

RHI
PROJECT ID:
WITH: N/A

9130-03-63

COUNTY:
FOREST

APRIL 2020
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 Plot
Section No.	5	Plan and Profile (Includes Erosion Control Details)
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 = 72

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT

WABENO - CRANDON

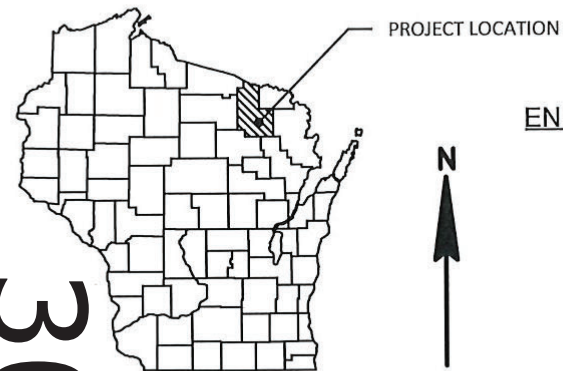
FOREST AVENUE TO USH 8 CULVERTS

STH 32

FOREST COUNTY

STATE PROJECT NUMBER

9130-03-63



DESIGN DESIGNATION

A.A.D.T.	2019	=	2700
A.A.D.T.	2039	=	3300
D.H.V.		=	465
D.D.		=	61/39
T.		=	13.5%
DESIGN SPEED		=	55 MPH
ESALS		=	649,900

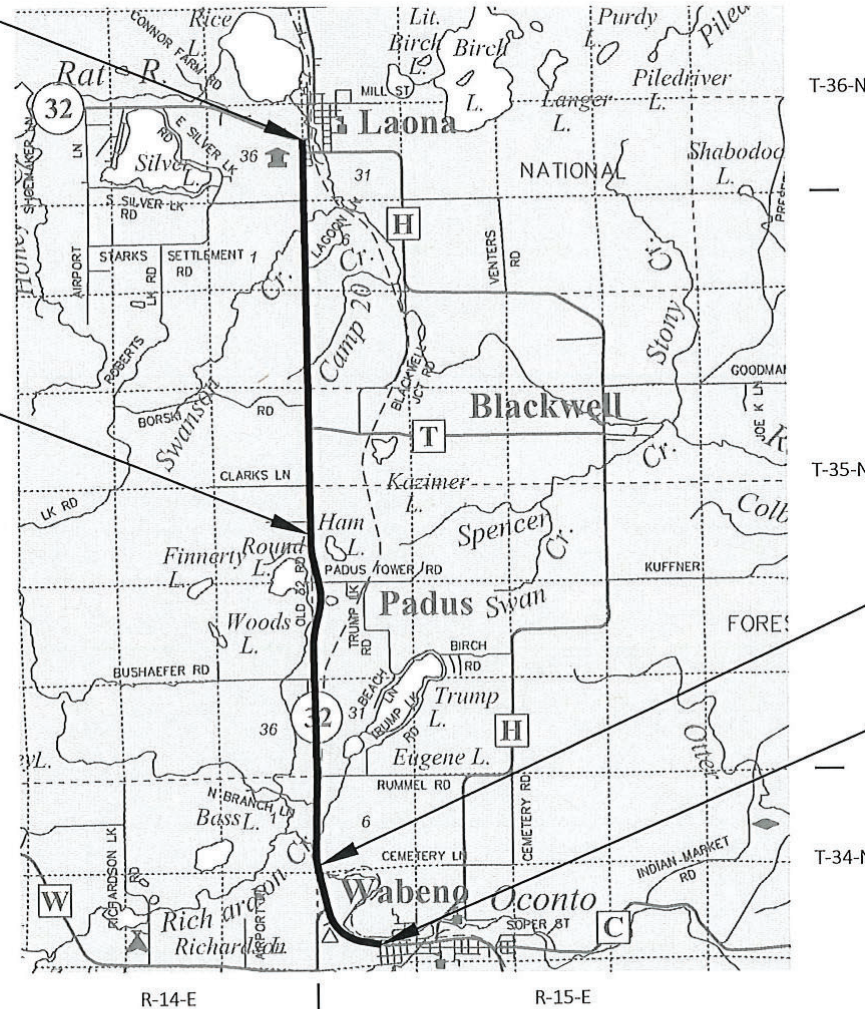
CONVENTIONAL SYMBOLS

PLAN	
CORPORATE LIMITS	////
PROPERTY LINE	---
LOT LINE	- - -
LIMITED HIGHWAY EASEMENT	- - -
EXISTING RIGHT OF WAY	---
PROPOSED OR NEW R/W LINE	---
SLOPE INTERCEPT	300' EB
REFERENCE LINE	---
EXISTING CULVERT	---
PROPOSED CULVERT (Box or Pipe)	---
COMBUSTIBLE FLUIDS	CAUTION
MARSH AREA	---
WOODED OR SHRUB AREA	---

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

EQUATION
STA. 645+88.65 BK =
STA. 645+00.00 AH

END PROJECT 9130-03-63
STA. 860+40
Y = 566,423.99
X = 894,209.70



NET EXCEPTION TO CL LENGTH
STA. 462+67 TO 463+60
B-21-0003

BEGIN PROJECT 9130-03-63
STA. 404+95
Y = 522,673.44
X = 897,400.45

LAYOUT
SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 8.643 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, FOREST COUNTY, USGS NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES. ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO USGS NAVD88.

STATE PROJECT

9130-03-63

FEDERAL PROJECT

PROJECT

WISC 2020158

CONTRACT

1

ORIGINAL PLANS PREPARED BY



1835 N. Stevens St. Rhinelander, WI 54501
715-362-3244 1-800-844-7854 Fax: 715-362-4116



DATE: 10/23/19
(Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	
Surveyor	MSA PROFESSIONAL SERVICES, INC.
Designer	MSA PROFESSIONAL SERVICES, INC.
Project Manager	STACY HAGENBUCHER, P.E.
Regional Examiner	CHERYL SIMON, P.E.
Regional Supervisor	ROBIN STAFFORD, P.E.

APPROVED FOR THE DEPARTMENT
DATE: 10/23/19
(Signature)

E

GENERAL NOTES

EXISTING UTILITIES ARE NOT SHOWN EXCEPT IN AREAS OF CULVERT REPLACEMENTS. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE AREA THAT ARE NOT SHOWN.

THE 5.0" OF ASPHALTIC SURFACE SHALL CONSIST OF A 3.0" LOWER LAYER WITH No. 3 (19.0 MM) NOMINAL SIZE AGGREGATE AND A 2.0" UPPER LAYER WITH No. 4 (12.5 MM) NOMINAL SIZE AGGREGATE.

R/W APPROXIMATED ON PLAN SHEETS BASED ON AS-BUILTS/GIS DATA.

SECTION 2 ORDER

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS

AS-BUILT REFERENCE (YEAR)*

9131-08-60 (2002)

*APPROVAL YEAR (NOT CONSTRUCTION)

DNR CONTACT

DEPARTMENT OF NATURAL RESOURCES
JON SIMONSEN
107 SUTLIFF AVE.
RHINELANDER, WI, 54501
PHONE: (715) 367-1936
EMAIL: JONATHAN.SIMONSEN@WISCONSIN.GOV

UTILITIES

COMMUNICATIONS

CENTURYLINK INC.
PETE JOHNSON
2425 MARY ST.
MARINETTE, WI 54143
PHONE: (715) 735-0059 (OFFICE)
PHONE: (715) 938-1480
EMAIL: PETER.S.JOHNSON@CENTURYLINK.COM

PACKERLAND BROADBAND
ANDY HEIGL
105 KENT ST.
IRON MOUNTAIN, WI 49801
PHONE: (906) 776-2609 (WORK)
PHONE: (906) 221-7536 (MOBILE)
EMAIL: ANDY.HEIGL@PLBB.NET

ELECTRIC

WISCONSIN PUBLIC SERVICE CORPORATION "WIPSC"
SCOTT ZELLNER
2850 S ASHLAND AVE.
GREEN BAY, WI 54304
PHONE: (920) 617-5068 (WORK)
PHONE: (920) 608-2188 (MOBILE)
EMAIL: SCOTT.ZELLNER@WISCONSINPUBLICSERVICE.COM

GAS/PETROLEUM

WISCONSIN PUBLIC SERVICE CORPORATION "WIPSC"
RORY TAMMINGA
1717 10TH AVE.
MENOMINEE, MI 49858
PHONE: (906) 863-4328 (WORK)
PHONE: (262) 909-0645 (MOBILE)
EMAIL: RORY.TAMMINGA@WISCONSINPUBLICSERVICE.COM

SEWER AND WATER

LAONA SANITARY DISTRICT
CHAD BELLAND
P.O. BOX 303
LAONA, WI, 54541
PHONE: (715) 674-7005 (WORK)
PHONE: (715) 889-0380 (MOBILE)
EMAIL: LAONASANITARYDISTRICT@CENTURYLINK.NET

RUNOFF COEFFICIENT TABLE

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

TOTAL PROJECT AREA = 87.0 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 2.63 ACRES

DIGGERSHOTLINE

Dial 811 or (800)242-8511

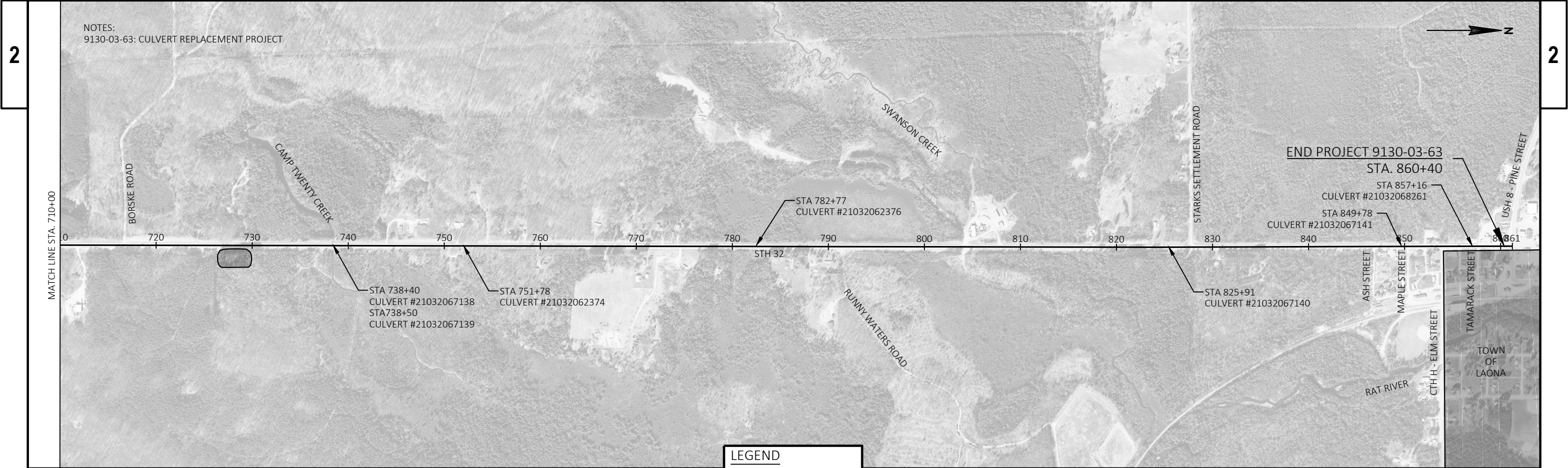
www.DiggersHotline.com

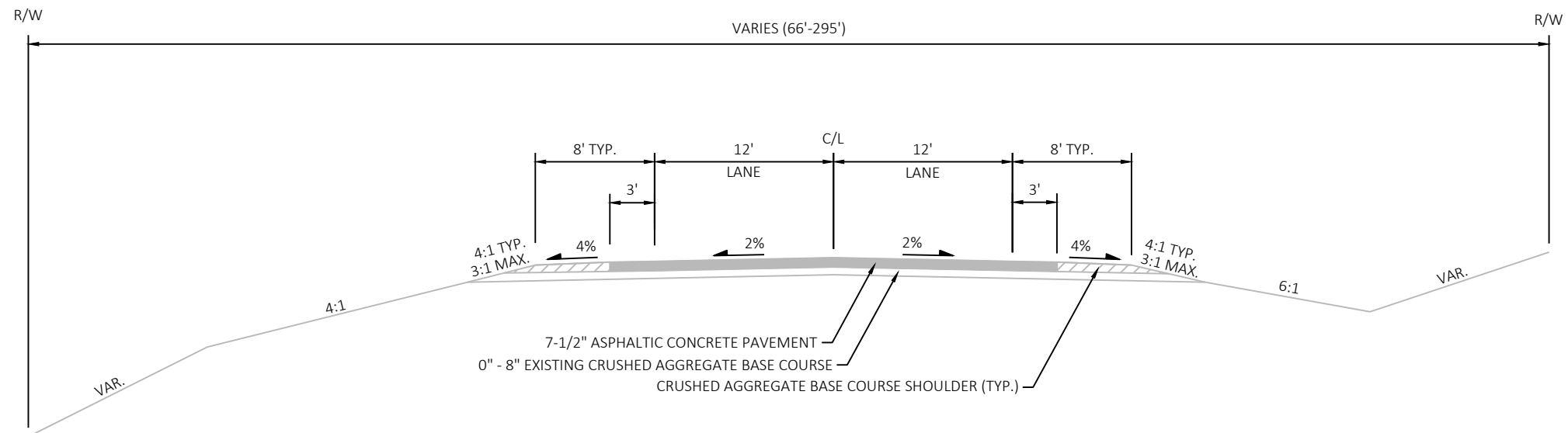
2

2

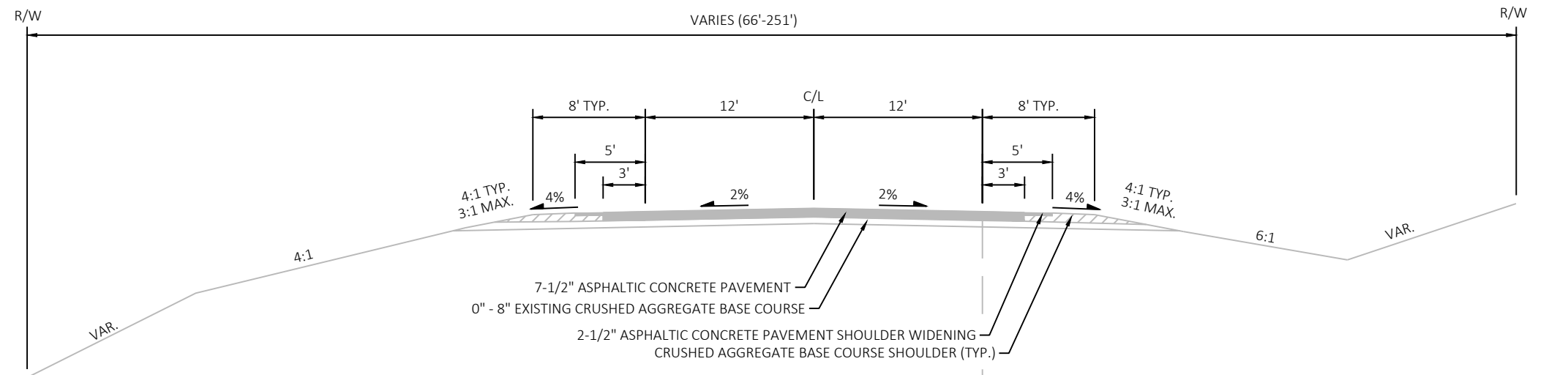


E

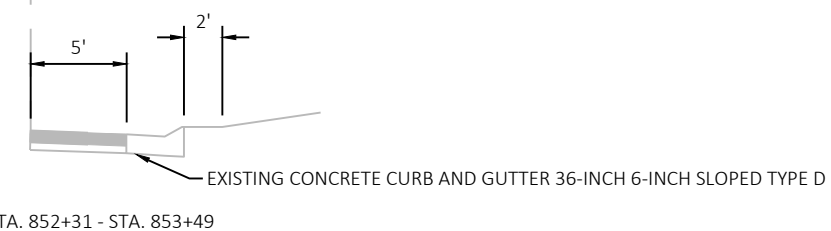


**EXISTING TYPICAL SECTION**

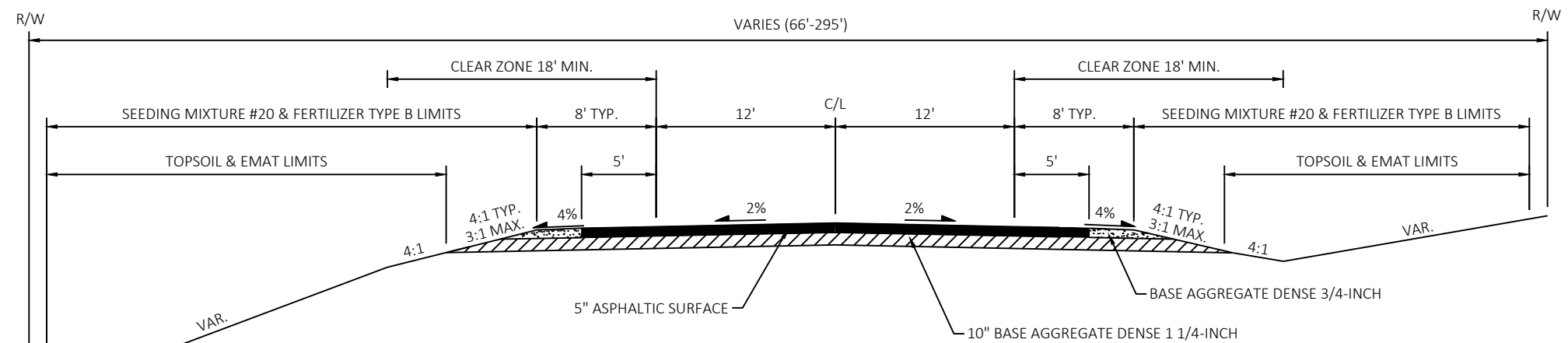
STA. 404+95 - STA. 446+50

**EXISTING TYPICAL SECTION**

STA. 446+50 - STA. 860+40

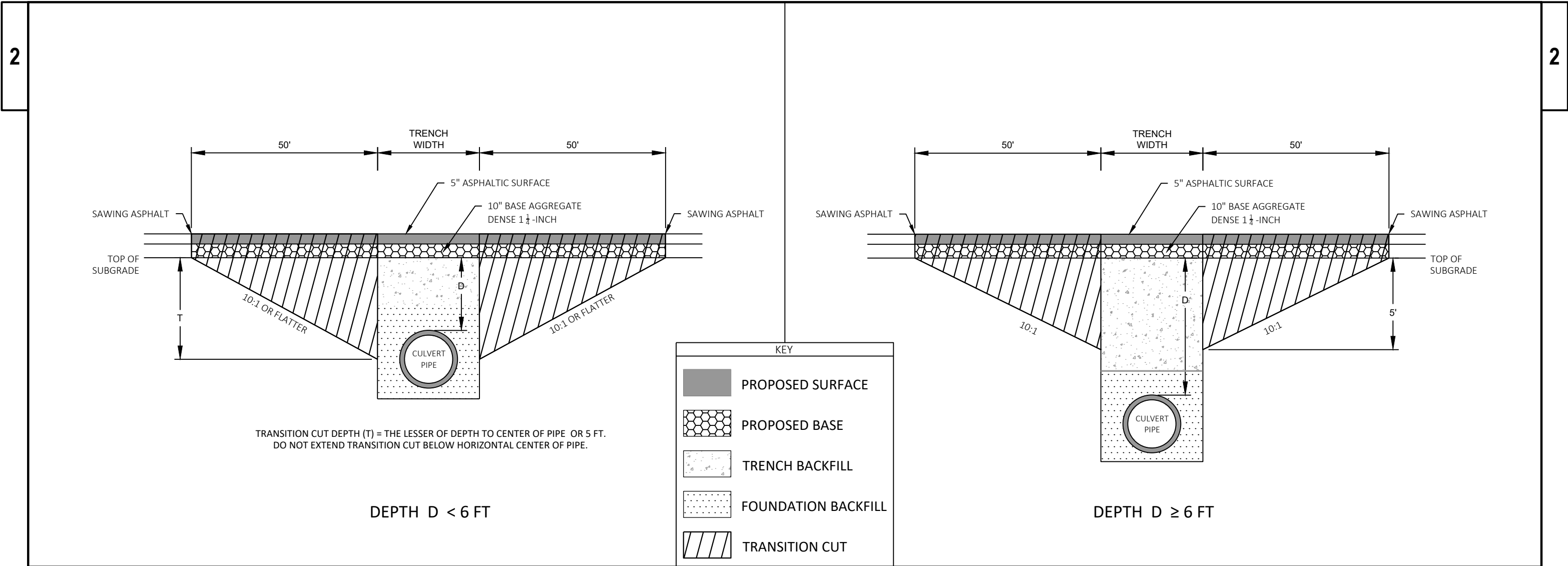


STA. 852+31 - STA. 853+49



FINISHED TYPICAL SECTION

CULVERT REPLACEMENTS
(SEE CULVERT PIPE TRANSITION DETAIL FOR LOCATIONS)



NOTES

TRANSITION CUT IS PAID AS EXCAVATION COMMON.

TRANSITION CUT WIDTH IS FROM SUBGRADE SHOULDER POINT TO SUBGRADE SHOULDER POINT.

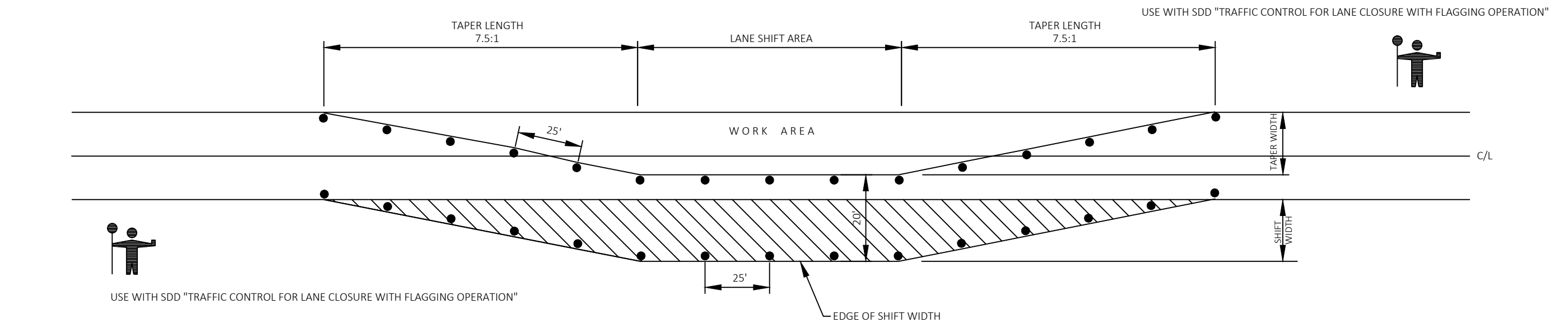
BACKFILL THE TRANSITION CUT AREAS WITH FOUNDATION AND TRENCH BACKFILL AS SPECIFIED IN STANDARD SPEC 520.

CULVERT TRENCH EXCAVATION IS INCIDENTAL TO CULVERT PIPE ITEMS.

CULVERT PIPE TRANSITION

CULVERT NUMBER	STA (CL)	DEPTH D (FT)	PIPE DIA (IN)
21052066814	22+67*	2.5'	24"
21000062362	443+70	2.3'	36"
21032062352 & 21032067114	480+31 & 480+43	2.5'	43"X68"
21032067134	550+08	3.7'	24"
21032067135	604+38	3.9'	36"
21032067136	646+90	0.7'	24"
21032067137	670+99	7.0'	36"
21032067138 & 21032067139	738+40 & 738+50	4.0'	48"X48"
21032062374	751+78	2.0'	24"
21032062376	782+77	1.8'	30"
21032067140	825+91	4.3'	30"
21032067141	849+78	1.4'	24"
21032068261	857+16	0.6'	24"

* SHORTEN CULVERT PIPE TRANSITION DUE TO INTERSECTION.

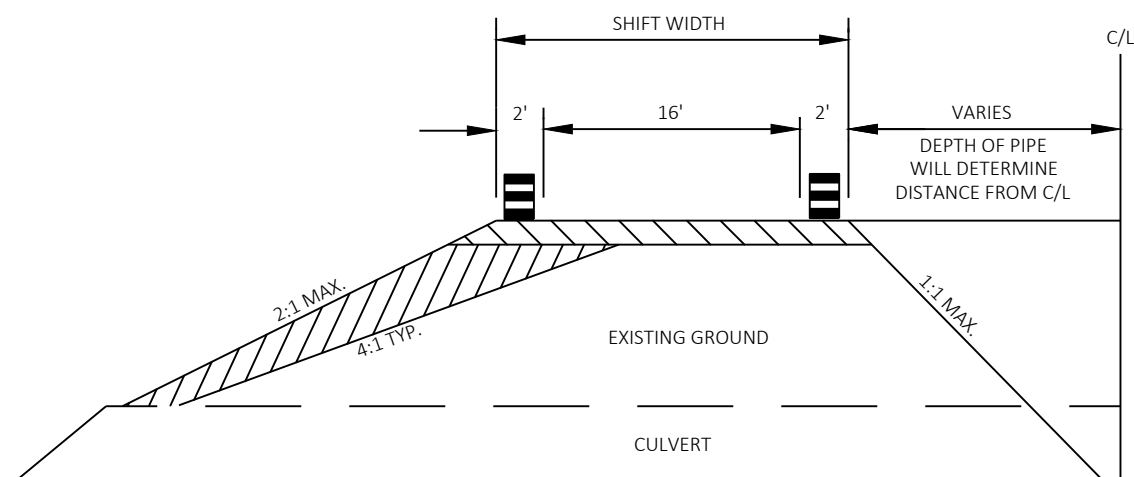


NOTES

1. THE TAPER SHOULD EXTEND ACROSS THE SHOULDER UNLESS DOING SO WOULD GREATLY CONFLICT THE WORK OPERATION.
2. ALL LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL DEVICES REMOVED BEYOND THE SHOULDER WHEN WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION.
3. CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.
4. USE WITH STANDARD DETAIL DRAWING, "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION."
5. FLAGGERS ARE SPECIFIC TO THIS OPERATION.
6. LANE SHIFTS SHALL ONLY BE USED DURING DAYLIGHT HOURS.
7. AT ALL OTHER CULVERT REPLACEMENT LOCATIONS FOLLOW TRAFFIC CONTROL AS SHOWN ON THIS LANE SHIFT DETAIL. THE LANE SHIFT ITEM WILL NOT BE PAID AT CULVERT REPLACEMENT LOCATIONS THAT DO NOT REQUIRE ROADWAY WIDENING.

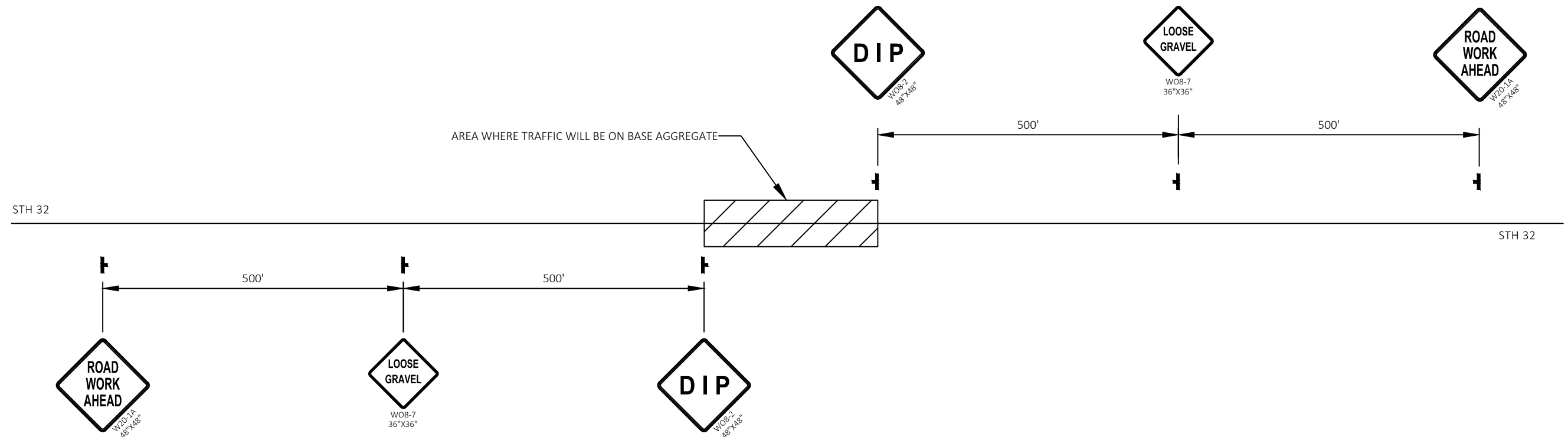
KEY

●	TRAFFIC CONTROL DRUM
	6" BASE AGGREGATE DENSE 1 1/4-INCH (INCIDENTAL TO LANE SHIFT ITEM)
	FILL (INCIDENTAL TO LANE SHIFT ITEM)



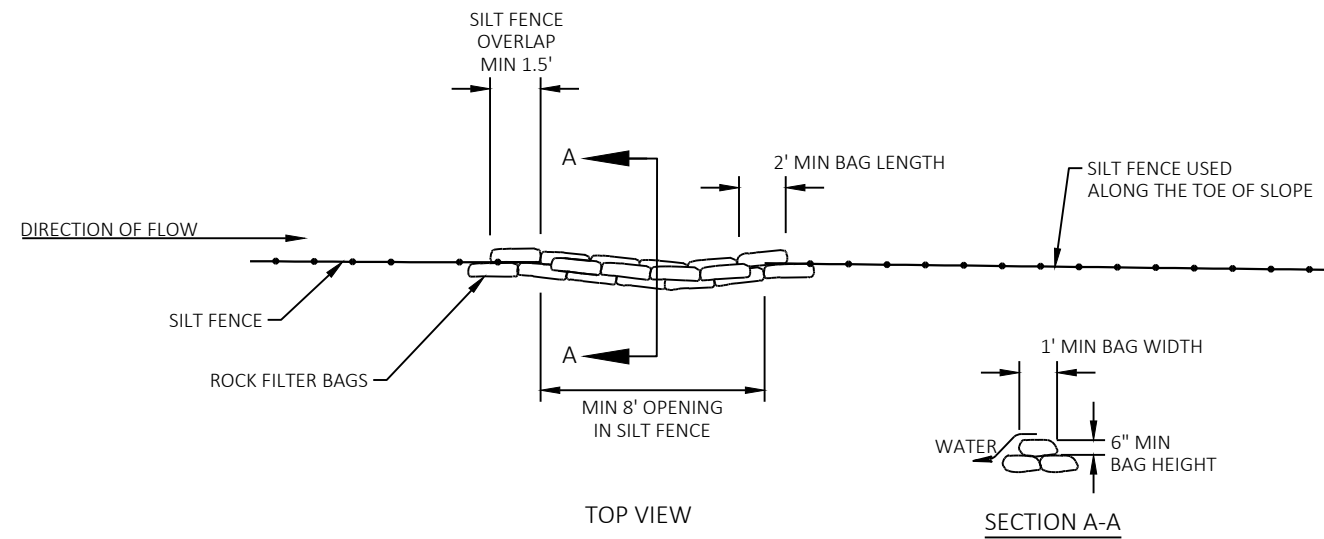
LANE SHIFT DETAIL

SEE NOTE 7
STA 480+31 & 480+43
STA 550+08
STA 604+38
STA 646+90
STA 670+99
STA 738+40 & 738+50
STA 751+78
STA 782+77
STA 825+91
STA 849+78
STA 857+16

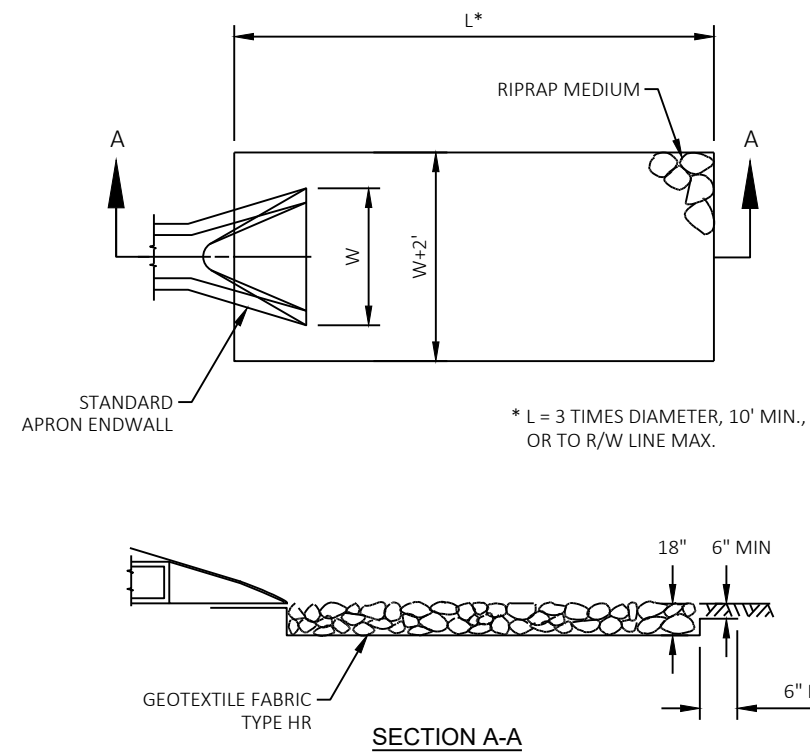


TEMPORARY SIGNING AT CULVERT PIPE REPLACEMENT

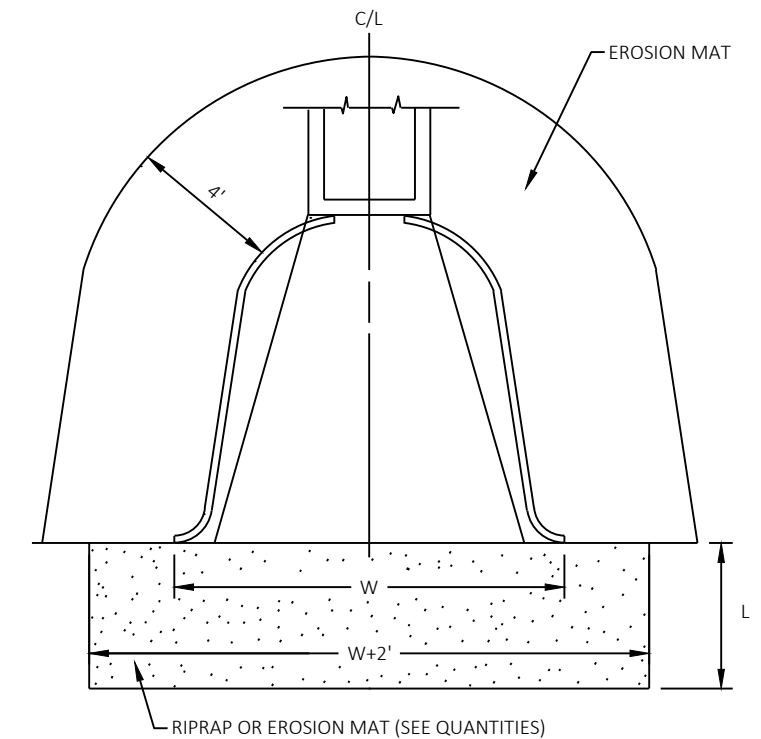
USE AT ALL CULVERT PIPE REPLACEMENTS WHEN ASPHALTIC SURFACE IS NOT IN PLACE.



