GRE

MARCH 2017

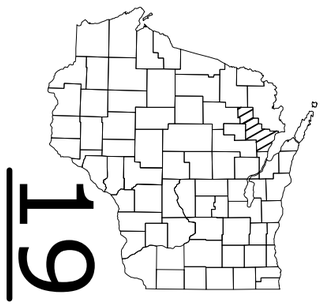
PROJECT ID: 9190-24-71

WITH: N/A

COUNTY: OCONTO

ORDER OF SHEETS

TOTAL SHEETS = 42



N

DESIGN DESIGNATION

A.A.D.T.	2017	= 5,500
A.A.D.T.	2037	= 6,800
D.H.V.		= 1,254
D.D.		= 61/39
T.		= 14.6 %
DESIGN SPEED		= 55 MPH
ESALS		= N/A

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES

- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

MOUNTAIN - WABENO

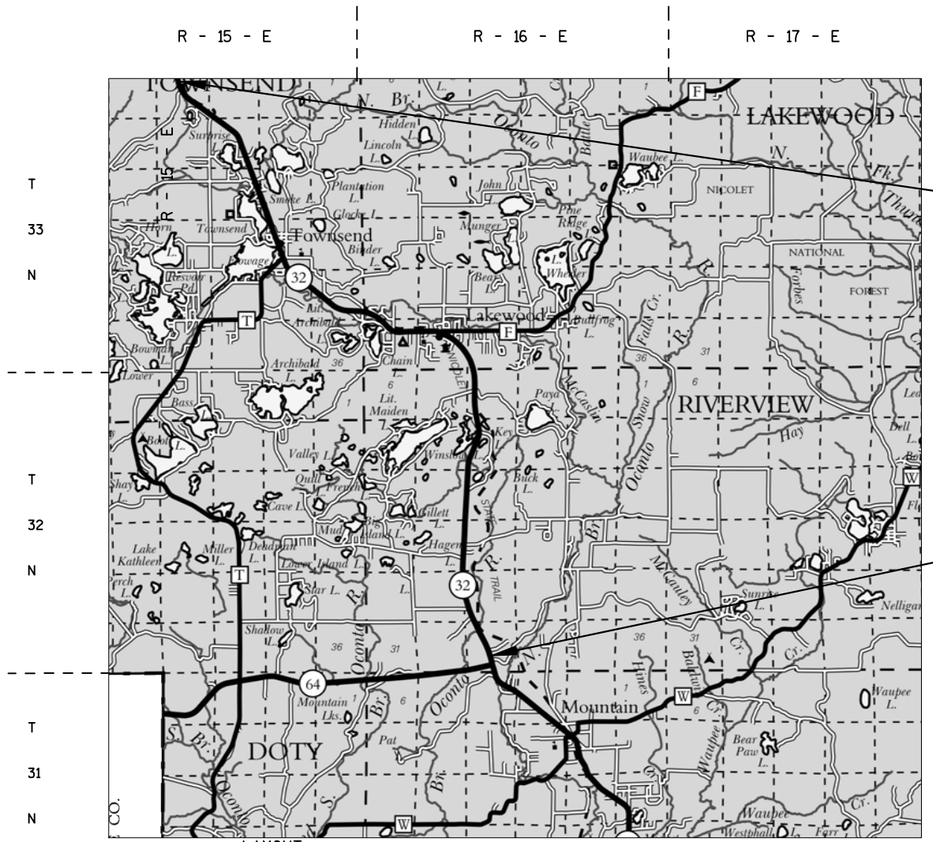
STH 64 - NCL

STH 32

OCONTO COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
9190-24-71	WISC 2017108	1

STATE PROJECT NUMBER
9190-24-71



TOTAL NET LENGTH OF CENTERLINE = 0.420

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, OCONTO COUNTY, NAD83 (1991), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	NE REGION
Designer	D. ENIX
Project Manager	M. TERNES
Regional Examiner	REGIONAL EXAMINER
Regional Supervisor	D. SEGERSTROM

APPROVED FOR THE DEPARTMENT

DATE: 11-1-2016 (Signature)

E

UTILITIES

RICK KLUSSENDORF
CENTURYLINK - COMMUNICATION LINE
P.O. BOX 260
WAUSAUKEE, WI 54177
(715) 856-0051
rick.klussendorf@centurylink.com

RANDY SIMMS
PACKERLAND BROADBAND - COMMUNICATION LINE
105 KENT ST
P.O. BOX 190
IRON MOUNTAIN, MI 49801
(906) 282-3802
randy.simms@ccisystems.com

BRADLEY WHITE
WISCONSIN PUBLIC SERVICE CORPORATION - ELECTRICITY
P.O. BOX 160
(715) 369-7156
(715) 493-9649
bjwhite@wisconsinpublicservice.com

DAVID RETZLAFF
WISCONSIN PUBLIC SERVICE CORPORATION - GAS/PETROLEUM
2850 S ASHLAND AVE
GREEN BAY, WI 54304
(920) 617-5237
(920) 604-1861
dpretzlaff@wisconsinpublicservice.com

EMERGENCY CONTACT NUMBERS FOR WISCONSIN PUBLIC SERVICE

ELECTRIC 24 HOUR EMERGENCY SERVICE: 1-800-450-7240
GAS 24 HOUR EMERGENCY SERVICE: 1-800-450-7280

DIGGERS HOTLINE
Dial 811 or (800)242-8511
www.DiggersHotline.com

GENERAL NOTES

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, WILL BE FERTILIZED, SEEDED, AND EROSION MATTED.

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

WHEN THE QUANTITY OF BASE AGGREGATE DENSE $\frac{3}{4}$-INCH IS MEASURED FOR PAYMENT BY THE TON, THE THICKNESS AS SHOWN ON THE PLAN IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION AS DIRECTED BY THE ENGINEER IN THE FIELD.

THE EROSION CONTROL FEATURES AS SHOWN ON THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

COUNTY SURVEYOR OR SURVEYS CONTACT PERSON

MARK TEUTEBERG - OCONTO COUNTY
OCONTO COUNTY COURT HOUSE
301 WASHINGTON STREET
OCONTO, WI 54153
920-834-6827
mark.teuteberg@co.oconto.wi.us

DNR AREA LIAISON

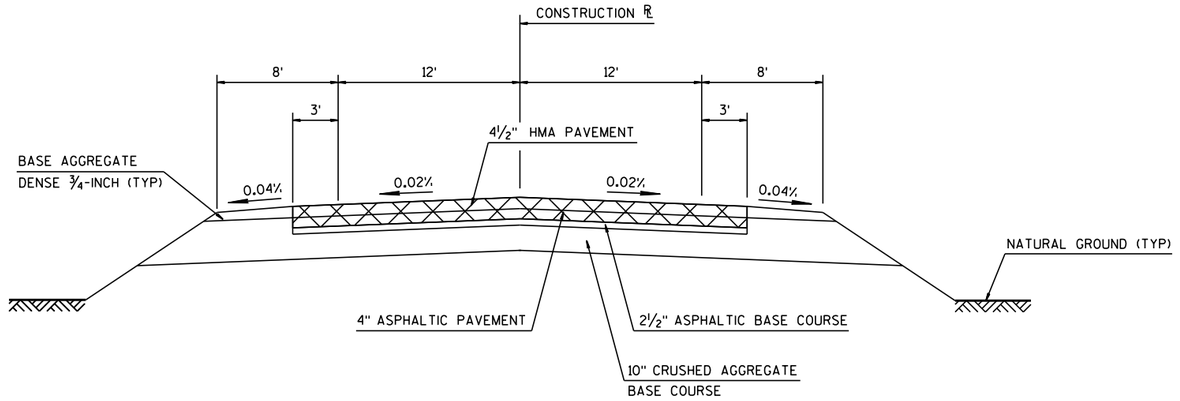
JAMES DOPERALSKI JR
DEPARTMENT OF NATURAL RESOURCES
NORTHEAST REGION
2984 SHAWANO AVE
GREEN BAY, WI 54313
920-662-5119
JAMES.DOPERALSKI@WISCONSIN.GOV

PROJECT NO: 9190-24-71	HWY: STH 32	COUNTY: OCONTO	UTILITIES & GENERAL NOTES	SHEET	E

PROJECT NO: 9190-24-71	HWY: STH 32	COUNTY: OCONTO	PROJECT OVERVIEW	SHEET E

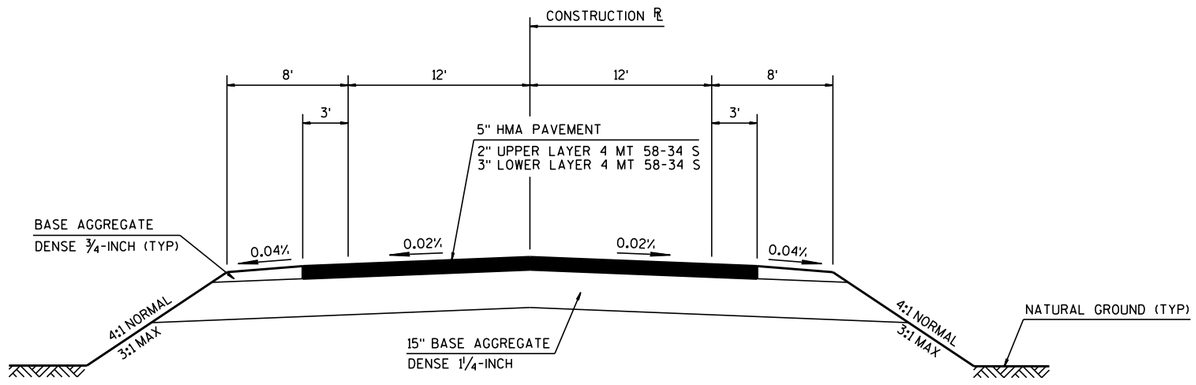
FILE NAME : F:\D3_919024\020201_po.DGN PLOT DATE : 17-JAN-2017 11:32 PLOT BY : dotmzc PLOT NAME : 020201po PLOT SCALE : 4200:1
WISDOT/CADDS SHEET 42

2



EXISTING TYPICAL CROSS SECTION FOR STH 32

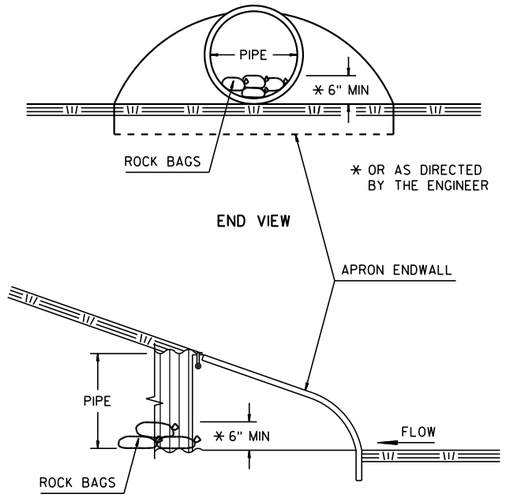
697+40 - 698+20



FINISHED TYPICAL CROSS SECTION FOR STH 32

697+40 - 698+20

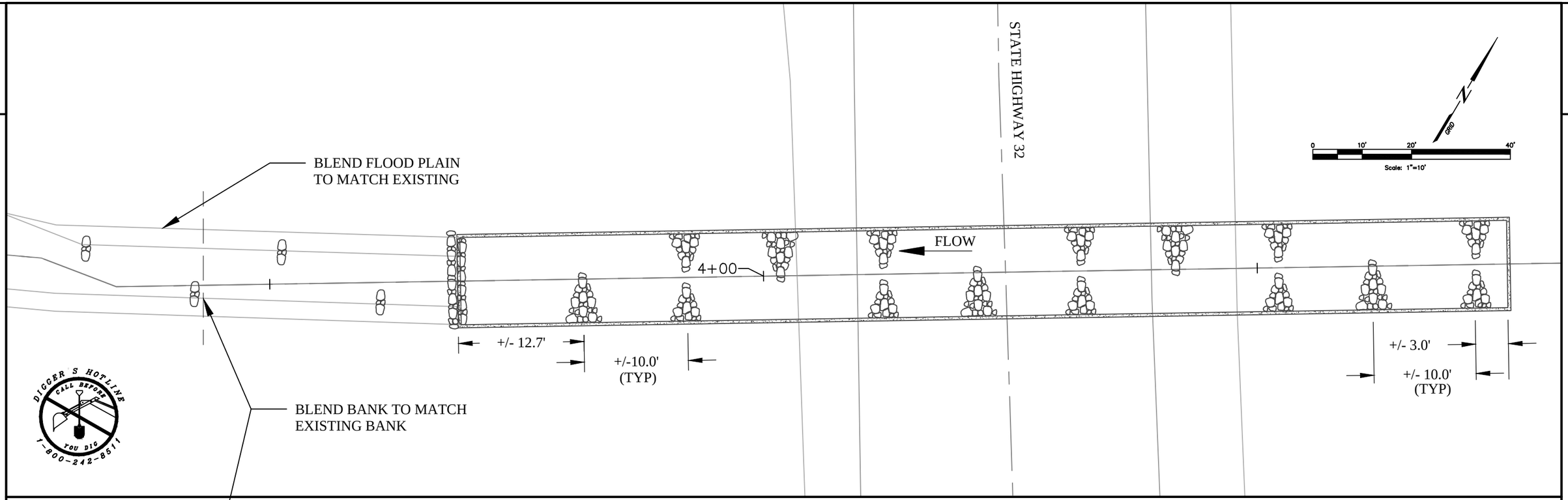
2

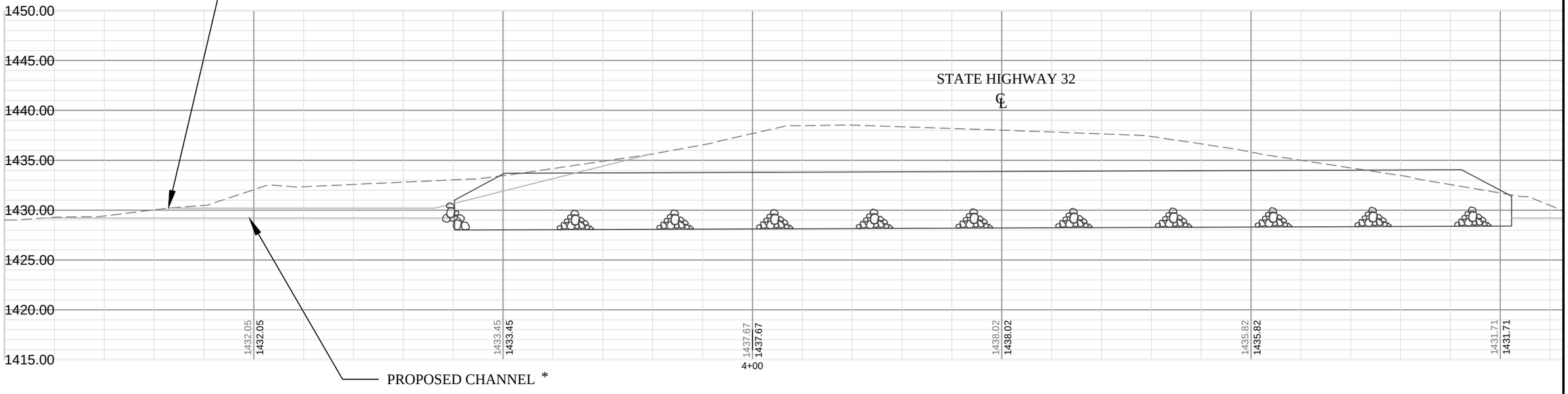


CULVERT PIPE CHECKS

PROJECT NO: 9190-24-71	HWY: STH 32	COUNTY: OCONTO	CONSTRUCTION DETAILS	SHEET 5	E

2





* CHANNEL EXCAVATION TO BE PAID AS EXCAVATION COMMON

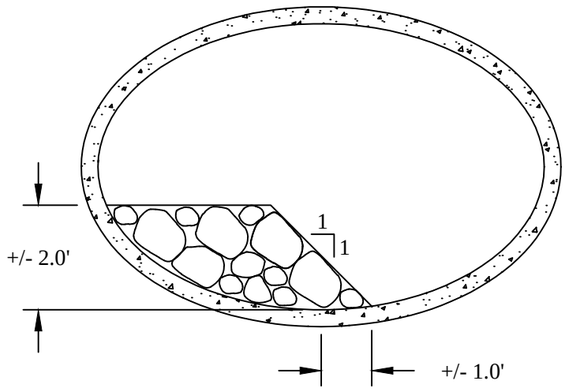
DESIGNED BY: U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
CHEQUAMEGON-NICOLET NATIONAL FOREST

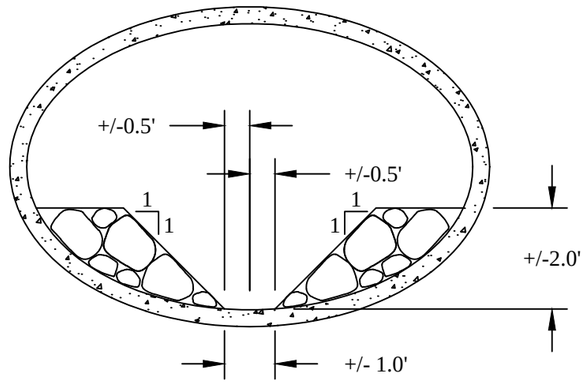
PROJECT NO: 9190-24-71	HWY: STH 32	COUNTY: OCONTO	CONSTRUCTION DETAIL (MOSQUITO CREEK @ HWY 32 CULVERT)	SHEET 6	E

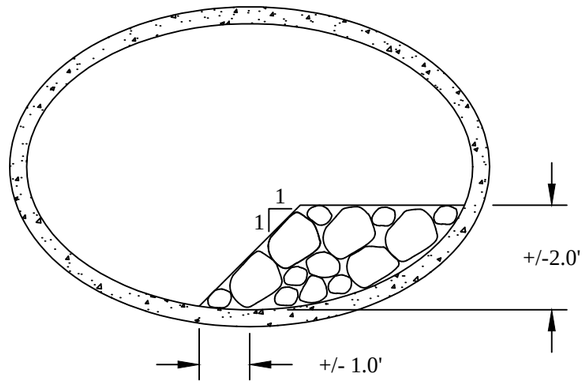
DESIGNED BY: U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
CHEQUAMEGON-NICOLET NATIONAL FOREST

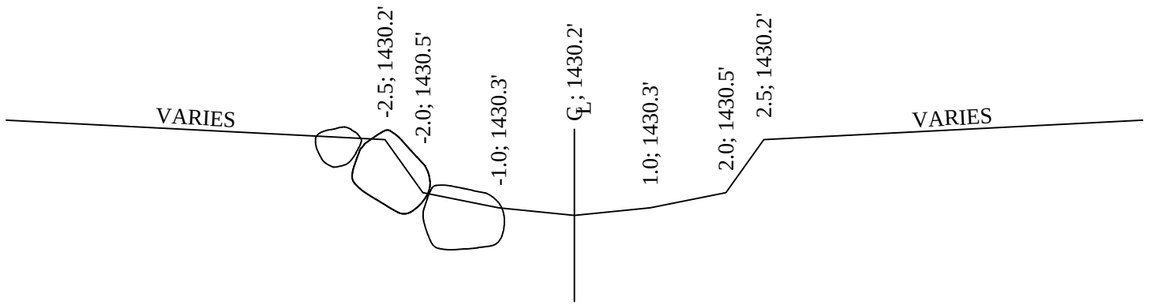
CULVERT ROCK DETAIL

SCALE: 1"=3'



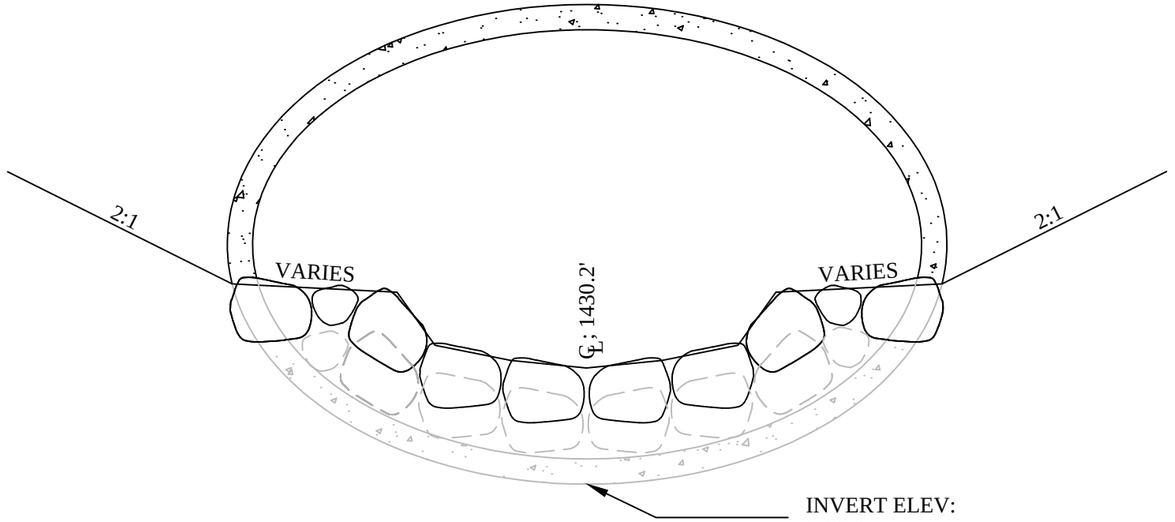






TYPICAL STREAM CROSS SECTION

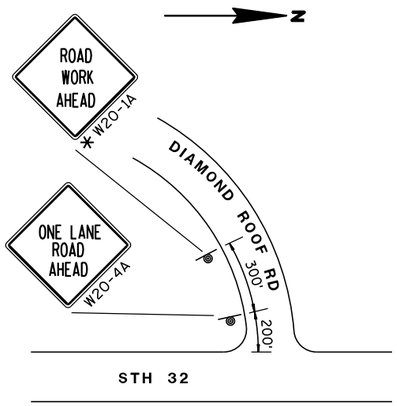
SCALE: 1"=2'



CHANNEL CROSSING AT CULVERT OUTLET

SCALE: 1"=2'

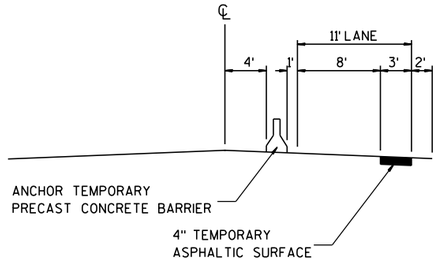
PROJECT NO: 9190-24-71	HWY: STH 32	COUNTY: OCONTO	CONSTRUCTION DETAILS (MOSQUITO CREEK @ HWY 32 CULVERT)	SHEET 7	E



DIAMOND ROOF ROAD
TRAFFIC CONTROL DETAIL

LEGEND

- SIGN ON PERMANENT SUPPORT
- REMOVING PAVEMENT MARKING
- TYPE III BARRICADE WITH ATTACHED SIGN
- CONCRETE BARRIER TEMPORARY PRECAST
- FLAGS, 16" x 16" MIN., (ORANGE)
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- ASPHALTIC PAVEMENT WIDENING
- DIRECTION OF TRAFFIC



STAGE 1
STA 694+28 - STA 701+28

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

GENERAL NOTES

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

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

SEE MISCELLANEOUS QUANTITIES FOR SIGN SIZES.

