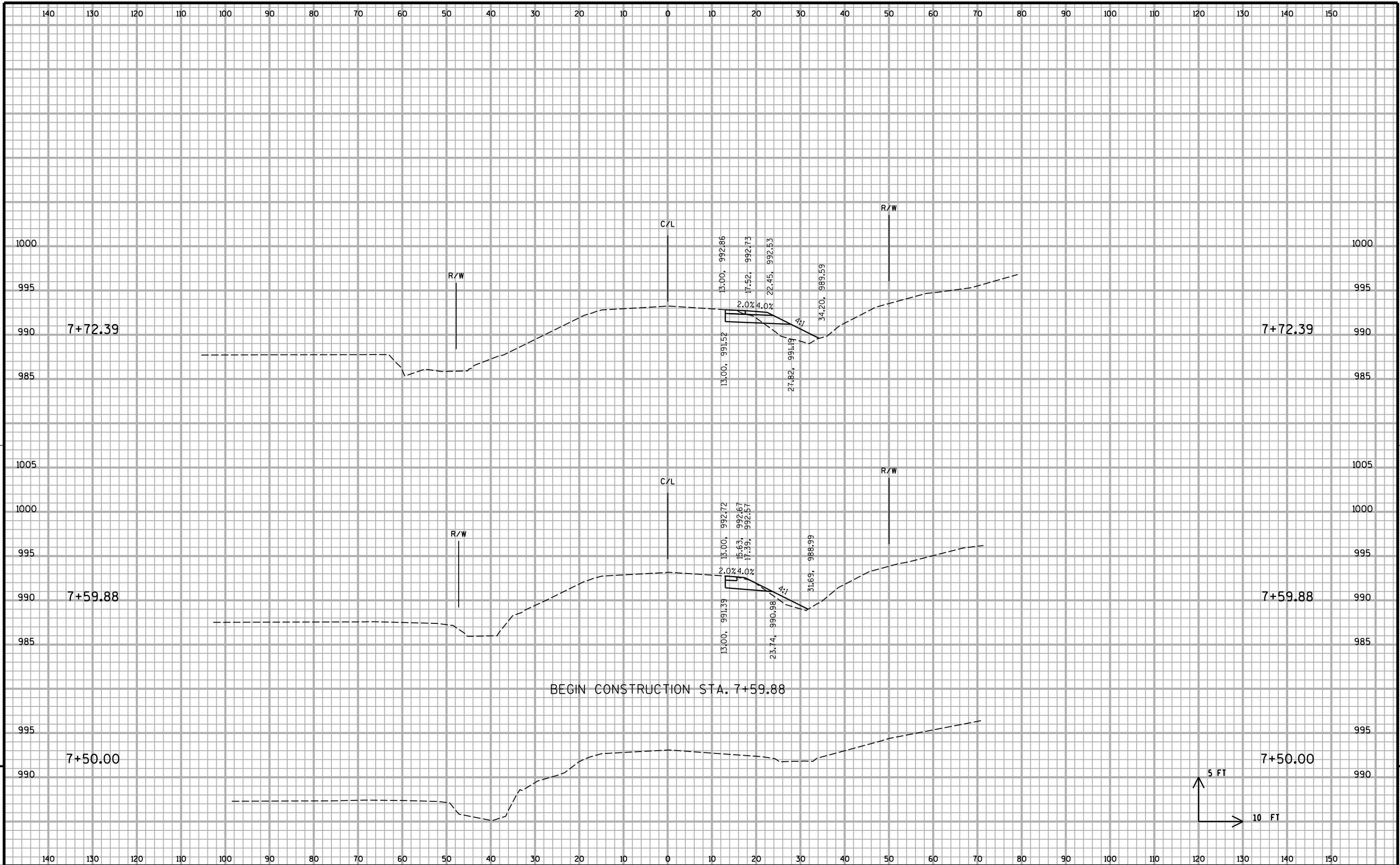
△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