ROCK BAGS USED FOR SILT FENCE RELIEF

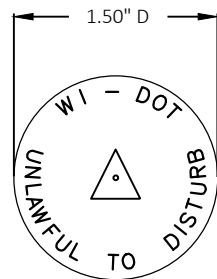


RIP RAP AND GEOTEXTILE



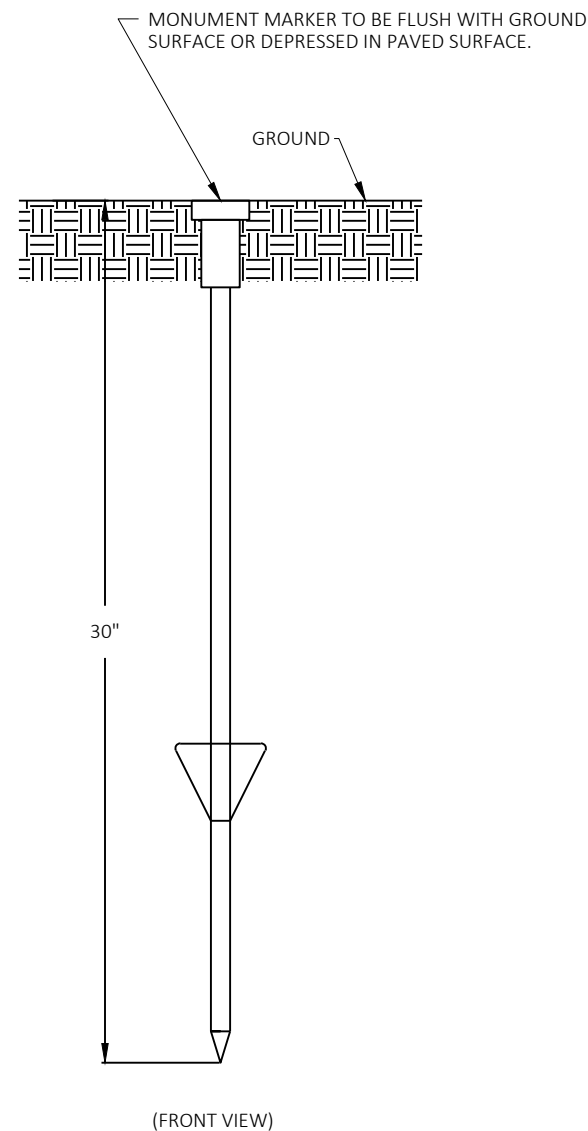
EROSION CONTROL AT PIPE ENDS

L = 3 TIMES DIAMETER, 10' MIN. OR R/W LINE MAX.
INCREASE IF WARRANTED

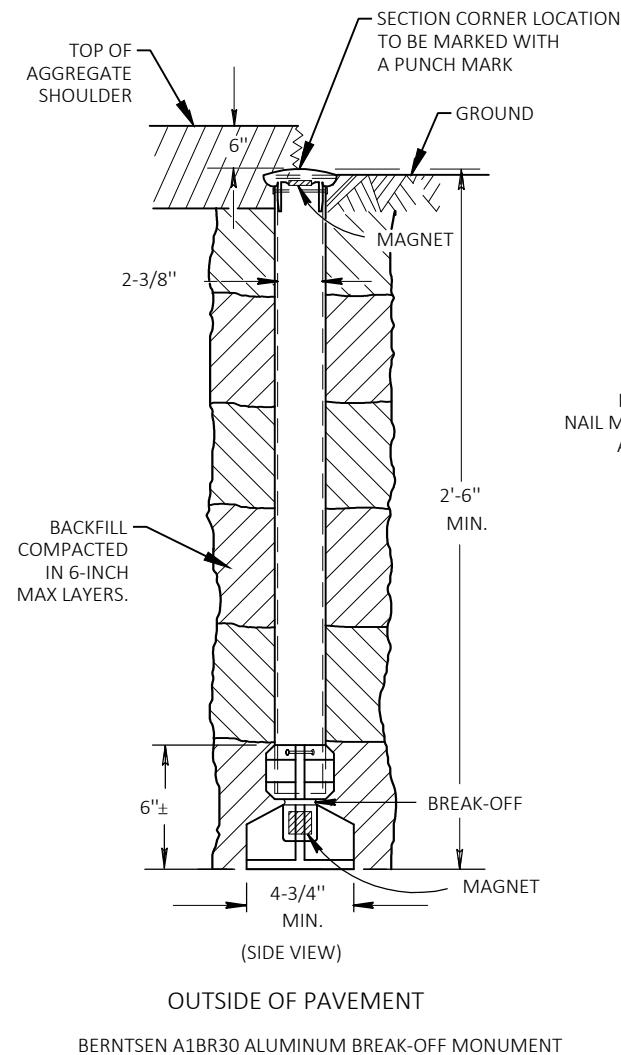


WIS DOT MONUMENT CAP MARKER LOGO (SSDR130)

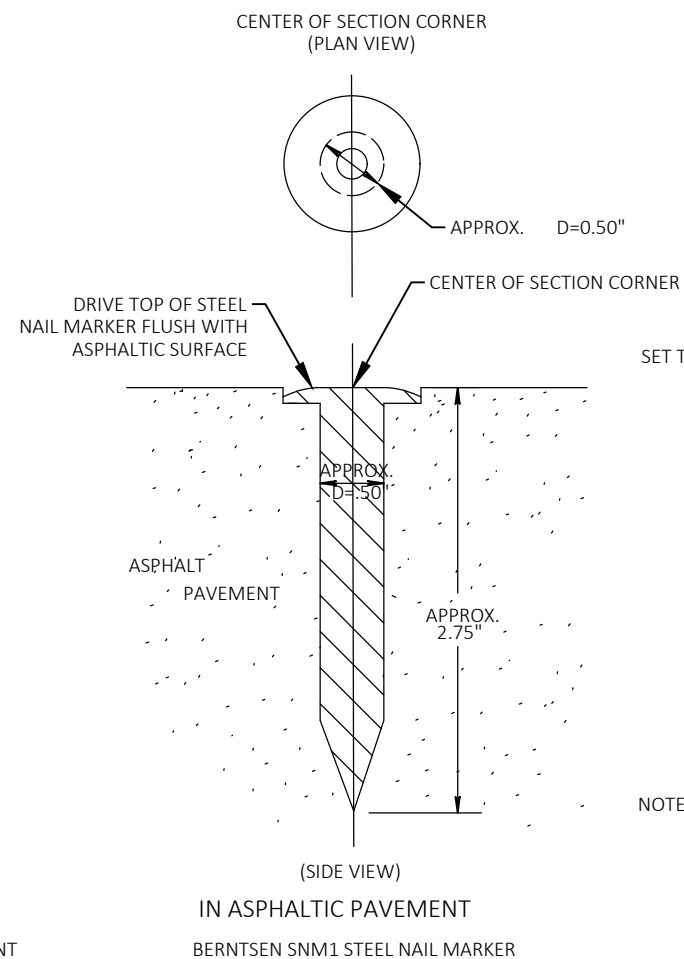
CONTRACTOR TO ORDER LANDMARK REFERENCE MONUMENTS WITH THE ABOVE STAMPING



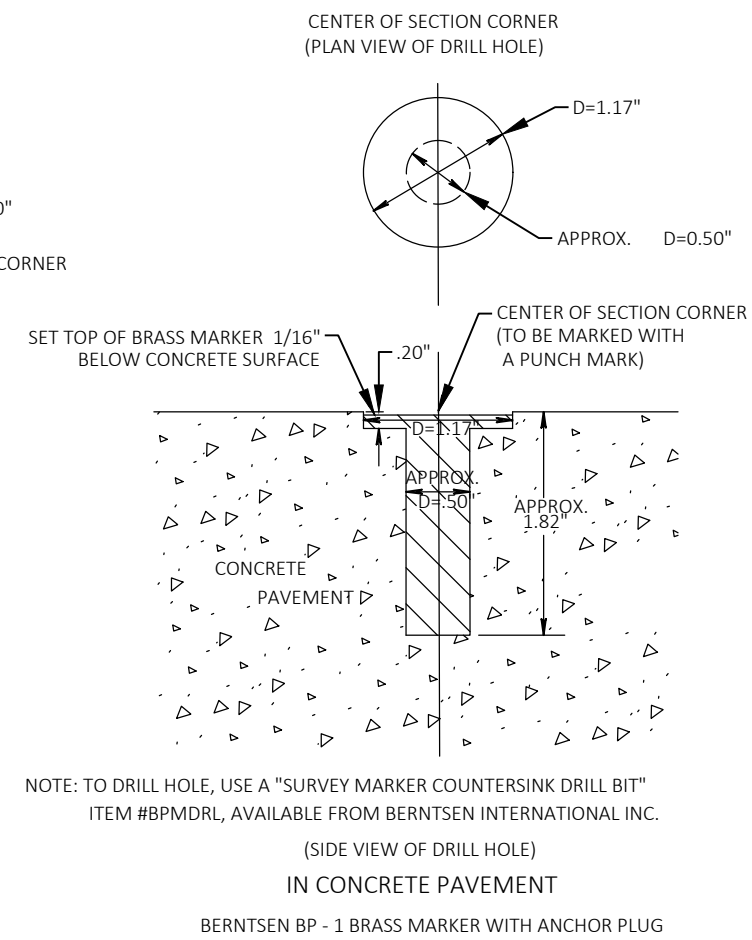
BERNSTEN DRIVABLE MONUMENT SSDR130
LANDMARK REFERENCE MONUMENT (TIES ONLY)



OUTSIDE OF PAVEMENT
BERNTSEN A1BR30 ALUMINUM BREAK-OFF MONUMENT



IN ASPHALTIC PAVEMENT
BERNTSEN SNM1 STEEL NAIL MARKER



NOTE: TO DRILL HOLE, USE A "SURVEY MARKER COUNTERSINK DRILL BIT" ITEM #BPMMDRL, AVAILABLE FROM BERNTSEN INTERNATIONAL INC.

IN CONCRETE PAVEMENT
BERNTSEN BP - 1 BRASS MARKER WITH ANCHOR PLUG

SECTION CORNER MONUMENTS

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.

LOCATE LANDMARK REFERENCE MONUMENTS OUTSIDE THE CONSTRUCTION LIMITS AND WITHIN WISDOT RIGHT OF WAY. LOCATION TO BE APPROVED BY THE ENGINEER.

CONTRACTOR WILL SUPPLY ALL REQUIRED SURVEY MONUMENTS.

SECTION CORNER MONUMENT AND LANDMARK REFERENCE MONUMENT DETAIL

Estimate Of Quantities

9130-03-63

Line	Item	Item Description	Unit	Total	Qty
0002	203.0100	Removing Small Pipe Culverts	EACH	14.000	14.000
0004	204.0150	Removing Curb & Gutter	LF	141.000	141.000
0006	205.0100	Excavation Common	CY	6,450.000	6,450.000
0008	209.2100	Backfill Granular Grade 2	CY	200.000	200.000
0010	213.0100	Finishing Roadway (project) 01. 9130-03-63	EACH	1.000	1.000
0012	305.0110	Base Aggregate Dense 3/4-Inch	TON	396.000	396.000
0014	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	4,461.000	4,461.000
0016	455.0605	Tack Coat	GAL	300.000	300.000
0018	465.0105	Asphaltic Surface	TON	1,692.000	1,692.000
0020	520.1024	Apron Endwalls for Culvert Pipe 24-Inch	EACH	6.000	6.000
0022	520.1030	Apron Endwalls for Culvert Pipe 30-Inch	EACH	2.000	2.000
0024	520.1036	Apron Endwalls for Culvert Pipe 36-Inch	EACH	6.000	6.000
0026	520.3624	Culvert Pipe Class III-B Non-metal 24-Inch	LF	216.000	216.000
0028	520.3630	Culvert Pipe Class III-B Non-metal 30-Inch	LF	84.000	84.000
0030	520.3636	Culvert Pipe Class III-B Non-metal 36-Inch	LF	278.000	278.000
0032	522.0424	Culvert Pipe Reinforced Concrete Class IV 24-Inch	LF	152.000	152.000
0034	522.0430	Culvert Pipe Reinforced Concrete Class IV 30-Inch	LF	64.000	64.000
0036	522.0448	Culvert Pipe Reinforced Concrete Class IV 48-Inch	LF	152.000	152.000
0038	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	6.000	6.000
0040	522.1030	Apron Endwalls for Culvert Pipe Reinforced Concrete 30-Inch	EACH	2.000	2.000
0042	522.1048	Apron Endwalls for Culvert Pipe Reinforced Concrete 48-Inch	EACH	4.000	4.000
0044	522.2343	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-III 43x68-Inch	LF	144.000	144.000
0046	522.2643	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 43x68-Inch	EACH	4.000	4.000
0048	601.0557	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	LF	141.000	141.000
0050	606.0200	Riprap Medium	CY	51.000	51.000
0052	618.0100	Maintenance And Repair of Haul Roads (project) 01. 9130-03-63	EACH	1.000	1.000
0054	619.1000	Mobilization	EACH	1.000	1.000
0056	621.0100	Landmark Reference Monuments	EACH	2.000	2.000
0058	624.0100	Water	MGAL	73.000	73.000
0060	625.0100	Topsoil	SY	7,363.000	7,363.000
0062	628.1504	Silt Fence	LF	3,560.000	3,560.000
0064	628.1520	Silt Fence Maintenance	LF	3,560.000	3,560.000
0066	628.1905	Mobilizations Erosion Control	EACH	3.000	3.000
0068	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0070	628.2008	Erosion Mat Urban Class I Type B	SY	7,363.000	7,363.000

Estimate Of Quantities

9130-03-63

Line	Item	Item Description	Unit	Total	Qty
0072	628.7504	Temporary Ditch Checks	LF	100.000	100.000
0074	628.7555	Culvert Pipe Checks	EACH	92.000	92.000
0076	628.7570	Rock Bags	EACH	100.000	100.000
0078	629.0210	Fertilizer Type B	CWT	4.600	4.600
0080	630.0120	Seeding Mixture No. 20	LB	199.000	199.000
0082	630.0160	Seeding Mixture No. 60	LB	10.000	10.000
0084	630.0500	Seed Water	MGAL	83.000	83.000
0086	633.5200	Markers Culvert End	EACH	60.000	60.000
0088	638.2102	Moving Signs Type II	EACH	3.000	3.000
0090	642.5001	Field Office Type B	EACH	1.000	1.000
0092	643.0300	Traffic Control Drums	DAY	1,250.000	1,250.000
0094	643.0900	Traffic Control Signs	DAY	1,688.000	1,688.000
0096	643.5000	Traffic Control	EACH	1.000	1.000
0098	645.0120	Geotextile Type HR	SY	150.000	150.000
0100	646.1020	Marking Line Epoxy 4-Inch	LF	2,830.000	2,830.000
0102	646.4520	Marking Line Same Day Epoxy 4-Inch	LF	1,427.000	1,427.000
0104	646.6120	Marking Stop Line Epoxy 18-Inch	LF	32.000	32.000
0106	650.4500	Construction Staking Subgrade	LF	1,469.000	1,469.000
0108	650.5000	Construction Staking Base	LF	1,469.000	1,469.000
0110	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	141.000	141.000
0112	650.6000	Construction Staking Pipe Culverts	EACH	15.000	15.000
0114	650.9910	Construction Staking Supplemental Control (project) 01. 9130-03-63	LS	1.000	1.000
0116	690.0150	Sawing Asphalt	LF	1,167.000	1,167.000
0118	690.0250	Sawing Concrete	LF	12.000	12.000
0120	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	300.000	300.000
0122	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	600.000	600.000
0124	SPV.0060	Special 01. Lane Shift	EACH	11.000	11.000
0126	SPV.0060	Special 02. Reestablish Section Corner Monuments	EACH	2.000	2.000
0128	SPV.0105	Special 01. Temporary Water Diversion - Tributary To North Branch Oconto River	LS	1.000	1.000
0130	SPV.0105	Special 02. Temporary Water Diversion - Camp Twenty Creek	LS	1.000	1.000

REMOVING ASPHALTIC SURFACE	
LOCATION	204.0110 SY
DRIVEWAYS	179
TOTAL	179

BACKFILL GRANULAR	
LOCATION	209.2100 GRADE 2 CY
CULVERT PIPE TRANSITION - UNDISTRIBUTED	200
TOTAL	200

ASPHALT ITEMS			
STATION	LOCATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
22+67	CULVERT REPLACEMENT	25	143
443+70	CULVERT REPLACEMENT	28	155
480+31 & 480+43	CULVERT REPLACEMENT	29	162
550+08	CULVERT REPLACEMENT	21	119
604+38	CULVERT REPLACEMENT	21	120
646+90	CULVERT REPLACEMENT	21	119
670+99	CULVERT REPLACEMENT	21	120
738+40 & 738+50	CULVERT REPLACEMENT	23	129
751+78	CULVERT REPLACEMENT	21	119
782+77	CULVERT REPLACEMENT	21	119
825+91	CULVERT REPLACEMENT	21	120
849+78	CULVERT REPLACEMENT	24	136
857+16	CULVERT REPLACEMENT	24	133
TOTALS		300	1,692

EXCAVATION COMMON		
STATION	LOCATION	205.0100 CY
22+67	CULVERT PIPE TRANSITION	442
443+70	CULVERT PIPE TRANSITION	553
480+31 & 480+43	CULVERT PIPE TRANSITION	532
550+08	CULVERT PIPE TRANSITION	593
604+38	CULVERT PIPE TRANSITION	595
646+90	CULVERT PIPE TRANSITION	311
670+99	CULVERT PIPE TRANSITION	701
738+40 & 738+50	CULVERT PIPE TRANSITION	594
751+78	CULVERT PIPE TRANSITION	423
782+77	CULVERT PIPE TRANSITION	404
825+91	CULVERT PIPE TRANSITION	635
849+78	CULVERT PIPE TRANSITION	367
857+16	CULVERT PIPE TRANSITION	301
TOTAL		6,450

NOTE: COMMON EXCAVATION INCLUDES THE REMOVAL OF ASPHALTIC SURFACE.

BASE AGGREGATE DENSE				
STATION	LOCATION	305.0110 3/4-INCH TON	305.0120 1 1/4-INCH TON	624.0100 WATER MGAL
22+67	CULVERT REPLACEMENT	16	339	--
443+70	CULVERT REPLACEMENT	29	414	--
480+31 & 480+43	CULVERT REPLACEMENT	36	404	--
550+08	CULVERT REPLACEMENT	29	322	--
604+38	CULVERT REPLACEMENT	29	322	--
646+90	CULVERT REPLACEMENT	29	322	--
670+99	CULVERT REPLACEMENT	29	322	--
738+40 & 738+50	CULVERT REPLACEMENT	31	352	--
751+78	CULVERT REPLACEMENT	29	322	--
782+77	CULVERT REPLACEMENT	29	322	--
825+91	CULVERT REPLACEMENT	29	322	--
849+78	CULVERT REPLACEMENT	29	322	--
857+16	CULVERT REPLACEMENT	29	322	--
--	UNDISTRIBUTED	25	50	73
TOTALS		396	4,461	73

REFERENCE MONUMENTS				
LOCATION	APPROXIMATE STATION	EA	621.0100 LANDMARK REFERENCE MONUMENTS	SPV. 0060.02 REESTABLISH SECTION CORNER MONUMENTS
NW OF THE SW, SECTION 19, T35N, R15E	STA 646+78	1		1
NW OF THE SW, SECTION 7, T35N, R15E	STA 752+37	1		1
TOTALS		2		2

NOTE: ALL ITEMS ON THIS SHEET ARE CATEGORY 0010 UNLESS INDICATED OTHERWISE IN THE ITEM TABLE.

CULVERT ITEMS

		203.0100 REMOVING SMALL PIPE CULVERTS	520.1024 APRON ENDWALL FOR CP 24-INCH	520.1030 APRON ENDWALL FOR CP 30-INCH	520.1036 APRON ENDWALL FOR CP 36-INCH	520.3624 CULVERT PIPE CLASS III-B NON-METAL 24-INCH	520.3630 CULVERT PIPE CLASS III-B NON-METAL 30-INCH	520.3636 CULVERT PIPE CLASS III-B NON-METAL 36-INCH	522.1024 APRON ENDWALL FOR CPRC 24-INCH	522.1030 APRON ENDWALL FOR CPRC 30-INCH	522.1048 APRON ENDWALL FOR CPRC 48-INCH	522.2643 APRON ENDWALL FOR CPRC HE 43 X 68-INCH	522.0424 CULVERT PIPE REINFORCED CONCRETE CLASS IV 24-INCH LF	522.0430 CULVERT PIPE REINFORCED CONCRETE CLASS IV 30-INCH LF	522.0448 CULVERT PIPE REINFORCED CONCRETE CLASS IV 48-INCH LF	522.2343 CULVERT PIPE REINFORCED CONCRETE CLASS HE-III 43 X 68-INCH LF	633.5200 MARKERS CULVERT END	650.6000 STAKING PIPE CULVERTS	CULVERT ID
STATION	LOCATION	EA	EA	EA	EA	LF	LF	LF	EA	EA	EA	EA					EA	EA	
22+67	STH 52	1	2	--	--	72	--	--	--	--	--	--	--	--	--	--	2	1	#21052066814
403+97	STH 32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	--	#21032000280
415+98	STH 32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	--	#21032000281
419+93	STH 32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	--	#21032000282
443+70	STH 32	1	--	--	2	--	--	90	--	--	--	--	--	--	--	--	2	1	#21000062362
474+79	STH 32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	--	#21032000284
480+31	STH 32	--	--	--	--	--	--	--	--	--	--	2	--	--	--	--	1	1	#21032062352
480+43	STH 32	1	--	--	--	--	--	--	--	--	--	2	--	--	--	72	1	1	#21032067114
502+46	STH 32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	--	#21032000286
525+59	STH 32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	--	#21032000287
536+24	STH 32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	--	#21032000288
550+08	STH 32	1	2	--	--	80	--	--	--	--	--	--	--	--	--	--	2	1	#21032067134
569+41	STH 32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	--	#21032000290
584+17	STH 32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	--	#21032000291
597+48	STH 32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	--	#21032000292
604+38	STH 32	1	--	--	2	--	--	84	--	--	--	--	--	--	--	--	2	1	#21032067135
617+79	STH 32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	--	#21032000294
646+90	STH 32	1	--	--	--	--	--	--	2	--	--	--	48	--	--	--	2	1	#21032067136
670+99	STH 32	1	--	--	2	--	--	104	--	--	--	--	--	--	--	--	2	1	#21032067137
701+87	STH 32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	--	#21032000297
738+40	STH 32	1	--	--	--	--	--	--	--	--	2	--	--	--	76	--	1	1	#21032067138
738+50	STH 32	1	--	--	--	--	--	--	--	--	2	--	--	--	76	--	1	1	#21032067139
751+78	STH 32	1	2	--	--	64	--	--	--	--	--	--	--	--	--	--	2	1	#21032062374
782+77	STH 32	1	--	--	--	--	--	--	2	--	--	--	--	64	--	--	2	1	#21032062376
798+13	STH 32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	--	#21032000302
812+20	STH 32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	--	#21032000303
812+30	STH 32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	--	#21032000304
825+91	STH 32	1	--	2	--	--	84	--	--	--	--	--	--	--	--	--	2	1	#21032067140
838+84	STH 32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	--	#21032000306
843+28	STH 32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	--	#21032068257
849+78	STH 32	1	--	--	--	--	--	--	2	--	--	--	56	--	--	--	2	1	#21032067141
857+16	STH 32	1	--	--	--	--	--	--	2	--	--	--	48	--	--	--	2	1	#21032068261
TOTALS		14	6	2	6	216	84	278	6	2	4	4	152	64	152	144	60	15	

NOTE: TIE ALL CONCRETE CULVERT PIPE JOINTS.

CONCRETE CURB AND GUTTER

		204.0150 REMOVING	601.0557 6-INCH SLOPED 36-INCH TYPE D	650.5500 STAKING
STATION	LOCATION	LF	LF	LF
22+45 - 22+90	STH 52, LT & RT	59	59	59
849+90 - 850+25	STH 32, RT	44	44	44
857+25 - 857+50	STH 32, RT	38	38	38
TOTALS		141	141	141

NOTE: LOCATIONS FOR CONCRETE CURB AND GUTTER REPLACEMENTS AT CULVERT PIPE TRANSITIONS TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

RIPRAP MEDIUM

		606.0200 RIPRAP MEDIUM CY	645.0120 GEOTEXTILE TYPE HR SY
STATION	LOCATION		
480+31 & 480+43	STH 32, LT	18	49
670+99	STH 32, RT	4	15
738+40 & 738+50	STH 32, LT	13	37
738+40 & 738+50	STH 32, RT	13	37
782+77	STH 32, RT	3	13
TOTALS		51	150

TRAFFIC CONTROL

LOCATION	DURATION (DAYS)	643.5000 TRAFFIC CONTROL		643.0300 DRUMS		643.0900 SIGNS	
		EACH		EACH	DAY	EACH	DAY
PROJECT 9130-03-63	--	1		--	--	--	--
ADVANCED WARNING	47	--		--	--	29	1,363
CULVERT REPLACEMENTS	30	--		40	1,200	6	180
UNDISTRIBUTED	5	--		10	50	29	145
TOTALS		1			1,250		1,688

NOTE: ALL ITEMS ON THIS SHEET ARE CATEGORY 0010 UNLESS INDICATED OTHERWISE IN THE ITEM TABLE.

3

RESTORATION								
STATION	LOCATION	625.0100	628.2008	629.0210	630.0120	630.0160	628.7555	630.0500
		TOPSOIL	EROSION MAT	FERTILIZER	SEEDING	SEEDING	CULVERT	SEED
			URBAN CLASS I	TYPE B	MIXTURE #20	MIXTURE #60	PIPE	WATER
		SY	SY	CWT	LB	LB	EA	MGAL
22+67	CULVERT REPLACEMENT	387	387	0.24	10	--	3	4.3
443+70	CULVERT REPLACEMENT	738	738	0.46	20	--	14	8.3
480+31 & 480+43	CULVERT REPLACEMENT	642	642	0.40	17	--	15	7.2
550+08	CULVERT REPLACEMENT	675	675	0.42	18	--	3	7.6
604+38	CULVERT REPLACEMENT	671	671	0.42	18	--	7	7.5
646+90	CULVERT REPLACEMENT	298	298	0.19	8	--	3	3.4
670+99	CULVERT REPLACEMENT	1,027	1,027	0.65	28	--	5	11.5
738+40 & 738+50	CULVERT REPLACEMENT	773	773	0.49	21	--	20	8.7
751+78	CULVERT REPLACEMENT	363	363	0.23	10	--	3	4.1
782+77	CULVERT REPLACEMENT	475	475	0.30	13	--	3	5.3
825+91	CULVERT REPLACEMENT	626	626	0.39	17	--	5	7.0
849+78	CULVERT REPLACEMENT	328	328	0.21	9	--	3	3.7
857+16	CULVERT REPLACEMENT	260	260	0.16	7	--	3	2.9
--	UNDISTRIBUTED (WETLANDS)	100	100	0.06	3	10	5	1.1
TOTALS		7,363	7,363	4.6	199	10	92	83

CONSTRUCTION STAKING			
LOCATION	650.4500	650.5000	650.9910
	SUBGRADE	BASE	SUPPLEMENTAL
	LF	LF	LS
STA 22+12 - STA 23+09	97	97	--
STA 443+14 - STA 444+26	112	112	--
STA 479+62 - STA 481+12	150	150	--
STA 549+53 - STA 550+63	110	110	--
STA 603+83 - STA 604+93	110	110	--
STA 646+35 - STA 647+45	110	110	--
STA 670+44 - STA 671+54	110	110	--
STA 737+85 - STA 739+05	120	120	--
STA 751+23 - STA 752+33	110	110	--
STA 782+22 - STA 783+32	110	110	--
STA 825+36 - STA 826+46	110	110	--
STA 849+23 - STA 850+33	110	110	--
STA 856+61 - STA 857+71	110	110	--
PROJECT 9130-03-63	--	--	1
TOTAL	1,469	1,469	1

3

EROSION CONTROL							
STATION	LOCATION	628.1504	628.1520	628.1905	628.1910	628.7570	628.7504
		SILT FENCE	SILT FENCE	MOBILIZATION	MOBILIZATION	ROCK	TEMPORARY
		LF	LF	EA	EA	EA	DITCH CHECKS
22+67	CULVERT REPLACEMENT	225	225	--	--	--	--
443+70	CULVERT REPLACEMENT	260	260	--	--	--	--
480+31 & 480+43	CULVERT REPLACEMENT	350	350	--	--	--	--
550+08	CULVERT REPLACEMENT	250	250	--	--	--	--
604+38	CULVERT REPLACEMENT	250	250	--	--	--	--
646+90	CULVERT REPLACEMENT	250	250	--	--	--	--
670+99	CULVERT REPLACEMENT	250	250	--	--	--	--
738+40 & 738+50	CULVERT REPLACEMENT	300	300	--	--	--	--
751+78	CULVERT REPLACEMENT	210	210	--	--	--	--
782+77	CULVERT REPLACEMENT	260	260	--	--	--	--
825+91	CULVERT REPLACEMENT	260	260	--	--	--	--
849+78	CULVERT REPLACEMENT	250	250	--	--	--	--
857+16	CULVERT REPLACEMENT	245	245	--	--	--	--
--	PROJECT 9130-03-63	--	--	3	2	--	--
--	UNDISTRIBUTED	200	200	--	--	100	100
TOTALS		3,560	3,560	3	2	100	100

SAWING		
LOCATION	690.0150	690.0250
	ASPHALT	CONCRETE
CULVERT REPLACEMENTS	1,167	12
TOTALS	1,167	12

LANE SHIFT	
STATION	SPV.0060.01
	EA
STA. 480+31 & 480+43	1
STA. 550+08	1
STA. 604+38	1
STA. 646+90	1
STA. 670+99	1
STA. 738+40 & 738+50	1
STA. 751+78	1
STA. 782+77	1
STA. 825+91	1
STA. 849+78	1
STA. 857+16	1
TOTAL	11

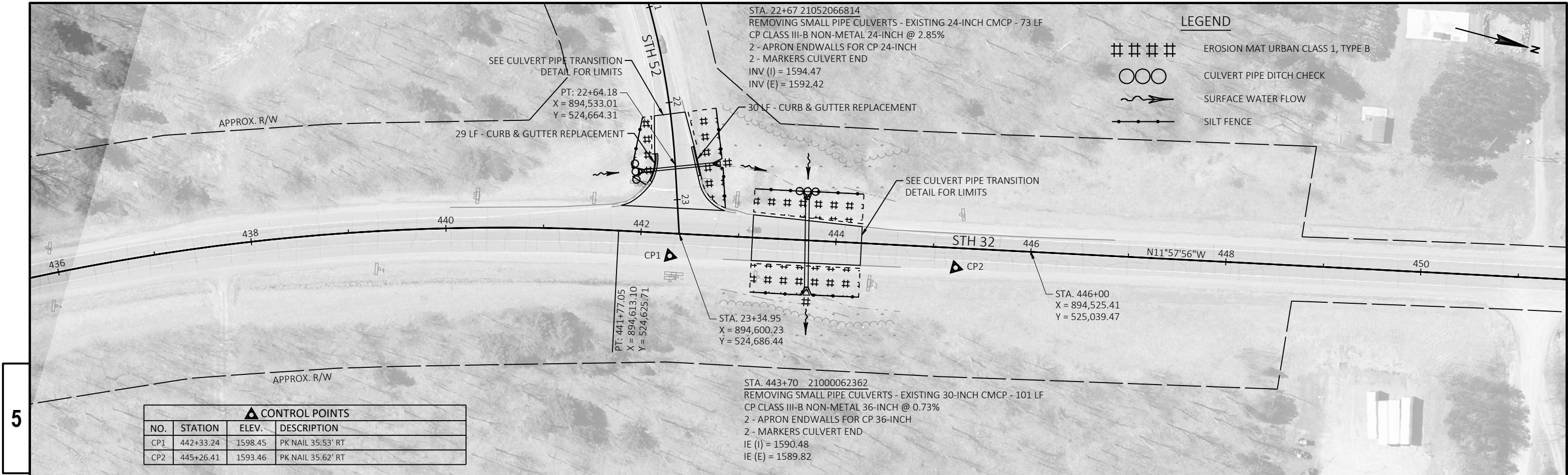
TEMPORARY WATER DIVERSION TRIBUTARY TO NORTH BRANCH OCONTO RIVER	
STATION	SPV.0105.01
	LS
480+31 & 480+43	1
TOTAL	1

TEMPORARY WATER DIVERSION CAMP TWENTY CREEK	
STATION	SPV.0105.02
	LS
738+40 & 738+50	1
TOTAL	1

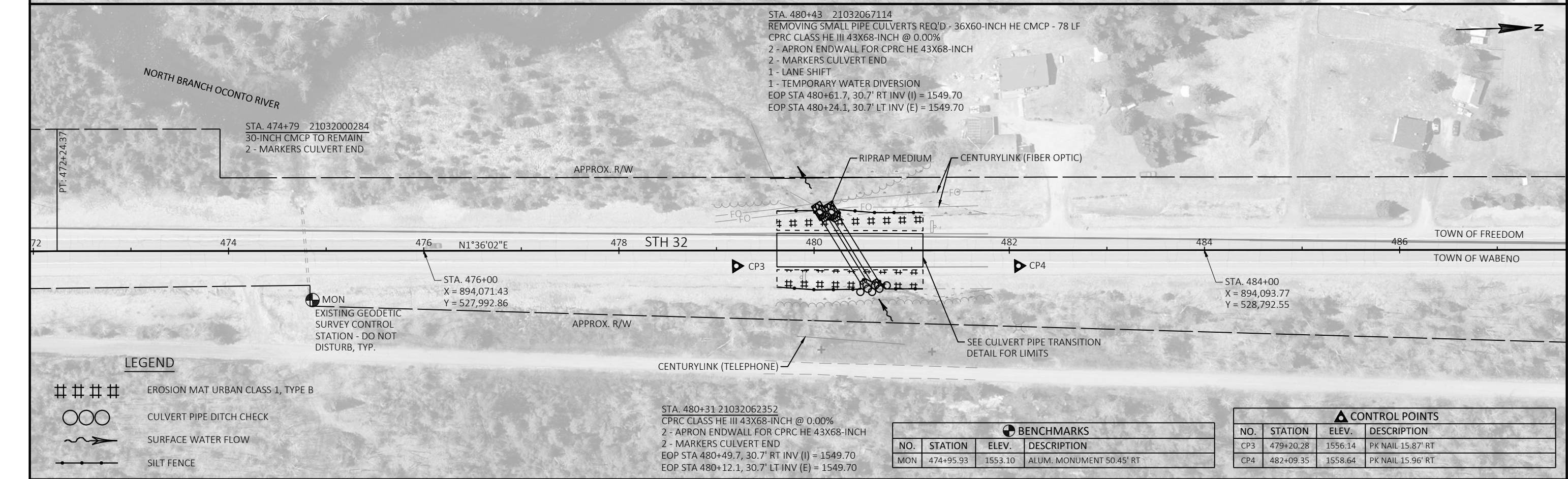
MOVING SIGNS		
LOCATION	638.2102	COMMENTS
	MOVING SIGNS	
	TYPE II	
STA 22+77, RT	1	TO MOVE DURING CULVERT REPLACEMENT
STA 850+00, RT	1	TO MOVE DURING CULVERT REPLACEMENT
STA 857+09, LT	1	TO MOVE DURING CULVERT REPLACEMENT
TOTALS	3	

MARKING			
LOCATION	646.1020	646.4520	646.6120
	LINE EPOXY	LINE	STOP LINE
	4-INCH	SAME DAY	EPOXY 18-INCH
	(WHITE)	EPOXY 4-INCH	
		(YELLOW)	
STH 32	2,770	1287	--
STH 52	60	140	32
TOTALS	2,830	1,427	32

NOTE: ALL ITEMS ON THIS SHEET ARE CATEGORY 0010 UNLESS INDICATED OTHERWISE IN THE ITEM TABLE.



CONTROL POINTS			
NO.	STATION	ELEV.	DESCRIPTION
CP1	442+33.24	1598.45	PK NAIL 35.53' RT
CP2	445+26.41	1593.46	PK NAIL 35.62' RT



LEGEND	
###	EROSION MAT URBAN CLASS 1, TYPE B
OOO	CULVERT PIPE DITCH CHECK
~>	SURFACE WATER FLOW
---	SILT FENCE

CONTROL POINTS			
NO.	STATION	ELEV.	DESCRIPTION
CP3	479+20.28	1556.14	PK NAIL 15.87' RT
CP4	482+09.35	1558.64	PK NAIL 15.96' RT

BENCHMARKS			
NO.	STATION	ELEV.	DESCRIPTION
MON	474+95.93	1553.10	ALUM. MONUMENT 50.45' RT

STA. 480+31 21032062352
CPRC CLASS HE III 43X68-INCH @ 0.00%
2 - APRON ENDWALL FOR CPRC HE 43X68-INCH
2 - MARKERS CULVERT END
EOP STA 480+49.7, 30.7' RT INV (I) = 1549.70
EOP STA 480+12.1, 30.7' LT INV (E) = 1549.70

PROJECT NO: 9130-03-63

HWY: STH 32

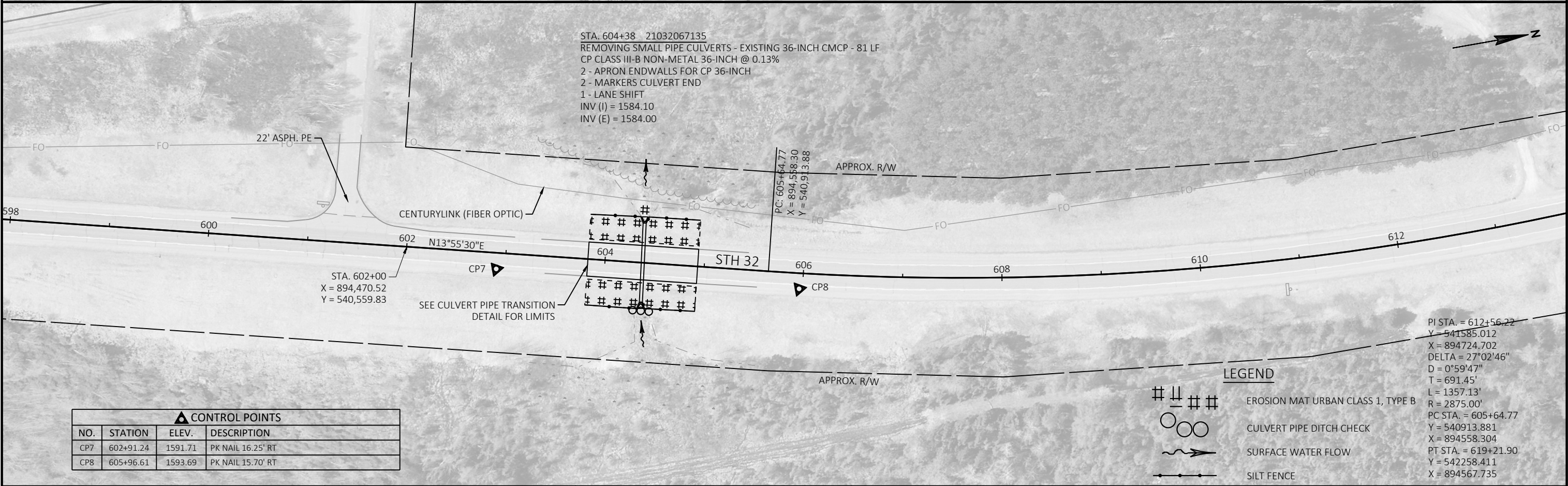
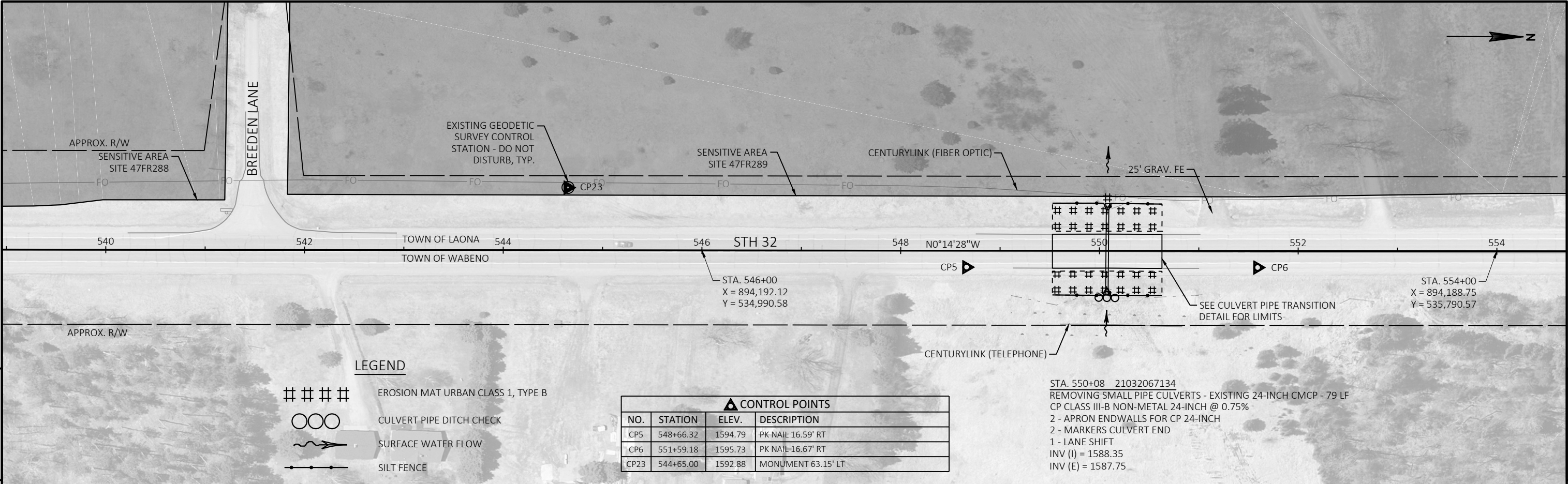
COUNTY: FOREST

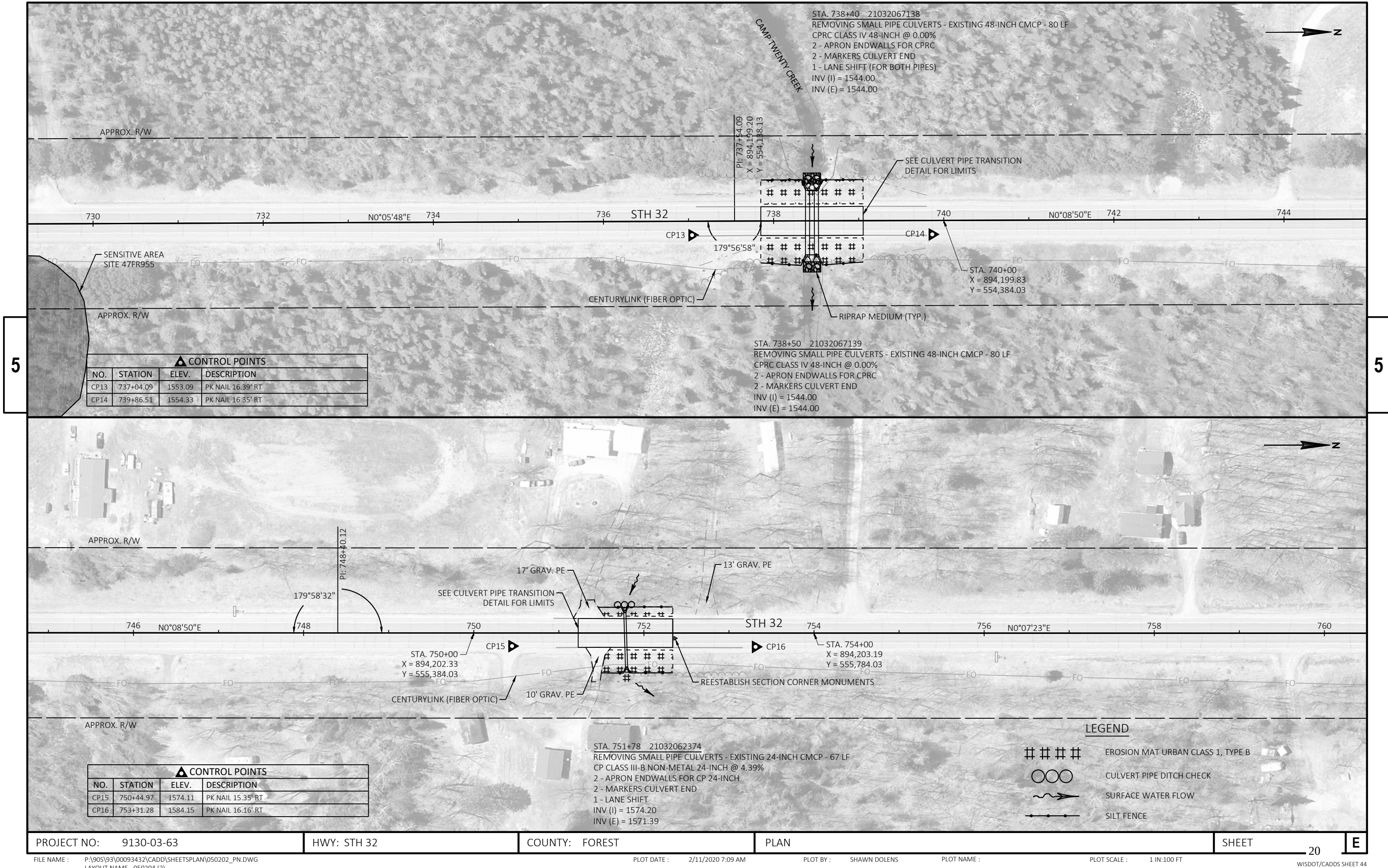
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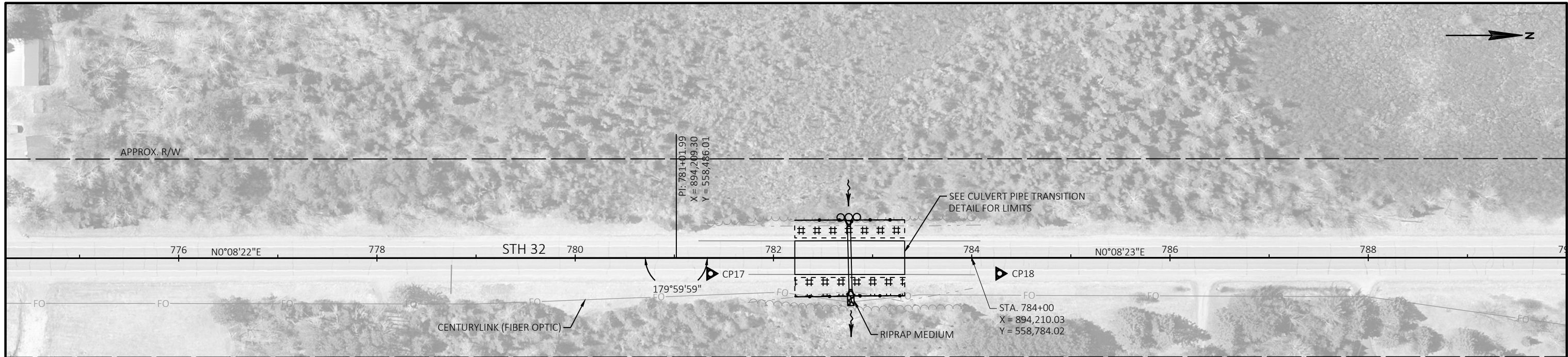
SHEET