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

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

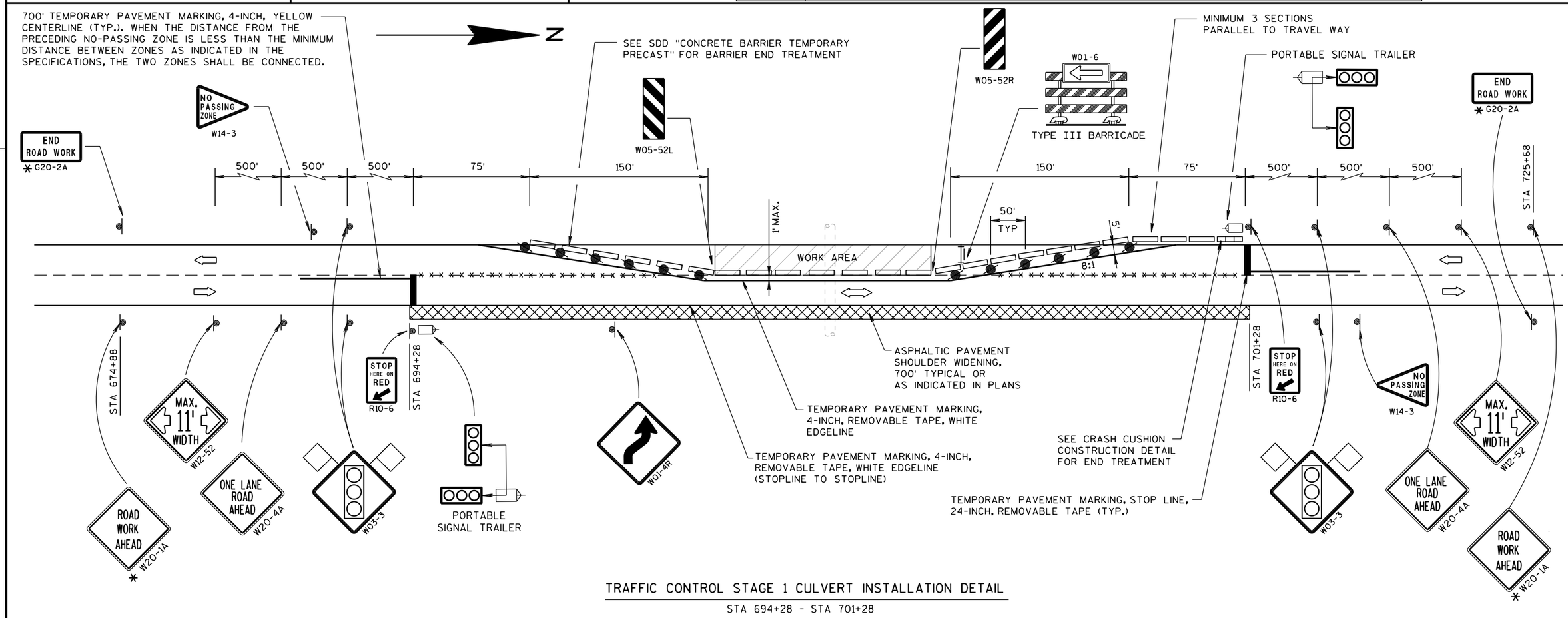
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

* ADVANCE WARNING SIGNS TO REMAIN UNTIL ALL WORK IS COMPLETED.

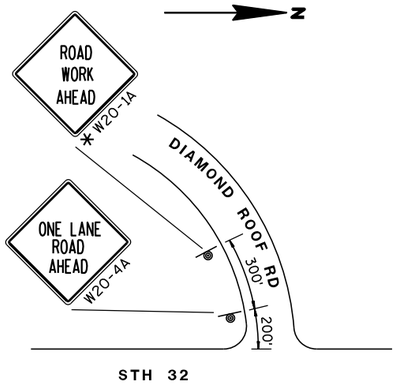
TEMPORARY SIGNAL TIMES (SECONDS)

	WEEKDAY (MONDAY-THURSDAY)		FRIDAY		SATURDAY		SUNDAY	
	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH
GREEN	10	10	40	20	40	30	20	50
ALL-RED	20							
YELLOW	5							



TRAFFIC CONTROL STAGE 1 CULVERT INSTALLATION DETAIL
STA 694+28 - STA 701+28

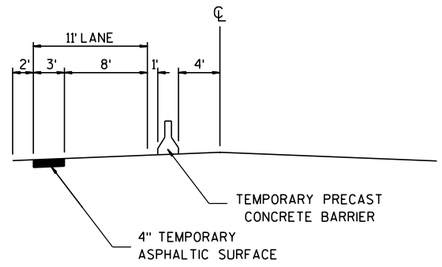
PROJECT NO: 9190-24-71	HWY: STH 32	COUNTY: OCONTO	TRAFFIC CONTROL DETAIL	SHEET	E



DIAMOND ROOF ROAD
TRAFFIC CONTROL DETAIL

LEGEND

- SIGN ON PERMANENT SUPPORT
- REMOVING PAVEMENT MARKING
- TYPE III BARRICADE WITH ATTACHED SIGN
- CONCRETE BARRIER TEMPORARY PRECAST
- FLAGS, 16" x 16" MIN., (ORANGE)
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- ASPHALTIC PAVEMENT WIDENING
- DIRECTION OF TRAFFIC



STAGE 2
STA 694+28 - STA 701+28

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

GENERAL NOTES

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

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

SEE MISCELLANEOUS QUANTITIES FOR SIGN SIZES.

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

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

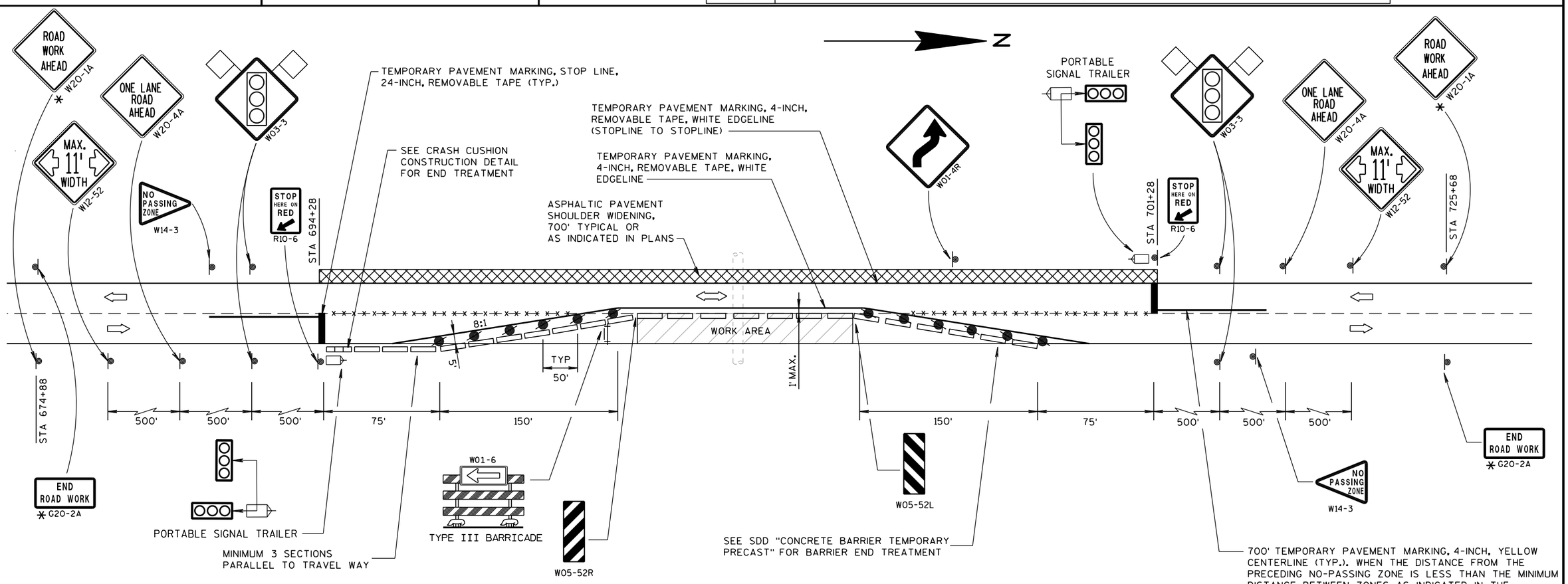
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

* ADVANCE WARNING SIGNS TO REMAIN UNTIL ALL WORK IS COMPLETED.

TEMPORARY SIGNAL TIMES (SECONDS)

	WEEKDAY (MONDAY-THURSDAY)		FRIDAY		SATURDAY		SUNDAY	
	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH
GREEN	10	10	40	20	40	30	20	50
ALL-RED	20							
YELLOW	5							



TRAFFIC CONTROL STAGE 2 CULVERT INSTALLATION DETAIL

STA 694+28 - STA 701+28

PROJECT NO: 9190-24-71	HWY: STH 32	COUNTY: OCONTO	TRAFFIC CONTROL DETAIL	SHEET E

9190-24-71

Line	Item	Item Description	Unit	Total	Qty
0010	201.0105	Clearing	STA	3.000	3.000
0020	201.0205	Grubbing	STA	3.000	3.000
0030	204.0110	Removing Asphaltic Surface	SY	360.000	360.000
0040	205.0100	Excavation Common	CY	20.000	20.000
0050	213.0100	Finishing Roadway (project) 01. 9190-24-71	EACH	1.000	1.000
0060	305.0110	Base Aggregate Dense 3/4-Inch	TON	278.000	278.000
0070	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	390.000	390.000
0080	455.0605	Tack Coat	GAL	16.000	16.000
0090	460.2000	Incentive Density HMA Pavement	DOL	50.000	50.000
0100	460.6244	HMA Pavement 4 MT 58-34 S	TON	76.000	76.000
0110	465.0125	Asphaltic Surface Temporary	TON	108.000	108.000
0120	465.0475	Asphalt Center Line Rumble Strips 2-Lane Rural	LF	80.000	80.000
0130	520.1024	Apron Endwalls for Culvert Pipe 24-Inch	EACH	6.000	6.000
0140	520.1036	Apron Endwalls for Culvert Pipe 36-Inch	EACH	2.000	2.000
0150	520.1042	Apron Endwalls for Culvert Pipe 42-Inch	EACH	2.000	2.000
0160	520.9700.S	Culvert Pipe Liners (size) 01. 24-Inch	LF	440.000	440.000
0170	520.9700.S	Culvert Pipe Liners (size) 02. 36-Inch	LF	132.000	132.000
0180	520.9700.S	Culvert Pipe Liners (size) 03. 42-Inch	LF	122.000	122.000
0190	520.9750.S	Cleaning Culvert Pipes for Liner Verification	EACH	5.000	5.000
0200	523.0168	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-III 68x106-Inch	LF	90.000	90.000
0210	523.0568	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 68x106-Inch	EACH	2.000	2.000
0220	603.8000	Concrete Barrier Temporary Precast Delivered	LF	625.000	625.000
0230	603.8125	Concrete Barrier Temporary Precast Installed	LF	1,250.000	1,250.000
0240	614.0905	Crash Cushions Temporary	EACH	2.000	2.000
0250	618.0100	Maintenance And Repair of Haul Roads (project) 01. 9190-24-71	EACH	1.000	1.000
0260	619.1000	Mobilization	EACH	1.000	1.000
0270	624.0100	Water	MGAL	7.000	7.000
0280	625.0500	Salvaged Topsoil	SY	360.000	360.000
0290	628.1504	Silt Fence	LF	550.000	550.000
0300	628.1520	Silt Fence Maintenance	LF	275.000	275.000
0310	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0320	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0330	628.2002	Erosion Mat Class I Type A	SY	860.000	860.000
0340	628.7555	Culvert Pipe Checks	EACH	31.000	31.000
0350	629.0210	Fertilizer Type B	CWT	0.800	0.800
0360	630.0120	Seeding Mixture No. 20	LB	25.000	25.000
0370	633.5200	Markers Culvert End	EACH	12.000	12.000

9190-24-71

Line	Item	Item Description	Unit	Total	Qty
0380	643.0100	Traffic Control (project) 01. 9190-24-71	EACH	1.000	1.000
0390	643.0300	Traffic Control Drums	DAY	90.000	90.000
0400	643.0420	Traffic Control Barricades Type III	DAY	9.000	9.000
0410	643.0715	Traffic Control Warning Lights Type C	DAY	90.000	90.000
0420	643.0900	Traffic Control Signs	DAY	551.000	551.000
0430	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0440	646.0106	Pavement Marking Epoxy 4-Inch	LF	2,800.000	2,800.000
0450	646.0600	Removing Pavement Markings	LF	1,320.000	1,320.000
0460	649.0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	2,600.000	2,600.000
0470	649.1400	Temporary Pavement Marking Stop Line Removable Tape 24-Inch	LF	24.000	24.000
0480	650.4500	Construction Staking Subgrade	LF	80.000	80.000
0490	650.5000	Construction Staking Base	LF	80.000	80.000
0500	650.6000	Construction Staking Pipe Culverts	EACH	1.000	1.000
0510	661.0100	Temporary Traffic Signals for Bridges (structure) 01. STA 697+78	LS	1.000	1.000
0520	690.0150	Sawing Asphalt	LF	1,146.000	1,146.000
0530	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	150.000	150.000
0540	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	300.000	300.000
0550	SPV.0090	Special 01. Concrete Barrier Temporary Precast Anchoring	LF	80.000	80.000
0560	SPV.0195	Special 01. Culvert Rock	TON	30.000	30.000

3

CLEARING AND GRUBBING SUMMARY

STATION	TO	STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA	REMARKS
670+50'A'	-	671+00'A'	STH 32	1	1	TLE AREA
697+50'A'	-	698+00'A'	STH 32	1	1	TLE AREA
697+50	-	698+00	STH 32	1	1	CHANNEL
			TOTALS	**3**	**3**	

REMOVING ASPHALTIC SURFACE

STATION	TO	STATION	LOCATION	204.0110 SY	REMARKS
694+88	-	697+40	STH 32 RT	84	TEMP. ASPH. SURFACE
698+20	-	700+68	STH 32 RT	83	TEMP. ASPH. SURFACE
698+88	-	700+68	STH 32 LT	193	TEMP. ASPH. SURFACE
			TOTALS	**360**	

EXCAVATION COMMON

STATION	LOCATION	205.0100 CY	REMARKS
697+78	STH 32 LT	20	CHANNEL
	TOTAL	**20**	

BASE AGGREGATE SUMMARY

STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	624.0100 WATER MGAL
697+40	-	698+20	STH 32		390	4
697+40	-	698+20	STH 32 LT & RT	46		1
694+88	-	697+40	STH 32 LT & RT	117		1
698+20	-	700+68	STH 32 LT & RT	115		1
			TOTALS	**278**	**390**	**7**

HMA SUMMARY

STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	460.1103 HMA PAVEMENT 4 MT 58-34 S TON	465.0125 ASPHALTIC SURFACE TEMPORARY TON
697+40	-	698+20	STH 32	16	76	
694+88	-	700+68	STH 32 RT			54
694+88	-	700+68	STH 32 LT			54
			TOTALS	**16**	**76**	**108**

FINISHING ROADWAY 9190-24-71

STATION	TO	STATION	LOCATION	213.0100 EACH	
PROJECT LIMITS			STH 32	1	9190-24-71
			TOTALS	**1**	

ASPHALTIC CENTER LINE RUMBLE STRIP 2-LANE RURAL

STATION	TO	STATION	LOCATION	465.0475.S LF
697+40	-	698+20	STH 32	80
			TOTAL	**80**

CULVERT PIPE LINER SUMMARY

STATION	LOCATION	520.9700.S.01 CULVERT PIPE LINED 24-INCH LF	520.9700.S.02 CULVERT PIPE LINED 36-INCH LF	520.9700.S.03 CULVERT PIPE LINED 42-INCH LF	520.1024 APRON ENDWALLS FOR CULVERT PIPE 24-INCH EACH	520.1036 APRON ENDWALLS FOR CULVERT PIPE 36-INCH EACH	520.1042 APRON ENDWALLS FOR CULVERT PIPE 42-INCH EACH	520.9750.S CLEANING CULVERT PIPES FOR LINER AND VERIFICATION EACH	* INLET ELEVATION	* DISCHARGE ELEVATION
548+76	STH 32	156			2			1	1,071.81	1,071.69
670+86'A'	STH 32	124			2			1	1,174.40	1,170.76
697+68'A'	STH 32	160			2			1	1,200.51	1,196.87
691+92	STH 32		132			2		1	1,417.88	1,416.03
715+49	STH 32			122			2	1	1,458.33	1,445.96
	TOTALS	**440**	**132**	**122**	**6**	**2**	**2**	**5**		

* NON-BID ITEM, FOR INFORMATION ONLY

3

CULVERT PIPE SUMMARY

CATEGORY	STATION	LOCATION	523.0168 CULVERT PIPE REIN. CONC. HOR. ELIP. CLASS III 68x106-INCH LF	523.0568 APRON ENDWALLS FOR CULVERT PIPE REIN. CONC. HOR. ELIP. 68x106-INCH EACH	* JOINT TIES EACH	* INLET ELEVATION	* DISCHARGE ELEVATION	SPV.0195.01 CULVERT ROCK TON	REMARKS
0020	697+78	STH 32	90	2	8	1,428.40	1,428.00	30	PIPE & CHANNEL
		TOTALS	**90**	**2**	**8**			**30**	

* NON-BID ITEM, FOR INFORMATION ONLY

CONCRETE BARRIER TEMPORARY PRECAST SUMMARY

STATION	TO	STATION	LOCATION	603.8000 CONC. BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONC. BARRIER TEMPORARY PRECAST INSTALLED LF	614.0905 CRASH CUSHIONS TEMPORARY EACH	SPV.0090.01 CONC. BARRIER TEMPORARY PRECAST ANCHORING LF	REMARKS
701+28						1		STAGE 1
695+03	-	701+28	STH 32	625	625		80	STAGE 1
694+28	-	700+53	STH 32, RT		625			STAGE 2
694+28						1		STAGE 2
			TOTALS	**625**	**1250**	**2**	**80**	

MOBILIZATIONS EROSION CONTROL AND MOBILIZATIONS EMERGENCY EROSION CONTROL

STATION	TO	STATION	LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	REMARKS
PROJECT LIMITS			STH 32	1	1	STAGE 1
697+20	-	698+40	STH 32, RT	3	1	STAGE 2
			TOTALS	**4**	**2**	

LANDSCAPE SUMMARY

STATION	TO	STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	628.2002 EROSION MAT CLASS I TYPE A SY	629.0210 FERTILIZER TYPE B (7LB/1000 SF) CWT	630.0120 SEEDING MIXTURE NO.20 (3LB/1000 SF) LB
548+60	-	548+90	STH 32		100	0.1	3
670+85'A'	-	671+15'A'	STH 32		100	0.1	3
697+70'A'	-	698+00'A'	STH 32		100	0.1	3
692+10	-	692+40	STH 32		100	0.1	3
697+40	-	698+20	STH 32, LT - RT	360	360	0.3	10
716+55	-	717+20	STH 32		100	0.1	3
			TOTALS	**360**	**860**	**0.80**	**25**

MARKER CULVERT ENDS

STATION	LOCATION	633.5200 EACH
548+76	STH 32, LT - RT	2
670+86'A'	STH 32, LT - RT	2
697+68'A'	STH 32, LT - RT	2
691+92	STH 32, LT - RT	2
697+78	STH 32, LT - RT	2
715+49	STH 32, LT - RT	2
	TOTAL	**12**

CULVERT PIPE CHECKS

STATION	LOCATION	628.7555 CULVERT PIPE CHECKS EACH
548+76	STH 32	4
670+86'A'	STH 32	4
697+68'A'	STH 32	4
691+92	STH 32	6
697+78	STH 32	8
715+49	STH 32	5
	TOTAL	**31**

SILT FENCE SUMMARY

STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
548+50	-	549+00	STH 32	50	25
670+75'A'	-	671+25'A'	STH 32	50	25
697+60'A'	-	698+10'A'	STH 32	50	25
692+00	-	692+50	STH 32	50	25
697+20	-	698+40	STH 32, LT - RT	300	150
716+45	-	717+95	STH 32	50	25
			TOTALS	**550**	**275**