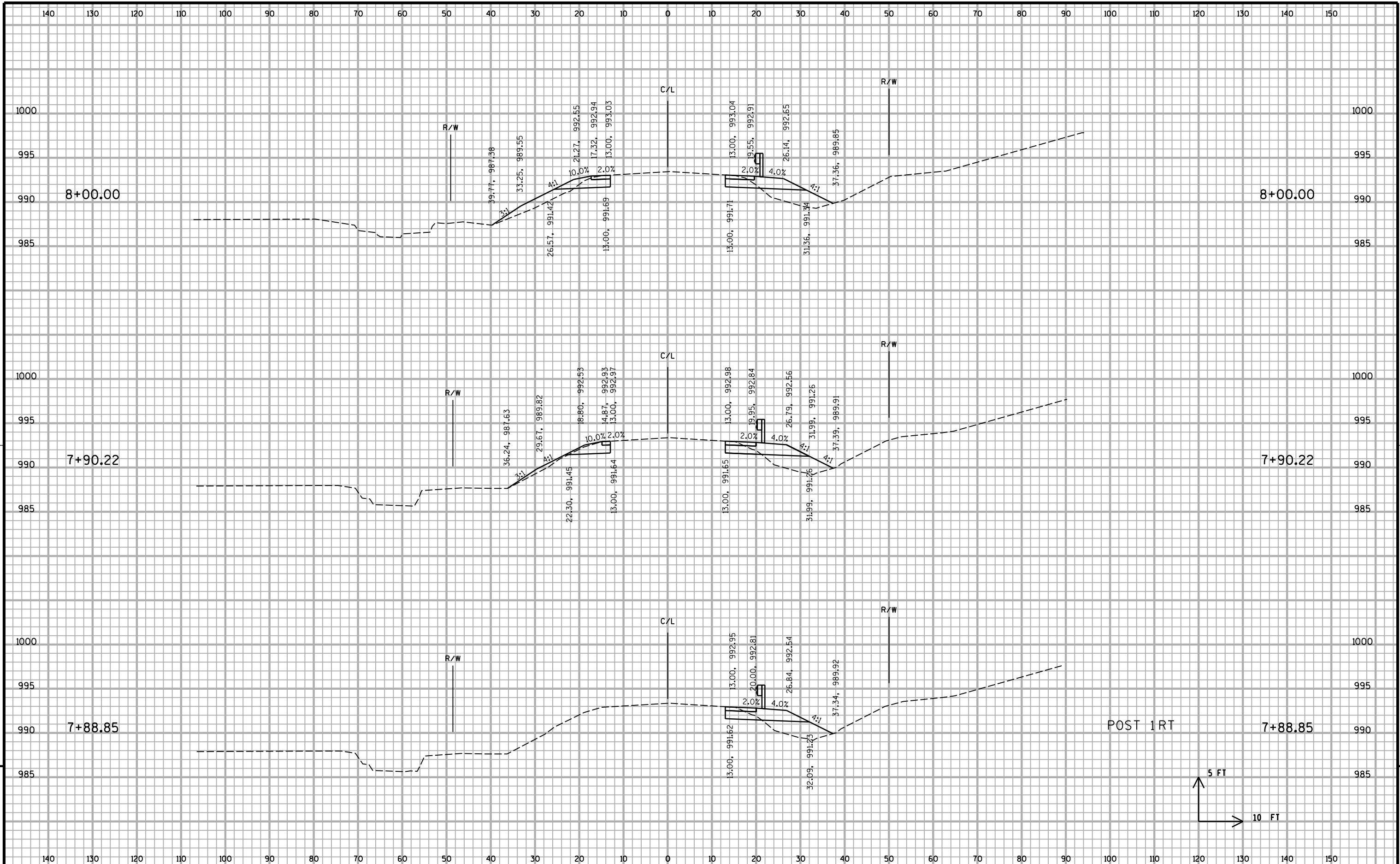
LEGEND

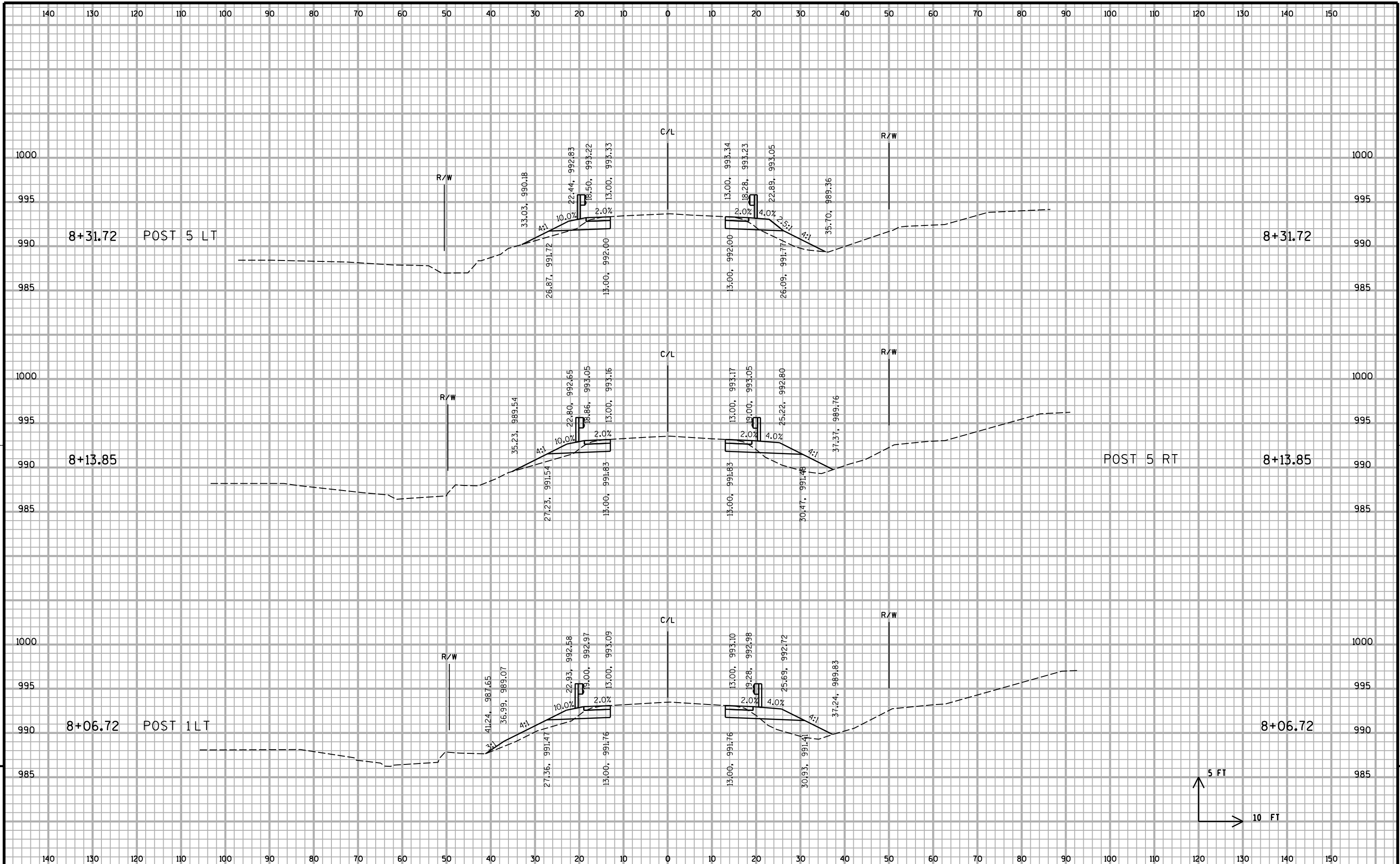
- CONST. JOINT - STRIKE OFF AS SHOWN.
- R503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R503 OR S503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.
- ▽ R501 AND R504 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.
- ◆ 1/2" FILLER. INCLUDED IN WING LENGTH. SEAL ALL SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HELD 1/8" BELOW SURFACE OF CONCRETE.

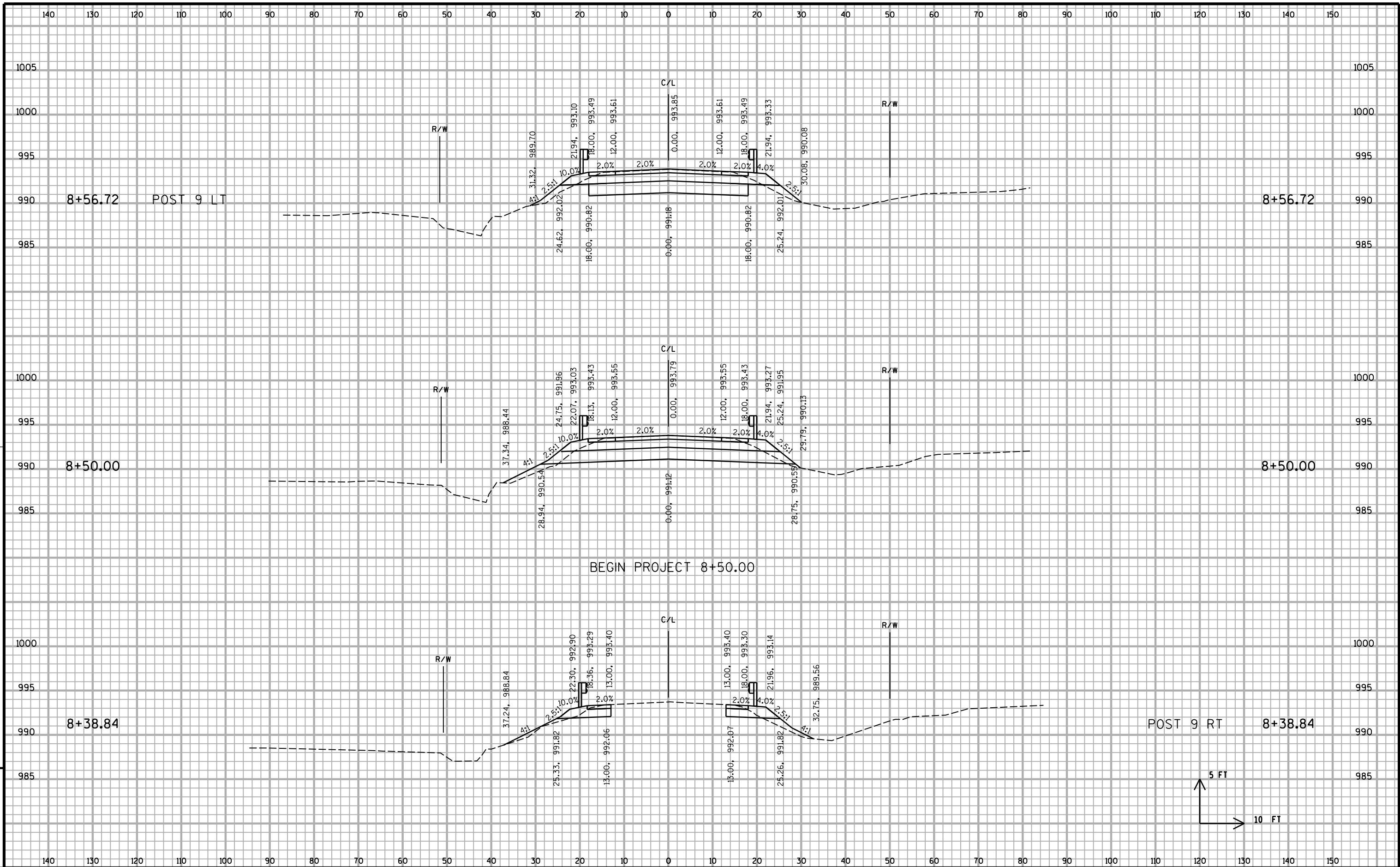
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-66-196			
DRAWN BY		DTH	PLANS CK'D. DJW
SINGLE SLOPE PARAPET 42SS			SHEET 10

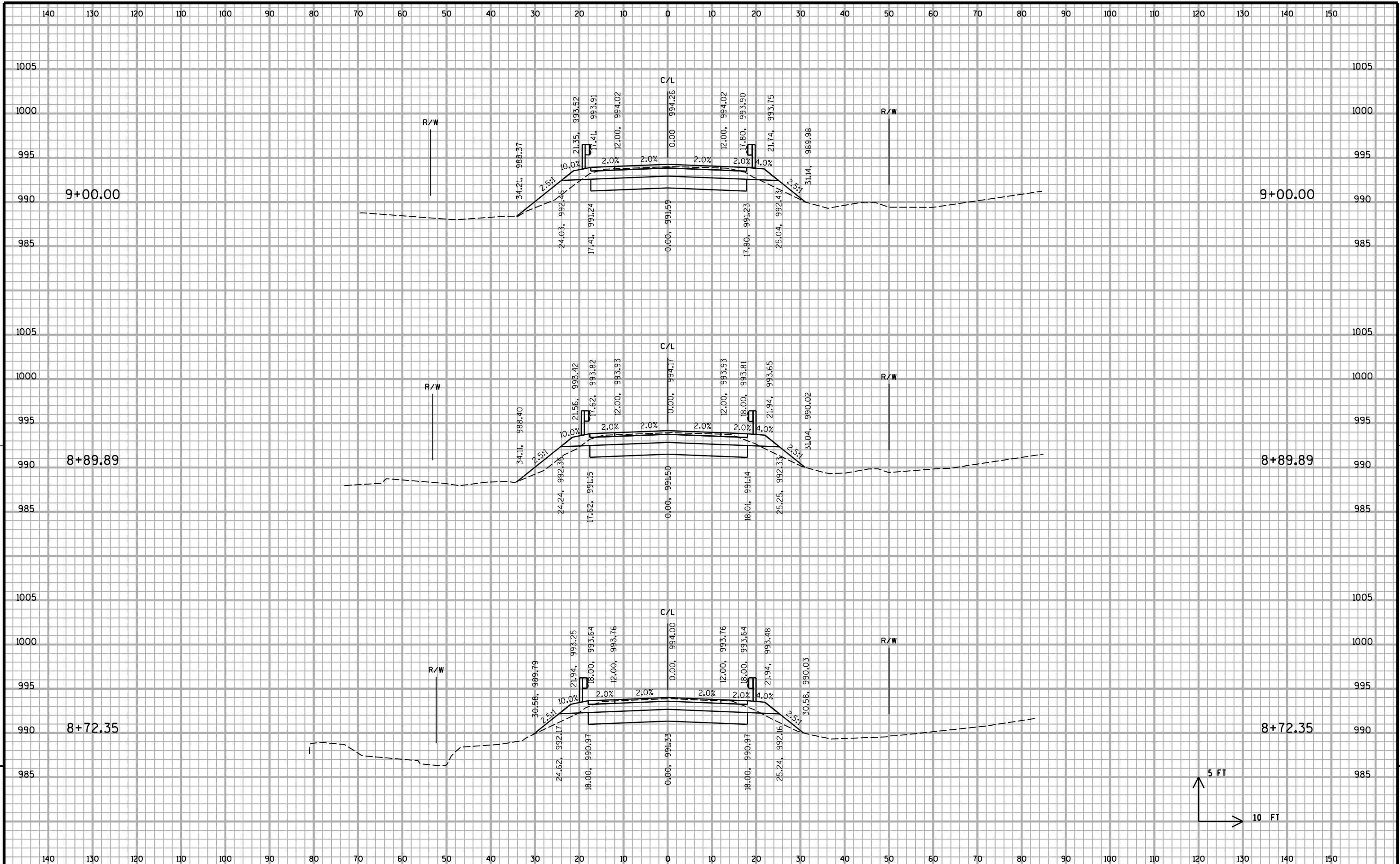
EARTHWORK SUMMARY											
STATION	REAL STATION	DISTANCE									MASS ORDINATE
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	UNEXPANDED FILL	CUT 1.00	FILL 1.25	
7+50.00	750.00										
7+59.88	759.88	9.88	9	2	5	2	0	1	2	1	1
7+72.39	772.39	12.51	8	2	13	4	1	4	6	6	-1
7+88.85	788.85	16.46	7	2	20	5	1	10	11	19	-10
8+00.00	800.00	11.15	16	3	32	5	1	11	16	33	-20
8+06.72	806.72	6.72	16	3	31	4	1	8	20	43	-27
8+13.85	813.85	7.13	15	3	25	4	1	7	24	51	-32
8+31.72	831.72	17.87	15	3	14	10	2	13	34	68	-41
8+38.85	838.85	7.13	15	3	9	4	1	3	38	71	-41
8+50.00	850.00	11.15	110	11	6	26	3	3	64	75	-22
8+56.72	856.72	6.72	94	11	10	25	3	2	89	78	-3
8+72.35	872.35	15.63	91	11	10	54	6	6	143	85	38
8+89.89	889.89	17.54	87	11	16	58	7	9	201	96	78
9+00.00	900.00	10.11	86	11	18	32	4	6	233	104	98
9+19.23	919.23	19.23	82	11	17	60	7	12	293	119	136
9+39.89	939.89	20.66	79	11	21	62	8	15	355	138	172
9+50.00	950.00	10.11	80	11	25	30	4	9	385	149	186
9+79.06	979.06	29.06	85	11	11	89	11	20	474	174	239
B-66-196									474	149	239
10+25.00	1025.00	1025.00							474	174	239
10+25.94	1025.94	0.94	90	11	0	2	0	0	476	174	241
10+50.00	1050.00	24.06	92	11	0	81	9	0	555	149	313
10+65.11	1065.11	15.11	90	11	3	51	6	1	606	150	357
10+90.70	1090.70	25.59	94	11	1	87	10	2	693	153	432
11+00.00	1100.00	9.30	98	11	1	33	4	0	726	153	461
11+13.62	1113.62	13.62	103	11	2	51	5	1	777	154	505
11+15.11	1115.11	1.49	103	11	2	6	1	0	783	154	510
11+16.74	1116.74	1.63	103	11	2	6	1	0	789	154	515
11+41.74	1141.74	25.00	115	11	0	101	10	1	890	155	605
11+50.00	1150.00	8.26	118	11	0	36	3	0	926	155	638
11+66.15	1166.15	16.15	28	3	0	44	4	0	970	155	678
11+66.74	1166.74	0.59	28	3	0	1	0	0	971	155	679
11+91.15	1191.15	24.41	24	3	2	23	3	1	994	156	698
12+00.00	1200	8.85	24	3	2	8	1	1	1002	158	704
12+16.15	1216.15	16.15	24	3	1	14	2	1	1016	159	714
12+24.80	1224.8	8.65	25	3	0	8	1	0	1024	159	721
12+45.68	1245.68	20.88	12	2	0	14	2	0	1038	159	733

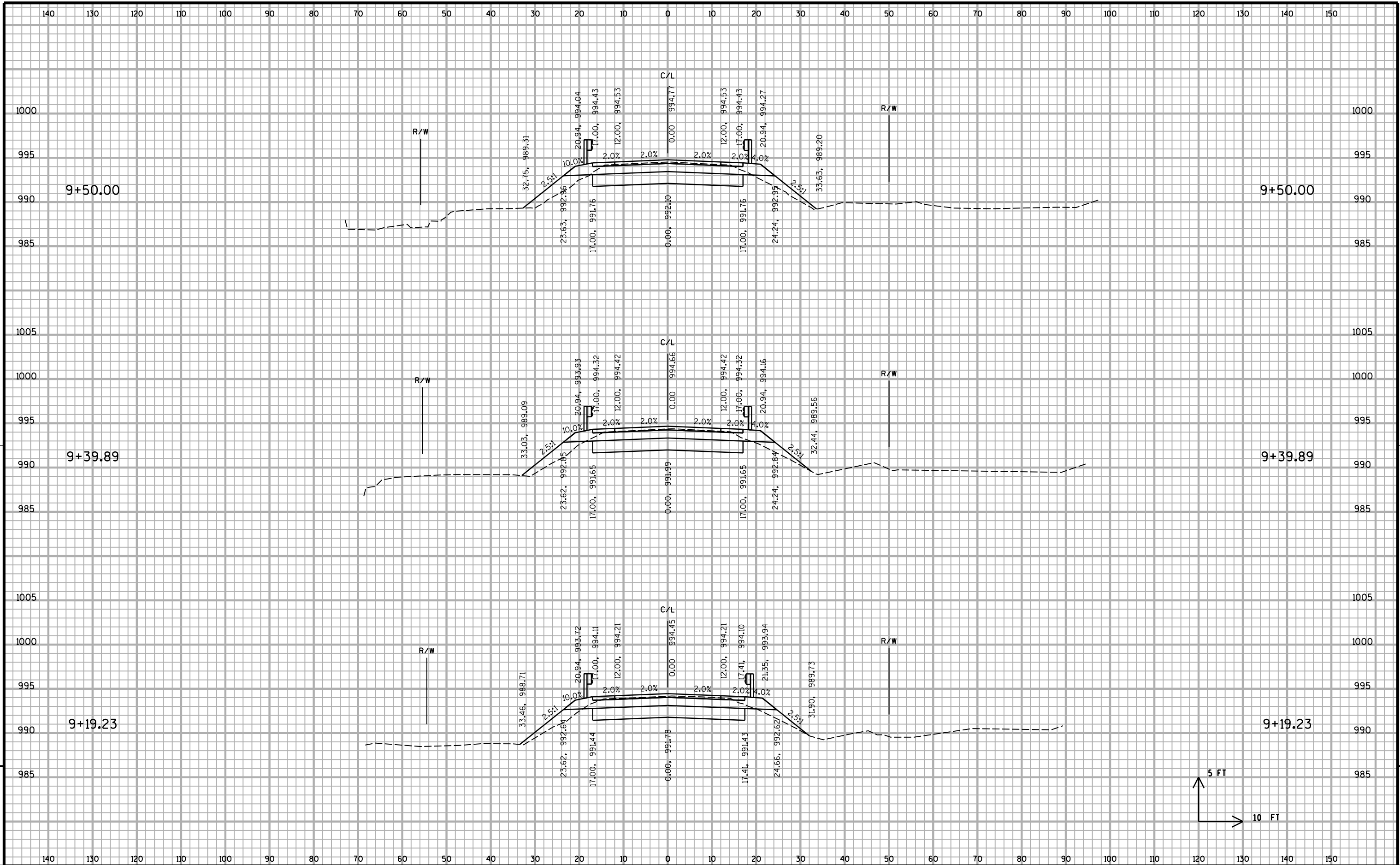


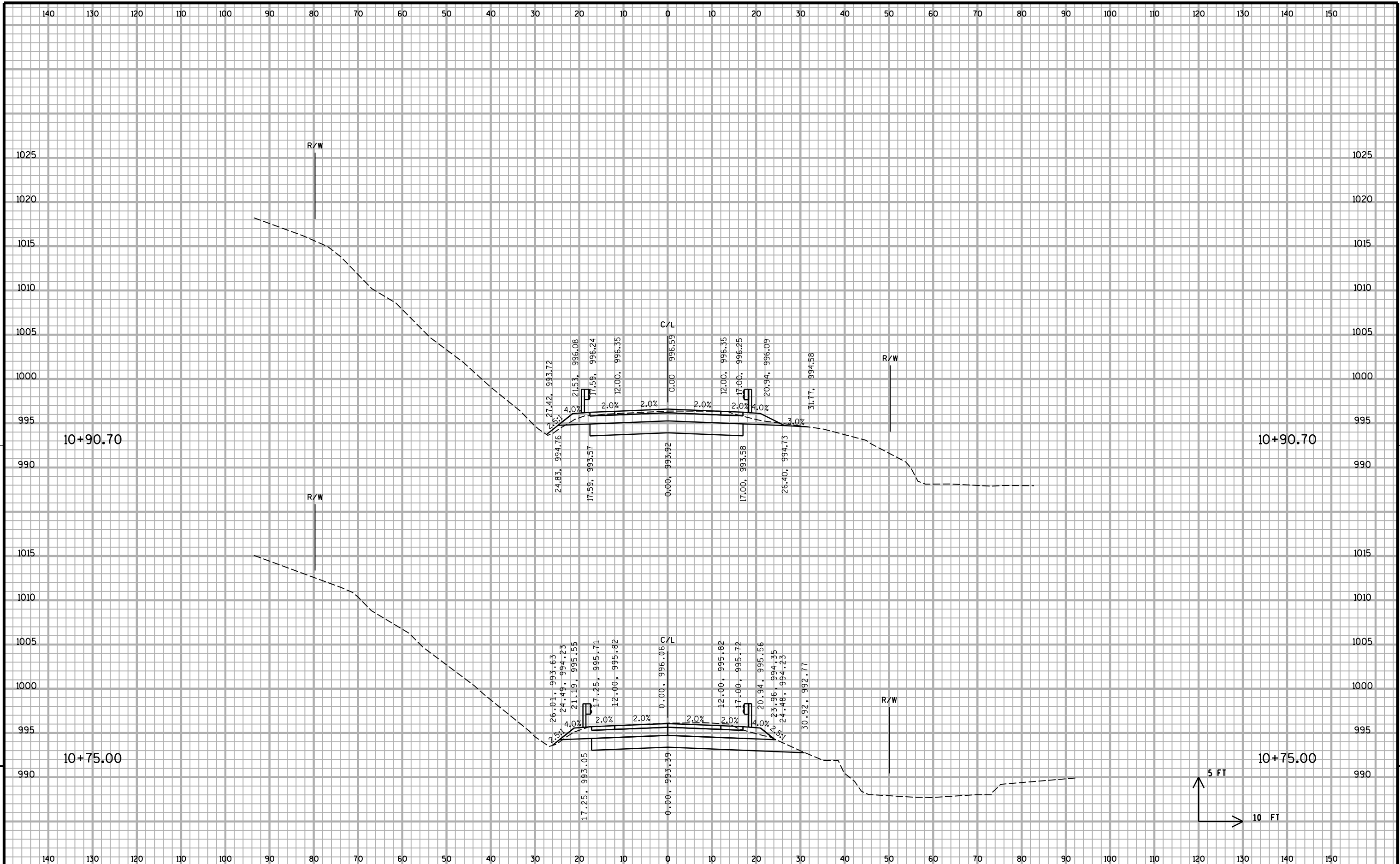


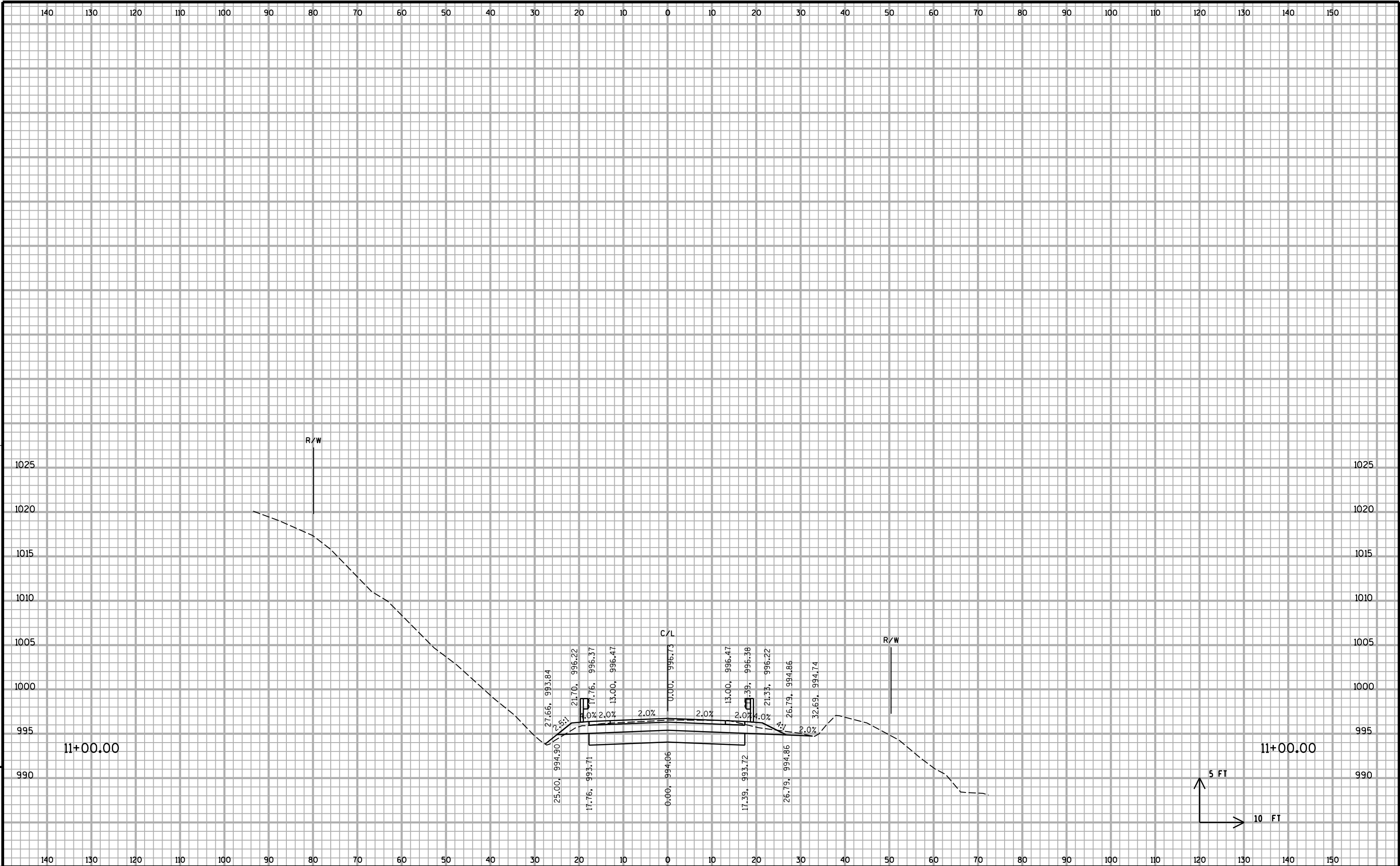


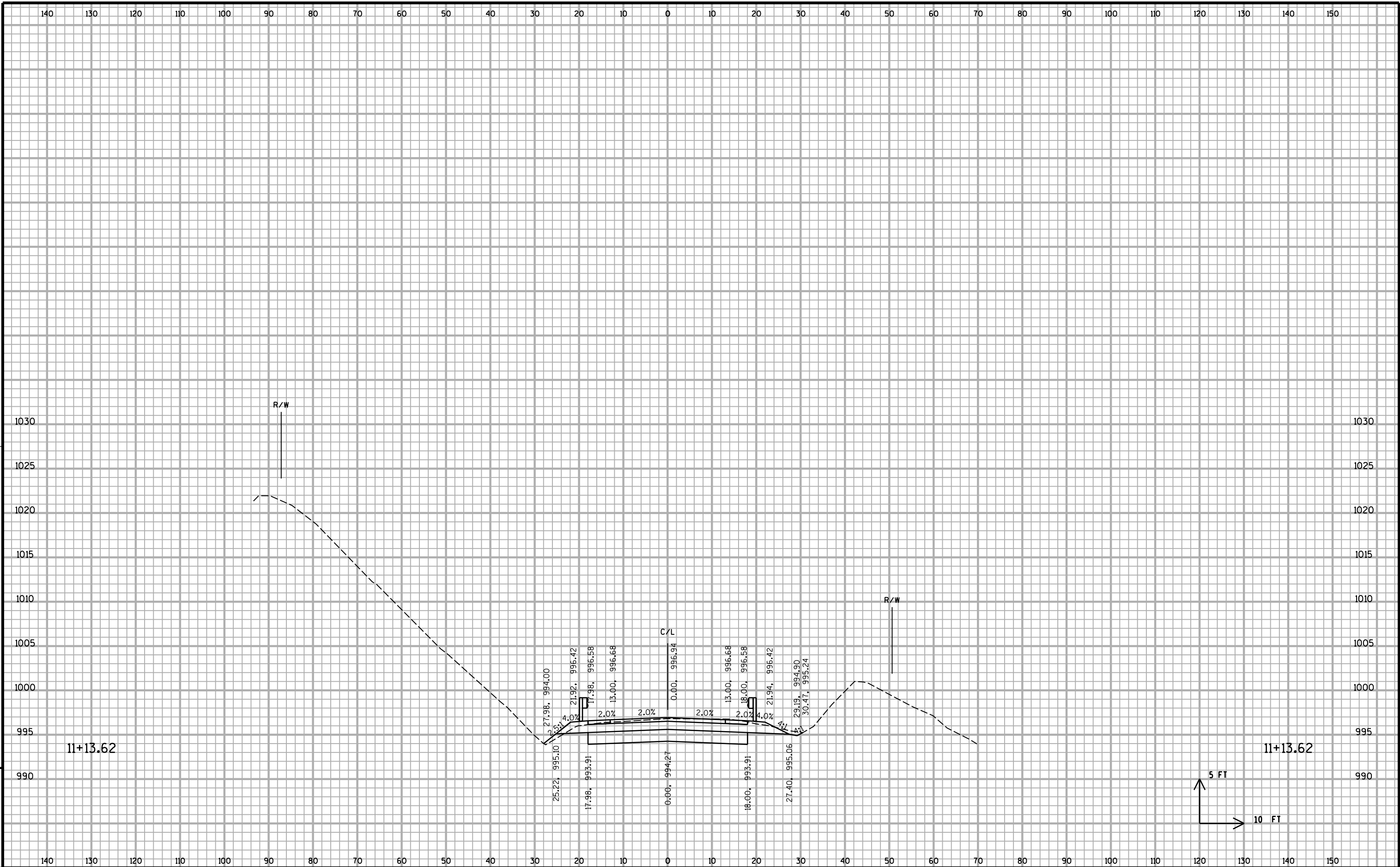


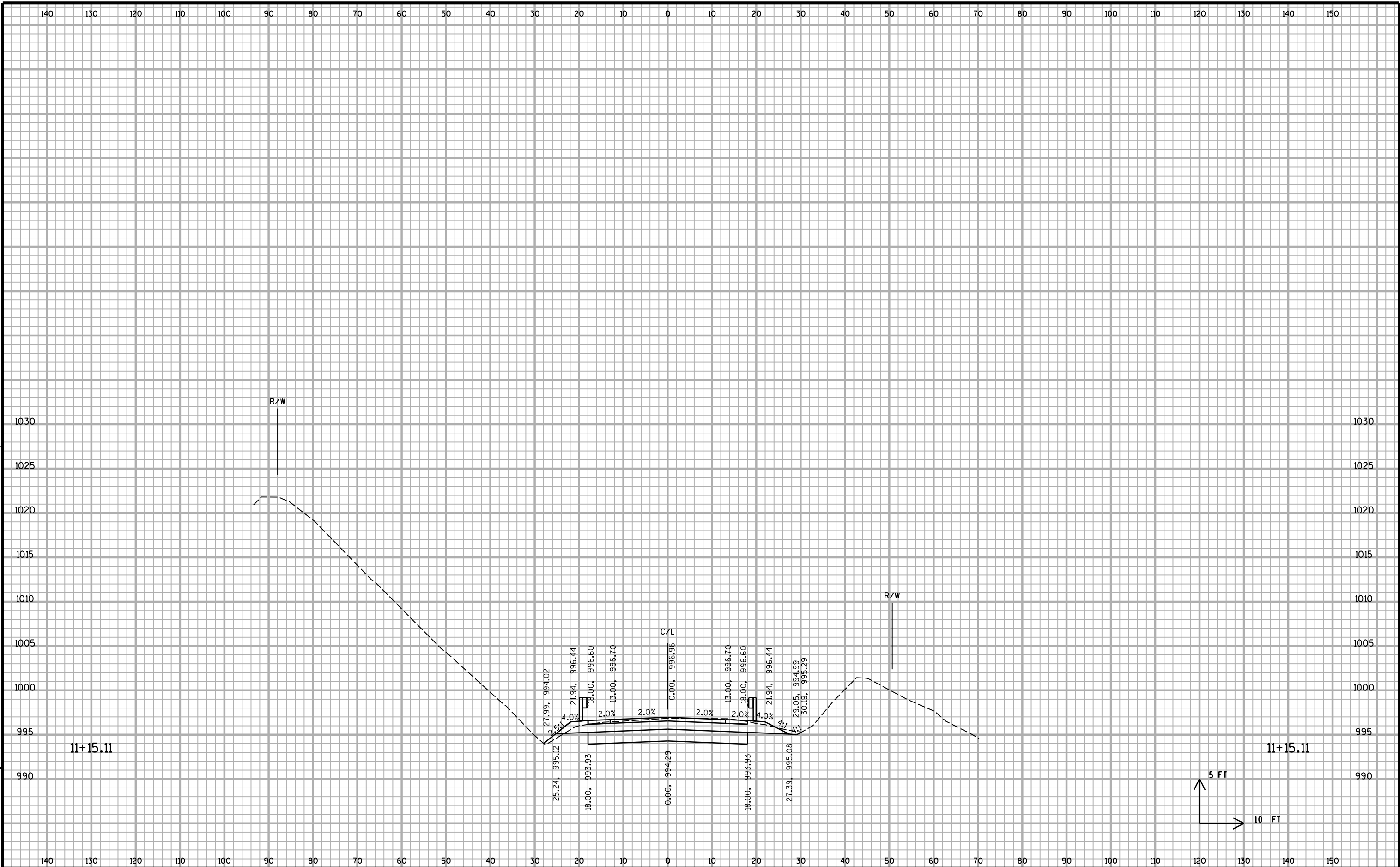


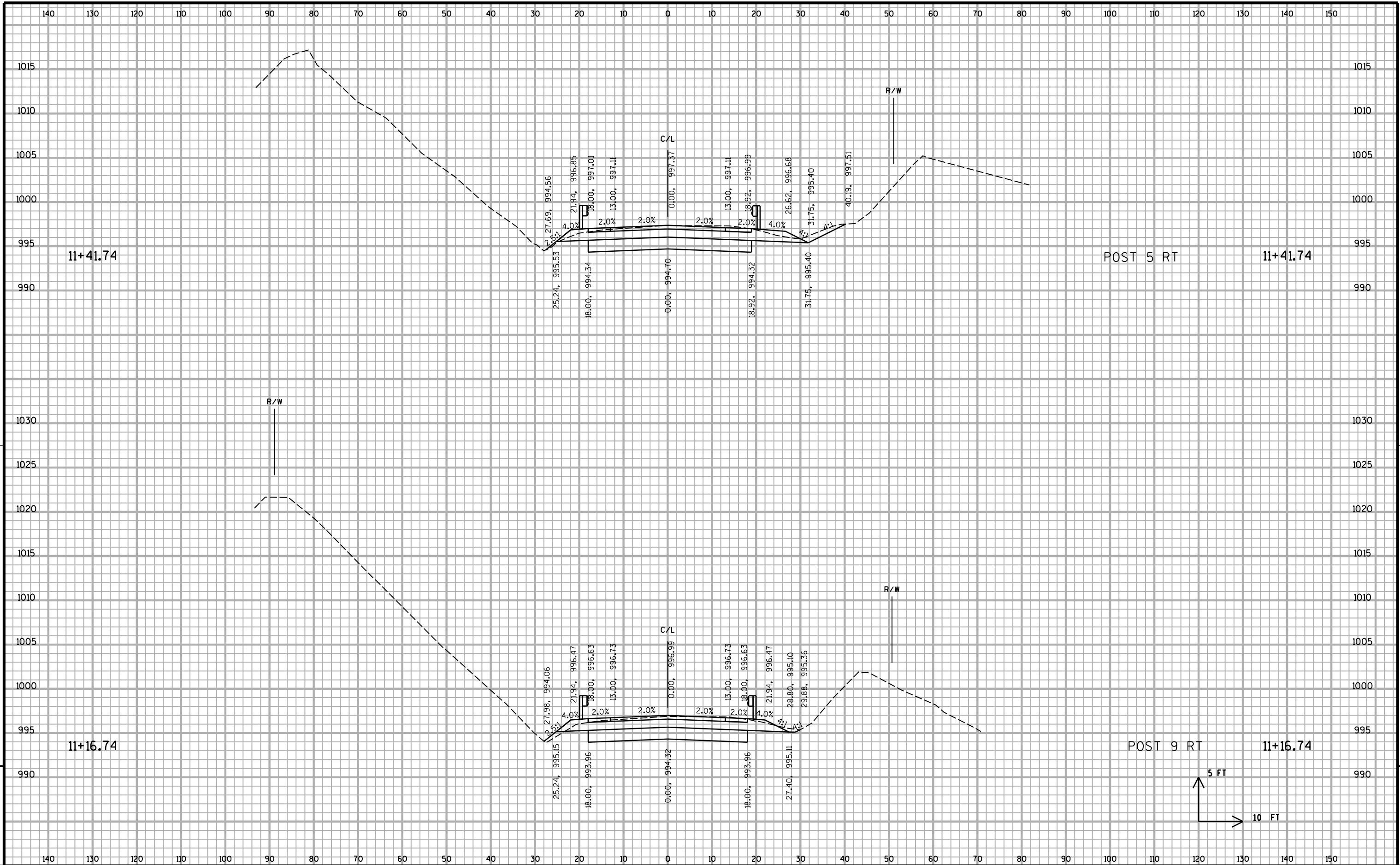


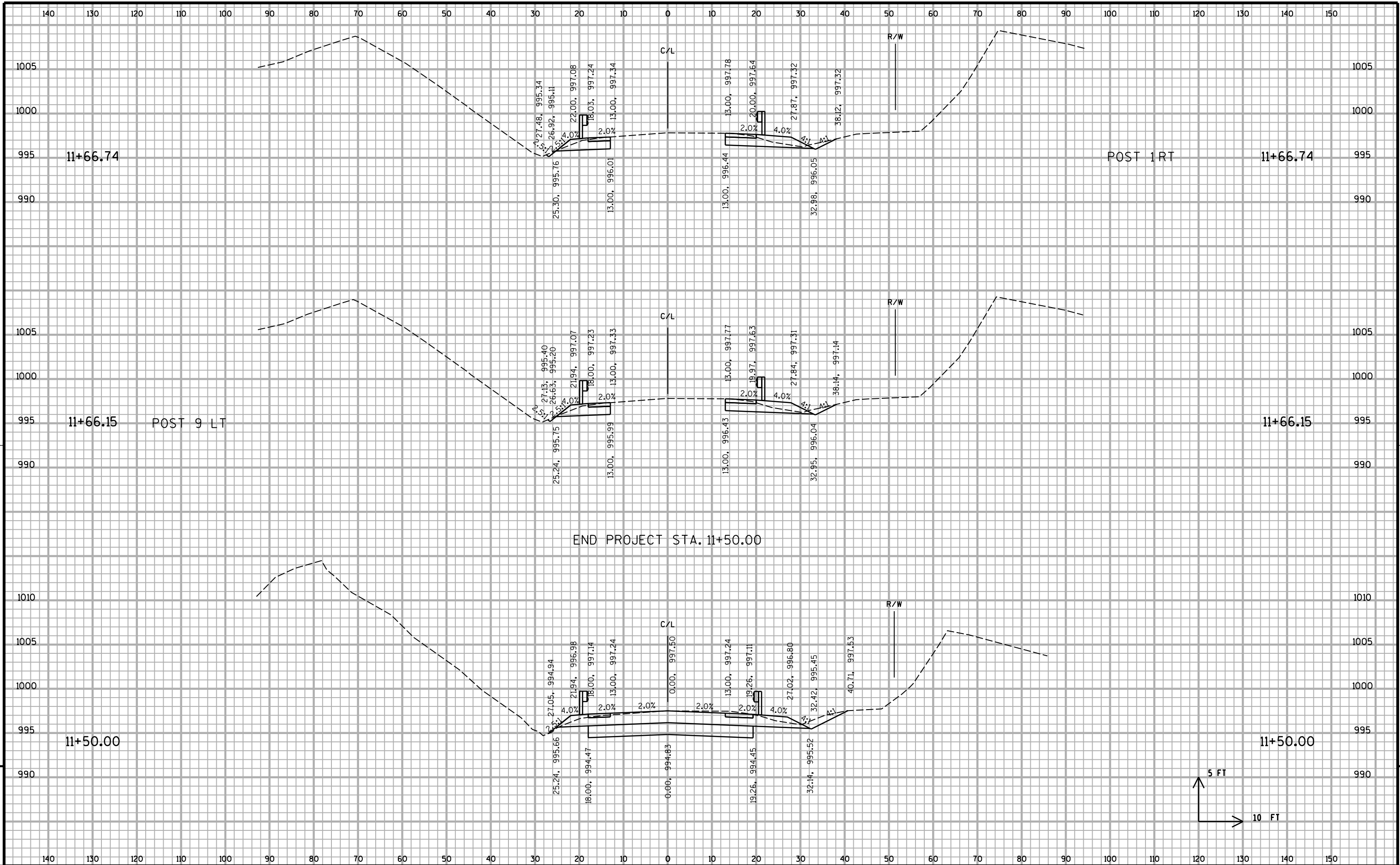


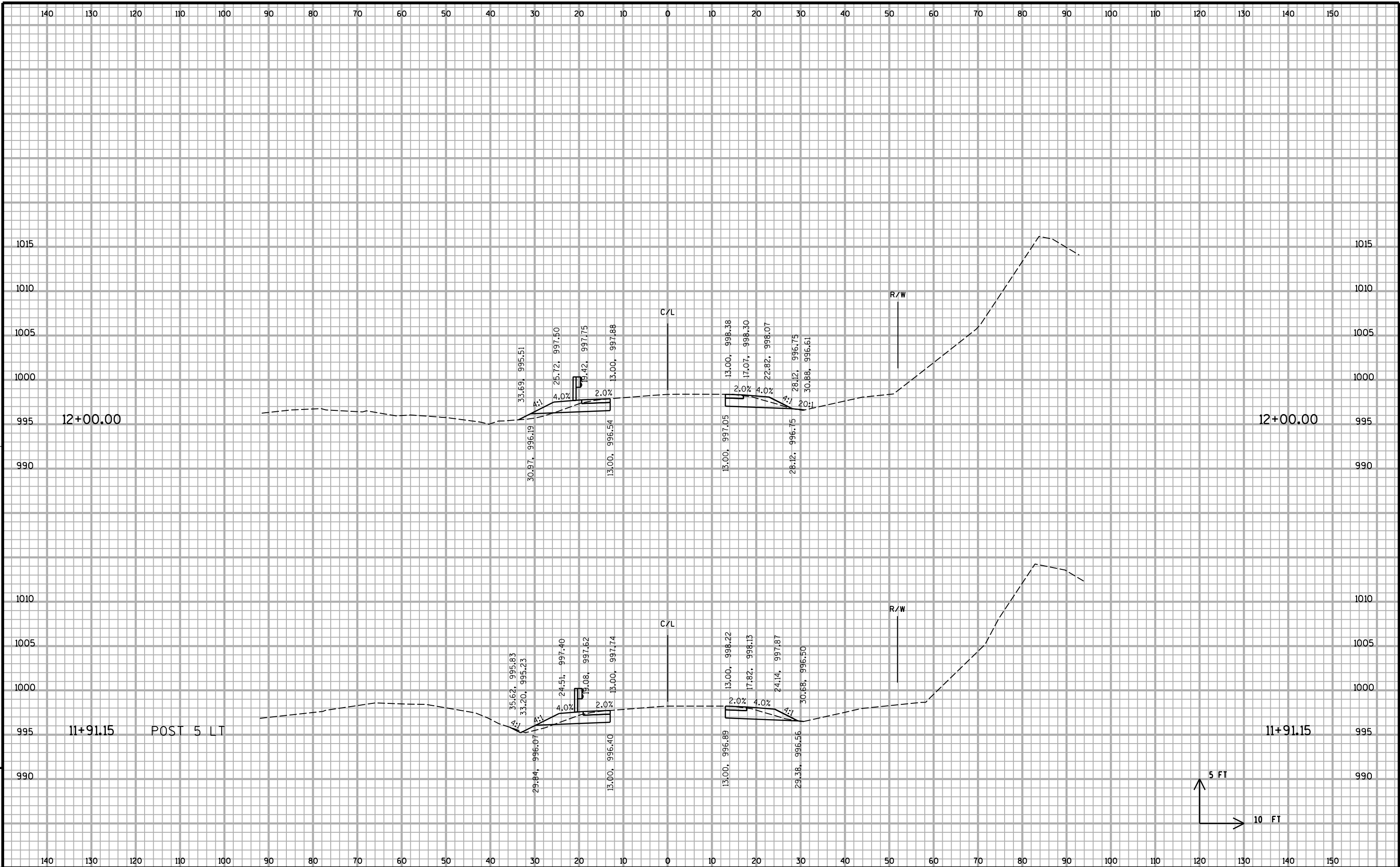


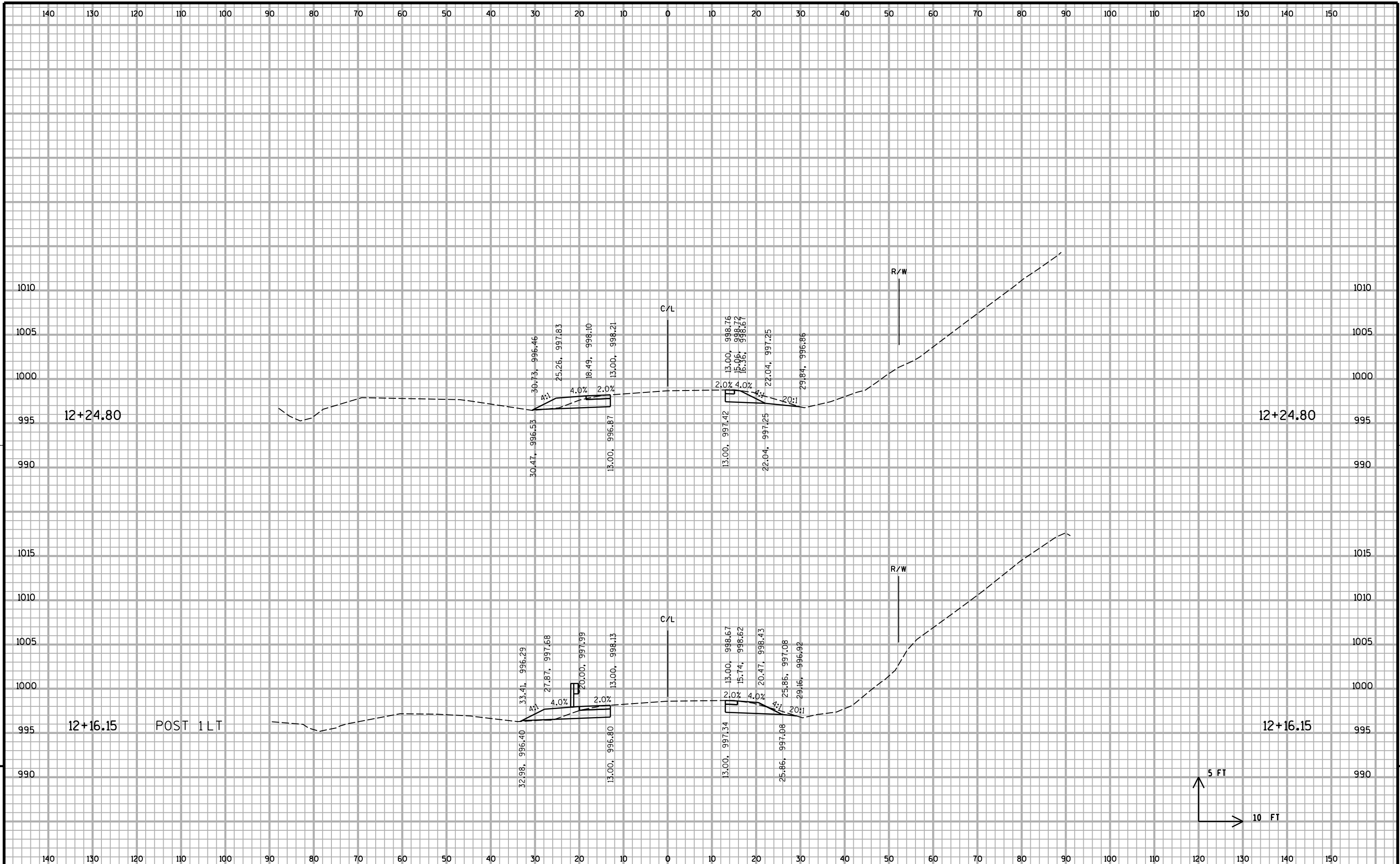


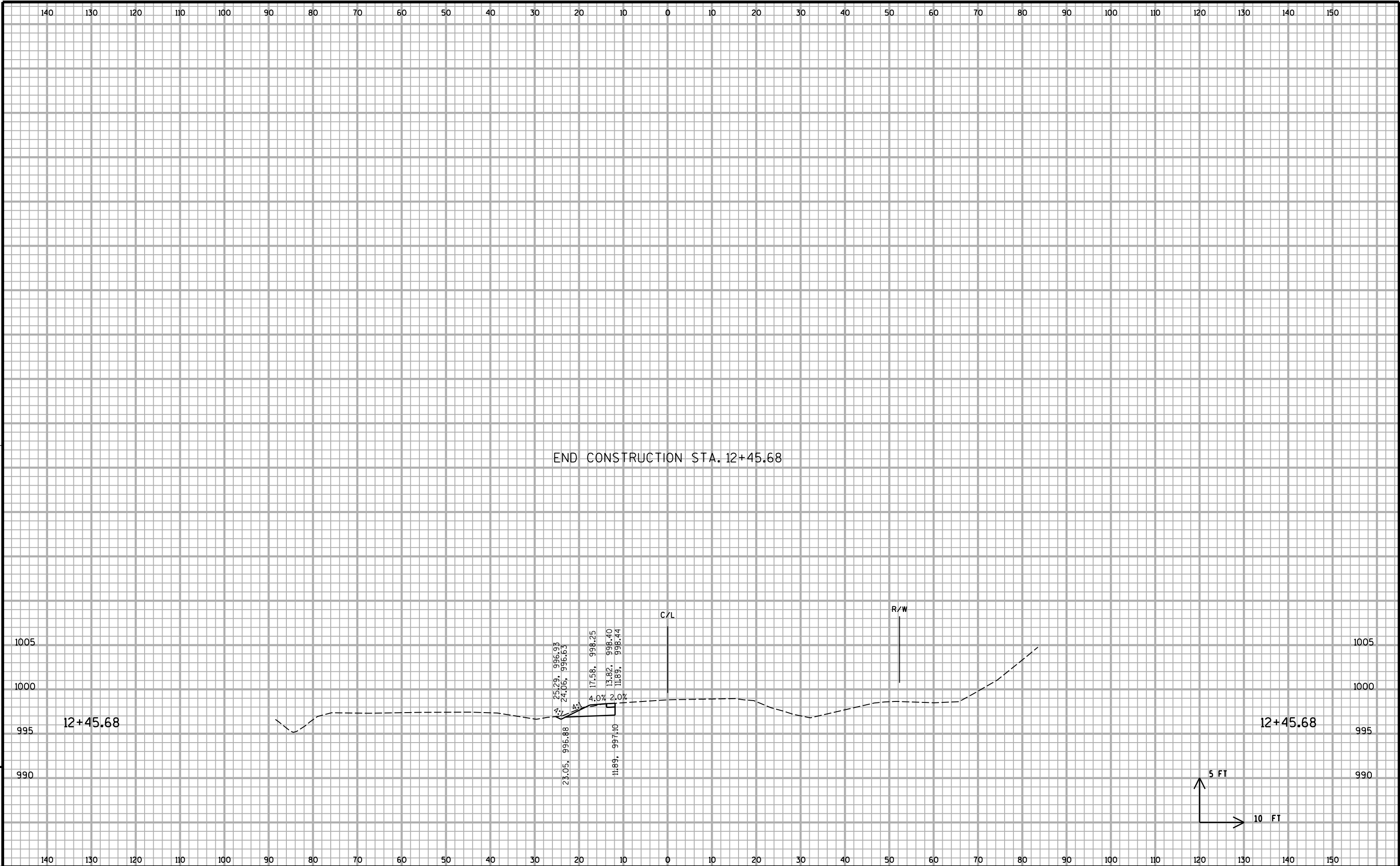








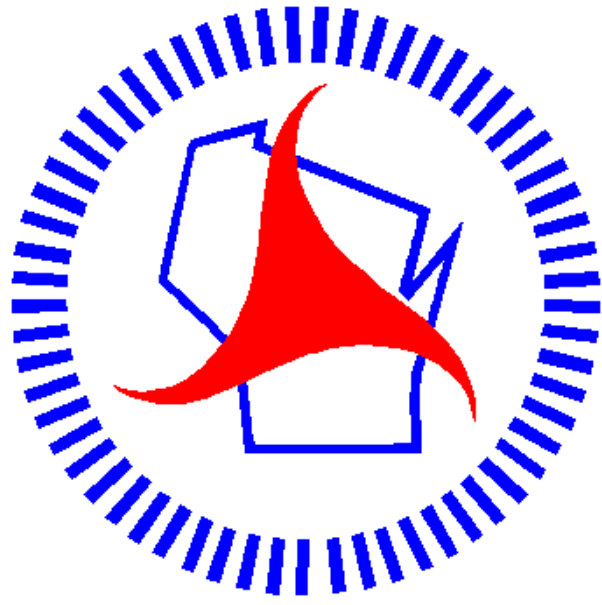




9

9

Notes



Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

<http://www.dot.wisconsin.gov>