17

E







5

APPROX. R/W

▲ CONTROL POINTS			
NO.	STATION	ELEV.	DESCRIPTION
CP17	781+36.53	1553.70	PK NAIL 15.80' RT
CP18	784+28.11	1555.83	PK NAIL 15.79' RT

####

EROSION MAT URBAN CLASS 1, TYPE B

ooo

CULVERT PIPE DITCH CHECK

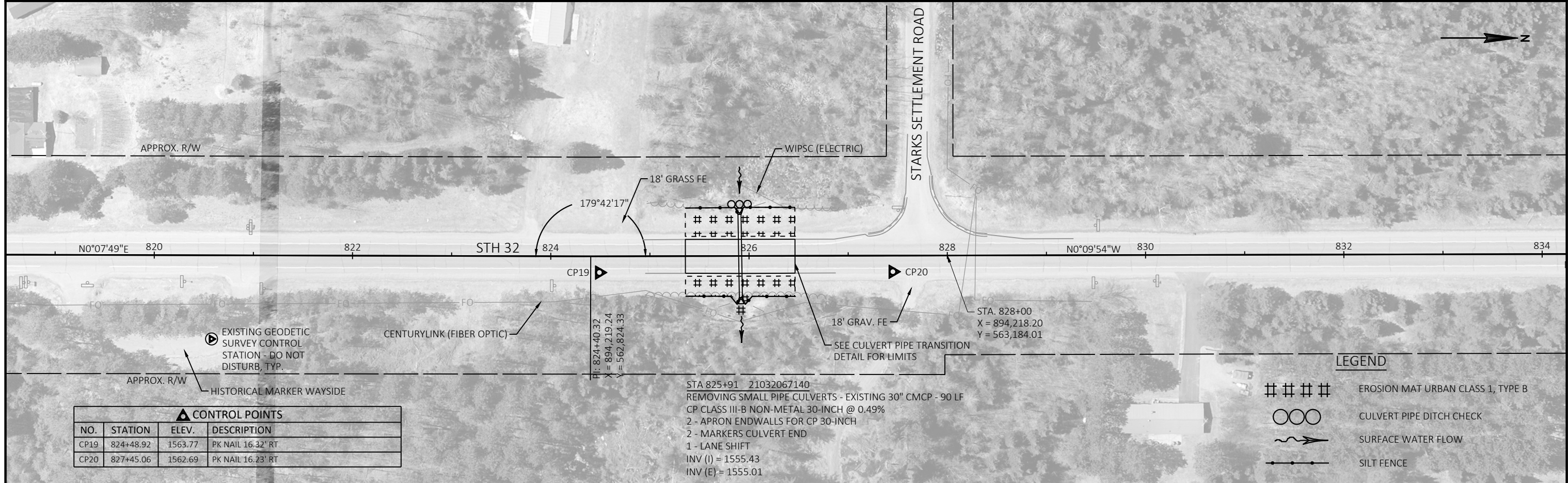
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SURFACE WATER FLOW

SILT FENCE

STA. 782+77 21032062376
REMOVING SMALL PIPE CULVERTS - EXISTING 24-INCH CMCP - 66 LF
CPRC CLASS IV 30-INCH @ 1.85%
2 - APRON ENDWALLS FOR CPRC 30-INCH
2 - MARKERS CULVERT END
1 - LANE SHIFT
INV (I) = 1549.37
INV (E) = 1548.19

5



APPROX. R/W

▲ CONTROL POINTS			
NO.	STATION	ELEV.	DESCRIPTION
CP19	824+48.92	1563.77	PK NAIL 16.32' RT
CP20	827+45.06	1562.69	PK NAIL 16.23' RT

####

EROSION MAT URBAN CLASS 1, TYPE B

ooo

CULVERT PIPE DITCH CHECK

~>

SURFACE WATER FLOW

SILT FENCE

STA 825+91 21032067140
REMOVING SMALL PIPE CULVERTS - EXISTING 30" CMCP - 90 LF
CP CLASS III-B NON-METAL 30-INCH @ 0.49%
2 - APRON ENDWALLS FOR CP 30-INCH
2 - MARKERS CULVERT END
1 - LANE SHIFT
INV (I) = 1555.43
INV (E) = 1555.01

5

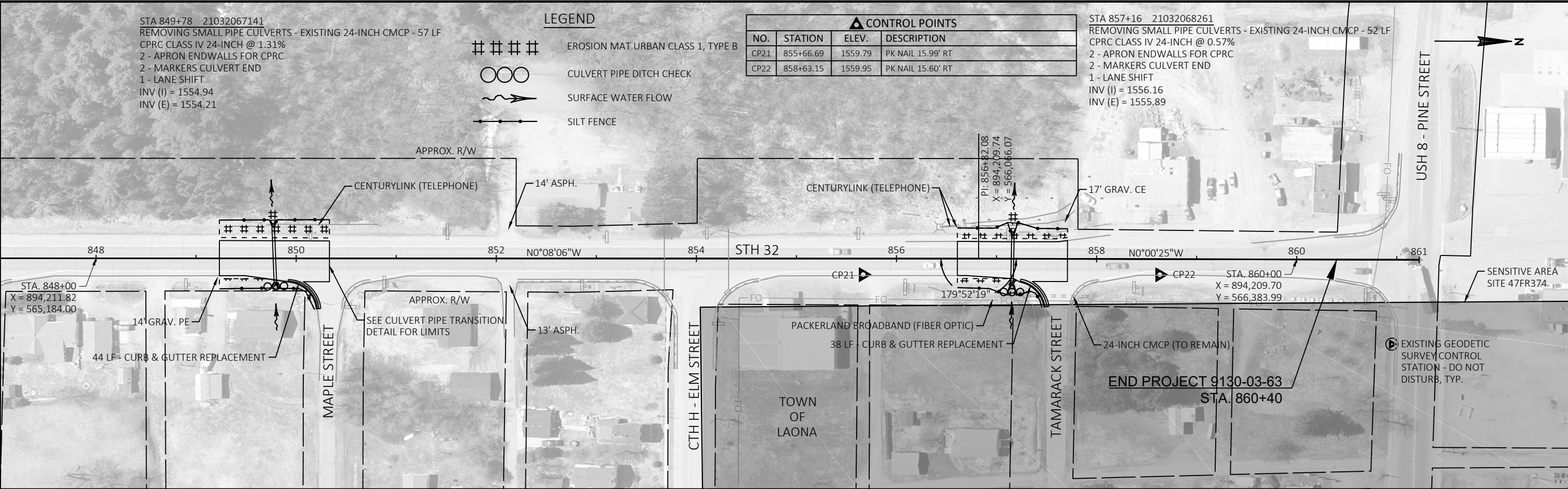
STA 849+78 21032067141
REMOVING SMALL PIPE CULVERTS - EXISTING 24-INCH CMCP - 57 LF
CPRC CLASS IV 24-INCH @ 1.31%
2 - APRON ENDWALLS FOR CPRC
2 - MARKERS CULVERT END
1 - LANE SHIFT
INV (I) = 1554.94
INV (E) = 1554.21

LEGEND

- #### EROSION MAT URBAN CLASS 1, TYPE B
- OOO CULVERT PIPE DITCH CHECK
- ~> SURFACE WATER FLOW
- - - SILT FENCE

CONTROL POINTS			
NO.	STATION	ELEV.	DESCRIPTION
CP21	855+66.69	1559.79	PK NAIL 15.99' RT
CP22	858+63.15	1559.95	PK NAIL 15.60' RT

STA 857+16 21032068261
REMOVING SMALL PIPE CULVERTS - EXISTING 24-INCH CMCP - 52 LF
CPRC CLASS IV 24-INCH @ 0.57%
2 - APRON ENDWALLS FOR CPRC
2 - MARKERS CULVERT END
1 - LANE SHIFT
INV (I) = 1556.16
INV (E) = 1555.89



PROJECT NO: 9130-03-63

HWY: STH 32

COUNTY: FOREST

PLAN

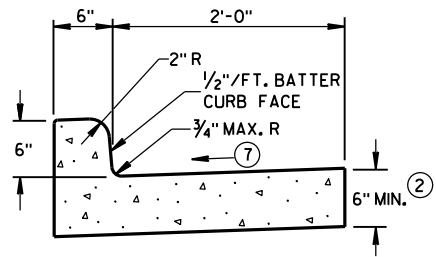
SHEET

22

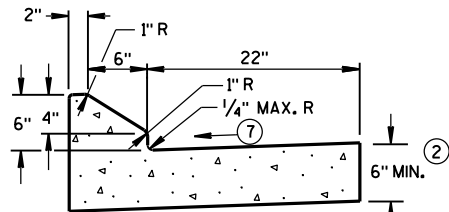
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Standard Detail Drawing List

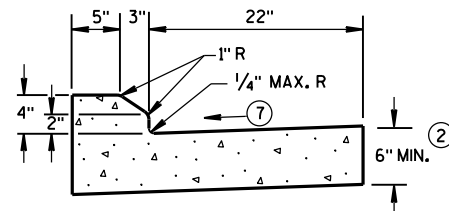
08D01-20A	CONCRETE CURB & GUTTER
08D01-20B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F02-01	APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
14B29-01	SAFETY EDGE
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C08-19A	LONGITUDINAL MARKING (MAINLINE)
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-07	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C19-05A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C33-03	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-03A	PAVEMENT MARKING (INTERSECTIONS)
15D28-03	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS



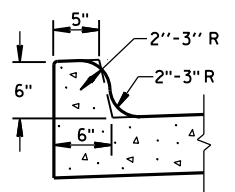
TYPES A^① & D



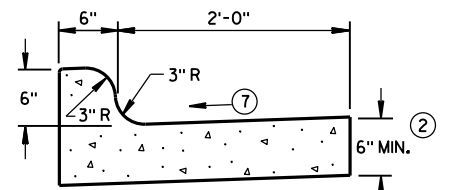
6" SLOPED CURB TYPES G^① & J



4" SLOPED CURB TYPES G^① & J

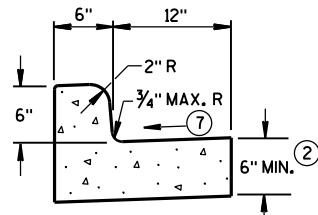


TYPES K^① & L
(OPTIONAL CURB SHAPE)



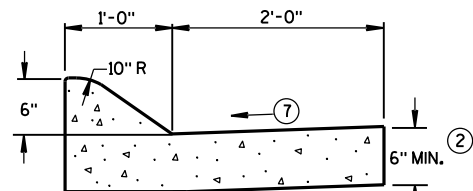
TYPES K^① & L

CONCRETE CURB & GUTTER 30"

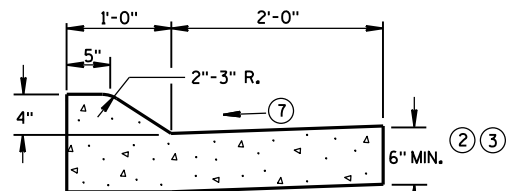


TYPES A^① & D

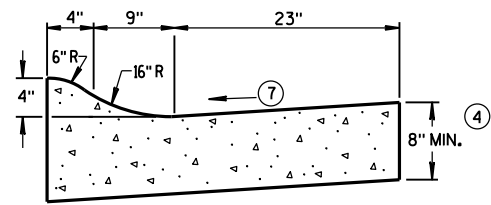
CONCRETE CURB & GUTTER 18"



6" SLOPED CURB TYPES A^① & D

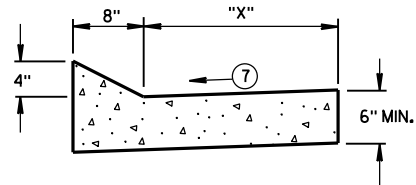


4" SLOPED CURB TYPES A^① & D



4" SLOPED CURB TYPES R^① & T^⑤

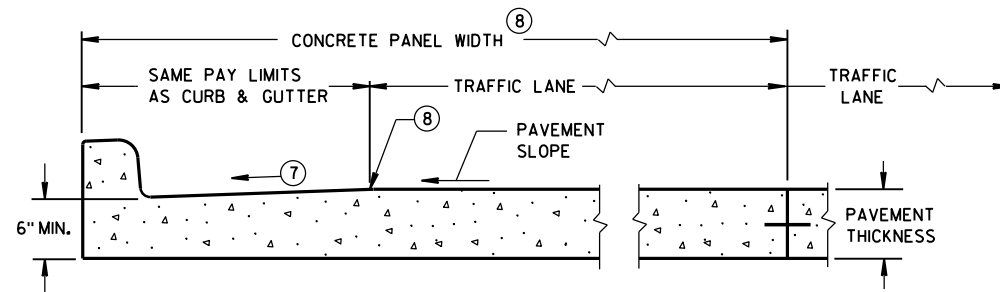
CONCRETE CURB & GUTTER 36"



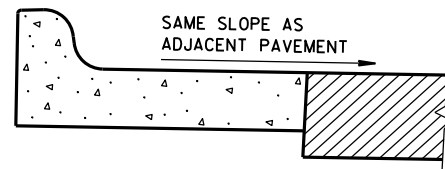
TYPES TBT & TBTT^①

CONCRETE CURB & GUTTER

TBT & TBTT	"X"
30"	22"
36"	28"



PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER



REVERSE SLOPE GUTTER^⑥
(TYPICAL FOR ALL CURB & GUTTER TYPES)

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.

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, R AND TBTT.
- 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 USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
- ④ 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.
- ⑤ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
- ⑦ USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
- ⑧ INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

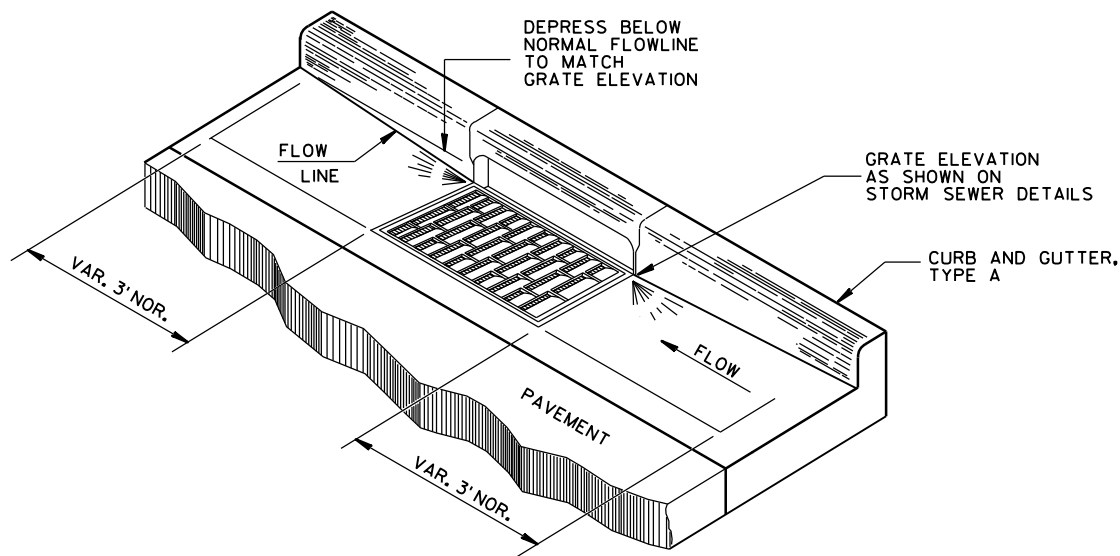
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'

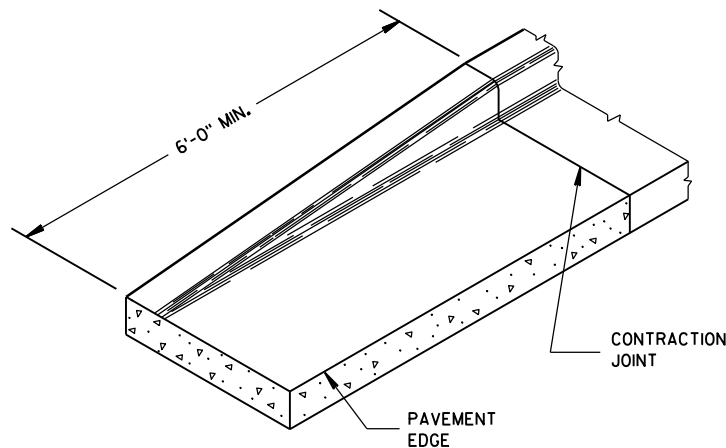
* BIKE LANE IS NOT SHOWN.

CONCRETE CURB & GUTTER

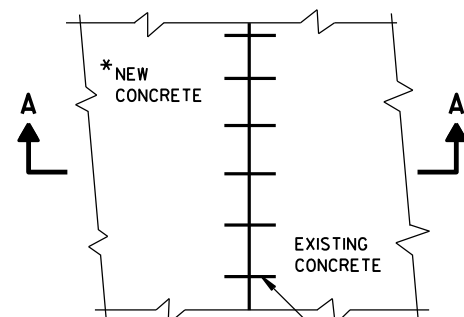
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



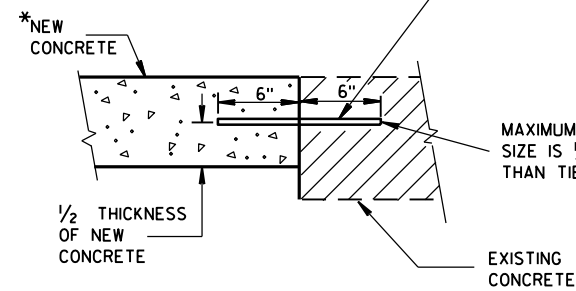
DETAIL OF CURB AND GUTTER AT INLETS
(TYPE H INLET COVER SHOWN)



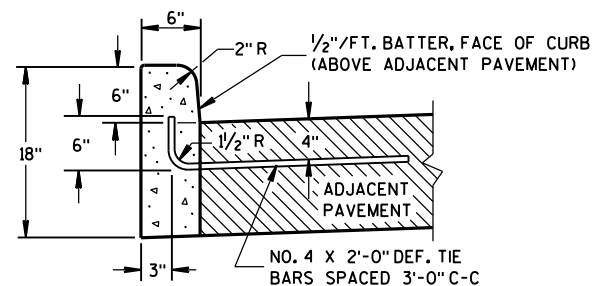
END SECTION CURB & GUTTER



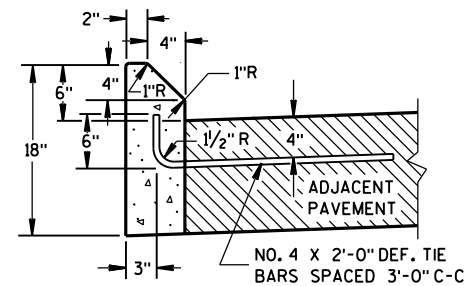
PLAN VIEW



SECTION A-A
TIE BARS DRILLED
INTO EXISTING PAVEMENT



TYPES A^① & D

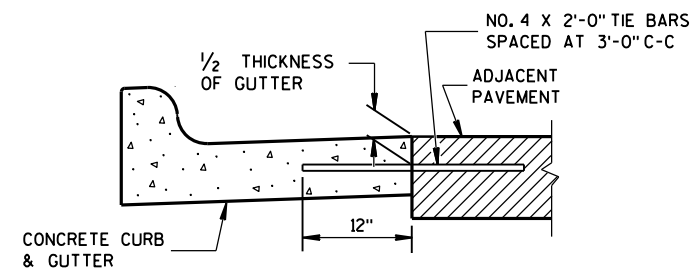


TYPES G^① & J

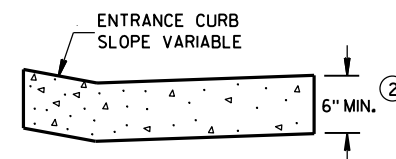
GENERAL NOTES

- 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.
- 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, R AND TBTT.
 - 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 REFER TO SDD 8D18 AND SDD 8D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.

CONCRETE CURB

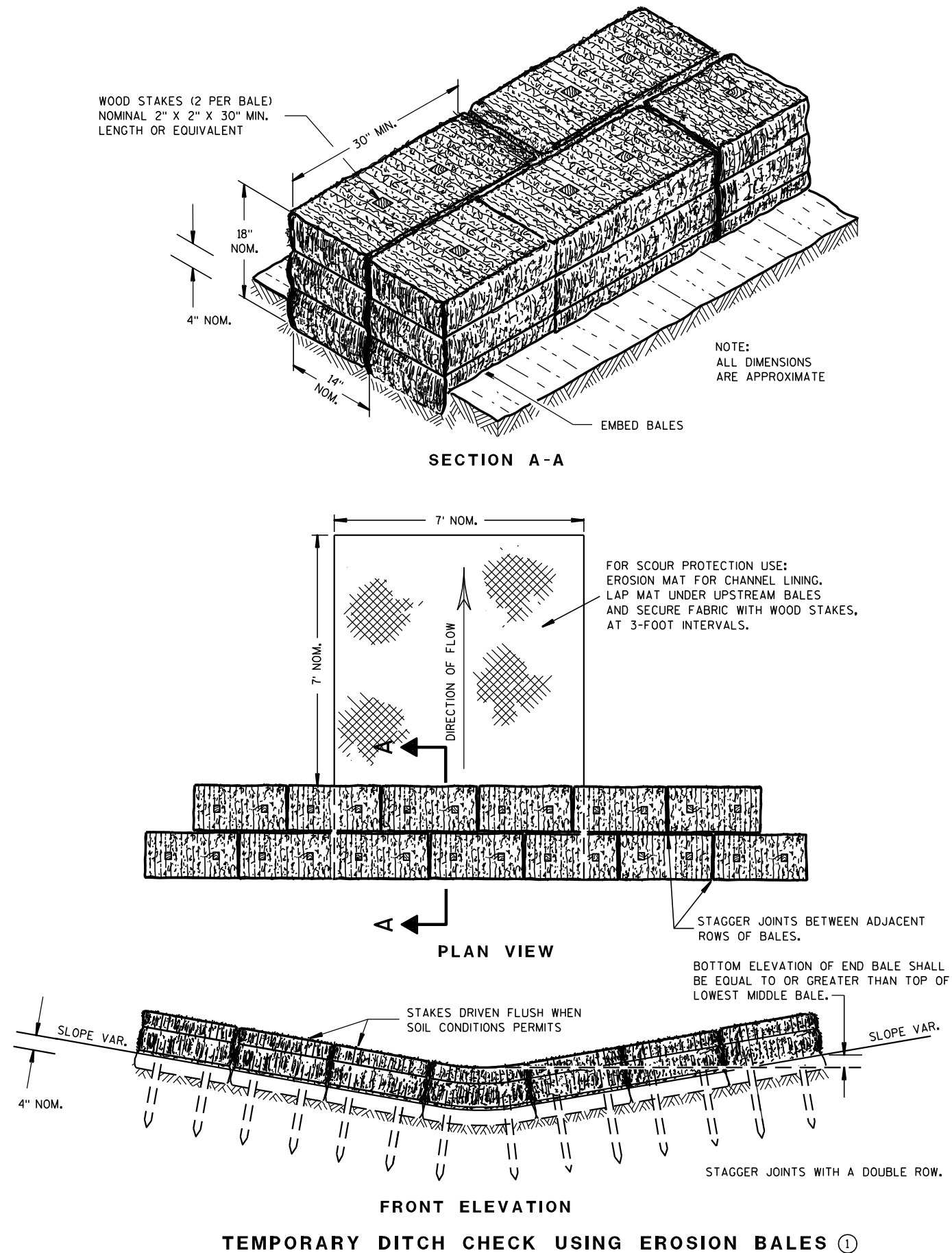


TYPICAL TIE BAR LOCATION^①



DRIVEWAY ENTRANCE CURB^⑨
(WHEN DIRECTED BY THE ENGINEER)

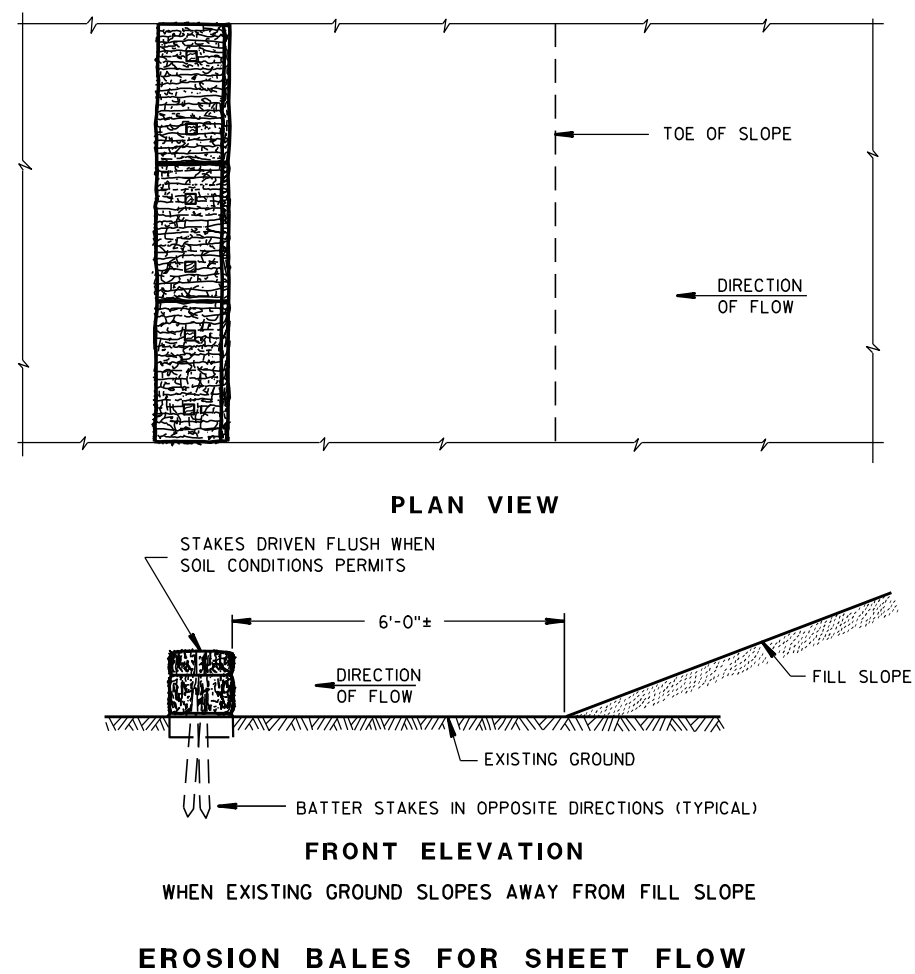
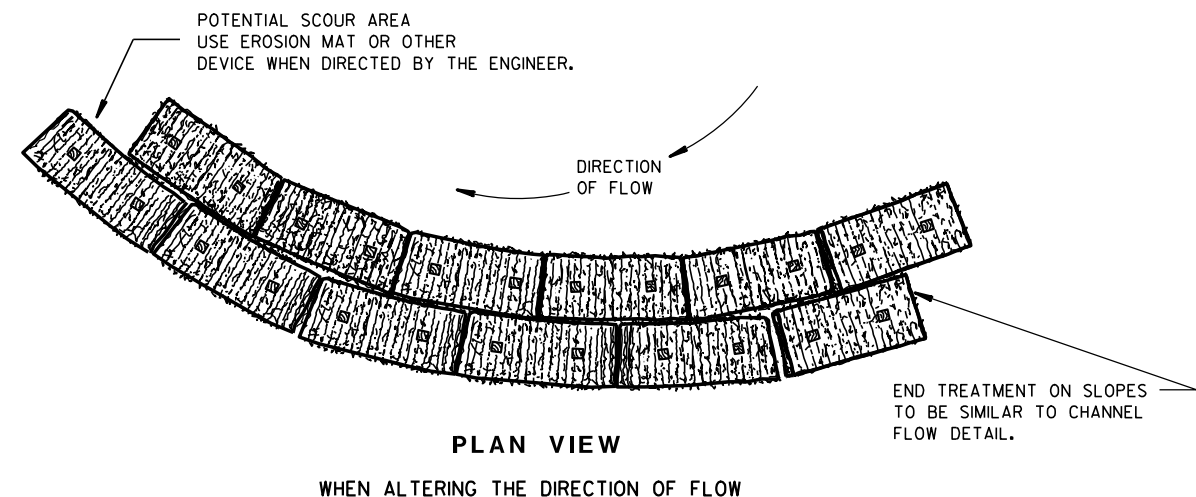
CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED June, 2017 DATE	/S/ Rodney Taylor ROADWAY STANDARDS UNIT SUPERVISOR	25 ENT	
FHWA			



GENERAL NOTES

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

- 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

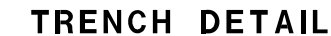
APPROVED

6/04/02
DATE/S/ Beth Conn-----
CHIEF ROADWAY DEVELOPER 26 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 1½" X 1½" 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.

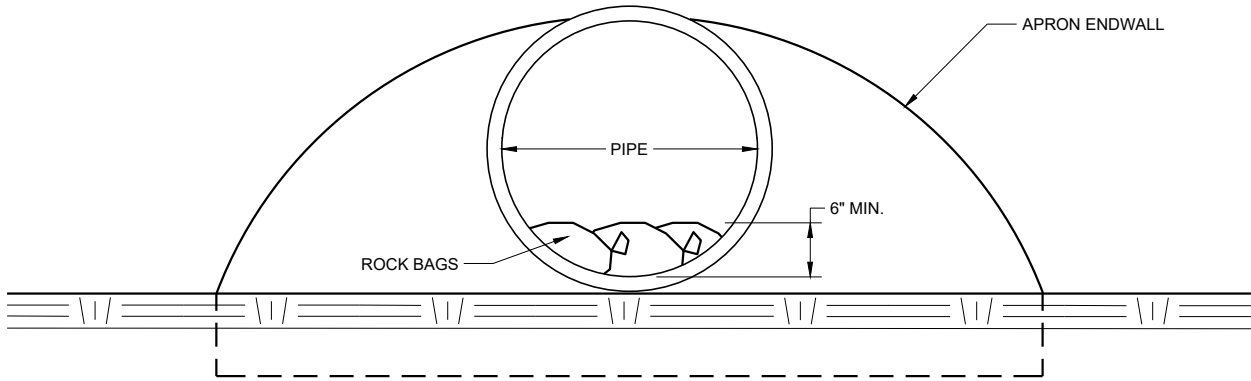


SILT FENCE

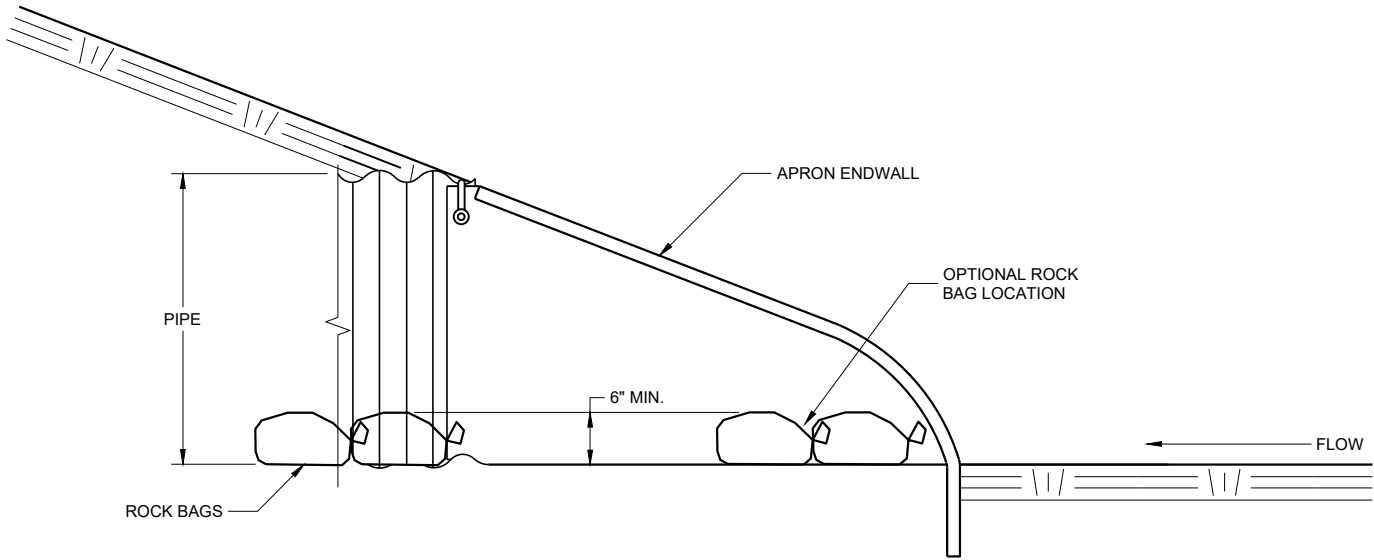
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-29-05 /S/ Beth Connolly
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA



END VIEW



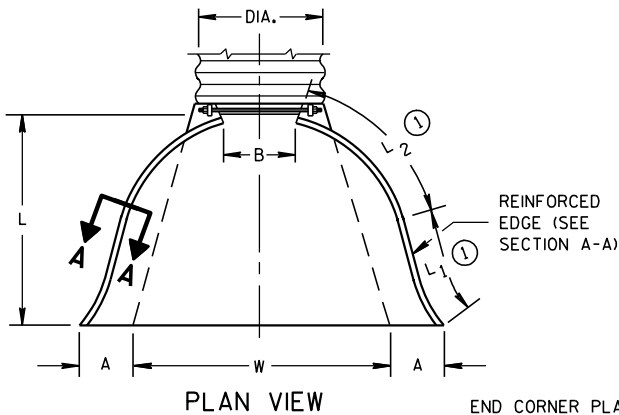
SIDE VIEW

CULVERT PIPE CHECK
(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED			
May 2019	/S/ Daniel Schave		
DATE	EROSION CONTROL ENGI	28	
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")	L ₁ ①	L ₂ 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.	

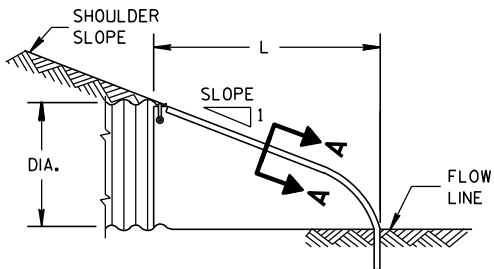
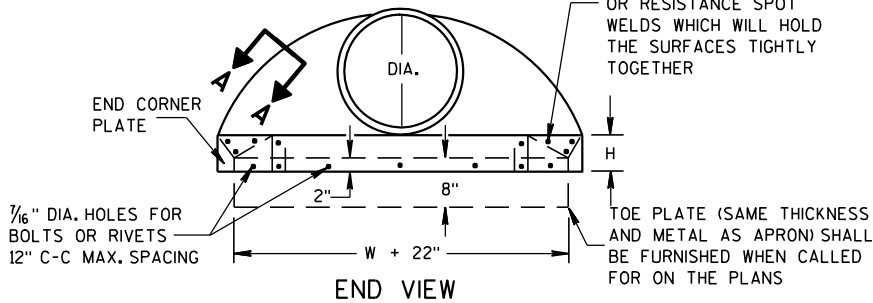
* EXCEPT CENTER PANEL
SEE GENERAL NOTES



REINFORCED
EDGE (SEE
SECTION A-A)

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

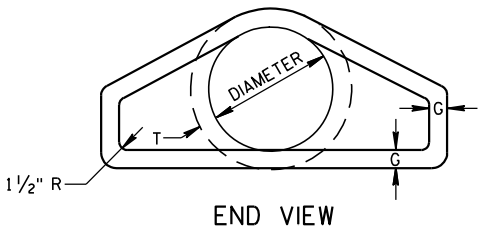
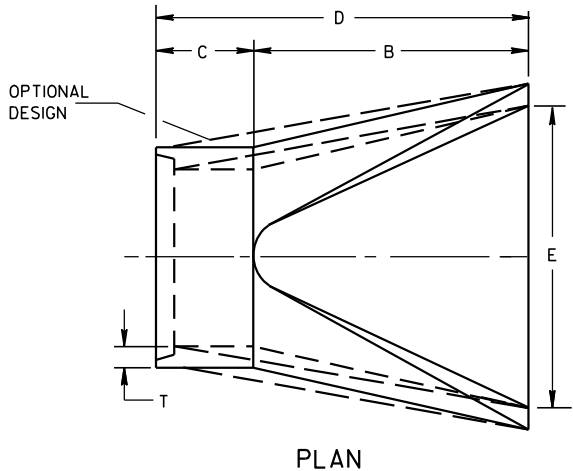
TOE PLATE (SAME THICKNESS
AND METAL AS APRON) SHALL
BE FURNISHED WHEN CALLED
FOR ON THE PLANS



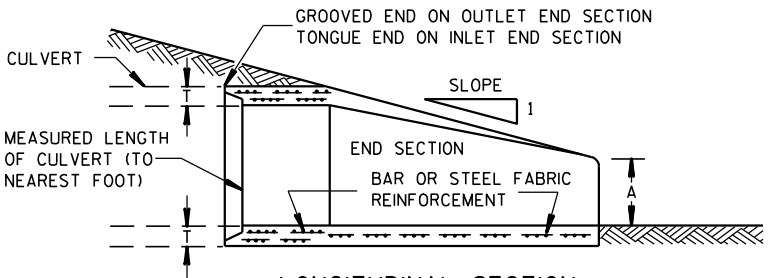
SIDE ELEVATION
METAL ENDWALLS

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 ⁷ / 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

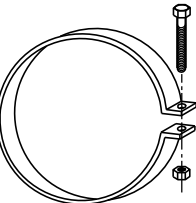
*MINIMUM
**MAXIMUM



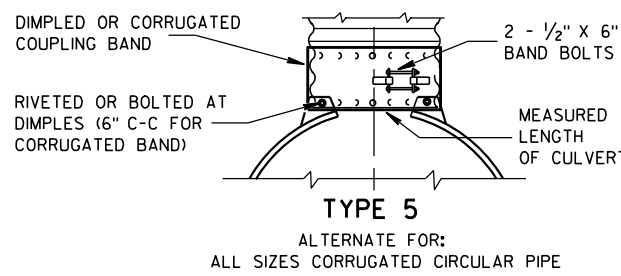
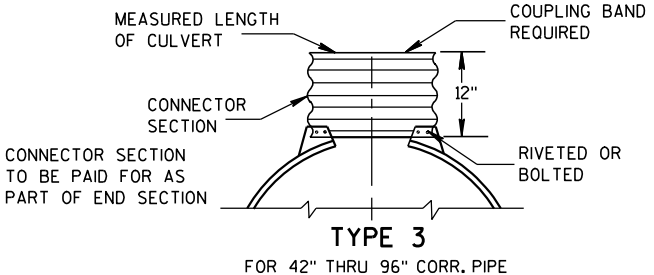
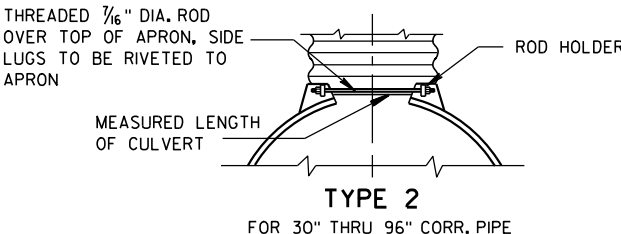
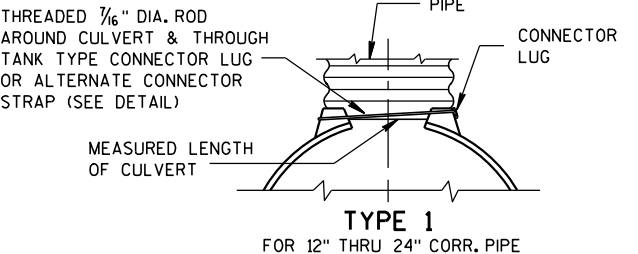
LONGITUDINAL SECTION
CONCRETE ENDWALLS



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



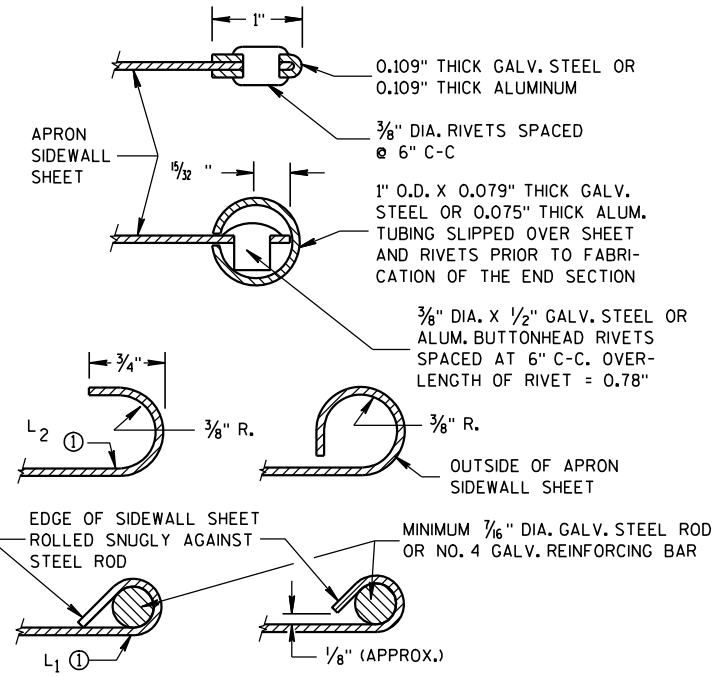
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL,
AND CORRUGATED BAND FITS INSIDE ENDWALL.
DIMPLED BAND MAY BE USED WITH HELICALLY
CORRUGATED PIPE.