3

TRAFFIC CONTROL TEMPORARY SIGNAL SIGN SUMMARY

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 9 DAYS	643.0900 TRAFFIC CONTROL SIGNS DAYS	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAYS	643.0715 TRAFFIC CONTROL LIGHTS TYPE C DAYS	643.0300 TRAFFIC CONTROL DRUMS DAYS	661.0100 TEMPORARY TRAFFIC CONTROL SIGNALS LS	643.1050 TRAFFIC CONTROL SIGNS PCMS DAY	REMARKS
	STAGE 1 AND 2											
1	MAX. 12' WIDTH	W12-52	48"x48"	4	9	36						
2	ONE LANE ROAD AHEAD	W20-4A	48"x48"	2	9	18						
3	ONE LANE ROAD AHEAD	W20-4A	48"x48"	1	9	9						Diamond Roof Rd.
4	NO PASSING ZONE	W14-3	48"x36"	2	9	18						
5	TRAFFIC SIGNAL AHEAD / 2 - 16"x16" MIN. ORANGE FLAGS	W3-3	48"x48"	2	9	18						
6	STOP HERE ON RED	R10-6	24"x36"	2	9	18						
7	XX MILES AHEAD	W57-52	36"x24"	2	9	18						
8	ONE DIRECTION ARROW BOARD	W1-6	48"x24"	1	9	9						
9	ROAD CURVES AHEAD	W1-4R	48"x48"	1	9	9						
10	BRIDGE HASH MARKS	W5-52R	12"x36"	1	9	9						
11	BRIDGE HASH MARKS	W5-52L	12"X36"	1	9	9						
	TYPE III BARICADES			1	9		9					
	WARNING LIGHTS TYPE C			10	9			90				
	TRAFFIC CONTROL DRUMS			10	9				90			
	TEMPORARY TRAFFIC CONTROL SIGNALS			4	9					1		
	FIELD LOCATED - SB TRAFFIC	PCMS		1							7	PROJECT START
	FIELD LOCATED - NB TRAFFIC	PCMS		1							7	PROJECT START
	TOTAL					**171**	**9**	**90**	**90**	**1**	**14**	

3

TRAFFIC CONTROL SUMMARY

STATION	TO	STATION	DAYS	643.0100 TRAFFIC CONTROL 9190-24-71 EACH	643.0900 SIGNS NO. IN SERVICE	643.0900 SIGNS DAYS	REMARKS
PROJECT LIMITS				1			9190-24-71
528+00	-	718+00'A'	19		15	285	ADVANCE WARNING
674+88	-	725+68	19		5	95	ADVANCE WARNING
			TOTALS	**1**		**380**	

* ADDITIONAL QUANTITY SHOWN ELSEWHERE

REMOVING PAVEMENT MARKINGS SUMMARY

STATION	TO	STATION	LOCATION	646.0600 REMOVING PAVEMENT MARKINGS LF	REMARKS
694+78	-	699+78	STH 32, RT	400	STAGE 1, SEE NOTE
694+88	-	696+38	STH 32	300	STAGE 1, SEE NOTE
699+18	-	700+68	STH 32	300	STAGE 1, SEE NOTE
695+78	-	697+40	STH 32, LT	162	STAGE 2, SEE NOTE
698+20	-	699+78	STH 32, LT	158	STAGE 2, SEE NOTE
			TOTALS	**1320**	

NOTE: LIMITS TO BE DETERMINED BY THE ENGINEER IN THE FIELD

3

PAVEMENT MARKING 4-INCH SUMMARY

STATION	TO	STATION	LOCATION	646.0106 PAVEMENT MARKING 4-INCH EPOXY YELLOW CENTERLINE SOLID LF	646.0106 PAVEMENT MARKING 4-INCH EPOXY WHITE EDGELINE SOLID LF	649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH WHITE EDGELINE SOLID LT	649.1400 TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 24-INCH LF	REMARKS
694+28	-	701+28	STH 32	1,400	1,400			
694+78	-	700+78	STH 32			600		STAGE 1, ALONG DRUMS
694+28	-	701+28	STH 32			700		STAGE 1, TEMP PAV'T
694+78	-	700+78	STH 32			600		STAGE 2, ALONG DRUMS
696+28	-	699+28	STH 32			700		STAGE 2, TEMP PAV'T
694+28	-		STH 32				12	STAGE 1
701+28	-		STH 32				12	STAGE 2
			SUB-TOTALS	1,400	1,400	2,600	24	
			TOTALS	**2,800**		**2,600**	**24**	

NOTE: LIMITS TO BE DETERMINED BY THE ENGINEER IN THE FIELD

CONSTRUCTION STAKING SUMMARY

STATION	TO	STATION	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.6000 CONSTRUCTION STAKING PIPE CULVERTS EACH
697+78			STH 32			1
697+40	-	698+20	STH 32	80	80	
			TOTAL	**80**	**80**	**1**

SAWING ASPHALT SUMMARY

STATION	TO	STATION	LOCATION	690.0150 SAWING ASPHALT LF	REMARKS
697+40	-		STH 32, LT	15	MAINLINE, STAGE 1
698+20	-		STH 32, LT	15	MAINLINE, STAGE 1
697+40	-		STH 32, RT	18	MAINLINE, STAGE 2
698+20	-		STH 32, RT	18	MAINLINE, STAGE 2
694+88	-	697+40	STH 32, RT	252	TEMP. ASPH., STAGE 2
698+20	-	700+68	STH 32, RT	248	TEMP. ASPH., STAGE 2
694+88	-	700+68	STH 32, LT	580	TEMP. ASPH. SURFACE
			TOTAL	**1146**	

FILE NAME : Q:\Misc Quantities\9190-24-71\misc_q_border.ppt PLOT DATE : 10-15-13 PLOT BY : dotdye PLOT NAME : _____ PLOT SCALE : 1:1

CONVENTIONAL ABBREVIATIONS AND SYMBOLS

ACCESS POINT	AP
ACCESS RIGHTS	AR
ACRES	AC
CHORD BEARING	CH BRG
CHORD DISTANCE	CH DIS
DEED	(D)
DOCUMENT	DOC
EAST BOUND	EB
GAS VALVE	GV
INLET	IL
LENGTH OF CURVE	L
MANHOLE	MH
MONUMENT	MON
NORTH BOUND	NB
PAGE	PG
PERMANENT	PERM
PERMANENT LIMITED EASEMENT	PLE
PRIVATE DRIVEWAY	PD
PROPERTY LINE	PL
RADIUS	RAD
REFERENCE LINE	℄
REMAINING	REM
RIGHT OF WAY	R/W
SECTION	SEC
SECTION LINE	S
FOUND IRON PIPE	IP
STATION	STA
TEMPORARY LIMITED EASEMENT	TLE
TIE POINT	DB1
VOLUME	VOL
ADJOINING LANDS WITH SAME OWNER	
PARALLEL TO LINE	00'
BUILDING TO BE RAZED	
FEE ACQUISITION	VARIOUS HATCHING
BEGIN POINT	BP
END POINT	EP

SECTION CORNER (MATERIAL AS NOTED)	
SET R/W MONUMENT W/CAP (1-¼" OUTSIDE DIA.x18" IRON PIPE 1.13 LBS/FT)	
FOUND TYPE 2 MON.	
FOUND 3/4" REBAR	
SET P.K. NAIL	
PROPOSED R/W	
BOUNDARY POINT	PRW000
CORPORATE LIMITS	
EXISTING R/W	
SECTION LINE	
QUARTER LINE	
SIXTEENTH LINE	
PROPOSED OR NEW R/W LINE	
PROPOSED EASEMENT LINE	
PARCEL NUMBER	00
UTILITY NUMBER	000
SIGN NUMBER	0-0
PROPERTY LINE	PL
LOT, TIE AND OTHER MINOR DASHED LINES	
ACCESS RESTRICTED (By Previous Project/ Control)	
ACCESS RESTRICTED (By Acquisition)	
NO ACCESS (By Statutory Authority)	
LIMITED EASEMENT (Temporary)	
LIMITED EASEMENT (Permanent)	

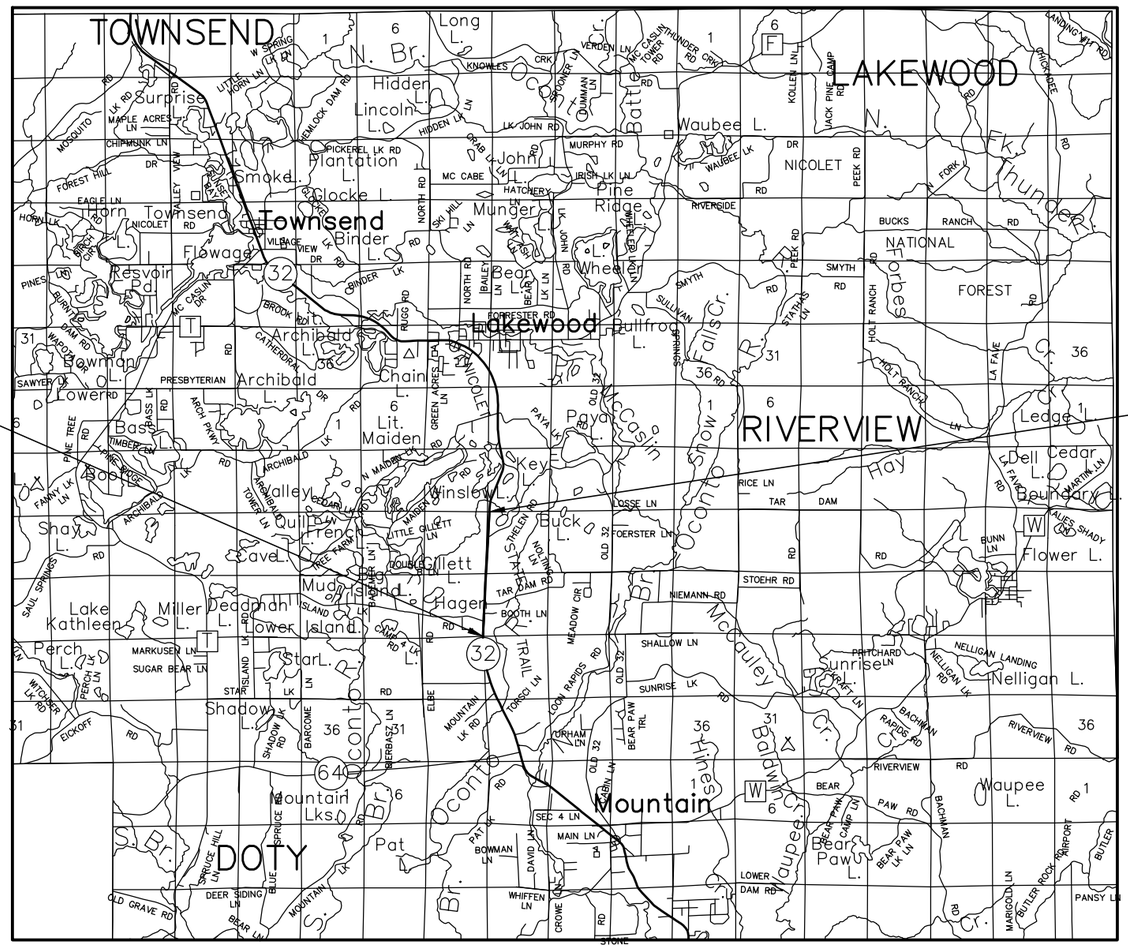
CONVENTIONAL UTILITY SYMBOLS

WATER	W
GAS	G
TELEPHONE	T
OVERHEAD	OH
TRANSMISSION LINES ELECTRIC	E
CABLE TELEVISION	TV
FIBER OPTIC	FO
SANITARY SEWER	SAN
STORM SEWER	SS

	NON-COMPENSABLE	COMPENSABLE
POWER POLE		
TELEPHONE POLE		
TELEPHONE PEDESTAL		
ELECTRIC TOWER		

BEGIN RELOCATION ORDER
PROJECT 9190-24-21
STATION 636+00.46
Y=305647.708
X=443374.866

END RELOCATION ORDER
PROJECT 9190-24-21
STATION 738+11.78
Y=315826.787
X=444185.707



LAYOUT
0 1.0 MI.
SCALE

TOTAL NET LENGTH OF CENTERLINE = 1.00 MI.

NOTES:

RIGHT OF WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS AND ARE REFERENCED TO THE US PUBLIC LAND SURVEY OR OTHER SURVEYS OF PUBLIC RECORD.

RIGHT OF WAY MONUMENTS ARE TYPE 2 AND WILL BE PLACED PRIOR TO OR AT THE TIME OF LAND TITLE TRANSFER.

AREAS SHOWN IN THE TOTAL ACRES COLUMN OF THE SCHEDULE OF LANDS & INTEREST TABLE MAY BE APPROXIMATE AND ARE DERIVED FROM TAX ROLLS OR OTHER AVAILABLE SOURCES AND MAY NOT INCLUDE LANDS OF THE OWNER WHICH ARE NOT CONTIGUOUS TO THE AREA TO BE ACQUIRED.

COORDINATES AS SHOWN ARE NOT INTENDED TO BE USED FOR RETRACEMENT PURPOSES AND MUST BE VERIFIED WITH THE COUNTY SURVEY DEPARTMENT.

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, OCONTO COUNTY, NAD 83 (2007) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

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

EXISTING RIGHT OF WAY WAS ACQUIRED FROM PROJECT(S): 9190-24-00

EXISTING ACCESS CONTROL WAS ACQUIRED UNDER PROJECT(S)/DOC.#: 9133-01-21

RIGHT OF WAY REFERENCE LINE MAY NOT BE THE SAME AS THE CONSTRUCTION REFERENCE LINE.

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTERESTS TO DEPARTMENT OF TRANSPORTATION.

R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
9190-24-21		
FEDERAL PROJECT NUMBER	4.01	2

PLAT OF RIGHT OF WAY REQUIRED FOR
OCONTO COUNTY-STH 64-NCL
STH 32 (MOUNTAIN - WABENO)

STH 32 OCONTO COUNTY

CAROLYN J. SAMPSON S-3045 GREEN BAY WI LAND SURVEYOR

GN

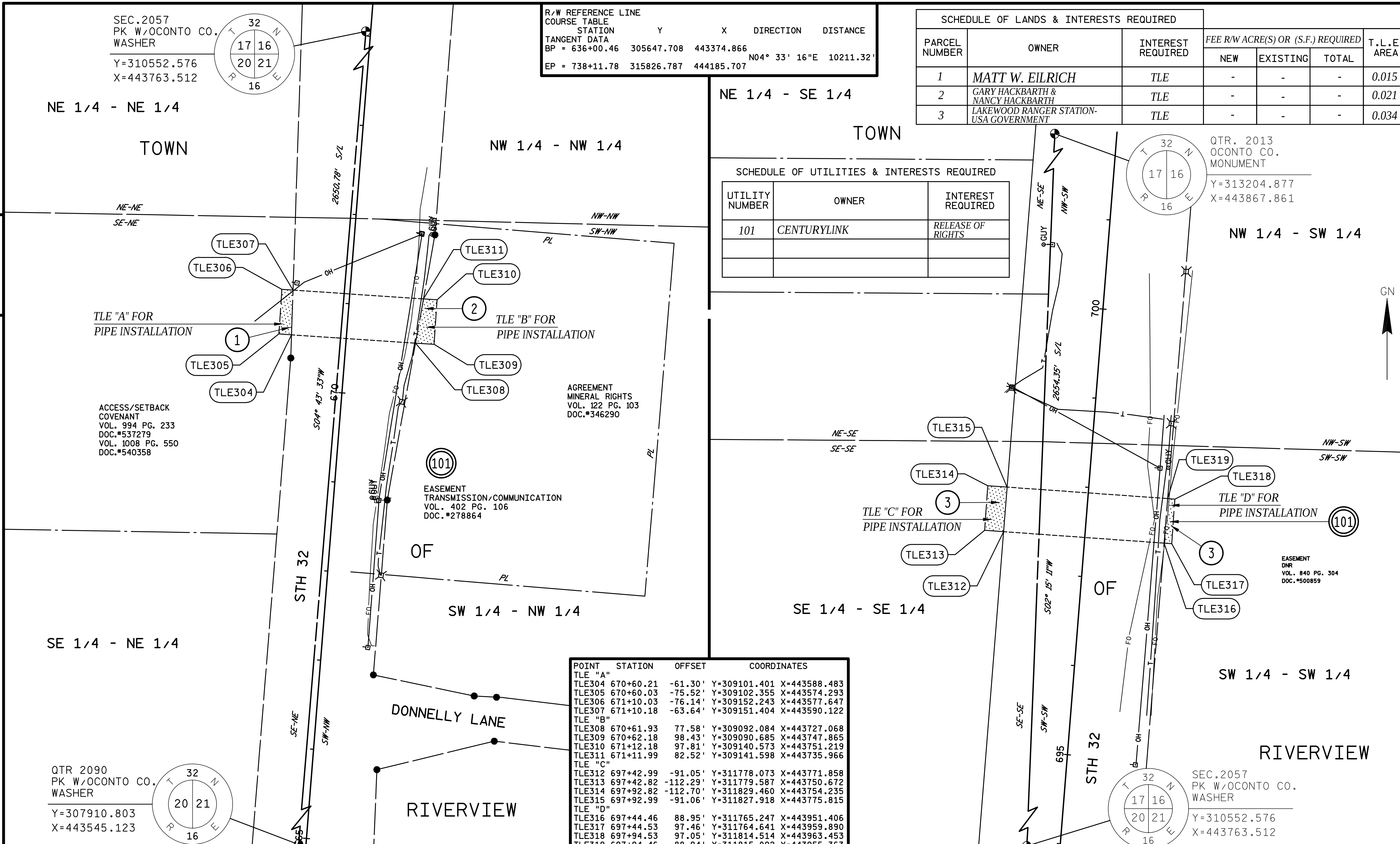
REVISION	DATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED:
DATE: 7/31/15 CURT VAN 16

WISDOT/CADDS SHEET 100

C:\WisDOT\rw\91902421(STH 32)\RW\DWG\040401.dwg, 6/26/2015 12:56:28 PM



R/W REFERENCE LINE
COURSE TABLE

	STATION	Y	X	DIRECTION	DISTANCE
TANGENT DATA					
BP	636+00.46	305647.708	443374.866	N04° 33' 16"E	10211.32'
EP	738+11.78	315826.787	444185.707		

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER	INTEREST REQUIRED	FEE R/W ACRE(S) OR (S.F.) REQUIRED NEW	EXISTING	TOTAL	T.L.E. AREA
1	MATT W. EILRICH	TLE	-	-	-	0.015
2	GARY HACKBARTH & NANCY HACKBARTH	TLE	-	-	-	0.021
3	LAKEWOOD RANGER STATION-USA GOVERNMENT	TLE	-	-	-	0.034

SCHEDULE OF UTILITIES & INTERESTS REQUIRED

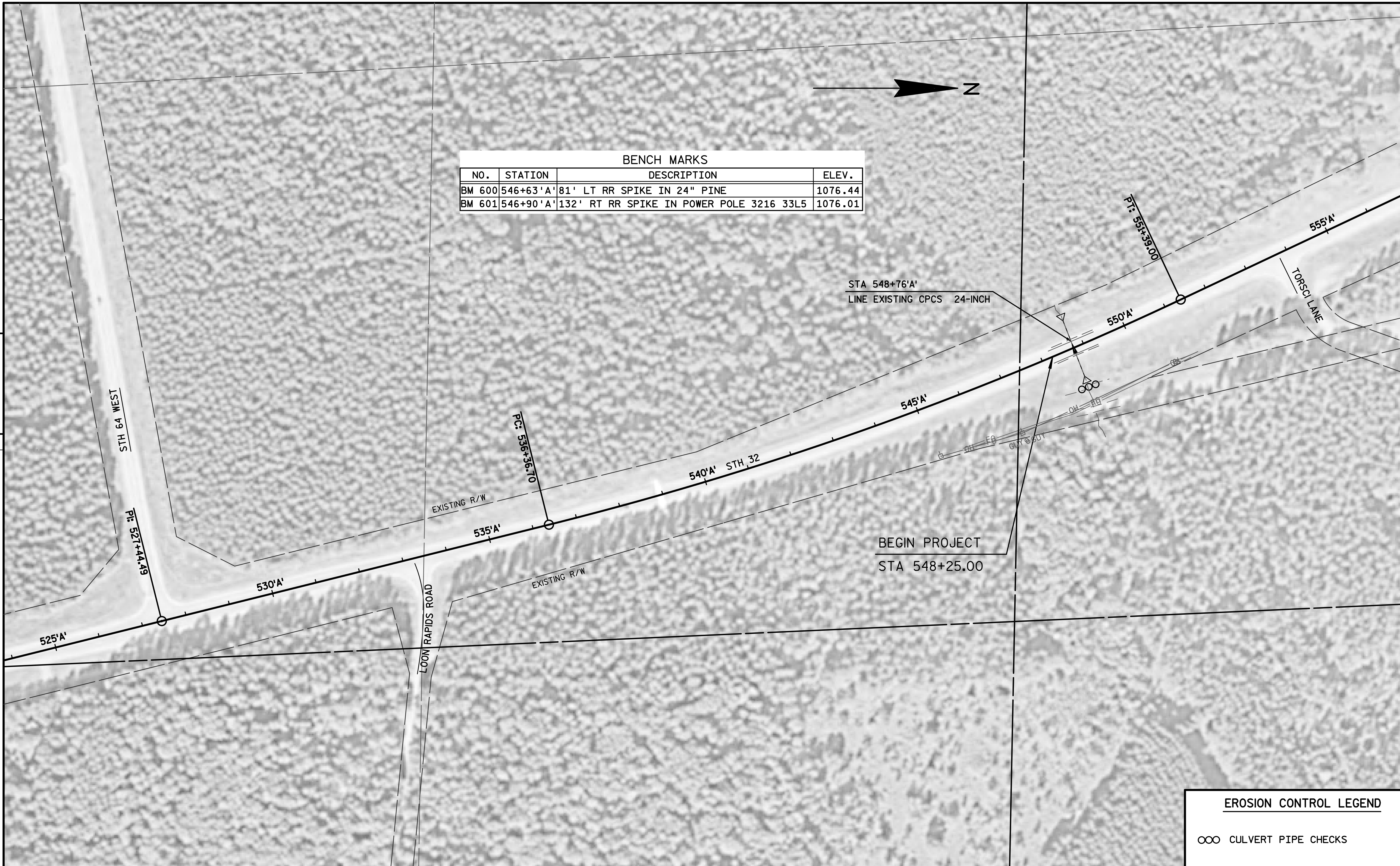
UTILITY NUMBER	OWNER	INTEREST REQUIRED
101	CENTURYLINK	RELEASE OF RIGHTS

POINT	STATION	OFFSET	COORDINATES	
TLE "A"				
TLE304	670+60.21	-61.30'	Y=309101.401	X=443588.483
TLE305	670+60.03	-75.52'	Y=309102.355	X=443574.293
TLE306	671+10.03	-76.14'	Y=309152.243	X=443577.647
TLE307	671+10.18	-63.64'	Y=309151.404	X=443590.122
TLE "B"				
TLE308	670+61.93	77.58'	Y=309092.084	X=443727.068
TLE309	670+62.18	98.43'	Y=309090.685	X=443747.865
TLE310	671+12.18	97.81'	Y=309140.573	X=443751.219
TLE311	671+11.99	82.52'	Y=309141.598	X=443735.966
TLE "C"				
TLE312	697+42.99	-91.05'	Y=311778.073	X=443771.858
TLE313	697+42.82	-112.29'	Y=311779.587	X=443750.672
TLE314	697+92.82	-112.70'	Y=311829.460	X=443754.235
TLE315	697+92.99	-91.06'	Y=311827.918	X=443775.815
TLE "D"				
TLE316	697+44.46	88.95'	Y=311765.247	X=443951.406
TLE317	697+44.53	97.46'	Y=311764.641	X=443959.890
TLE318	697+94.53	97.05'	Y=311814.514	X=443963.453
TLE319	697+94.46	88.94'	Y=311815.092	X=443955.363

