

LAX MAY 2014

PROJECT ID: 1647-09-74

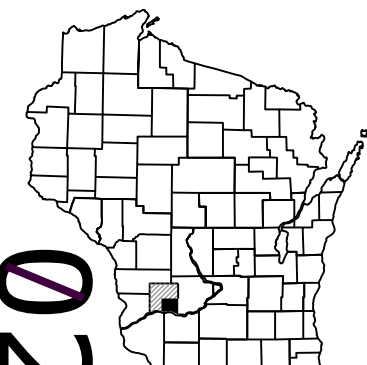
WITH:

COUNTY: RICHLAND

ORDER OF SHEETS

- | | | |
|-------------|---|------------------------------|
| Section No. | 1 | Title |
| Section No. | 2 | Typical Sections and Details |
| Section No. | 3 | Estimate of Quantities |
| 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 = 148



02



DESIGN DESIGNATION

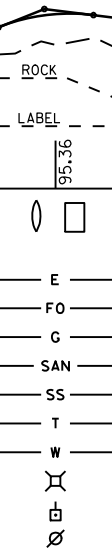
- | | | |
|-----------------|---|--------|
| A.A.D.T. (2014) | = | 7250 |
| A.A.D.T. 2034 | = | 8500 |
| D.H.V. | = | 10.5% |
| D.D. | = | 60/40 |
| T. | = | 12.6% |
| DESIGN SPEED | = | 60 MPH |
| ESALS | = | |

CONVENTIONAL SYMBOLS

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

PROFILE

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



EXCEPTION TO NET C/L LENGTH
STATION 194+44.4 TO 196+04.3

LAYOUT
SCALE 0 2 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.461 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), RICHLAND COUNTY, NAD 83 (2007).

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

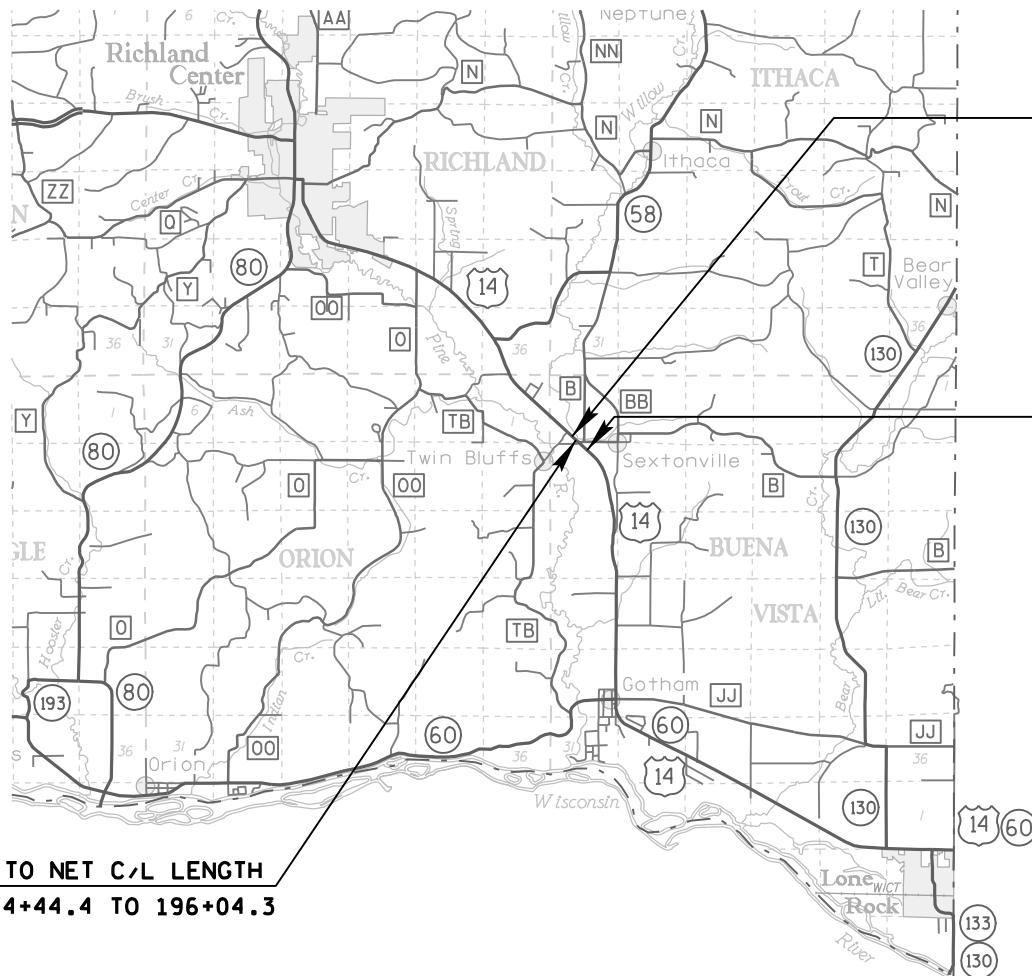
RICHLAND CENTER - SPRING GREEN

CTH B INTERSECTION

USH 14

RICHLAND COUNTY

STATE PROJECT NUMBER
1647-09-74



BEGIN PROJECT
STATION 187+32.7
X = 697211.438
Y = 425198.119

END PROJECT
STATION 213+25.0
X = 699122.692
Y = 423446.887

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
PREPARED BY	
Surveyor	JULIE JOUVETTE-WOOD, RLS
Designer	JAY P. ADAMS, PE, RLS
Project Manager	TODD WALDO, PE
Regional Examiner	JEREMY KRACHEY, PE
Regional Supervisor	REINY YAHNKE, PE
C.O. Examiner	
APPROVED FOR THE DEPARTMENT	
DATE: 01-30-2014	
(Signature)	
E	

GENERAL NOTES

- CURVE DATA IS BASED ON ARC DEFINITION.
- LOCATION OF UNDERGROUND UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
- NO TREES OR SHRUBS SHALL BE REMOVED UNLESS SUCH TREES OR SHRUBS HAVE BEEN DESIGNATED FOR REMOVAL BY THE ENGINEER.
- WHEN PORTIONS OF EXISTING ASPHALTIC SURFACES ARE TO BE REMOVED TO ACCOMMODATE NEW CONSTRUCTION, THE LINE OF SUCH REMOVAL SHALL BE NEATLY DELINEATED WITH A SAW CUT JOINT THROUGH THE ASPHALTIC SURFACE SO THAT REMOVAL OF THE ASPHALT SHALL BE ACCOMPLISHED WITHOUT DAMAGE TO REMAINING PORTIONS. THE LOCATION OF SAW JOINTS AND THE AMOUNT REMOVED AT SIDE ROADS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE BUT IS MEASURED AND PAID FOR AS COMMON EXCAVATION. EXACT LOCATIONS OF EBS WILL BE DETERMINED BY THE ENGINEER.
- DISTURBED AREAS WITHIN THE RIGHT OF WAY ARE TO BE TOPSOILED, FERTILIZED, SEEDED, AND MULCHED AS DIRECTED BY THE ENGINEER.
- TOPSOIL OR SALVAGED TOPSOIL WHERE REQUIRED, IS TO BE PLACED ON ALL CUT AND FILL SLOPES TO AN APPROXIMATE DEPTH OF 4 INCHES AT THE TIME OF PLACING.
- IN THE PERFORMANCE OF THE WORK UNDER THE ITEM "MULCHING", ALL AREAS SEEDED AND FERTILIZED SHALL BE MULCHED AS DIRECTED BY THE ENGINEER.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES.
- THE CONTRACOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, PASSING OR PARKING LANE.
- WHEN THE QUANTITIES OF ASPHALTIC SURFACE IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OF THICKNESS OF THE MATERIAL THAT IS SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.
- THE RATE OF APPLICATION FOR TACK COAT IS COMPUTED AT 0.05 GAL/SY.
- ASPHALTIC SURFACE WEIGHT CALCULATIONS ARE BASED ON 112 LB/SY/IN
- 6" HMA PAVEMENT TYPE E-3 SHALL BE PLACED WITH 2 1/2-INCH BOTTOM LAYER, A 1 3/4-INCH MIDDLE LAYER AND A 1 3/4-INCH UPPER LAYER.
- SILT FENCE SHALL BE PLACED AS SHOWN ON PLANS AND/OR DIRECTED BY THE ENGINEER.
- COORDINATES AND BEARINGS REFERENCED IN THE PLAN ARE REFERENCED TO THE RICHLAND COUNTY COORDINATE SYSTEM, NAD83(2007) ADJUSTMEN
- PLAN ELEVATIONS: NORTH AMERICAN VERTICAL DATUM 1988 (1991) ADJUSTMENT
- THE CONTRACTOR IS TO WORK WITH UTMOST CARE AND PROTECT ALL SURVEY MARKERS AHD SHALL BE RESPONSIBLE FOR REMONUMENTATION IF NECESSARY.
- THE ENGINEER SHALL CONFIRM THE LOCATION OF EROSION CONTROL ITEMS. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURES ARE NO LONGER NECESSARY. AT THAT TIME, THE CONTRACTOR SHALL REMOVE THE TEMPORARY EROSION CONTROL ITEM(S).
- NO EQUIPMENT OR MATERIALS SHALL BE STORED OR IMPACT ANY WETLANDS OR WATERWAYS.

UTILITY COMPANIES & PERSONNEL

Chris Wilhelm
Alliant Energy - Electricity
142 S. Cincinnati St.
Spring Green, WI 53588
(608) 588-9702
(608) 963-3168 (mobile)
ChrisWilhelm@alliantenergy.com

Mike Olsen
ATC Management, Inc. - Electricity
801 Okeefe Rd
P.O. Box 6113
De Pere, WI 54115-6113
(920) 338-6582
molsen@atcllc.com

Richard Wroblewski
We Energies - Gas/Petroleum
500 South 116 Street
West Allis, WI 53214
(414) 944-5767
richard.wroblewski@we-energies.com

Steve Hegge
Charter Communications - Communication Line
2701 Daniels St
Madison, WI 53718
(608) 576-2613
Steve.Hegge@charter.com

Brian Van Ooyen
Frontier Communications of WI LLC - Communication Line
100 Communications Dr
Sun Prairie, WI 53590
(608) 837-1151
brian.vanooyen@fr.com

Kirk Ghastin
Sextonville Sanitary District - Sewer
P.O. Box 95
Sextonville, WI 53584
(608) 647-7077

Kevin Hauser
Ithica Sanitary District #1 - Sewer
29270 Willow Creek Rd
Richland Center, WI 53581
ksanhauser@mwt.net

Melinda D. Jones
Richland Airport - Airport Facility
450 S Main St
Richland Center, WI 53581
(608) 647-3466
rctreas@mwt.net

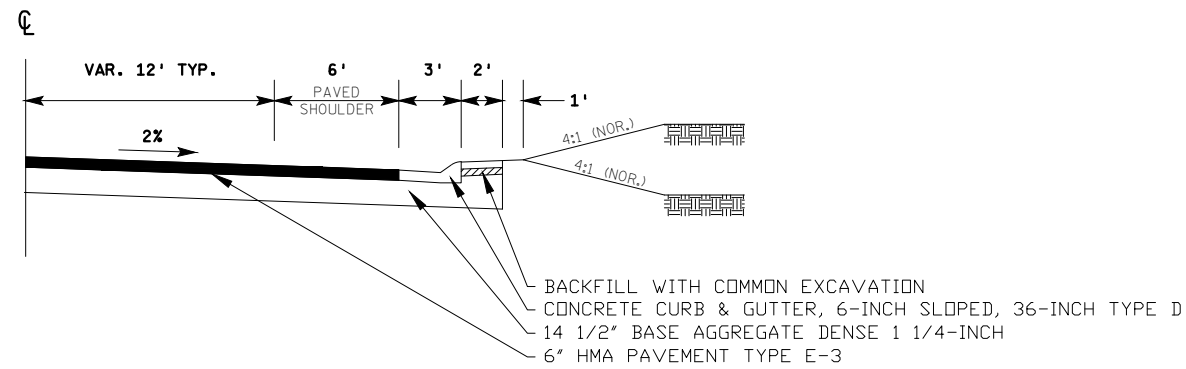
DOT CONTACT
Jay P. Adams
3550 Mormon Coulee Rd
La Crosse, WI 54601
Phone (608)498-0185
Jay.Adams@dot.wi.gov

DNR LIASON
Eric Heggelund
3911 Fish Hatchery Rd
Fitchburg, WI 53711
Phone (608)275-3301
eric.heggelund@wi.gov

STANDARD ABBREVIATIONS

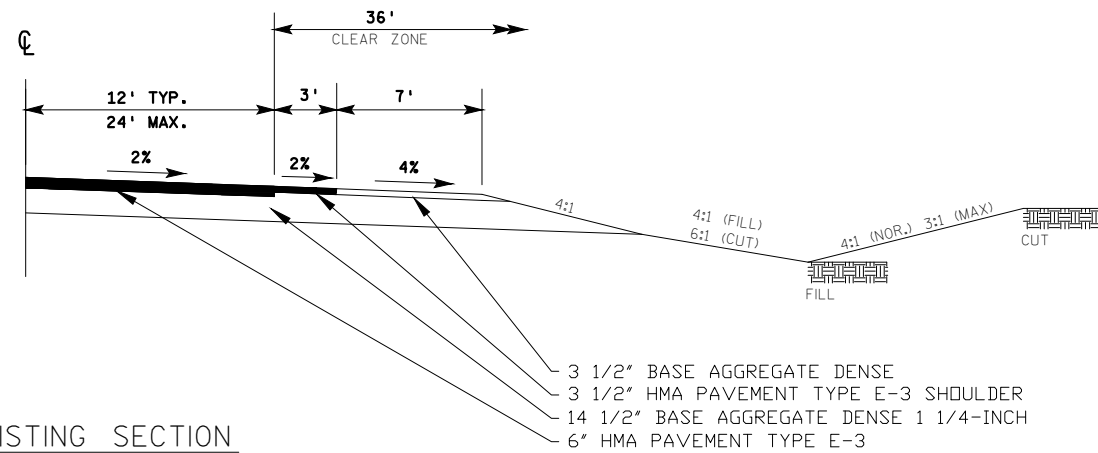
AC.	ACRE	MAX.	MAXIMUM
AGG.	AGGREGATE	MGAL	1000 GALLONS
AH	AHEAD	MIN.	MINIMUM
<	ANGLE	N.C.	NORMAL CROWN OR NO CHANGE
AE, AEW	APRON ENDWALL	N	NORTH
ASPH.	ASPHALTIC	NO.	NUMBER
A.D.T.	AVERAGE DAILY TRAFFIC	PAV'T	PAVEMENT
B.F.	BACK FACE	P.L.E.	PERMANENT LIMITED EASEMENT
BK.	BACK	P.C.	POINT OF CURVATURE
BEG.	BEGIN	P.I.	POINT OF INTERSECTION
B.M.	BENCH MARK	P.T.	POINT OF TANGENCY
C/L	CENTER LINE	V.P.C.	VERTICAL POINT OF CURVATURE
D	CENTRAL ANGLE OR DELTA	V.P.I.	VERTICAL POINT OF INTERSECTION
C.M.C.P.	CORRUGATED METAL CULVERT PIPE	V.P.T.	VERTICAL POINT OF TANGENCY
C.M.P.	CORRUGATED METAL PIPE	PCC	PORTLAND CEMENT CONCRETE
CO.	COUNTY	P.E.	PRIVATE ENTRANCE
CTH	COUNTY TRUNK HIGHWAY	P.L.	PROPERTY LINE
CR.	CREEK	R	RADIUS OR RANGE
C.A.B.C.	CRUSHED AGGREGATE BASE COURSE	R/L	REFERENCE LINE
C.Y.	CUBIC YARD	R.C.C.P.	REINFORCED CONCRETE CULVERT PIPE
C.P.	CULVERT PIPE	RT	RIGHT
C. & G.	CURB AND GUTTER	REQ'D	REQUIRED
D	DEGREE OF CURVE	R.H.F.	RIGHT HAND FORWARD
D.H.V.	DESIGN HOUR VOLUME	R/W	RIGHT OF WAY
DIA.	DIAMETER	R.	RIVER
DISCH.	DISCHARGE	RD.	ROAD
EA	EACH	SHLD.	SHOULDER(S)
E	EAST	SHR.	SHRINKAGE
ELEC.	ELECTRIC(AL), ELEC. CABLE	S	SOUTH
EL., ELEV.	ELEVATION	S.F.	SQUARE FOOT (FEET)
EXC.	EXCAVATION	SDD	STANDARD DETAIL DRAWING(S)
F.F.	FACE TO FACE	STH	STATE TRUNK HIGHWAY
FERT.	FERTILIZER	STA.	STATION
F.E.	FIELD ENTRANCE	S.E.	SUPERELEVATION
F/L, F.L.	FLOW LINE	S/L	SURVEY LINE
CWT.	HUNDRED WEIGHT	T	TANGENT
INL	INLET	TEL.	TELEPHONE
INTER.	INTERSECTION	TEMP.	TEMPORARY
JT.	JOINT	T.L.E.	TEMPORARY LIMITED EASEMENT
LT	LEFT	T.O.C.	TOP OF CURB
L.H.F.	LEFT HAND FORWARD	T.	(TRUCKS) PERCENT OF
L.	LENGTH OF CURVE	TYP.	TYPICAL
L.F.	LINEAR FOOT(FEET)	UNCL.	UNCLASSIFIED
LC.	LONG CHORD	U.G.	UNDERGROUND (CABLE)
LS	LUMP SUM	V.C.	VERTICAL CURVE
M.P.	MARKER POST	W	WEST





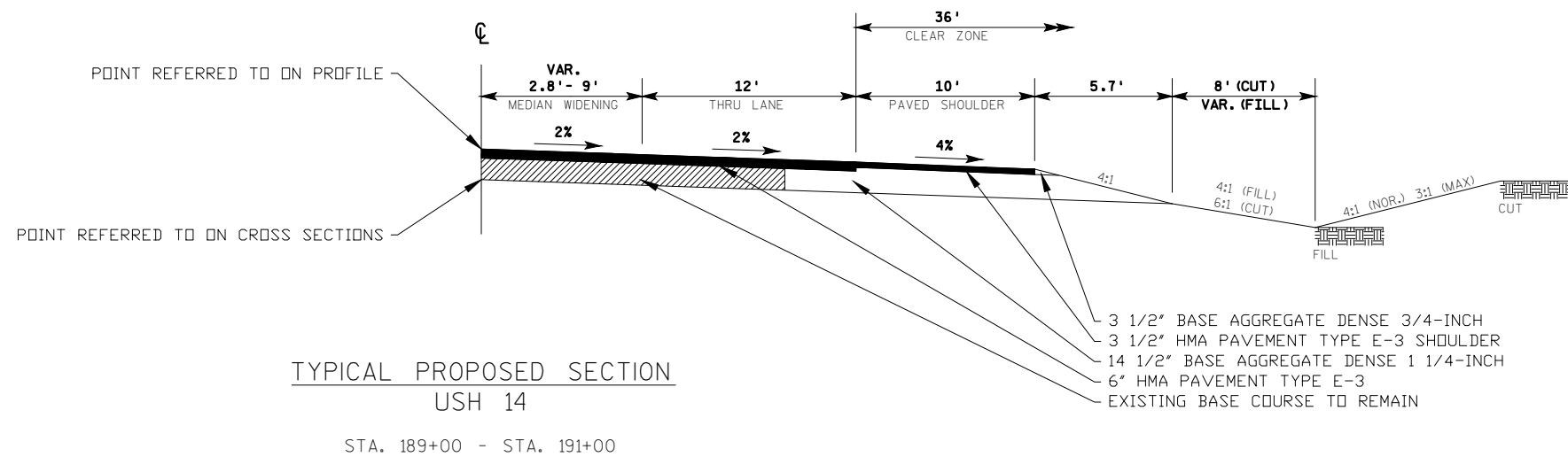
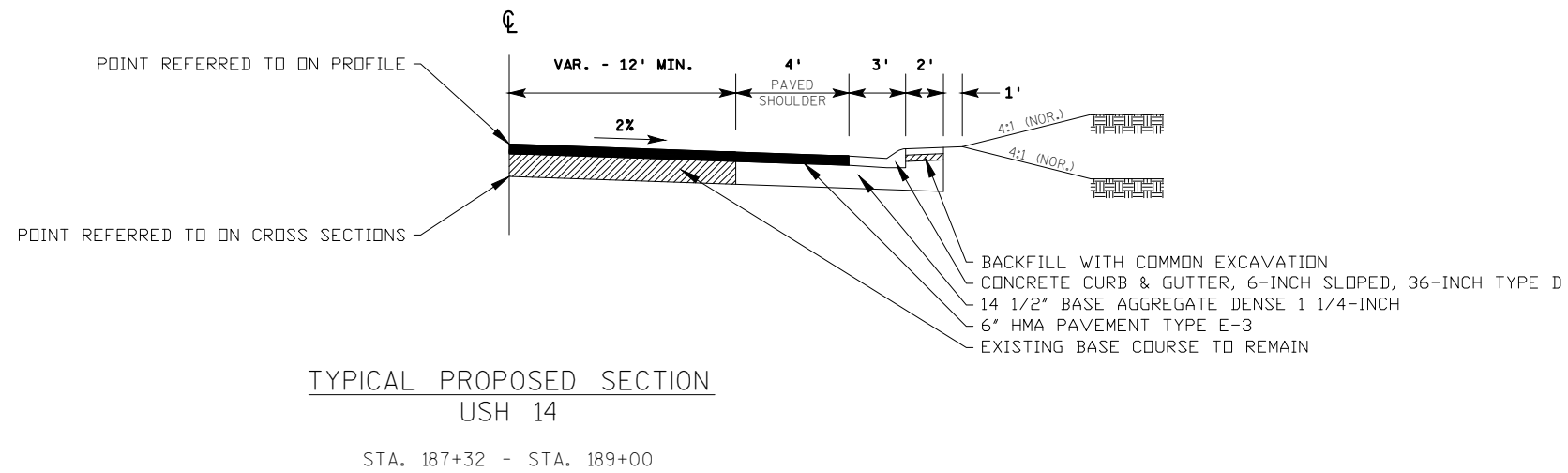
TYPICAL EXISTING SECTION
USH 14

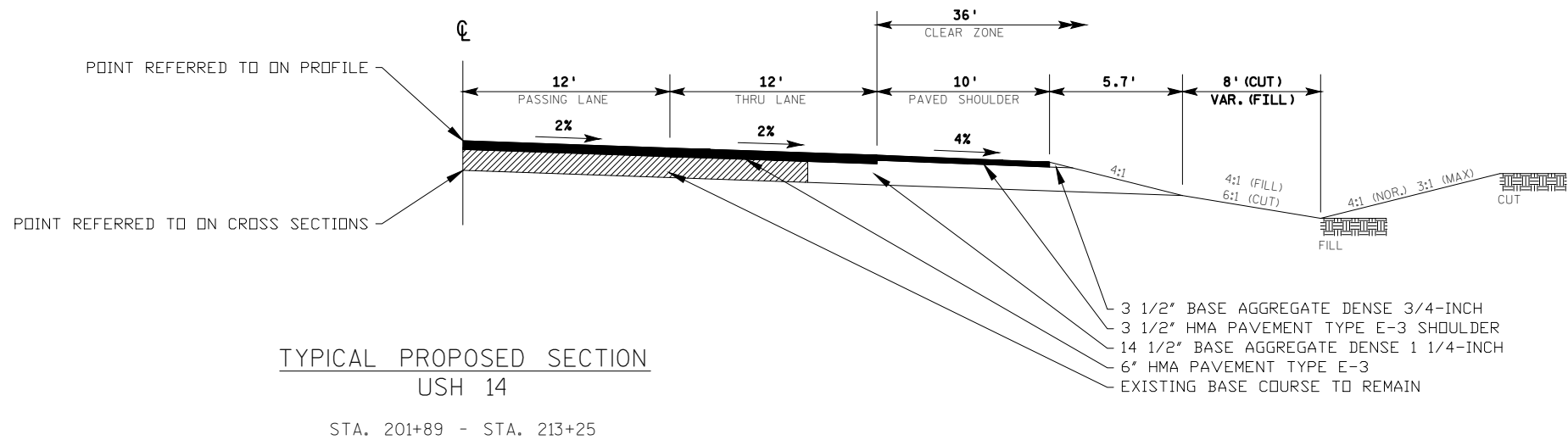
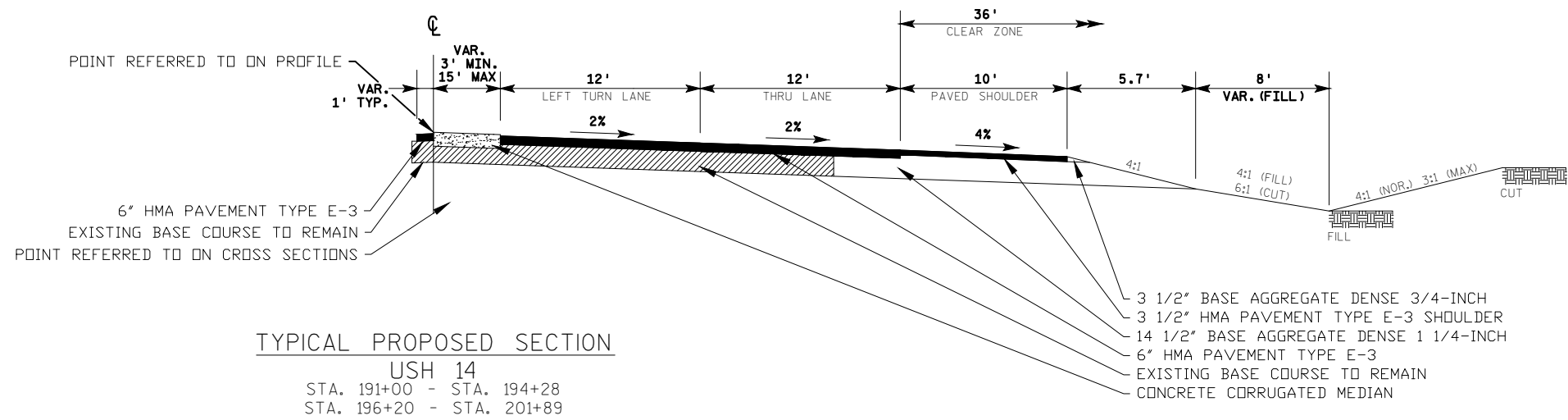
STA. 187+32 - STA. 191+10

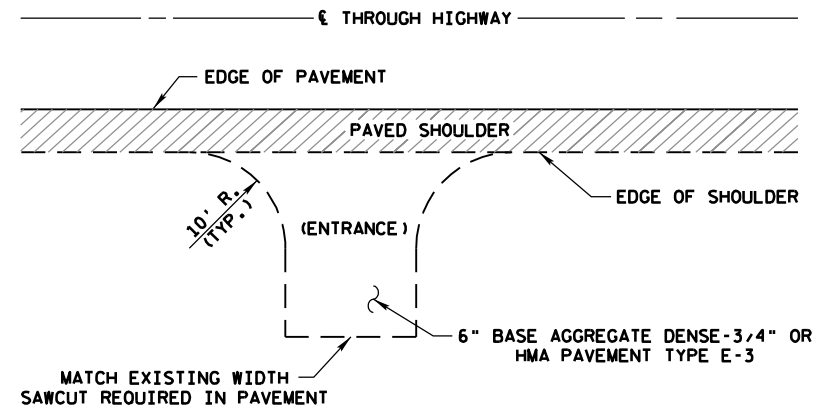


TYPICAL EXISTING SECTION
USH 14

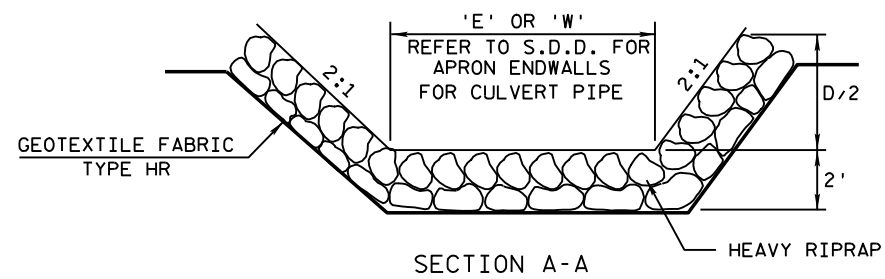
STA. 191+10 - STA. 213+25



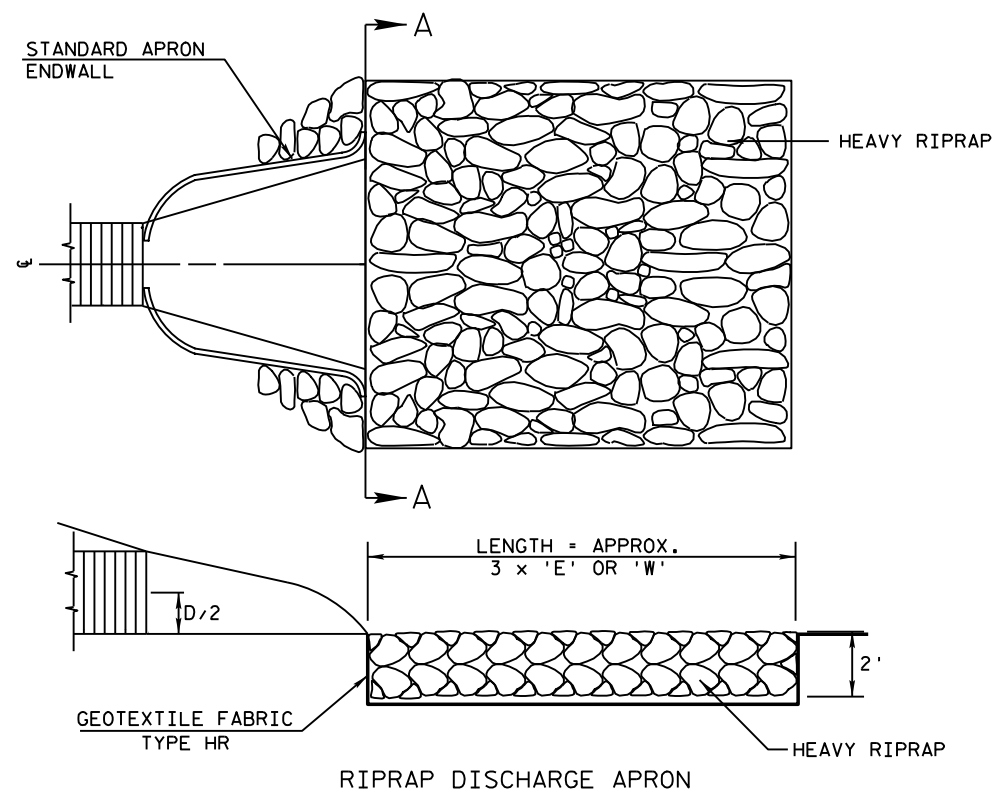




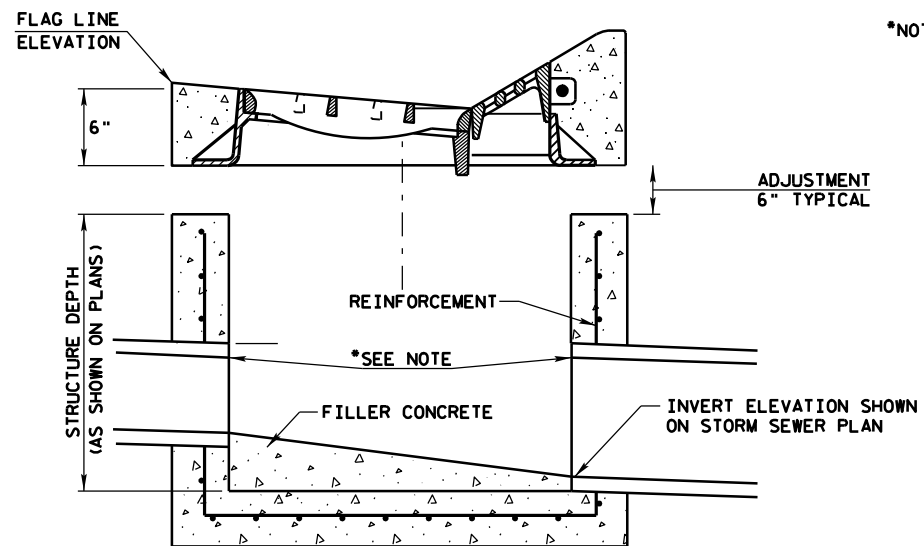
PRIVATE ENTRANCE DETAIL



SECTION A-A



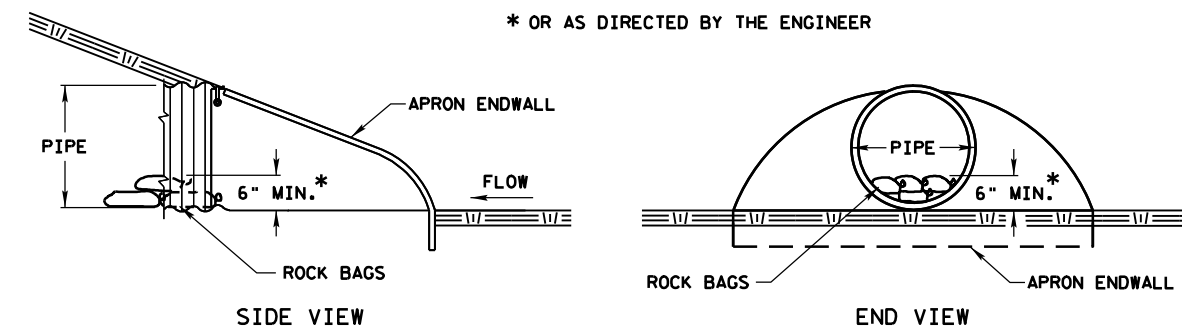
RIPRAP DISCHARGE APRON

INLET STRUCTURE 2x3-FT
(REINFORCED & PRECAST REINFORCED CONCRETE)

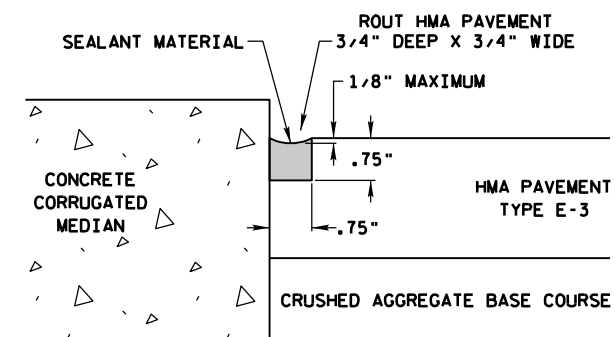
*NOTE: WHEN THE DIAMETER OF THE DISCHARGE PIPE IS LARGER THAN THAT OF THE INLET PIPE, THE ELEVATION OF THE INSIDE TOP OF THE INLET PIPE SHOULD BE THE SAME AS (OR HIGHER THAN) THE ELEVATION OF THE INSIDE TOP OF THE DISCHARGE PIPE.

ASSOCIATED PIPE WALL THICKNESS USED IN DEPTH COMPUTATIONS	
PIPE	WALL THICKNESS
12"	2" = 0.17'
15"	2 1/4" = 0.19'
18"	2 1/2" = 0.21'
21"	2 3/4" = 0.23'
24"	3" = 0.25'
27"	3 1/4" = 0.27'
30"	3 1/2" = 0.29'
36"	4" = 0.33'

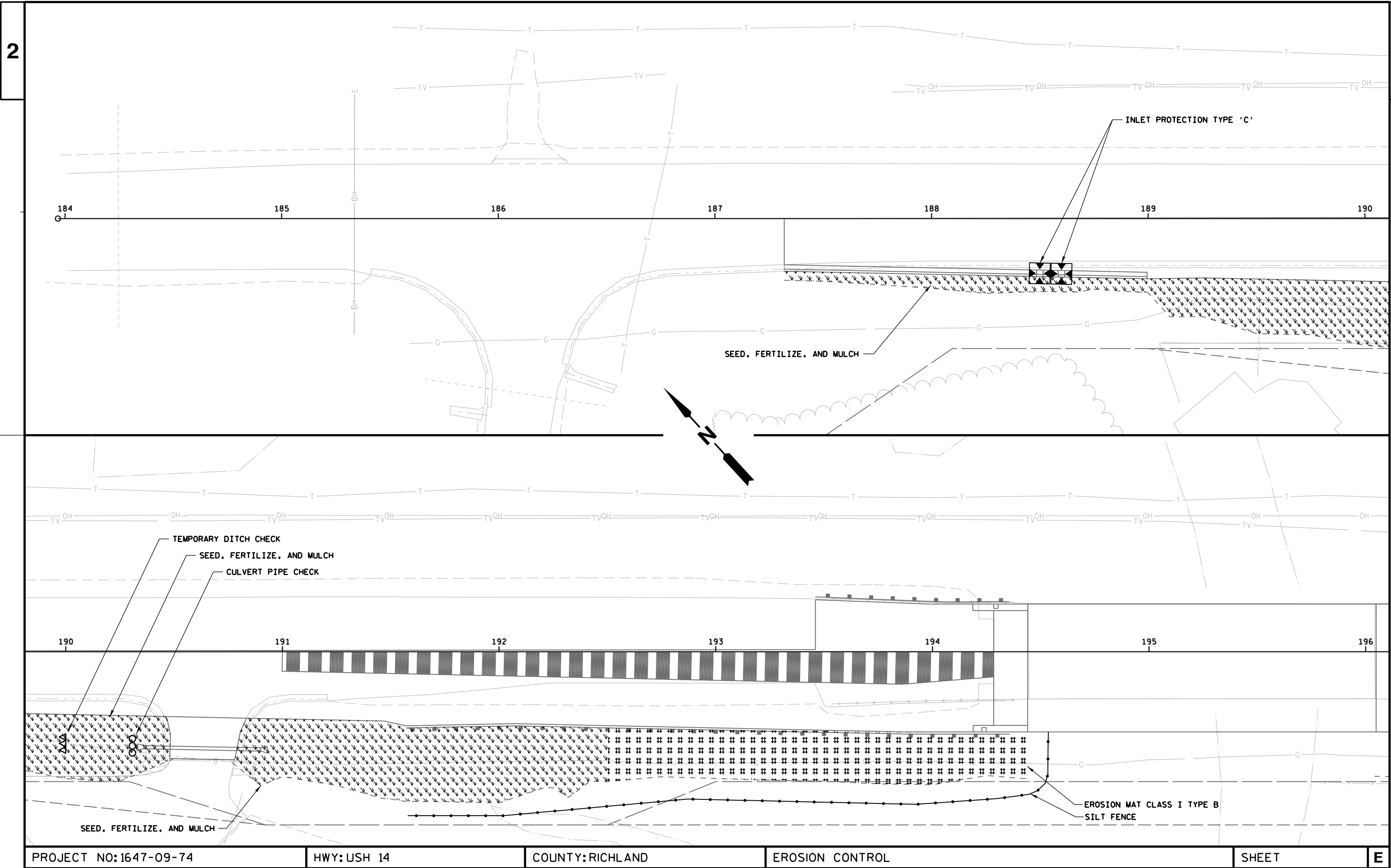
DETAIL FOR COMPUTING INLET ELEVATIONS

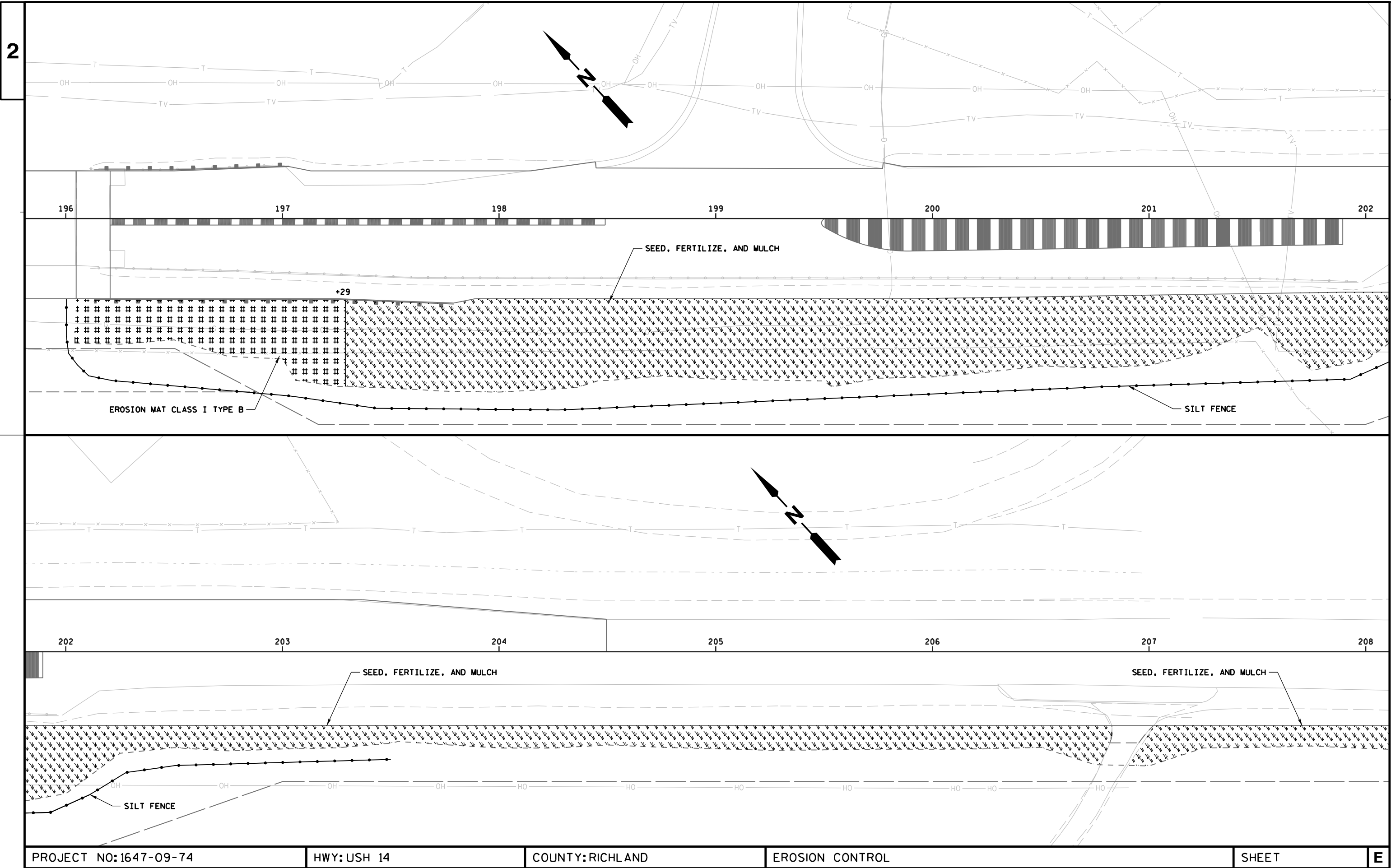


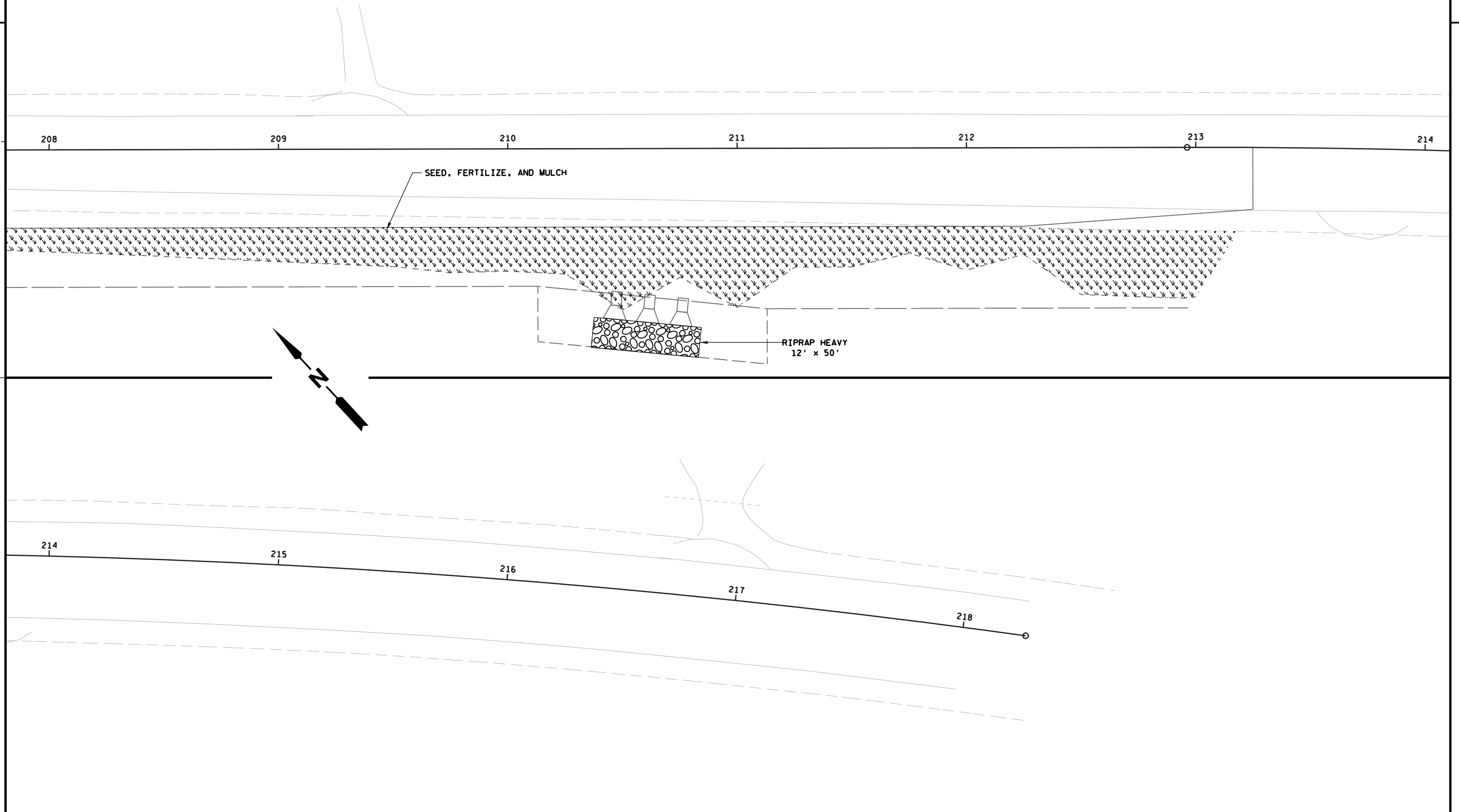
CULVERT PIPE CHECK

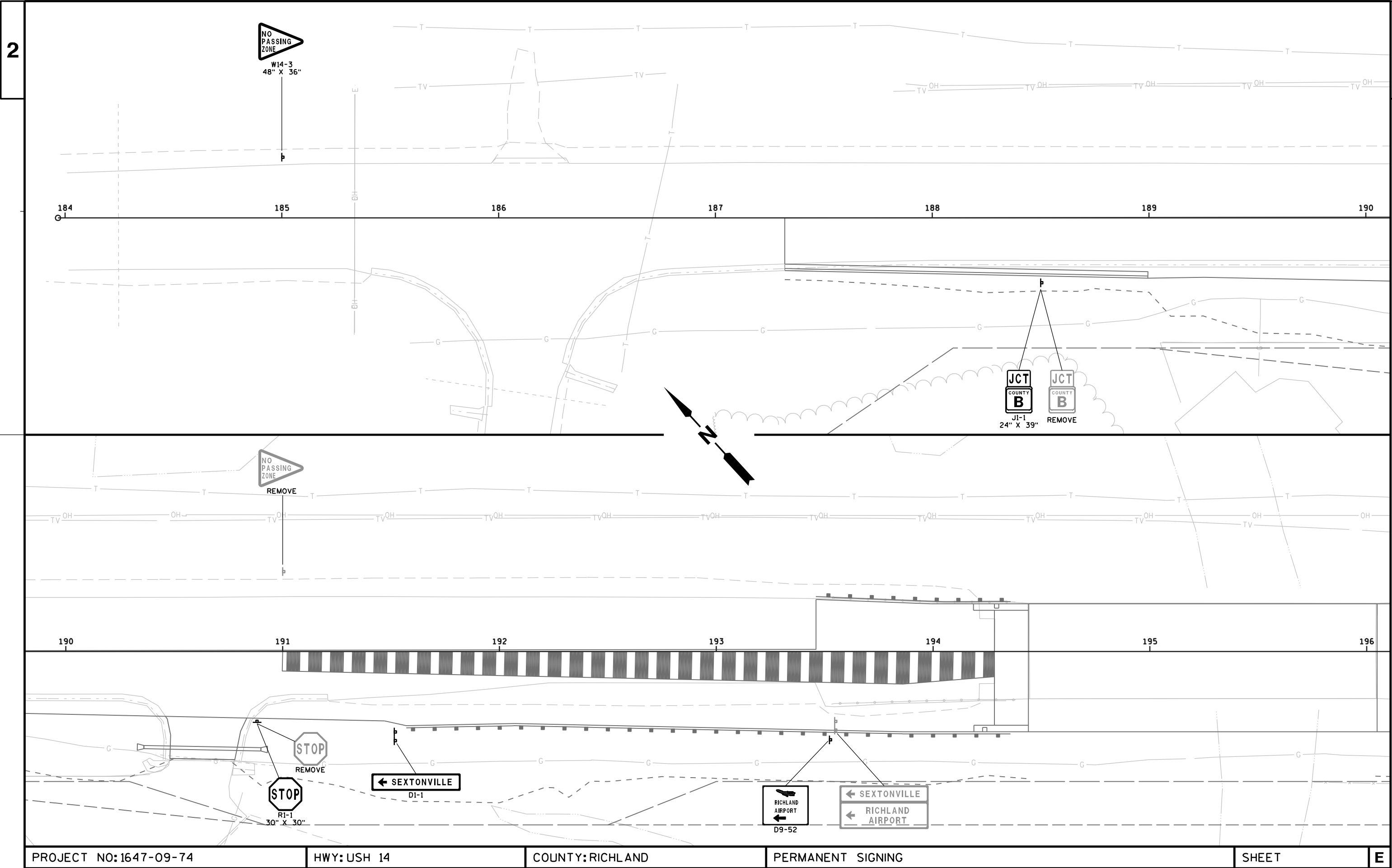


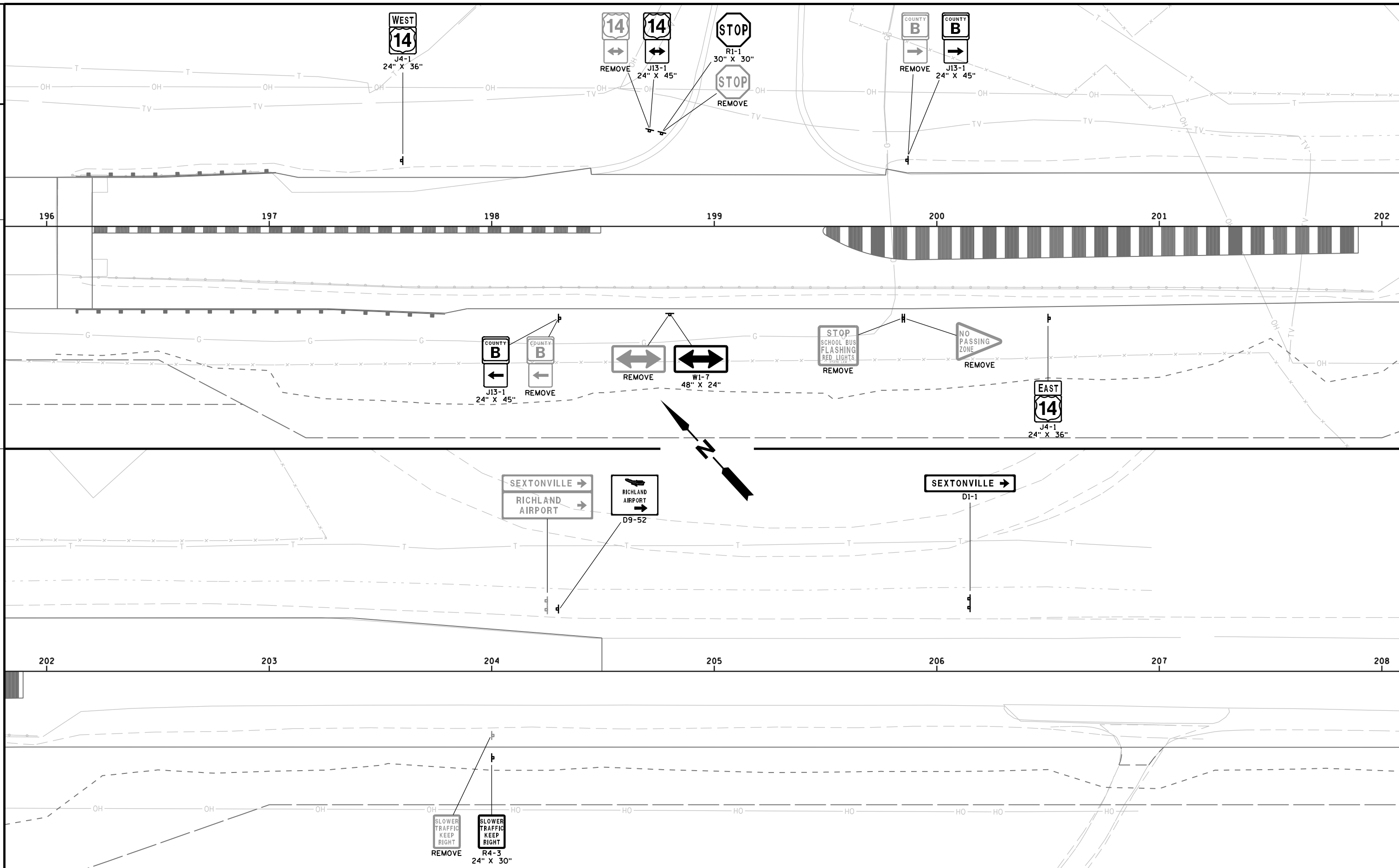
ROUT AND SEAL DETAIL

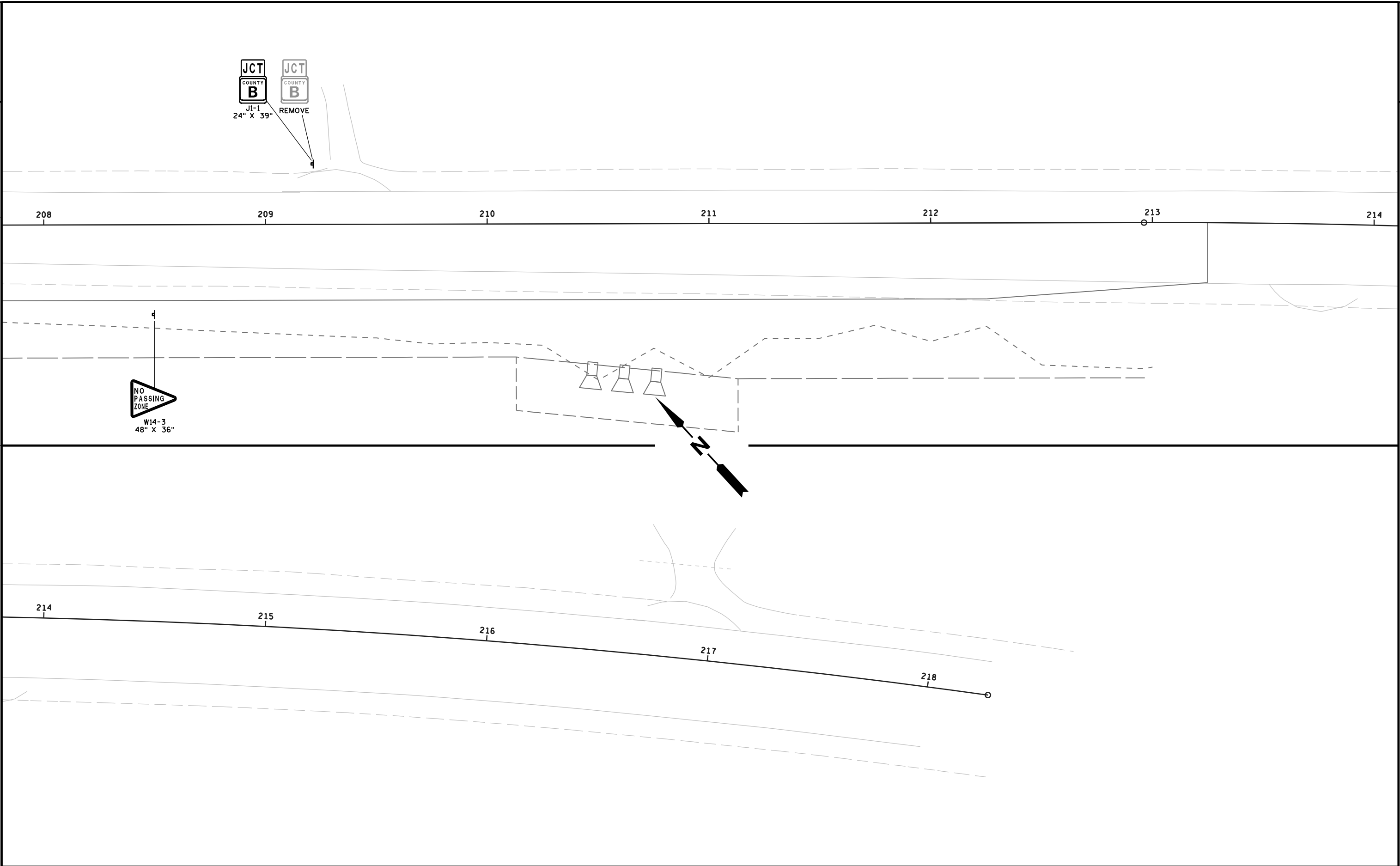


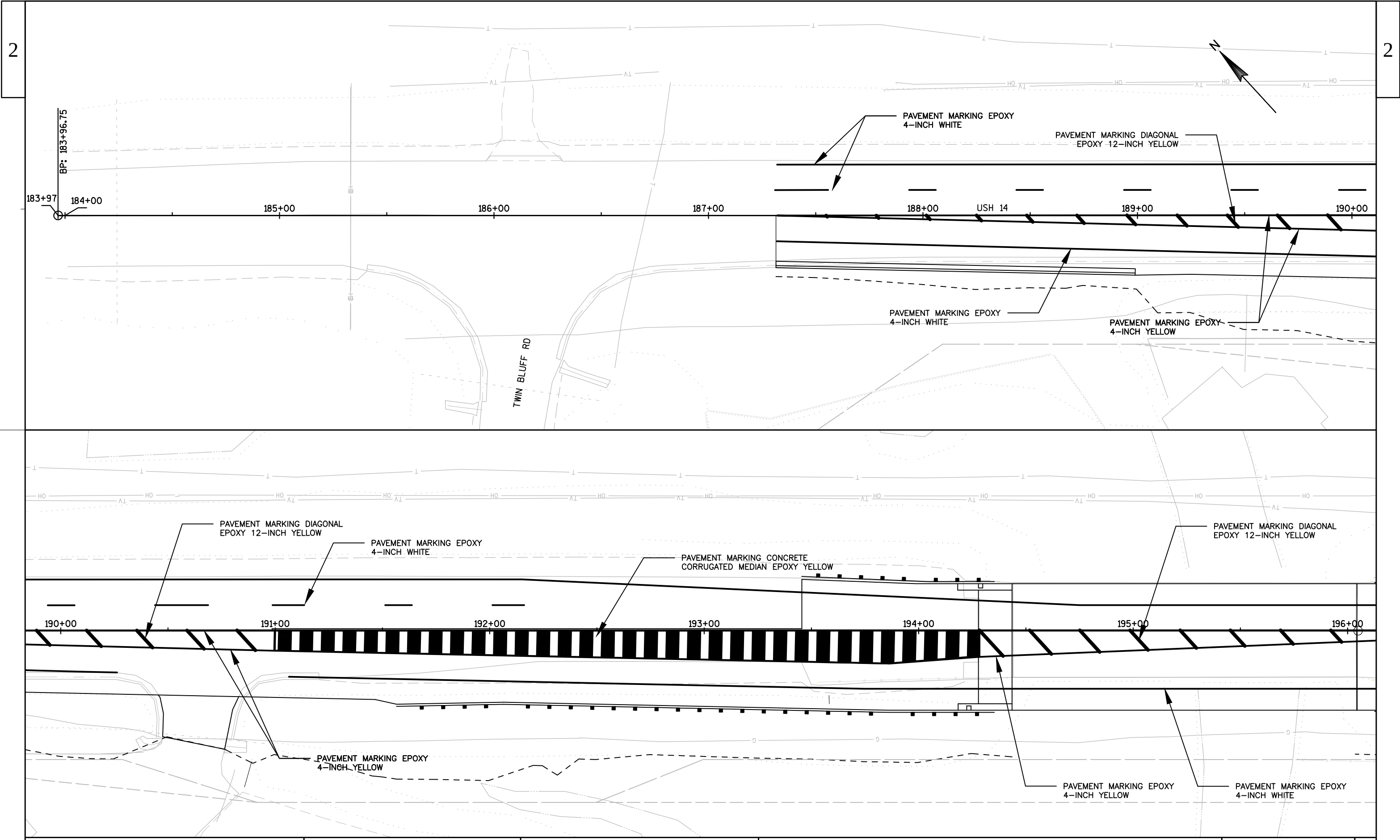




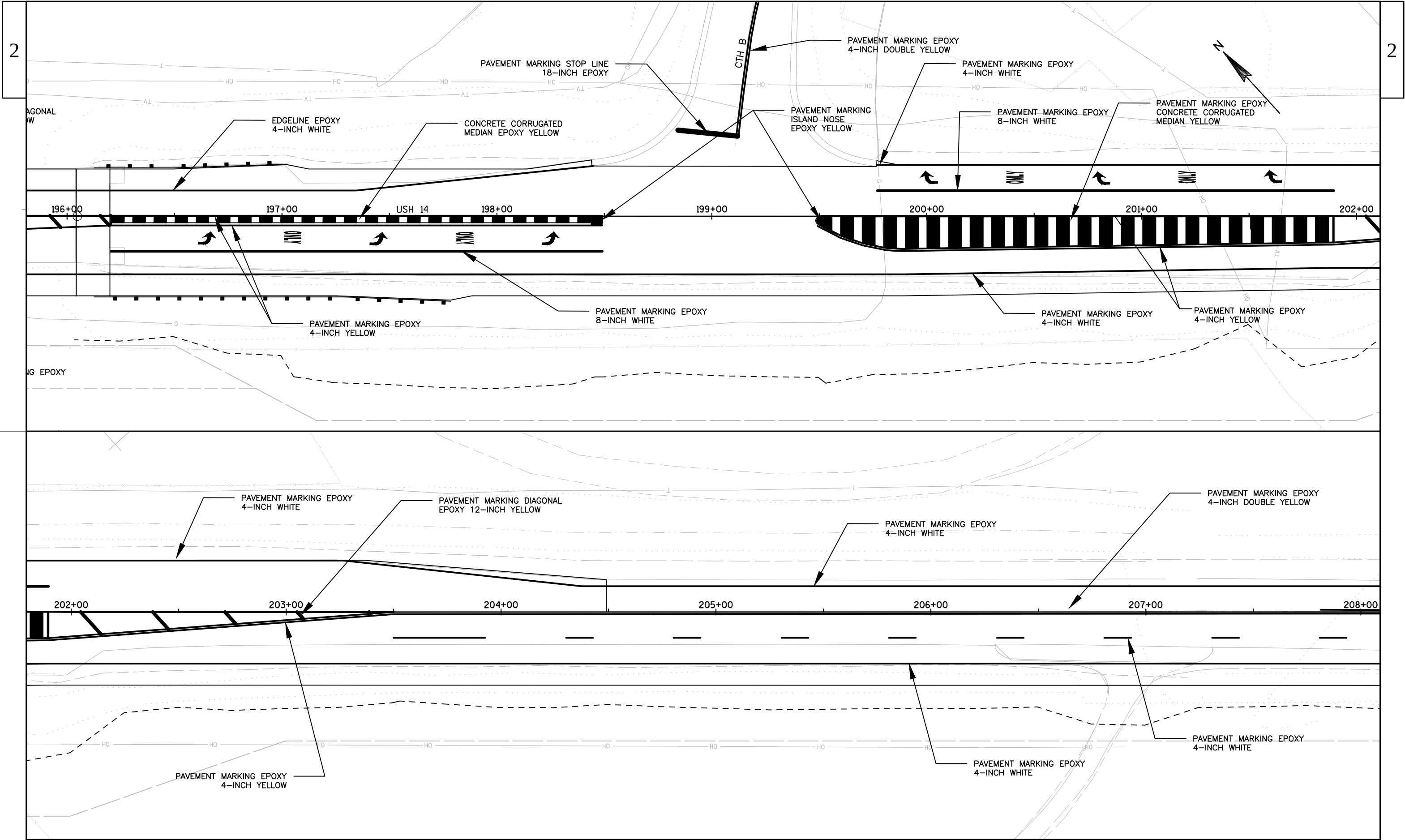




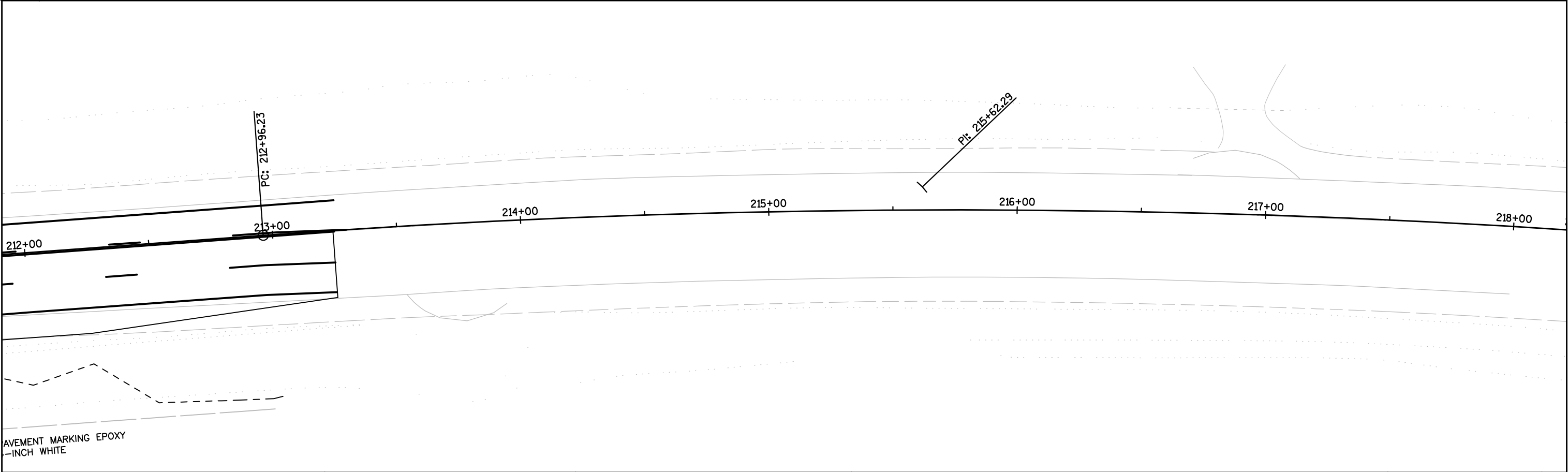
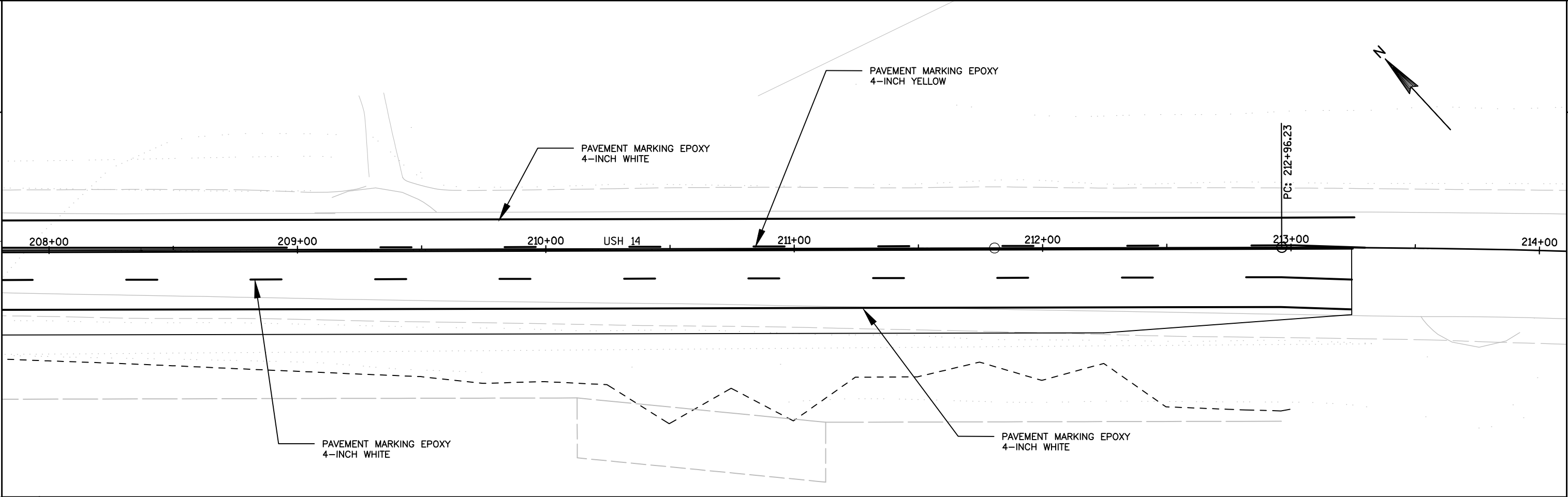




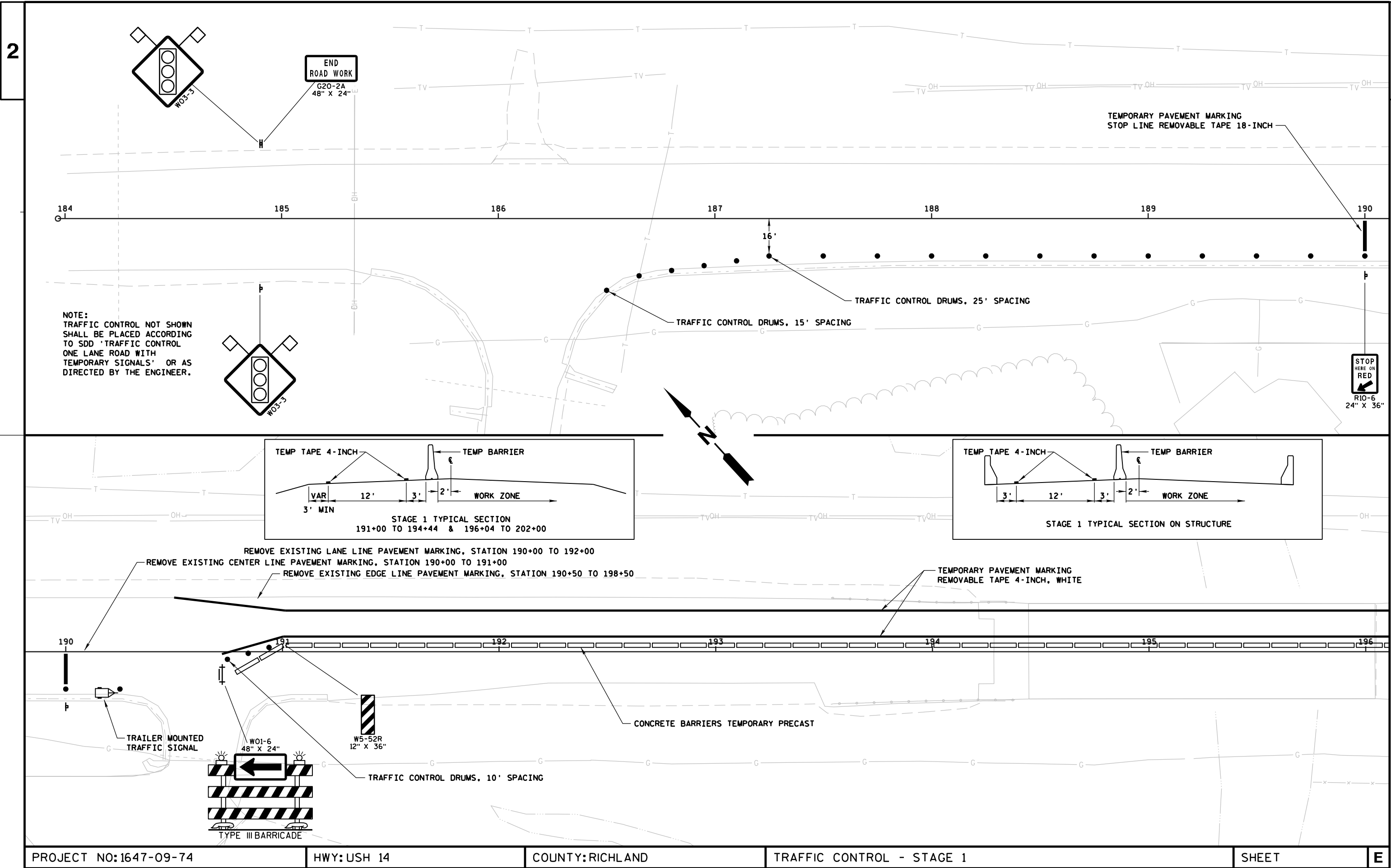
PROJECT NO:1647-09-74	HWY: USH 14	COUNTY: RICHLAND	PAVEMENT MARKING: USH 14	SHEET	-----	E
-----------------------	-------------	------------------	--------------------------	-------	-------	---

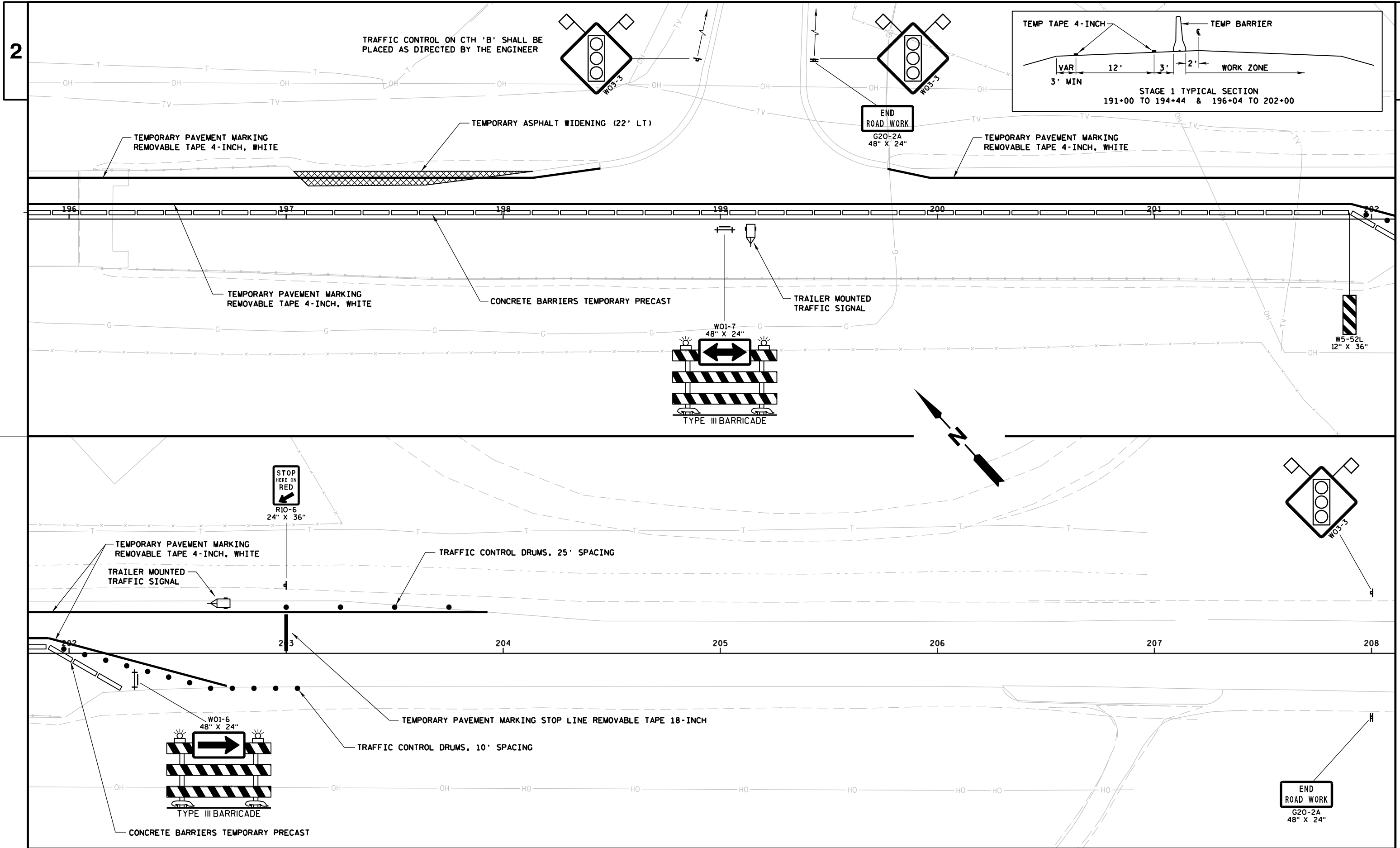


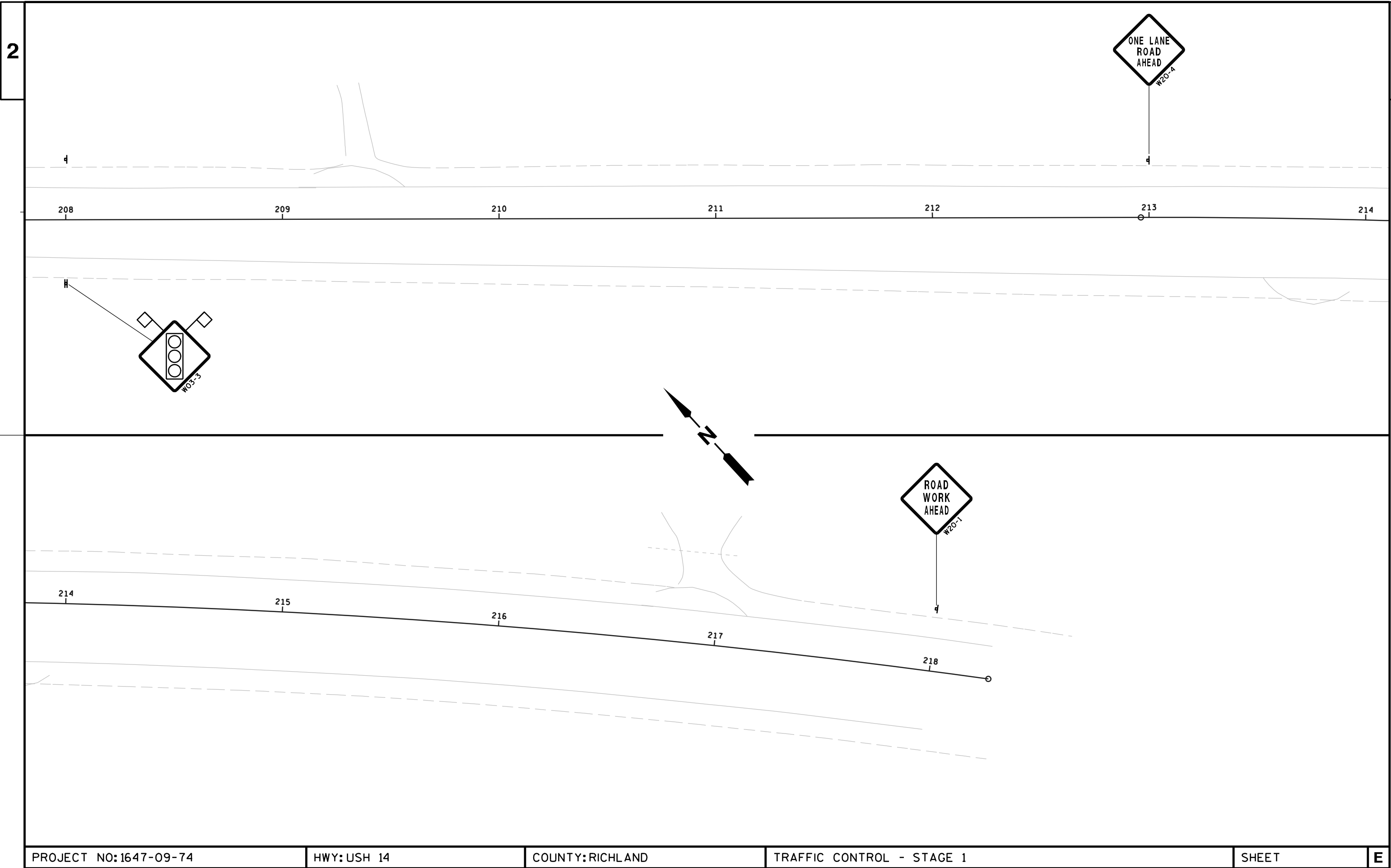
PROJECT NO:1647-09-74	HWY: USH 14	COUNTY: RICHLAND	PAVEMENT MARKING: USH 14	SHEET	----	E
-----------------------	-------------	------------------	--------------------------	-------	------	---

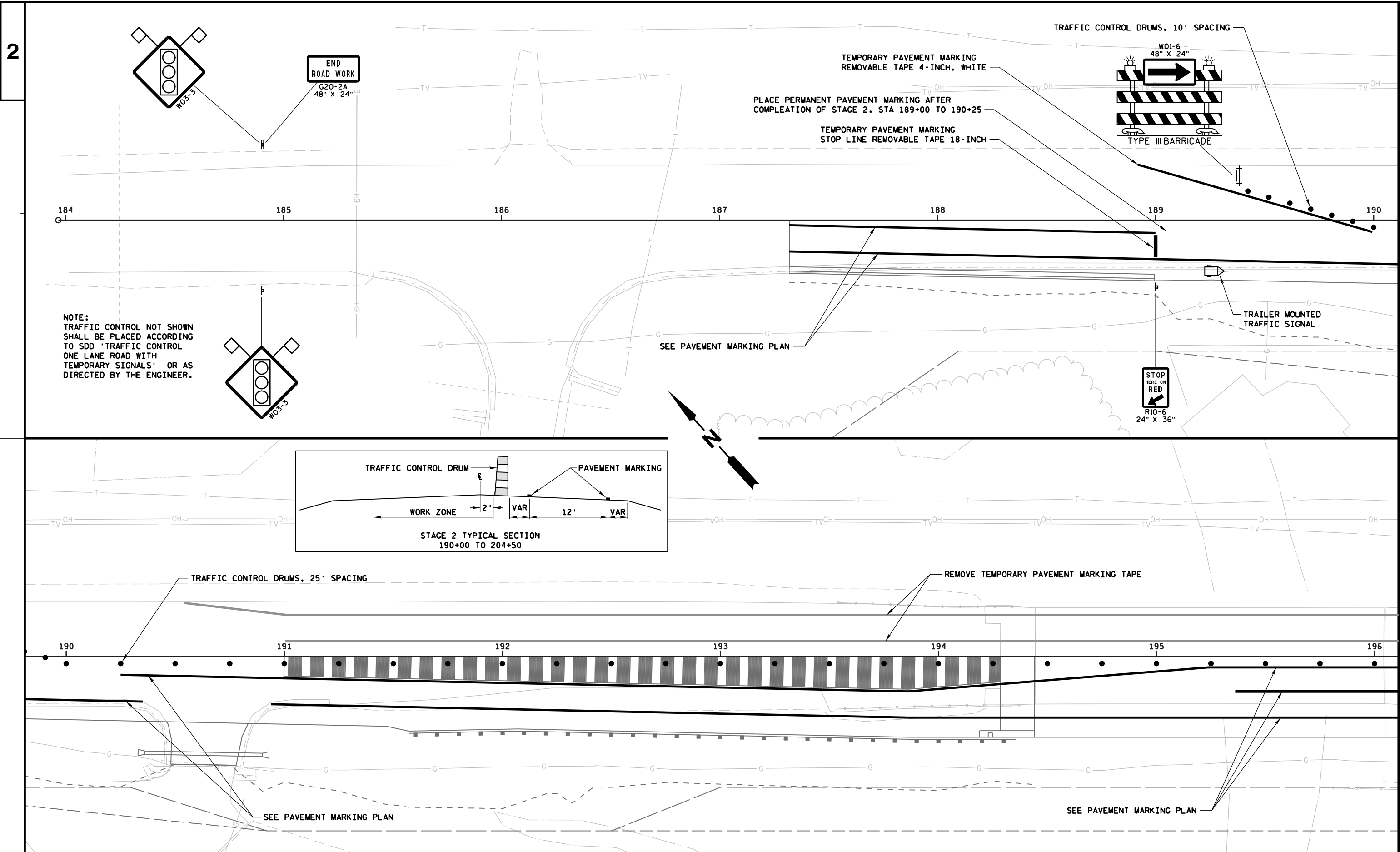


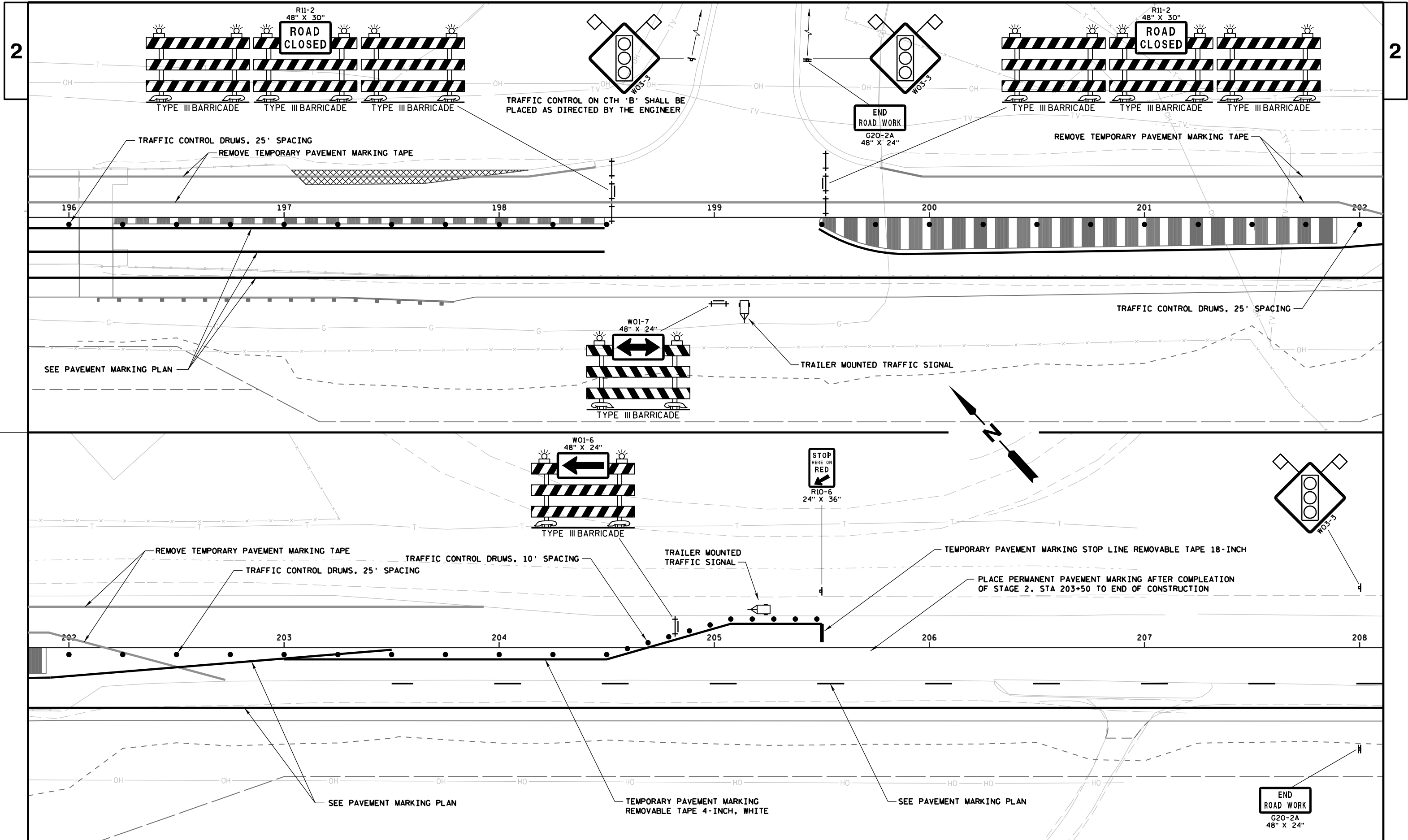
PROJECT NO:1647-09-74	HWY: USH 14	COUNTY: RICHLAND	PLAN AND PROFILE: USH 14	SHEET	----	E
-----------------------	-------------	------------------	--------------------------	-------	------	---

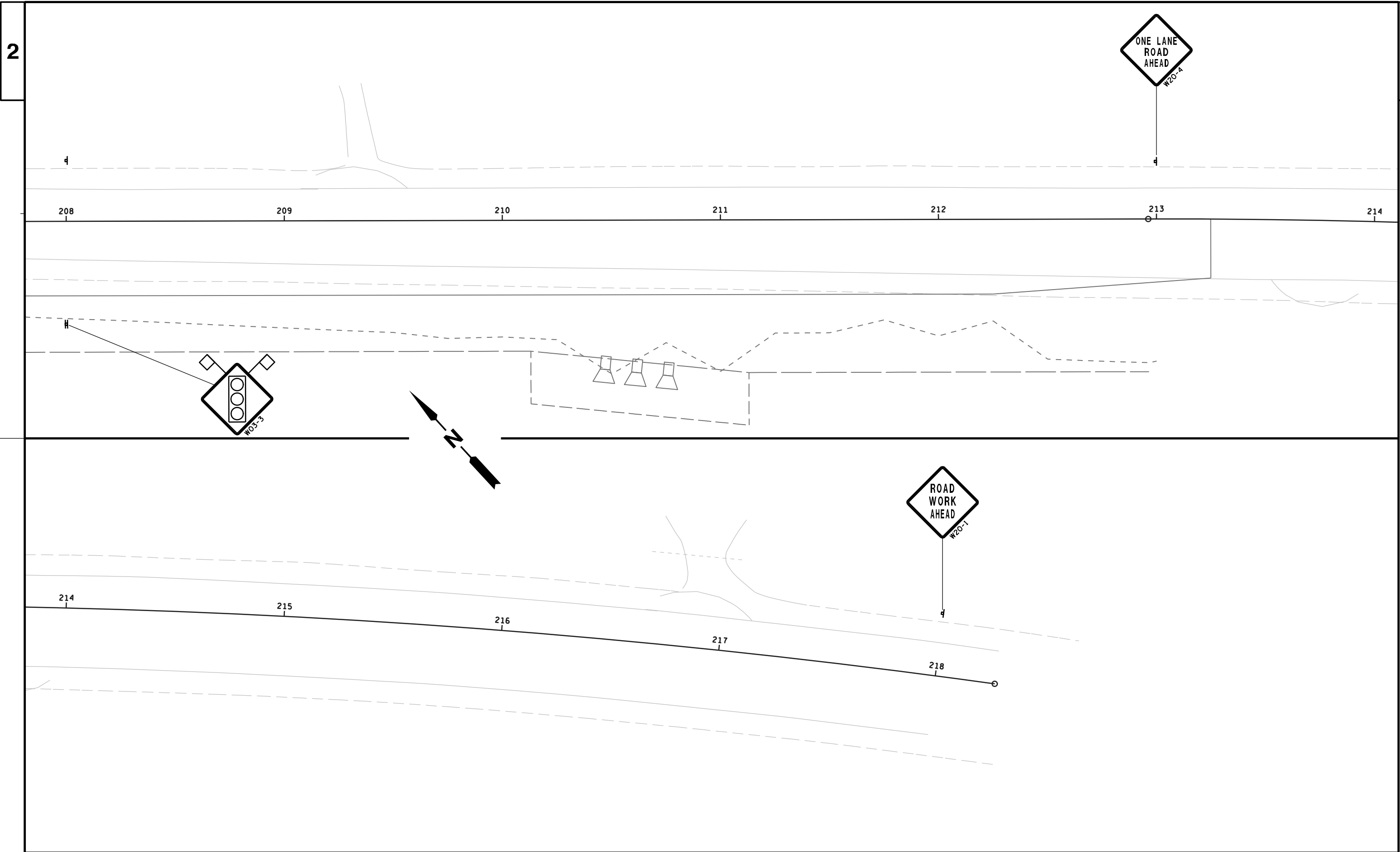


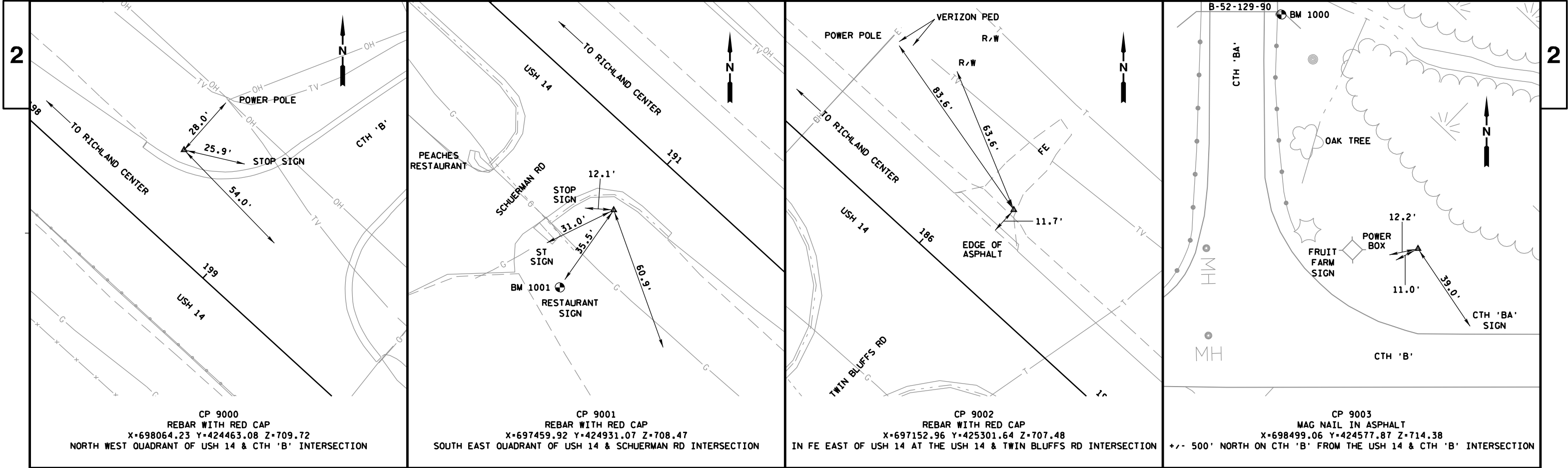




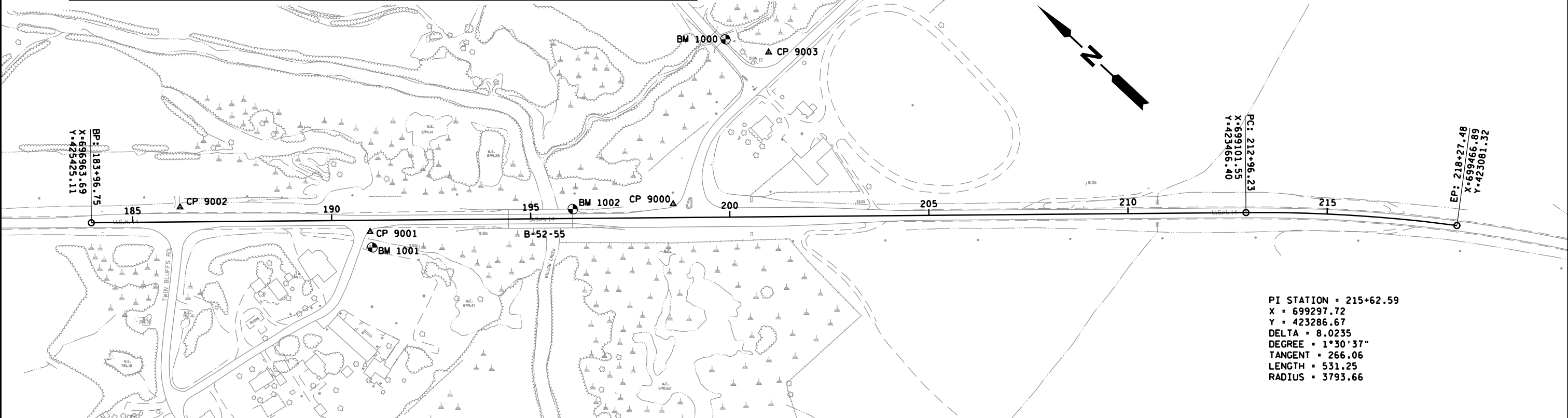








NUMBER	STATION	LOCATION	BENCH MARK DESCRIPTION	COORDINATES AND ELEVATION
1000	199+93.12	LT 446.15'	DISK IN PARAPIT, SE OUADE B-52-129-90, CTH 'BA'	X=698442 Y=424675 Z=709.24
1001	190+01.61	RT 68.04'	BLUE KEEL X ON SHUT OFF VALVE BY PEACHES SIGN	X=697437 Y=424898 Z=704.25
1002	196+05.92	LT 23.66'	DISK IN PARAPIT, NE OUADE B-52-55	X=697871 Y=424625 Z=711.69



DATE 17MAR14		E S T I M A T E O F Q U A N T I T I E S			
LINE		1647-09-74			
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	203.0100	REMOVING SMALL PIPE CULVERTS	EACH	1.000	1.000
0020	203.0500.S	REMOVING OLD STRUCTURE OVER WATERWAY (STATION) 01. 195+25	LS	1.000	1.000
0030	204.0100	REMOVING PAVEMENT	SY	180.000	180.000
0040	204.0110	REMOVING ASPHALTIC SURFACE	SY	8,110.000	8,110.000
0050	204.0150	REMOVING CURB & GUTTER	LF	400.000	400.000
0060	204.0170	REMOVING FENCE	LF	575.000	575.000
0070	204.0220	REMOVING INLETS	EACH	3.000	3.000
0080	204.0245	REMOVING STORM SEWER (SIZE) 01. 12-INCH	LF	10.000	10.000
0090	204.0245	REMOVING STORM SEWER (SIZE) 02. 24-INCH	LF	8.000	8.000
0100	205.0100	EXCAVATION COMMON	CY	1,575.000	1,575.000
0110	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 01. B-52-0055	LS	1.000	1.000
0120	206.5000	COFFERDAMS (STRUCTURE) 01. B-52-0055	LS	1.000	1.000
0130	208.1100	SELECT BORROW	CY	1,303.000	1,303.000
0140	210.0100	BACKFILL STRUCTURE	CY	65.000	65.000
0150	211.0100	PREPARE FOUNDATION FOR ASPHALTIC PAVING (PROJECT) 01. 1647-09-74	LS	1.000	1.000
0160	213.0100	FINISHING ROADWAY (PROJECT) 01. 1647-09-74	EACH	1.000	1.000
0170	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	640.000	640.000
0180	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	4,690.000	4,690.000
0190	415.0410	CONCRETE PAVEMENT APPROACH SLAB	SY	190.000	190.000
0200	415.6000.S	ROUT AND SEAL	LF	1,637.000	1,637.000
0210	416.1010	CONCRETE SURFACE DRAINS	CY	6.400	6.400
0220	455.0105	ASPHALTIC MATERIAL PG58-28	TON	174.000	174.000
0230	455.0605	TACK COAT	GAL	965.000	965.000
0240	460.1103	HMA PAVEMENT TYPE E-3	TON	3,164.000	3,164.000
0250	460.2000	INCENTIVE DENSITY HMA PAVEMENT	DOL	2,030.000	2,030.000
0260	465.0125	ASPHALTIC SURFACE TEMPORARY	TON	18.000	18.000
0270	502.0100	CONCRETE MASONRY BRIDGES	CY	238.000	238.000
0280	502.0717.S	CRACK SEALING EPOXY	LF	600.000	600.000
0290	502.3200	PROTECTIVE SURFACE TREATMENT	SY	1,052.000	1,052.000
0300	502.3210.S	PIGMENTED PROTECTIVE SURFACE TREATMENT	SY	147.000	147.000
0310	502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	42.000	42.000
0320	502.5020	MASONRY ANCHORS TYPE L NO. 8 BARS	EACH	24.000	24.000
0330	505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	2,125.000	2,125.000
0340	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	51,095.000	51,095.000
0350	509.0301	PREPARATION DECKS TYPE 1	SY	200.000	200.000
0360	509.0302	PREPARATION DECKS TYPE 2	SY	50.000	50.000
0370	509.0500	CLEANING DECKS	SY	755.000	755.000
0380	509.1500	CONCRETE SURFACE REPAIR	SF	55.000	55.000
0390	509.2000	FULL-DEPTH DECK REPAIR	SY	1.000	1.000
0400	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	72.000	72.000
0410	509.9050.S	CLEANING PARAPETS	LF	180.000	180.000
0420	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	12.000	12.000
0430	520.8000	CONCRETE COLLARS FOR PIPE	EACH	3.000	3.000
0440	521.0115	CULVERT PIPE CORRUGATED STEEL 15-INCH	LF	54.000	54.000
0450	521.1012	APRON ENDWALLS FOR CULVERT PIPE STEEL 12-INCH	EACH	1.000	1.000
0460	521.1015	APRON ENDWALLS FOR CULVERT PIPE STEEL 15-INCH	EACH	2.000	2.000
0470	522.0154	CULVERT PIPE REINFORCED CONCRETE CLASS III 54-INCH	LF	24.000	24.000

DATE 17MAR14		E S T I M A T E O F Q U A N T I T I E S			
LINE				1647-09-74	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0480	524.0654	APRON ENDWALLS FOR CULVERT PIPE	EACH	3.000	3.000
		SALVAGED 54-INCH			
0490	550.2104	PILING CIP CONCRETE 10 3/4 X 0.25-INCH	LF	1,435.000	1,435.000
0500	601.0557	CONCRETE CURB AND GUTTER 6-INCH SLOPED	LF	168.000	168.000
		36-INCH TYPE D			
0510	603.8000	CONCRETE BARRIER TEMPORARY PRECAST	LF	1,160.000	1,160.000
		DELIVERED			
0520	603.8125	CONCRETE BARRIER TEMPORARY PRECAST	LF	1,160.000	1,160.000
		INSTALLED			
0530	606.0300	RIPRAP HEAVY	CY	180.000	180.000
0540	608.0312	STORM SEWER PIPE REINFORCED CONCRETE	LF	10.000	10.000
		CLASS III 12-INCH			
0550	608.0324	STORM SEWER PIPE REINFORCED CONCRETE	LF	8.000	8.000
		CLASS III 24-INCH			
0560	611.3220	INLETS 2X2-FT	EACH	1.000	1.000
0570	611.3230	INLETS 2X3-FT	EACH	2.000	2.000
0580	611.9710	SALVAGED INLET COVERS	EACH	4.000	4.000
0590	612.0212	PIPE UNDERDRAIN UNPERFORATED 12-INCH	LF	26.000	26.000
0600	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	74.000	74.000
0610	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM	EACH	2.000	2.000
		GUARD			
0620	614.0920	SALVAGED RAIL	LF	840.000	840.000
0630	614.2300	MGS GUARDRAIL 3	LF	260.000	260.000
0640	614.2500	MGS THRIE BEAM TRANSITION	LF	156.000	156.000
0650	614.2610	MGS GUARDRAIL TERMINAL EAT	EACH	4.000	4.000
0660	618.0100	MAINTENANCE AND REPAIR OF HAUL ROADS	EACH	1.000	1.000
		(PROJECT) 01. 1647-09-74			
0670	619.1000	MOBILIZATION	EACH	1.000	1.000
0680	620.0100	CONCRETE CORRUGATED MEDIAN	SF	7,836.000	7,836.000
0690	624.0100	WATER	MGAL	191.000	191.000
0700	625.0500	SALVAGED TOPSOIL	SY	8,383.000	8,383.000
0710	627.0200	MULCHING	SY	11,782.000	11,782.000
0720	628.1504	SILT FENCE	LF	2,110.000	2,110.000
0730	628.1520	SILT FENCE MAINTENANCE	LF	2,110.000	2,110.000
0740	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	3.000	3.000
0750	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	4.000	4.000
0760	628.2004	EROSION MAT CLASS I TYPE B	SY	855.000	855.000
0770	628.7015	INLET PROTECTION TYPE C	EACH	4.000	4.000
0780	628.7504	TEMPORARY DITCH CHECKS	LF	32.000	32.000
0790	628.7555	CULVERT PIPE CHECKS	EACH	6.000	6.000
0800	628.7560	TRACKING PADS	EACH	1.000	1.000
0810	629.0210	FERTILIZER TYPE B	CWT	13.000	13.000
0820	630.0120	SEEDING MIXTURE NO. 20	LB	227.000	227.000
0830	630.0200	SEEDING TEMPORARY	LB	227.000	227.000
0840	630.0300	SEEDING BORROW PIT	LB	250.000	250.000
0850	633.5200	MARKERS CULVERT END	EACH	1.000	1.000
0860	634.0614	POSTS WOOD 4X6-INCH X 14-FT	EACH	16.000	16.000
0870	634.0616	POSTS WOOD 4X6-INCH X 16-FT	EACH	2.000	2.000
0880	637.2210	SIGNS TYPE II REFLECTIVE H	SF	94.000	94.000
0890	637.2230	SIGNS TYPE II REFLECTIVE F	SF	32.000	32.000
0900	638.2602	REMOVING SIGNS TYPE II	EACH	14.000	14.000
0910	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	16.000	16.000
0920	642.5201	FIELD OFFICE TYPE C	EACH	1.000	1.000
0930	643.0100	TRAFFIC CONTROL (PROJECT) 01. 1647-09-74	EACH	1.000	1.000
0940	643.0300	TRAFFIC CONTROL DRUMS	DAY	3,824.000	3,824.000