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.

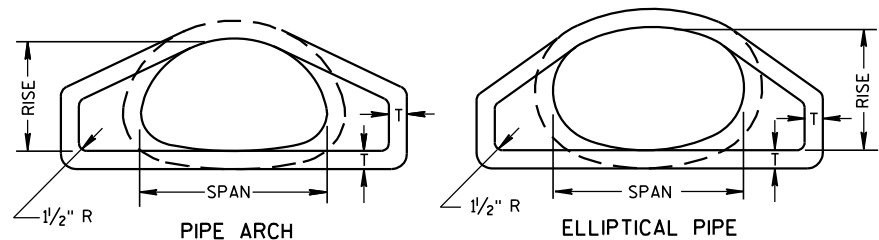
ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND
LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL
THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND
LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH
OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT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

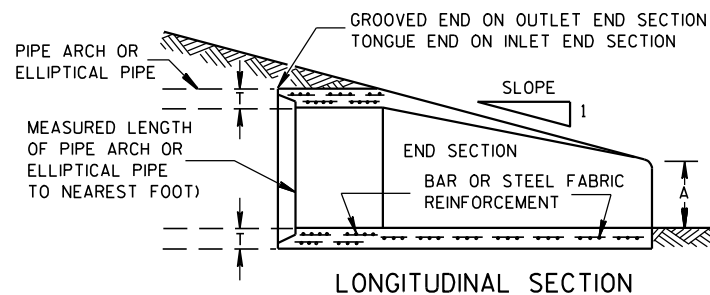
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT
TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT
TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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. Rhin... CHIEF ROADWAY DEVELOP 29 NEER
FHWA	

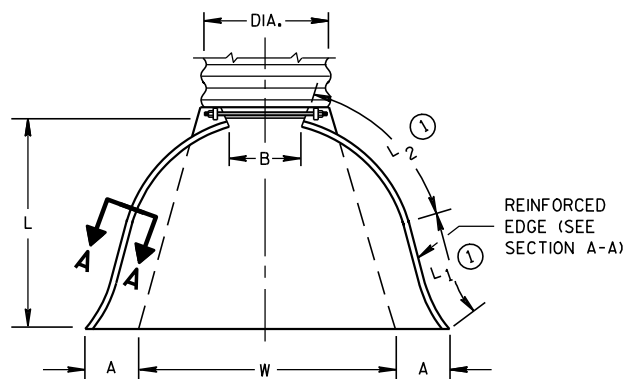


END VIEW

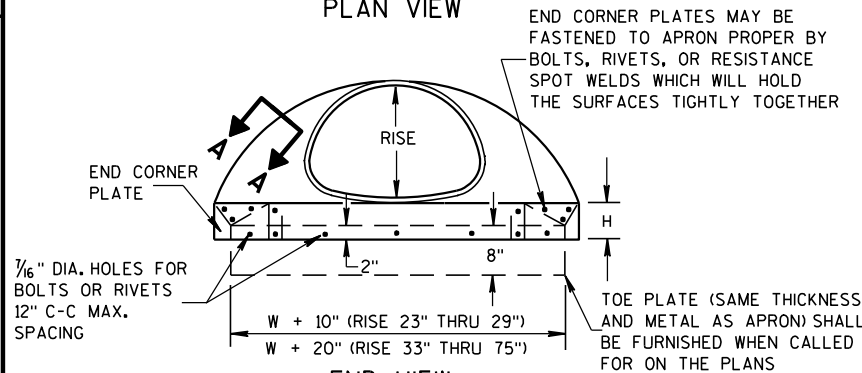


LONGITUDINAL SECTION

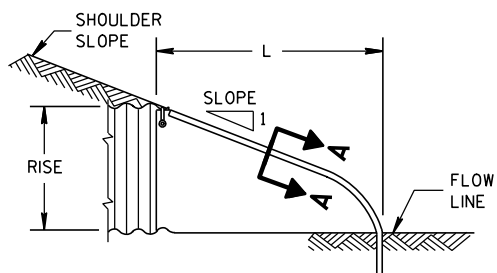
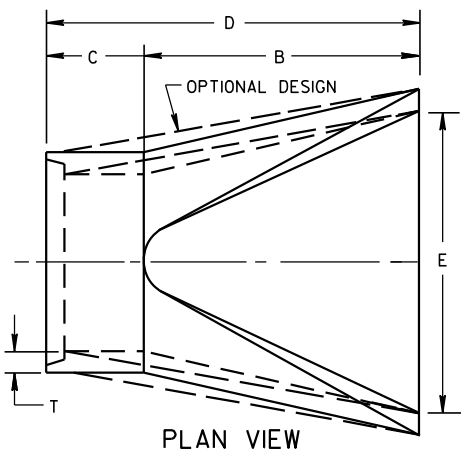
CONCRETE ENDWALLS



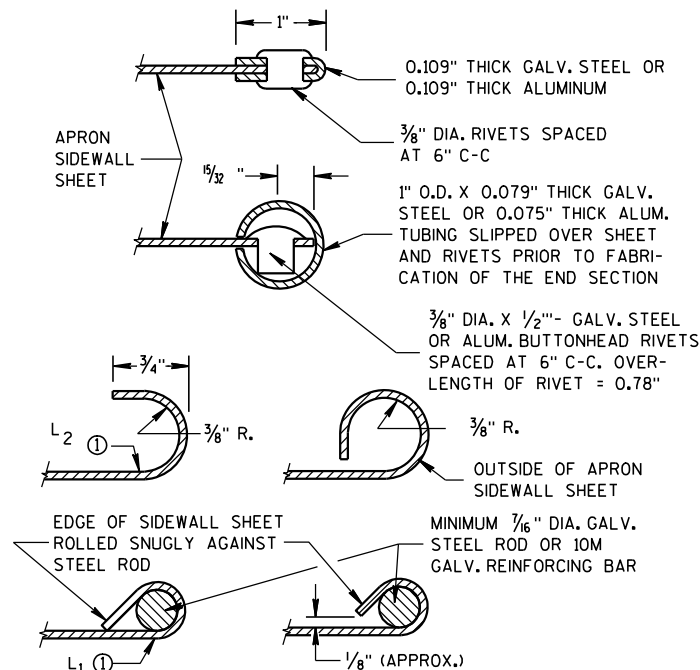
PLAN VIEW



END VIEW

SIDE ELEVATION
METAL ENDWALLS

PLAN VIEW



SECTION A-A

2- 2/3" X 1/2" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	SPAN	RISE	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")		
					(±1")	(MAX.)	(±1")	(±1 1/2")	①	①	(±2")		
15	17	13	.064	.060	7	9	6	19	14	16	30	2 1/2 to 1	1 Pc.
18	21	15	.064	.060	7	10	6	23	14	19 3/8	36	2 1/2 to 1	1 Pc.
21	24	18	.064	.060	8	12	6	28	18	21 3/4	42	2 1/2 to 1	1 Pc.
24	28	20	.064	.060	9	14	6	32	18	27 1/2	48	2 1/2 to 1	1 Pc.
30	35	24	.079	.075	10	16	6	39	18	37 5/8	60	2 1/2 to 1	1 Pc.
36	42	29	.079	.075	12	18	8	46	24	45 3/8	75	2 1/2 to 1	1 Pc.
42	49	33	.109	.105	13	21	9	53	24	54 3/4	85	2 1/2 to 1	2 Pc.
48	57	38	.109	.105	18	26	12	63	24	68	90	2 1/2 to 1	3 Pc.
54	64	43	.109	.105	18	30	12	70	24	72 3/4	102	2 1/4 to 1	3 Pc.
60	71	47	.109*	.105*	18	33	12	77	30	82 1/4	114	2 1/4 to 1	3 Pc.
66	77	52	.109*	.105*	18	36	12	77	—	—	126	2 to 1	3 Pc.
72	83	57	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.

3" X 1" CORRUGATIONS

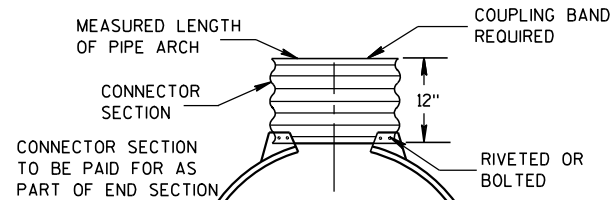
EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	SPAN	RISE	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")		
					(±1")	(MAX.)	(±1")	(±1 1/2")	①	①	(±2")		
48	53	41	.109	.105	18	26	12	63	24	72 3/4	90	2 1/2 to 1	2 Pc.
54	60	46	.109	.105	18	30	12	70	30	82 1/4	102	2 to 1	2 Pc.
60	66	51	.109*	.105*	18	33	12	77	—	—	114	1 1/2 to 1	3 Pc.
66	73	55	.109*	.105*	18	36	12	77	—	—	126	1 1/2 to 1	3 Pc.
72	81	59	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.
78	87	63	.109*	.105*	22	38	12	77	—	—	148	1 1/2 to 1	3 Pc.
84	95	67	.109*	.105*	22	34	12	77	—	—	162	1 1/2 to 1	3 Pc.
90	103	71	.109*	.105*	22	38	12	77	—	—	174	1 1/2 to 1	3 Pc.
96	112	75	.109*	.105*	24	40	12	77	—	—	174	1 1/2 to 1	3 Pc.

NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED.

* EXCEPT CENTER PANEL
SEE GENERAL NOTES

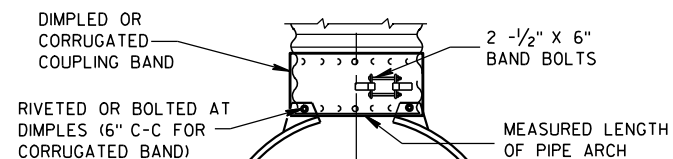
TYPE 2

FOR 17" X 13" THRU 112" X 75" PIPE ARCH



TYPE 3

FOR 64" X 43" THRU 112" X 75" PIPE ARCH



TYPE 5

ALTERNATE FOR:

ALL SIZES CORRUGATED PIPE ARCHES

NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL,
AND CORRUGATED BAND FITS INSIDE ENDWALL.

CONNECTION DETAILS

REINFORCED CONCRETE PIPE ARCH

EQUIV. DIA. (Inches)	DIMENSIONS (Inches)								APPROX. SLOPE
	** SPAN	** RISE	T	A	B	C	D	E	
	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	
24	29	18	3	8 1/2	39	33	72	48	3 to 1
30	36	22	3 1/2	9 1/2	50	46	96	60	3 to 1
36	44	27	4	11 1/8	60	36	96	72	3 to 1
42	51	31	4 1/2	15 1/16	60	36	96	78	3 to 1
48	58	36	5	21	60	36	96	84	3 to 1
54	65	40	5 1/2	25 1/2	60	36	96	90	3 to 1
60	73	45	6	31	60	36	96	96	3 to 1
72	88	54	7	31	60	39	99	120	2 to 1
84	102	62	8	28 1/2	83	19	102	144	2 to 1

REINFORCED CONCRETE ELLIPTICAL PIPE

EQUIV. DIA. (Inches)	DIMENSIONS (Inches)								APPROX. SLOPE
	** SPAN	** RISE	T	A	B	C	D	E	
	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	
24	30	19	3 1/4	8 1/2	39	33	72	48	3 to 1
30	38	24	3 3/4	9 1/2	54	18	72	60	3 to 1
36	45	29	4 1/2	11 1/8	60	24	84	72	2 1/2 to 1
42	53	34	5	15 1/4	60	36	96	78	2 1/2 to 1
48	60	38	5 1/2	21	60	36	96	84	2 1/2 to 1
54	68	43	6	25 1/2	60	36	96	90	2 1/2 to 1
60	76	48	6 1/2	30	60	36	96	96	2 1/2 to 1

**NOMINAL SIZE

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

ALL THREE PIECE STEEL APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 66" X 51" PIPE ARCH 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 ARCH 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 77" X 52" THROUGH 112" X 75" 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 ARCH SIZES UP TO 73" X 55" A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR
PIPE ARCH AND
ELLIPTICAL PIPESTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

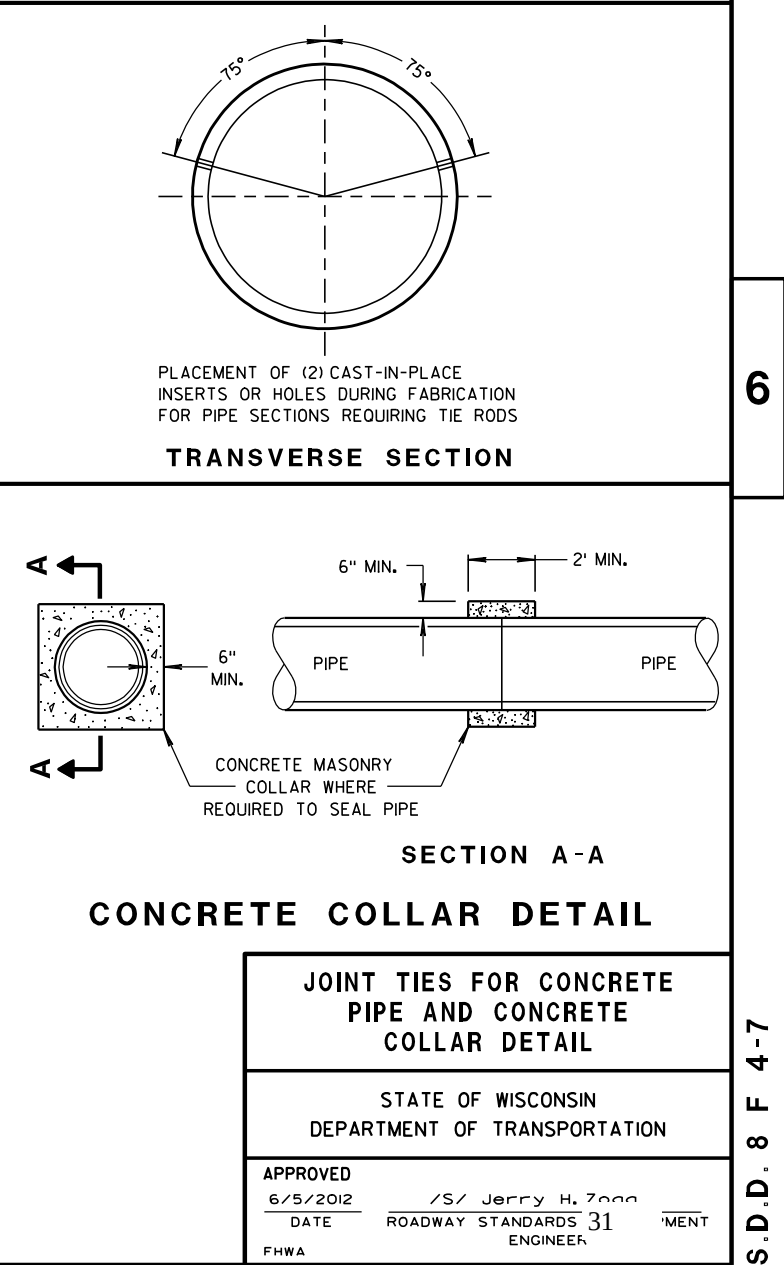
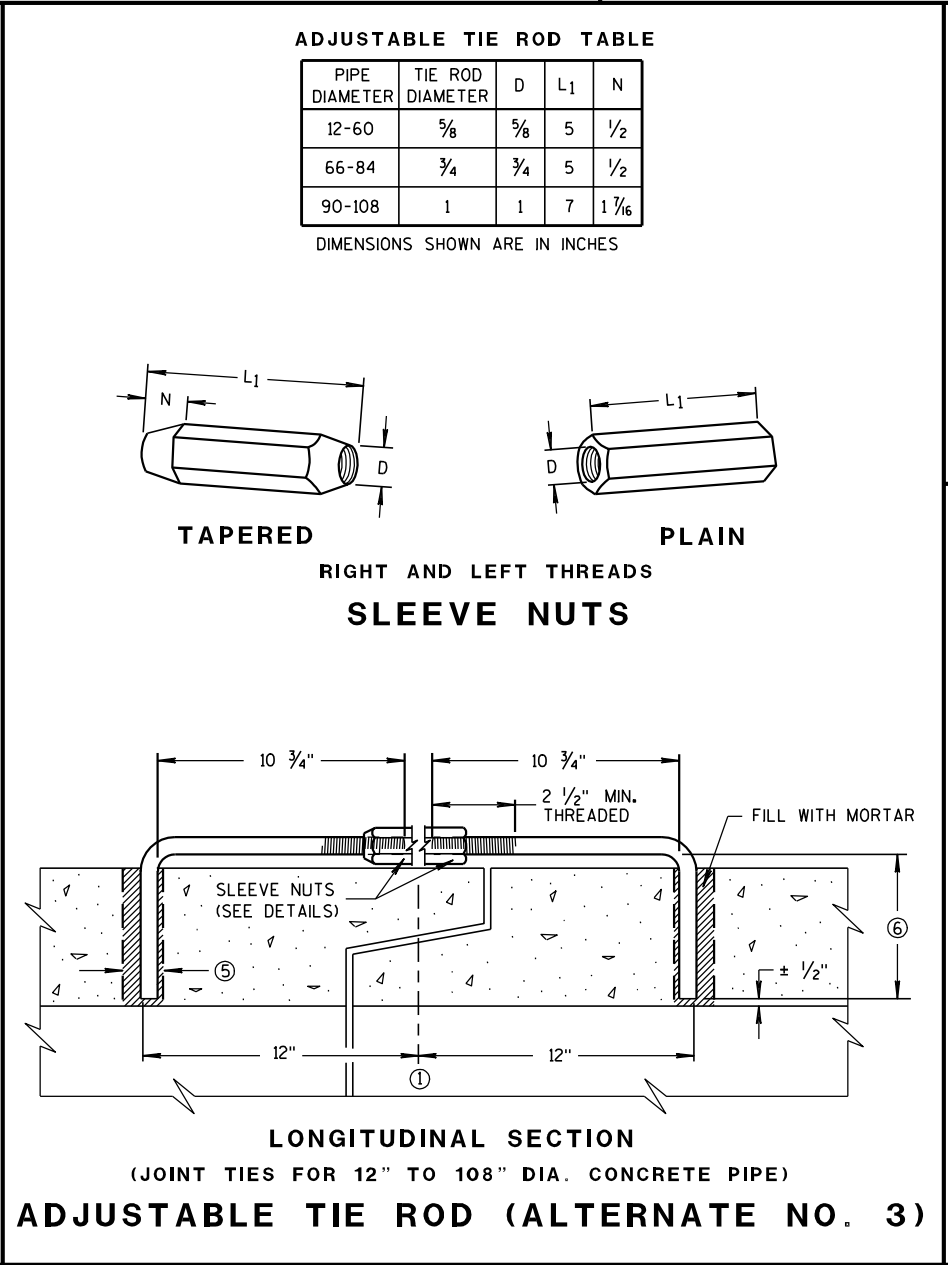
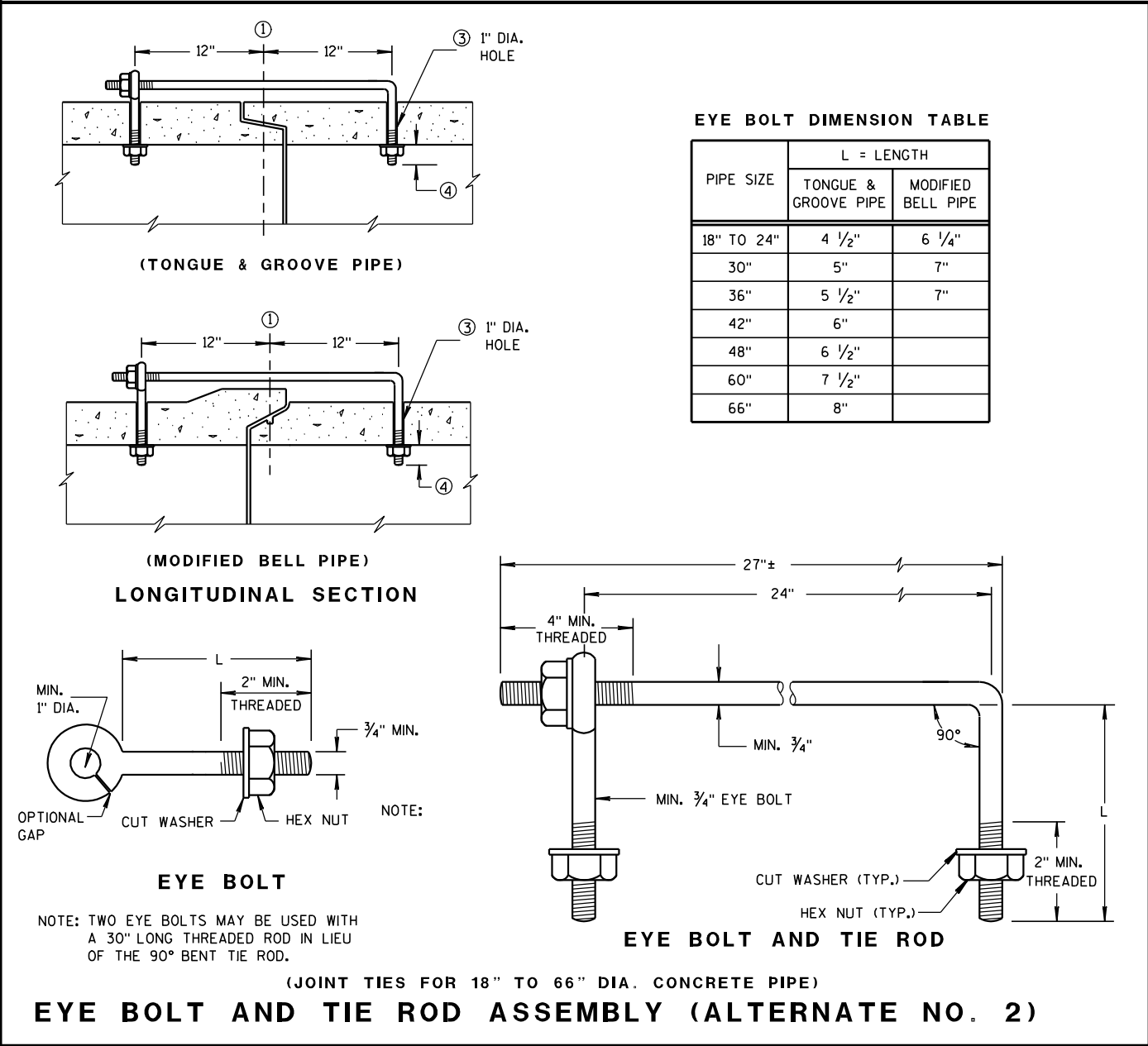
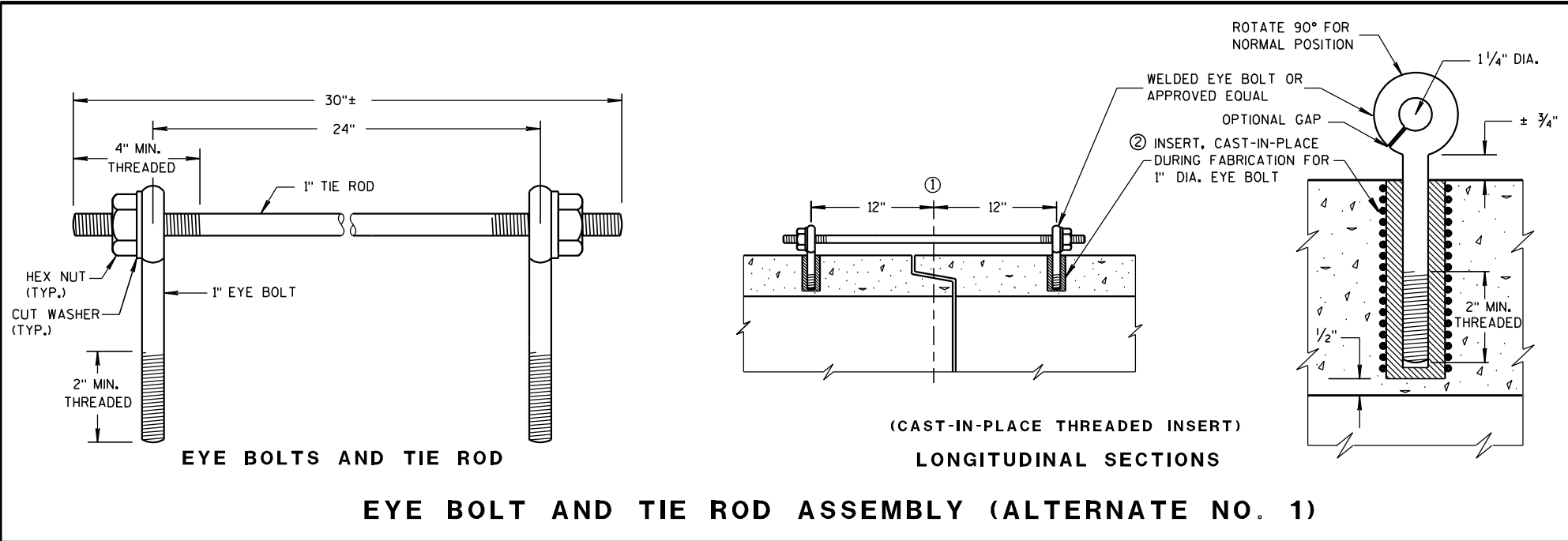
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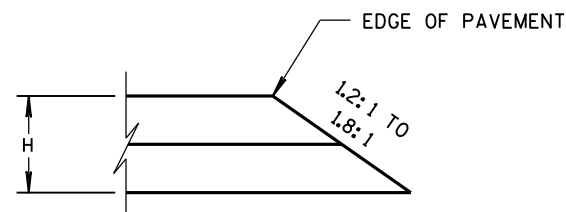
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FHWA

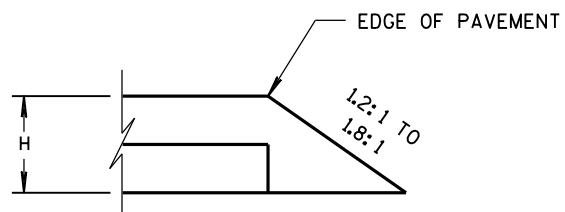
/S/ Rory L. Rhinehart
CHIEF ROADWAY DEVELOPER

ENGINEER

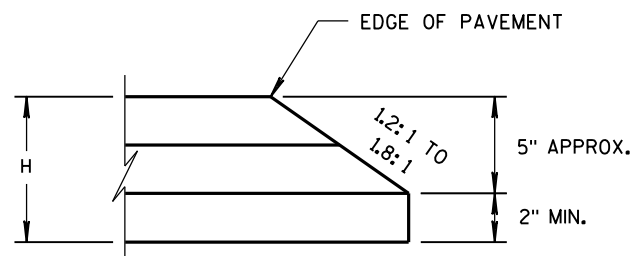




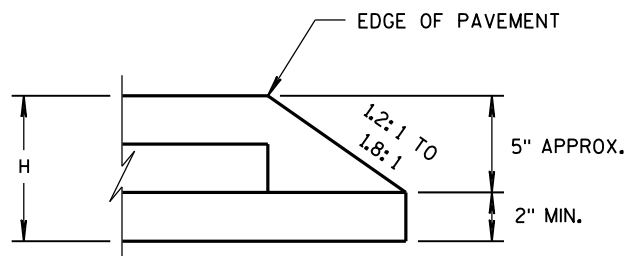
CONSTRUCTED WITH FINAL TWO LAYERS
FOR H 5" OR LESS



CONSTRUCTED WITH FINAL LAYER
FOR H 5" OR LESS

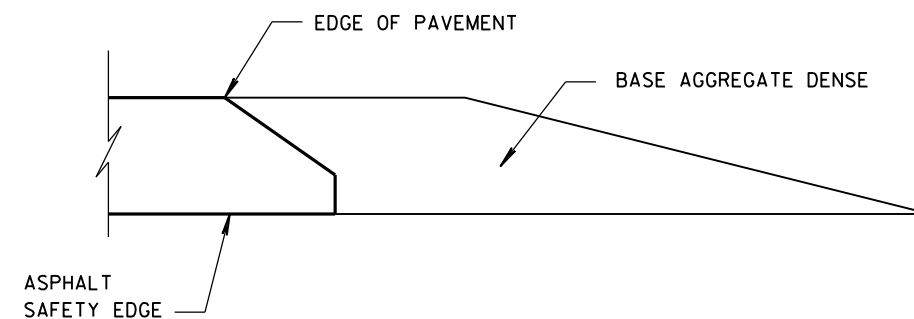


CONSTRUCTED WITH FINAL TWO LAYERS
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER
FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

SAFETY EDGE_{SM}

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

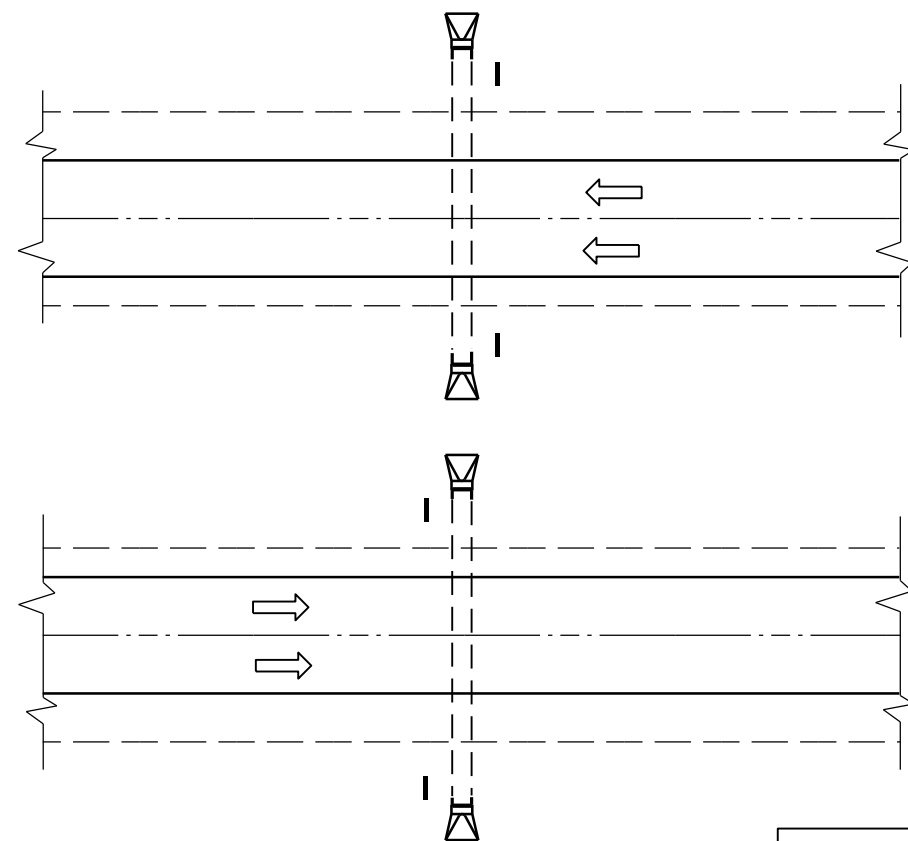
11/30/2012
DATE

FHWA

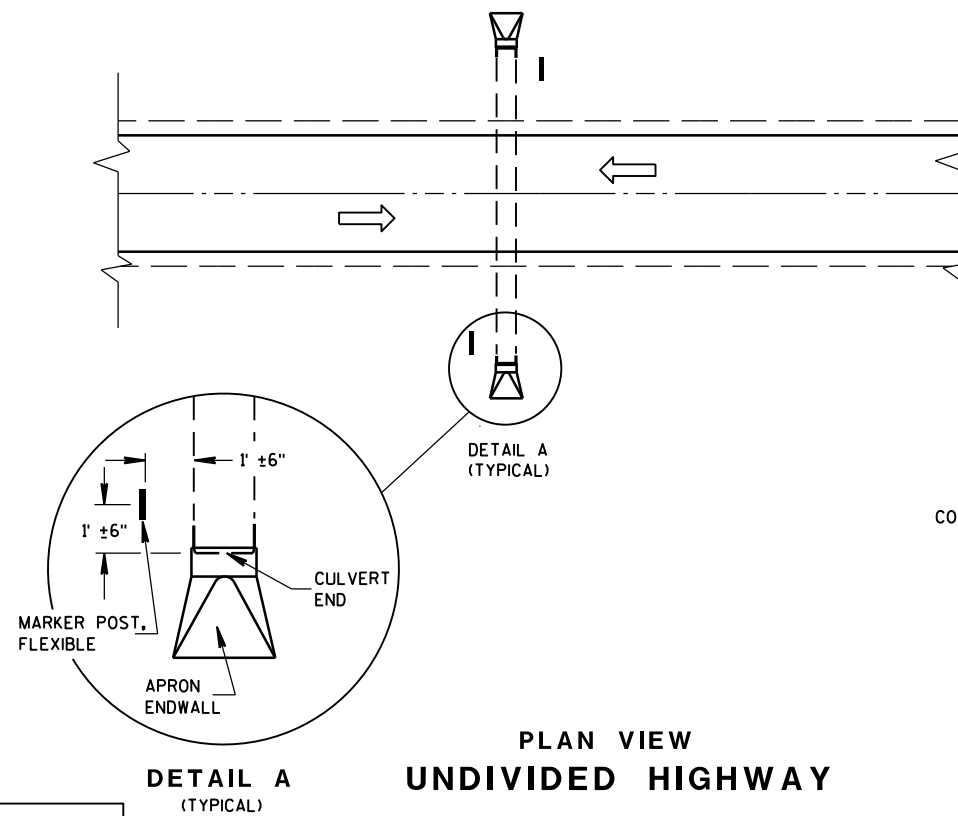
/s/ Jerry H. Zogg
ROADWAY STANDARDS
ENGINEER

32

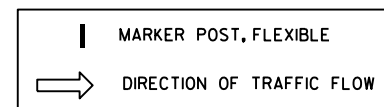
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PLAN VIEW
DIVIDED HIGHWAY



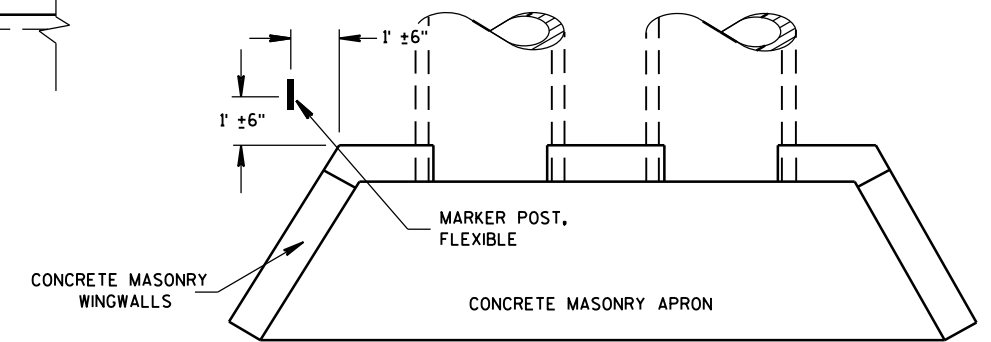
PLAN VIEW
UNDIVIDED HIGHWAY



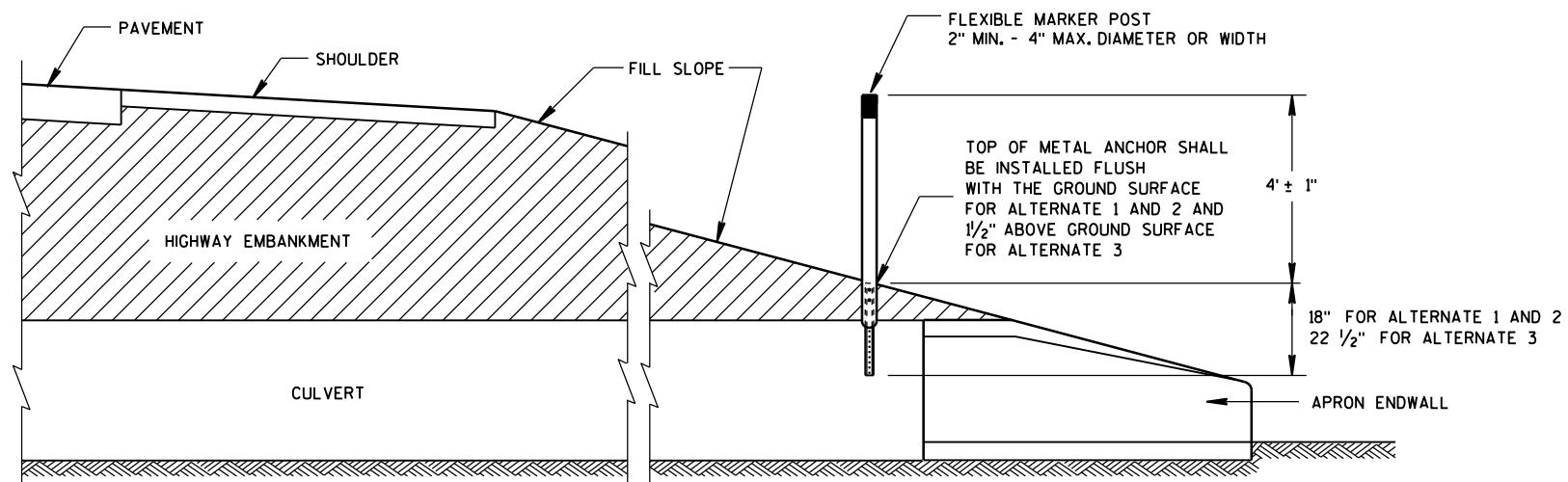
FLEXIBLE MARKER POST LOCATION

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.