REVISION DATE	DATE	GRAPHIC SCALE, FEET (0 50 100)	HWY: STH 32	STATE R/W PROJECT NUMBER:9190-24-21	PLAT SHEET NO: 4.02	
			COUNTY: OCONTO	CONSTRUCTION PROJECT NUMBER	PS&E SHEET NO: 17	E

C:\WisDOT\rw\91902421(STH 32)\RW\DWG\040402.dwg, 6/26/2015 1:08:49 PM

5



5

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
BM 600	546+63'A'	81' LT RR SPIKE IN 24" PINE	1076.44
BM 601	546+90'A'	132' RT RR SPIKE IN POWER POLE 3216 33L5	1076.01

EROSION CONTROL LEGEND

OOO CULVERT PIPE CHECKS

PROJECT NO: 9190-24-71	HWY: STH 32	COUNTY: OCONTO	PLAN	SHEET	E

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
BM 602	671+35'A'	60' LT RR SPIKE IN POWER POLE 3216 20E6	1178.19
BM 603	672+00'A'	75' RT RR SPIKE IN POWER POLE 3216 21W23	1176.15

N

660'A'
665'A'
670'A'
675'A'
680'A'
685'A'

STH 32

EXISTING R/W

TAR DAM ROAD

DONNELLY LANE

TLE

STA 670+86'A'
LINE EXISTING CPCS 24-INCH

5

EROSION CONTROL LEGEND

CULVERT PIPE CHECKS

N

STA 697+68'A'
LINE EXISTING CPCS 24-INCH

690'A'
695'A'
700'A'
705'A'
710'A'
715'A'

STH 32

EXISTING R/W

THELEN ROAD

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
BM 604	696+65'A'	87' LT RR SPIKE IN 10" MAPLE	1203.80
BM 605	698+45'A'	78' RT PK NAIL IN POWER POLE 3216 16L4	1209.70

PROJECT NO: 9190-24-71	HWY: STH 32	COUNTY: OCONTO	PLAN	SHEET	E

FILE NAME : F:\D3_919024\050202_pn.DGN PLOT DATE : 17-JAN-2017 12:44 PLOT BY : dotmzc PLOT NAME : 050202 pn PLOT SCALE : 200.000000:1.000000

WISDOT/CADDS SHEET 44

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
BM 607	691+65	72' LT MAG NAIL IN 7" ASH	1418.00
BM 608	691+80	68' RT PK NAIL IN POWER POLE 3315 4R2	1427.23
BM 609	716+30	73' LT RR SPIKE IN STUMP	1464.79

N

END PROJECT
STA 717+30.00

PT: 714+77.57

CARTER TOWER LANE

MOSQUITO CREEK

STA 698+20
SAW CUT REQ'D

STA 697+40
SAW CUT REQ'D

EXISTING R/W

STH 32

DIAMOND ROOF RD

STA 715+49
SKEW 8° LHF
LINE EXISTING CPCS 36-INCH

STA 697+78
(1) - 90' CPRCHE CLASS HE III 68 X 106 INCH
(2) - 68 X 106 INCH RCHE APRON ENDWALLS REQ'D

TRIBUTARY TO
MOSQUITO CREEK

STA 691+92
SKEW 20° RHF
LINE EXISTING CPCS 42-INCH

685 690 695 700 705 710 715

5 5

EROSION CONTROL LEGEND

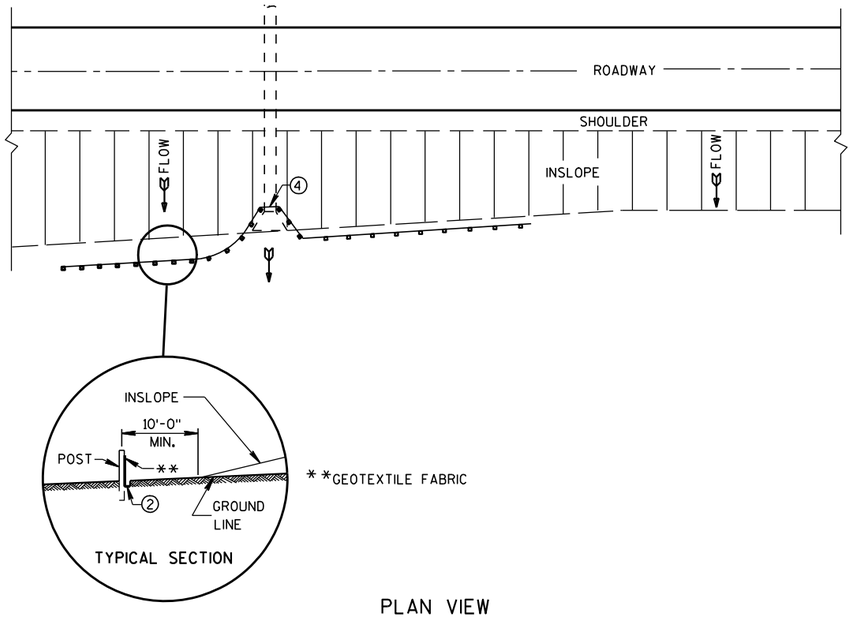
EROSION MAT CLASS I, TYPE A
OOO CULVERT PIPE CHECKS
SILT FENCE

PROJECT NO: 9190-24-71	HWY: STH 32	COUNTY: OCONTO	PLAN	SHEET	E

FILE NAME : F:\D3_919024\050201_pn.dgn PLOT DATE : 17-JAN-2017 12:44 PLOT BY : dotmzc PLOT NAME : 050201pn PLOT SCALE : 200.000087:1.000000

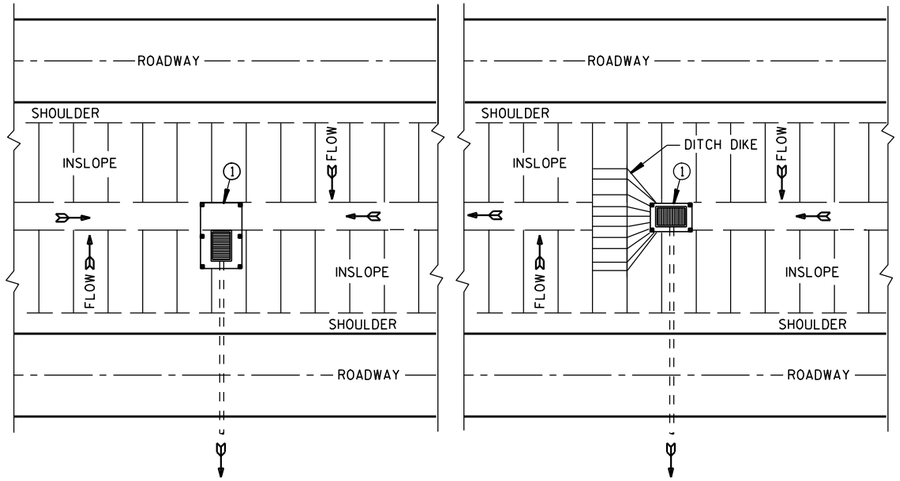
Standard Detail Drawing List

08E09-06	SILT FENCE
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09G02-03C	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
13A11-02A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-02B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
14B07-14A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C04-03	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



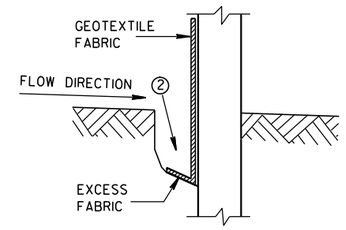
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

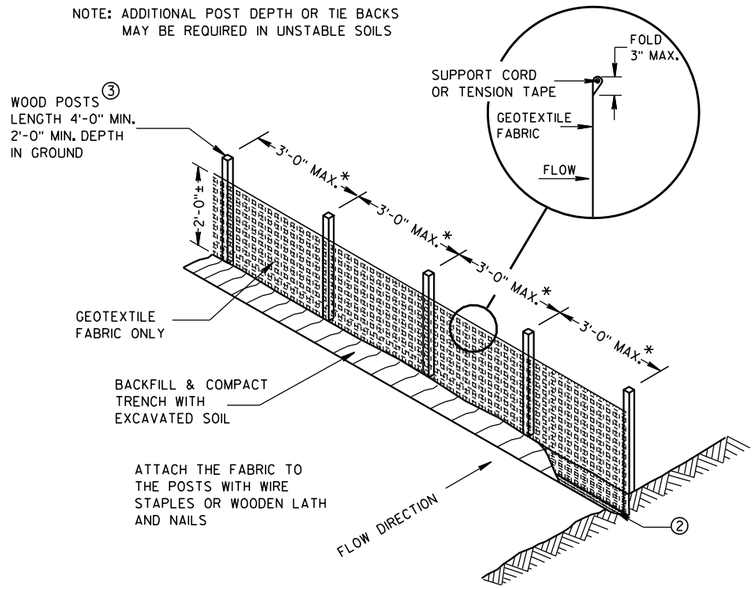
GENERAL NOTES

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

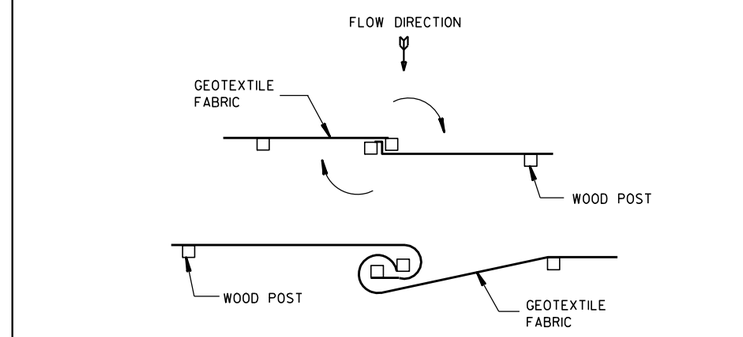
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



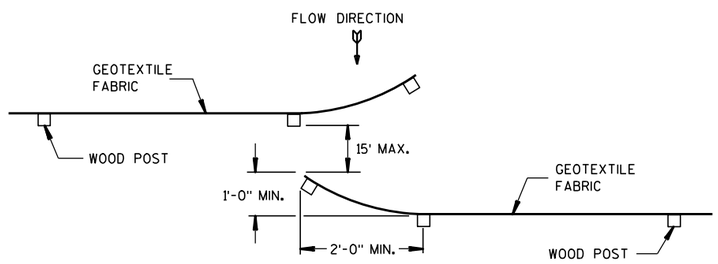
TRENCH DETAIL



SILT FENCE

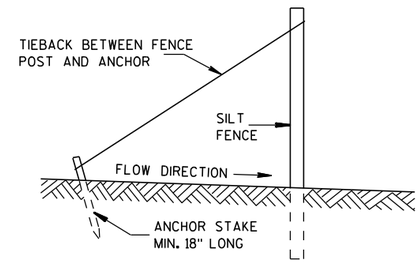


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 8 E 9-6

6

S.D.D. 8 E 9-6

METAL APRON ENDWALLS

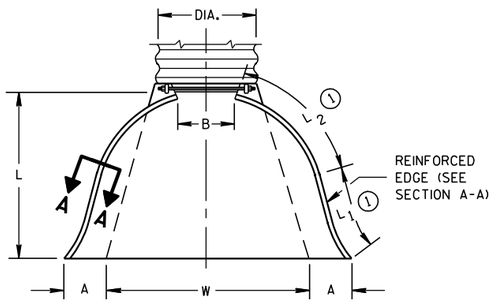
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	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	.109×	.105×	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

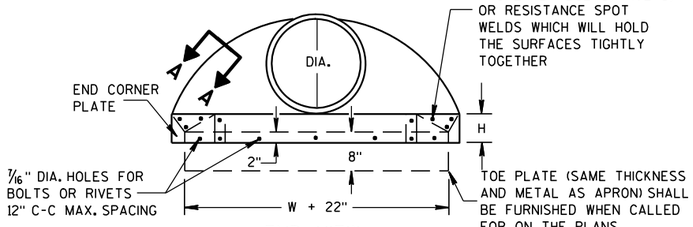
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches) T	A	B	C	D	E	G	APPROX. SLOPE
12	2	4	24	48 7/8	72 1/8	24	2	3 to 1
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	5 1/2	27	65	* 33 1/4 - ** 35	* 98 1/4 - ** 100	90	5 1/2	2 2/5 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

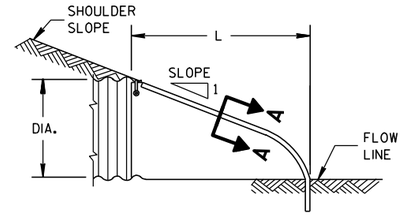
*MINIMUM
**MAXIMUM



PLAN VIEW

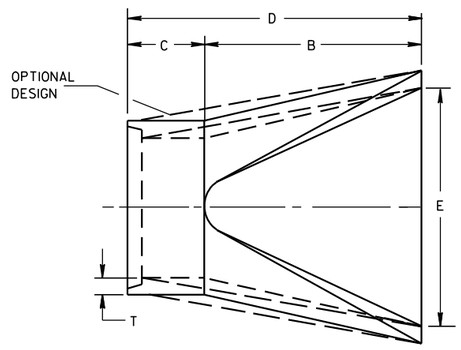


END VIEW

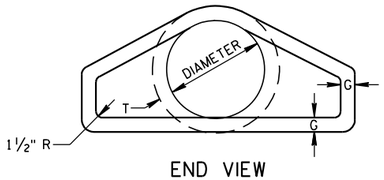


SIDE ELEVATION

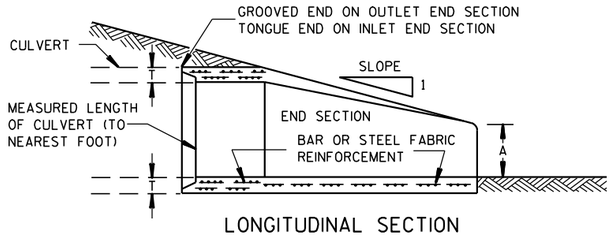
METAL ENDWALLS



PLAN

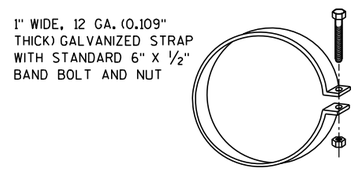


END VIEW



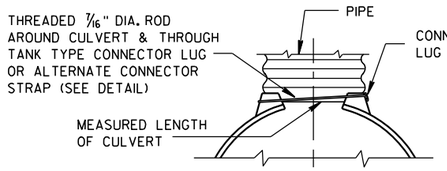
LONGITUDINAL SECTION

CONCRETE ENDWALLS

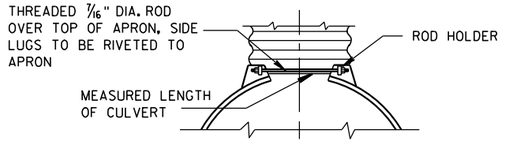


ALTERNATE FOR TYPE 1 CONNECTION

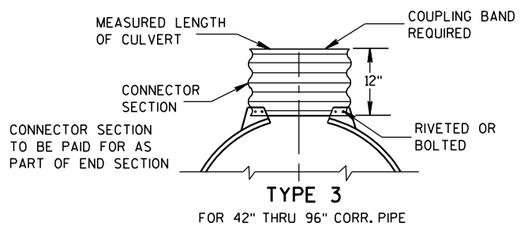
END SECTION CONNECTOR STRAP



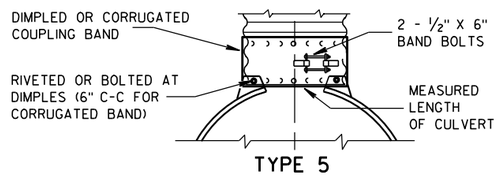
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

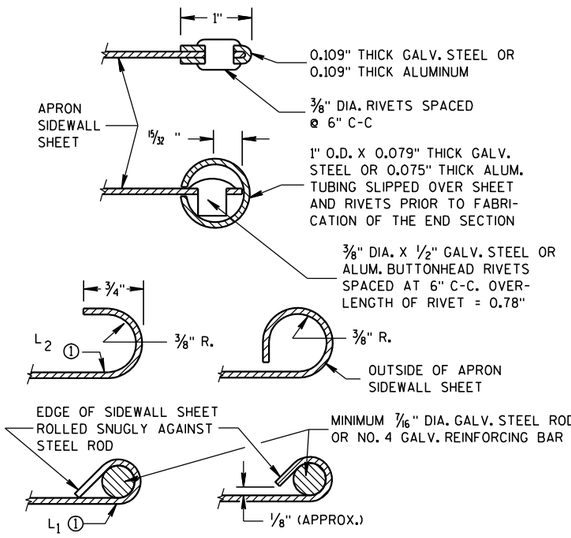
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

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

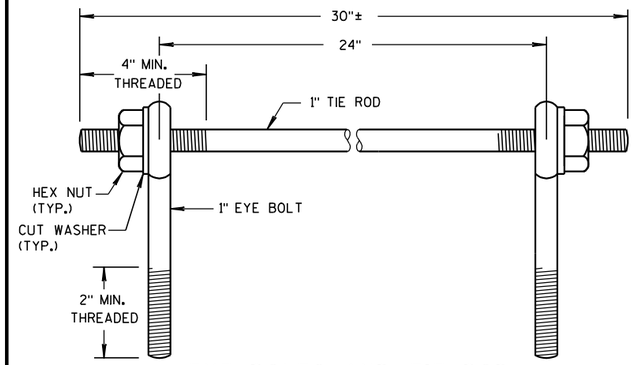
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

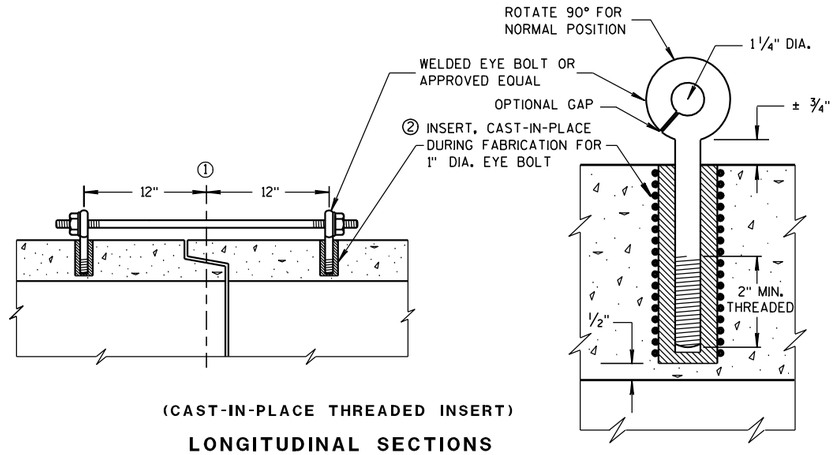
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
S.D.D. 8 F 1-11



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)

GENERAL NOTES

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

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

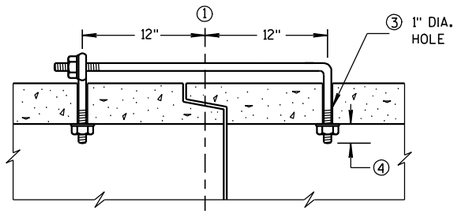
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ℄ OF TONGUE AND GROOVE.