DATE 17MAR14		E S T I M A T E O F Q U A N T I T I E S				
LINE		1647-09-74				
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY	
0950	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	348.000	348.000	
0960	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	696.000	696.000	
0970	643.0900	TRAFFIC CONTROL SIGNS	DAY	1,380.000	1,380.000	
0980	643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	28.000	28.000	
0990	645.0120	GEOTEXTILE FABRIC TYPE HR	SY	220.000	220.000	
1000	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	11,683.000	11,683.000	
1010	646.0126	PAVEMENT MARKING EPOXY 8-INCH	LF	442.000	442.000	
1020	646.0600	REMOVING PAVEMENT MARKINGS	LF	1,675.000	1,675.000	
1030	647.0166	PAVEMENT MARKING ARROWS EPOXY TYPE 2	EACH	6.000	6.000	
1040	647.0356	PAVEMENT MARKING WORDS EPOXY	EACH	4.000	4.000	
1050	647.0566	PAVEMENT MARKING STOP LINE EPOXY 18-INCH	LF	28.000	28.000	
1060	647.0606	PAVEMENT MARKING ISLAND NOSE EPOXY	EACH	2.000	2.000	
1070	647.0726	PAVEMENT MARKING DIAGONAL EPOXY 12-INCH	LF	241.000	241.000	
1080	647.0856	PAVEMENT MARKING CONCRETE CORRUGATED MEDIAN EPOXY	SF	3,166.000	3,166.000	
1090	649.0400	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	LF	2,759.000	2,759.000	
1100	649.1200	TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 18-INCH	LF	51.000	51.000	
1110	650.4500	CONSTRUCTION STAKING SUBGRADE	LF	2,433.000	2,433.000	
1120	650.5000	CONSTRUCTION STAKING BASE	LF	2,433.000	2,433.000	
1130	650.5500	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	LF	168.000	168.000	
1140	650.6000	CONSTRUCTION STAKING PIPE CULVERTS	EACH	1.000	1.000	
1150	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 01. 1647-09-74	LS	1.000	1.000	
1160	650.9920	CONSTRUCTION STAKING SLOPE STAKES	LF	2,433.000	2,433.000	
1170	661.0100	TEMPORARY TRAFFIC SIGNALS FOR BRIDGES (STRUCTURE) 01. B-52-0055	LS	1.000	1.000	
1180	690.0150	SAWING ASPHALT	LF	2,487.000	2,487.000	
1190	690.0250	SAWING CONCRETE	LF	32.000	32.000	
1200	715.0502	INCENTIVE STRENGTH CONCRETE STRUCTURES	DOL	1,428.000	1,428.000	
1210	ASP.1T0A	ON-THE-JOB TRAINING APPRENTICE AT \$5. 00/HR	HRS	1,200.000	1,200.000	
1220	ASP.1T0G	ON-THE-JOB TRAINING GRADUATE AT \$5.00/HR	HRS	600.000	600.000	
1230	SPV.0060	SPECIAL 01. EMBEDDED GALVANIC ANODES	EACH	100.000	100.000	
1240	SPV.0060	SPECIAL 02. DISTRIBUTED GALVANIC ANODES	EACH	23.000	23.000	

REMOVING PAVEMENT

CATEGORY	STATION TO	STATION	LOCATION	REMOVING PAVEMENT 204.0100 SY	REMOVING ASPHALTIC SURFACE 204.0110 SY	REMARKS
0010	187+32	- 194+28	RIGHT & LEFT		1750	P.E.
0010	190+65		RIGHT		125	
0010	194+28	- 194+44	RIGHT & LEFT	91		
0010	196+04	- 196+20	RIGHT & LEFT	89		
0010	196+04	- 204+50	RIGHT & LEFT		4205	
0010	204+50	- 213+25	RIGHT		2030	
TOTAL 0010				180	8110	

REMOVALS

CATEGORY	STATION	TO	STATION	LOCATION	REMOVING CURB & GUTTER 204.0150 LF	REMOVING FENCE 204.0170 LF	REMARKS
0010	187+32	-	190+47	RIGHT	338		
0010	190+78	-	191+20	RIGHT	62		
0010	195+75	-	201+50	RIGHT		575	
TOTAL 0010					400	575	

EARTHWORK

CATEGORY	STATION	TO	STATION	LOCATION	EXCAVATION COMMON 205.0100 CY	UNEXPANDED FILL CY	EXPANDED FILL (1.25) CY	MASS ORDINATE	SELECT BORROW 208.1100 CY	REMARKS
0010	187+32		213+25	USH 14	1575	2303	2879	-1303	1303	
TOTAL 0010					1575	2303	2879	-1303	1303	

REMOVING SMALL PIPE CULVERTS

CATEGORY	STATION	TO	STATION	LOCATION	203.0100 EACH	REMARKS
0010	190+65			RIGHT	1	18-INCH CMCP
TOTAL 0010					1	

REMOVING INLETS

CATEGORY	STATION	TO	STATION	LOCATION	204.0220 EACH	REMARKS
0010	188+50			RIGHT	1	
0010	188+60			RIGHT	1	
0010	194+24			RIGHT	1	
TOTAL 0010					3	

REMOVING STORM SEWER (12-INCH)

CATEGORY	STATION	TO	STATION	LOCATION	204.0245.01 LF	REMARKS
0010	188+50	-	188+60	RIGHT	10	
TOTAL 0010					10	

REMOVING STORM SEWER (24-INCH)

CATEGORY	STATION	TO	STATION	LOCATION	204.0245.02 LF	REMARKS
0010	194+24			RIGHT	8	
TOTAL 0010					8	

SALVAGED RAIL

CATEGORY	STATION	TO	STATION	LOCATION	614.0920 LF	REMARKS
0010	187+32	-	194+44	RIGHT & LEFT	170	
0010	196+04		213+25	RIGHT & LEFT	670	
TOTAL 0010					840	

BASE AGGREGATE DENSE																
TACK COAT						BASE AGGREGATE DENSE 3/4-INCH 305.0110	BASE AGGREGATE DENSE 1 1/4-INCH 305.0120									
CATEGORY	STATION	TO	STATION	LOCATION	455.0605 GAL	REMARKS	CATEGORY	STATION	TO	STATION	LOCATION	TON	TON	REMARKS		
0010	187+32	-	213+25	LEFT & RIGHT	965		0010	187+32	-	194+44	RIGHT	75	1215	3/4" FOR SHOULDER		
							0010	196+04	-	213+25	RIGHT	175	3475	3/4" FOR SHOULDER		
							0010	193+52	-	194+44	LEFT	10		FINISH SHAPING		
							0010	196+04	-	204+50	LEFT	80		FINISH SHAPING		
							0010	187+32	-	213+25	RIGHT	300		FINISH SHAPING		
TOTAL 0010												640	4690			
HMA PAVEMENT																
ROUT AND SEAL						ASPHALTIC MATERIAL PG58-28 455.0105	HMA PAVEMENT TYPE E-3 460.1103	ASPHALTIC SURFACE TEMPORARY 465.0125								
CATEGORY	STATION	TO	STATION	LOCATION	415.6000.S LF	REMARKS	CATEGORY	STATION	TO	STATION	LOCATION	TON	TON	TON	REMARKS	
0010	191+00	-	194+28	RIGHT	677		0010	187+32	-	189+00	RIGHT	8	145			
							0010	189+00	-	191+00	RIGHT	11	193			
							0010	191+00	-	194+28	RIGHT	12	222			
							0010	196+20	-	198+49	RIGHT	30	550			
							0010	199+50	-	201+90	RIGHT	497				
TOTAL 0010						1637										
0010	191+00	-	194+28	RIGHT	677		0010	201+89	-	213+25	RIGHT	70	1265			
							0010	191+00	-	194+28	LEFT	4	78			
							0010	196+20	-	204+50	LEFT	38	696	18		
							0010	190+65		RIGHT	1	15				
							TOTAL 0010						174	3164	18	
CONCRETE PAVEMENT APPROACH SLAB											GUARDRAIL ITEMS					
CONCRETE PAVEMENT APPROACH SLAB 415.0410						MGS GUARDRAIL 3 614.2300	MGS THRIE BEAM TRANSITION 614.2500	MGS GUARDRAIL TERMINAL EAT 614.2610								
CATEGORY	STATION	TO	STATION	LOCATION	SY	REMARKS	CATEGORY	STATION	TO	STATION	LOCATION	LF	LF	EACH	REMARKS	
0010	194+28	-	194+44	RIGHT & LEFT	95		0010	191+59	-	192+12	RIGHT			1		
							0010	192+12	-	193+97	RIGHT	185				
0010	196+04	-	196+20	RIGHT & LEFT	95		0010	193+97	-	194+36	RIGHT & LEFT		78			
							0010	193+44	-	193+97	LEFT			1		
TOTAL 0010						190										
0010	196+51	-	197+26	RIGHT	75		0010	196+12	-	196+51	RIGHT & LEFT		78			
							0010	196+51	-	197+04	LEFT			1		
							0010	197+26	-	197+79	RIGHT			1		
							TOTAL 0010						260	156	4	

3

CONCRETE CORRUGATED MEDIAN

CONCRETE CORRUGATED MEDIAN 620.0100				
CATEGORY	STATION TO	STATION	LOCATION	SF
0010	191+00	- 194+28.3	RIGHT	3998
0010	196+19.7	- 198+49	RIGHT	686
0010	199+48.9	- 201+89.3	RIGHT	3152
TOTAL 0010				7836

CONCRETE SURFACE DRAINS

CONCRETE SURFACE DRAINS 416.1010				
CATEGORY	STATION	TO	STATION	LOCATION
0010	194+30			RT & LT
TOTAL 0010				6.4

SAWING ITEMS

SAWING ITEMS				
CATEGORY	STATION TO	STATION	LOCATION	SAWING ASPHALT 690.0150
0010	187+32	- 187+32	RIGHT	21
0010	187+32	- 190+99	RIGHT	367
0010	190+99	- 194+28	LEFT	329
0010	193+52	- 193+52	LEFT	23
0010	194+28	- 194+44	LEFT	
0010	196+04	- 196+20	LEFT	
0010	196+20	- 204+50	LEFT	830
0010	204+50	- 204+50	LEFT	15
0010	24+50	- 213+25	RIGHT & LEFT	875
0010	213+25	- 213+25	RIGHT	27
TOTAL 0010				2487

CONCRETE CURB AND GUTTER 6-INCH SLOPED 36-INCH TYPE D

CONCRETE CURB AND GUTTER 6-INCH SLOPED 36-INCH TYPE D 601.0557				
CATEGORY	STATION TO	STATION	LOCATION	LF
0010	187+32	- 189+00	RIGHT	168
TOTAL 0010				168

CONCRETE BARRIER

CONCRETE BARRIER 603.8000				
CATEGORY	STATION TO	STATION	LOCATION	LF
0010	190+00	- 204+00	USH 14	1160
TOTAL 0010				1160

WATER

WATER 624.0100				
CATEGORY	STATION TO	STATION	LOCATION	MGAL
0010	187+32	- 194+44	RIGHT	54
0010	196+04	- 213+25	RIGHT	137
TOTAL 0010				191

TRACKING PADS

TRACKING PADS 628.7560				
CATEGORY	STATION TO	STATION	LOCATION	EACH
0010			USH 14	1
TOTAL 0010				1

3

3

PERMANENT SIGNING ITEMS																
CATEGORY	SIGN NO.	STATION	DIR.	LOCATION	SIGN CODE	SIZE	DESCRIPTION	MESSAGE LINE 1	MESSAGE LINE 2	POSTS WOOD 4X6- INCH X 14-FT 634.0614	POSTS WOOD 4X6- INCH X 16-FT 634.0616	SIGNS TYPE II REFLECTIVE H 637.2210	SIGNS TYPE II REFLECTIVE F 637.2230	REMOVING SIGNS TYPE II 638.2602	REMOVING SMALL SIGN SUPPORTS 638.3000	REMARKS
										EACH	EACH	SF	SF	EACH	EACH	
0010	101	185+00	WB	LT	W14-3	48" X 36"	No Passing Zone			1	-	-	12	-	-	
0010	102	188+50	EB	RT	J1-1	24" X 39"	Junction or End Assembly	[JCT]	[B]	1	-	6.5	-	-	-	
0010	103R	188+50	EB	RT	M2-1	21" X 15"	Junction Marker			-	-	-	-	1	1	
0010	104R	188+50	EB	RT	M1-5A	24" X 24"	County Marker	[B]		-	-	-	-	-	-	Same Post as 103R
0010	201R	191+00	WB	RT	W14-3	48" X 36"	No Passing Zone			-	-	-	-	1	1	
0010	202	190+90	EB	Schuerman Rd.	R1-1	30" X 30"	Stop			1	-	5.18	-	-	-	
0010	203R	190+90	EB	Schuerman Rd.	R1-1	30" X 30"	Stop			-	-	-	-	1	1	
0010	204	191+50	EB	RT	D1-1	78" X 15"	One Destination (Arrow)	[LA]	[SEXTONVILLE]	2	-	8.13	-	-	-	
0010	205	193+51	EB	RT	D9-52	30" X 36"	(Name) Airport		[RICHLAND]	-	1	7.5	-	-	-	
0010	206R	193+54	EB	RT	D1-1	78" X 15"	One Destination (Arrow)	[LA]	[SEXTONVILLE]	-	-	-	-	1	2	
0010	207R	193+54	EB	RT	D1-1	78" X 15"	One Destination (Arrow)	[LA]	[RICHLAND] [AIRPORT]	-	-	-	-	-	-	Same Post as 206R
0010	301	197+59	WB	LT	J4-1	24" X 36"	Reassurance Assembly (1 Headed Rout	[WEST]	[14]	-	1	6	-	-	-	
0010	302	198+30	EB	RT	J13-1	24" X 45"	Directional Without Cardinal	[B]	[LA]	1	-	7.5	-	-	-	
0010	303R	198+30	EB	RT	M1-5A	24" X 24"	County Marker	[B]		-	-	-	-	1	1	
0010	304R	198+30	EB	RT	M6-1	21" X 21"	Arrow - LEFT, RIGHT, or AHEAD	[LA]		-	-	-	-	-	-	Same Post as 303R
0010	305R	198+61	WB	CTH B	M1-4	24" X 24"	US Route Market	[14]		-	-	-	-	1	1	
0010	306R	198+61	WB	CTH B	M6-4	21" X 21"	Directional Arrow Left - Right	[DBA]		-	-	-	-	-	-	Same Post as 305R
0010	307	198+61	WB	CTH B	J13-1	24" X 45"	Directional Without Cardinal	[14]	[DBA]	1	-	7.5	-	-	-	
0010	308	198+64	WB	CTH B	R1-1	30" X 30"	Stop			1	-	5.18	-	-	-	
0010	309R	198+64	WB	CTH B	R1-1	30" X 30"	Stop			-	-	-	-	1	1	
0010	310R	198+70	EB	RT	W1-7	48" X 24"	Night Arrow (Double)			-	-	-	-	1	1	
0010	311	198+70	EB	RT	W1-7	48" X 24"	Night Arrow (Double)			1	-	-	8	-	-	
0010	312R	199+94	EB	RT	R59-51	24" X 24"	Stop For School Bus Flashing Lights			-	-	-	-	1	1	
0010	313R	199+94	EB	RT	W14-3	48" X 36"	No Passing Zone			-	-	-	-	1	1	
0010	314R	199+97	WB	LT	M1-5A	24" X 24"	County Marker	[B]		-	-	-	-	1	1	
0010	315R	199+97	WB	LT	M6-1	21" X 21"	Arrow - LEFT, RIGHT, or AHEAD	[RA]		-	-	-	-	-	-	Same Post as 314R
0010	316	199+97	WB	LT	J13-1	24" X 45"	Directional Without Cardinal	[B]	[RA]	1	-	7.5	-	-	-	
0010	317	200+89	EB	RT	J4-1	24" X 36"	Reassurance Assembly	[EAST]	[14]	1	-	6	-	-	-	
0010	401R	204+00	EB	RT	R4-3	24" X 30"	Slower Traffic Keep Right			-	-	-	-	1	1	
0010	402	204+00	EB	RT	R4-3	24" X 30"	Slower Traffic Keep Right			1	-	5	-	-	-	
0010	403R	204+24	WB	LT	D1-1	78" X 15"	One Destination (Arrow)	[SEXTONVILLE]	[RA]	-	-	-	-	1	2	
0010	404R	204+24	WB	LT	D1-1	78" X 15"	One Destination (Arrow)	[RICHLAND]	[RA] [AIRPORT]	-	-	-	-	-	-	Same Post as 403R
0010	405	204+30	WB	LT	D9-52	30" X 36"	(Name) Airport		[RICHLAND]	1	-	7.5	-	-	-	
0010	406	206+15	WB	LT	D1-1	78" X 15"	One Destination (Arrow)	[SEXTONVILLE]	[RA]	1	-	8.13	-	-	-	
0010	501	208+48	EB	RT	W14-3	48" X 36"	No Passing Zone			1	-	-	12	-	-	
0010	502	209+21	WB	LT	J1-1	24" X 39"	Junction or End Assembly	[JCT]	[B]	1	-	6.5	-	-	-	
0010	503R	209+21	WB	LT	M2-1	21" X 15"	Junction Marker			-	-	-	-	1	1	
0010	504R	209+21	WB	LT	M1-5A	24" X 24"	County Marker	[B]		-	-	-	-	-	-	Same Post as 504R
TOTAL 0010										16	2	94	32	14	16	

PAVEMENT MARKINGS																
CATEGORY	STATION TO	STATION	LOCATION	PAVEMENT MARKING	PAVEMENT MARKING	REMOVING PAVEMENT MARKINGS	PAVEMENT MARKING ARROWS	PAVEMENT MARKING WORDS	PAVEMENT MARKING STOP LINE	PAVEMENT MARKING ISLAND NOSE	PAVEMENT MARKING DIAGONAL	PAVEMENT MARKING CONCRETE CORRUGATED MEDIAN	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE	TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE	REMARKS	
				EPOXY 4-INCH	EPOXY 8-INCH		EPOXY TYPE 2	EPOXY	EPOXY 18-INCH	EPOXY	EPOXY 12-INCH	EPOXY	EPOXY	4-INCH		18-INCH
				646.0106	646.0126	646.0600	647.0166	647.0356	647.0566	647.0606	647.0726	647.0856	649.0400	649.1200		
				LF	LF	LF	EACH	EACH	LF	EACH	LF	SF	LF	LF		
0010	187+32	- 190+26	RIGHT	294											4" WHITE EDGELINE RT	
0010	187+32	- 198+50	LEFT	1118											4" WHITE EDGELINE LT	
0010	187+32	- 198+50	RIGHT	1118											4" YELLOW EDGELINE RT	
0010	187+32	- 198+50	LEFT	1117											4" YELLOW EDGELINE LT	
0010	187+32	- 192+17	LEFT	184											4" WHITE LANE LINE LT	
0010	187+50	- 191+00	CL								101				12" DIAGONAL EPOXY CL	
0100	188+96	- 190+00	LEFT										109		4" TEMPORARY WHITE TAPE LT STAGE 2	
0100	189+00		LEFT											10	18" WHITE TEMPORARY STOP LINE TAPE LT	
0010	190+00		RIGHT											14	18" TEMPORARY WHITE STOP LINE TAPE RT	
0010	190+00	- 191+00	CL			200									REMOVE 4" DOUBLE YELLOW CENTERLINE	
0010	190+00	- 192+00	LEFT			75									REMOVE 4" WHITE LANE LINE LT	
0010	190+50	- 198+50	LEFT			800									REMOVE 4" WHITE EDGELINE LT	
0100	190+50	- 203+90	LEFT										1210		4" TEMPORARY WHITE TAPE LT	
0100	190+72	- 202+75	LEFT										1200		4" TEMPORARY WHITE TAPE LT	
0010	191+00		CL	10											4" YELLOW	
0010	191+00	- 201+89	CL									3166			CORRUGATED MEDIAN EPOXY	
0010	191+05	- 213+25	RIGHT	2220											4" WHITE EDGELINE RT	
0010	194+28		CL	13											4" YELLOW	
0010	194+28	- 196+20	CL								102				12" DIAGONAL EPOXY CL	
0010	196+20		CL	5											4" YELLOW	
0010	196+20	- 198+49	RIGHT		230		3	2							8" WHITE CHANNELIZING LINE - LEFT TURN LANE	
0010	198+50									1					PAVEMENT MARKING ISLAND NOSE EPOXY	
0010	198+82	- 190+10	CTH B						28						18"STOP LINE -CTH B	
0010	199+10		RIGHT	420											4" DOUBLE YELLOW CENTERLINE - CTH B	
0010	199+50									1					PAVEMENT MARKING ISLAND NOSE EPOXY	
0010	199+50	- 203+50	RIGHT	800											4" YELLOW EDGELINE DOUBLE RT	
0010	199+50	- 203+50	LEFT	400											4: YELLOW EDGELINE LT	
0010	199+77	- 213+25	LEFT	1348											4" WHITE EDGELINE LT	
0010	199+77	- 201+90	LEFT		212		3	2							8" WHITE CHANNELIZING LINE - RIGHT TURN LANE	
0010	199+90	- 201+90	LEFT			200									REMOVE 8" TURN LANE LT	
0010	200+00	- 204+00	LEFT			400									REMOVE 4" WHITE EDGELINE LT	
0010	201+90	- 203+50	CL								38				12" DIAGONAL EPOXY CL	
0010	201+90		CL	13											4" YELLOW	
0100	203+00	- 205+50	LEFT										240		4" TEMPORARY WHITE TAPE LT	
0010	203+00		LEFT											17	18" WHITE TEMPORARY STOP LINE TAPE LT	
0010	203+50	- 213+25	CL	1648											4" YELLOW CENTERLINE DOUBLE	
0010	203+50	- 213+25	RIGHT	975											4" WHITE LANE LINE RT	
0010	205+50		LEFT											10	18" TEMPORARY WHITE STOP LINE TAPE LT	
TOTAL 0010				11683	442	1675	6	4	28	2	241	3166	2759	51		
TRAFFIC CONTROL																
CATEGORY	STATION	TO	STATION	LOCATION	TRAFFIC CONTROL DRUMS	TRAFFIC CONTROL BARRICADES TYPE III	TRAFFIC CONTROL WARNING LIGHTS TYPE A	TRAFFIC CONTROL SIGNS	TRAFFIC CONTROL SIGNS PCMS	REMARKS						
					643.0300	643.0420	643.0705	643.0900	643.1050							
					DAY	DAY	DAY	DAY	DAY							
0010	185+00		218+00		2960	240	480	1200		STAGE 1						
0010	185+00		218+00		864	108	216	180		STAGE 2						
0010	185+00		RIGHT						14	28						
0010	214+00		LEFT						14	28						
TOTAL 0010					3824	348	696	1380	28							
PROJECT NO: 1647-09-74					HWY: USH 14			COUNTY: RICHLAND			MISCELLANEOUS QUANTITIES			SHEET: E		
FILE NAME :					PLOT DATE :			PLOT BY :			PLOT NAME :			PLOT SCALE : 1:1		

EROSION CONTROL ITEMS

CATEGORY	STATION TO	STATION	LOCATION	MULCHING 627.0200 SY	SILT FENCE 628.1504 LF	SILT FENCE MAINTENANCE 628.1520 LF	MOBILIZATIONS EROSION CONTROL 628.1905 EACH	MOBILIZATIONS EMERGENCY EROSION CONTROL 628.1910 EACH	EROSION MAT CLASS I TYPE B 628.2004 SY	REMARKS
0010	187+32	- 192+50	RIGHT	1680	100	100				
0010	192+50	- 194+44	RIGHT		220	220			497	
0010	196+04	- 197+29	RIGHT		165	165	3	4	358	
0010	197+29	- 213+25	RIGHT	5602	625	625				
0010				4500	1000	1000				BORROW PIT
TOTAL 0010				11782	2110	2110	3	4	855	

RIPRAP

CATEGORY	STATION TO	STATION	LOCATION	RIPRAP HEAVY 606.0300 CY	GEOTEXTILE FABRIC TYPE HR 645.0120 SY	REMARKS
0010	210+50		RIGHT	60	90	
TOTAL 0010				60	90	

TEMPORARY DITCH CHECKS

CATEGORY	STATION TO	STATION	LOCATION	628.7504 LF	REMARKS
0010	190+00		RIGHT	32	
TOTAL 0010				32	

CULVERT PIPE CHECKS

CATEGORY	STATION TO	STATION	LOCATION	628.7555 EACH	REMARKS
0010	190+30		RIGHT	6	
TOTAL 0010				6	

LANDSCAPING ITEMS

CATEGORY	STATION TO	STATION	LOCATION	SALVAGED TOPSOIL 625.0500 SY	FERTILIZER TYPE B 629.0210 CWT	SEEDING MIXTURE NO. 20 630.0120 LB	SEEDING TEMPORARY 630.0200 LB	SEEDING BORROW PIT 630.0300 LB	REMARKS
0010	187+32	- 194+44	RIGHT	2402	2	65	65		
0010	196+04	- 213+25	RIGHT	5981	4	162	162		
0010					7			250	BORROW PIT
TOTAL 0010				8383	13	227	227	250	

STORM SEWER

CATEGORY	STATION TO	STATION	LOCATION	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH	INLETS 2X2-FT	INLETS 2X3-FT	SALVAGED INLET COVERS	PIPE UNDERDRAIN UNPERFORATED 12-INCH	INLET PROTECTION TYPE C	REMARKS
				608.0312	608.0324	611.3220	611.3230	611.9710	612.0212	628.7015	
				LF	LF	EACH	EACH	EACH	LF	EACH	
0010	194+24		RIGHT			1		1	26	1	
0010	188+50		RIGHT		8		1	1		1	
0010	188+60		RIGHT				1	1		1	
0010	194+30		LEFT					1		1	
0010	188+50	188+60	RIGHT	10							
TOTAL 0010				10	8	1	2	4	26	4	

CULVERT ITEMS

CATEGORY	STATION TO	STATION	LOCATION	CULVERT PIPE CORRUGATED STEEL 15-INCH	CONCRETE COLLARS FOR PIPE	APRON ENDWALLS FOR CULVERT PIPE STEEL 12-INCH	APRON ENDWALLS FOR CULVERT PIPE STEEL 15-INCH	CULVERT PIPE REINFORCED CONCRETE CLASS III 54-INCH	APRON ENDWALLS FOR CULVERT PIPE SALVAGED 54-INCH	MARKERS CULVERT END	REMARKS
				MIN. THICKNESS: STEEL=0.064" ALUM=0.060"	520.8000	521.1012	521.1015	522.0154	524.0654	633.5200	
				LF	EACH	EACH	EACH	LF	EACH	EACH	
0010	210+62		RIGHT		3					1	FOR 3-54" PIPES
0010	190+41	- 190+96	RIGHT	54							
0010	190+41						1				
0010	190+96						1				
0010	194+30		RIGHT			1					
0010	210+50	- 210+84	RIGHT					24			
0010	210+62		RIGHT						3		
TOTAL 0010					3	54	1	24	3	1	

CONSTRUCTION STAKING ITEMS

CATEGORY	STATION TO	STATION	LOCATION	CONSTRUCTION STAKING SUBGRADE	CONSTRUCTION STAKING BASE	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	CONSTRUCTION STAKING PIPE CULVERTS	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE)	CONSTRUCTION STAKING SLOPE STAKES	REMARKS
				650.4500	650.5000	650.5500	650.6000	650.6500	650.9920	
				LF	LF	LF	EACH	LS	LF	
0010	187+32	- 194+44	USH 14	712	712				712	WEST OF B-52-55
0010	194+44	- 196+04	USH 14					1		B-52-55
0010	196+04	- 213+25	USH 14	1721	1721					EAST OF B-52-55
0010	187+32	- 189+00	RIGHT			168			1721	
0010	190+60		RIGHT				1			
TOTAL 0010				2433	2433	168	1	1	2433	

TRANSPORTATION PROJECT PLAT NO: 1647-09-24 - 4.01

PARTS OF THE SE-SW QUARTER OF SECTION 6; THE NW-NE QUARTER AND THE NE-NW QUARTER OF SECTION 7, ALL IN THE TOWN OF BUENA VISTA, T9N, R2E, RICHLAND COUNTY, WISCONSIN

RELOCATION ORDER USH 14.
TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3) AND 84.09, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.
EXISTING R/W ON USH 14, AS SHOWN, IS BASED ON WISDOT R/W PROJECT 1647-09-21. R/W ON SCHUERMAN RD IS BASED ON TOWN OF BUENA VISTA ROAD RECORDS, STATE AID FOR TOWN ROAD RECORDS AND WISCONSIN STATE STATUTES 82.31(2) AND 82.16 AND WAS MEASURED PERPENDICULAR FROM THE CENTERLINE OF THE EXISTING PAVEMENT. PREVIOUS ACCESS RESTRICTIONS, AS SHOWN, WERE ACQUIRED BY WISDOT ON PROJECT 1640-00-26.

DOCUMENT 303229

ACCEPTED FOR RECORDING IN THE OFFICE OF THE REGISTER OF DEEDS IN RICHLAND COUNTY, WISCONSIN
AT 8:30 A.M. ON OCTOBER 3, 2013.
FILED IN
PLAT CAB. 1, ENV. 179A, SHEET 1

THE ORIGINAL DOCUMENT WAS SIGNED BY SUSAN TRIGGS, R.O.D.

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1647-09-24-4.01

STATIONING & OFFSETS		
501	188+09.64	75.00' L
502	194+12.97	75.00' L
503	194+62.97	60.00' L
504	195+93.12	60.00' L
505	198+23.33	131.92' L
506	199+81.54	156.06' L
507	199+81.03	59.99' L
508	202+54.43	59.99' L
509	203+77.97	60.00' L
510	212+96.43	59.99' L
511	212+96.43	70.00' R
512	211+12.97	70.00' R
513	210+12.97	60.00' R
514	203+00.00	60.00' R
515	202+00.00	95.00' R
518	197+16.48	95.00' R
520	196+50.32	60.00' R
521	193+00.00	60.00' R
522	192+50.00	80.00' R
523	190+92.19	80.00' R
524	190+29.25	60.01' R
525	188+09.64	60.01' R
601	211+12.97	94.12' R
602	210+12.97	84.12' R
603	189+00.00	60.01' R
604	196+88.12	80.00' R

R/W COURSES		
520-521	N47°30'18"W	350.31'
521-522	N69°17'52"W	53.85'
522-523	N47°30'15"W	157.80'
523-524	N29°53'02"W	66.04'
524-525	N47°30'17"W	219.61'
525-501	N42°29'45"E	135.01'
501-502	S47°30'15"E	603.33'
502-503	S30°48'20"E	52.20'
503-504	S47°30'16"E	130.15'
504-505	S64°51'13"E	241.18'
505-506	S56°10'45"E	160.04'
506-507	S42°48'00"W	96.07'
507-508	S47°30'15"E	273.40'
508-509	S47°30'32"E	123.54'
509-510	S47°30'13"E	918.46'
510-511	S42°29'56"W	129.99'
511-512	N47°30'15"W	183.46'
512-513	N41°47'36"W	100.50'
513-514	N47°30'15"W	712.97'
514-515	N66°47'40"W	105.95'
515-518	N47°30'15"W	483.52'
518-520	N19°37'33"W	74.85'

CONVENTIONAL SYMBOLS AND ABBREVIATIONS

STATE, COUNTY, or TOWN LINE	-----	ACCESS POINT, DRIVEWAY CONNECTION	AP
SECTION LINE	-----	ACCESS RIGHTS	AR
QUARTER LINE	-----	ACRES	AC.
SIXTEENTH LINE	-----	AND OTHERS	ET. AL.
PROPOSED REFERENCE LINE	-----	CENTERLINE	C/L
PROPOSED R/W LINE	-----	CERTIFIED SURVEY MAP	CSM
EXISTING H.E. LINE	-----	DOCUMENT	DOC.
PROPERTY LINE	-----	HIGHWAY EASEMENT	H.E.
EASEMENT LINE	-----	LAND CONTRACT	LC
CORPORATE LIMITS	-----	MONUMENT	MON.
EXISTING CENTERLINE	-----	PAGE	P.
LOT & TIE LINES	-----	PERMANENT LIMITED EASEMENT	PLE
UTILITIES	-----	PROPERTY LINE	PL
(TELEPHONE, GAS, ELECTRIC, CABLE, FIBER OPTIC)	-----	RECORDED AS	(100')
RESTRICTED ACCESS (BY PREVIOUS ACQUISITION/CONTROL)	-----	REFERENCE LINE	R/L
RESTRICTED ACCESS (BY ACQUISITION)	-----	REMAINING	REM.
NO ACCESS (BY STATUTORY AUTHORITY)	-----	RIGHT-OF-WAY	R/W
FEE (HATCH VARIES)	-----	SECTION	SEC.
TEMPORARY LIMITED EASEMENT	-----	SQUARE FEET	SO. FT.
EASEMENT	-----	STATION	STA.
PERMANENT LIMITED EASEMENT	-----	TEMPORARY LIMITED EASEMENT	TLE
PARCEL NUMBER	-----	VOLUME	V.
UTILITY INTEREST	-----	CURVE DATA	
SIGN NUMBER (OFF PREMISE)	-----	LONG CHORD	LCH
BUILDING	-----	LONG CHORD BEARING	LCB
FOUND IRON PIPE/PIN	-----	RADIUS	R
R/W MONUMENT	-----	DEGREE OF CURVE	D
R/W STANDARD	-----	CENTRAL ANGLE OR DELTA	DELTA
SIGN	-----	LENGTH OF CURVE	L
SECTION CORNER SYMBOL	-----	TANGENT	TAN
		NON COMPENSABLE	NON COMPENSABLE
		POWER POLE	POWER POLE
		TELEPHONE POLE	TELEPHONE POLE
		TELEPHONE PEDESTAL	TELEPHONE PEDESTAL

UTILITY NUMBER	OWNER	INTEREST REQUIRED
91	AMERICAN TRANSMISSION COMPANY	RELEASE OF RIGHTS
92	WISCONSIN POWER & LIGHT	RELEASE OF RIGHTS

R/W POINT COORDINATES		
501	Y=425201.483	X=697318.788
502	Y=424793.912	X=697763.639
503	Y=424749.075	X=697790.373
504	Y=424661.154	X=697886.336
505	Y=424558.668	X=698104.660
506	Y=424469.589	X=698237.619
507	Y=424399.100	X=698172.345
508	Y=424214.408	X=698373.931
509	Y=424130.960	X=698465.027
510	Y=423510.497	X=699142.227
511	Y=423414.657	X=699054.409
512	Y=423538.588	X=698919.142
513	Y=423613.515	X=698852.165
514	Y=424095.152	X=698326.473
515	Y=424136.899	X=698229.096
518	Y=424463.534	X=697872.584
520	Y=424534.037	X=697847.444
521	Y=424770.684	X=697589.144
522	Y=424789.722	X=697538.767
523	Y=424896.323	X=697422.415
524	Y=424953.584	X=697389.510
525	Y=425101.937	X=697227.584



SW-SW
SEC 6

SE-SW
SEC 6

TOWN

CONSERVATION EASEMENT
DOC.141860, V.122, P.179
AFFIDAVIT: DOC.280222,
V.507, P.329

Y=424544.395
X=695828.495
RICHLAND
CAST IRON

EASEMENTS
WISCONSIN
TELEPHONE COMPANY
DOC.84345, V.18, P.420

WISCONSIN POWER &
LIGHT COMPANY
DOC.193494, V.200, P.11

CONSERVATION EASEMENT
DOC.141860, V.122, P.179
AFFIDAVIT: DOC.280222,
V.507, P.329

NE-NW
SEC 7

NW-NE
SEC 7

BUENA VISTA

NOTES:
POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, RICHLAND COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS OF PUBLIC RECORD".

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY LINES, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

A **TEMPORARY LIMITED EASEMENT** (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE. ALL TLES EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

A **PERMANENT LIMITED EASEMENT** (PLE) IS A RIGHT FOR CONSTRUCTION AND MAINTENANCE PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE, BUT WITHOUT PREJUDICE TO THE OWNER'S RIGHT TO MAKE OR CONSTRUCT IMPROVEMENT ON SAID LANDS OR TO FLATTEN THE SLOPES, PROVIDING SAID ACTIVITIES WILL NOT IMPAIR OR OTHERWISE ADVERSELY AFFECT THE HIGHWAY FACILITIES.

A **HIGHWAY EASEMENT** (HE) IS AN EASEMENT FOR HIGHWAY PURPOSES, AS LONG AS SO USED, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE.

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO NEW REFERENCE LINES.

SCHEDULE OF LANDS AND INTERESTS REQUIRED

PARCEL NUMBER	OWNER	INTEREST REQUIRED	ACRES REQUIRED			TLE ACRES
			NEW	EXISTING	TOTAL	
1	HAROLD R. VICKERMAN	FEE & TLE	0.08	---	0.08	0.04
2	USHABEN J SISHODIA	FEE & TLE	0.01	---	0.01	0.08
3	JAMES L & JANICE L BARNHART	FEE & TLE	0.27	---	0.27	0.16

OWNERS' NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LANDS TO THE DEPARTMENT.

SCALE, FEET



HEREBY CERTIFY THAT THIS PLAT MEETS ALL REQUIREMENTS OF SECTION 84.095, WISCONSIN STATUTES. THIS PLAT WAS PREPARED BY OR UNDER THE DIRECTION OF

JULIE JOLIVETTE-WOOD
PRINTED NAME

JULIE JOLIVETTE-WOOD
SIGNATURE

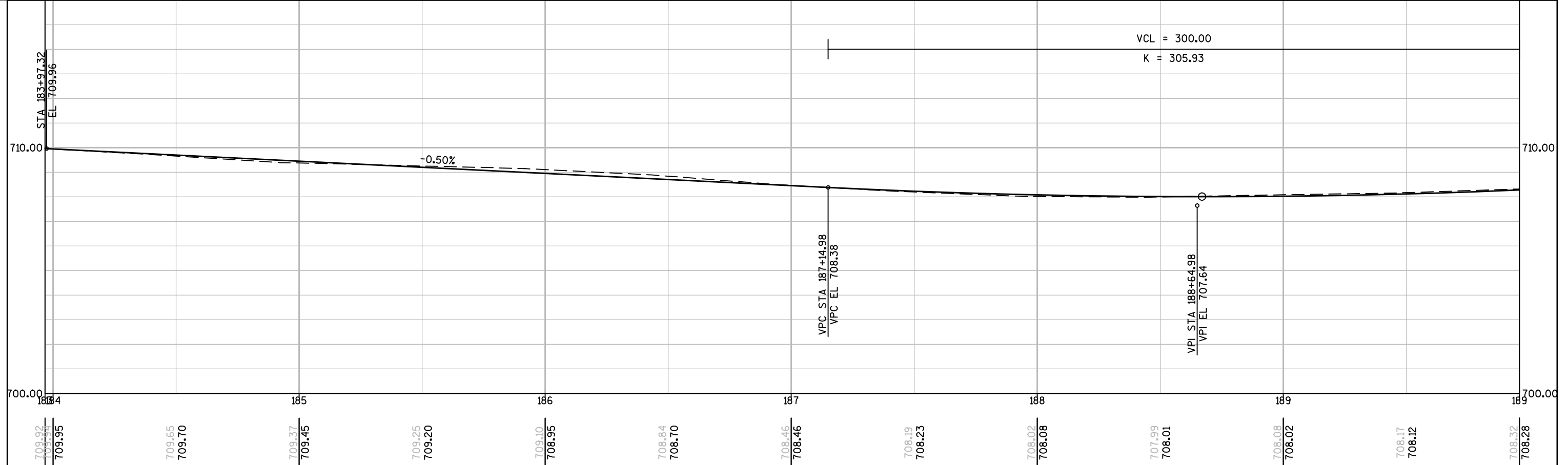
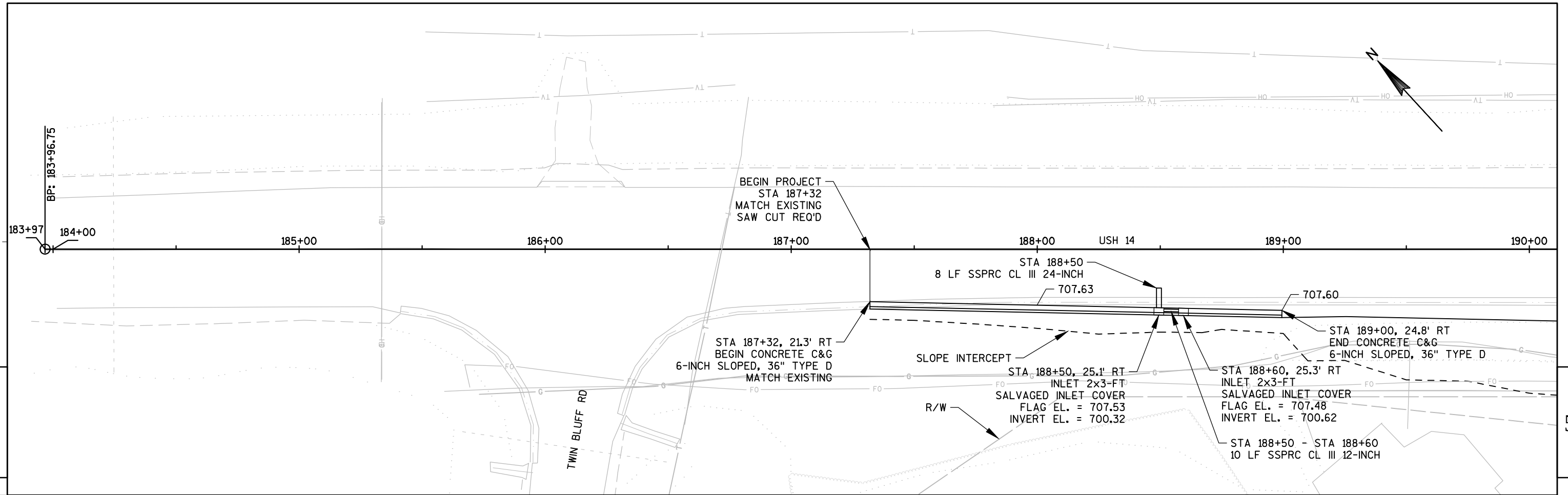
9-25-13
DATE

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

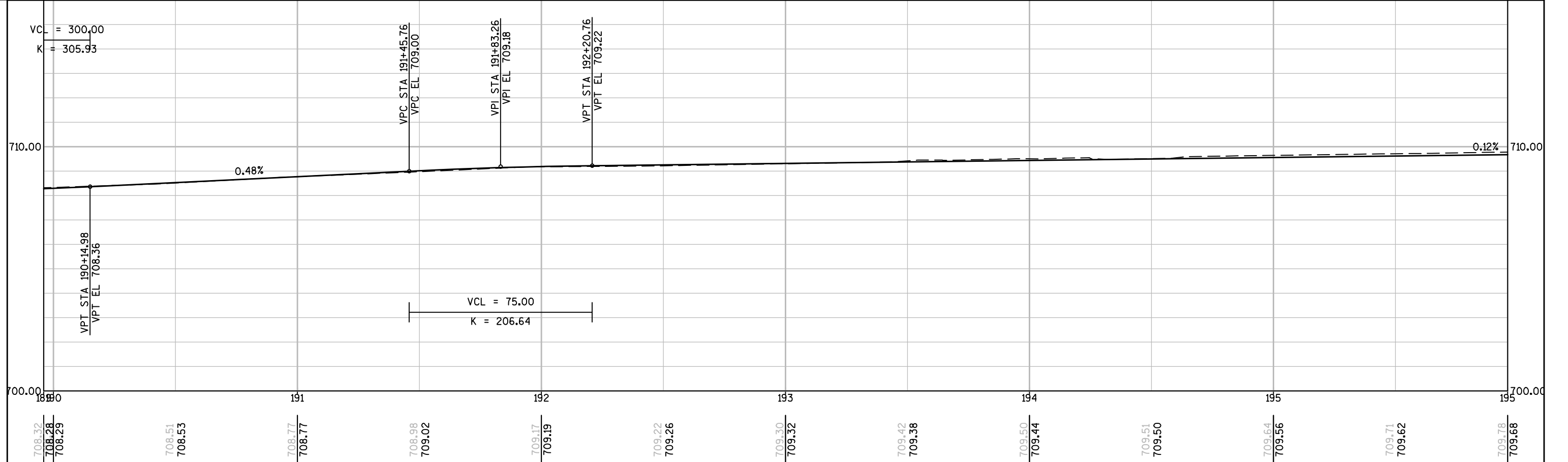
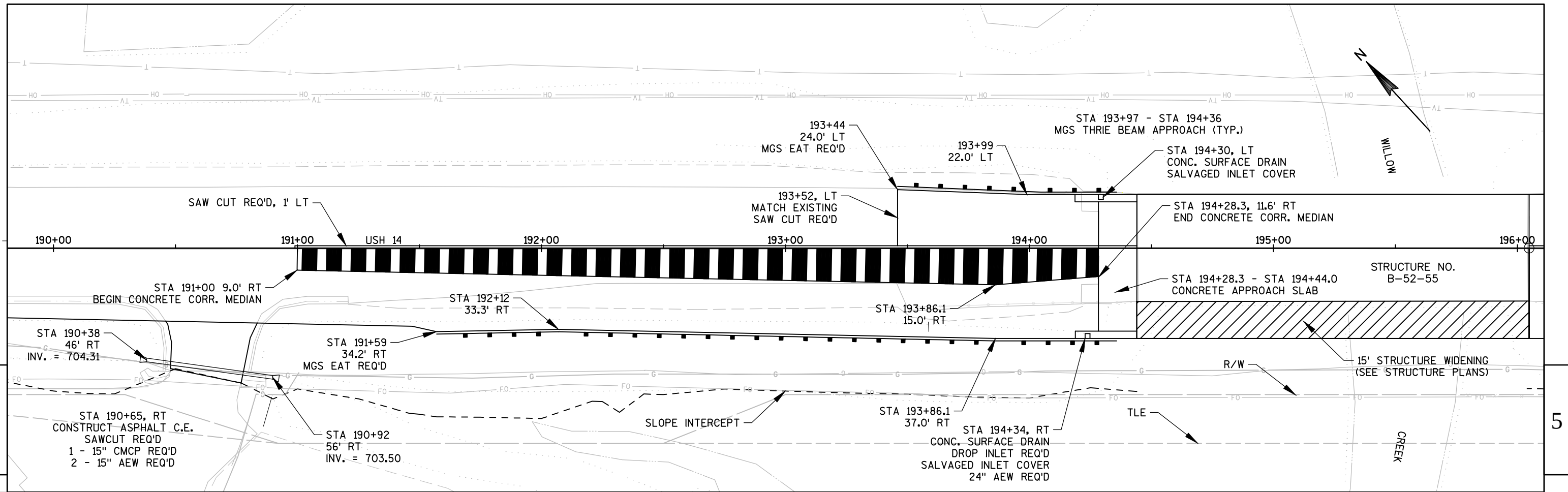
JENNIFER QUERAM
PRINTED NAME

JENNIFER QUERAM
SIGNATURE

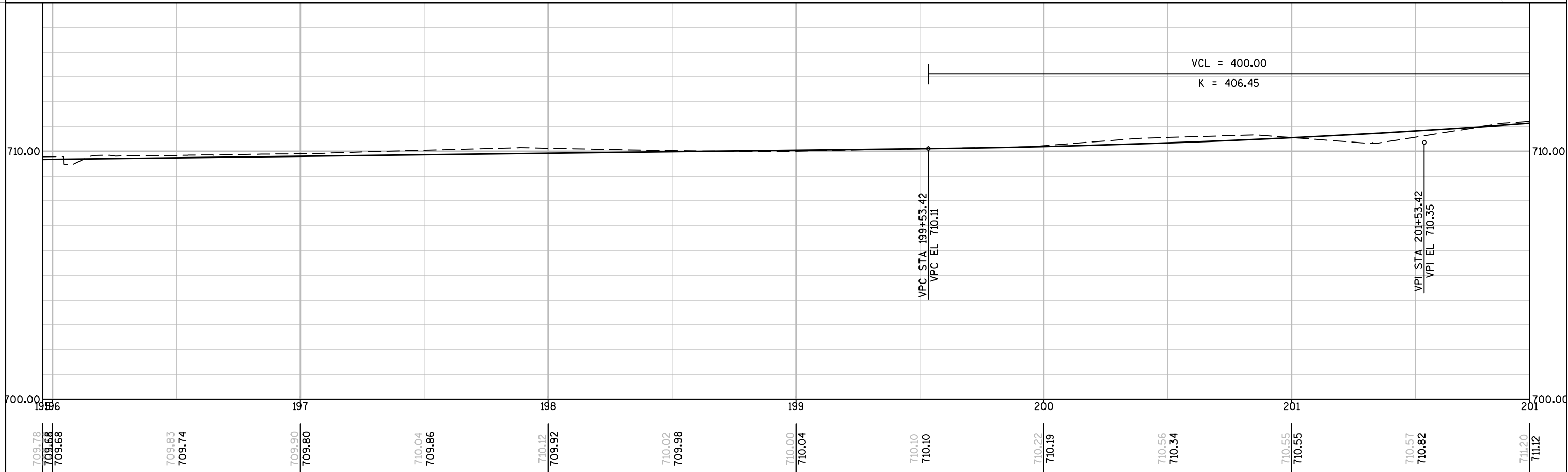
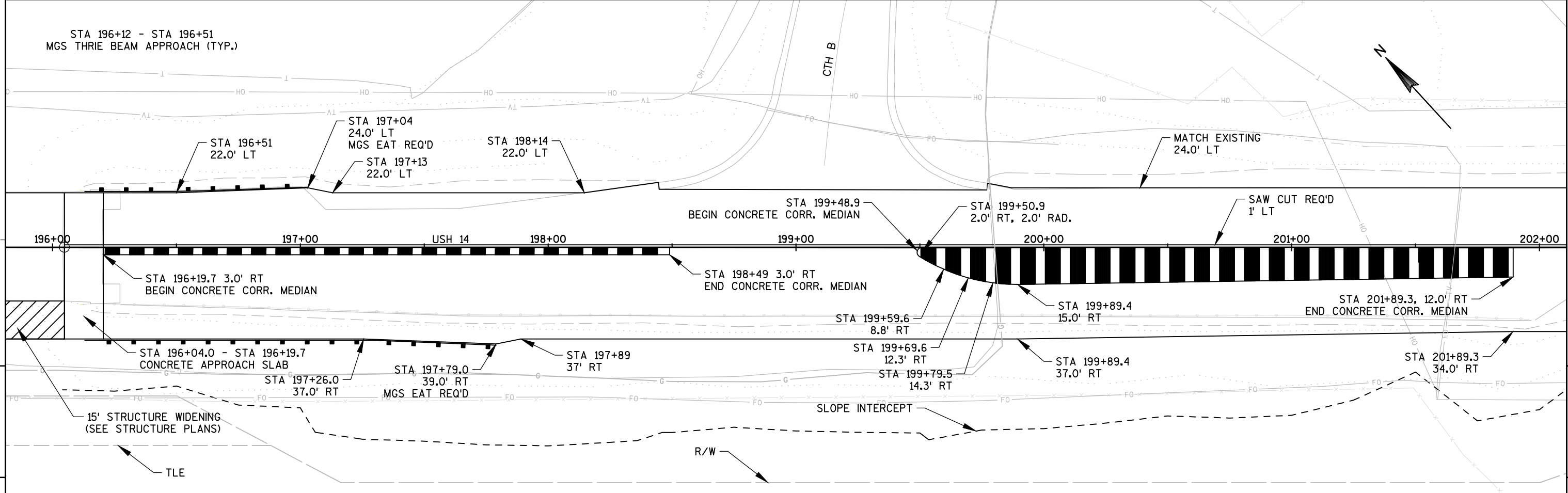
9-25-13
DATE

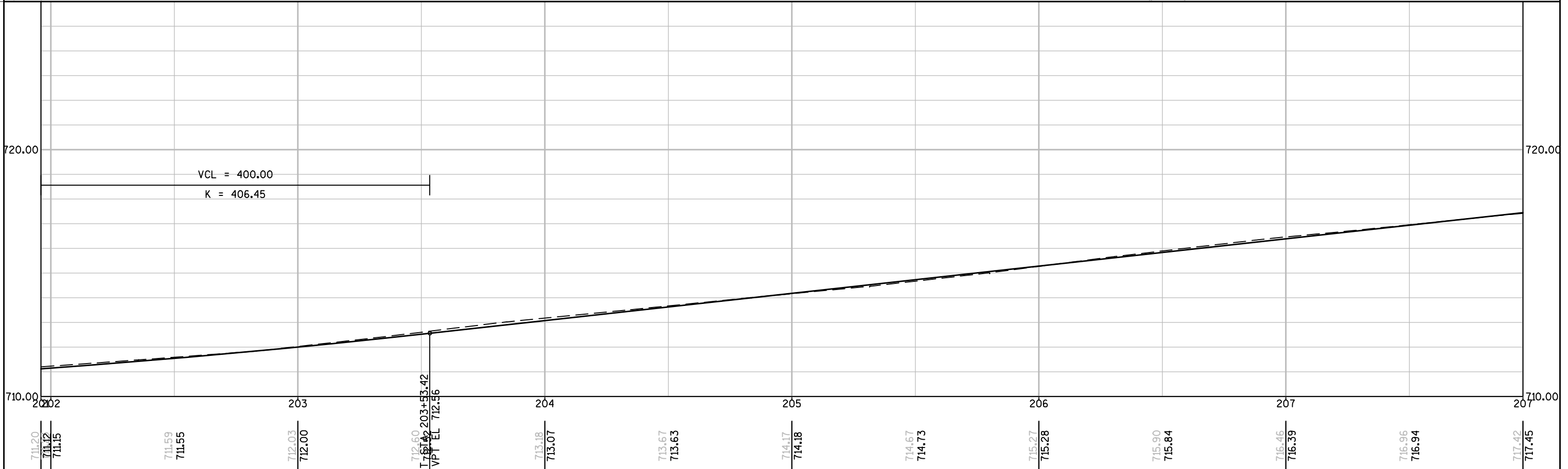
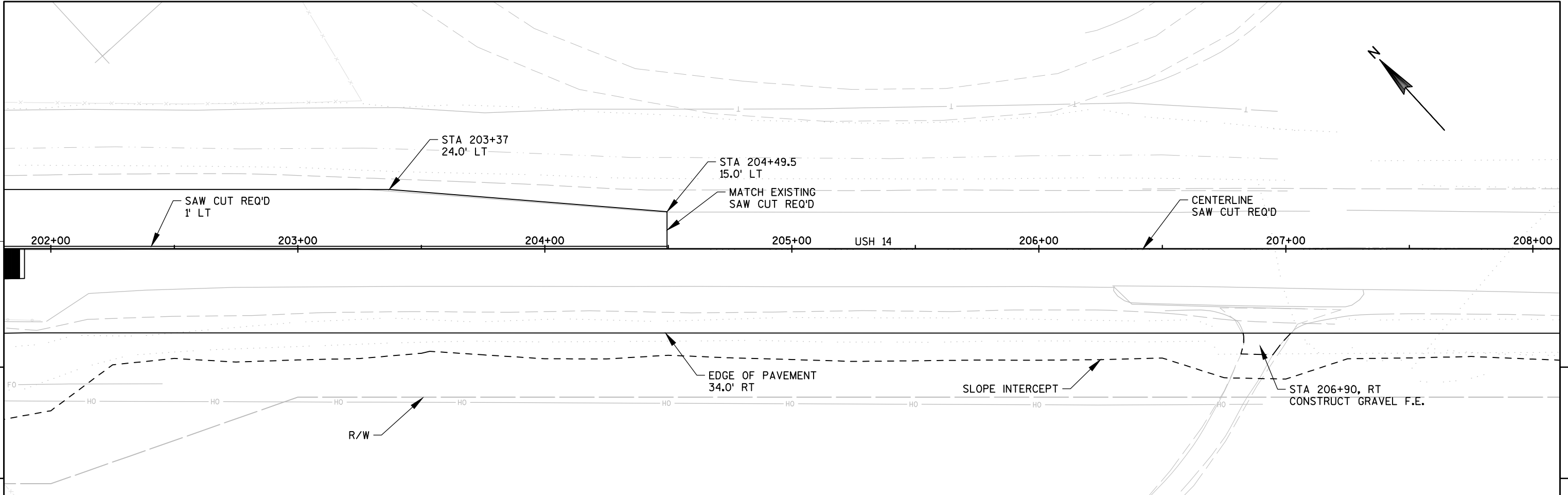


PROJECT NO:1647-09-74	HWY: USH 14	COUNTY: RICHLAND	PLAN AND PROFILE: USH 14	SHEET	5
-----------------------	-------------	------------------	--------------------------	-------	---

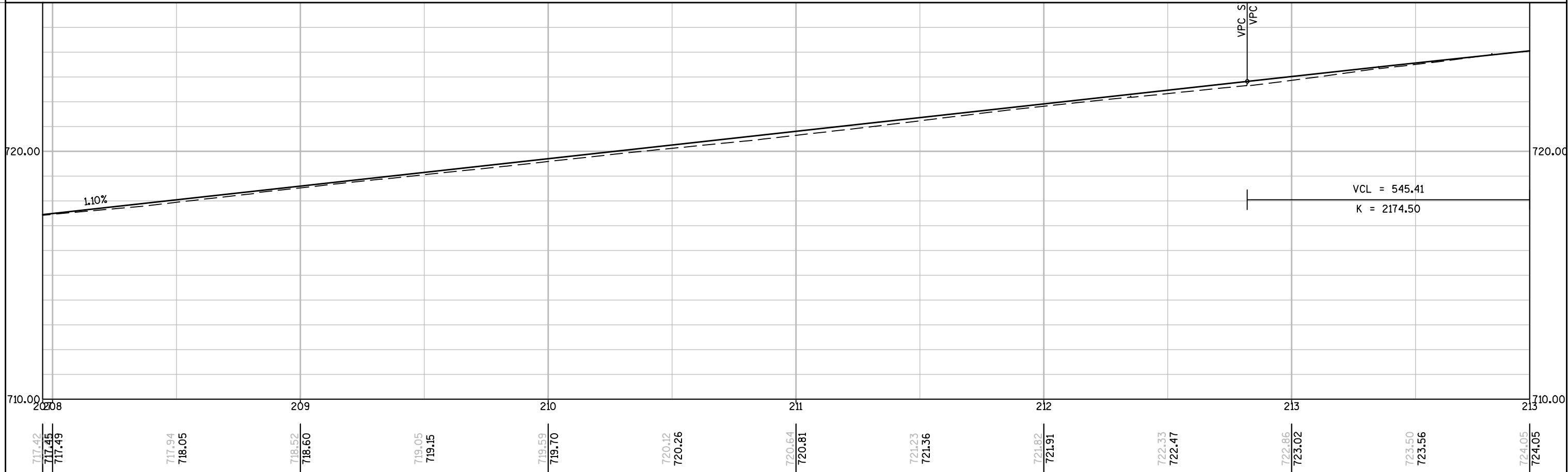
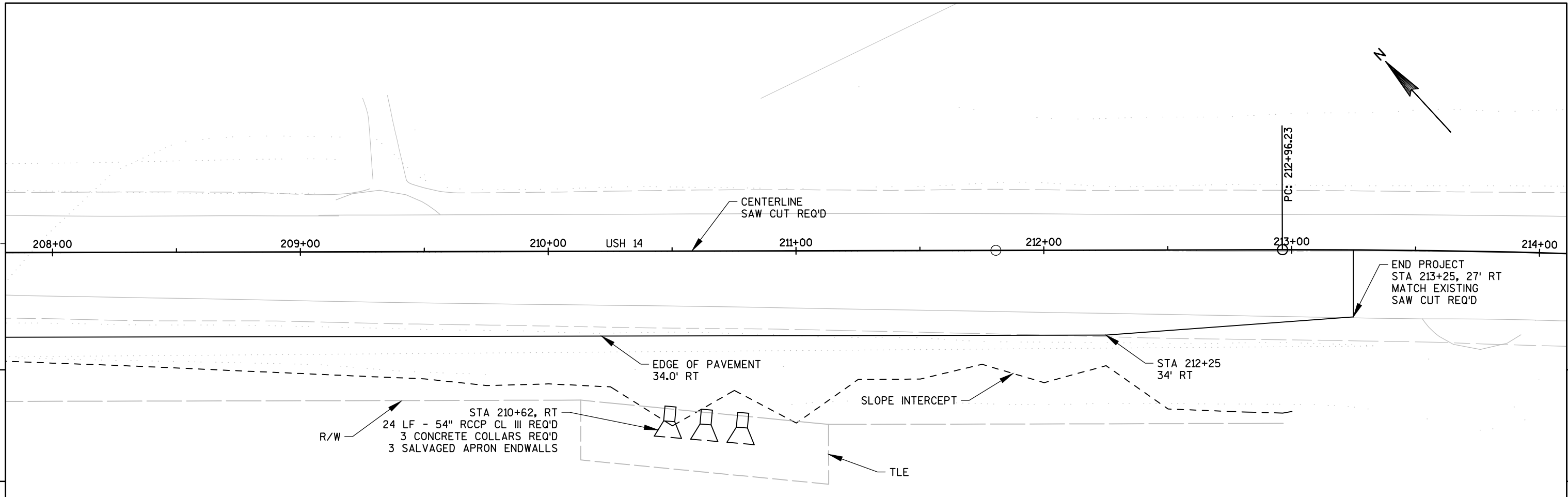


PROJECT NO:1647-09-74	HWY: USH 14	COUNTY: RICHLAND	PLAN AND PROFILE: USH 14	SHEET	-----	E
-----------------------	-------------	------------------	--------------------------	-------	-------	---



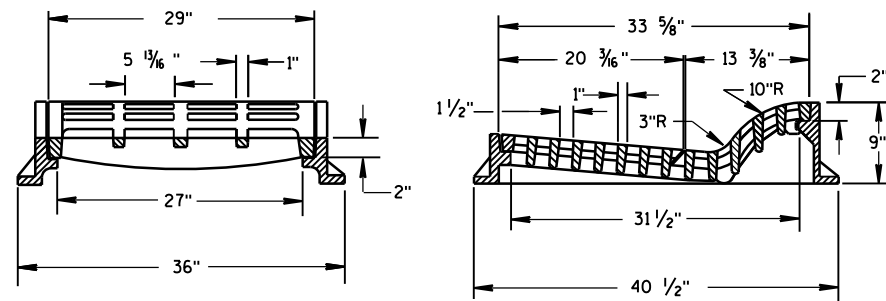
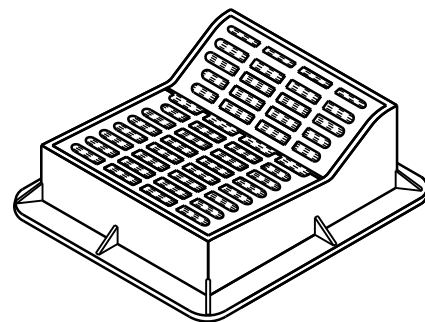


PROJECT NO:1647-09-74	HWY: USH 14	COUNTY: RICHLAND	PLAN AND PROFILE: USH 14	SHEET	----	E
-----------------------	-------------	------------------	--------------------------	-------	------	---



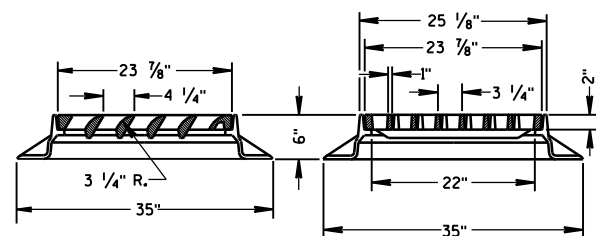
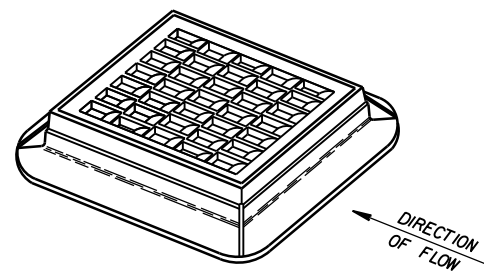
Standard Detail Drawing List

08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D03-06	CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E14-01	TRACKING PAD
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09A01-13A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
09A01-13B	AT-GRADE SIDE ROAD INTERSECTION, TYPE "A1" & "A2"
09G02-03A	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-03B	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-03C	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
11B01-05	CONCRETE CORRUGATED MEDIAN
13B02-06	CONCRETE PAVEMENT APPROACH SLAB
14B07-13A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B42-02A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-01A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-03A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C04-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C06-06	SIGNING & MARKING FOR TWO LANE BRIDGES
15C07-12B	PAVEMENT MARKING WORDS
15C07-12C	PAVEMENT MARKING ARROWS
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C08-16E	PAVEMENT MARKING (LEFT TURN LANE)
15C08-16F	PAVEMENT MARKING (ISLANDS)
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15C18-03	MEDIAN ISLAND MARKING
15C19-02A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C33-01	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D33-03	TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS

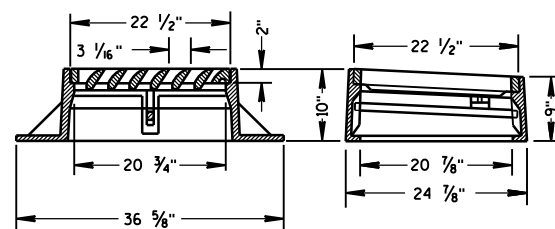
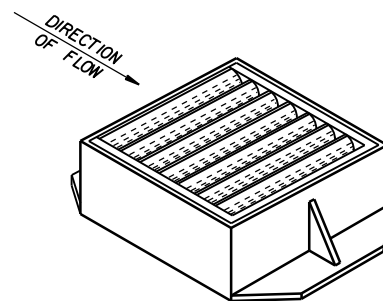


TYPE "F"

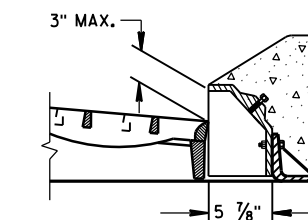
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.



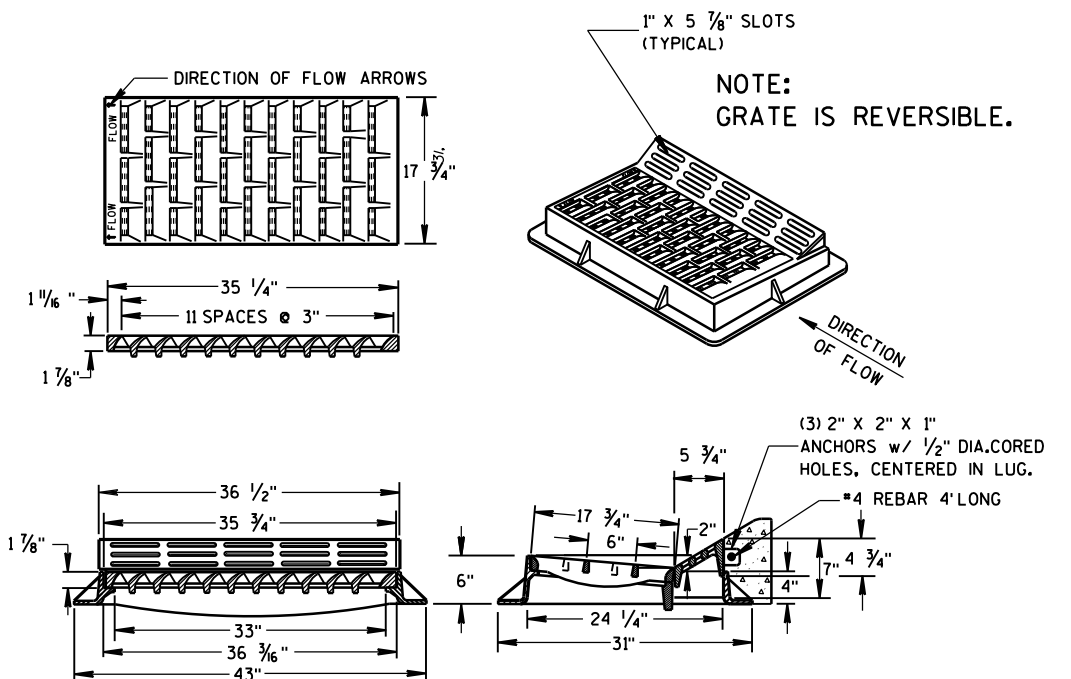
TYPE "S"



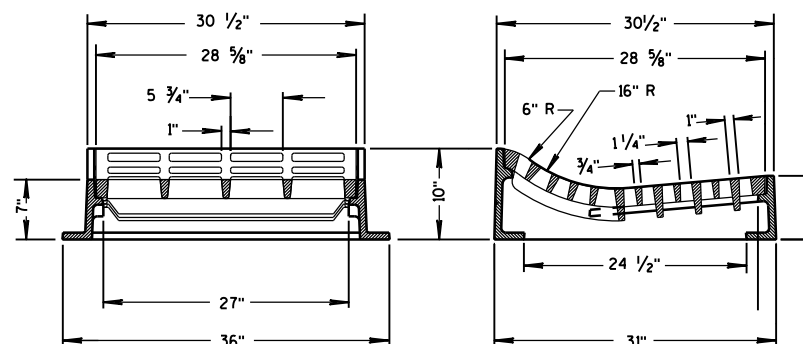
TYPE "V"

ALTERNATIVE CURB BOX
FOR TYPE "HM" COVERUSE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLENOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

GENERAL NOTES

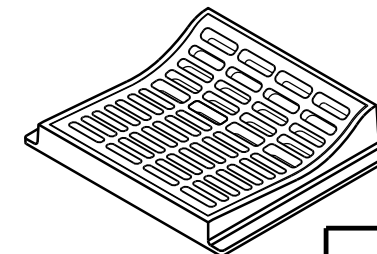
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING
SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND
THE APPLICABLE SPECIAL PROVISIONS.DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED
TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION
FOR EQUIVALENT CAPACITY AND STRENGTH.

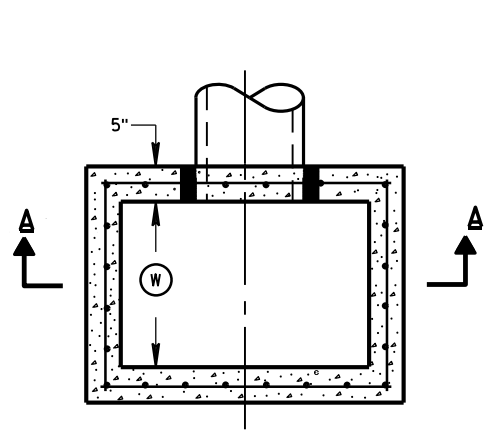
TYPE "HM"

USE WITH TYPES A & D CONCRETE
CURB & GUTTER, 36 INCH.NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE

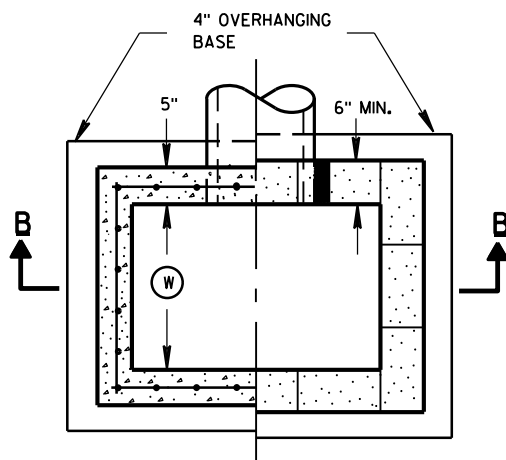
TYPE "T"

USE WITH TYPES R & T CONCRETE CURB & GUTTER, 36 INCH.

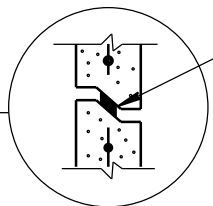
INLET COVERS
TYPE F, HM, HM-S, S, T, V,
HM-GJ, & HM-GJ-SSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATIONAPPROVED
11/27/2013
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA



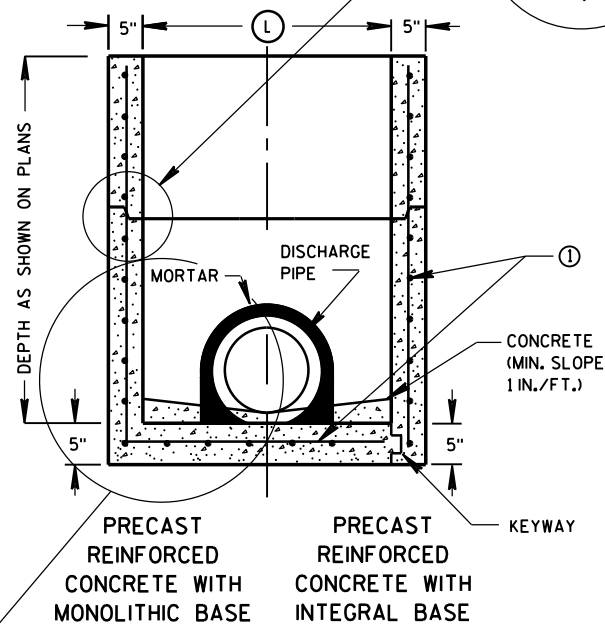
PLAN VIEW



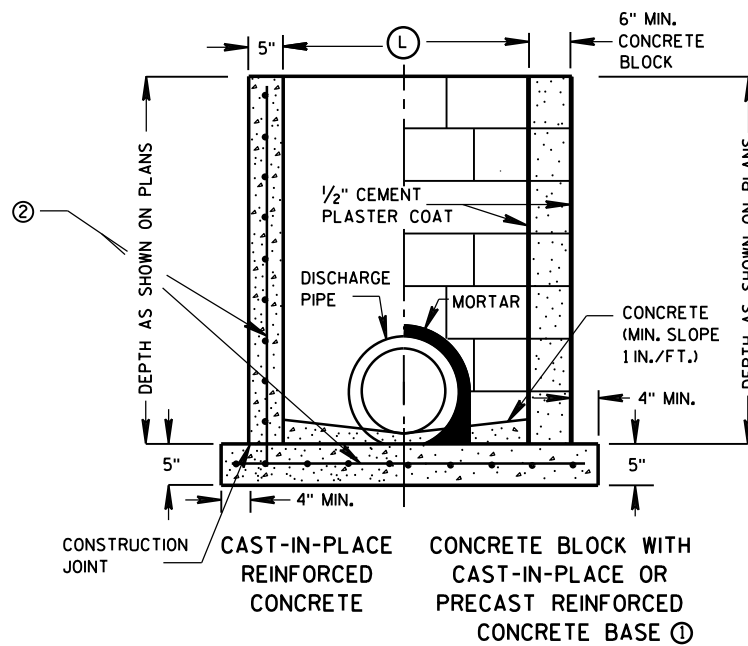
PLAN VIEW



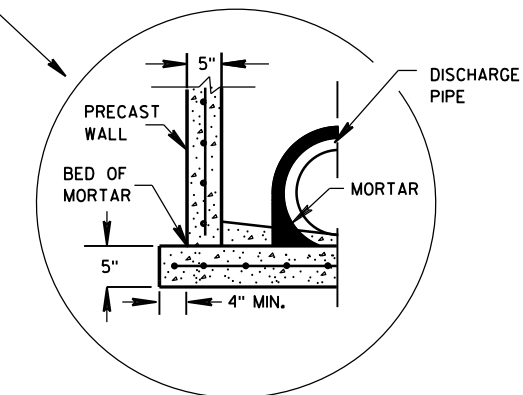
RISER JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

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.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3 INCH CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

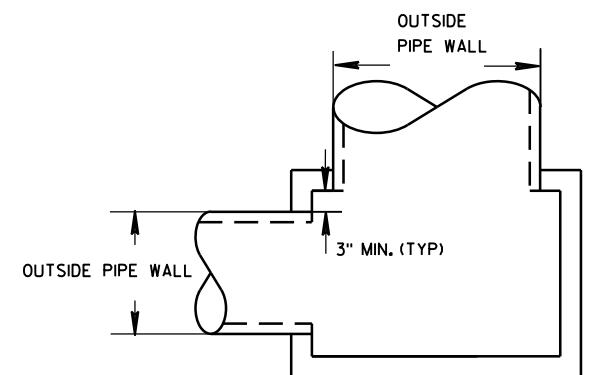
- ① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- ② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH ① (FT)	LENGTH ② (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24

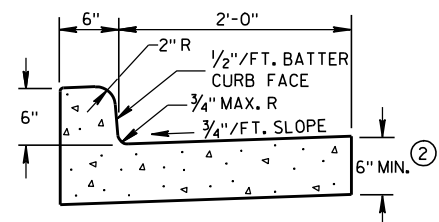


DETAIL "A"

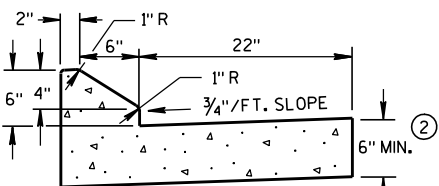
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

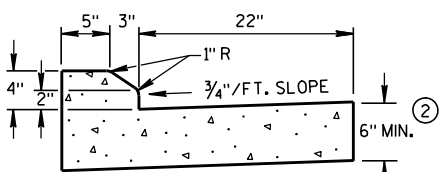
APPROVED
6/5/2012 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA ENGINEER



TYPES A & D ①



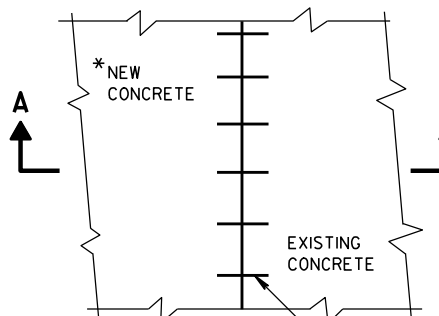
6" SLOPED CURB TYPES G & J ①



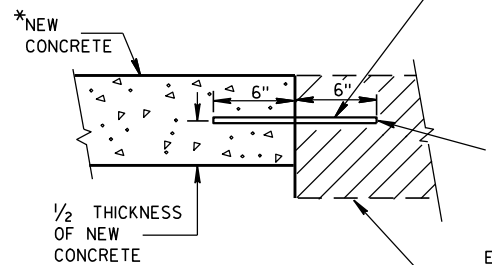
4" SLOPED CURB TYPES G & J ①

CONCRETE CURB & GUTTER 30"

* NEW CURB & GUTTER,
SURFACE DRAINS,
CONCRETE PAVEMENT
OR OTHER NEW CONCRETE.



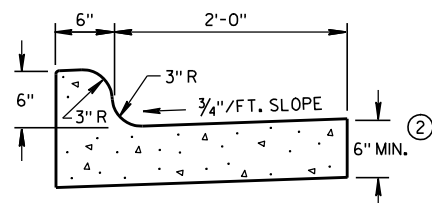
PLAN VIEW

SECTION A-A
TIE BARS DRILLED
INTO EXISTING PAVEMENT

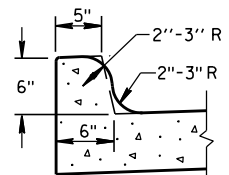
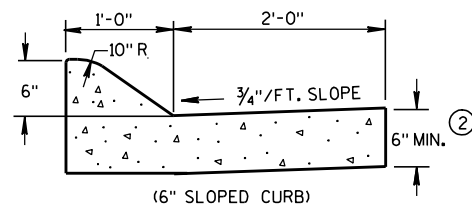
NO. 6 TIE BARS SPACED 2'-6" C-C,
INSTALLED PERPENDICULAR
TO THE LONGITUDINAL JOINT.

MAXIMUM DRILL HOLE
SIZE IS 1/8" GREATER
THAN TIE BAR DIAMETER

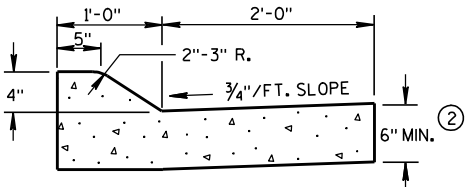
EXISTING
CONCRETE



TYPES K & L ①

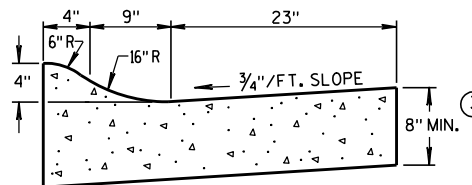
OPTIONAL CURB SHAPE
FOR TYPES K & L ①

(6" SLOPED CURB)



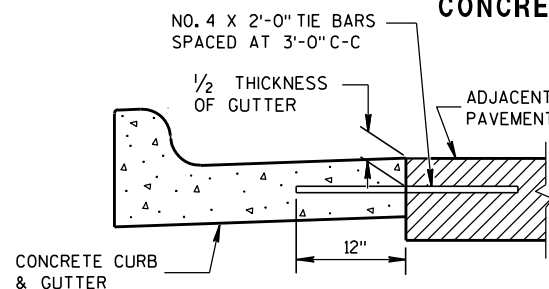
(4" SLOPED CURB)

TYPES A & D ①

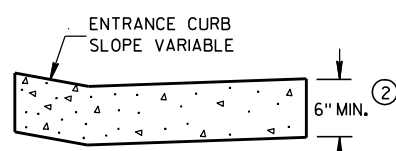


4" SLOPED CURB TYPES R & T ① ④

CONCRETE CURB & GUTTER 36"

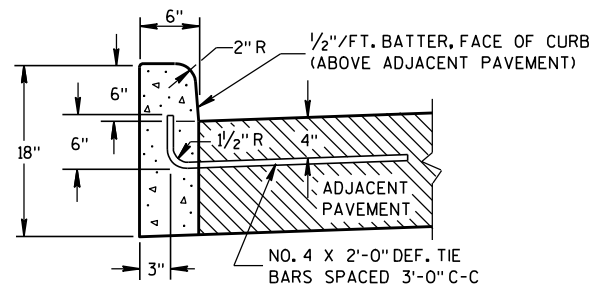


TYPICAL TIE BAR LOCATION ①



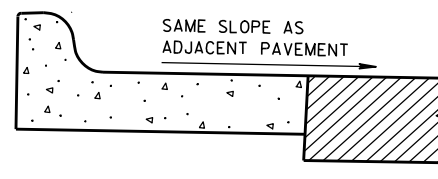
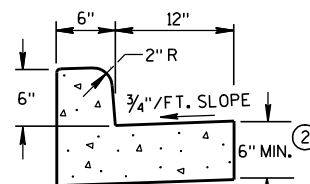
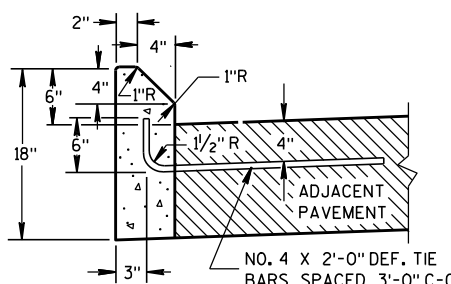
DRIVEWAY ENTRANCE CURB

(WHEN DIRECTED BY THE ENGINEER)



TYPES A & D ①

CONCRETE CURB

REVERSE SLOPE GUTTER ⑤
(TYPICAL FOR ALL CURB & GUTTER TYPES)TYPES A & D
CONCRETE CURB & GUTTER 18"

TYPES G & J ①

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

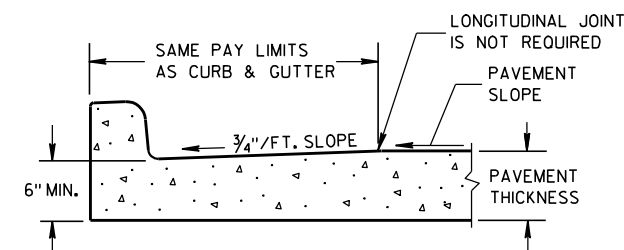
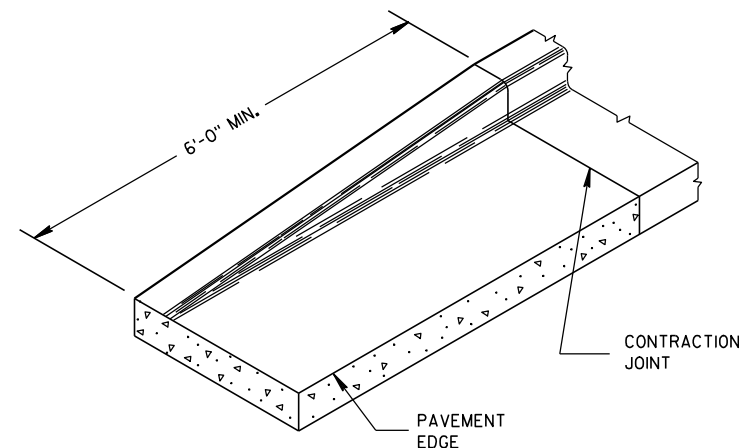
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ④ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑤ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER

END SECTION CURB & GUTTER

CONCRETE CURB, CONCRETE
CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

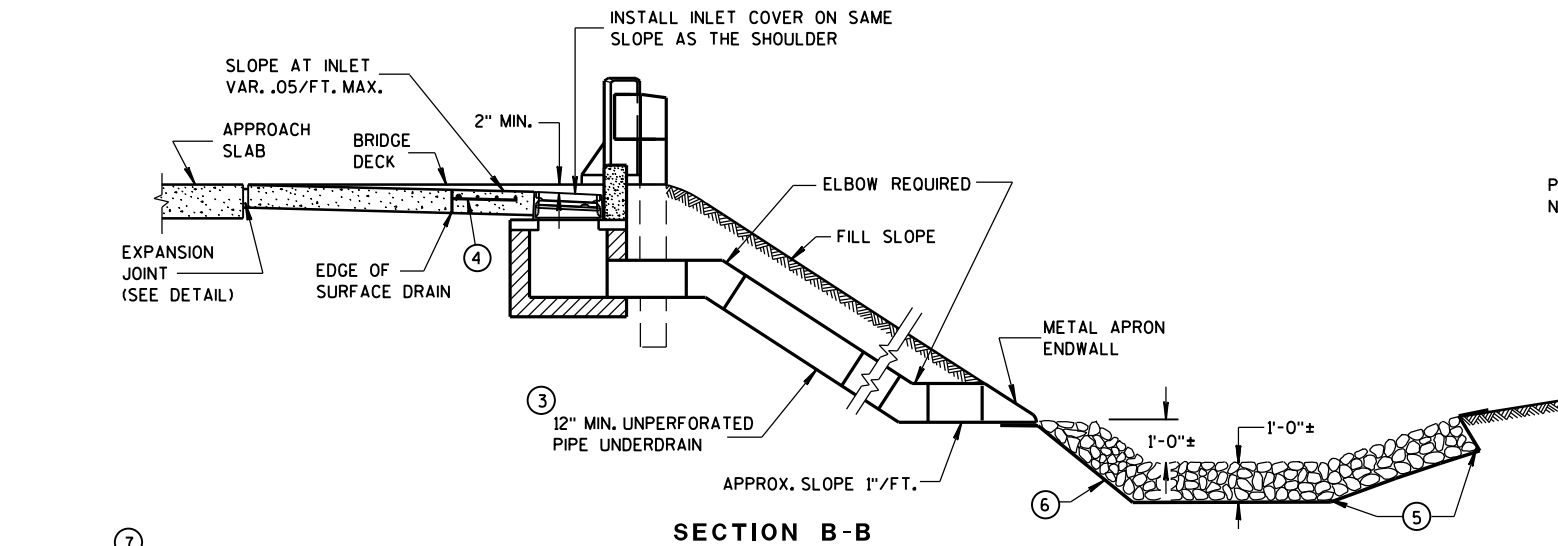
APPROVED

9/4/08

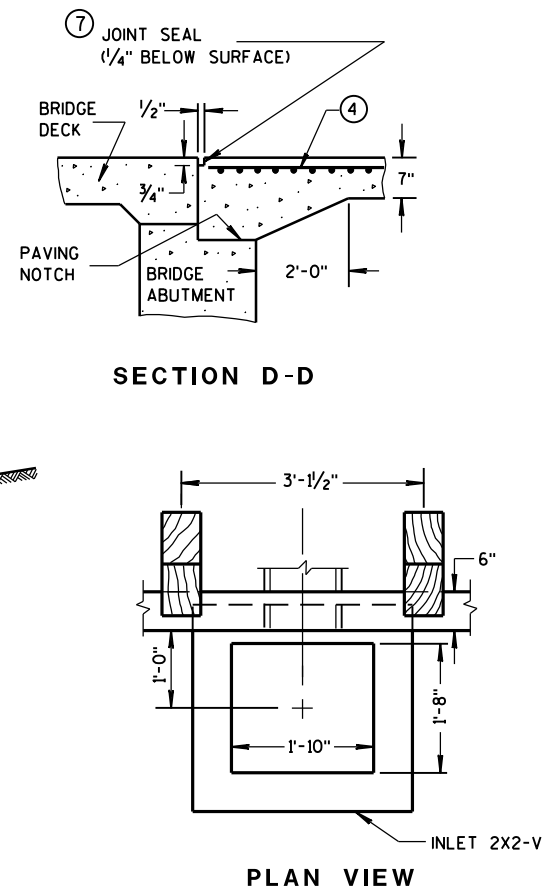
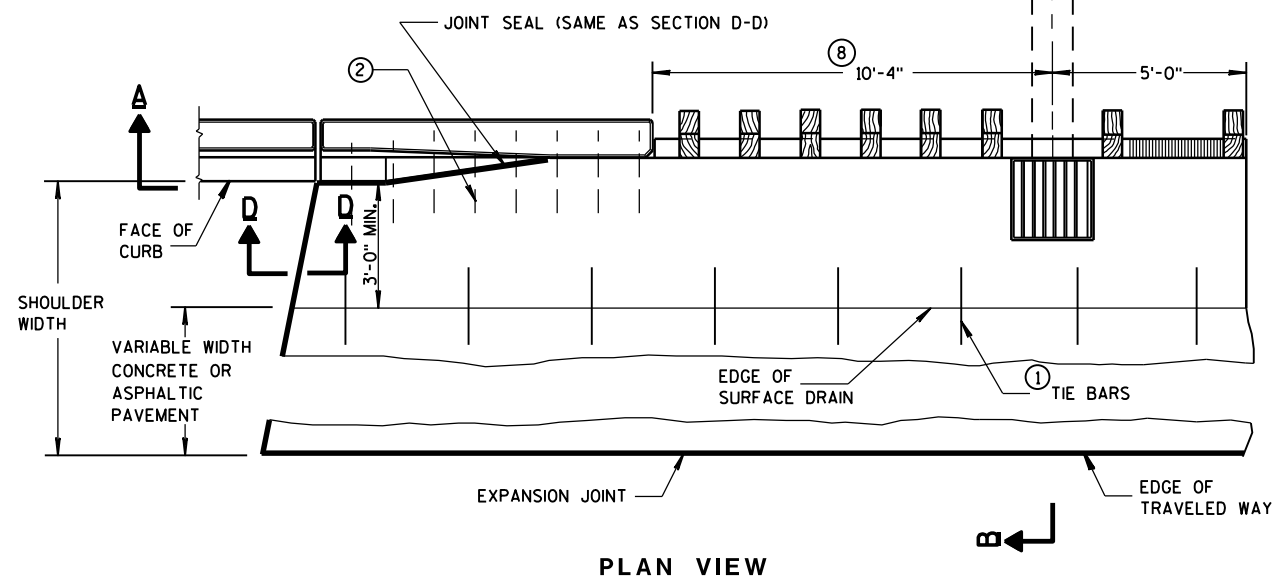
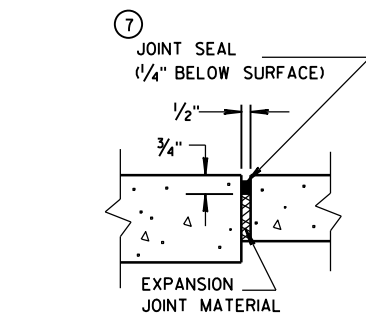
DATE

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



EXPANSION JOINT DETAIL

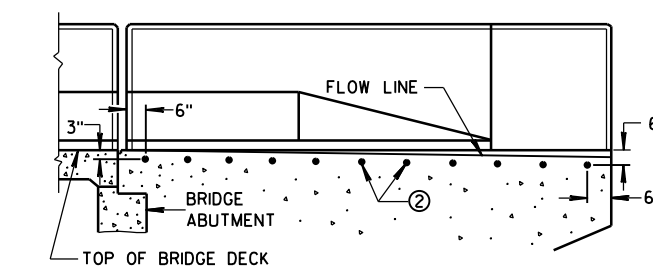
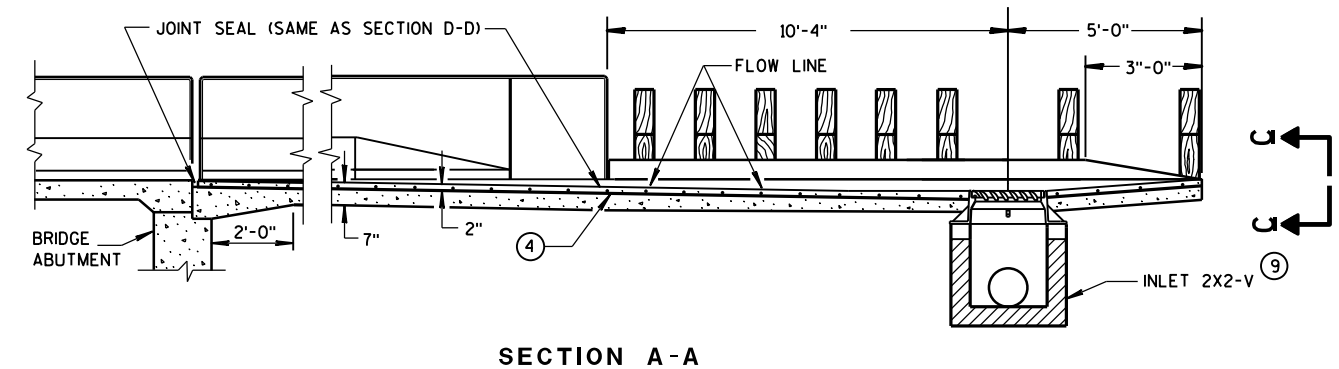
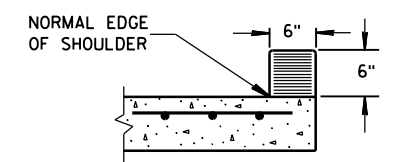


GENERAL NOTES

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.

ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

- ① NO. 4 X 2'-0" TIE BARS SPACED AT 3'-0" CENTERS TO BE USED ONLY WHEN ADJACENT TO P.C. CONCRETE.
- ② NO. 4 X 2'-0" TIE BARS SPACED AT 12" CENTERS TO BE PLACED BY BRIDGE CONTRACTOR, OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
- ③ THE PIPE UNDERDRAIN MAY BE ANY ONE OF THE SIX MATERIALS LISTED IN THE STANDARD SPECIFICATIONS SECTION 612.2 EXCEPT DRAIN TILE.
- ④ MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.
- ⑤ LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.
- ⑥ GEOTEXTILE FABRIC, TYPE 'R'
- ⑦ HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.
- ⑧ THIS DIMENSION MAY VARY DEPENDING ON THE SPACING OF POSTS FOR THE STEEL PLATE BEAM GUARD. THE TYPICAL LOCATION FOR THE SURFACE DRAIN IS WHERE THE POST SPACING WIDENS TO 3'-1 1/2".
- ⑨ SEE CURRENT STANDARD DETAIL DRAWINGS 8A5 AND 8C7 FOR DETAILS.

LOCATION OF
TIE BARS IN WINGWALL

SECTION C-C

CONCRETE SURFACE DRAINS
DROP INLET TYPE
AT STRUCTURES

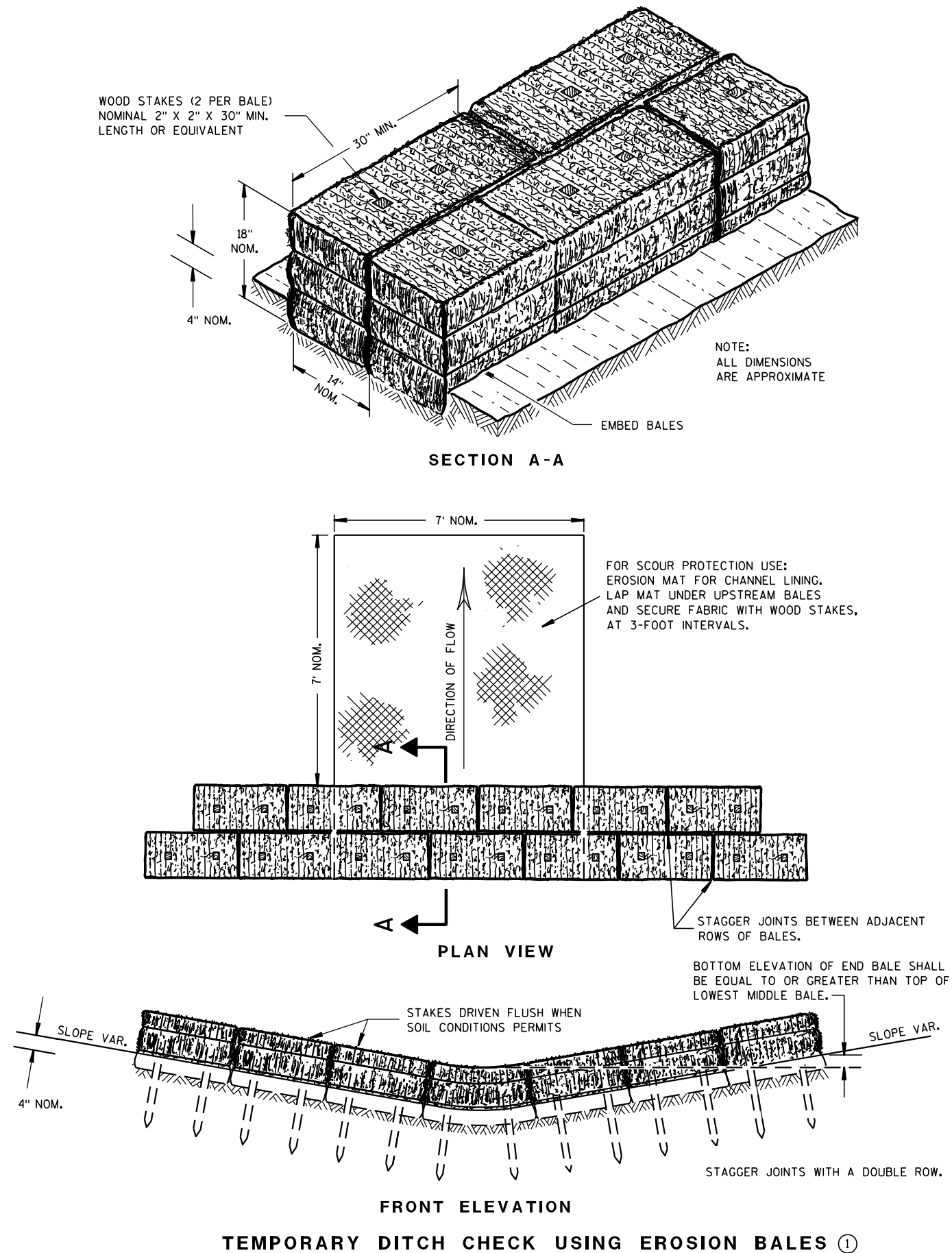
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/4/08

DATE

FHWA

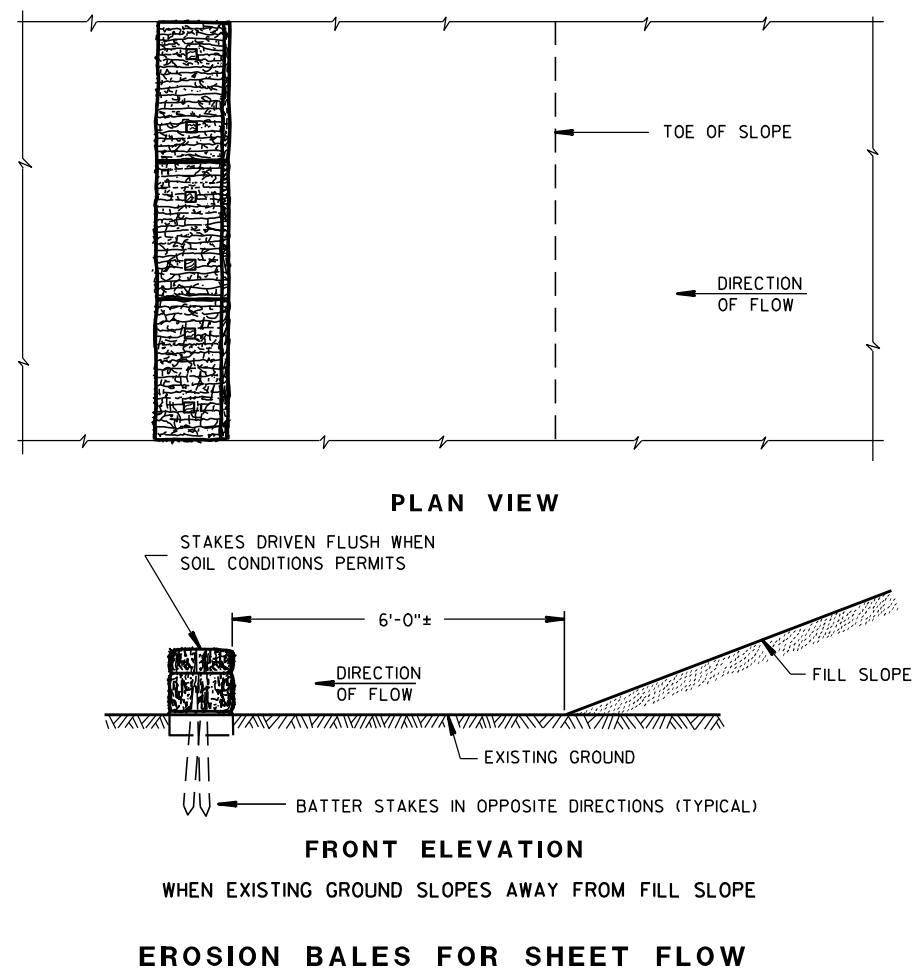
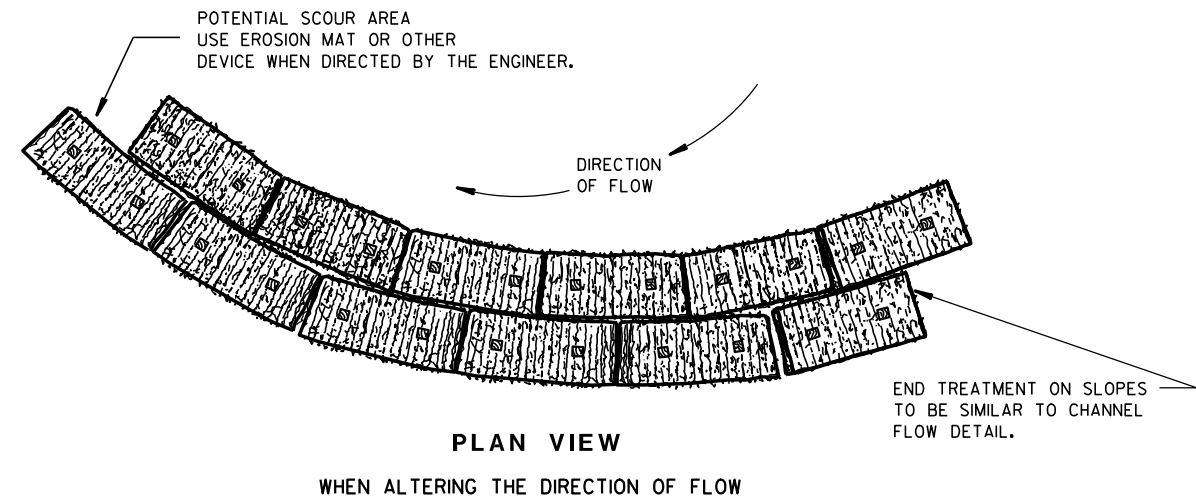
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



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.

- ① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

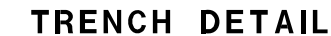
APPROVED

6/04/02
DATE/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

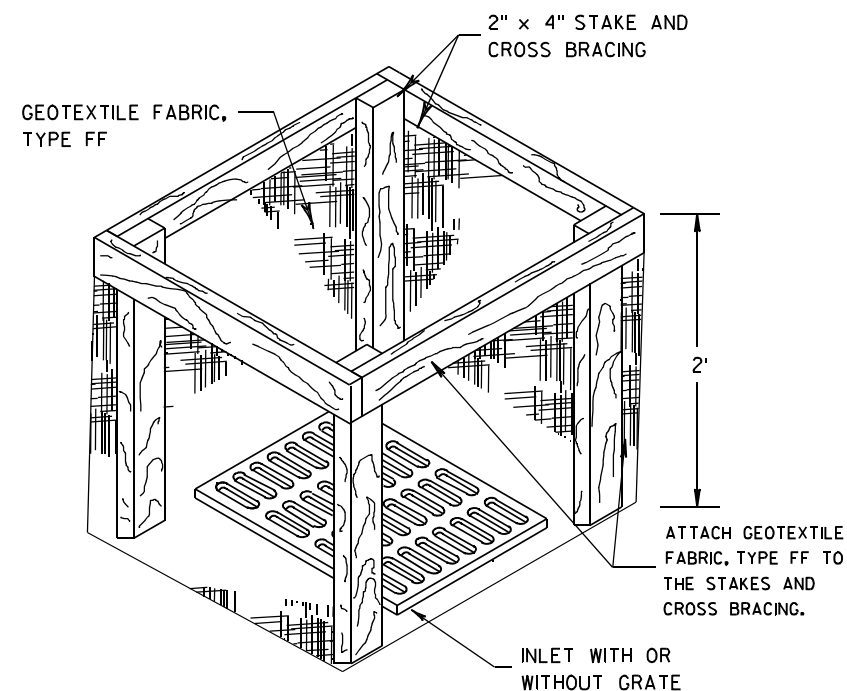
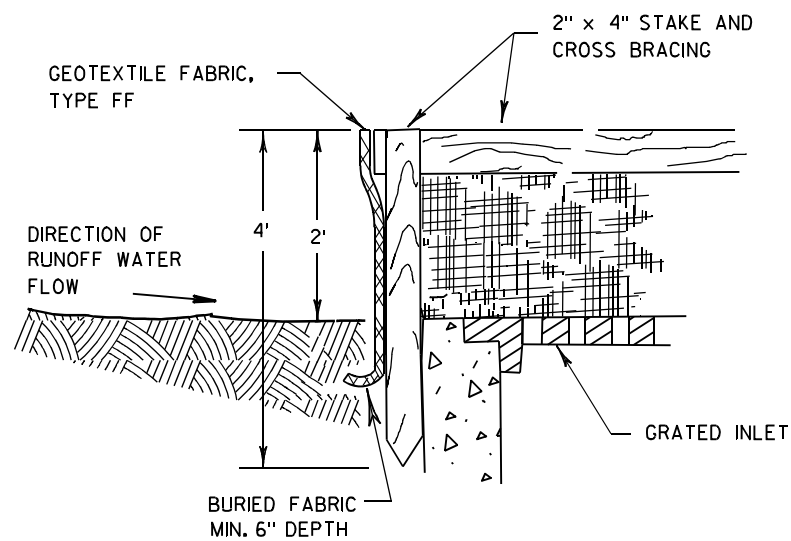
FHWA



- 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.



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



INLET PROTECTION, TYPE A

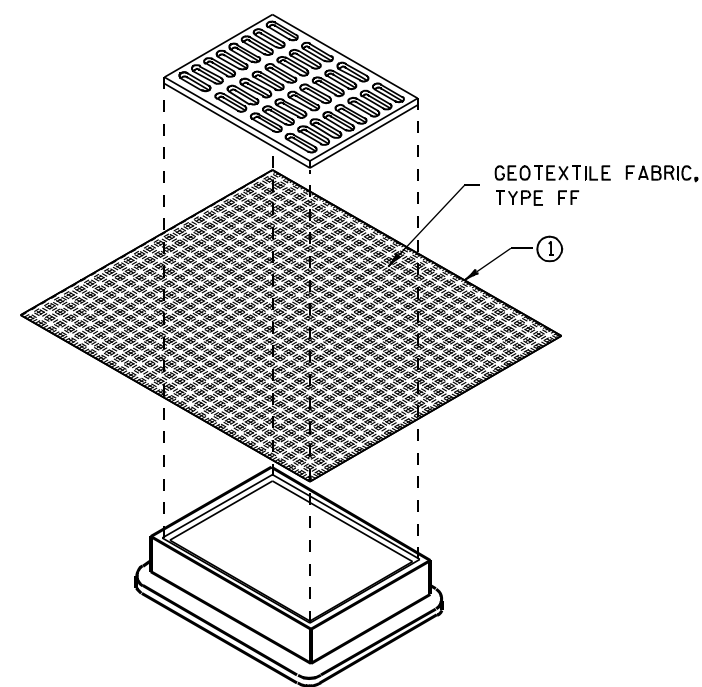
GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

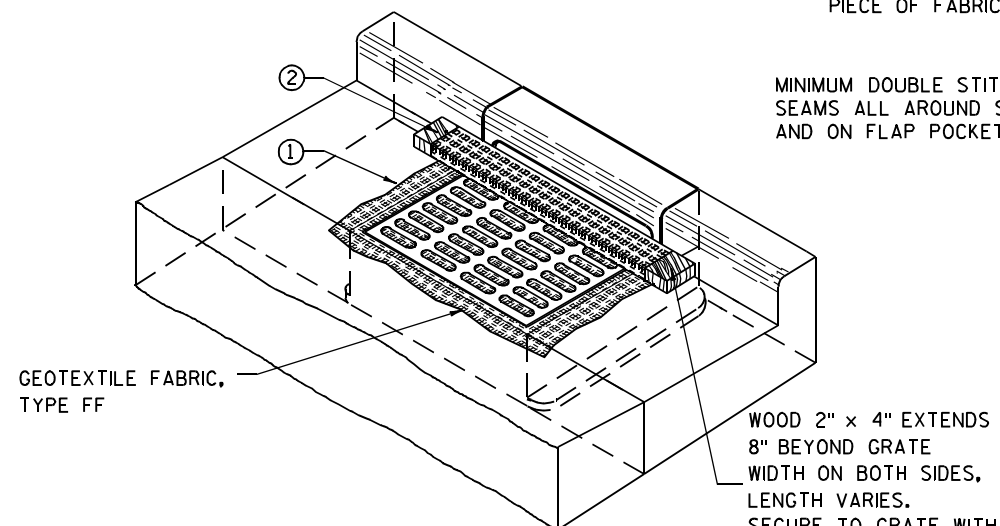
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- ① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
- ③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.



**INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)**

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

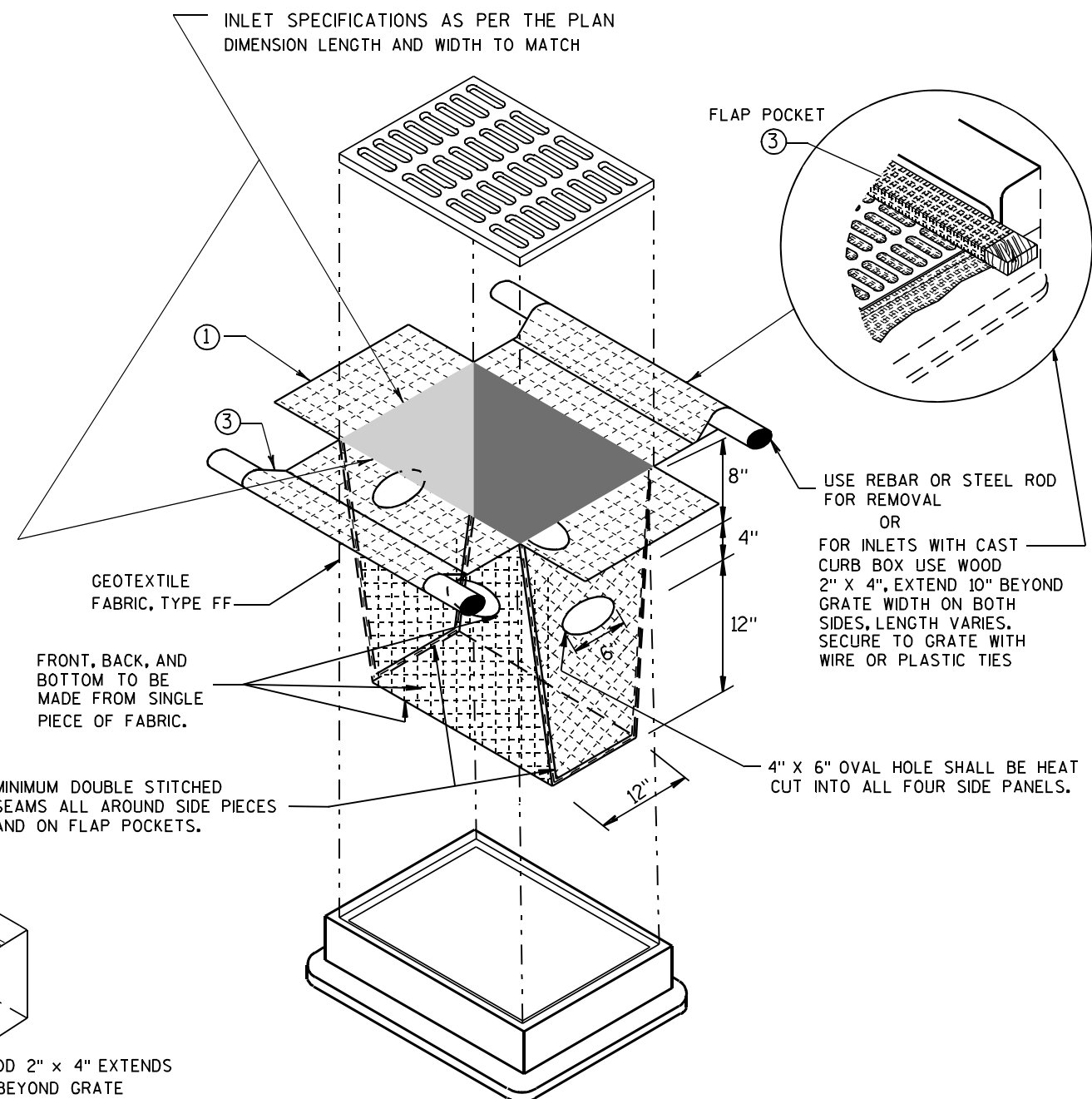
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.



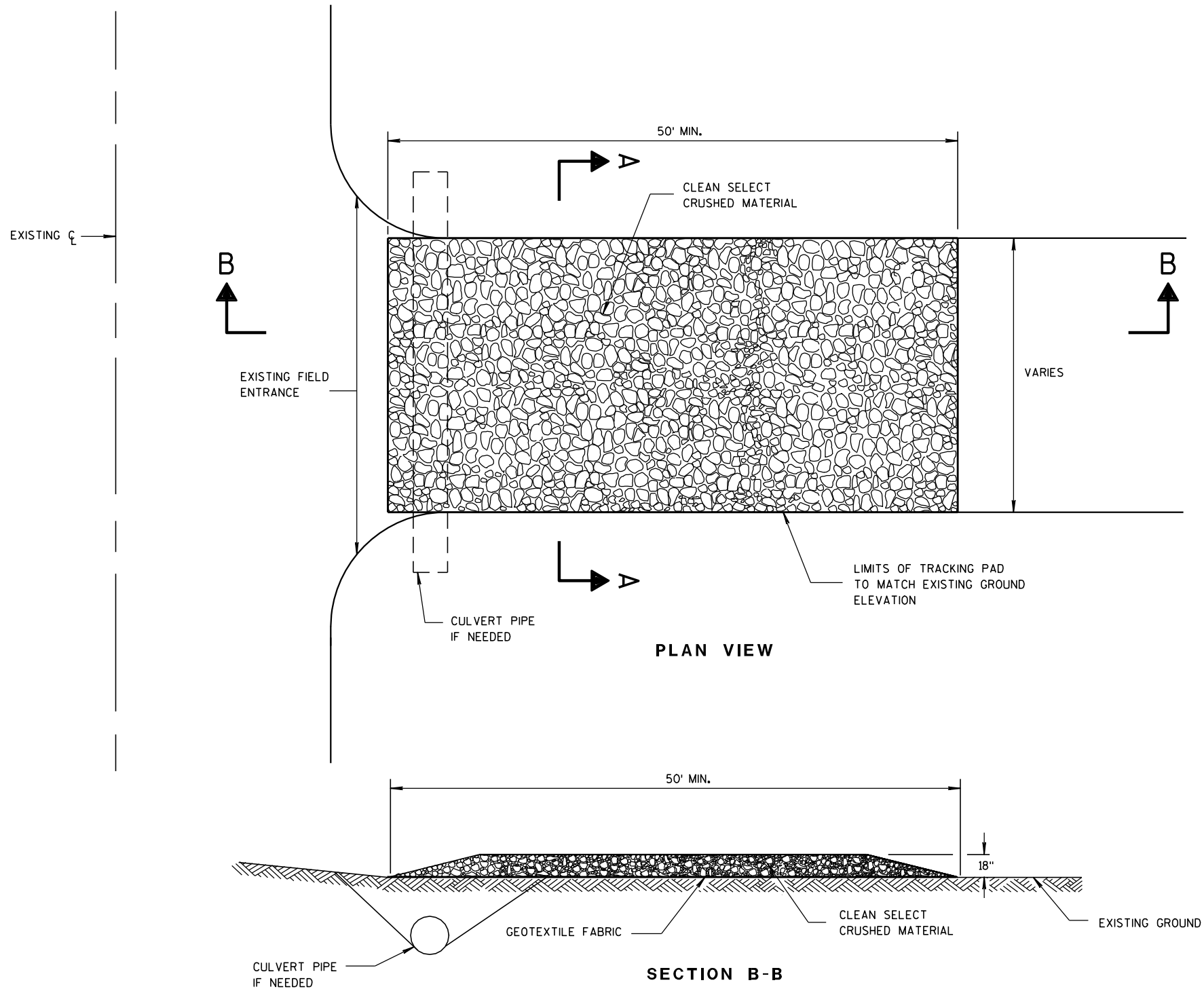
INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

**INLET PROTECTION
TYPE A, B, C, AND D**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02 /S/ Beth Cannestra
DATE
FHWA CHIEF ROADWAY DEVELOPMENT ENGINEER



TRACKING PAD

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.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

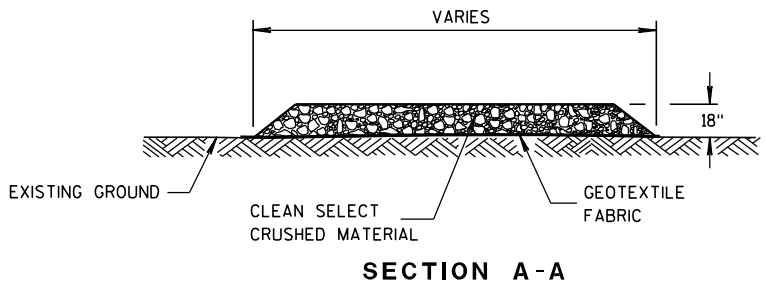
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.



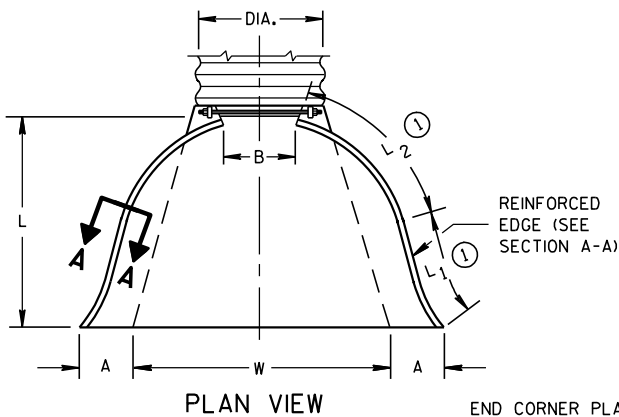
TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

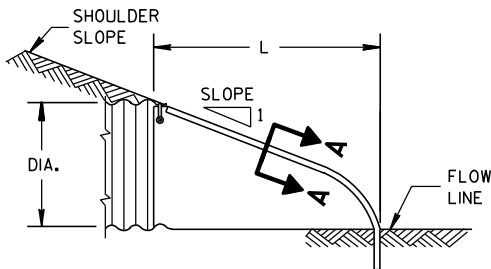
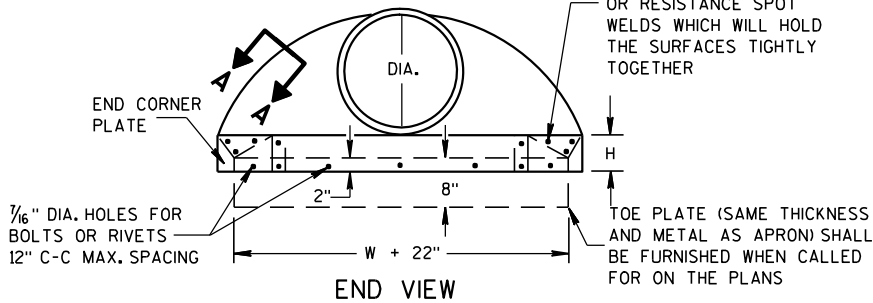
APPROVED
3/24/2011
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA

METAL APRON ENDWALLS											
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")		
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109x	.105x	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109x	.105x	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109x	.105x	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109x	.105x	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109x	.105x	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109x	.105x	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109x	.105x	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

* EXCEPT CENTER PANEL
SEE GENERAL NOTES



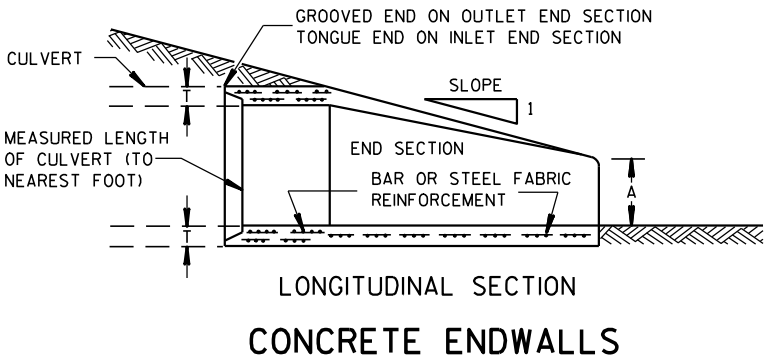
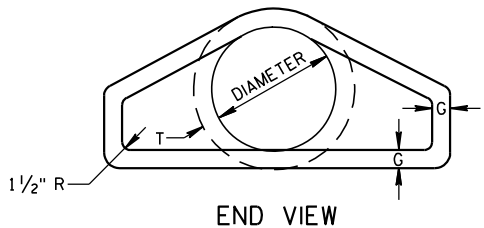
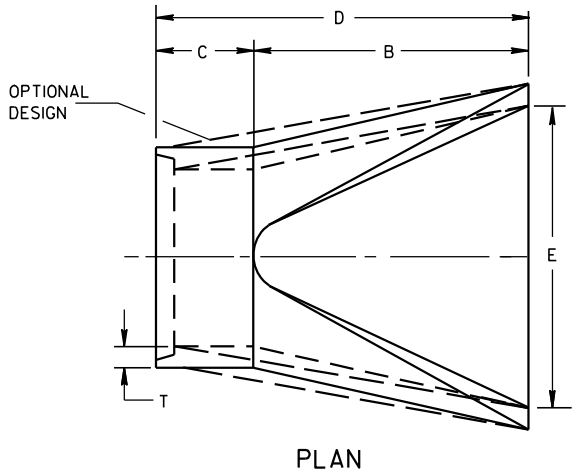
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER



SIDE ELEVATION
METAL ENDWALLS

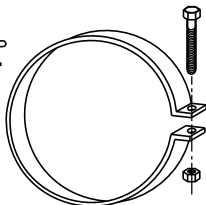
REINFORCED CONCRETE APRON ENDWALLS											
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE			
	T	A	B	C	D	E	G				
12	2	4	24	48 7/8	72 1/8	24	2	3 to 1			
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1			
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1			
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1			
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1			
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1			
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1			
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1			
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1			
48	5	24	72	26	98	84	5	3 to 1			
54	5 1/2	27	65	33 1/4-35	98 1/4-100	90	5 1/2	2 1/2 to 1			
60	6	30-35	60	39	99	96	5	2 to 1			
66	6 1/2	24-30	72-78	21-27	99	102	5 1/2	2 to 1			
72	7	24-36	78	21	99	108	6	2 to 1			
78	7 1/2	24-36	78	21	99	114	6 1/2	2 to 1			
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1			
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1			

* MINIMUM
** MAXIMUM

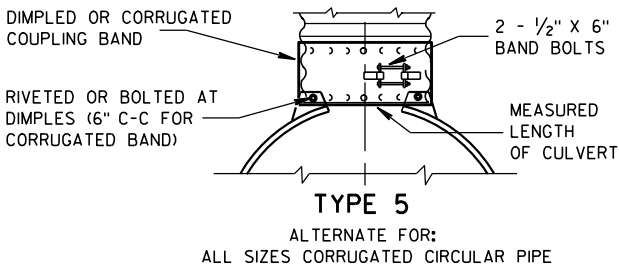
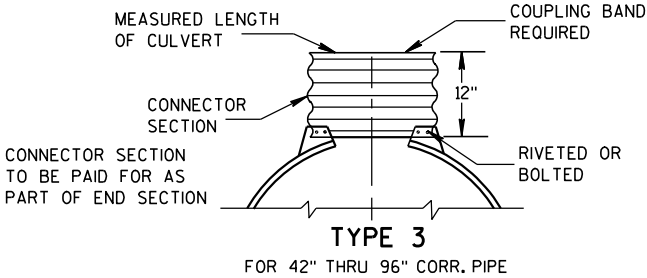
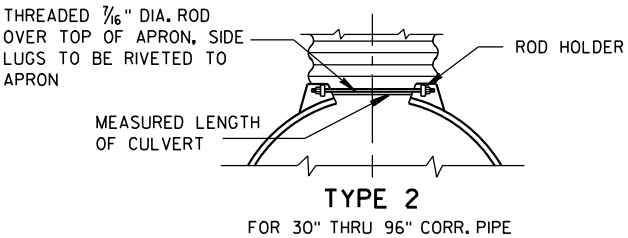
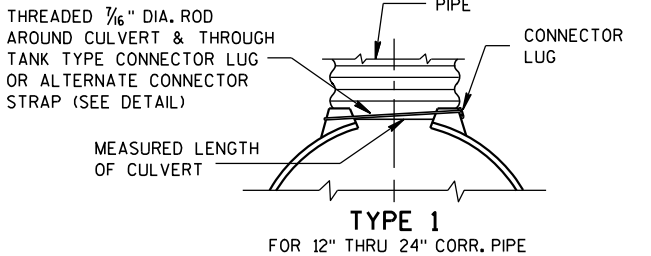


LONGITUDINAL SECTION
CONCRETE ENDWALLS

1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



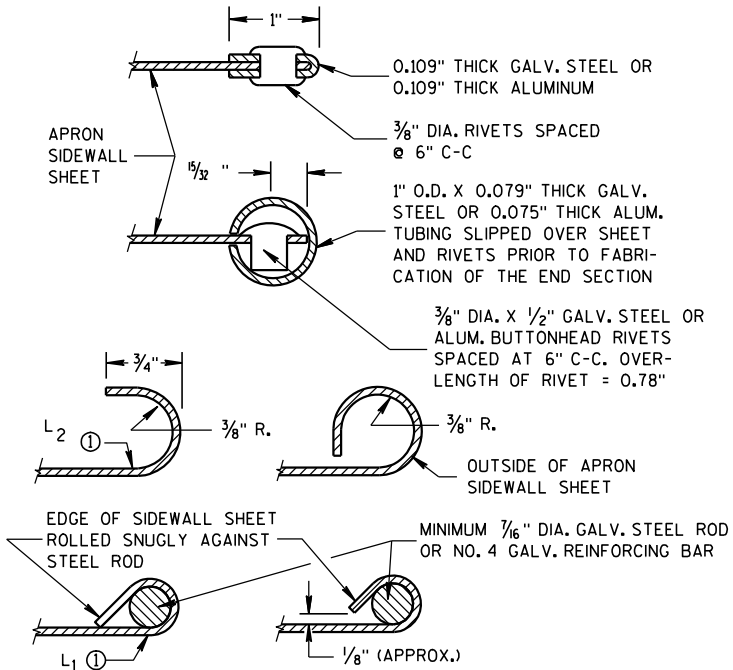
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

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.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

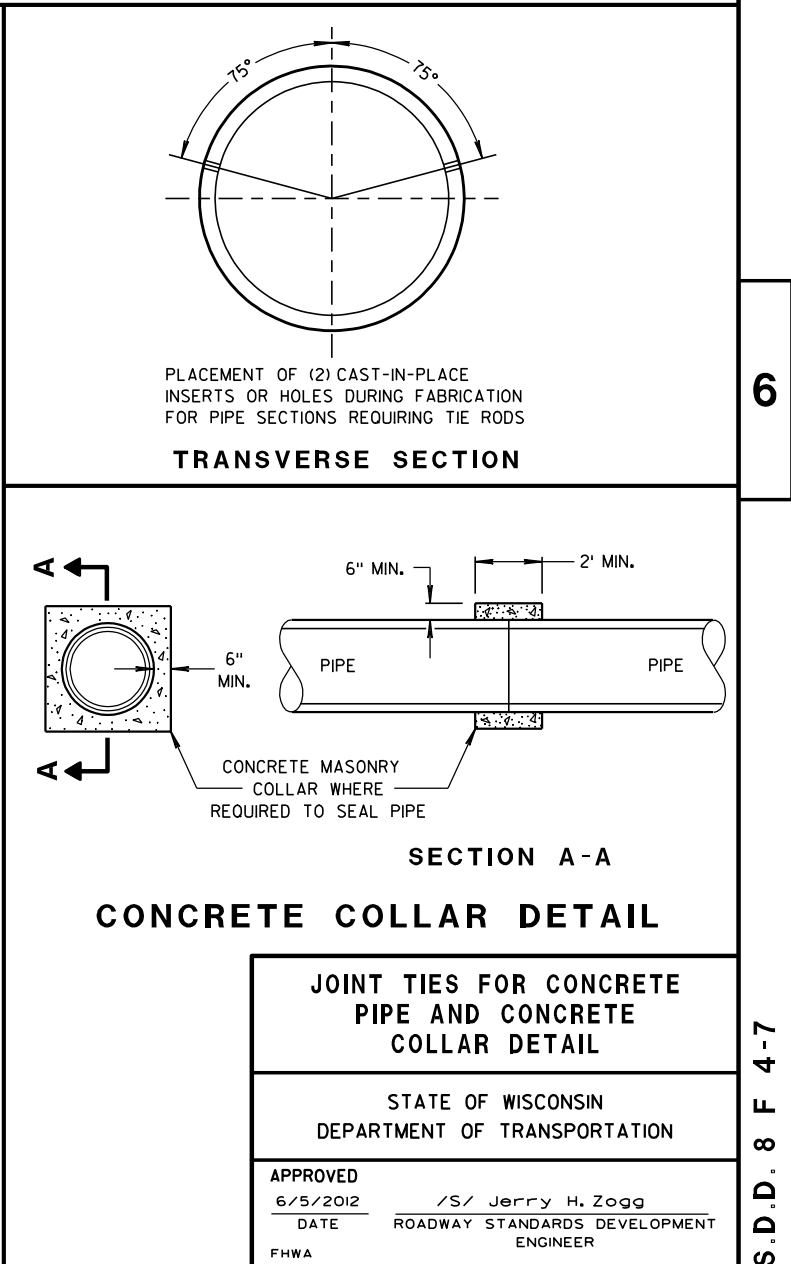
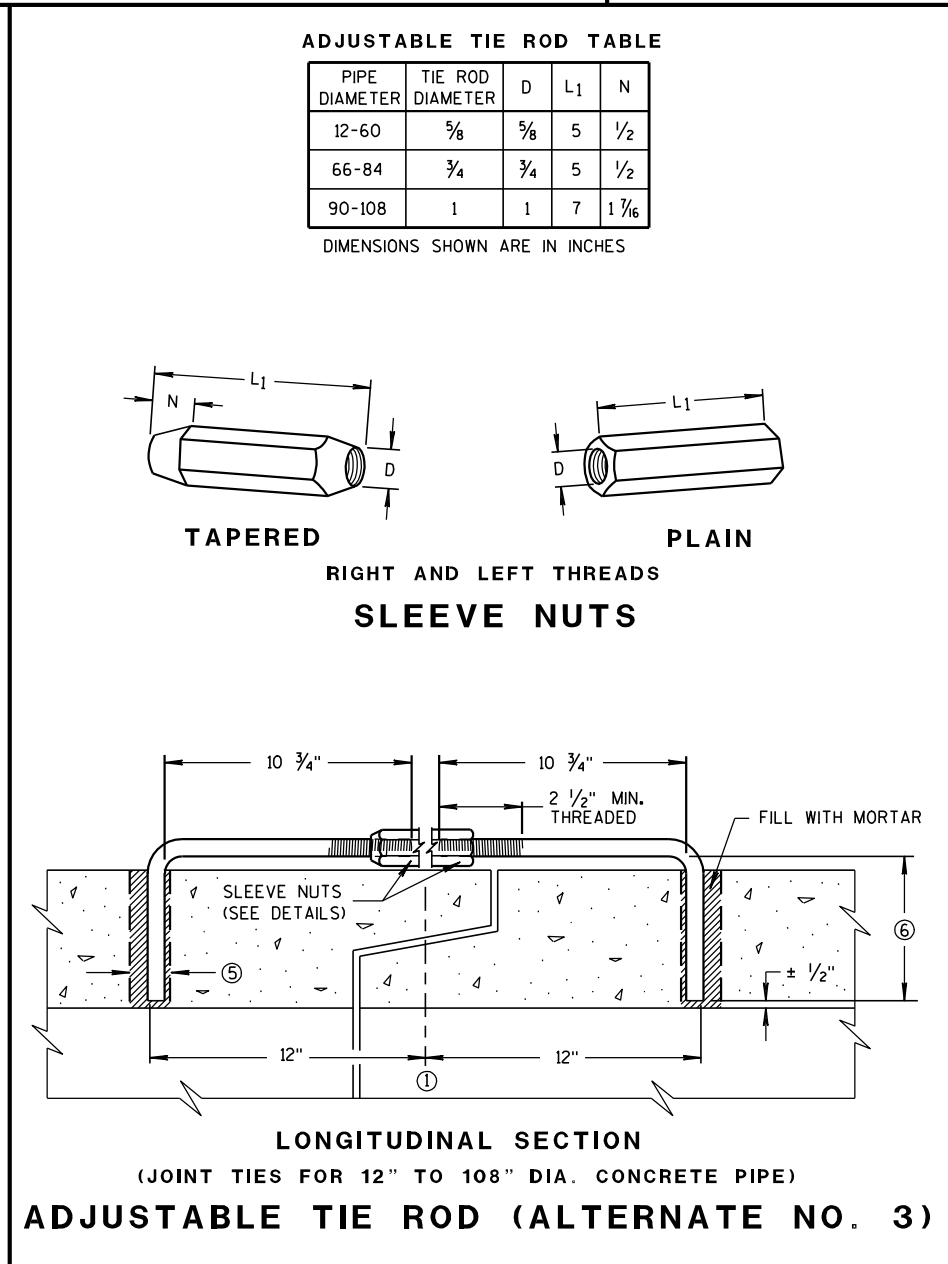
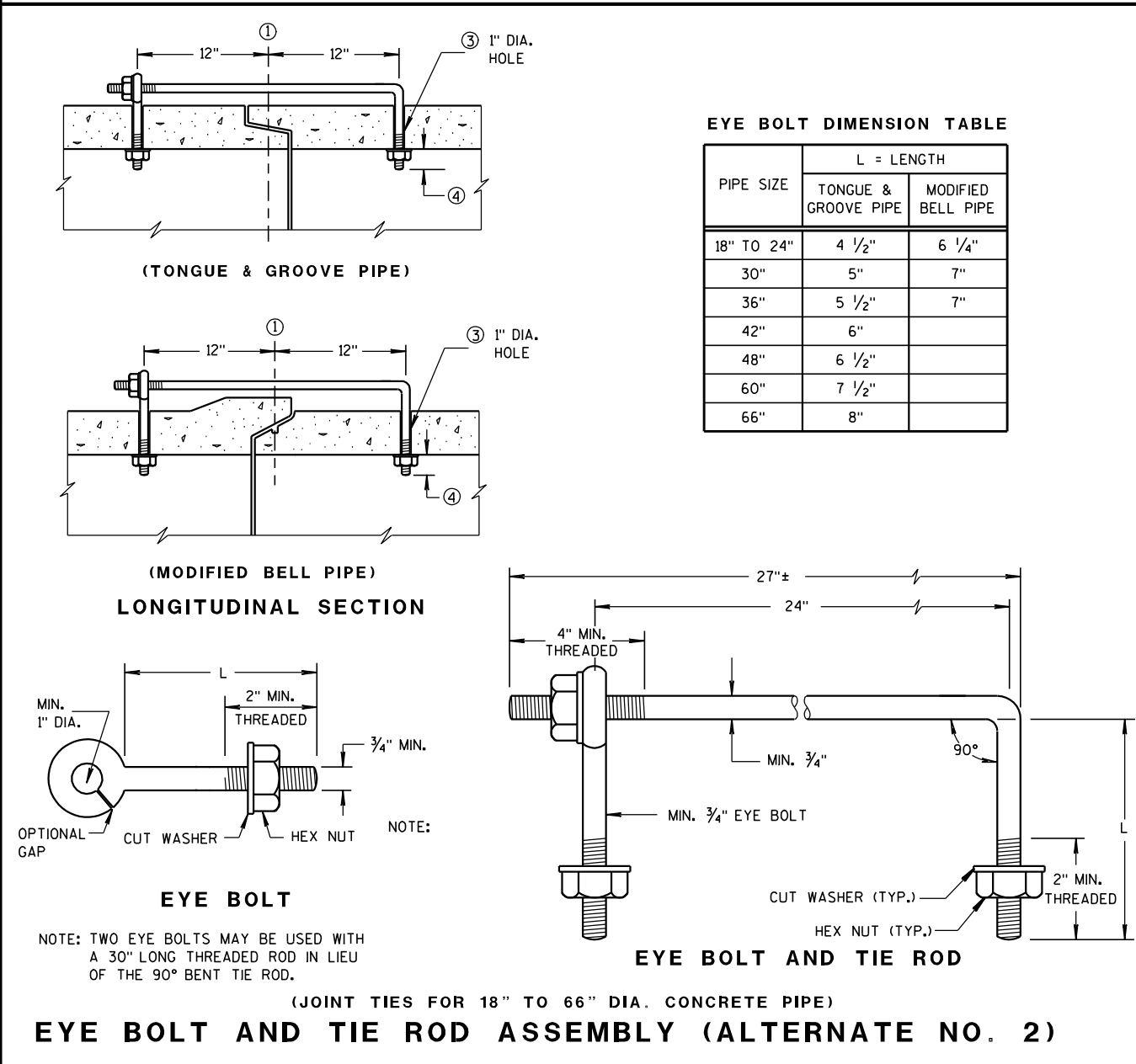
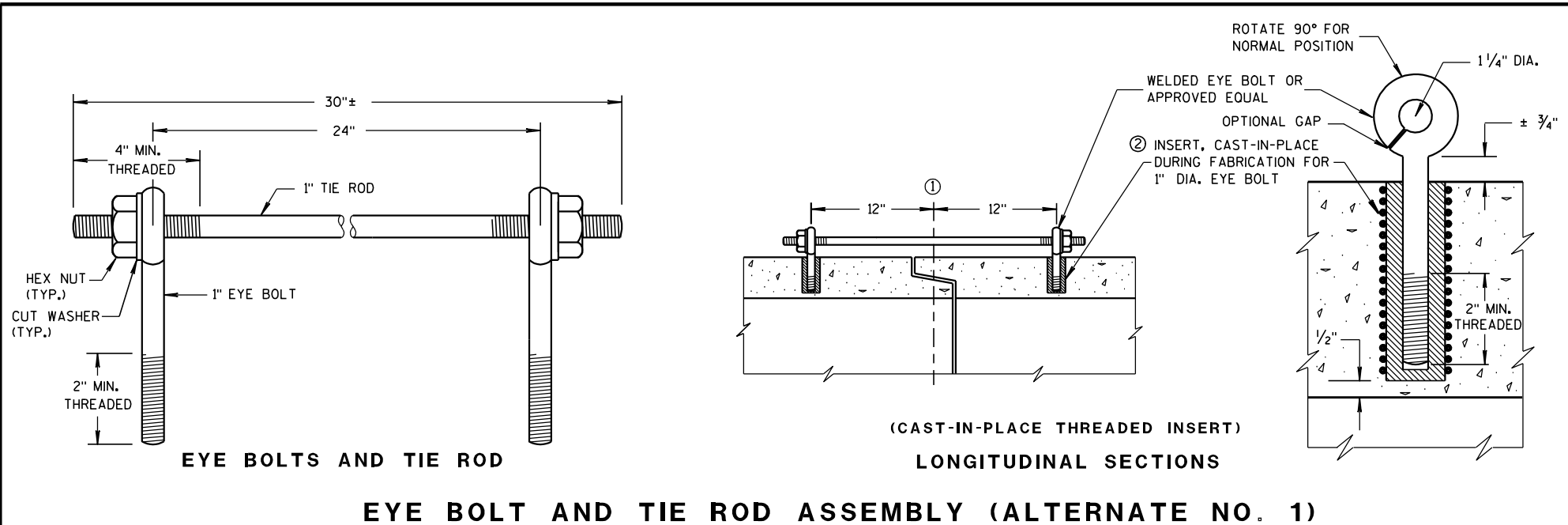
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

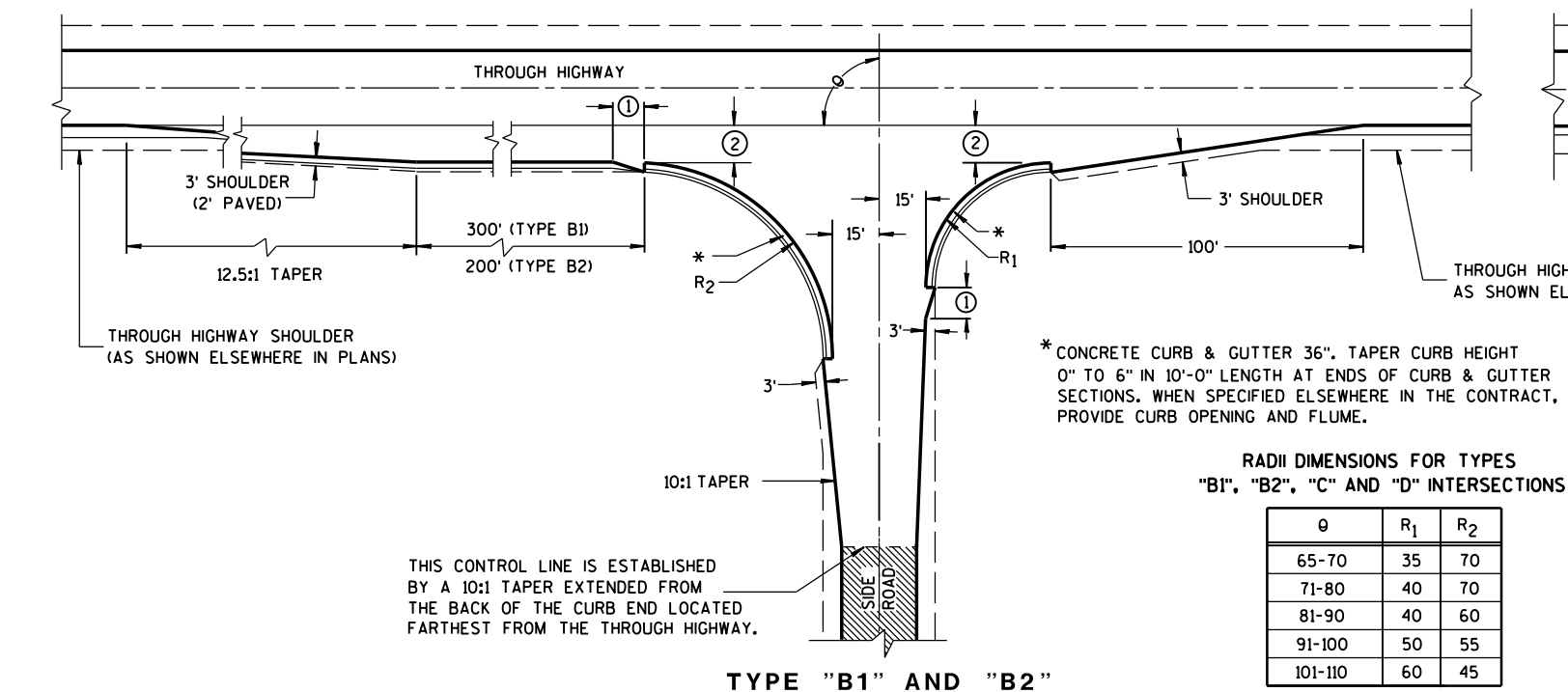
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94
DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA





GENERAL NOTES

DESIGNS MAY BE USED INTERCHANGEABLY IN COMBINATION OR SEPARATELY FOR ANY ONE COMPLETE INTERSECTION DEPENDING UPON INTERSECTION ANGLE AND SURFACING OF EACH APPROACH ROADWAY.

SIDE ROAD SURFACING NOTE

WHEN THE SIDE ROAD IS NOT PRESENTLY PAVED, PAVEMENT SHALL BE PLACED TO THE LIMITS SHOWN UNLESS OTHERWISE PROVIDED IN THE CONTRACT. WHERE THE CONSTRUCTION LIMITS ARE BEYOND THE PAVING LIMITS, CRUSHED AGGREGATE SURFACING SHALL BE PLACED BETWEEN THE PAVING LIMITS AND CONSTRUCTION LIMITS.

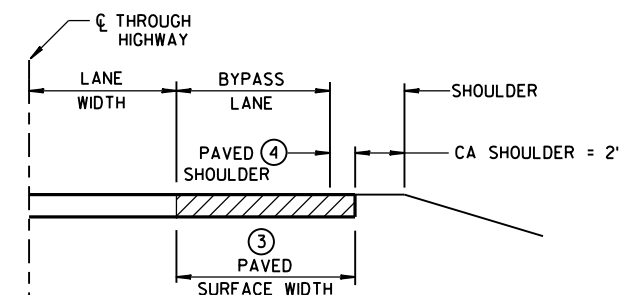
WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

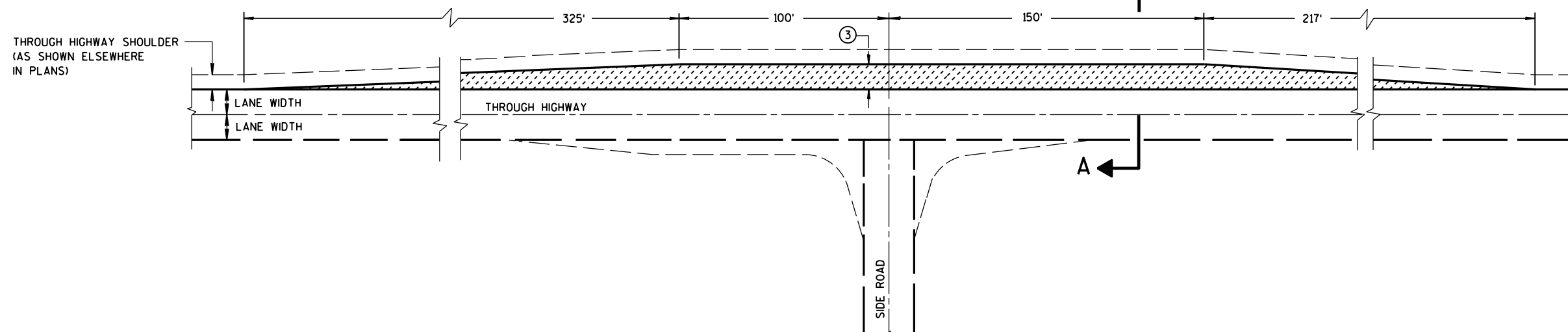
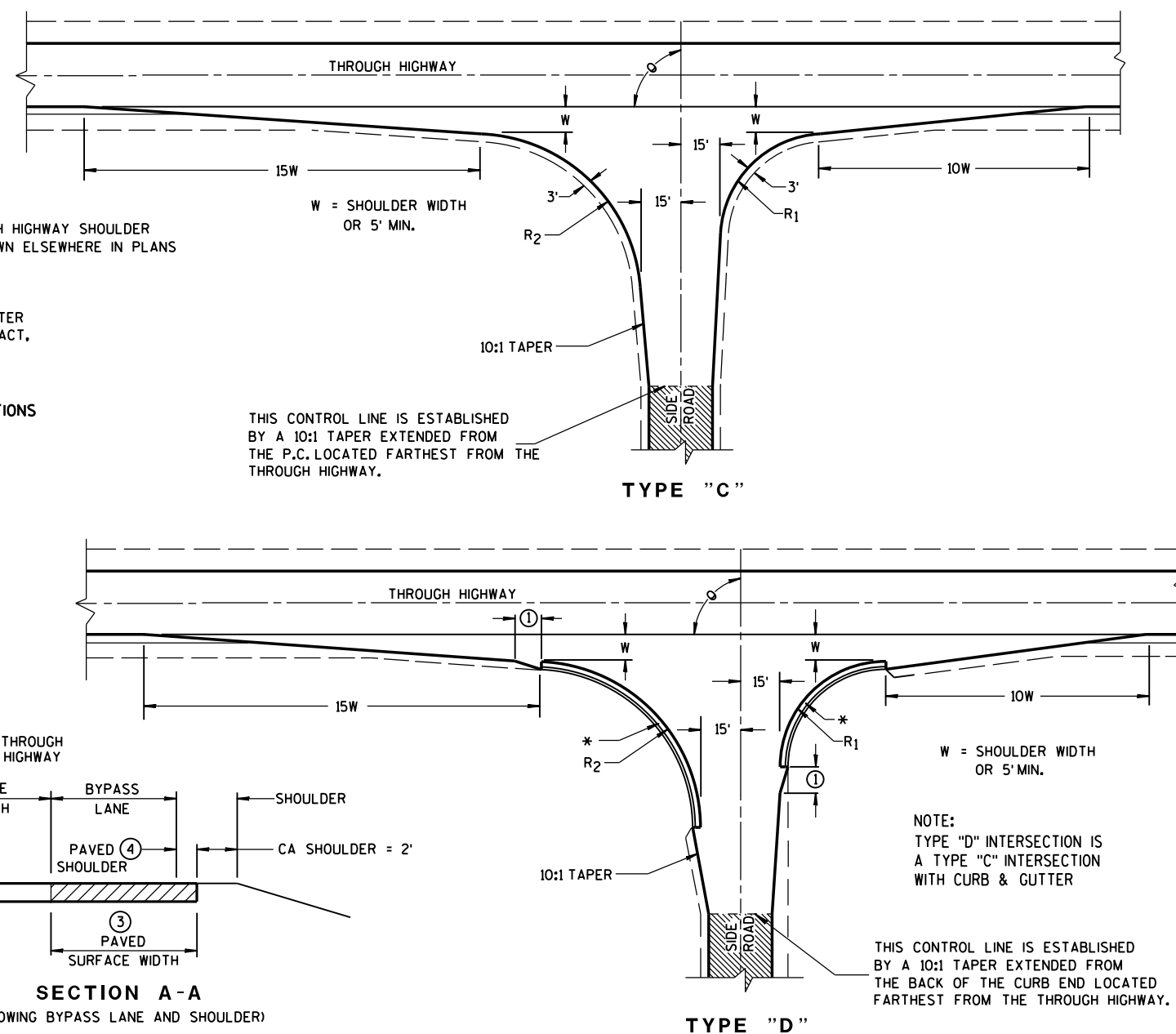
EXISTING PAVED SURFACE

BYPASS LANE

- ① 10-FT TYPICAL.
- ② 12-FT** PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.
- **10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.
- ③ BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE
-ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH.
-PC CPNCRETE = 13-FT PLUS PAVED SHOULDER WIDTH.
- ④ BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.



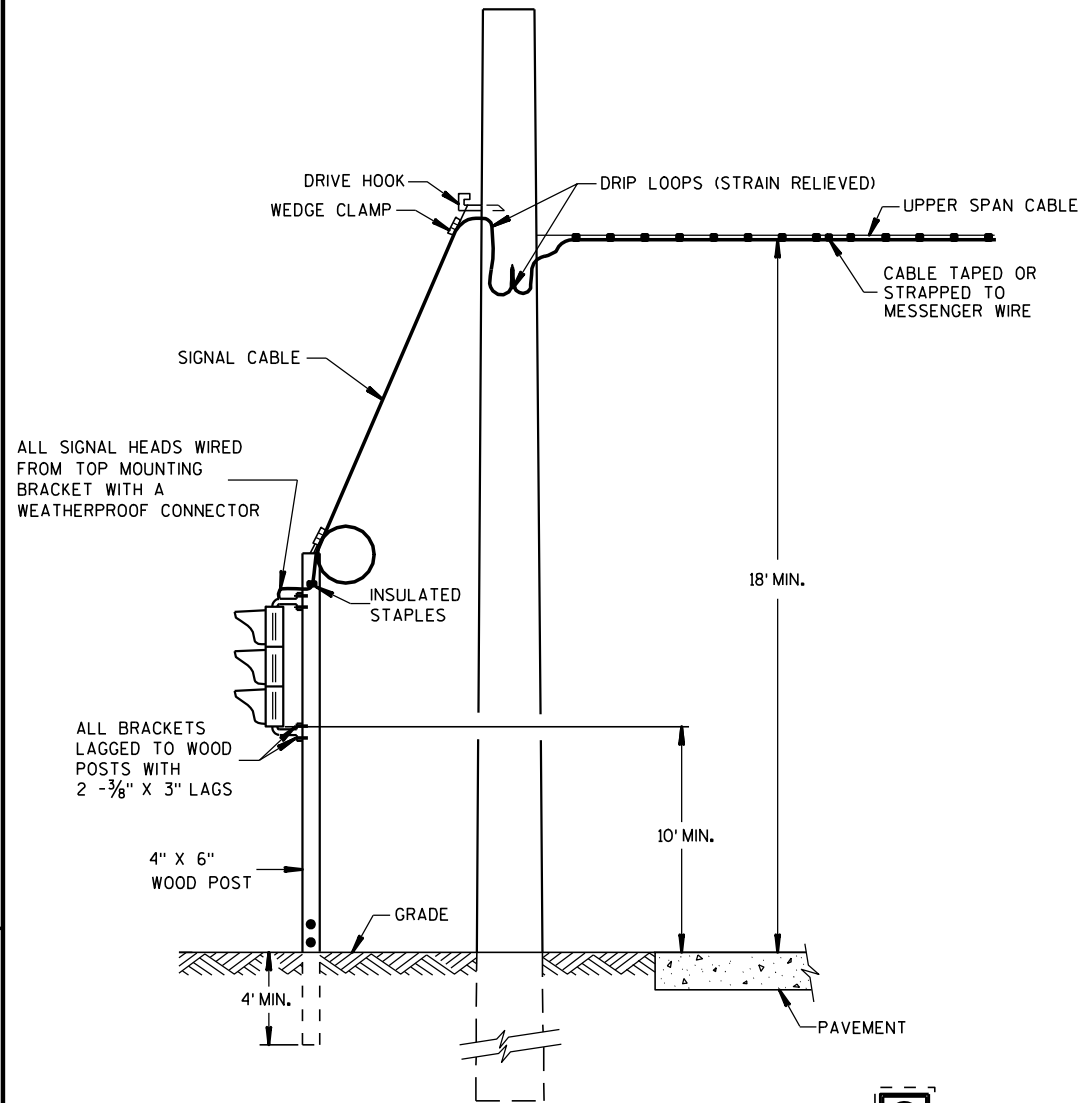
SECTION A-A
(SHOWING BYPASS LANE AND SHOULDER)



TEE INTERSECTION BYPASS LANE DETAIL

AT-GRADE SIDE ROAD
INTERSECTION, TYPES "B1", "B2",
"C" AND "D" AND TEE
INTERSECTION BYPASS LANE

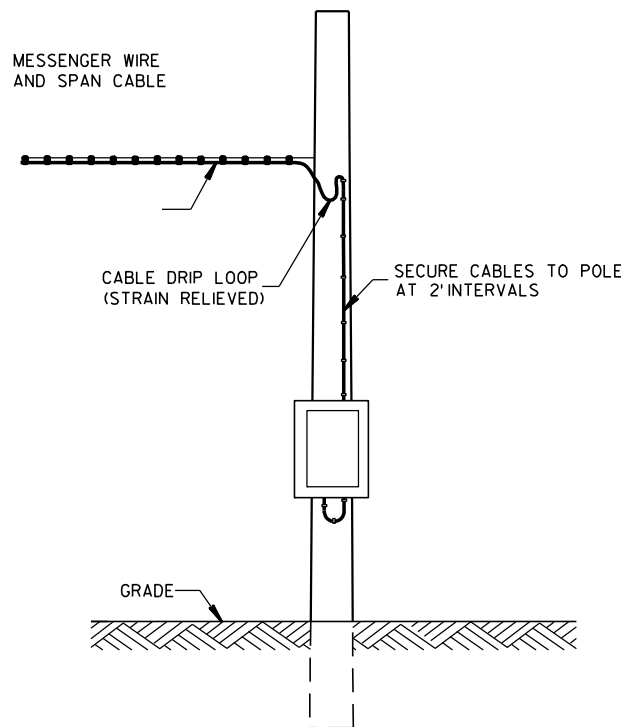
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



TYPICAL DROP TO TRAFFIC SIGNAL FACE

OFFSET DISTANCES FOR TEMPORARY NON-BREAKAWAY POLES	
SPEED LIMIT	OFFSET DISTANCE**
GREATER THAN 45 MPH	18 FT
45 MPH OR LESS	12 FT
45 MPH OR LESS W/ CURBS	2 FT
**NOTE: OFFSET MEASURED FROM OUTER EDGE OF OUTSIDE THRU LANE.	

MINIMUM POLE LENGTHS	CLASS	MINIMUM BURIAL DEPTHS
25 FEET	Ⅴ	5 FEET
30 FEET	Ⅴ	6 FEET
35 FEET	Ⅳ	7 FEET
40 FEET	Ⅳ	8 FEET
45 FEET	Ⅳ	9 FEET



POLE MOUNT CABINET INSTALLATION

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

POLE MOUNTED TRAFFIC SIGNAL CONTROL CABINET MAYBE MOUNTED ON THE SERVICE POLE IF THE ELECTRICAL UTILITY ALLOWS THE INSTALLATION.

WHEN UTILITY POLES ARE USED TO SPAN THE TEMPORARY OVERHEAD CABLE, WRITTEN PERMISSION MUST BE OBTAINED FROM THE OWNER OF THE POLES AND GIVEN TO THE PROJECT MANAGER. ALL PERTINENT UTILITY AND CODE CLEARANCES SHALL BE MAINTAINED.

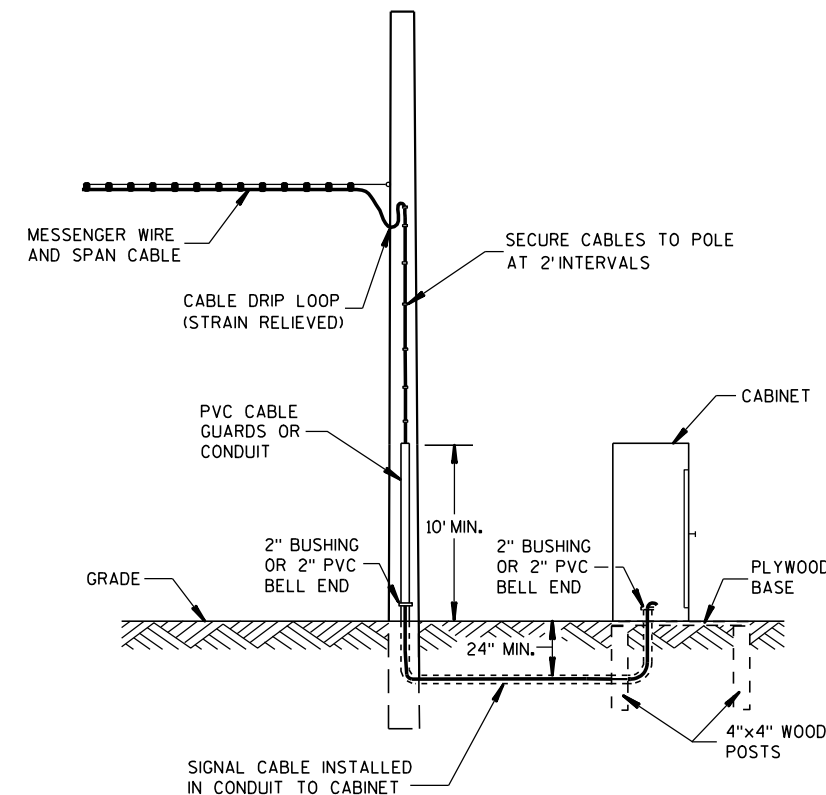
WOOD POLES (NONBREAKAWAY) SHALL BE NO CLOSER TO EDGE OF PAVEMENT THAN OFFSET DISTANCE CHART ALLOWS OR 4 FEET BEHIND PROTECTIVE BARRIER (BEAMGUARD, ETC.).

WOOD POSTS (BREAKAWAY) SHALL BE NO CLOSER THAN 2 FEET OUTSIDE OF SHOULDER.

VERTICAL CLEARANCE ETC. PER NEC.

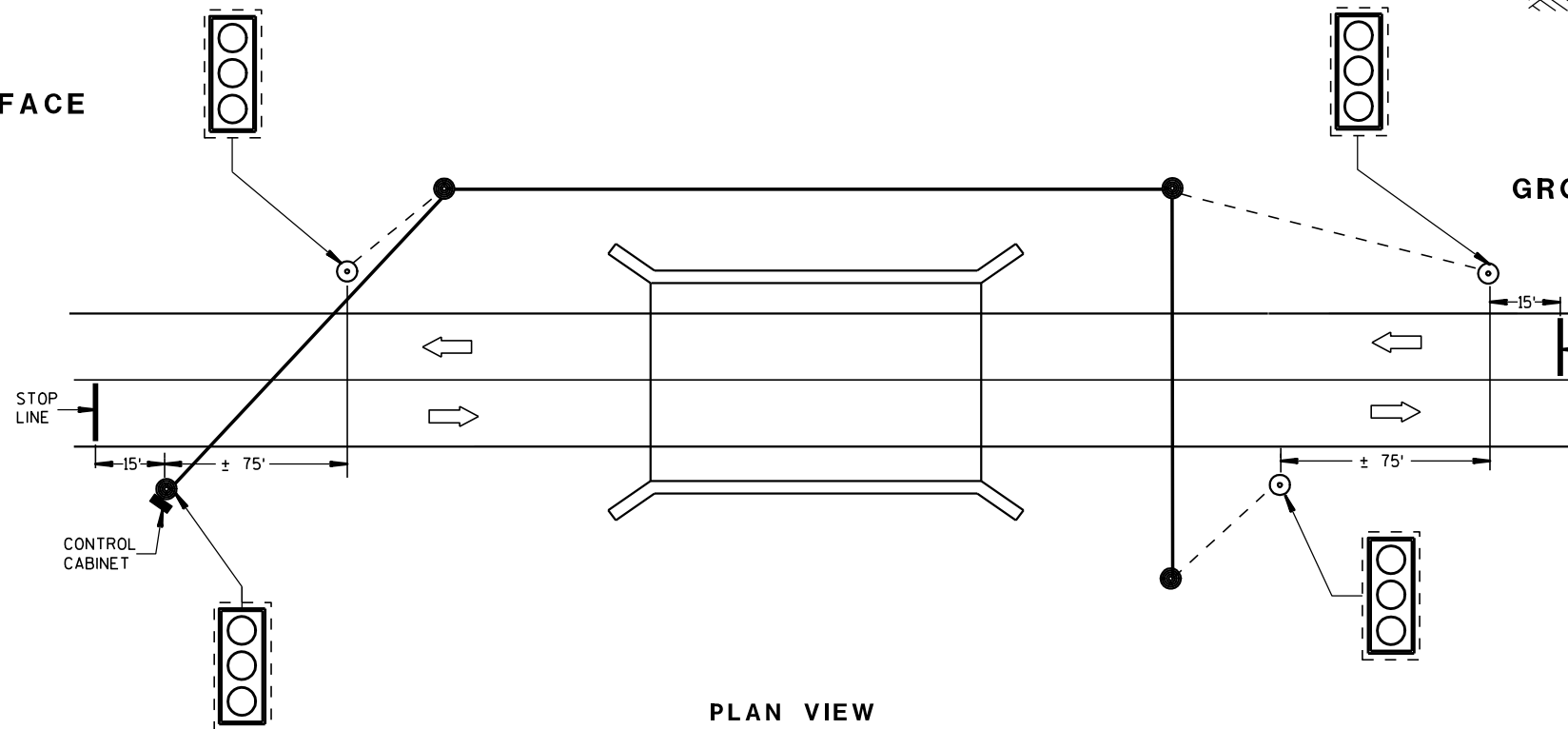
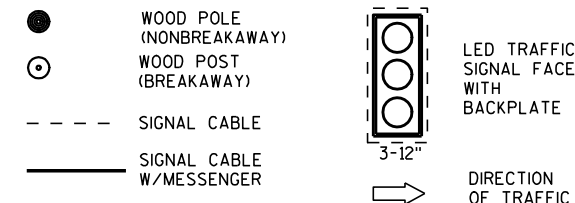
TRAFFIC SIGNAL FACES SHALL BE TYPICALLY PLACED 12 FEET FROM EDGE OF PAVEMENT.

EACH TRAFFIC SIGNAL FACE SHALL HAVE A BACKPLATE.



GROUND MOUNT CABINET INSTALLATION

LEGEND



PLAN VIEW
TYPICAL BRIDGE TEMPORARY TRAFFIC SIGNAL LOCATION

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

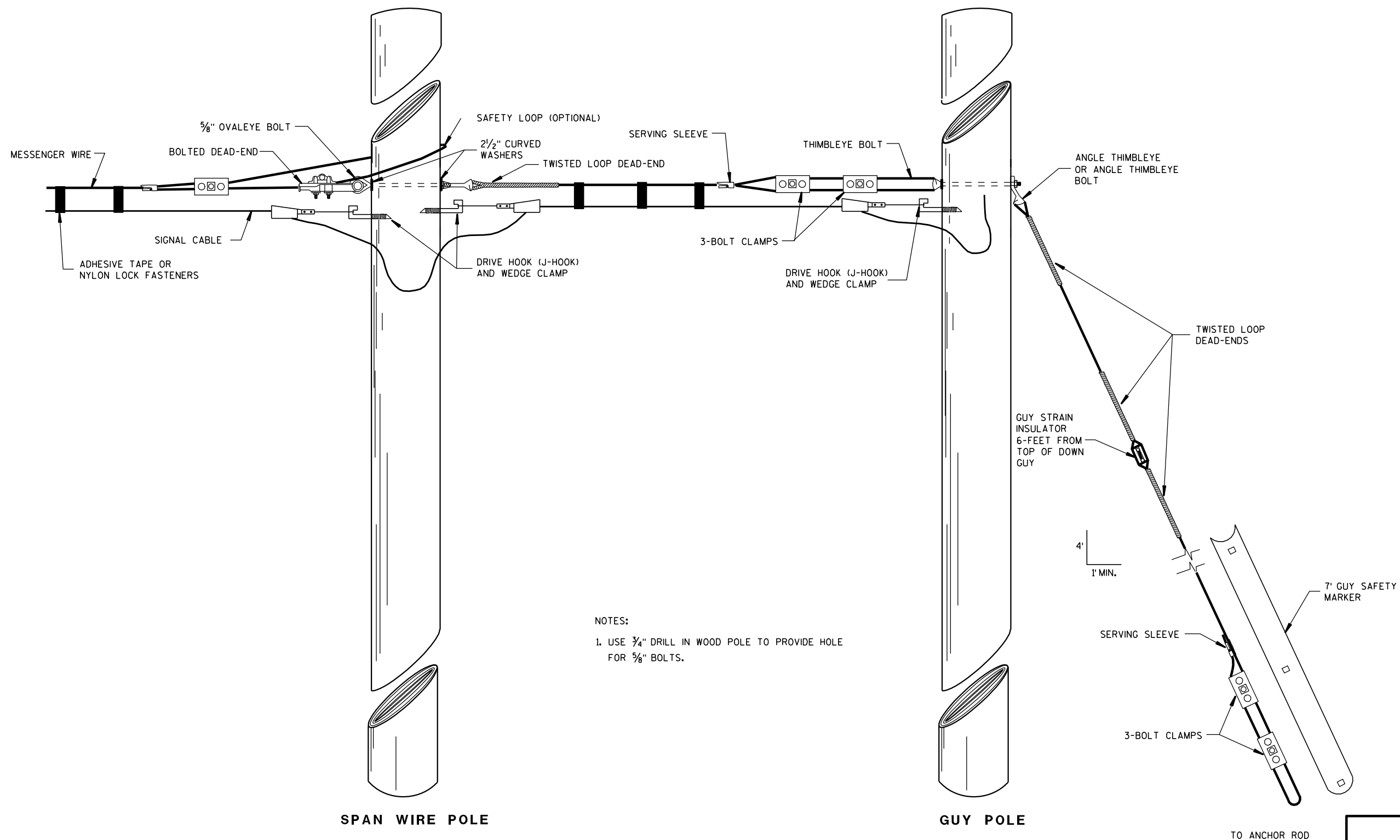
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/2/2011
DATE

/S/ Thomas J. Goring
STATE ELECTRICAL ENGINEER FOR HWYS

FHWA



NOTES:

1. USE 3/4" DRILL IN WOOD POLE TO PROVIDE HOLE FOR 5/8" BOLTS.

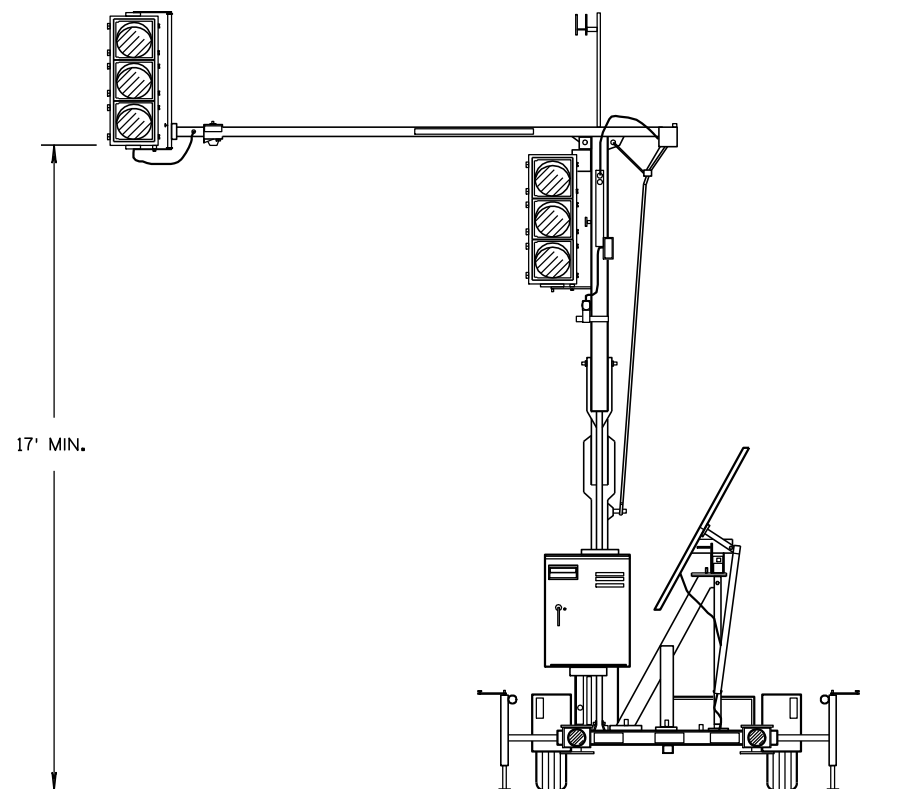
TYPICAL DEAD-ENDINGS OR GUYING

BRIDGE TEMPORARY
TRAFFIC SIGNAL INSTALLATIONSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/2/2011
DATE/S/ Thomas J. Goring
STATE ELECTRICAL ENGINEER FOR HWYS

FHWA

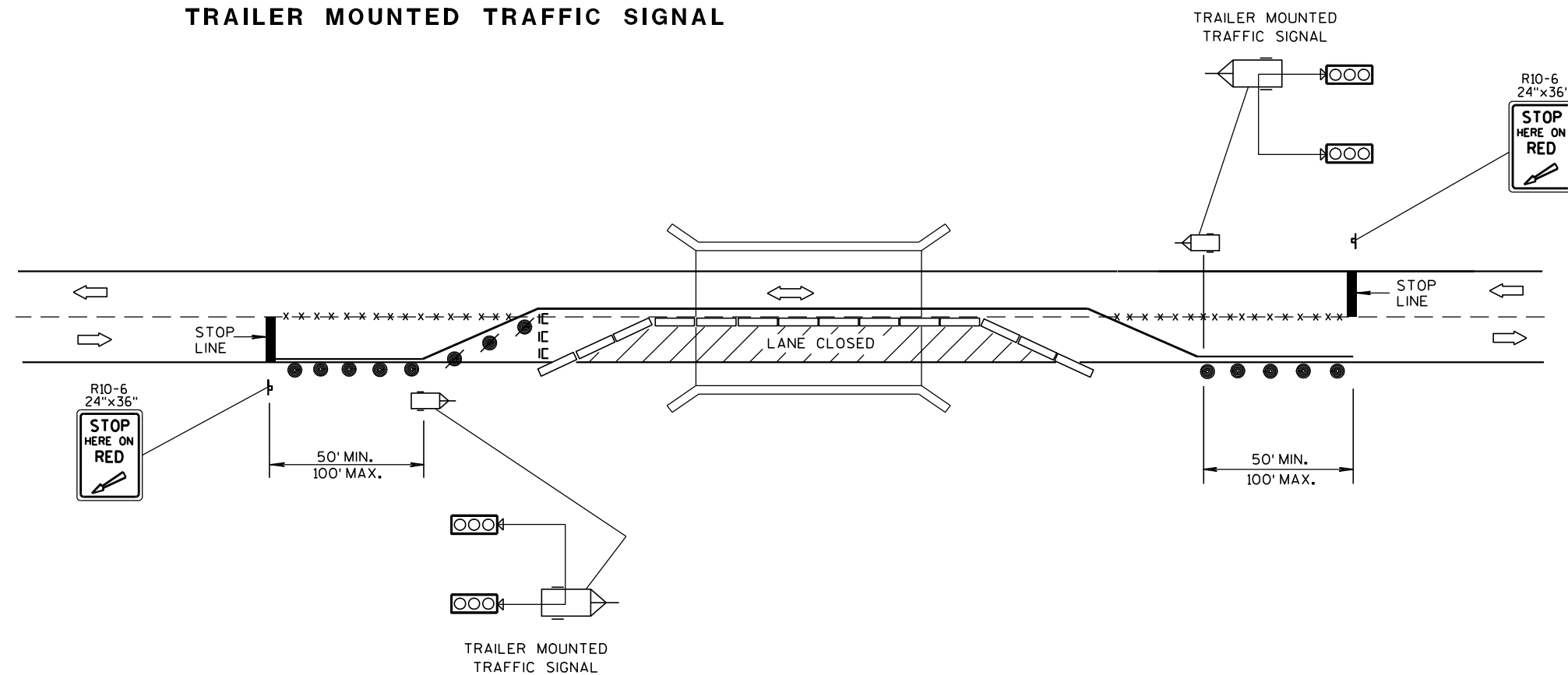


TRAILER MOUNTED TRAFFIC SIGNAL

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

SIGNING, PAVEMENT MARKING AND LANE CONTROL REQUIREMENTS SHALL CONFORM TO STANDARD DETAIL DRAWING 15 D 33.



TYPICAL TRAILER MOUNTED TRAFFIC SIGNAL LOCATION

LEGEND

- ⌵ POST MOUNTED SIGN
- *-x-* REMOVING PAVEMENT MARKING
- IC TYPE III BARRICADE WITH SIGN
- /● DRUM WITH/WITHOUT WARNING LIGHT, TYPE C (STEADY-BURN)
- ▬ TEMPORARY PRECAST CONCRETE BARRIER
- ⌵ TRAILER MOUNTED TRAFFIC SIGNAL
- ➡ DIRECTION OF TRAFFIC FLOW

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

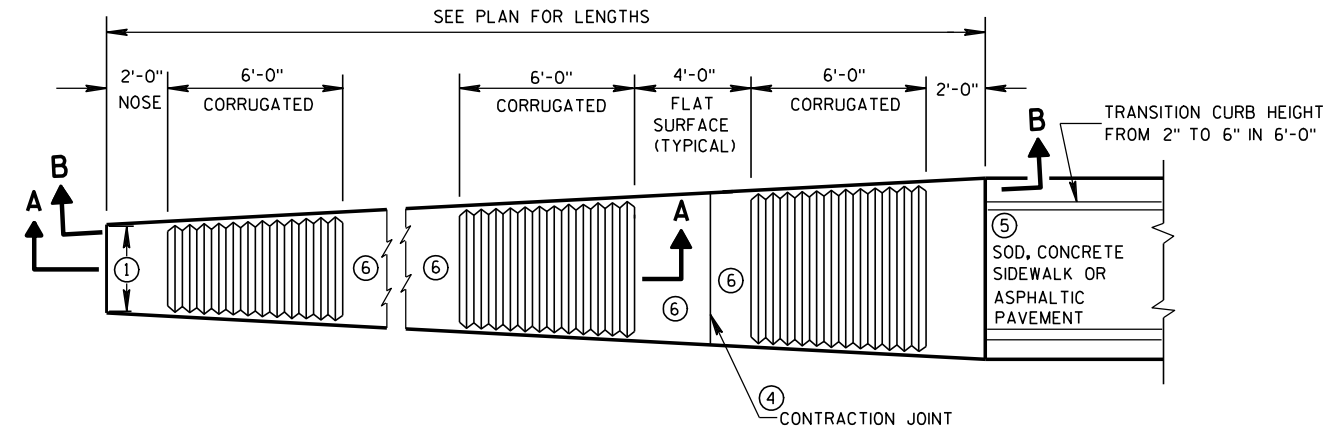
APPROVED

3/2/2011

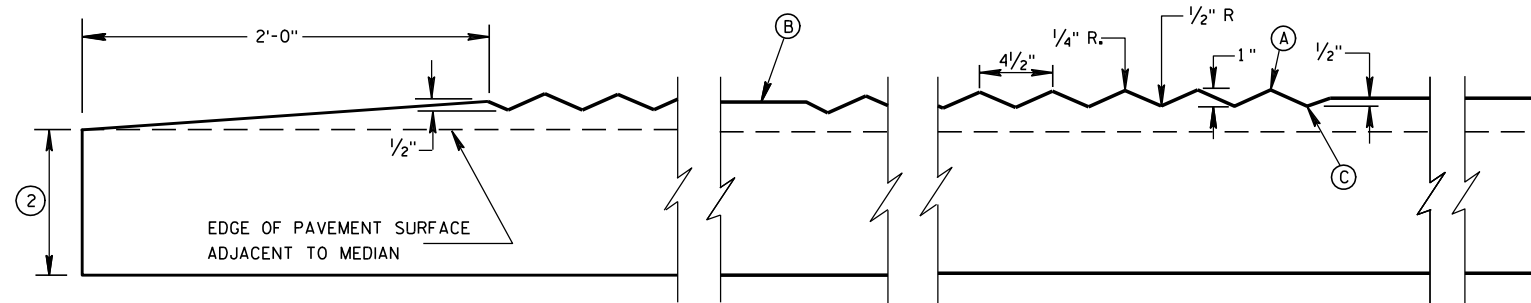
DATE

FHWA

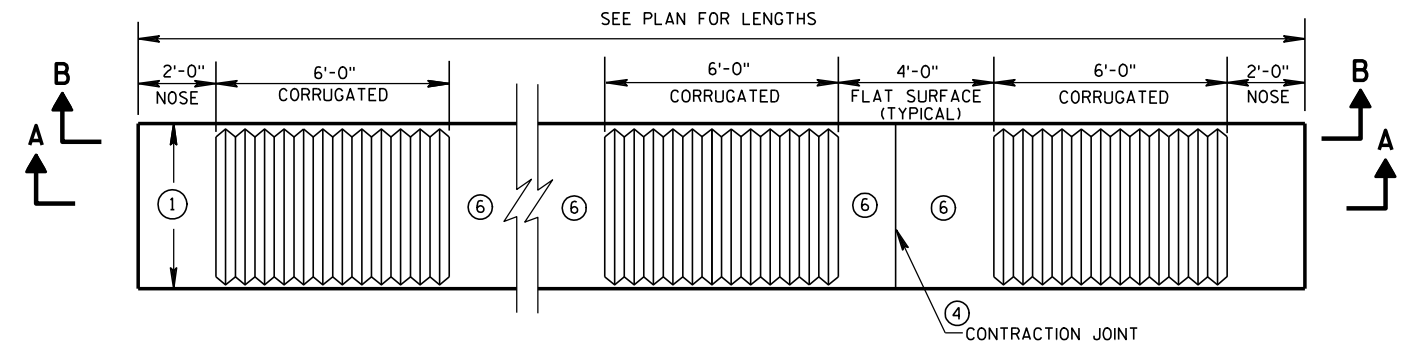
/S/ Thomas J. Goring
STATE ELECTRICAL ENGINEER FOR HWYS



PLAN VIEW
VARIABLE WIDTH CONCRETE CORRUGATED MEDIAN



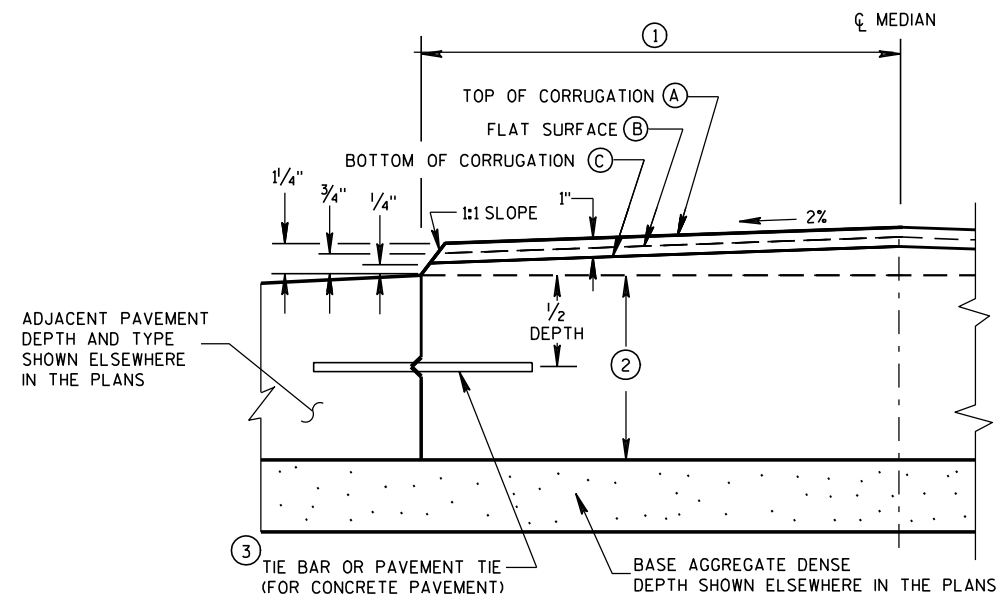
SECTION A-A
LONGITUDINAL SECTION



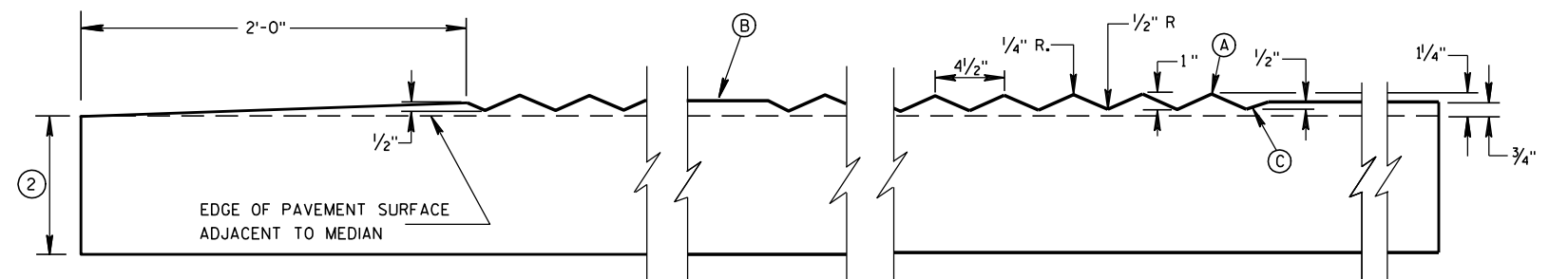
PLAN VIEW
UNIFORM WIDTH CONCRETE CORRUGATED MEDIAN

GENERAL NOTES

- ① SEE PLANS FOR CONSTANT OR VARIABLE WIDTH.
- ② THE DEPTH OF THE CONCRETE CORRUGATED MEDIAN SHALL BE 9-INCHES UNLESS SHOWN OTHERWISE IN THE PLAN. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN IN THE PLAN. TYPICAL OPTIONS ARE:
 - (1) NEW OR EXISTING CONCRETE PAVEMENT.
 - (2) ASPHALTIC CONCRETE OVER NEW OR EXISTING CONCRETE BASE COURSE, OR PAVEMENT.
 - (3) ASPHALTIC PAVEMENT OVER BASE AGGREGATE DENSE.
- ③ TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C. INSTALL TIE BARS TO MAINTAIN A MINIMUM OF 3-INCHES OF COVER BETWEEN THE TIE BAR AND THE CONCRETE SURFACE (BOTTOM AND TOP). PAVEMENT TIES REQUIRED IN EXISTING CONCRETE PAVEMENT OR CONCRETE BASE COURSE, PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.
- ④ CONCRETE CORRUGATED MEDIAN CONTRACTION JOINTS SHALL BE CONSTRUCTED TO MATCH THE JOINTS IN ADJACENT CONCRETE PAVEMENT. WHERE ADJACENT PAVEMENT IS ASPHALT WITH BASE AGGREGATE DENSE, TRANSVERSE CONTRACTION JOINTS SHALL BE PROVIDED AT 20 FOOT INTERVALS.
- ⑤ SURFACE TYPE AND DETAILS ARE DEFINED ELSEWHERE IN THE PLAN.
- ⑥ YELLOW MARKING ON FLAT SURFACE WHEN MEDIAN SEPARATES OPPOSING TRAFFIC.



HALF CROSS SECTION
CONCRETE CORRUGATED MEDIAN AND ADJACENT PAVEMENT



SECTION B-B
LONGITUDINAL SECTION

CONCRETE CORRUGATED MEDIAN

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12/17/07

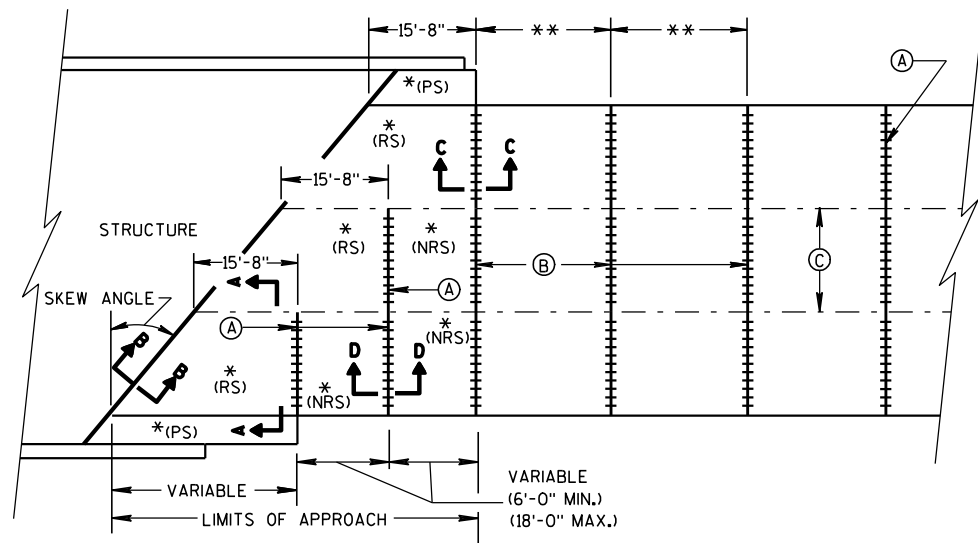
DATE

FHWA

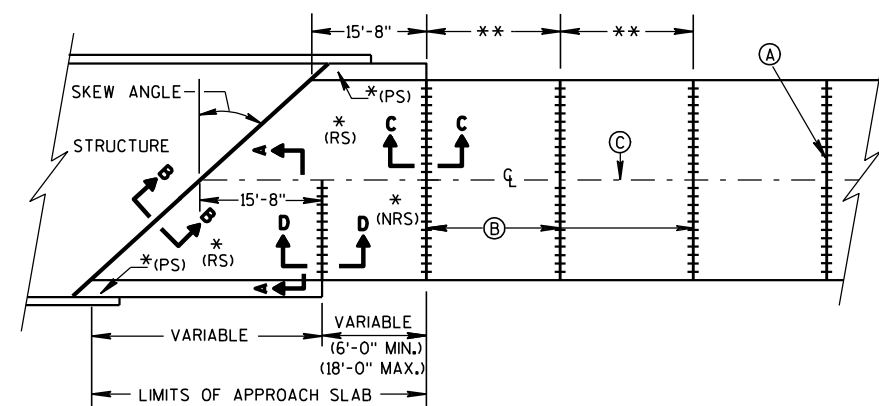
/S/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT

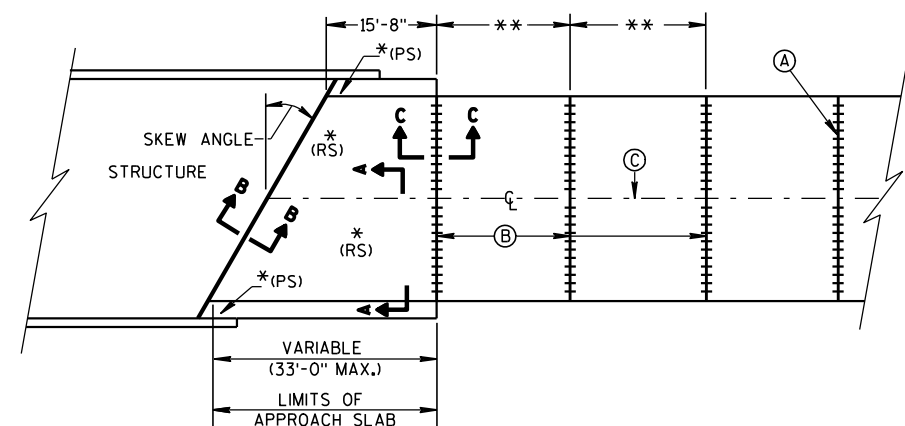
ENGINEER



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

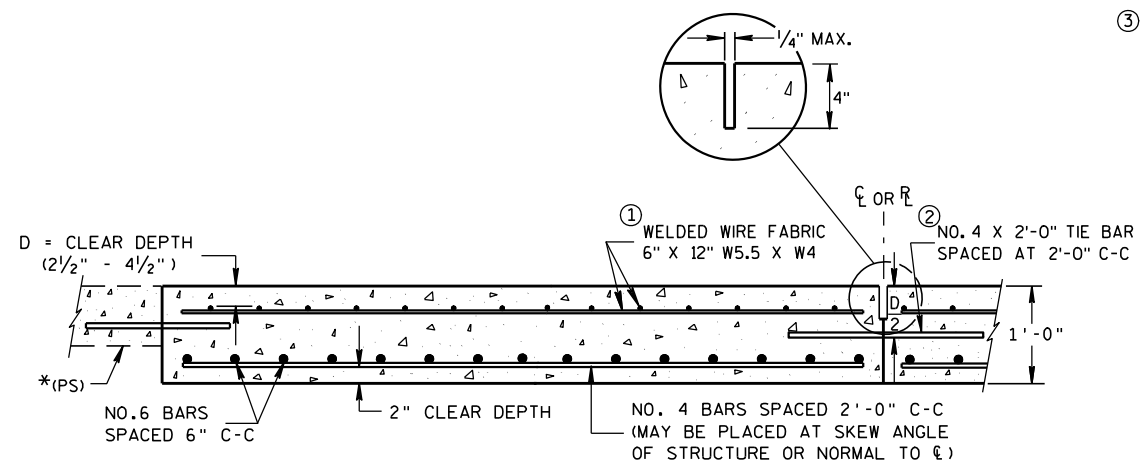


**SKEWS > 30°
(PAVEMENT WIDTH ≤ 30')**

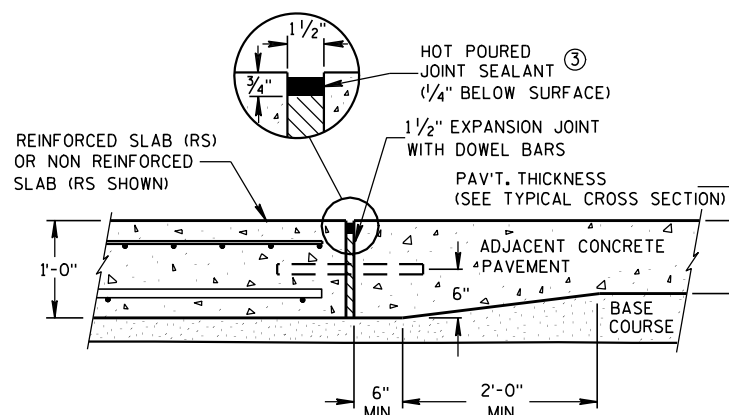


**SKEWS ≤ 30°
(PAVEMENT WIDTH ≤ 30')
APPROACH SLAB AND ADJACENT PAVEMENT**

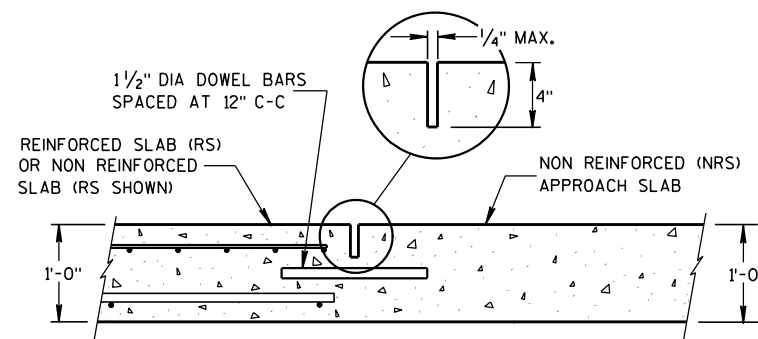
- * (RS) = REINFORCED CONCRETE SLAB
 * (PS) = PAVED CONCRETE SHOULDER: CONCRETE PAVEMENT, OR CONCRETE SURFACE DRAIN
 (SEE DETAILS ELSEWHERE IN THE PLAN)
 * (NRS) = NON-REINFORCED CONCRETE SLAB
 ** STANDARD TRANSVERSE JOINT SPACING
 (SEE SDD 13C4, SDD 13C11, & SDD 13C13)
 (A) STANDARD CONTRACTION JOINT NORMAL TO R_L OR R_C
 (B) 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO R_L OR R_C
 (C) STANDARD LONGITUDINAL JOINT AND TIE BARS.



**SECTION A-A
REINFORCEMENT POSITIONING DETAIL**



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



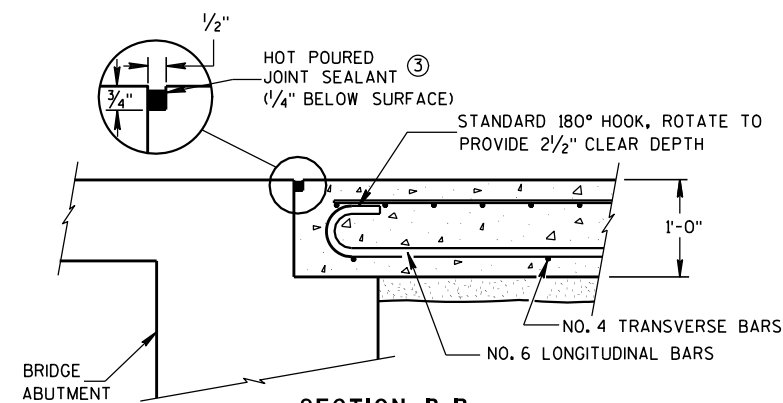
**SECTION D-D
CONTRACTION JOINT**

GENERAL NOTES

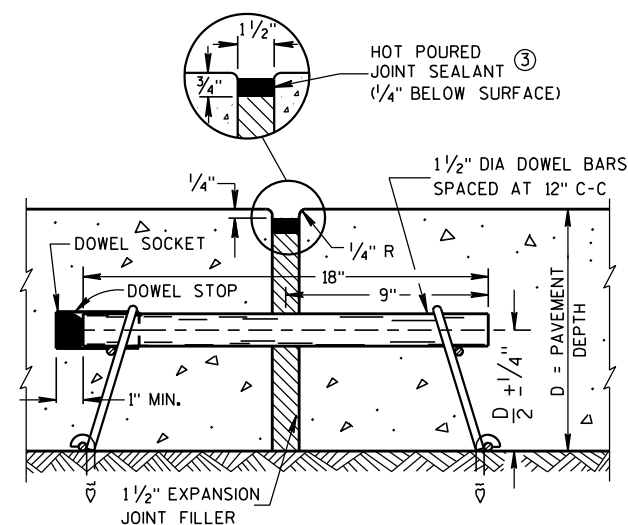
APPROACH SLABS ABUTTING AN HMA PAVEMENT OVER BASE COURSE DO NOT NEED TO BE DOWELED.

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.

- 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.
- USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.



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



EXPANSION JOINT

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

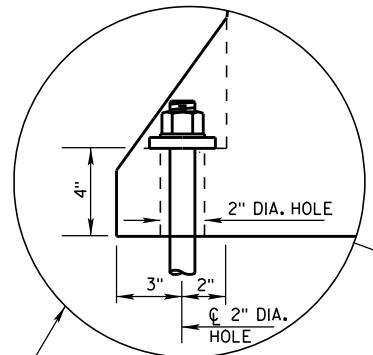
APPROVED

12/11/2009

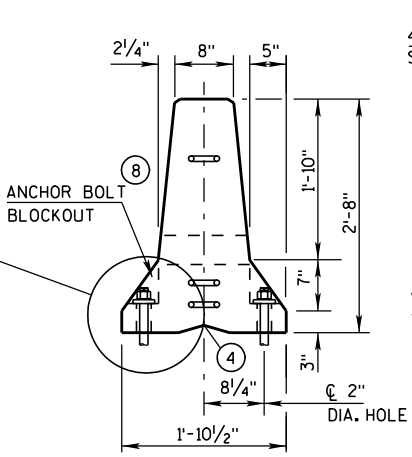
DATE

FHWA

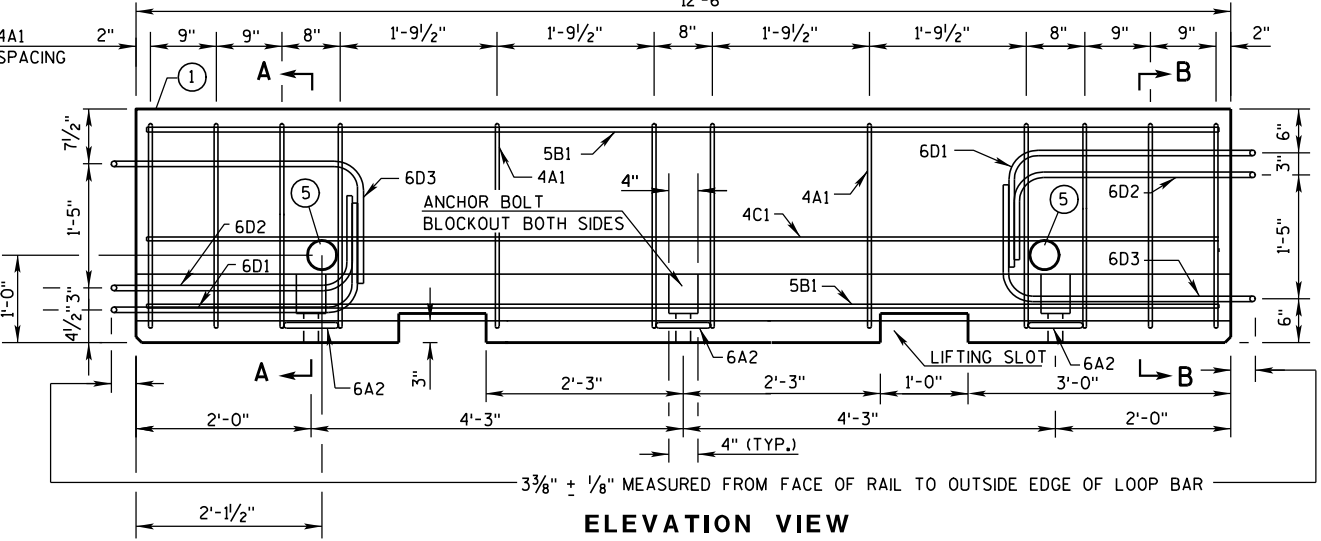
/S/ Deb Bischoff
PAVEMENT POLICY & DESIGN ENGINEER



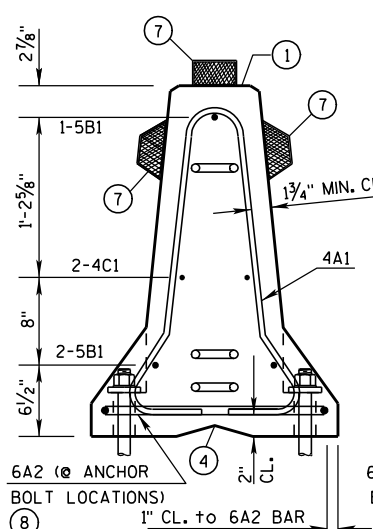
ANCHOR ON TRAFFIC SIDE ONLY WHEN REQUIRED (SEE SHEET D FOR ADDITIONAL ANCHOR DETAIL)



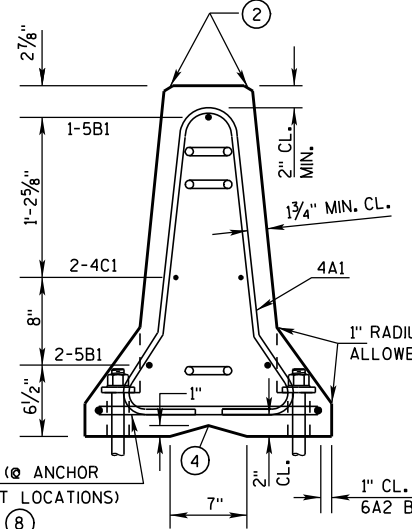
END VIEW



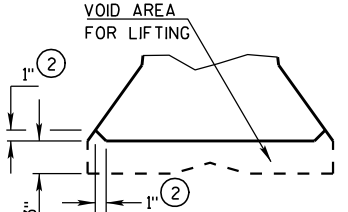
ELEVATION VIEW



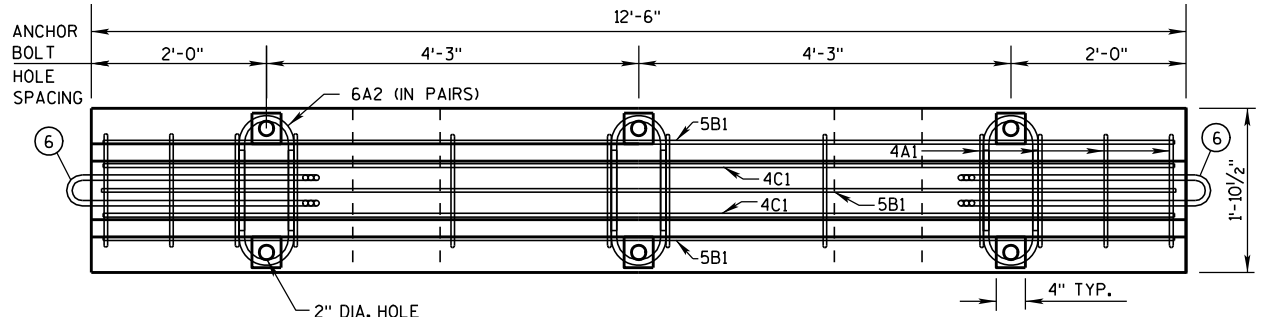
SECTION A-A (STIRRUP PLACEMENT)



SECTION B-B (STIRRUP PLACEMENT)

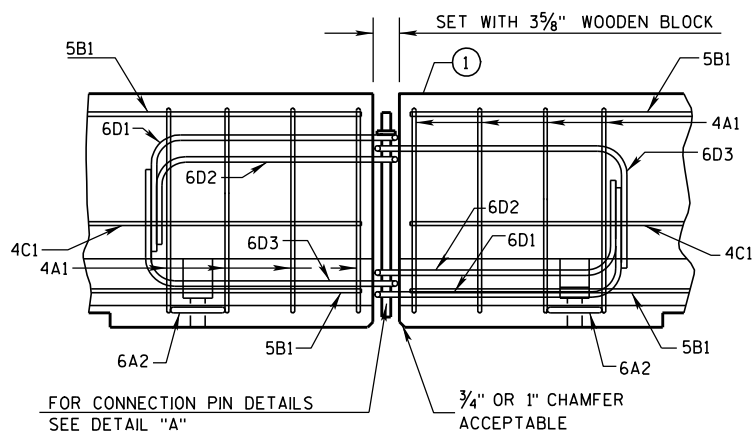


DETAIL "B" LIFTING SLOT DETAIL

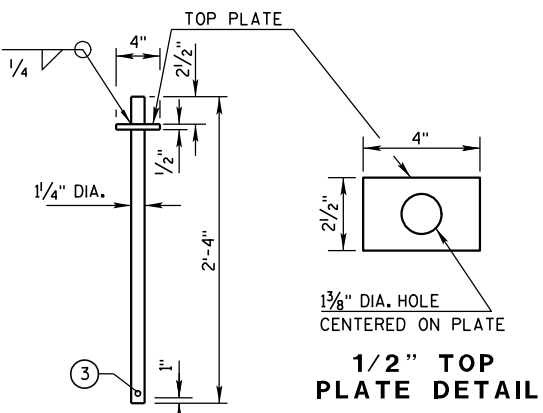


PLAN VIEW

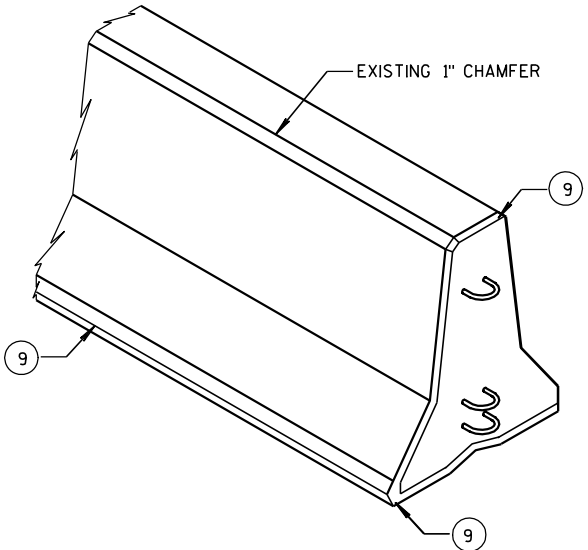
DETAILS OF BARRIER SECTION



DETAILS OF BARRIER CONNECTION



DETAIL "A" CONNECTION PIN (A36 STEEL (10.9 LB EACH))



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-13(g) THRU 14B7-13(h).

DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" (CBTP12.5) WITH OTHER TEMPORARY CONCRETE BARRIERS.

USE ASTM A-615, GRADE 60, DEFORMED STEEL BARS FOR BARS 4A1, 6A2, 5B1 AND 4C1 IN THE BARRIER SECTION AND FOR 4V1, 4V2, 4V3, 4V4, 4V5, 4V6, 4F1, 4F2 AND 5F3 IN THE BARRIER TAPER SECTION.

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE 3/4" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-1/2" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN 1/8" OF THE PLAN DIMENSION.

CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

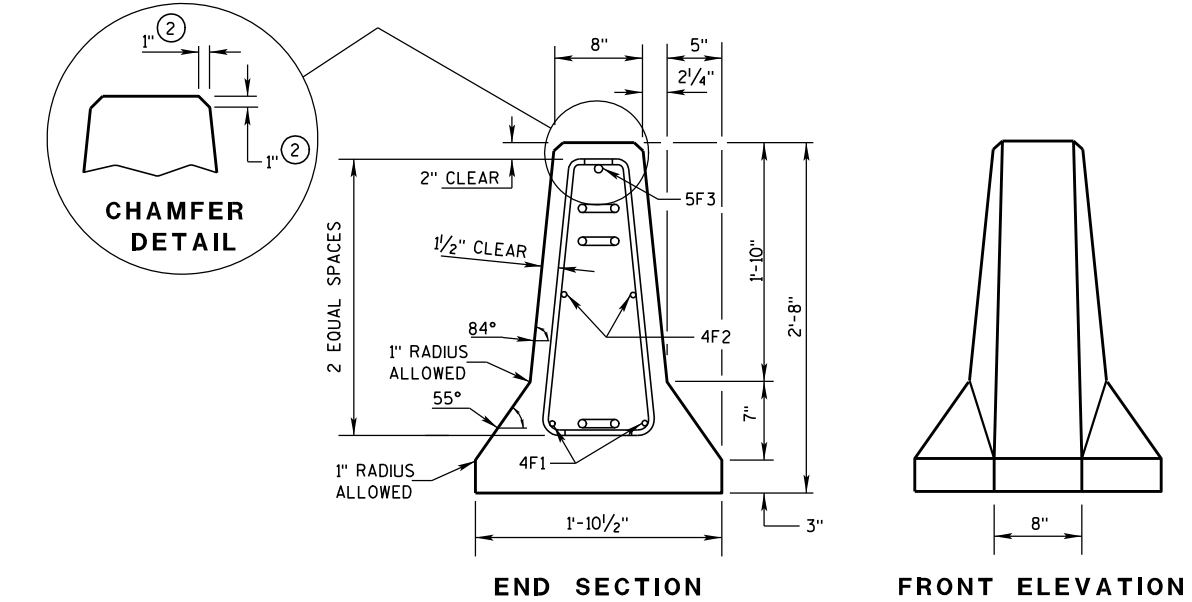
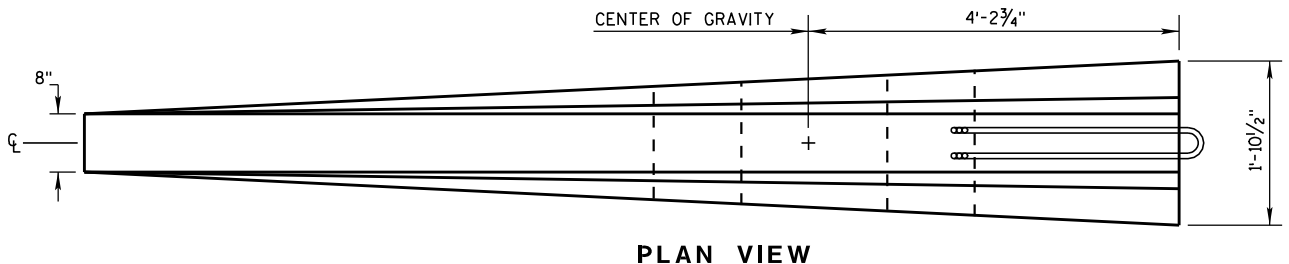
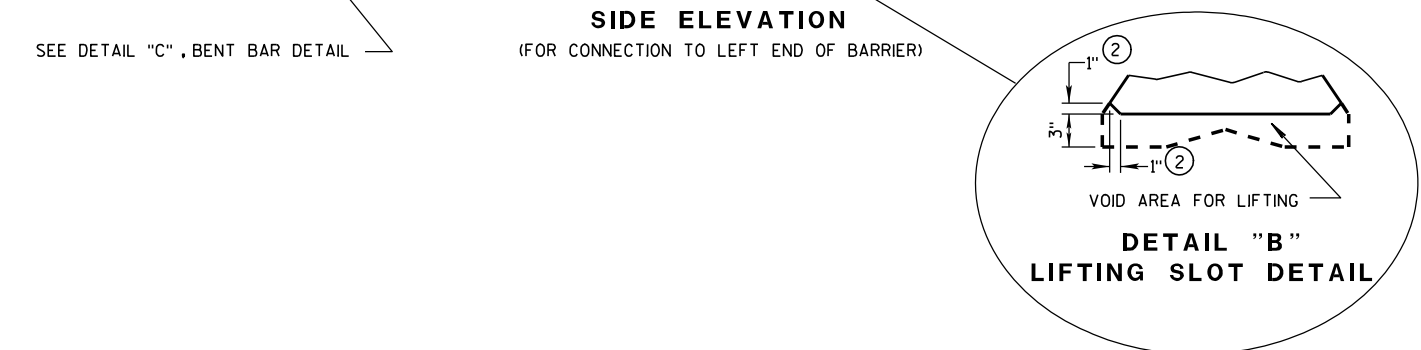
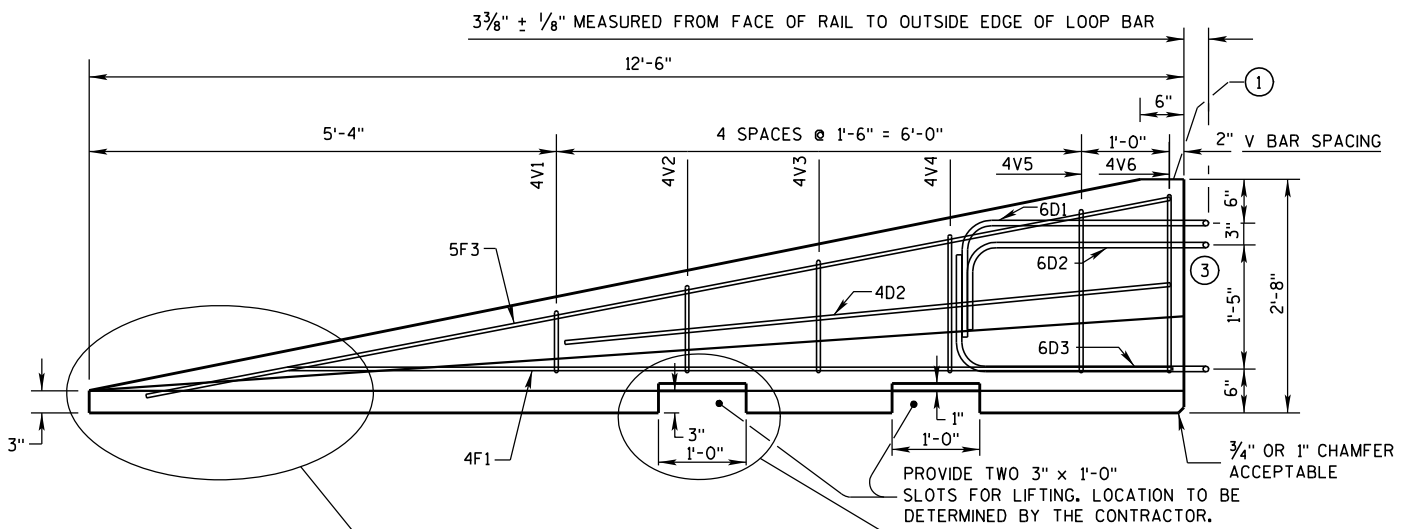
PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

INSTALL MECHANICAL OR EPOXY ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

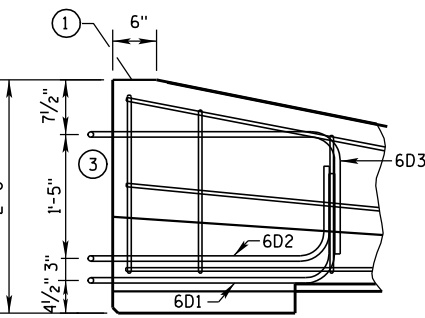
- 1 MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
 - a. TYPE: WICBTP
 - b. MANUFACTURER
 - c. DATE MANUFACTURED (MONTH AND YEAR)
- 2 1" CHAMFER TO PREVENT SPALLING.
- 3 A 3/8" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..
- 4 "V" NOTCH IS OPTIONAL.
- 5 THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).
- 6 NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.
- 7 USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.
- 8 SEE SHEET D FOR ANCHORING CRITERIA.
- 9 1" CHAMFER OPTIONAL.

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



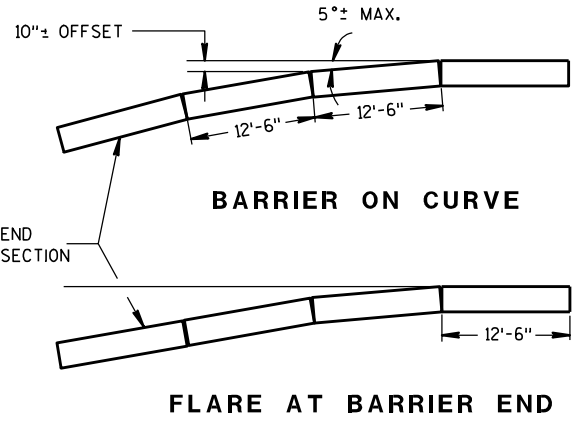
DETAILS OF BARRIER TAPER SECTION



SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

- ① MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
 - a. TYPE WICBTP
 - b. MANUFACTURER
 - c. DATE MANUFACTURED (MONTH AND YEAR)
- ② 1" CHAMFER TO PREVENT SPALLING.
- ③ NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1

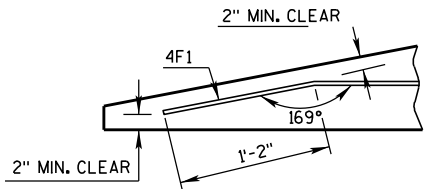
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

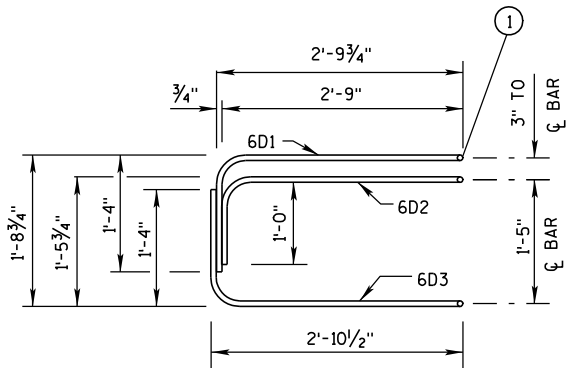
BARRIER TAPER SECTION
BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

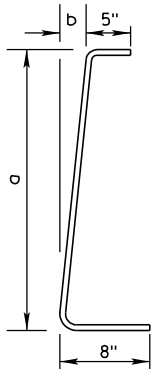
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



DETAIL "C"
BENT BAR DETAIL



ELEVATION
LOOP BAR ASSEMBLY



4V BARS

2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

BAR	a	b
V1	10"	1"
V2	1'-1"	1 1/4"
V3	1'-5"	1 5/8"
V4	1'-8"	1 7/8"
V5	2'-0 1/2"	2 3/8"
V6	2'-3"	2 3/4"

TAPER BARRIER SECTION

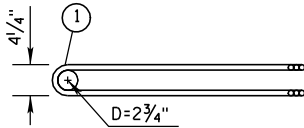
GENERAL NOTES

① NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

BARRIER SECTION
BILL OF MATERIALS

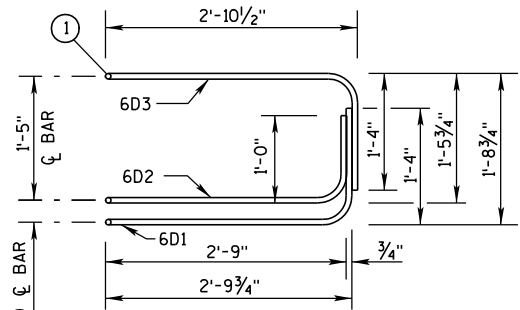
(PER 12'-6" BARRIER SECTION)

BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"

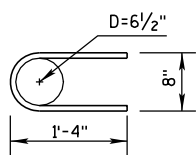


PLAN VIEW
LOOP BAR ASSEMBLY

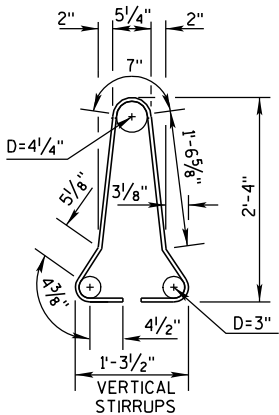
(MARKED END SHOWN, INVERT FOR OTHER END)



ELEVATION VIEW



6A2

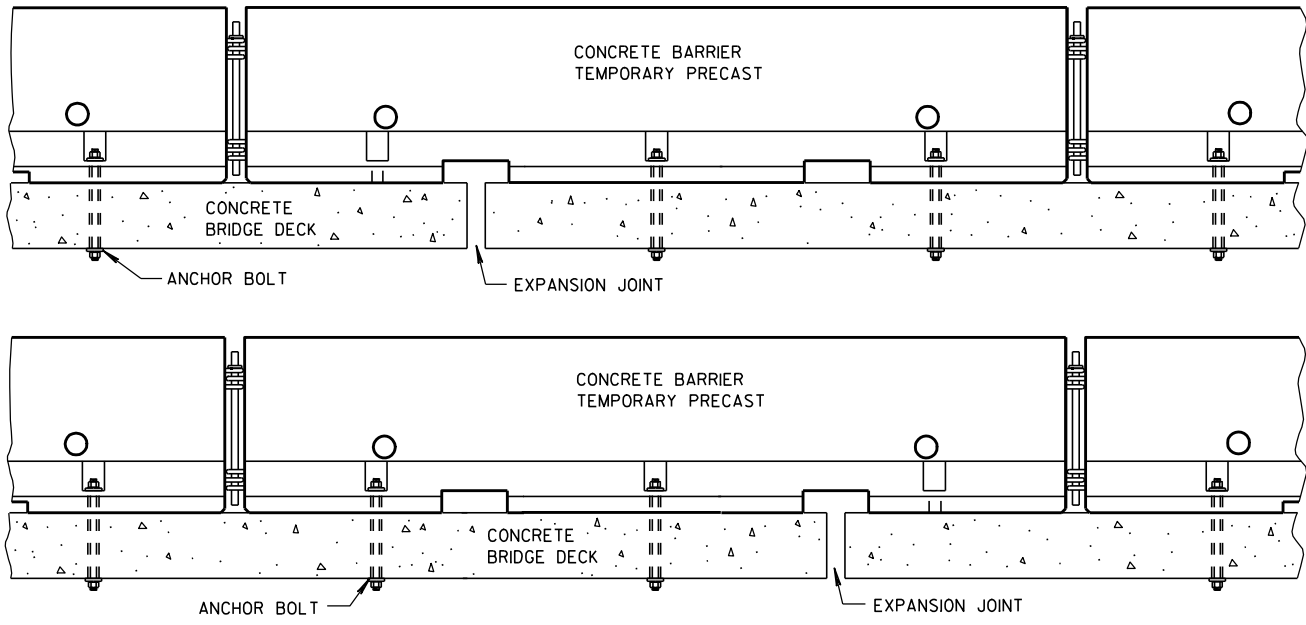


4A1

BARRIER SECTION

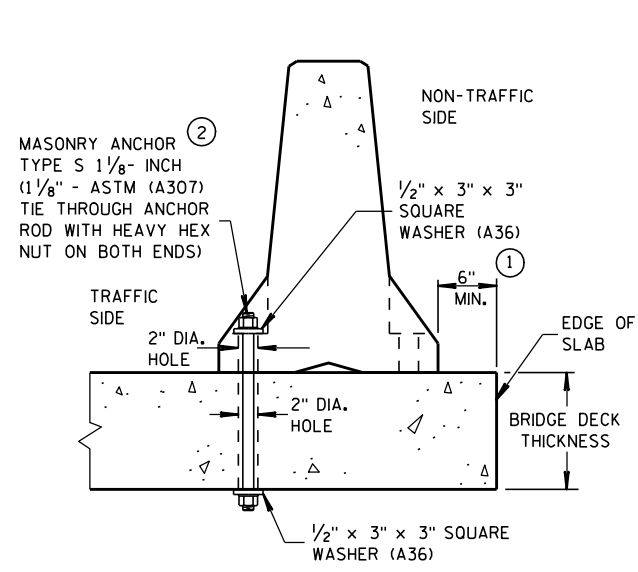
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



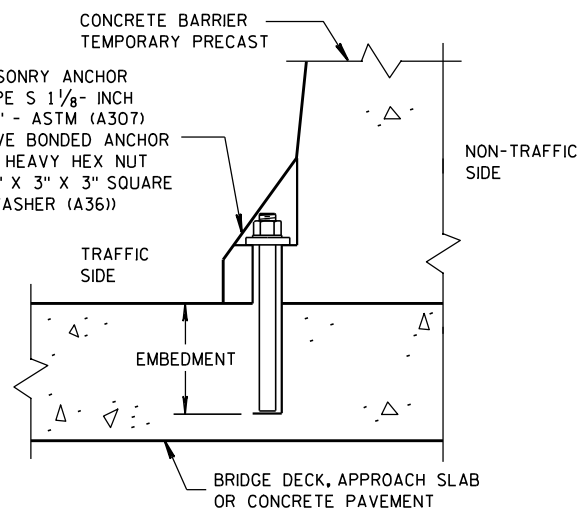
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)



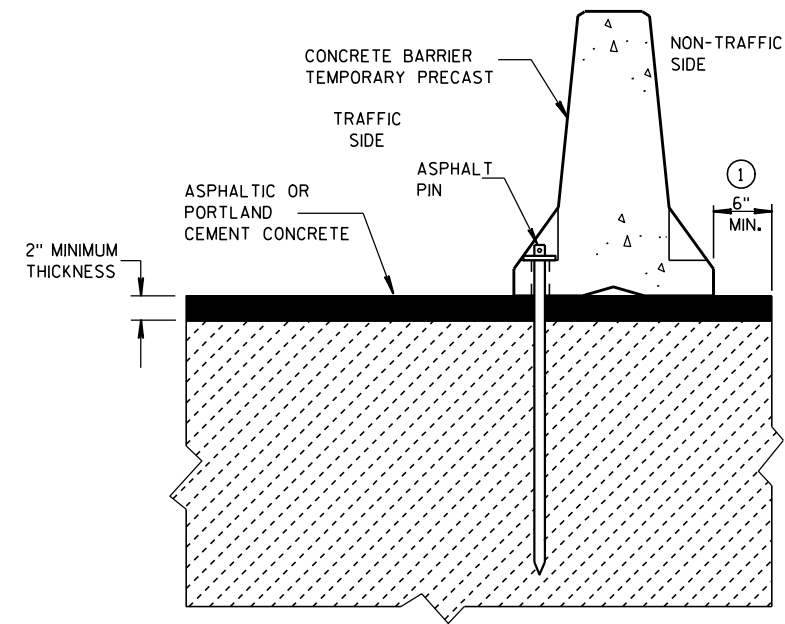
THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOT USE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



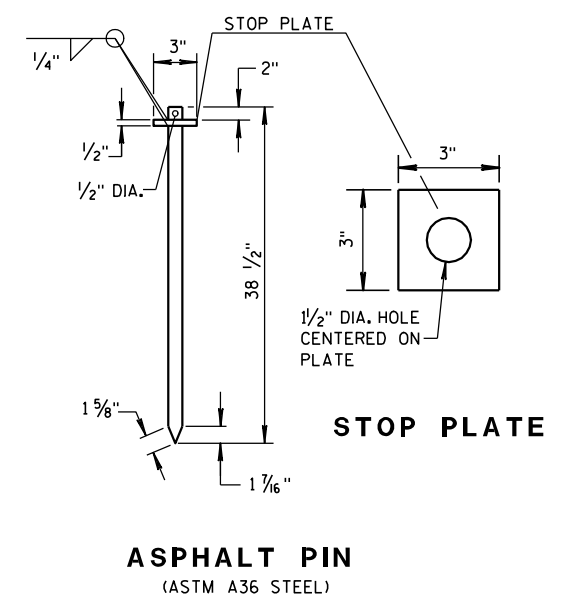
REMOVABLE ADHESIVE BONDED ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

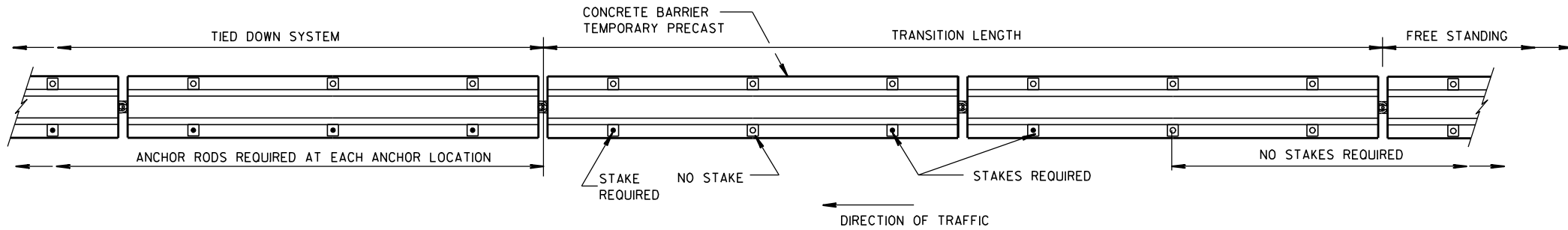


STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



ASPHALT PIN (ASTM A36 STEEL)



FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

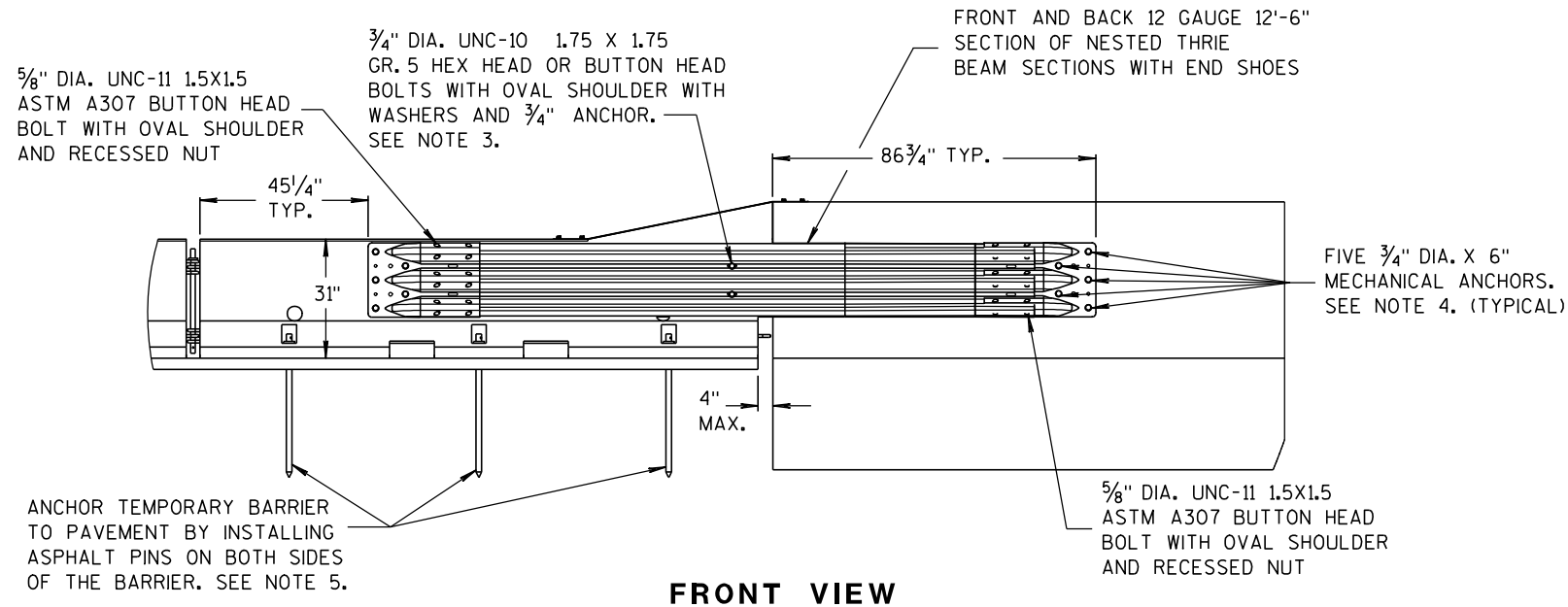
GENERAL NOTES

- 1 CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 45 MPH OR GREATER, OR

THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 2 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 40 MPH OR LESS.
- 2 ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

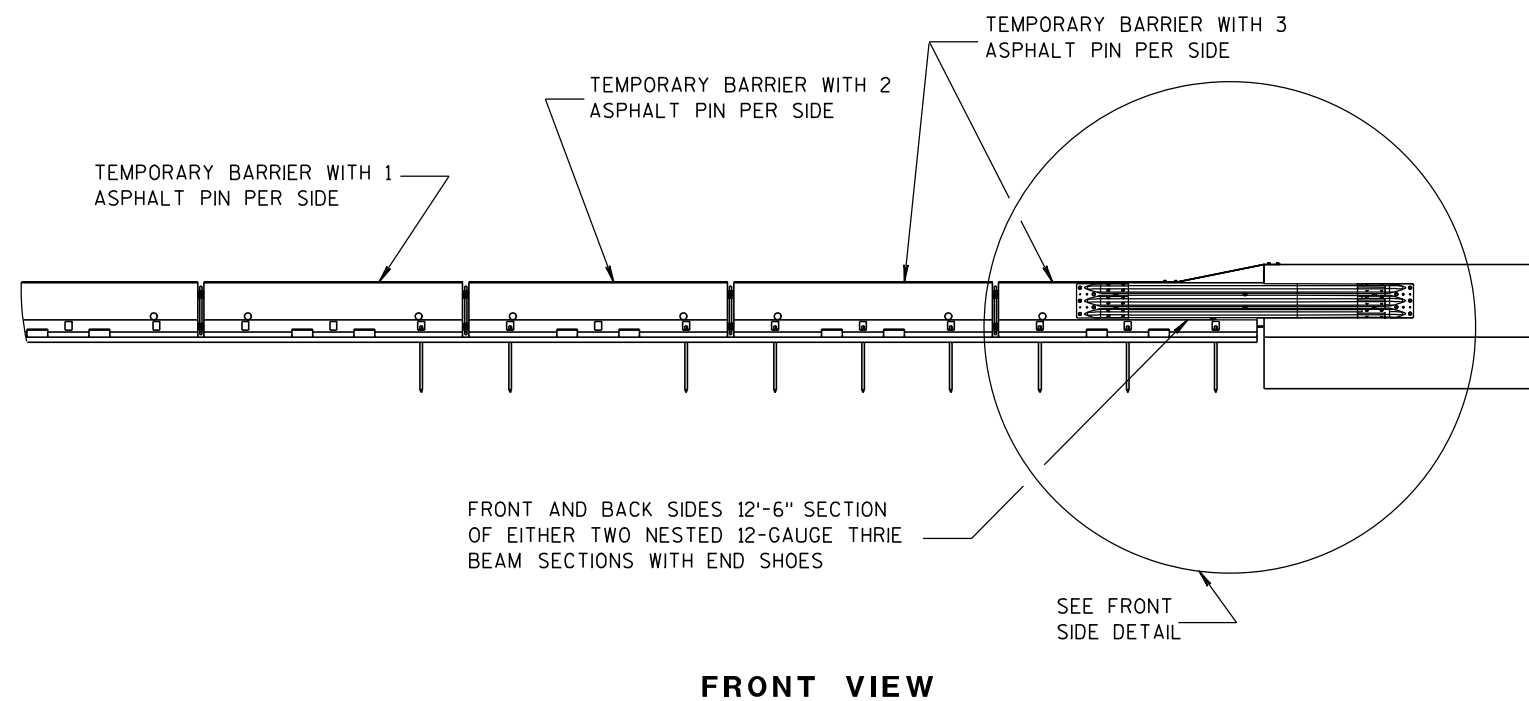
WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED (EPOXY) ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1 1/8-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

UPON REMOVAL OR RELOCATION OF THE BARRIER UNITS, REMOVE ALL ANCHOR BOLTS AND COMPLETELY FILL IN THE REMAINING HOLES IN CONCRETE BRIDGE DECKS, CONCRETE APPROACH SLABS AND CONCRETE PAVEMENTS THAT ARE TO REMAIN, WITH A NON-SHRINK COMMERCIAL GROUT OR EPOXY MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.

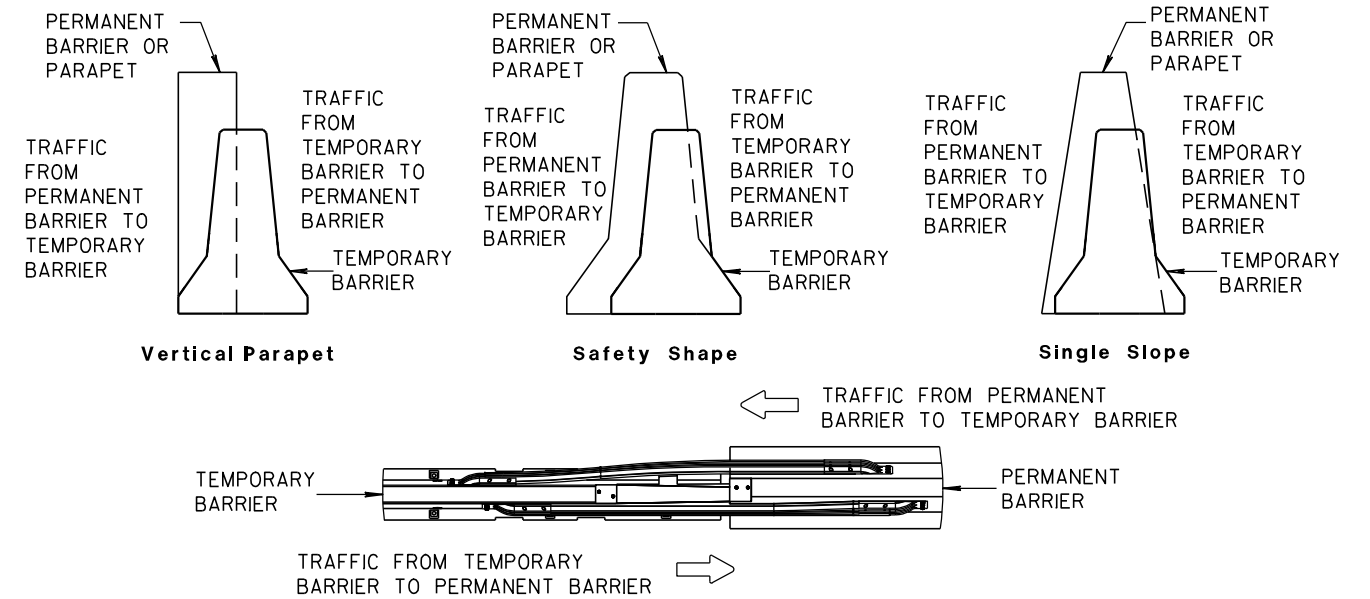


NOTES

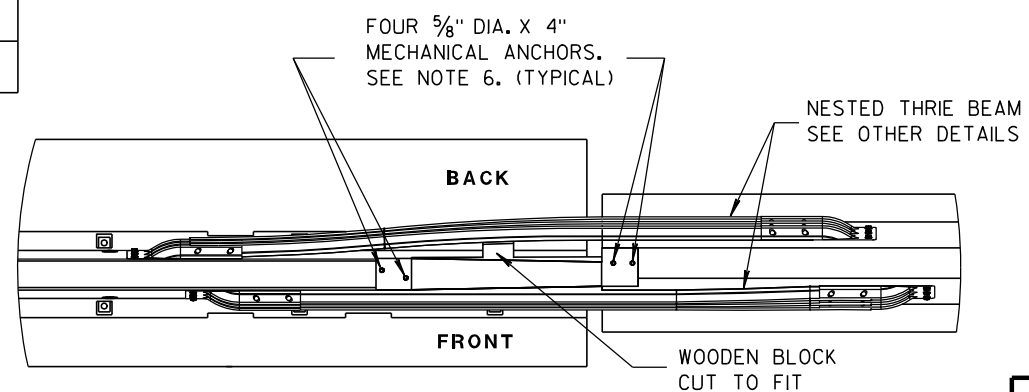
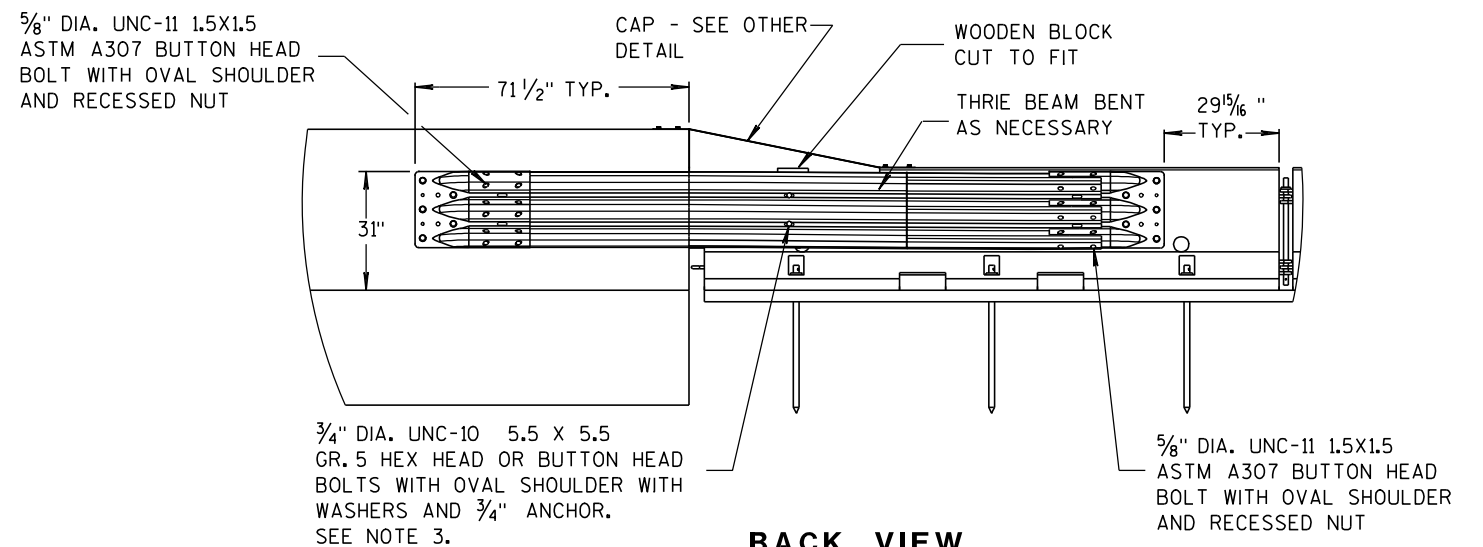
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.
6. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.



BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

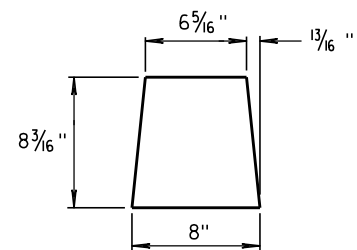


TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

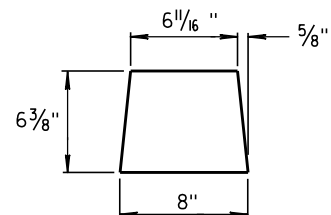


CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

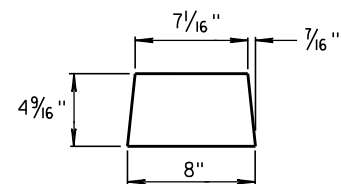
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



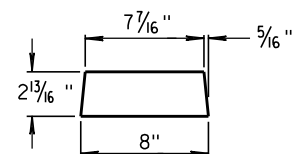
GUSSET 1



GUSSET 2

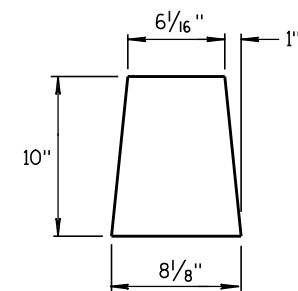


GUSSET 3

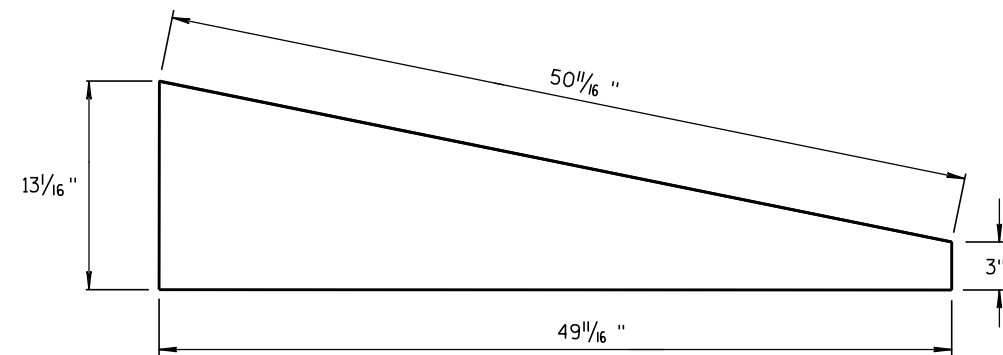


GUSSET 4

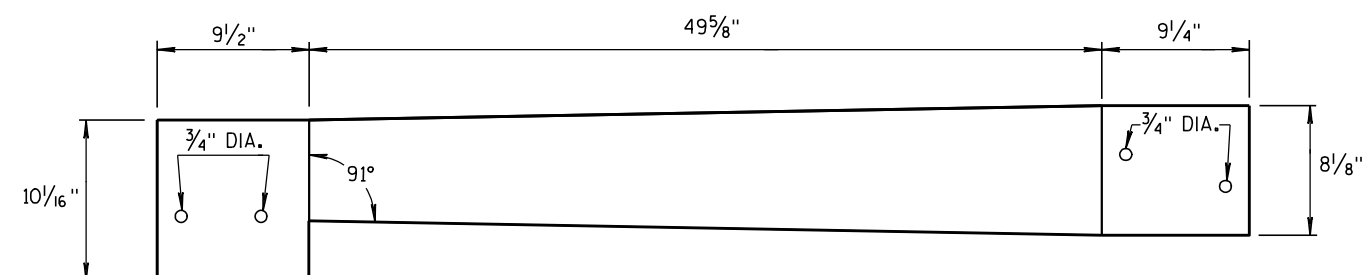
GUSSETS



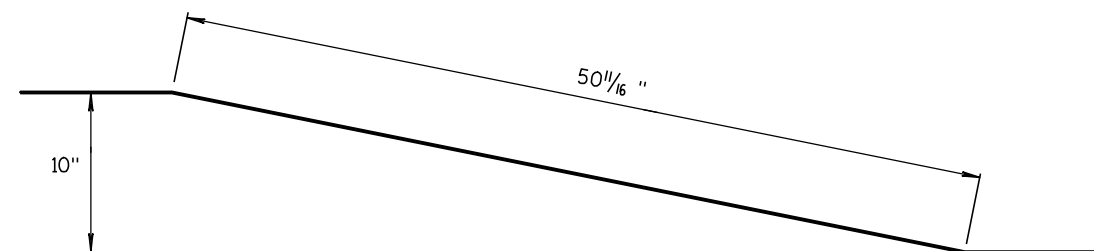
END PLATE



SIDE PLATE

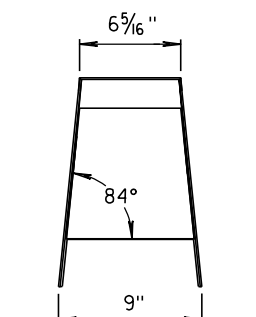


TOP PLATE

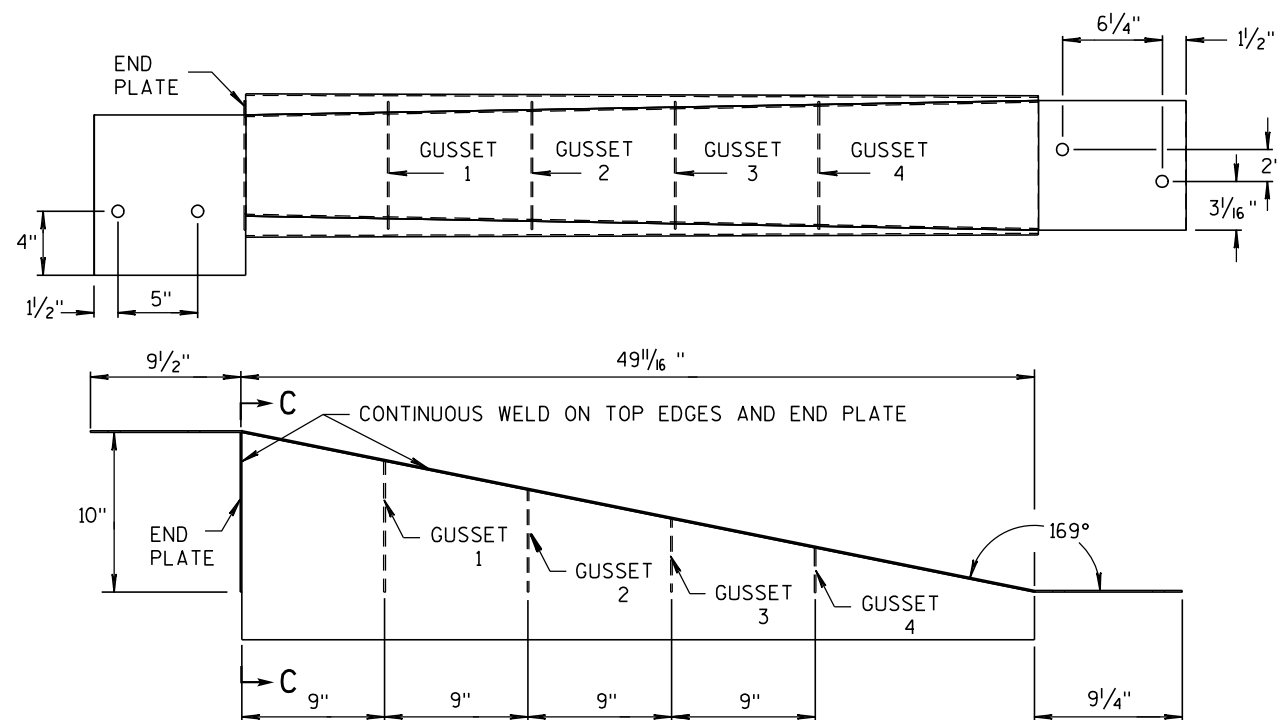


**SIDE, TOP AND END PLATES FOR CAP
FROM TEMPORARY CONCRETE BARRIER
TO 42" PERMANENT CONCRETE BARRIER**

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.



SECTION C-C



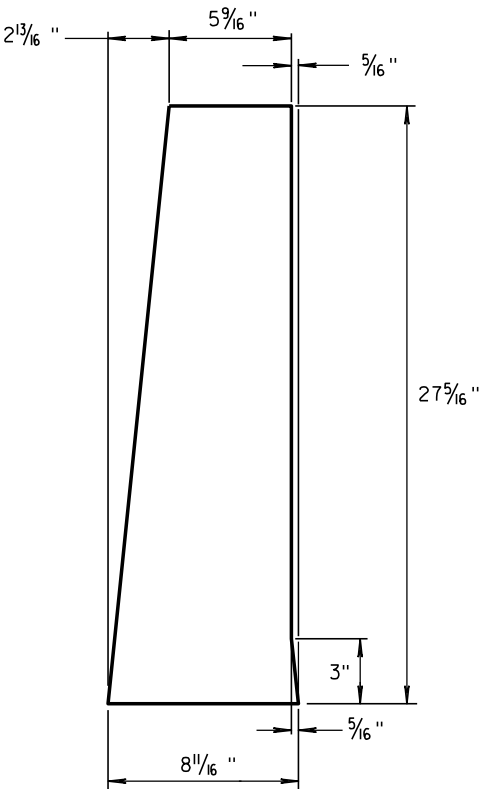
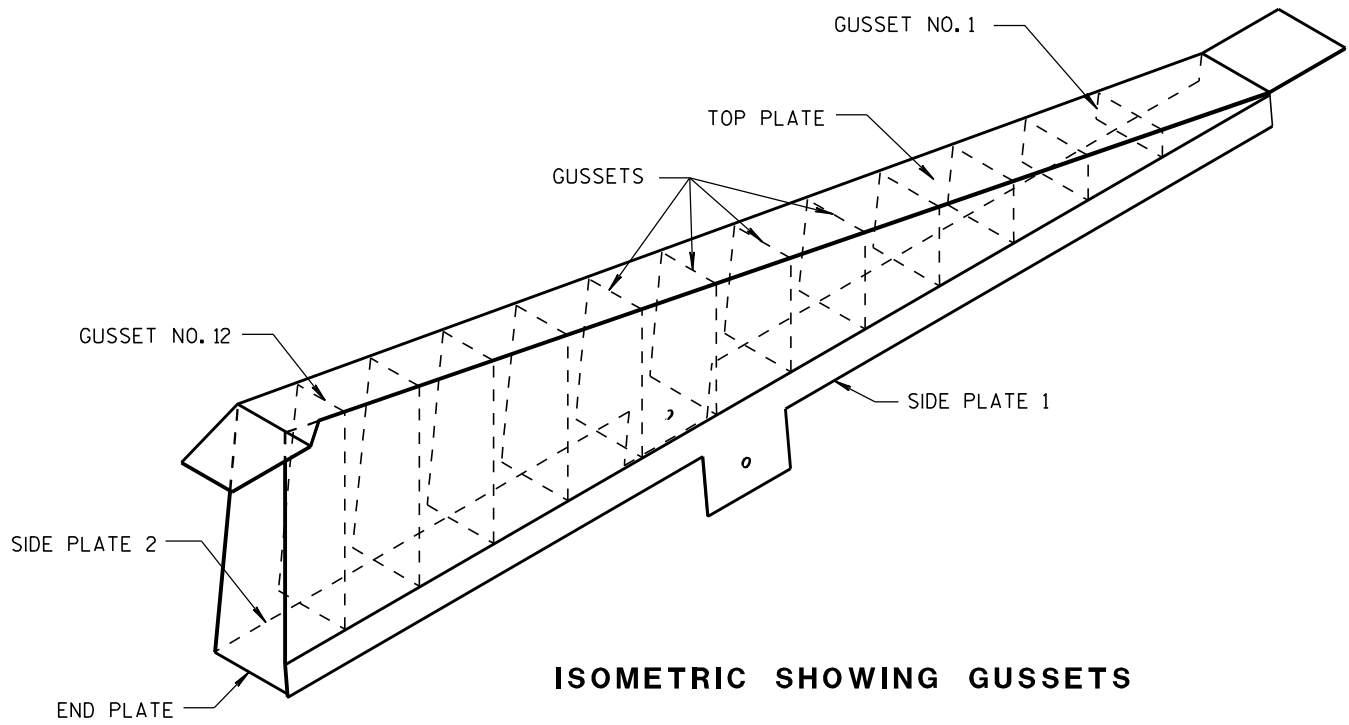
NOTES

- FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
- TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

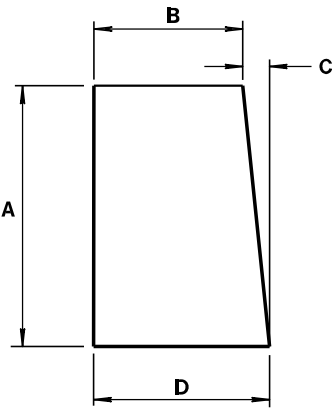
**CAP DETAILS FOR TEMPORARY CONCRETE
BARRIER TO 42" PERMANENT CONCRETE BARRIER**

**CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



1/8" STEEL PLATE

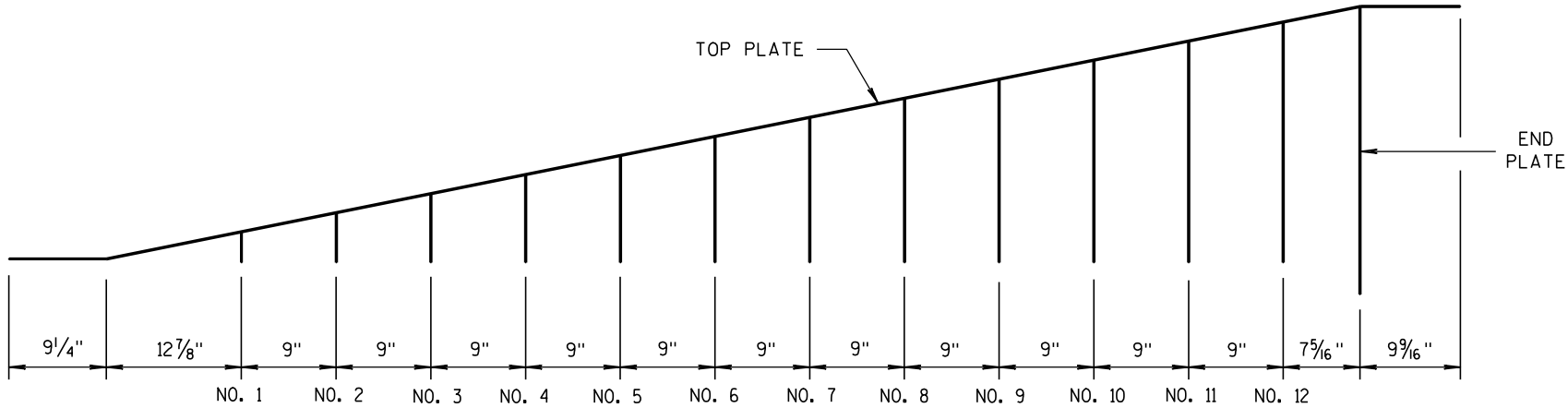


ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
1	2 7/8"	7 3/4"	1/4"	8
2	4 11/16 "	7 9/16 "	1/2"	8
3	6 1/2"	7 3/8"	11/16 "	8 1/16 "
4	8 5/16 "	7 3/16 "	7/8"	8 1/16 "
5	10 1/8 "	7"	1 1/16 "	8 1/16 "
6	11 5/16 "	6 13/16 "	1 1/4"	8 1/16 "
7	13 3/4"	6 5/8"	1 7/16 "	8 1/16 "
8	15 9/16 "	6 7/16 "	1 9/16 "	8 1/16 "
9	17 3/8"	6 1/4"	1 13/16 "	8 1/16 "
10	19 3/16 "	6 1/16 "	1 15/16 "	8 1/16 "
11	21"	5 7/8"	2 3/16 "	8 1/16 "
12	22 13/16 "	5 11/16 "	2 5/16 "	8 1/16 "

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 STEEL AND GALVANIZED.

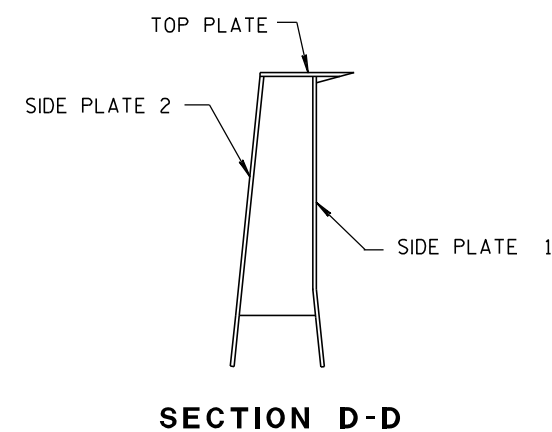
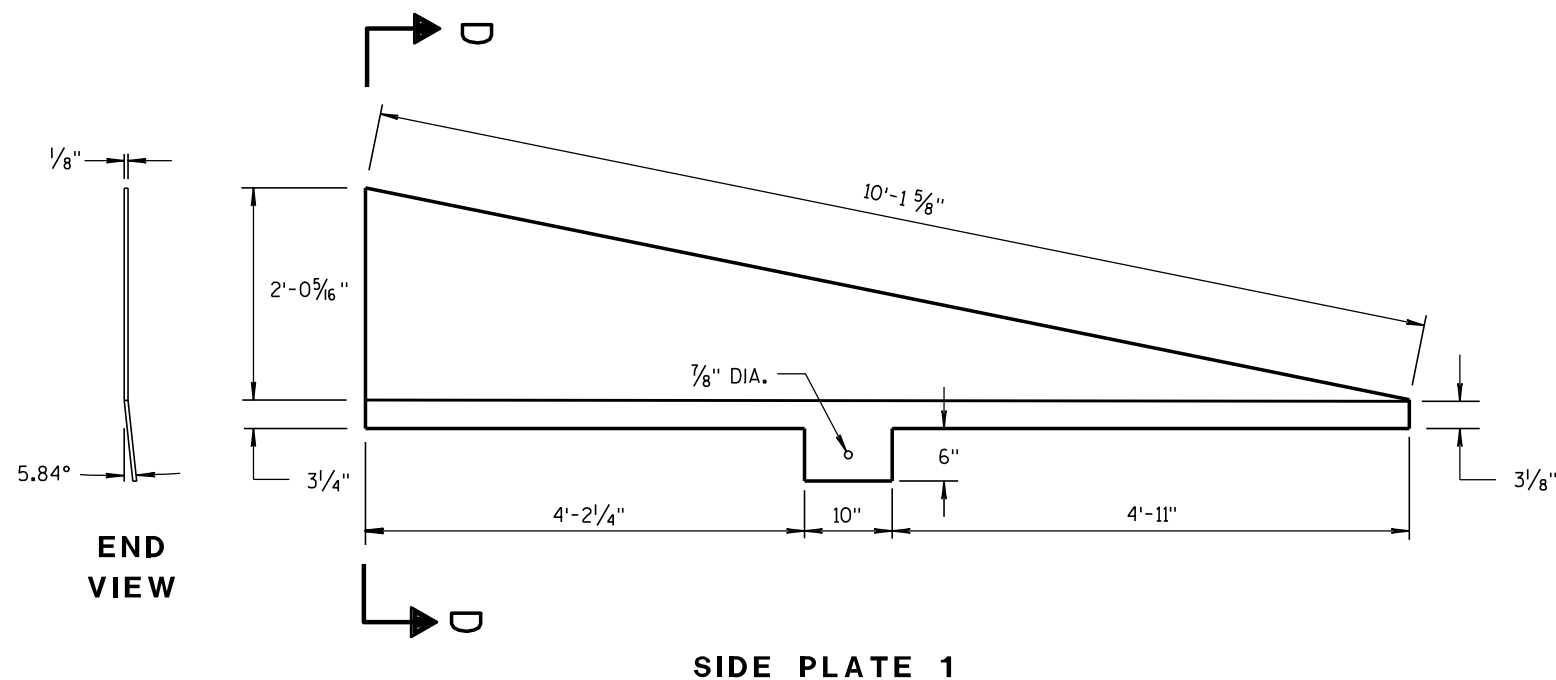
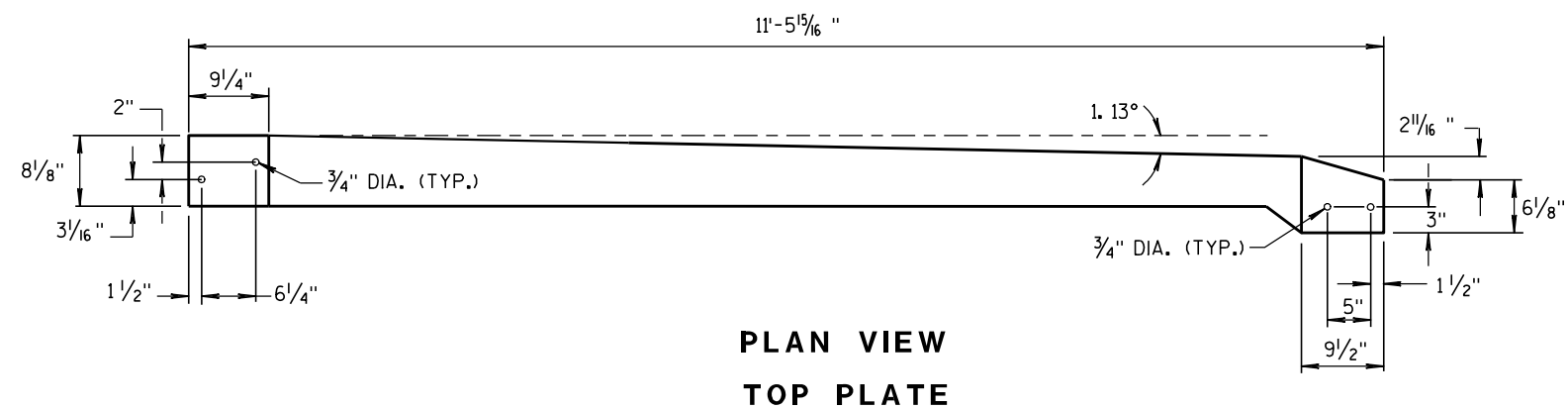
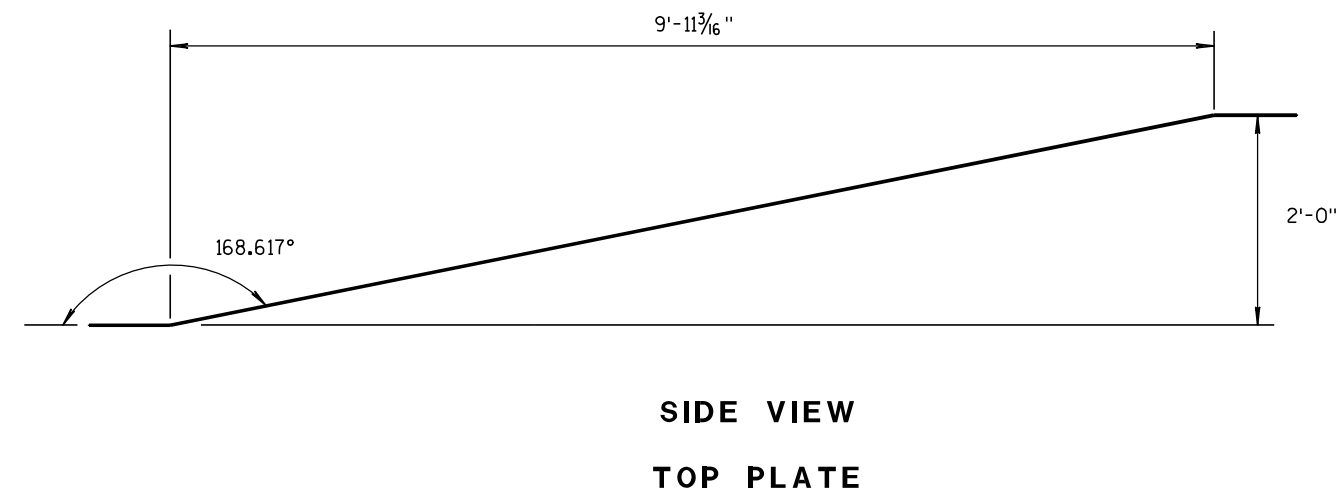
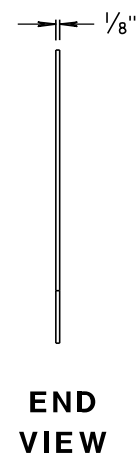
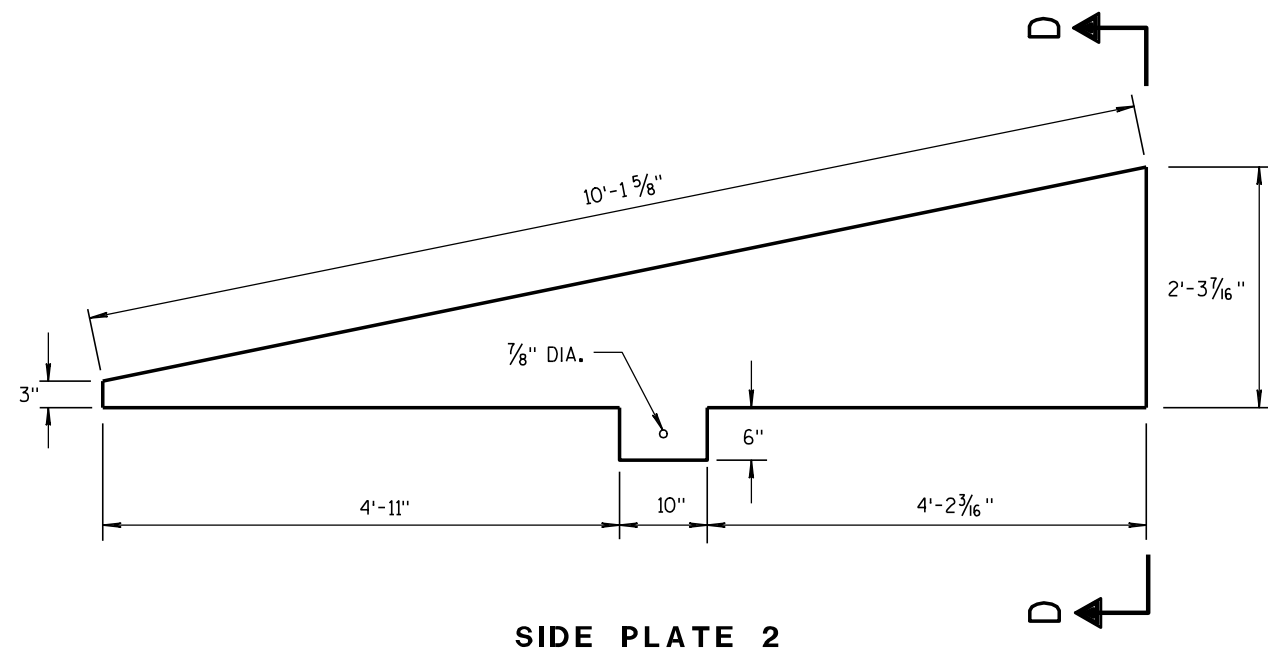
GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.



CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**CAP DETAILS FOR TEMPORARY CONCRETE
BARRIER TO 56" PERMANENT CONCRETE BARRIER**

**CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012

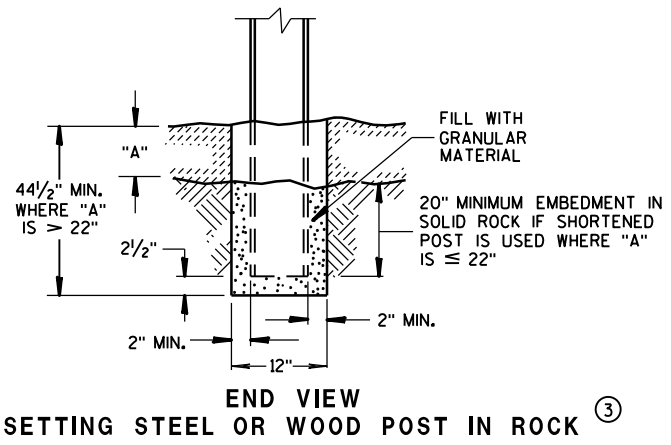
DATE

FHWA

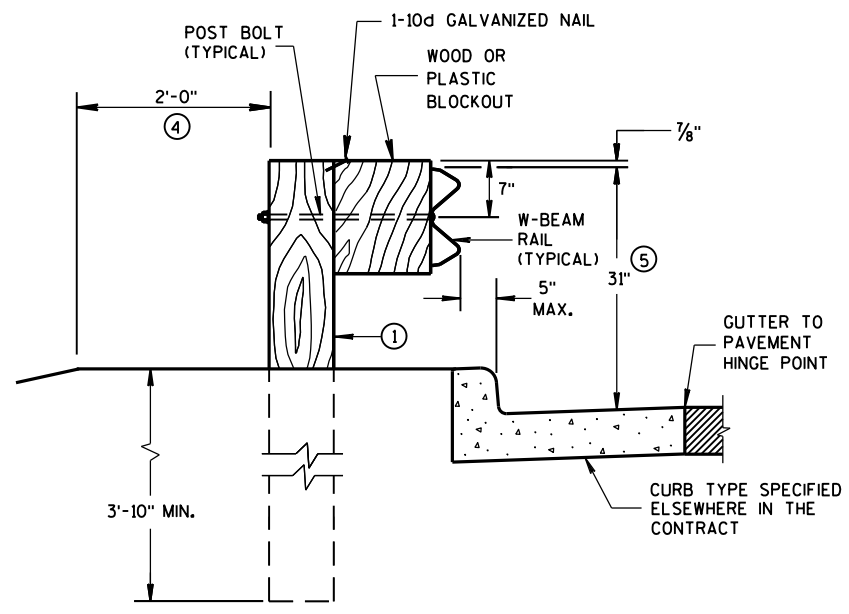
/S/ Jerry H. Zogg
ROADWAY STANDARD DEVELOPMENT
ENGINEER

GENERAL NOTES

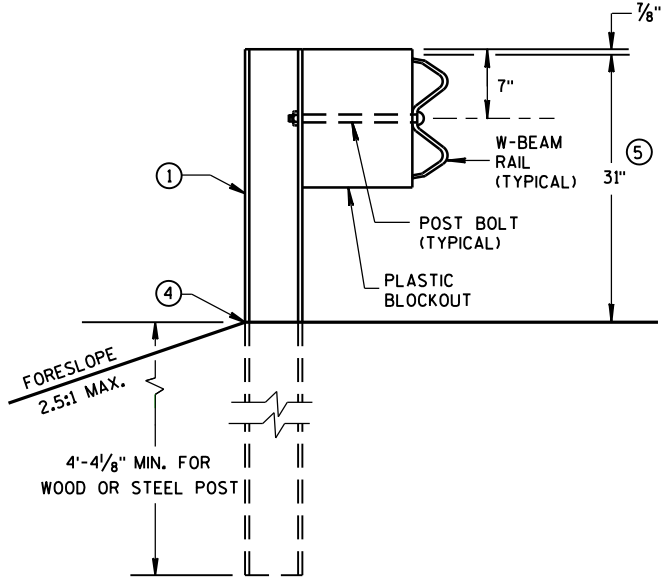
- ① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.
- ③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2 INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AND INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.
- ④ WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).
- ⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 3/4" TO 32".



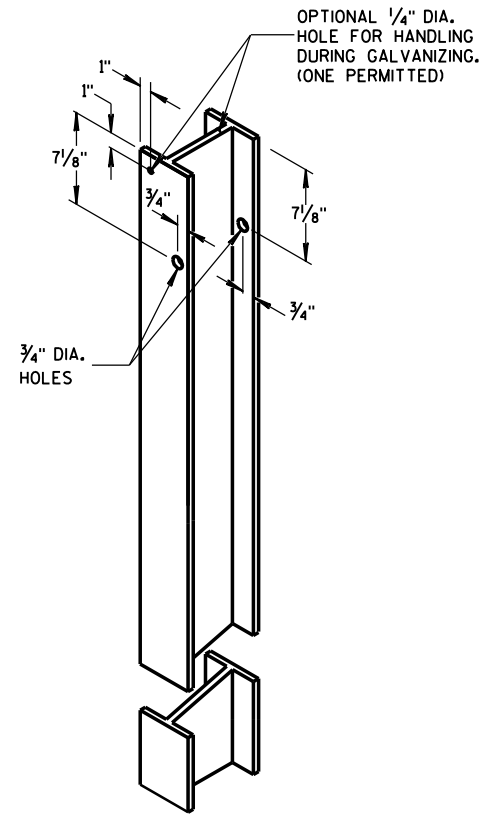
END VIEW
SETTING STEEL OR WOOD POST IN ROCK ③



END VIEW
LOCATED ALONG A CURBED ROADWAY



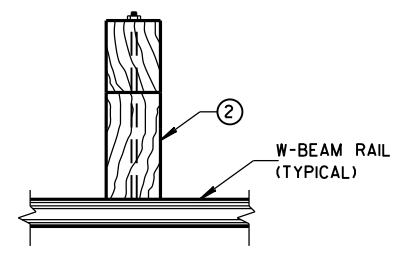
END VIEW
MGS LONGER POST AT HALFPST SPACING W BEAM (K)



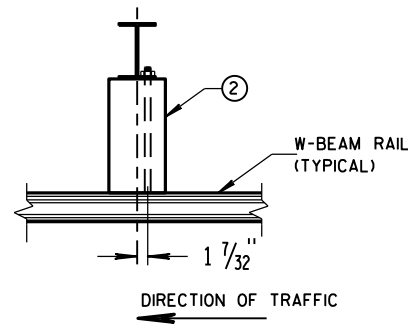
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) ①



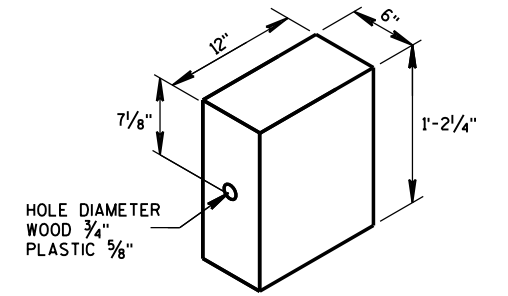
WOOD POST
(6" X 8") NOMINAL ①



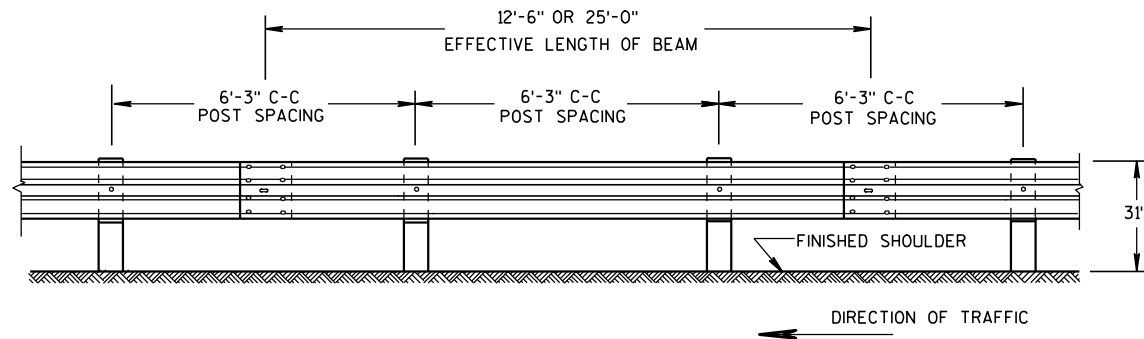
PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

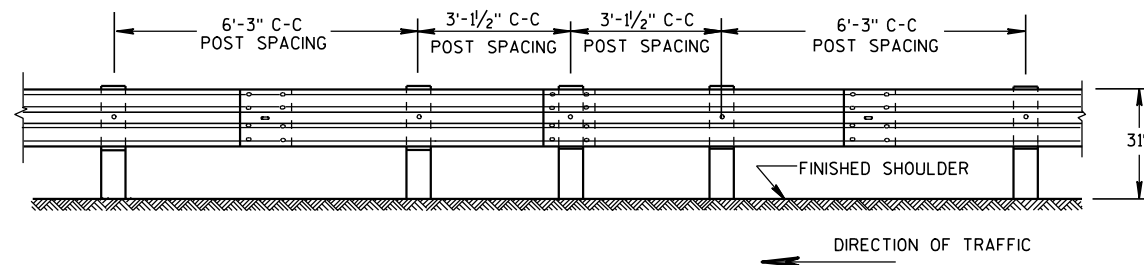


WOOD OR
PLASTIC BLOCKOUT ②



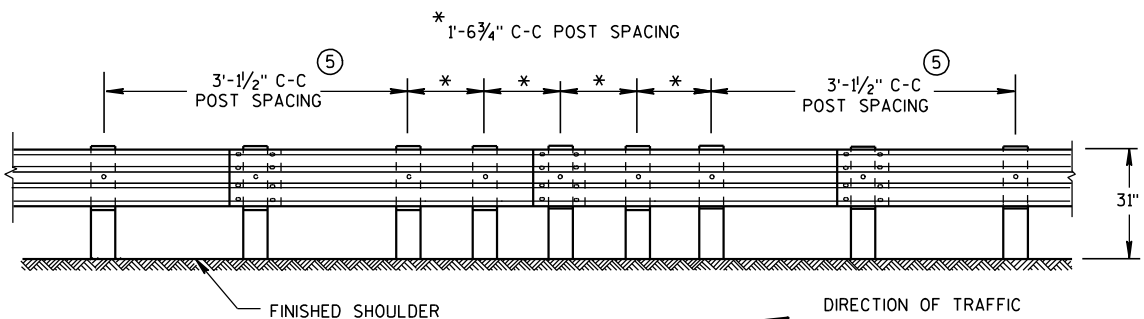
FRONT VIEW

POST SPACING STANDARD INSTALLATION



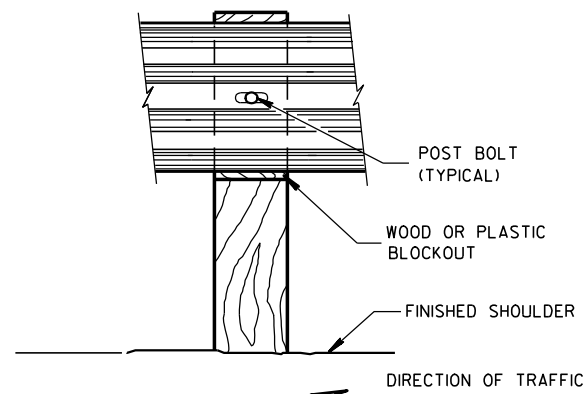
FRONT VIEW

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

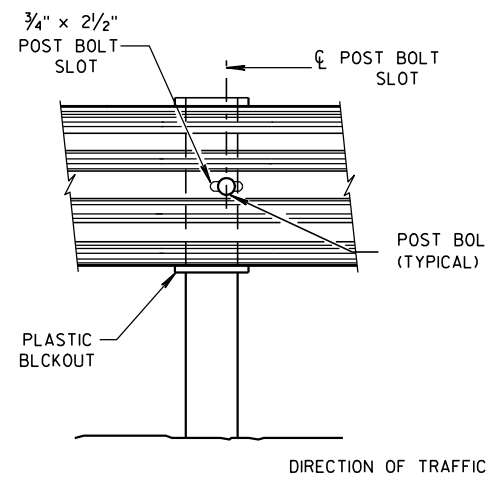


FRONT VIEW

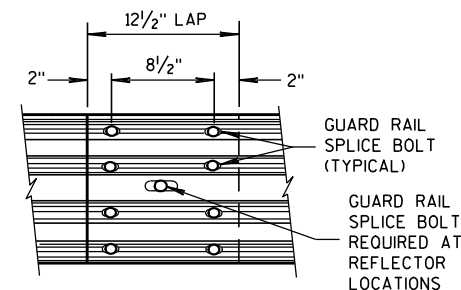
QUARTER POST SPACING (QS)



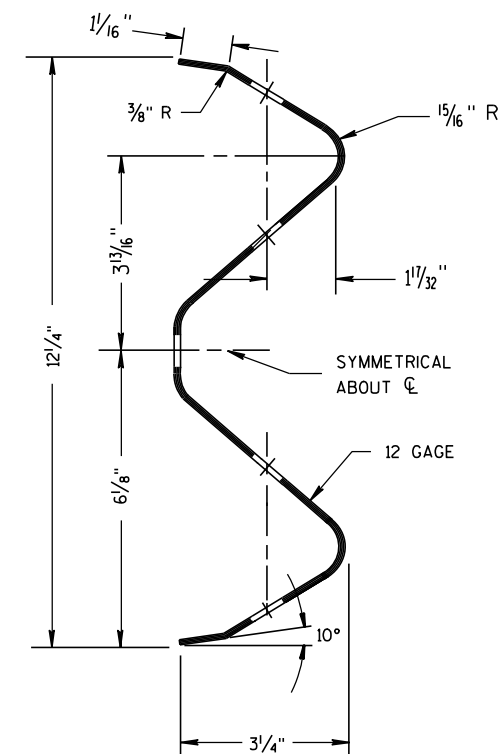
FRONT VIEW AT WOOD POST



FRONT VIEW AT STEEL POST



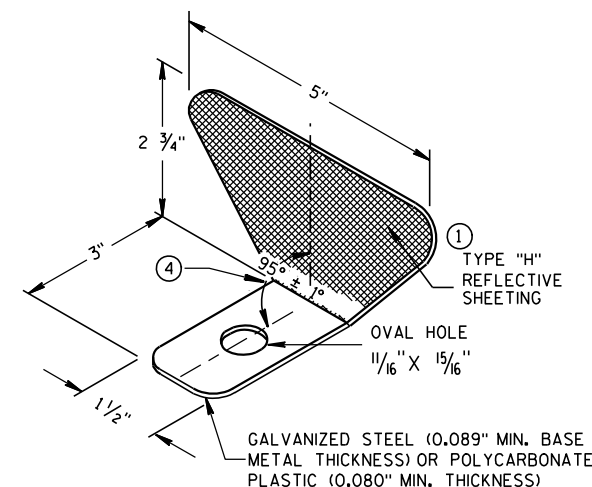
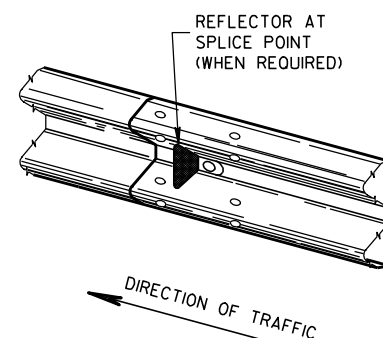
FRONT VIEW
MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL

REFLECTOR SPACING^②

	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 ^③	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2 ^④	3
	> 200'	100' C-C	2	



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION^①

GENERAL NOTES

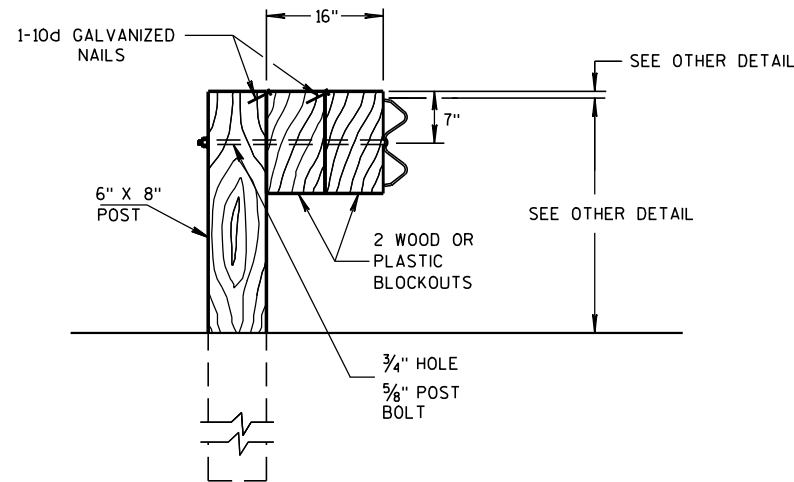
- ① PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.
- ② DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
- ③ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
- ④ PROVIDE AN ANGLE OF BEND OF $90^\circ \pm 1^\circ$ FOR TWO-SIDED REFLECTORS.
- ⑤ 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.

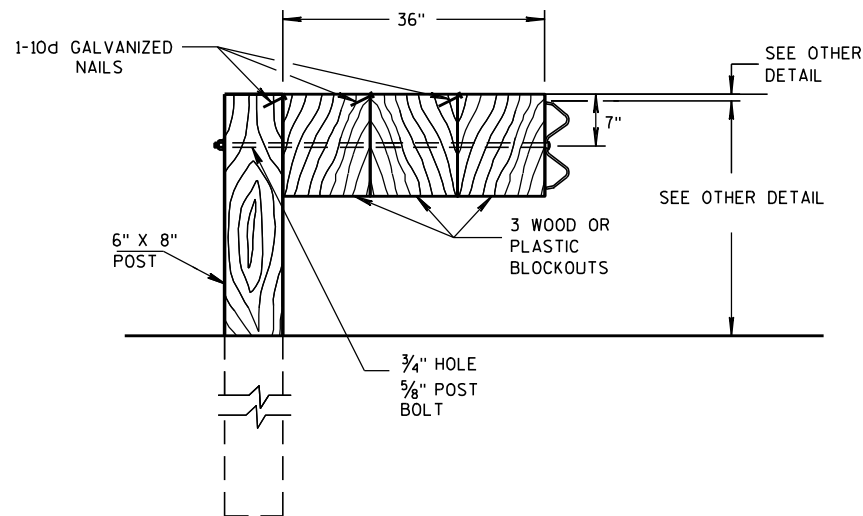
MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR 16" BLOCKOUT DEPTH

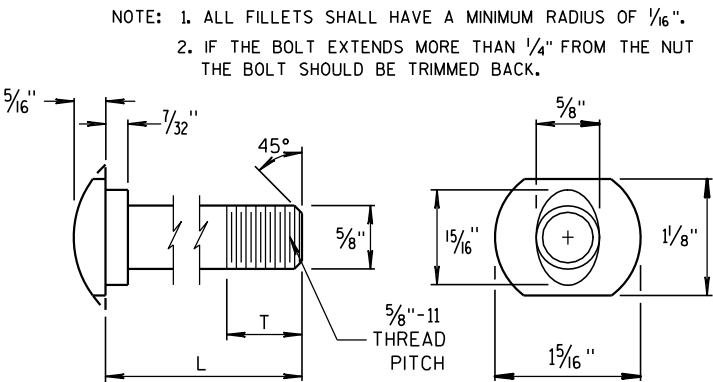
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



DETAIL FOR 36" BLOCKOUT DEPTH

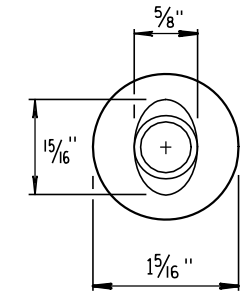
NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

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.

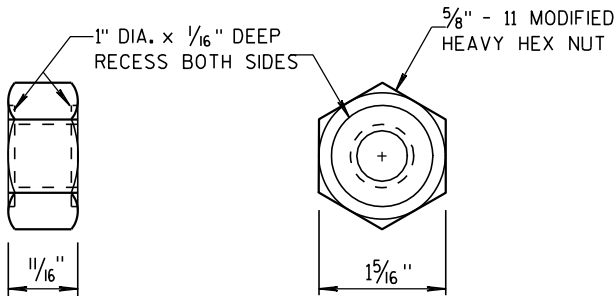


POST BOLT TABLE

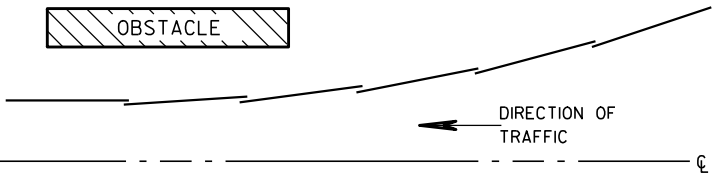
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



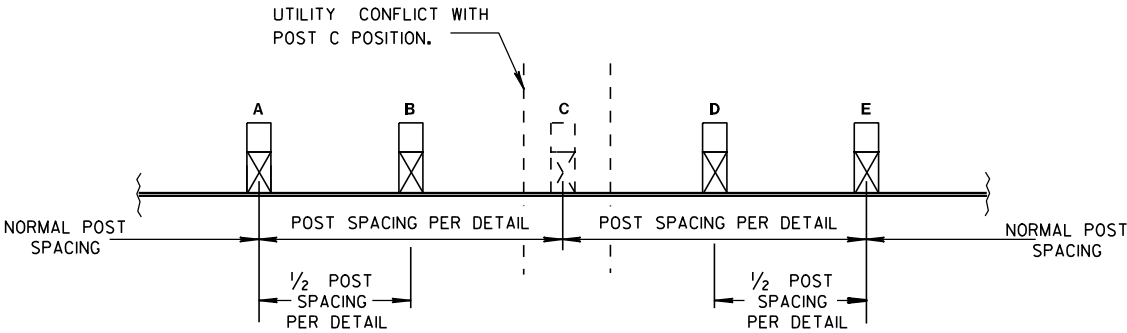
ALTERNATE BOLT HEAD



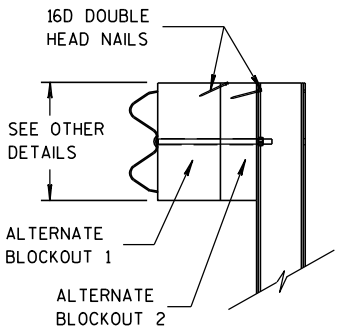
POST BOLT AND RECESS NUT



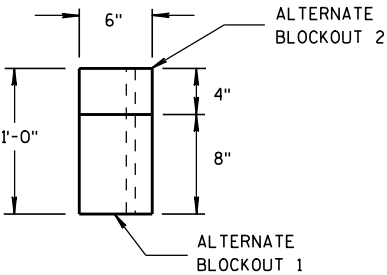
PLAN VIEW
BEAM LAPPING DETAIL



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
11/15/2011 DATE /S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA

6

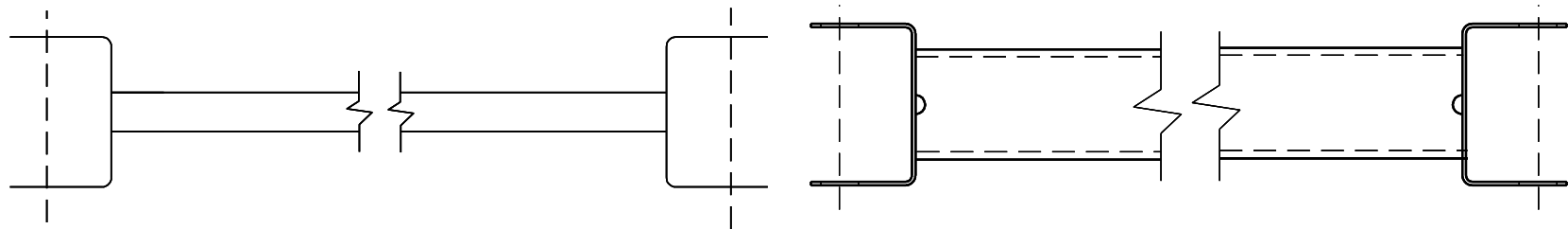
- S.D.D. 14 B 44-1a**

THE CENTER OF THE UPPER 3 1/2" DIAMETER HOLE ON POST NUMBER 3
THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE (+ 3/4")

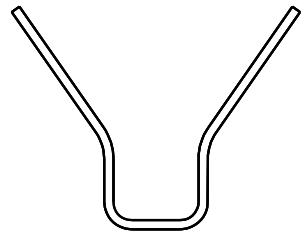
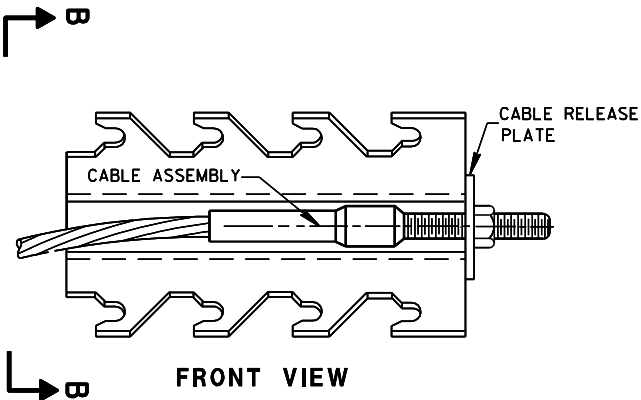


STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

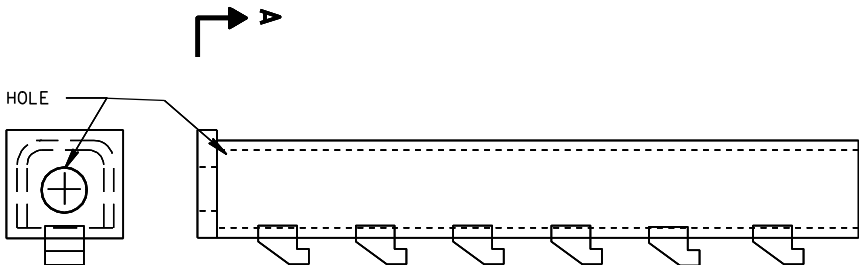
S.D.D. 14 B 44-1a



9 H
GENERIC GROUND STRUT



SECTION B-B



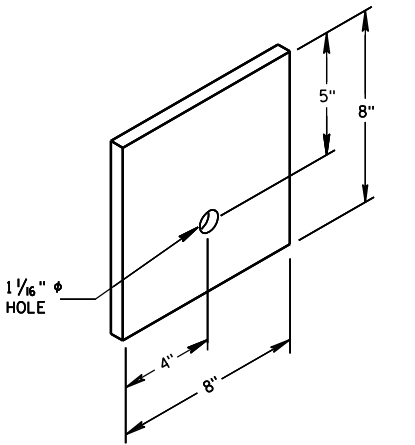
SECTION A-A

PLAN VIEW

8 H
GENERIC ANCHOR CABLE BOX

BILL OF MATERIALS

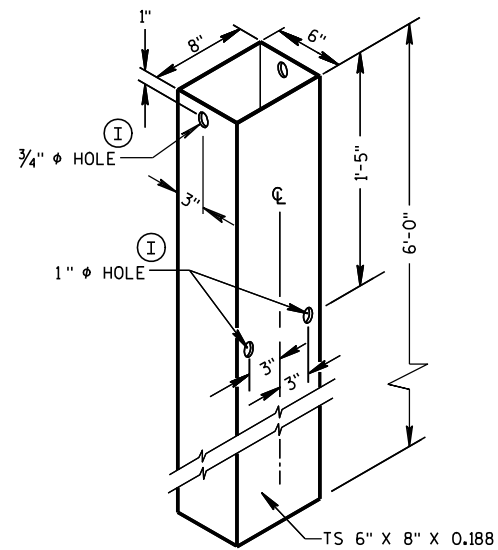
PART NO.	DESCRIPTION
MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.	
①	WOOD BREAKAWAY POST
②	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND 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 H (ONLY THE SHEETING IS SUPPLIED BY THE MANUFACTURER)
⑭	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



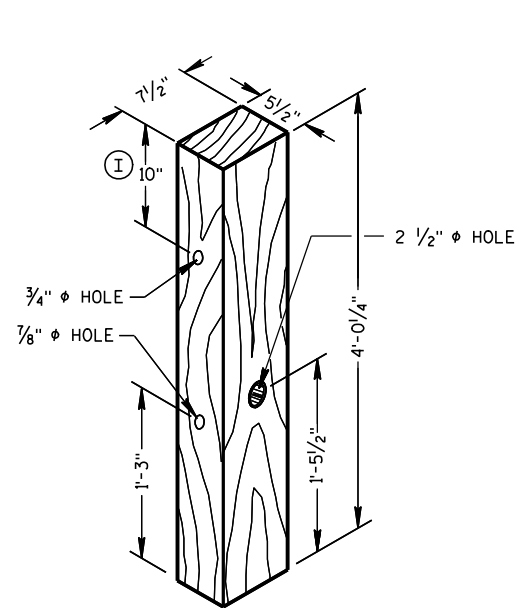
6
BEARING PLATE

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

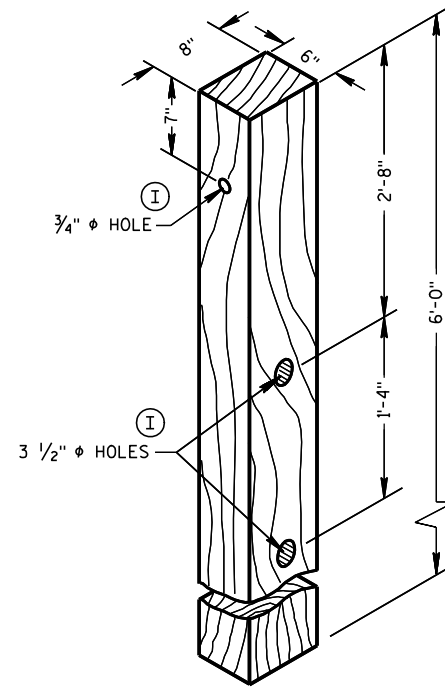
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



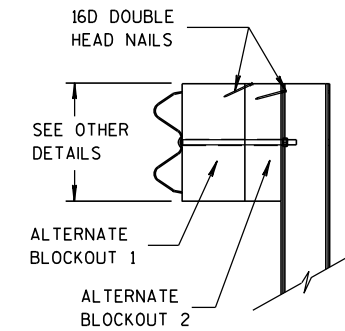
FOUNDATION TUBE ②



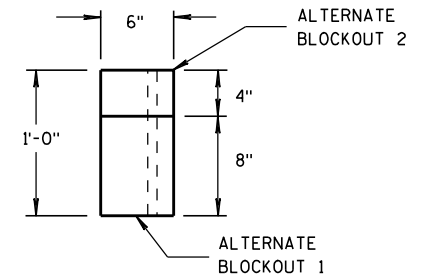
WOOD BREAKAWAY POST ①



WOOD CRT POST ③

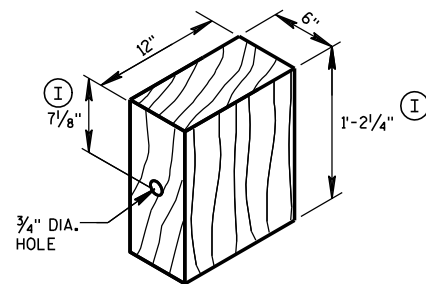


SIDE VIEW



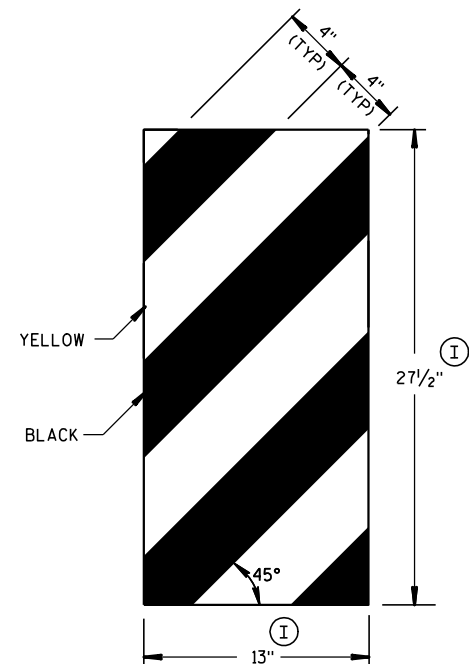
TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

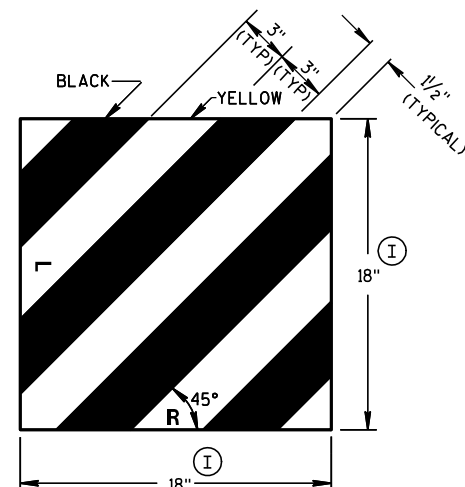


WOOD BLOCKOUT ④

YELLOW REFLECTIVE TAPE
3" X 9" TYPE H
REFLECTIVE SHEETING



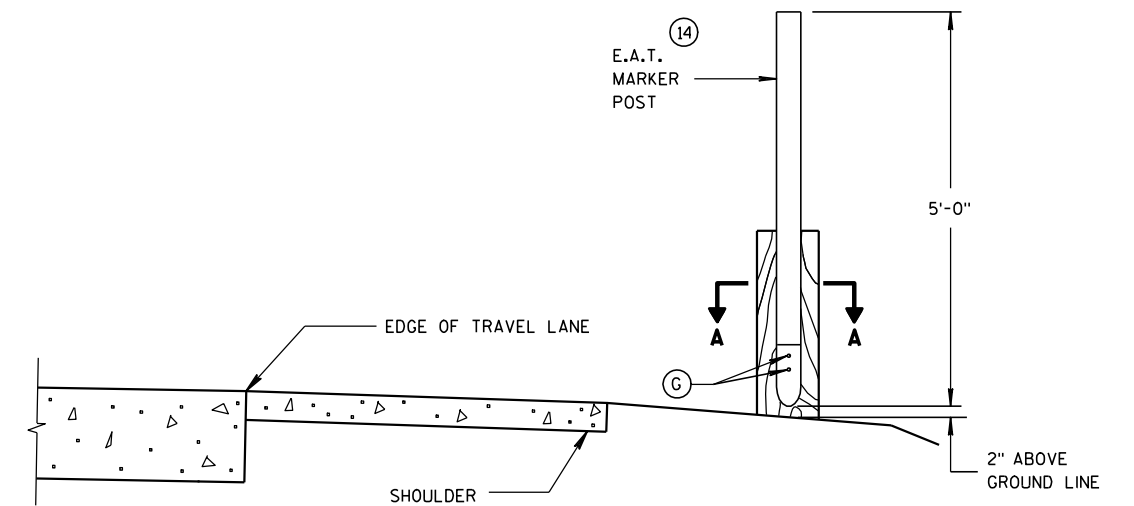
GENERIC REFLECTIVE SHEETING ⑬ ④



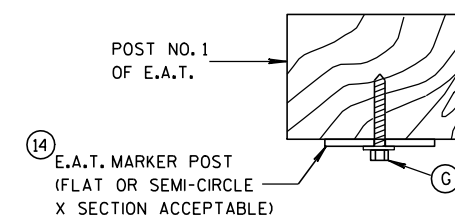
FRONT VIEW

SIDE VIEW

E.A.T. MARKER POST ⑭



TYPICAL INSTALLATION OF E.A.T.
MARKER POST BACKSIDE OF POST NO. 1
(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

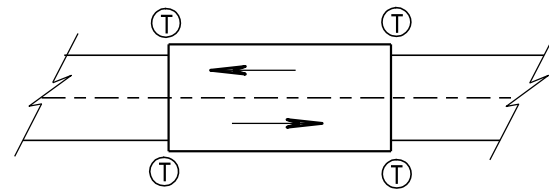
APPROVED

5/23/2011

DATE

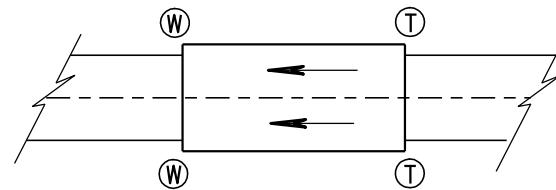
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



TWO WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION



ONE WAY TRAFFIC

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

GENERAL NOTES

BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3".

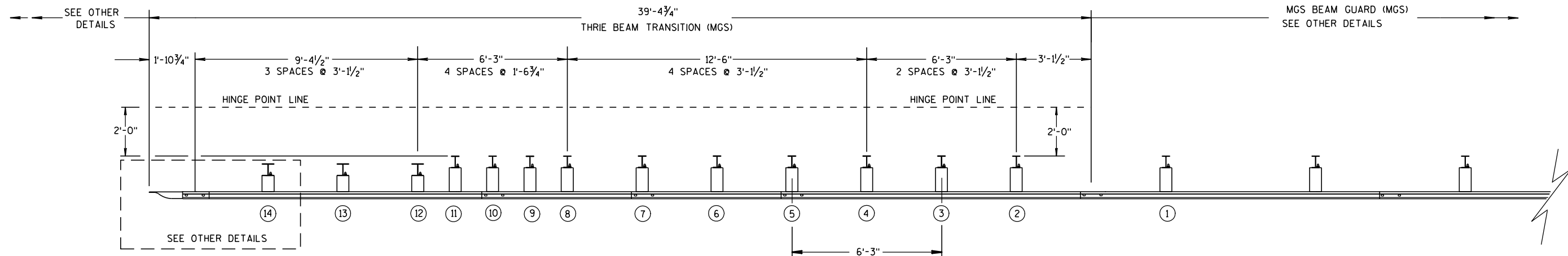
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

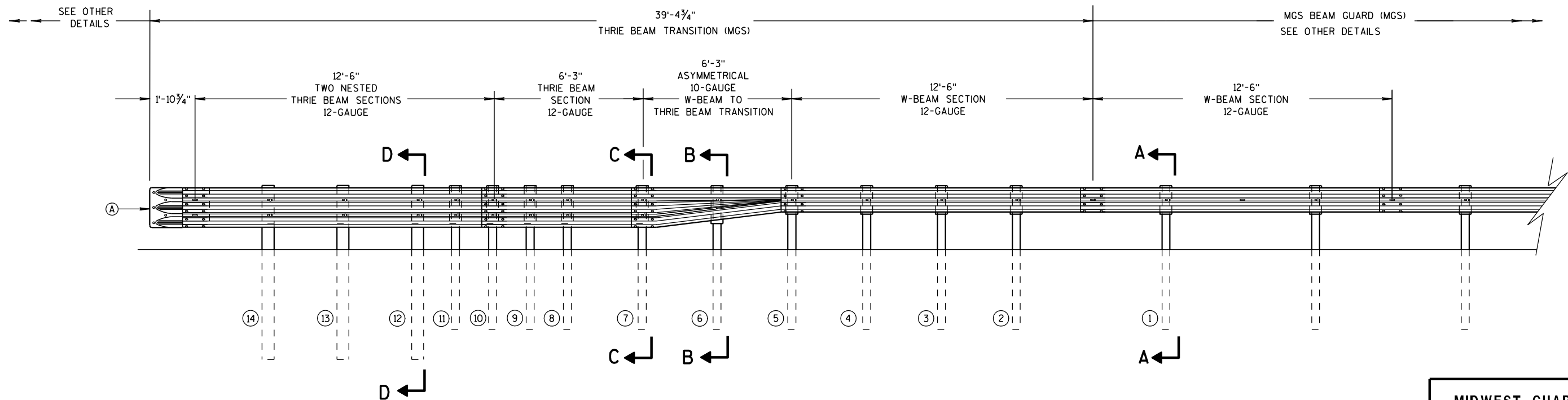
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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

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

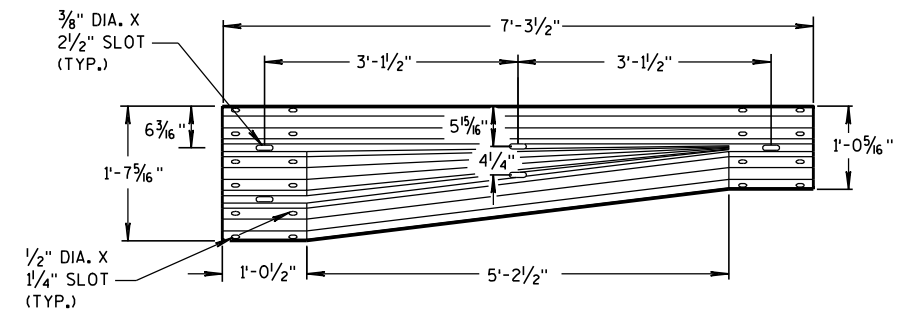
6

S.D.D. 14 B 45-3b

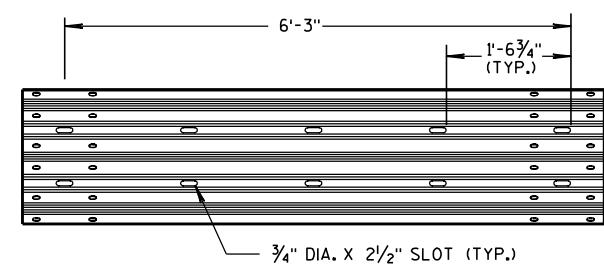


STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

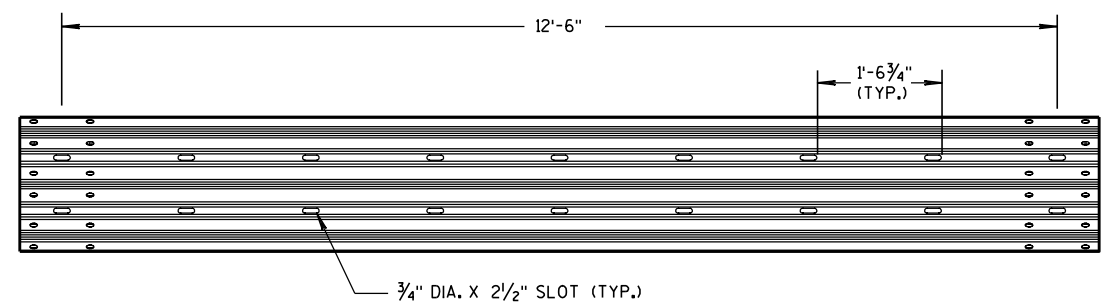
S.D.D. 14 B 45-3b



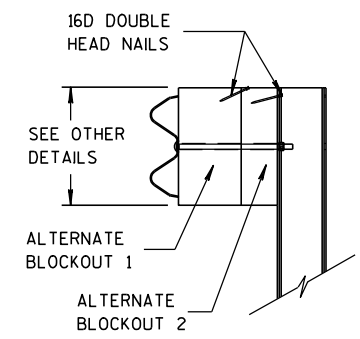
W-BEAM TO THRIE BEAM TRANSITION SECTION



6'-3" THRIE BEAM SECTION

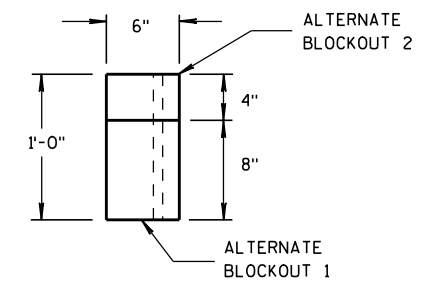


12'-6" THRIE BEAM SECTION

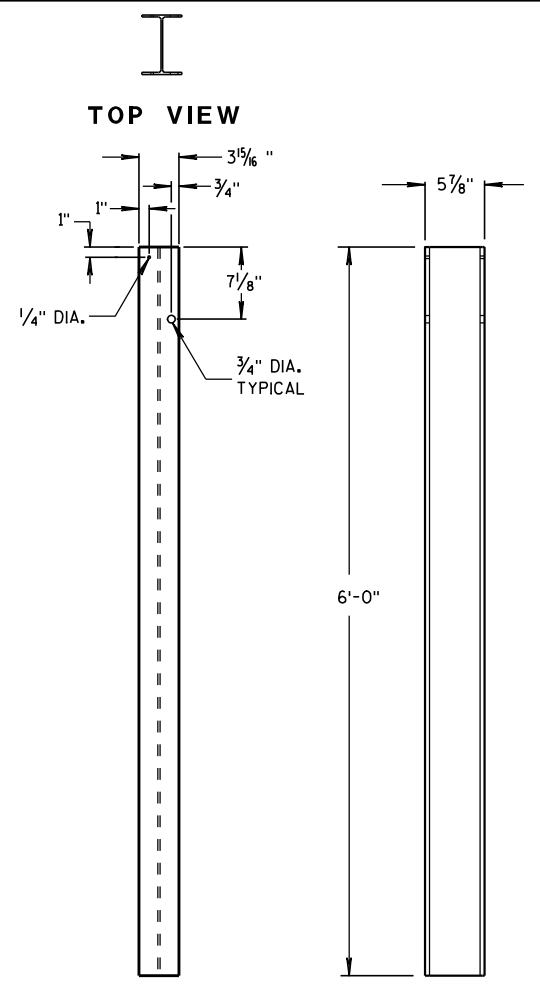


SIDE VIEW

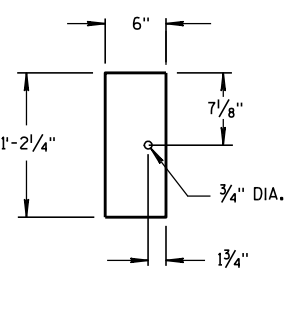
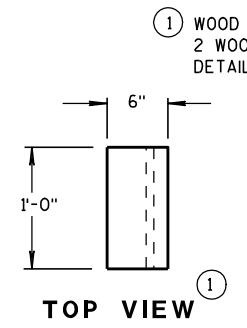
ALTERNATE WOOD BLOCKOUT DETAIL



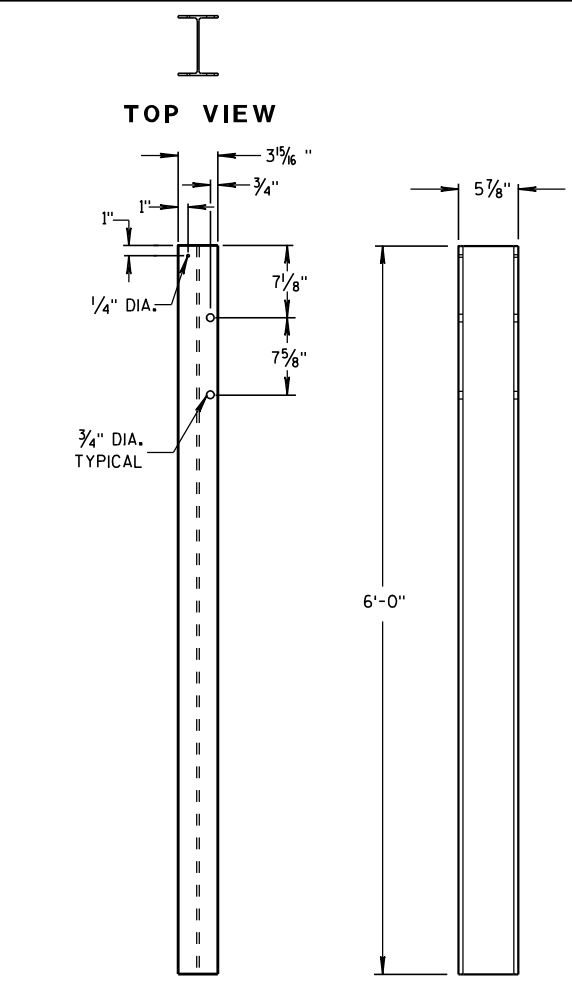
TOP VIEW



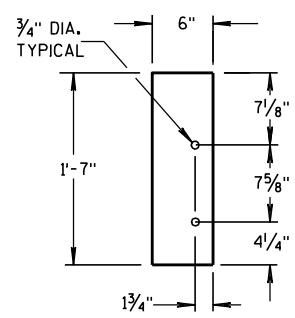
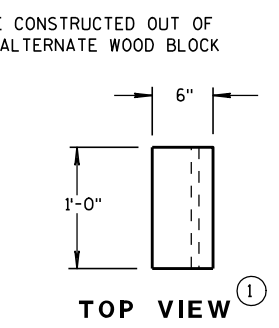
STEEL POSTS 1-5



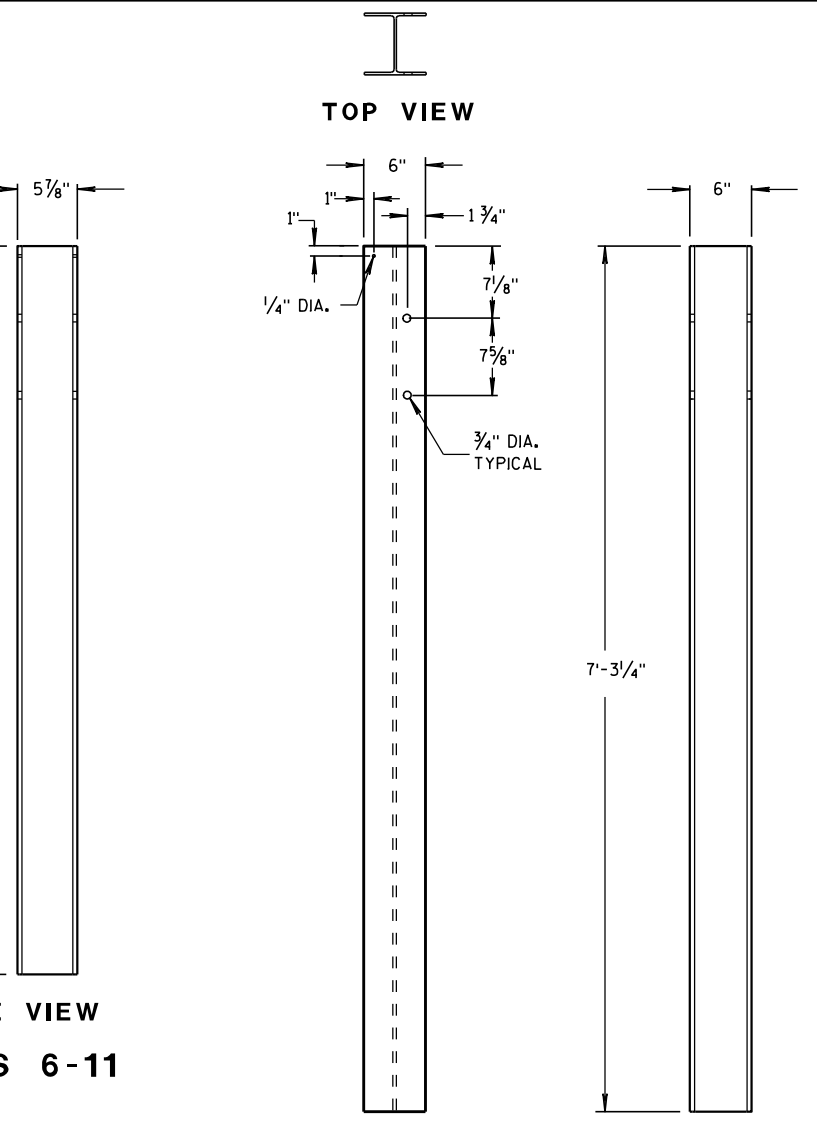
BLOCKOUT POSTS 1-5



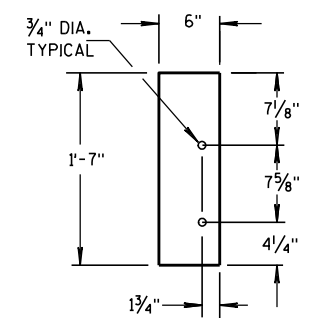
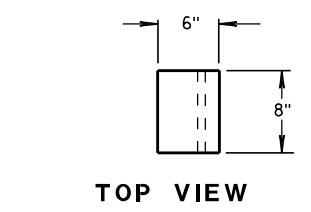
STEEL POSTS 6-11



BLOCKOUT POSTS 6-11



STEEL POSTS 12-14



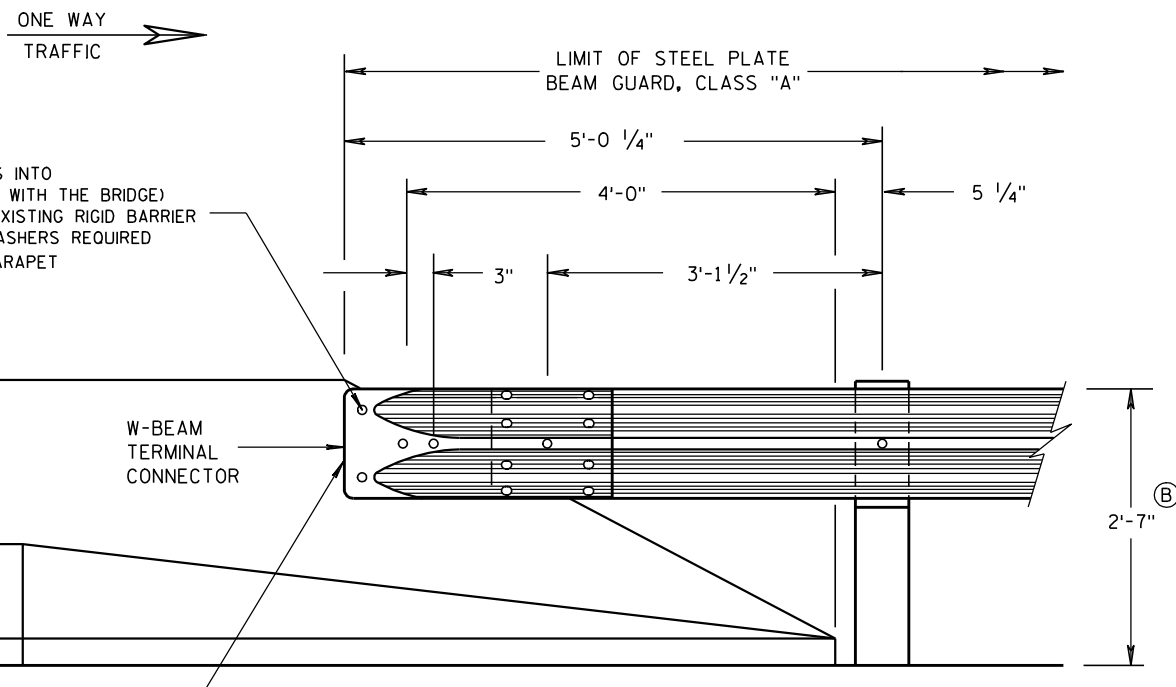
BLOCKOUT POSTS 12-14

STEEL POST SIZES

POST NUMBER	SECTION TYPE	LENGTH
①	W6x9	72"
②	W6x9	72"
③	W6x9	72"
④	W6x9	72"
⑤	W6x9	72"
⑥	W6x9	72"
⑦	W6x9	72"
⑧	W6x9	72"
⑨	W6x9	72"
⑩	W6x9	72"
⑪	W6x9	72"
⑫	W6x15	87 1/8"
⑬	W6x15	87 1/8"
⑭	W6x15	87 1/8"

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



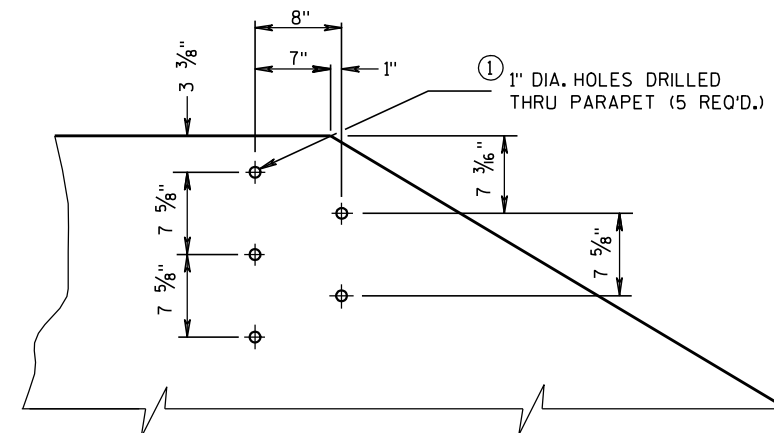
FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

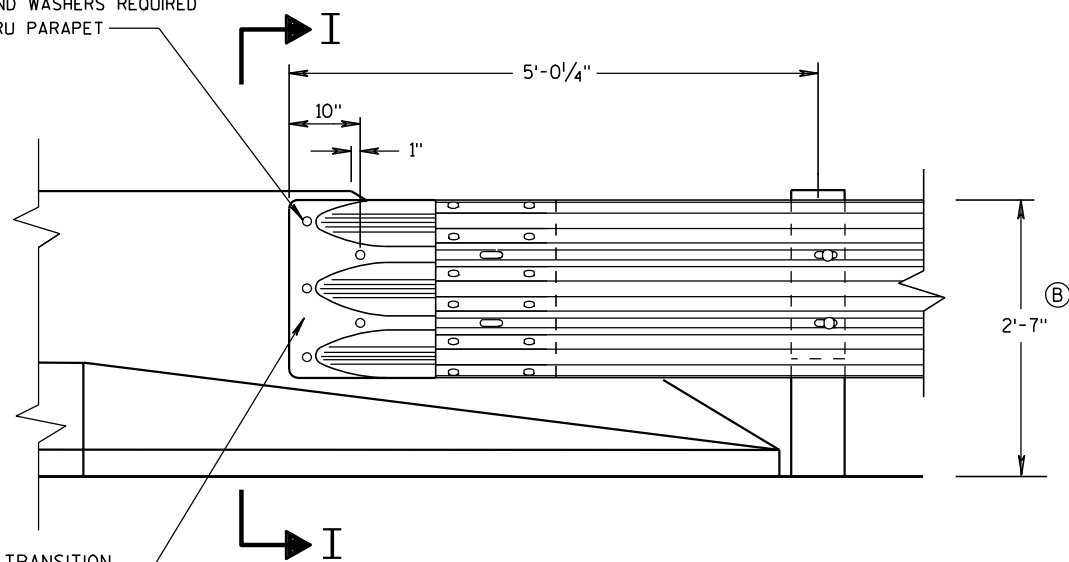
GENERAL NOTES

- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② 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.
- ③ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.



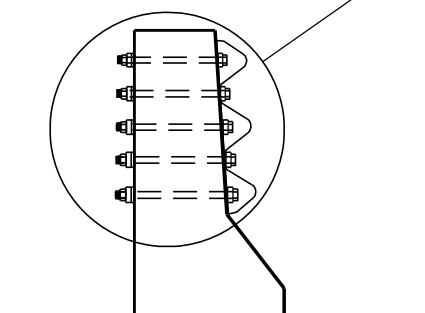
DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION

- ① ② 1/8" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER. 7/8" DIA. H.S. HEX BOLT AND WASHERS REQUIRED. 1" DIA. HOLES DRILLED THRU PARAPET (5 REQ'D.).

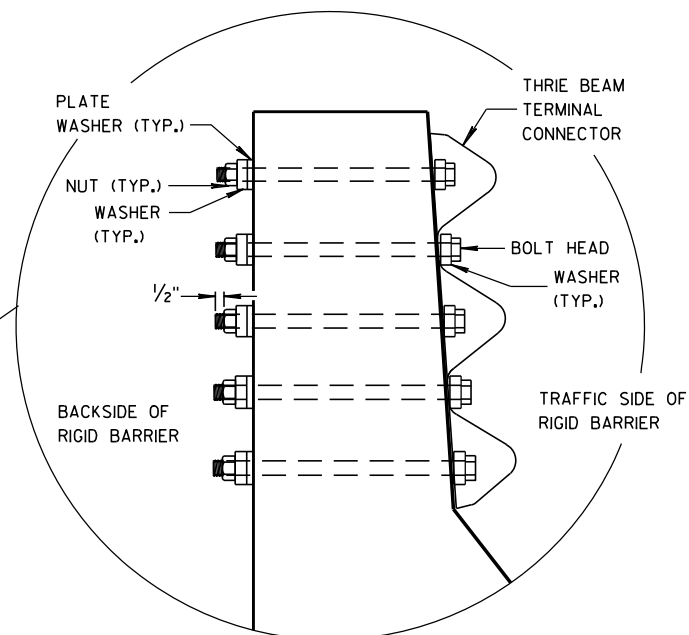


FRONT VIEW

THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS



SECTION I-I

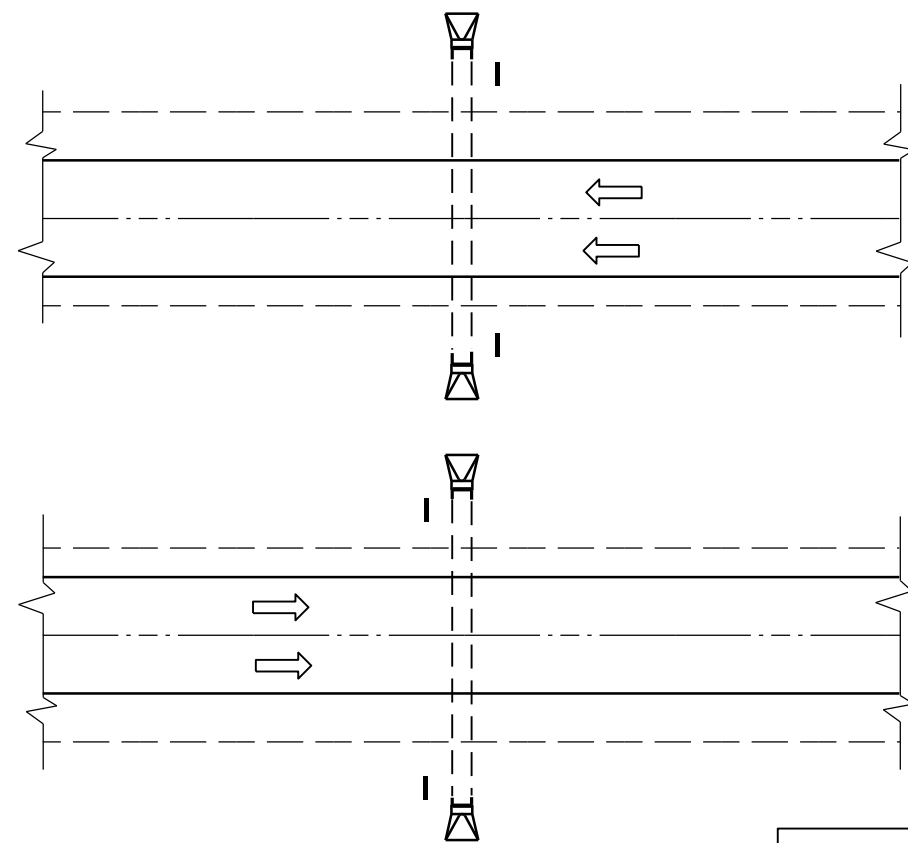


MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

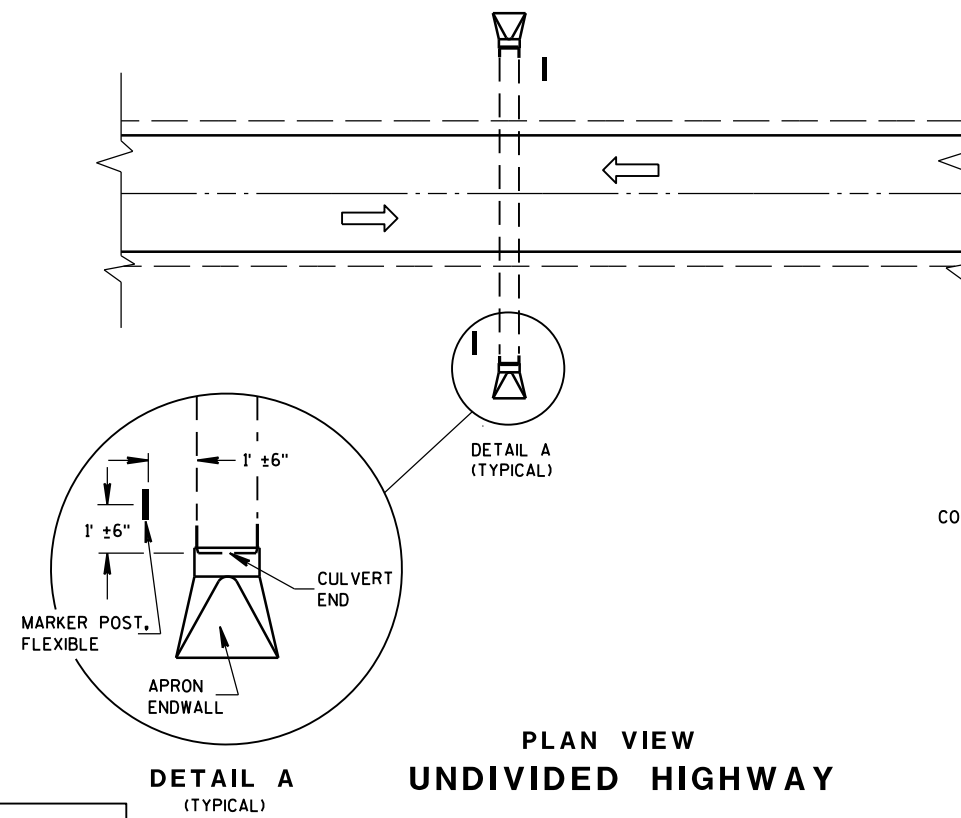
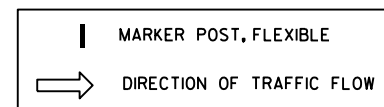
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



PLAN VIEW
DIVIDED HIGHWAY

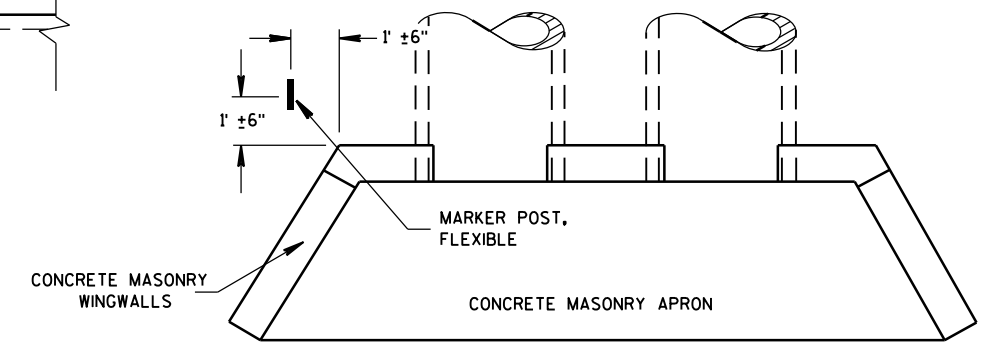


PLAN VIEW
UNDIVIDED HIGHWAY

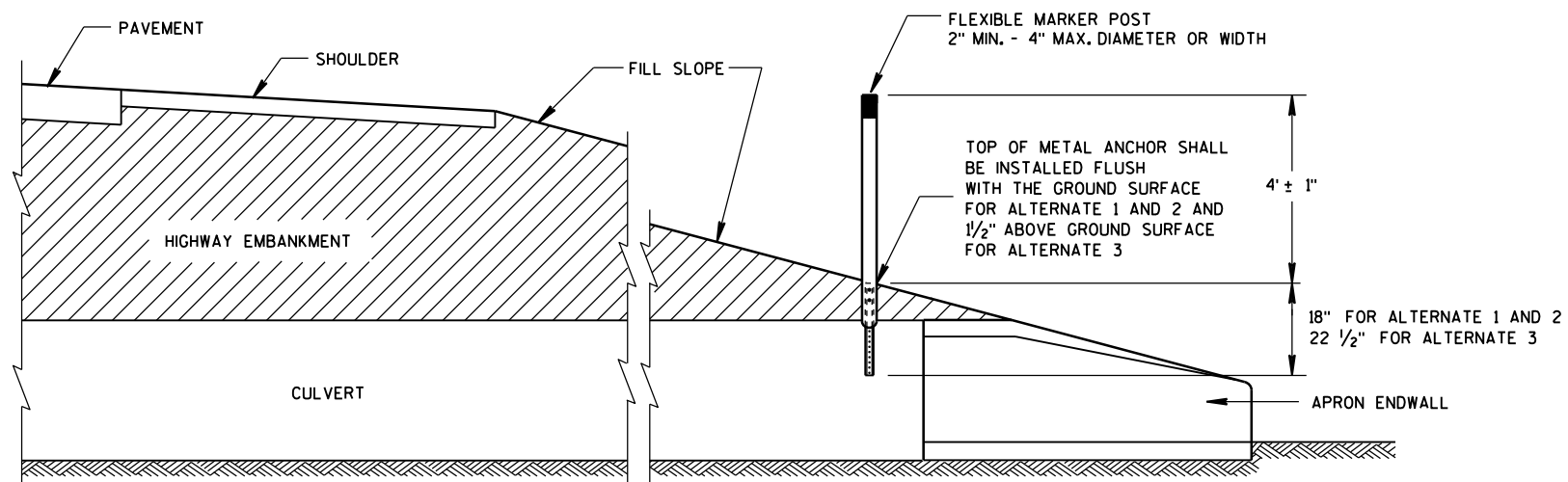
FLEXIBLE MARKER POST LOCATION

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.



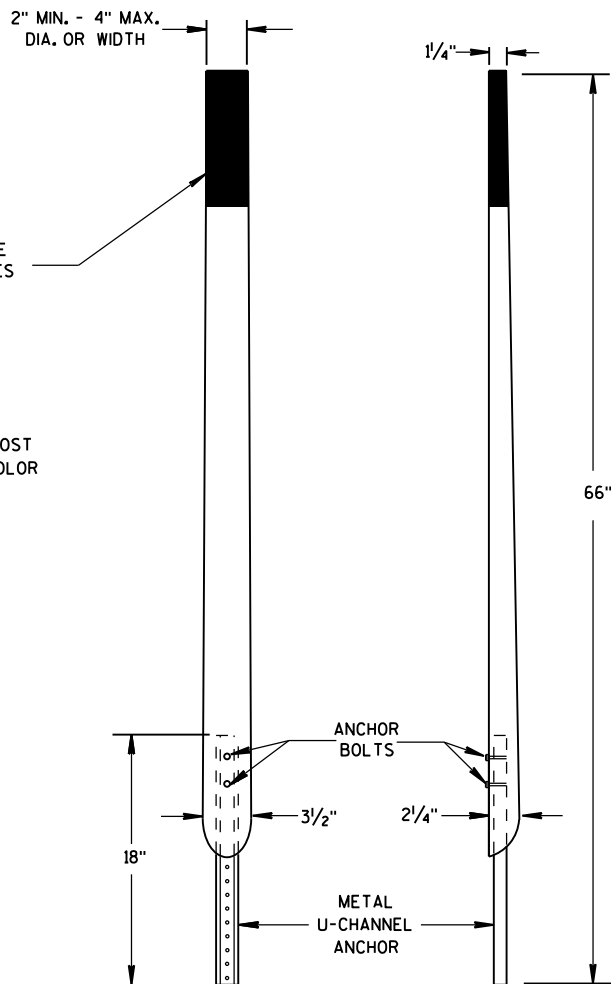
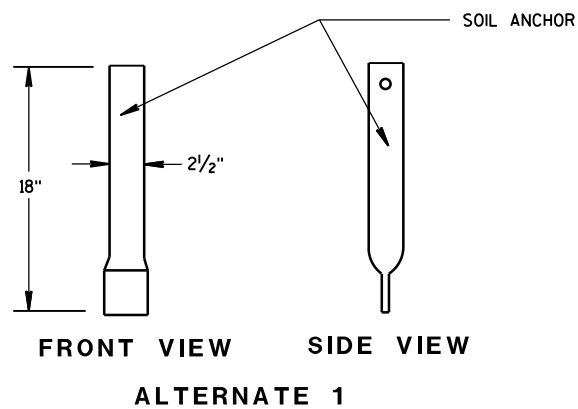
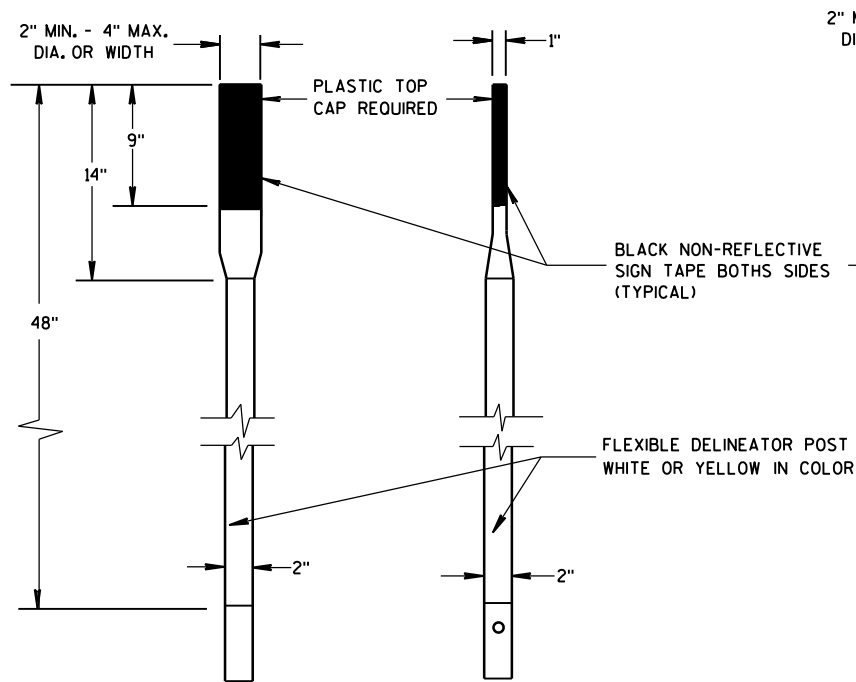
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



CROSS SECTION
FLEXIBLE MARKER POST

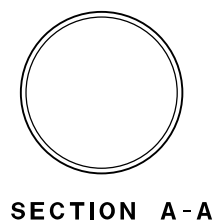
FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

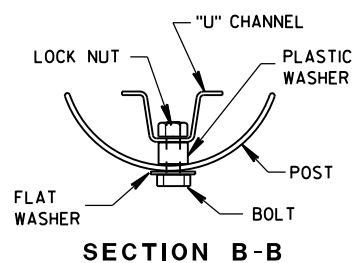
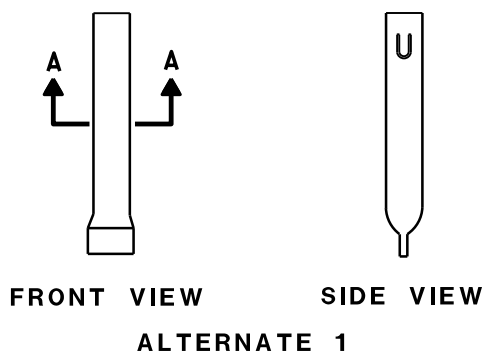


FRONT VIEW SIDE VIEW
ALTERNATE 2

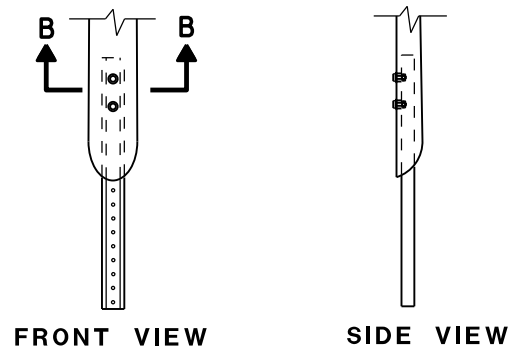
FLEXIBLE MARKER POSTS



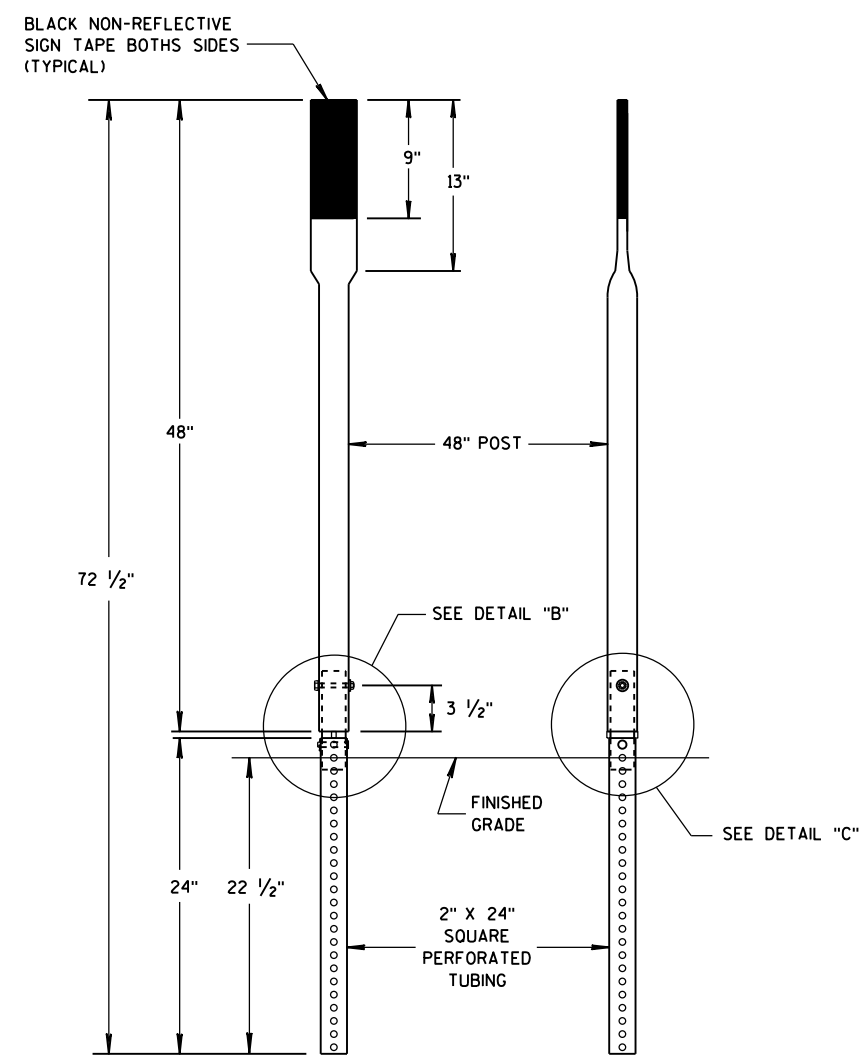
SECTION A-A



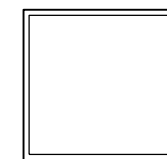
SECTION B-B



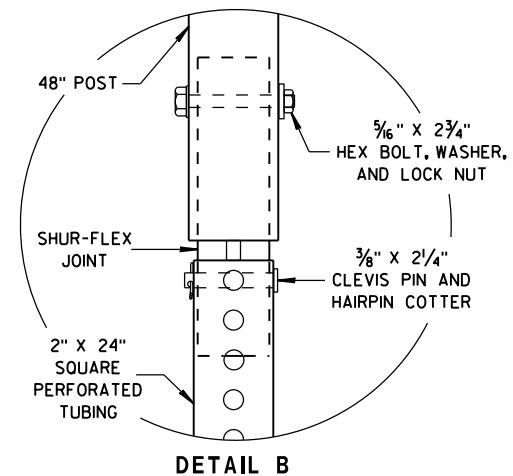
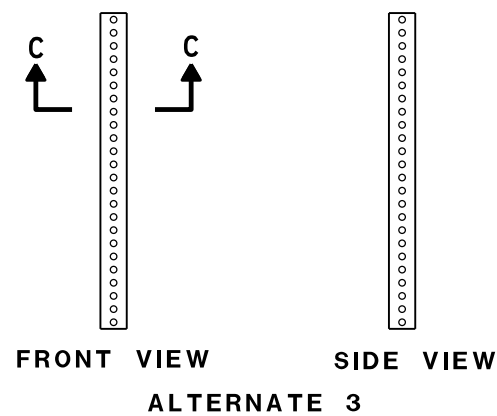
FRONT VIEW SIDE VIEW
ALTERNATE 2
FLEXIBLE MARKER POST ANCHORS



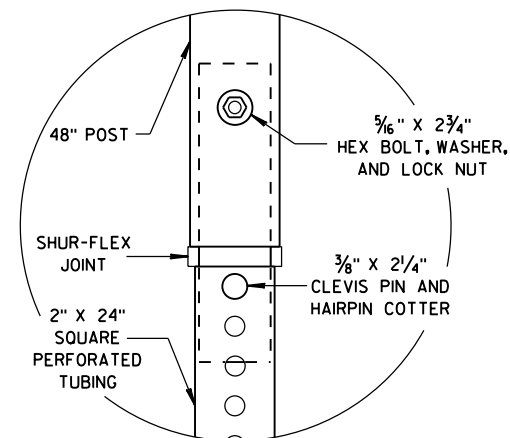
FRONT VIEW SIDE VIEW
ALTERNATE 3



SECTION C-C



DETAIL B



DETAIL C

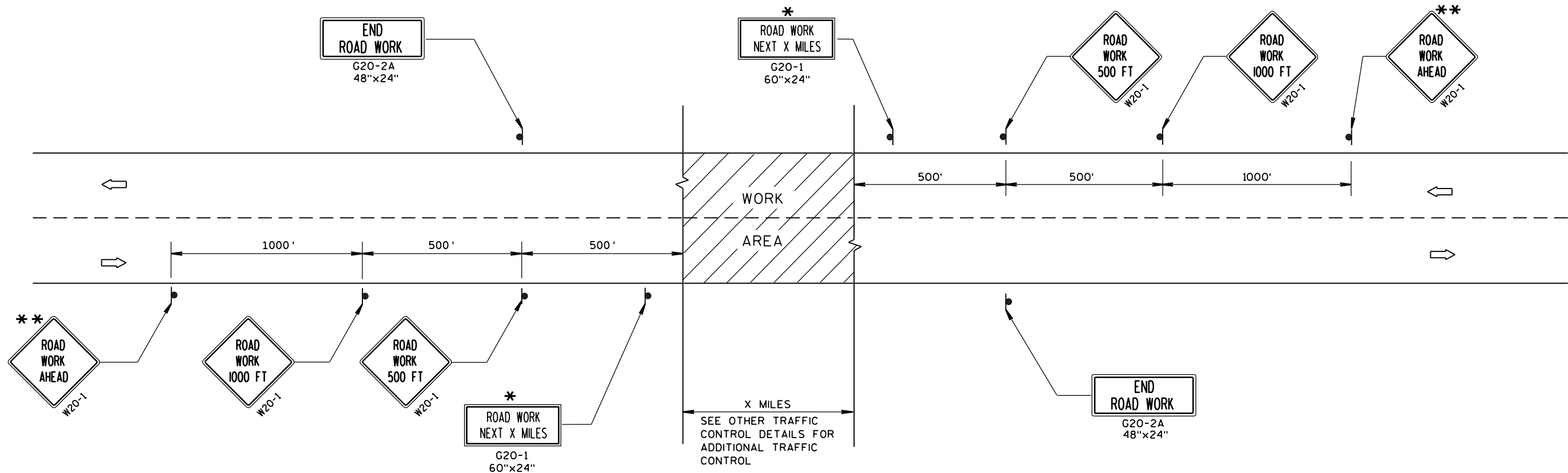
FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/1/2012
DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER OF DESIGN

FHWA



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

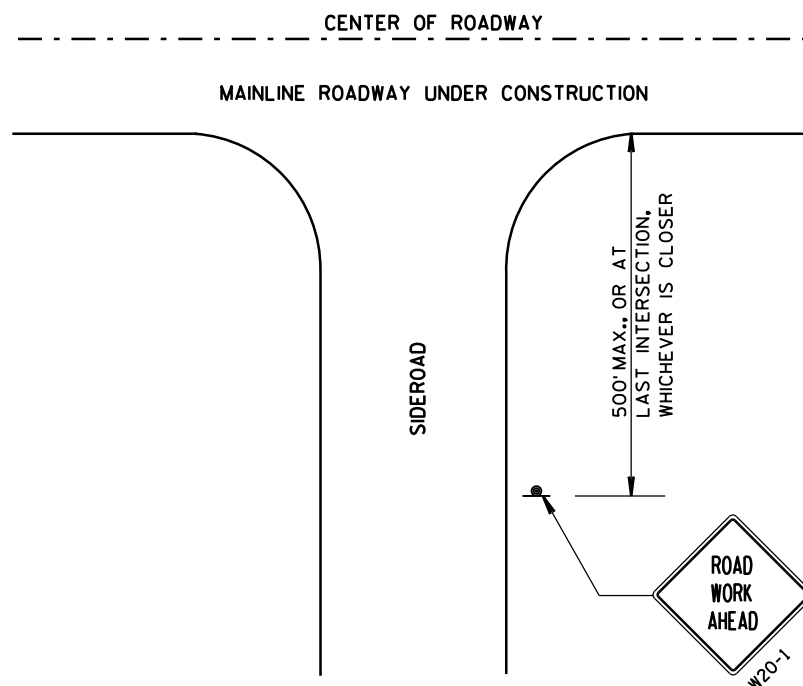
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

** PLACE ADDITIONAL W20-1 "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL, ADVANCE
WARNING SIGNS 45 M.P.H.
OR GREATER TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

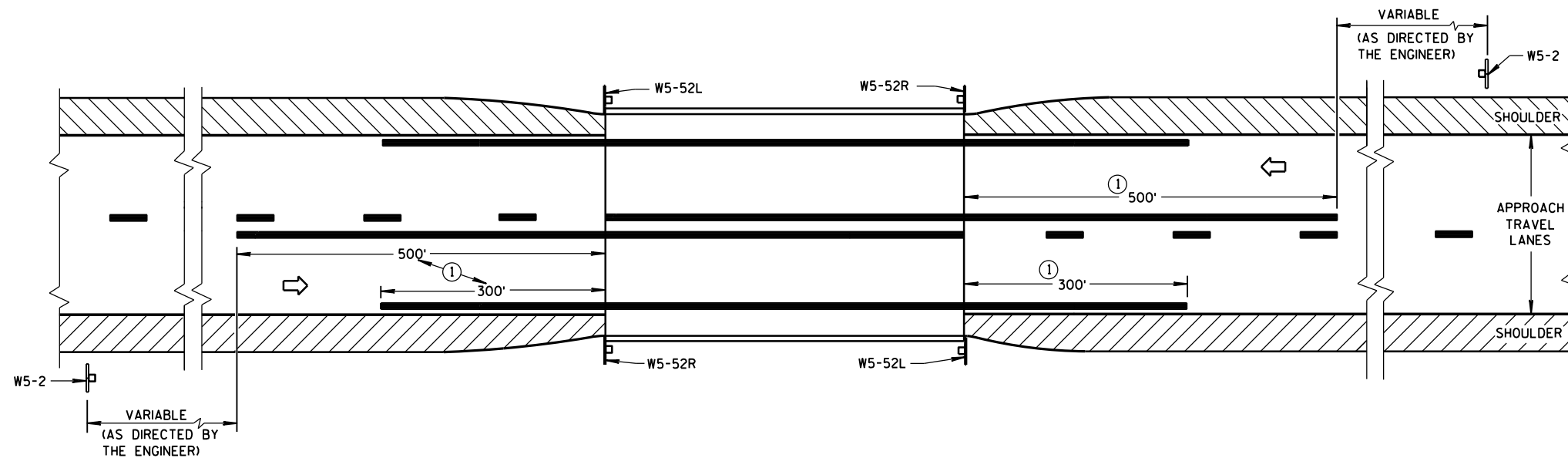
APPROVED

8/2013

DATE

FHWA

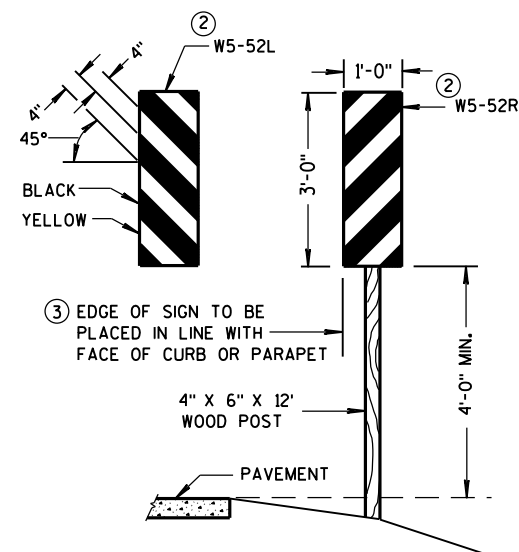
/S/ Travis Feltes
STATE TRAFFIC ENGINEER OF DESIGN



SITUATION 1

WARRANTING CRITERIA:

BRIDGE WIDTH IS AT LEAST 18 FEET BUT LESS THAN 24 FEET



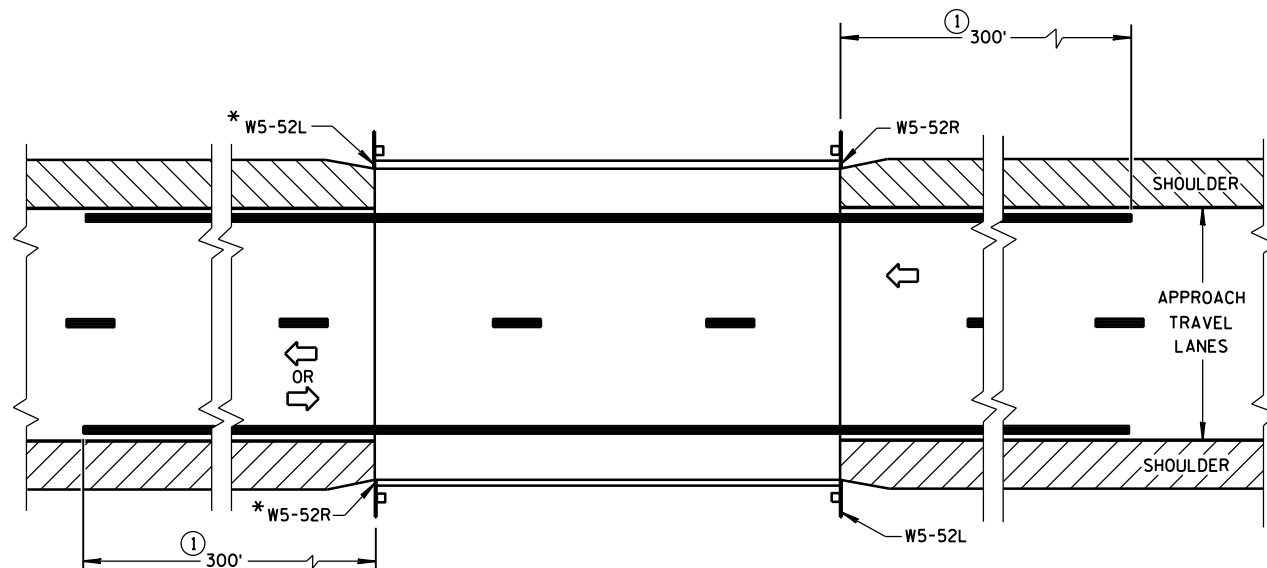
OBJECT MARKER PLACEMENT

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.

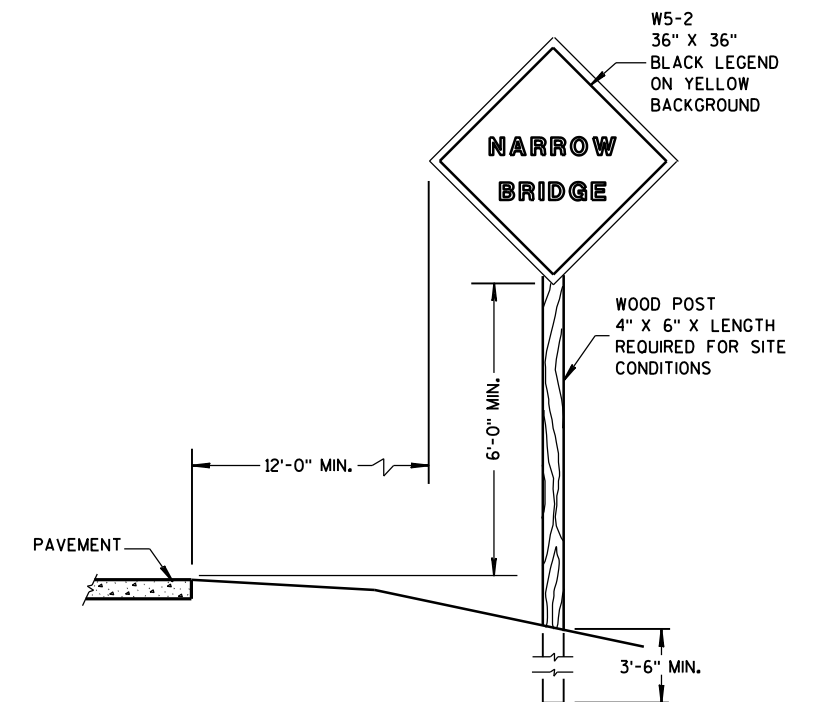
- ① MINIMUM DISTANCE UNLESS OTHERWISE SHOWN ON THE PLAN.
- ② FACE OF OBJECT MARKERS W5-52R, AND W5-52L SHALL BE COVERED WITH TYPE F REFLECTIVE SHEETING.
- ③ LOCATE OBJECT MARKER POST(S) BEHIND GUARDRAIL WHEN PRESENT.



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.



SIGN PLACEMENT

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/4/2013
DATE

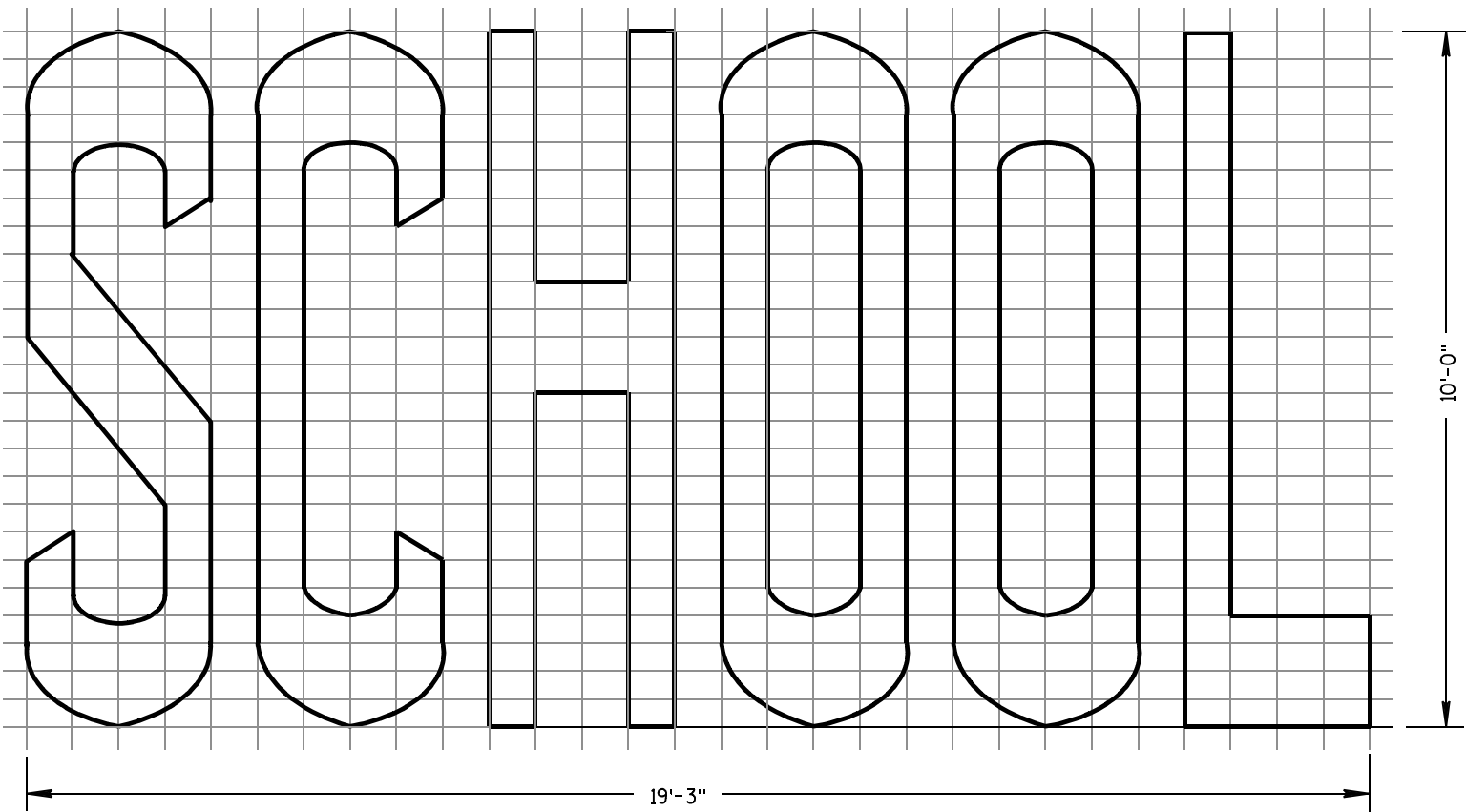
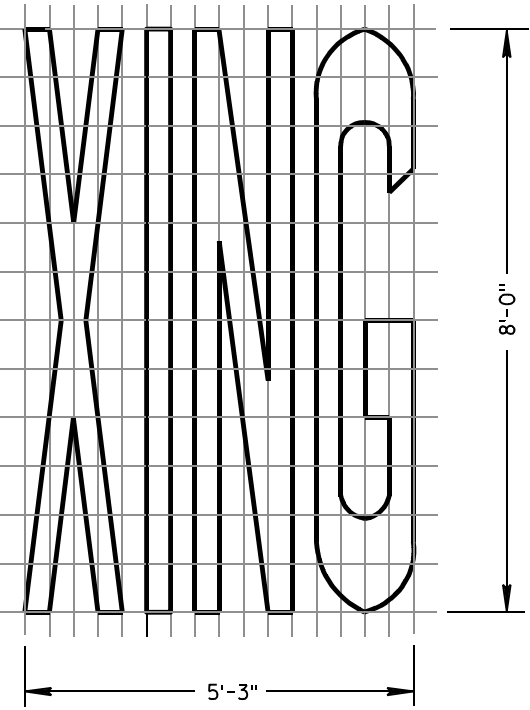
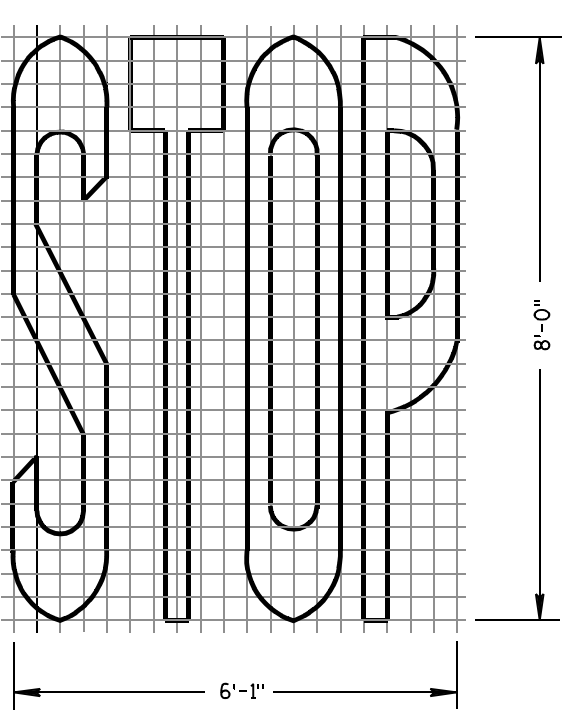
FHWA

/S/ Travis Feltes
STATE TRAFFIC ENGINEER OF DESIGN

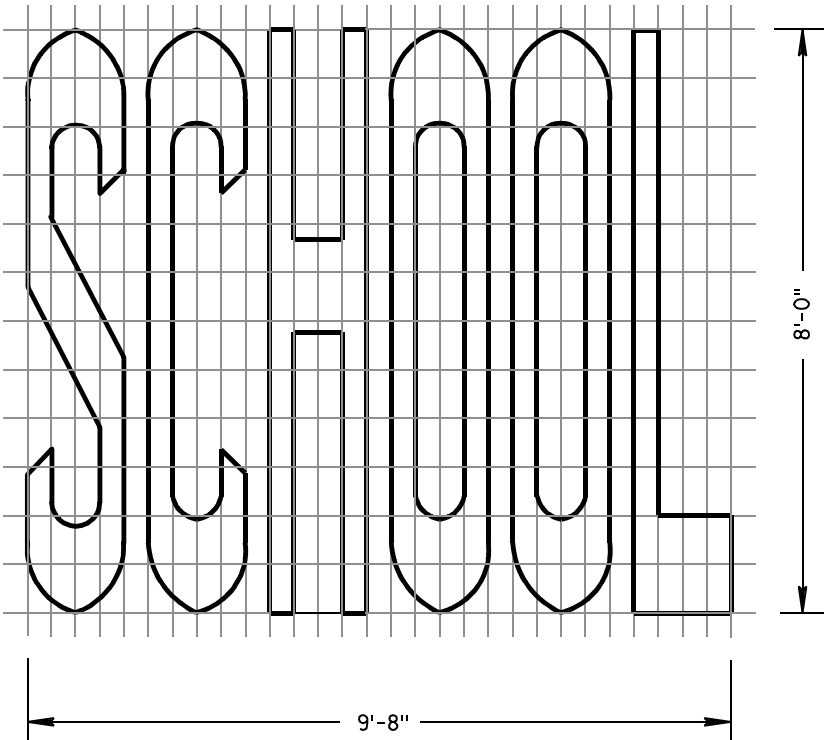
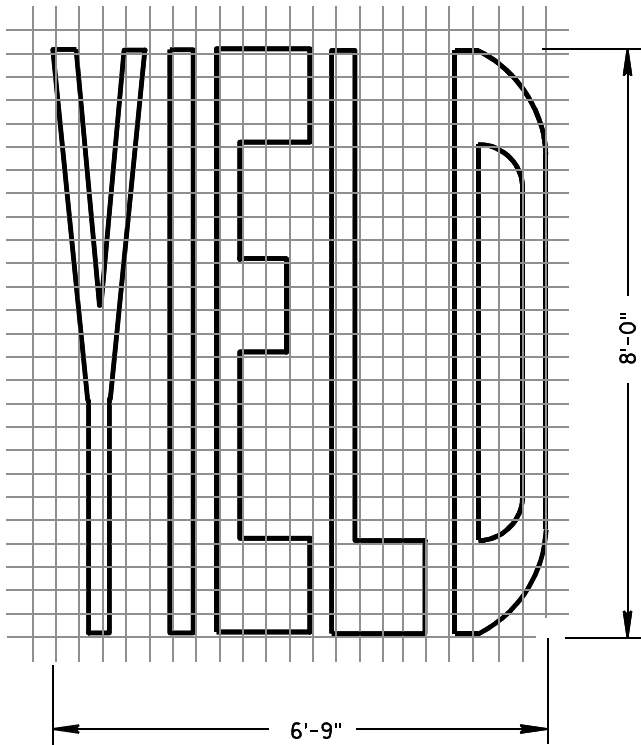
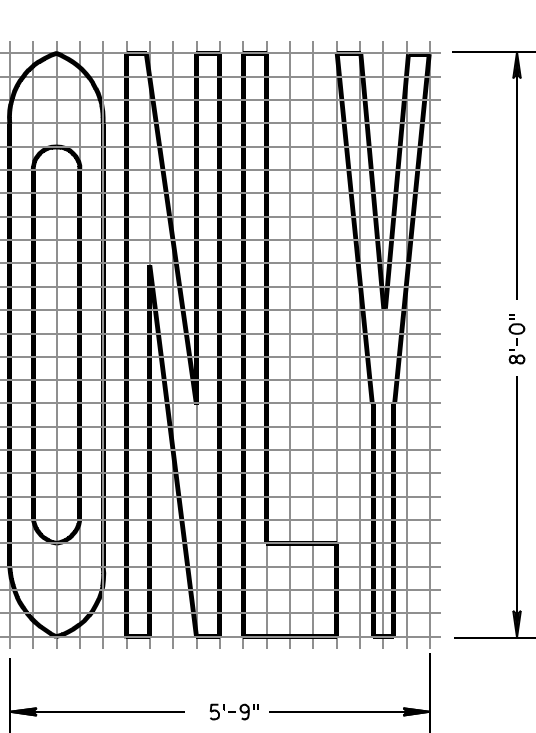
GENERAL NOTES

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

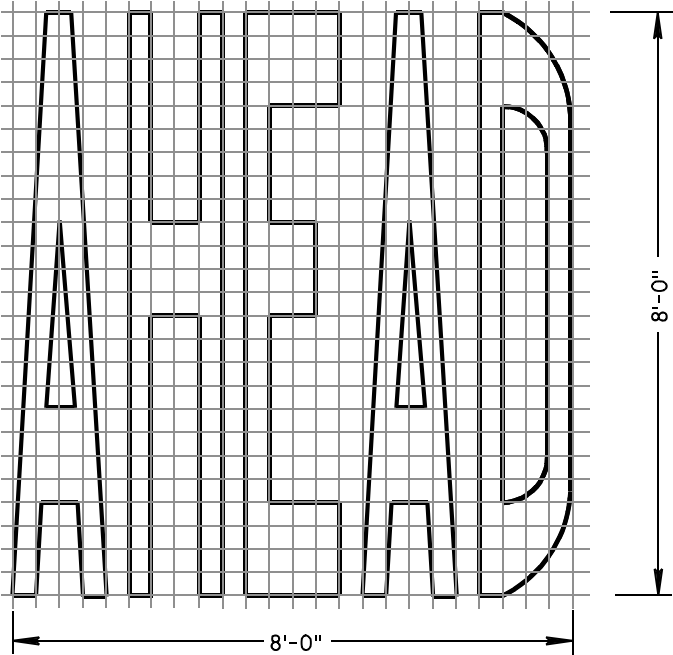
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.



TWO-LANE



SINGLE-LANE



PAVEMENT MARKING WORDS

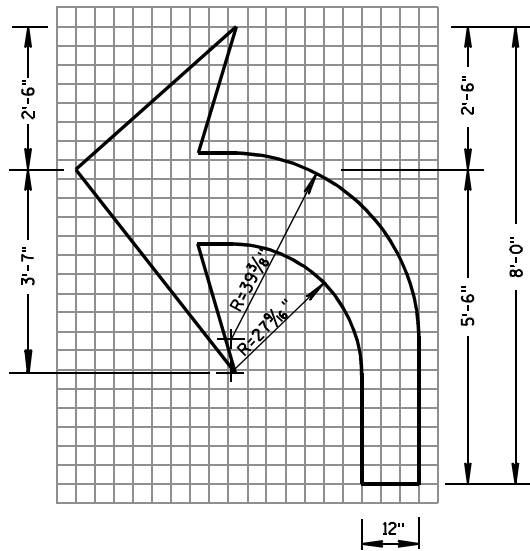
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

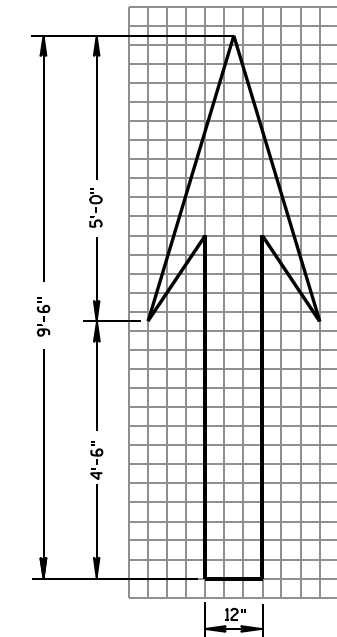
7-1-11
DATE

/S/ Thomas N. Notbohm
STATE TRAFFIC ENGINEER OF DESIGN

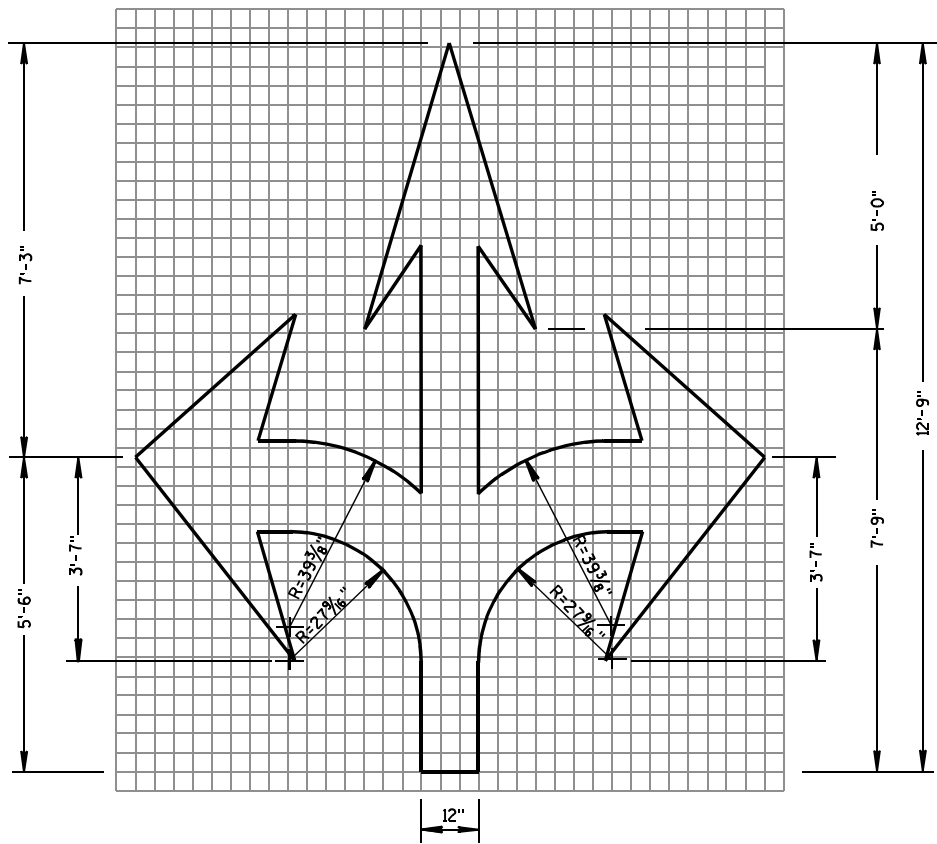
FHWA



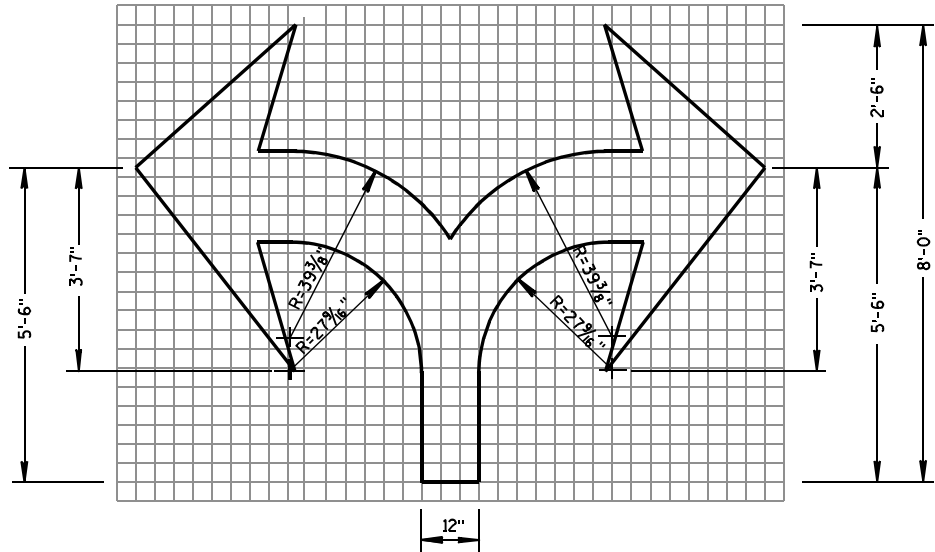
TYPE 2



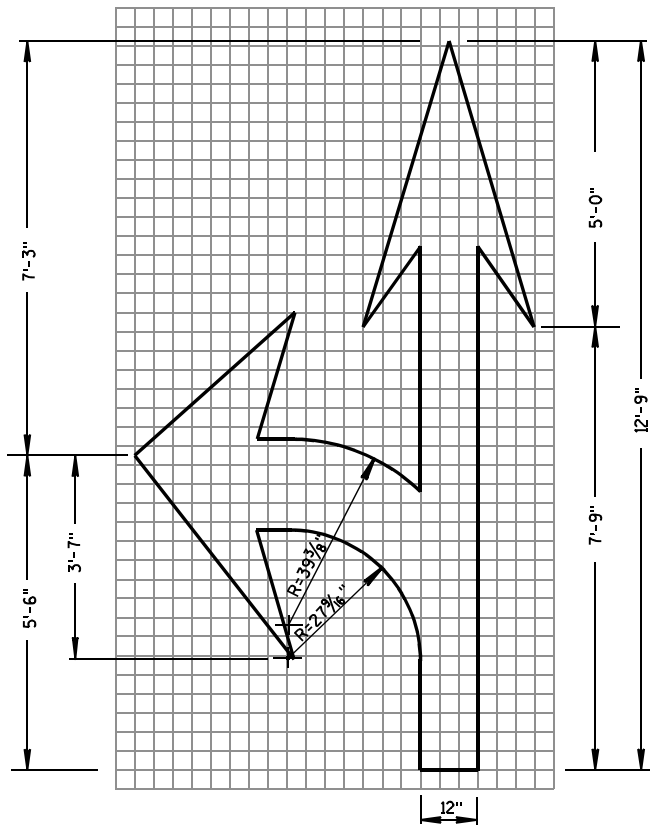
TYPE 1



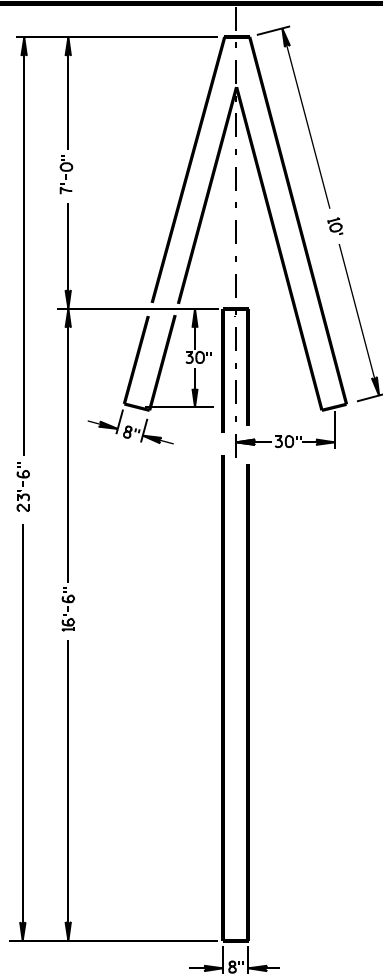
TYPE 6



TYPE 7



TYPE 3

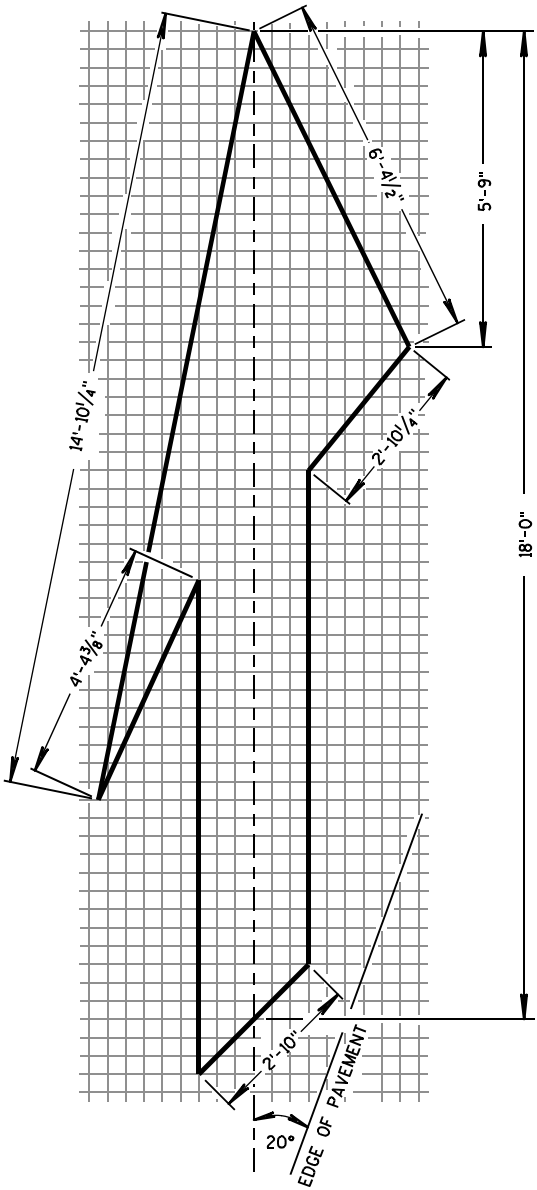


TYPE 4

GENERAL NOTES

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

ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.



TYPE 5 LANE DROP ARROW

PAVEMENT MARKING ARROWS

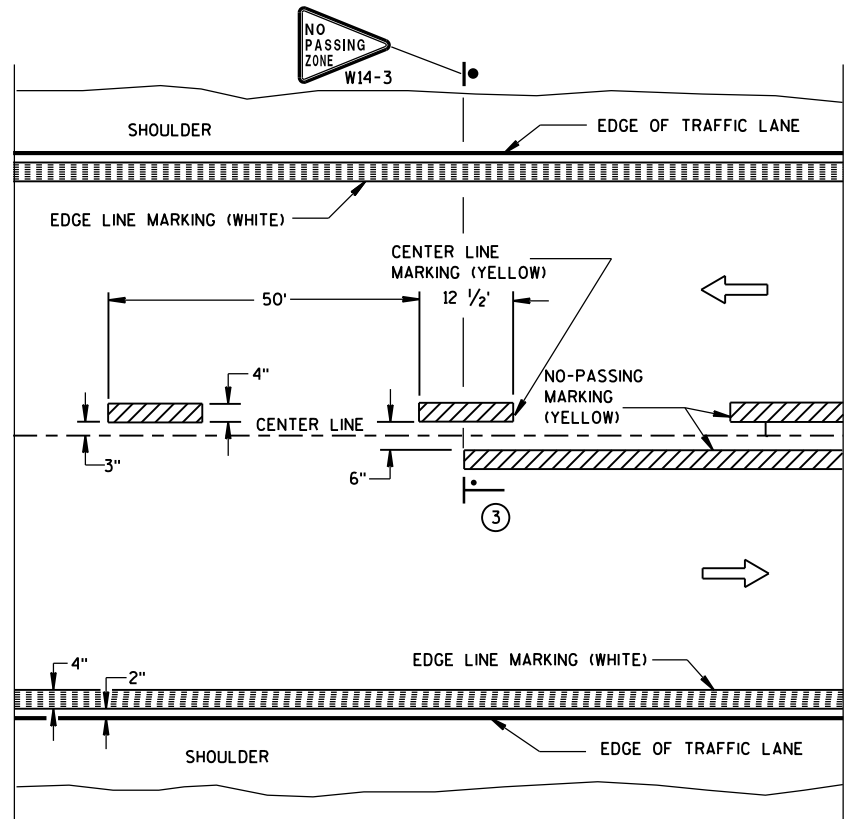
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

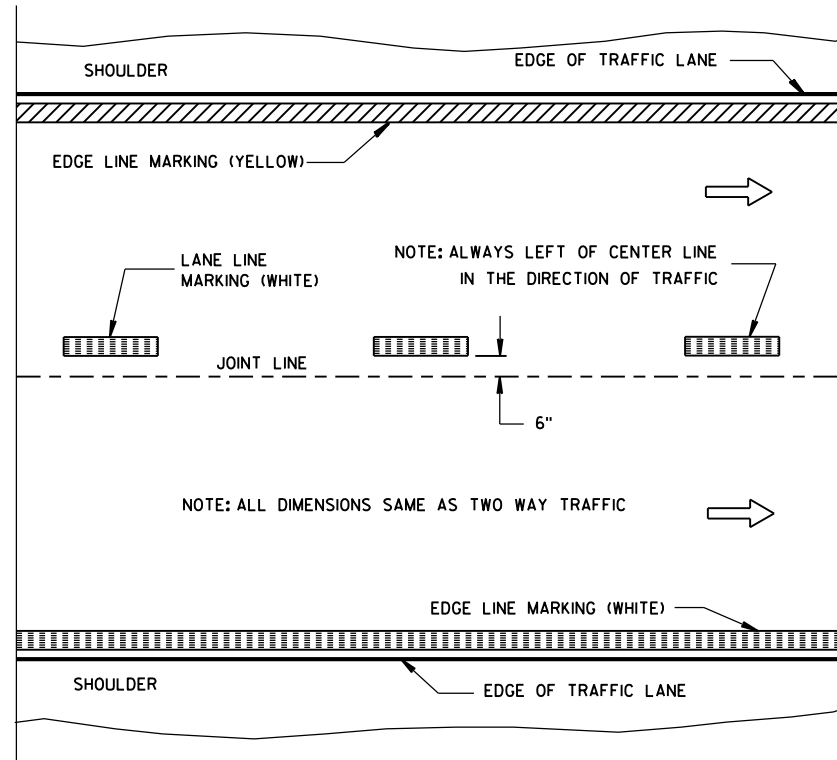
7/1/11
DATE

/S/ Thomas N. Notbohm
STATE TRAFFIC ENGINEER OF DESIGN

FHWA

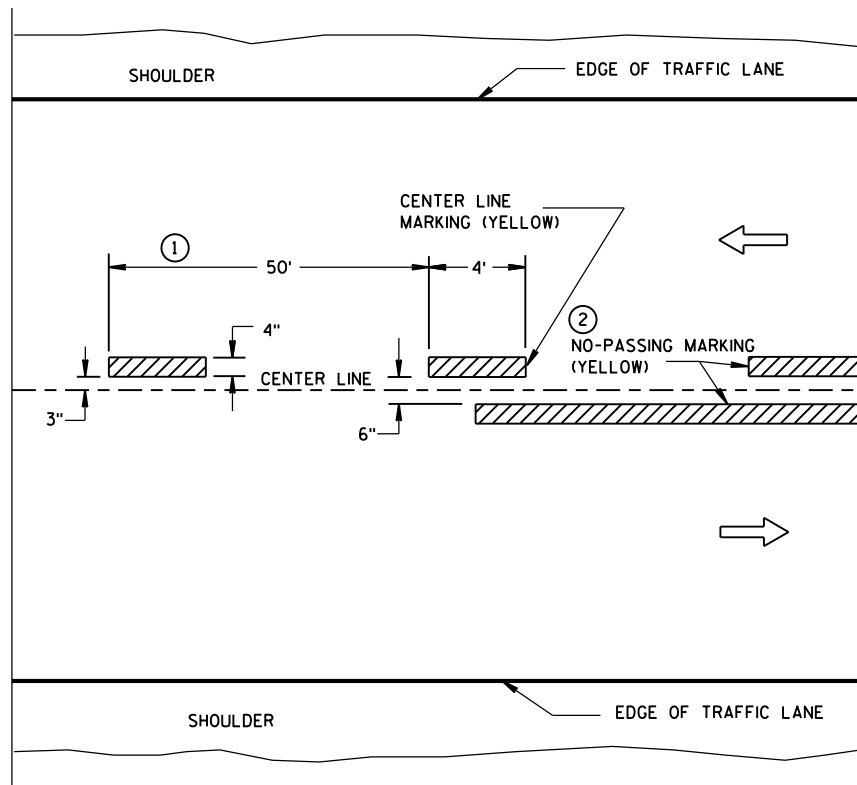


TWO WAY TRAFFIC

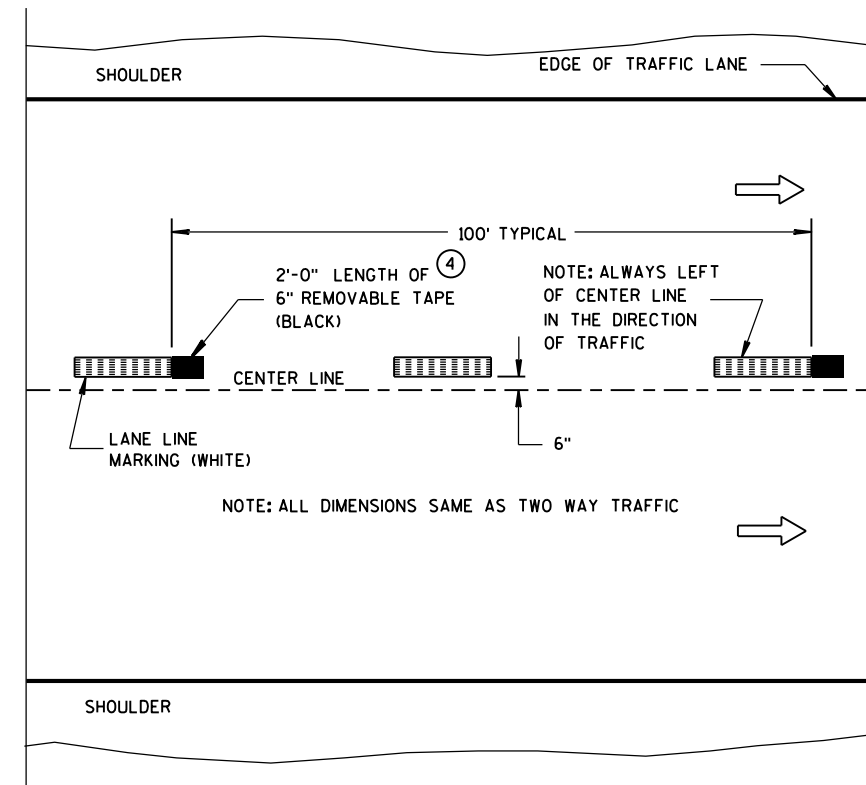


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

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

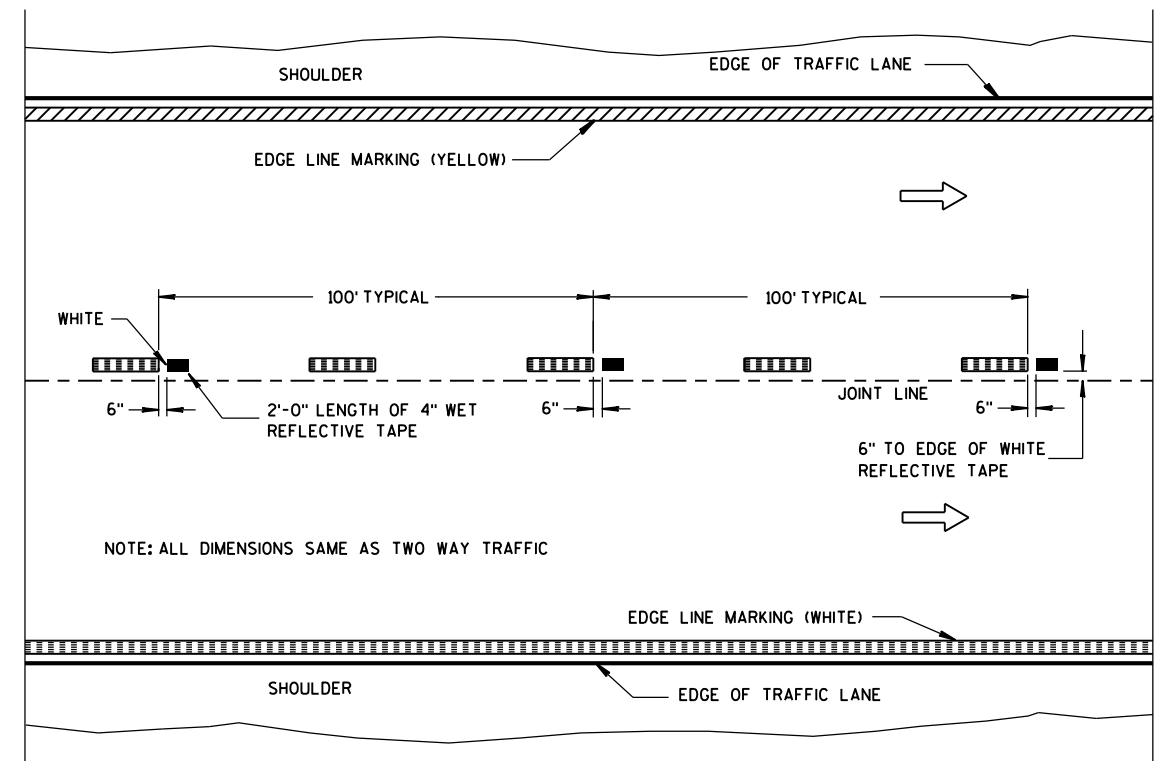
GENERAL NOTES

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

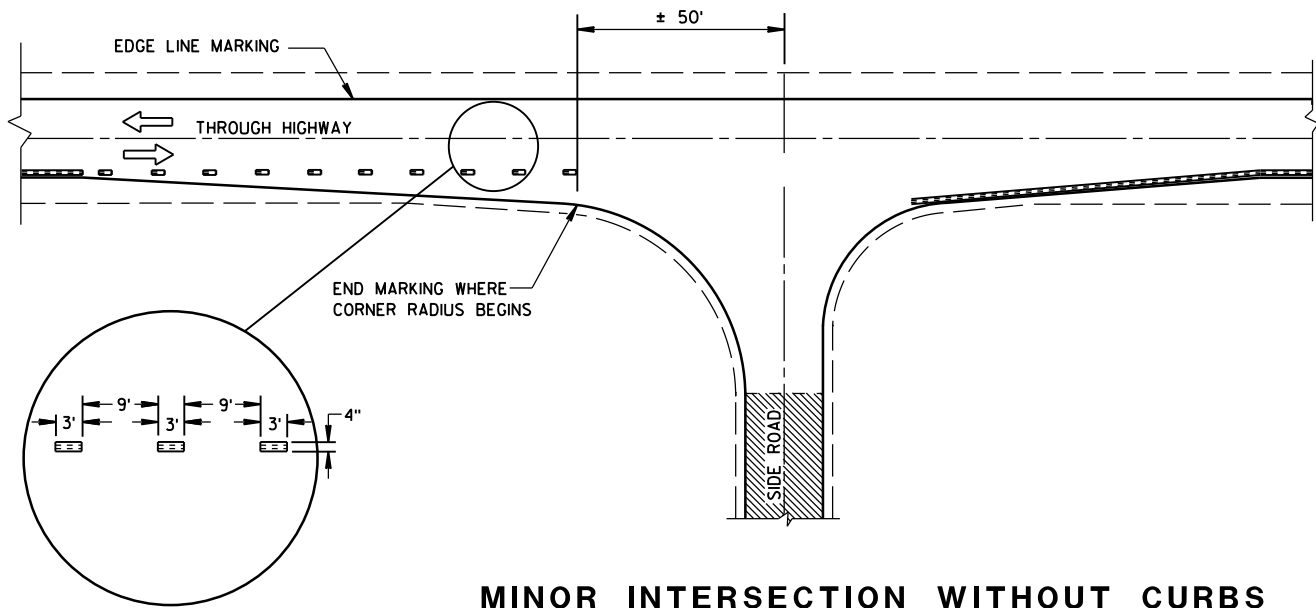
LEGEND

- "T" MARKING
- POST MOUNTED SIGN

PAVEMENT MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

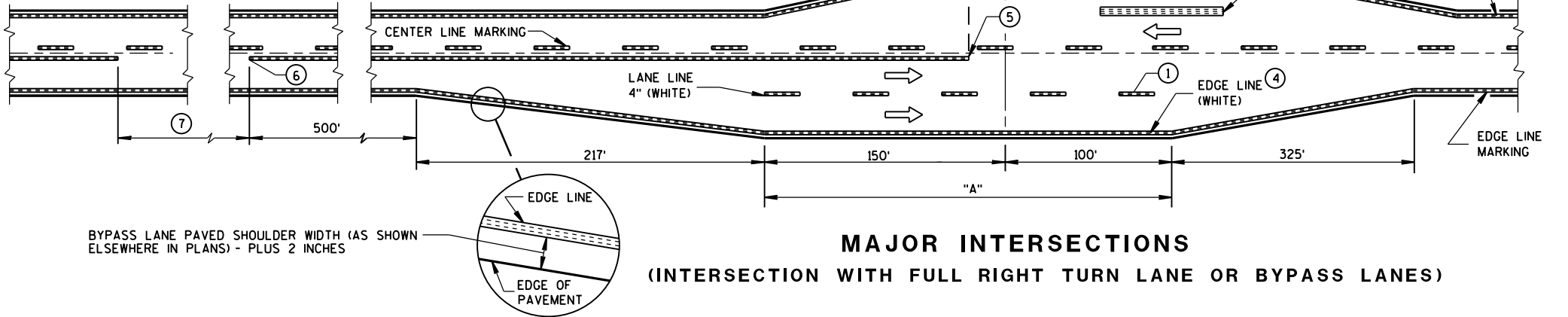
APPROVED
5-13-2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER
FHWA



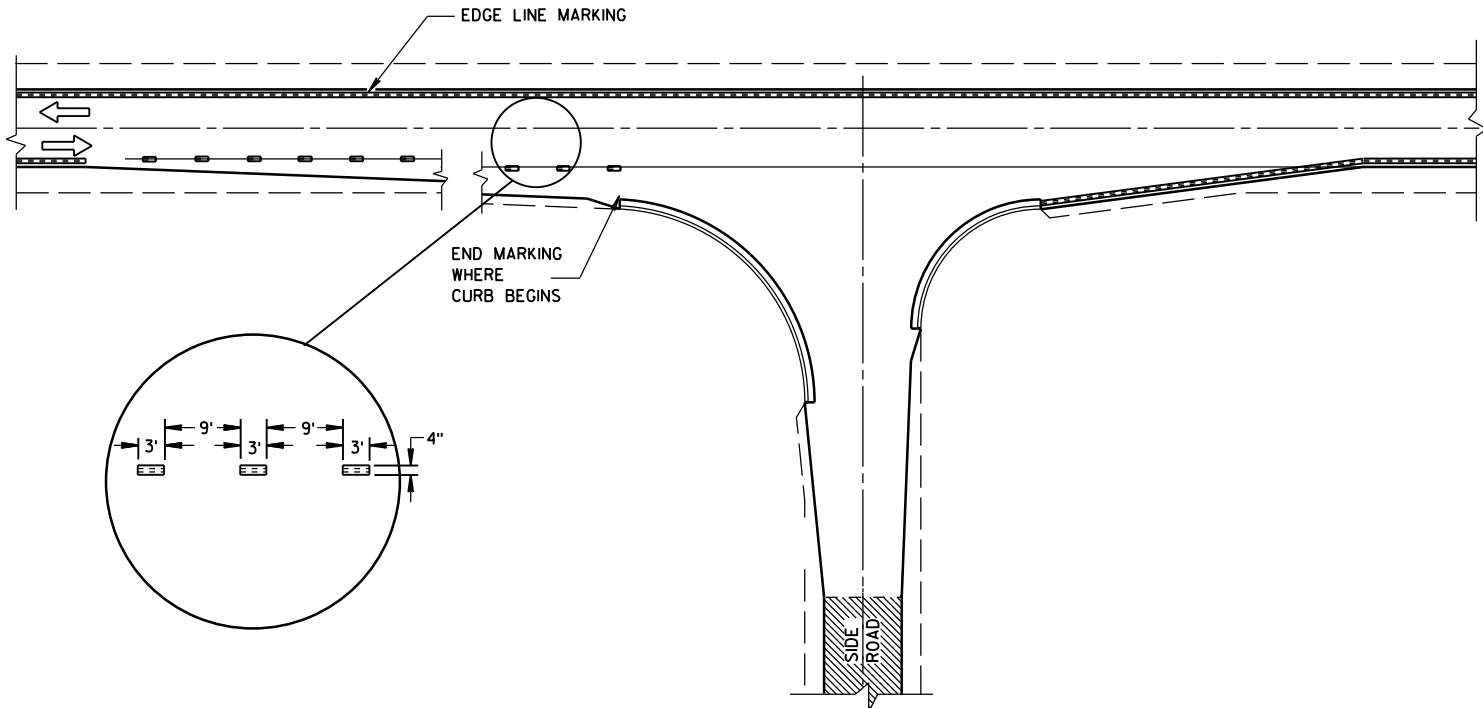
MINOR INTERSECTION WITHOUT CURBS

⑦

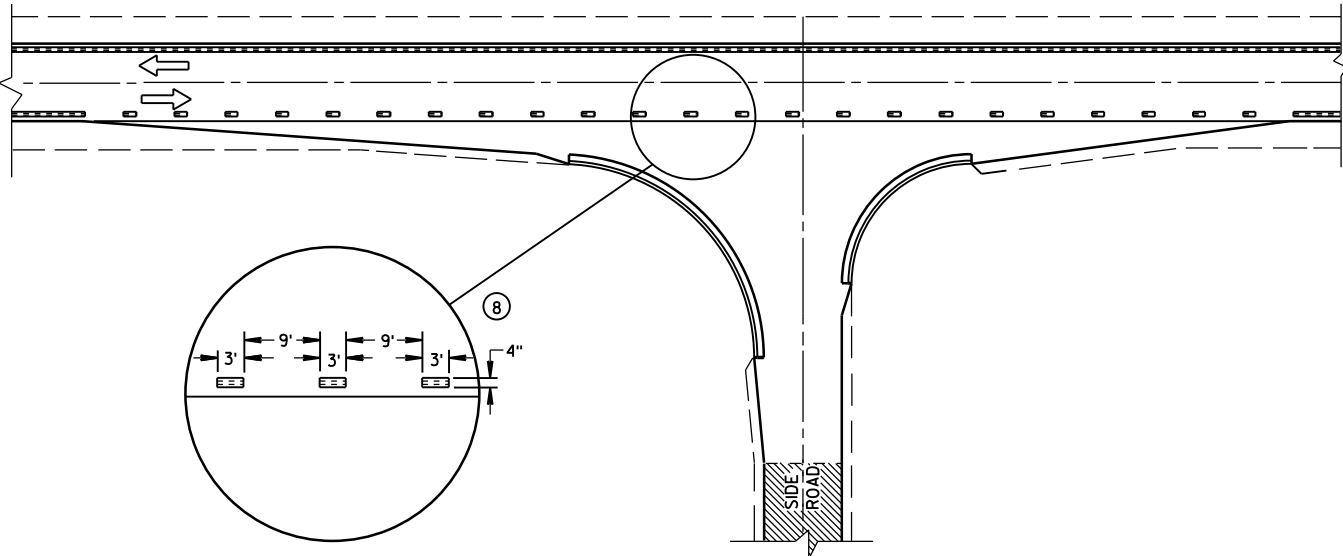
POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792



MAJOR INTERSECTIONS
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



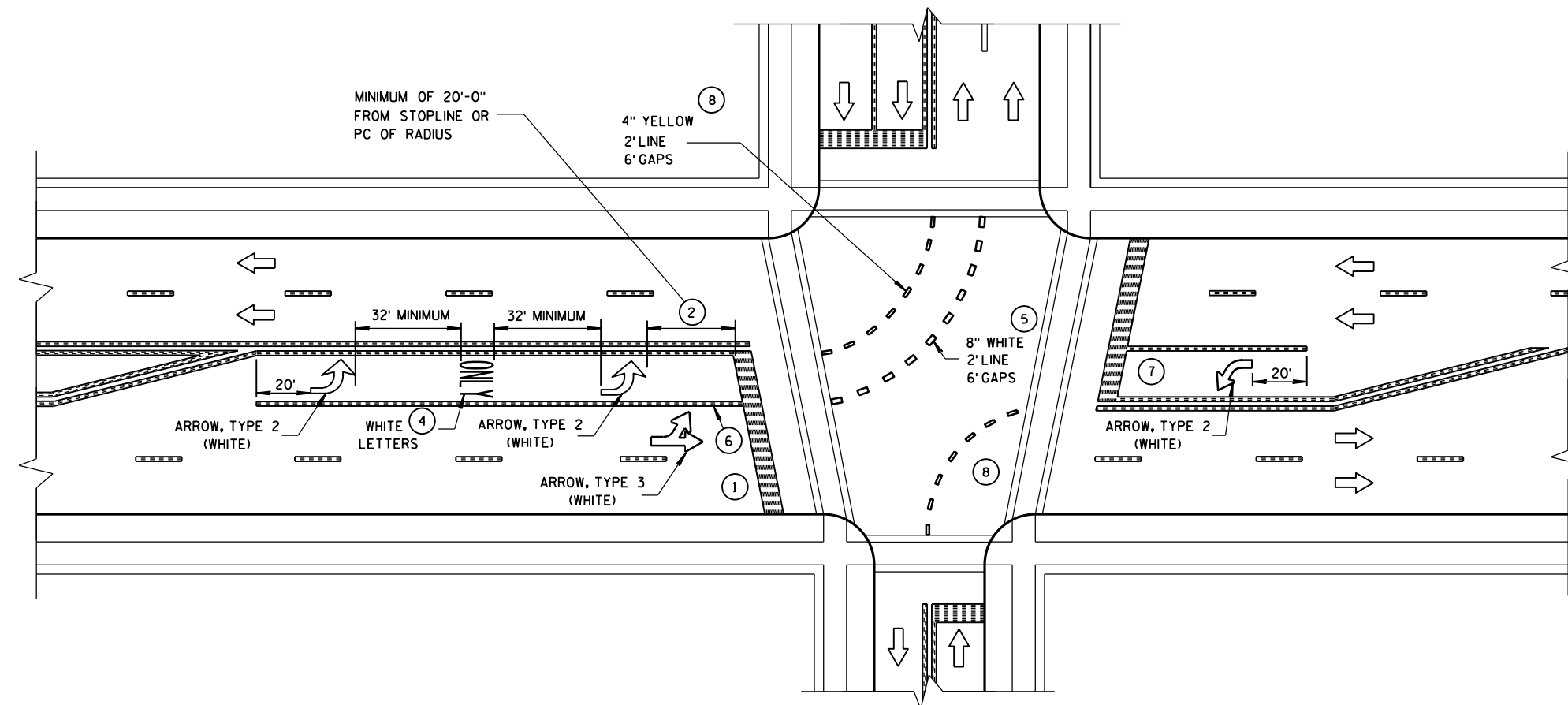
MINOR INTERSECTION WITH CURBS
(TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS
③ (FOR SPECIAL CONDITIONS AS SPECIFIED)

GENERAL NOTES

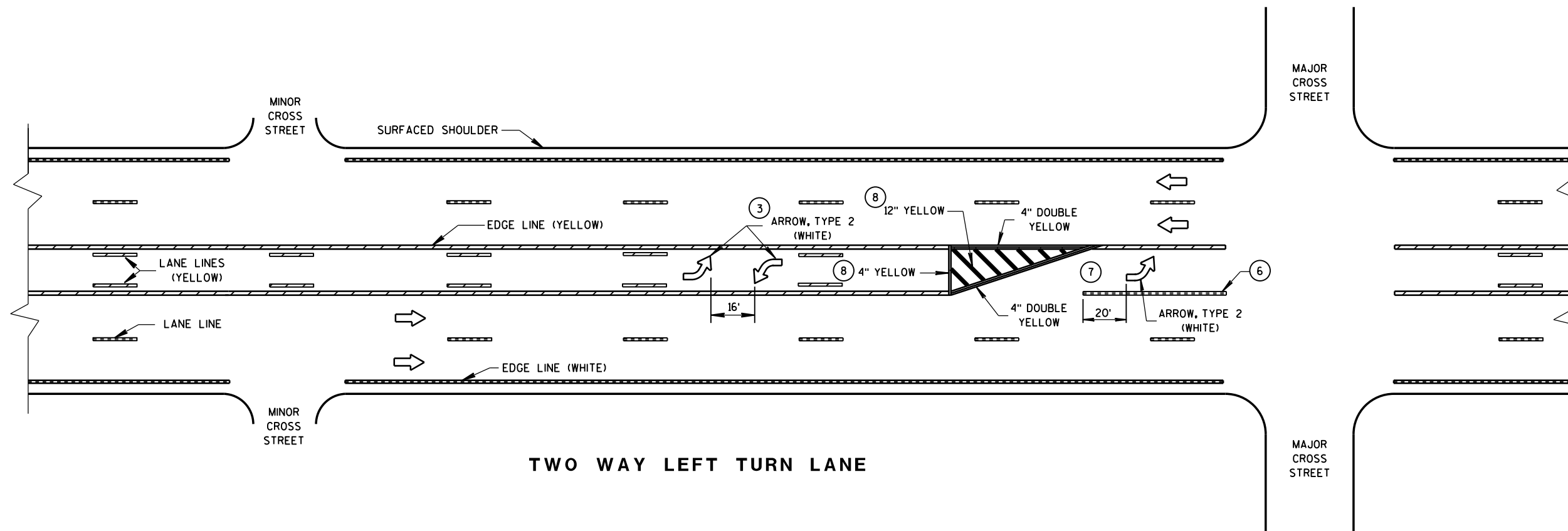
- EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.
- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
 - ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
 - ③ ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.
 - ④ THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.
 - ⑤ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.
 - ⑥ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
 - ⑦ IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.
 - ⑧ 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
- ARROW SYMBOL (➡) SHOWS DIRECTION OF TRAVEL



GENERAL NOTES

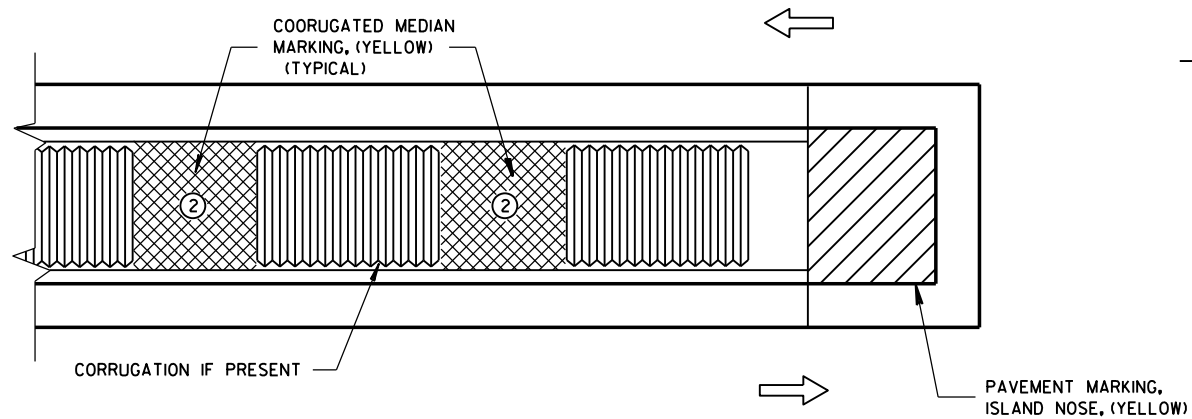
- ① STOP BAR IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
- ② DISTANCE MAY BE ADJUSTED TO ACCOMMODATE SHORT LEFT TURN LANES, AS APPROVED BY THE ENGINEER.
- ③ A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
- ④ ADD EXTRA SETS OF ONE ARROW AND ONE ONLY PER 160 FEET OR WHEN ON A CURVE.
- ⑤ 8" WHITE WITH 2' LINE 6' GAPS FOR DUAL TURN LANE.
- ⑥ 8" WHITE
- ⑦ ADD SECOND ARROW WHEN TURN BAY IS GREATER THAN OR EQUAL TO 108 FEET.
- ⑧ REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.

NOTE:
ARROW SYMBOL (➡)
SHOWS DIRECTION OF TRAVEL

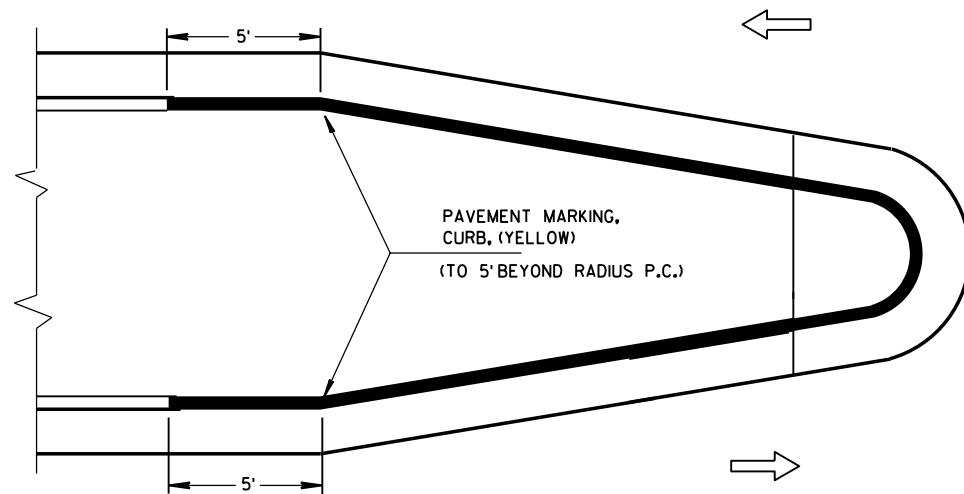


PAVEMENT MARKING
(LEFT TURN LANE)

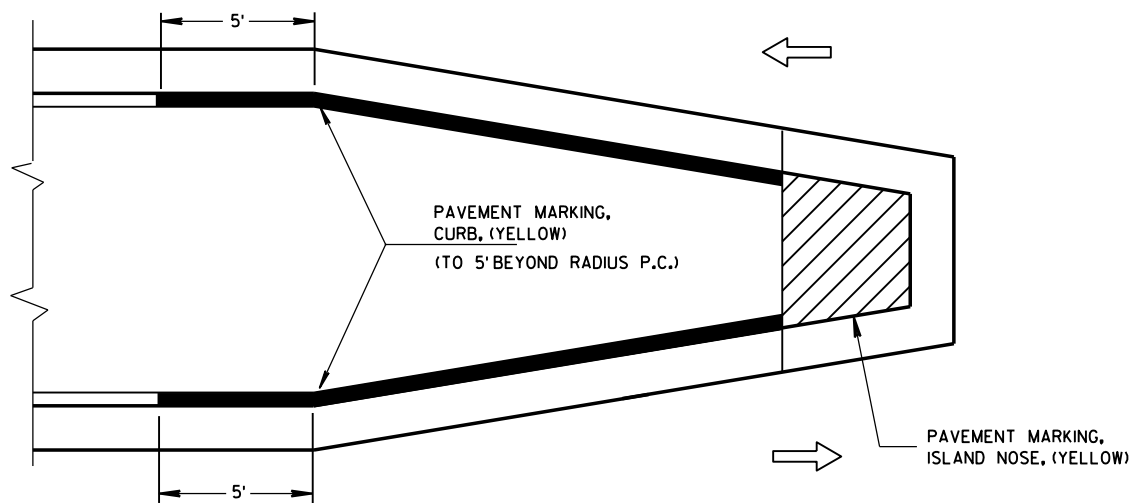
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

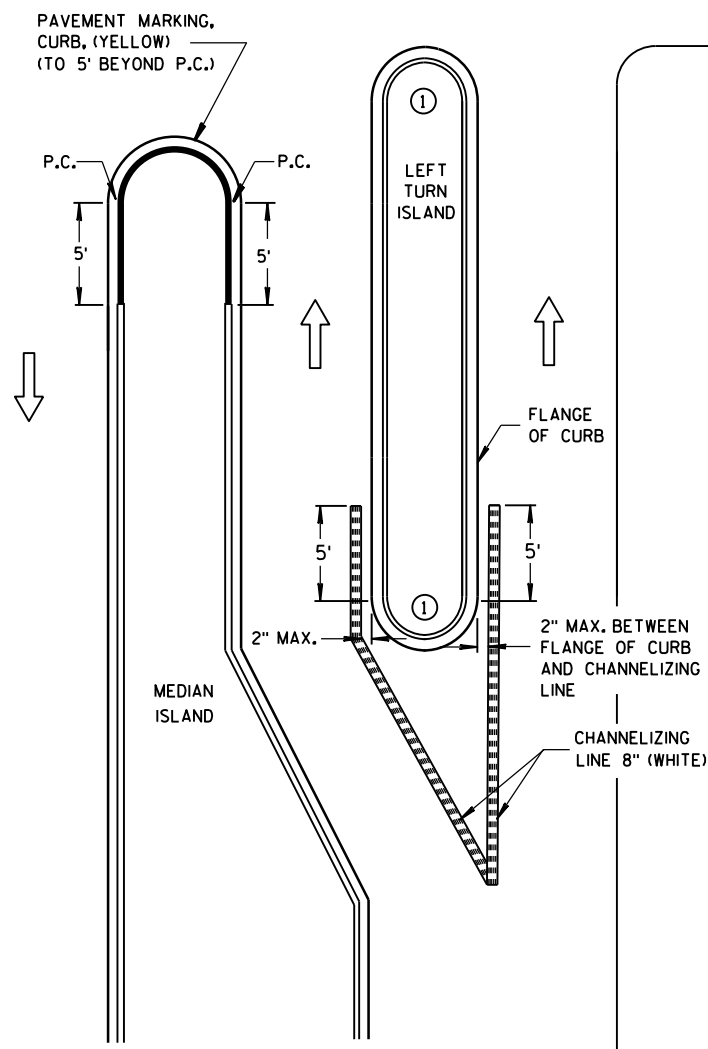


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

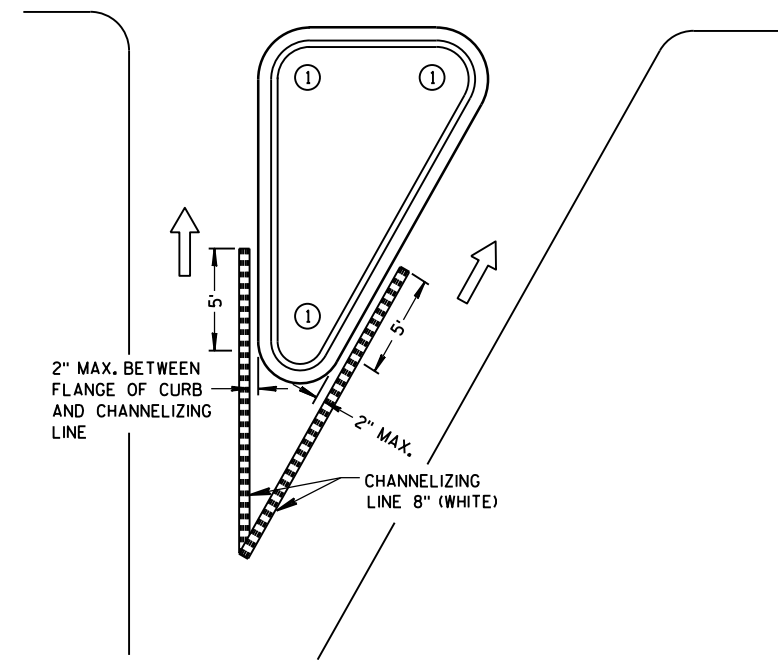
TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS



LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

- 1 DO NOT MARK CURB NOSES THAT SEPARATE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION.
- 2 WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.



RIGHT TURN ISLAND

LEGEND

- ISLAND NOSE MARKING
- CURB MARKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL

PAVEMENT MARKING (ISLANDS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

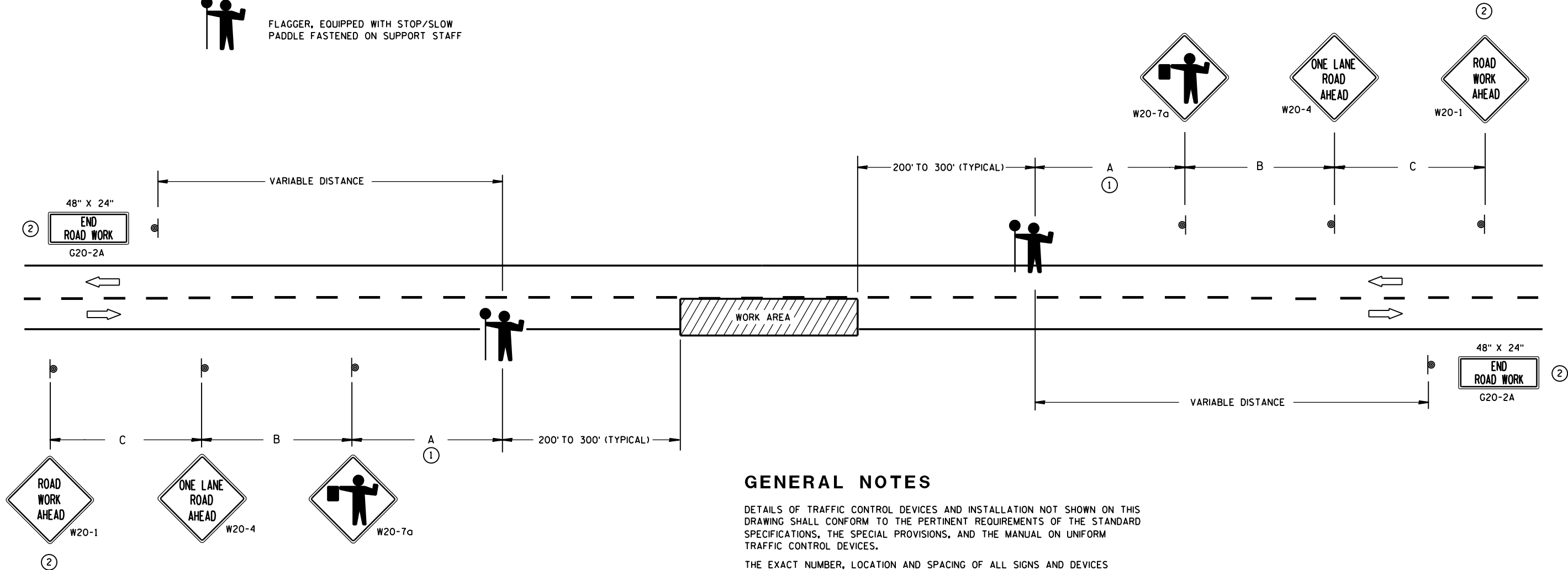
-  SIGN ON PORTABLE OR PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN SPACING TABLE

SPEED LIMIT	SIGN SPACING A,B,C
25-35 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7a AND W20-4 SIGNS. A 500' TYPICAL SPACING SHALL BE PROVIDED BETWEEN THE SIGNS.



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.

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, COVER OR REMOVE ALL TEMPORARY TRAFFIC CONTROL SIGNS.

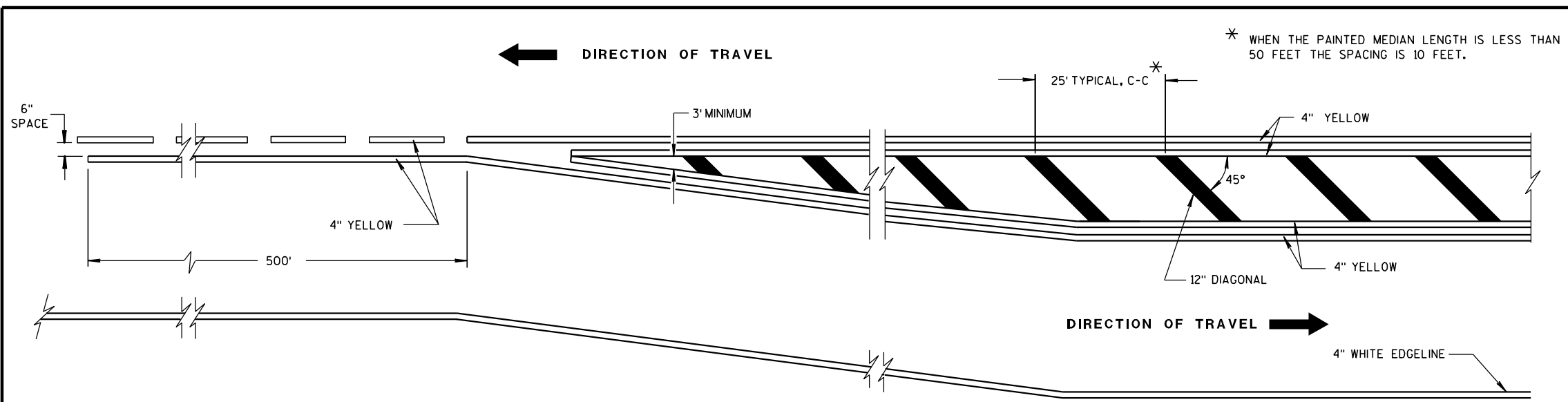
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

- ① FOR A MOVING WORK OPERATION, SIGNING FOR BOTH DIRECTIONS SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
- ② SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

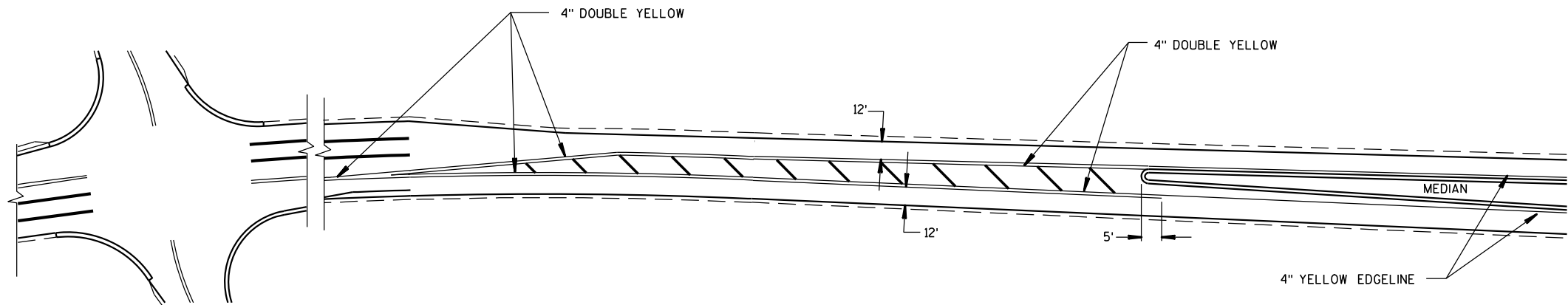


MEDIAN ISLAND DETAIL

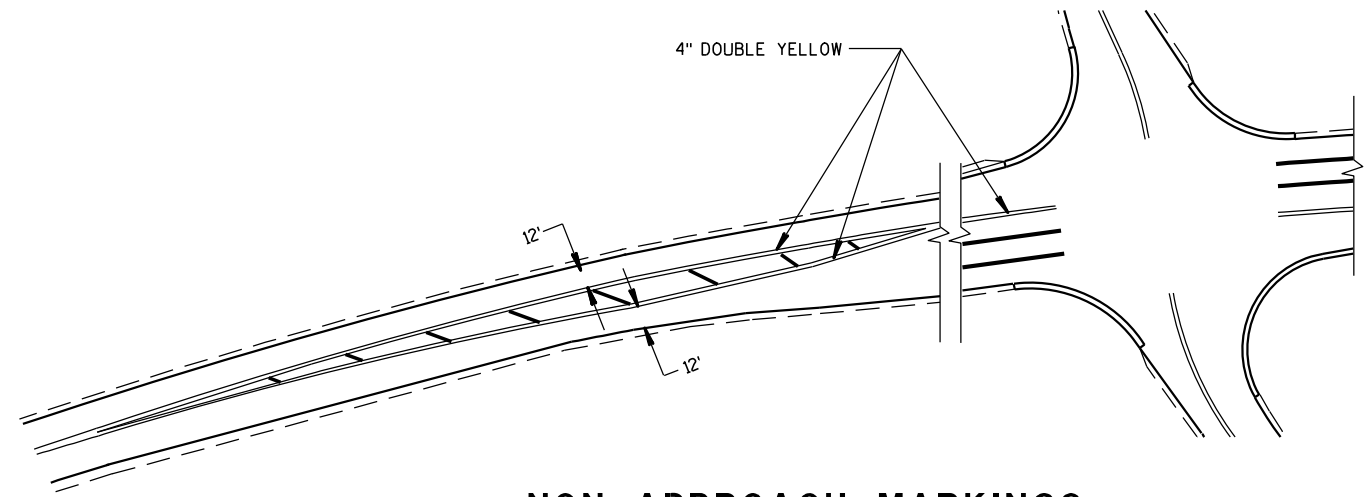
* WHEN THE PAINTED MEDIAN LENGTH IS LESS THAN 50 FEET THE SPACING IS 10 FEET.

GENERAL NOTE

DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT WIDEST POINT.

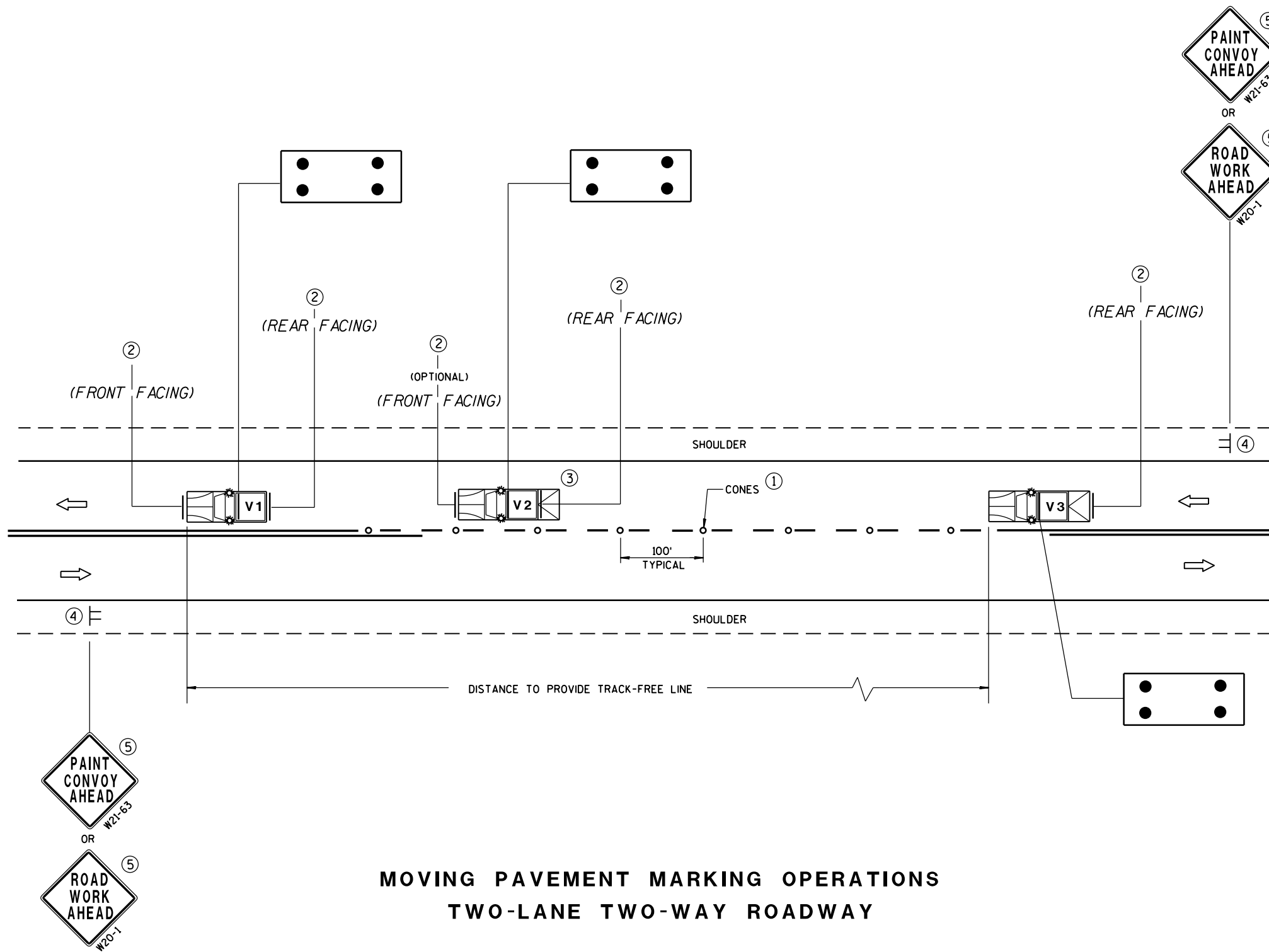


APPROACH MARKINGS FOR OTHER MEDIAN TYPES



NON APPROACH MARKINGS

MEDIAN ISLAND MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 2-5-09 DATE	/S/ Thomas N. Notbohm STATE TRAFFIC ENGINEER OF DESIGN
FHWA	



MOVING PAVEMENT MARKING OPERATIONS
TWO-LANE TWO-WAY ROADWAY

GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.

IF SPEED LIMIT IS 40 MPH OR LESS STATIONARY SIGNS MAY BE OMITTED IF CONES ARE USED.

ALTERNATE SIGN MESSAGES, SUCH AS "PAINT CREW AHEAD" OR "ROAD PAINTING AHEAD" MAY BE USED.

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

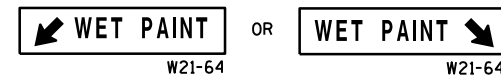
THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

THIS DRAWING SHALL BE USED FOR CENTERLINE OR EDGELINE MARKING.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR TURN THE STATIONARY WARNING SIGNS AWAY FROM TRAFFIC.

① CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

② USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.



③ OPTIONAL TRUCK-MOUNTED ATTENUATOR.

④ SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.

⑤ IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.

LEGEND

V1 LEAD VEHICLE

V2 SHADOW VEHICLE

V3 TRAIL VEHICLE WITH TMA

TMA TRUCK-MOUNTED ATTENUATOR

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC

CONES

FLASHING ARROW PANEL (CAUTION)

MOVING PAVEMENT MARKING
OPERATION
TWO-LANE TWO-WAY ROADWAY

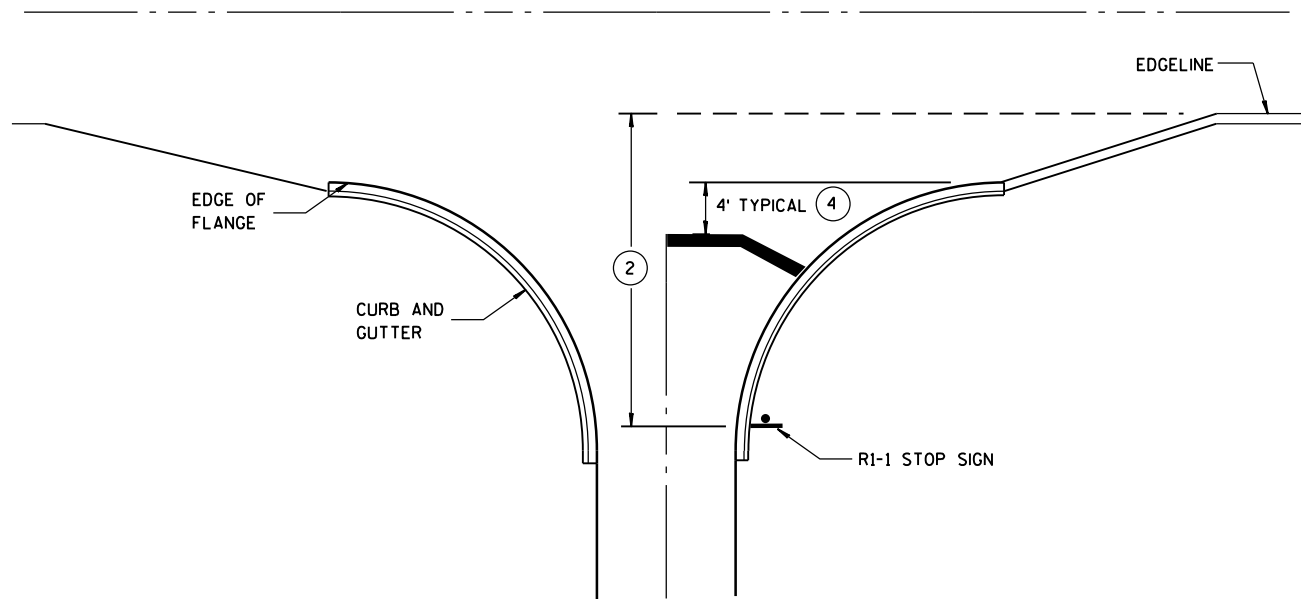
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

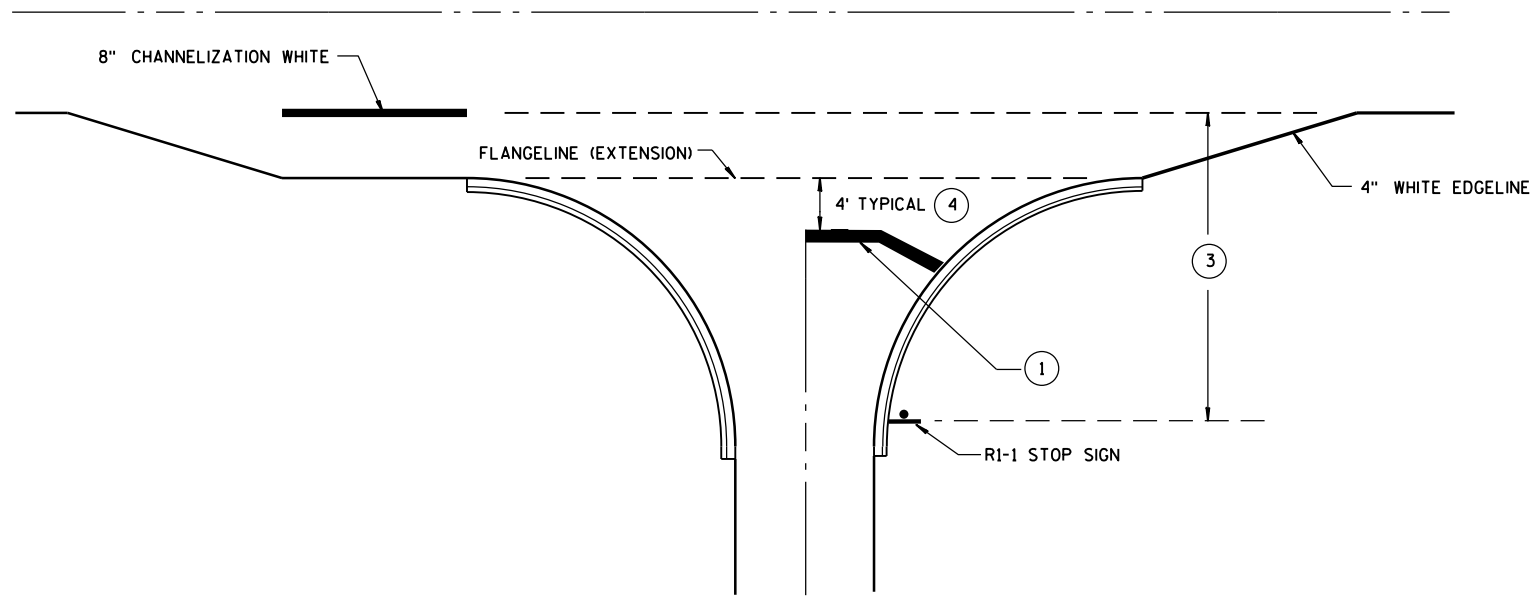
5/3/2013
DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

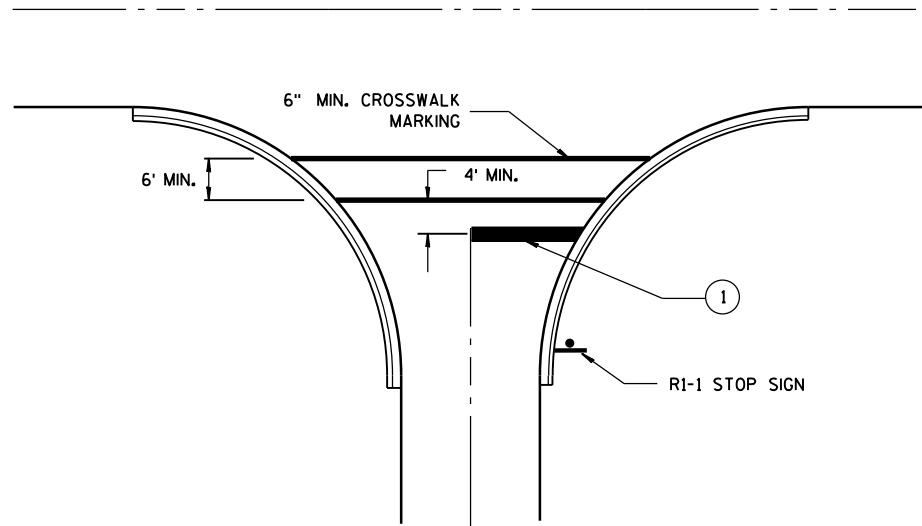
FHWA



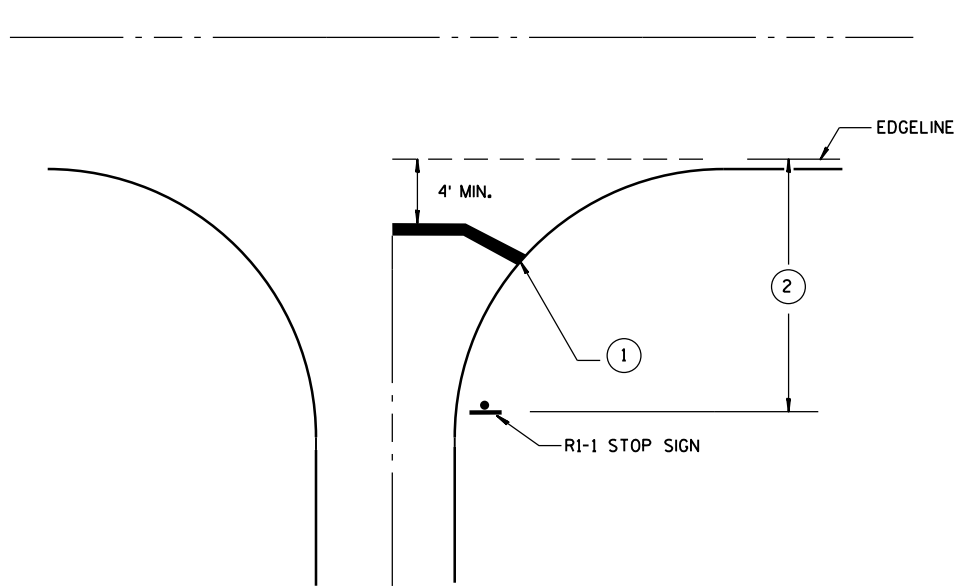
TYPICAL STOP LINE PAVEMENT MARKING
WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING
WITHOUT CURB AND GUTTER

GENERAL NOTES

- ① 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- ② IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGE LINE THAN NO STOP LINE IS REQUIRED.
- ③ IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.
- ④ MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES.

STOP LINE AND CROSSWALK PAVEMENT MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4/30/2013 DATE	/S/ Travis Feltz STATE TRAFFIC ENGINEER
FHWA	

LEGEND

- SIGN ON PERMANENT SUPPORT
- REMOVING PAVEMENT MARKING
- TYPE III BARRICADE WITH ATTACHED SIGN
- CONCRETE BARRIER TEMPORARY PRECAST
- FLAGS, 16" x 16" MIN., (ORANGE)
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- ASPHALTIC PAVEMENT WIDENING
- DIRECTION OF TRAFFIC
- 4" X 6" WOOD POST
- TEMPORARY SIGNAL WITH BACKPLATE AND 12-INCH LENSES ON BREAKAWAY POLE



INSTALL ON EACH APPROACH AT THE CLOSEST INTERSECTION WITH A STATE OR COUNTY TRUNK HIGHWAY, OR AS DIRECTED BY THE ENGINEER. WIDTH ON SIGN TO BE APPROX. 1-FOOT LESS THAN AVAILABLE WIDTH. (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET.)

GENERAL NOTES

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

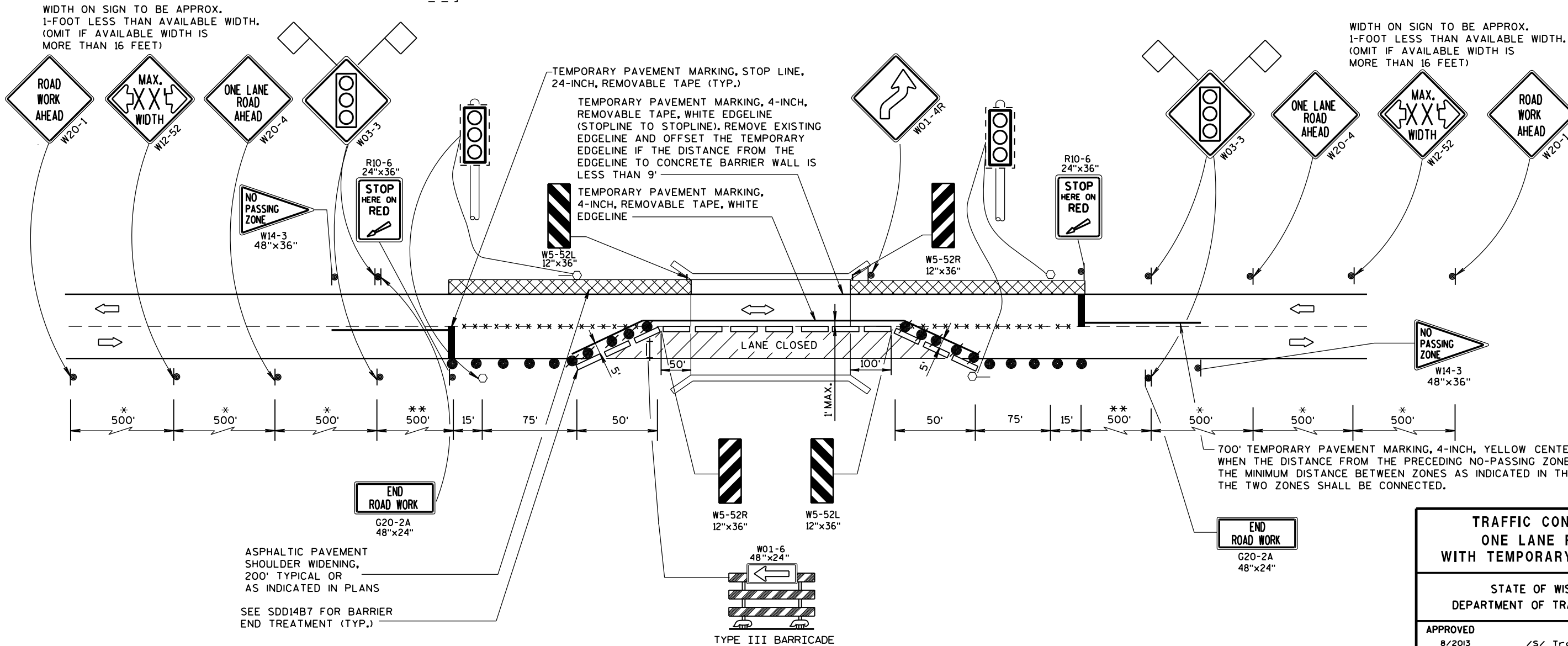
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

PLACE TEMPORARY PAVEMENT MARKING EDGELINE AND CENTERLINE, AND REMOVE EXISTING PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS OR AS NOTED ON DETAIL.

* 500-FOOT SPACING SHOWN IS FOR ROADWAYS WITH A PRE-CONSTRUCTION REGULATORY SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350-FOOT TYPICAL SPACING. FOR 25-30 MPH, USE 200-FOOT TYPICAL SPACING.

** USE 300' SPACING IF PRE-CONSTRUCTION REGULATORY SPEED LIMIT IS 35 MPH OR LESS.

6



6

TRAFFIC CONTROL,
ONE LANE ROAD
WITH TEMPORARY SIGNALS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

S.D.D. 15 D 33-3

S.D.D. 15 D 33-3



D1-1

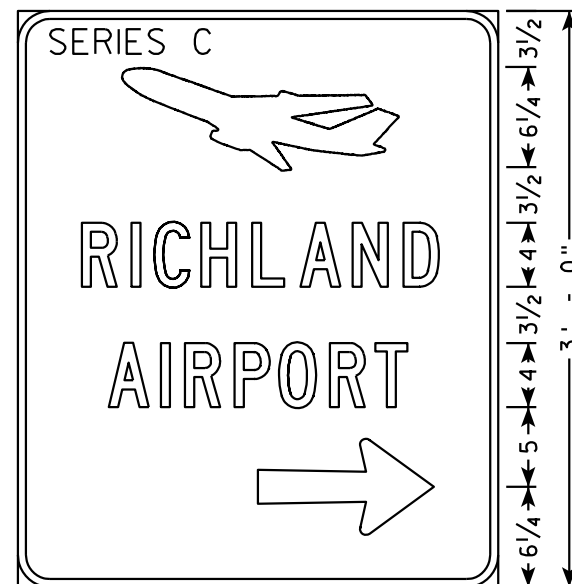
NOTES

1. All Sign Type II - Type H Reflective
2. Color:
Background - GREEN
Message - WHITE
3. Message Series - E Except as Shown

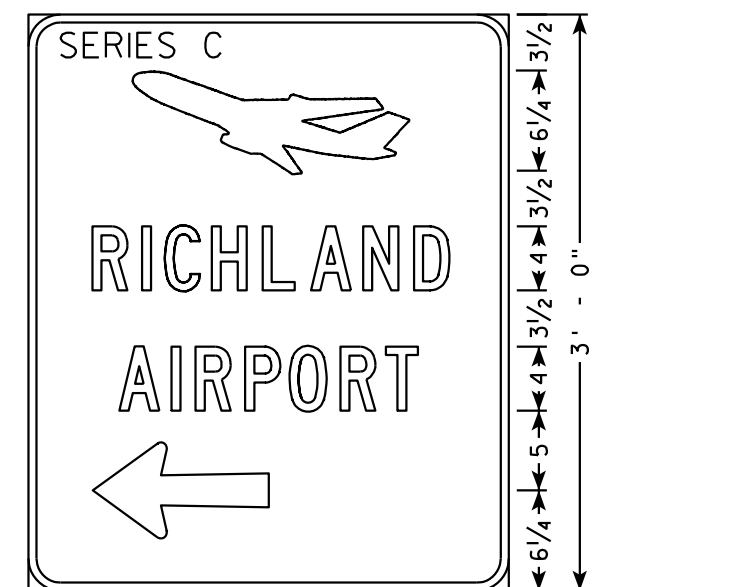


D1-1

$\frac{3}{4}$ " Border
 $2\frac{1}{4}$ " Radius



D9-52R

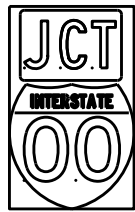


D9-52L

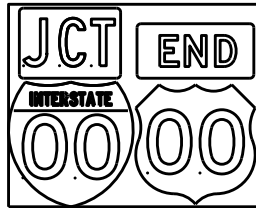
7

7

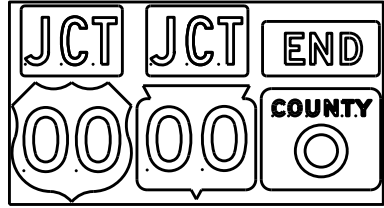
TYPICAL ASSEMBLIES



J1-1



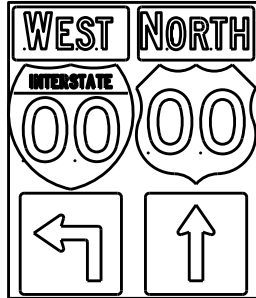
J1-2



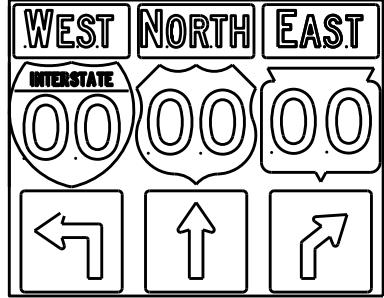
J1-3



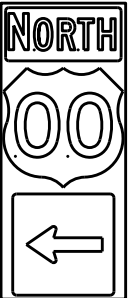
J2-1



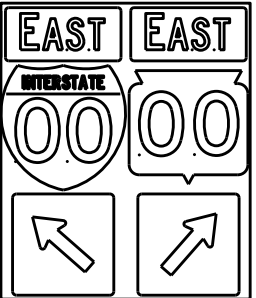
J2-2



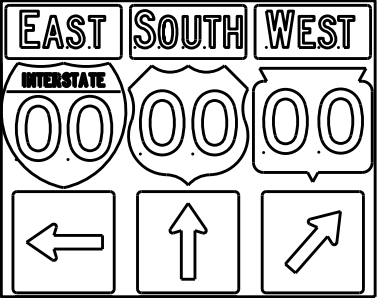
J2-3



J3-1



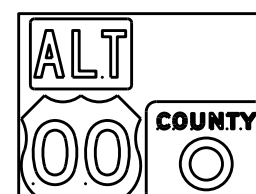
J3-2



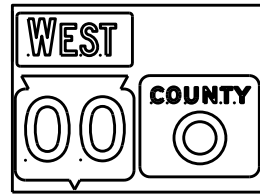
J3-3



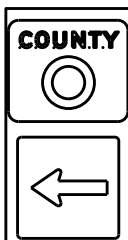
J4-1



J4-2



J4-2



J13-1



J12-1



J32-1



J33-1



J23-1

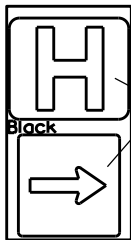


J22-1



JV

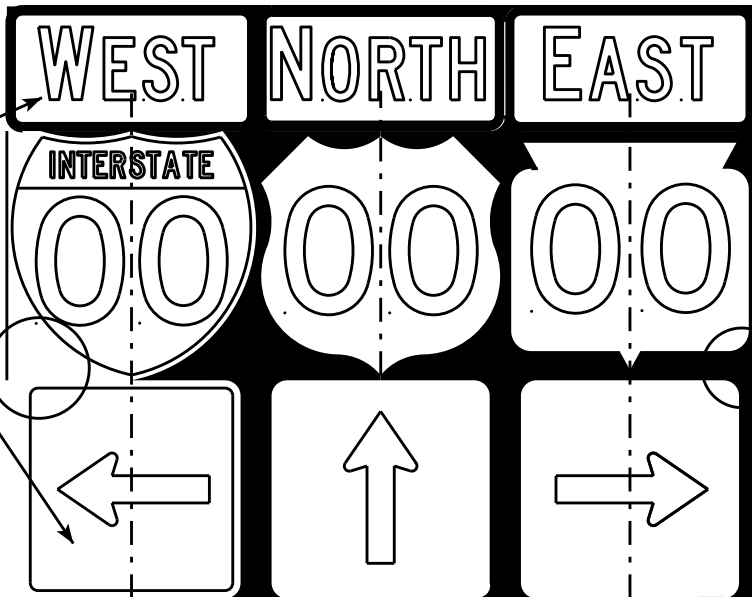
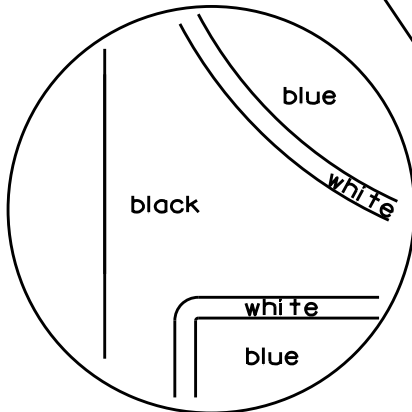
(Typical Vertical J-Assembly
See Note 10 and 11)



JH-1

Blue Background

[blue background
with interstate]



[black background]

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 2/06/14 PLATE NO. A2-1S.8

NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Black Non-reflective
Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
10. All Vertical J Assemblies are given a Sign Code of JV
11. For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

PROJECT NO:

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A21S.DGN

PLOT DATE : 06-FEB-2014 14:10

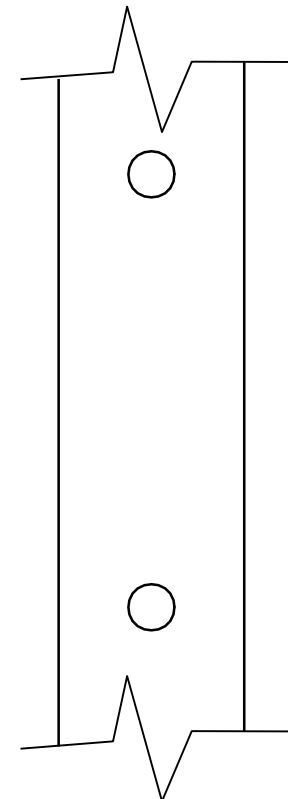
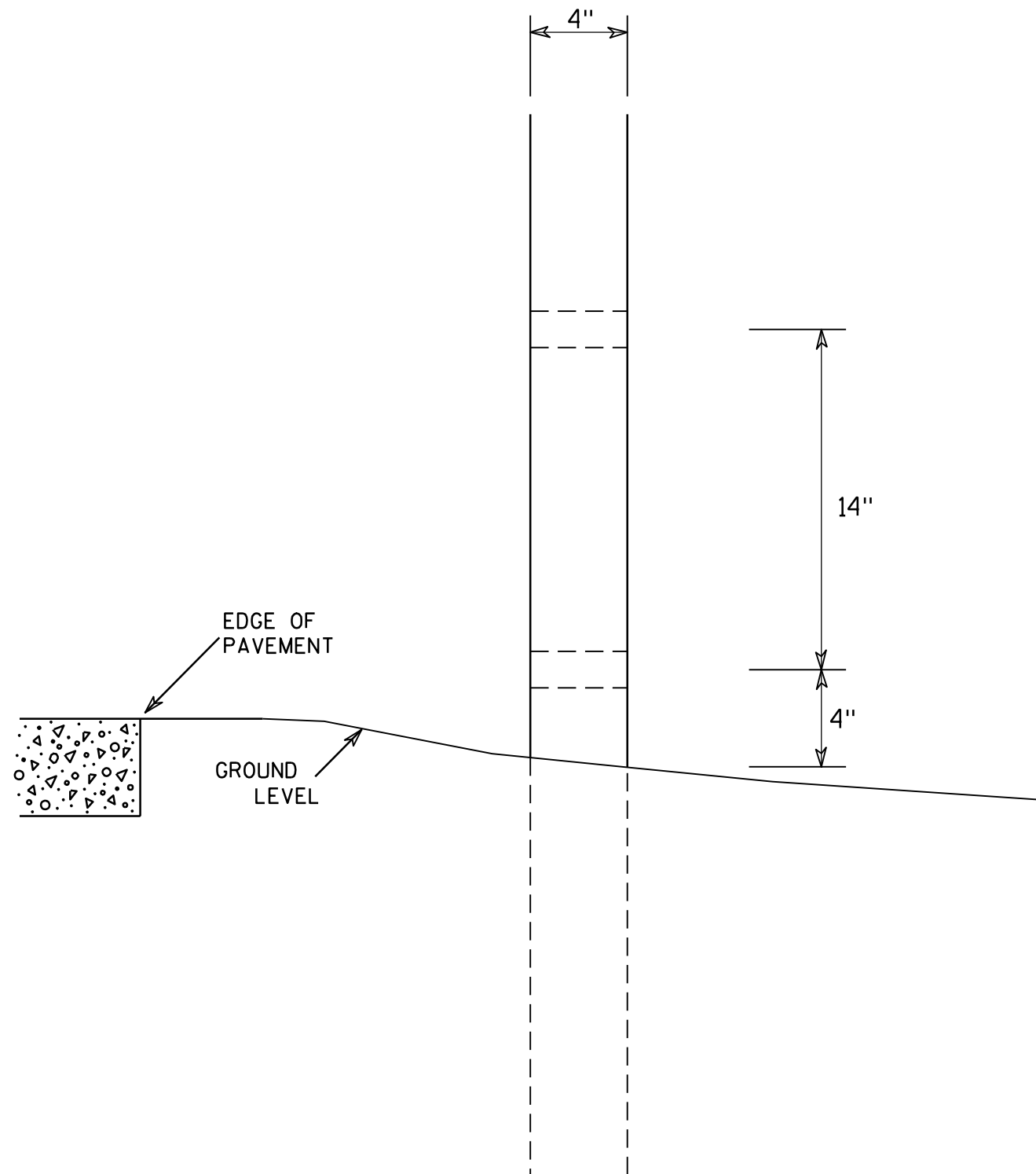
PLOT BY : mscs.ja

PLOT NAME :

SHEET NO:

E

WISDOT/CADDs SHEET 42



SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1 1/2" diameter holes drilled perpendicular to the roadway centerline.

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:

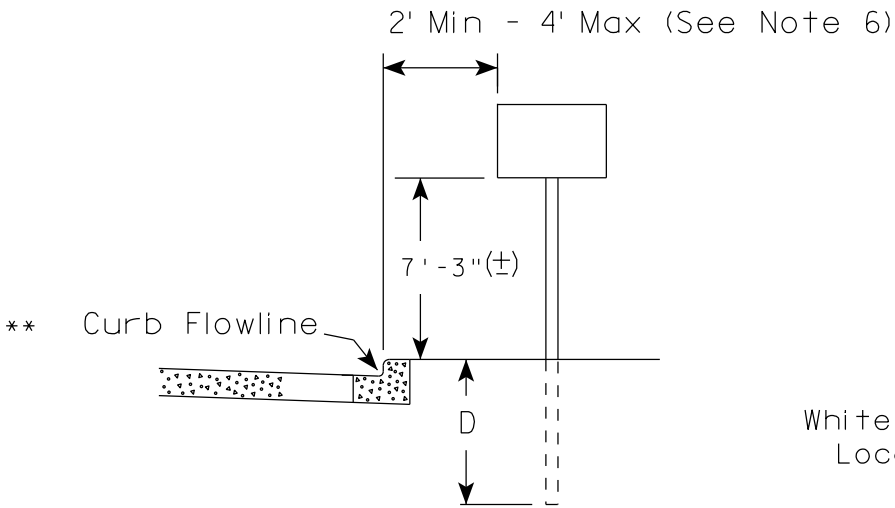
HWY:

COUNTY:

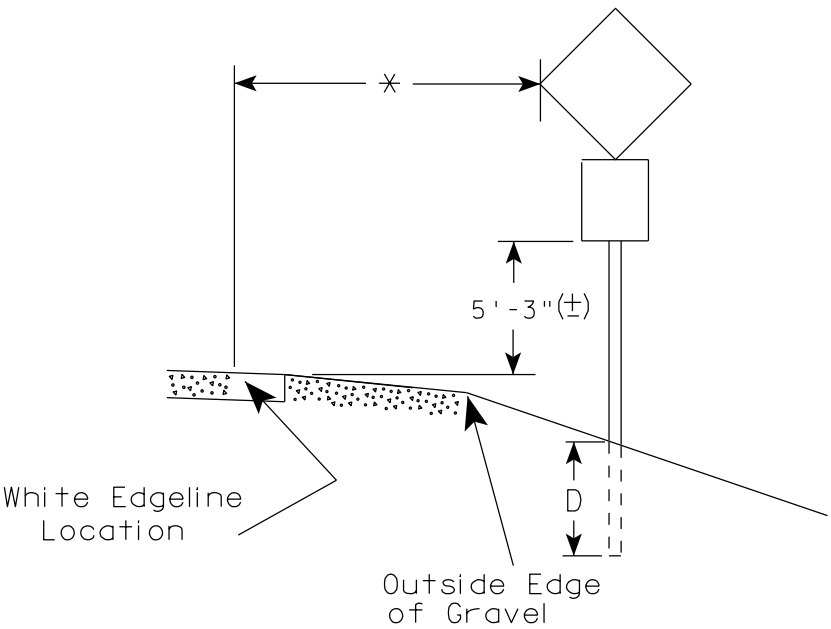
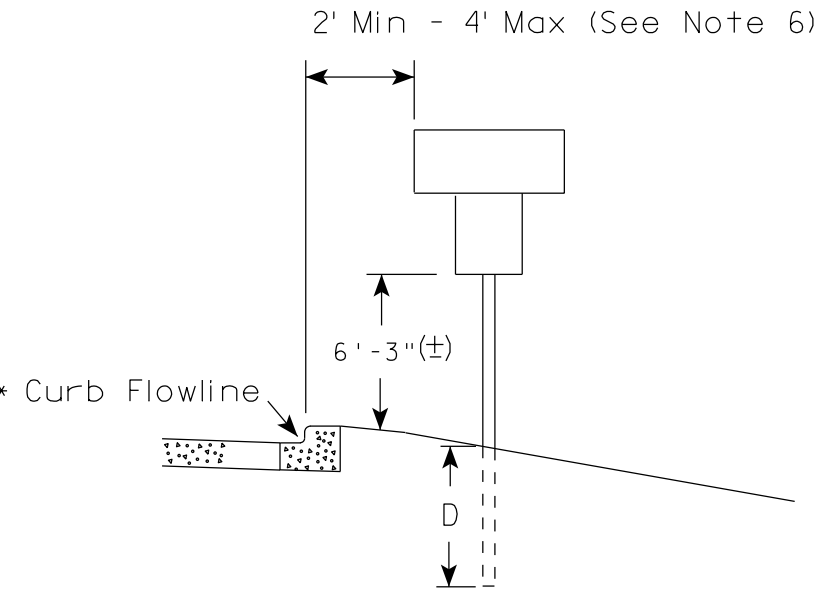
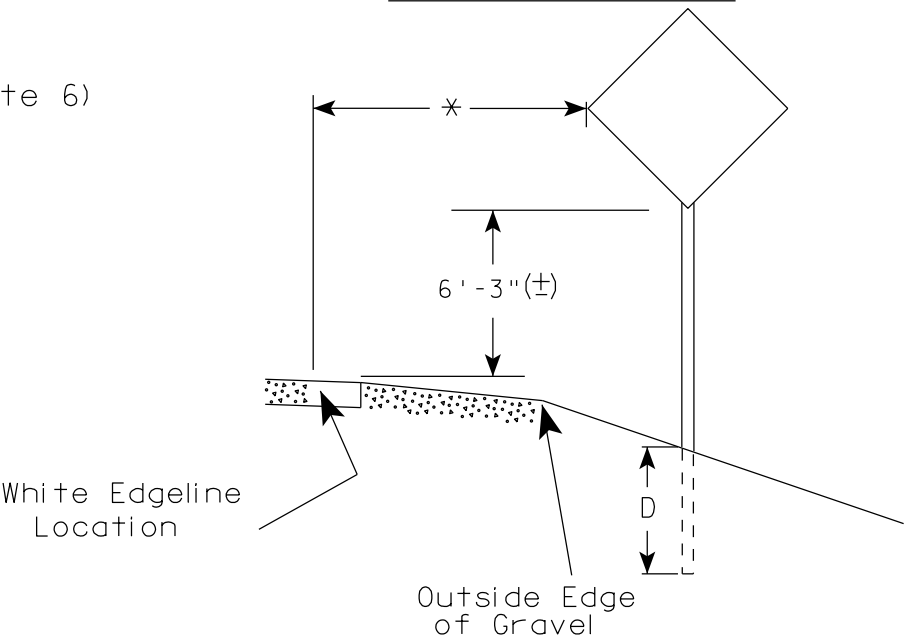
SHEET NO:

E

URBAN AREA



RURAL AREA (See Note 2)



GENERAL NOTES

1. Signs wider than 4 feet, 20 sq.ft or larger, 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), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series) & End of Rod Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (+).

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.

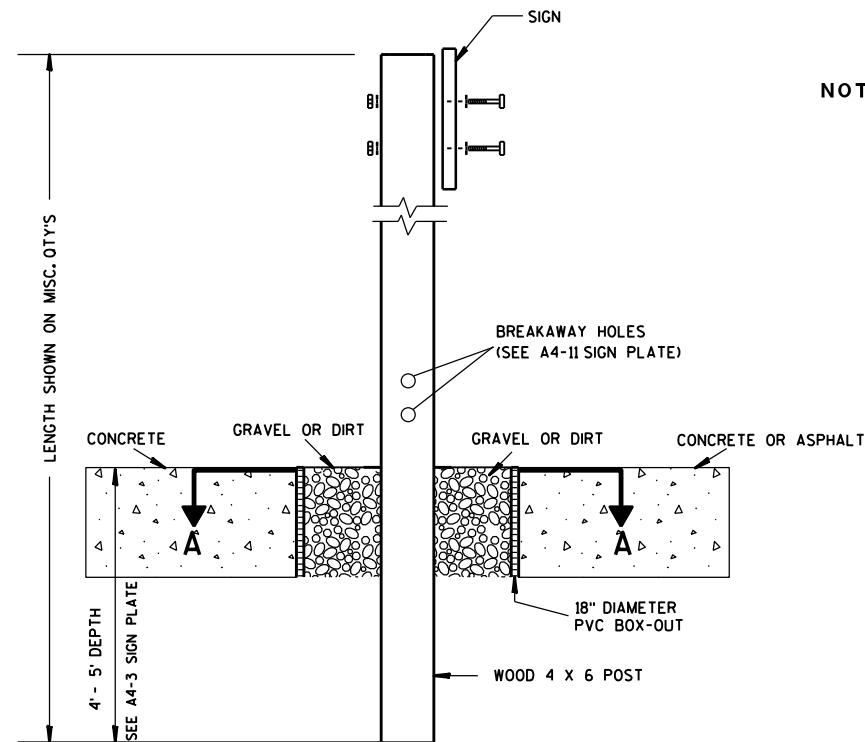
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

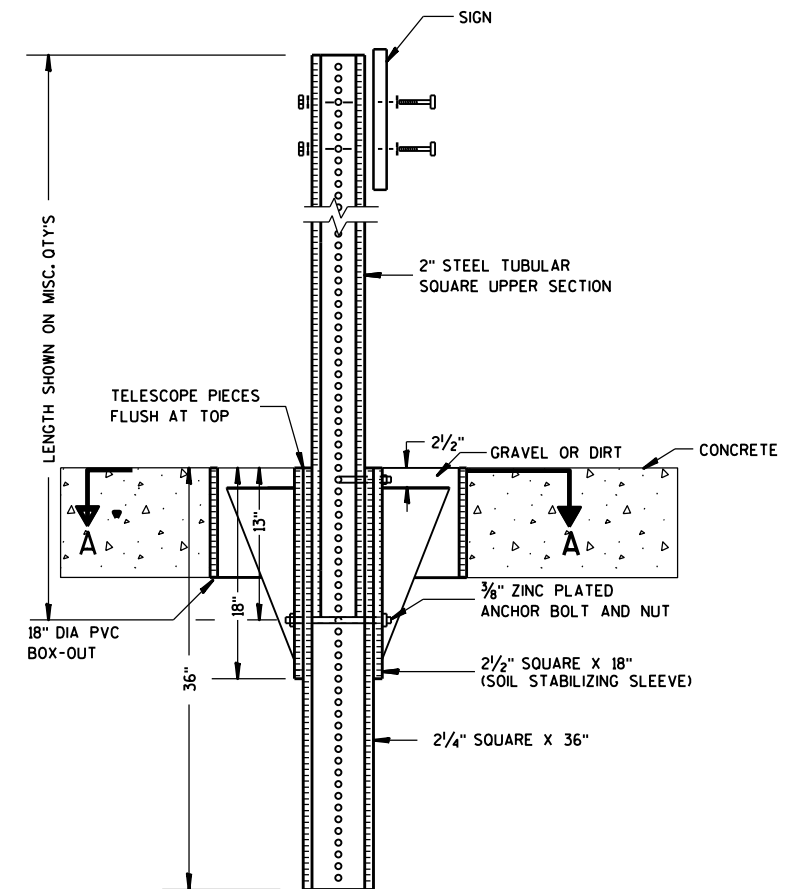
DATE 9/30/13 PLATE NO. A4-3.18



ELEVATION VIEW

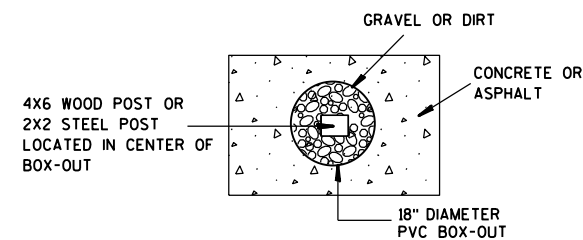
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- NOTES: 1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST
BOX-OUTS
A4-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

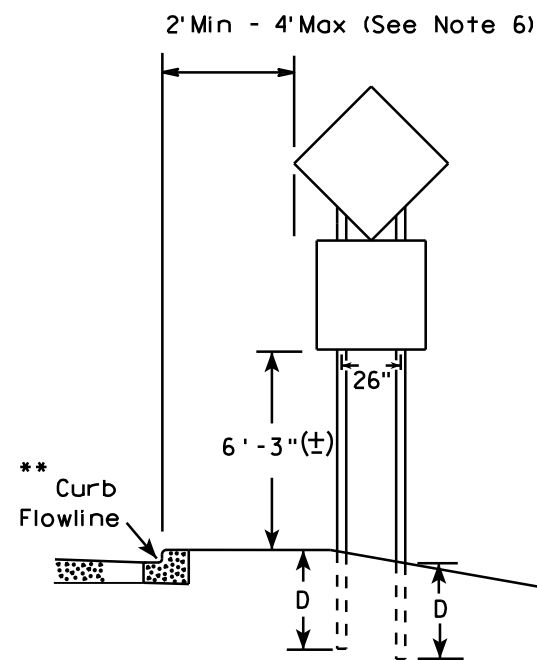
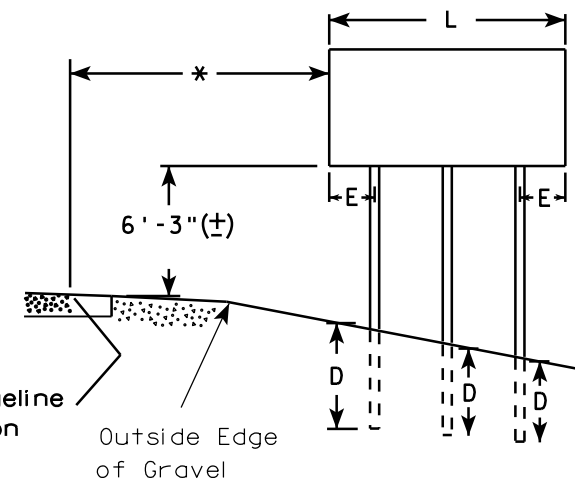
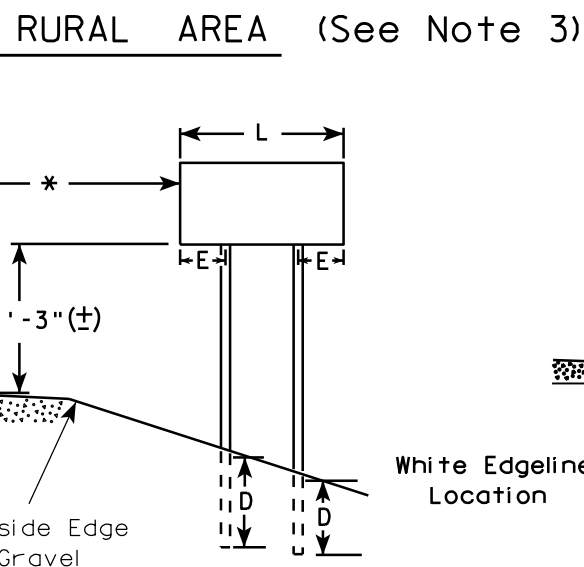
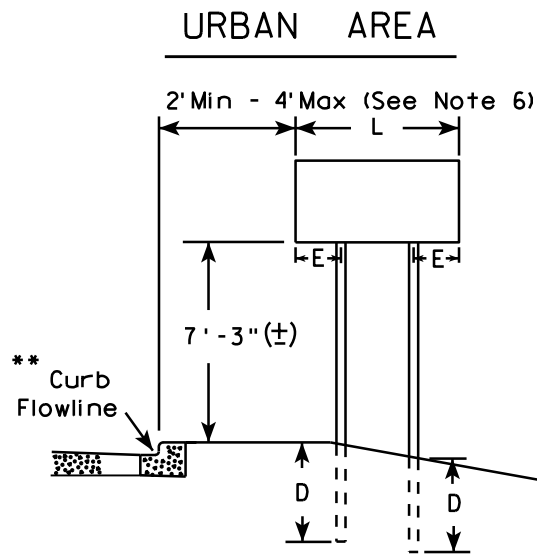
PROJECT NO:

HWY:

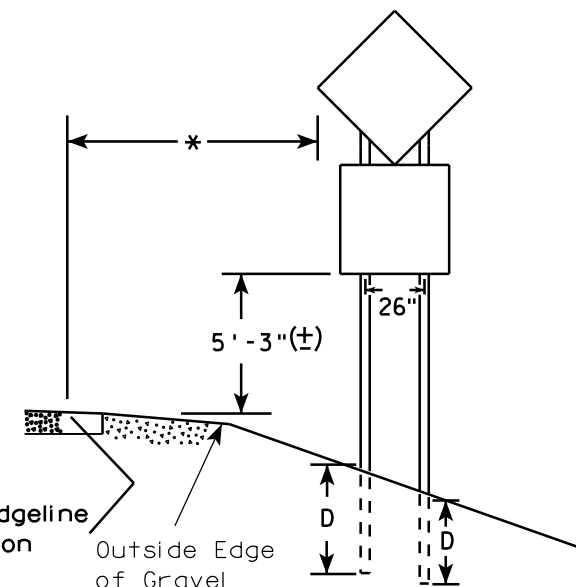
COUNTY:

SHEET NO:

E



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

- GENERAL NOTES**
1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
 2. See tables below for required number of posts.
 3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
 4. The (±) tolerance for mounting height is 3 inches.
 5. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
 6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
 7. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
 8. 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" (±).

* 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.

** 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.

*** See A4-3 sign plate for signs 4' or less in width or 20 S.F. or less in area.

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

POST EMBEDMENT DEPTH

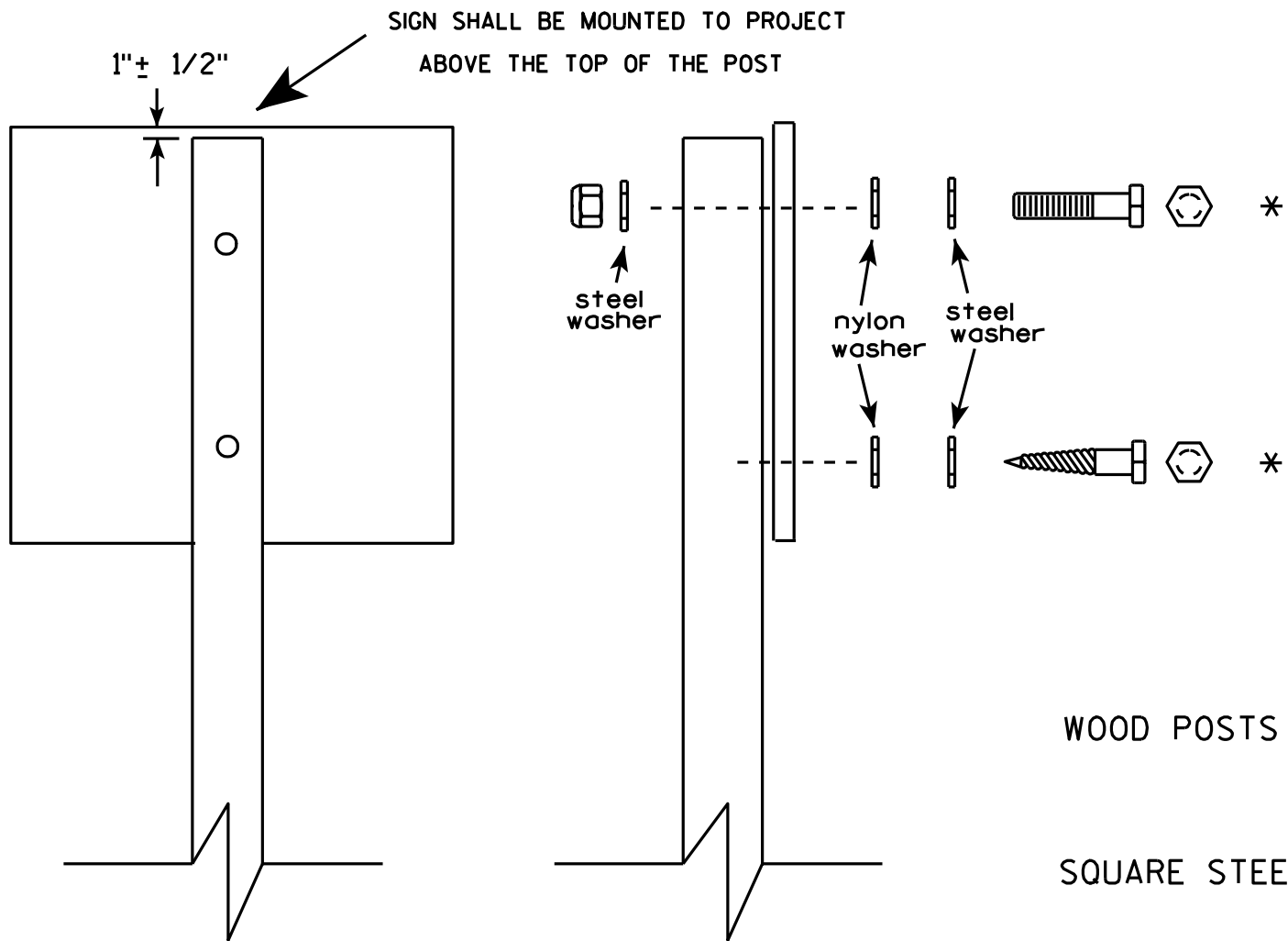
Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 9/30/13 PLATE NO. A4-4.12

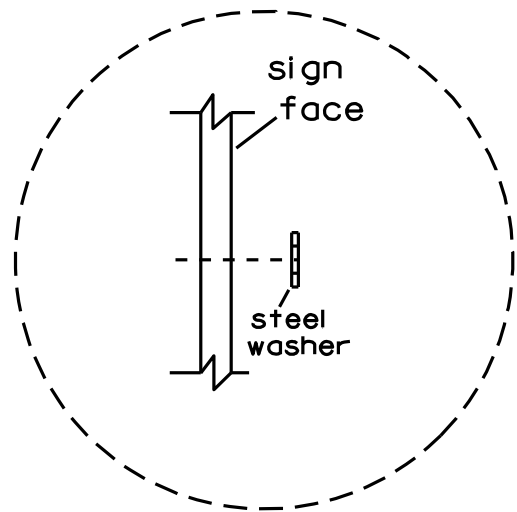


Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- 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.



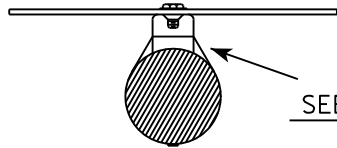
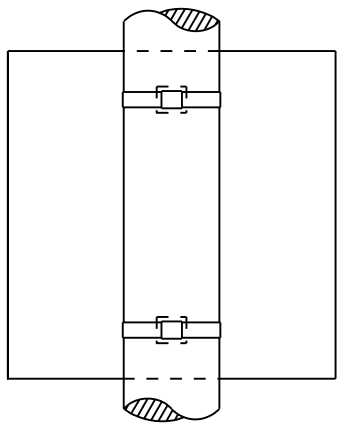
Washer Placement when Sign Has Other Than Type H or Type F Face

* 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

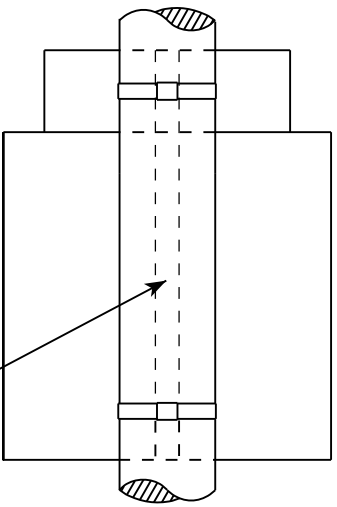
BANDING

SINGLE SIGN

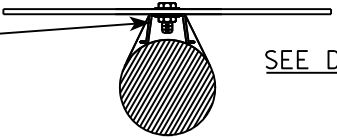


SEE DETAIL A

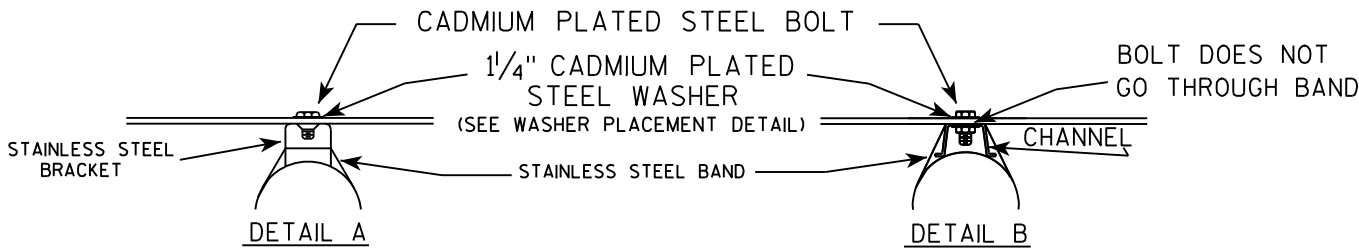
"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



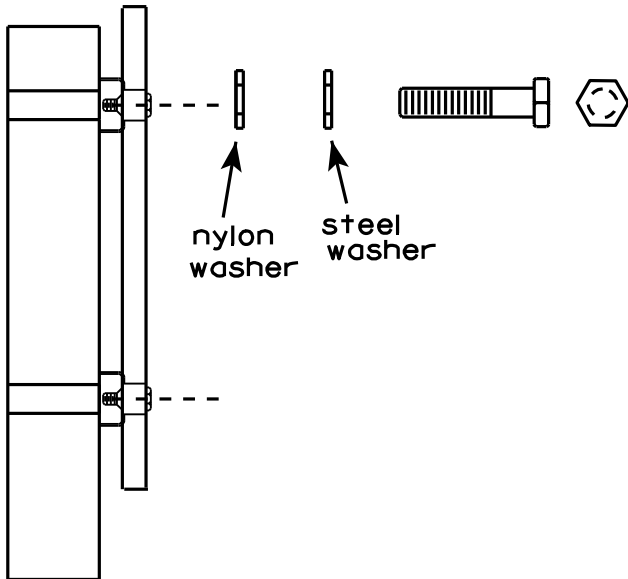
SEE DETAIL B



GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be $\frac{3}{4}$ " in width and 0.025" thickness.

WASHER PLACEMENT



WASHERS (ALL POSTS) -
1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

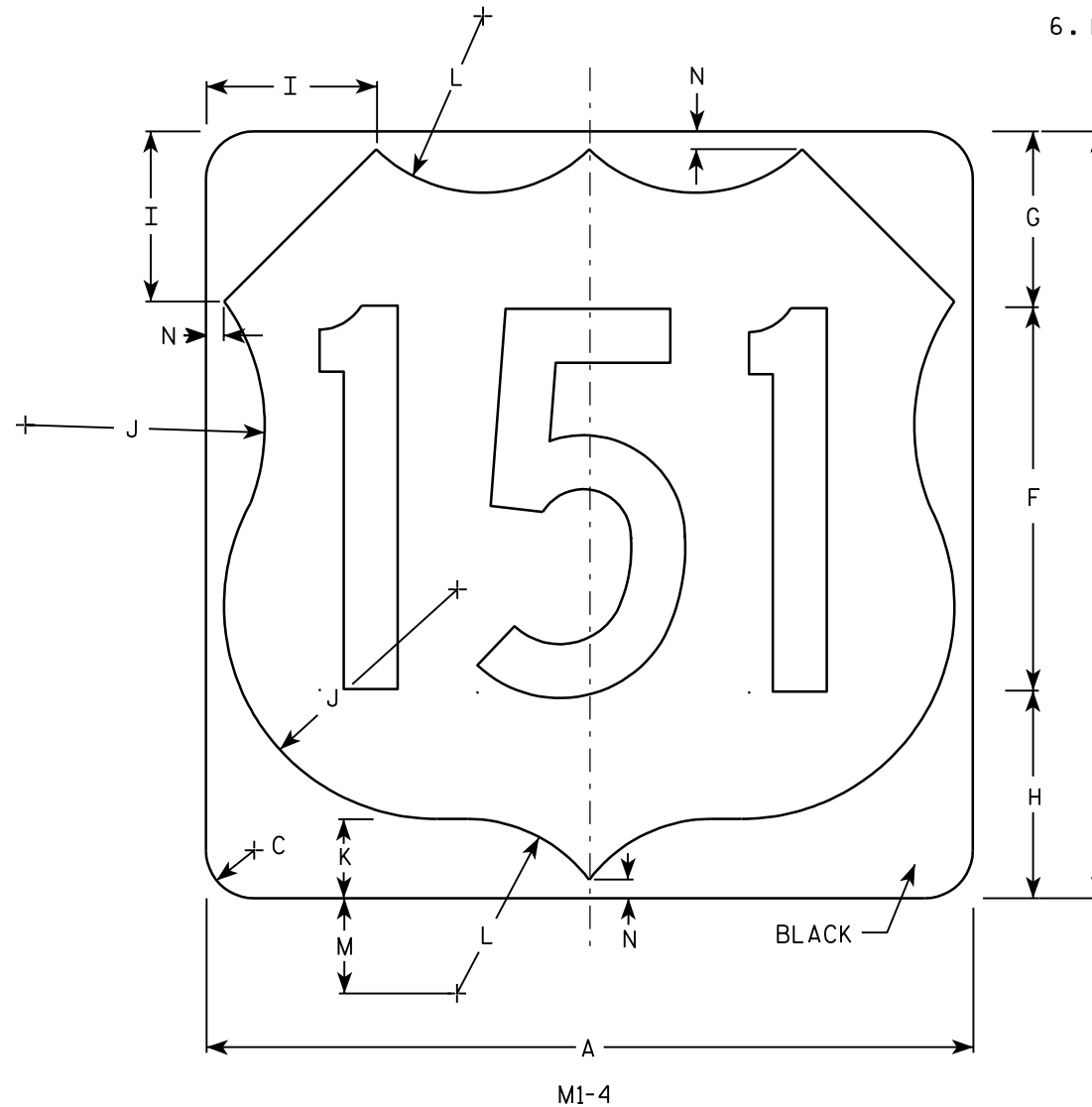
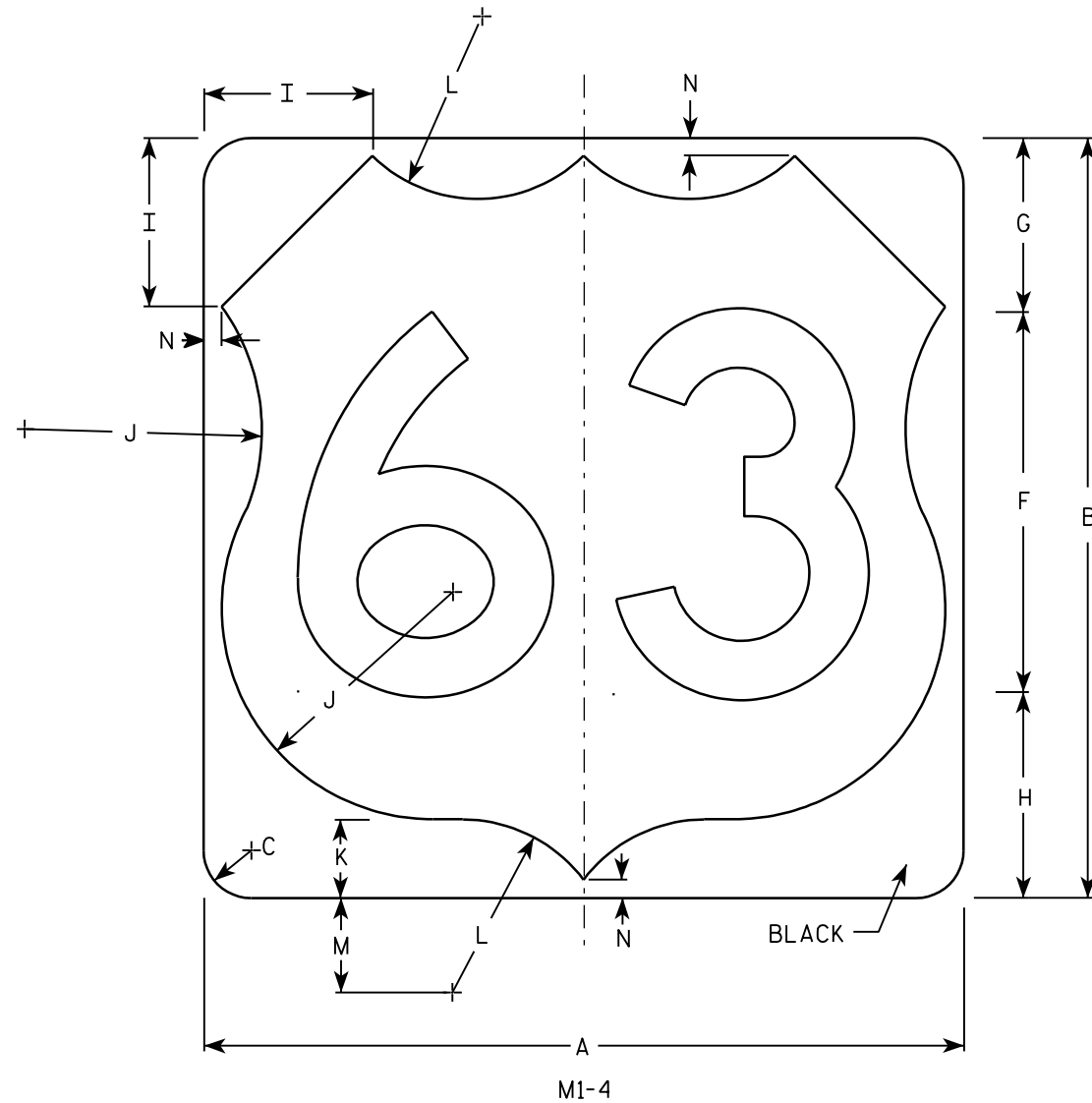
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 8/16/13 PLATE NO. A5-9.3

NOTES

1. Sign is Type II - See Note 6 - reference
WIS DOT Standard Specification for HIGHWAY
and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White & Black - See Note 6
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. Substitute appropriate numerals and adjust
spacing as per Plate A10-1.
6. Permanent Signs
Background - Type H Reflective
Detour or other temporary signs
Background - Reflective



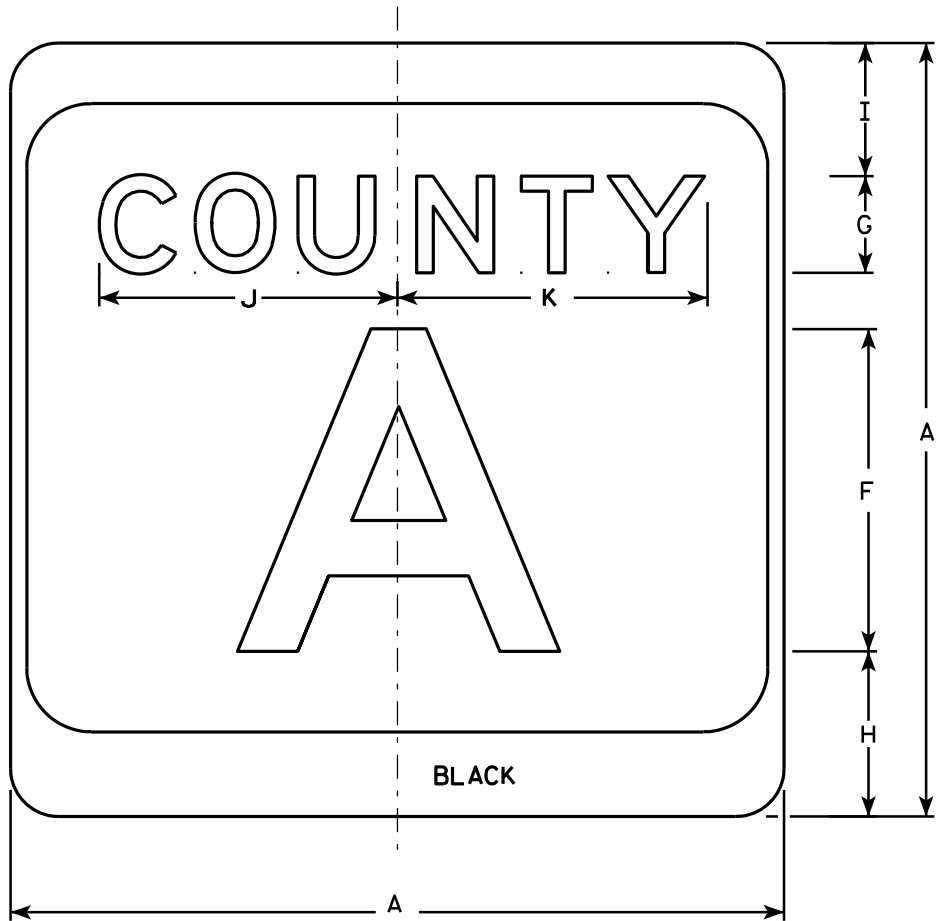
Metric equivalent
for this sign is:

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

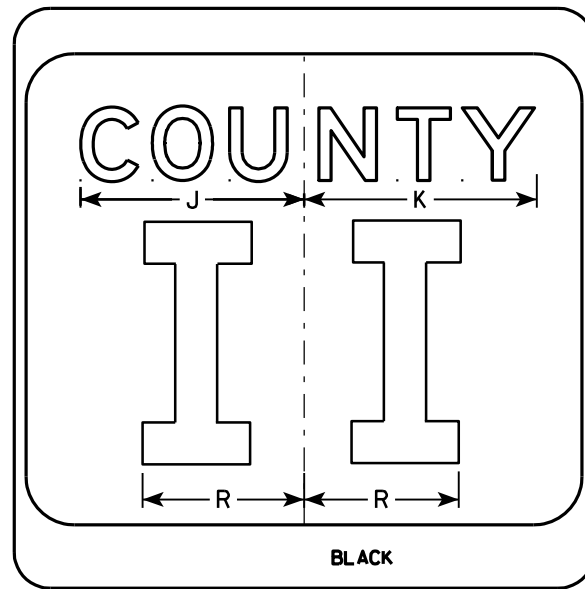
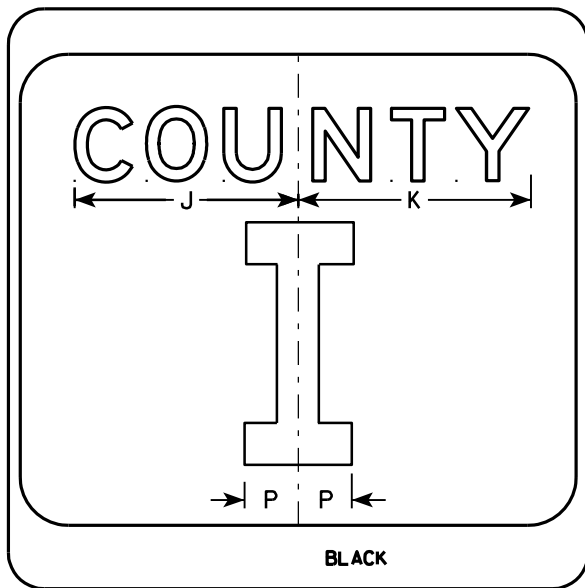
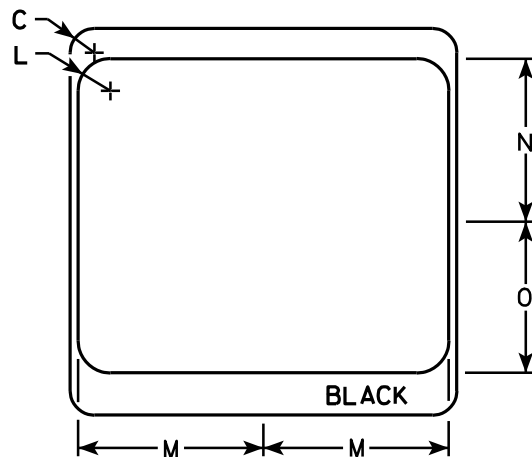
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Areq sq. ft.	Area m ²
1																												
2	24	24	1 1/2			12	5 1/2	6 1/2	5	7 1/2	2 1/2	5 1/2	3	1/2													4.0	.36
3	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81
4	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81
5	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81

PROJECT NO: HWY: COUNTY: SHEET NO: E

7



M1-5A



NOTES

1. Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White & Black - See Note 7
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. 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.
6. Substitute appropriate letters & optically center to achieve proper balance.
7. Permanent Signs
Background - Type H Reflective
Detour or temporary Signs
Background - Reflective

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		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	2 1/4		6 5/8									4.0
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	3 3/8		10									9.0
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	3 3/8		10									9.0
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	3 3/8		10									9.0

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

CTH MARKER

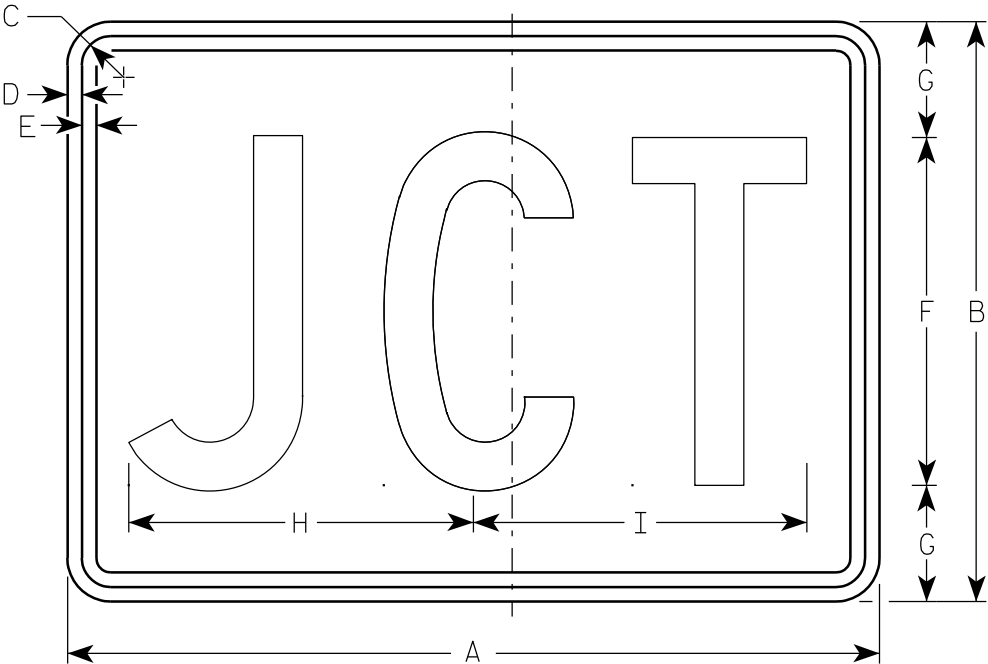
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 9/27/11 PLATE NO. M1-5A.8

7



M2-1
MK2-1
MM2-1
MR2-1

Metric equivalent
for this sign is:

SIZE	
1	
2	525 mm X 375 mm
3	750 mm X 525 mm
4	750 mm X 525 mm
5	750 mm X 525 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	21	15	1 1/8	3/8	3/8	9	3	8 7/8	8 5/8																1 1/2	1/2	2.20	0.20
3	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40	0.20
4	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40	0.20
5	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40	0.20

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

NOTES

- Sign is Type II - See Note 5 - reference
WIS DOT Standard Specification for HIGHWAY
and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - See note 5
Message - See note 5
- Message Series - C
- 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.
- M2-1 Background - White - Type H Reflective
(Detour or temporary Signs - Reflective)
Message - Black
MB2-1 Background - Blue
Message - White - Type H Reflective
(Detour or temporary Signs - Reflective)
MG2-1 Background - Green
Message - White - Type H Reflective
MK2-1 Background - Green
Message - White - Type H Reflective
MM2-1 Background - White - Type H Reflective
Message - Green
MN2-1 Background - Brown
Message - White - Type H Reflective
MR2-1 Background - Brown
Message - Yellow - Type H Reflective

MB2-1
MG2-1
MN2-1

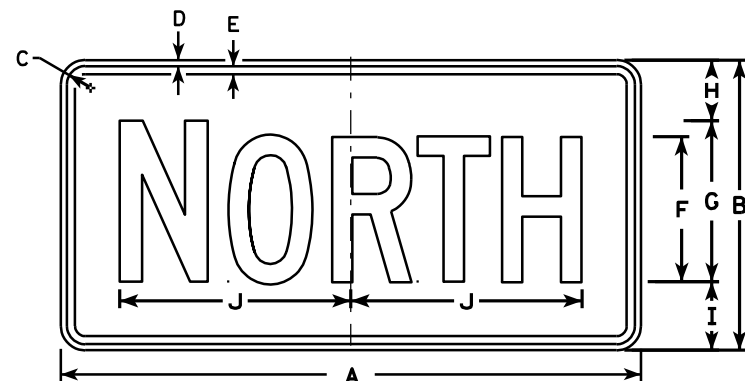
STANDARD SIGN

M2 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

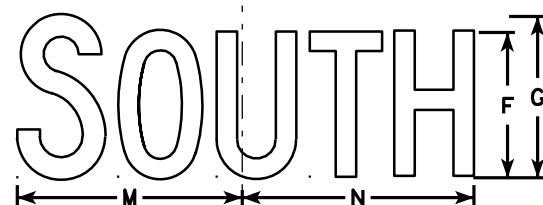
DATE 3/16/10 PLATE NO. M2-1.10



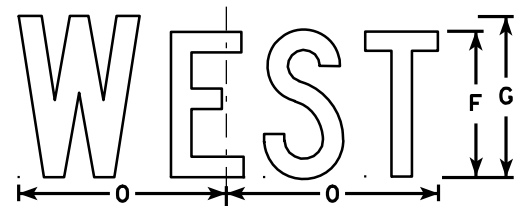
M3-1
MK3-1
M03-1



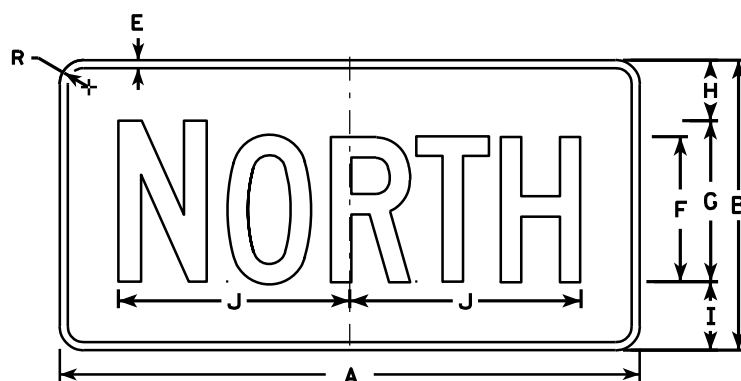
M3-2
MK3-2
M03-2



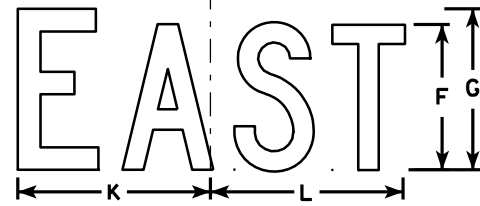
M3-3
MK3-3
M03-3



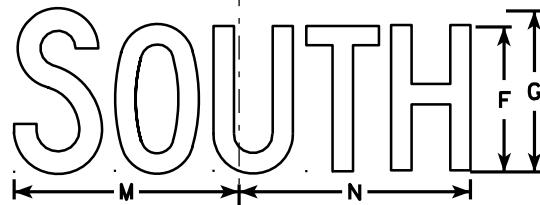
M3-4
MK3-4
M03-4



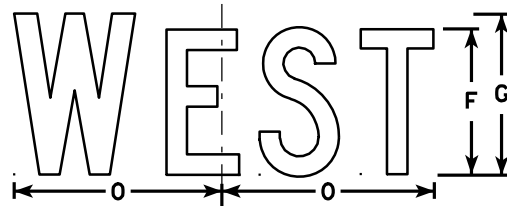
MB3-1
MG3-1
MM3-1
MN3-1



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

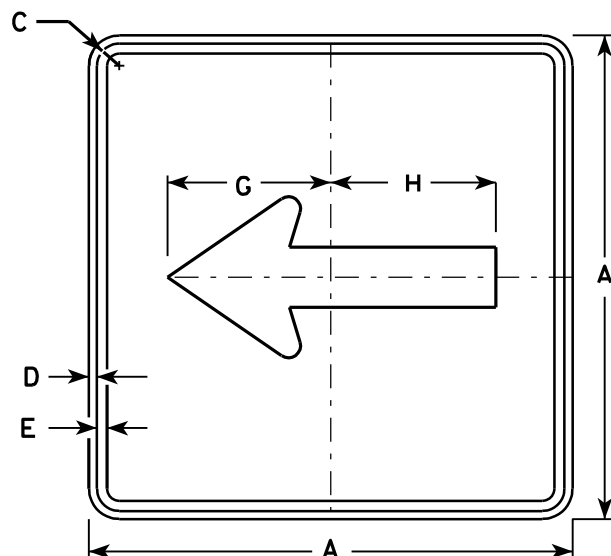
PROJECT NO: HWY: COUNTY: SHEET NO: E

STANDARD SIGNS
M3-1 thru M3-4
SERIES

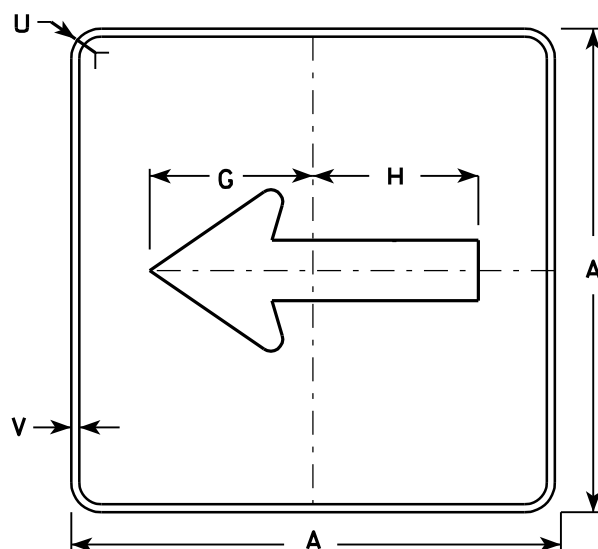
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

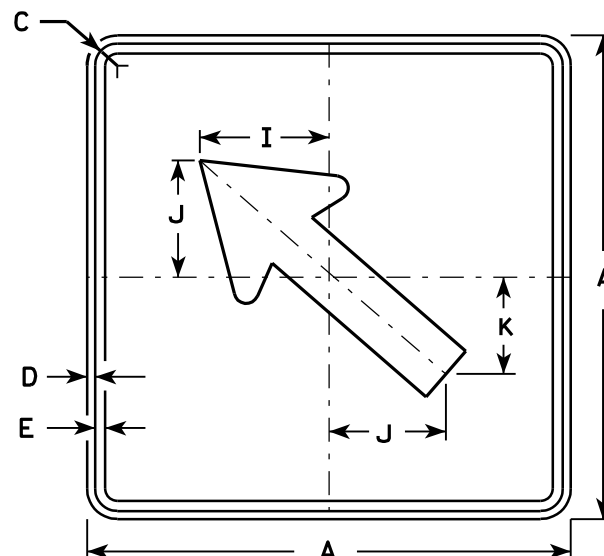
DATE 11/10/10 PLATE NO. M3-1.12



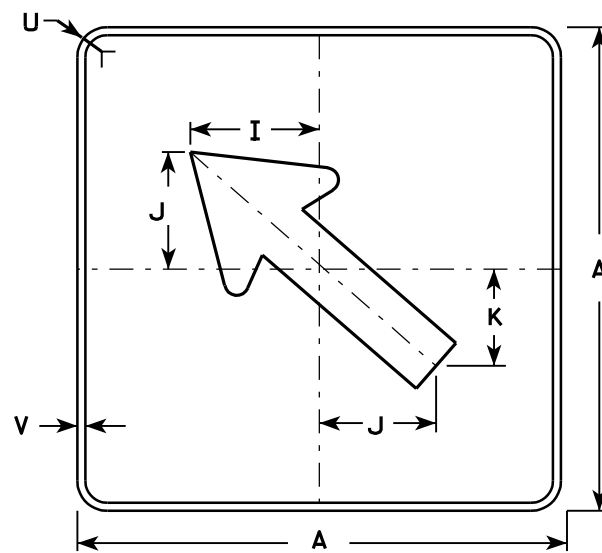
M6-1
MK6-1
MM6-1
MO6-1
MP6-1
MR6-1



MB6-1
MG6-1
MN6-1



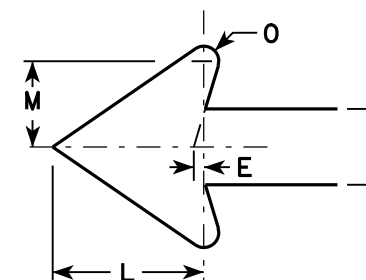
M6-2
MK6-2
MM6-2
MO6-2
MP6-2
MR6-2



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 Message - Black
 - MB6-1 and MB6-2 Background - Blue Message - White - Type H 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 - Type F Reflective Message - Black
 - MP6-1 and MP6-2 Background - White - Type H Reflective Message - Blue
 - MR6-1 and MR6-2 Background - Brown Message - Yellow - Type H Reflective



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	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
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
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
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

STANDARD SIGN M6-1 & M6-2 SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 7/29/13 PLATE NO. M6-1.13

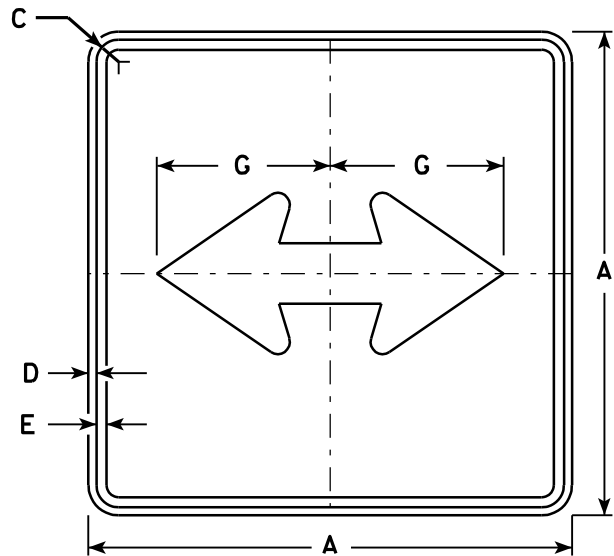
PROJECT NO:

HWY:

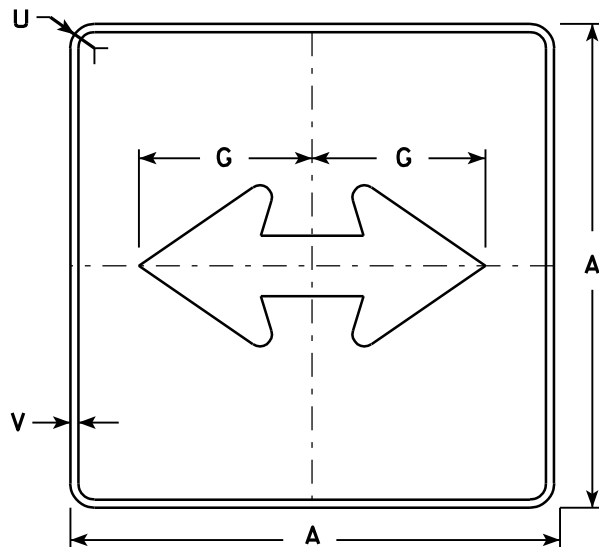
COUNTY:

SHEET NO:

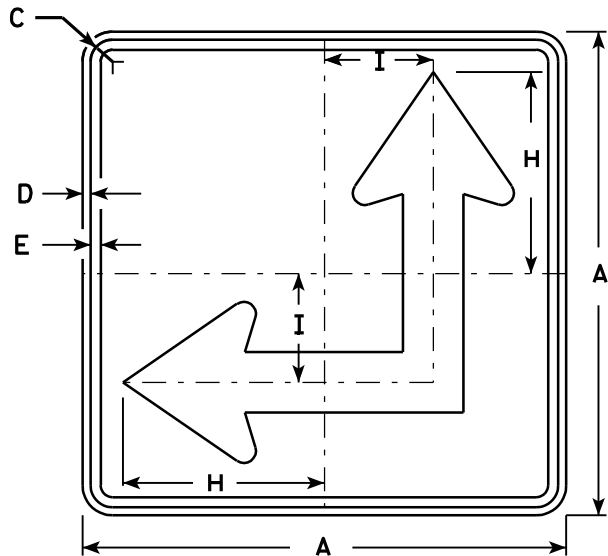
E



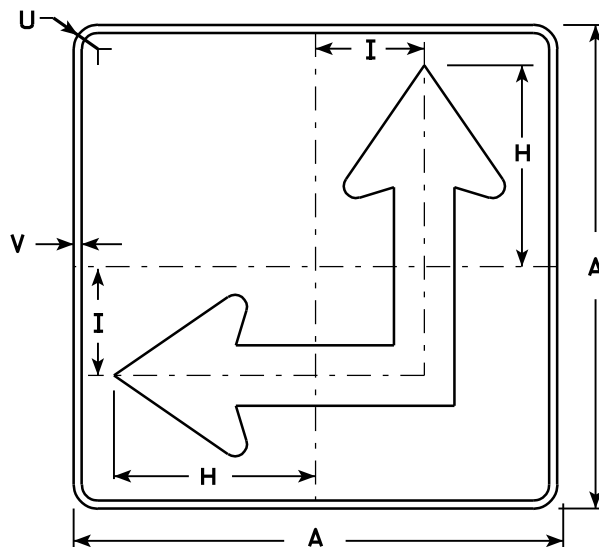
M6 - 4
MK6 - 4
MM6 - 4
MO6 - 4
MP6 - 4
MR6 - 4



MB6 - 4
MG6 - 4
MN6 - 4



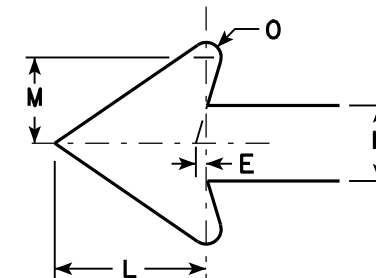
M6 - 6
MK6 - 6
MM6 - 6
MO6 - 6
MP6 - 6
MR6 - 6



MB6 - 6
MG6 - 6
MN6 - 6

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.
- M6-4 and M6-6 Background - White - Type H Reflective
Message - Black
MB6-4 and MB6-6 Background - Blue
Message - White - Type H Reflective
MG6-4 and MG6-6 Background - Green
Message - White - Type H Reflective
MK6-4 and MK6-6 Background - Green
Message - White - Type H Reflective
MM6-4 and MM6-6 Background - White - Type H Reflective
Message - Green
MN6-4 and MN6-6 Background - Brown
Message - White - Type H Reflective
MO6-4 and MO6-6 Background - Orange - Type F Reflective
Message - Black
MP6-4 and MP6-6 Background - White - Type H Reflective
Message - Blue
MR6-4 and MR6-6 Background - Brown
Message - Yellow - Type H Reflective
- M6-6R same as M6-6L except arrow points ahead and right.



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	21		1 1/8	3/8	3/8		7 1/2	8 3/4	4 1/4			5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

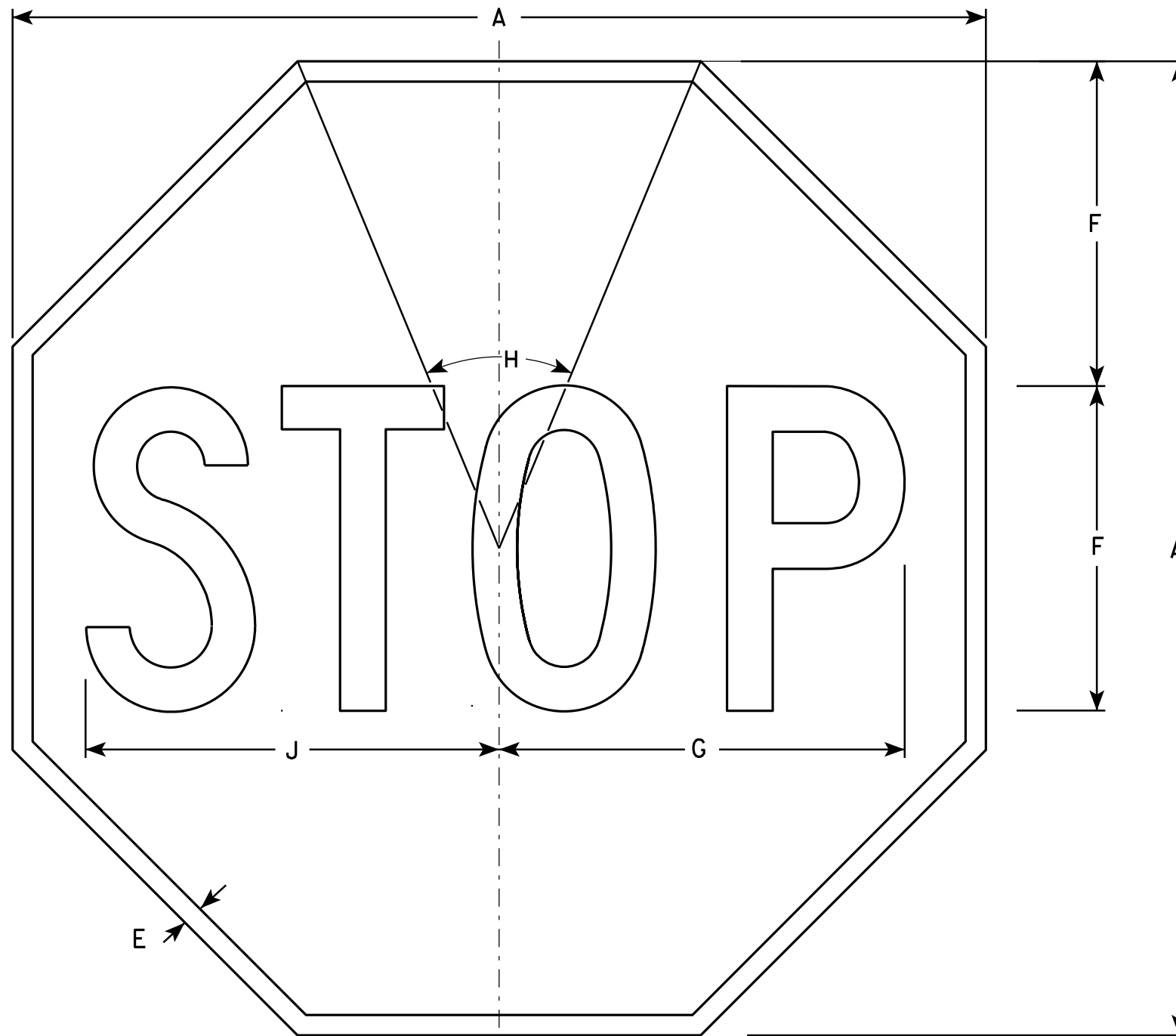
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E
-------------	------	---------	--	-----------	---

STANDARD SIGN
M6 - 4 & M6 - 6
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 7/29/13 PLATE NO. M6-4.8



NOTES

- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
 - Background - Red
 - Message - White
- 3. Message Series - C

R1-1

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	24				3/8	8	10	45°		10 1/4																	3.31
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1.12

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



R4-3

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.

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	24	30	1 1/8	3/8	1/2	4	3 5/8	2 1/4	9 3/4	10	6 1/4	6 3/4	7 1/8	7 5/8													5.0
2M	24	30	1 1/8	3/8	1/2	4	3 5/8	2 1/4	9 3/4	10	6 1/4	6 3/4	7 1/8	7 5/8													5.0
3	36	48	1 5/8	5/8	3/4	6	6	4	14 5/8	15	9 3/8	10	10 3/4	11 3/8													12.0
4	36	48	1 5/8	5/8	3/4	6	6	4	14 5/8	15	9 3/8	10	10 3/4	11 3/8													12.0
5	48	60	2 1/4	3/4	1	8	7 1/4	4 1/2	19 1/2	20	12 1/2	13 1/2	14 1/4	15 1/4													20.0

STANDARD SIGN R4-3

WISCONSIN DEPT OF TRANSPORTATION

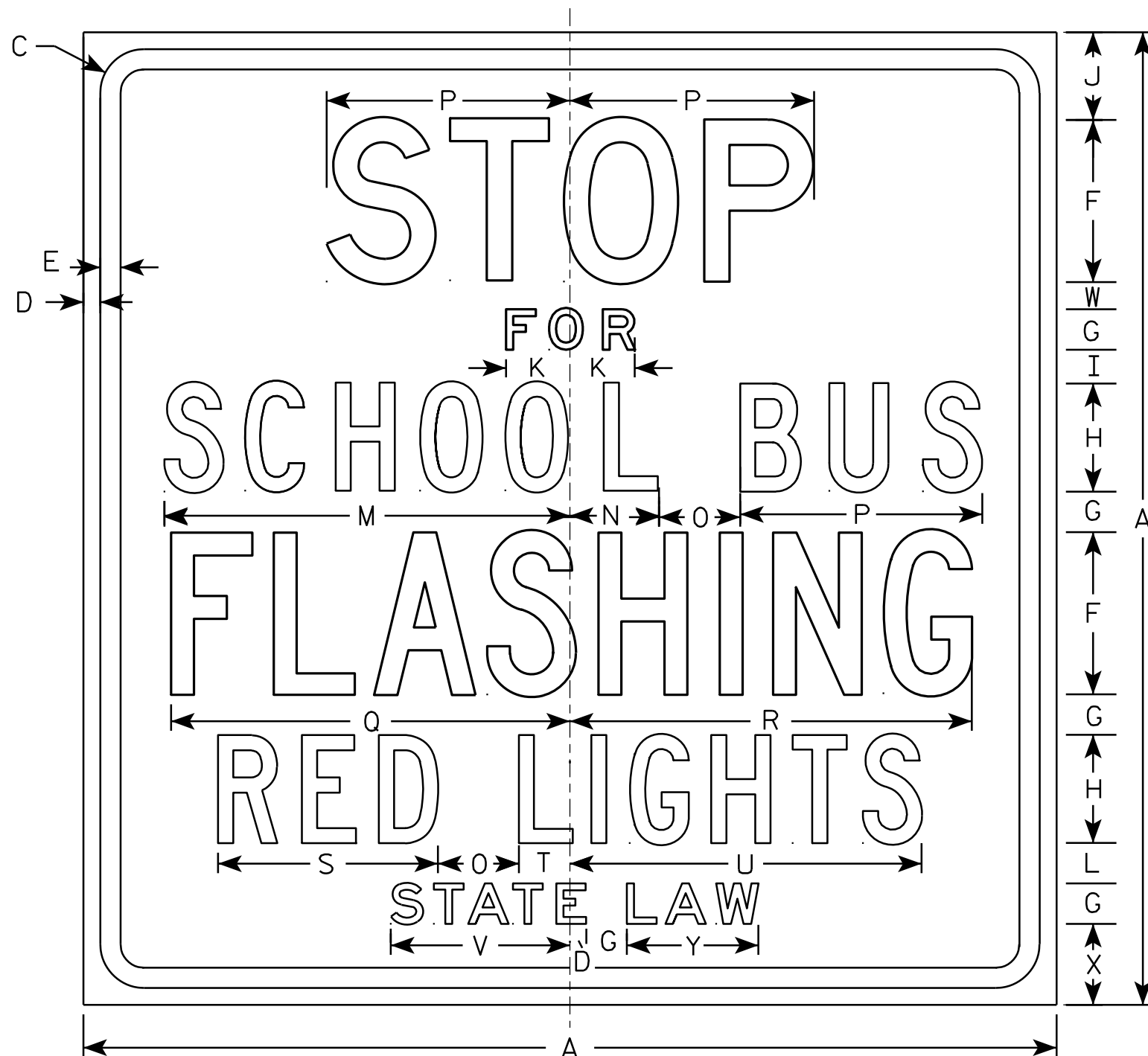
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-3.8

PROJECT NO:

SHEET NO:

E



R59-51

NOTES

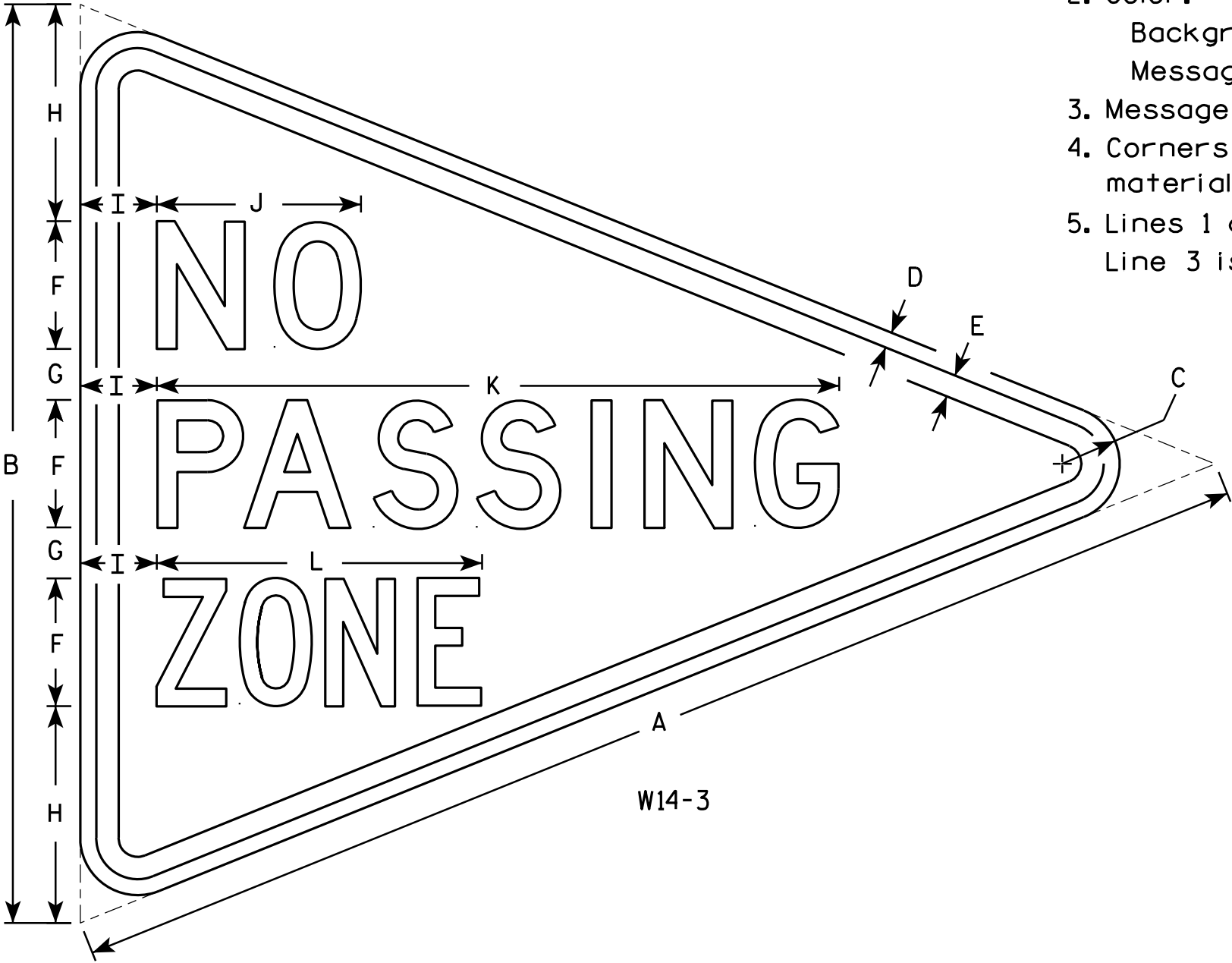
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series D
Lines 2 & 6 are Series E
Line 3, 4 & 5 are Series C

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	36		1 5⁄8	5⁄8	3⁄4	6	1 1⁄2	4	1 1⁄4	3 1⁄4	2 3⁄8	1 1⁄2	15	3 1⁄4	3	9	14 3⁄4	14 7⁄8	8 1⁄8	1 7⁄8	13	6 5⁄8	1	3	4 7⁄8		9.0
2M	36		1 5⁄8	5⁄8	3⁄4	6	1 1⁄2	4	1 1⁄4	3 1⁄4	2 3⁄8	1 1⁄2	15	3 1⁄4	3	9	14 3⁄4	14 7⁄8	8 1⁄8	1 7⁄8	13	6 5⁄8	1	3	4 7⁄8		9.0
3	48		2 1⁄4	3⁄4	1	8	2	6	1 1⁄4	4 3⁄4	3 1⁄4	1 1⁄2	20 1⁄4	5	3 5⁄8	12	19 1⁄2	20	11 5⁄8	3 3⁄4	19	9 1⁄2	1	3 1⁄2	6 3⁄4		16.0
4	48		2 1⁄4	3⁄4	1	8	2	6	1 1⁄4	4 3⁄4	3 1⁄4	1 1⁄2	20 1⁄4	5	3 5⁄8	12	19 1⁄2	20	11 5⁄8	3 3⁄4	19	9 1⁄2	1	3 1⁄2	6 3⁄4		16.0
5																											

STANDARD SIGN R59-51	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 3/30/11	PLATE NO. R59-51.10

NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Yellow
Message - Black
- 3. Message Series - See note 5
- 4. Corners and borders shall be rounded on all base materials for this sign.
- 5. Lines 1 and 2 are Series D.
Line 3 is series C.



W14-3

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	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															6.0
2M	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															6.0
3	64	48	3	3/4	1 1/4	6	3	12	4	10 3/4	33 5/8	16 1/2															10.7
4																											
5																											

STANDARD SIGN
W14-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 6/7/10 PLATE NO. W14-3.9

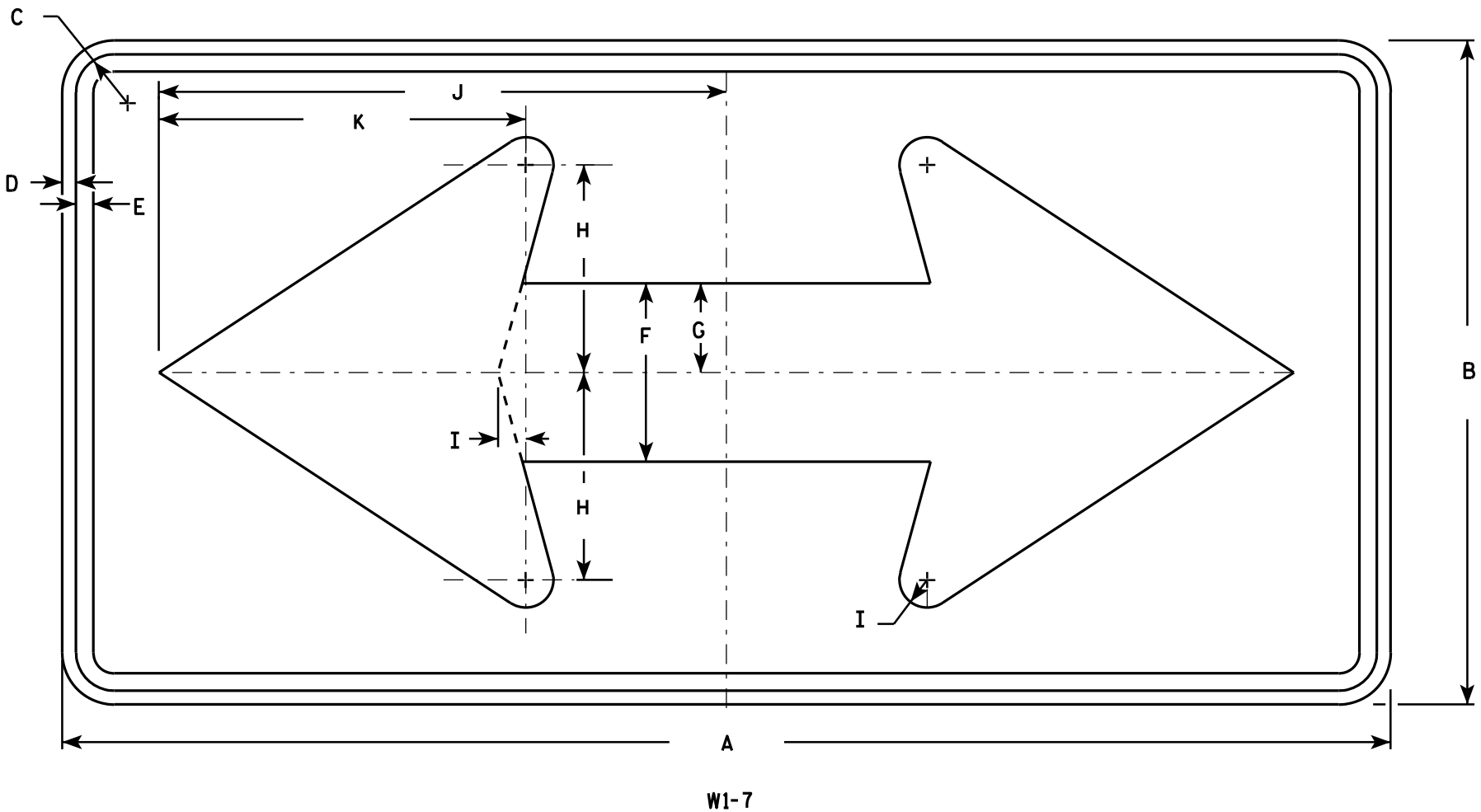
PROJECT NO:

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 - 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.

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 1/8	3/8	1/2	5	2 1/2	5 3/4	3/4	15 5/8	10 1/8																4.5
2S	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
2M	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
3	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
4	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
5	96	48	2 1/4	3/4	1	13	6 1/2	15	2	41	26 1/2																32.0

STANDARD SIGN
W1 - 7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-7.7

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE. AT THE BACKFACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.

SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE, UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.

THE GRADATION OF THE STRUCTURE BACKFILL SHALL MEET THE REQUIREMENTS OF SECTION 209.2.2 OF THE STANDARD SPECIFICATIONS FOR GRADE 1 MATERIAL.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK SURFACE AND THE FRONT FACE AND THE TOP OF THE NEW PARAPET, INCLUDING PARAPETS ON NEW ABUTMENT WINGS.

AT ABUTMENTS AND PIER(S), CONCRETE POURED UNDER WATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.

THE SLOPE OF THE FILL IN FRONT OF THE NEW ABUTMENT PORTIONS SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE FABRIC TYPE 'HR' TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS, MATCH EXISTING RIPRAP.

AT ABUTMENTS, CAST-IN-PLACE 12¾"φ X 0.25" WALL CONCRETE PILING MAY BE USED IN LIEU OF CAST-IN-PLACE 10¾"φ X 0.25" WALL CONCRETE PILING. PAYMENT SHALL BE BASED ON BID PRICE FOR CAST-IN-PLACE 10¾"φ X 0.25" WALL CONCRETE PILING.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR 1976.

CONTACT THE BUREAU OF STRUCTURES BEFORE PLACEMENT OF OVERLAY IF THE AVERAGE THICKNESS OF THE NEW OVERLAY WILL EXCEED THE AVERAGE OVERLAY SHOWN ON THE PLANS BY MORE THAN ½".

A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

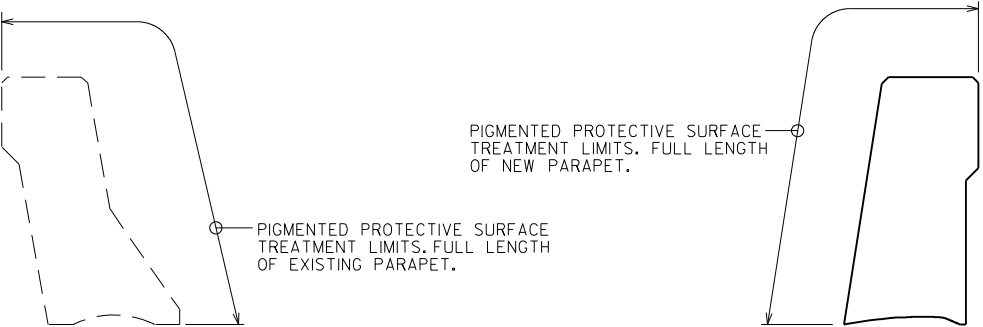
ROUGHEN SURFACE OF EXISTING CONCRETE ¼" DEEP MIN. AT ALL AREAS OF NEW TO EXISTING CONCRETE SURFACE CONTACTS.

EXISTING HEAVY RIPRAP SHALL REMAIN IN PLACE. REPLACE AS REQUIRED IN ORDER TO BRING IT BACK UP TO THE ORIGINAL ELEVATIONS (DUE TO SETTLEMENT).

REMOVAL LINES SHALL BE DEFINED WITH A 1" DEEP SAW CUT.

APPLY PIGMENTED PROTECTIVE SURFACE TREATMENT TO THE EXISTING PARAPET. COLOR SHALL BE GRAY (FEDERAL COLOR #26622). EXISTING PARAPET SHALL BE CLEANED PER THE BID ITEM "CLEANING CONCRETE PARAPETS", PRIOR TO THE APPLICATION OF THE PIGMENTED PROTECTIVE SURFACE TREATMENT.

APPLY PIGMENTED PROTECTIVE SURFACE TREATMENT TO THE NEW PARAPET. COLOR SHALL BE GRAY (FEDERAL COLOR #26622).



PIGMENTED PROTECTIVE SURFACE TREATMENT DETAILS

LOOKING EAST

TOTAL ESTIMATED QUANTITIES

203.0500.S	REMOVING OLD STRUCTURE OVER WATERWAY STA. 195+25.00	1	LS
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-52-55	1	LS
206.5000	COFFERDAMS B-52-55	1	LS
210.0100	BACKFILL STRUCTURE	65	CY
502.0100	CONCRETE MASONRY BRIDGES	238	CY
502.0717.S	CRACK SEALING EPOXY	600	LF
502.3200	PROTECTIVE SURFACE TREATMENT	1,052	SY
502.3201.S	PIGMENTED PROTECTIVE SURFACE TREATMENT	147	SY
502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	42	EACH
502.5020	MASONRY ANCHORS TYPE L NO. 8 BARS	24	EACH
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	2,125	LB
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	51,095	LB
509.0301	PREPARATION DECKS TYPE 1	200	SY
509.0302	PREPARATION DECKS TYPE 2	50	SY
509.0500	CLEANING DECKS	755	SY
☆ 509.1500	CONCRETE SURFACE REPAIR	55	SF
509.2000	FULL-DEPTH DECK REPAIR	1	SY
■ 509.2500	CONCRETE MASONRY OVERLAY DECKS	72	CY
509.9050.S	CLEANING CONCRETE PARAPETS	180	LF
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	12	SY
550.2104	PILING CIP CONCRETE 10 3/4 X 0.25-INCH	1,435	LF
606.0300	RIPRAP HEAVY	120	CY
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	74	LF
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	2	EACH
645.0120	GEOTEXTILE FABRIC TYPE HR	130	SY
⊗ SPV.0060.01	EMBEDDED GALVANIC ANODES	100	EACH
⊗ SPV.0060.02	DISTRIBUTED GALVANIC ANODES	23	EACH

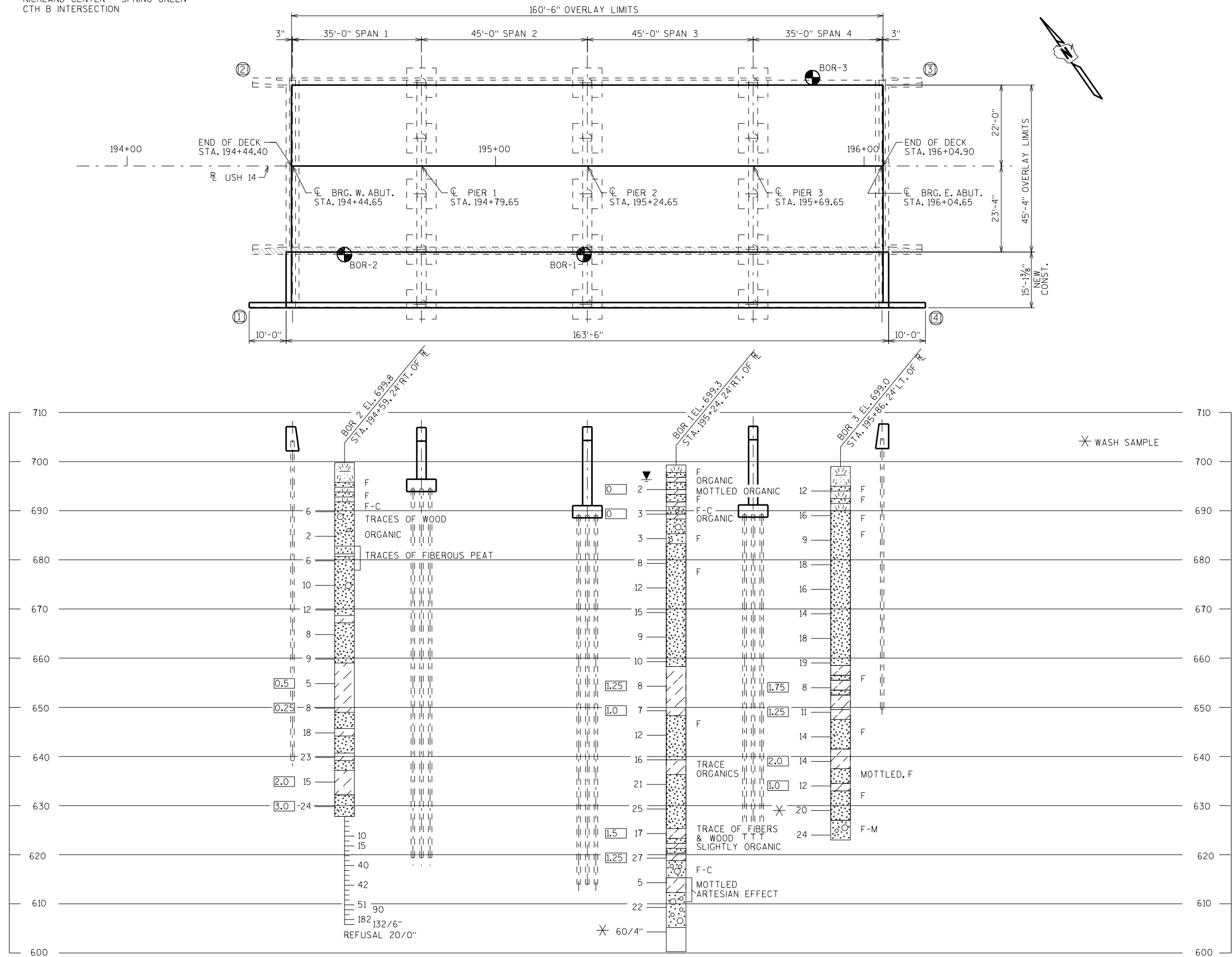
■ ALSO INCLUDES CONCRETE FOR BID ITEMS: PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2 AND FULL-DEPTH DECK REPAIR

☆ CONCRETE SURFACE REPAIR REQ'D. (PRIMARILY ON SUBSTRUCTURE AND EXISTING PARAPETS). LOCATIONS TO BE DETERMINED BY THE ENGINEER.

⊗ FIELD ENGINEER TO VERIFY QUANTITY AND LOCATION PRIOR TO ANODE INSTALLATION

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE		B-52-55	
		DRAWN BY	DDS
		PLANS CK'D.	EMK
QUANTITIES & GENERAL NOTES			SHEET 2

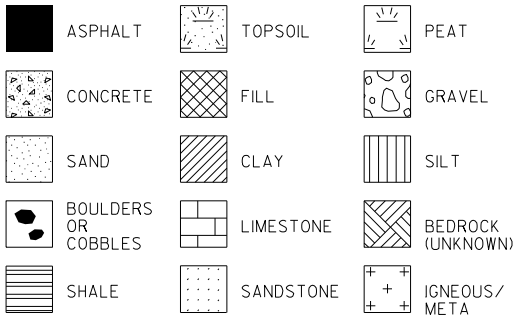
RICHLAND CENTER - SPRING GREEN
CTH B INTERSECTION



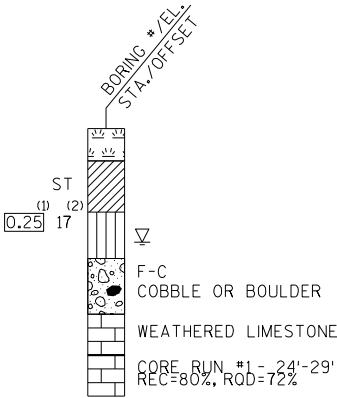
STATE PROJECT NUMBER

1647-09-74

MATERIAL SYMBOLS



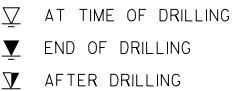
LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION



ABBREVIATIONS

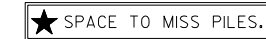
F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-52-55			
DRAWN BY PR/DDS		PLANS CKD. EMK	
SUBSURFACE EXPLORATION		SHEET 3	

SCALE =



ELEVATION - LOOKING WEST



PLAN



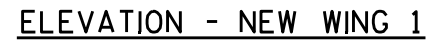
PILE PLAN



- (A01) CONSTRUCTION JOINT: KEYWAY FORMED BY A BEVELED 2 X 6.
- (A09) SUPPORT ABUTMENT ON 10 $\frac{3}{4}$ " DIA. X 0.25" WALL CAST-IN-PLACE CONC. PILING, ESTIMATED 65'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 50 TONS PER PILE.
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SCREEN REQUIRED. SEE WEST ABUTMENT DETAILS SHEET.
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. 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.
- (A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- (A22) A507 BARS @ 1'-0" CTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONCRETE.)
- (A30) MASONRY ANCHORS TYPE L NO. 8 BARS, EMBED 1'-8" INTO EXISTING CONCRETE.



NO.	DATE	REVISION			BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION					
STRUCTURE			B-52-55		
		DRAWN BY	DDS	PLANS CK'D.	EMK
WEST ABUTMENT				SHEET 4	



- ## BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A401		21	9'-9"	X		BODY - VERT. - F.F.
A402		21	9'-8"	X		BODY - VERT. - B.F.
A603		12	14'-7"			BODY - HORIZ.
A504		7	14'-7"			BODY - HORIZ. - B.F.
A405		2	28'-0"	X		PILE - VERT. - 1PER BODY PILE
A406		4	2'-3"			PILE - VERT. - 2 PER BODY PILE
A507	X	14	2'-0"			DOWEL BARS
A808	X	12	3'-8"			ANCHOR BARS - NEW ABUT. TO OLD ABUT.
A509	X	14	8'-2"	X		WING 1 - VERT.
A510	X	11	15'-6"	X		WING 1 - STIRRUP
A511	X	6	12'-3"			WING 1 - HORIZ. - F.F.
A512	X	8	12'-3"			WING 1 - HORIZ.
A413	X	6	9'-8"			WING 1 - HORIZ.
A614	X	2	9'-8"			WING 1 - HORIZ.



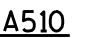
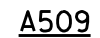
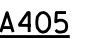
SECTION B-B

RODENT SHIELD DETAIL

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 EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

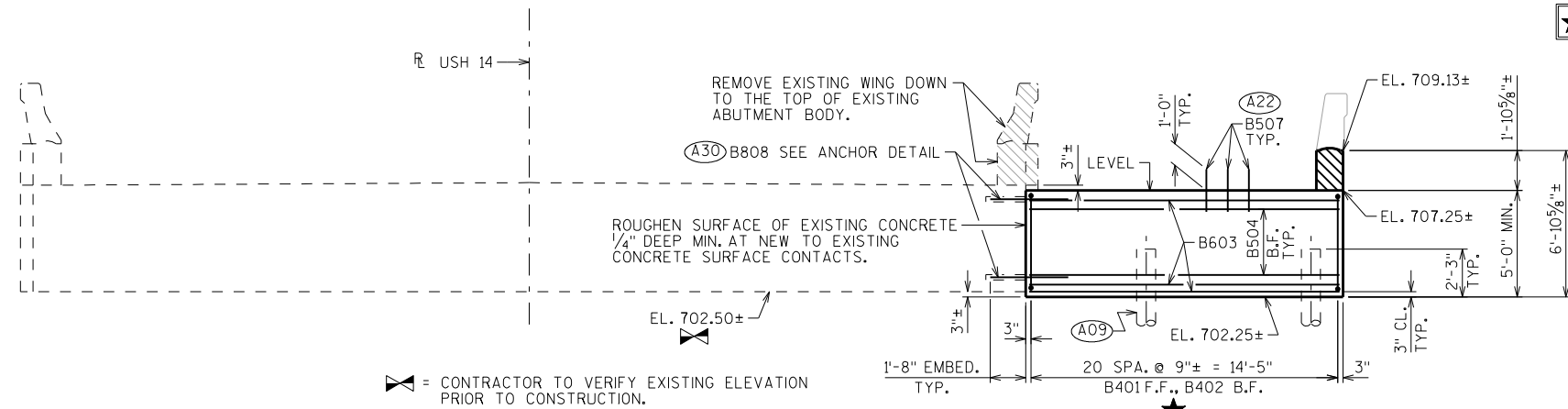


PILE DETAILS

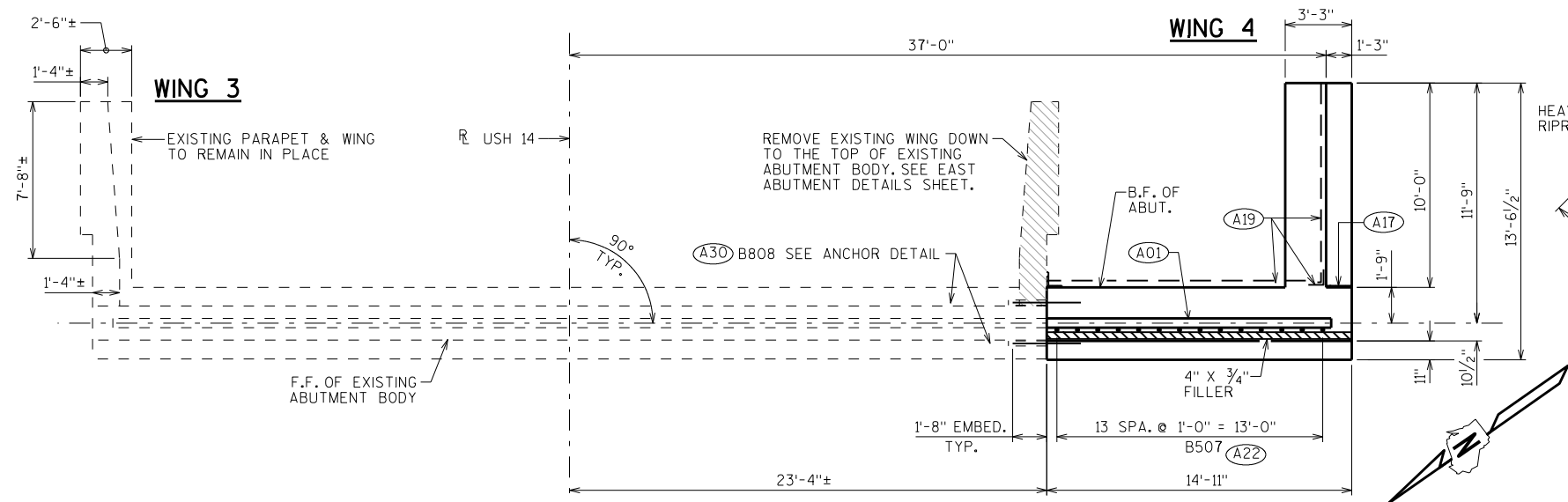


NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE		B-52-55	
		DRAWN BY	PLANS CK'D. EMK
WEST ABUTMENT DETAILS		SHEET 5	

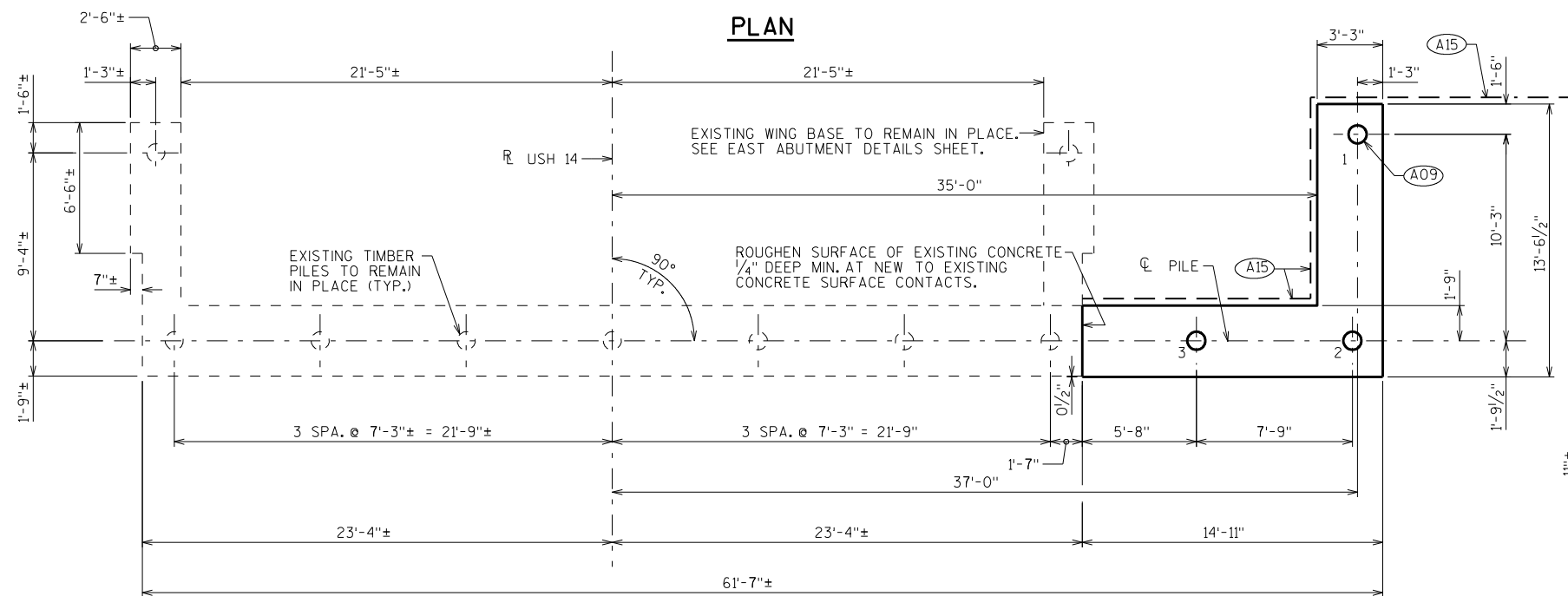
★ SPACE TO MISS PILES.



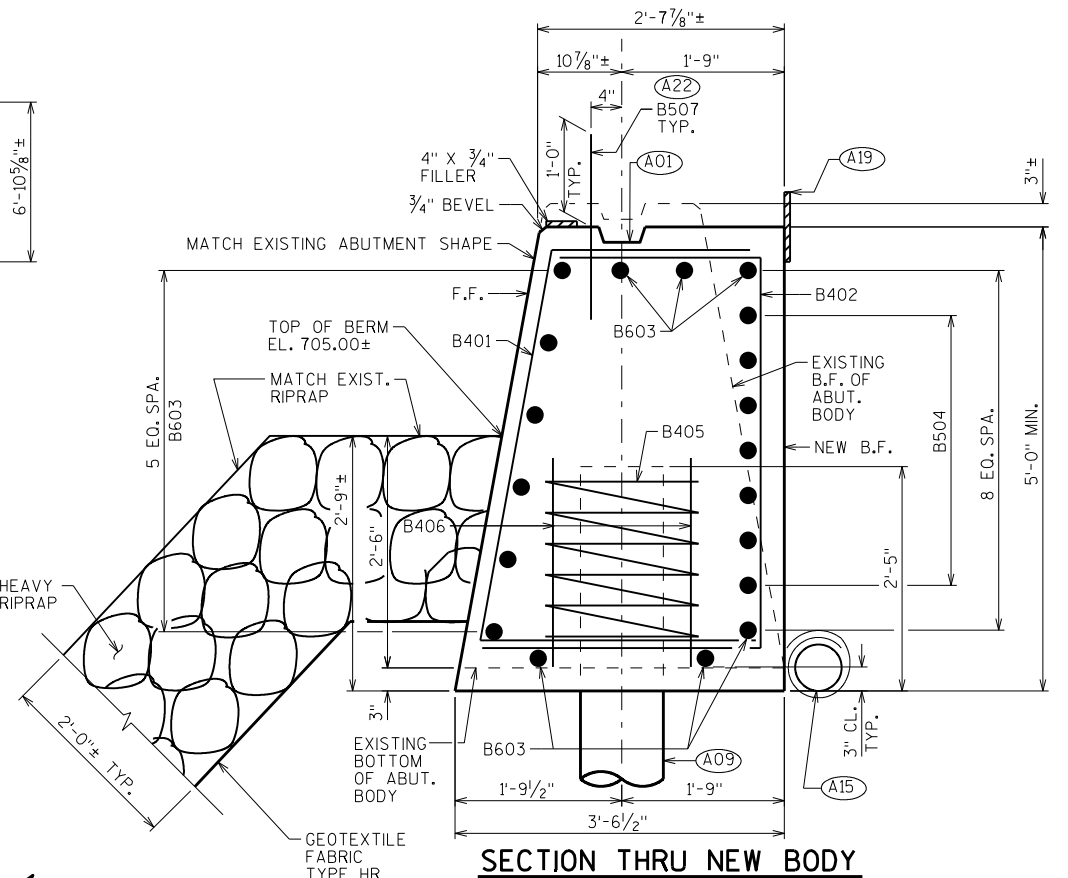
ELEVATION - LOOKING EAST



PLAN

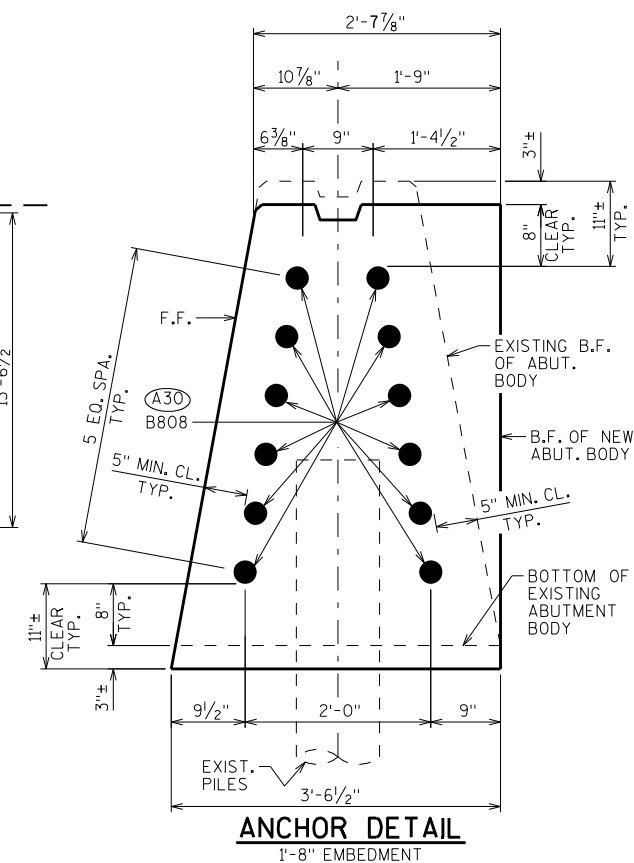


PILE PLAN



SECTION THRU NEW BODY

- (A01) CONSTRUCTION JOINT: KEYWAY FORMED BY A BEVELED 2 X 6.
- (A09) SUPPORT ABUTMENT ON 10 3/4" DIA. X 0.25" WALL CAST-IN-PLACE CONC. PILING, ESTIMATED 55'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 50 TONS PER PILE.
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SCREEN REQUIRED. SEE EAST ABUTMENT DETAILS SHEET.
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. 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.
- (A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- (A22) B507 BARS @ 1'-0" CTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONCRETE.)
- (A30) MASONRY ANCHORS TYPE L NO. 8 BARS, EMBED 1'-8" INTO EXISTING CONCRETE.

ANCHOR DETAIL
1'-8" EMBEDMENT

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-52-55			
DRAWN BY DDS		PLANS CKD. EMK	
EAST ABUTMENT			SHEET 6

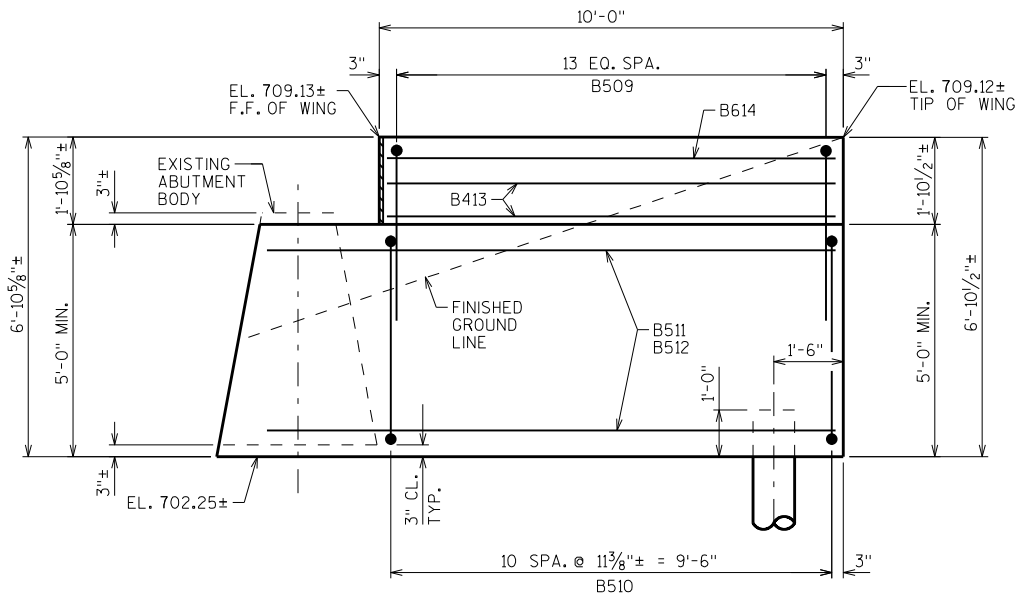
BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

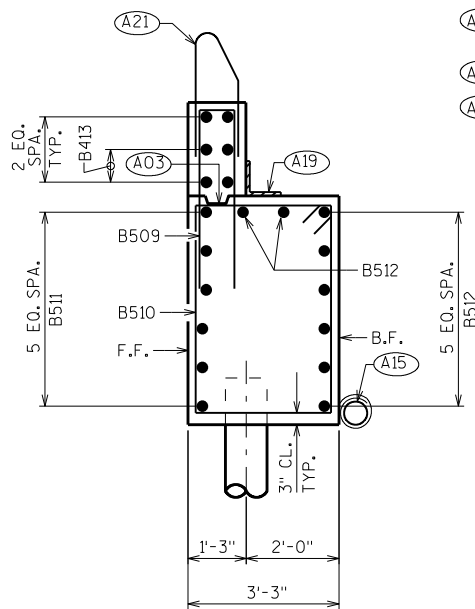
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B401		21	9'-9"	X		BODY - VERT. - F.F.
B402		21	9'-8"	X		BODY - VERT. - B.F.
B603		12	14'-7"			BODY - HORIZ.
B504		7	14'-7"			BODY - HORIZ. - B.F.
B405		2	28'-0"	X		PILE - VERT. - 1 PER BODY PILE
B406		4	2'-3"			PILE - VERT. - 2 PER BODY PILE
B507	X	14	2'-0"			DOWEL BARS
B808	X	12	3'-8"			ANCHOR BARS - NEW ABUT. TO OLD ABUT.
B509	X	14	8'-2"	X		WING 4 - VERT.
B510	X	11	15'-6"	X		WING 4 - STIRRUP
B511	X	6	12'-3"			WING 4 - HORIZ. - F.F.
B512	X	8	12'-3"			WING 4 - HORIZ.
B413	X	4	9'-8"			WING 4 - HORIZ.
B614	X	2	9'-8"			WING 4 - HORIZ.

(A30)

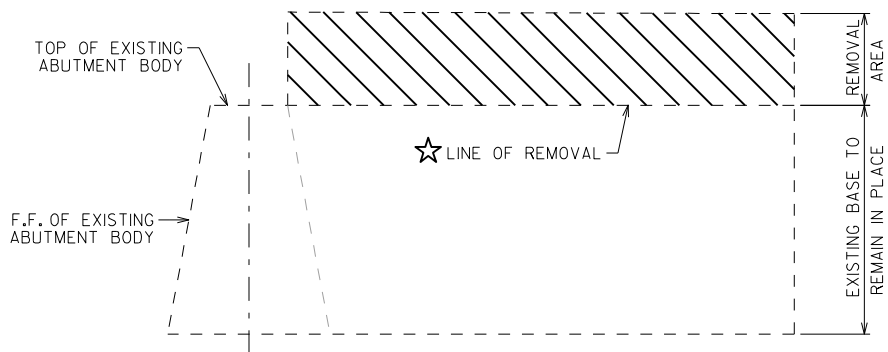
- (A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" R.M.W. @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SCREEN REQUIRED.
- (A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- (A21) FOR PPT. BARS & DIMENSION SEE PARAPET SHT.
- (A30) MASONRY ANCHORS TYPE L NO. 8 BARS, EMBED 1'-8" INTO EXISTING CONCRETE.



ELEVATION - NEW WING 4

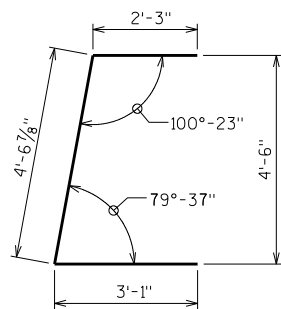


SECTION THRU NEW WING 4

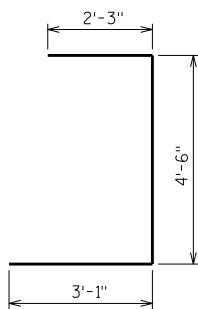


ELEVATION - EXISTING/ORIGINAL WING 4

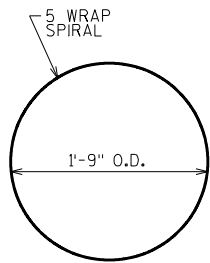
★ CUT ALL VERTICAL REINFORCEMENT OFF FLUSH WITH THE LINE OF REMOVAL. THEN EPOXY COAT EXPOSED ENDS OF REINFORCEMENT PRIOR TO BACKFILLING. ALL OF THIS SHALL BE CONSIDERED INCIDENTAL TO AND BE PAID FOR UNDER BID ITEM "REMOVING OLD STRUCTURE OVER WATERWAY STA. 195+25.00".



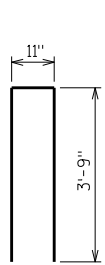
B401



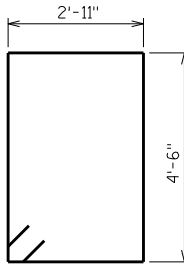
B402



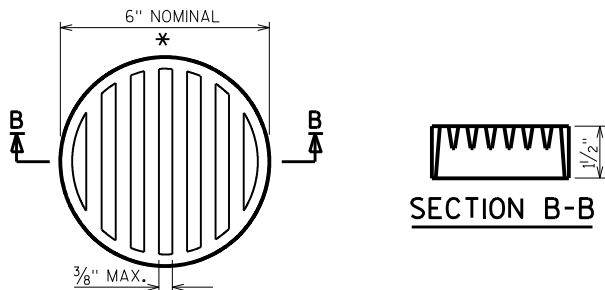
B405



B509



B510



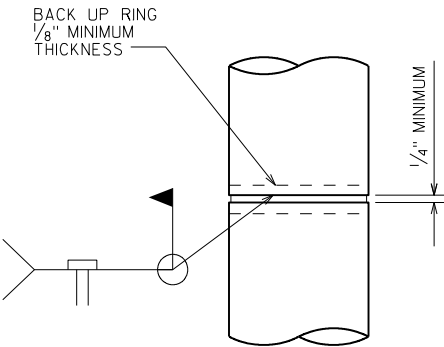
SECTION B-B

RODENT SHIELD DETAIL

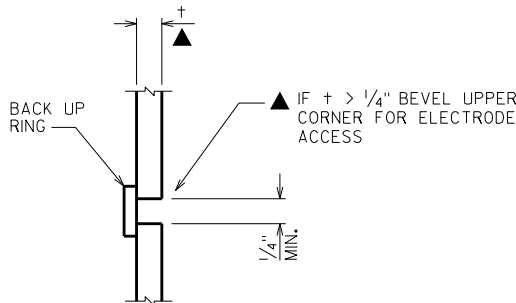
* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

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 EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



CAST-IN-PLACE 'PIPE PILE'



C.I.P. PILE WELD DETAIL

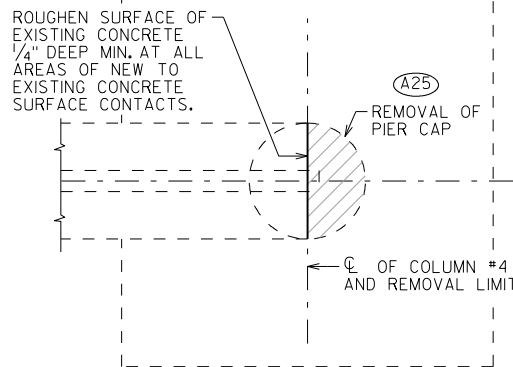
PILE DETAILS

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-52-55			
DRAWN BY DDS		PLANS CK'D. EMK	
EAST ABUTMENT DETAILS		SHEET 7	

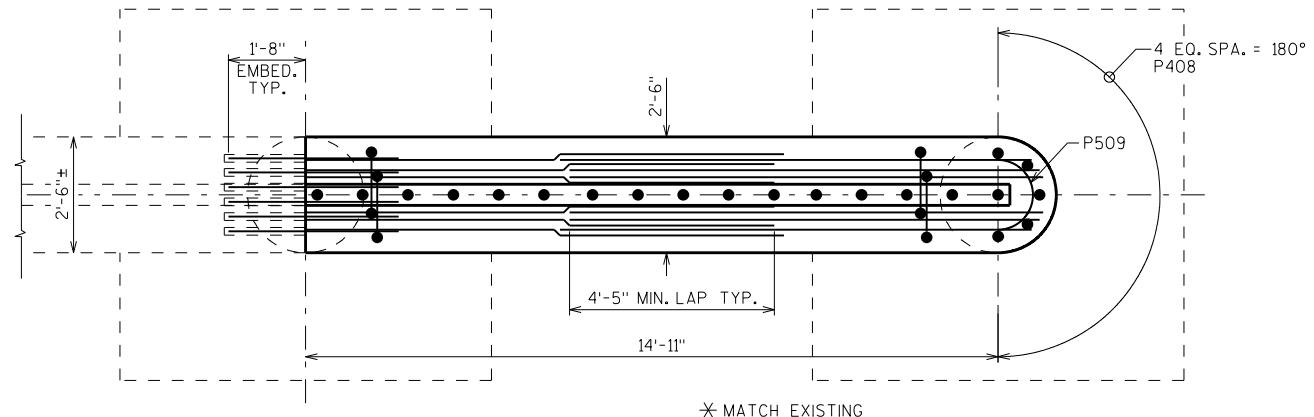
BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BEV'T	BAR SERIES	LOCATION
P701	X	16	7'-8"			FOOTING - HORIZ.
P902	X	14	13'-3"	X		FOOTING/COLUMN/CAP - VERT.
P403	X	9	9'-6"	X		COLUMN - HORIZ.
P404	X	26	8'-4"	X		CAP - STIRRUP
P705	X	16	10'-2"			CAP - HORIZ. - BOTTOM
P506	X	2	15'-4"			CAP - HORIZ. - SIDES
P707	X	12	10'-2"			CAP - HORIZ. - TOP
P408	X	5	2'-4"			CAP - VERT.
P509	X	3	6'-3"	X		CAP - HORIZ. - END
P510	X	14	3'-6"			ANCHORAGE BARS - BETWEEN NEW AND OLD CAP
P511	X	16	2'-0"			DOWEL BARS

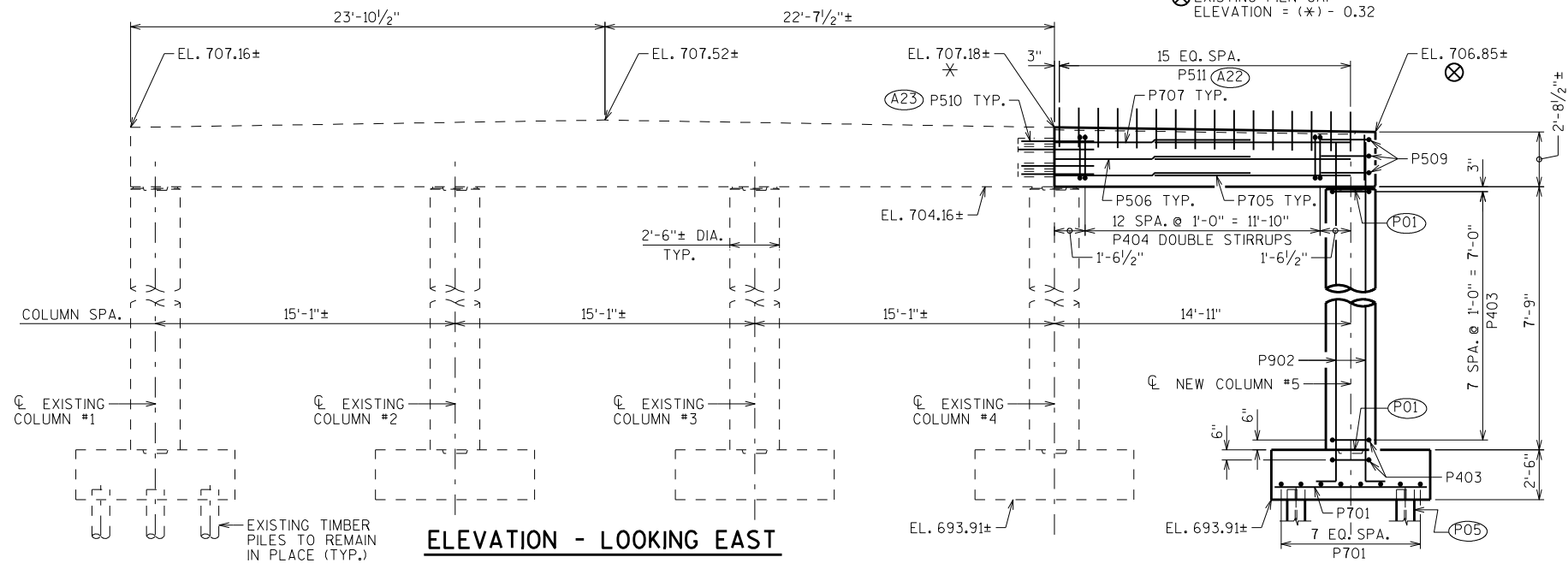
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.



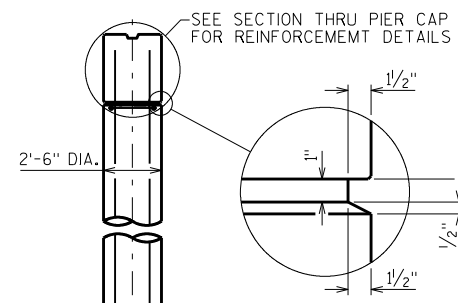
SHOWING PIER CAP REMOVAL



* MATCH EXISTING

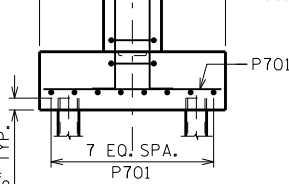
⊗ EXISTING PIER CAP
ELEVATION = (*) - 0.32

ELEVATION - LOOKING EAST

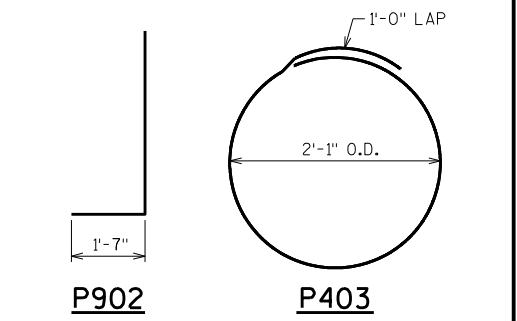


BEVEL DETAIL

TYP. - ALL AROUND

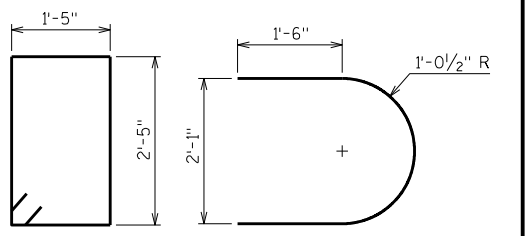


END VIEW



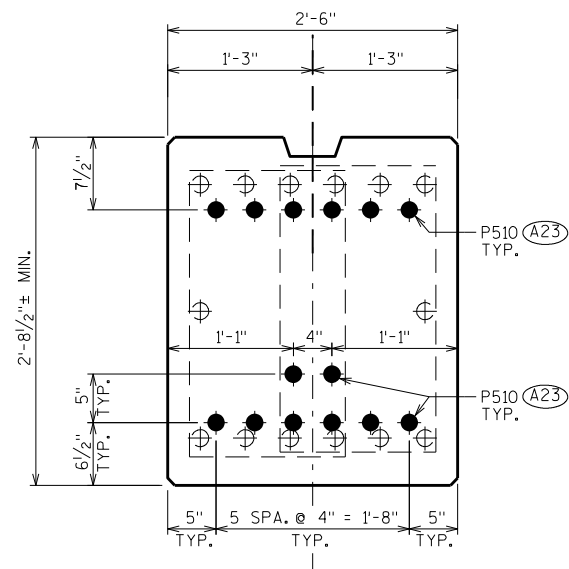
P902

P403

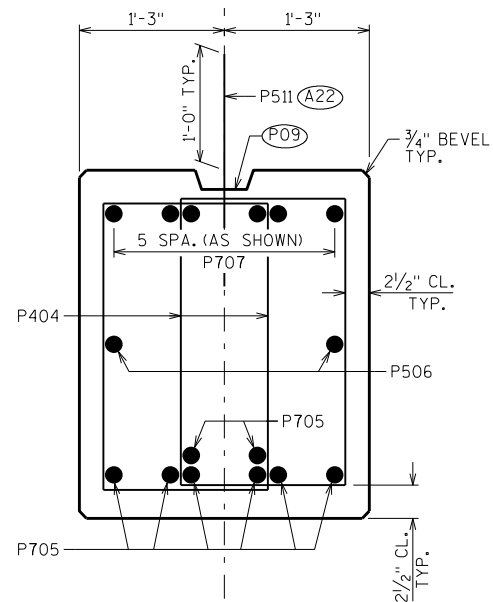


P404

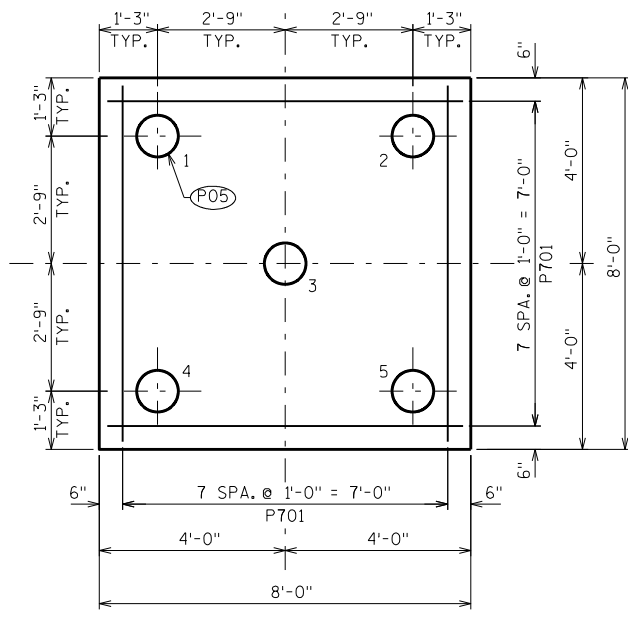
P509



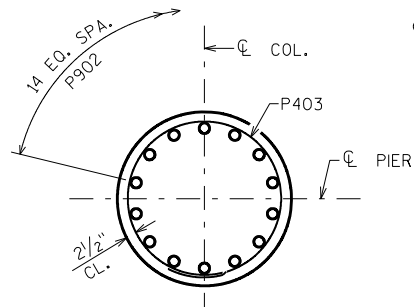
ANCHORAGE PATTERN



SECTION THRU PIER CAP



FOOTING/PILE PLAN



SECTION THRU COLUMN

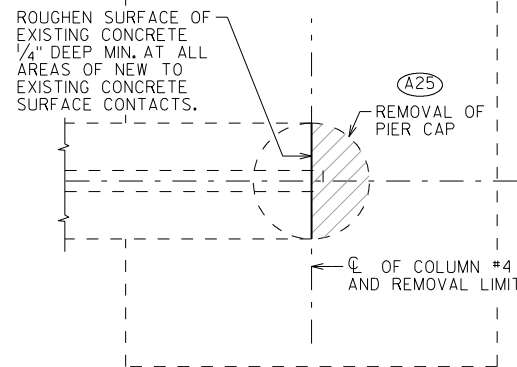
- (A22) P511 BARS @ 1'-0" CTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)
- (A23) MASONRY ANCHORS TYPE L NO. 5 BARS, EMBED 1'-8" INTO EXISTING CONCRETE.
- (A25) SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.
- (P01) 1'-3" X 1'-3" X 2" DEEP CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY.
- (P05) SUPPORT PIER ON 10 3/4" DIA. X 0.25" WALL CAST-IN-PLACE CONCRETE PILING, ESTIMATED 75'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 65 TONS PER PILE.
- (P09) KEYED CONSTRUCTION JOINT-FORMED BY BEVELED 2 X 6.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-52-55			
DRAWN BY DDS		PLANS CKD. EMK	
PIER 1 DETAILS		SHEET 8	

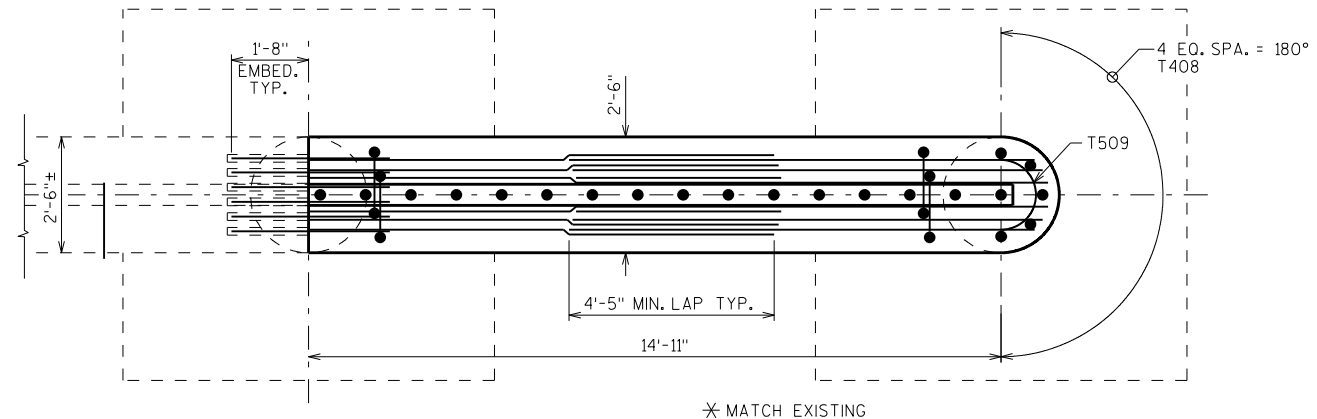
BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BEV'T	BAR SERIES	LOCATION
T701		16	7'-8"			FOOTING - HORIZ.
T902	X	14	18'-9"	X		FOOTING/COLUMN/CAP - VERT.
T403	X	15	9'-6"	X		COLUMN - HORIZ.
T404	X	26	8'-4"	X		CAP - STIRRUP
T705	X	16	10'-2"			CAP - HORIZ. - BOTTOM
T506	X	2	15'-4"			CAP - HORIZ. - SIDES
T707	X	12	10'-2"			CAP - HORIZ. - TOP
T408	X	5	2'-5"			CAP - VERT.
T509	X	3	6'-3"	X		CAP - HORIZ. - END
T510	X	14	3'-6"			ANCHORAGE BARS - BETWEEN NEW AND OLD CAP
T511	X	16	2'-0"			DOWEL BARS

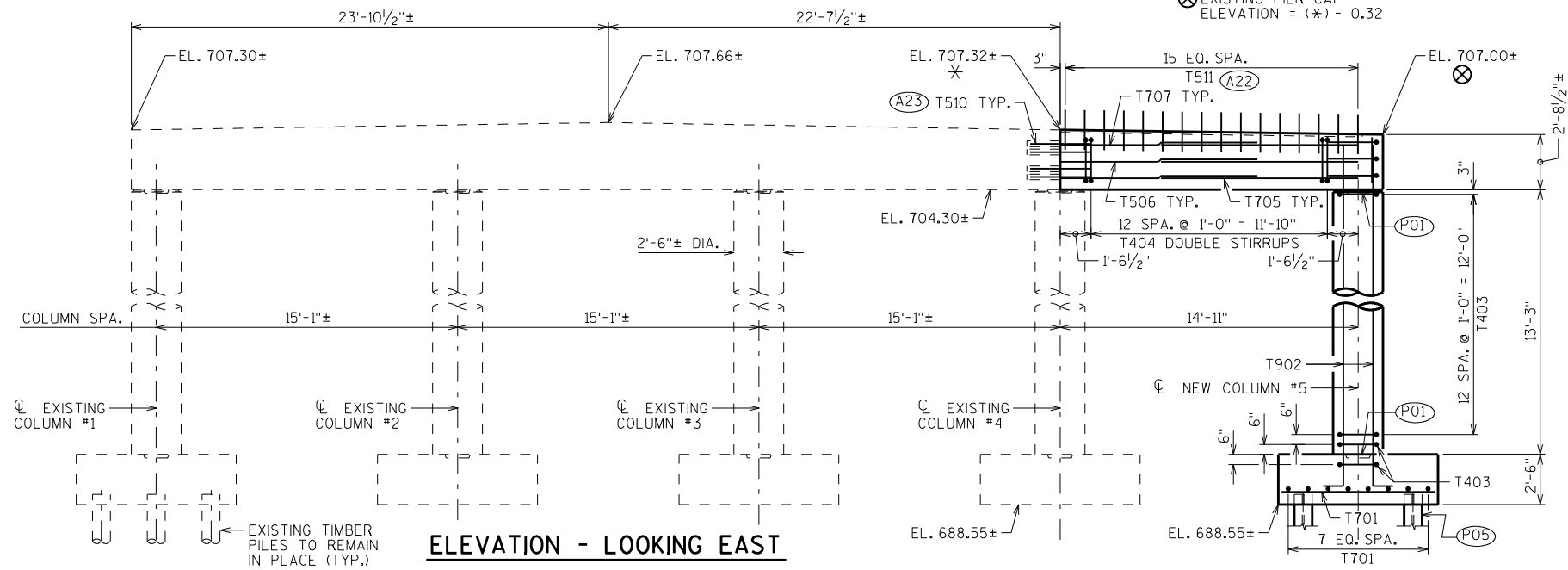
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.



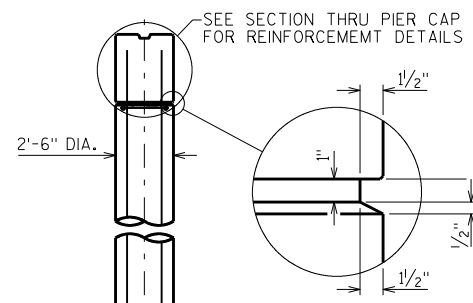
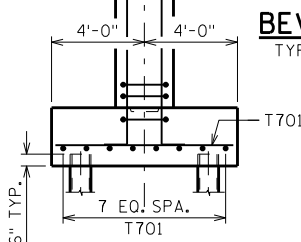
SHOWING PIER CAP REMOVAL



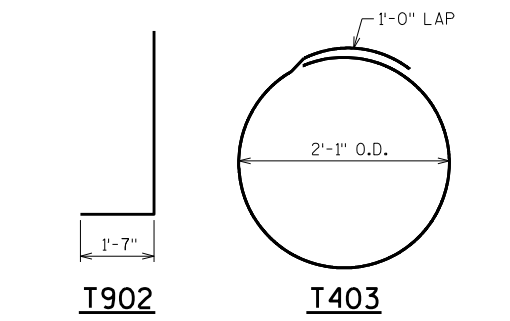
* MATCH EXISTING

⊗ EXISTING PIER CAP
ELEVATION = (*) - 0.32

ELEVATION - LOOKING EAST

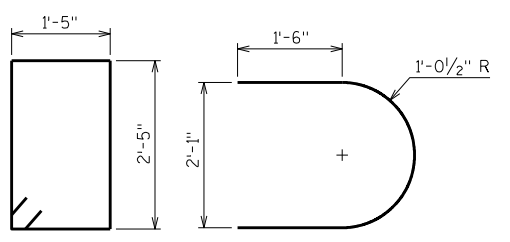
BEVEL DETAIL
TYP. - ALL AROUND

END VIEW



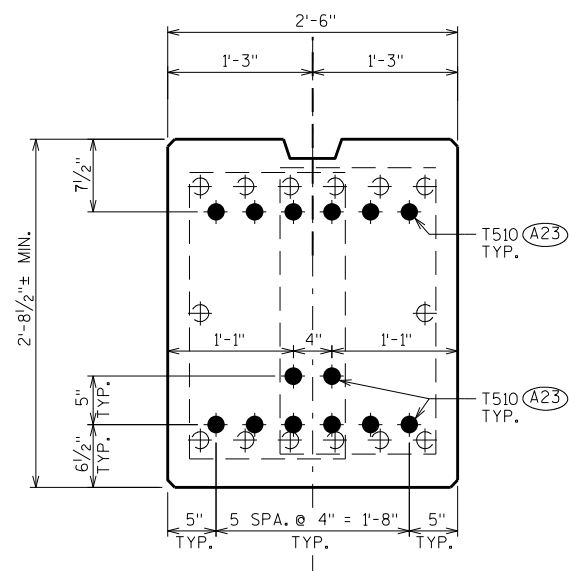
T902

T403

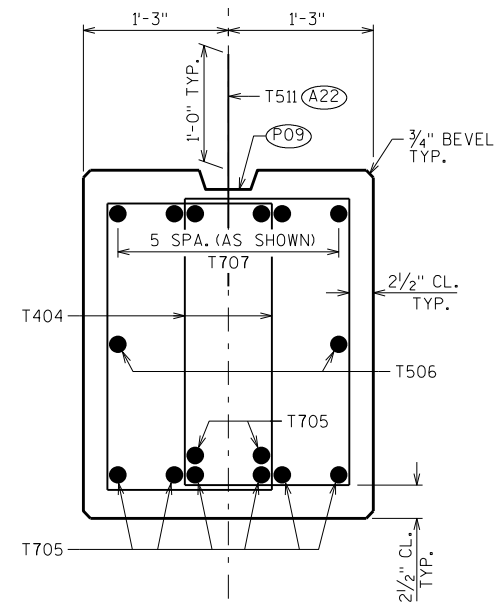


T404

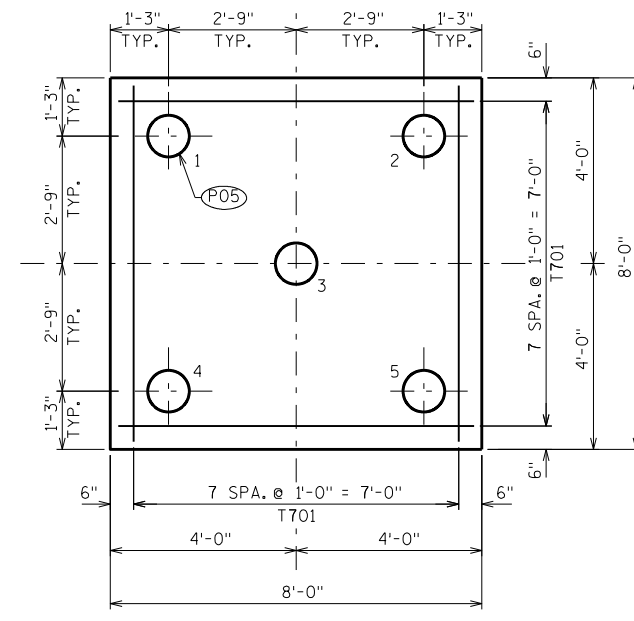
T509



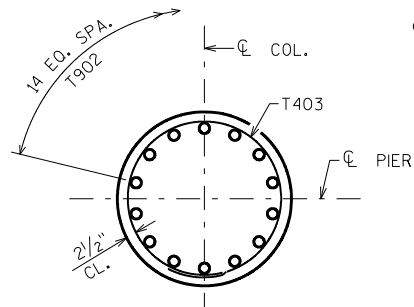
ANCHORAGE PATTERN



SECTION THRU PIER CAP



FOOTING/PILE PLAN



SECTION THRU COLUMN

- (A22) T511 BARS @ 1'-0" CTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)
- (A23) MASONRY ANCHORS TYPE L NO. 5 BARS, EMBED 1'-8" INTO EXISTING CONCRETE.
- (A25) SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.
- (P01) 1'-3" X 1'-3" X 2" DEEP CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY.
- (P05) SUPPORT PIER ON 10 3/4" DIA. X 0.25" WALL CAST-IN-PLACE CONCRETE PILING, ESTIMATED 75'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 65 TONS PER PILE.
- (P09) KEYED CONSTRUCTION JOINT-FORMED BY BEVELED 2 X 6.

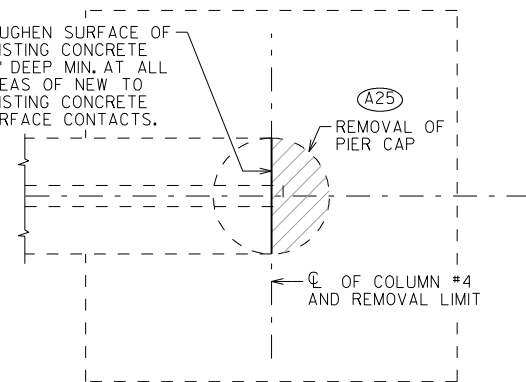
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-52-55			
DRAWN BY DDS		PLANS CKD. EMK	
PIER 2 DETAILS		SHEET 9	

BILL OF BARS

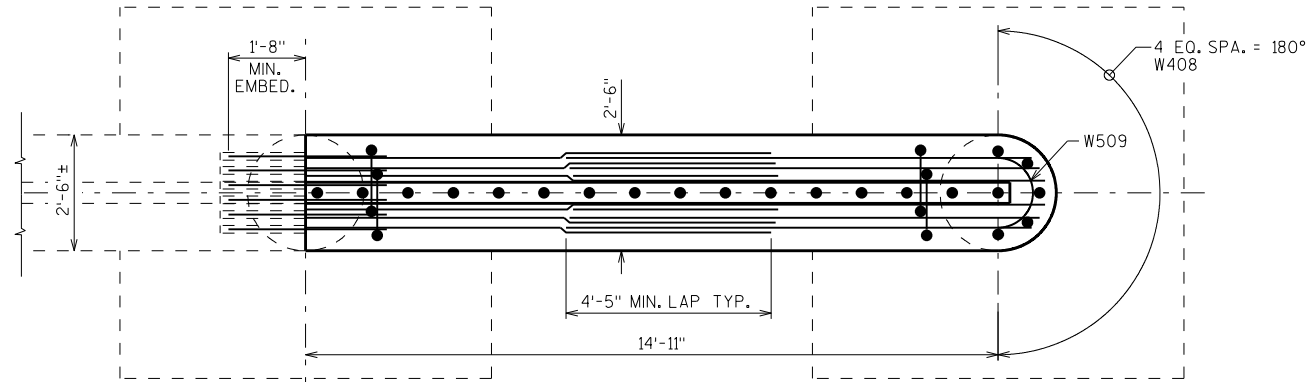
BAR MARK	COAT	NO. REQ'D.	LENGTH	BEV'T	BAR SERIES	LOCATION
W701	X	16	7'-8"			FOOTING - HORIZ.
W902	X	14	18'-9"	X		FOOTING/COLUMN/CAP - VERT.
W403	X	15	9'-6"	X		COLUMN - HORIZ.
W404	X	26	8'-4"	X		CAP - STIRRUP
W705	X	16	10'-2"			CAP - HORIZ. - BOTTOM
W506	X	2	15'-4"			CAP - HORIZ. - SIDES
W707	X	12	10'-2"			CAP - HORIZ. - TOP
W408	X	5	2'-4"			CAP - VERT.
W509	X	3	6'-3"	X		CAP - HORIZ. - END
W510	X	14	3'-6"			ANCHORAGE BARS - BETWEEN NEW AND OLD CAP
W511	X	16	2'-0"			DOWEL BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

ROUGHEN SURFACE OF EXISTING CONCRETE 1/4" DEEP MIN. AT ALL AREAS OF NEW TO EXISTING CONCRETE SURFACE CONTACTS.

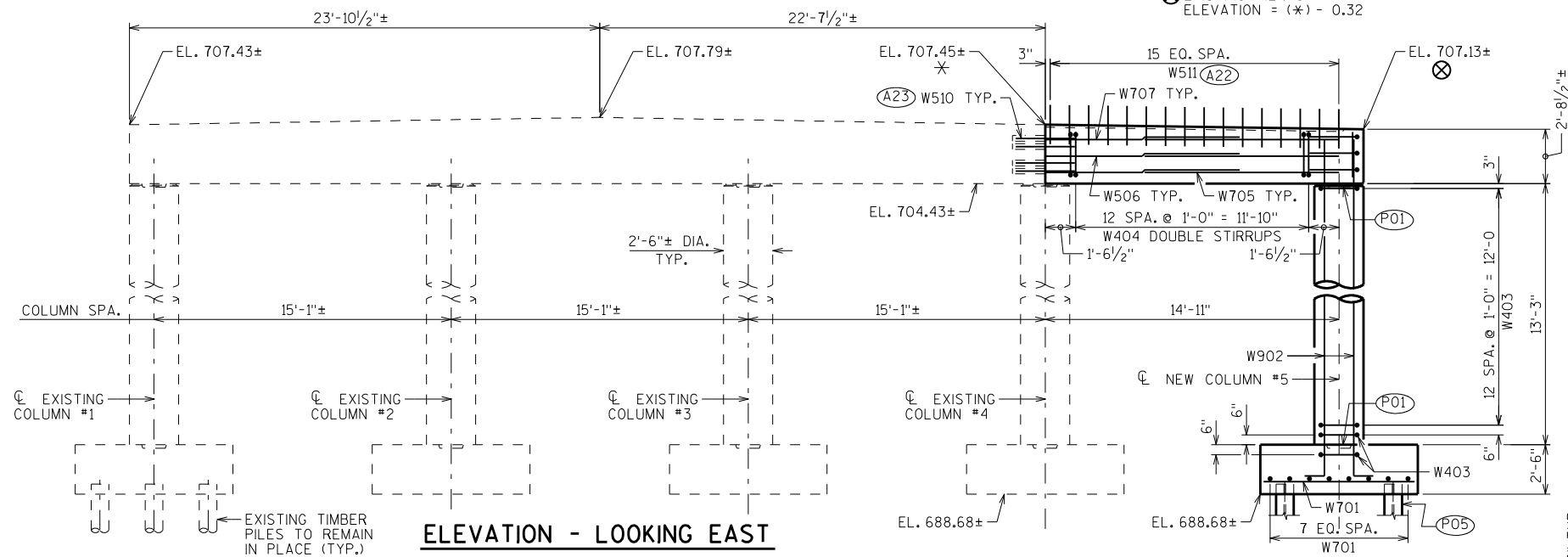


SHOWING PIER CAP REMOVAL

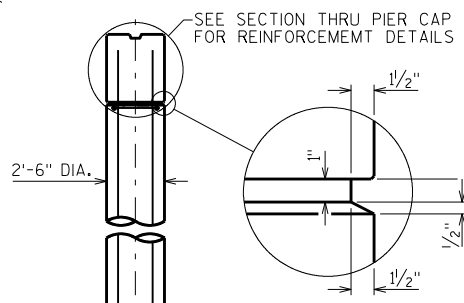
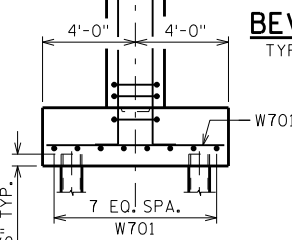


* MATCH EXISTING

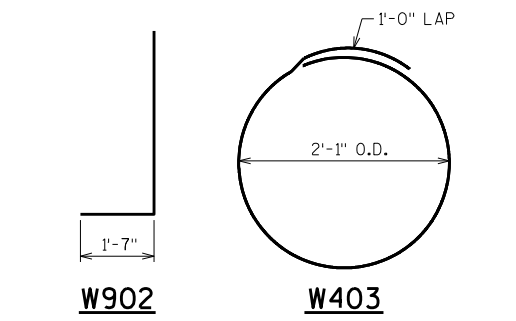
⊗ EXISTING PIER CAP
ELEVATION = (*) - 0.32



ELEVATION - LOOKING EAST

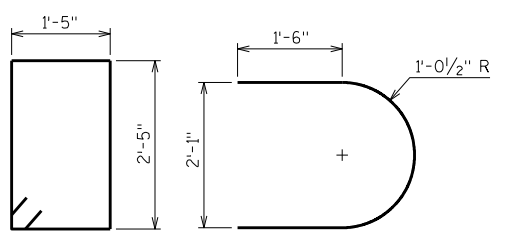
BEVEL DETAIL
TYP. - ALL AROUND

END VIEW



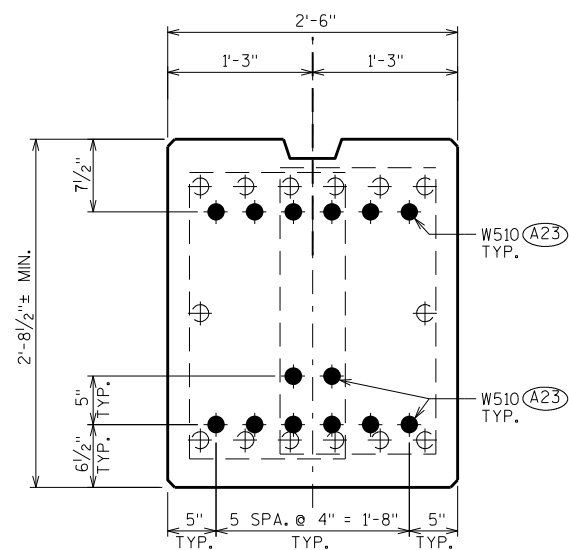
W902

W403

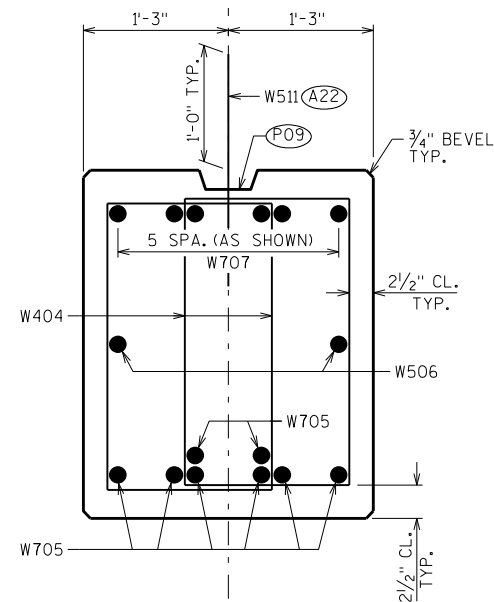


W404

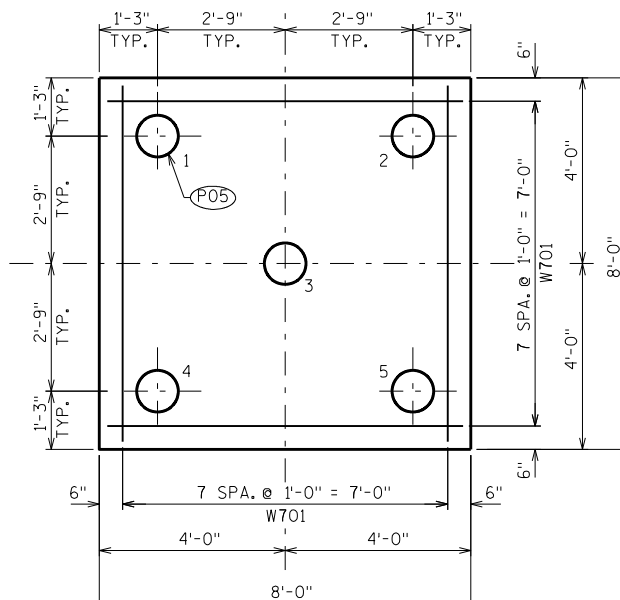
W509



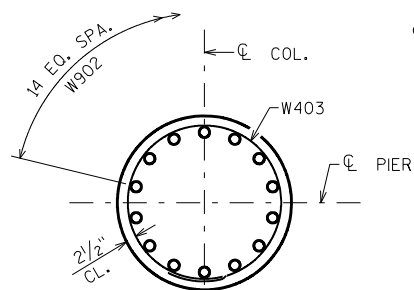
ANCHORAGE PATTERN



SECTION THRU PIER CAP



FOOTING/PILE PLAN

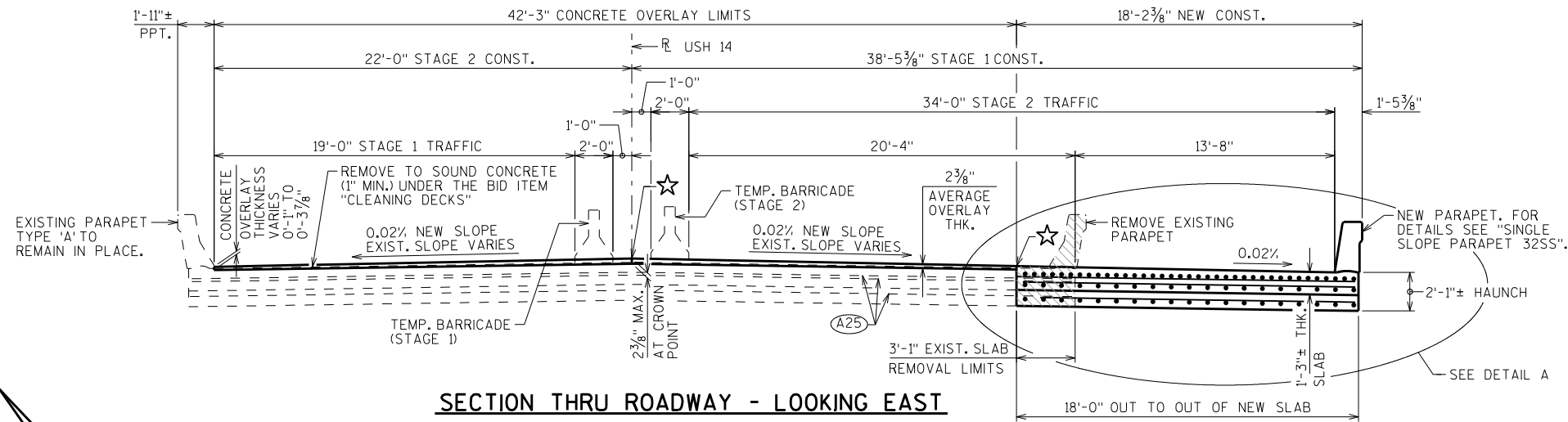


SECTION THRU COLUMN

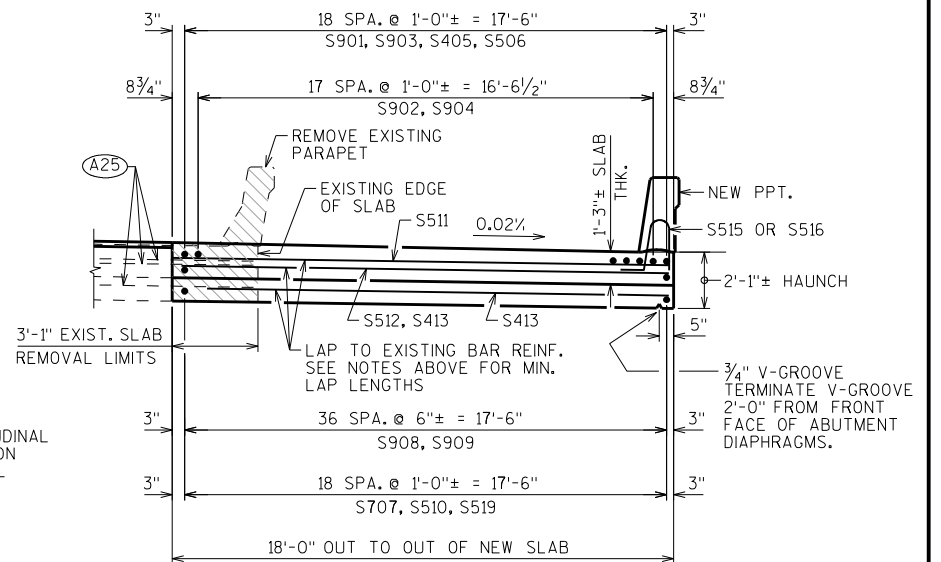
- (A22) W511 BARS @ 1'-0" CTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)
- (A23) MASONRY ANCHORS TYPE L NO. 5 BARS, EMBED 1'-8" INTO EXISTING CONCRETE.
- (A25) SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.
- (P01) 1'-3" X 1'-3" X 2" DEEP CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY.
- (P05) SUPPORT PIER ON 10 3/4" DIA. X 0.25" WALL CAST-IN-PLACE CONCRETE PILING, ESTIMATED 65'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 65 TONS PER PILE.
- (P09) KEYED CONSTRUCTION JOINT-FORMED BY BEVELED 2 X 6.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-52-55			
DRAWN BY DDS		PLANS CKD. EMK	
PIER 3 DETAILS		SHEET 10	

S511 BARS = 2'-11" MIN. LAP WITH EXIST. REINF.
 S512 BARS = 2'-7" MIN. LAP WITH EXIST. REINF.
 S413 BARS = 1'-8" MIN. LAP WITH EXISTING REINF.



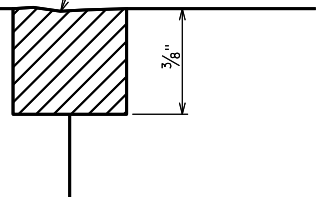
SECTION THRU ROADWAY - LOOKING EAST



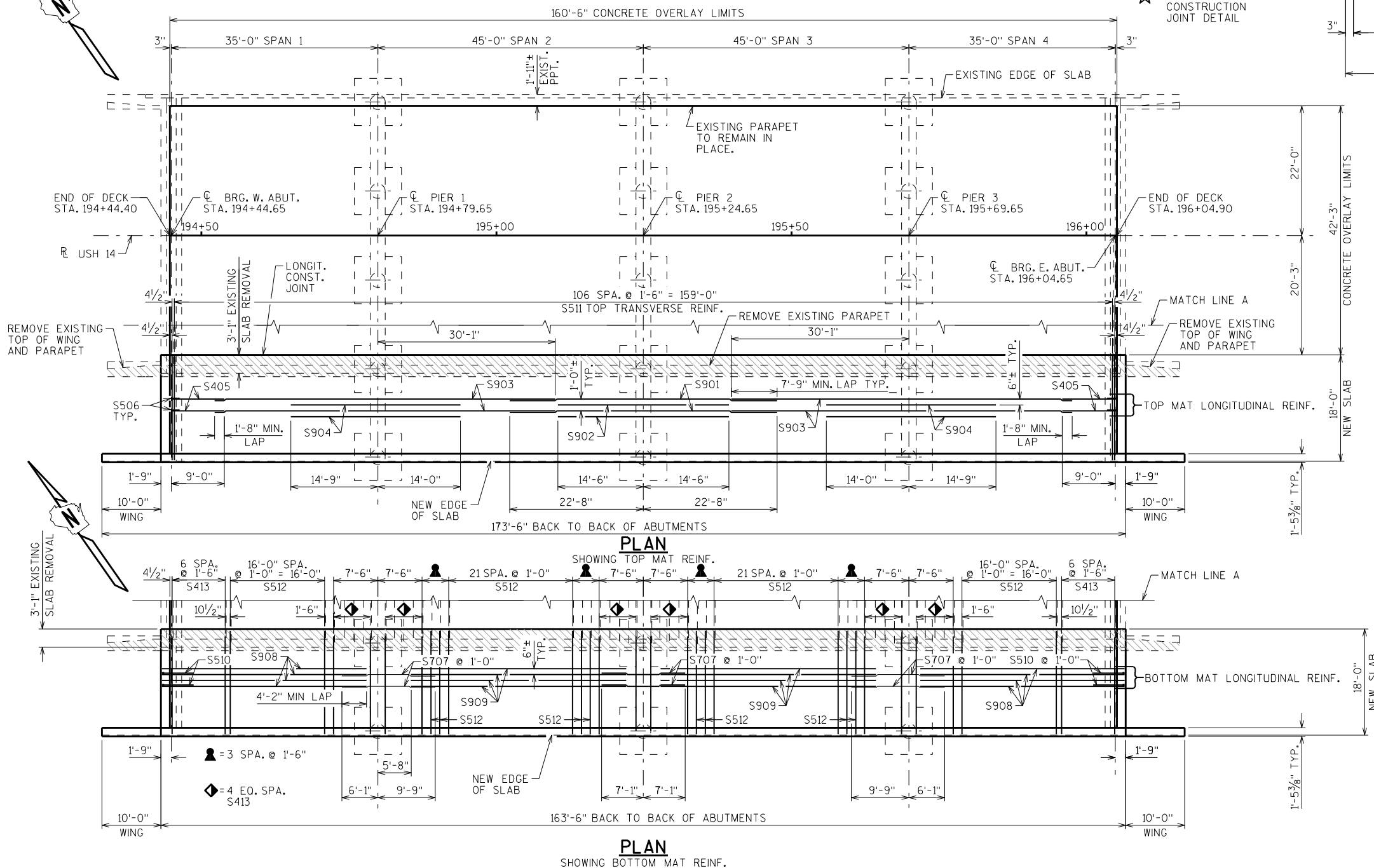
DETAIL A

(A25) SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.

ROUTE OUT 1/4" X 3/8" DEEP AT JOINT. FILL IN WITH POURABLE EPOXY CRACK SEALER. (INCIDENTAL TO "CONCRETE MASONRY BRIDGES")



LONGITUDINAL CONSTRUCTION JOINT DETAIL



PLAN

PLAN

SHOWING BOTTOM MAT REINF.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-52-55			
DRAWN BY DDS		PLANS CK'D. EMK	
SUPERSTRUCTURE		SHEET 11	

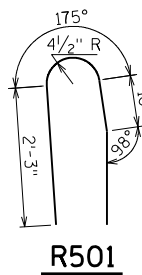


BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S901	X	19	45'-4"			LONGITUDINAL - TOP
S902	X	18	29'-0"			LONGITUDINAL - TOP
S903	X	38	57'-9"			LONGITUDINAL - TOP
S904	X	36	28'-9"			LONGITUDINAL - TOP
S405	X	38	9'-1"			LONGITUDINAL - TOP
S506	X	38	3'-1"	X		ABUT. DIAPH. - VERT.
S707	X	57	15'-10"	X		SLAB HAUNCH - VERT.
S908	X	74	34'-8"			LONGITUDINAL - BOTTOM
S909	X	74	36'-6"			LONGITUDINAL - BOTTOM
S510	X	38	2'-6"			ABUT. DIAPH. - VERT.
S511	X	109	17'-8"			TRANSVERSE - TOP
S512	X	86	17'-8"			TRANSVERSE - BOTTOM
S413	X	44	16'-5"			TRANSVERSE - BOTTOM
S614	X	6	17'-10"			ABUT. DIAPH. - HORIZ.
S515	X	243	4'-5"	X		PARAPET - VERT.
S516	X	2	5'-10"	X		PARAPET - VERT. - AT PAVING NOTCH
S517	X	245	5'-0"	X		PARAPET - VERT.
S518	X	24	42'-2"			PARAPET - HORIZ.
S519	X	16	3'-0"	X		ABUT. DIAPH. - VERT. - E. ABUT. @ NEW ABUT.
S520	X	3	3'-2"	X		ABUT. DIAPH. - VERT. - E. ABUT. @ EXIST. PORTION
S521	X	3	3'-6"	X		ABUT. DIAPH. - VERT. - W. ABUT. @ EXIST. PORTION
S522	X	16	3'-10"	X		ABUT. DIAPH. - VERT. - W. ABUT. @ NEW ABUT.
S523	X	16	2'-10"	X		ABUT. DIAPH. - VERT. - E. ABUT. @ NEW ABUT.
S524	X	3	2'-11"	X		ABUT. DIAPH. - VERT. - E. ABUT. @ EXIST. PORTION
S525	X	3	3'-1"	X		ABUT. DIAPH. - VERT. - W. ABUT. @ EXIST. PORTION
S526	X	16	3'-3"	X		ABUT. DIAPH. - VERT. - W. ABUT. @ NEW ABUT.

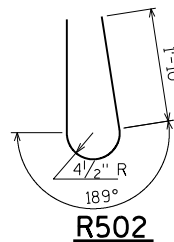
BILL OF BARS

FOR ABUTMENT PARAPETS

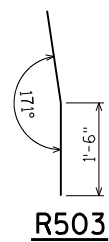
BAR MARK	COAT	WEST ABUT.	EAST ABUT.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	2	2	5-10	X		PARAPET VERT.
R502	X	2	2	5-0	X		PARAPET VERT.
R503	X	12	12	3-0	X		PARAPET VERT.
R504	X	17	17	5-7	X		PARAPET VERT.
R505	X	11	11	4-9	X		PARAPET VERT.
R506	X	6	6	4-10	X		PARAPET VERT.
R507	X	1	1	9-8	X		PARAPET HORIZ.
R508	X	5	5	9-8			PARAPET HORIZ.



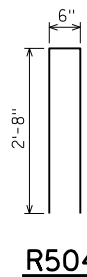
R501



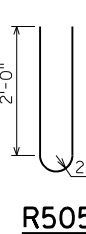
R502



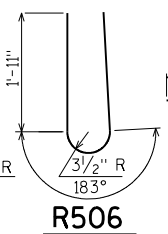
R503



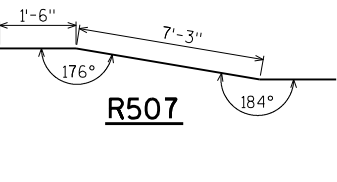
R504



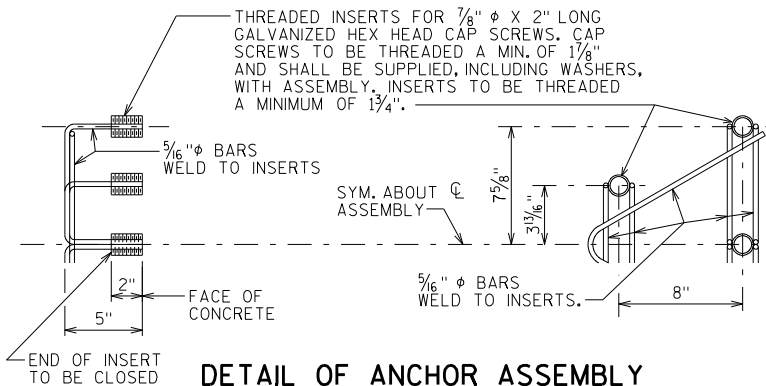
R505



R506



R507

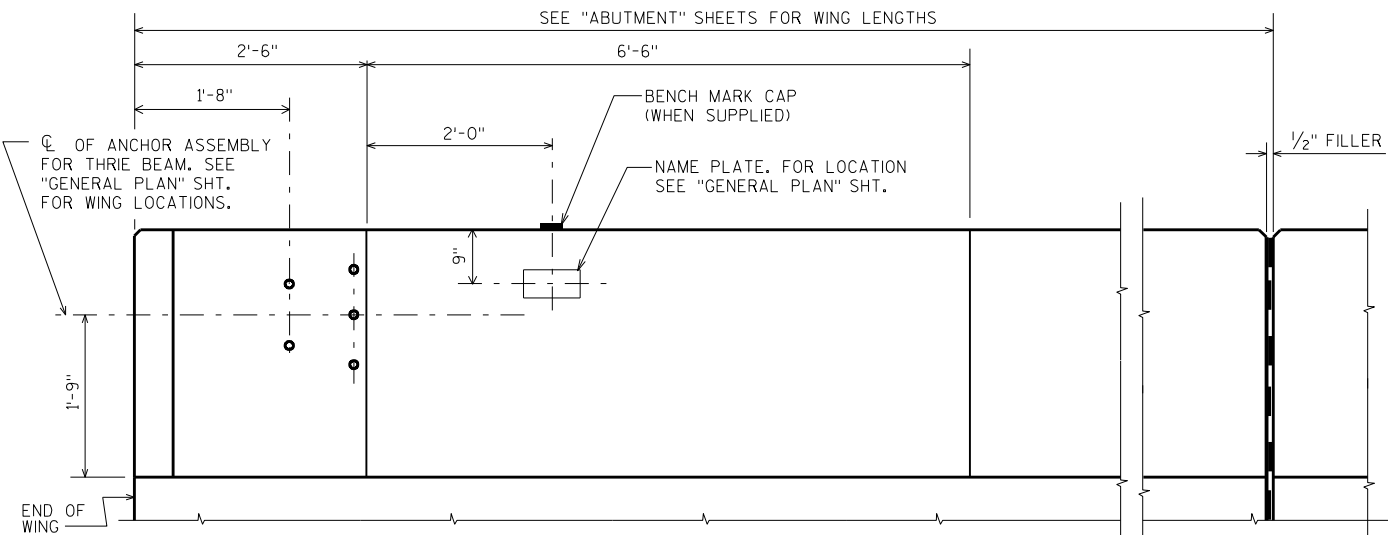


DETAIL OF ANCHOR ASSEMBLY

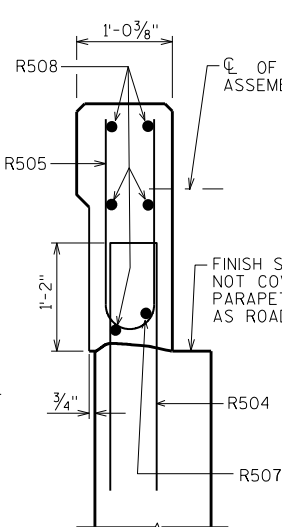
NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

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

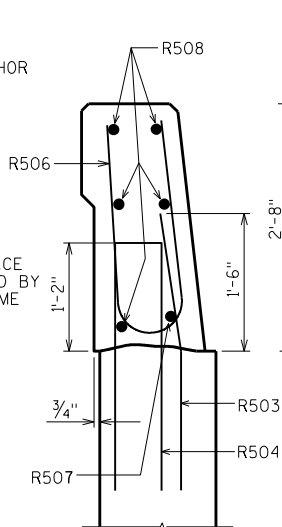
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-52-55			
DRAWN BY DDS		PLANS CKD. EMK	
SINGLE SLOPE PARAPET 32SS			SHEET 13



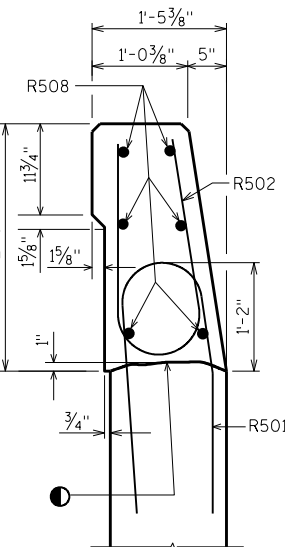
INSIDE ELEVATION



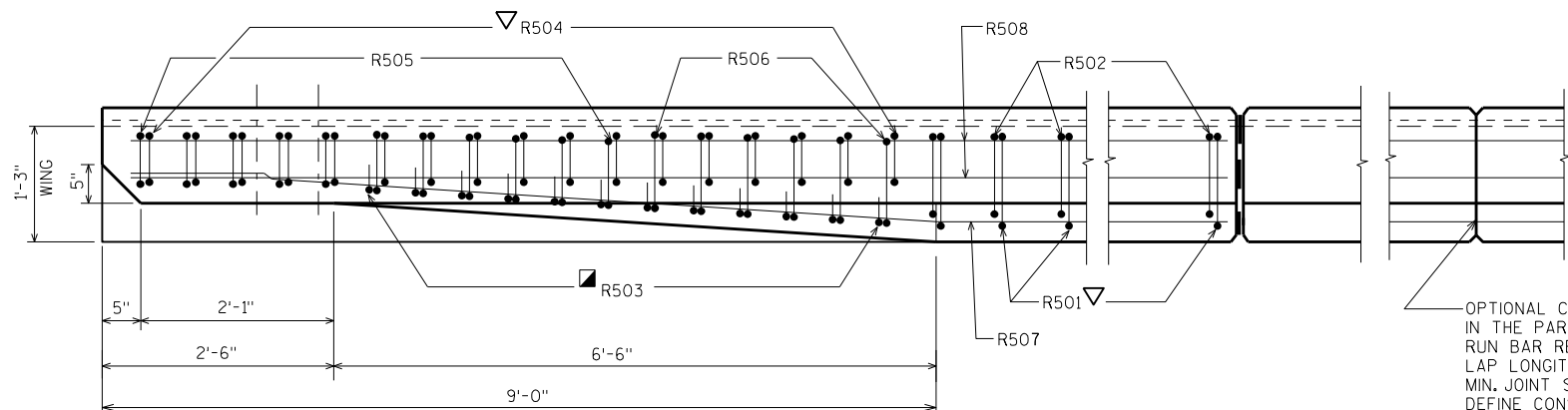
SECTION A



SECTION B

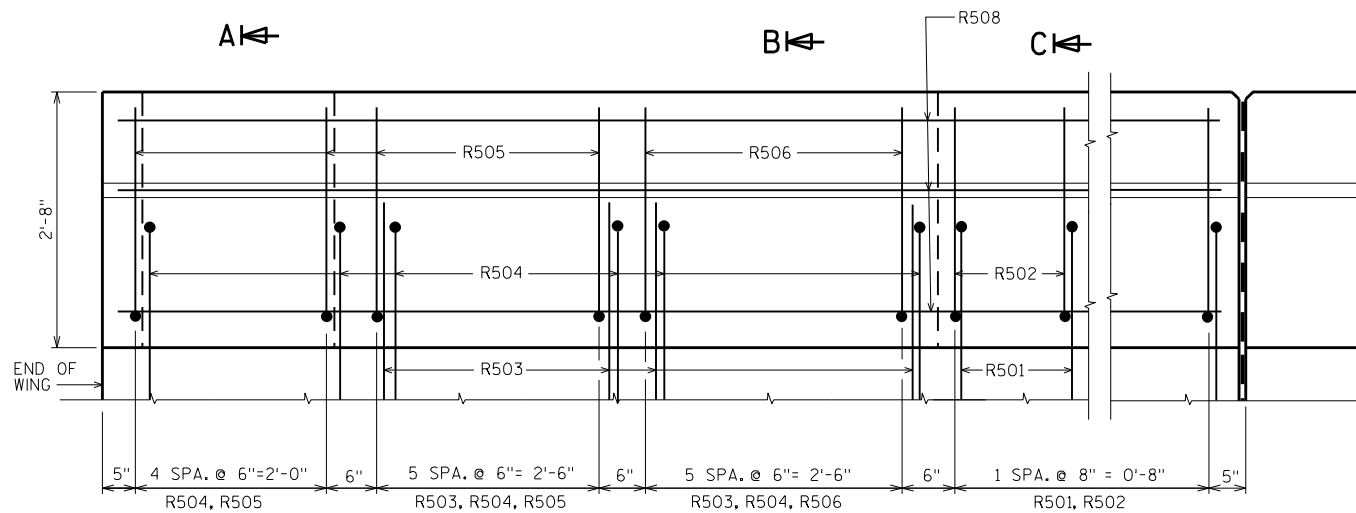


SECTION C

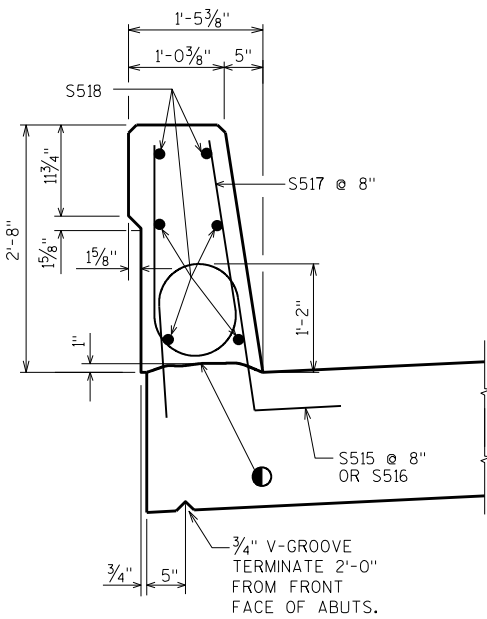


PLAN

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A 3/4" - 'V' GROOVE.



OUTSIDE ELEVATION

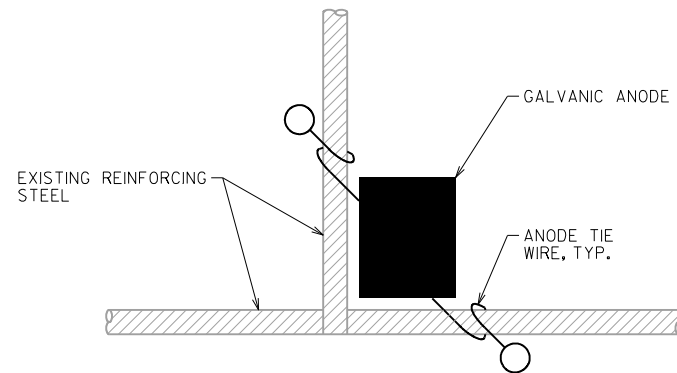


SECTION THRU PARAPET ON BRIDGE

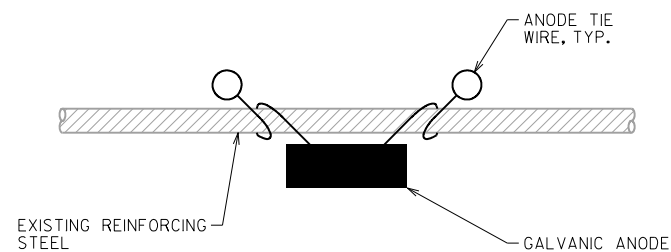
● CONST. JOINT - STRIKE OFF AS SHOWN.

■ 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.

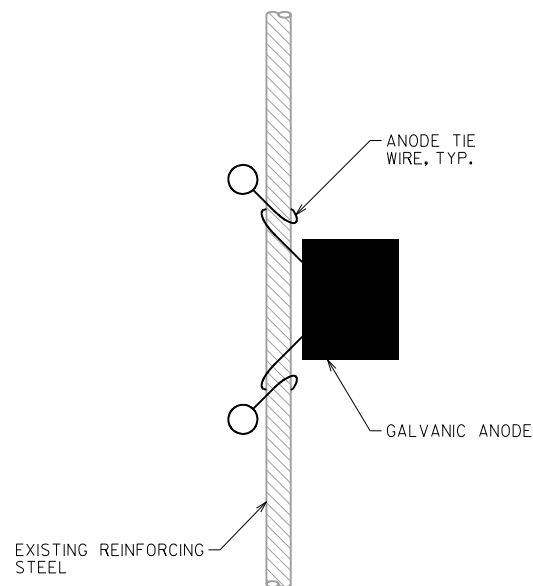
▽ R501 AND R504 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.



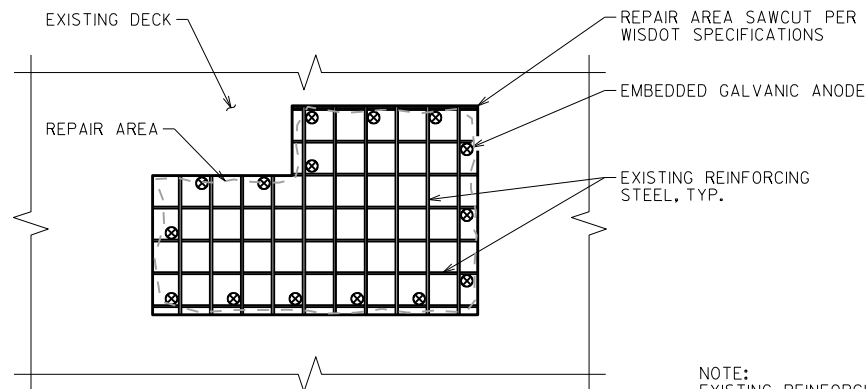
TYPICAL INSTALLATION AT
BAR STEEL INTERSECTION



TYPICAL INSTALLATION
BELOW BAR STEEL



TYPICAL INSTALLATION
BESIDE BAR STEEL



NOTE:
EXISTING REINFORCING STEEL TO BE
COMPLETELY CLEANED OF CORROSIVE
MATERIAL PRIOR TO INSTALLATION
OF GALVANIC ANODES.

PART PLAN TYPICAL DECK REPAIR DETAIL

GENERAL NOTES

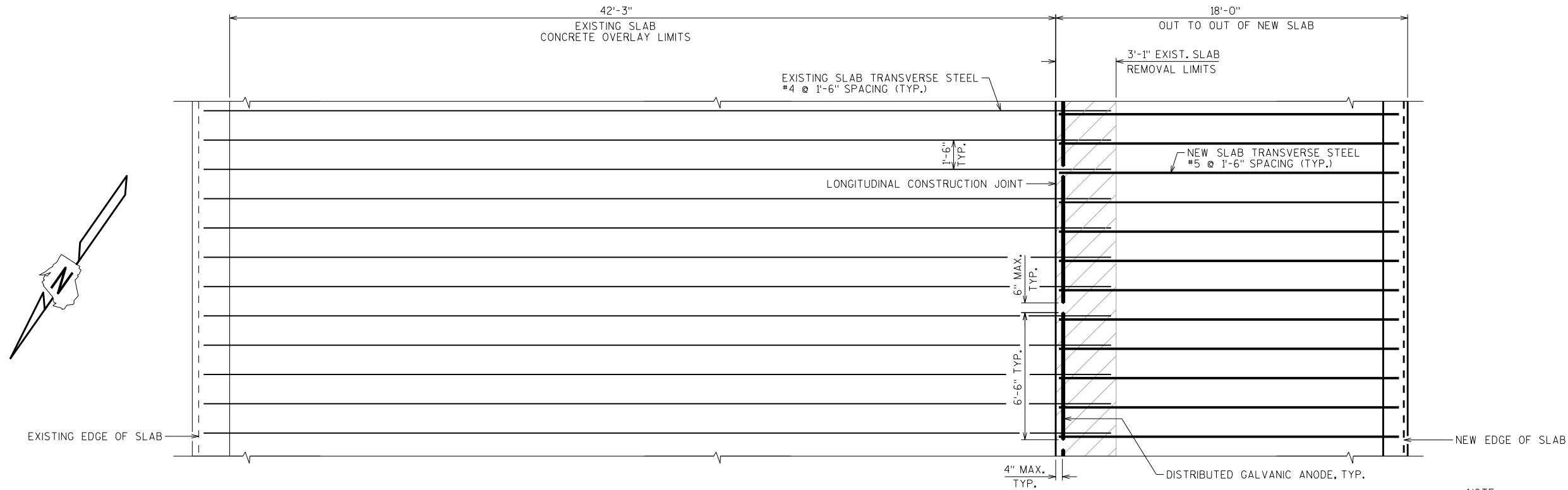
SEE SPECIAL PROVISION "EMBEDDED GALVANIC ANODES" FOR DESCRIPTION, MATERIALS, CONSTRUCTION, MEASUREMENT, AND PAYMENT INFORMATION.

LOCATIONS OF GALVANIC ANODES SHOULD BE WITHIN 6" OF THE EDGE OF THE REPAIR AREA.

AFTER PLACEMENT, GALVANIC ANODES SHOULD MAINTAIN A MINIMUM TOP COVER OF 1 1/2" AND A MINIMUM BOTTOM COVER OF 3/4".

PLACE GALVANIC ANODES AT 20" MAX SPACING AROUND PERIMETER OF REPAIR AREA.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-52-55			
DRAWN BY		DDS	PLANS CK'D. EMK
CATHODIC PROTECTION			SHEET 14



PLAN

NOTE:
EXISTING REINFORCING STEEL TO BE
COMPLETELY CLEANED OF CORROSIVE
MATERIAL PRIOR TO INSTALLATION
OF GALVANIC ANODES.

GENERAL NOTES

SEE SPECIAL PROVISION "DISTRIBUTED GALVANIC ANODES" FOR DESCRIPTION, MATERIALS, CONSTRUCTION, MEASUREMENT, AND PAYMENT INFORMATION.

LOCATION OF DISTRIBUTED GALVANIC ANODE SHOULD BE PLACED PARALLEL WITH AND ADJACENT TO (4" MAX.) FROM THE LONGITUDINAL CONSTRUCTION JOINT.

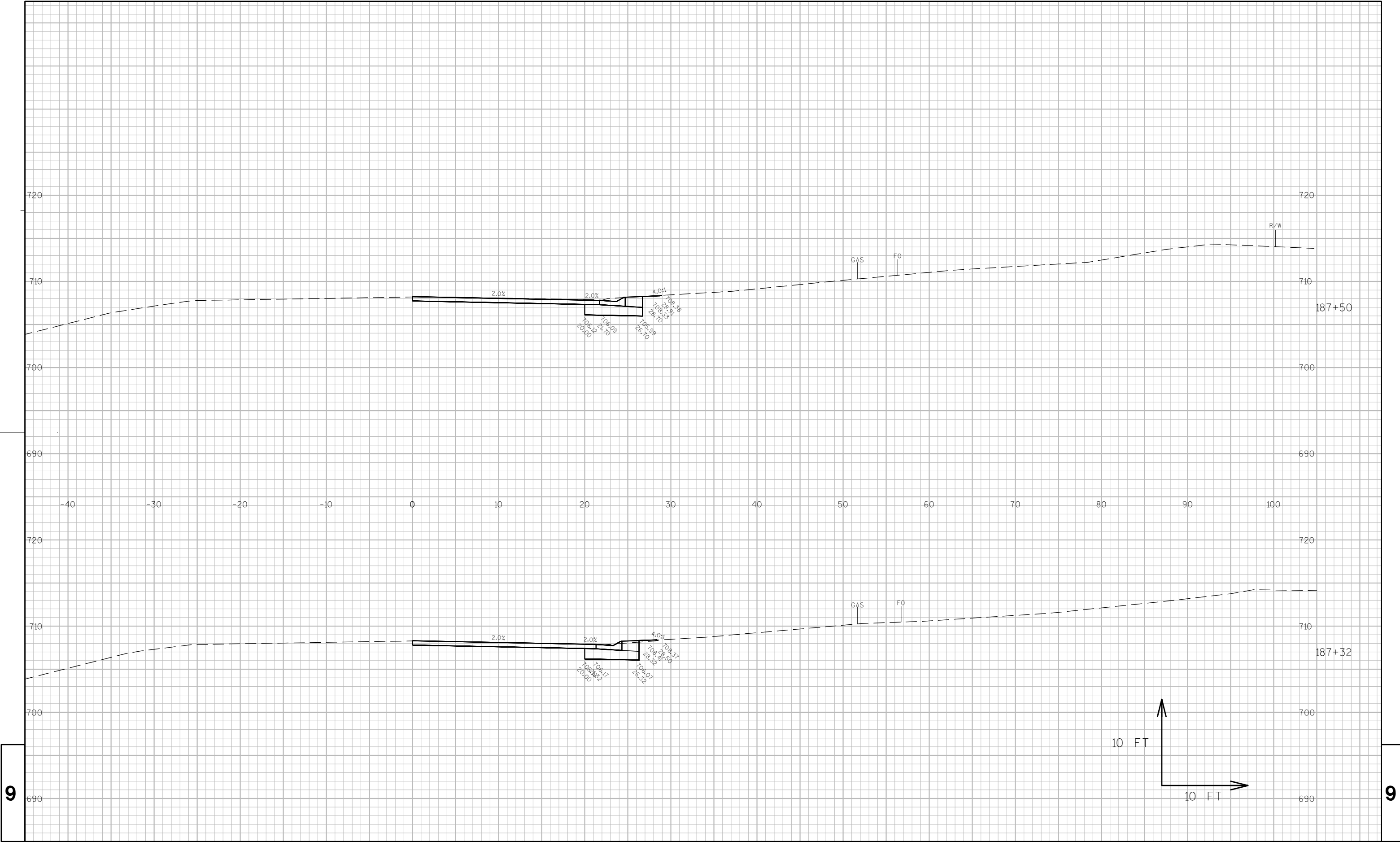
DISTRIBUTED GALVANIC ANODE SHOULD BE PLACED ON THE UNDERSIDE OF THE TOP MAT OF EXISTING TRANSVERSE STEEL.

DISTRIBUTED GALVANIC ANODES TO BE MANUFACTURED IN LENGTHS OF 6'-6" AND A WEIGHT OF 0.25 LBS/FT.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-52-55			
DRAWN BY		DDS	PLANS CK'D. EMK
CATHODIC PROTECTION 2			SHEET 15

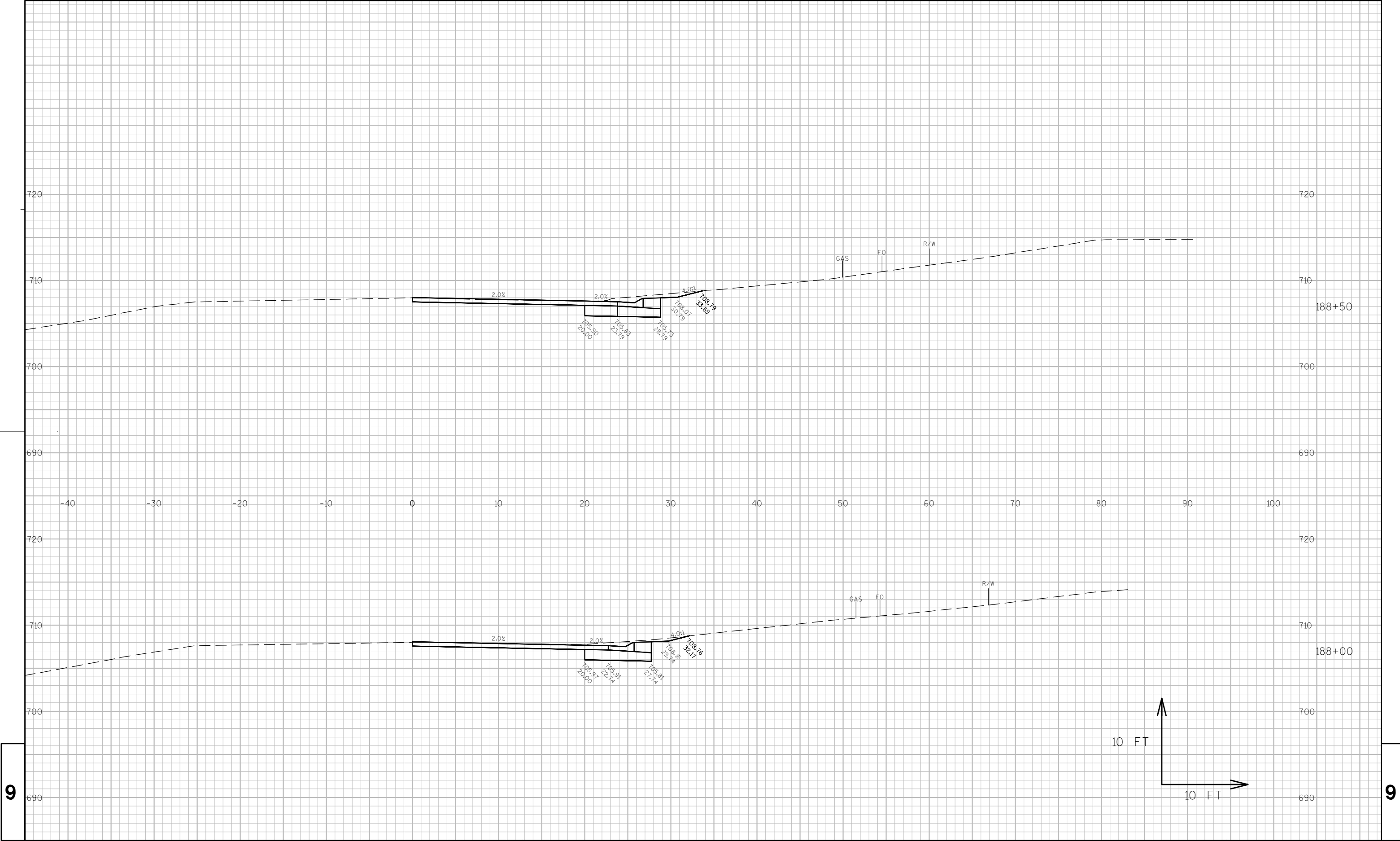
SCALE =

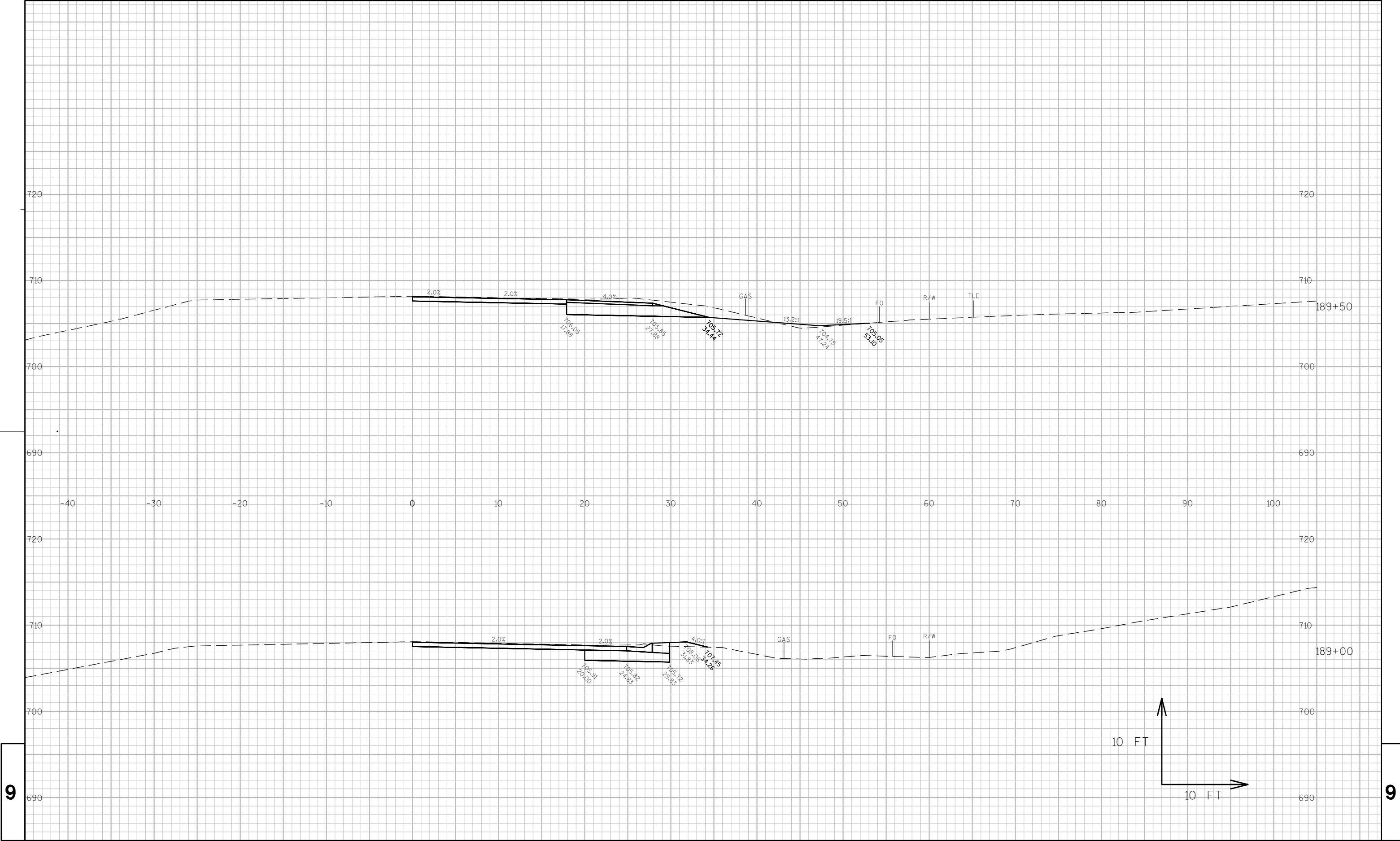
STATION	Real Station	Distance	AREA (SF)							Incremental Vol (CY) (Unadjusted)							Cumulative Vol (CY)							Mass Ordinate
			Cut	Salvaged/Unusable Pavement Material	Fill	Marsh Exc	Rock Exc	EBS	Cut	Salvaged/Unusable Pavement Material	Fill	Marsh Exc	Rock Exc	EBS	Cut 1.00 Note 1	Expanded Fill 1.25	Expanded Marsh		Expanded EBS		Reduced Marsh	Reduced EBS		
																	Backfill 1.50 Note 4	Expanded Rock 1.10	Backfill 1.30 Note 5	in Fill 0.60 Note 6	In Fill 0.80 Note 7			
																						Note 8		
187+32	18732	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
187+50	18750	18	10	0	0	0	0	0	7	0	0	0	0	0	7	0	0	0	0	0	0	0	7	
188+00	18800	50	13	0	0	0	0	0	21	0	0	0	0	0	28	0	0	0	0	0	0	0	28	
188+50	18850	50	16	0	0	0	0	0	27	0	0	0	0	0	55	0	0	0	0	0	0	0	55	
189+00	18900	50	17	0	2	0	0	0	31	0	2	0	0	0	85	2	0	0	0	0	0	0	83	
189+00	18900	0	29	0	2	0	0	0	0	0	0	0	0	0	85	2	0	0	0	0	0	0	83	
190+00	19000	100	23	0	8	0	0	0	96	0	19	0	0	0	182	25	0	0	0	0	0	0	156	
190+50	19050	50	42	0	0	0	0	0	60	0	7	0	0	0	242	35	0	0	0	0	0	0	207	
191+00	19100	50	23	0	23	0	0	0	60	0	21	0	0	0	302	61	0	0	0	0	0	0	241	
191+50	19150	50	12	0	73	0	0	0	32	0	89	0	0	0	334	172	0	0	0	0	0	0	162	
192+00	19200	50	11	0	76	0	0	0	21	0	138	0	0	0	356	345	0	0	0	0	0	0	11	
192+50	19250	50	14	0	28	0	0	0	23	0	96	0	0	0	379	465	0	0	0	0	0	0	-86	
193+00	19300	50	16	0	25	0	0	0	28	0	49	0	0	0	407	527	0	0	0	0	0	0	-120	
193+50	19350	50	19	0	26	0	0	0	32	0	47	0	0	0	439	586	0	0	0	0	0	0	-147	
194+00	19400	50	21	0	19	0	0	0	37	0	42	0	0	0	476	638	0	0	0	0	0	0	-162	
194+44	19444	44	20	0	25	0	0	0	33	0	36	0	0	0	510	683	0	0	0	0	0	0	-173	
196+04	19604	0	22	0	23	0	0	0	0	0	0	0	0	0	510	683	0	0	0	0	0	0	-173	
196+50	19650	46	23	0	22	0	0	0	38	0	38	0	0	0	548	730	0	0	0	0	0	0	-183	
197+00	19700	50	23	0	41	0	0	0	43	0	58	0	0	0	590	803	0	0	0	0	0	0	-213	
197+50	19750	50	24	0	125	0	0	0	44	0	154	0	0	0	634	996	0	0	0	0	0	0	-362	
198+00	19800	50	24	0	148	0	0	0	44	0	253	0	0	0	678	1,311	0	0	0	0	0	0	-633	
198+50	19850	50	24	0	101	0	0	0	44	0	231	0	0	0	723	1,600	0	0	0	0	0	0	-877	
199+00	19900	50	21	0	96	0	0	0	42	0	182	0	0	0	765	1,828	0	0	0	0	0	0	-1,063	
199+50	19950	50	25	0	107	0	0	0	43	0	188	0	0	0	807	2,063	0	0	0	0	0	0	-1,256	
200+00	20000	50	25	0	68	0	0	0	46	0	162	0	0	0	853	2,265	0	0	0	0	0	0	-1,412	
200+50	20050	50	27	0	52	0	0	0	48	0	111	0	0	0	902	2,404	0	0	0	0	0	0	-1,503	
201+00	20100	50	21	0	44	0	0	0	44	0	89	0	0	0	946	2,515	0	0	0	0	0	0	-1,569	
201+50	20150	50	22	0	4	0	0	0	40	0	44	0	0	0	986	2,571	0	0	0	0	0	0	-1,585	
202+00	20200	50	21	0	0	0	0	0	40	0	4	0	0	0	1,026	2,575	0	0	0	0	0	0	-1,550	
202+50	20250	50	8	0	2	0	0	0	27	0	2	0	0	0	1,052	2,578	0	0	0	0	0	0	-1,525	
203+00	20300	50	10	0	5	0	0	0	17	0	6	0	0	0	1,069	2,586	0	0	0	0	0	0	-1,517	
203+50	20350	50	11	0	1	0	0	0	19	0	6	0	0	0	1,089	2,593	0	0	0	0	0	0	-1,504	
204+00	20400	50	6	0	8	0	0	0	16	0	8	0	0	0	1,104	2,603	0	0	0	0	0	0	-1,499	
204+50	20450	50	6	0	7	0	0	0	11	0	14	0	0	0	1,115	2,621	0	0	0	0	0	0	-1,505	
205+00	20500	50	8	0	8	0	0	0	13	0	14	0	0	0	1,128	2,638	0	0	0	0	0	0	-1,509	
205+50	20550	50	5	0	10	0	0	0	12	0	17	0	0	0	1,140	2,659	0	0	0	0	0	0	-1,518	
206+00	20600	50	6	0	13	0	0	0	10	0	21	0	0	0	1,151	2,685	0	0	0	0	0	0	-1,535	
206+50	20650	50	8	0	7	0	0	0	13	0	19	0	0	0	1,164	2,708	0	0	0	0	0	0	-1,545	
207+00	20700	50	16	0	0	0	0	0	22	0	6	0	0	0	1,186	2,717	0	0	0	0	0	0	-1,531	
207+50	20750	50	8	0	6	0	0	0	22	0	6	0	0	0	1,208	2,724	0	0	0	0	0	0	-1,515	
208+00	20800	50	11	0	4	0	0	0	18	0	9	0	0	0	1,226	2,735	0	0	0	0	0	0	-1,509	
208+50	20850	50	11	0	7	0	0	0	20	0	10	0	0	0	1,246	2,748	0	0	0	0	0	0	-1,502	
209+00	20900	50	13	0	9	0	0	0	22	0	15	0	0	0	1,268	2,766	0	0	0	0	0	0	-1,498	
209+50	20950	50	10	0	11	0	0	0	21	0	19	0	0	0	1,290	2,790	0	0	0	0	0	0	-1,500	
210+00	21000	50	15	0	9	0	0	0	23	0	19	0	0	0	1,313	2,813	0	0	0	0	0	0	-1,500	
210+50	21050	50	32	0	0	0	0	0	44	0	8	0	0	0	1,356	2,823	0	0	0	0	0	0	-1,467	
211+00	21100	50	25	0	0	0	0	0	53	0	0	0	0	0	1,409	2,823	0	0	0	0	0	0	-1,414	
211+50	21150	50	15	0	2	0	0	0	37	0	2	0	0	0	1,446	2,825	0	0	0	0	0	0	-1,379	
212+00	21200	50	21	0	3	0	0	0	33	0	5	0	0	0	1,479	2,831	0	0	0	0	0	0	-1,352	
212+50	21250	50	24	0	10	0	0	0	42	0	12	0	0	0	1,521	2,846	0	0	0	0	0	0	-1,325	
213+00	21300	50	23	0	12	0	0	0	44	0	20	0	0	0	1,565	2,872	0	0	0	0	0	0	-1,307	
213+25	21325	25	0	0	0	0	0	0	11	0	6	0	0	0	1,575	2,879	0	0	0	0	0	0	-1,303	



9

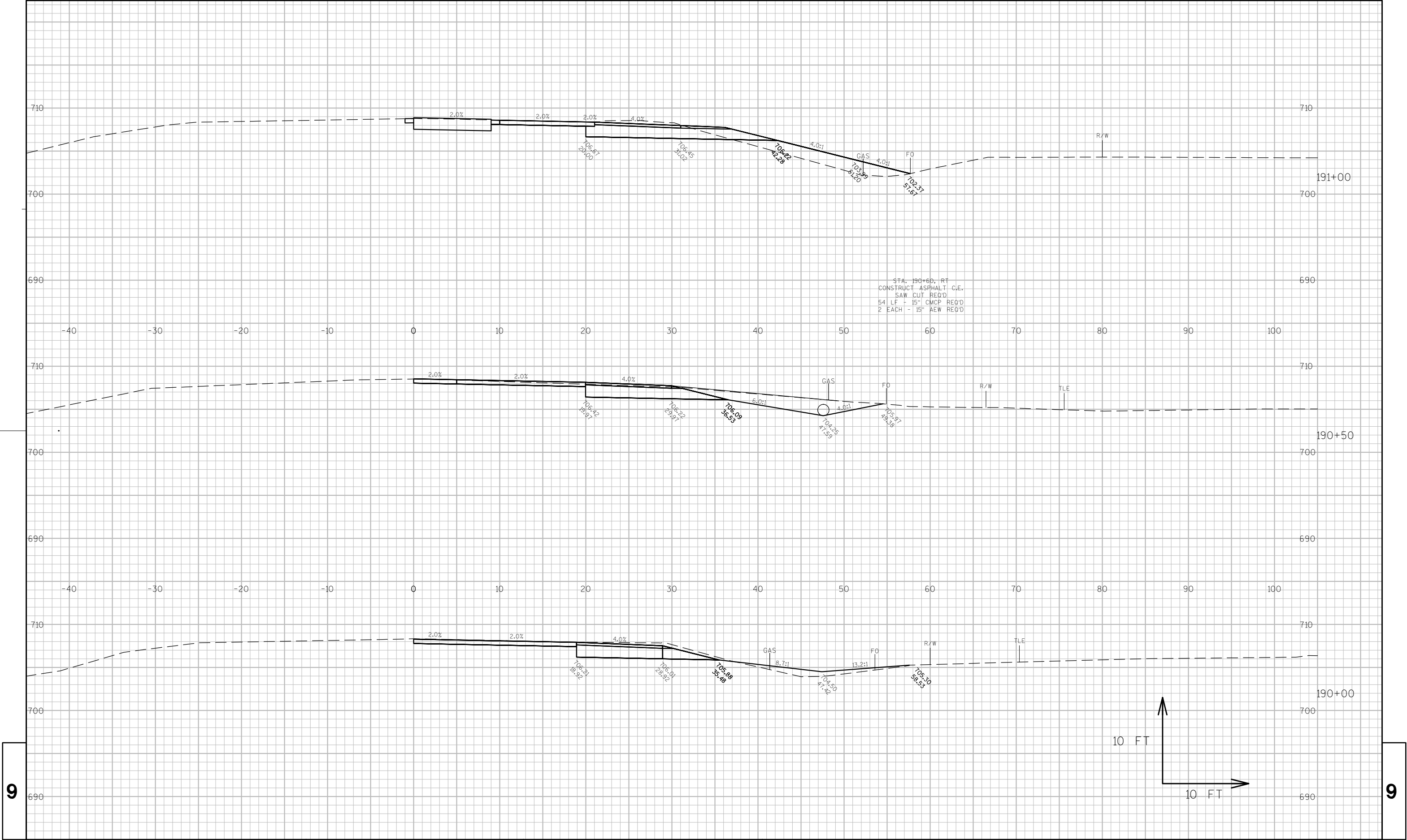
9





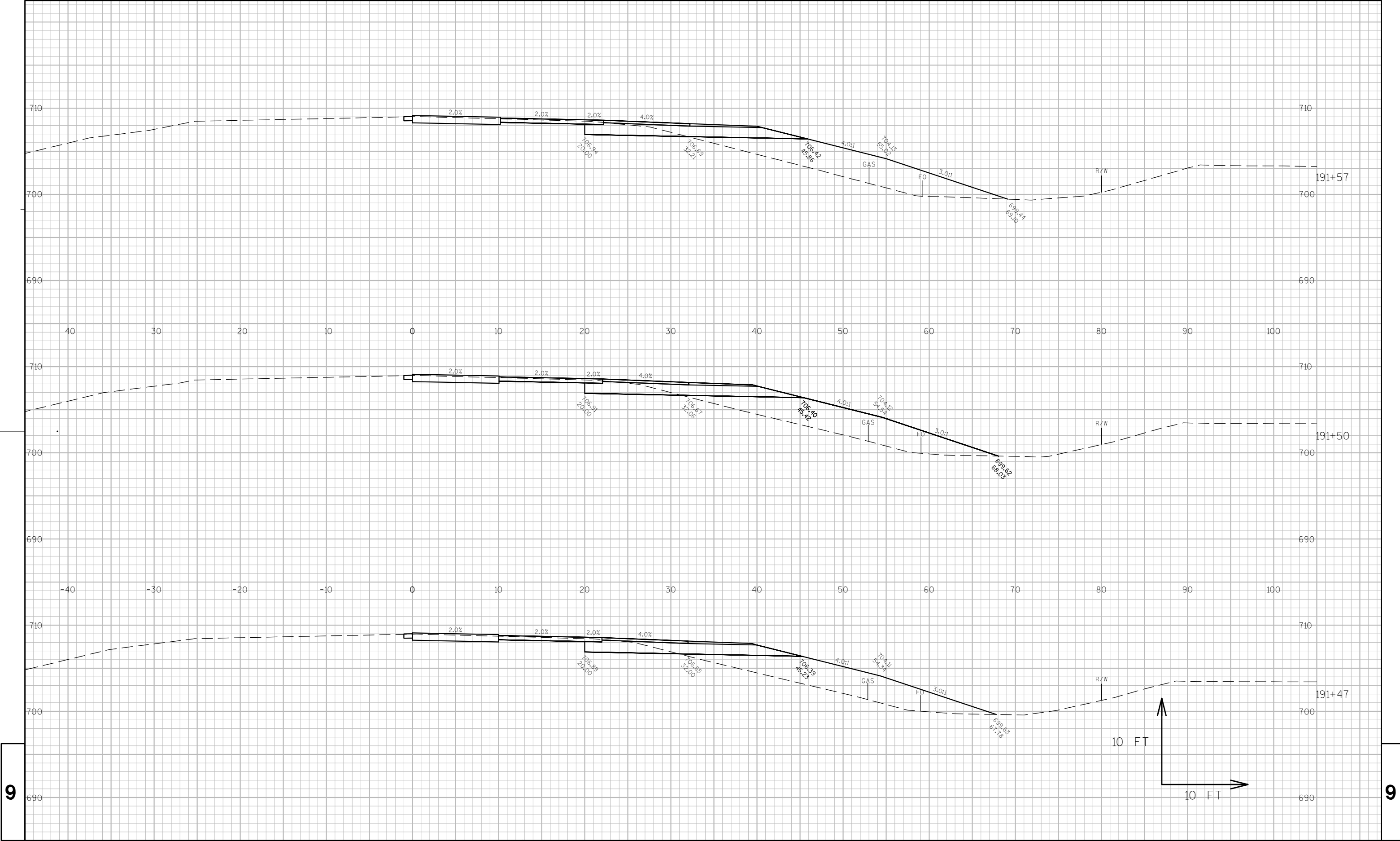
9

9



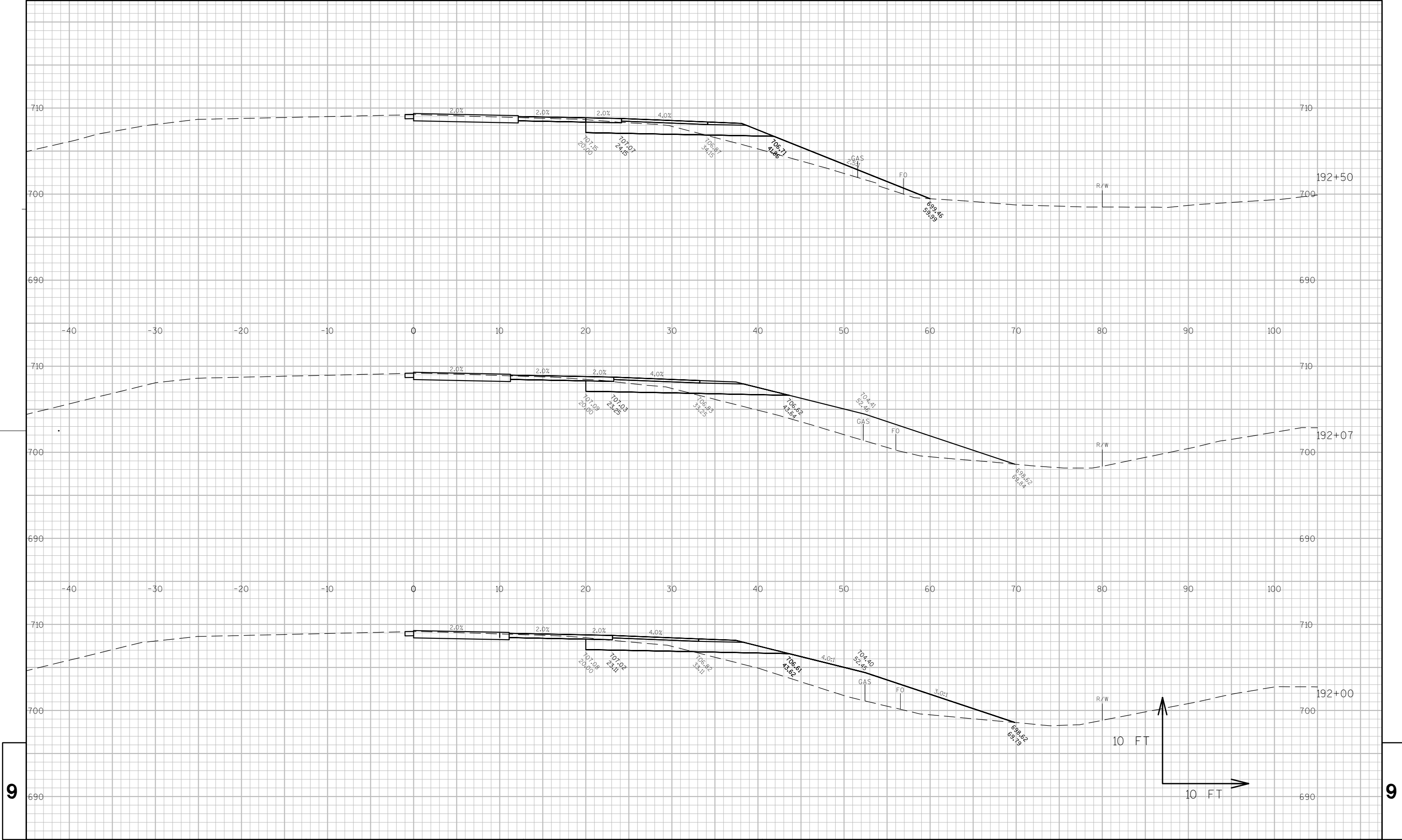
9

9



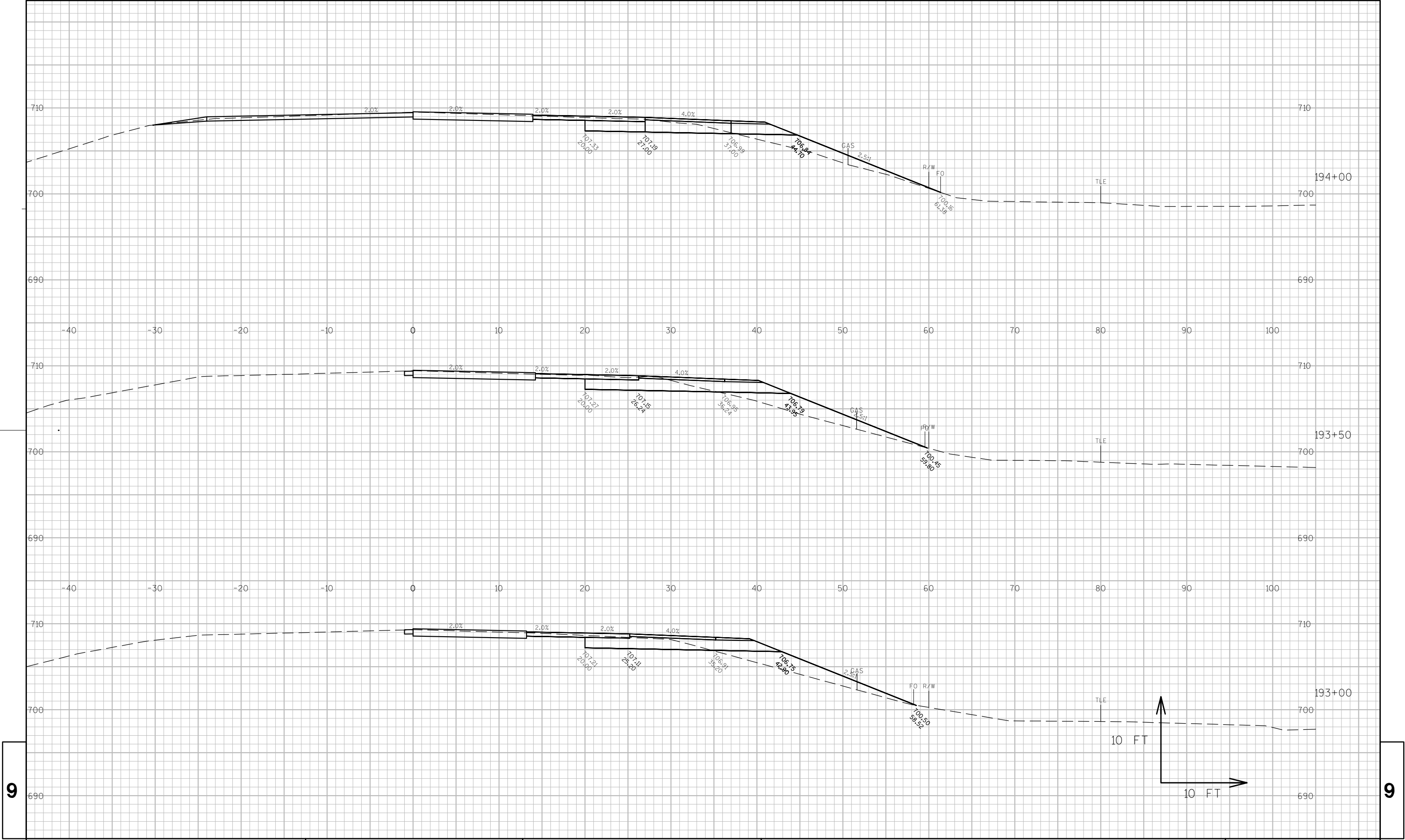
9

9



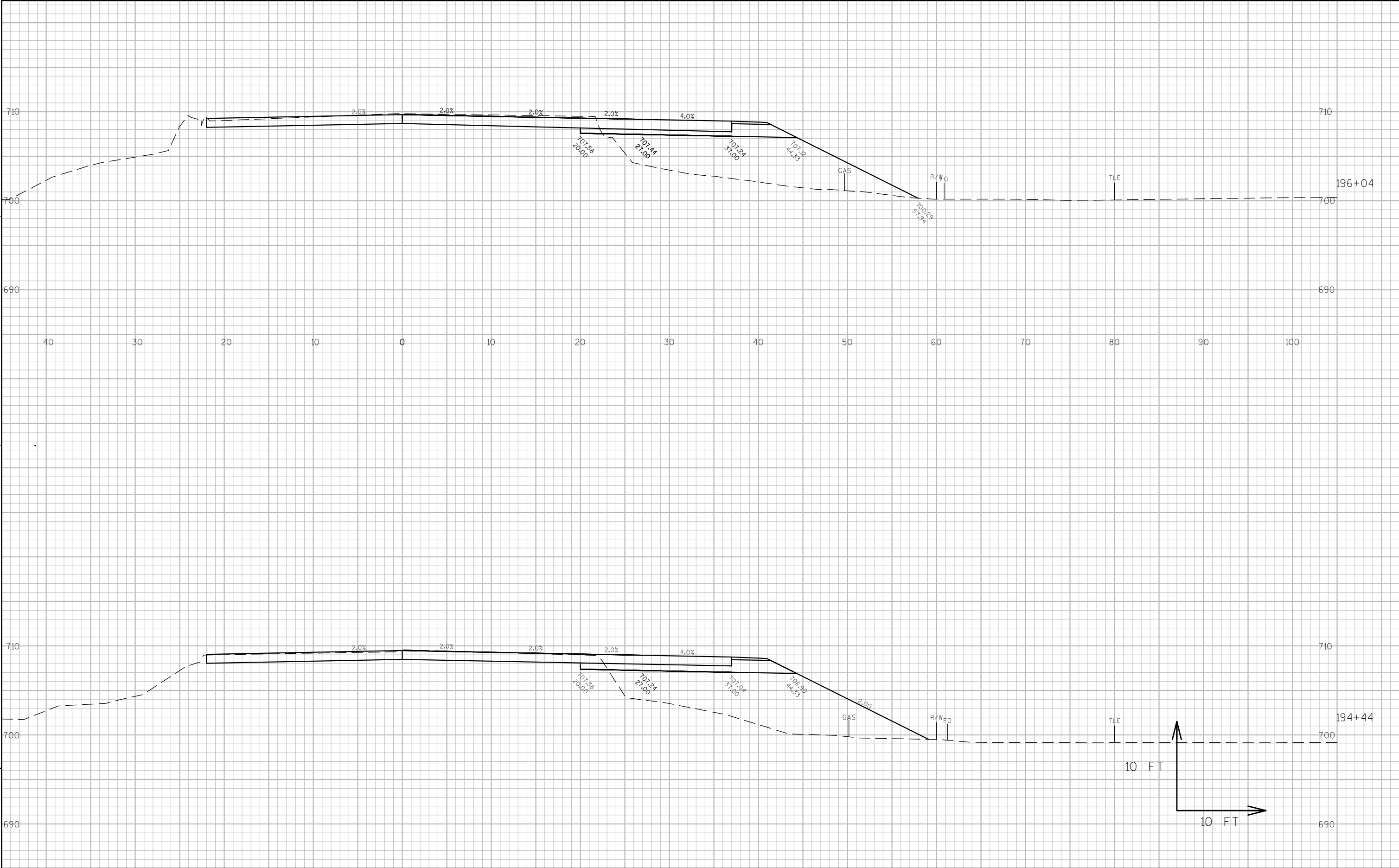
9

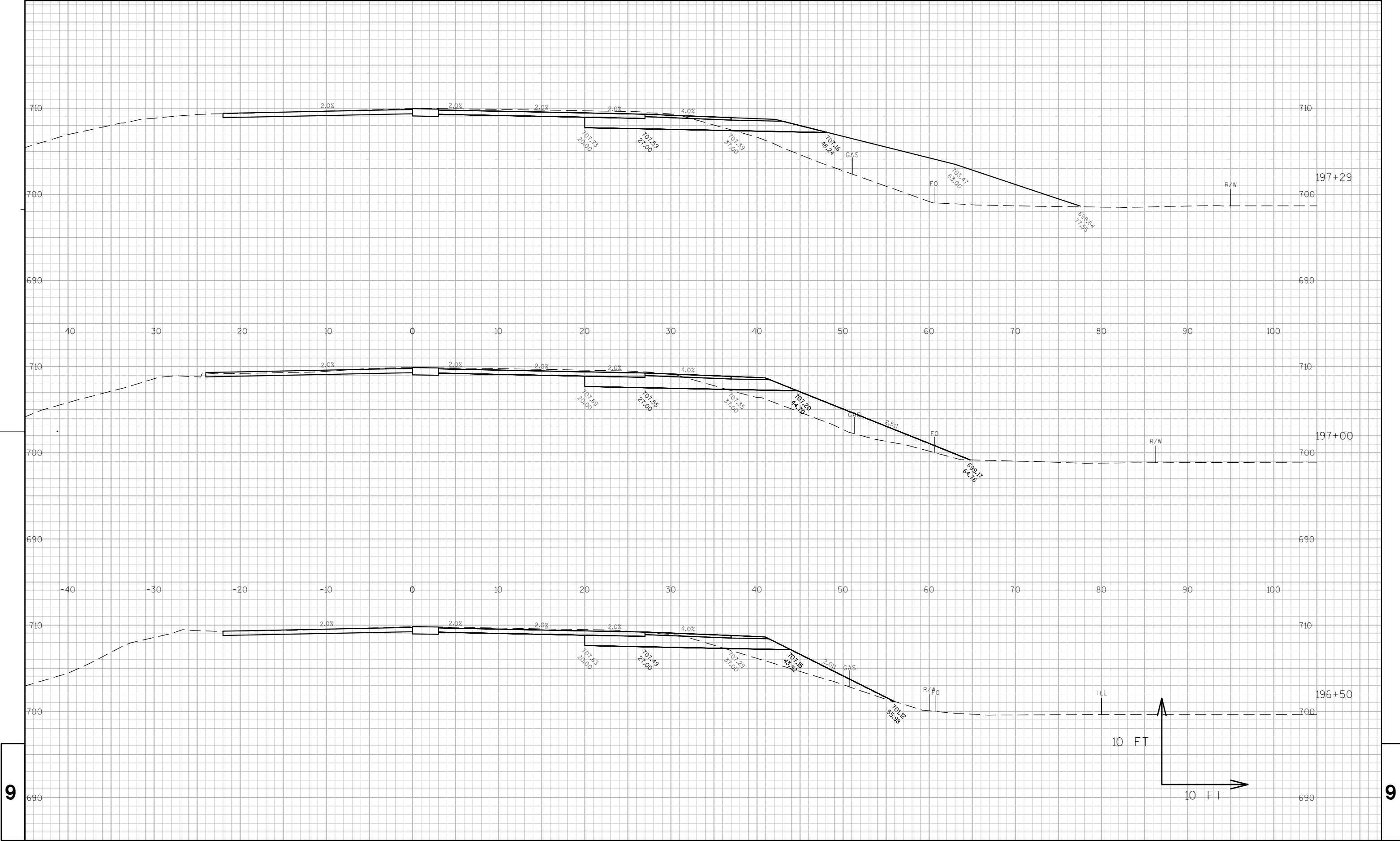
9

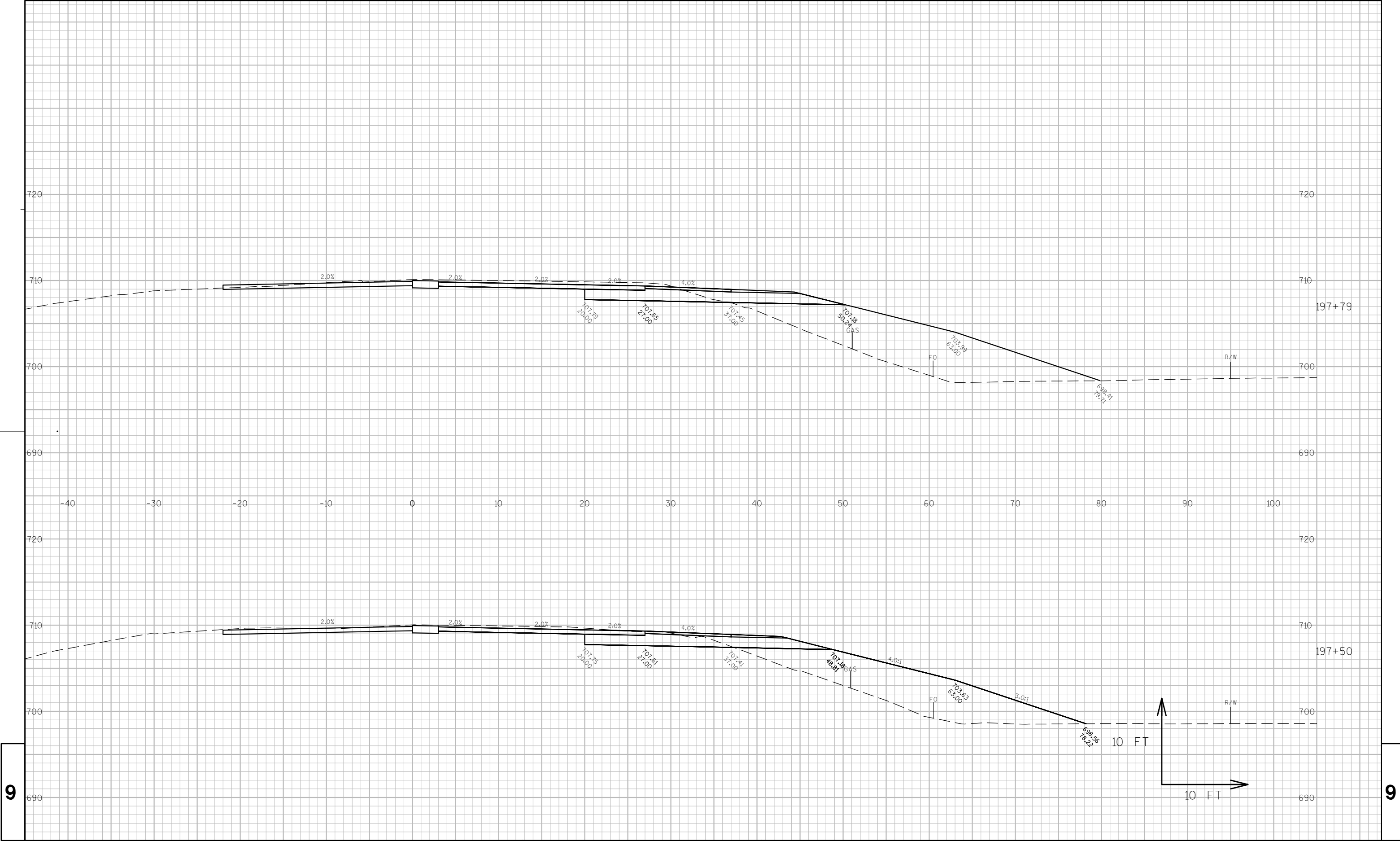


9

9



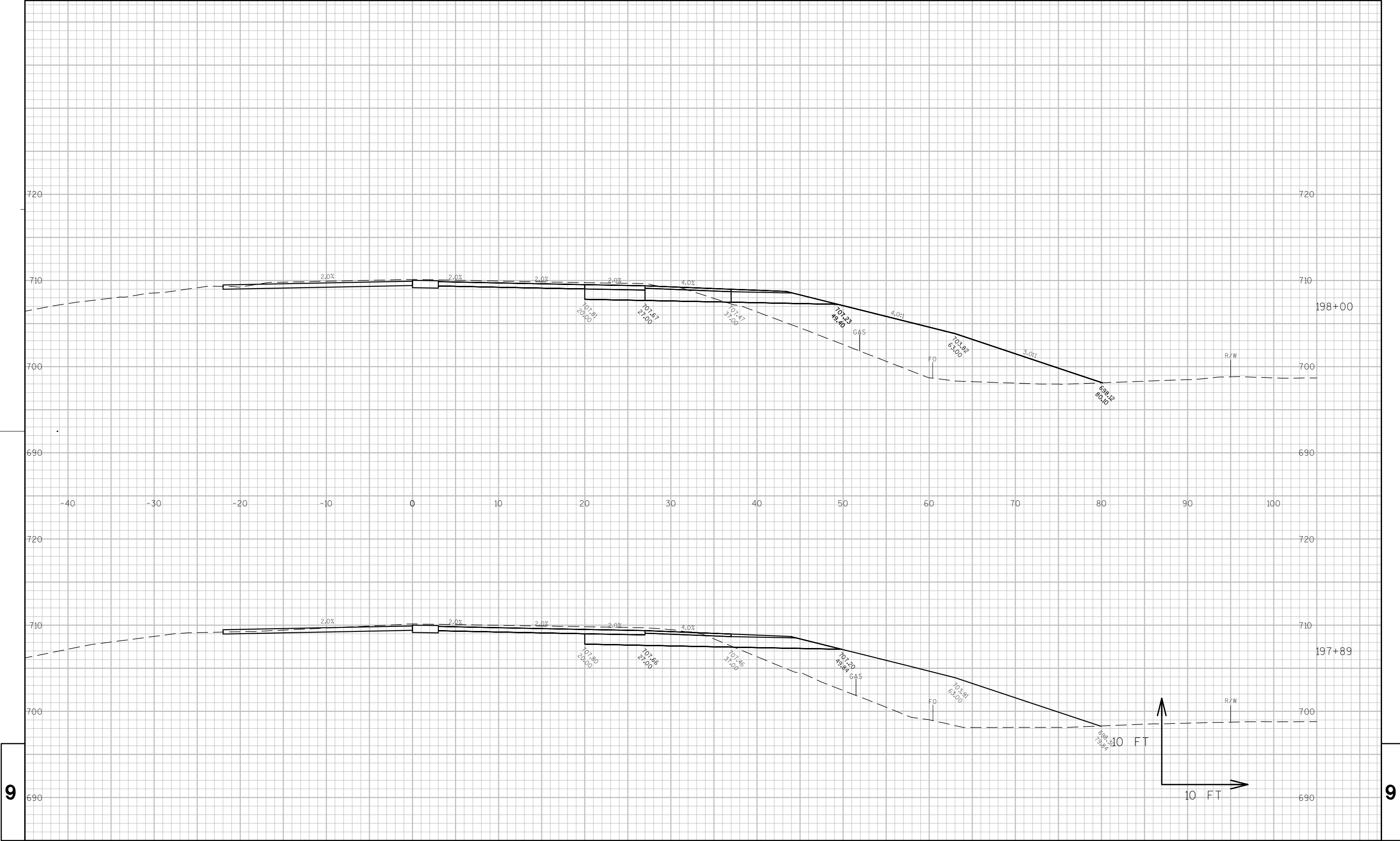




9

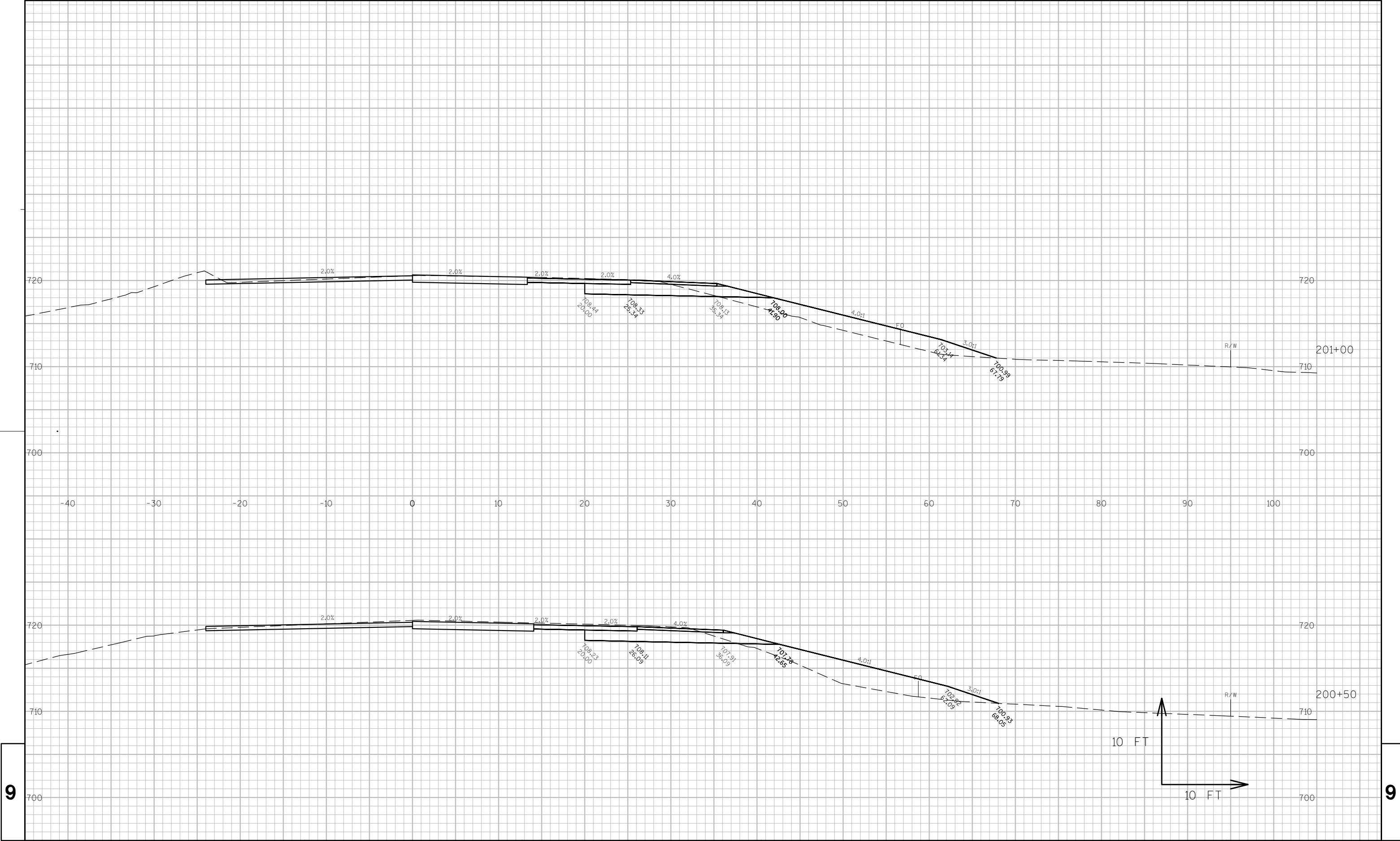
9

PROJECT NO:1647-09-74	HWY: USH 14	COUNTY: RICHLAND	CROSS SECTIONS: USH 14	SHEET -----	E
-----------------------	-------------	------------------	------------------------	-------------	---



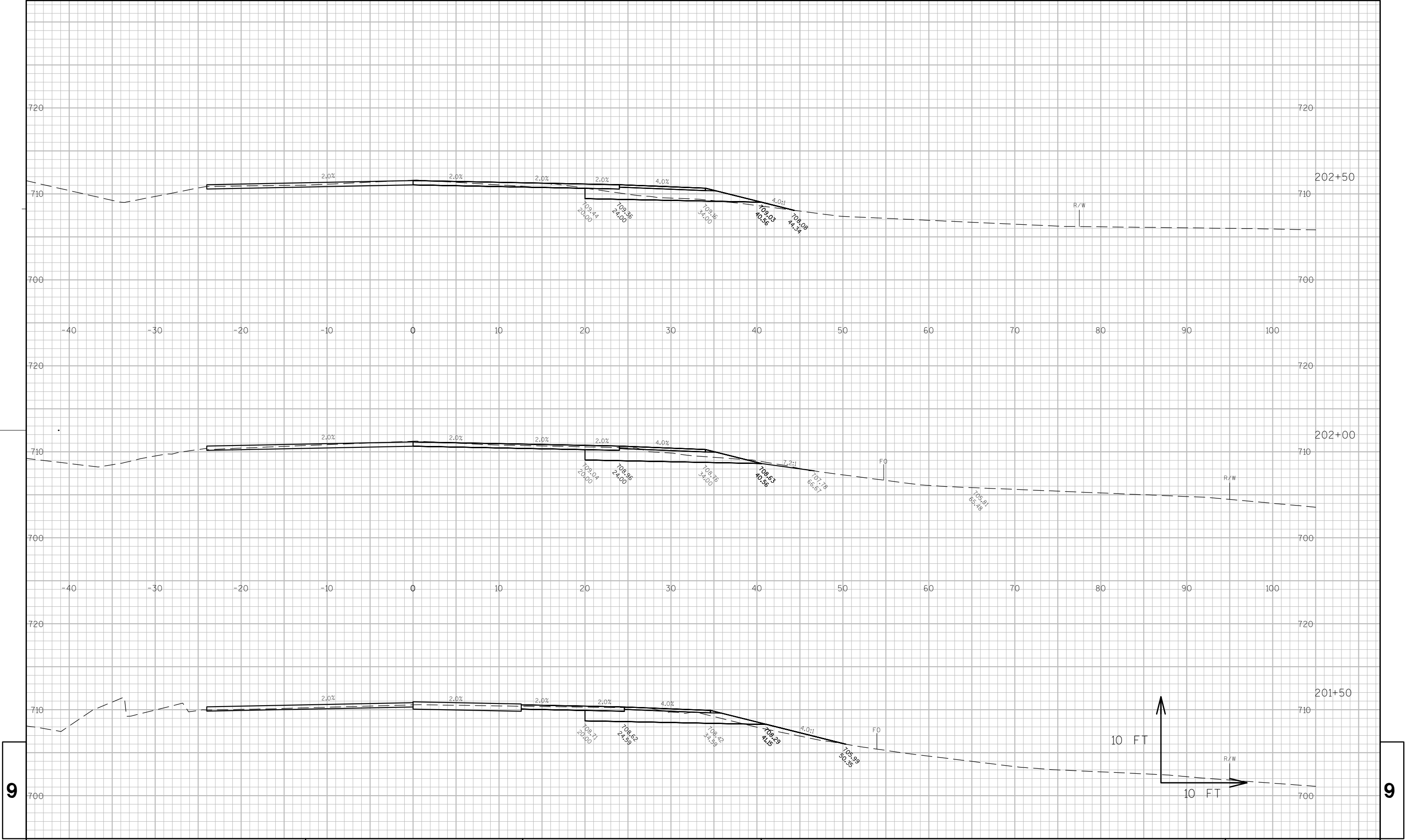
9

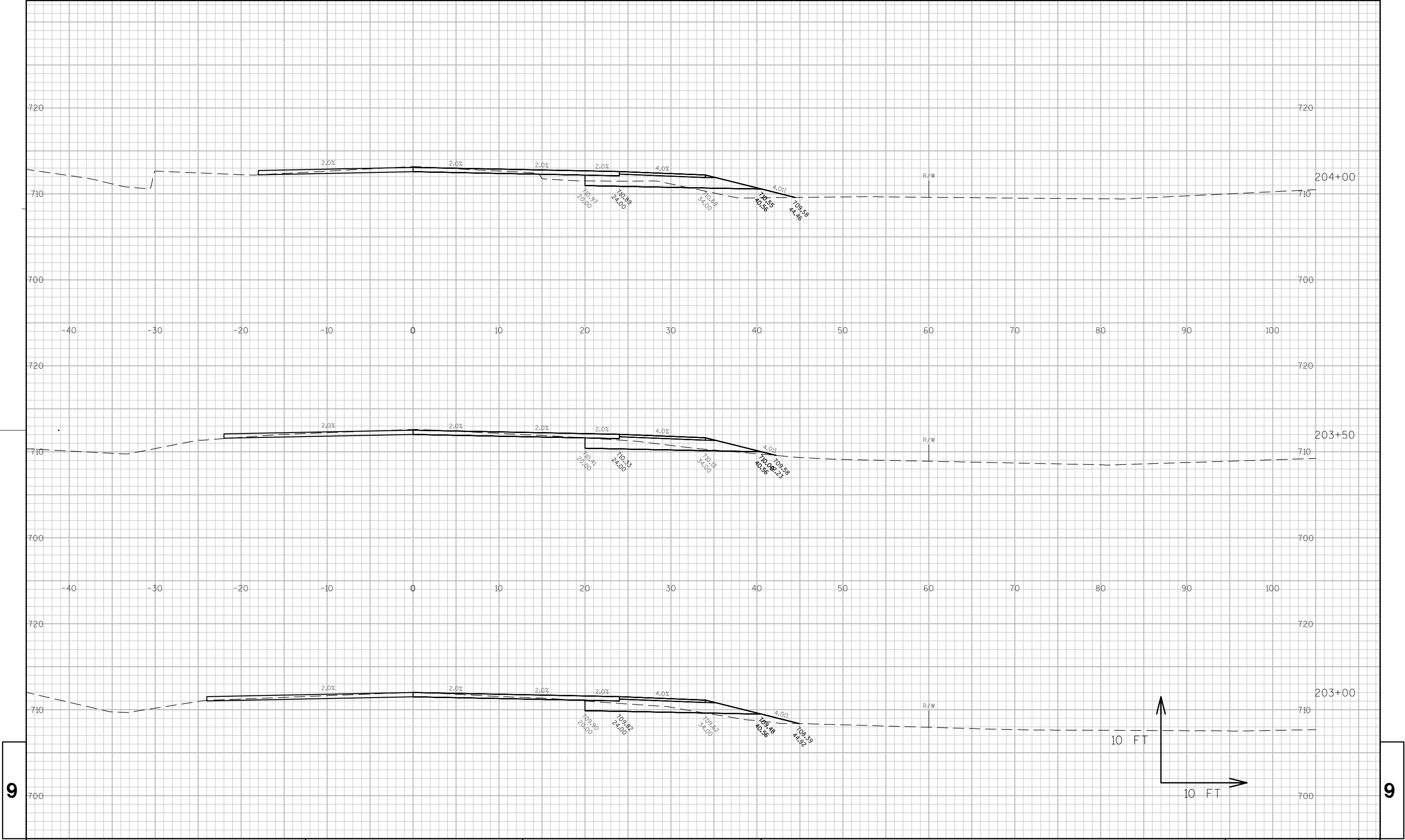
9



9

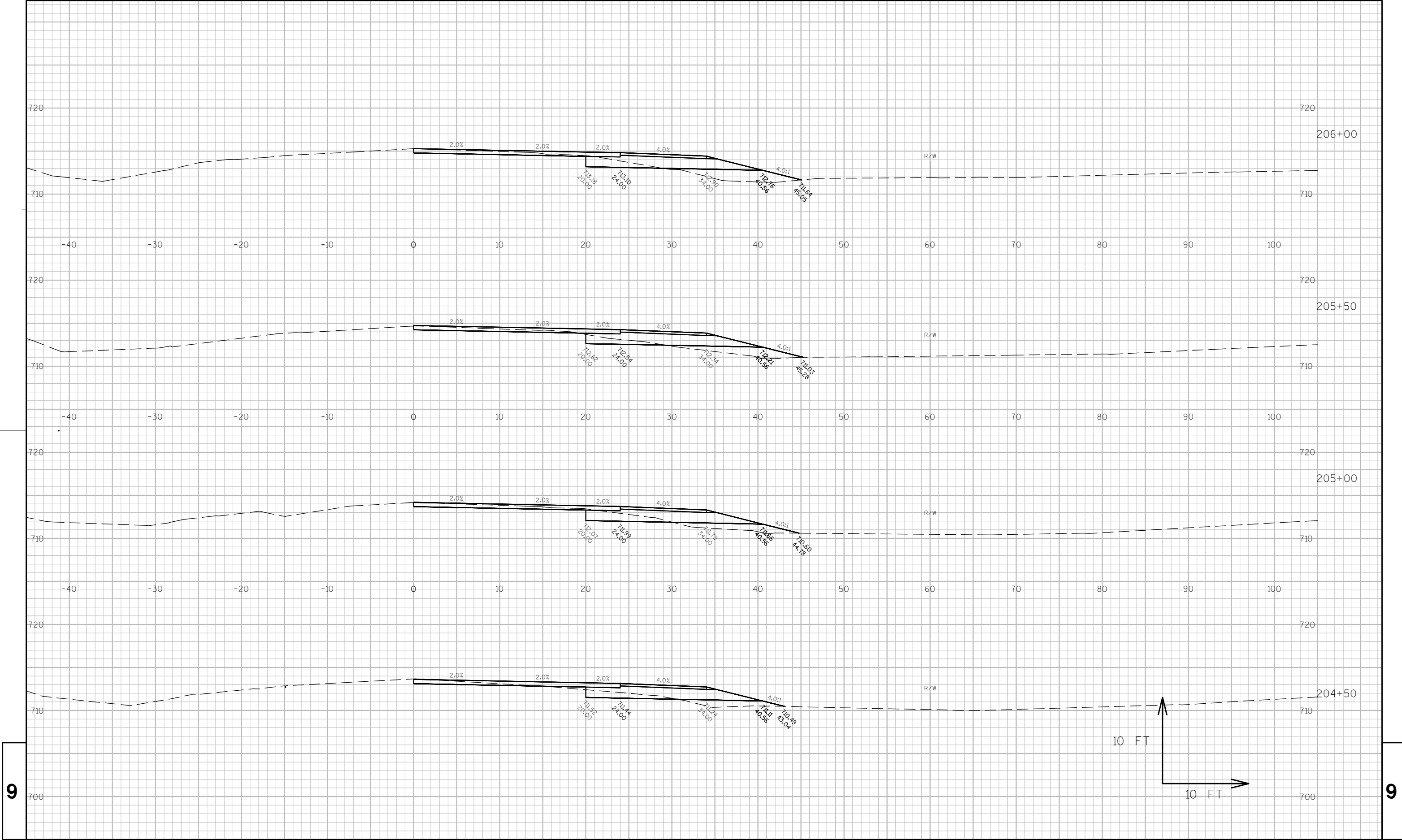
9





9

9



9

9

PROJECT NO:1647-09-74

HWY: USH 14

COUNTY: RICHLAND

CROSS SECTIONS: USH 14

SHEET -----

E

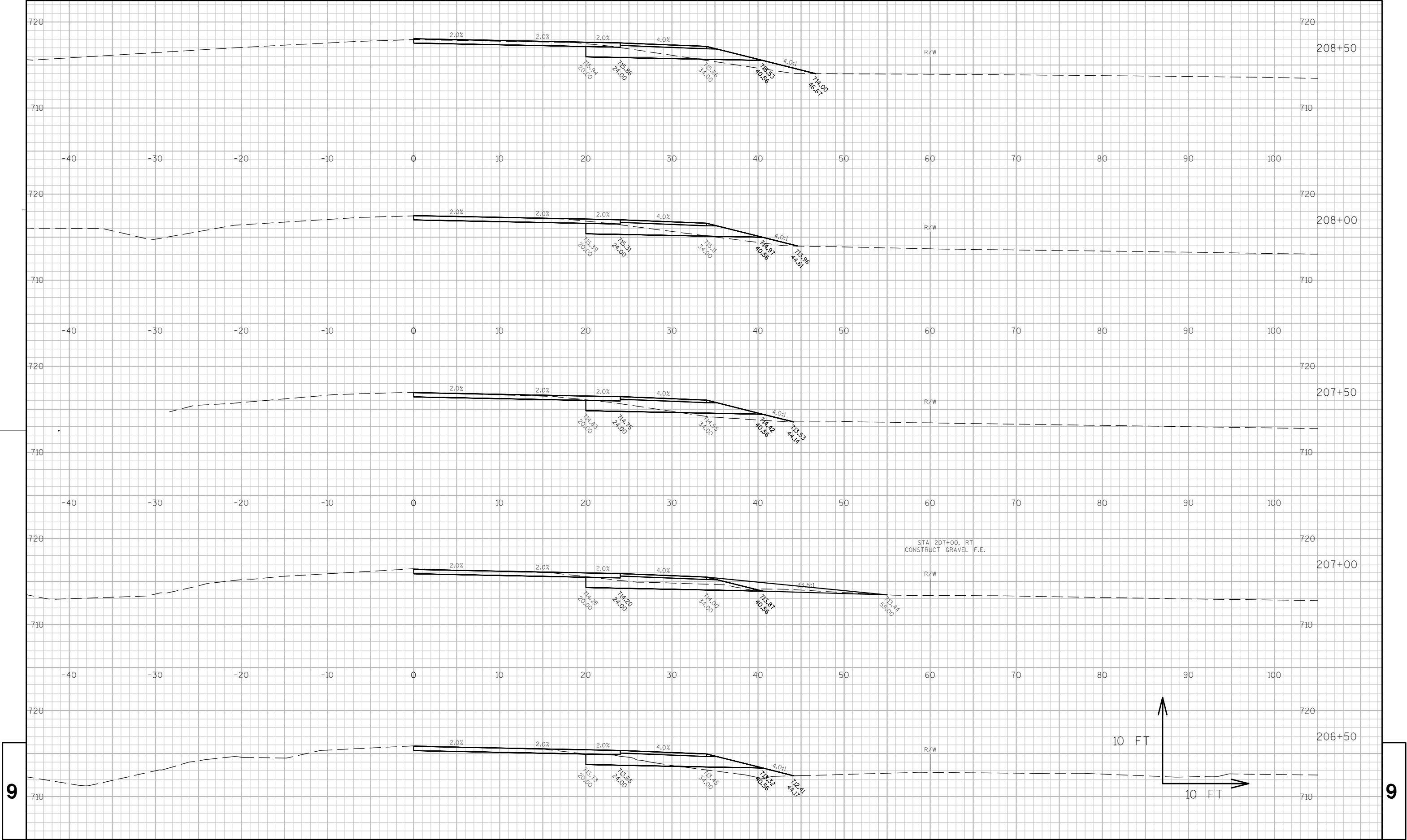
FILE NAME : N:\PDS\C3D\16470904\DESIGN\XSECTIONS\USH 14 - X SECTIONS EXPLODED12.19.DWG

PLOT DATE : 1/28/2014 4:37 PM

PLOT BY : ADAMS, JAY P

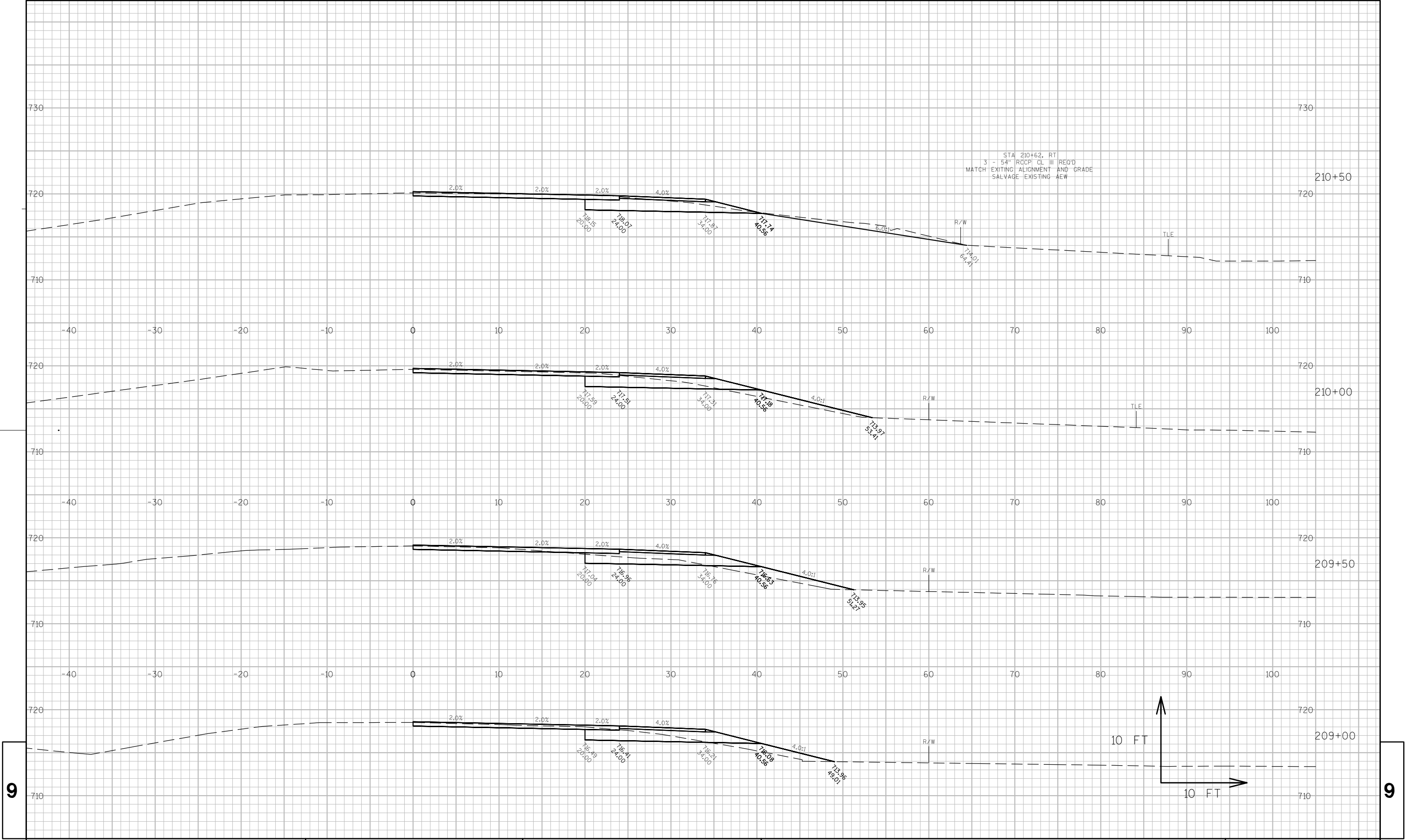
PLOT NAME : ----- PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49



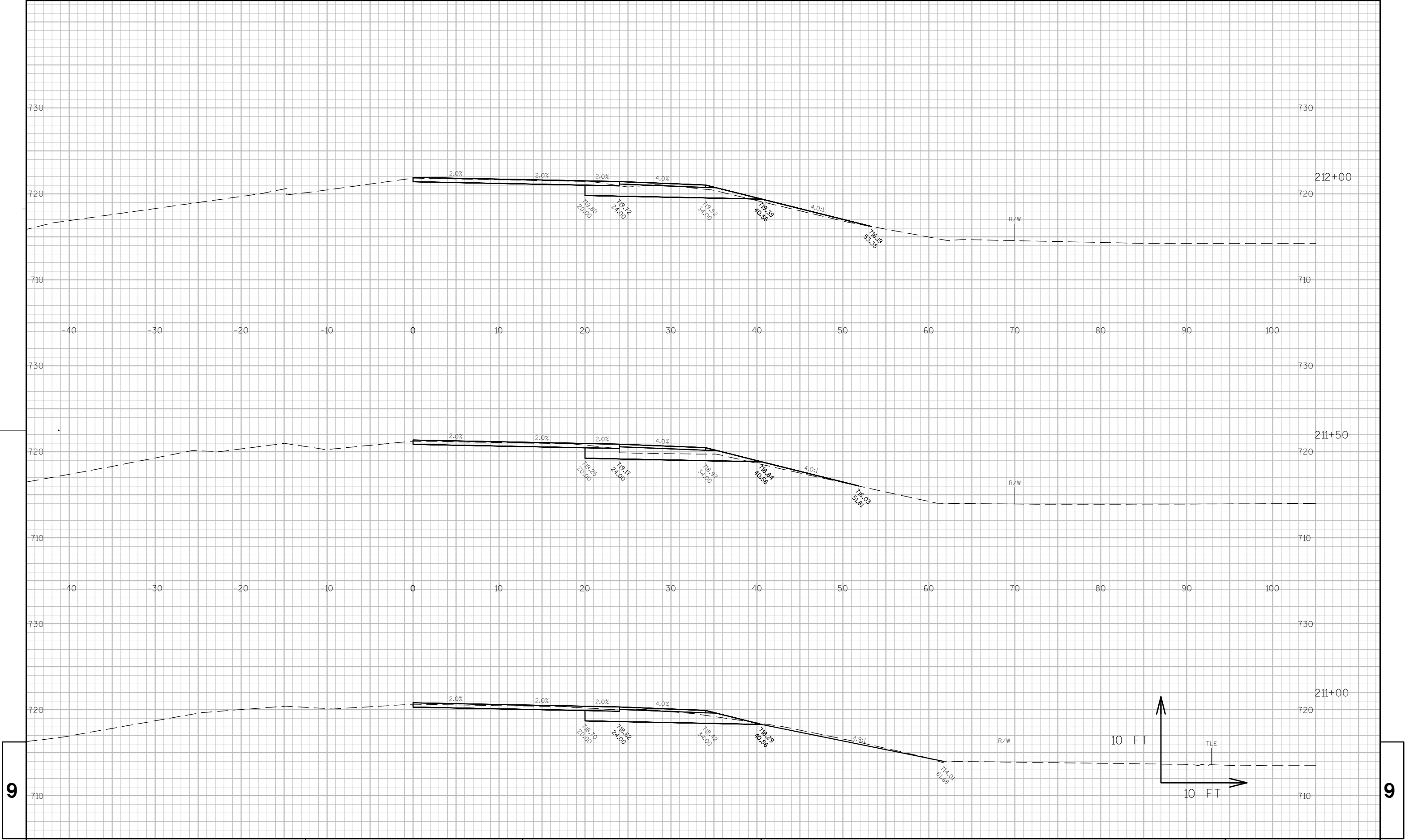
9

9



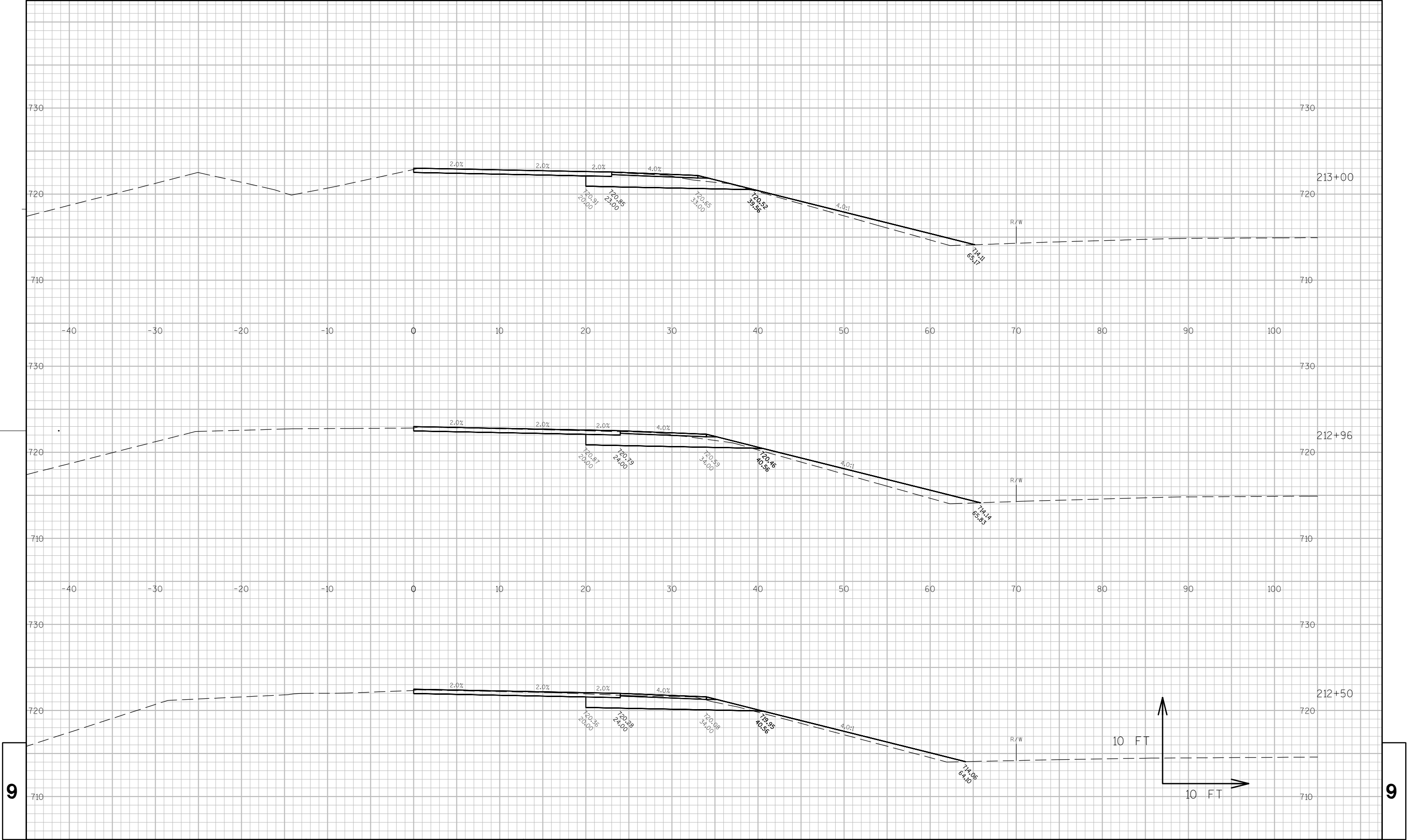
9

9



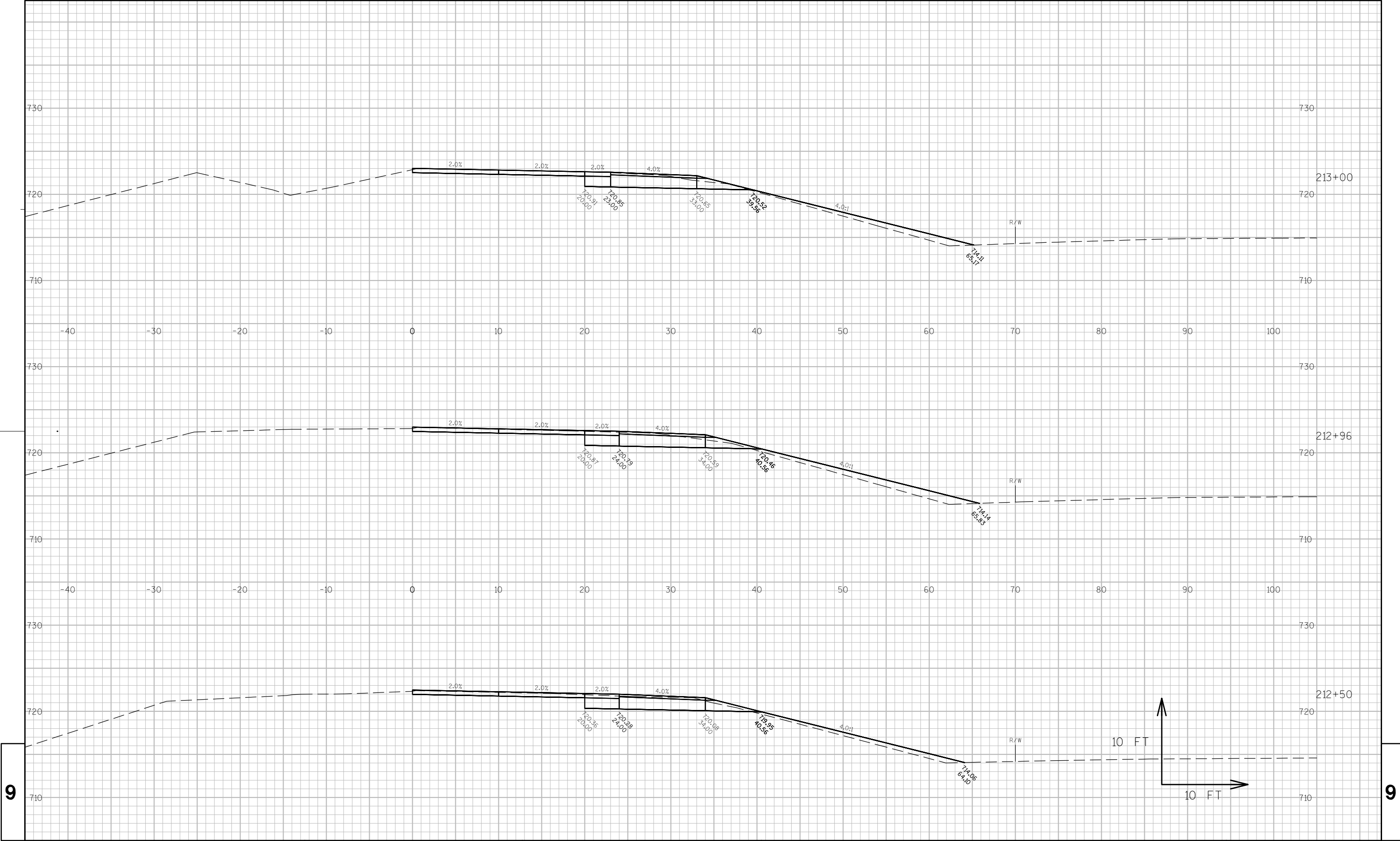
9

9



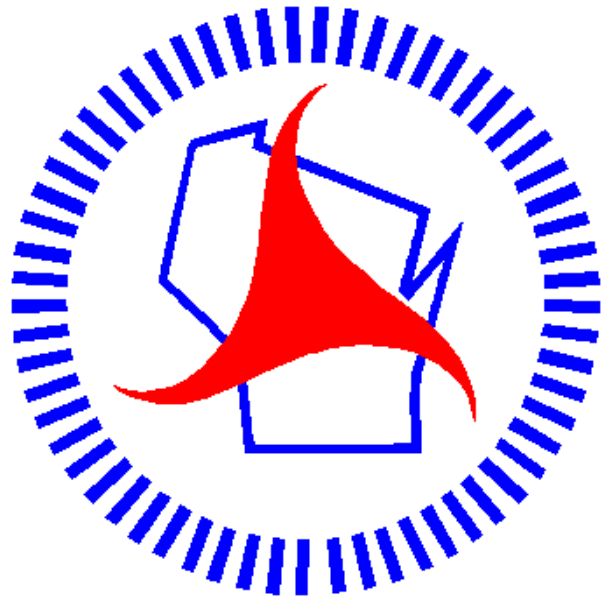
9

9



9

9



Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

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