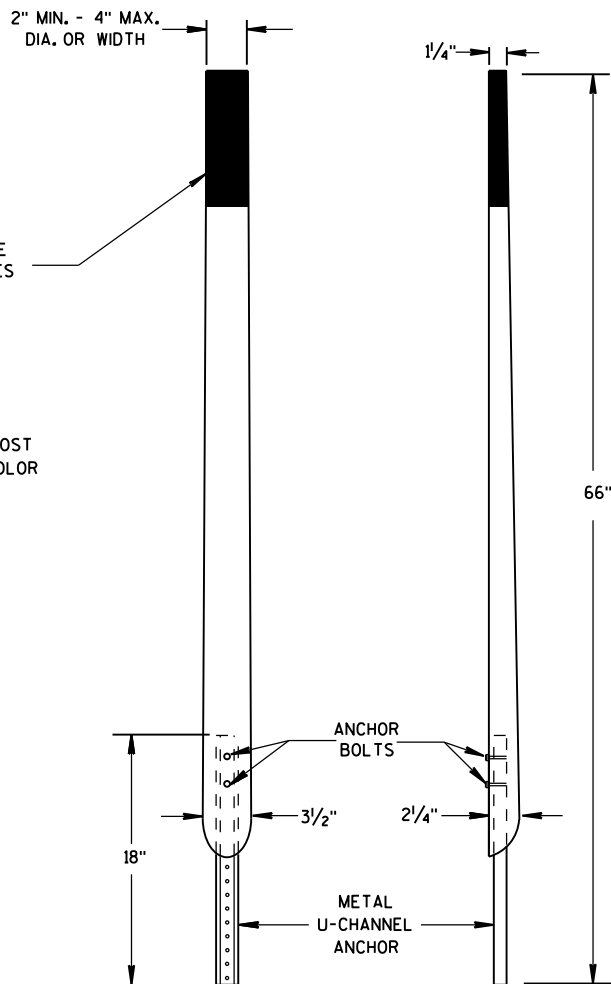
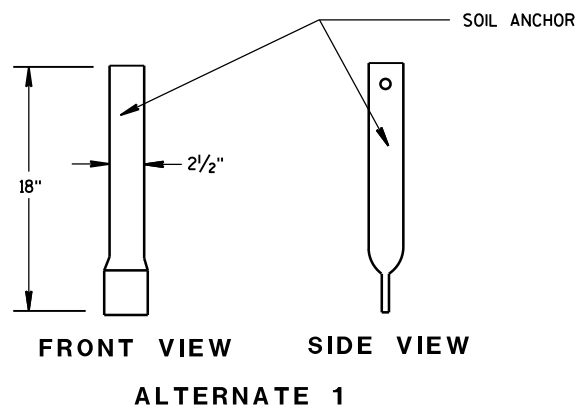
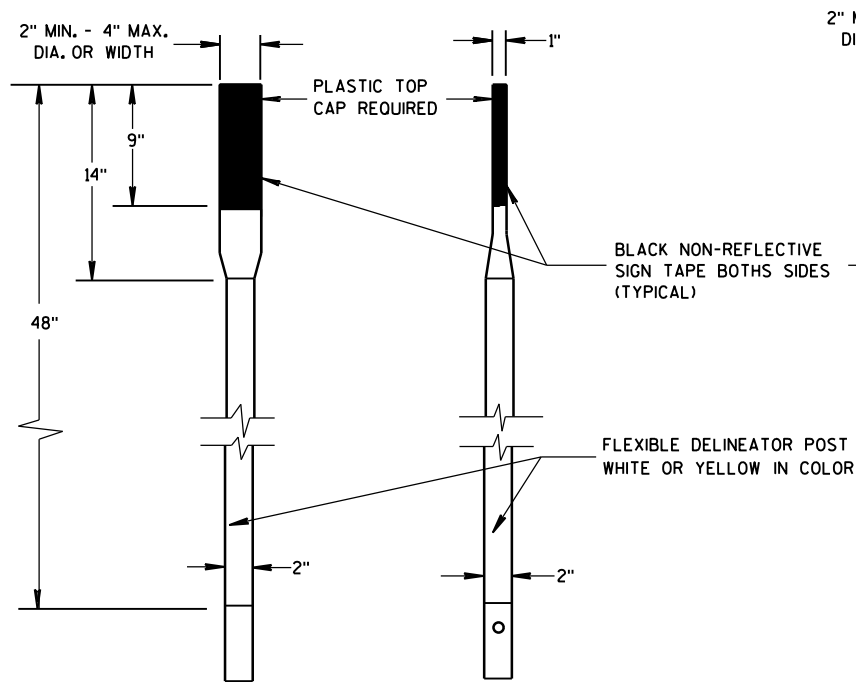
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



CROSS SECTION
FLEXIBLE MARKER POST

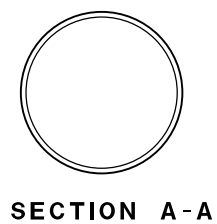
FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

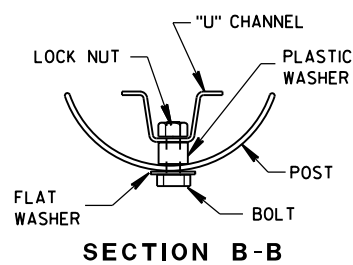
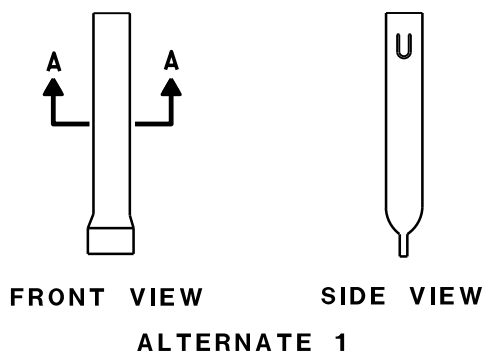


FRONT VIEW SIDE VIEW
ALTERNATE 2

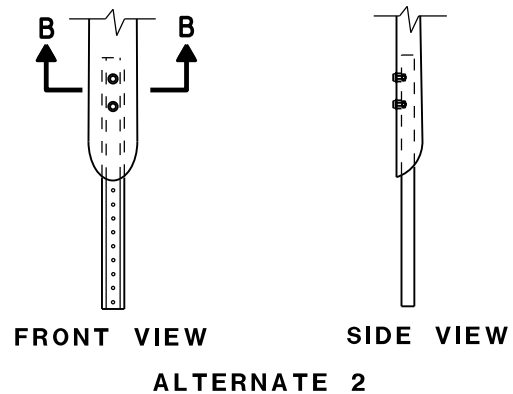
FLEXIBLE MARKER POSTS



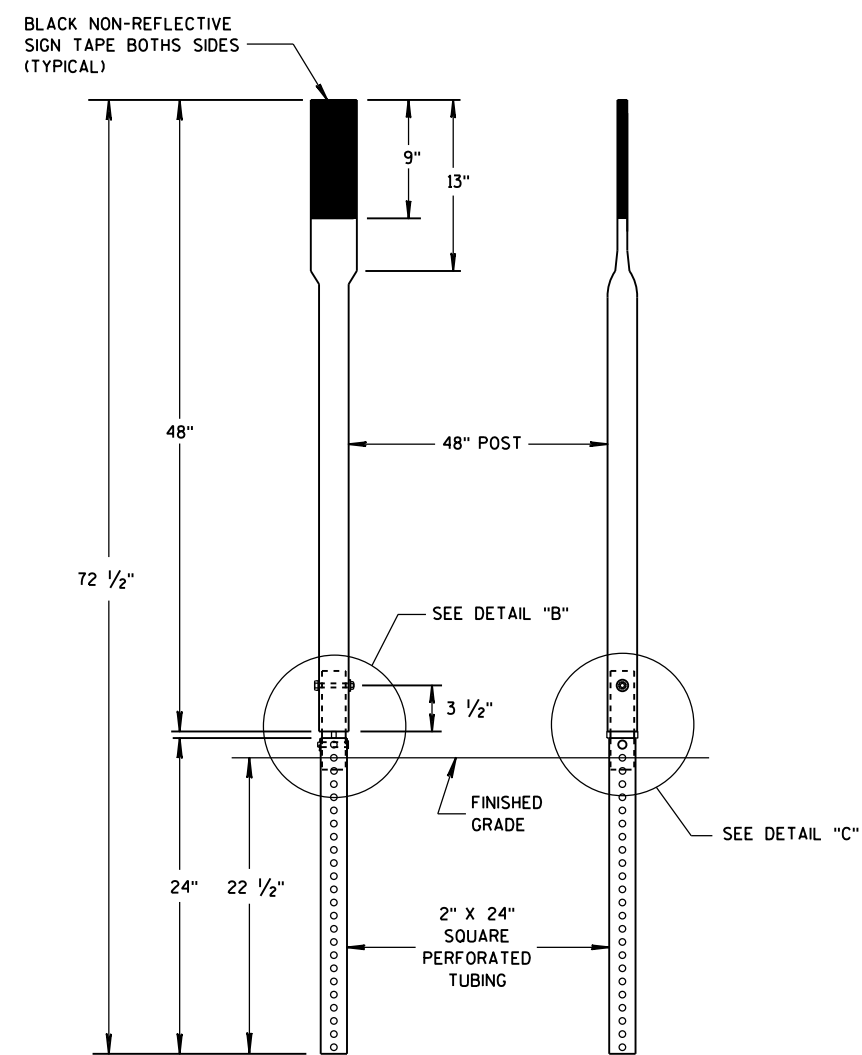
SECTION A-A



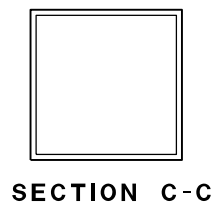
SECTION B-B



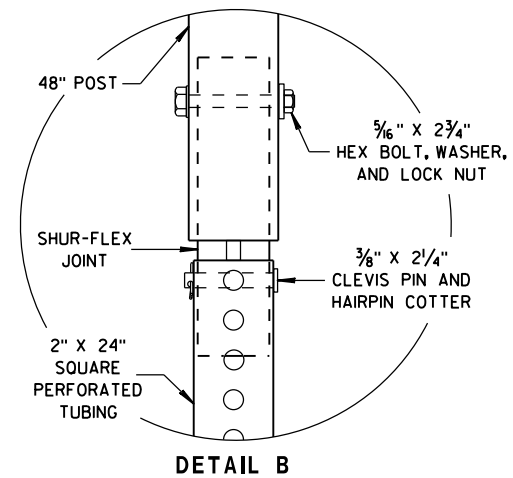
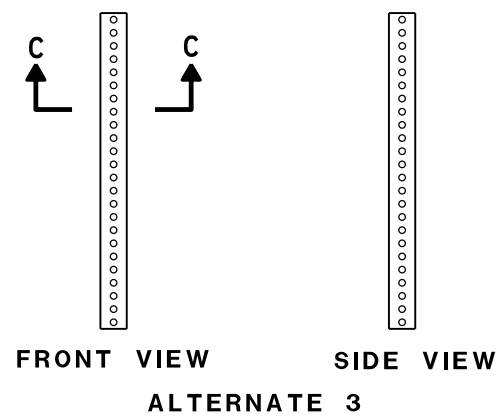
FLEXIBLE MARKER POST ANCHORS



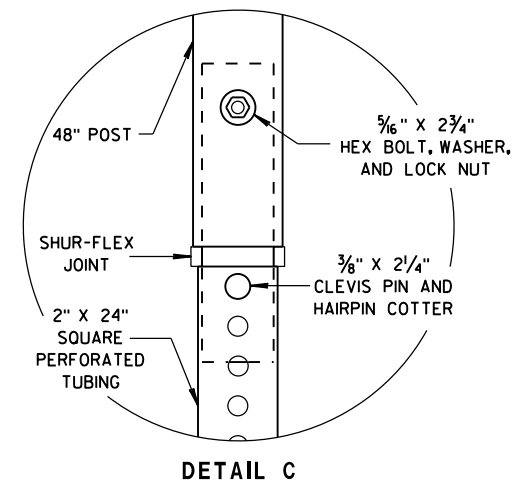
FRONT VIEW SIDE VIEW
ALTERNATE 3



SECTION C-C



DETAIL B



DETAIL C

FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/1/2012

DATE

FHWA

/S/ Travis Feltes
STATE TRAFFIC ENGINEER 34

IGN

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" X 48" UNLESS OTHERWISE NOTED.

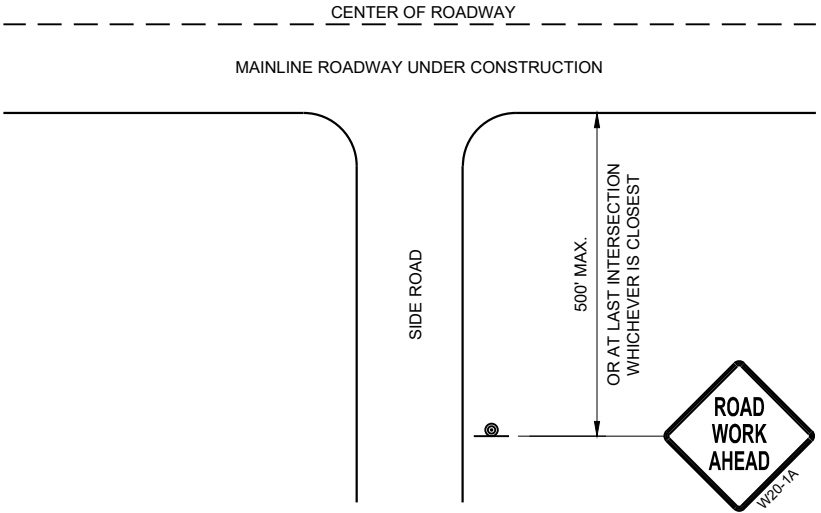
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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 REESTABLISHED.

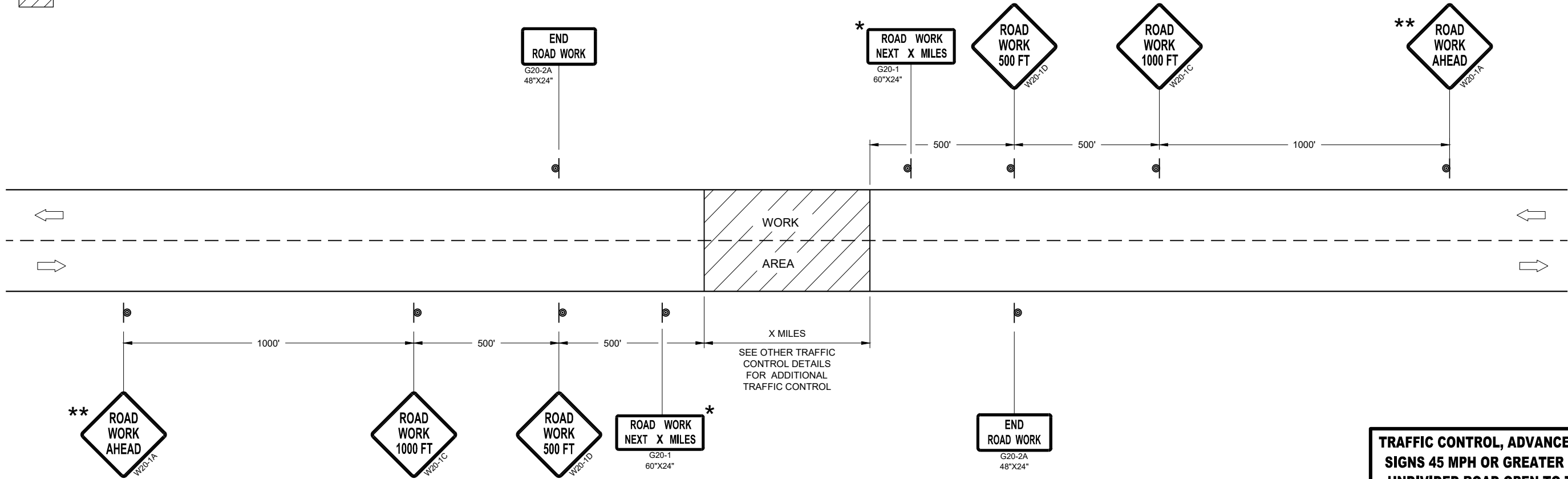
- * OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS
- ** PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.

LEGEND

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



TYPICAL SIDE ROAD APPROACH
WARNING SIGN DETAIL



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

TRAFFIC CONTROL, ADVANCE WARNING
SIGNS 45 MPH OR GREATER TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFICE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 35
FHWA

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" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"X36" SIGNS MAY BE USED INSTEAD OF 48" X 48" SIGNS.

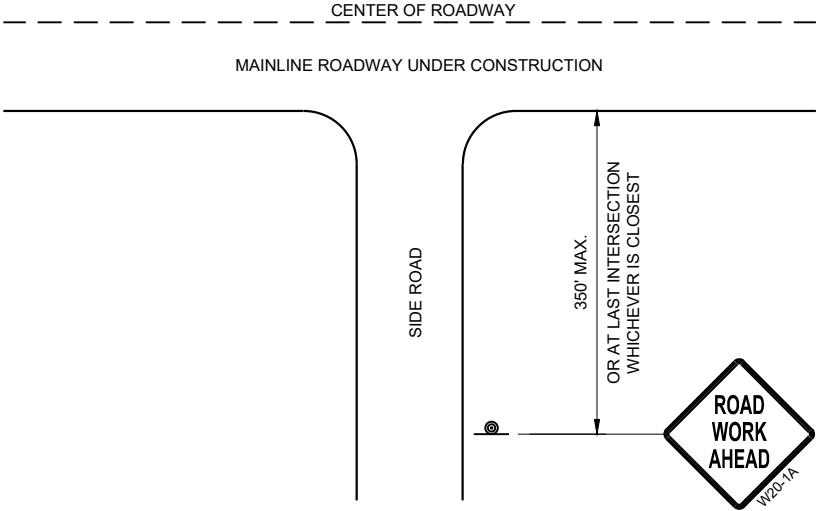
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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 REESTABLISHED.

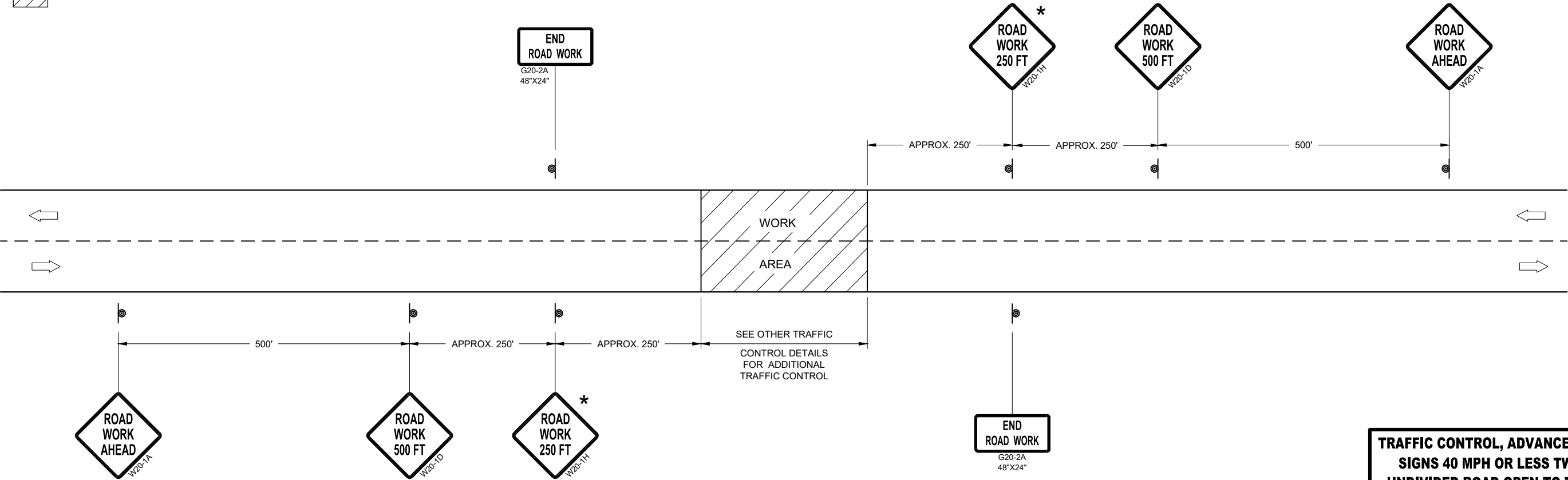
* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FEET" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.

LEGEND

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



TYPICAL SIDE ROAD APPROACH
WARNING SIGN DETAIL



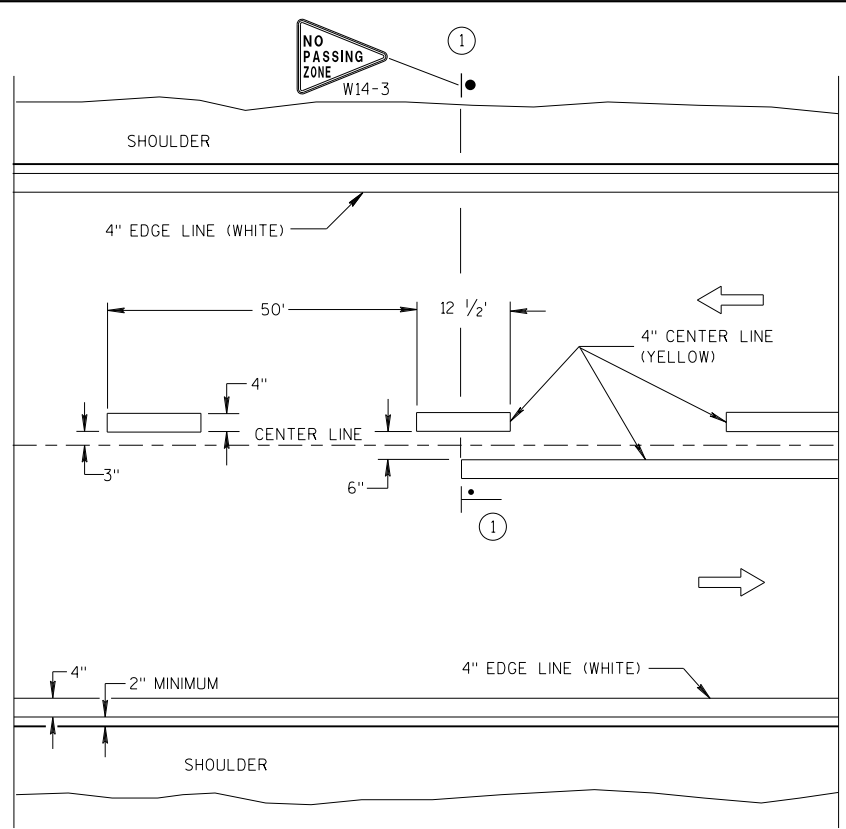
TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS

TRAFFIC CONTROL, ADVANCE WARNING
SIGNS 40 MPH OR LESS TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFICE

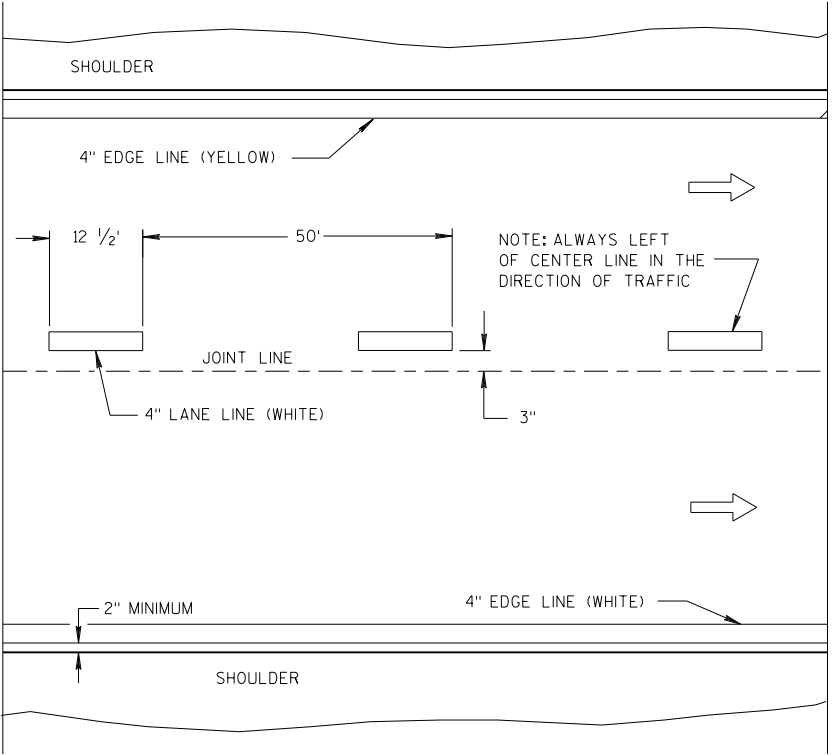
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 36

FHWA

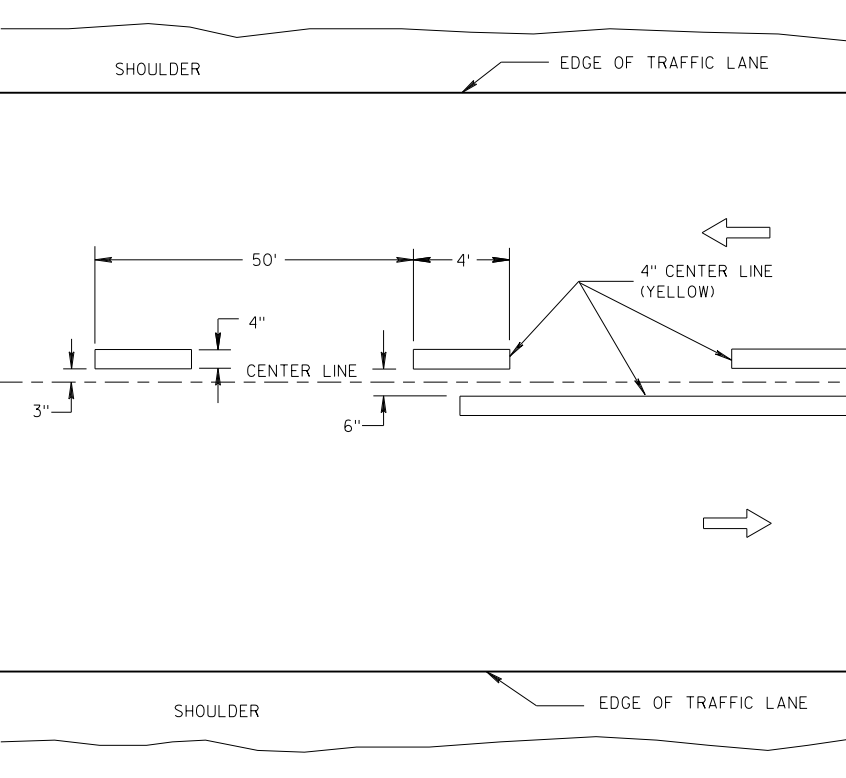


TWO WAY TRAFFIC

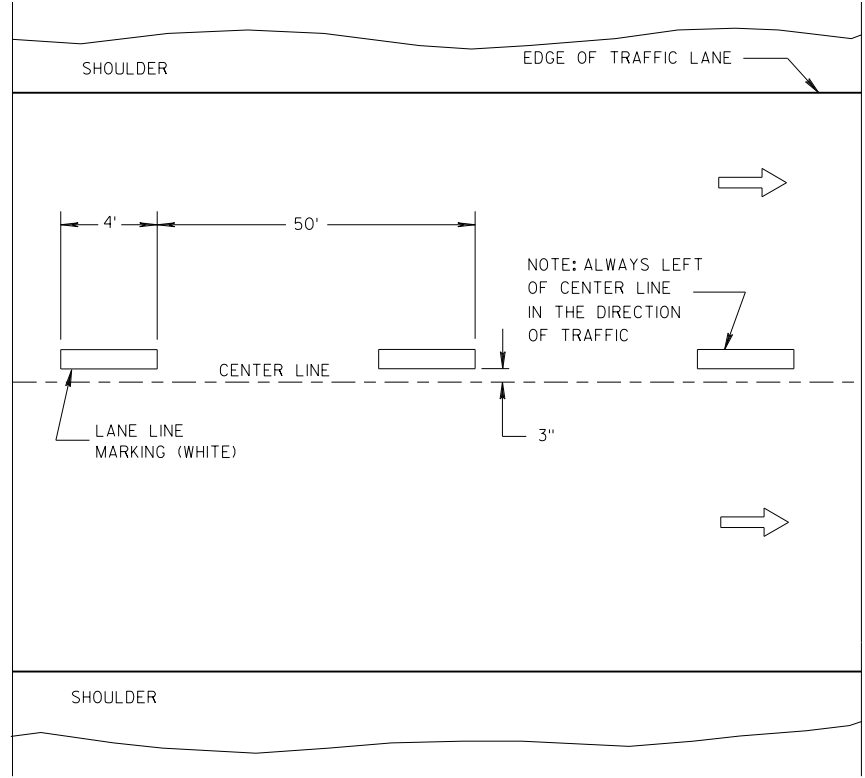


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

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

① LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING.

NOTE

ARROW SYMBOL (➡) SHOWS DIRECTION OF TRAVEL

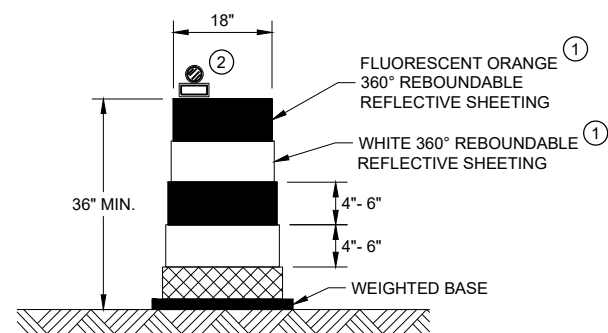
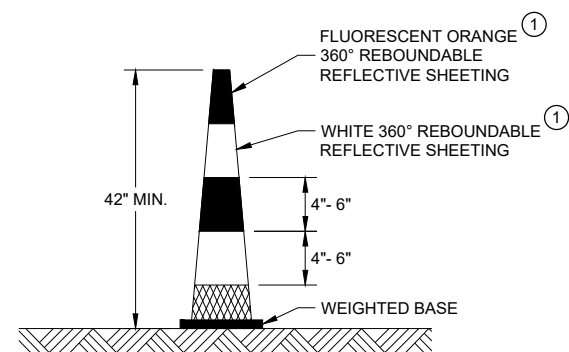
LEGEND

- "T" MARKING
- POST MOUNTED SIGN

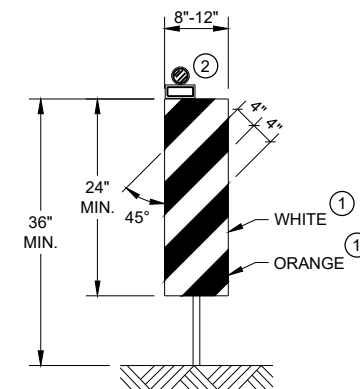
LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

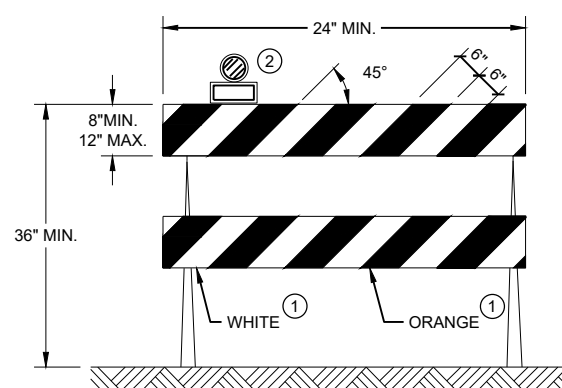
APPROVED
7/2018 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MAR 37 INEER
FHWA

**DRUM****42" CONE**

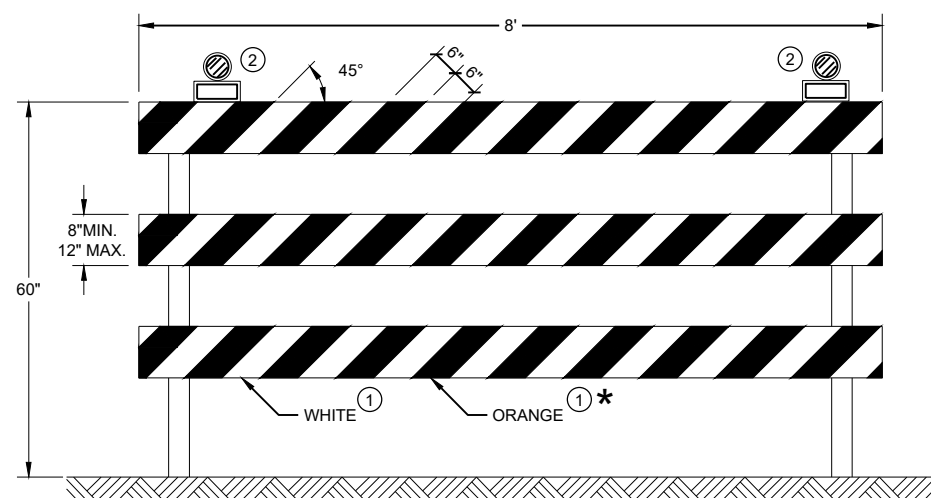
DO NOT USE IN TAPERS
 $\frac{1}{2}$ SPACING OF DRUMS

**VERTICAL PANEL**

THE STRIPES SHALL SLOPE DOWNWARD TO
 THE TRAFFIC SIDE FOR CHANNELIZATION.

**TYPE II BARRICADE**

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES
 MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD
 TO THE TRAFFIC SIDE FOR CHANNELIZATION.

**TYPE III BARRICADE**

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
 TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

GENERAL NOTES

- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.

**CHANNELIZING DEVICES
 DRUMS, CONES, BARRICADES
 AND VERTICAL PANELS**

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

APPROVED
 June 2017 /S/ Andrew Heidtke
 DATE WORK ZONE ENGINEER 38
 FHWA

LEGEND

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

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.

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

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

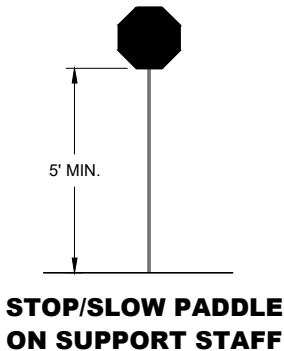
THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS, DEVICES, AND LOCATION OF ALL FLAGGERS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

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.

FLAGGING

- 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 REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.
- FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
 - SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.
- WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.
- TEMPORARY PORTABLE RUMBLE STRIPS**
- UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.
- EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.
- ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FOR THE APPROVED PRODUCTS LIST.
- INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.
- PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.
- DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.

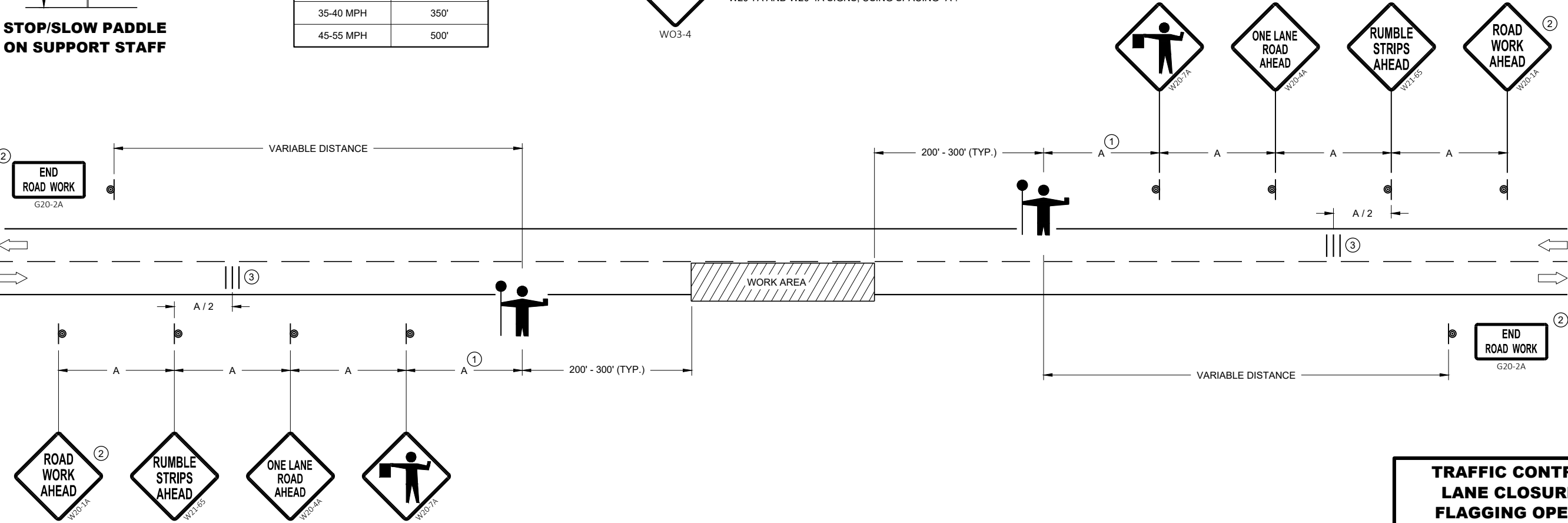


SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

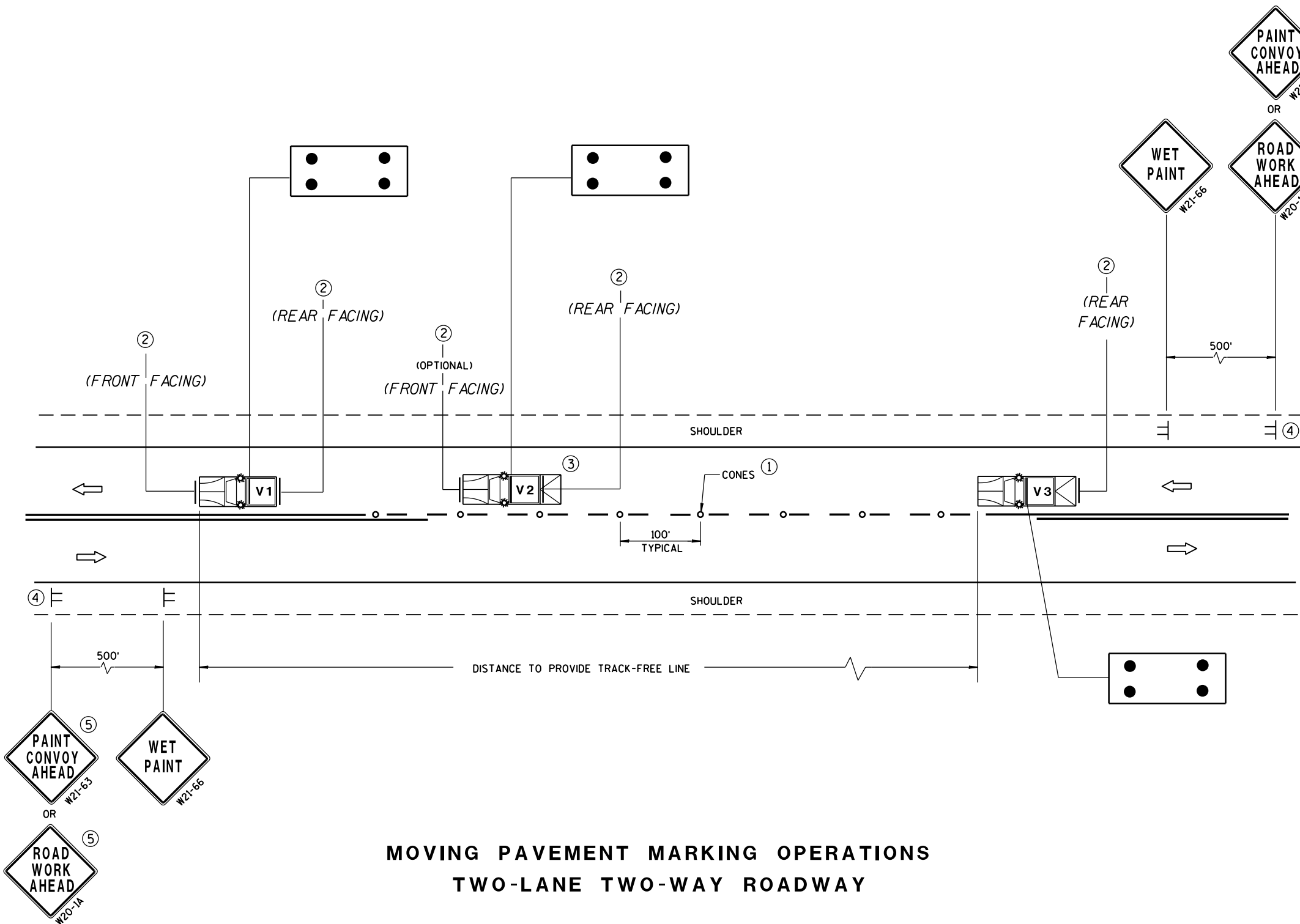


USE OF W03-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2019 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER 39
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.