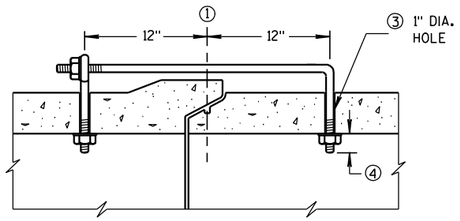
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)

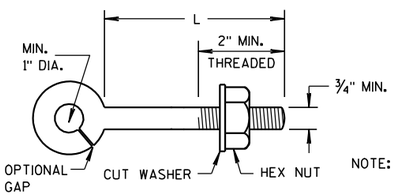


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

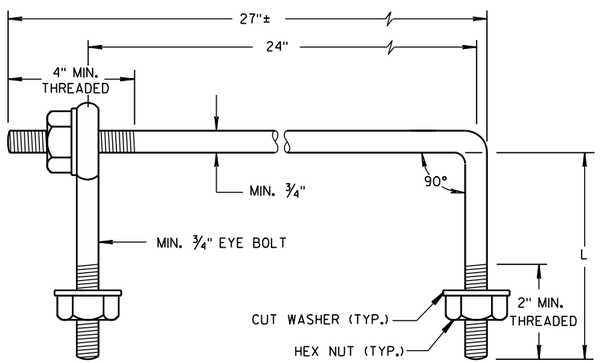
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD

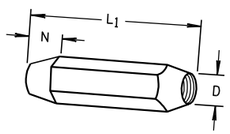
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

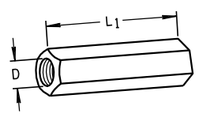
ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 1/16

DIMENSIONS SHOWN ARE IN INCHES



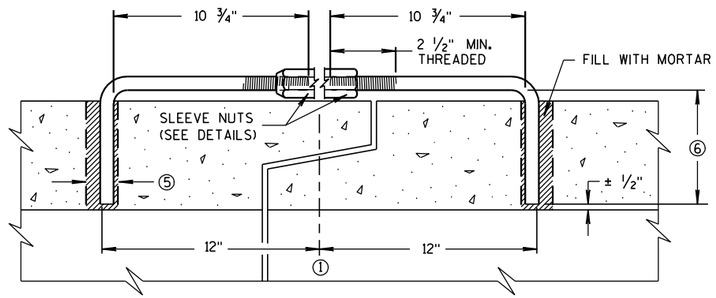
TAPERED



PLAIN

RIGHT AND LEFT THREADS

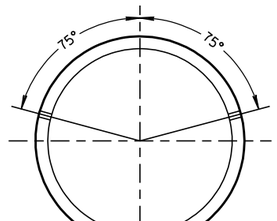
SLEEVE NUTS



LONGITUDINAL SECTION

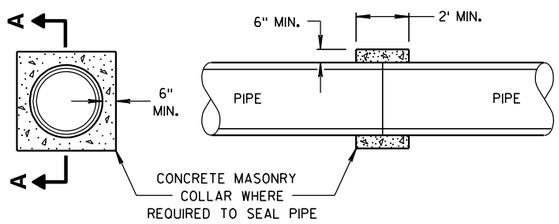
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

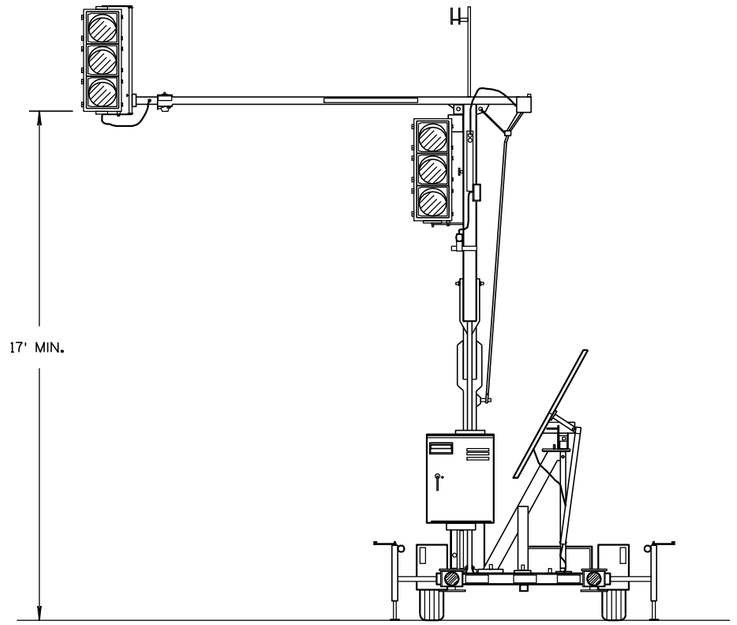
APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

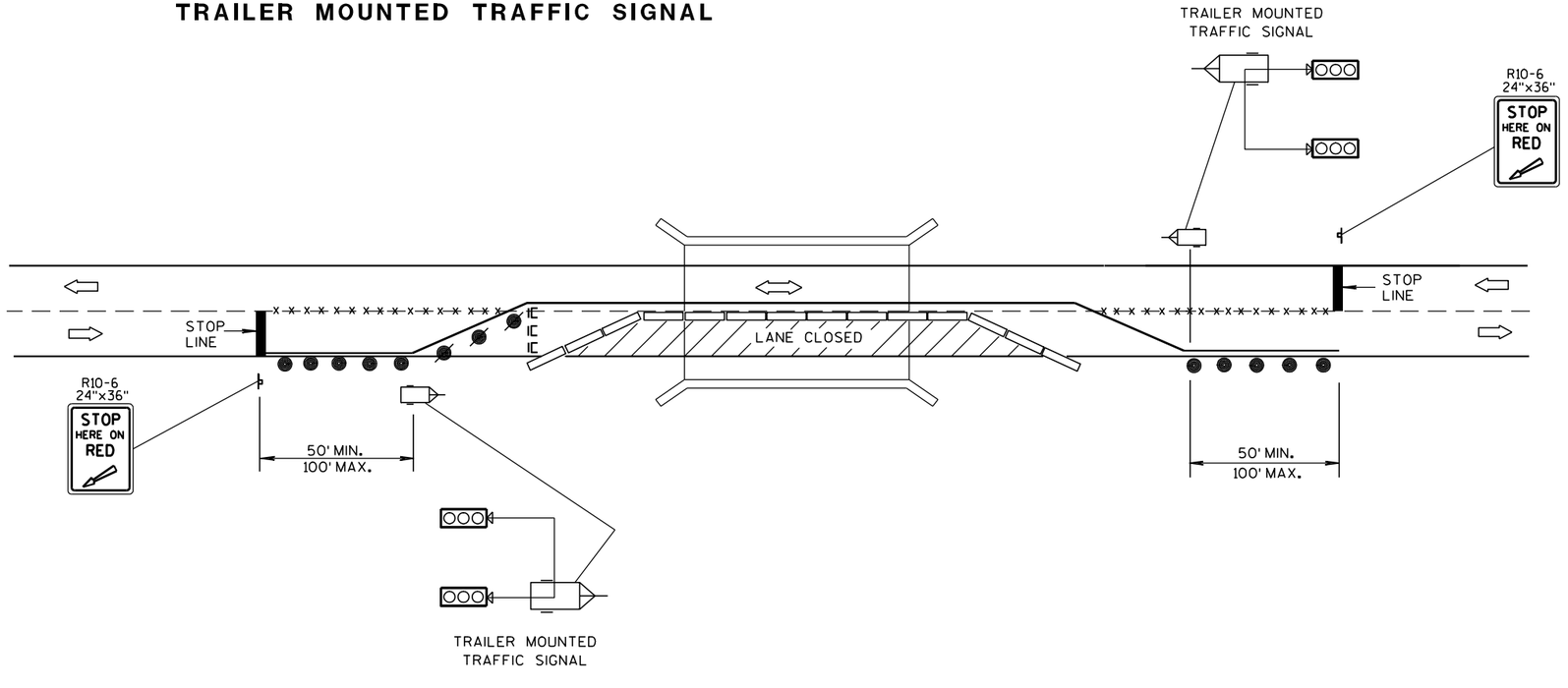
S.D.D. 8 F 4-7

6

S.D.D. 8 F 4-7



TRAILER MOUNTED TRAFFIC SIGNAL



TYPICAL TRAILER MOUNTED TRAFFIC SIGNAL LOCATION

GENERAL NOTES

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

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

LEGEND

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

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/2/2011 — DATE

/S/ Thomas J. Gosling — STATE ELECTRICAL ENGI 25 — HWYS

FHWA

6

S.D.D. 9 G 2-3c

6

S.D.D. 9 G 2-3c

GENERAL NOTES

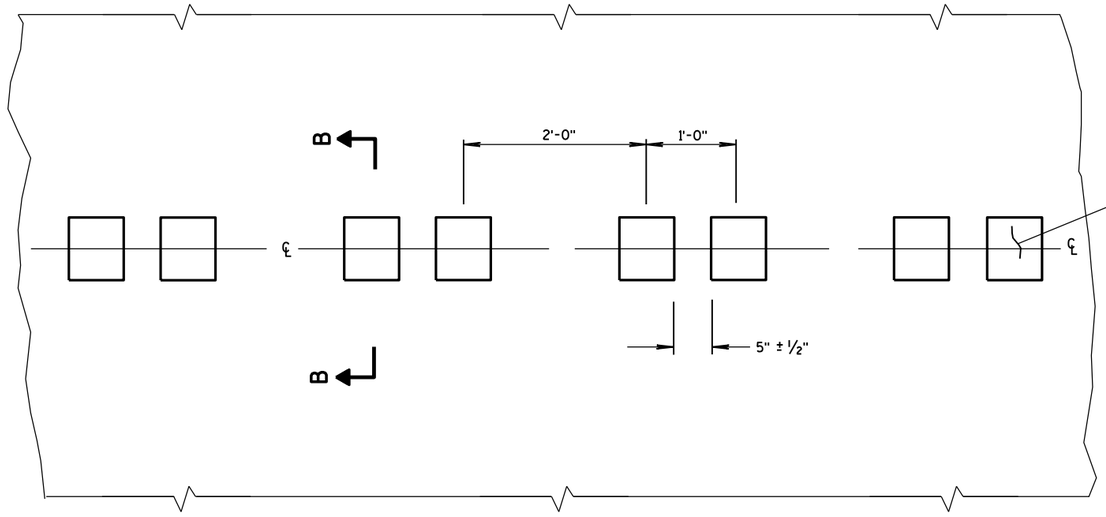
DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

DO NOT MILL CENTER LINE GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

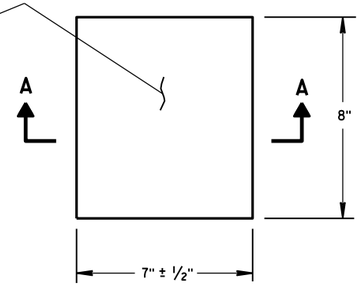
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

(1) CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.

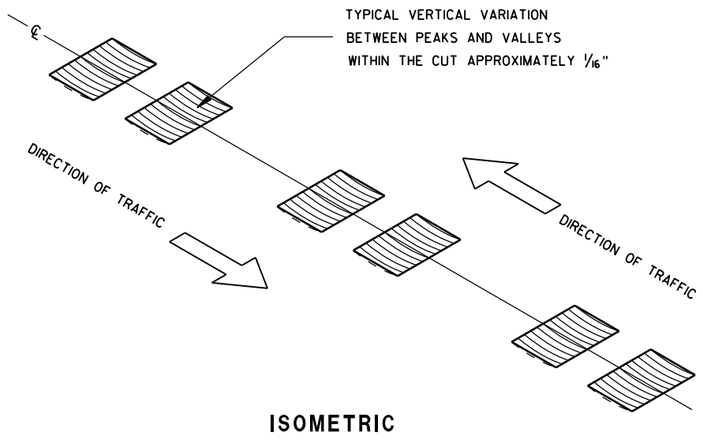


PLAN VIEW
CENTER LINE WITH GROOVES

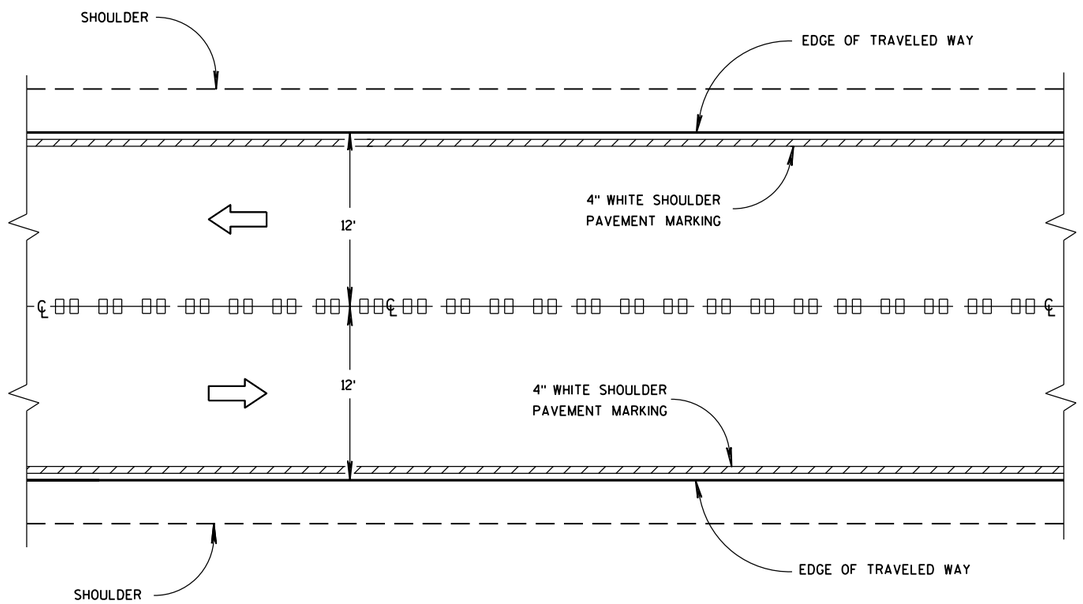


PLAN VIEW
(SINGLE GROOVE)

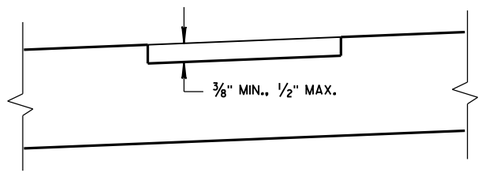
PLACEMENT DETAIL FOR MILLED RUMBLE STRIP



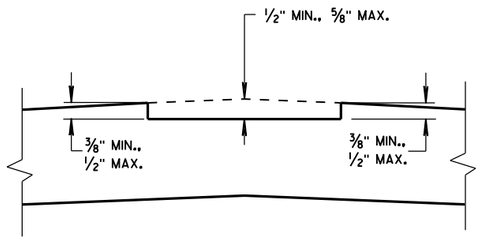
ISOMETRIC



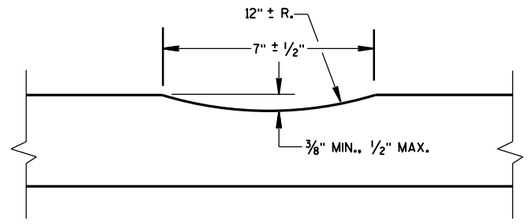
CENTER LINE GROOVES ON TWO-WAY ROADWAYS



SECTION B-B
SUPERELEVATED ROADWAY



SECTION B-B
CROWNED ROADWAY



SECTION A-A

2-LANE RURAL
CENTER LINE RUMBLE STRIP,
MILLING

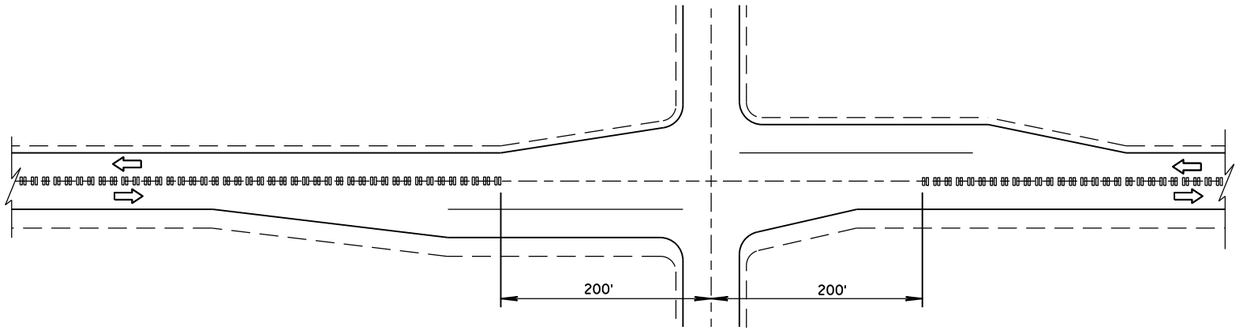
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

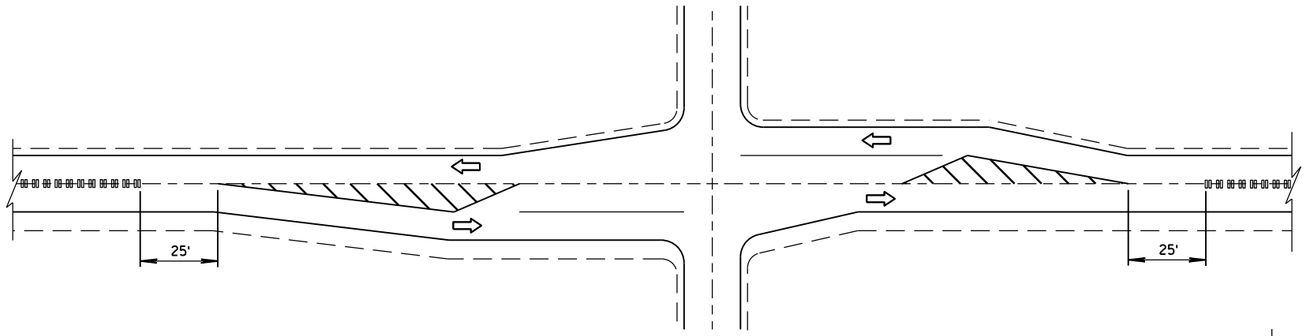
S.D.D. 13 A 11-2a

6

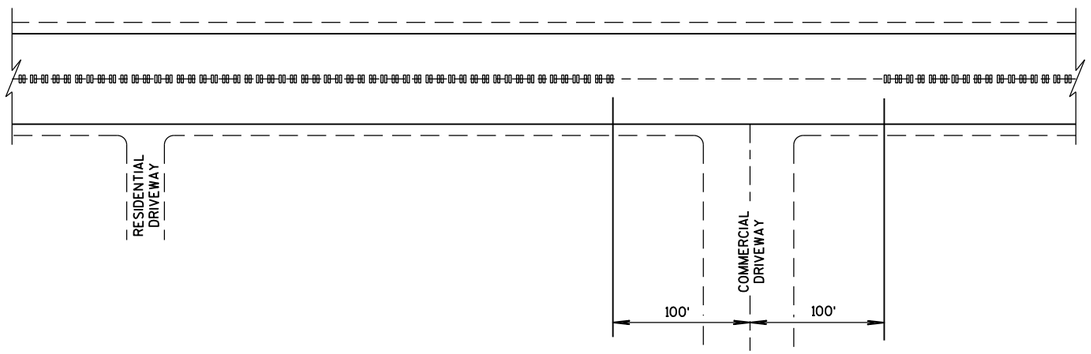
S.D.D. 13 A 11-2a



CENTER LINE GROOVES AT INTERSECTIONS

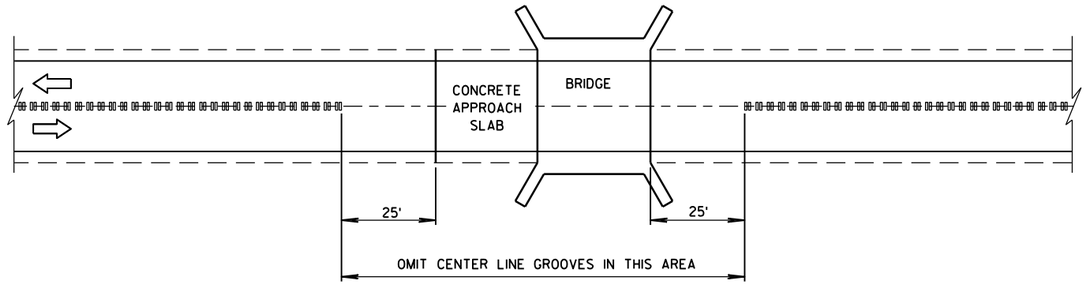


CENTER LINE GROOVES AT INTERSECTIONS
(WITH LEFT TURN LANES)

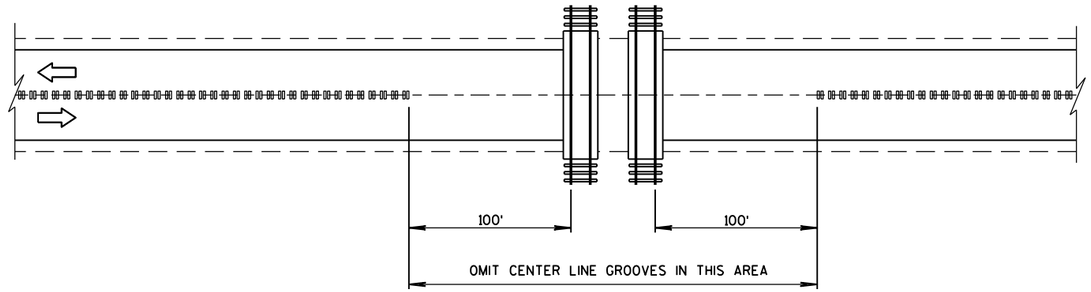


CENTER LINE GROOVES AT DRIVEWAYS (1)

(1) CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.



CENTER LINE GROOVES AT BRIDGES



CENTER LINE GROOVES AT RAILROADS

6

S.D.D. 13 A 11-2b

6

S.D.D. 13 A 11-2b

2-LANE RURAL
CENTER LINE RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

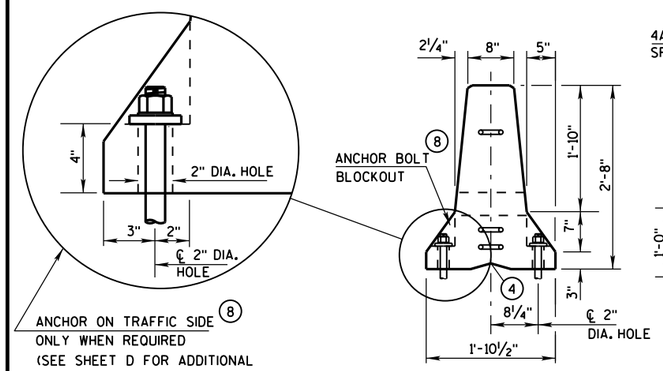
APPROVED

5/15/2013
DATE

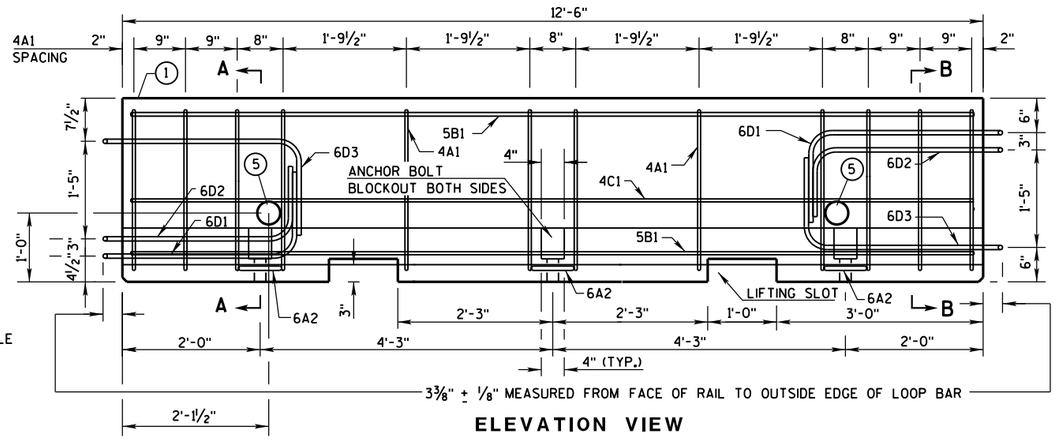
/S/ Jerry H. Zoda
ROADWAY STANDARDS DEVELOPMENT ENGINEER

NT

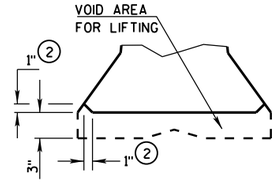
FHWA



END VIEW



ELEVATION VIEW



DETAIL "B"
LIFTING SLOT DETAIL

GENERAL NOTES

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

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

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

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE ¾" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-½" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN ⅛" OF THE PLAN DIMENSION.

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

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

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

(1) MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
- a. TYPE: WI CBTP
- b. MANUFACTURER
- c. DATE MANUFACTURED (MONTH AND YEAR)

(2) 1" CHAMFER TO PREVENT SPALLING.

(3) A ⅜" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..

(4) "V" NOTCH IS OPTIONAL.

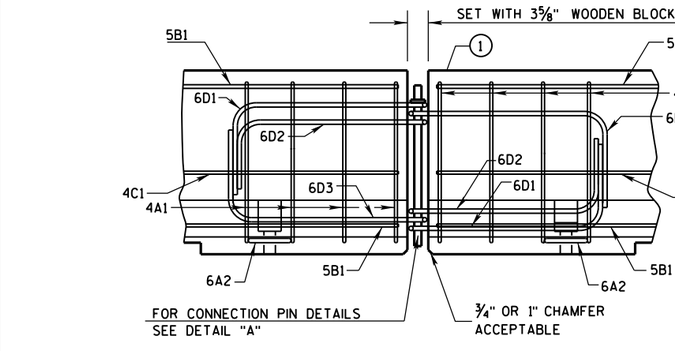
(5) THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).

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

(7) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.

(8) SEE SHEET D FOR ANCHORING CRITERIA.

(9) 1" CHAMFER OPTIONAL.



SECTION A-A
(STIRRUP PLACEMENT)

SECTION B-B
(STIRRUP PLACEMENT)

PLAN VIEW

DETAILS OF BARRIER SECTION

DETAILS OF BARRIER CONNECTION

1/2" TOP
PLATE DETAIL

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

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

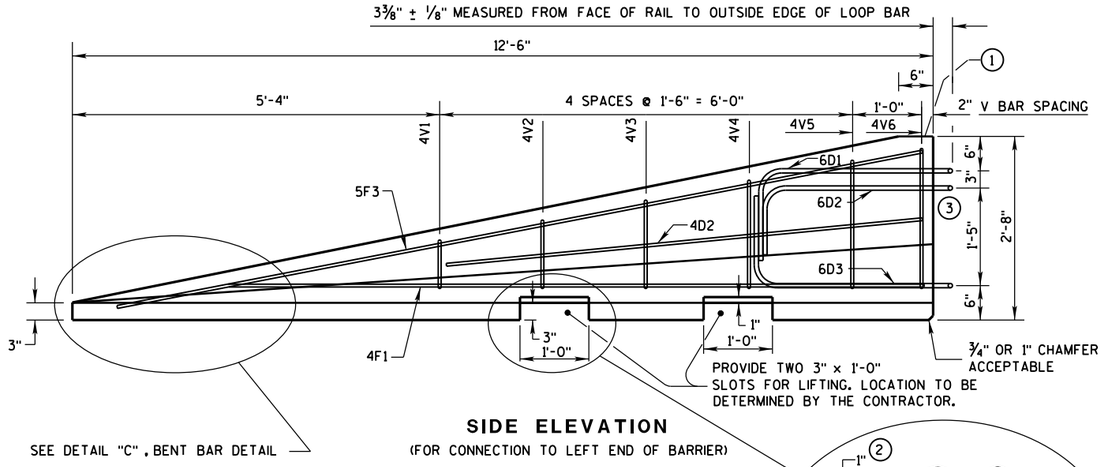
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 28

6

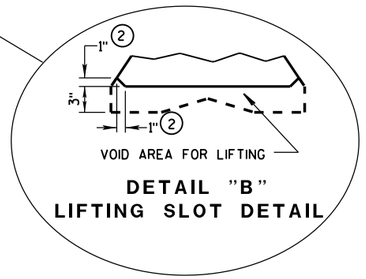
S.D.D. 14 B 7-14a

6

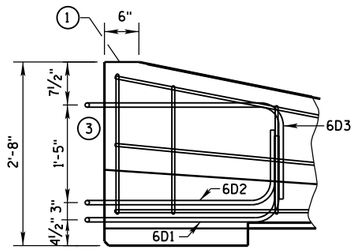
S.D.D. 14 B 7-14a



SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)



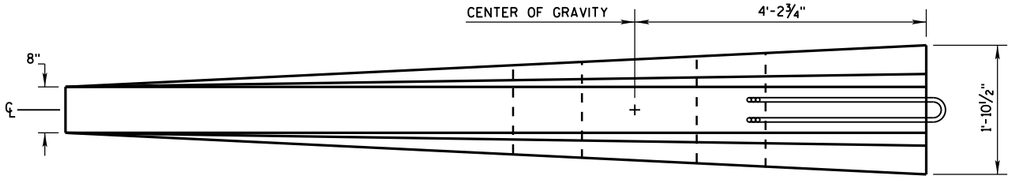
DETAIL "B"
LIFTING SLOT DETAIL



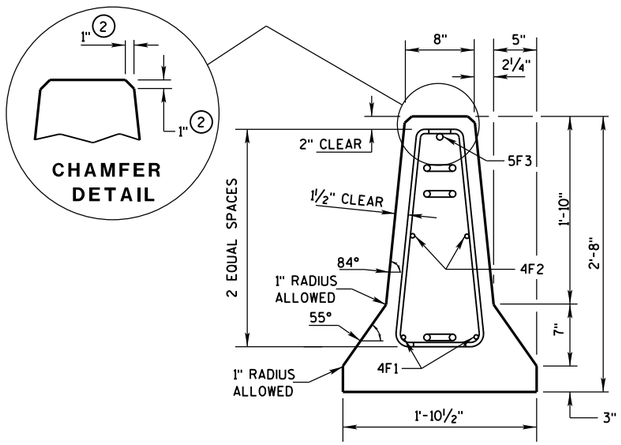
SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

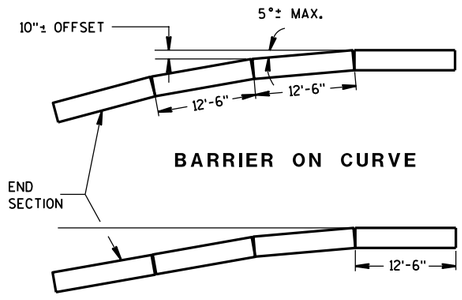
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



PLAN VIEW



END SECTION **FRONT ELEVATION**



BARRIER ON CURVE

FLARE AT BARRIER END

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

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

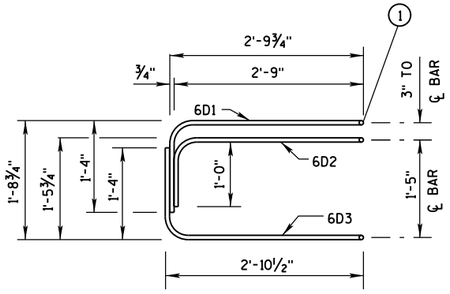
6

S.D.D. 14 B 7-14b

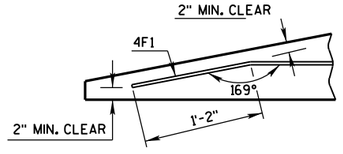
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

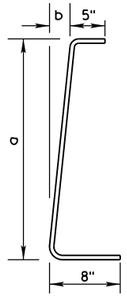
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



BAR	a	b
V1	10"	1"
V2	1'-1"	1¼"
V3	1'-5"	1⅝"
V4	1'-8"	1⅞"
V5	2'-0½"	2⅜"
V6	2'-3"	2¾"

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

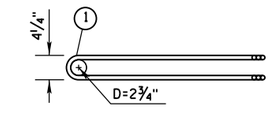
GENERAL NOTES

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

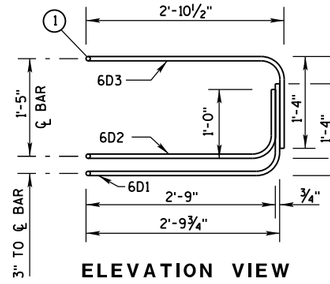
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

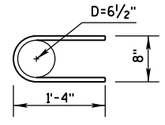
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



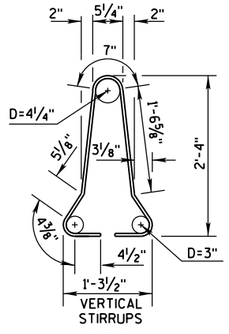
PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)



ELEVATION VIEW



6A2



4A1

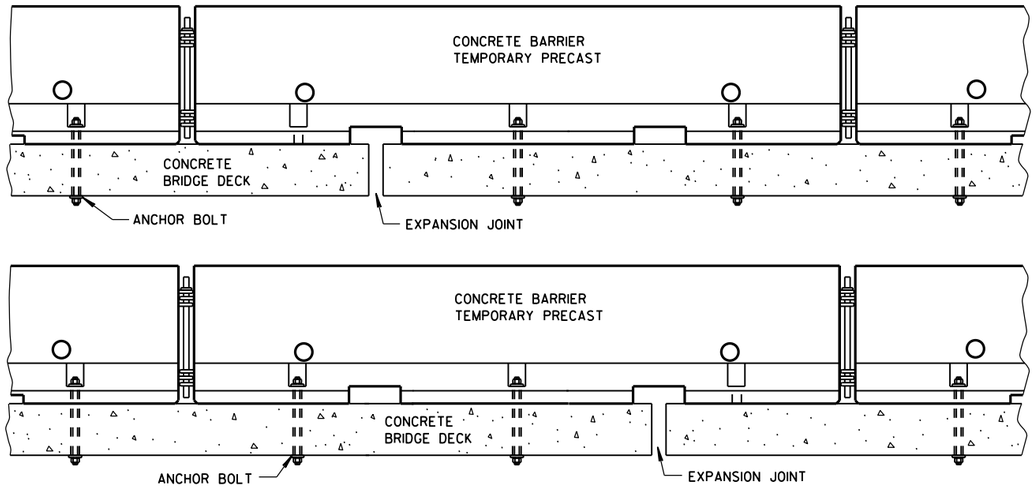
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

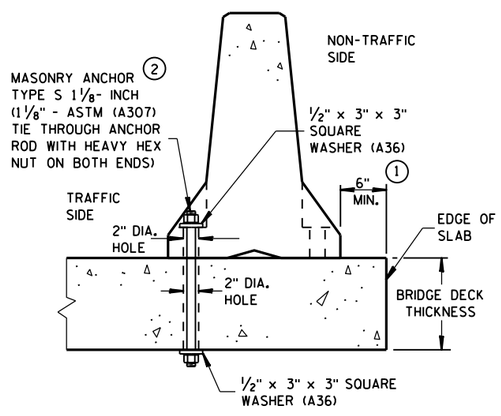
6

S.D.D. 14 B 7-14c



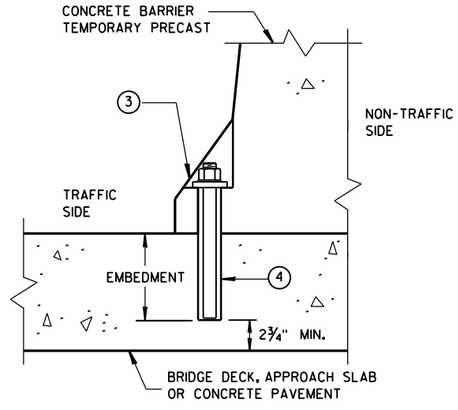
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

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



THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



REMOVABLE ADHESIVE BONDED ANCHOR ② INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

GENERAL NOTES

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

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

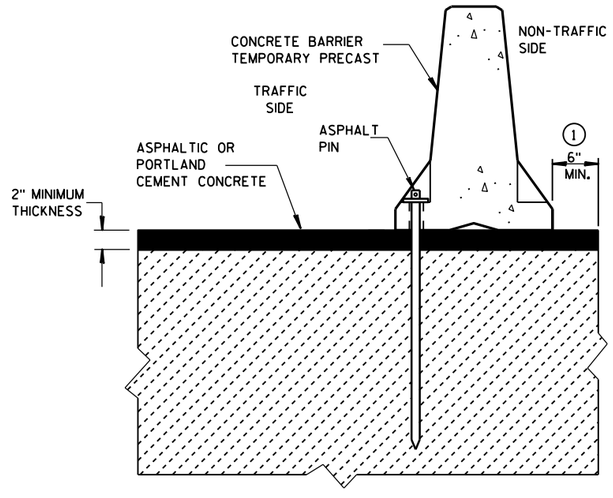
② ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1⅛-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

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

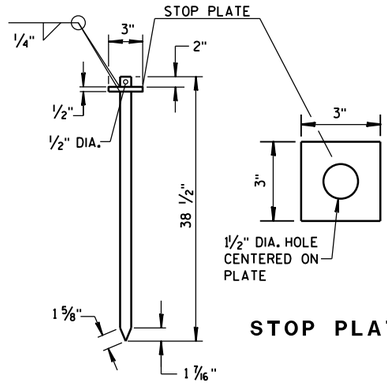
③ 1⅛" DIAMENTER A307 THREADED ROD, ½" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL, ASTM A563A HEAVY HEX NUT.

④ ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5¼" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.



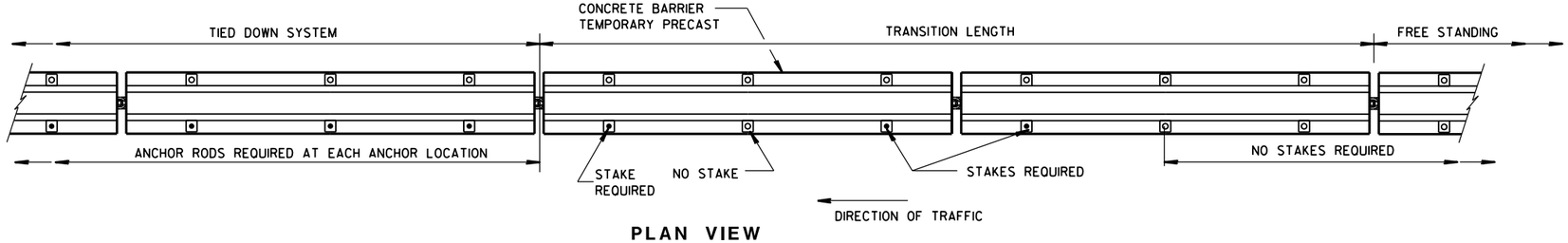
STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



STOP PLATE

ASPHALT PIN
(ASTM A36 STEEL)



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

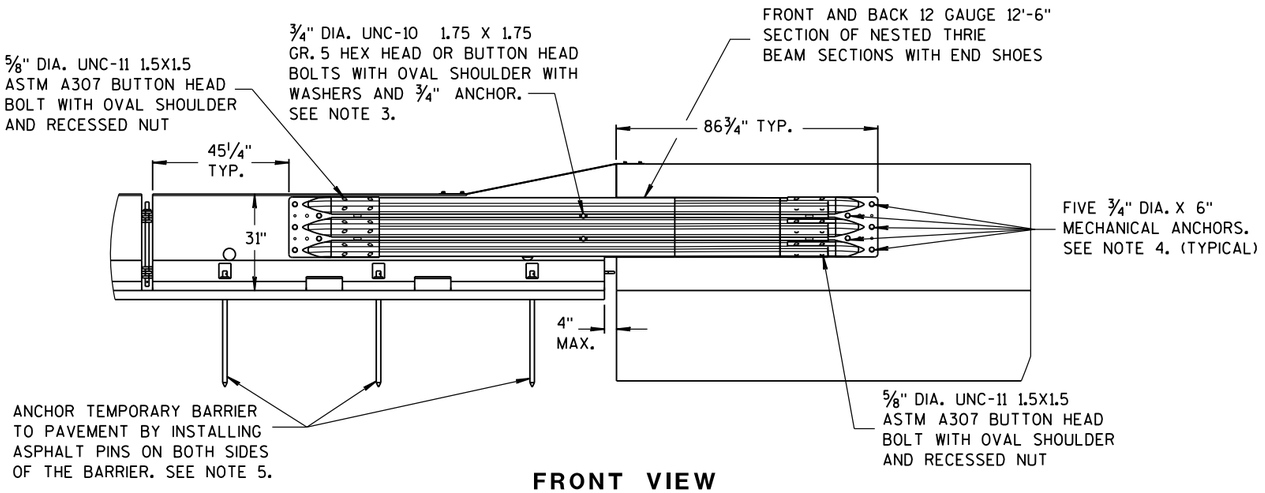
(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

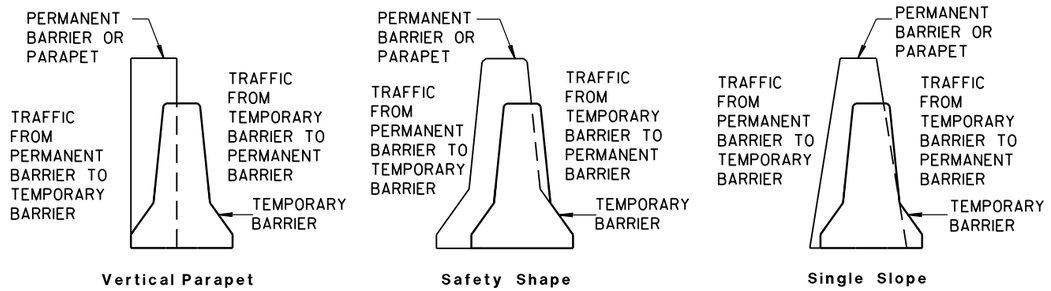
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 7-14d



FRONT VIEW

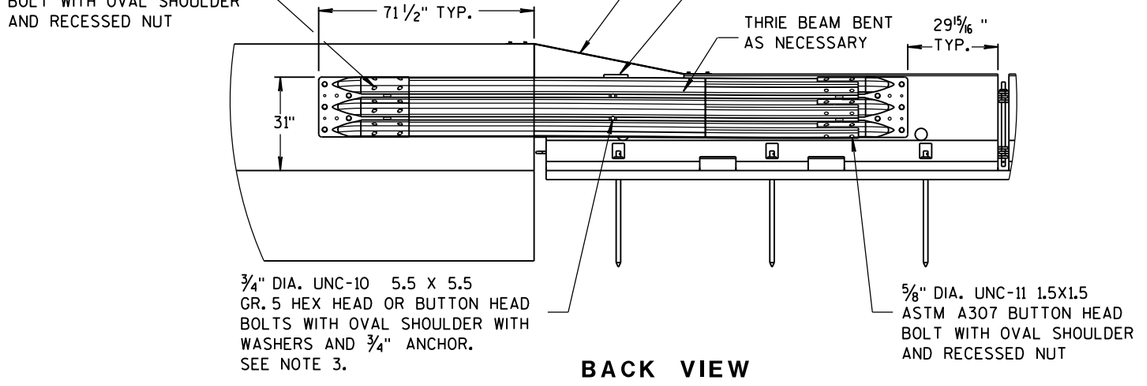


TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

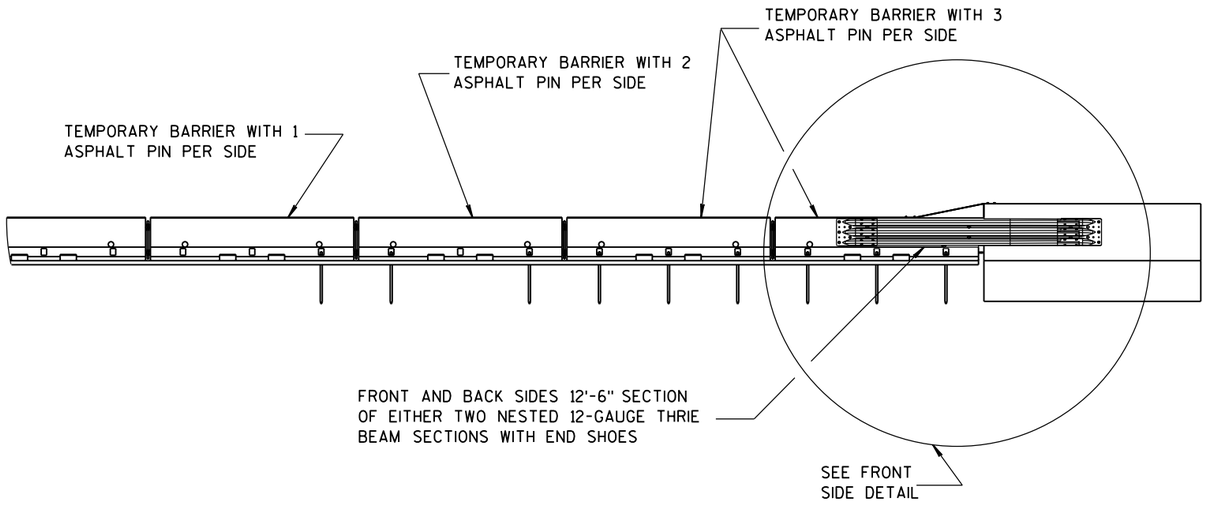
NOTES

NESTED THRIE BEAM IS REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS.