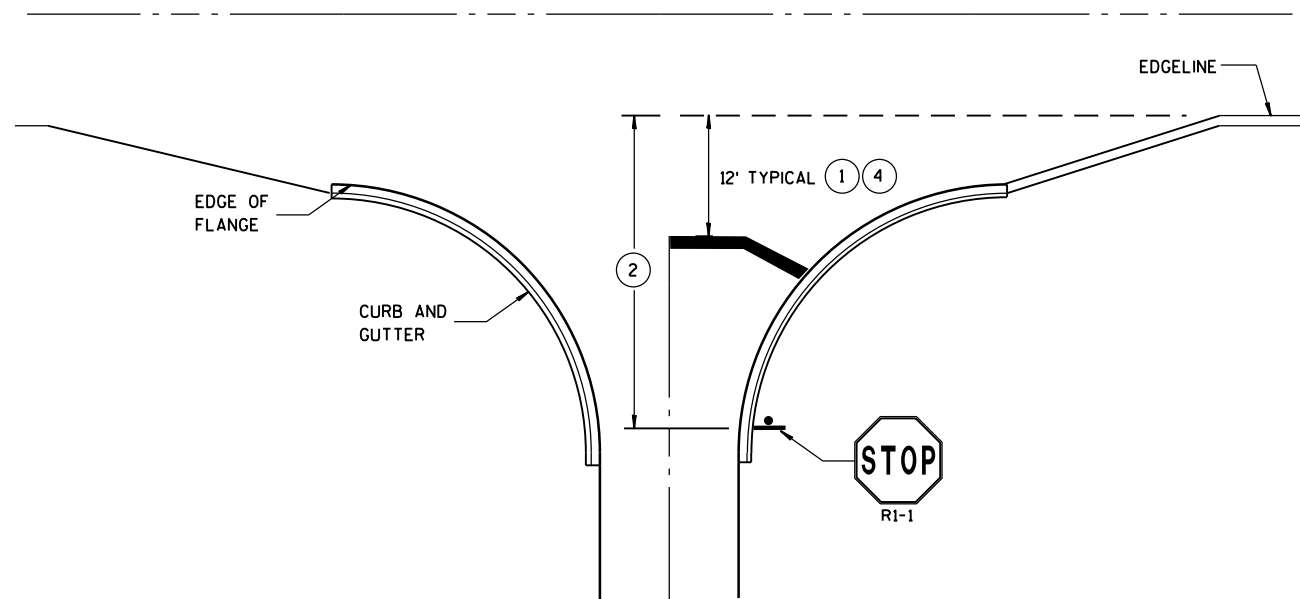
LEGEND

- 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)**

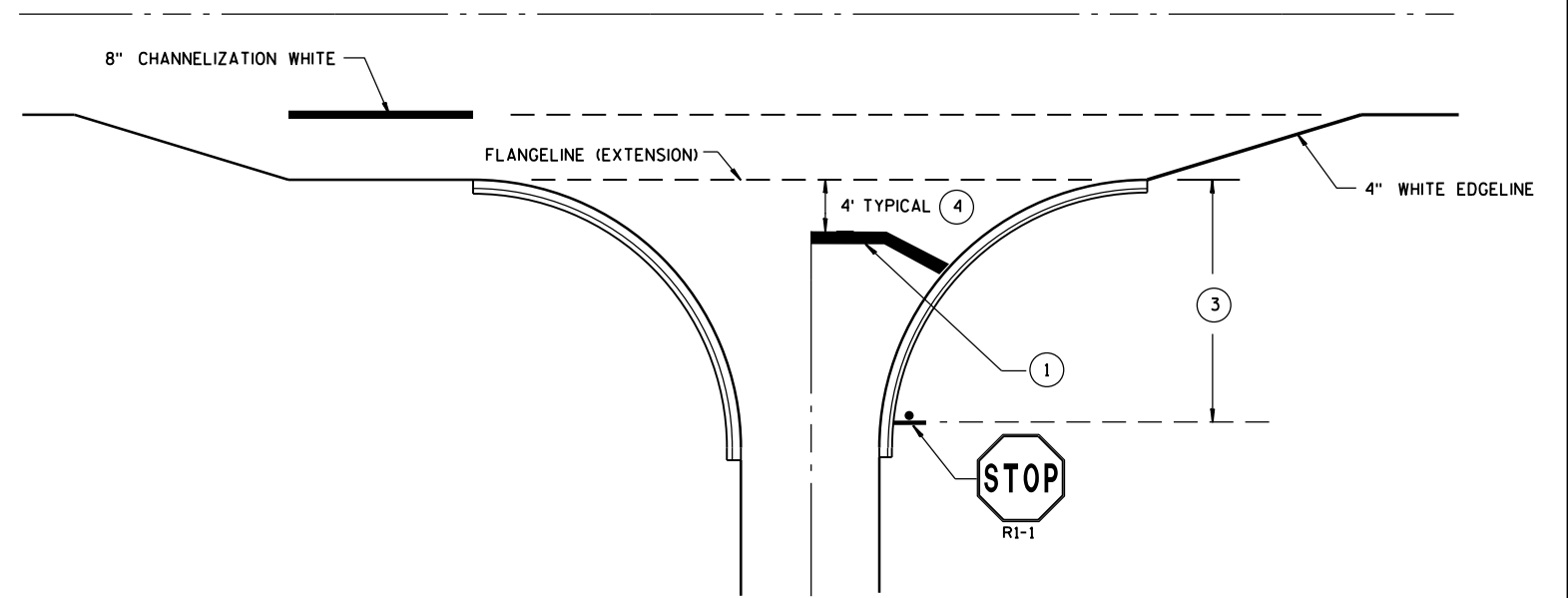
MOVING PAVEMENT MARKING
OPERATION
TWO-LANE TWO-WAY ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

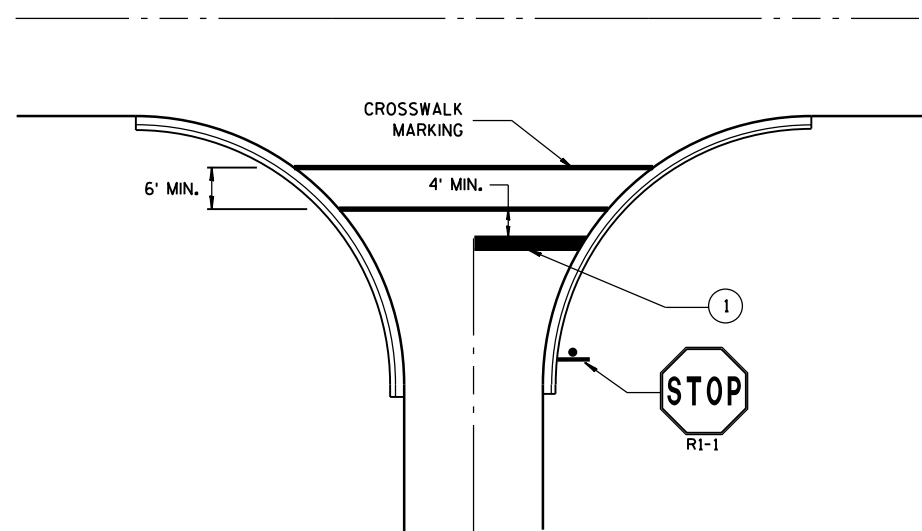
APPROVED
Sept., 2017 /S/ Andrew Heidtke
DATE WORK ZONE ENGR 40
FHWA



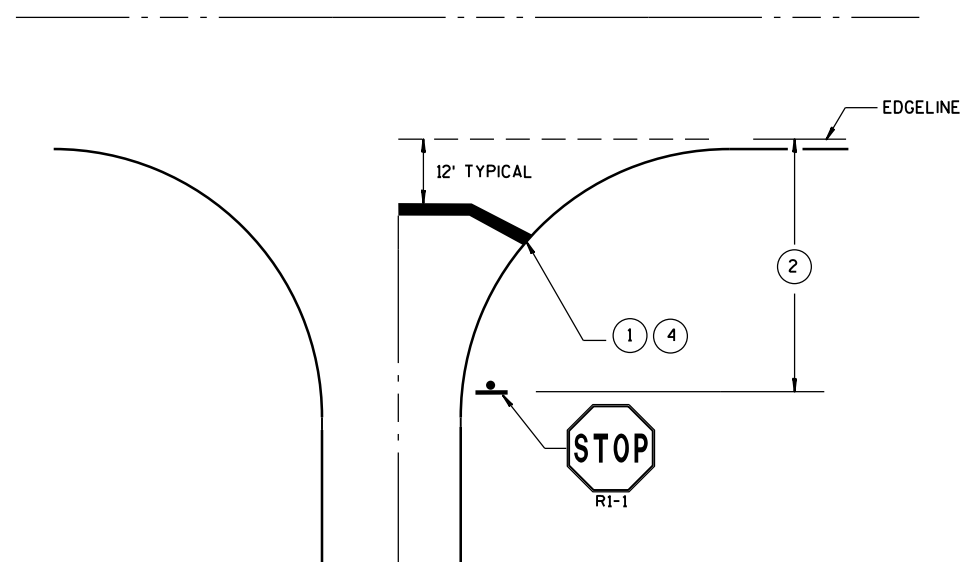
**TYPICAL STOP LINE PAVEMENT MARKING
WITH CURB AND GUTTER**



**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

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGE LINE LOCATION.

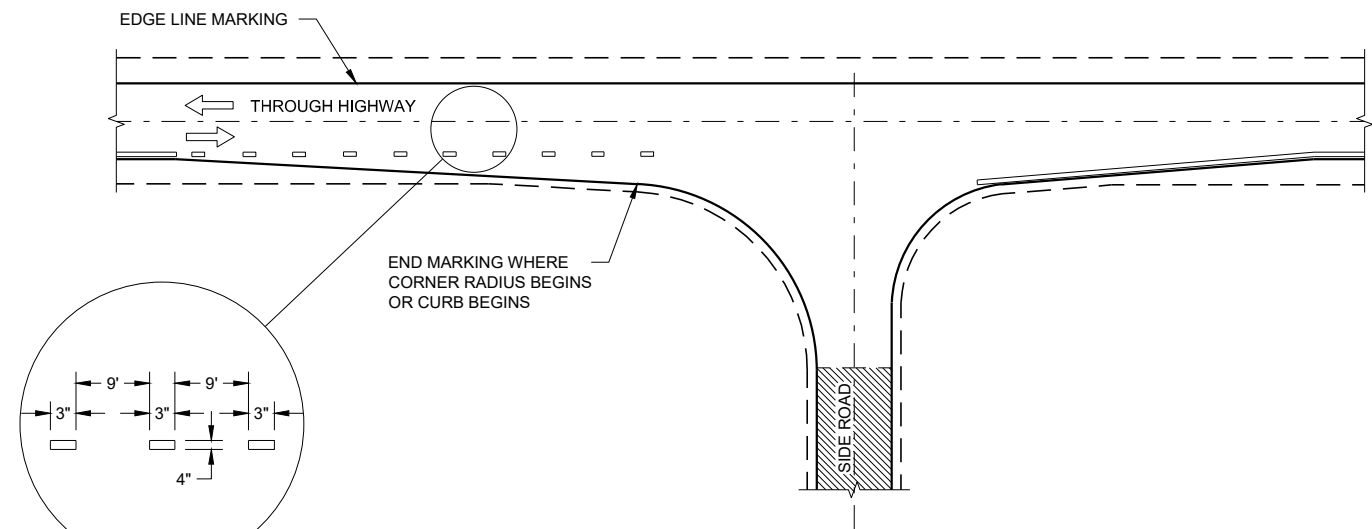
- ① 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- ② IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGE LINE THAN NO STOP LINE IS REQUIRED.
- ③ IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP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

STOP LINE AND CROSSWALK PAVEMENT MARKING

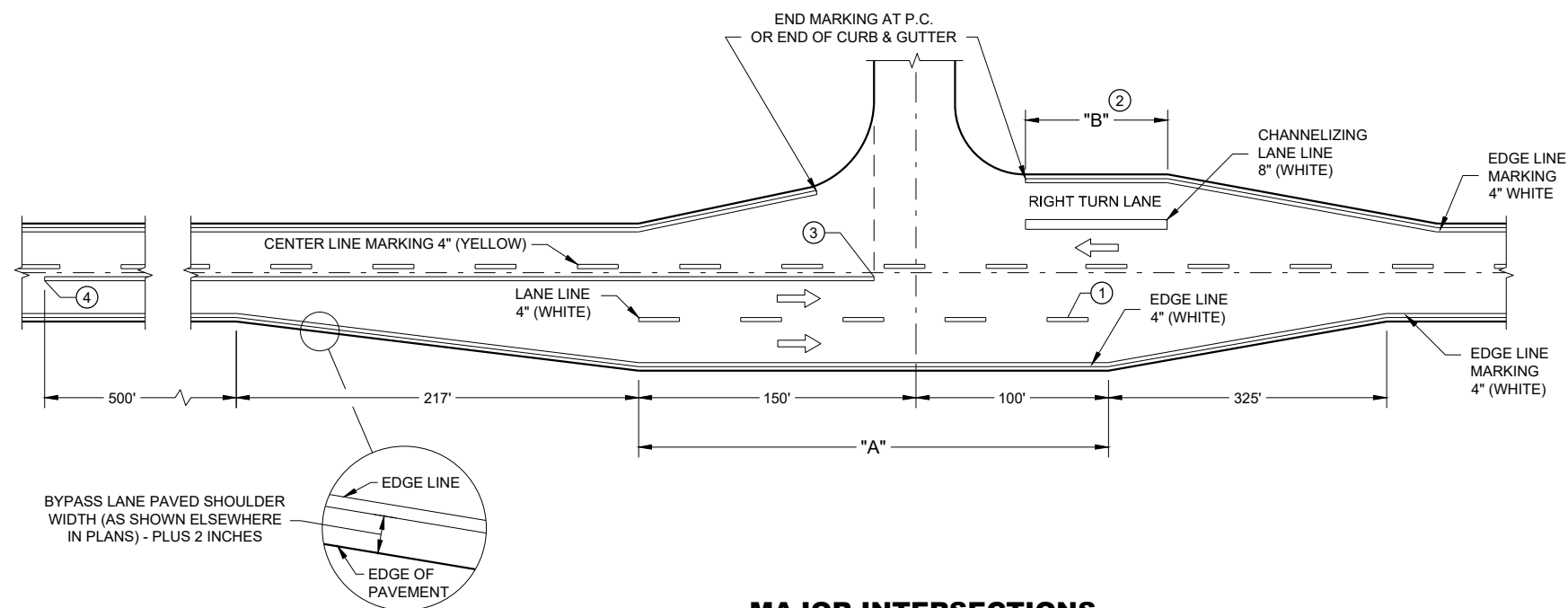
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

DATE Sept., 2017 /S/ Matthew R. Rauch
STATE SIGNING AND MAR 41 J.E.R.
FHWA



MINOR INTERSECTION

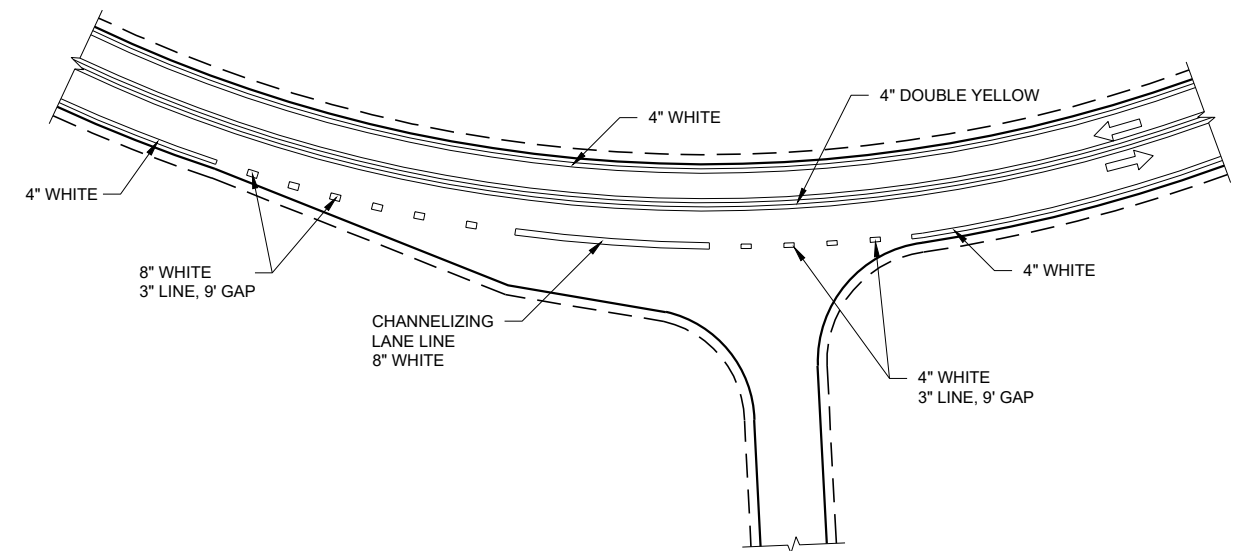


MAJOR INTERSECTIONS
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

GENERAL NOTES

- OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES 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 BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
 - ④ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER

ARROW SYMBOL (➞) SHOWS DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  DIRECTION OF TRAFFIC
-  WORK ZONE

TABLE A

SHOULDER TAPER LENGTH (FEET)					BUFFER SPACE (FEET)
S \ W	4	6	8	10	
30	20	30	40	50	200
35	30	45	55	70	250
40	40	55	75	90	305
45	60	90	120	150	360
50	70	100	135	170	425
55	75	110	150	185	495

W = SHOULDER WIDTH (FEET
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

TAPER LENGTH

L = WS AT 45 MPH OR GREATER
L = WS² / 60 AT 40 MPH OR LESS

SHOULDER TAPER LENGTH = 1/3L

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

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

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

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

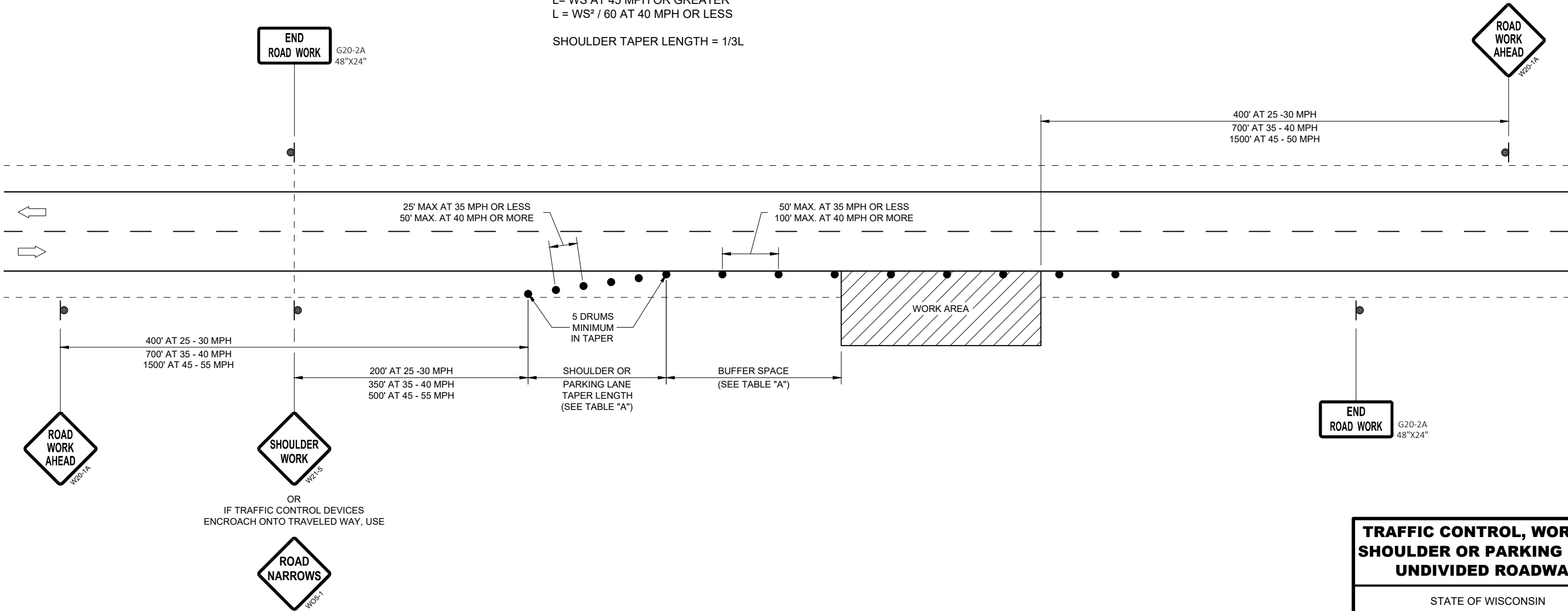
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY RESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.

6

SDD 15D28 - 03



6

SDD 15D28 - 03

TRAFFIC CONTROL, WORK ON
SHOULDER OR PARKING LANE,
UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

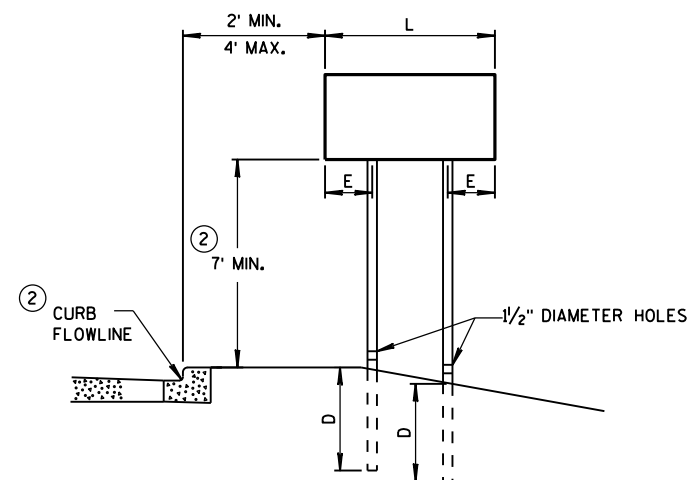
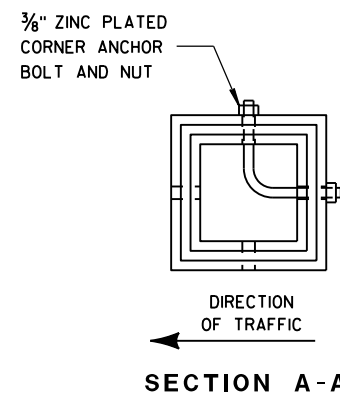
APPROVED
August 2019
DATE
/S/ Andrew Heidtke
STATEWIDE WORK ZONE T
SAFETY ENGINEER 43
FHWA



TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

SIGNS LARGER THAN 27 SQ.FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

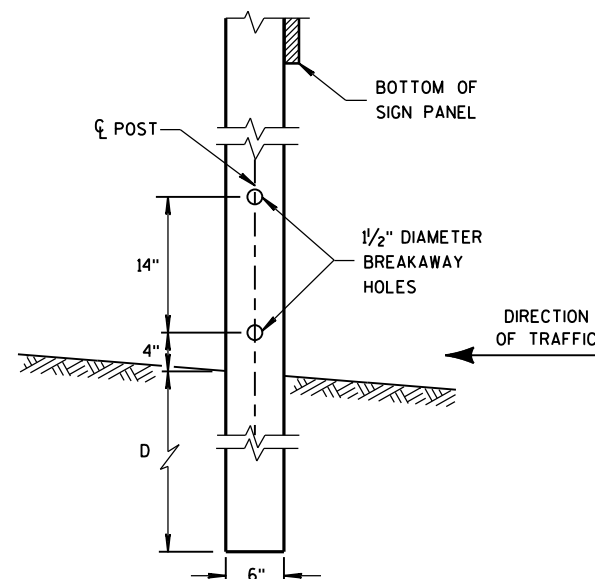


URBAN AREA

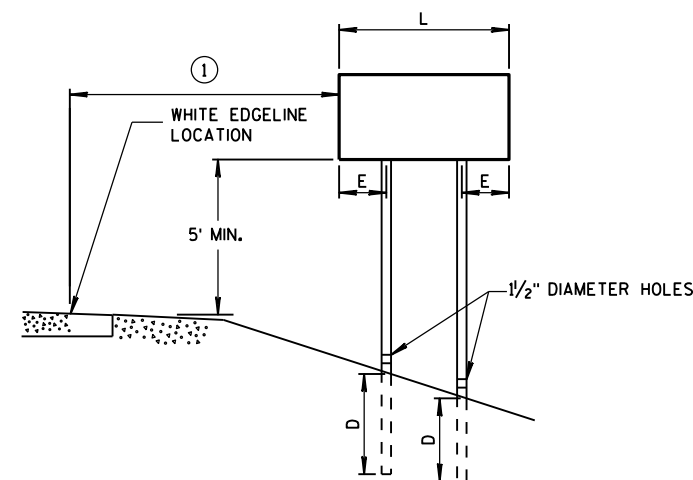
POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

WOOD POST
EMBEDMENT DEPTH

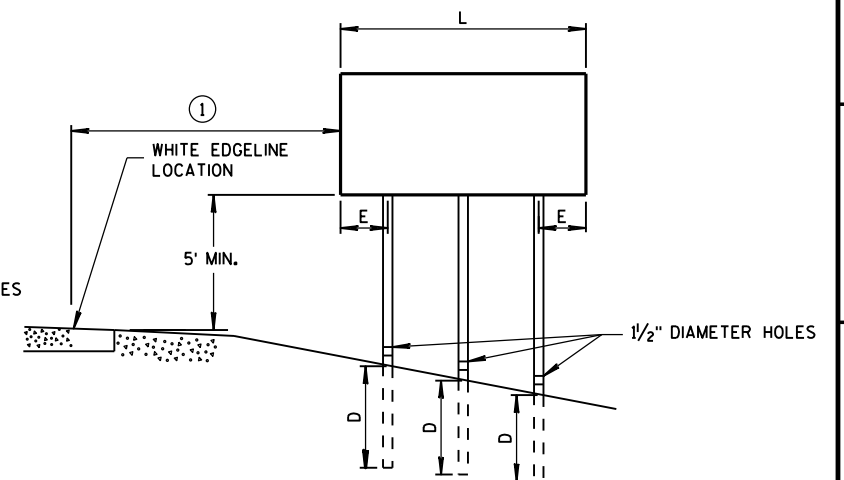
AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'



4" x 6" WOOD POST MODIFICATION



RURAL AREA



GENERAL NOTES

- ① 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.
- ② 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. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.
- ③ FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.

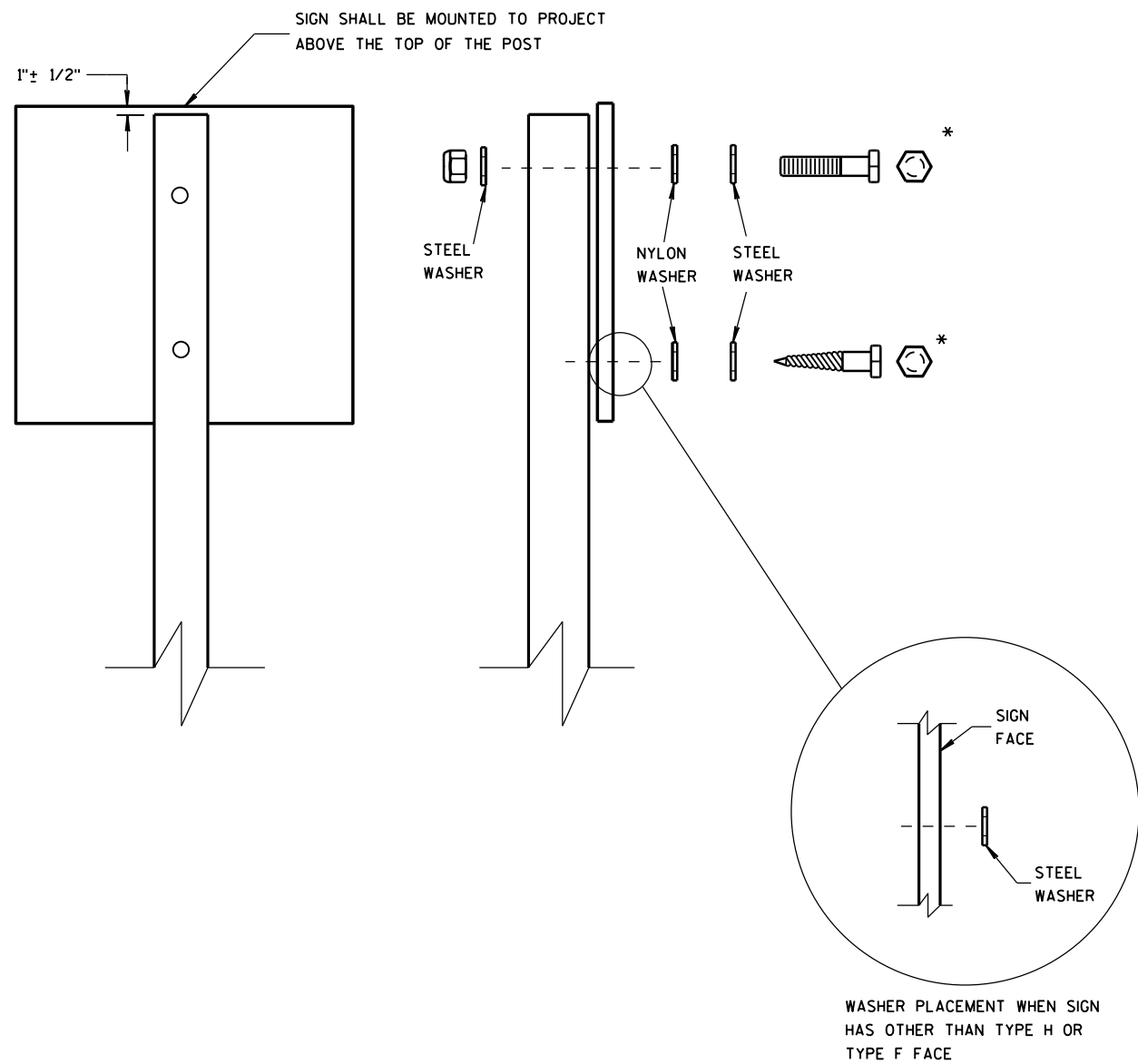
4" X 6" WOOD POST

POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION⁴⁴



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

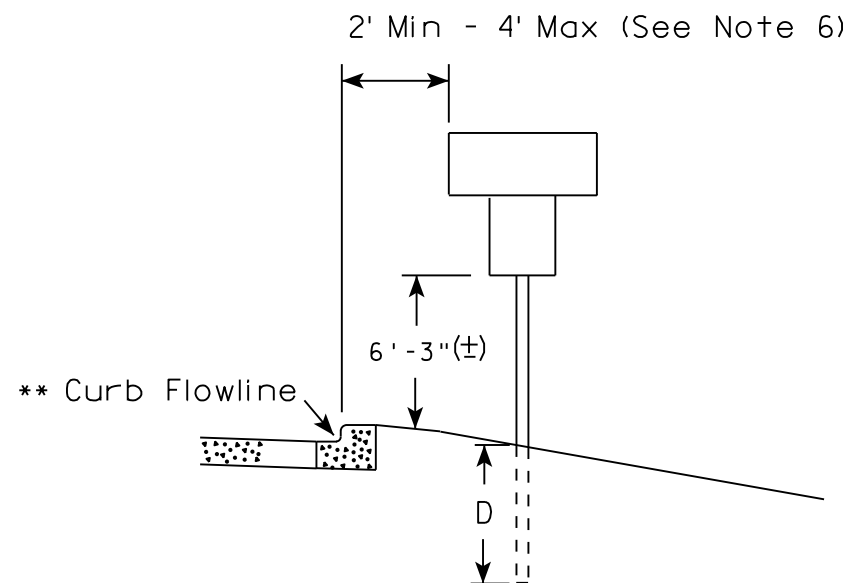
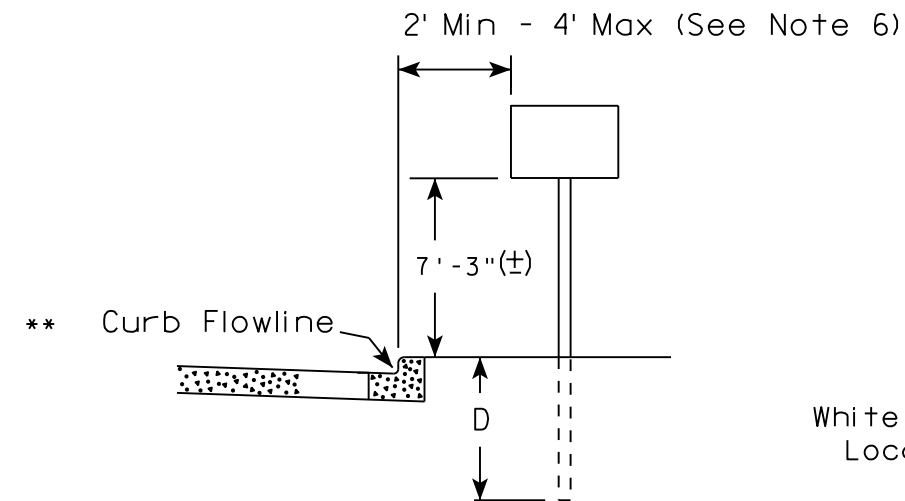
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" x 3-1/4" LENGTH W/ NUTS
 - RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

- 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

* 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. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

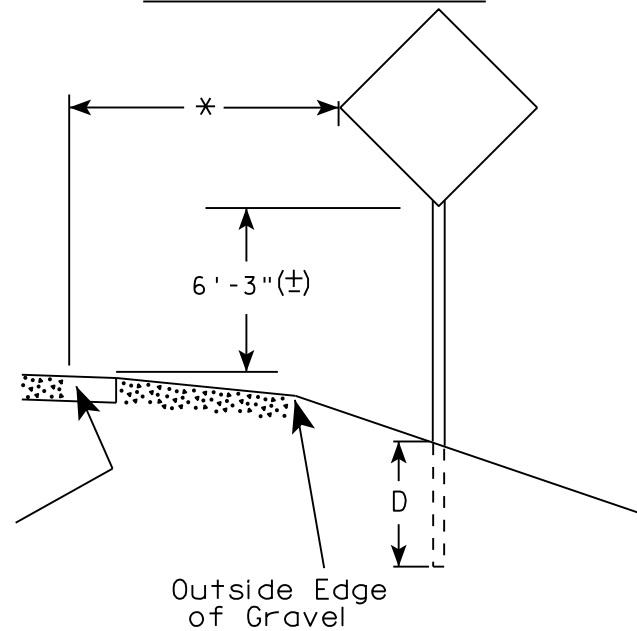
ATTACHMENT OF SIGNS TO POSTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Andrew Heidtke WORK ZONE ENC 45
FHWA	

URBAN AREA

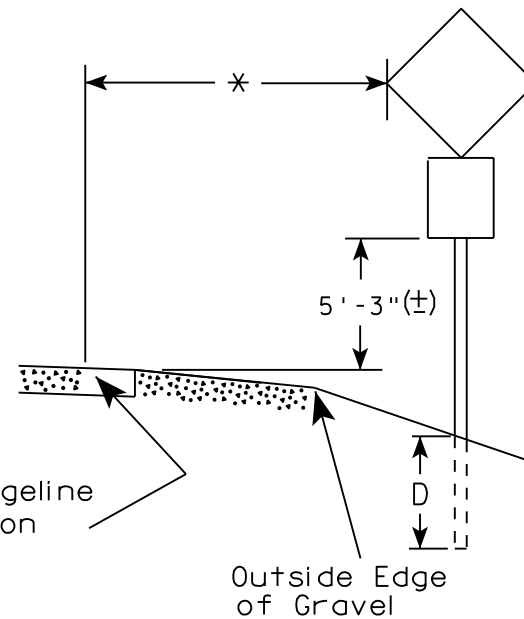


White Edgeline
Location

RURAL AREA (See Note 2)



White Edgeline
Location



Outside Edge
of Gravel

POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. Signs wider than 4 feet or 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. J-Assemblies are considered to be one sign for mounting height.
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 signs 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), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

✱✱ 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 8/21/17

PLATE NO. A4-3.21

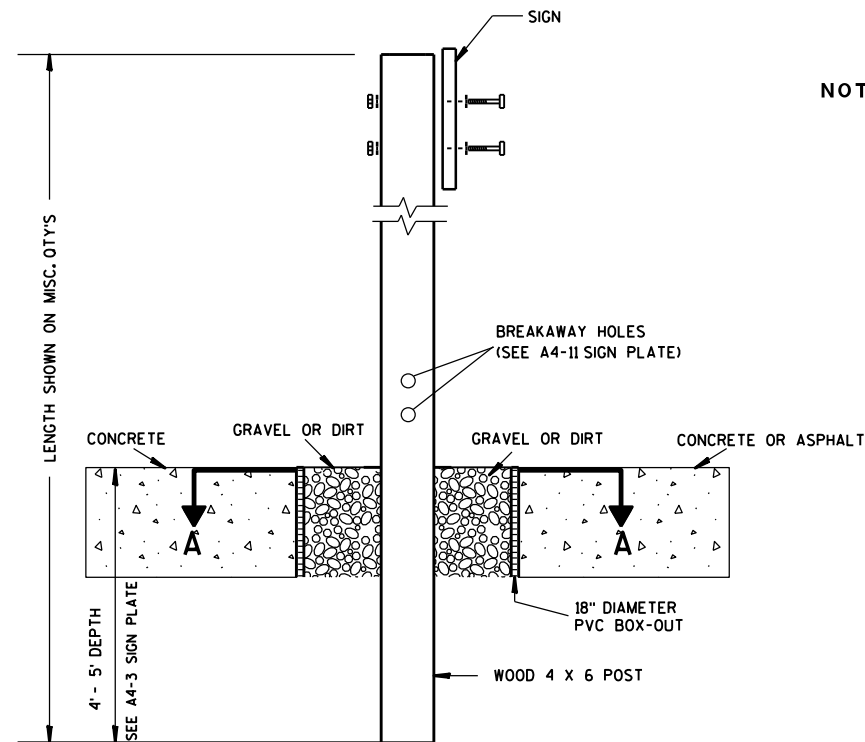
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 46

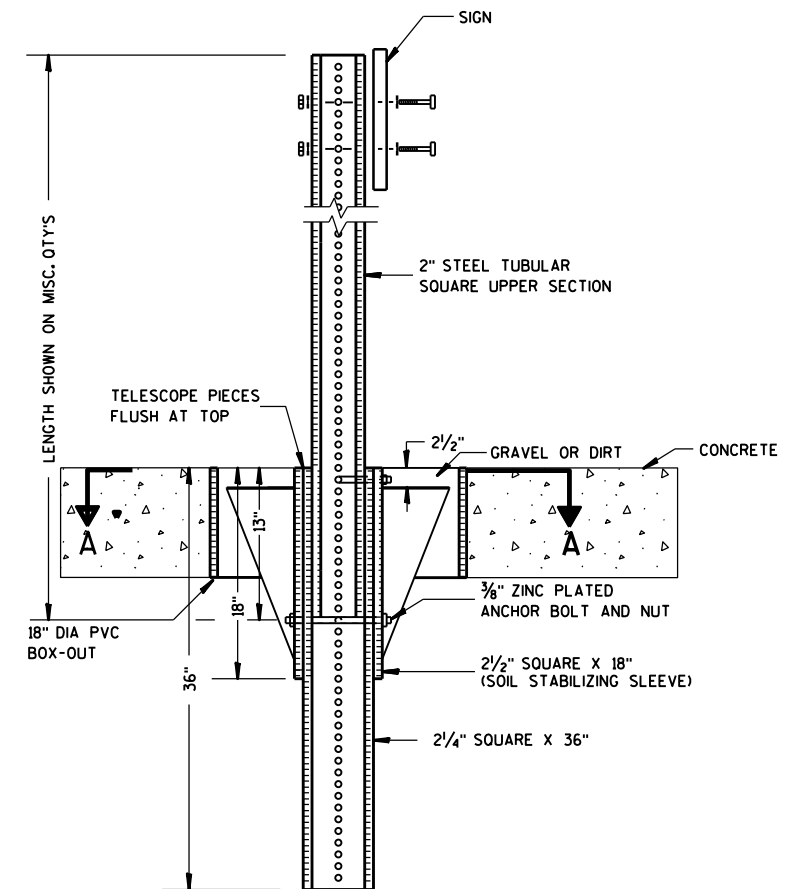
E



ELEVATION VIEW

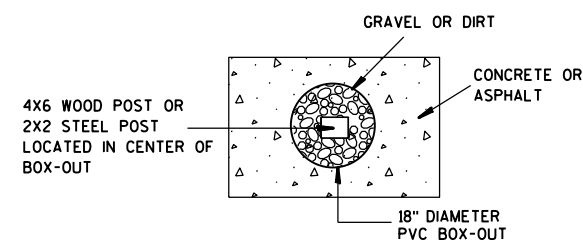
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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 PLAT 47 A4-3B.1

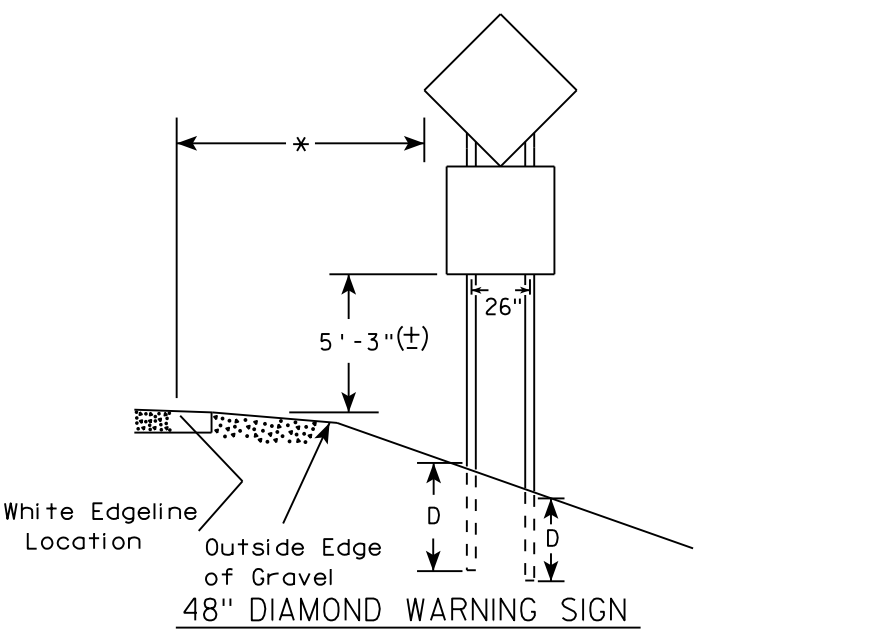
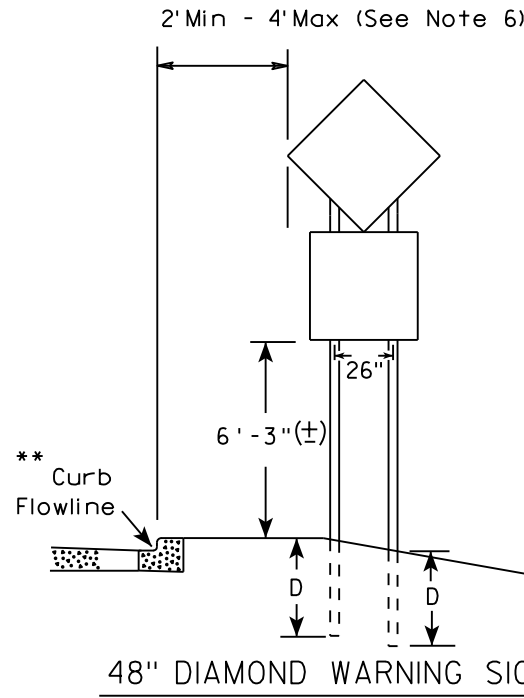
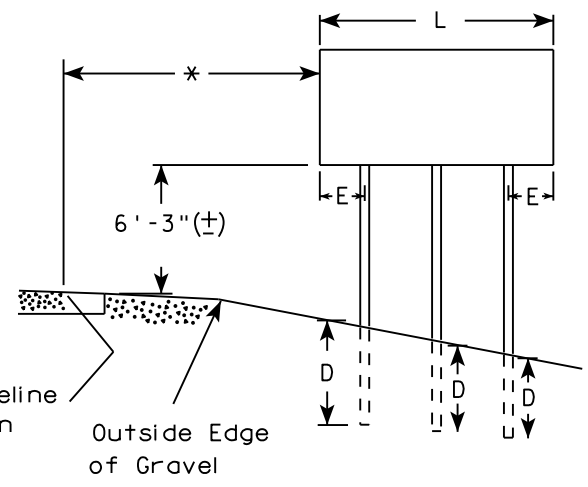
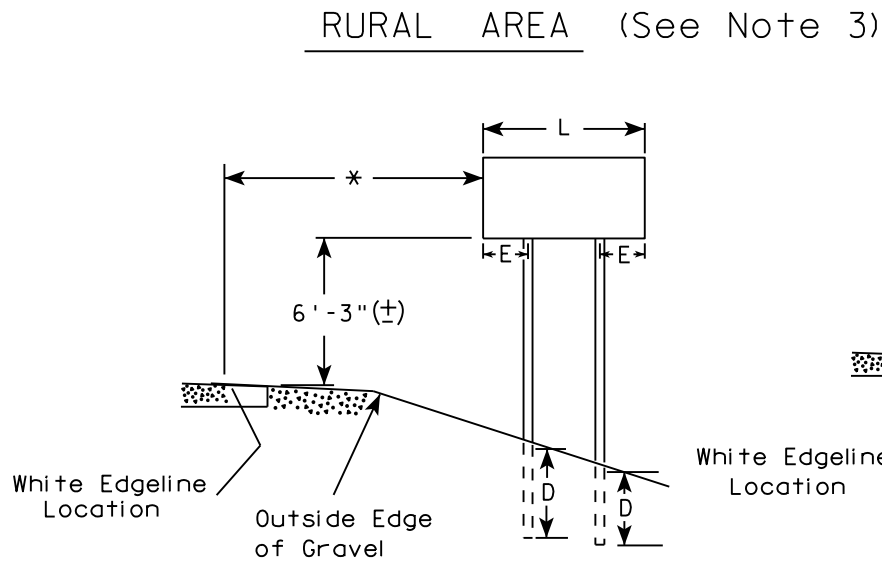
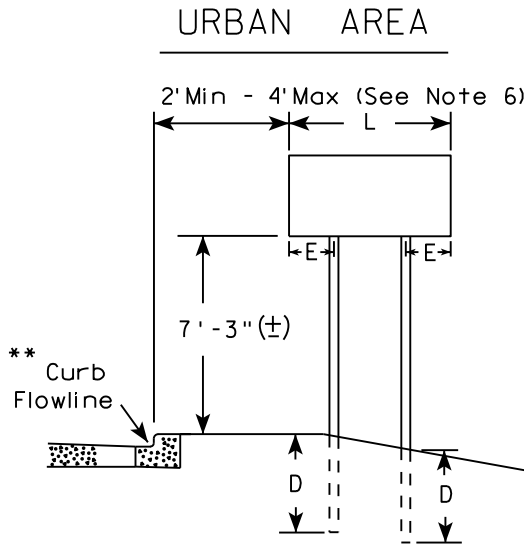
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



- 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. J-Assemblies are considered to be one sign for mounting height.
 6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
 7. Folding signs 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), In Road Object Markers (W5-54) & End of Road Markers (W5-56) 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 and less than 20 S.F. in area.

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 108"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

POST EMBEDMENT DEPTH

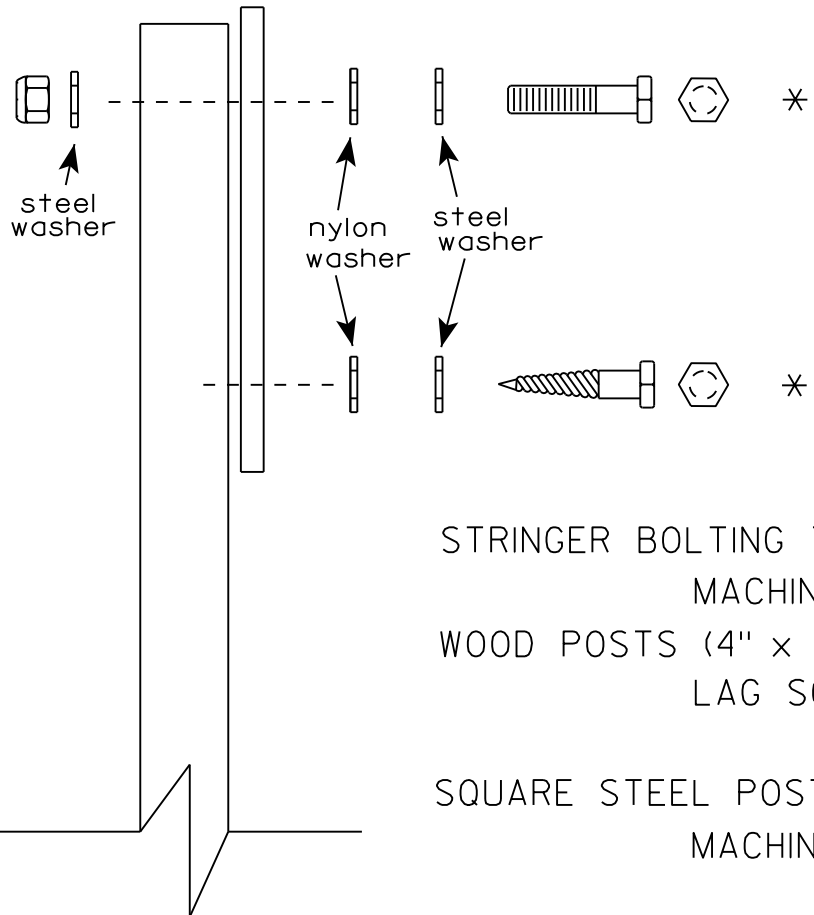
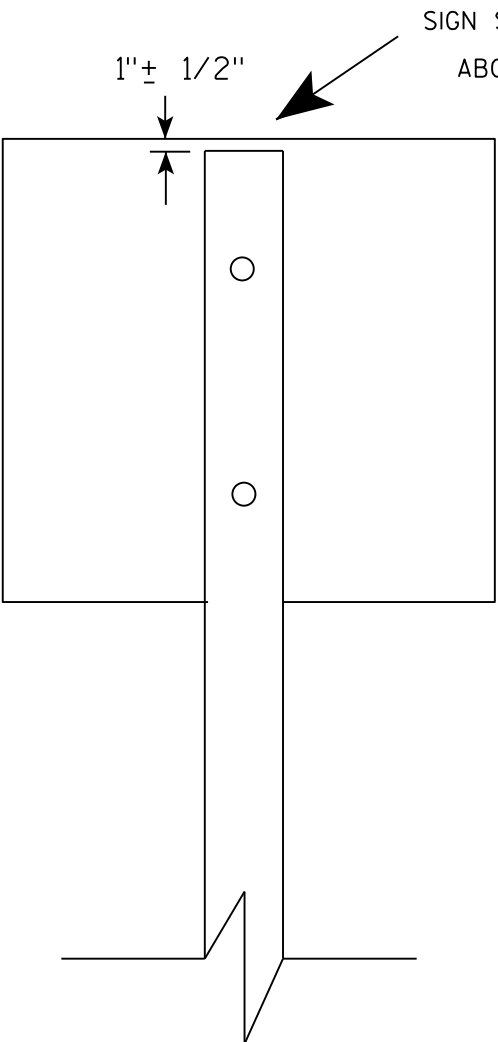
Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15



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.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 - $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 - $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - $\frac{9}{32}$ " (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 $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
 - 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON

* 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.

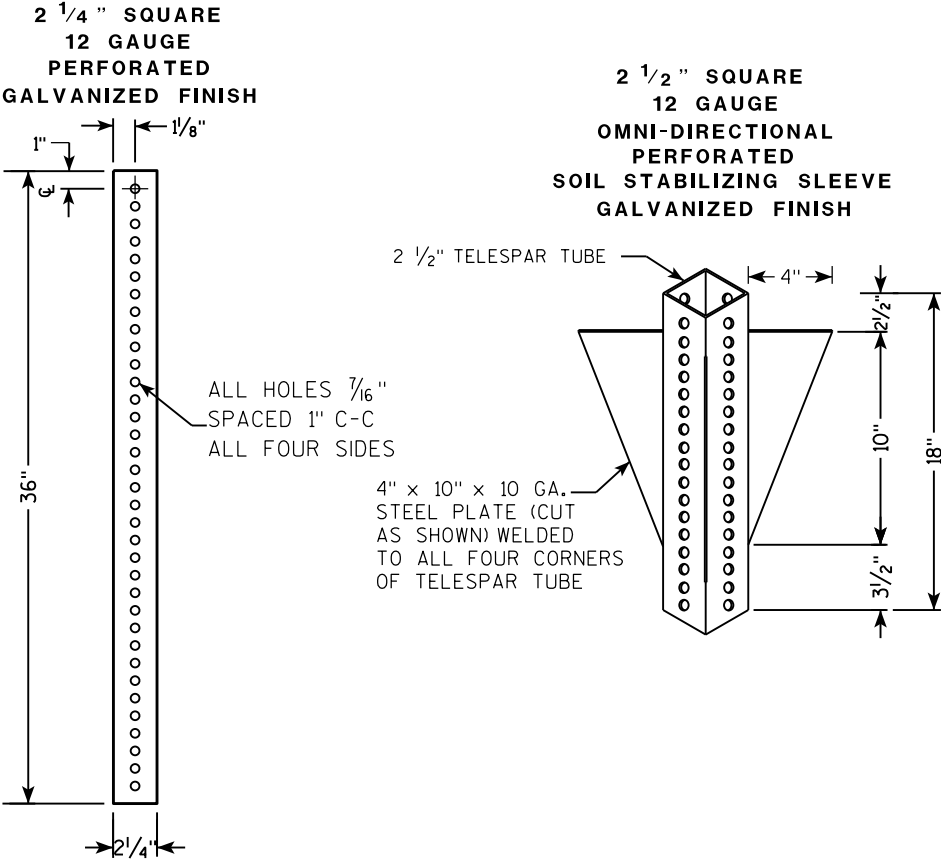
ATTACHMENT OF SIGNS
TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

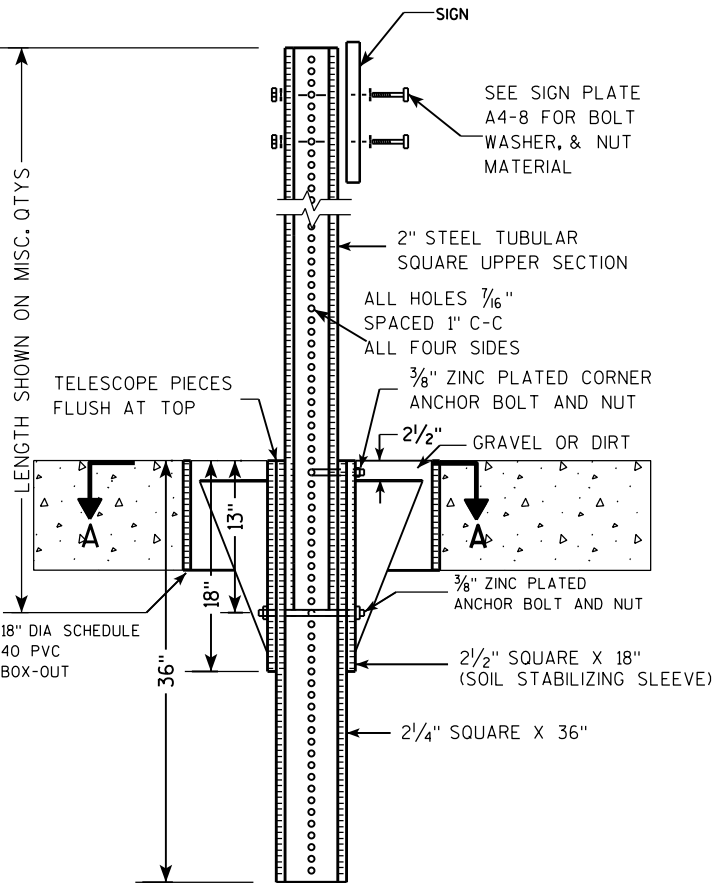
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 8/11/16 PLATE NO. A4-8.8
49

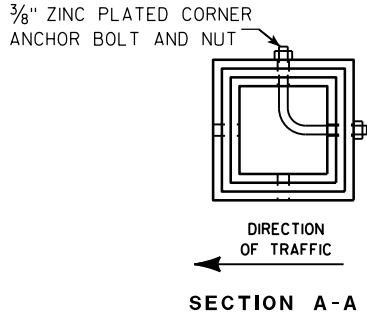
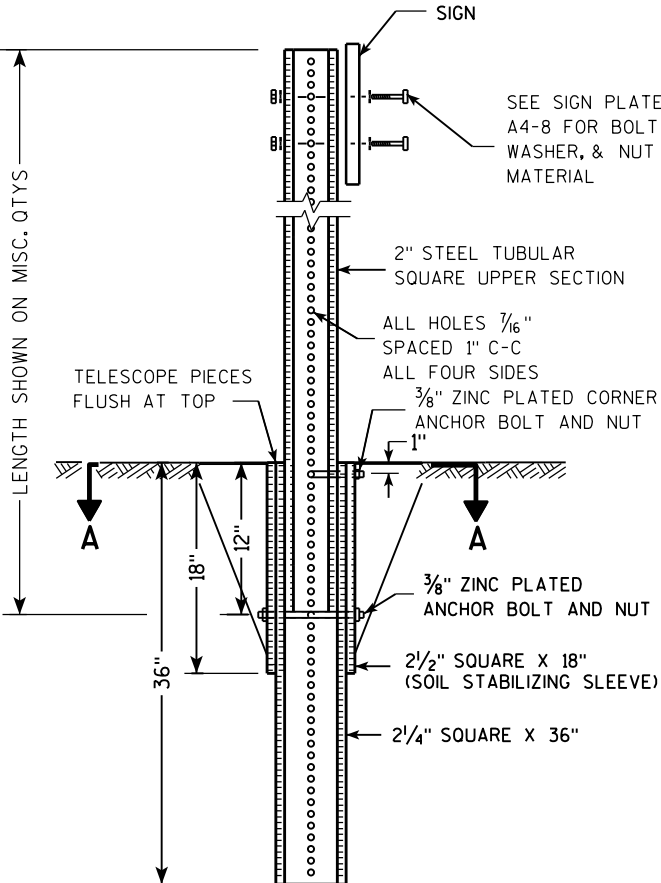
TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM



DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)



Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

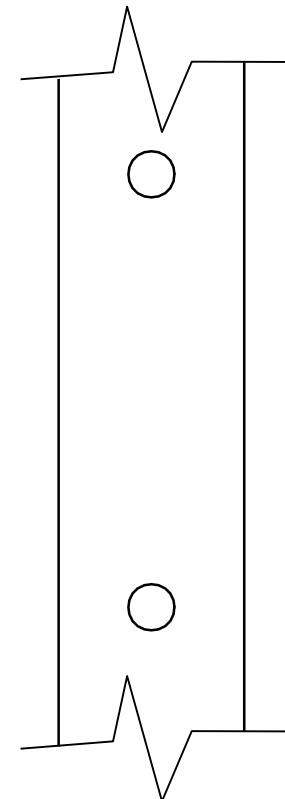
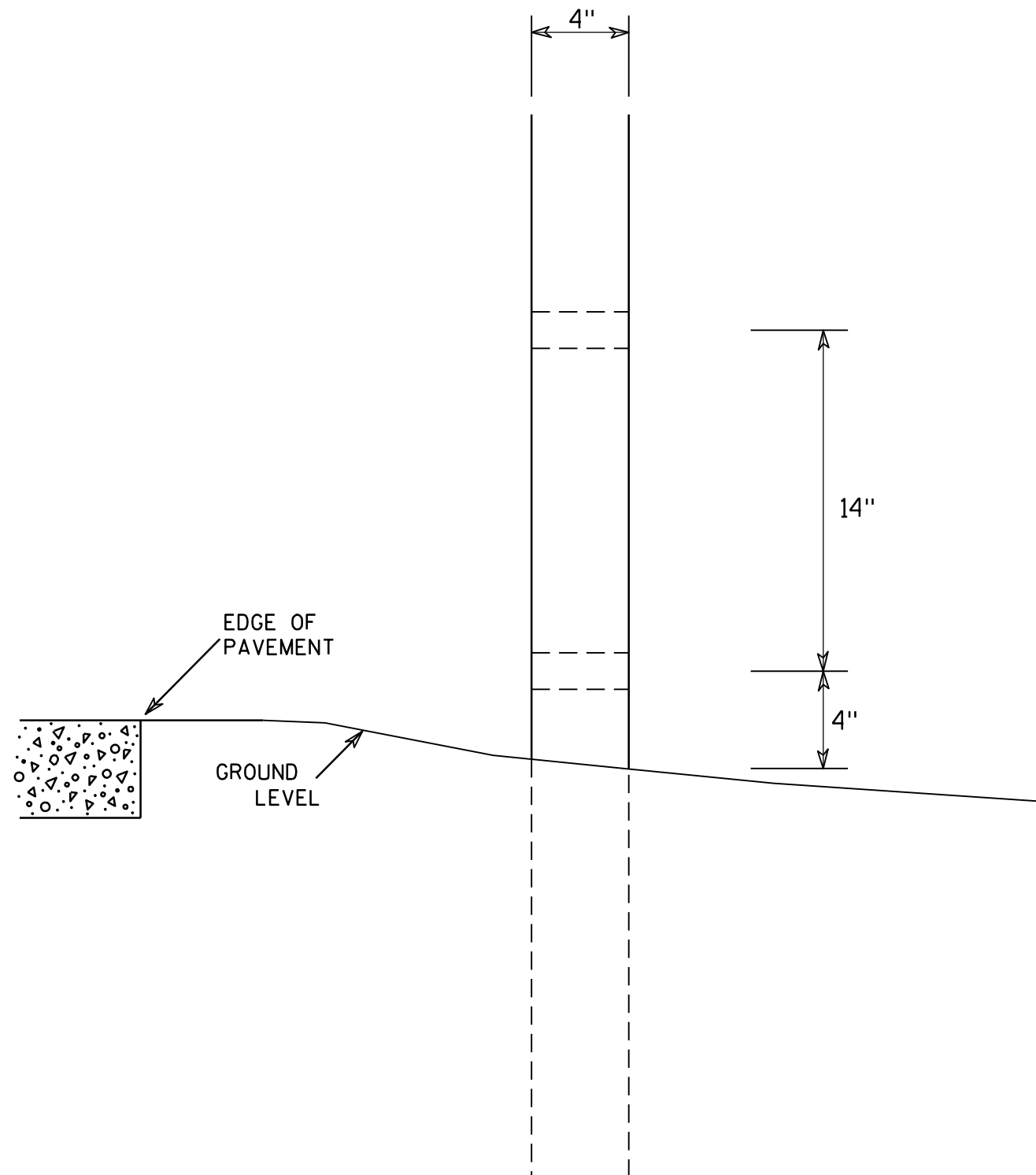
Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/05/15 PLAT 50 14-9.9



SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" 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:

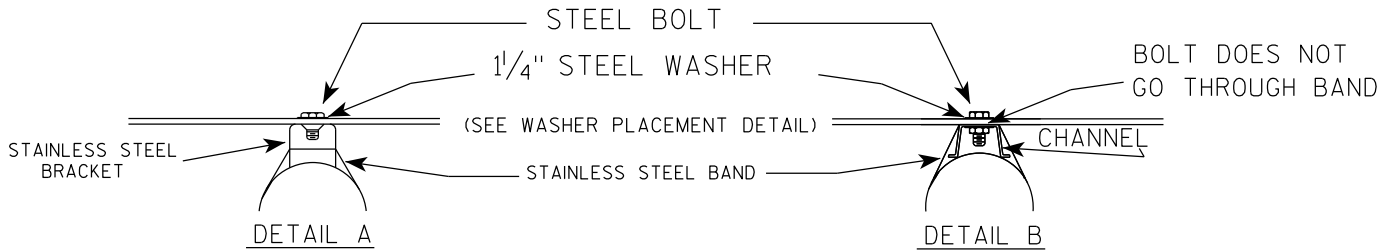
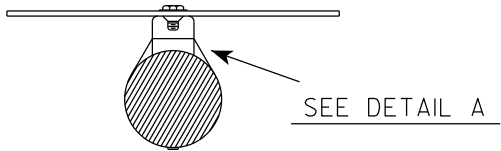
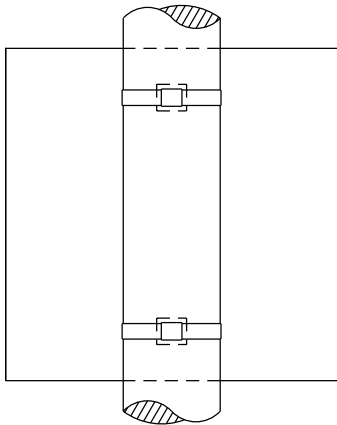
COUNTY:

SHEET NO: 51

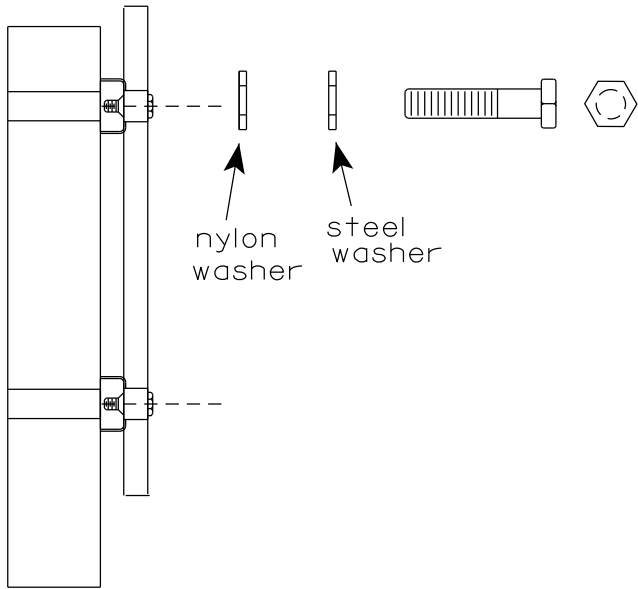
E

BANDING

SINGLE SIGN



WASHER PLACEMENT

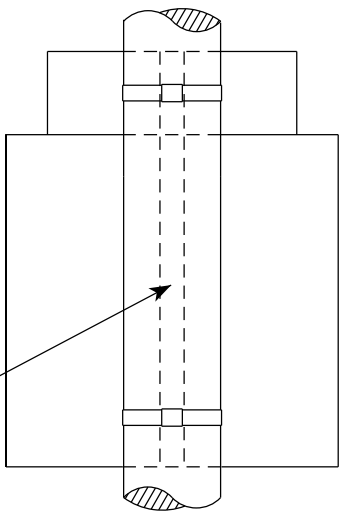


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

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 3/4" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET

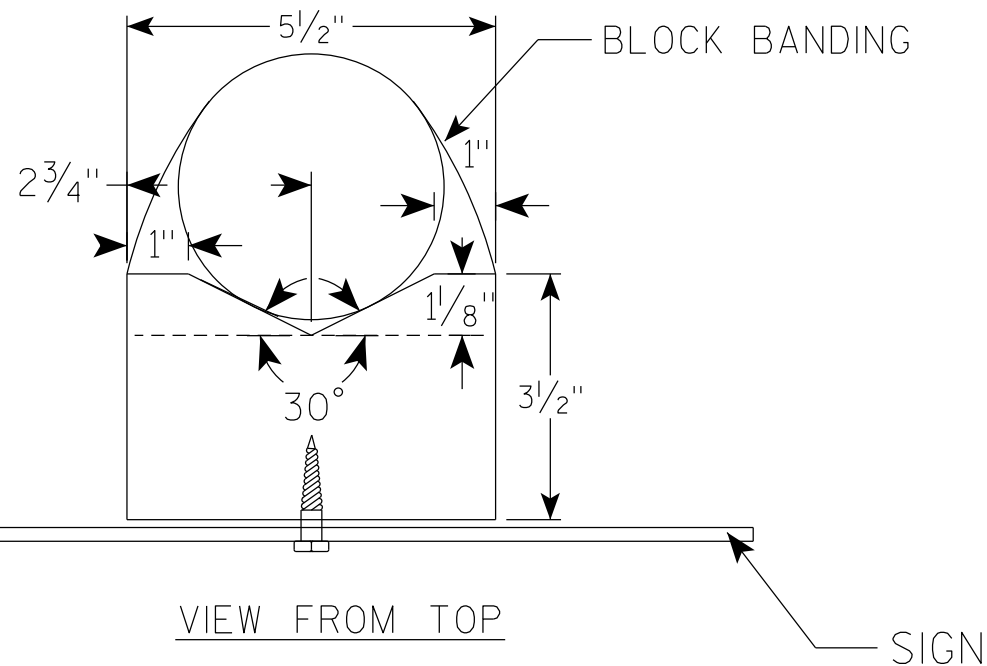
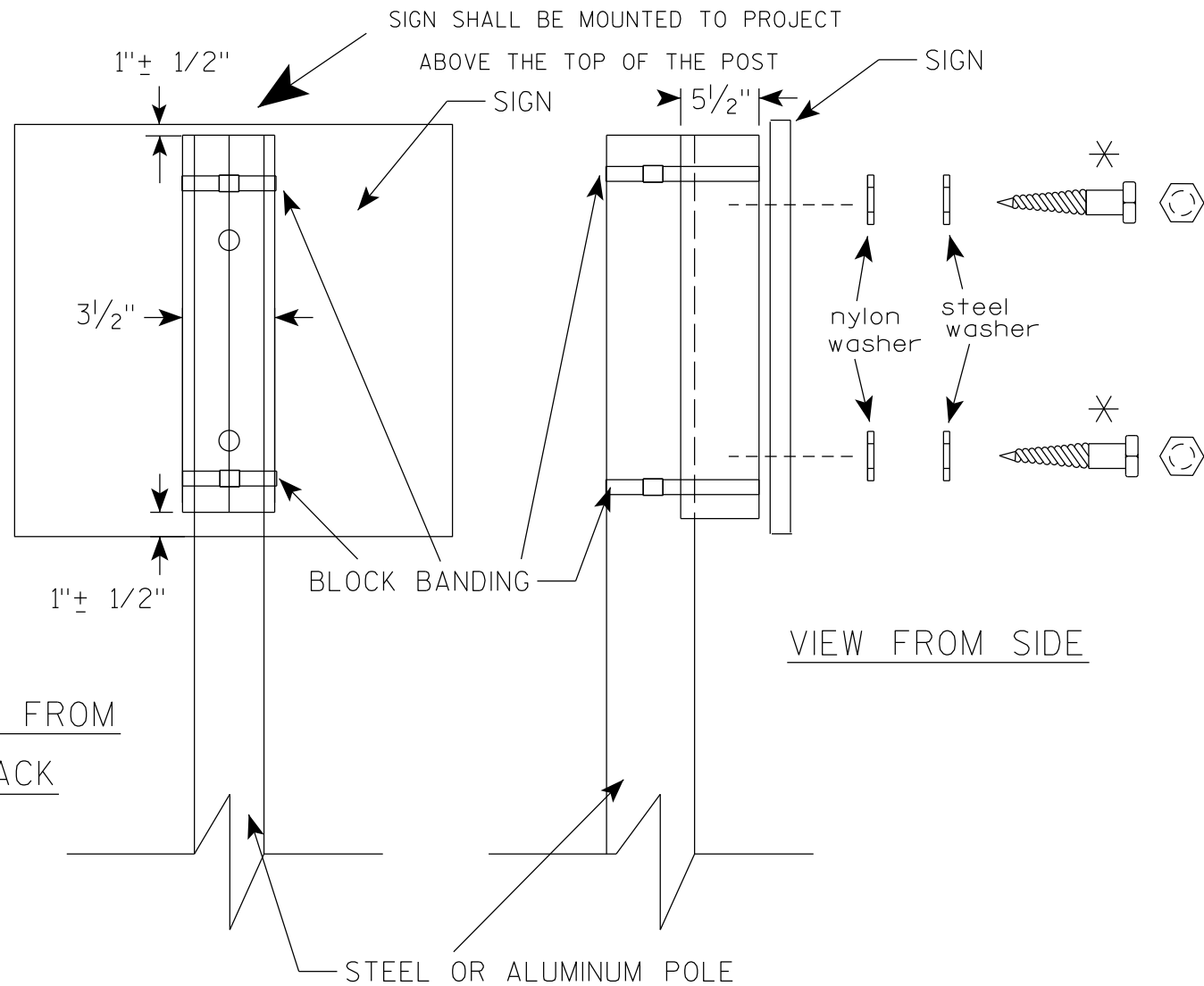
SEE DETAIL B

STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/10/19 PLATE NO. A5-9.4

VIEW FROM
BACK



GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, $\frac{3}{4}$ " WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORMALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE $1\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ "
8. NYLON WASHERS SHALL BE $1\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✱ LAG BOLTS SHALL BE $\frac{3}{8}$ " X $2\frac{1}{2}$ "

BLOCK BANDING DETAIL
(V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

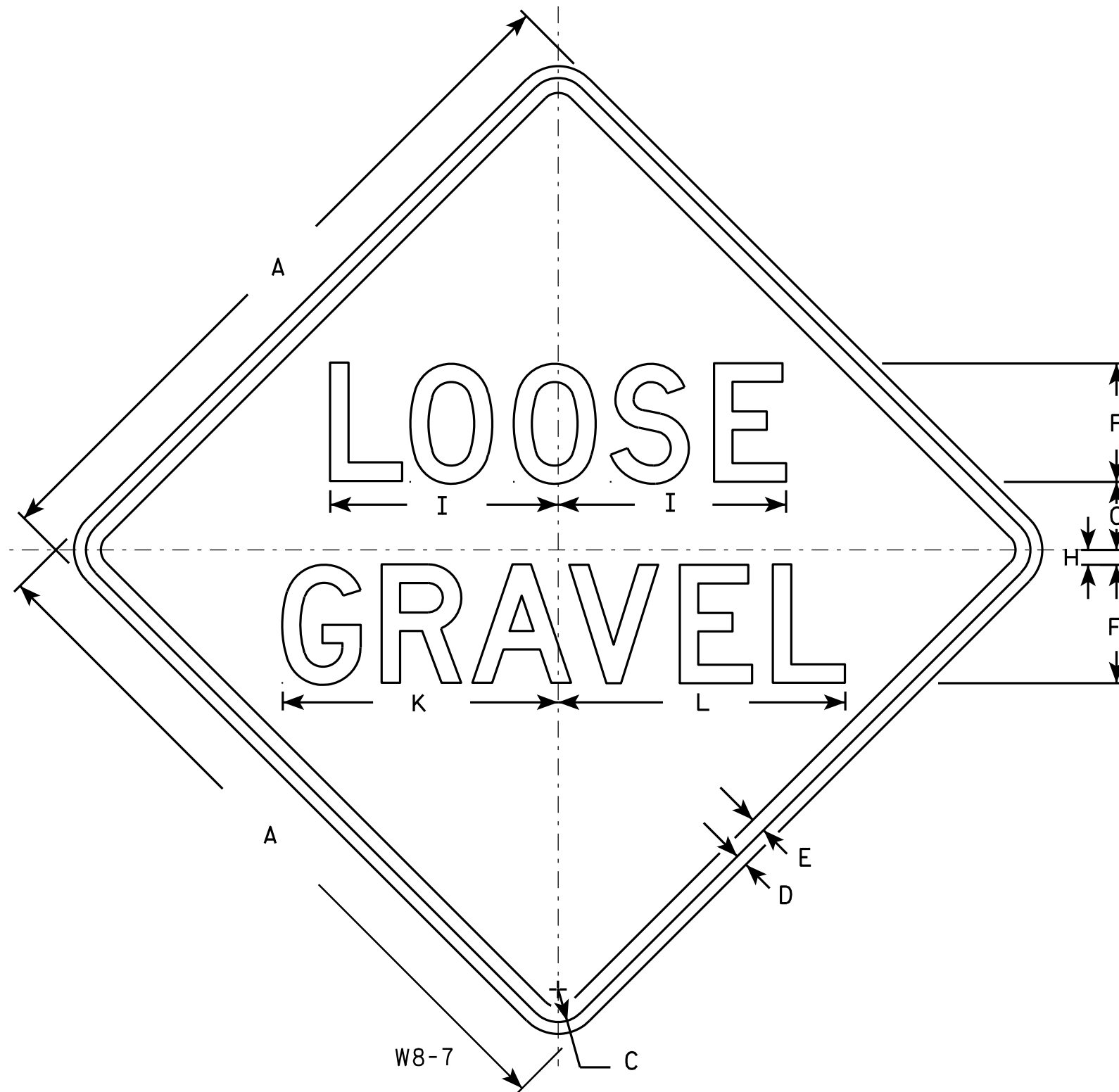
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-10.2

PROJECT NO:

SHEET NO: 53

E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - 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	24		1 1/8	3/8	1/2	4	2 3/4	1/2	7 3/4		9 1/4	9 3/4															4.0
2S	36		1 5/8	5/8	3/4	6	4 1/8	3/4	11 5/8		14	14 1/2															9.0
2M	36		1 5/8	5/8	3/4	6	4 1/8	3/4	11 5/8		14	14 1/2															9.0
3	36		1 5/8	5/8	3/4	6	4 1/8	3/4	11 5/8		14	14 1/2															9.0
4	36		1 5/8	5/8	3/4	6	4 1/8	3/4	11 5/8		14	14 1/2															9.0
5	48		2 1/4	3/4	1	8	5 1/2	1	15 1/2		18 5/8	19 3/8															16.0

STANDARD SIGN

W8-7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 5/30/12 PLATE NO. W8-7.7

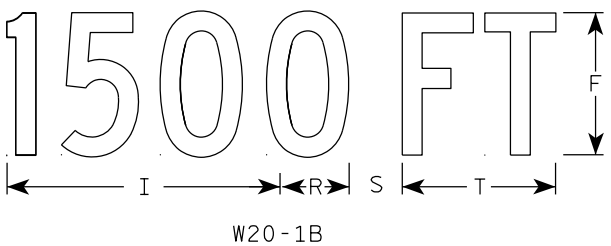
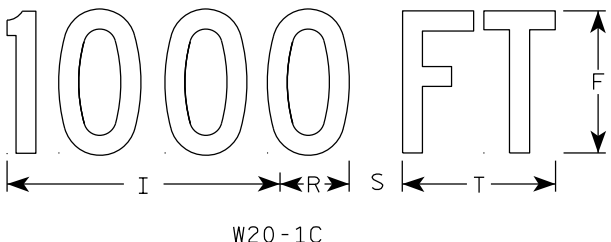
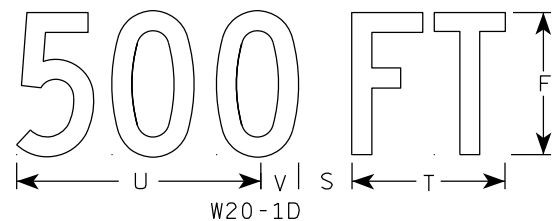
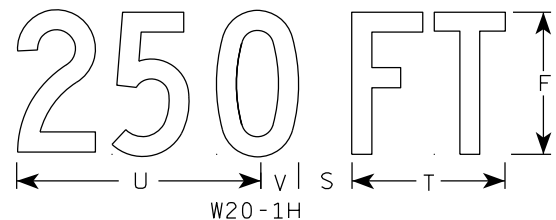
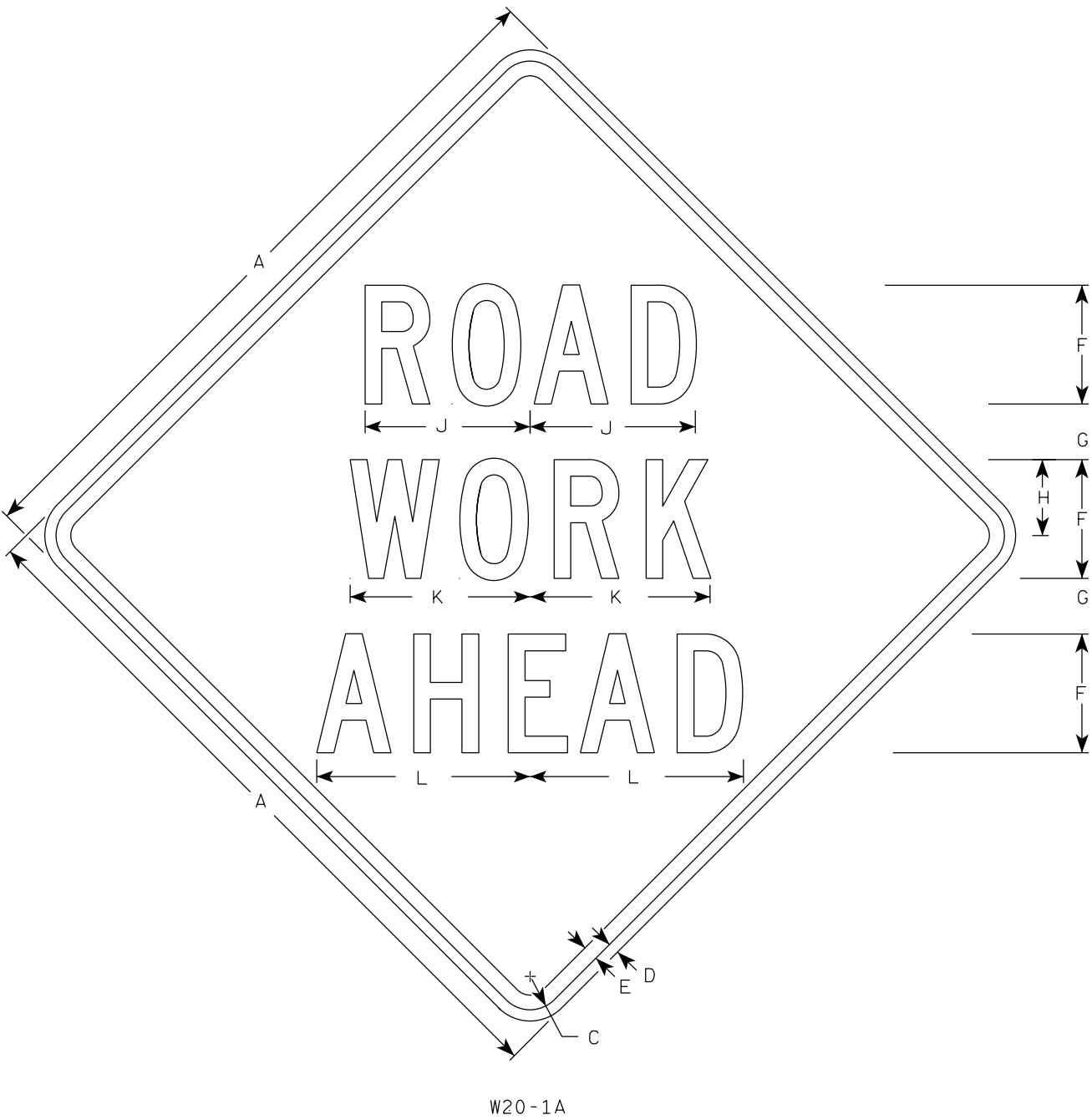
PROJECT NO:

HWY:

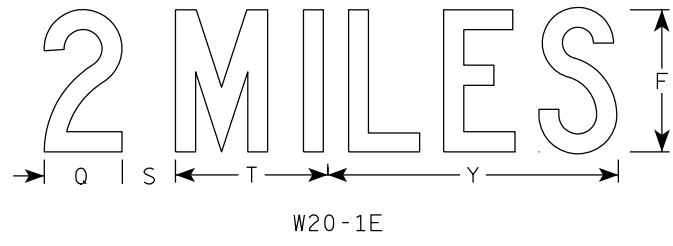
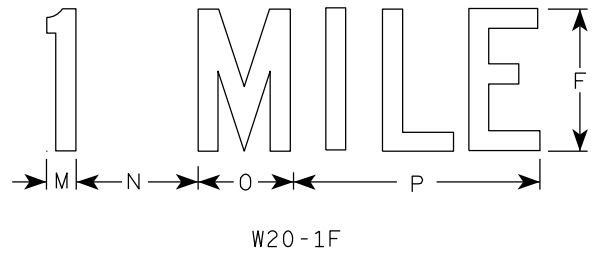
COUNTY:

SHEET NO: 54

E



- NOTES
1. Sign is Type II - Type F Reflective
 2. Color:
Background - Orange
Message - Black
 3. Message Series - C
 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

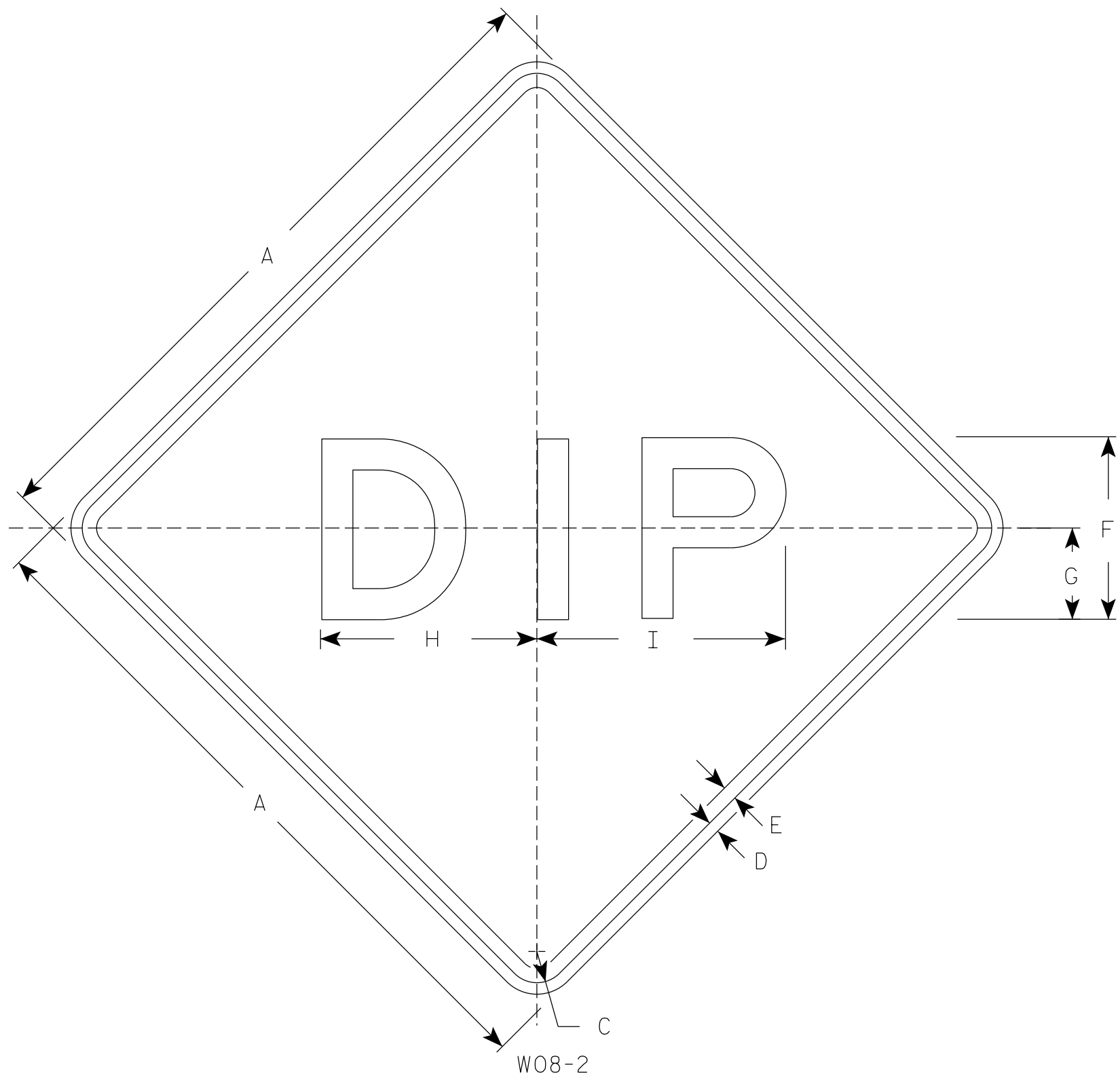
STANDARD SIGN
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 9/25/19 PLATE NO. W20-1.11

7



NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	10	5	11 7/8	13 1/2																		9.0
2S	48		2 1/4	3/4	1	12	6	14 1/4	16 1/4																		16.0
2M	48		2 1/4	3/4	1	12	6	14 1/4	16 1/4																		16.0
3	48		2 1/4	3/4	1	12	6	14 1/4	16 1/4																		16.0
4	48		2 1/4	3/4	1	12	6	14 1/4	16 1/4																		16.0
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STANDARD SIGN
W08-2

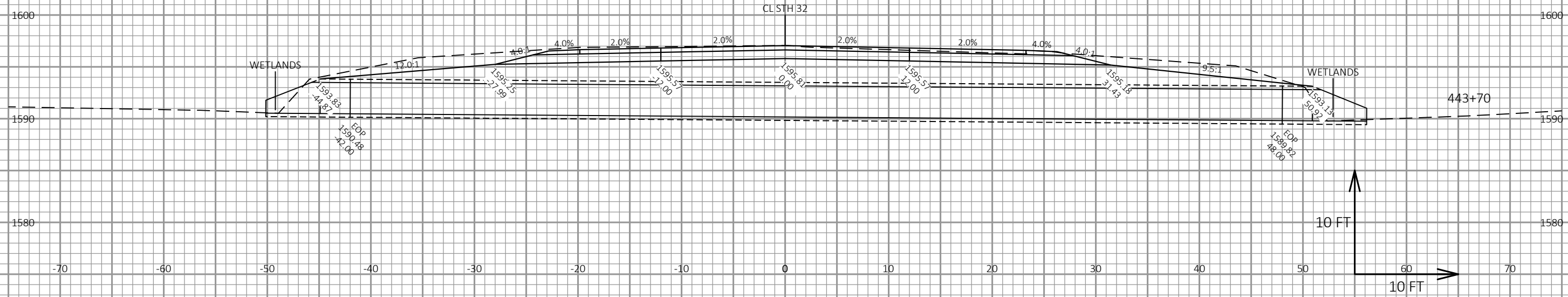
WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

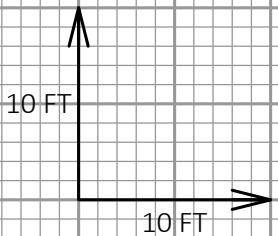
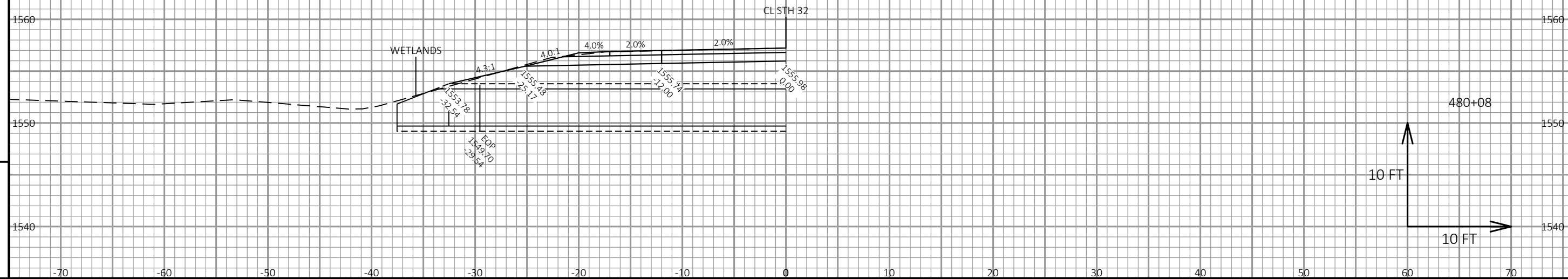
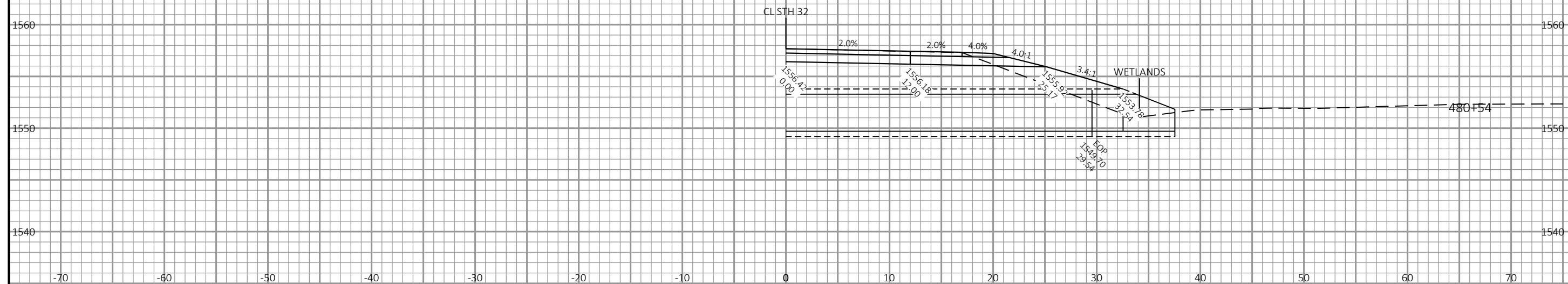
DATE 3/7/19 PLATE NO. W08-2.2

SHEET NO: 56

RIGHT-OF-WAY (R/W) IS BEYOND THE
EXTENTS OF THE CROSS SECTIONS.
SEE LINE DIAGRAMS FOR R/W LIMITS.



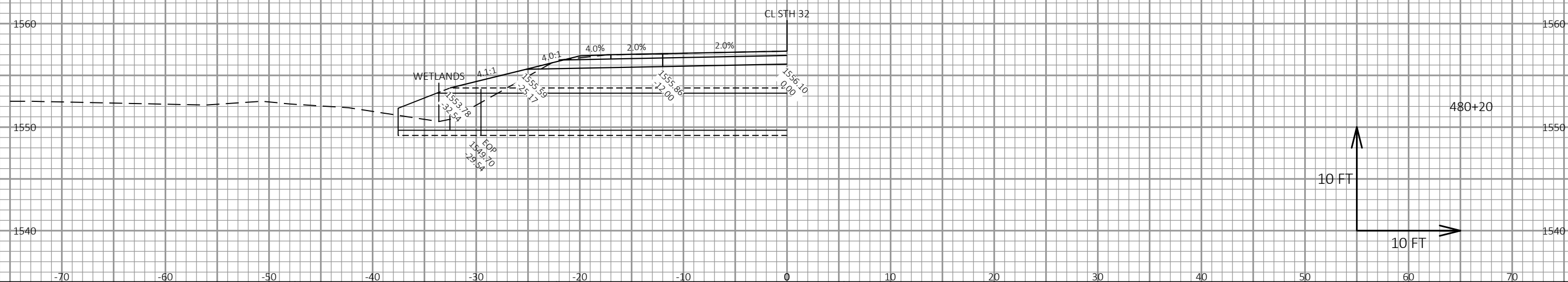
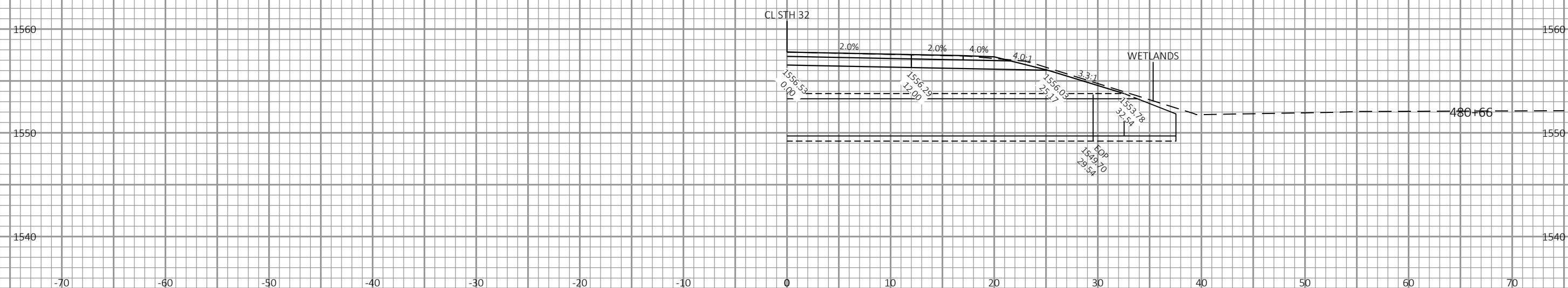
RIGHT-OF-WAY (R/W) IS BEYOND THE
EXTENTS OF THE CROSS SECTIONS.
SEE LINE DIAGRAMS FOR R/W LIMITS.



9

9

RIGHT-OF-WAY (R/W) IS BEYOND THE
EXTENTS OF THE CROSS SECTIONS.
SEE LINE DIAGRAMS FOR R/W LIMITS.



PROJECT NO:	9130-03-63
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HWY: STH 32

COUNTY: FOREST

CROSS SECTIONS:	CULVERT CROSS SECTIONS
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SHEET

— 59

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LAYOUT NAME - 090202

PLOT DATE : 10/2/2019 1:44 PM

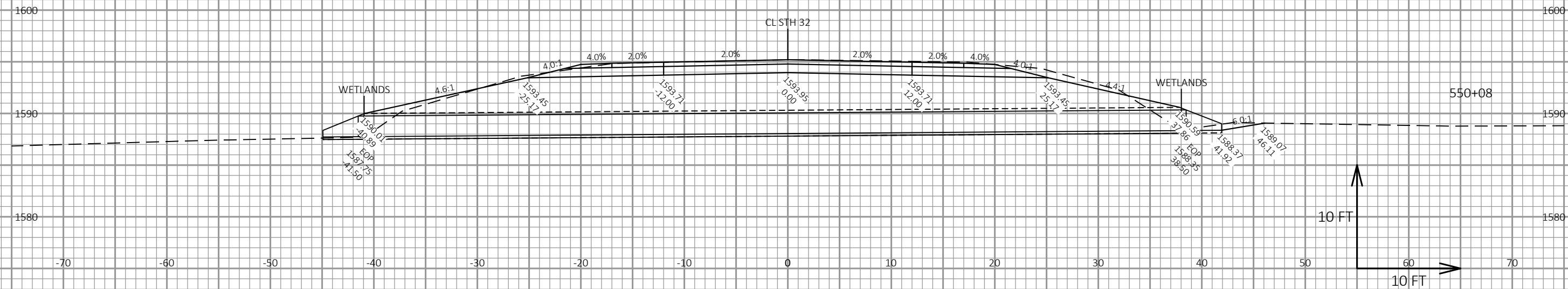
PLOT BY : SHAWN DOLENS

PLOT NAME :

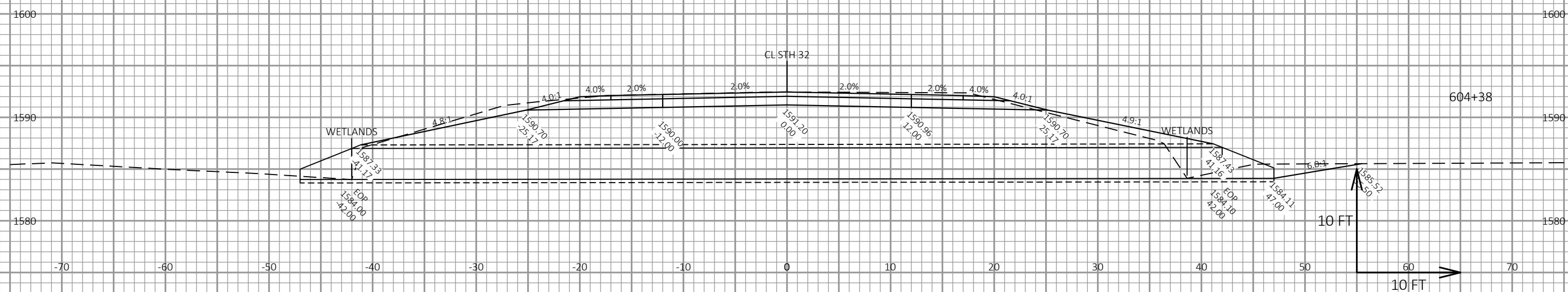
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

RIGHT-OF-WAY (R/W) IS BEYOND THE
EXTENTS OF THE CROSS SECTIONS.
SEE LINE DIAGRAMS FOR R/W LIMITS.



RIGHT-OF-WAY (R/W) IS BEYOND THE
EXTENTS OF THE CROSS SECTIONS.
SEE LINE DIAGRAMS FOR R/W LIMITS.



PROJECT NO:	9130-03-63
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HWY: STH 32

COUNTY: FOREST

CROSS SECTIONS: CULVERT CROSS SECTIONS

SHEET

61

	T
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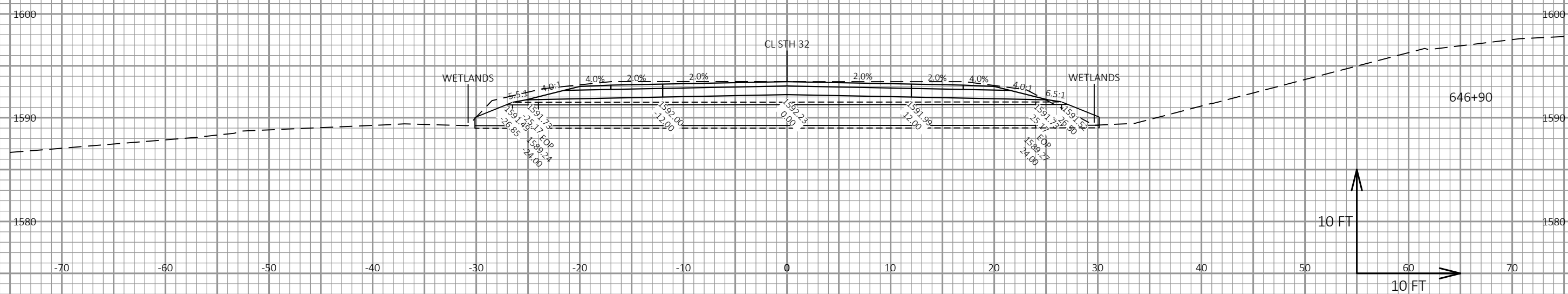
PLOT BY : SHAWN DOLENS

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

RIGHT-OF-WAY (R/W) IS BEYOND THE
EXTENTS OF THE CROSS SECTIONS.
SEE LINE DIAGRAMS FOR R/W LIMITS.



PROJECT NO:	9130-03-63
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HWY: STH 32

COUNTY: FOREST

CROSS SECTIONS: CULVERT CROSS SECTIONS

SHEET

— 62

E	
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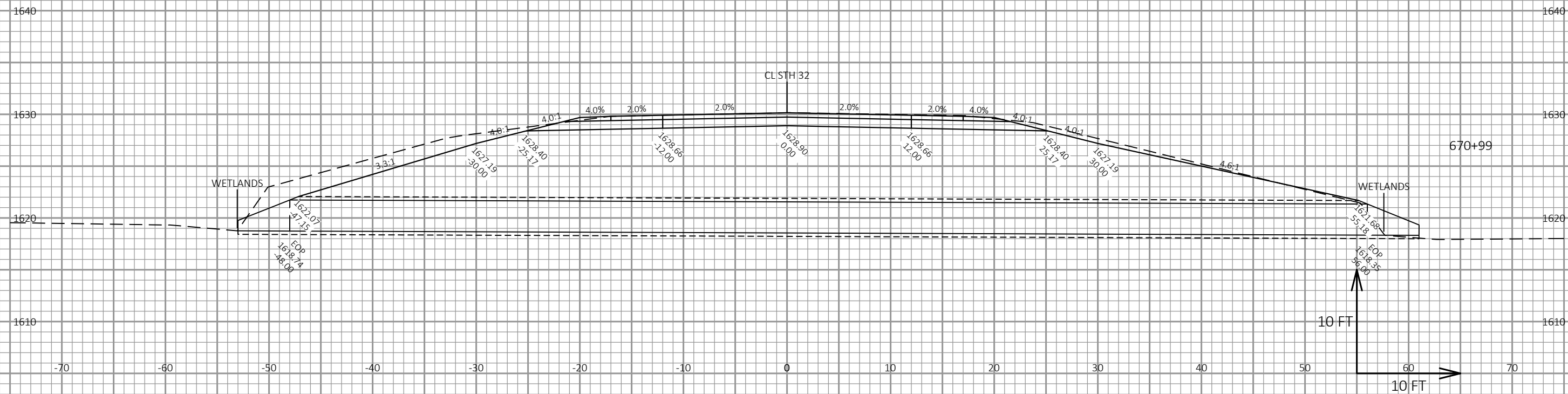
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PLOT NAME :

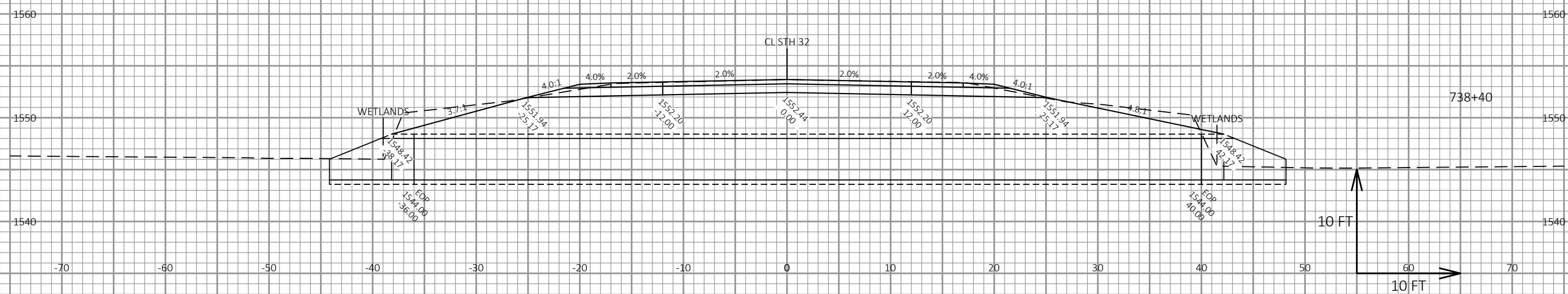
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

RIGHT-OF-WAY (R/W) IS BEYOND THE
EXTENTS OF THE CROSS SECTIONS.
SEE LINE DIAGRAMS FOR R/W LIMITS.



RIGHT-OF-WAY (R/W) IS BEYOND THE
EXTENTS OF THE CROSS SECTIONS.
SEE LINE DIAGRAMS FOR R/W LIMITS.



PROJECT NO:	9130-03-63
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HWY: STH 32

COUNTY: FOREST

CROSS SECTIONS: CULVERT CROSS SECTIONS

	SHEET
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— 64

	E
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LAYOUT NAME - 090207

PLOT DATE : 10/2/2019 1:44 PM

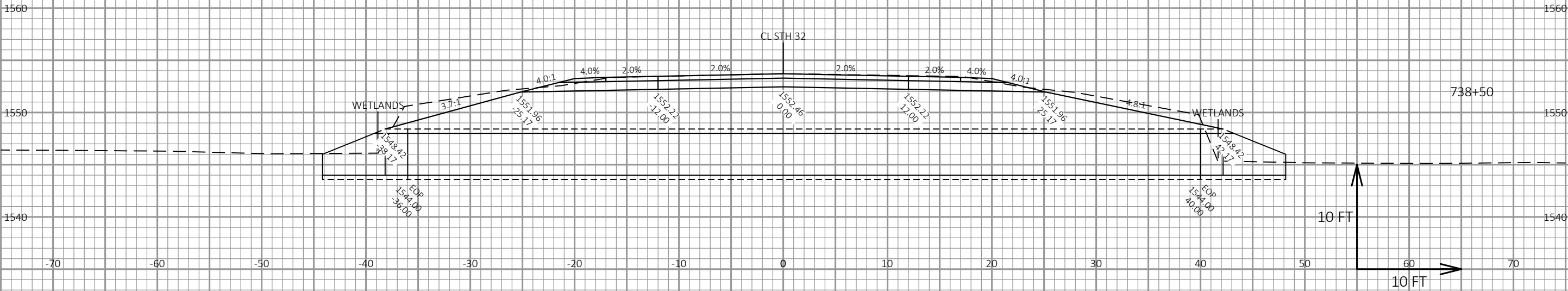
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PLOT NAME :

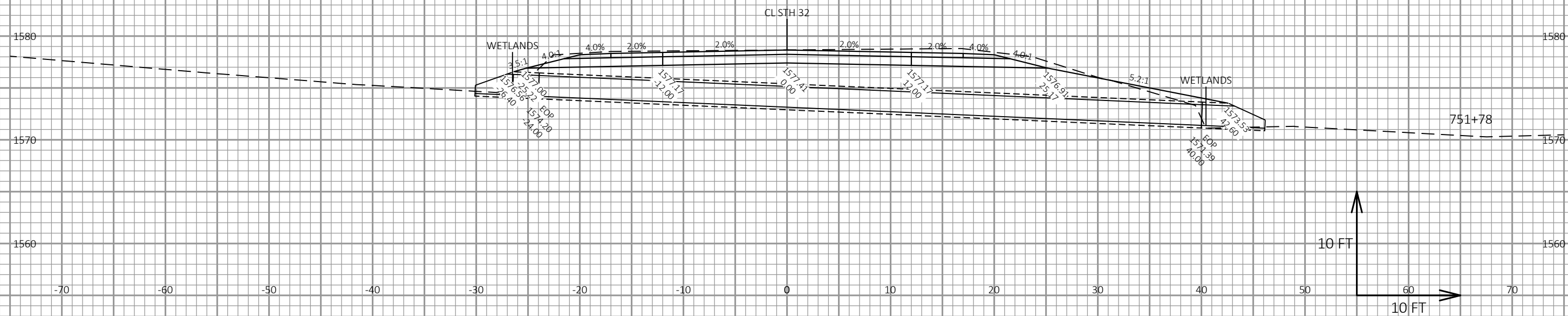
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

RIGHT-OF-WAY (R/W) IS BEYOND THE
EXTENTS OF THE CROSS SECTIONS.
SEE LINE DIAGRAMS FOR R/W LIMITS.



RIGHT-OF-WAY (R/W) IS BEYOND THE
EXTENTS OF THE CROSS SECTIONS.
SEE LINE DIAGRAMS FOR R/W LIMITS.



PROJECT NO: 9130-03-63

HWY: STH 32

COUNTY: FOREST

CROSS SECTIONS: CULVERT CROSS SECTIONS

SHEET

66

E

FILE NAME : P:\905\93\00093432\CADD\SHEETSP\090202_XS.DWG
LAYOUT NAME - 090209

PLOT DATE : 10/2/2019 1:44 PM

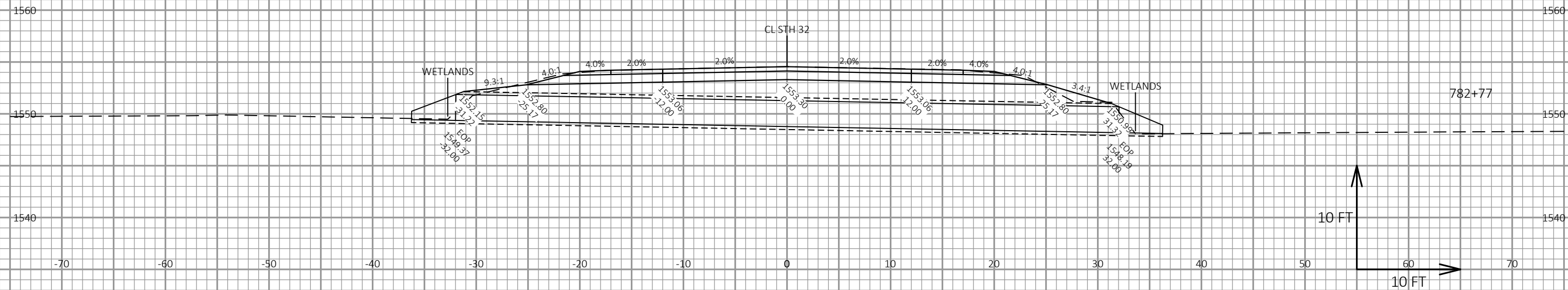
PLOT BY : SHAWN DOLENS

PLOT NAME :

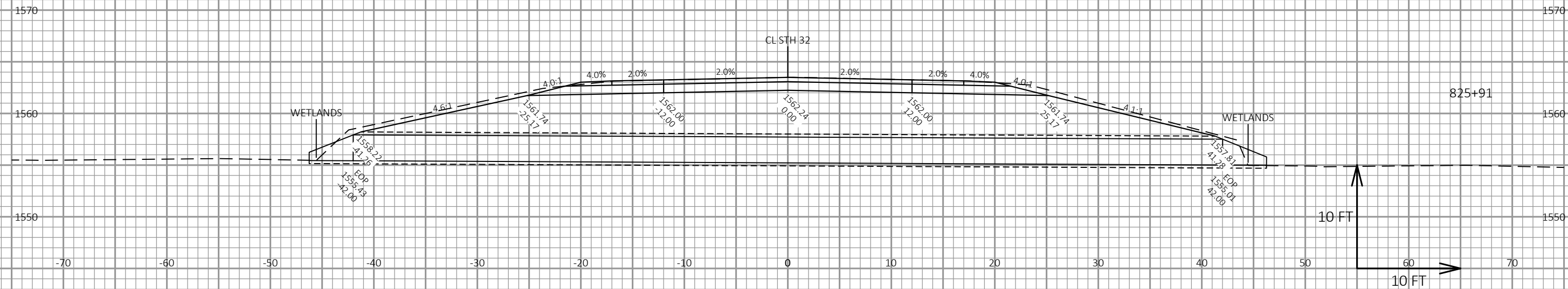
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADD'S SHEET 49

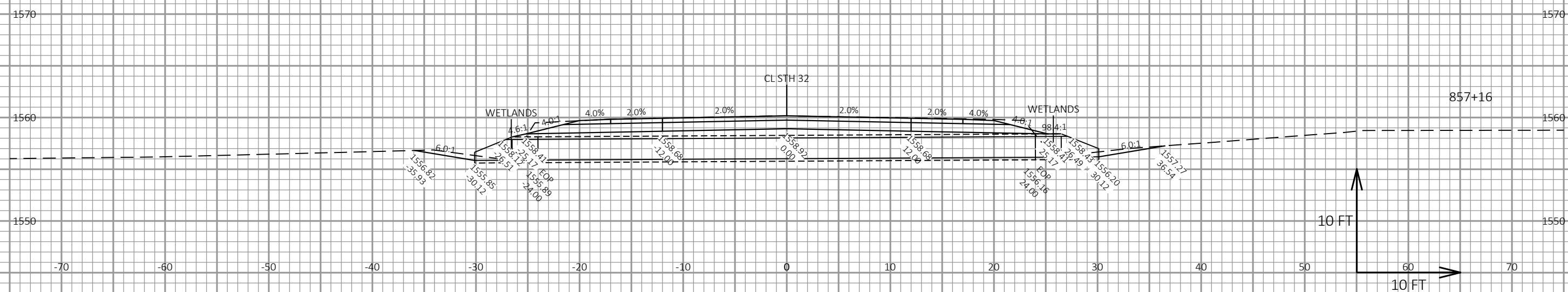
RIGHT-OF-WAY (R/W) IS BEYOND THE
EXTENTS OF THE CROSS SECTIONS.
SEE LINE DIAGRAMS FOR R/W LIMITS.



RIGHT-OF-WAY (R/W) IS BEYOND THE
EXTENTS OF THE CROSS SECTIONS.
SEE LINE DIAGRAMS FOR R/W LIMITS.



RIGHT-OF-WAY (R/W) IS BEYOND THE
EXTENTS OF THE CROSS SECTIONS.
SEE LINE DIAGRAMS FOR R/W LIMITS.



PROJECT NO:	9130-03-63
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HWY: STH 32

COUNTY: FOREST

CROSS SECTIONS: CULVERT CROSS SECTIONS

SHEET	70
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FILE NAME : P:\90S\93\00093432\CADD\SHEETSPLAN\090202_XS.DWG
LAYOUT NAME - 090212

PLOT DATE : 10/2/2019 1:45 PM

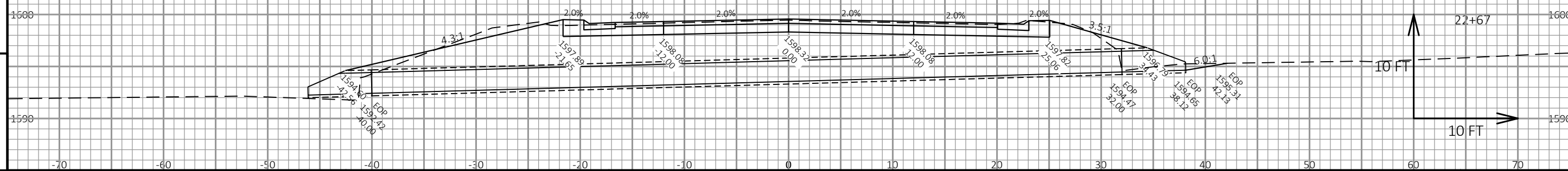
PLOT BY : SHAWN DOLENS

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

RIGHT-OF-WAY (R/W) IS BEYOND THE
EXTENTS OF THE CROSS SECTIONS.
SEE LINE DIAGRAMS FOR R/W LIMITS.



PROJECT NO:	9130-03-63
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HWY: STH 32

COUNTY: FOREST

CROSS SECTIONS: CULVERT CROSS SECTIONS

SHEET

— 71

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FILE NAME : P:\90S\93\00093432\CADD\SHEETSP\090201_XS - COPY.DWG
LAYOUT NAME - 090213 (2)

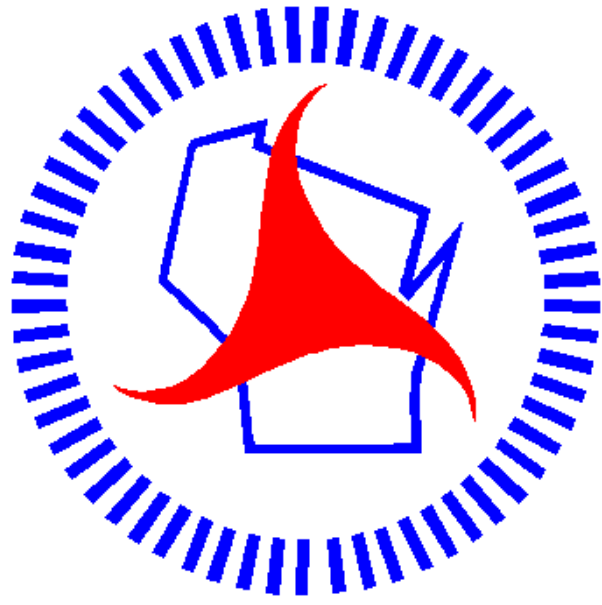
PLOT DATE : 10/2/2019 1:45 PM

PLOT BY : SHAWN DOLENS

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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