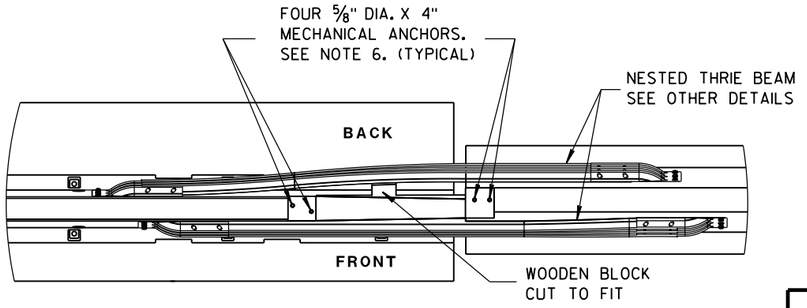
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD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



BACK VIEW



FRONT VIEW



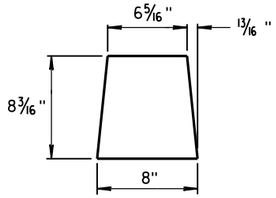
PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

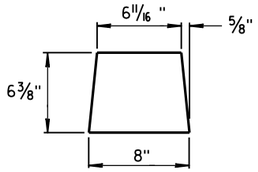
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

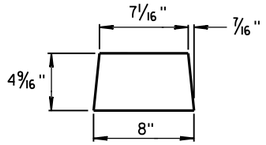
6
S.D.D. 14 B 7-14e



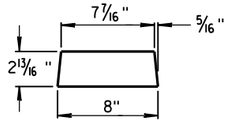
GUSSET 1



GUSSET 2

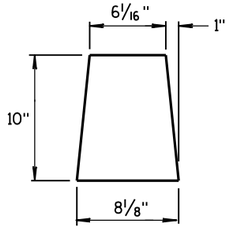


GUSSET 3

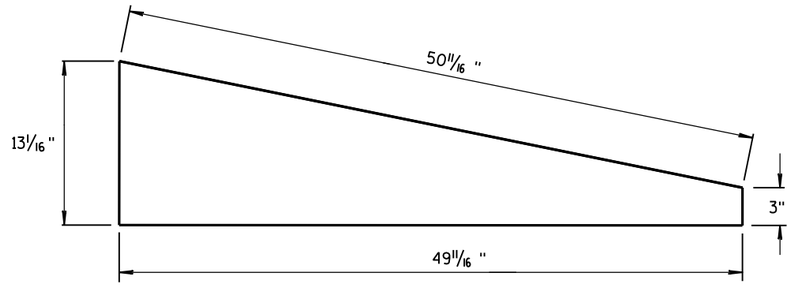


GUSSET 4

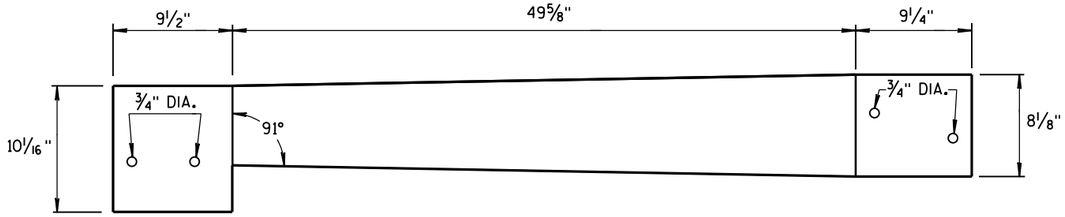
GUSSETS

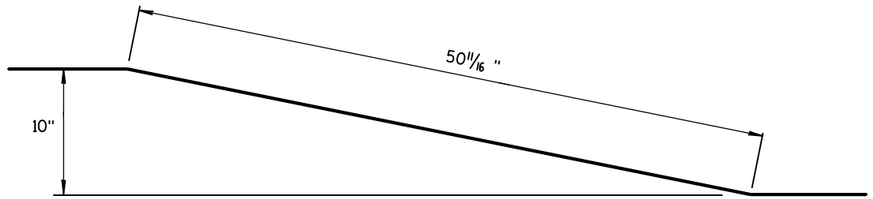


END PLATE



SIDE PLATE

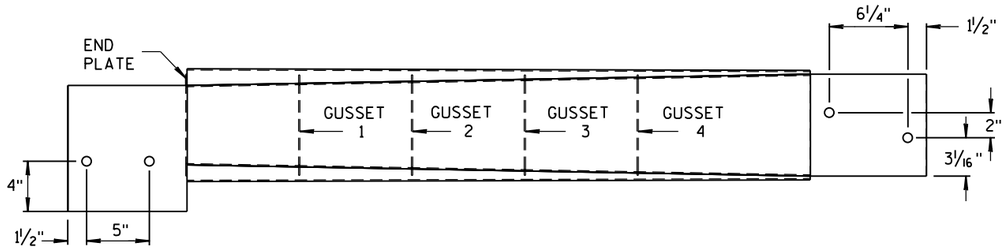


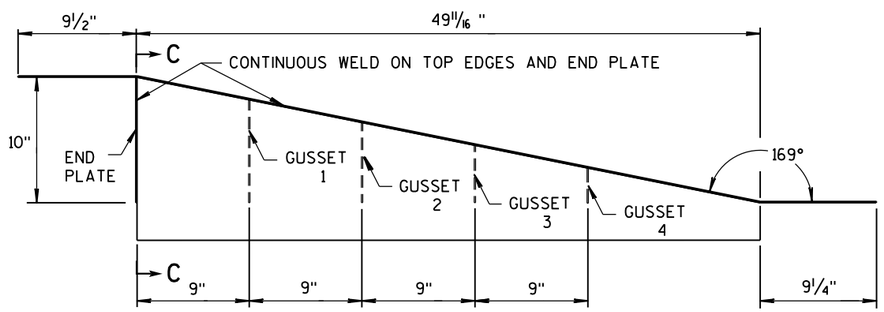


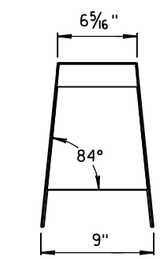
TOP PLATE

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

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







SECTION C-C

NOTES

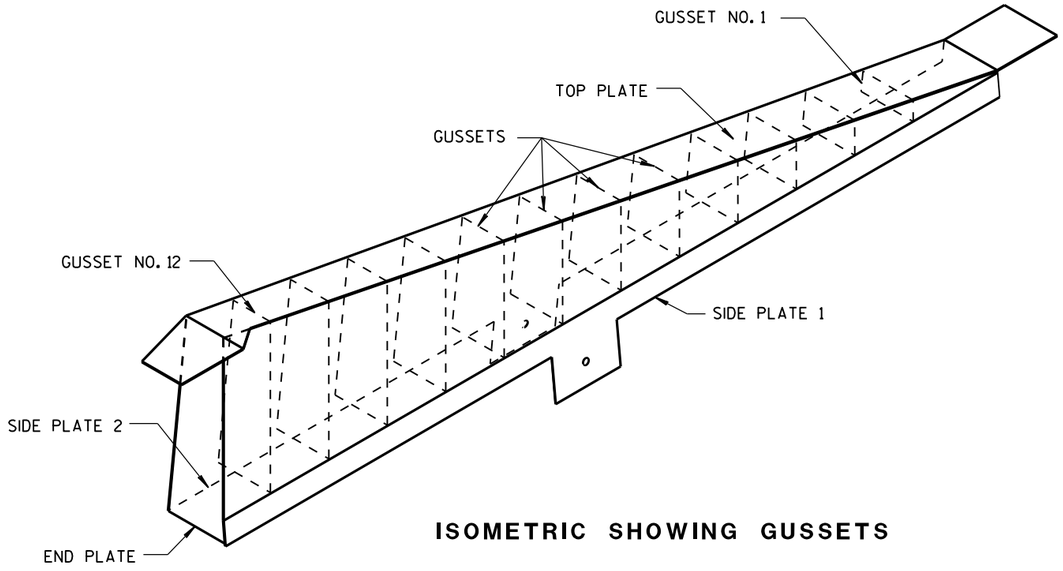
1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

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

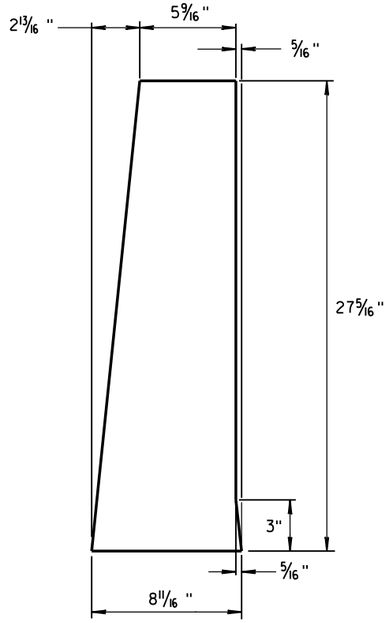
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 7-14f

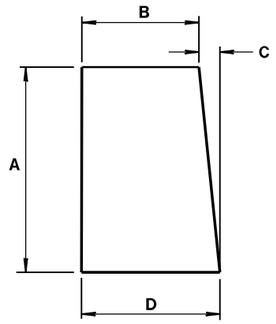


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



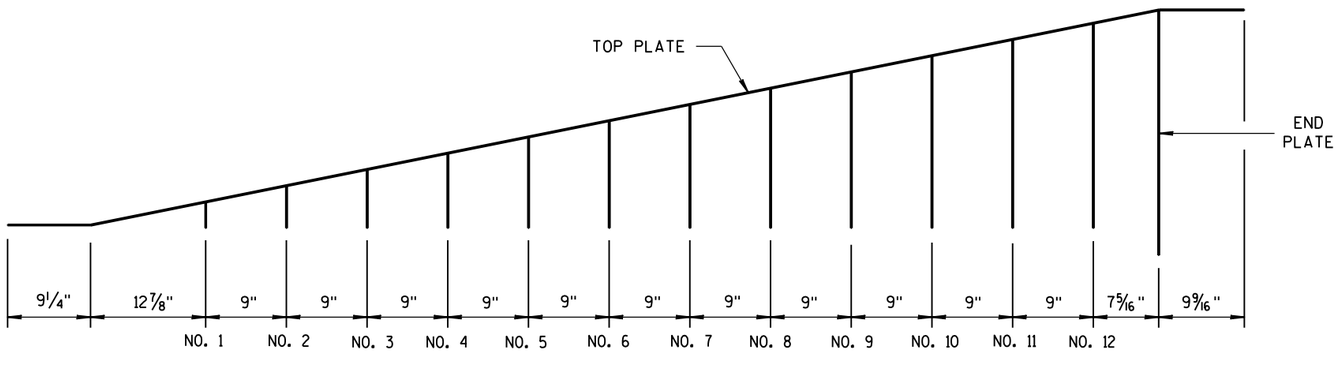
GUSSETS 1 - 12

ALL GUSSETS 1/8" STEEL PLATE

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

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

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



GUSSET LOCATION

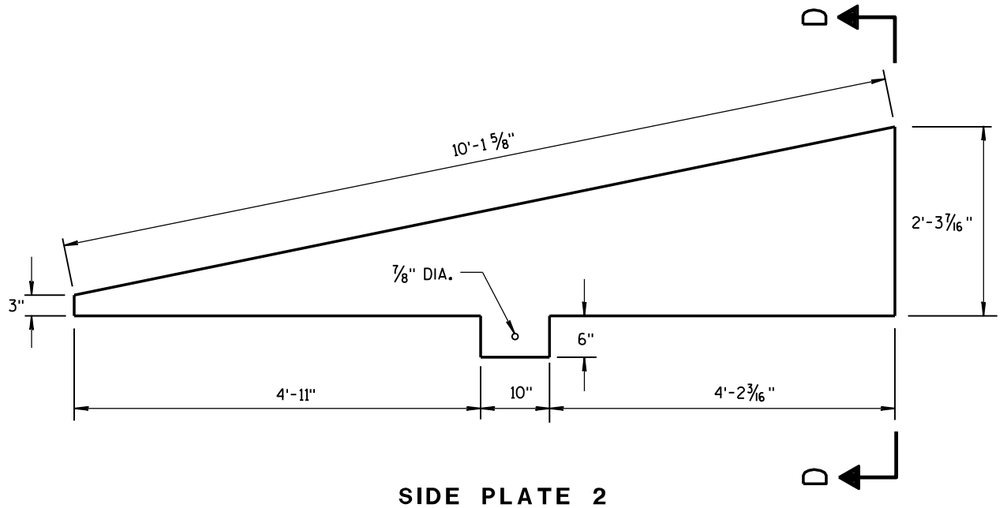
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

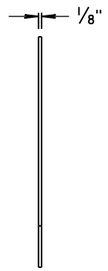
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

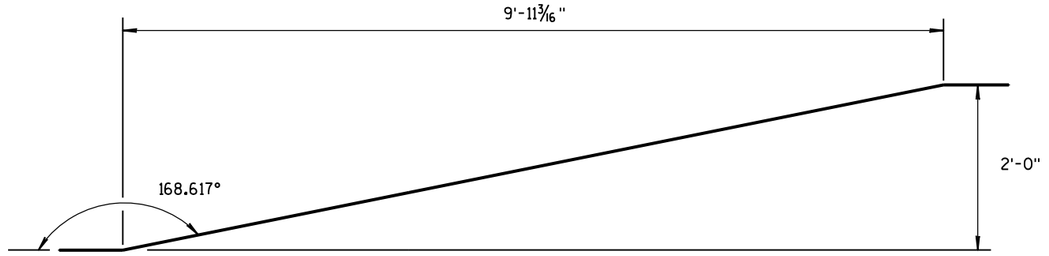
S.D.D. 14 B 7-14g



SIDE PLATE 2

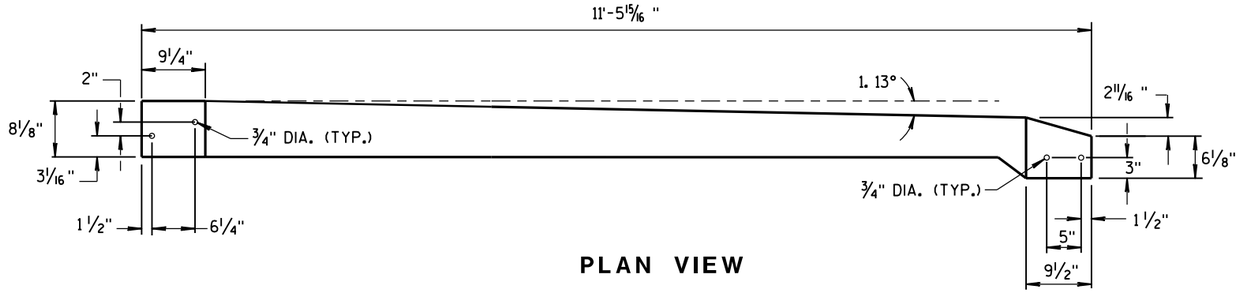


END VIEW



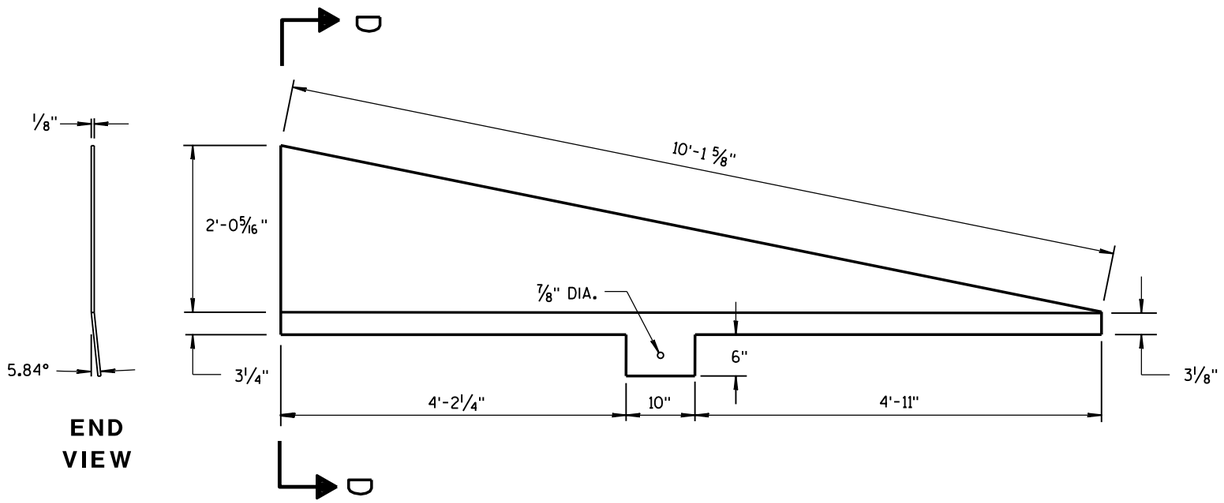
SIDE VIEW

TOP PLATE



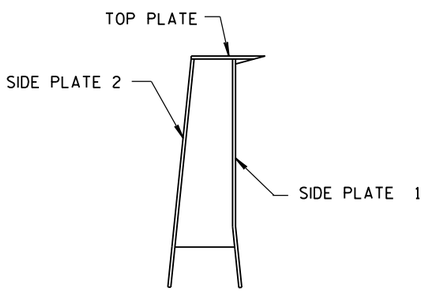
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

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

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

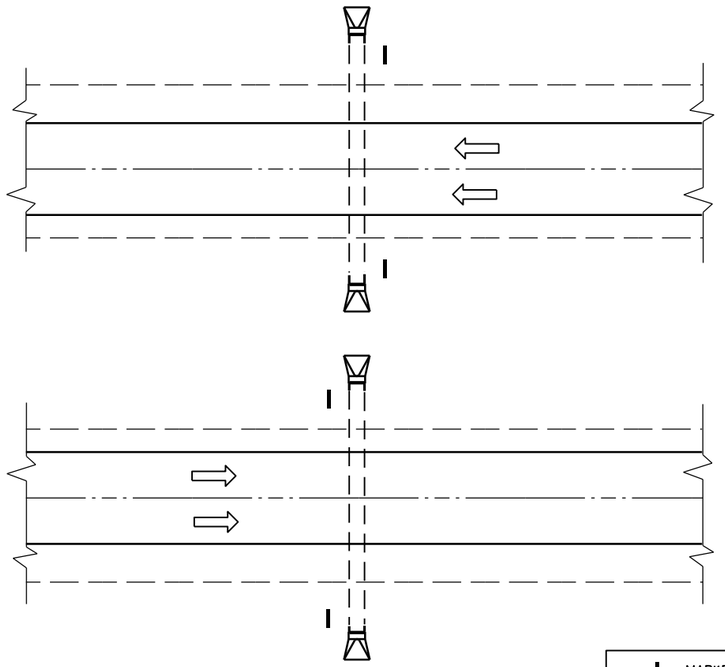
APPROVED
June 2014 — DATE
/S/ Jerry H. Zoda — ROADWAY STANDARD DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 14 B 7-14h

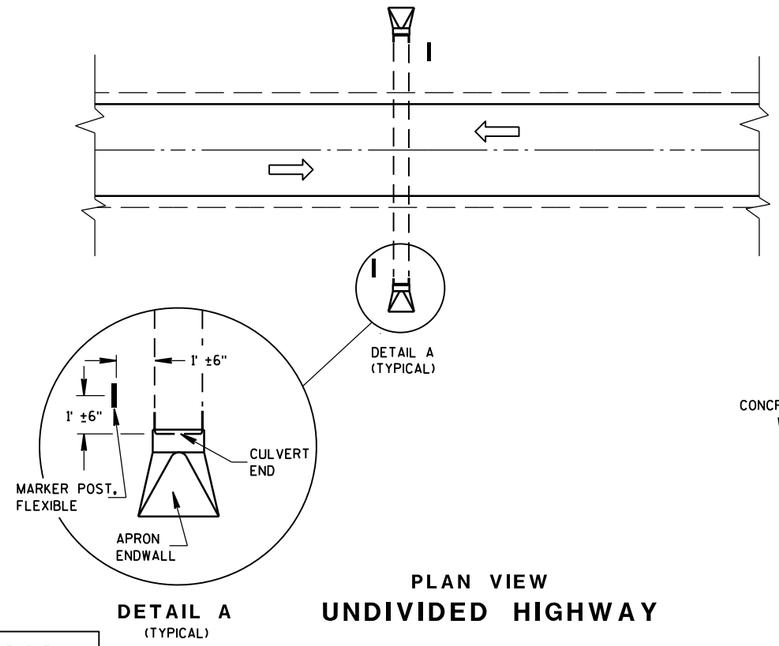
6

S.D.D. 14 B 7-14h



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

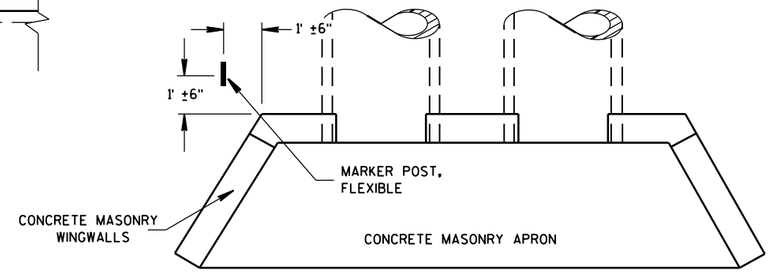
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

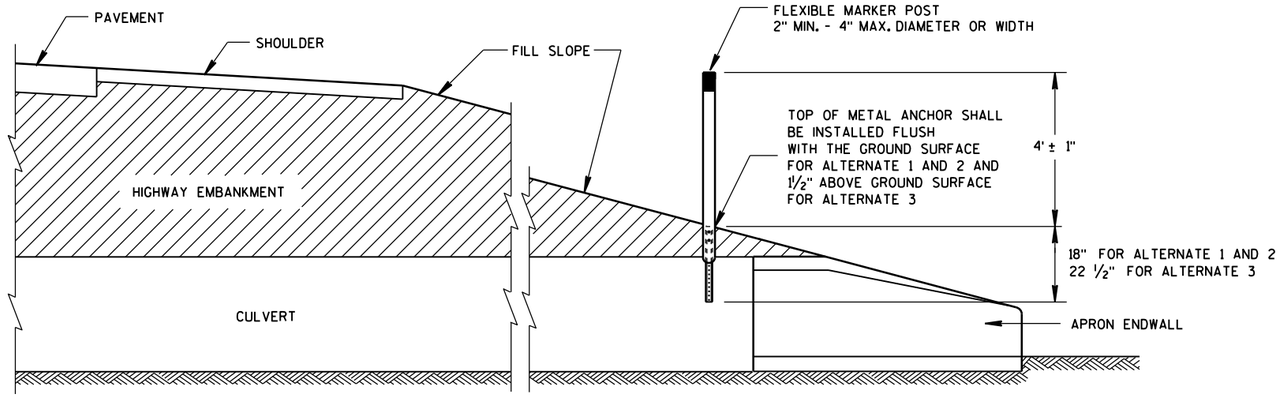
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST FOR CULVERT END

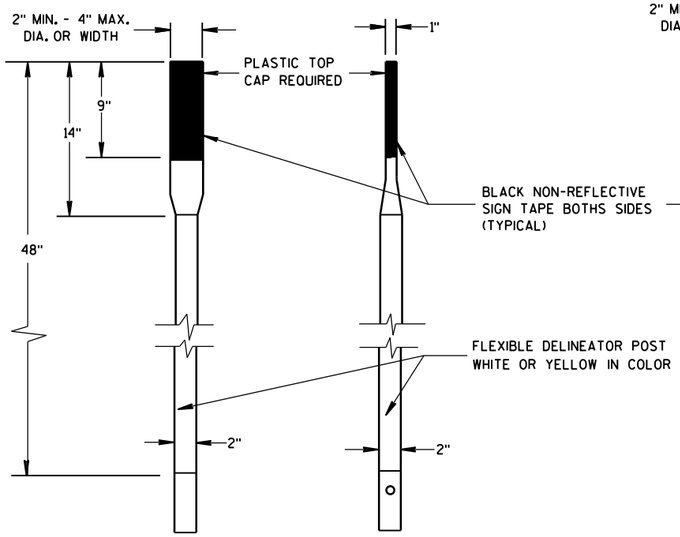
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

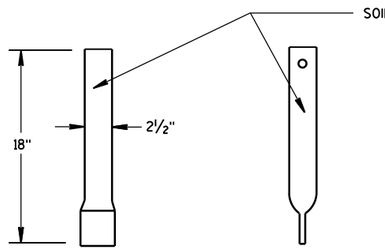
6

S.D.D. 15 A 3-2a

6

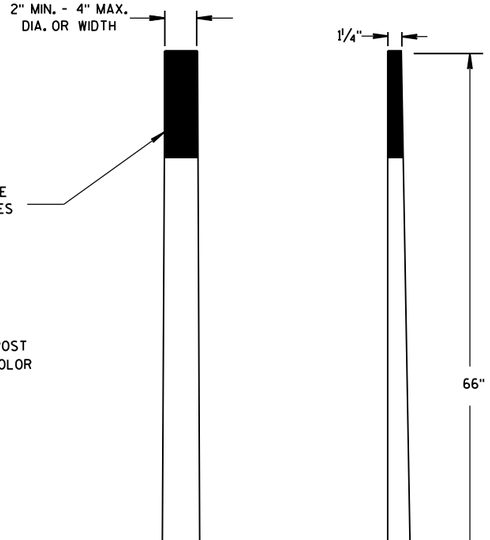
S.D.D. 15 A 3-2a





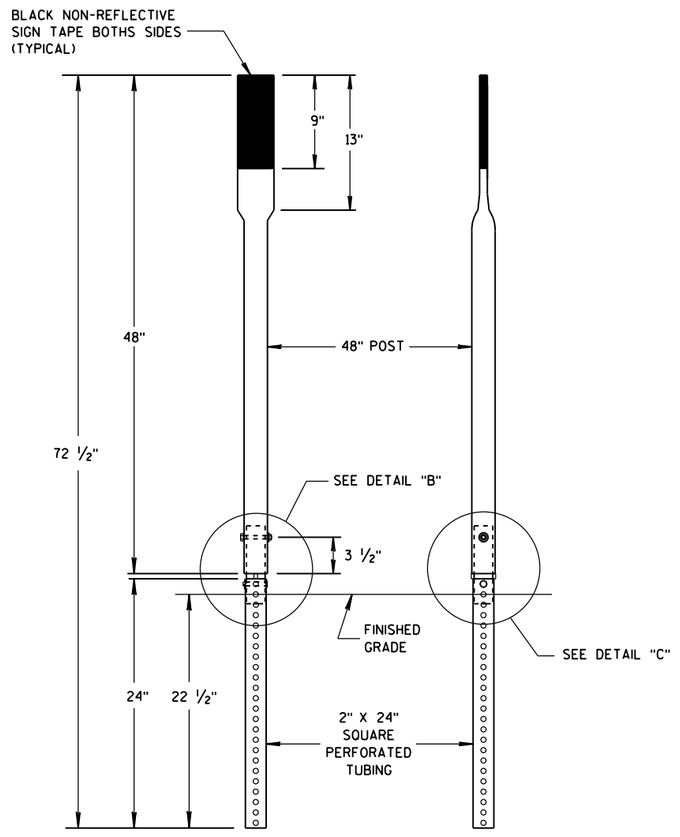
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

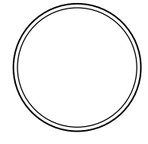
ALTERNATE 2



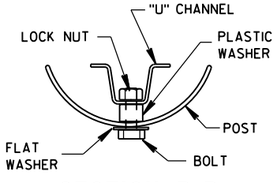
FRONT VIEW SIDE VIEW

ALTERNATE 3

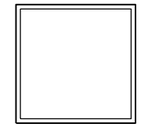
FLEXIBLE MARKER POSTS



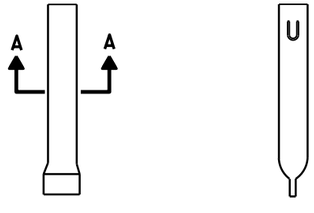
SECTION A-A



SECTION B-B

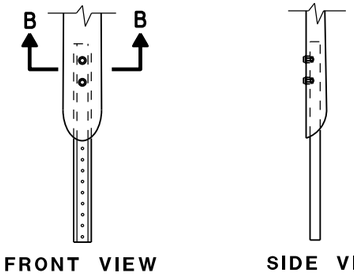


SECTION C-C



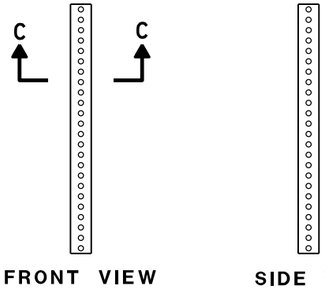
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

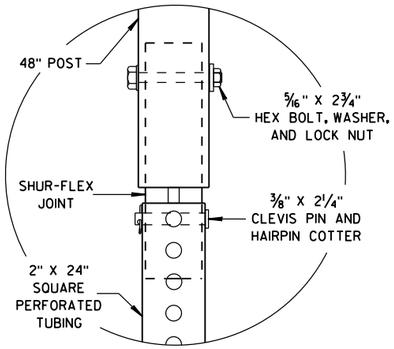
ALTERNATE 2



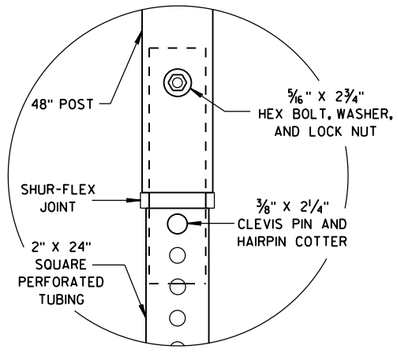
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

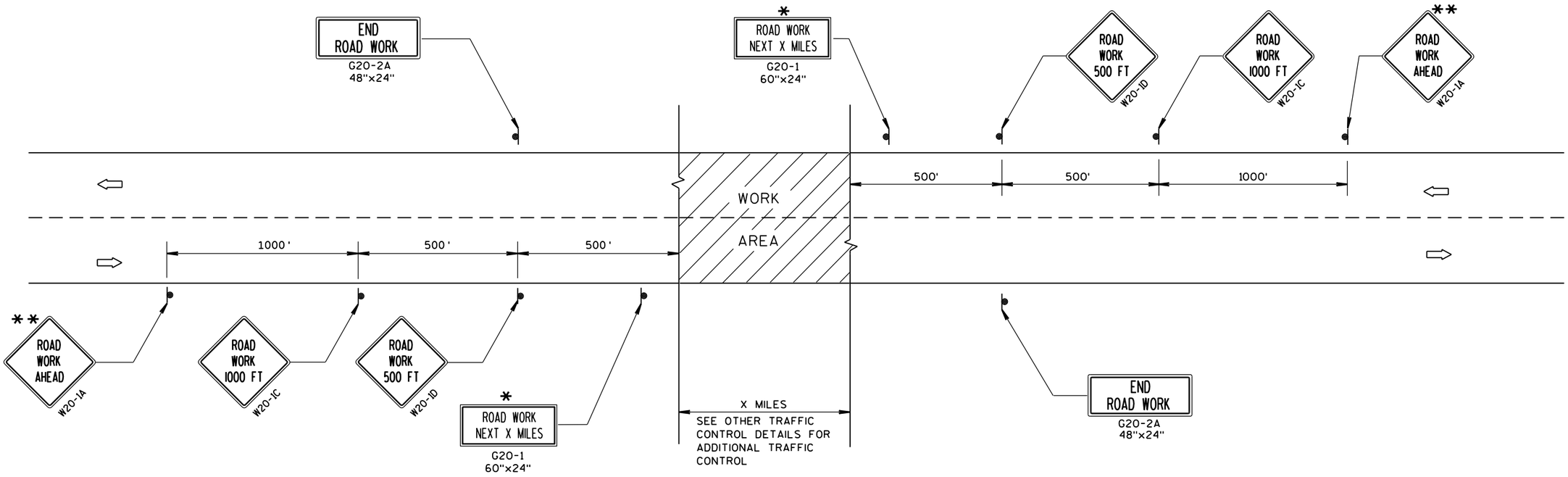
APPROVED
10/1/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

S.D.D. 15 A 3-2b

6

S.D.D. 15 A 3-2b



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

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

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

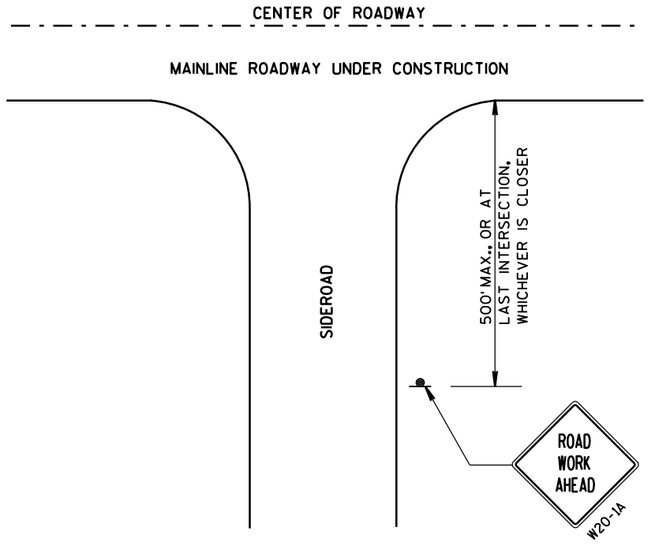
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

** PLACE ADDITIONAL W20-1A "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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2015	/S/ Peter Amakobe Atepe
DATE	STATEWIDE WORK ZONE SAFETY ENGINEER

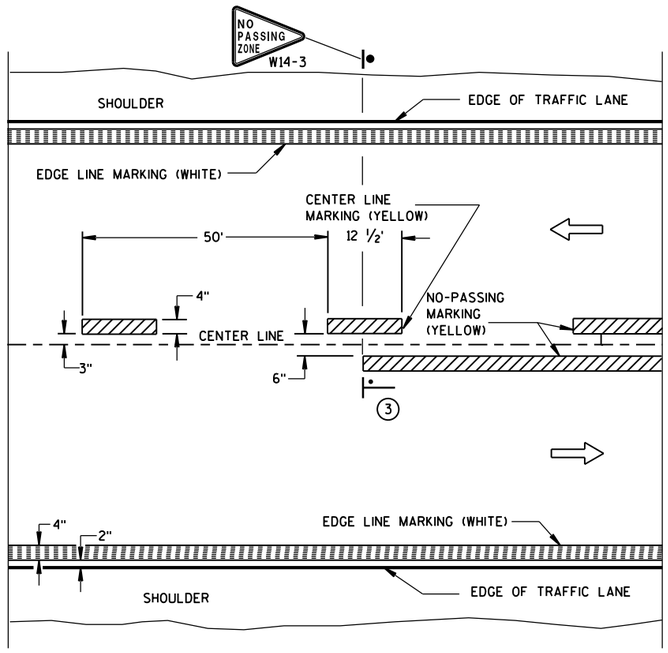
FHWA

6

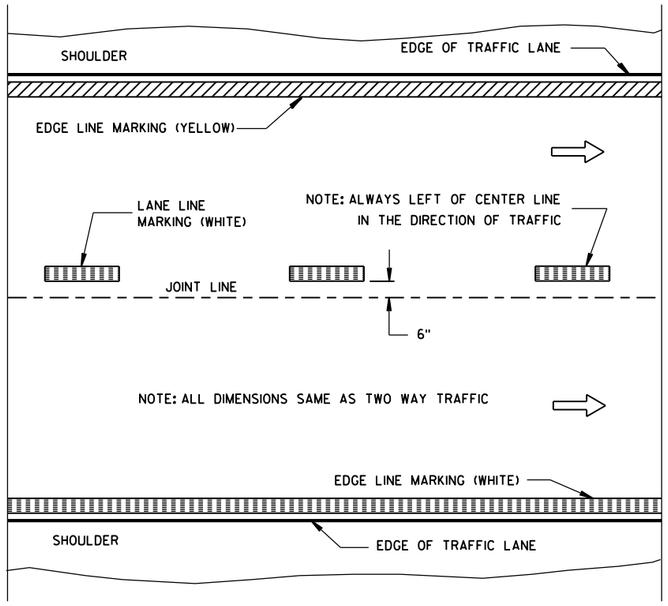
S.D.D. 15 C 4-3

6

S.D.D. 15 C 4-3

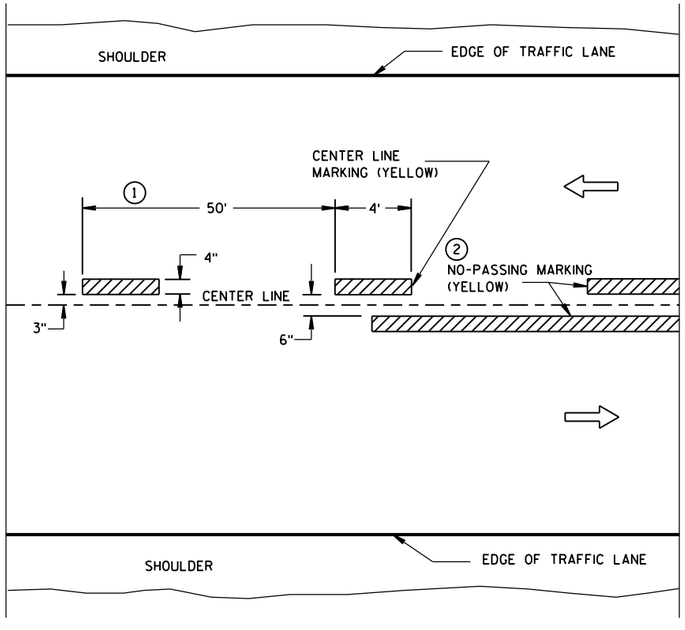


TWO WAY TRAFFIC

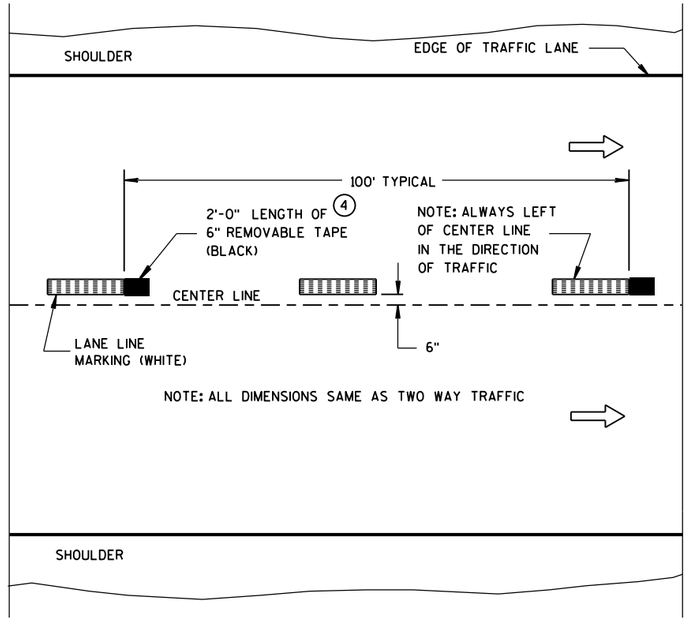


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

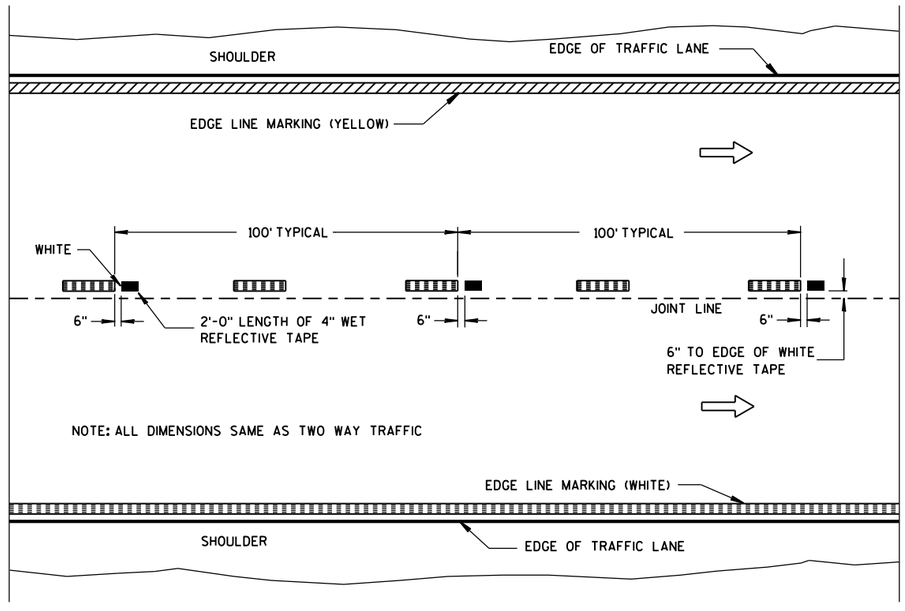
GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



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

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 15 C 8-16a

6

S.D.D. 15 C 8-16a

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA

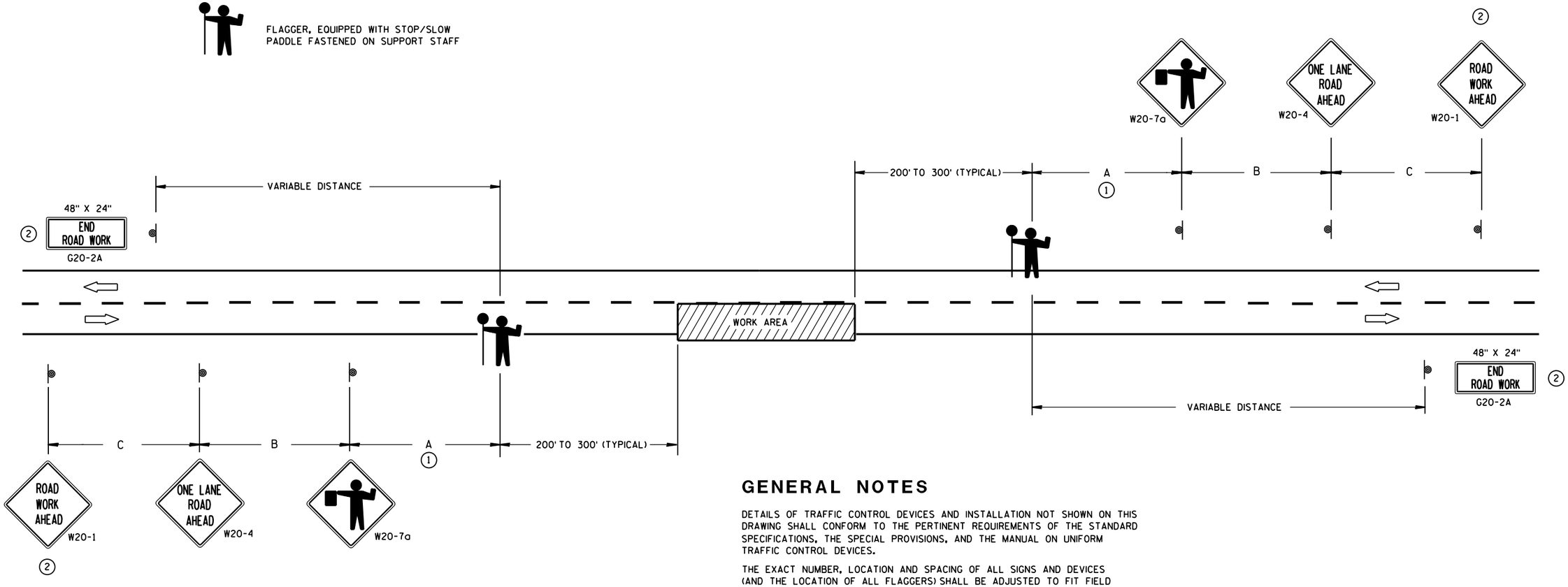
FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN SPACING TABLE

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

W3-4

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



(1) FOR A MOVING WORK OPERATION,
SIGNING FOR BOTH DIRECTIONS SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

GENERAL NOTES

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

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

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

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

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

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

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 15 C 12-4

6

S.D.D. 15 C 12-4

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov