

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4811-00-72	WISC2026146	1

# STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

## C FOND DU LAC, STOW STREET

DE NEVEU CREEK BRIDGE

LOC STR

FOND DU LAC COUNTY

STATE PROJECT NUMBER  
**4811-00-72**

**ORDER OF SHEETS**

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

TOTAL SHEETS = 84



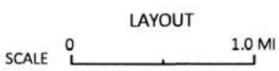
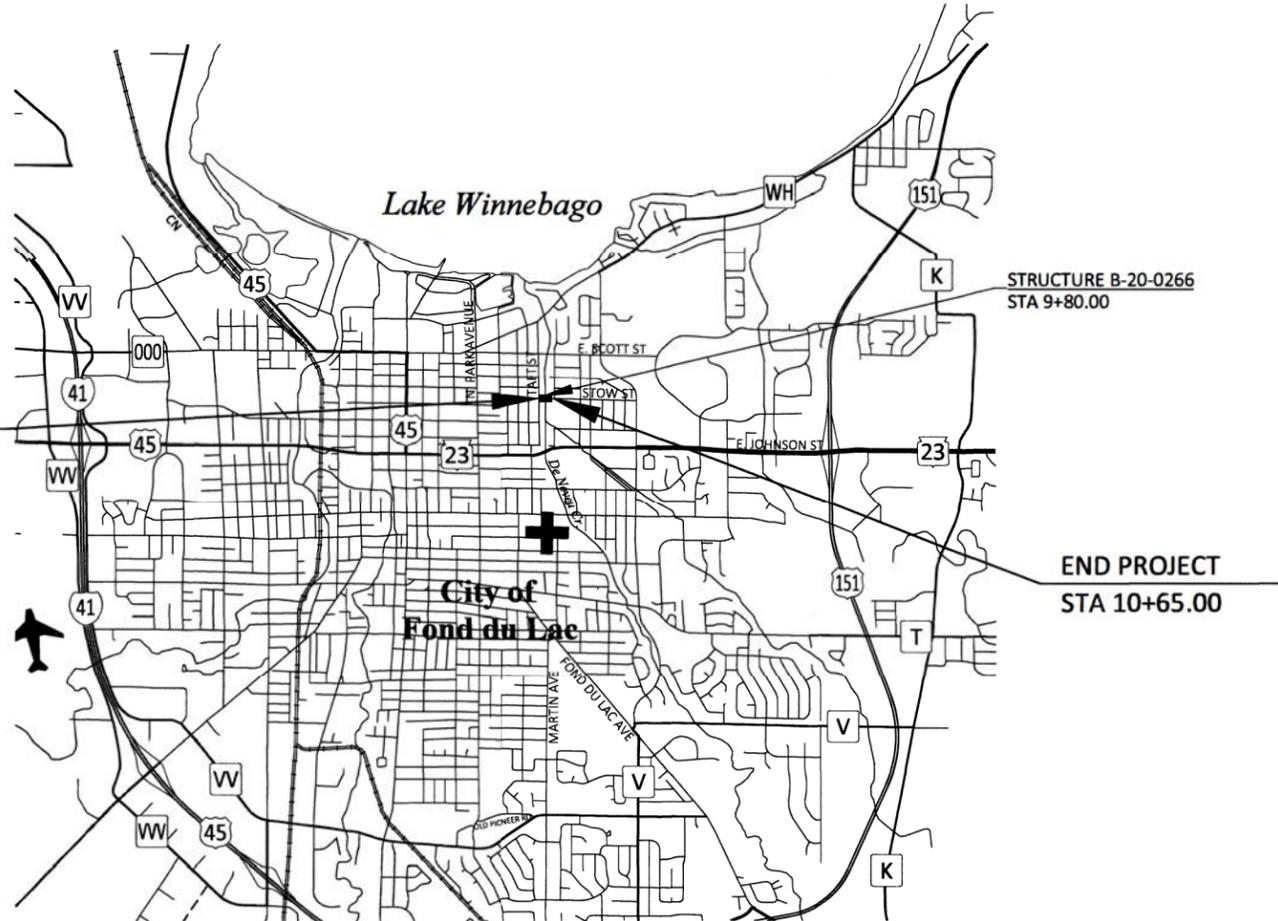
**DESIGN DESIGNATION**

A.A.D.T.	2026	=	1970
A.A.D.T.	2046	=	2400
D.H.V.		=	272
D.D.		=	60/40
T.		=	7.0%
DESIGN SPEED		=	30 MPH
ESALS		=	310,000 (HMA)

**CONVENTIONAL SYMBOLS**

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

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



TOTAL NET LENGTH OF CENTERLINE = 0.034 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), FOND DU LAC COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES.

ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 18.

ACCEPTED FOR  
 CITY OF FOND DU LAC  
 Date: 7/16/25  
 PAUL DE VRIES  
 DIRECTOR OF PUBLIC WORKS

ORIGINAL PLANS PREPARED BY  
**GREMMER & ASSOCIATES, INC.**  
 CONSULTING ENGINEERS



DATE: 7/15/2025  
 ANDREW KLEMP, PE

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

PREPARED BY: GREMMER & ASSOCIATES, INC.  
 Designer: GREMMER & ASSOCIATES, INC.  
 Project Manager: KATIE SCHWARTZ  
 Regional Examiner: NORTHEAST REGION  
 Regional Supervisor: KIMBERLY SLEZAK

APPROVED FOR THE DEPARTMENT  
 DATE: 7/18/2025  
 (Signature)

**E**

PROJECT D: 4811-00-72

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COUNTY: FOND DU LAC

GENERAL NOTES

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

A VERTICAL SAW CUT SHALL BE MADE THROUGH EXISTING DRIVEWAYS, SIDEWALKS AND PAVEMENTS AT THE REMOVAL LIMITS.

A BUTT JOINT SHALL BE PROVIDED AT ALL LOCATIONS WHERE NEW PAVEMENT MATCHES EXISTING PAVEMENT.

SAWCUT LOCATIONS SHOWN ON THE PLANS ARE SUBJECT TO ADJUSTMENT BY THE ENGINEER IN THE FIELD.

THE EXACT LOCATION AND WIDTH OF DRIVEWAYS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD. DRIVEWAYS SHALL BE REPLACED IN KIND UNLESS DIRECTED BY THE ENGINEER OR AS SHOWN IN THE PLANS.

NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER AND THE CITY OF FOND DU LAC ENGINEER.

TOPSOIL, FERTILIZER, SEED AND EROSION MAT AS SHOWN IN PLANS OR AS DIRECTED BY THE ENGINEER SHALL BE PLACED ON ALL DISTURBED AREAS, EXCLUSIVE OF THE AREA OCCUPIED BY THE NEW PAVEMENTS, SIDEWALKS, ENTRANCES, AND RELATED STRUCTURES.

SECTIONS AS SHOWN ON THE CROSS-SECTIONS INCLUDE THE THICKNESS OF TOPSOIL WHERE REQUIRED.

CONTRACTOR SHALL VERIFY EXISTING PIPE SIZES, MATERIALS AND INVERT ELEVATIONS WHEN CONNECTING NEW STORM SEWER INTO EXISTING PIPES PRIOR TO MANUFACTURING INLETS AND MANHOLES.

EROSION CONTROL ITEMS SHOWN ARE APPROXIMATE, THE EXACT LOCATION SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THAT THE MEASURE IS NO LONGER NECESSARY. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING EROSION CONTROL MEASURE AS DIRECTED BY THE ENGINEER.

CONTRACTOR SHALL ENSURE A VERTICAL FACE WHERE HMA PAVING ABUTS HMA PAVEMENT CONSTRUCTED IN PREVIOUS PROJECT STAGES.

PLACE 4.5" ASPHALTIC SURFACE IN TWO LAYERS OF THE FOLLOWING THICKNESSES: UPPER LAYER THICKNESS = 2.0" NOMINAL GRADATION SIZE = 12.5 MM LOWER LAYER THICKNESS = 2.5 " NOMINAL GRADATION SIZE = 19.0 MM

HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LBS/SY-INCH. TACK COAT APPLICATION RATE BASED ON 0.050 GAL/SY.

DO NOT DRIVE OR STORE EQUIPMENT, OR STORE CONSTRUCTION MATERIALS IN ENVIRONMENTALLY SENSITIVE AREAS, WETLANDS, FLOODPLAINS, OR WATERWAYS.

ABBREVIATIONS

Table with 2 columns: Abbreviation and Full Name. Includes terms like A.A.D.T., A.D.T., AE, AEW, AGG, ASPH, BAD, BM, CAB, CC, CE, C/L, CONC, CMCP, CMP, D, Δ, D.H.V., E, EL, ELEV, ESALS, EXC, FE, F/L, FL, HT, INTER, INV, L, LHF, MP, NC, NOM, NOR, NORM, PAVT, PC, PCC, PE, PI, P.L, PLE, PT, R, R/L, R/W, RC, RCP, REQ'D, RO, SALV, SDD, SE, SEG, SHLD, S/L, T, T, TEMP, TER, TLE, TYP, V, VAR, VC, VCL, VPC, VPI, VPRC, VPT.

DESIGN CONTACT

GREMMER & ASSOCIATES, INC. 93 SOUTH PIONEER ROAD, SUITE 300 FOND DU LAC, WI 54935 ATTN: ANDREW KLEMP, PE PHONE: (920) 924-5720 EMAIL: a.klemp@gremmerassociates.com

DNR AREA LIAISON

WISCONSIN DEPT. OF NATURAL RESOURCES OSHKOSH SERVICE CENTER 625 E. COUNTY ROAD Y, STE 700 OSHKOSH, WI 54901-9731 ATTN: MARTY DILLENBURG PHONE: (920) 410-7428 EMAIL: marty.dillenburg@wisconsin.gov

WISDOT CONTACT

WISCONSIN DEPARTMENT OF TRANSPORTATION NORTHEAST REGION 944 VANDERPERREN WAY GREEN BAY, WI 54304 ATTN: KATIE SCHWARTZ PHONE: (920) 492-5652 EMAIL: katiea.schwartz@dot.wi.gov

CITY OF FOND DU LAC CONTACT

CITY OF FOND DU LAC 160 SOUTH MACY STREET P.O. BOX 150 FOND DU LAC, WI 54936 ATTN: CHRIS JOHNSON, CITY ENGINEER PHONE: (920) 322-3449 EMAIL: cjohnson@fdl.wi.gov

ORDER OF SECTION 2 SHEETS

- GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
REMOVAL PLAN
PLAN DETAILS
EROSION CONTROL PLAN
STORM SEWER LAYOUT
TRAFFIC CONTROL
PEDESTRIAN DETOUR

UTILITIES

COMMUNICATIONS AT&T WISCONSIN 70 EAST DIVISION STREET FOND DU LAC, WI 54935 ATTN: CHARLES BARTELT PHONE: (920) 929-1013 MOBILE: (920) 410-5104 EMAIL: cb1461@att.com

COMMUNICATIONS

SPECTRUM 165 KNIGHTS WAY FOND DU LAC, WI 54935 ATTN: TODD HILDEBRANDT PHONE: (920) 794-4946 EMAIL: todd.hildebrandt@charter.com

COMMUNICATIONS

FOND DU LAC SCHOOL DISTRICT 72 W. NINTH STREET FOND DU LAC, WI 54935 ATTN: NATHANIEL GROVES PHONE: (920)929-2900 EMAIL: grovesn@fonddulac.k12.wi.us

ELECTRIC & GAS

ALLIANT ENERGY CORPORATION 883 WEST SCOTT STREET FOND DU LAC, WI 54937 ATTN: BILL BASTIAN PHONE: (920) 322-6719 EMAIL: williambastian@alliantenergy.com

WATER

CITY OF FOND DU LAC 109 NORTH MACY STREET FOND DU LAC, WI 54935 ATTN: Tony Tofari PHONE: (920) 322-3692 EMAIL: ttofari@fdl.wi.gov

SEWER

CITY OF FOND DU LAC 160 SOUTH MACY STREET P.O. BOX 150 FOND DU LAC, WI 54935-0150 ATTN: CHRISTOPHER JOHNSON PHONE: (920) 322-3449 EMAIL: cjohnson@fdl.wi.gov



RUNOFF COEFFICIENT TABLE

Table with columns for Land Use, Slope Range (Percent), and Hydrologic Soil Group (A, B, C, D). Rows include Land Use, Row Crops, Median Strip-Turf, Side Slope-Turf, Pavement (Asphalt, Concrete, Brick, Drives/Walks, Roofs, Gravel Roads/Shoulders).

TOTAL PROJECT AREA = 0.391 ACRES

TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.226 ACRES



**BEGIN PROJECT**  
**STA 8+85.00**  
 Y=389469.164  
 X=820933.130

**END PROJECT**  
**STA 10+65.00**  
 Y=389467.055  
 X=821113.117

**STRUCTURE B-20-0266**  
**STA 9+80.00**

**BENCH MARKS**

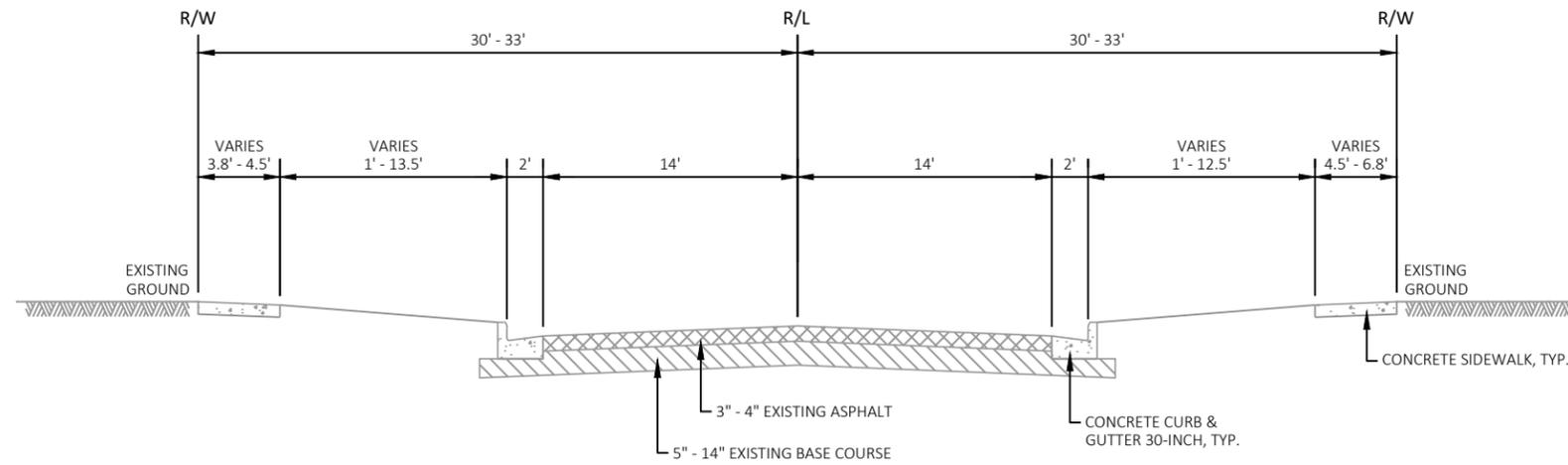
BM	DESCRIPTION	ELEVATION
A	ARROW ON FLANGE OF HYDRANT, SOUTHEAST CORNER OF STOW ST. AND TAFT ST.	754.63
B	NORTHEAST BOLT (TAG BOLT) ON FLANGE OF HYDRANT, NORTHEAST CORNER OF STOW ST. AND WETTSTEIN AVE.	755.99

\*\*VERTICAL DATUM REFERENCED TO NAVD 88 (2012).

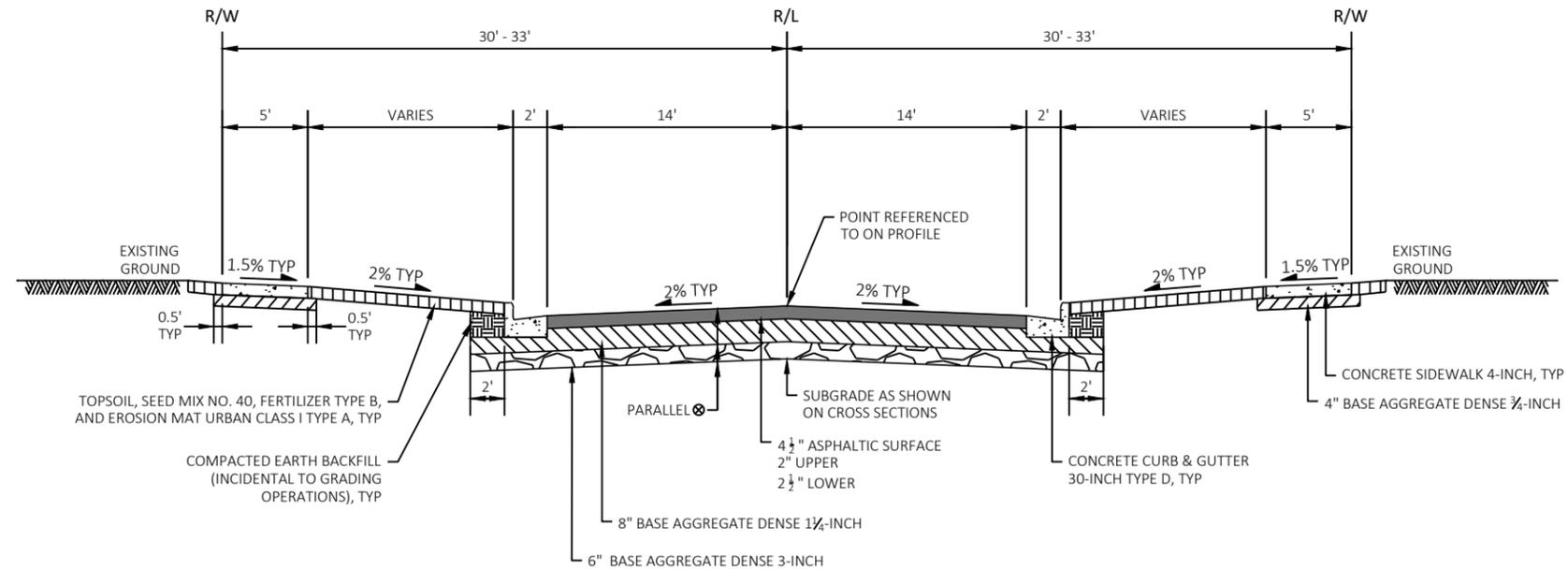
NOTE: DO NOT UTILIZE BM LIST FROM CITY OF FOND DU LAC. CITY LIST IS INCORRECT AND DIFFERS FROM THIS PROJECT TABLE.

**CONTROL POINT TABLE**

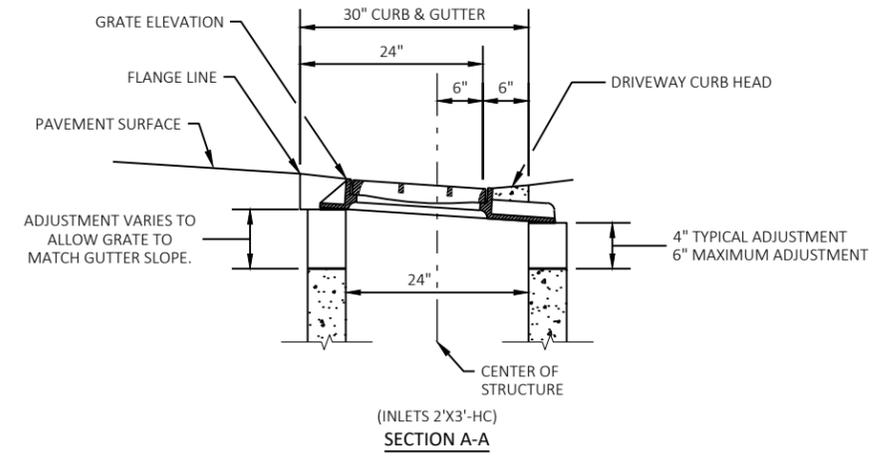
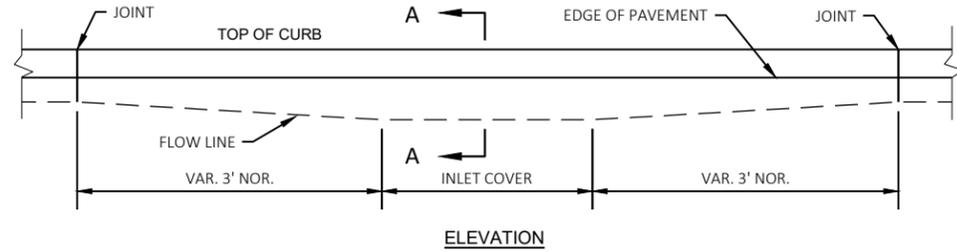
CP	DESCRIPTION	NORTHING	EASTING	ELEVATION
1	1" IRON PIPE WITH RED CAP,	821065.738	389338.242	752.76
2	1" IRON PIPE WITH RED CAP,	821064.463	389558.715	753.94
3	MAG NAIL IN SIDEWALK JOINT,	821238.09	389432.418	754.71



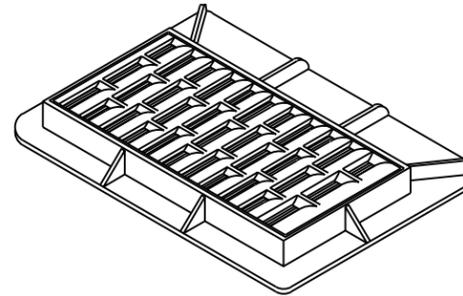
**TYPICAL EXISTING SECTION**  
 STOW STREET  
 STA 8+85.00 - STA 9+56.20  
 STA 10+02.90 - STA 10+65.00



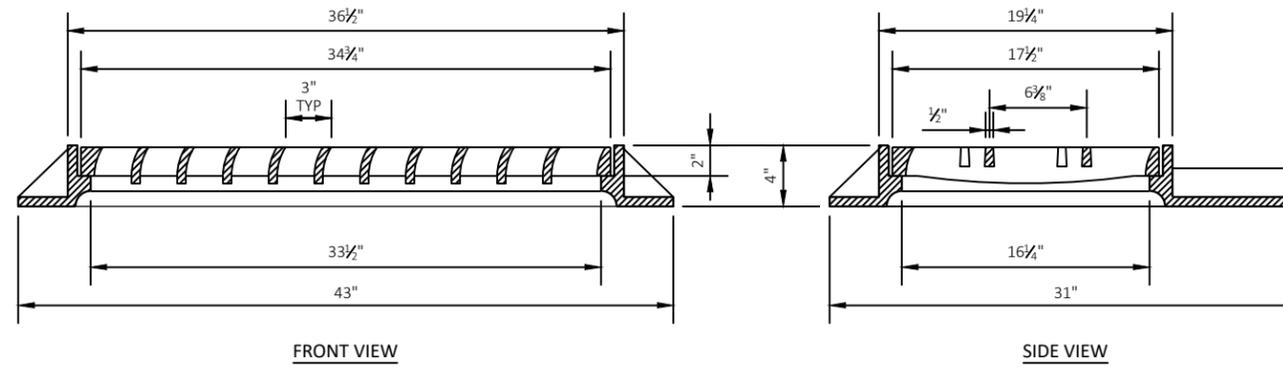
**TYPICAL FINISHED SECTION**  
 STOW STREET  
 STA 8+85.00 - STA 9+53.75  
 STA 10+06.25 - STA 10+65.00



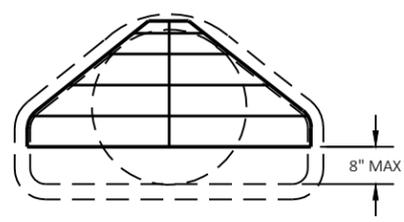
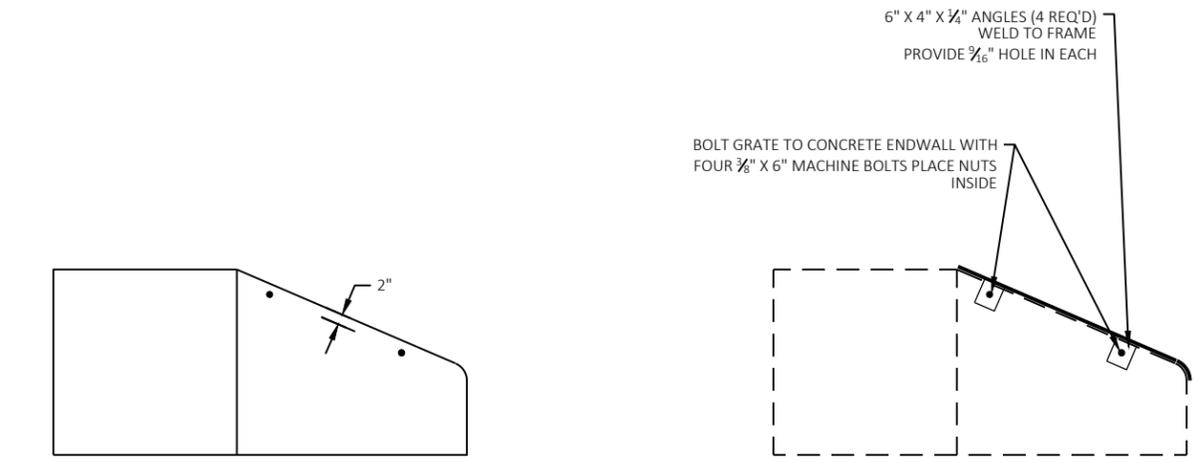
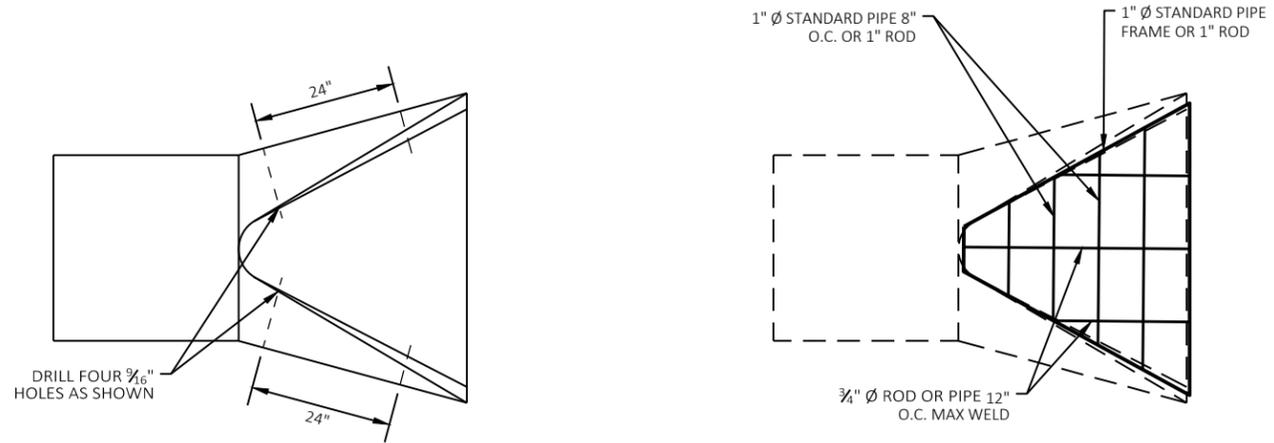
CURB AND GUTTER DETAIL AT INLETS



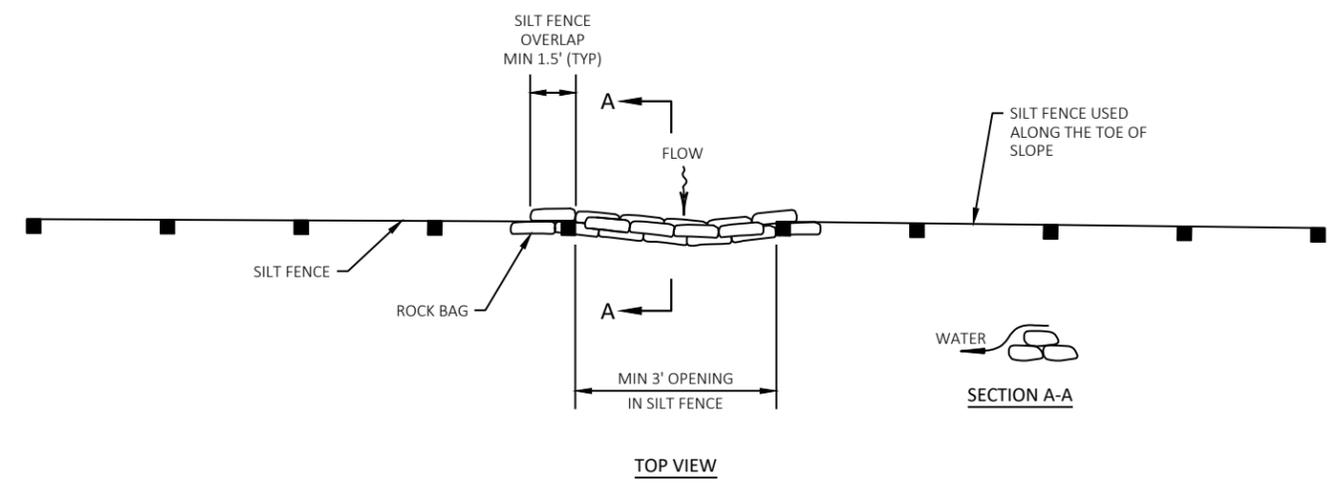
ISOMETRIC VIEW



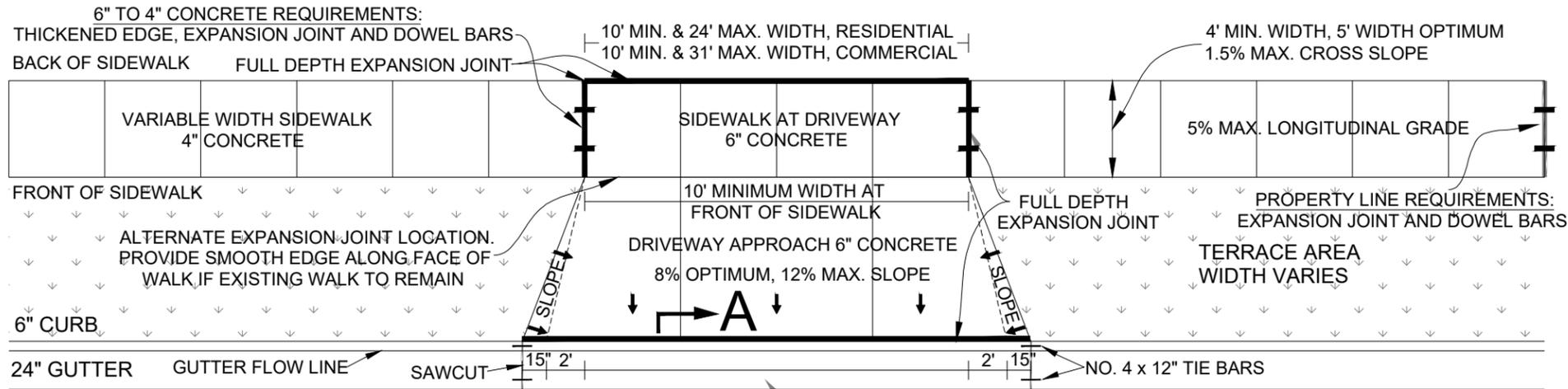
INLET COVER TYPE HC



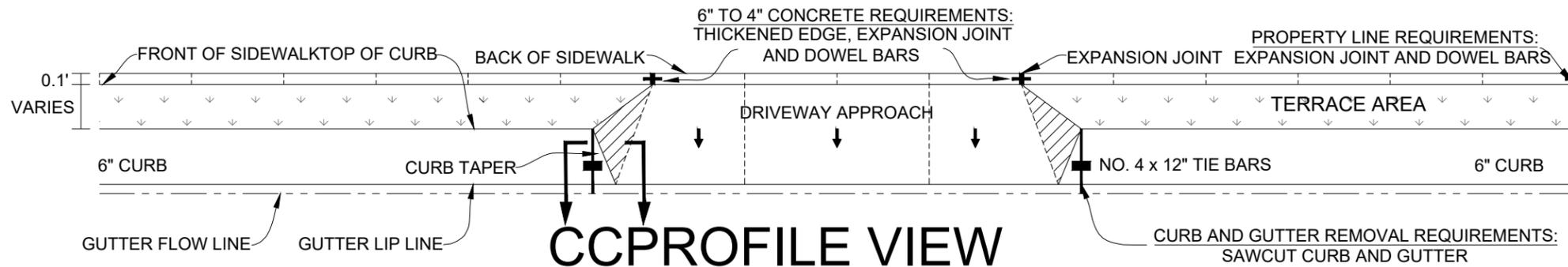
PIPE GRATE DETAIL



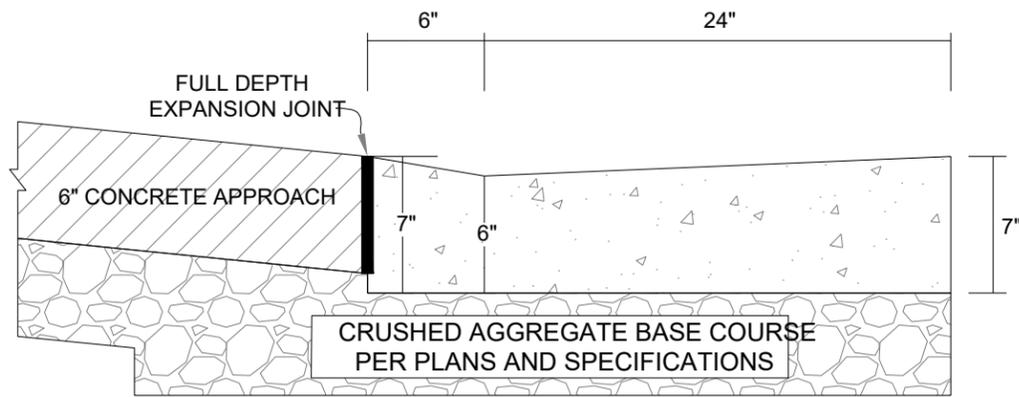
ROCK BAGS USED FOR SILT FENCE RELIEF DETAIL



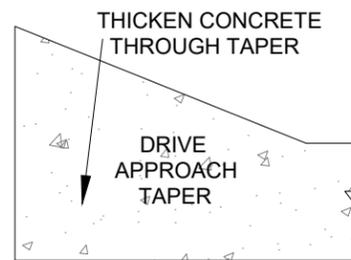
PLAN VIEW



CC PROFILE VIEW



SECTION A -A



SECTION C -C

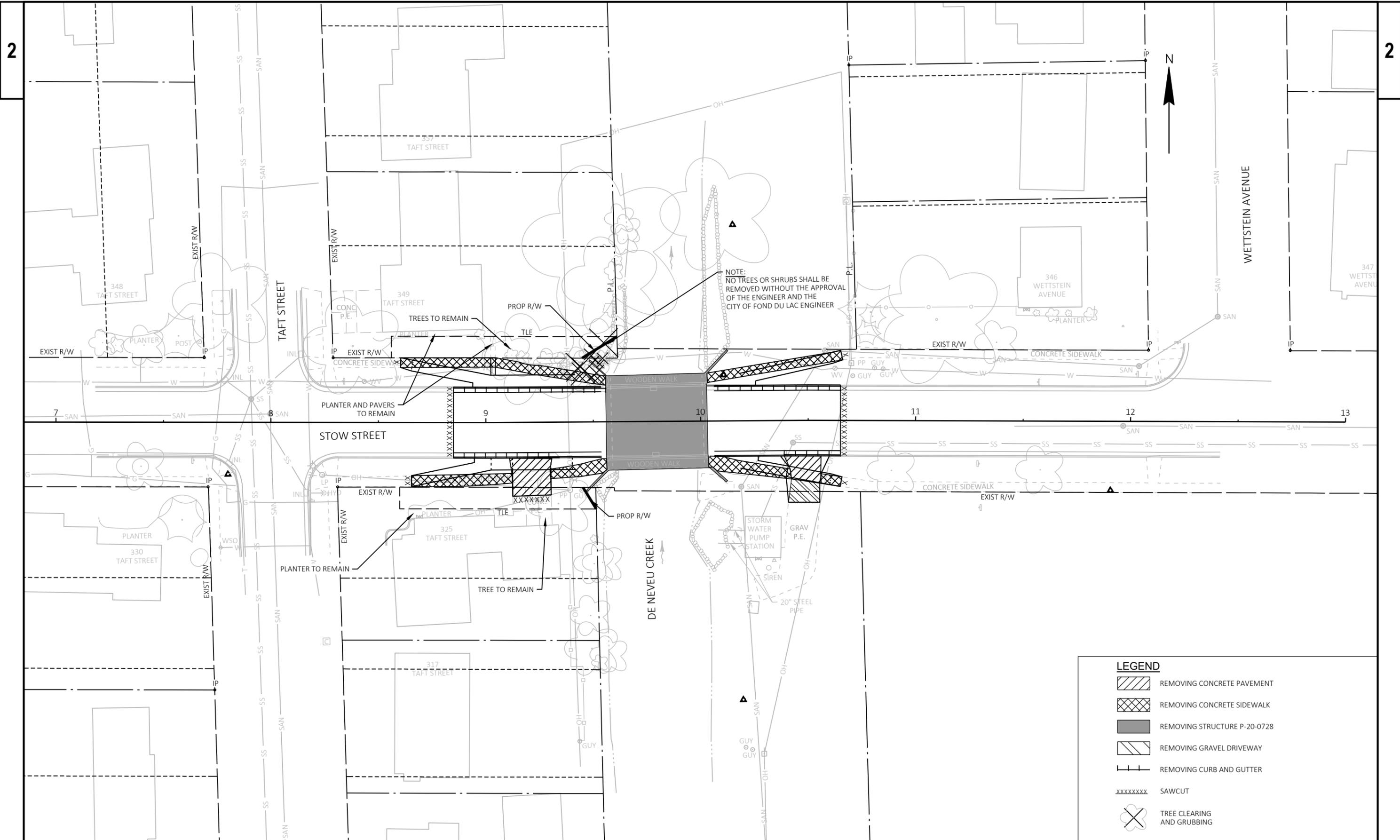
# TYPICAL DRIVE APPROACH: GRASS TERRACE



DEPARTMENT OF PUBLIC WORKS  
ENGINEERING AND TRAFFIC DIVISION  
CITY OF FOND DU LAC, WISCONSIN

- NOTES:**
- TIE BARS ARE REQUIRED IN THE CURB AND GUTTER AT LOCATIONS WHERE NEW CURB AND GUTTER WILL CONNECT TO EXISTING.
  - EXISTING CURB AND GUTTER TO BE SAWCUT AND REMOVED FOR THE ENTIRE LENGTH OF THE PROPOSED DRIVEWAY AND REPLACED AS SHOWN IN SECTION A-A.
  - A PROFILE SAWCUT OF THE EXISTING CURB HEAD MAY BE PERFORMED WHEN APPROVED BY CITY. SAWCUT AS SHOWN IN SECTION A-A USING APPROVED EQUIPMENT.
  - WHEN SPOT REPLACING SIDEWALK, OR CONNECTING TO EXISTING SIDEWALK, INSTALL NO. 4 TIE BARS, 12" IN LENGTH, INTO BOTH SIDES OF EXISTING WALK 18" FROM THE FRONT AND BACK OF WALK.
  - NO. 4 DOWEL BARS, 12" IN LENGTH, TO BE INSTALLED AT EXPANSION JOINTS. BARS ONLY REQUIRED WHERE NEW CONCRETE ABUTS EXISTING CONCRETE.
  - DOWEL BARS SHALL BE ANCHORED INTO DRILLED HOLES WITH AN APPROVED EPOXY GROUT.
  - THE FREE END OF DOWEL BARS SHALL RECEIVE A THIN UNIFORM COATING OF BOND BREAKER.
  - ALL TIE BARS AND DOWEL BARS SHALL BE EPOXY COATED.
  - EXPANSION JOINT FILLER SHALL BE - REFLEX RUBBER EXPANSION JOINT BY THE J D RUSSELL COMPANY. (EXPANSION JOINT FILLER SHALL BE INCIDENTAL TO CONCRETE SIDEWALK AND DRIVEWAY ITEMS)

REVISED 03/05/2024 BY MJC  
J:\CITYDWG\Civil 3D Drawings\DTL\City SDDs\6-A-(1-2-3-4-5) Drive Approach Details.pdf



2

2



PROJECT NO: 4811-00-72      HWY: STOW STREET      COUNTY: FOND DU LAC      REMOVALS PLAN      SHEET      E

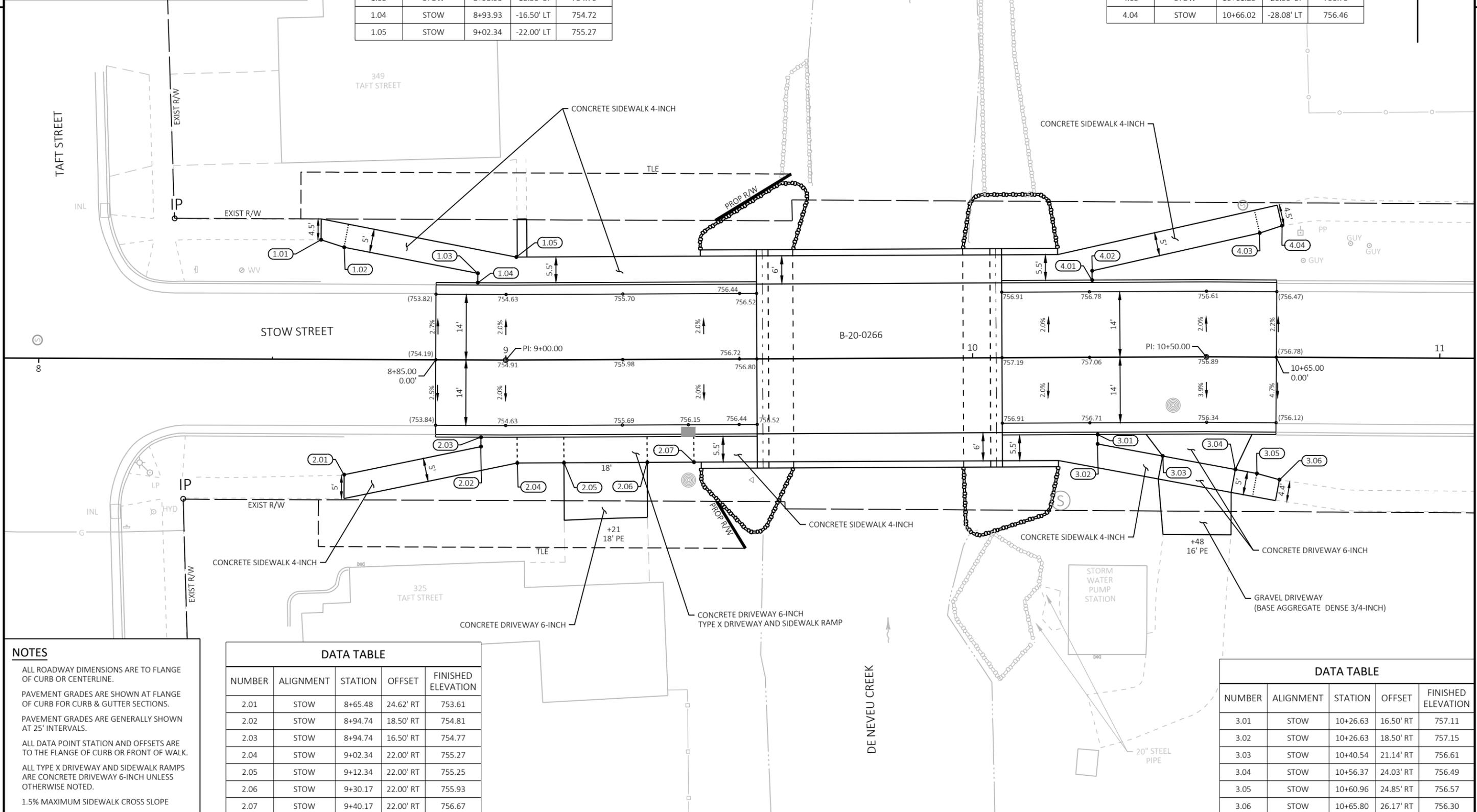
FILE NAME : S:\CURRPRO\FONDDUCO\FOND DU LAC, CITY OF\STOW STREET BRIDGE\CIVIL3D\48110071\SHEETS\48110072-021101-RM.DWG      PLOT DATE : 6/26/2025 10:48 AM      PLOT BY : KEITH LUECK      PLOT NAME :      PLOT SCALE : 1 IN:40 FT      WISDOT/CADD SHEET 42

LAYOUT NAME - Sheet-01

STOW STREET LANE SLOPE TABLE		
STATION	LEFT LANE SLOPE	RIGHT LANE SLOPE
8+85.00	-2.70%	-2.70%
9+00.00	-2.00%	-2.00%
10+16.25	-2.00%	-2.00%
10+50.00	-3.90%	-2.00%
10+65.00	-4.70%	-2.20%

DATA TABLE				
NUMBER	ALIGNMENT	STATION	OFFSET	FINISHED ELEVATION
1.01	STOW	8+60.36	-25.53' LT	753.53
1.02	STOW	8+65.27	-23.97' LT	753.59
1.03	STOW	8+93.93	-18.50' LT	754.76
1.04	STOW	8+93.93	-16.50' LT	754.72
1.05	STOW	9+02.34	-22.00' LT	755.27

DATA TABLE				
NUMBER	ALIGNMENT	STATION	OFFSET	FINISHED ELEVATION
4.01	STOW	10+25.63	-16.50' LT	757.20
4.02	STOW	10+25.63	-18.50' LT	757.24
4.03	STOW	10+61.25	-26.50' LT	756.75
4.04	STOW	10+66.02	-28.08' LT	756.46



**NOTES**

ALL ROADWAY DIMENSIONS ARE TO FLANGE OF CURB OR CENTERLINE.

PAVEMENT GRADES ARE SHOWN AT FLANGE OF CURB FOR CURB & GUTTER SECTIONS.

PAVEMENT GRADES ARE GENERALLY SHOWN AT 25' INTERVALS.

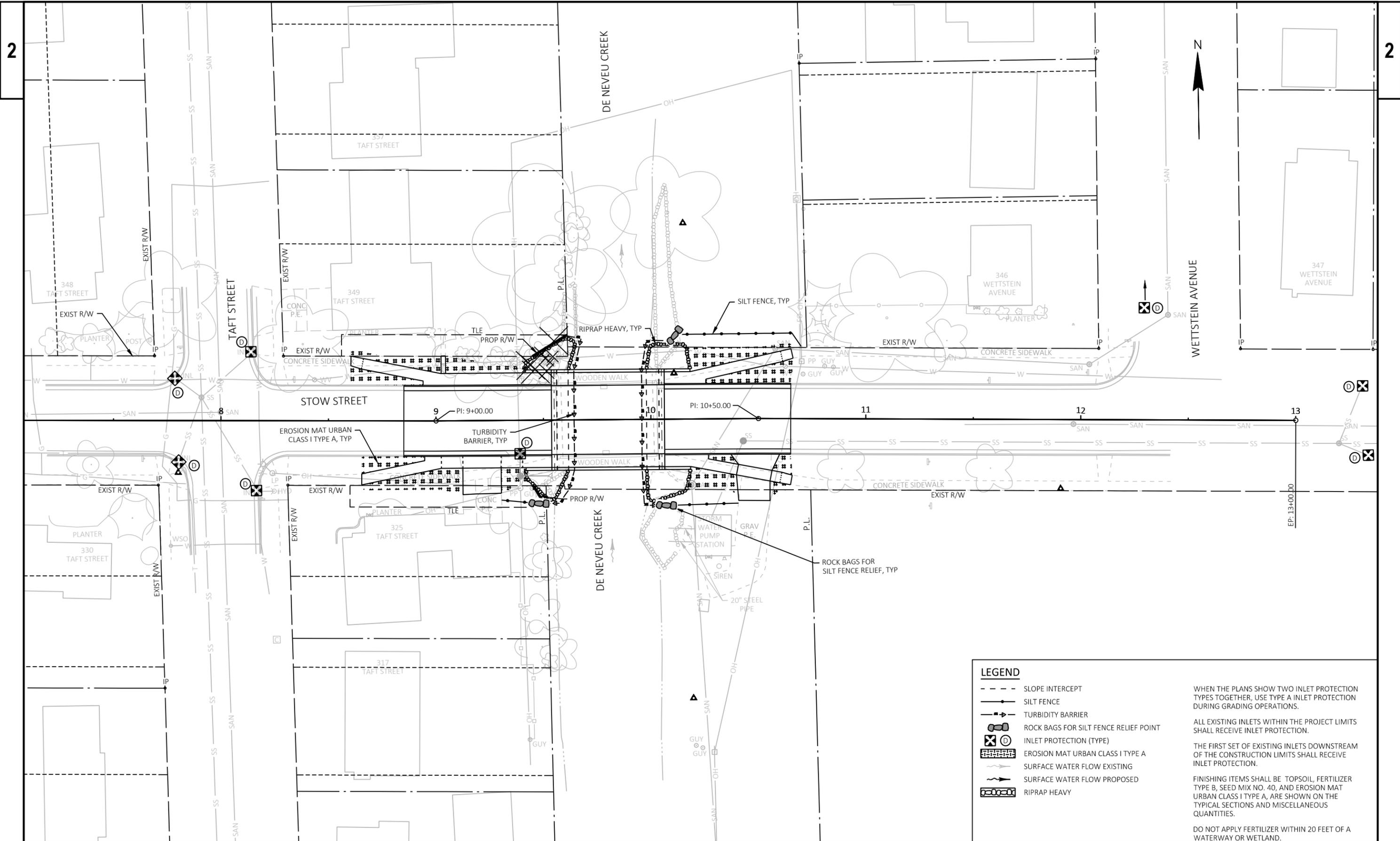
ALL DATA POINT STATION AND OFFSETS ARE TO THE FLANGE OF CURB OR FRONT OF WALK.

ALL TYPE X DRIVEWAY AND SIDEWALK RAMP ARE CONCRETE DRIVEWAY 6-INCH UNLESS OTHERWISE NOTED.

1.5% MAXIMUM SIDEWALK CROSS SLOPE

DATA TABLE				
NUMBER	ALIGNMENT	STATION	OFFSET	FINISHED ELEVATION
2.01	STOW	8+65.48	24.62' RT	753.61
2.02	STOW	8+94.74	18.50' RT	754.81
2.03	STOW	8+94.74	16.50' RT	754.77
2.04	STOW	9+02.34	22.00' RT	755.27
2.05	STOW	9+12.34	22.00' RT	755.25
2.06	STOW	9+30.17	22.00' RT	755.93
2.07	STOW	9+40.17	22.00' RT	756.67

DATA TABLE				
NUMBER	ALIGNMENT	STATION	OFFSET	FINISHED ELEVATION
3.01	STOW	10+26.63	16.50' RT	757.11
3.02	STOW	10+26.63	18.50' RT	757.15
3.03	STOW	10+40.54	21.14' RT	756.61
3.04	STOW	10+56.37	24.03' RT	756.49
3.05	STOW	10+60.96	24.85' RT	756.57
3.06	STOW	10+65.80	26.17' RT	756.30



**LEGEND**

- SLOPE INTERCEPT
- SILT FENCE
- ▶— TURBIDITY BARRIER
- ⊗ⓍⓁⓂ INLET PROTECTION (TYPE)
- ▨ EROSION MAT URBAN CLASS I TYPE A
- SURFACE WATER FLOW EXISTING
- SURFACE WATER FLOW PROPOSED
- ▨ RIPRAP HEAVY

WHEN THE PLANS SHOW TWO INLET PROTECTION TYPES TOGETHER, USE TYPE A INLET PROTECTION DURING GRADING OPERATIONS.

ALL EXISTING INLETS WITHIN THE PROJECT LIMITS SHALL RECEIVE INLET PROTECTION.

THE FIRST SET OF EXISTING INLETS DOWNSTREAM OF THE CONSTRUCTION LIMITS SHALL RECEIVE INLET PROTECTION.

FINISHING ITEMS SHALL BE TOPSOIL, FERTILIZER TYPE B, SEED MIX NO. 40, AND EROSION MAT URBAN CLASS I TYPE A, ARE SHOWN ON THE TYPICAL SECTIONS AND MISCELLANEOUS QUANTITIES.

DO NOT APPLY FERTILIZER WITHIN 20 FEET OF A WATERWAY OR WETLAND.

PROJECT NO: 4811-00-72

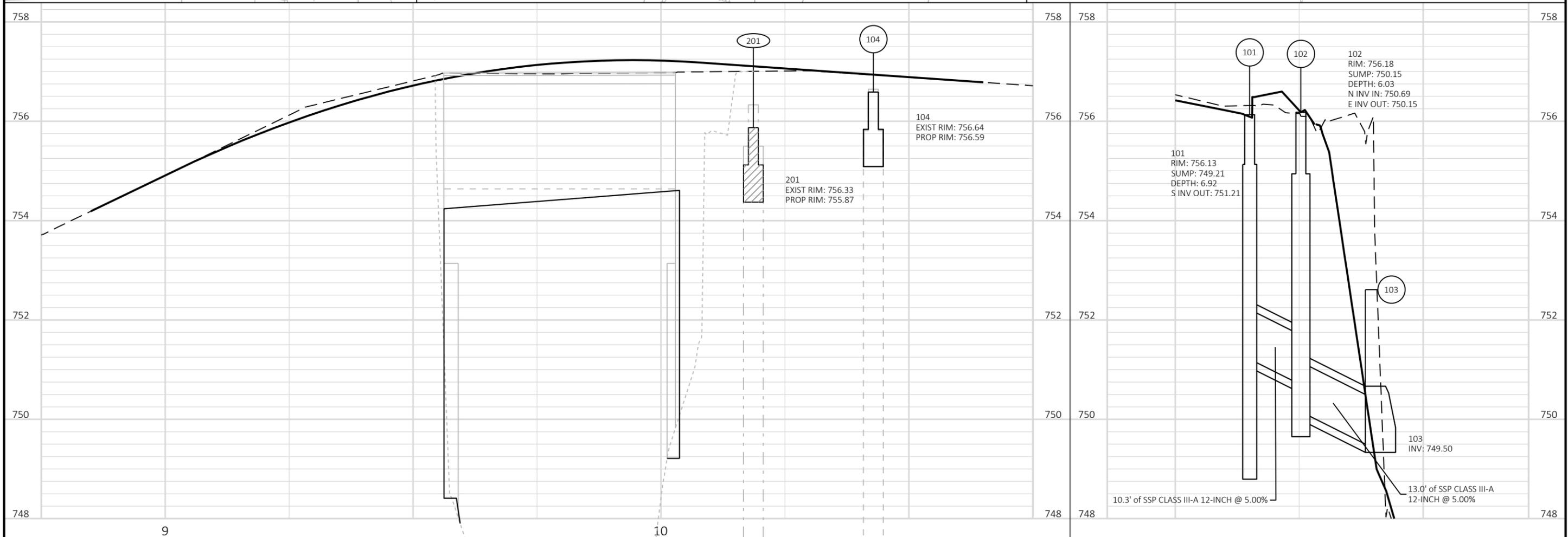
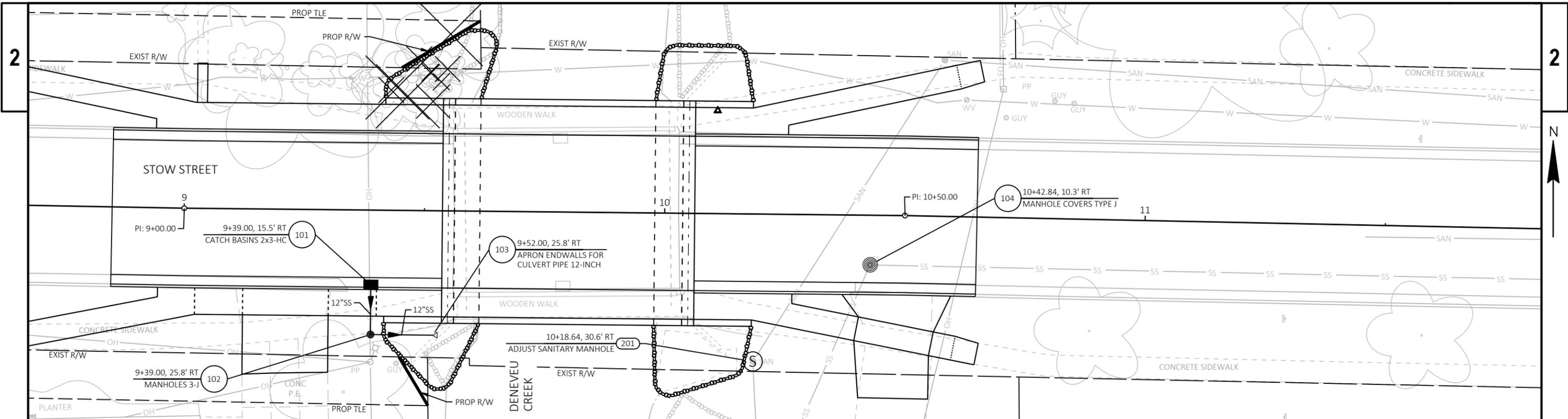
HWY: STOW STREET

COUNTY: FOND DU LAC

EROSION CONTROL PLAN

SHEET

E



PROJECT NO: 4811-00-72      HWY: STOW STREET      COUNTY: FOND DU LAC      STORM SEWER LAYOUT      SHEET      E

LEGEND

-  TYPE III BARRICADE WITH SIGN
-  PORTABLE CHANGEABLE MESSAGE BOARD
-  WORK AREA
-  PLACE TRAFFIC CONTROL SIGNS PER "DETAIL C" IN SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"
-  PLACE TRAFFIC CONTROL SIGNS PER "DETAIL D" IN SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"
-  PLACE TRAFFIC CONTROL SIGNS PER "DETAIL 2" IN SDD "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES"

GENERAL NOTES

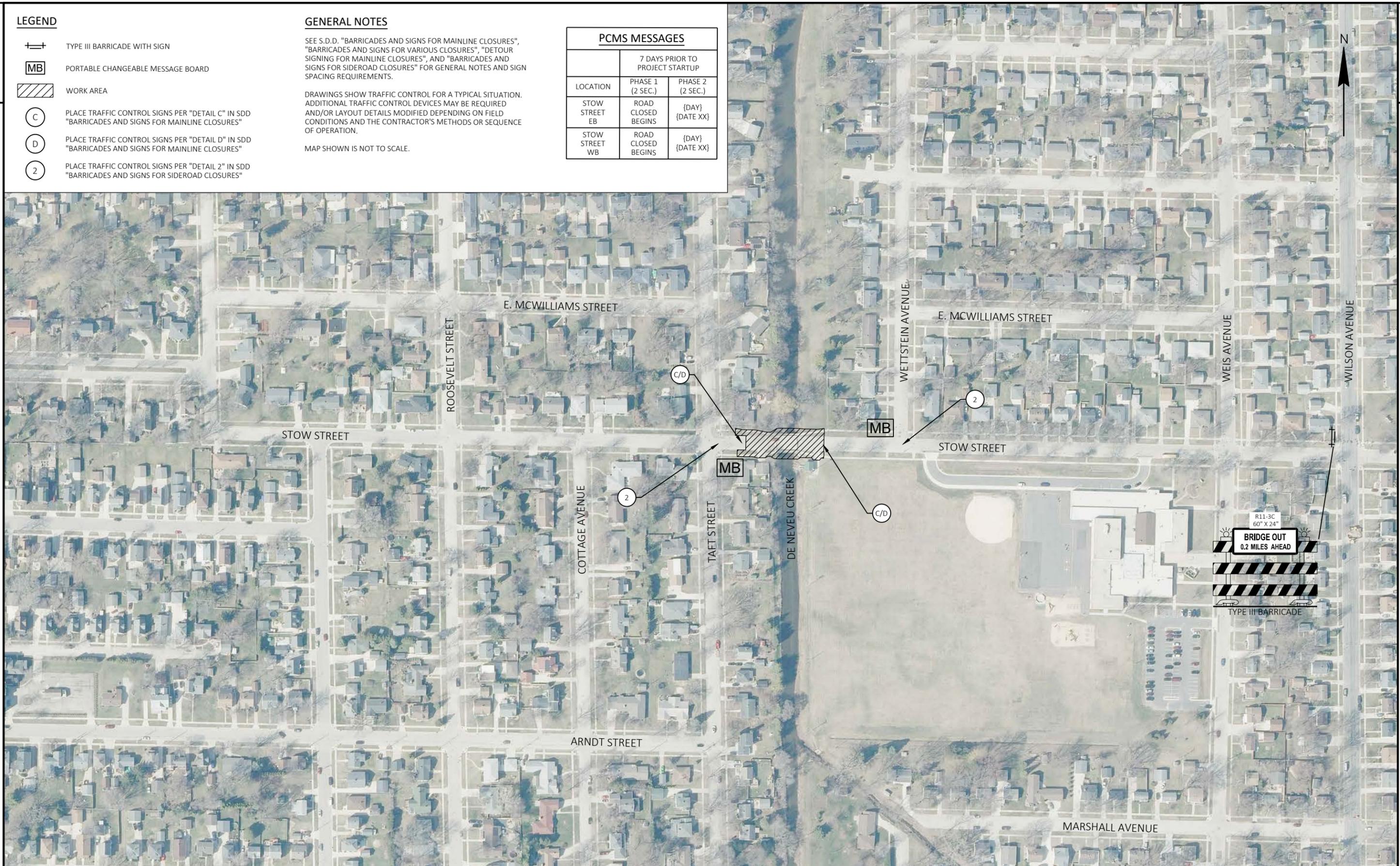
SEE S.D.D. "BARRICADES AND SIGNS FOR MAINLINE CLOSURES", "BARRICADES AND SIGNS FOR VARIOUS CLOSURES", "DETOUR SIGNING FOR MAINLINE CLOSURES", AND "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES" FOR GENERAL NOTES AND SIGN SPACING REQUIREMENTS.

DRAWINGS SHOW TRAFFIC CONTROL FOR A TYPICAL SITUATION. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON FIELD CONDITIONS AND THE CONTRACTOR'S METHODS OR SEQUENCE OF OPERATION.

MAP SHOWN IS NOT TO SCALE.

PCMS MESSAGES

7 DAYS PRIOR TO PROJECT STARTUP		
LOCATION	PHASE 1 (2 SEC.)	PHASE 2 (2 SEC.)
STOW STREET EB	ROAD CLOSED BEGINS	{DAY} {DATE XX}
STOW STREET WB	ROAD CLOSED BEGINS	{DAY} {DATE XX}



PROJECT NO: 4811-00-72

HWY: STOW STREET

COUNTY: FOND DU LAC

TRAFFIC CONTROL

SHEET

E



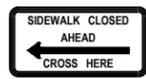
**LEGEND**

- SIGN LOCATION
- SIGN ON TEMPORARY SUPPORT AND ONE WARNING LIGHT TYPE A
- PROPOSED DETOUR ROUTE
- WORK AREA



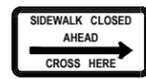
R9-9  
24"x12"

1



R9-11L  
24"x12"

2



R9-11R  
24"x12"

3



M4-9B  
30"x24"

4



M4-9BL  
30"x24"

5



M4-9BR  
30"x24"

6

**GENERAL NOTES - PEDESTRIAN ACCOMMODATIONS**

REFER TO SDD "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION" FOR DETAILS.

POST MOUNTED SIGNS LOCATED NEAR OR ADJACENT TO THE SIDEWALK SHALL HAVE A 7-FT MINIMUM CLEARANCE FROM THE BOTTOM OF THE SIGN TO THE EXISTING OR NEW SIDEWALK.

DRAWINGS SHOW TRAFFIC CONTROL FOR A TYPICAL SITUATION. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON FIELD CONDITIONS AND THE CONTRACTOR'S METHODS OR SEQUENCE OF OPERATION.

Estimate Of Quantities

4811-00-72

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	1.000	1.000
0004	201.0205	Grubbing	STA	1.000	1.000
0006	203.0250	Removing Structure Over Waterway Remove Debris (structure) 01. P-20-728	EACH	1.000	1.000
0008	204.0100	Removing Concrete Pavement	SY	55.000	55.000
0010	204.0150	Removing Curb & Gutter	LF	210.000	210.000
0012	204.0155	Removing Concrete Sidewalk	SY	150.000	150.000
0014	205.0100	Excavation Common	CY	360.000	360.000
0016	206.1001	Excavation for Structures Bridges (structure) 01. B-20-266	EACH	1.000	1.000
0018	210.1500	Backfill Structure Type A	TON	260.000	260.000
0020	213.0100	Finishing Roadway (project) 01. 4811-00-72	EACH	1.000	1.000
0022	305.0110	Base Aggregate Dense 3/4-Inch	TON	41.000	41.000
0024	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	240.000	240.000
0026	305.0130	Base Aggregate Dense 3-Inch	TON	357.000	357.000
0028	416.0610	Drilled Tie Bars	EACH	20.000	20.000
0030	455.0605	Tack Coat	GAL	21.000	21.000
0032	465.0105	Asphaltic Surface	TON	105.000	105.000
0034	502.0100	Concrete Masonry Bridges	CY	329.000	329.000
0036	502.3200	Protective Surface Treatment	SY	261.000	261.000
0038	502.3210	Pigmented Surface Sealer	SY	46.000	46.000
0040	505.0400	Bar Steel Reinforcement HS Structures	LB	6,180.000	6,180.000
0042	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	41,470.000	41,470.000
0044	513.7031	Railing Steel Type C6	LF	151.000	151.000
0046	516.0500	Rubberized Membrane Waterproofing	SY	24.000	24.000
0048	517.1015.S	Concrete Staining Multi-Color (structure) 01. B-20-266	SF	592.000	592.000
0050	517.1050.S	Architectural Surface Treatment (structure) 01. B-20-266	SF	592.000	592.000
0052	520.1012	Apron Endwalls for Culvert Pipe 12-Inch	EACH	1.000	1.000
0054	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	1,760.000	1,760.000
0056	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	260.000	260.000
0058	602.0405	Concrete Sidewalk 4-Inch	SF	1,090.000	1,090.000
0060	602.0810	Concrete Driveway 6-Inch	SY	70.000	70.000
0062	606.0300	Riprap Heavy	CY	132.000	132.000
0064	608.3012	Storm Sewer Pipe Class III-A 12-Inch	LF	23.000	23.000
0066	611.0530	Manhole Covers Type J	EACH	2.000	2.000
0068	611.1230	Catch Basins 2x3-FT	EACH	1.000	1.000
0070	611.2003	Manholes 3-FT Diameter	EACH	1.000	1.000
0072	611.9850.S	Pipe Grates (size) 01. 12-Inch	EACH	1.000	1.000
0074	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	204.000	204.000
0076	618.0100	Maintenance and Repair of Haul Roads (project) 01. 4811-00-72	EACH	1.000	1.000
0078	619.1000	Mobilization	EACH	1.000	1.000
0080	624.0100	Water	MGAL	9.000	9.000
0082	625.0100	Topsoil	SY	540.000	540.000
0084	628.1504	Silt Fence	LF	140.000	140.000
0086	628.1520	Silt Fence Maintenance	LF	140.000	140.000
0088	628.1905	Mobilizations Erosion Control	EACH	6.000	6.000
0090	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0092	628.2006	Erosion Mat Urban Class I Type A	SY	540.000	540.000
0094	628.6005	Turbidity Barriers	SY	175.000	175.000
0096	628.7020	Inlet Protection Type D	EACH	10.000	10.000
0098	628.7560	Tracking Pads	EACH	2.000	2.000

Estimate Of Quantities

4811-00-72

Line	Item	Item Description	Unit	Total	Qty
0100	628.7570	Rock Bags	EACH	65.000	65.000
0102	629.0210	Fertilizer Type B	CWT	0.500	0.500
0104	630.0140	Seeding Mixture No. 40	LB	25.000	25.000
0106	630.0500	Seed Water	MGAL	12.000	12.000
0108	642.5001	Field Office Type B	EACH	1.000	1.000
0110	643.0300	Traffic Control Drums	DAY	1,850.000	1,850.000
0112	643.0420	Traffic Control Barricades Type III	DAY	1,332.000	1,332.000
0114	643.0705	Traffic Control Warning Lights Type A	DAY	1,776.000	1,776.000
0116	643.0900	Traffic Control Signs	DAY	1,998.000	1,998.000
0118	643.1050	Traffic Control Signs PCMS	DAY	28.000	28.000
0120	643.5000	Traffic Control	EACH	1.000	1.000
0122	644.1810	Temporary Pedestrian Barricade	LF	20.000	20.000
0124	645.0111	Geotextile Type DF Schedule A	SY	108.000	108.000
0126	645.0120	Geotextile Type HR	SY	167.000	167.000
0128	650.4000	Construction Staking Storm Sewer	EACH	3.000	3.000
0130	650.4500	Construction Staking Subgrade	LF	128.000	128.000
0132	650.5000	Construction Staking Base	LF	128.000	128.000
0134	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	260.000	260.000
0136	650.6501	Construction Staking Structure Layout (structure) 01. B-20-266	EACH	1.000	1.000
0138	650.9500	Construction Staking Sidewalk (project) 01. 4811-00-72	EACH	1.000	1.000
0140	650.9911	Construction Staking Supplemental Control (project) 01. 4811-00-72	EACH	1.000	1.000
0142	650.9920	Construction Staking Slope Stakes	LF	128.000	128.000
0144	652.0125	Conduit Rigid Metallic 2-Inch	LF	24.000	24.000
0146	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	131.000	131.000
0148	690.0150	Sawing Asphalt	LF	58.000	58.000
0150	690.0250	Sawing Concrete	LF	46.000	46.000
0152	715.0502	Incentive Strength Concrete Structures	DOL	1,974.000	1,974.000
0154	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. STA 9+80	EACH	1.000	1.000
0156	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	300.000	300.000
0158	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	600.000	600.000
0160	SPV.0060	Special 01. Adjusting Sanitary Sewer Manholes	EACH	1.000	1.000
0162	SPV.0060	Special 02. Inlet Covers Type HC	EACH	1.000	1.000

3

**CLEARING AND GRUBBING ITEMS**

STATION - STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
CATEGORY CODE 0010			
9+00 - 10+00		1	1
<b>TOTALS</b>		<b>1</b>	<b>1</b>

**REMOVING ITEMS**

STATION - STATION	LOCATION	204.0100 REMOVING CONCRETE PAVEMENT SY	204.0150 REMOVING CURB & GUTTER LF	204.0155 REMOVING CONCRETE SIDEWALK SY
CATEGORY CODE 0010				
8+60 - 9+56	LT/RT	35	120	91
10+02 - 10+65	LT/RT	20	90	59
<b>TOTALS</b>		<b>55</b>	<b>210</b>	<b>150</b>

3

**BASE AGGREGATE DENSE AND WATER ITEMS**

STATION - STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	305.0130 BASE AGGREGATE DENSE 3-INCH TON	624.0100 WATER MGAL
CATEGORY CODE 0010					
8+60 - 9+54	LT/RT	21	145	111	4
10+06 - 10+65	LT/RT	20	95	119	3
UNDISTRIBUTED	--	--	--	127	2
<b>TOTALS</b>		<b>41</b>	<b>240</b>	<b>357</b>	<b>9</b>

BASE AGGREGATE DENSE 3/4-INCH WEIGHT CALCULATIONS BASED ON 2.1 TONS/CY.  
 BASE AGGREGATE DENSE 1 1/4-INCH WEIGHT CALCULATIONS BASED ON 2.0 TONS/CY.  
 BASE AGGREGATE DENSE 3-INCH WEIGHT CALCULATIONS BASED ON 2.2 TONS/CY.

**DRILLED TIE BARS**

STATION - STATION	LOCATION	416.0610 EACH	COMMENTS
CATEGORY CODE 0010			
8+85	LT/RT	6	CURB & GUTTER
10+65	LT/RT	6	CURB & GUTTER
8+60	LT	2	SIDEWALK
8+65	RT	2	SIDEWALK
10+65	LT/RT	4	SIDEWALK
<b>TOTAL</b>		<b>20</b>	

**ASPHALTIC ITEMS**

STATION - STATION	LOCATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
CATEGORY CODE 0010			
8+85 - 9+54	LT/RT	11	57
10+06 - 10+65	LT/RT	10	48
<b>TOTALS</b>		<b>21</b>	<b>105</b>

HMA PAVEMENT WEIGHT CALCULATIONS BASED ON 112 LB/SY/IN.  
 TACK COAT CALCULATIONS BASED ON 0.050 GAL/SY

DIVISION	FROM/TO STATION	LOCATION	205.0100 COMMON EXCAVATION (1)		SALVAGED/UNUSABLE PAVEMENT MATERIAL (4)	AVAILABLE MATERIAL (5)	UNEXPANDED FILL	EXPANDED FILL (13)	MASS ORDINATE +/- (14)	WASTE
			CUT (2)	EBS EXCAVATION (3)				FACTOR 1.30		
CATEGORY 0010										
DIVISION 1										
STOW STREET (WEST)	08+60.361/09+53.75	LT/RT	164	31	45	119	5	7	113	113
	DIVISION 1 SUBTOTAL		164	31	45	119	5	7	113	113
DIVISION 2										
STOW STREET (EAST)	10+06.25/10+65	LT/RT	139	26	40	99	5	7	93	93
	DIVISION 2 SUBTOTAL		139	26	40	99	5	7	93	93
GRAND TOTAL			303	57	85	218	10	13	205	205
TOTAL EXCAVATION COMMON			360							

**NOTES:**  
 (1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100  
 (2) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.  
 (3) EBS EXCAVATION TO BE BACKFILLED WITH BASE AGGREGATE DENSE 3-INCH.  
 (4) SALVAGED/UNUSABLE PAVEMENT MATERIAL  
 (5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL  
 (6) NOT USED  
 (7) NOT USED  
 (8) NOT USED  
 (9) NOT USED  
 (10) NOT USED  
 (11) NOT USED  
 (12) NOT USED  
 (13) EXPANDED FILL FACTOR = 1.30. EXPANDED FILL = UNEXPANDED FILL \* FILL FACTOR  
 (14) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.  
 (15) FACTORS USED TO COMPUTE ANTICIPATED WASTE AND THE COMPUTED WASTE VOLUME IDENTIFIED ARE FOR GENERAL INFORMATION ONLY.

3

**CONCRETE CURB AND GUTTER ITEMS**

STATION - STATION	LOCATION	601.0411	650.5500
		CONCRETE CURB & GUTTER 30-INCH TYPE D	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER
		LF	LF
CATEGORY CODE 0010			
8+85 - 9+54	LT/RT	140	140
10+06 - 10+65	LT/RT	120	120
<b>TOTALS</b>		<b>260</b>	<b>260</b>

**CONCRETE SIDEWALK 4-INCH**

STATION - STATION	LOCATION	602.0405
		SF
CATEGORY CODE 0010		
8+60 - 9+42	LT	459
8+65 - 9+03	RT	209
10+18 - 10+66	LT	253
10+18 - 10+41	RT	122
10+55 - 10+66	RT	47
<b>TOTAL</b>		<b>1,090</b>

**CONCRETE DRIVEWAY 6-INCH**

STATION	LOCATION	602.0810
		SY
CATEGORY CODE 0010		
9+21	RT	48
10+48	RT	22
<b>TOTAL</b>		<b>70</b>

3

**STORM SEWER PIPE CLASS III-A 12-INCH**

FROM - TO	LOCATION	608.3012
		LF
CATEGORY CODE 0010		
101 - 102	STOW	10
102 - 103	STOW	13
<b>TOTALS</b>		<b>23</b>

**STORM SEWER STRUCTURES**

STRUCTURE	STATION	OFFSET*	LOCATION	520.1012	611.0530	611.1230	611.2003	611.9850.S.01	650.4000	SPV.0060.02
				APRON ENDWALLS FOR CULVERT PIPE 12-INCH EACH	MANHOLE COVERS TYPE J EACH	CATCH BASINS 2X3-FT EACH	MANHOLES 3-FT DIAMETER EACH	PIPE GRATES 12-INCH EACH	CONSTRUCTION STAKING STORM SEWER EACH	INLET COVERS TYPE HC EACH
CATEGORY CODE 0010										
101	9+39.00	15.50' RT	STOW	--	--	1	--	--	1	1
102	9+39.00	25.83' RT	STOW	--	1	--	1	--	1	--
103	9+52.00	25.83' RT	STOW	1	--	--	--	1	1	--
104	10+42.84	10.32' RT	STOW	--	1	--	--	--	--	--
<b>TOTALS</b>				<b>1</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>1</b>

REMARKS:  
\*STATIONS AND OFFSETS ARE TO CENTER OF STRUCTURE

3

**RESTORATION ITEMS**

STATION - STATION	LOCATION	625.0100	628.2006	629.0210	630.0140	630.0500
		TOPSOIL	EROSION MAT	FERTILIZER	SEEDING	SEED
		URBAN CLASS I	TYPE A	TYPE B	MIXTURE	WATER
		SY	SY	CWT	LB	MGAL
CATEGORY CODE 0010						
8+60 - 9+48	LT	127	127	0.1	6.0	3
8+65 - 9+52	RT	121	121	0.1	5.0	3
10+11 - 10+66	LT	113	113	0.1	5.0	3
10+11 - 10+66	RT	74	74	0.1	3.0	2
UNDISTRIBUTED		105	105	0.1	6.0	1
<b>TOTALS</b>		<b>540</b>	<b>540</b>	<b>0.50</b>	<b>25.0</b>	<b>12</b>

**EROSION CONTROL ITEMS**

STATION	LOCATION	628.1504	628.1520	628.1905	628.1910	628.6005	628.7020	628.7560	628.7570
		SILT	SILT	MOBILIZATIONS	MOBILIZATIONS	TURBIDITY	INLET	TRACKING	ROCK
		FENCE	FENCE	EROSION	EMERGENCY EROSION	BARRIERS	PROTECTION	PADS	BAGS
		LF	LF	EACH	EACH	SY	EACH	EACH	EACH
CATEGORY CODE 0010									
PROJECT 4811-00-72		--	--	6	3	--	--	2	--
7+78 - 9+65	LT/RT	17	17	--	--	71	5	--	17
9+96 - 10+70	LT/RT	94	94	--	--	70	3	--	34
UNDISTRIBUTED		29	29	--	--	34	2	--	14
<b>TOTALS</b>		<b>140</b>	<b>140</b>	<b>6</b>	<b>3</b>	<b>175</b>	<b>10</b>	<b>2</b>	<b>65</b>

3

**TRAFFIC CONTROL ITEMS**

LOCATION	NUMBER OF DAYS IN SERVICE	643.0300		643.0420		643.0705		643.0900		643.1050		643.5000	
		TRAFFIC CONTROL	DRUMS	TRAFFIC CONTROL	BARRICADES	TRAFFIC CONTROL	WARNING LIGHTS	TRAFFIC CONTROL	SIGNS	TRAFFIC CONTROL	SIGNS	TRAFFIC CONTROL	
		NO. REQ'D	TOTAL DAY	NO. REQ'D	TOTAL DAY	NO. REQ'D	TOTAL DAY	NO. REQ'D	TOTAL DAY	NO. REQ'D	NO. DAYS	TOTAL DAY	EACH
CATEGORY CODE 0010													
PROJECT 4811-00-72	74	25	1,850	18	1,332	24	1,776	27	1,998	2	14	28	1
<b>TOTALS</b>			<b>1,850</b>		<b>1,332</b>		<b>1,776</b>		<b>1,998</b>			<b>28</b>	<b>1</b>

**TEMPORARY PEDESTRIAN BARRICADE**

LOCATION	644.1810
CATEGORY CODE 0010	LF
PROJECT 4811-00-72	20.0
<b>TOTALS</b>	<b>20.0</b>

**CONSTRUCTION STAKING ITEMS**

STATION - STATION	LOCATION	650.4500	650.5000	650.6501	650.9500	650.9911	650.9920
		CONSTRUCTION STAKING SUBGRADE	CONSTRUCTION STAKING BASE	CONSTRUCTION STAKING STRUCTURE LAYOUT	CONSTRUCTION STAKING SIDEWALK	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL	CONSTRUCTION STAKING SLOPE STAKES
		LF	LF	EACH	EACH	EACH	LF
<b>CATEGORY CODE 0010</b>							
01. PROJECT 4811-00-72		--	--	--	1	1	--
8+85 - 9+54	LT/RT	69	69	--	--	--	69
10+06 - 10+65	LT/RT	59	59	--	--	--	59
<b>CATEGORY CODE 0010 SUBTOTALS</b>		<b>128</b>	<b>128</b>	<b>--</b>	<b>1</b>	<b>1</b>	<b>128</b>
<b>CATEGORY CODE 0020</b>							
B-20-0266		--	--	1	--	--	--
<b>CATEGORY CODE 0020 SUBTOTALS</b>		<b>--</b>	<b>--</b>	<b>1</b>	<b>--</b>	<b>--</b>	<b>--</b>
<b>TOTALS</b>		<b>128</b>	<b>128</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>128</b>

**SAWING PAVEMENT ITEMS**

STATION - STATION	LOCATION	690.0150	690.0250	COMMENTS
		SAWING ASPHALT LF	SAWING CONCRETE LF	
<b>CATEGORY CODE 0010</b>				
8+60	LT	--	4	SIDEWALK
8+65	RT	--	5	SIDEWALK
8+85	LT/RT	29	5	ROADWAY
9+21	RT	--	18	DRIVEWAY
10+65	LT/RT	29	5	ROADWAY
10+66	LT/RT	--	9	SIDEWALK
<b>TOTALS</b>		<b>58</b>	<b>46</b>	

**ADJUSTING SANITARY SEWER MANHOLES**

STATION	LOCATION	SPV.0060.01
		EACH
<b>CATEGORY CODE 0030</b>		
10+19	30' RT	1
<b>TOTALS</b>		<b>1</b>

**INSTALLING AND MAINTAINING BIRD DETERRENT SYSTEM**

STATION	999.2000.S.01
	EACH
<b>CATEGORY CODE 0010</b>	
9+80	1
<b>TOTAL</b>	<b>1</b>

R/W PROJECT NUMBER 4811-00-71	SHEET NUMBER 4.01	TOTAL SHEETS 4
FEDERAL PROJECT NUMBER	4.01	4
<b>PLAT OF RIGHT OF WAY REQUIRED FOR C FOND DU LAC, STOW STREET DE NEVEU CREEK BRIDGE</b>		
LOC STR	FOND DU LAC COUNTY	
CONSTRUCTION PROJECT NUMBER 4811-00-72		

CONVENTIONAL SYMBOLS	
SECTION LINE	---
QUARTER LINE	---
SIXTEENTH LINE	---
NEW REFERENCE LINE	---
NEW R/W LINE	---
EXISTING R/W OR HE LINE	---
PROPERTY LINE	---
LOT, TIE & OTHER MINOR LINES	---
SLOPE INTERCEPT	---
CORPORATE LIMITS	---
UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC)	---
NEW R/W (FEE OR HE) (HATCHING VARIES BY OWNER)	---
TEMPORARY LIMITED EASEMENT AREA	---
EASEMENT AREA (PERMANENT LIMITED OR RESTRICTED DEVELOPMENT)	---
TRANSMISSION STRUCTURES	---
BUILDING TO BE REMOVED	---
BRIDGE	---
CULVERT	---
SECTION CORNER SYMBOL	---
SECTION CORNER MONUMENT	---
GEODETIC SURVEY MONUMENT	---
SIXTEENTH CORNER MONUMENT	---
SIGN	---
OFF-PREMISE SIGN	---
ELECTRIC POLE	---
TELEPHONE POLE	---
PEDESTAL (LABEL TYPE) (TV, TEL, ELEC, ETC.)	---
ACCESS RESTRICTED BY ACQUISITION	---
NO ACCESS (BY STATUTORY AUTHORITY)	---
ACCESS RESTRICTED (BY PREVIOUS PROJECT OR CONTROL)	---
NO ACCESS (NEW HIGHWAY)	---
PARCEL NUMBER (25)	---
UTILITY NUMBER (40)	---
PARALLEL OFFSETS	---
R/W MONUMENT (TO BE SET)	---
NON-MONUMENTED R/W POINT	---
FOUND IRON PIN (1-INCH UNLESS NOTED)	---
COMPENSABLE	---
NON-COMPENSABLE	---

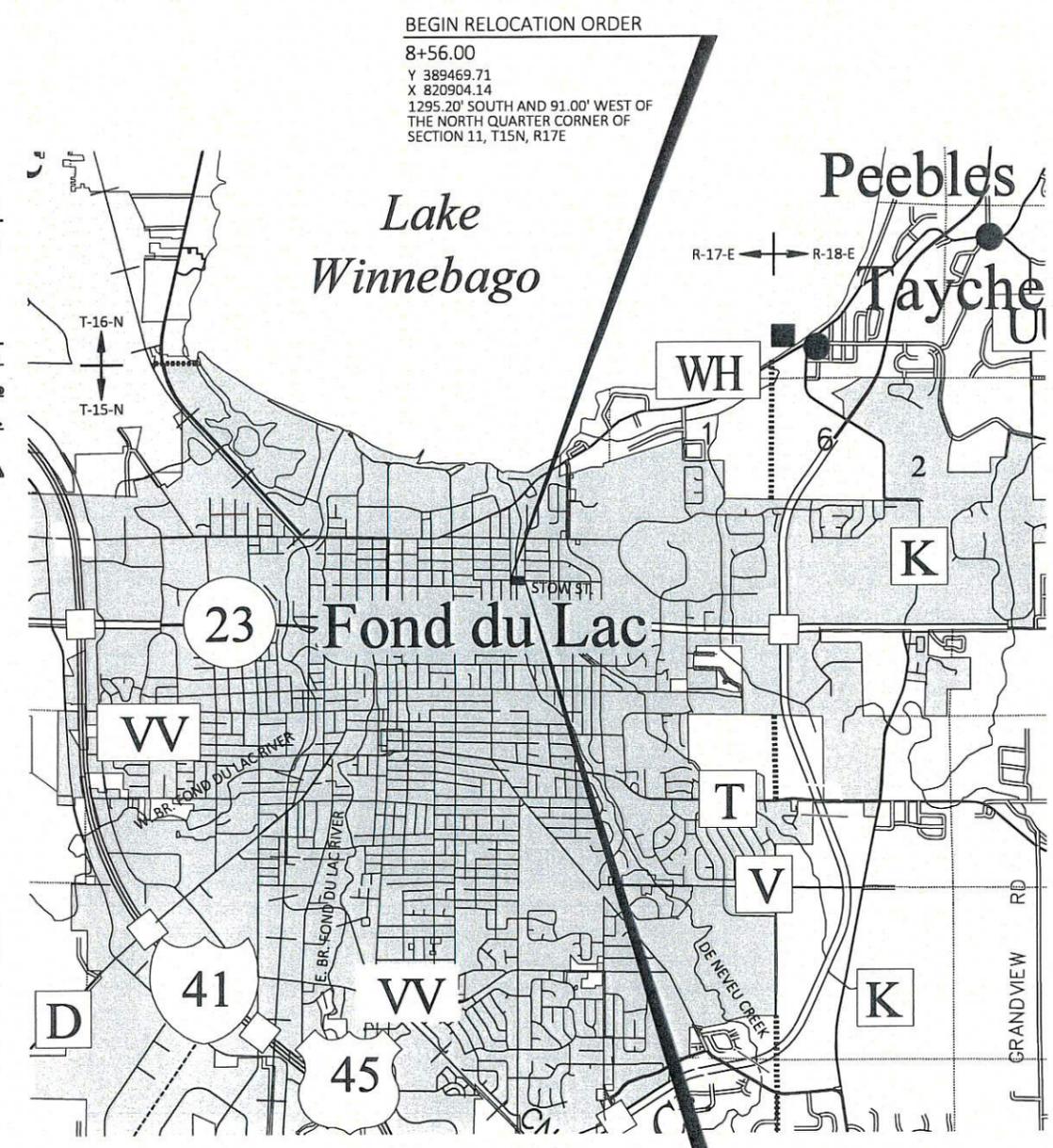
CONVENTIONAL UTILITY SYMBOLS	
WATER	---
GAS	---
TELEPHONE	---
OVERHEAD TRANSMISSION LINES	---
ELECTRIC	---
CABLE TELEVISION	---
FIBER OPTIC	---
SANITARY SEWER	---
STORM SEWER	---
ELECTRIC TOWER	---

CONVENTIONAL ABBREVIATIONS			
ACCESS RIGHTS	AR	POINT OF COMPOUND CURVE	PCC
ACRES	AC	POINT OF INTERSECTION	PI
AHEAD	AH	PROPERTY LINE	PL
ALUMINUM	ALUM	RECORDED AS (100')	(100')
AND OTHERS	ET AL	REEL / IMAGE	R/I
BACK	BK	REFERENCE LINE	R/L
BLOCK	BLK	REMAINING	REM
CENTERLINE	C/L	RESTRICTIVE DEVELOPMENT	RDE
CERTIFIED SURVEY MAP	CSM	EASEMENT	
CONCRETE	CONC	RIGHT	RT
COUNTY	CO	RIGHT OF WAY	R/W
COUNTY TRUNK HIGHWAY	CTH	SECTION	SEC
DISTANCE	DIST	SEPTIC VENT	SEPV
CORNER	COR	SQUARE FEET	SF
DOCUMENT NUMBER	DOC	STATE TRUNK HIGHWAY	STH
EASEMENT	EASE	STATION	STA
EXISTING	EX	TELEPHONE PEDESTAL	TP
GAS VALVE	GV	TEMPORARY LIMITED EASEMENT	TLE
GRID NORTH	GN		
HIGHWAY EASEMENT	HE	TRANSPORTATION PROJECT PLAT	TPP
IDENTIFICATION	ID	UNITED STATES HIGHWAY	USH
LAND CONTRACT	LC	VOLUME	V
LEFT	LT		
MONUMENT	MON		
NATIONAL GEODETIC SURVEY NUMBER	NGS		
OUTLOT	OL		
PAGE	P		
POINT OF TANGENCY	PT		
PERMANENT LIMITED EASEMENT	PLE		
POINT OF BEGINNING	POB		
POINT OF CURVATURE	PC		

CURVE DATA ABBREVIATIONS			
LONG CHORD	LCH		
LONG CHORD BEARING	LCB		
RADIUS	R		
DEGREE OF CURVE	D		
CENTRAL ANGLE	Δ/DELTA		
LENGTH OF CURVE	L		
TANGENT	T		
DIRECTION AHEAD	DA		
DIRECTION BACK	DB		



**BEGIN RELOCATION ORDER**  
 8+56.00  
 Y 389469.71  
 X 820904.14  
 1295.20' SOUTH AND 91.00' WEST OF  
 THE NORTH QUARTER CORNER OF  
 SECTION 11, T15N, R17E

**END RELOCATION ORDER**  
 9+61.50  
 Y 389468.26  
 X 821009.63  
 1296.65' SOUTH AND 14.49' EAST OF THE  
 NORTH QUARTER CORNER OF SECTION 11, T15N, R17E

LAYOUT  
 SCALE 0 1 MI.  
 TOTAL NET LENGTH OF CENTERLINE = 0.020 MI.

**NOTES:**

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), FOND DU LAC COUNTY, NAD83(2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY 1" X 24" IRON PIPES), UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

ALL RIGHT-OF-WAY LINES DEPICTED IN THE NON-ACQUISITION AREAS ARE INTENDED TO RE-ESTABLISH EXISTING RIGHT-OF-WAY LINES AS DETERMINED FROM PREVIOUS PROJECTS, OTHER RECORDED DOCUMENTS, CENTERLINE OF EXISTING PAVEMENTS AND/OR EXISTING OCCUPATIONAL LINES.

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

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

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

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

FOR THE CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN GREEN BAY.

PARCEL AND UTILITY IDENTIFICATION NUMBERS MAY NOT POINT TO ALL AREAS OF ACQUISITION, AS NOTED ON THE DETAIL PAGES.

INFORMATION FOR THE BASIS OF EXISTING HIGHWAY RIGHT-OF-WAY POINTS OF REFERENCE AND ACCESS CONTROL ARE LISTED ON THE DETAIL PAGES.

THIS PLAT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY. DEEDS MUST BE CHECKED TO DETERMINE PROPERTY BOUNDARIES AND ACCESS RIGHTS.

ACCEPTED FOR  
 CITY OF FOND DU LAC  
 Date 2/18/25  
 JOSEPH P. MOORE  
 CITY MANAGER

ORIGINAL PLAT PREPARED BY  
**G GREMMER & ASSOCIATES, INC.**  
 CONSULTING ENGINEERS  
 Stevens Point • Fond du Lac  
 85 South Pioneer Road, Suite 300 • Fond du Lac, WI 54605  
 (920) 924-6720 • fax (920) 924-6725  
 Date 2/18/25  
 JAY W. PANETTI, PLS

RECEIVED  
 FEB 18 2025  
 LISA FREIBERG  
 FOND DU LAC COUNTY CLERK

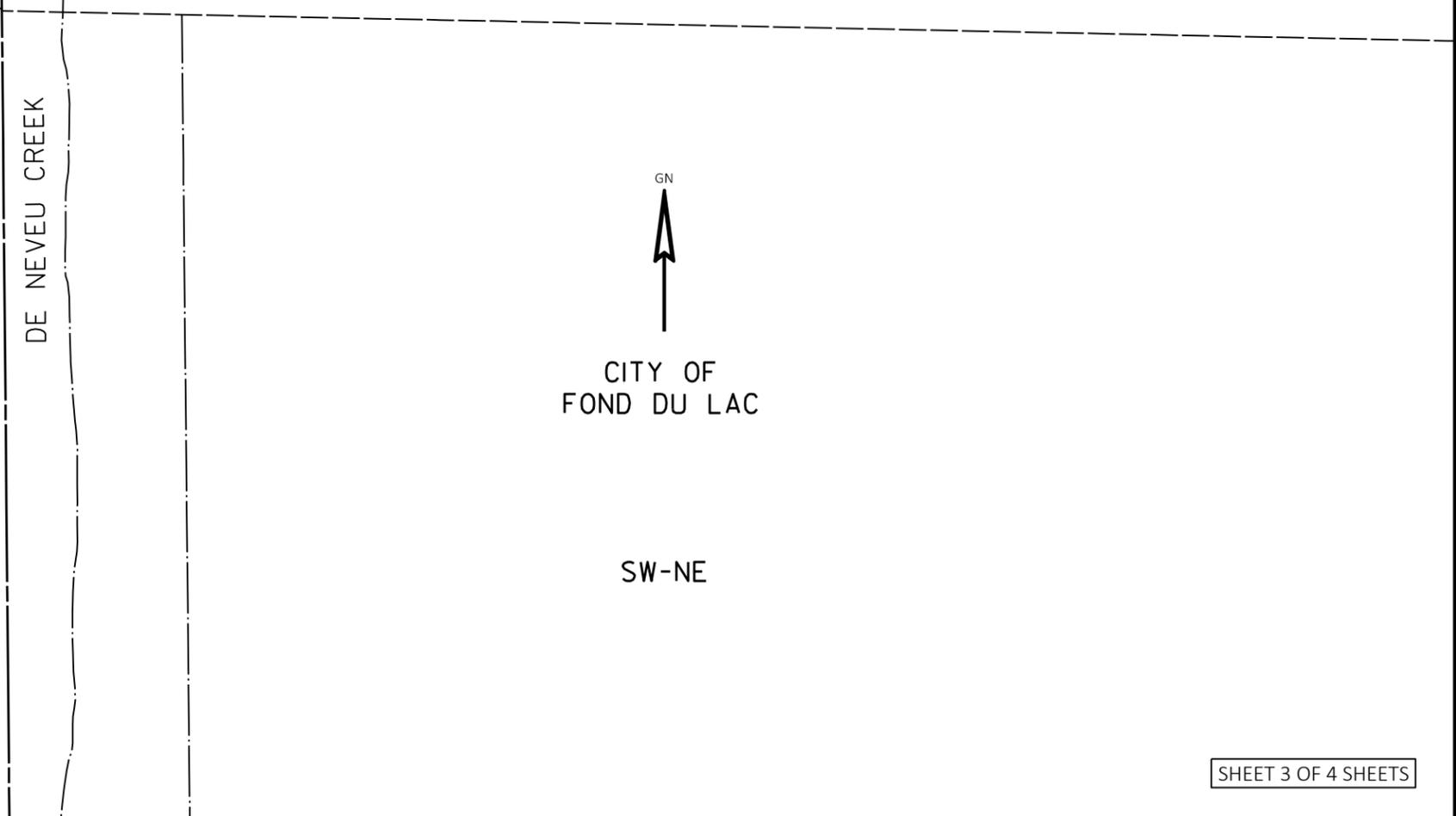
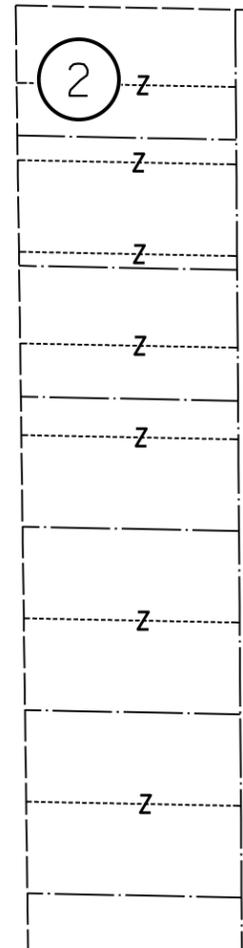
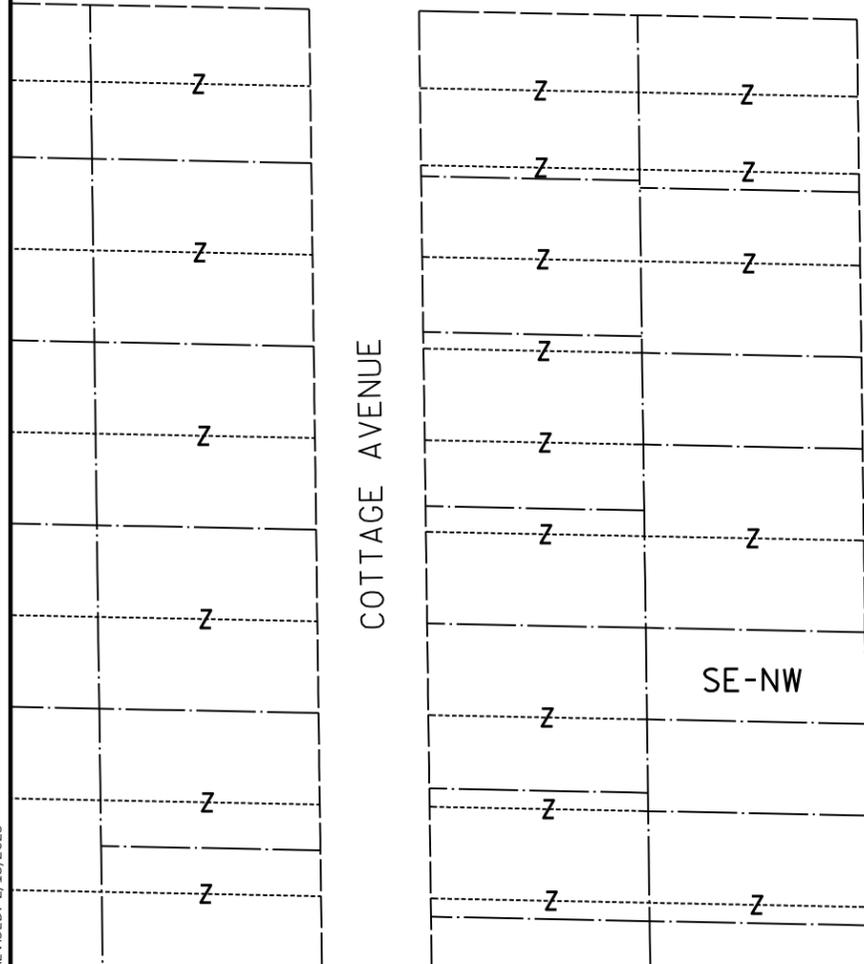
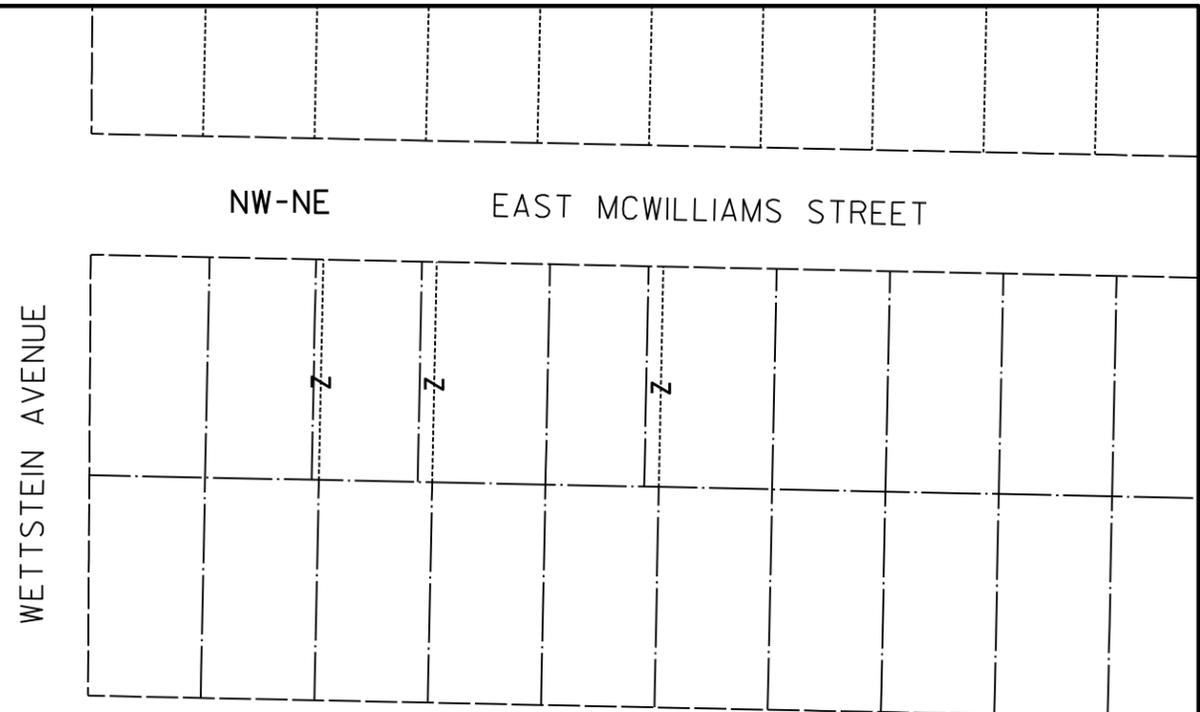
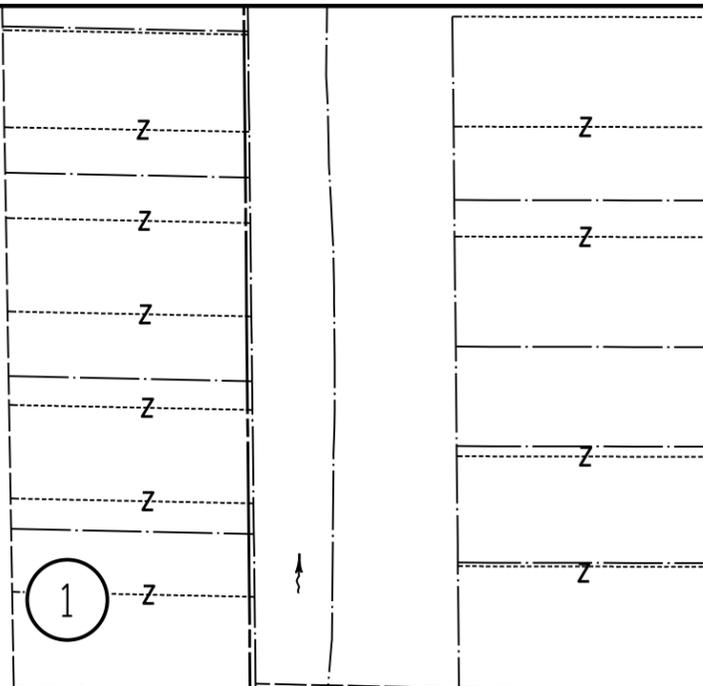
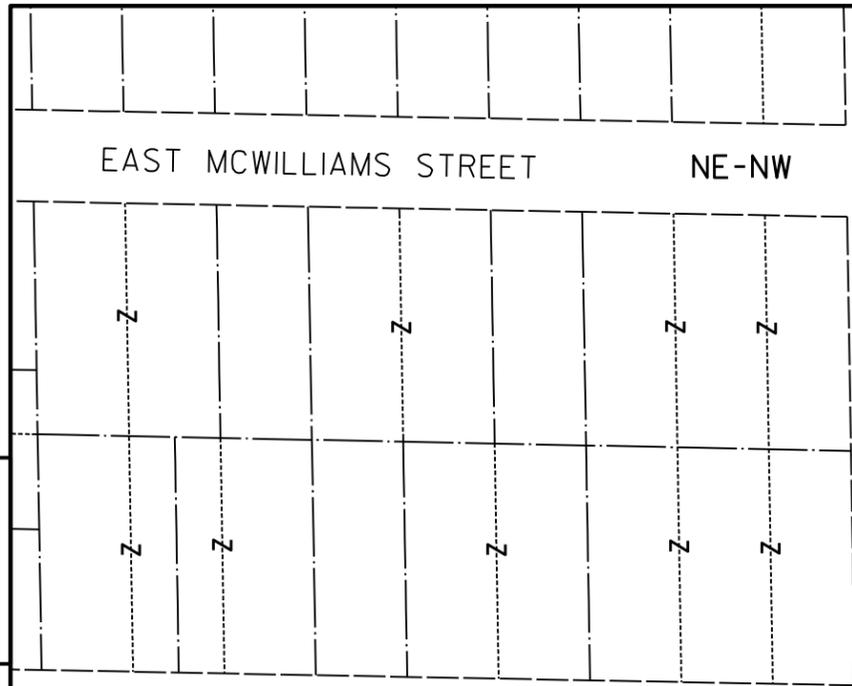


REVISION DATE



4

4



SHEET 3 OF 4 SHEETS

REVISED: 2/18/2025

REVISION DATE	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

DATE	2/18/2025
GRID FACTOR	_____



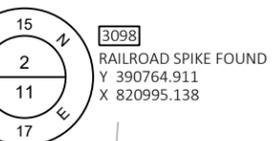
HWY:	STOW STREET
COUNTY:	FOND DU LAC

STATE R/W PROJECT NUMBER	4811-00-71
CONSTRUCTION PROJECT NUMBER	4811-00-72

PLAT SHEET	4.03
PS&E SHEET	_____

E

CITY OF FOND DU LAC



PARCEL 1 - FEE		
COURSE	BEARING	DISTANCE
3098 - 508	S00° 31' 55"E	1267.18'
508 - 505	N88° 55' 19"W	13.48'
505 - 506	N59° 23' 34"E	19.04'
506 - 507	S00° 39' 37"E	10.00'
507 - 508	N88° 55' 19"W	3.03'

PARCEL 1 - TLE		
COURSE	BEARING	DISTANCE
3098 - 508	S00° 31' 55"E	1267.18'
508 - 505	N88° 55' 19"W	13.48'
505 - 404	N88° 55' 19"W	88.74'
404 - 405	N01° 04' 41"E	10.00'
405 - 506	S88° 55' 19"E	104.94'
506 - 505	S59° 23' 34"W	19.04'

PARCEL 2 - FEE		
COURSE	BEARING	DISTANCE
3098 - 500	S00° 31' 55"E	1296.68'
500 - 501	S00° 31' 55"E	30.53'
501 - 502	N88° 55' 19"W	8.68'
502 - 503	S00° 24' 28"E	10.00'
503 - 504	N30° 47' 40"W	11.78'
504 - 502	S88° 55' 19"E	5.96'

PARCEL 2 - TLE		
COURSE	BEARING	DISTANCE
3098 - 500	S00° 31' 55"E	1296.68'
500 - 501	S00° 31' 55"E	30.53'
501 - 504	N88° 55' 19"W	14.64'
504 - 503	S30° 47' 40"E	11.78'
503 - 402	N88° 55' 19"W	91.48'
402 - 401	N01° 04' 41"E	10.00'
401 - 504	S88° 55' 19"E	85.26'

COORDINATE TABLE		
POINT	Y (NORTHING)	X (EASTING)
401	389439.639	820907.570
402	389429.641	820907.382
404	389499.704	820904.701
405	389509.702	820904.889
500	389468.284	821007.175
501	389437.760	821007.458
502	389437.923	820998.775
503	389427.920	820998.847
504	389438.035	820992.818
505	389498.034	820993.425
506	389507.728	821009.811
507	389497.724	821009.926
508	389497.781	821006.901
3098	390764.911	820995.138

BASIS OF EXISTING R/W	
ROUTE	BASIS
STOW STREET	FAIRFAX ADDITION TO THE CITY OF FOND DU LAC J.W. STOW ADDITION TO THE CITY OF FOND DU LAC WETTSTEIN'S FIFTH ADDITION TO THE CITY OF FOND DU LAC
TAFT STREET	FAIRFAX ADDITION TO THE CITY OF FOND DU LAC J.W. STOW ADDITION TO THE CITY OF FOND DU LAC
WETTSTEIN AVENUE	WETTSTEIN'S FIFTH ADDITION TO THE CITY OF FOND DU LAC

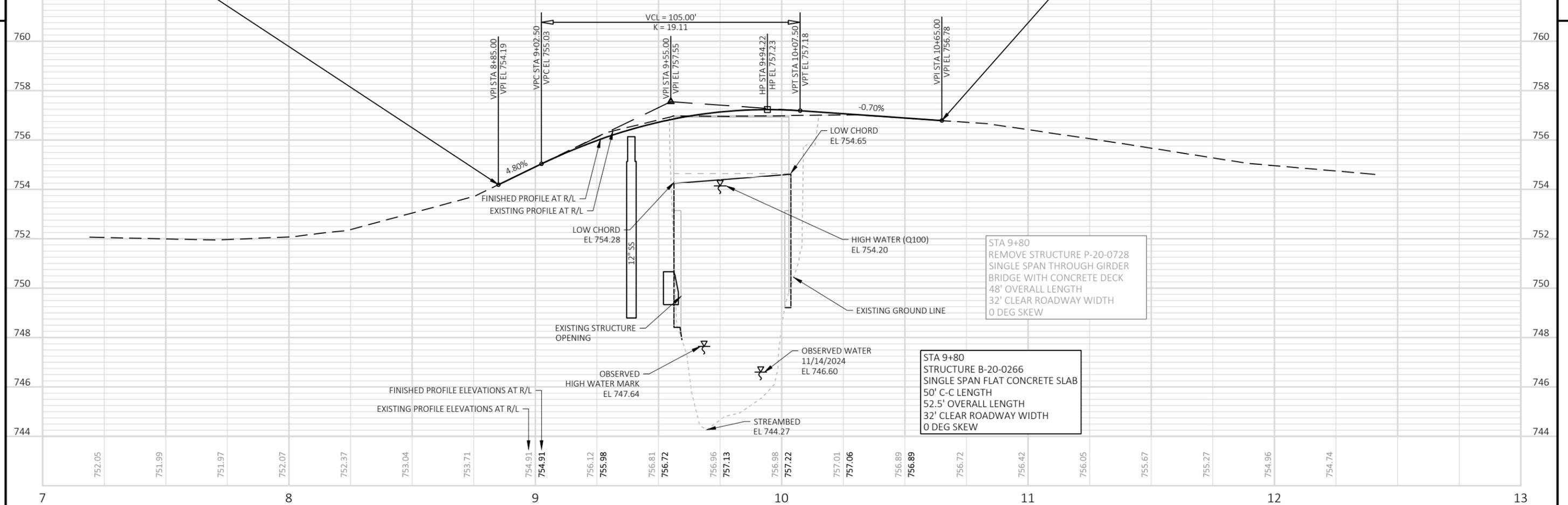
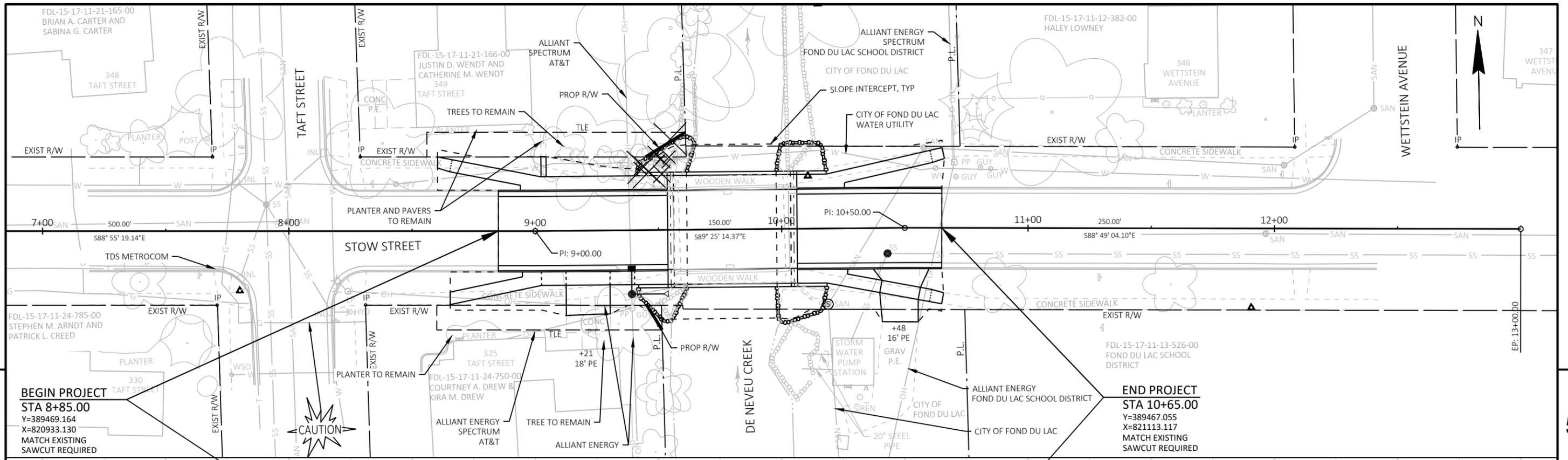
SHEET 4 OF 4 SHEETS

REVISED: 2/18/2025

REVISION DATE	DATE 2/18/2025
	SCALE, FEET
	0 20 40
	GRID FACTOR

HWY: STOW STREET	STATE R/W PROJECT NUMBER 4811-00-71
COUNTY: FOND DU LAC	CONSTRUCTION PROJECT NUMBER 4811-00-72

PLAT SHEET 4.04	PS&E SHEET
	E



PROJECT NO: 4811-00-72	HWY: STOW STREET	COUNTY: FOND DU LAC	PLAN AND PROFILE: STOW STREET	SHEET E
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## Standard Detail Drawing List

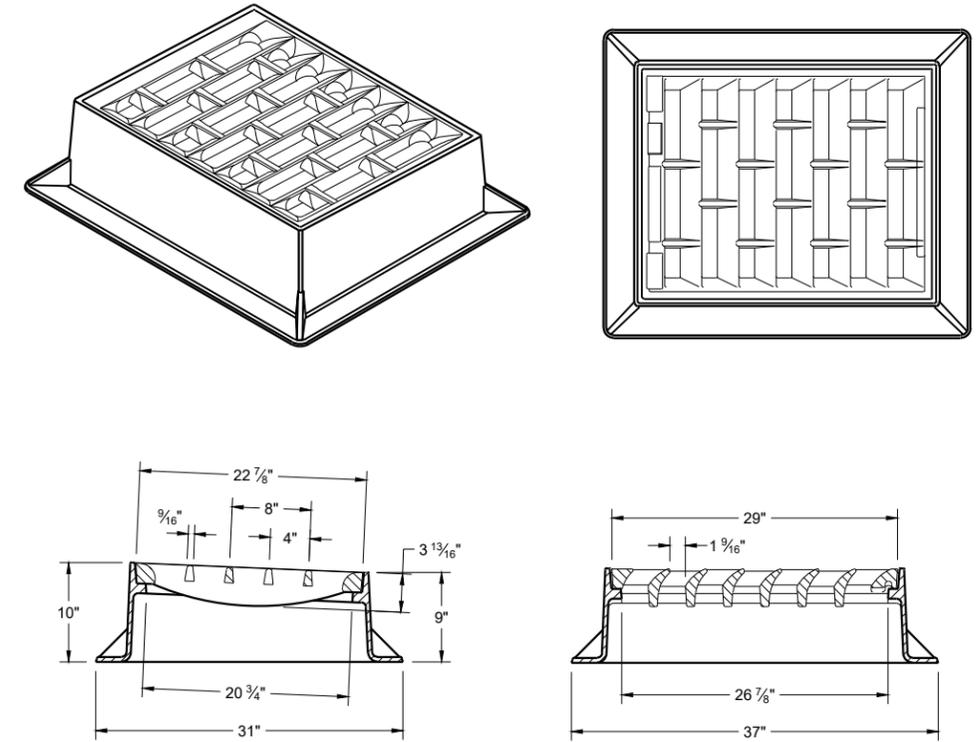
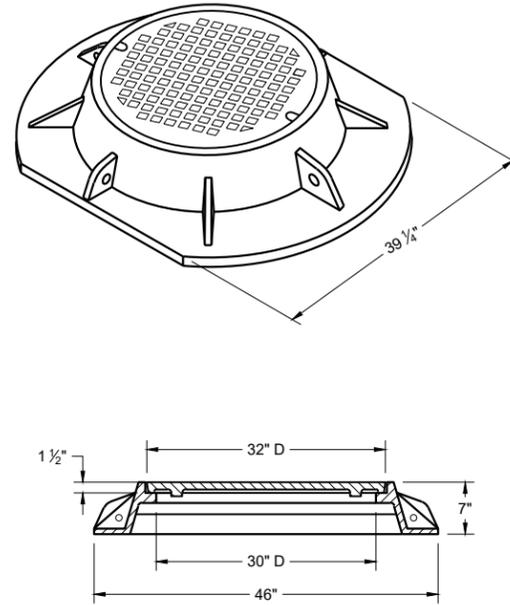
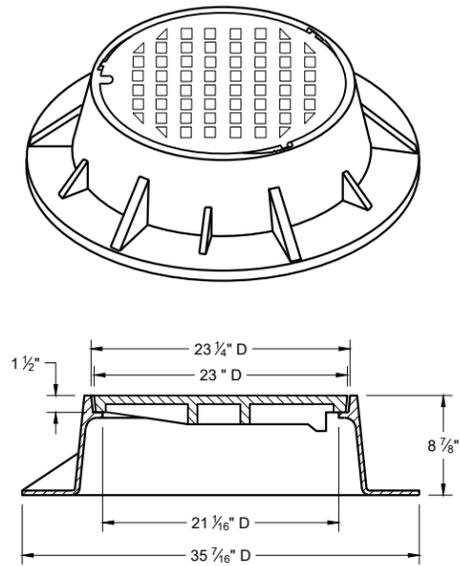
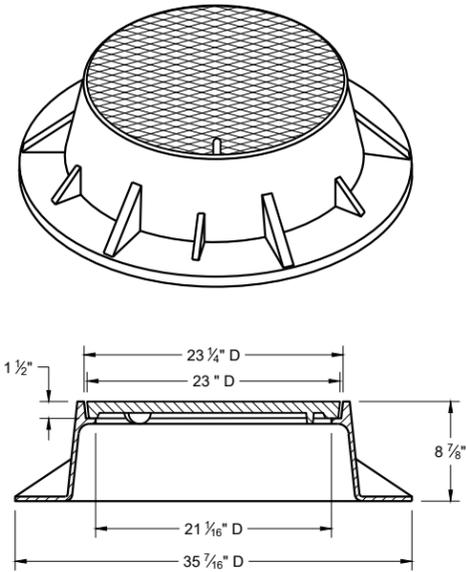
08A05-22E	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08A09-03	CATCH BASINS 2X3-FT AND 2.5X3-FT
08B09-04	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, 8-FT, 9-FT, 10-FT DIAMETER
08D01-24A	CONCRETE CURB & GUTTER
08D01-24B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D18-05	DRIVEWAY AND SIDEWALK RAMPS TYPES X & Y
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E11-02	TURBIDITY BARRIER
08E14-01	TRACKING PAD
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
12A03-10	NAME PLATE (STRUCTURES)
13C19-03	HMA LONGITUDINAL JOINTS
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15D30-11A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-11B	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-11C	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-11F	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-11K	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

**GENERAL NOTES**

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

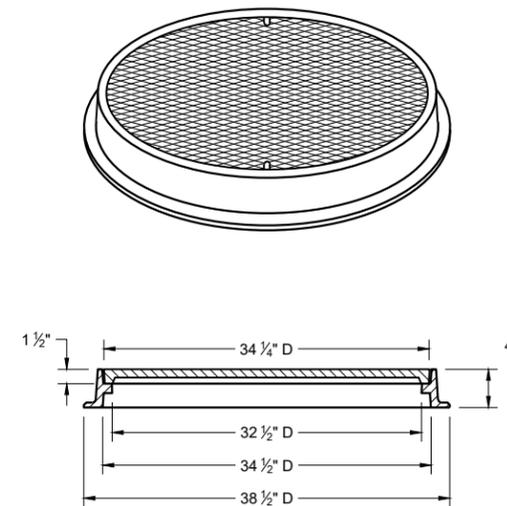
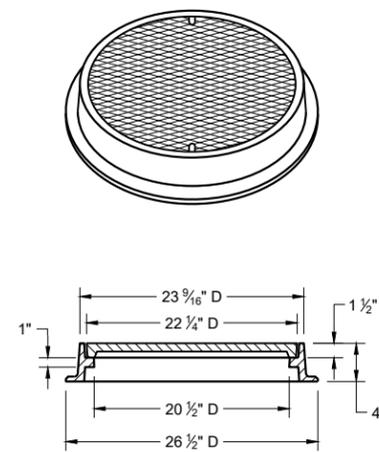
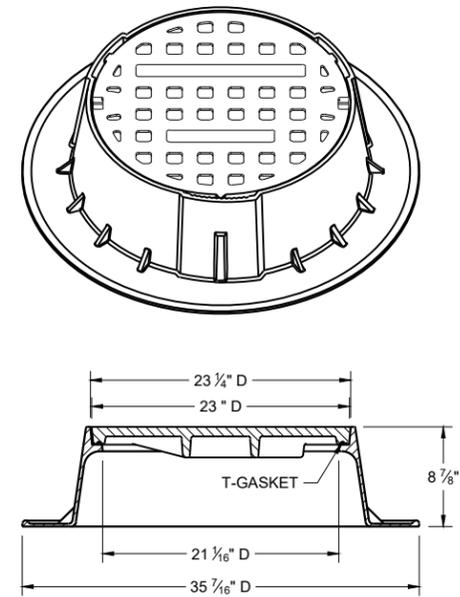
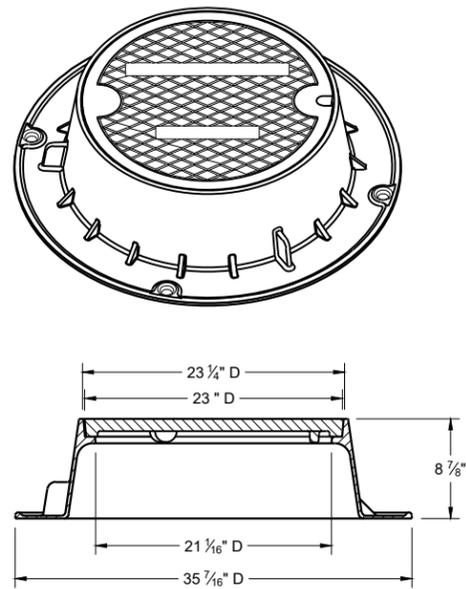
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.



**TYPE "K"**

**INLET COVER TYPE "BW"**



**TYPE "J"**

NOTE: EITHER CASTING IS ACCEPTABLE

**TYPE "J" SPECIAL**

TYPE "B" NON-ROCKING SELF-SEAL LID (NOTED AS TYPE J-S ON THE DRAINAGE TABLE)

NOTE: EITHER CASTING IS ACCEPTABLE

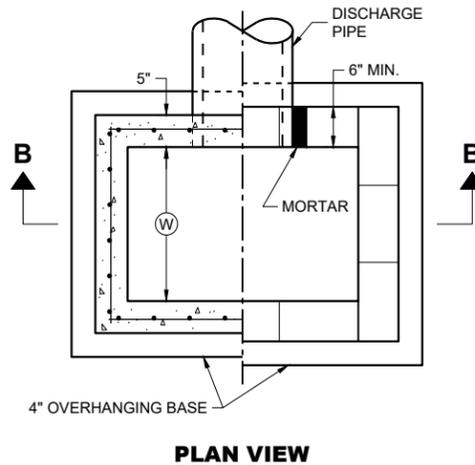
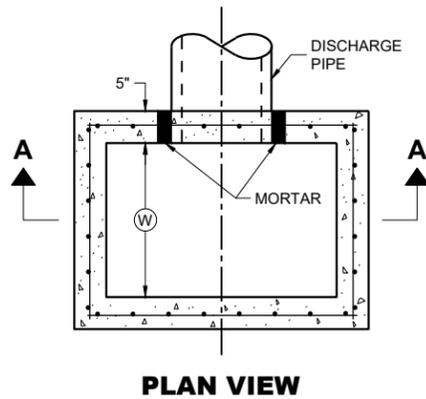
**TYPE "L"**

**TYPE "M"**

**INLET COVERS TYPES BW  
MANHOLE COVERS TYPES K,  
J, J-S, L, AND M**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
February 2025 DATE /S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT  
UNIT SUPERVISOR



**GENERAL NOTES**

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

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

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

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

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

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

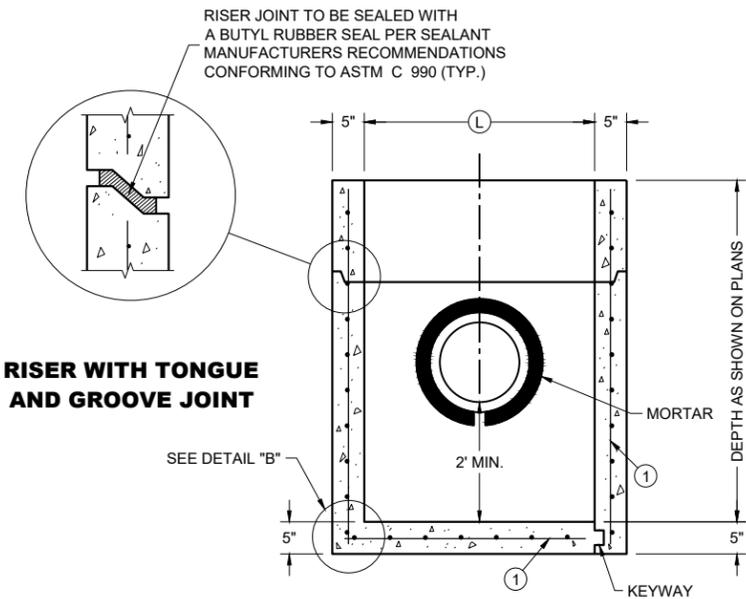
ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

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

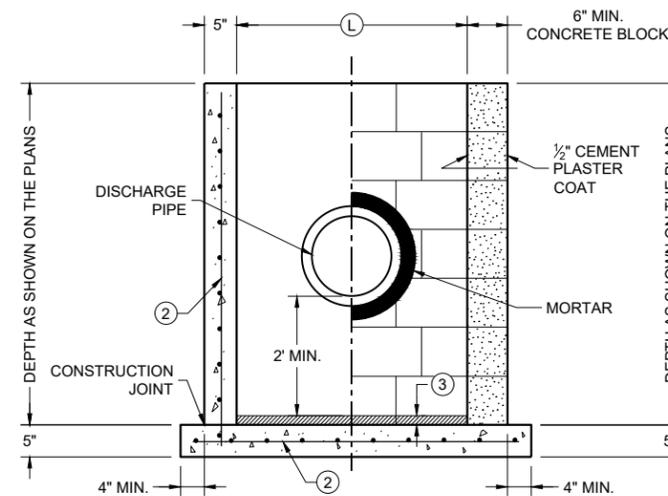
4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

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

- ① FOR PRECAST CATCH BASINS AND REINFORCED CONCRETE BASES PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- ② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.
- ③ 1" CONCRETE KEY POURED AFTER INSTALLATION. 2' SUMP MEASURED FROM TOP OF KEY.



**PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE**  
**SECTION A - A**



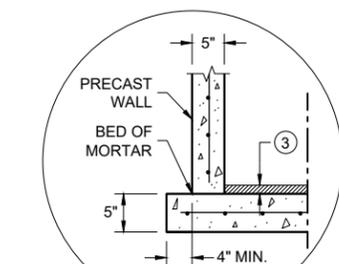
**CAST IN PLACE REINFORCED CONCRETE**  
**SECTION B - B**

**CATCH BASIN COVER MATRIX**

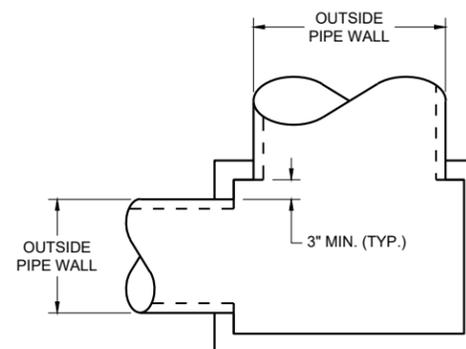
CATCH BASIN SIZE	WIDTH (W) (FT.)	LENGTH (L) (FT.)	INLET COVER TYPE	
			F	ALL H'S
2 X 3-FT	2	3		X
2.5 X 3-FT	2.5	3	X	

**PIPE MATRIX**

CATCH BASIN SIZE	MAXIMUM INSIDE PIPE DIAMETER (IN)	
	WIDTH (W) (IN)	LENGTH (L) (IN)
2 X 3-FT	12	24
2.5 X 3-FT	18	24



**SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION**  
**DETAIL "B"**



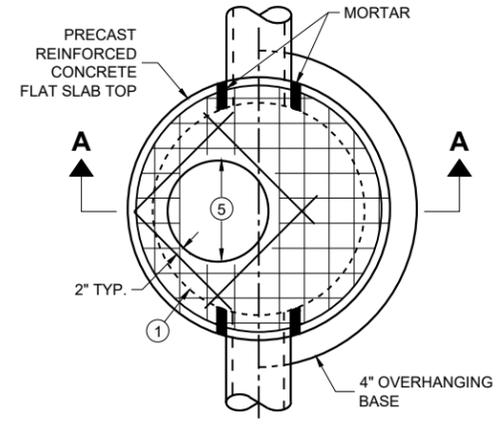
**DETAIL "A"**

**CATCH BASINS 2X3-FT AND 2.5X3-FT**

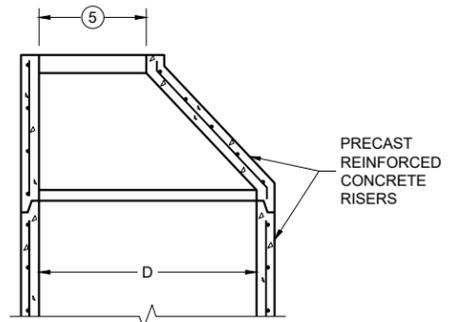
**CATCH BASINS**  
**2 X 3-FT AND 2.5 X 3-FT**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

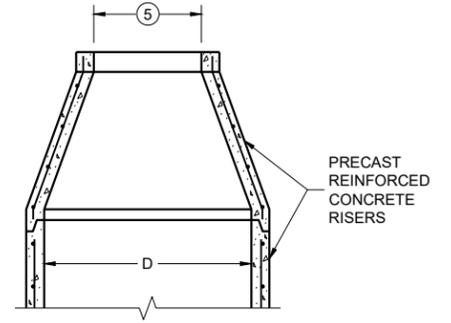
APPROVED  
December 2023 /S/ RODNEY TAYLOR  
DATE ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR  
FHWA



**PLAN VIEW  
CIRCULAR OPENING**



**OPTIONAL PRECAST  
REINFORCED CONCRETE  
ECCENTRIC TOP**



**OPTIONAL PRECAST  
REINFORCED CONCRETE  
CONCENTRIC TOP**

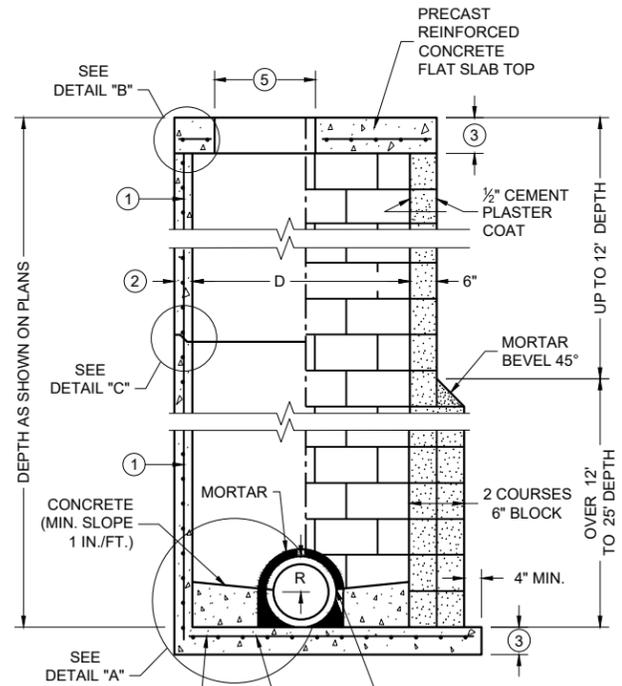
**MANHOLE COVER OPENING MATRIX**

MANHOLE COVER OPENING SIZE (FT.)	C	ALL JS	K	L	M
2 DIA.	X	X		X	
3 DIA.			X		X

**PIPE MATRIX**

MANHOLE SIZE (DIA.)	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES		MINIMUM WALL THICKNESS (IN)	MINIMUM PRECAST FLAT SLAB TOP AND BASE THICKNESS
	180° SEPARATION (IN)	90° SEPARATION (IN)		
3-FT	15	12	4	6
4-FT	24	18	4	6
5-FT	36	24	5	8
6-FT	42	36	6	8
7-FT	48	36/42 *	7	8
8-FT	60	42	8	8
9-FT	66	54	9	10
10-FT	72	60	10	10

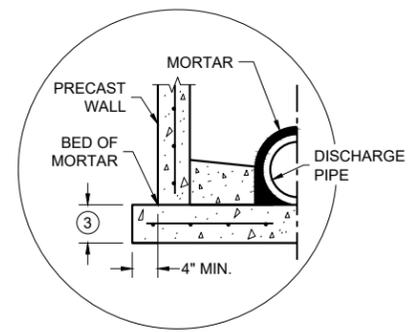
\*A 36" PIPE AND A 42" PIPE CAN BE PLACED WITHIN 90 DEGREES. SEE MINIMUM HORIZONTAL PIPE SEPARATION DETAIL.



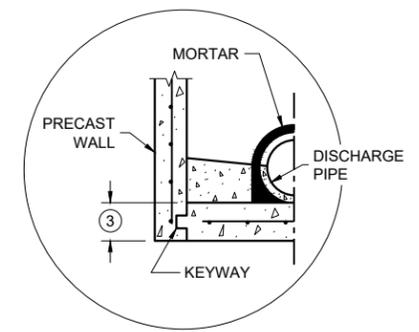
**SECTION A - A**

**PRECAST REINFORCED  
CONCRETE WITH  
MONOLITHIC BASE**

**CONCRETE BLOCK WITH  
CAST IN PLACE OR  
PRECAST REINFORCED  
CONCRETE BASE**

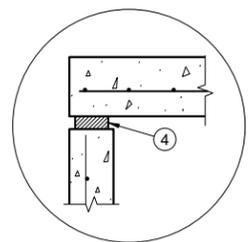


**SEPARATE PRECAST REINFORCED  
CONCRETE BASE OPTION**

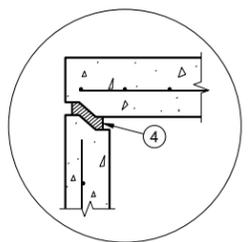


**PRECAST REINFORCED CONCRETE  
WITH INTEGRAL BASE OPTION**

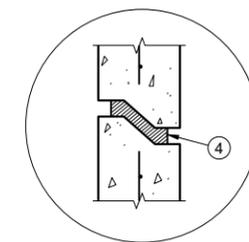
**DETAIL "A"**



**TOP WITH PLAIN  
END JOINT**



**TOP WITH TONGUE  
AND GROOVE JOINT**

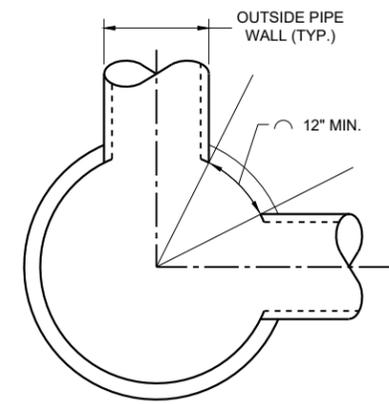


**RISER WITH TONGUE  
AND GROOVE JOINT**

**DETAIL "B"**

**DETAIL "C"**

- ① FOR PRECAST MANHOLES AND REINFORCED CONCRETE BASES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.
- ② SEE PIPE MATRIX TABLE FOR MINIMUM WALL THICKNESS FOR PRECAST MANHOLES
- ③ SEE PIPE MATRIX TABLE FOR MINIMUM THICKNESS OF PRECAST FLAT SLAB TOPS AND BASES.
- ④ JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 OR RUBBER GASKETS CONFORMING TO ASTM C443.
- ⑤ SEE MANHOLE COVER OPENING MATRIX.



**MINIMUM HORIZONTAL  
PIPE SEPARATION  
DETAIL "D"**

**GENERAL NOTES**

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

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

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

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

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

PRECAST REINFORCED CONCRETE CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED CONCRETE FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES. CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF #4 AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

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

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN. CONCRETE BLOCK WILL NOT BE PERMITTED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "D".

6

6

SDD 08B09-04

SDD 08B09-04

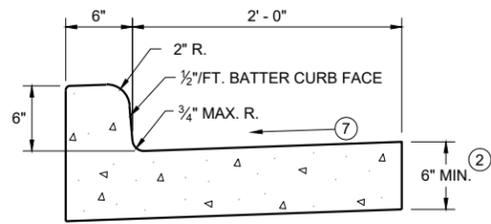
**MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, 8-FT, 9-FT AND 10-FT DIAMETER**

**MANHOLES, 3-FT, 4-FT  
5-FT, 6-FT, 7-FT, 8-FT, 9-FT  
AND 10-FT DIAMETER**

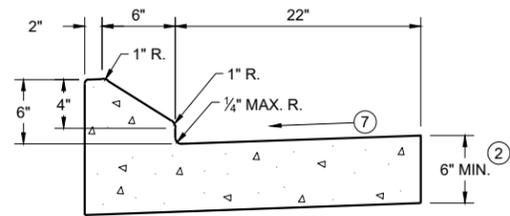
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
December 2023 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

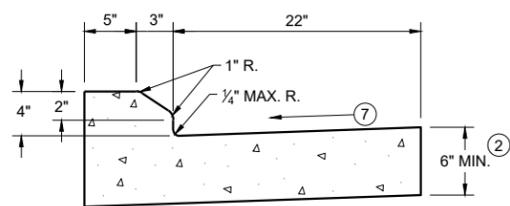
FHWA



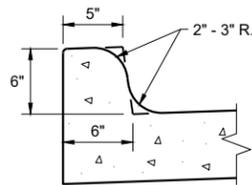
**TYPES A<sup>1</sup> & D**



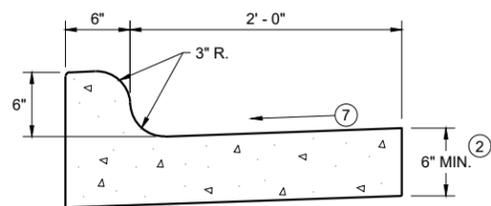
**6" SLOPED CURB TYPES G<sup>1</sup> & J**



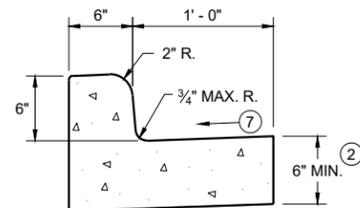
**4" SLOPED CURB TYPES G<sup>1</sup> & J**



**TYPES K<sup>1</sup> & L**  
(OPTIONAL CURB SHAPE)

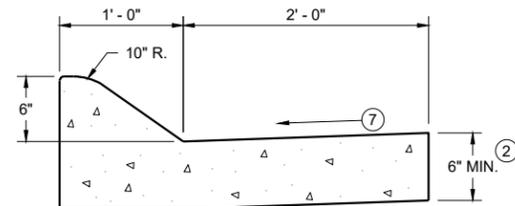


**TYPES K<sup>1</sup> & L**  
**CONCRETE CURB AND GUTTER 30"**

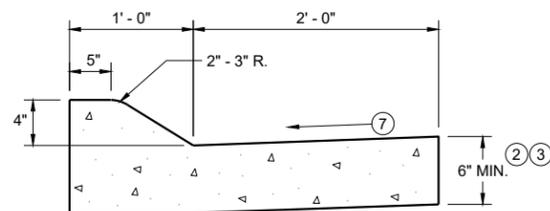


**TYPES A<sup>1</sup> & D**

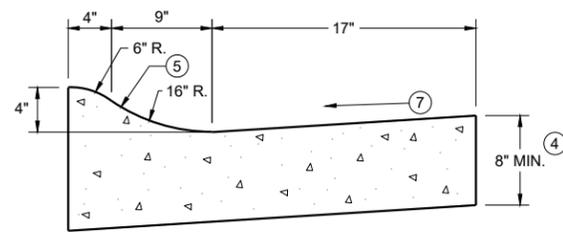
**CONCRETE CURB AND GUTTER 18"**



**6" SLOPED CURB TYPES A<sup>1</sup> & D**

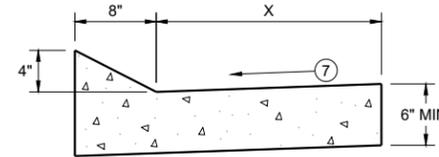


**4" SLOPED CURB TYPES A<sup>1</sup> & D**  
**CONCRETE CURB AND GUTTER 36"**



**4" SLOPED CURB TYPES R<sup>1</sup> & T**  
**CONCRETE CURB AND GUTTER 30"**

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

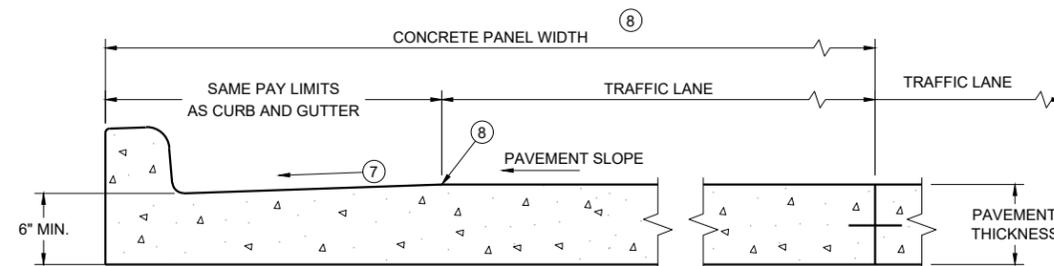


**TYPES TBT & TBTT<sup>1</sup>**

**CONCRETE CURB AND GUTTER**

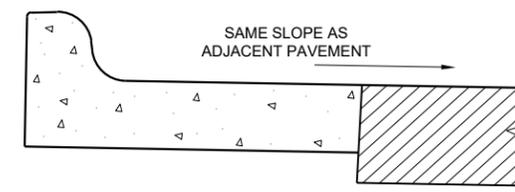
**PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE**

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



**PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB AND GUTTER**

\* BIKE LANE IS NOT SHOWN



**REVERSE SLOPE GUTTER<sup>6</sup>**  
(TYPICAL FOR ALL CURB & GUTTER TYPES)

**GENERAL NOTES**

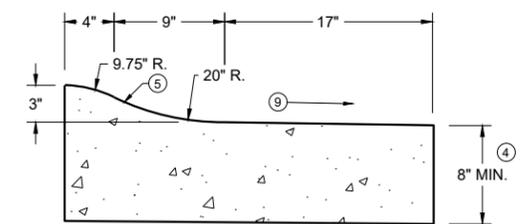
DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

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

INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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

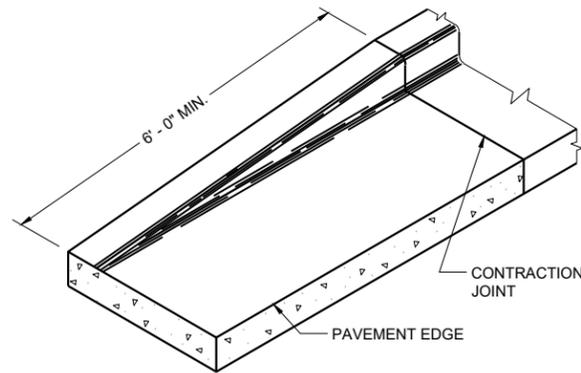
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH 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 UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES 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.
- ⑨ SLOPE TO BE REVERSE SLOPE MATCHING THE SLOPE OF THE PAVEMENT AND THE CIRCULATORY ROADWAY



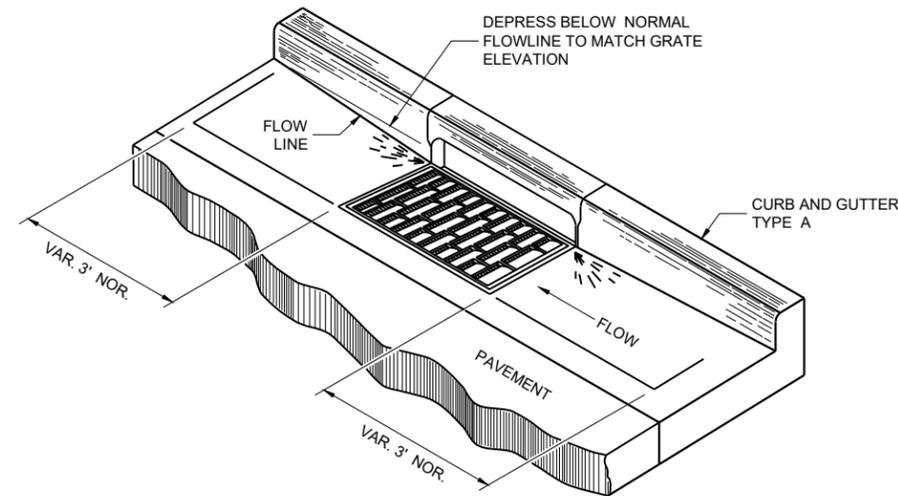
**3" SLOPED CURB TYPES R<sup>1</sup> & T**

**CONCRETE CURB AND GUTTER**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**END SECTION CURB AND GUTTER**



**DETAIL OF CURB AND GUTTER AT INLETS**

(TYPICAL H INLET COVER SHOWN)

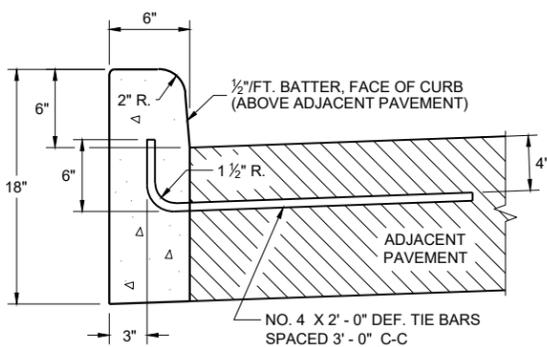
**GENERAL NOTES**

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

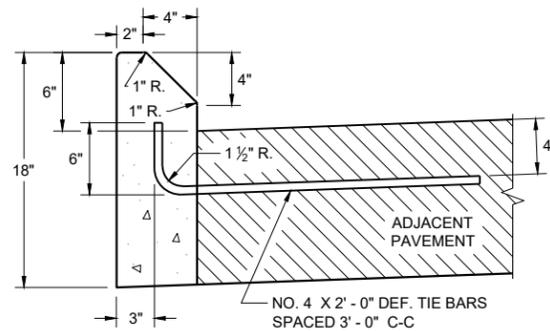
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

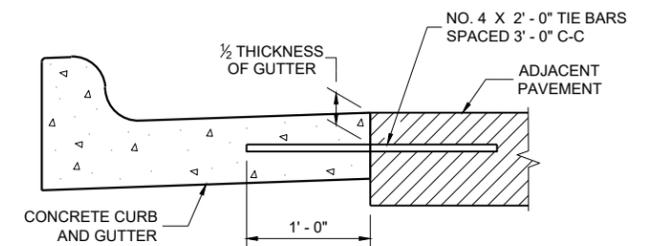
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑩ REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.
- ⑪ PLACE 1" THICK EXPANSION JOINT MATERIAL BETWEEN VERTICAL FACE CURB TYPES EXTENDING FROM THE TOP OF CURB TO 1 INCH BELOW THE ADJOINING CONCRETE SURFACE. RIGID CONCRETE STRUCTURES INCLUDE RAISED CONCRETE MEDIANS, CONCRETE SAFETY ISLANDS, SPLITTER ISLANDS, OR LOCATIONS IDENTIFIED ON THE PLANS.



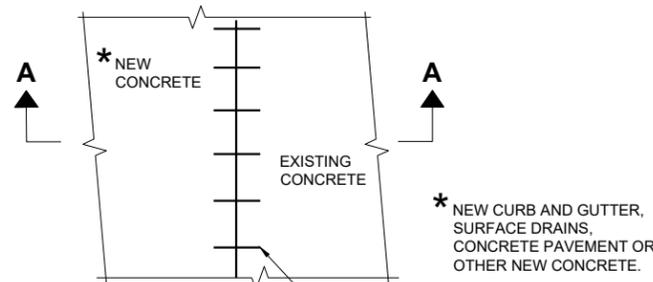
**TYPES A ① & D**



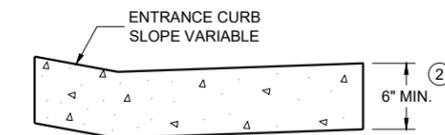
**TYPES G ① & J  
CONCRETE CURB**



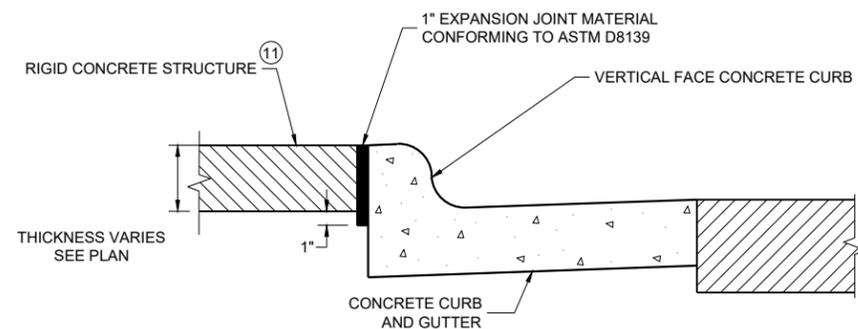
**TYPICAL TIE BAR LOCATION ①**



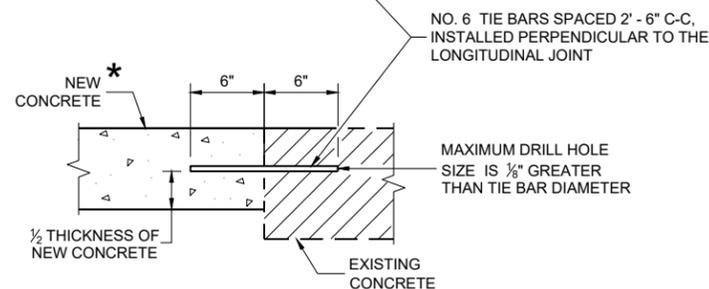
**PLAN VIEW**



**DRIVEWAY ENTRANCE CURB ⑩  
(WHEN DIRECTED BY THE ENGINEER)**



**EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE ⑪**

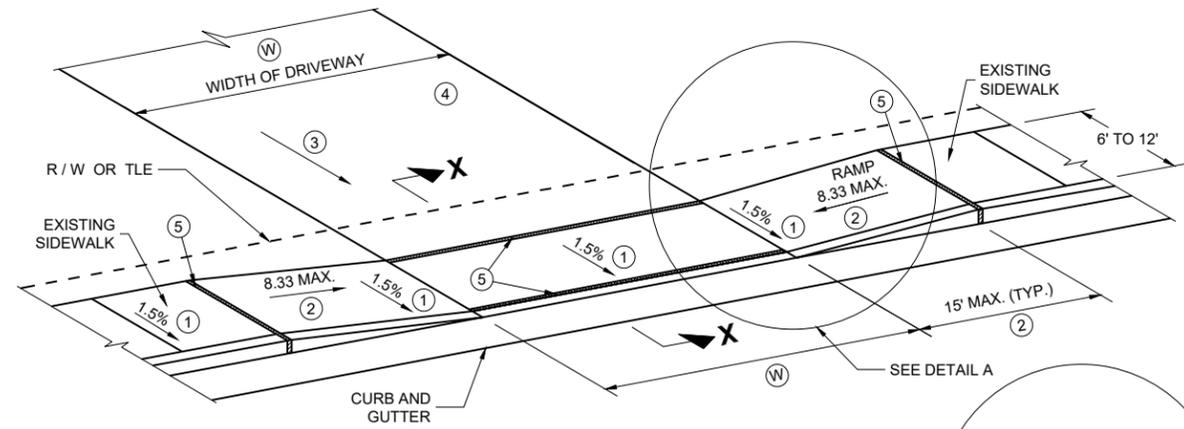


**SECTION A - A  
TIE BARS DRILLED INTO EXISTING PAVEMENT**

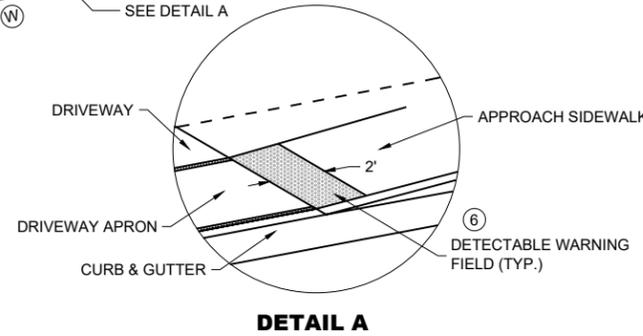
**CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
February 2025 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT  
UNIT SUPERVISOR

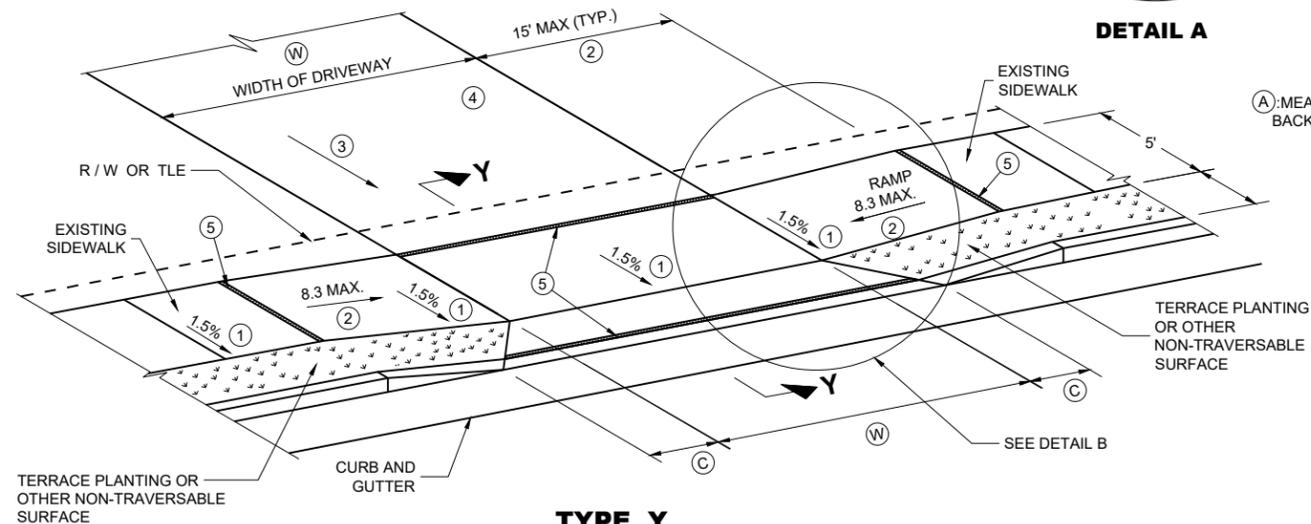


**TYPE X  
SIDEWALK ABUTS CURB AND GUTTER  
TERRACE VARIES 0 TO 3 FEET**



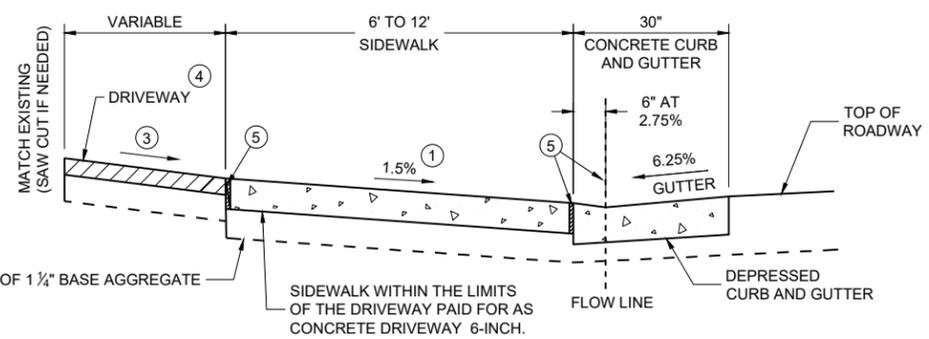
**DETAIL A**

(A): MEASURE FROM BACK OF CURB

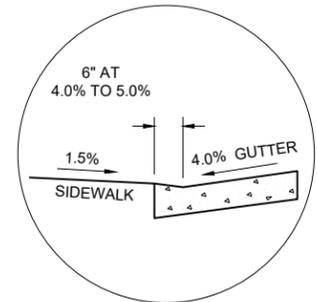


**TYPE Y  
SIDEWALK WITH NARROWER TERRACE  
TERRACE VARIES 4 TO 6 FEET**

TERRACE PLANTING OR OTHER NON-TRAVERSABLE SURFACE



**SECTION X - X**

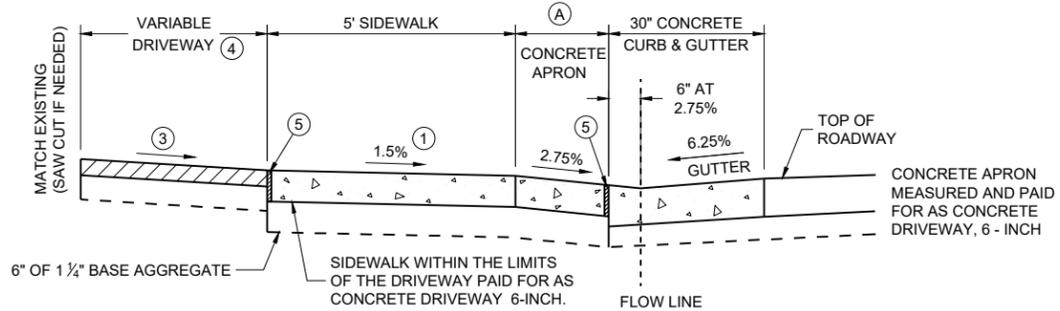


**SECTION X - X  
4% GUTTER SLOPE**

**TABLE Y**

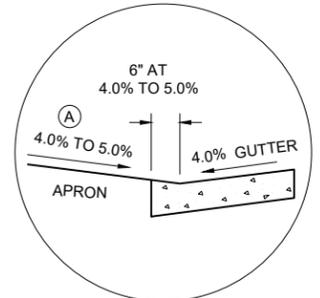
(A) FEET	(C) FEET
3.5'	2.0'
4.5'	3.0'
5.5'	3.5'

(W): 12' MIN. - 24' MAX. RESIDENTIAL AND NON-COMMERCIAL (PE & FE)  
16' MIN. - 35' MAX. COMMERCIAL (CE)



NOTE: SIDEWALK MAY BE DEPRESSED IN DRIVEWAY AREAS

**SECTION Y - Y  
DRIVEWAY DETAIL WITH CONCRETE  
CURB AND GUTTER  
(URBAN AND SUBURBAN)**



**SECTION Y - Y  
4% GUTTER SLOPE**

**GENERAL NOTES**

PROVIDE CONSTRUCTION JOINTS ALONG THE CENTER OF THE CONCRETE FOR DRIVEWAYS UNDER 20 FEET IN WIDTH AND AT THE THIRD POINTS OVER 20 FEET IN WIDTH.

(W) IS SHOWN ON PLAN AND PROFILE SHEETS.

OFFSETS, ELEVATIONS, AND PERCENT GRADE ARE SHOWN ON THE CROSS SECTIONS.

① CONSTRUCTION TOLERANCE OF 0.5%± FOR SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2.1%.

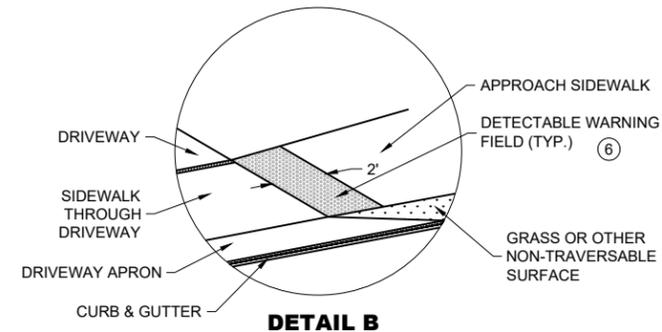
② THE SIDEWALK RAMP MAXIMUM RUNNING SLOPE SHALL NOT REQUIRE THE RAMP LENGTH TO EXCEED 15 FEET TO AVOID CHASING THE SLOPE INDEFINITELY WHEN CONNECTING TO STEEP GRADES. WHEN APPLYING THE 15 FOOT MAXIMUM LENGTH, THE RUNNING SLOPE OF THE SIDEWALK SHALL BE AS FLAT AS FEASIBLE AND NOT EXCEED THE LONGITUDINAL GRADE OF THE ROADWAY. SLOPE SIDEWALK RAMP TOWARD APRON AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

③ **DRIVEWAY SLOPES: DESIRABLE MAXIMUM**  
10.5% UP AWAY FROM SIDEWALK (SAG)  
8.5% DOWN AWAY FROM SIDEWALK (CREST)  
ABSOLUTE MAXIMUM 15% FOR BOTH CREST AND SAG

④ **DRIVEWAY TYPES**  
\* 6-INCH CONCRETE DRIVEWAY PAVEMENT OVER 6-INCH BASE AGGREGATE  
\* 2-INCH TO 3-INCH ASPHALTIC SURFACE OVER 6-INCH BASE AGGREGATE  
\* 6-INCH BASE AGGREGATE (MAY BE INCREASED FOR CLAY SUBGRADES.)

⑤ 1/2" EXPANSION JOINT FILLER

⑥ DETECABLE WARNING FIELDS ARE REQUIRED WHEN A PEDESTRIAN CIRCULATION ROUTE CROSSES A DRIVEWAY THAT IS TRAFFIC SIGNAL, STOP, OR YIELD SIGN CONTROLLED. DETECABLE WARNING FIELDS TO BE 2 FT DEEP AND EXTEND THE WIDTH OF THE PEDESTRIAN CIRCULATION ROUTE.



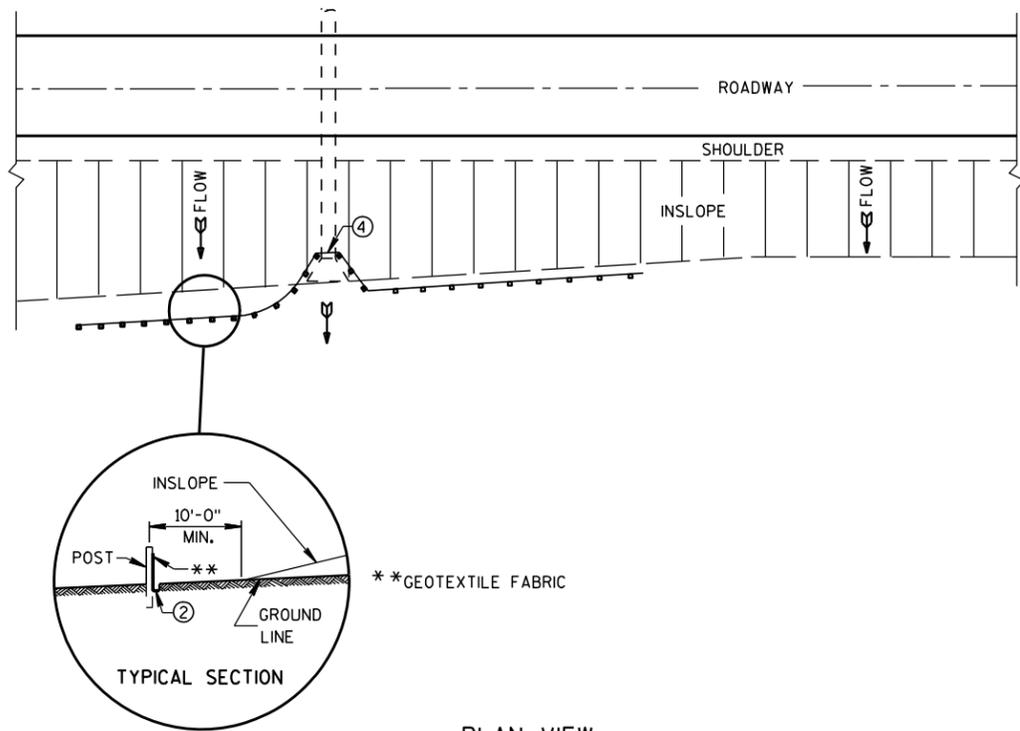
**DETAIL B**

**DRIVEWAY AND  
SIDEWALK RAMPS  
TYPES X AND Y**

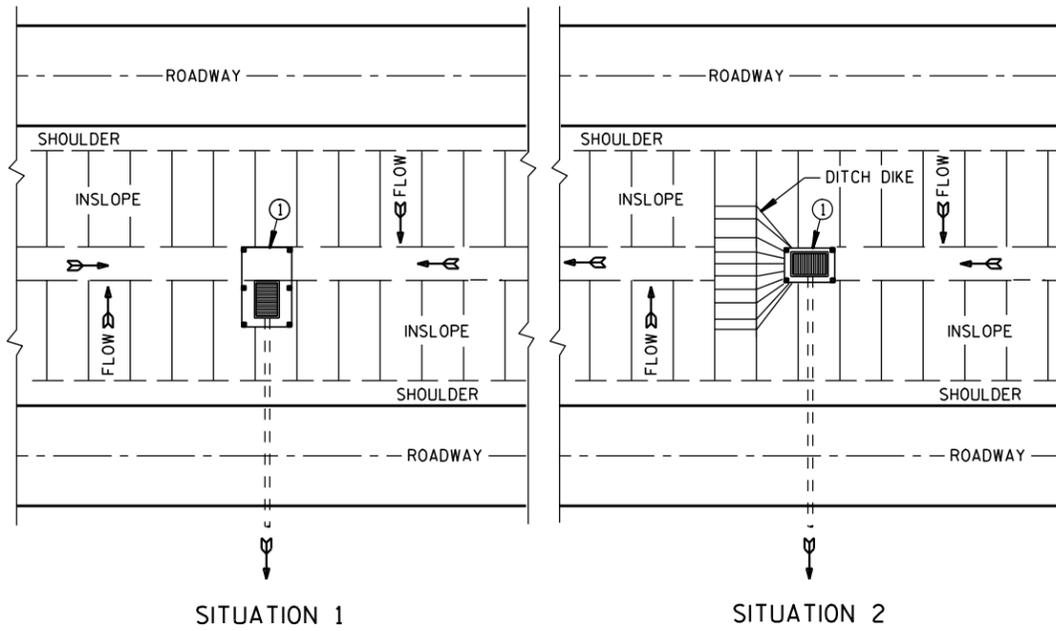
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
February 2025 /S/ Rodney Taylor  
DATE

FHWA



PLAN VIEW  
TYPICAL APPLICATION OF SILT FENCE

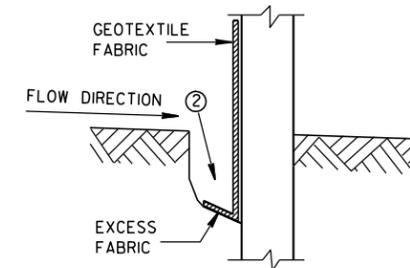


SITUATION 1 SITUATION 2  
PLAN VIEW  
SILT FENCE AT MEDIAN SURFACE DRAINS

**GENERAL NOTES**

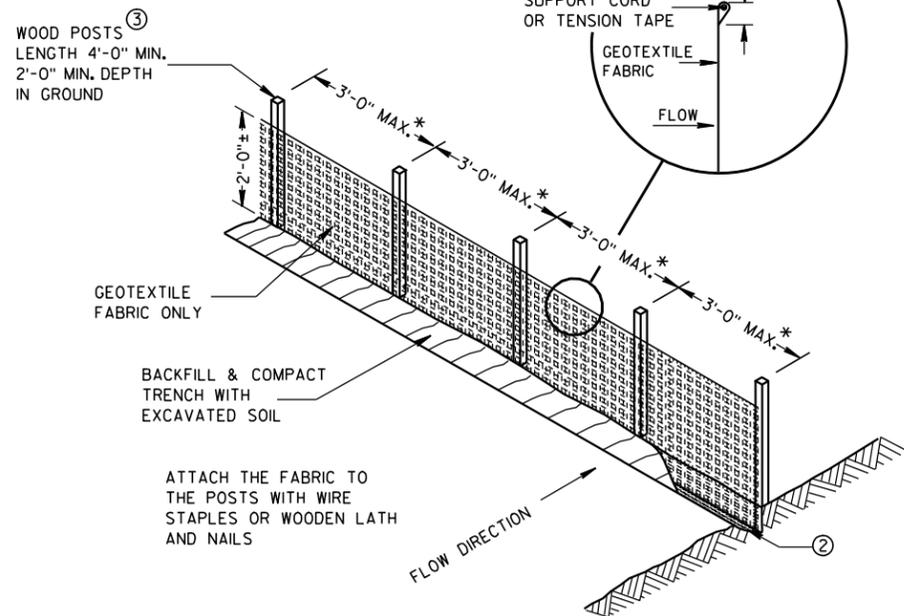
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

- 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 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



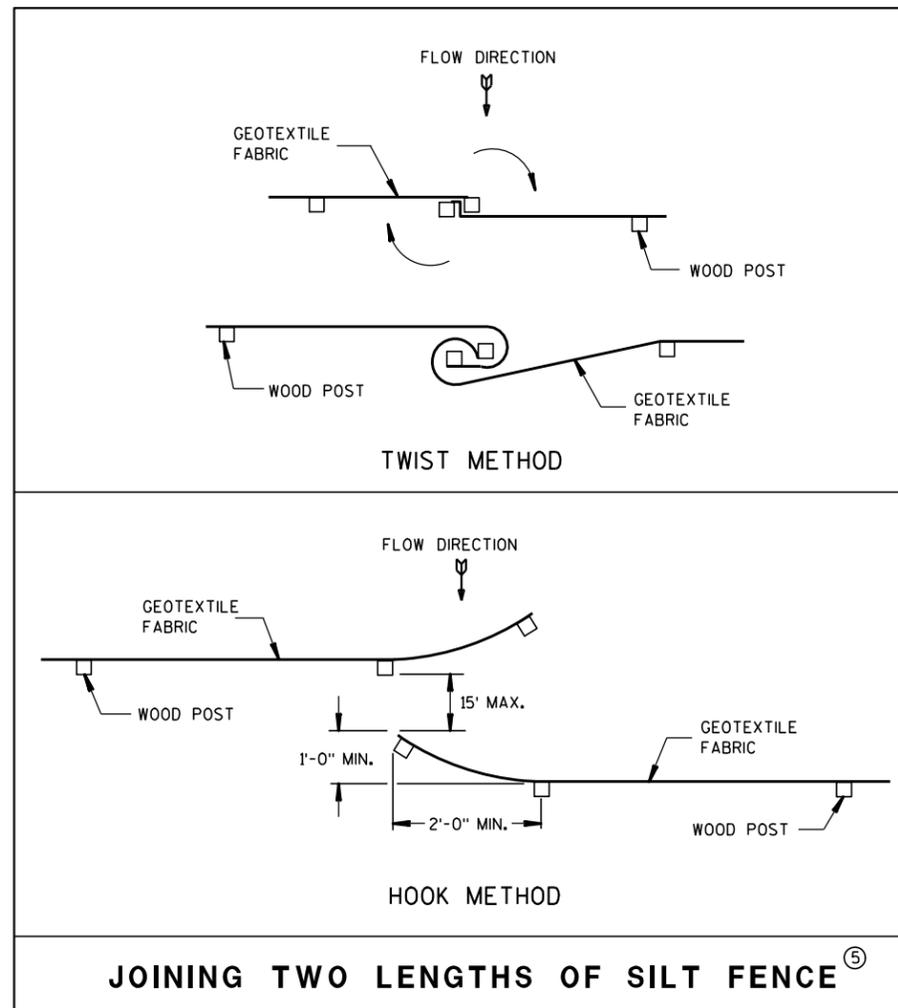
TRENCH DETAIL

NOTE: ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOILS

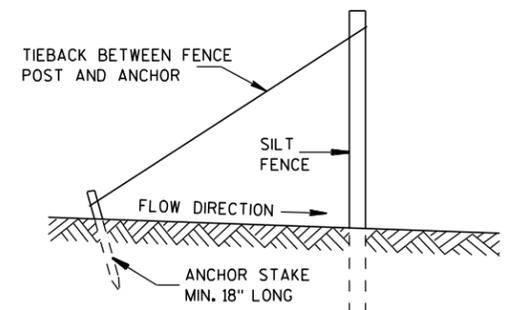


SILT FENCE

\* NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.



JOINING TWO LENGTHS OF SILT FENCE ⑤

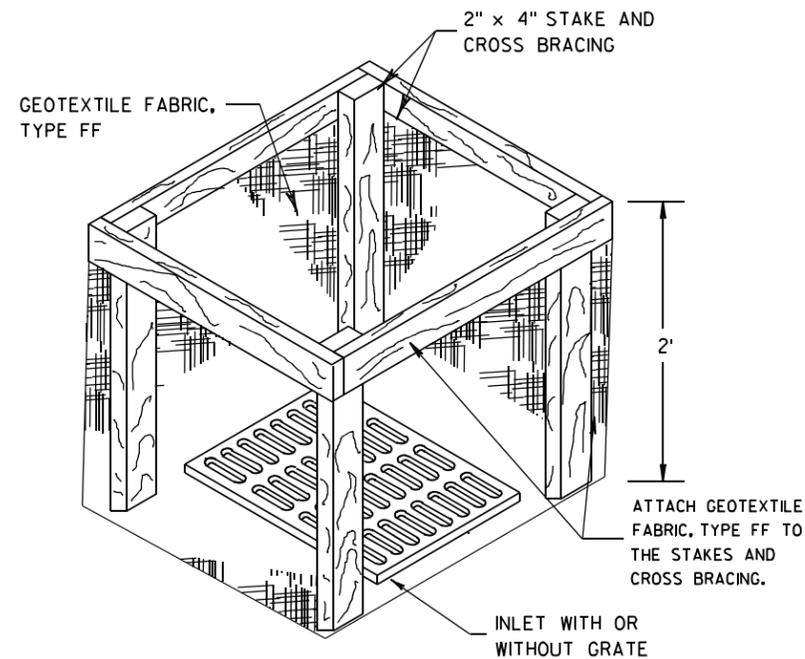
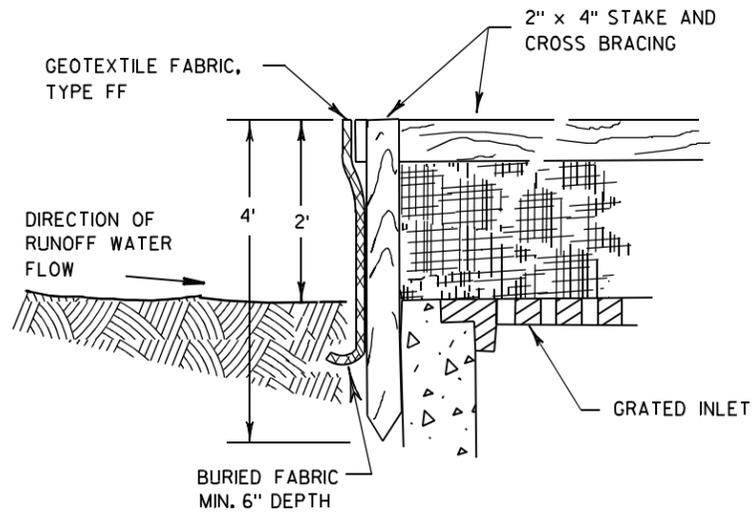


SILT FENCE TIE BACK  
(WHEN REQUIRED BY THE ENGINEER)

**SILT FENCE**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



**INLET PROTECTION, TYPE A**

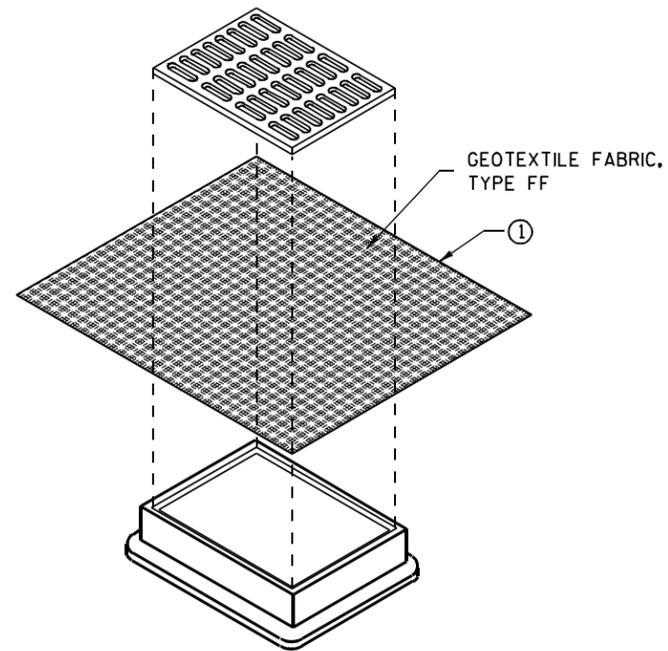
**GENERAL NOTES**

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

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

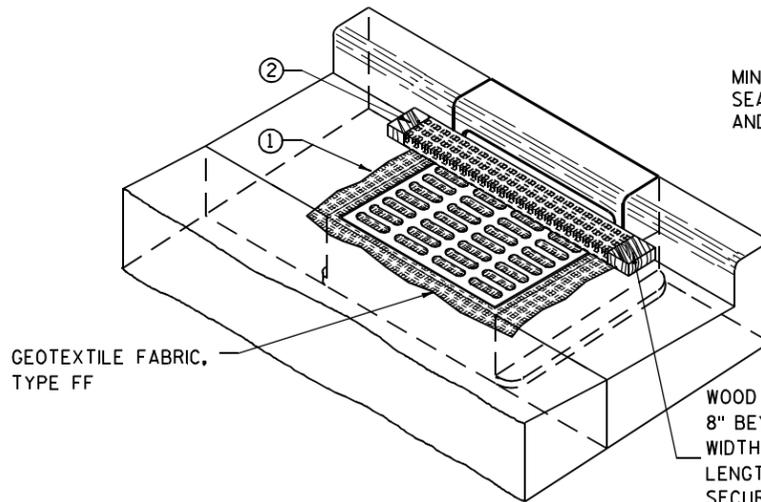
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

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



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

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



**INLET PROTECTION, TYPE C (WITH CURB BOX)**

**INSTALLATION NOTES**

**TYPE B & C**

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

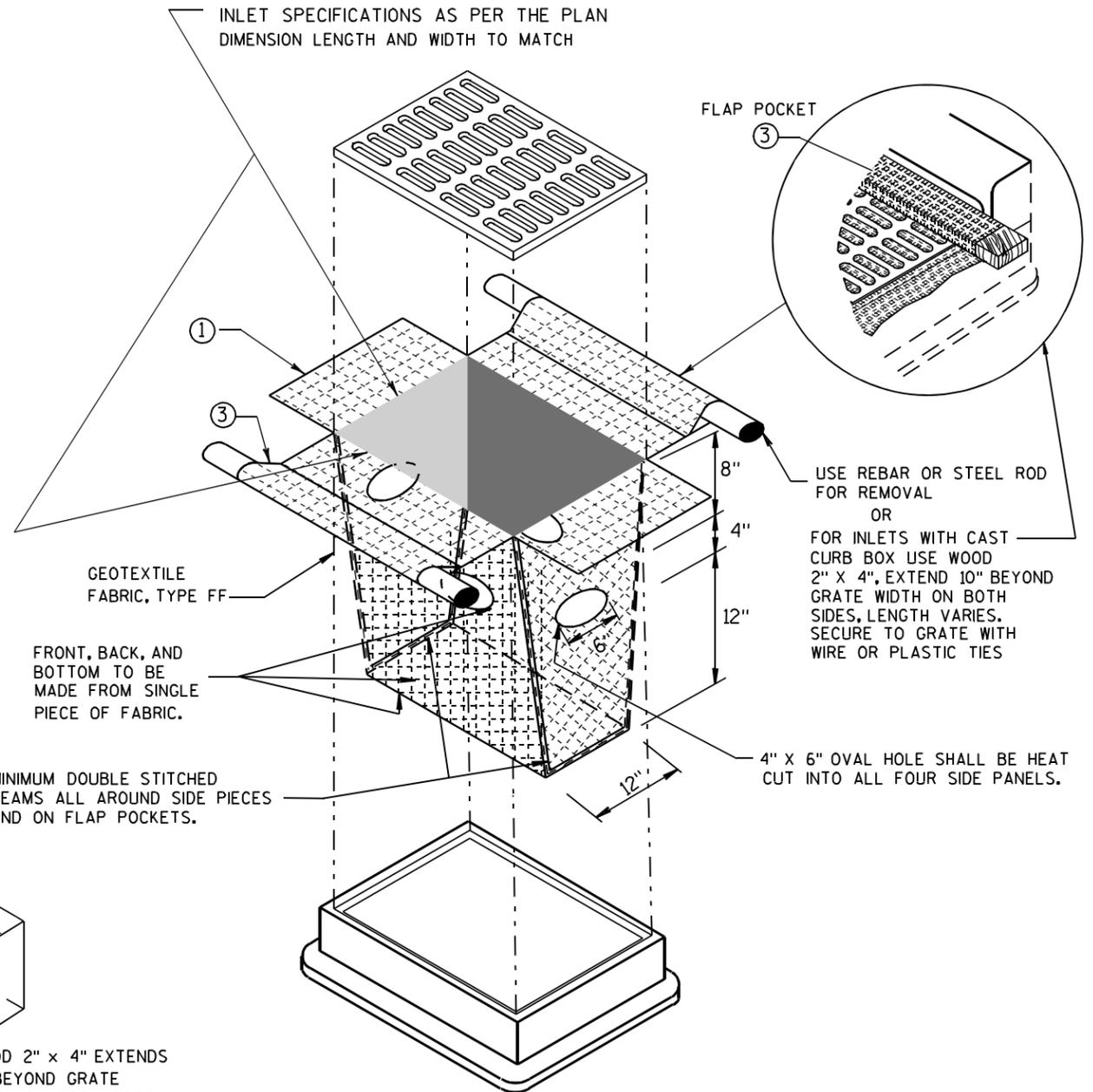
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

**TYPE D**

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

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

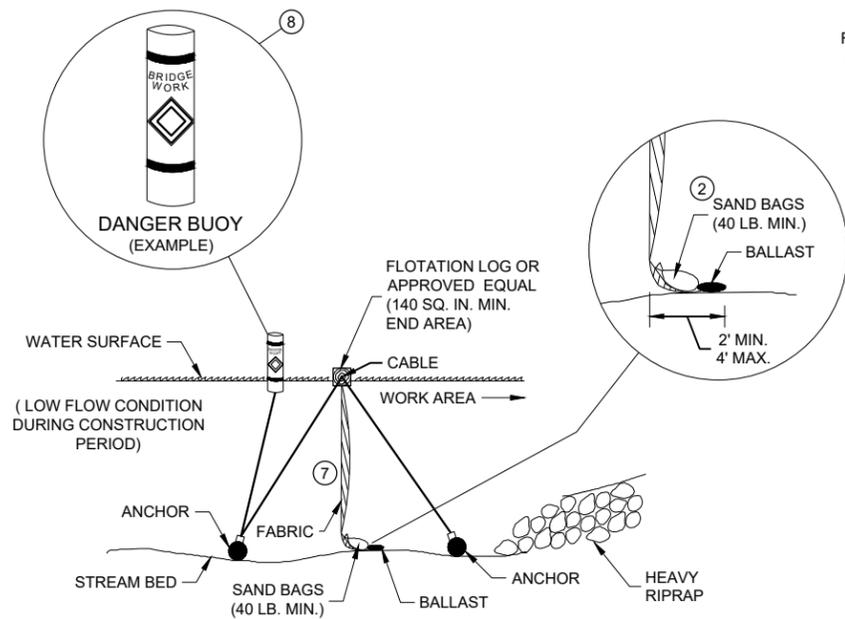
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE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



**INLET PROTECTION, TYPE D**

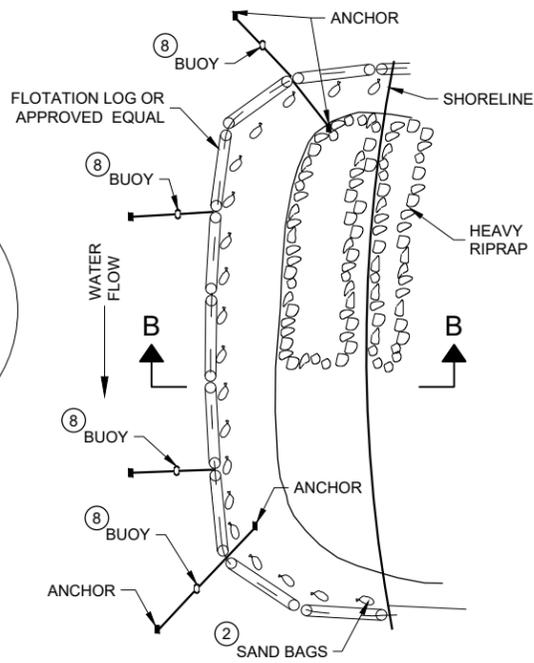
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

<b>INLET PROTECTION TYPE A, B, C, AND D</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/16/02 DATE	/s/ Beth Connestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

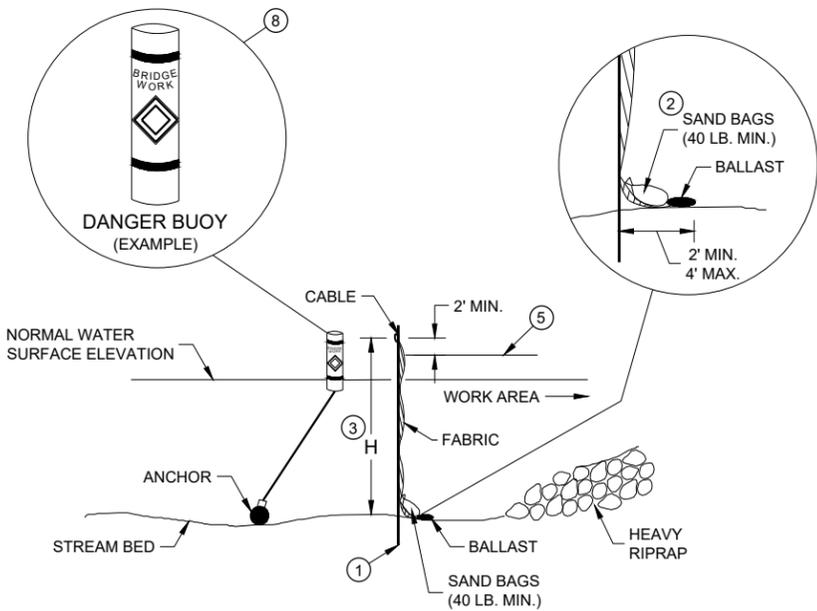


**SECTION B - B**

**TURBIDITY BARRIER - FLOAT ALTERNATIVE  
CAUTION - SEE NOTE 6**

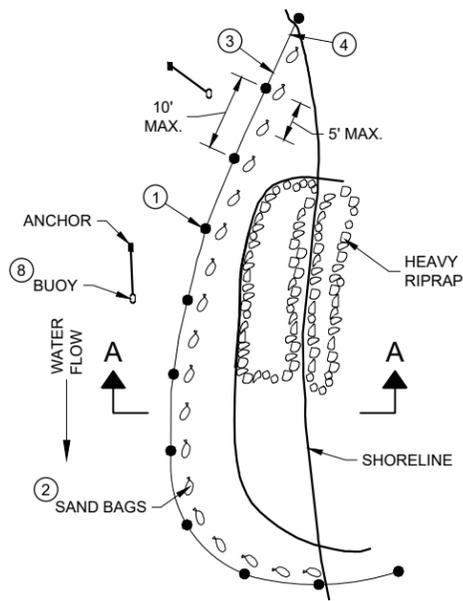


**PLAN VIEW**



**SECTION A - A**

**TURBIDITY BARRIER - STANDARD POST INSTALLATION**



**PLAN VIEW**

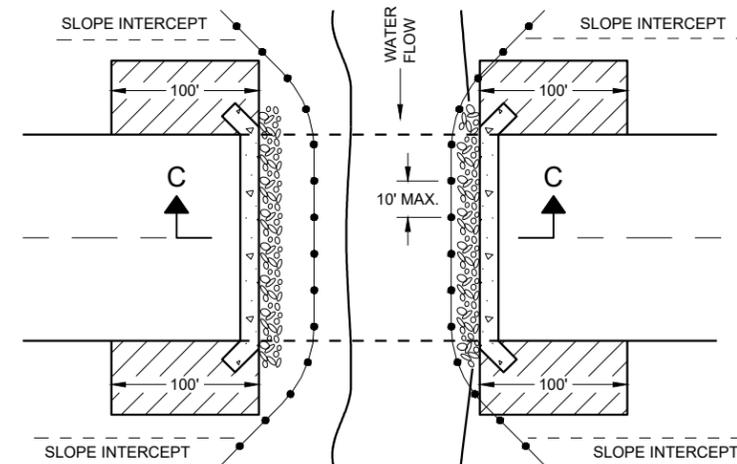
**TURBIDITY BARRIER PLACEMENT DETAILS**

**GENERAL NOTES**

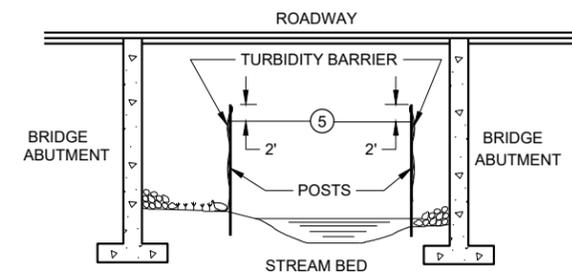
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

- ① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
- ② SAND BAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.
- ③ WHEN BARRIER HEIGHT "H" EXCEEDS 8 FEET, POST SPACING MAY NEED TO BE DECREASED.
- ④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.
- ⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE Q2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.
- ⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.
- ⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.
- ⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



**PLAN VIEW**



**SECTION C - C**

**TURBIDITY BARRIER DETAIL SHOWING  
TYPICAL PLACEMENT AT STRUCTURES**

**TURBIDITY BARRIER**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
6/4/02 DATE /S/ Beth Cannestra  
DATE CHIEF ROADWAY DEVELOPMENT  
ENGINEER

FHWA

**GENERAL NOTES**

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

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

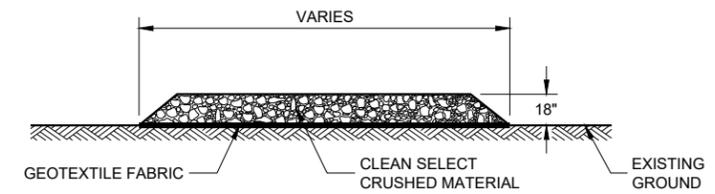
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

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

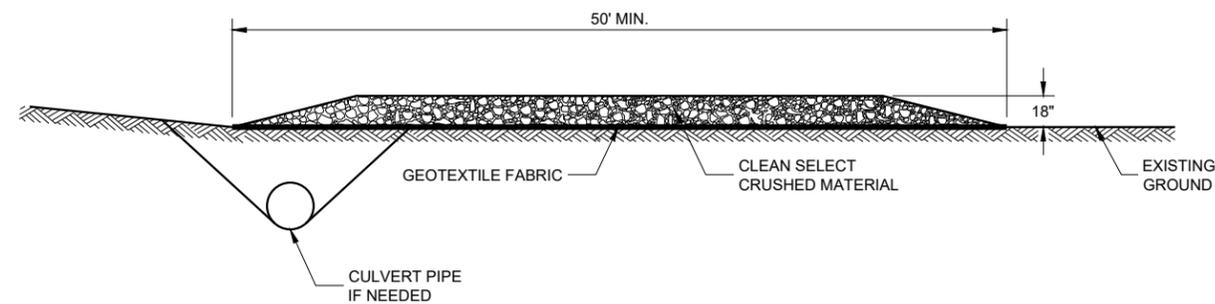
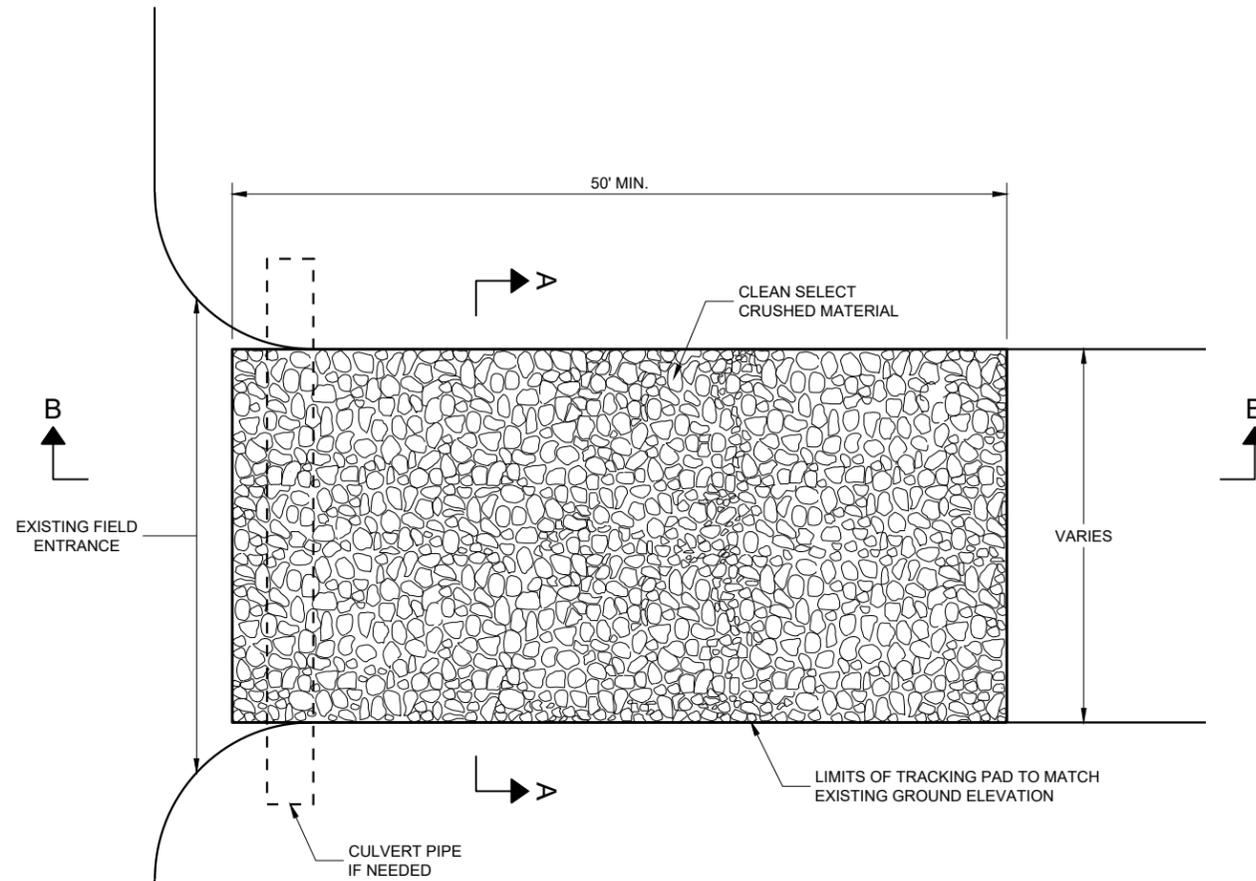
SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

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

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



**SECTION A - A**



**SECTION B - B**

**TRACKING PAD**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

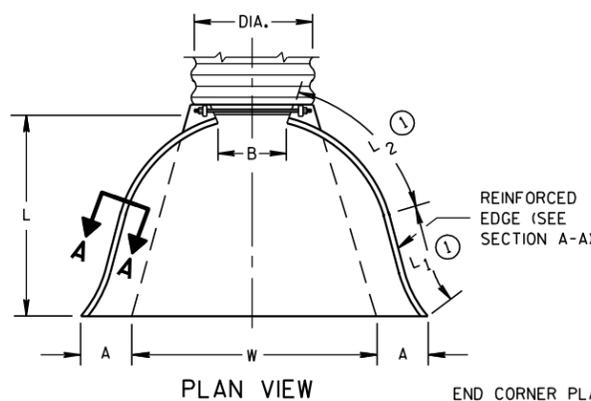
FHWA

METAL APRON ENDWALLS											
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1	L2	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.

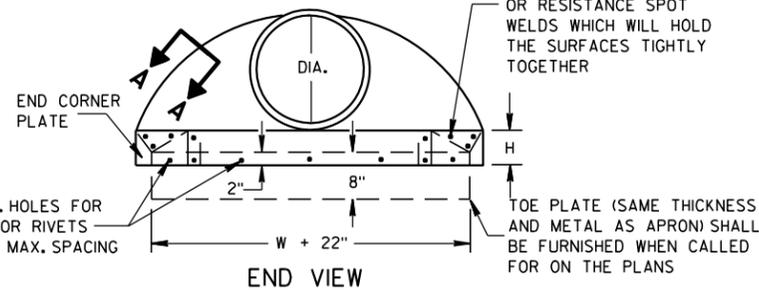
\* EXCEPT CENTER PANEL SEE GENERAL NOTES

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

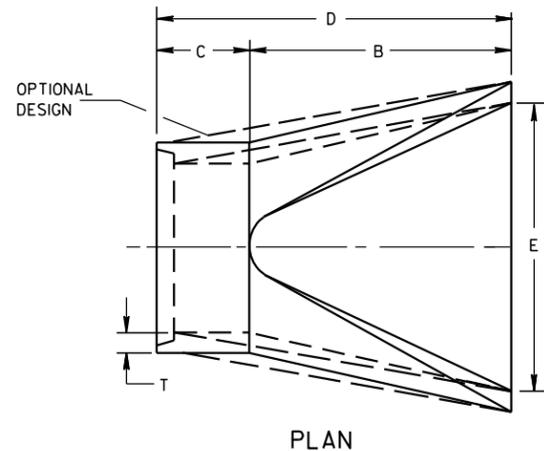
\* MINIMUM  
\*\* MAXIMUM



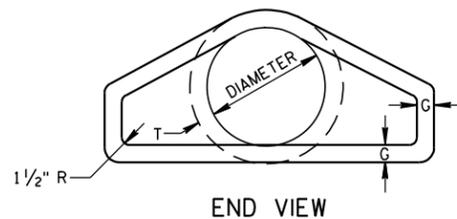
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER



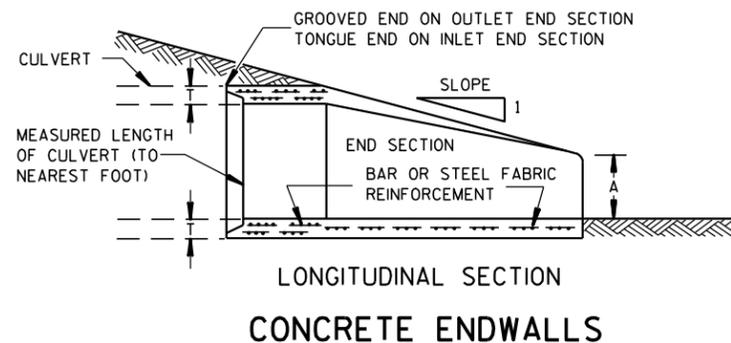
SIDE ELEVATION  
METAL ENDWALLS



PLAN

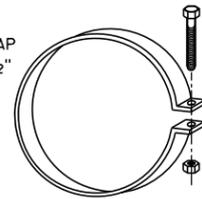


END VIEW

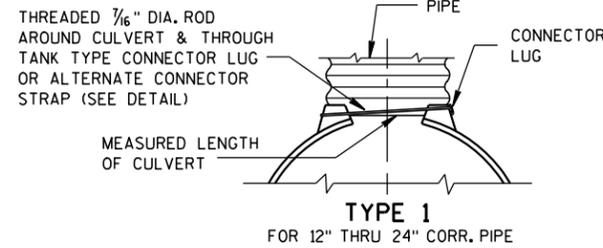


LONGITUDINAL SECTION  
CONCRETE ENDWALLS

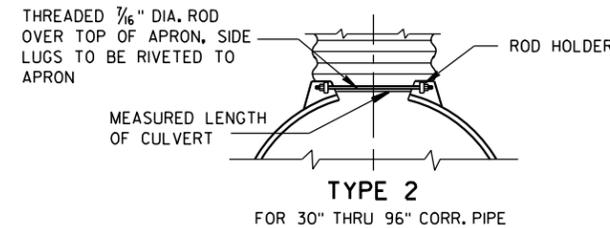
1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



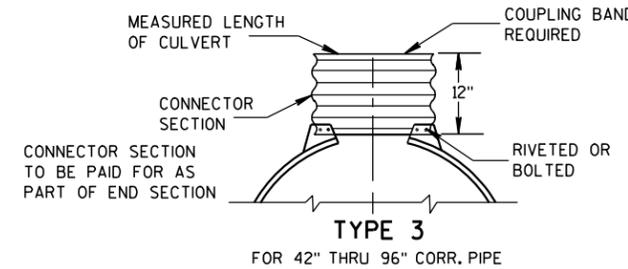
ALTERNATE FOR TYPE 1 CONNECTION  
END SECTION CONNECTOR STRAP



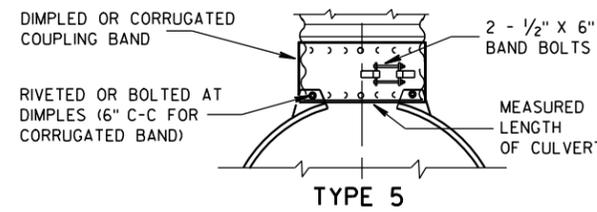
TYPE 1  
FOR 12" THRU 24" CORR. PIPE



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

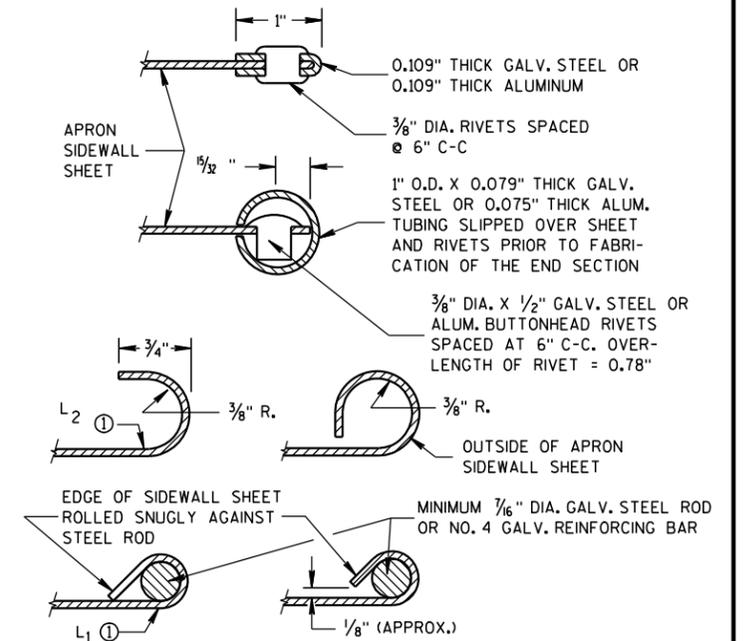
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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 VICE 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.

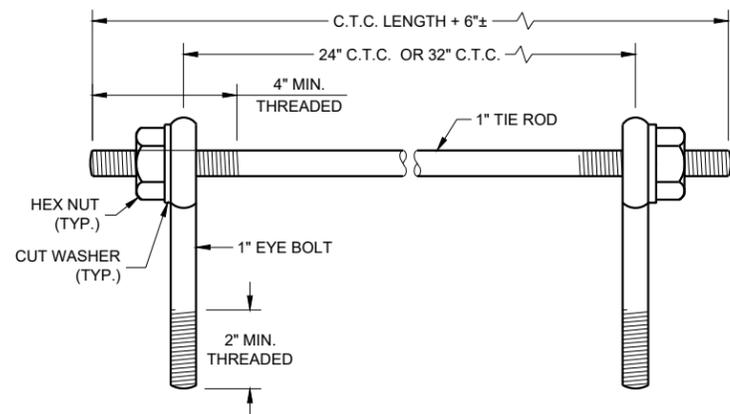
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

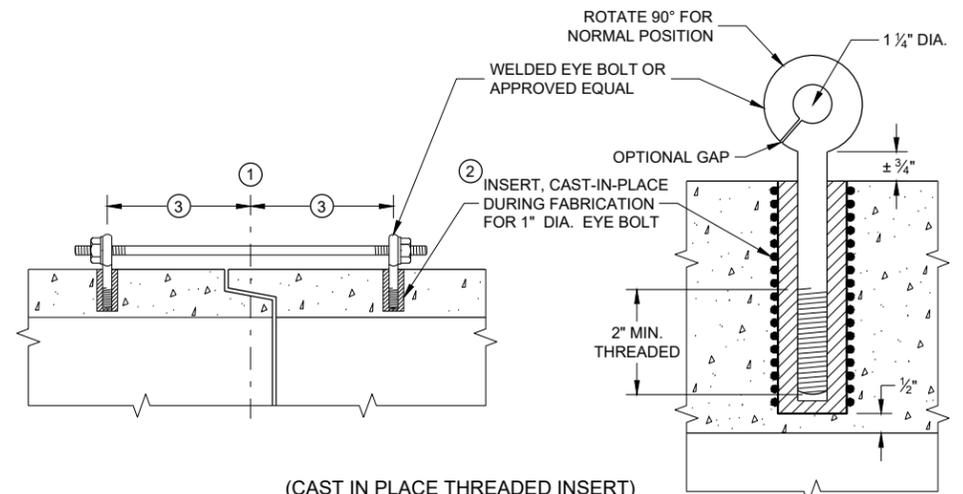
APRON ENDWALLS FOR  
CULVERT PIPE

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



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



(CAST IN PLACE THREADED INSERT)  
**LONGITUDINAL SECTIONS**

**GENERAL NOTES**

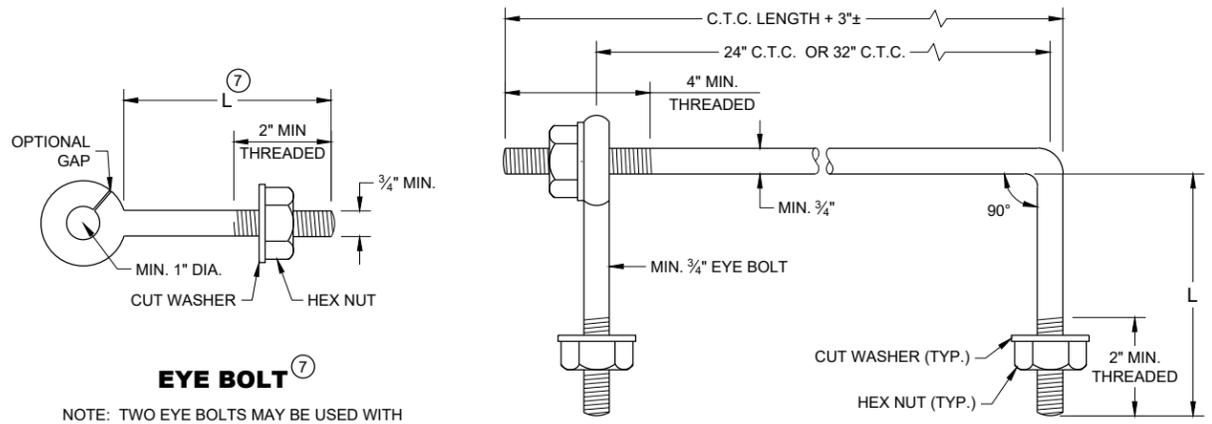
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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.

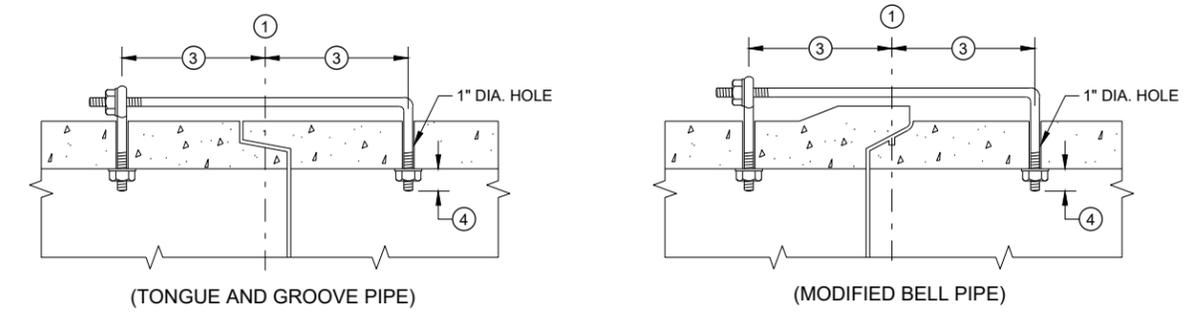
JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

- ① CENTER LINE 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 PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.
- 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.
- ⑦ EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.



**EYE BOLT AND TIE ROD**

**EYE BOLT**  
 NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



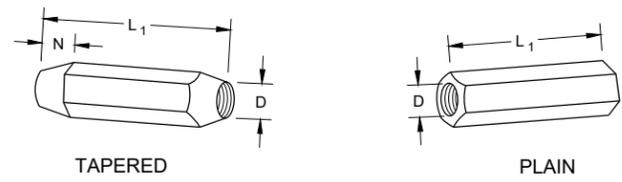
**LONGITUDINAL SECTION**  
 (JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

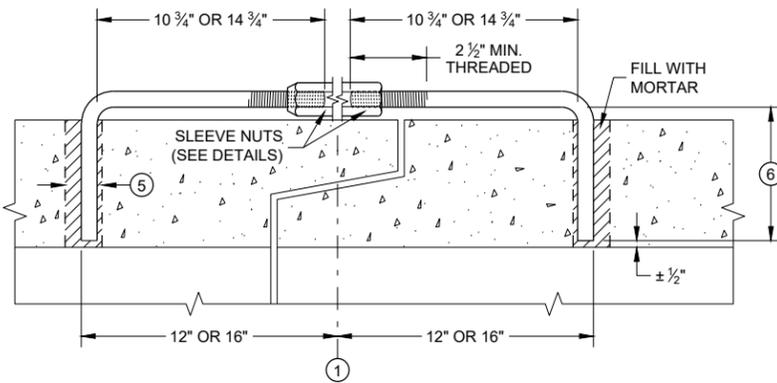
ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L <sub>1</sub>	N
12 - 60	5/8	5/8	5	1/2
66 - 84	3/4	3/4	5	1/2
90 - 144	1	1	7	1 7/16

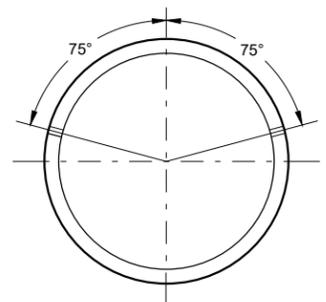
DIMENSIONS SHOWN ARE IN INCHES



RIGHT AND LEFT THREADS  
**SLEEVE NUTS**

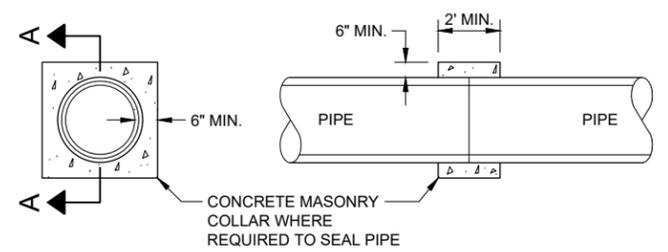


**LONGITUDINAL SECTION**  
**ADJUSTABLE TIE ROD (ALTERNATE NO. 3)**



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

**TRANSVERSE SECTION**

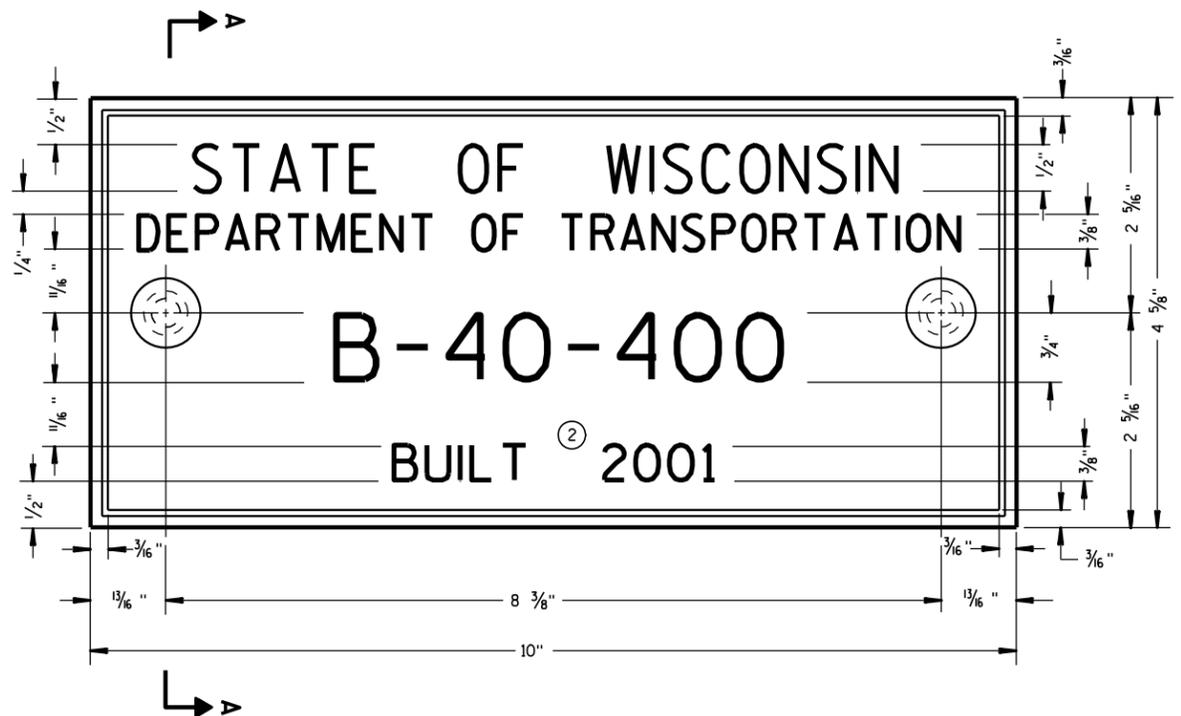


**SECTION A - A**  
**CONCRETE COLLAR DETAIL**

**JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL**

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

APPROVED  
 November 2021 /S/ Rodney Taylor  
 DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER



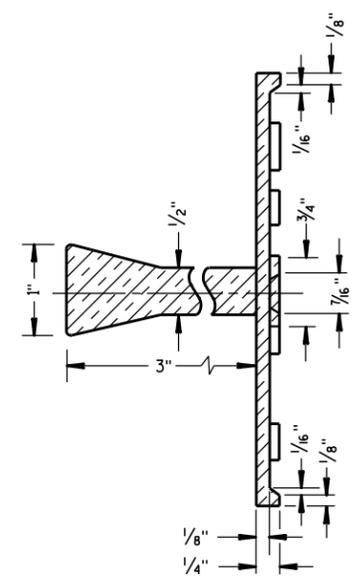
**TYPICAL NAME PLATE**  
(BRIDGES, CULVERTS, AND RETAINING WALLS)

**GENERAL NOTES**

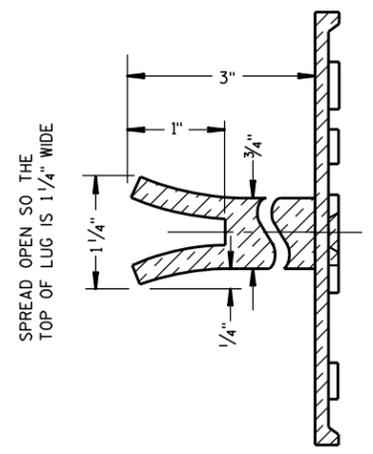
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

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



**SECTION A-A**



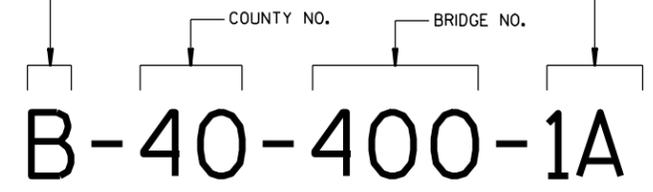
**ALTERNATE LUG**

6

6

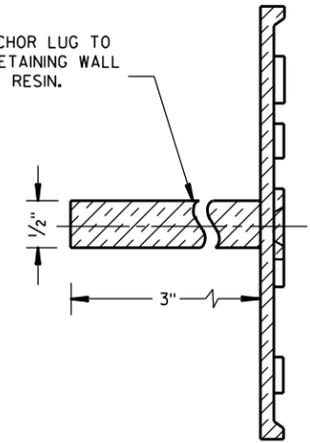
FOR MULTI-UNIT STRUCTURES  
LINE 3 ABOVE SHALL READ

- B = BRIDGE
- C = CULVERT
- R = RETAINING WALL
- UNIT NO. FOR MULTIPLE UNIT BRIDGE



**NUMBERING DESIGNATION  
MULTI-UNIT STRUCTURES**

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

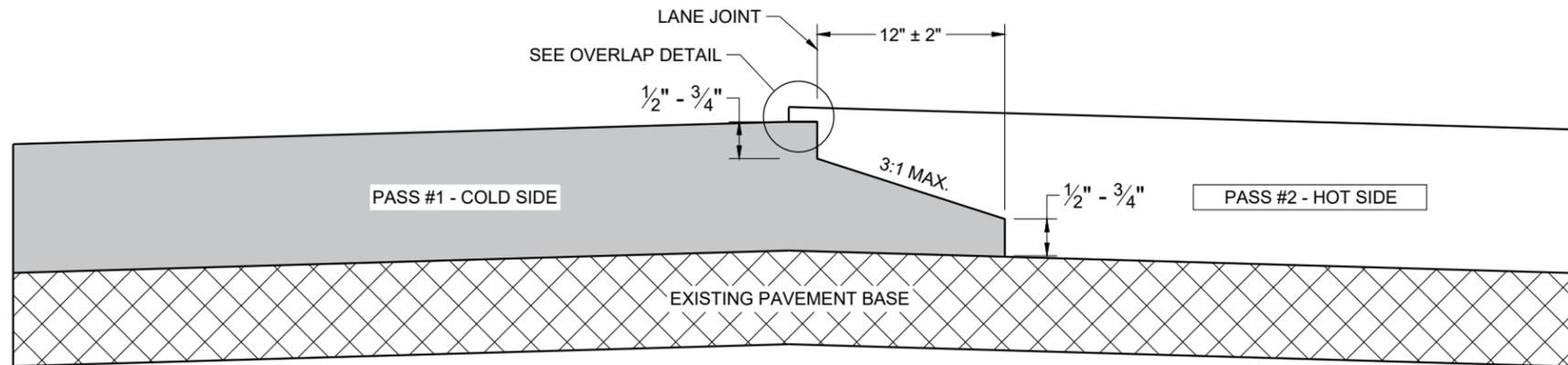


**ALTERNATE LUG**  
(FOR ATTACHMENT TO PRECAST STRUCTURES)

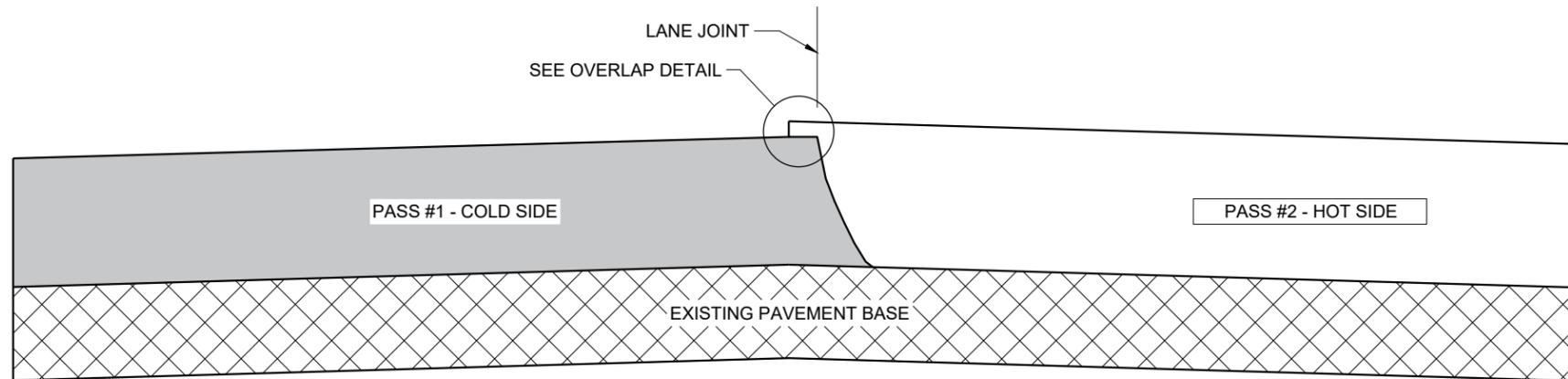
S.D.D. 12 A 3-10

S.D.D. 12 A 3-10

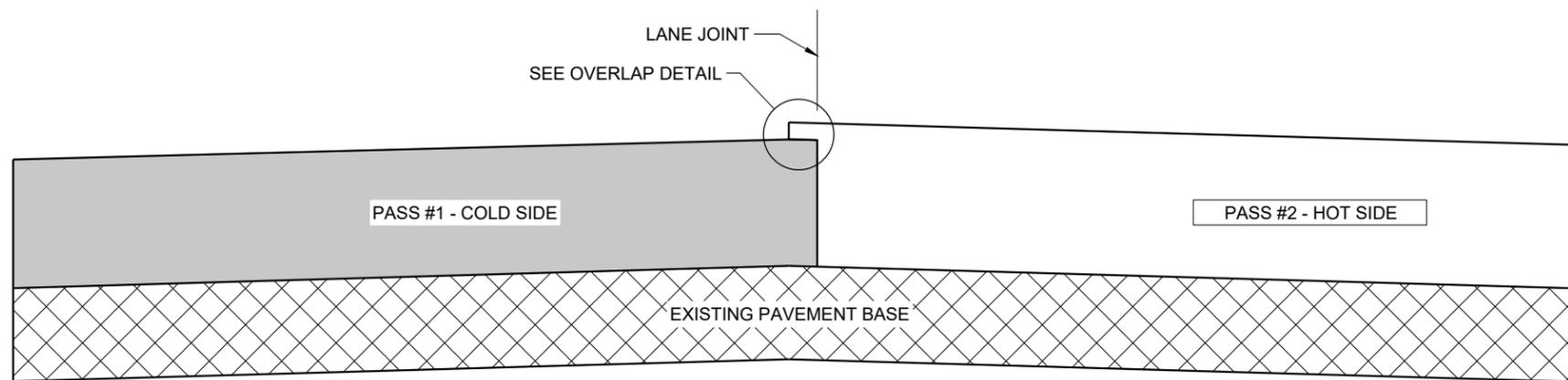
<b>NAME PLATE (STRUCTURES)</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE 3/26/10	/S/ Scot Becker CHIEF STRUCTURAL DEVELOPMENT ENGINEER
FHWA	



**TYPICAL PAVEMENT CROSS SECTION  
NOTCHED WEDGE JOINT**



**TYPICAL PAVEMENT CROSS SECTION  
VERTICAL JOINT**



**TYPICAL PAVEMENT CROSS SECTION  
VERTICAL JOINT (MILLED)**

**GENERAL NOTES**

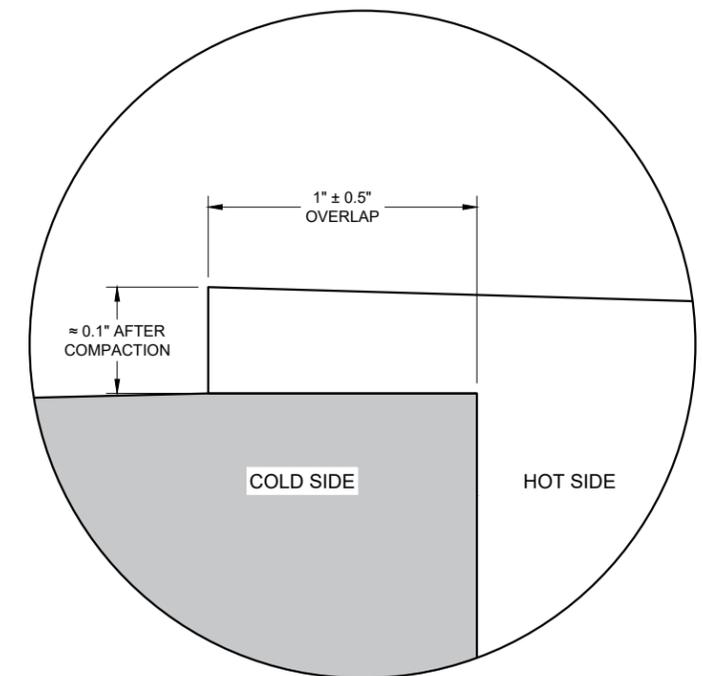
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY  $1" \pm 0.5"$  AND THE HOT SIDE OF THE JOINT REMAINS HIGHER THAN THE COLD SIDE BY APPROXIMATELY  $0.1"$  AFTER FINAL COMPACTION. (IT WILL BE FLUSH WHEN PAVING IN ECHELON.)

ONLY REMOVE THE LONGITUDINAL NOTCHED WEDGE JOINT FOR SMA PAVEMENT OR AS DIRECTED BY THE ENGINEER TO ADDRESS SPECIFIC LENGTHS OF JOINT DAMAGED BY TRAFFIC.

WHEN MILLING BACK OR REMOVING ANY LONGITUDINAL JOINT, LIMIT THE MATERIAL REMOVED TO  $2"$  FROM THE TOP NOTCH OR FROM THE VERTICAL JOINT EDGE ON THE COLD SIDE OF THE JOINT.

USE LONGITUDINAL MILLED JOINT AS PLANS SHOW OR THE AS THE ENGINEER DIRECTS.



**OVERLAP DETAIL (TYPICAL)**

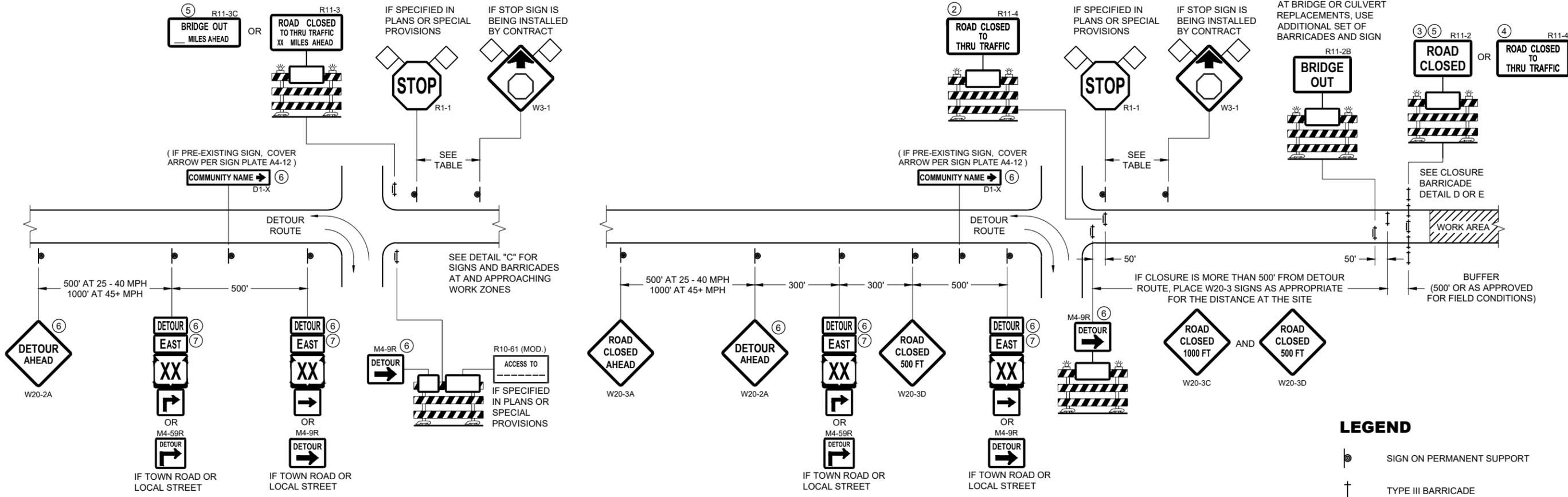
6

6

SDD 13C19 - 03

SDD 13C19 - 03

<b>HMA LONGITUDINAL JOINTS</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2020 DATE	/S/ Steven Hefel HMA PAVEMENT ENGINEER
FHWA	



**DETAIL A  
MAINLINE CLOSURE WITH POSTED DETOUR**

WORK ZONE GREATER THAN OR EQUAL TO 1/2 MILE FROM  
DETOUR ROUTE ( 1000 FEET IF URBAN )

**DETAIL B  
MAINLINE CLOSURE WITH POSTED DETOUR**

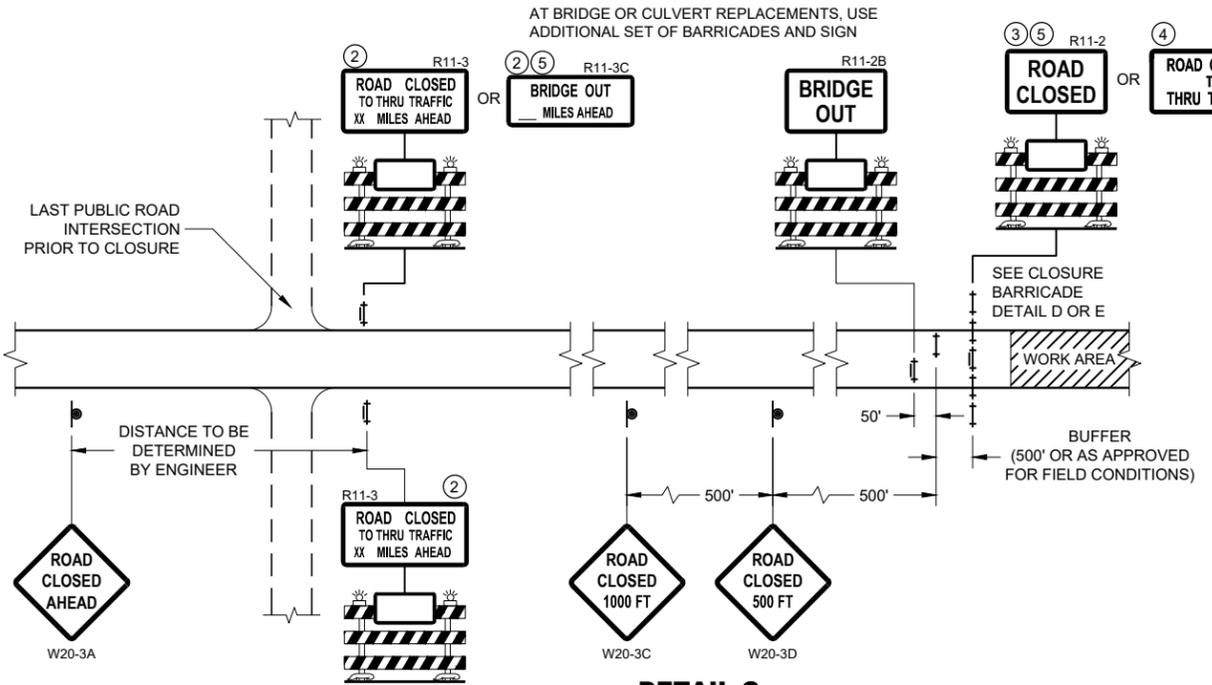
WORK ZONE LESS THAN 1/2 MILE FROM  
DETOUR ROUTE ( 1000 FEET IF URBAN )

**LEGEND**

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)

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

- M4 - 8
- M3 - X
- M1 - 4
- M1 - 6
- M1 - 5A
- M05 - 1
- M06 - 1



**DETAIL C  
MAINLINE CLOSURE, NO POSTED DETOUR**

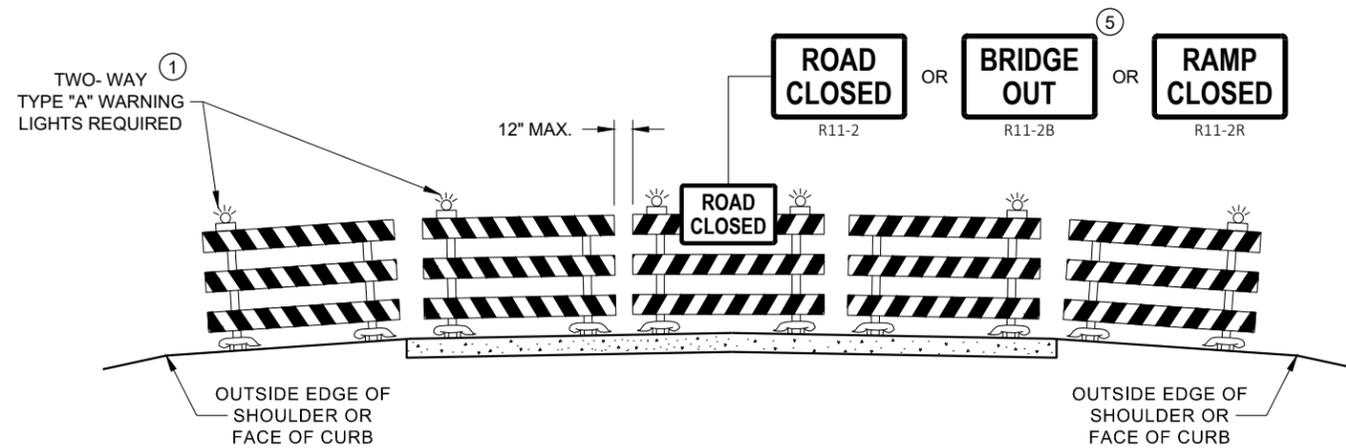
SEE SDD 15C2-SHEET "b"  
FOR GENERAL NOTES  
AND FOOTNOTES ① THROUGH ⑦

**BARRICADES AND SIGNS  
FOR MAINLINE CLOSURES**

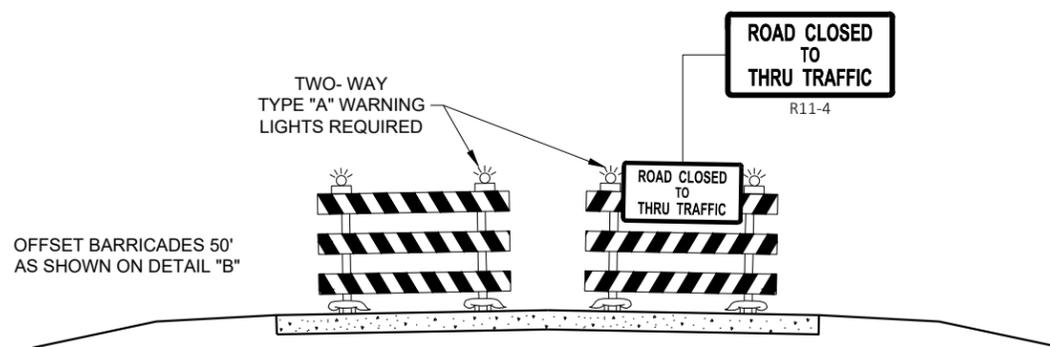
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2023 /S/ Andrew Heidtke  
DATE DATE WORK ZONE ENGINEER

FHWA



**DETAIL D  
ROAD CLOSURE BARRICADE DETAIL  
APPROACH VIEW**



**DETAIL E  
LANE CLOSURE BARRICADE DETAIL  
APPROACH VIEW**

SEE SDD 15C2 - SHEET "a" FOR LEGEND

**GENERAL NOTES**

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

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

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

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

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

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

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

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

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

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

- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60" X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

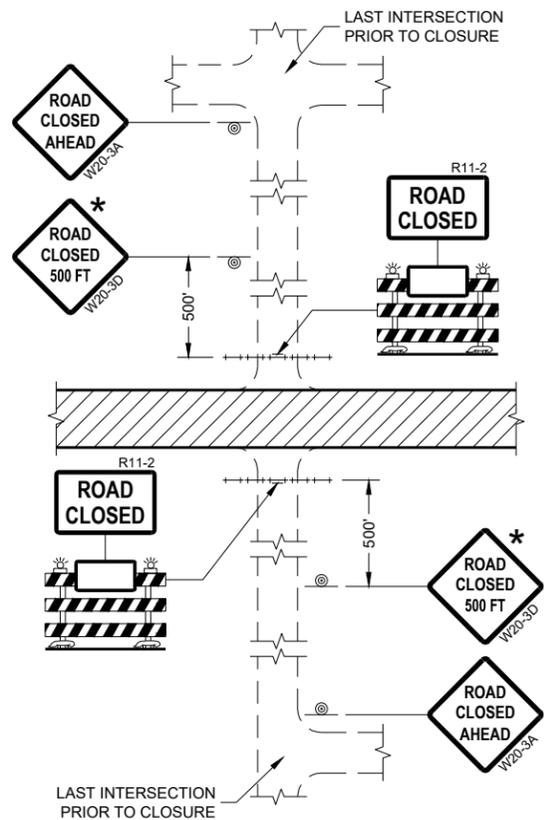
- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- ② THESE SIGNS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

**BARRICADES AND SIGNS  
FOR  
VARIOUS CLOSURES**

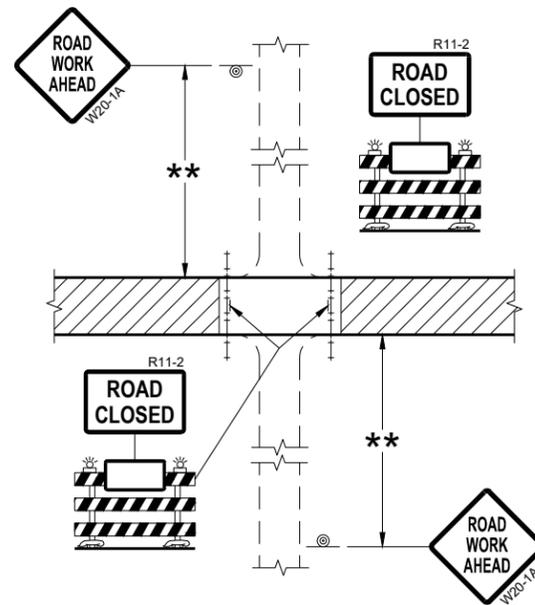
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2023 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

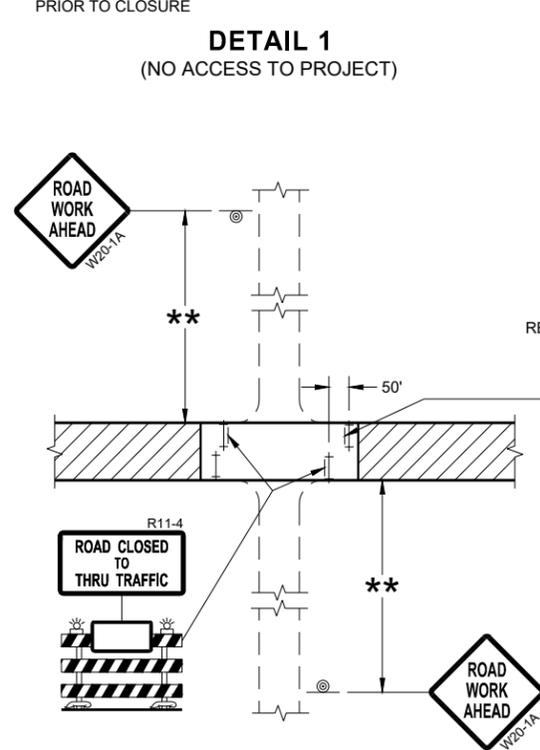
FHWA



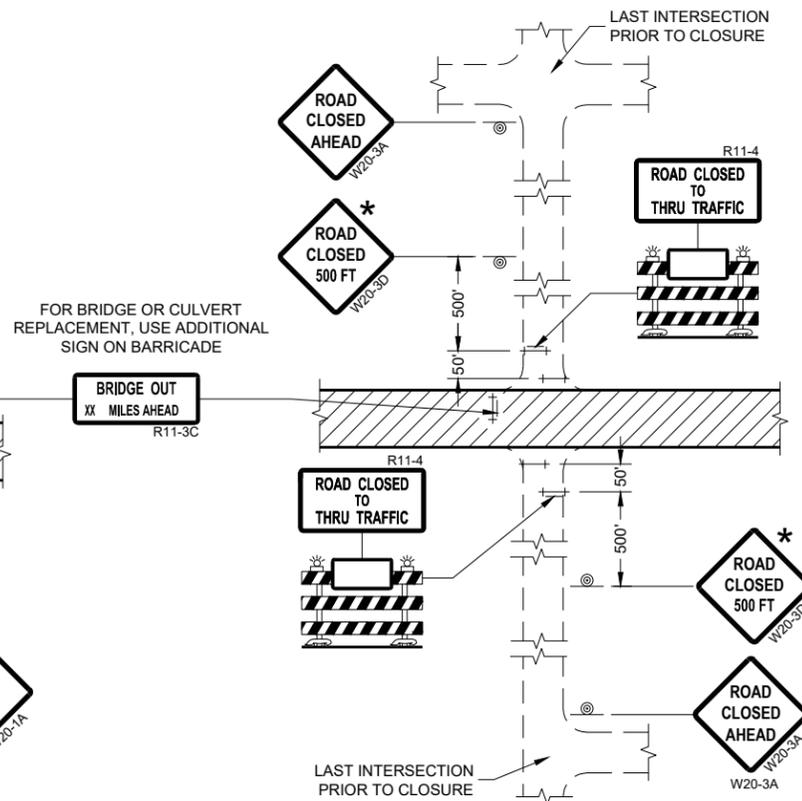
**DETAIL 1**  
(NO ACCESS TO PROJECT)



**DETAIL 2**  
(PUBLIC CROSS-TRAFFIC MAINTAINED.  
NO ACCESS TO PROJECT)



**DETAIL 3**  
(PUBLIC CROSS-TRAFFIC MAINTAINED.  
CONTRACTOR, LOCAL BUSINESS AND  
RESIDENT ACCESS TO PROJECT)



**DETAIL 4**  
(CONTRACTOR, LOCAL BUSINESS AND  
RESIDENT ACCESS TO PROJECT)

**GENERAL NOTES**

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

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

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

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.

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:  
R11-2 SHALL BE 48" X 30".  
R11-4 AND R11-3 SHALL BE 60" X 30".

\* OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FEET OR LESS FROM THE WORK ZONE.

\*\* 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.

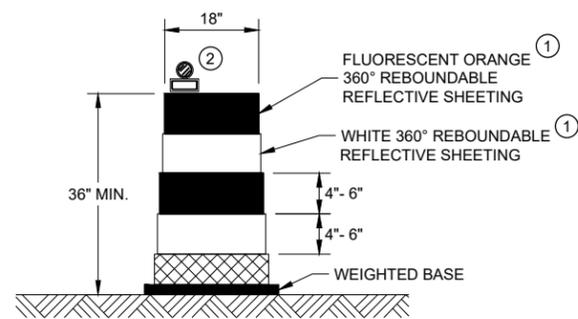
**LEGEND**

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

**BARRICADES AND SIGNS  
FOR  
SIDEROAD CLOSURES**

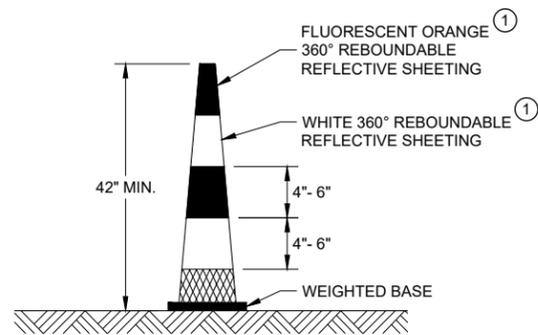
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



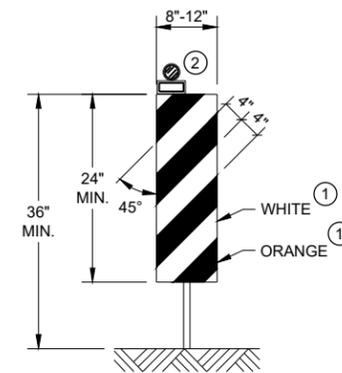
**DRUM**

BALLAST WIDTHS  
RANGE FROM 24"-36"



**42" CONE**

DO NOT USE IN TAPERS  
½ SPACING OF DRUMS  
BALLAST WIDTHS  
RANGE FROM 14"-20"

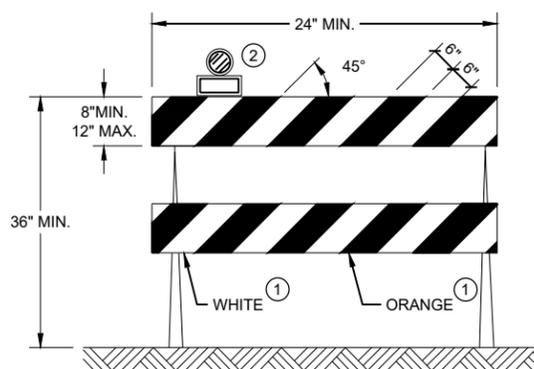


**VERTICAL PANEL**

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

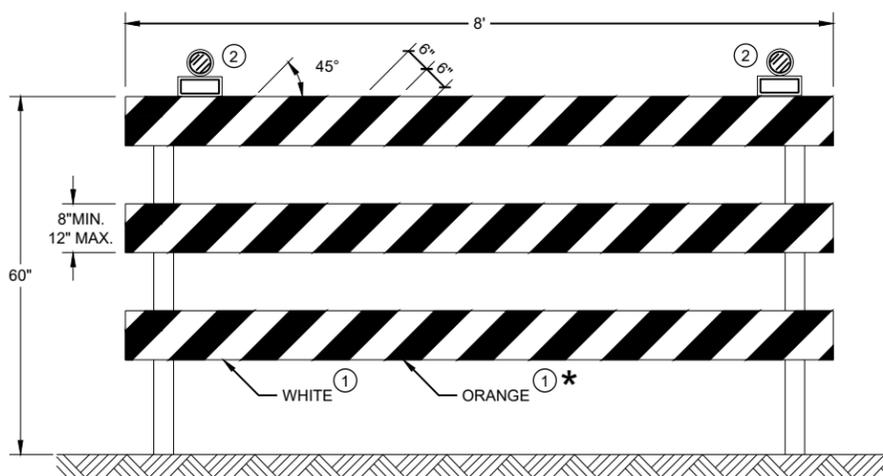
**GENERAL NOTES**

- 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.



**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.

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

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED	/S/ Andrew Heidtke
November 2022	DATE
	WORK ZONE ENGINEER

**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.

- ① 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.
- ② 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.

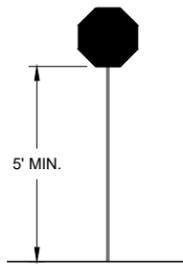
- ③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM 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.



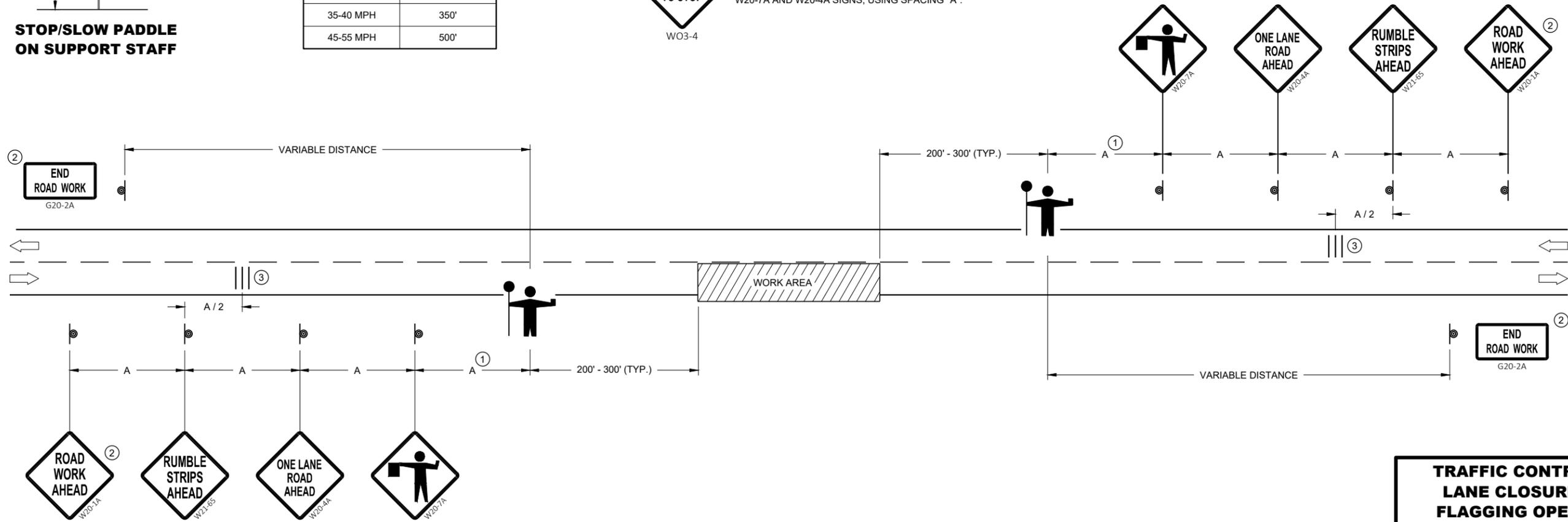
**STOP/SLOW PADDLE ON SUPPORT STAFF**

**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".

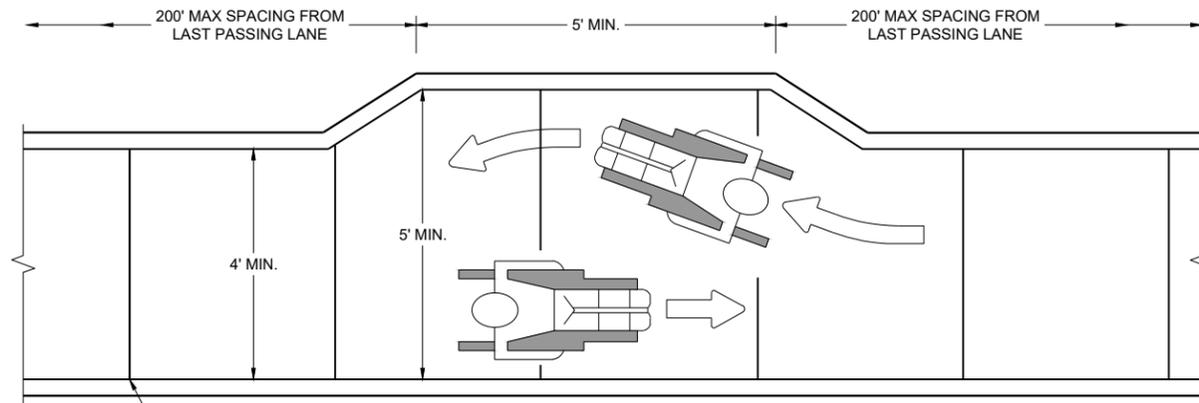


**TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION**

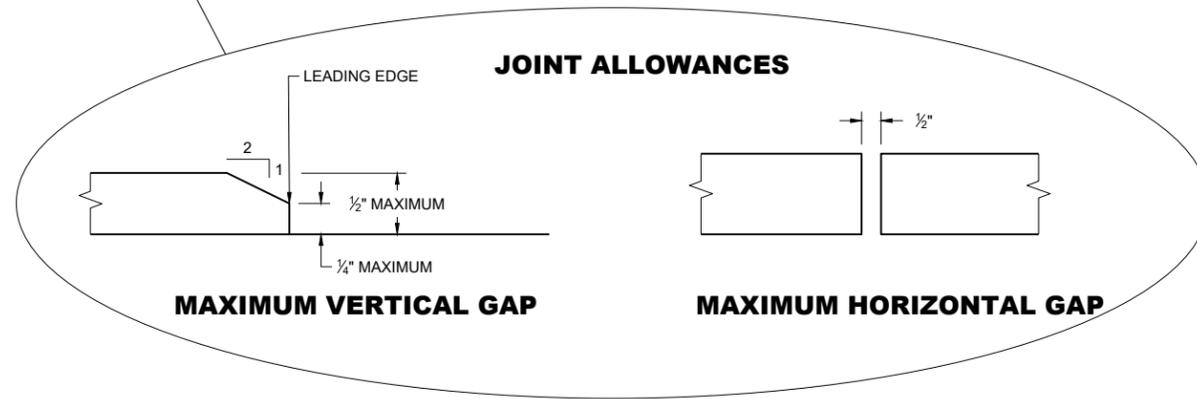
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
DATE: May 2022 /S/ Andrew Heidtke  
WORK ZONE ENGINEER

FHWA



**NARROW SIDEWALK PASSING DETAIL**

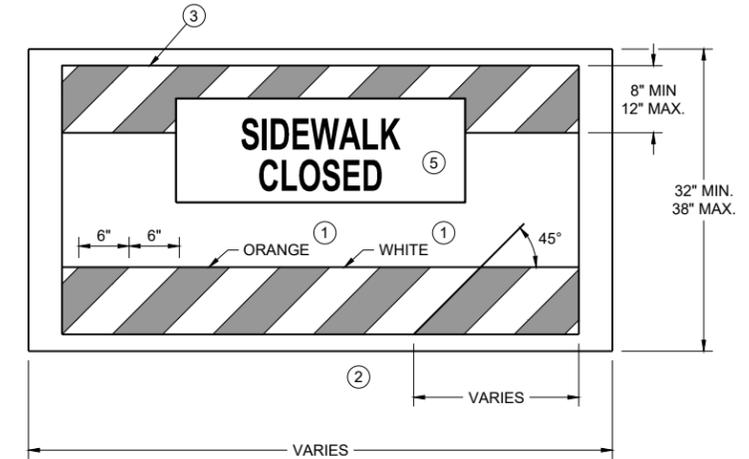


**MAXIMUM VERTICAL GAP**

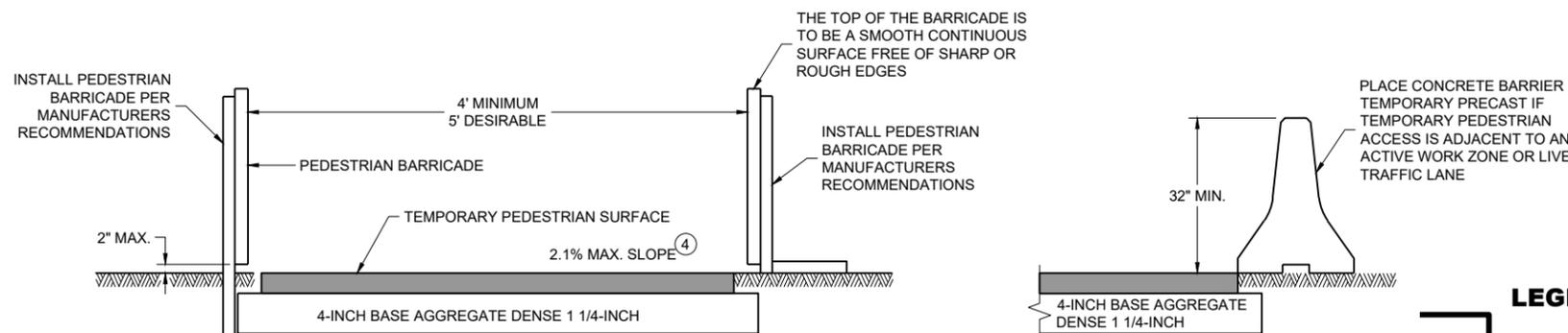
**MAXIMUM HORIZONTAL GAP**

**GENERAL NOTES**

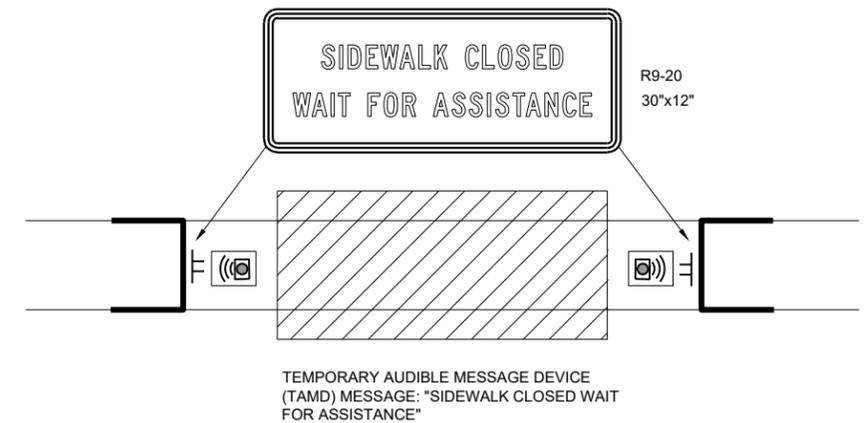
- BARRICADE DEVICE SELECTED FROM APPROVED PRODUCT LIST
- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② SHEETING REQUIRED ON MORE THAN 50% OF BARRICADE WIDTH.
- ③ PLACE SHEETING ON BOTH SIDES OF THE BARRICADE.
- ★ USE THIS DETAIL FOR SHEETING PLACEMENT REFERENCE.
- ④ WHEN THE TEMPORARY PEDESTRIAN ACCESS ROUTE RUNS PARALLEL ON THE ROADWAY SURFACE, THE MAXIMUM CROSS SLOPE WILL MATCH THE EXISTING ROADWAY CROSS SLOPE.
- ⑤ WHERE SIGNS FOR TEMPORARY PEDESTRIAN ACCOMMODATIONS ARE SHOWN BEING PLACED BEHIND TEMPORARY PEDESTRIAN BARRICADE, THE SIGNS MAY BE MOUNTED ON THE TEMPORARY PEDESTRIAN BARRICADE INSTEAD. A CORRUGATED POLYPROPYLENE OR POLYETHYLENE PLASTIC SIGN BASE SHALL BE USED IF MOUNTED ON THE BARRICADE. THE TOP OF THE SIGN SHALL BE MOUNTED BELOW THE TOP OF THE BARRICADE TO ALLOW A CONTINUOUS HAND-TRAILING EDGE.



**TEMPORARY PEDESTRIAN BARRICADE \***



**TEMPORARY PEDESTRIAN ACCESS**



**TEMPORARY PEDESTRIAN FLAGGING**

- LEGEND**
- TEMPORARY PEDESTRIAN BARRICADE
  - AUDIBLE MESSAGE DEVICE
  - TEMPORARY SIGN SUPPORT
  - WORK AREA

**TRAFFIC CONTROL,  
PEDESTRIAN  
ACCOMMODATION**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

**GENERAL NOTES**

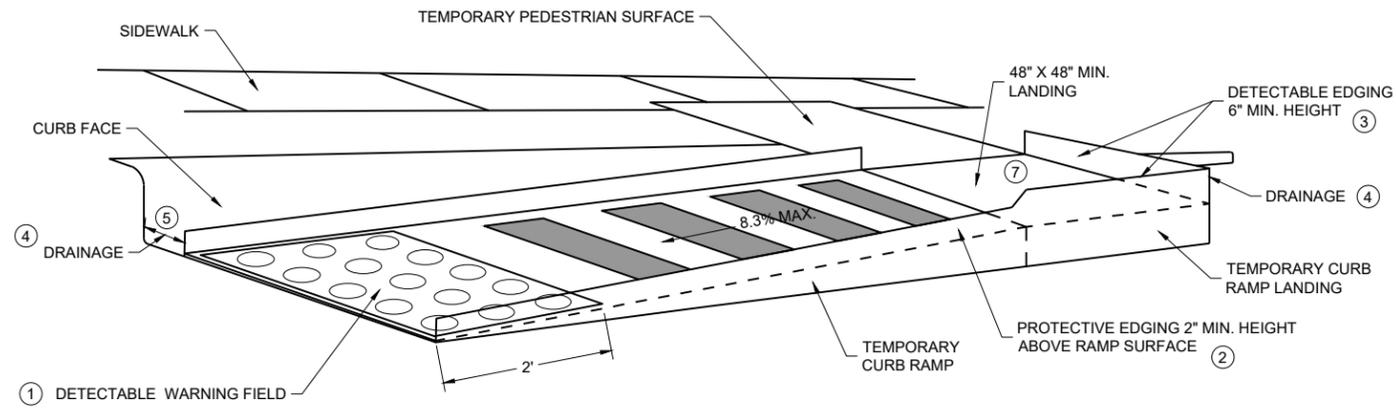
CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.

CURB RAMPS AND LANDINGS SHALL HAVE A 1:48 (2.1%) MAX. CROSS-SLOPE.

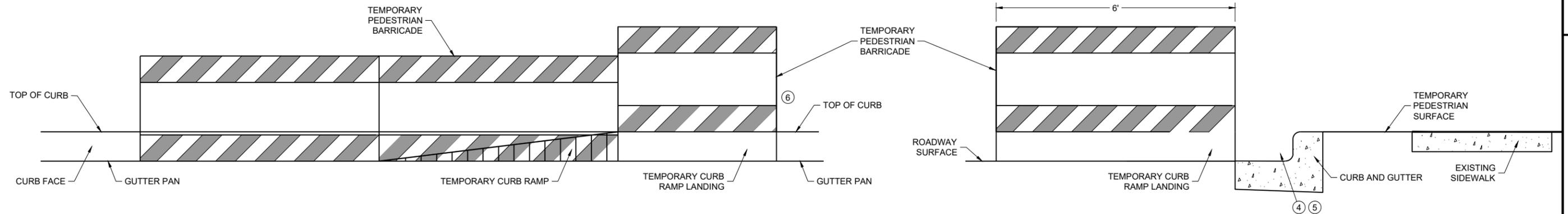
CLEAR SPACE OF 48" X 48" SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP. LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.

CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". LATERAL EDGES MAY BE VERTICAL UP TO 1/4" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN 1/4" AND 1/2".

- ① INSTALL CONTRASTING TEMPORARY DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS, AS SHOWN IN THE PLANS.
- ② PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
- ③ DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
- ④ DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.
- ⑤ ENSURE CURB RAMP IS OUT OF THE GUTTER PAN.
- ⑥ IF ONLY PART OF THE END PANEL OF TEMPORARY PEDESTRIAN BARRICADE PANEL IS NEEDED, EXTEND EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL HERE.
- ⑦ LANDING TO BE SLOPED A MAXIMUM OF 2.1% IN ALL DIRECTIONS OF PEDESTRIAN TRAVEL.



**PERSPECTIVE VIEW**



**FRONT VIEW**

**SIDE VIEW**

**TEMPORARY CURB RAMP PARALLEL TO CURB**

6

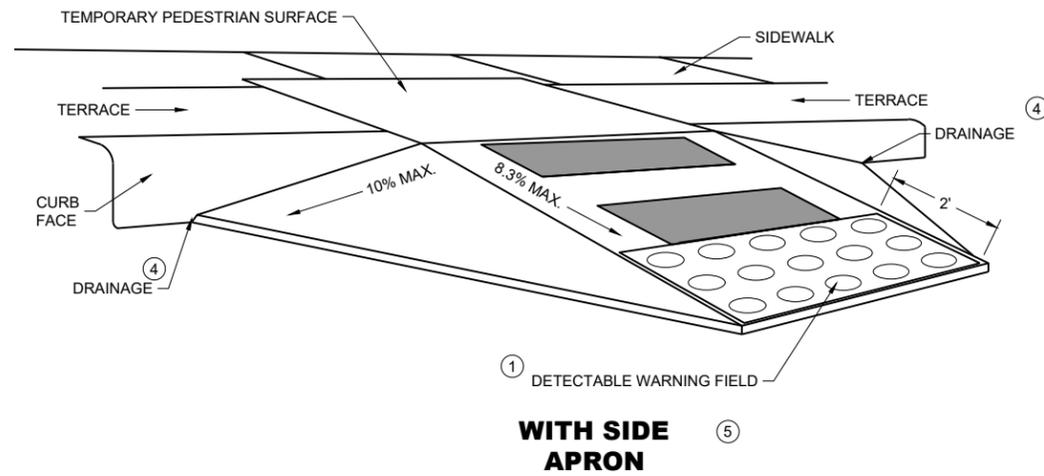
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SDD 15D30-12b

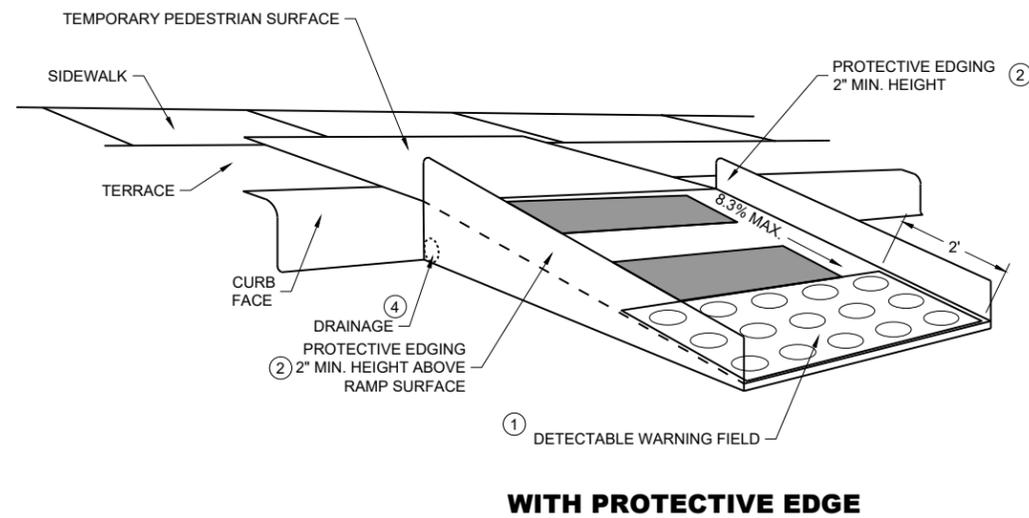
SDD 15D30-12b

**TRAFFIC CONTROL,  
PEDESTRIAN  
ACCOMMODATION**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**WITH SIDE APRON** (5)



**WITH PROTECTIVE EDGE**

**TEMPORARY CURB RAMP PERPENDICULAR TO CURB**

**GENERAL NOTES**

CURB RAMPS SHALL BE 48" MINIMUM WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.

ALTERNATE SIDEWALK WORK BETWEEN LEFT AND RIGHT SIDE OF ROADWAY TO MAINTAIN PEDESTRIAN ACCESS.

CURB RAMPS AND LANDINGS SHALL HAVE A 1:48 (2.1%) MAX. CROSS-SLOPE.

CLEAR SPACE OF 48" X 48" SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.

LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.

CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". LATERAL EDGES MAY BE VERTICAL UP TO 1/4" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN 1/4" AND 1/2".

- (1) INSTALL CONTRASTING TEMPORARY DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS, AS SHOWN IN THE PLANS
- (2) PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
- (3) DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
- (4) DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.
- (5) CAN ONLY BE USED FOR RAMPS WITH 6" OR LESS OF VERTICAL CHANGE.

**LEGEND**

-  SIGN ON PERMANENT SUPPORT
-  SIGN ON TEMPORARY SUPPORT
-  UNDER PEDESTRIAN TRAFFIC
-  WORK AREA
-  TEMPORARY PEDESTRIAN BARRICADE
-  DIRECTION OF TRAFFIC
-  TEMPORARY AUDIBLE MESSAGE DEVICE (EXACT PLACEMENT BASED UPON FIELD CONDITIONS)

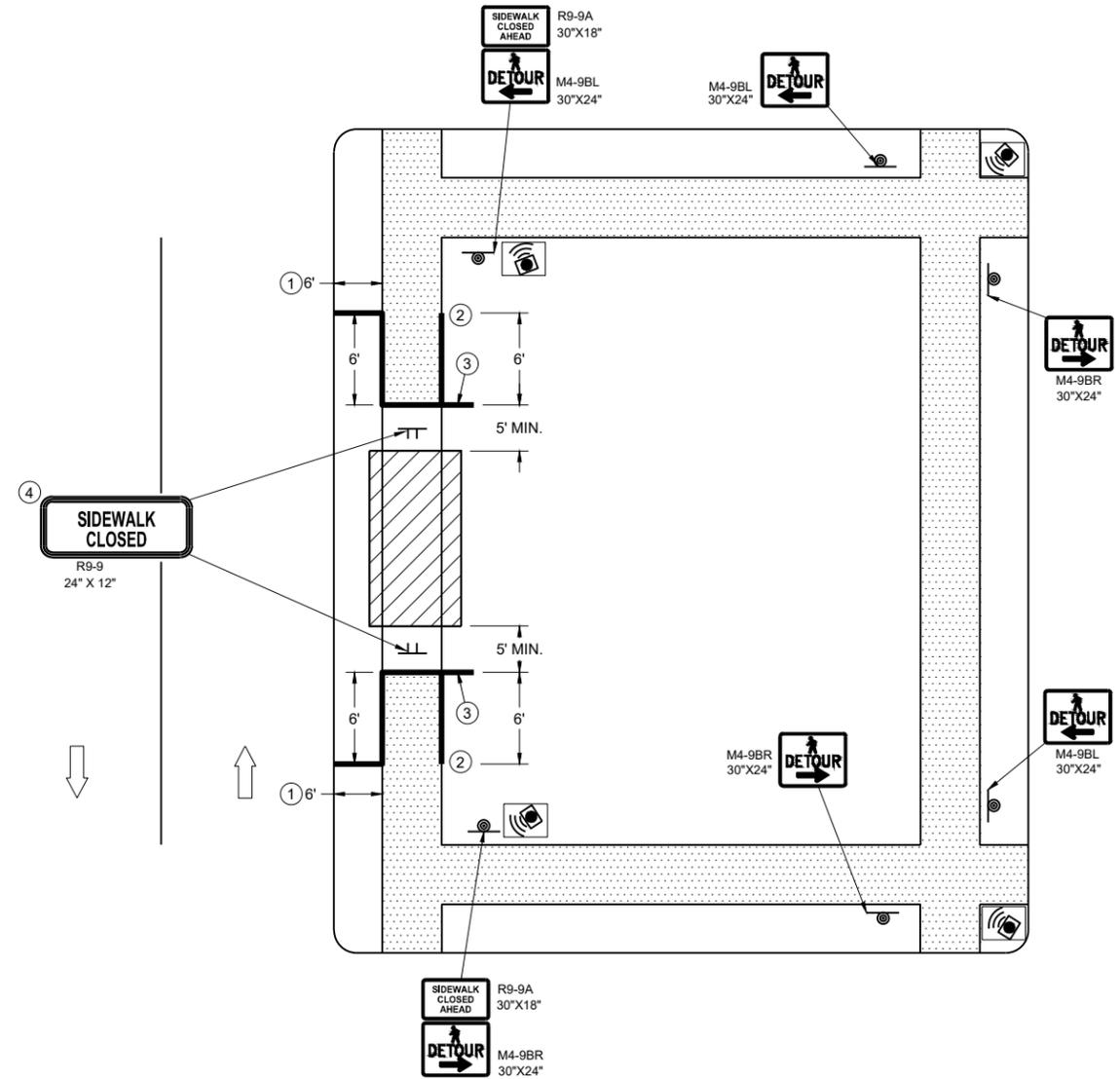
**GENERAL NOTES**

WHERE TEMPORARY BARRICADE RUNS PARALLEL ALONG SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.

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

PLACE TEMPORARY PEDESTRIAN BARRICADE TO FIT FIELD CONDITIONS, AVOIDING CONFLICTS WITH DRIVEWAYS AND OTHER EXISTING FEATURES.

- ① IF TERRACE IS LESS THAN 6 FEET WIDE, OMIT TEMPORARY PEDESTRIAN BARRICADE FROM THE SIDEWALK TO THE CURB.
- ② PLACE BARRICADE CLOSURE SO THAT THE TEMPORARY PEDESTRIAN BARRICADE END IS AT THE LAST OPEN SIDEWALK ACCESS TO RESIDENCES OR BUSINESSES BEFORE THE SIDEWALK CLOSURE.
- ③ IF TEMPORARY PEDESTRIAN BARRICADE PANEL IS WIDER THAN THE SIDEWALK WIDTH, THE PORTION OF EXCESS PANEL SHOULD EXTEND INTO THE TERRACE.
- ④ MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF SIGN.



**SIDEWALK DETOUR, SIDEWALK ONLY ON ONE SIDE**

**TRAFFIC CONTROL,  
PEDESTRIAN ACCOMMODATION**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

**LEGEND**

-  SIGN ON PERMANENT SUPPORT
-  SIGN ON TEMPORARY SUPPORT
-  UNDER PEDESTRIAN TRAFFIC
-  WORK AREA
-  TEMPORARY PEDESTRIAN BARRICADE
-  DIRECTION OF TRAFFIC
-  TEMPORARY AUDIBLE MESSAGE DEVICE (EXACT PLACEMENT BASED UPON FIELD CONDITIONS)

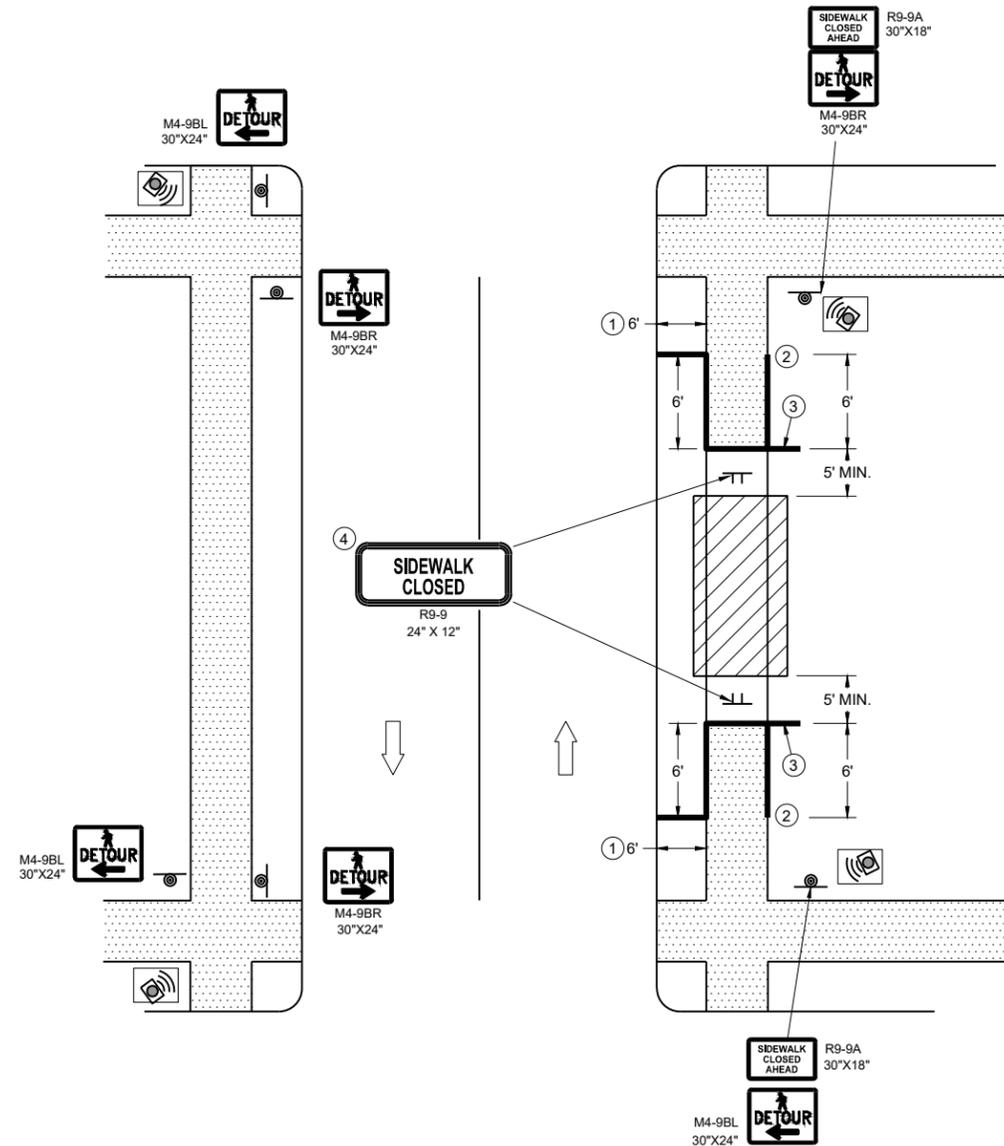
**GENERAL NOTES**

WHERE TEMPORARY BARRICADE RUNS PARALLEL ALONG SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.

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

PLACE TEMPORARY PEDESTRIAN BARRICADE TO FIT FIELD CONDITIONS, AVOIDING CONFLICT WITH DRIVEWAYS AND OTHER EXISTING FEATURES.

- ① IF TERRACE IS LESS THAN 6 FEET WIDE, OMIT TEMPORARY PEDESTRIAN BARRICADE FROM THE SIDEWALK TO THE CURB.
- ② PLACE BARRICADE CLOSURE SO THAT THE TEMPORARY PEDESTRIAN BARRICADE END IS AT THE LAST OPEN SIDEWALK ACCESS TO RESIDENCES OR BUSINESSES BEFORE THE SIDEWALK CLOSURE.
- ③ IF TEMPORARY PEDESTRIAN BARRICADE PANEL IS WIDER THAN THE SIDEWALK WIDTH, THE PORTION OF EXCESS PANEL SHOULD EXTEND INTO THE TERRACE.
- ④ MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF SIGN.



**SIDEWALK DETOUR, SIDEWALK ON BOTH SIDES**

<b>TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION</b>
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

6

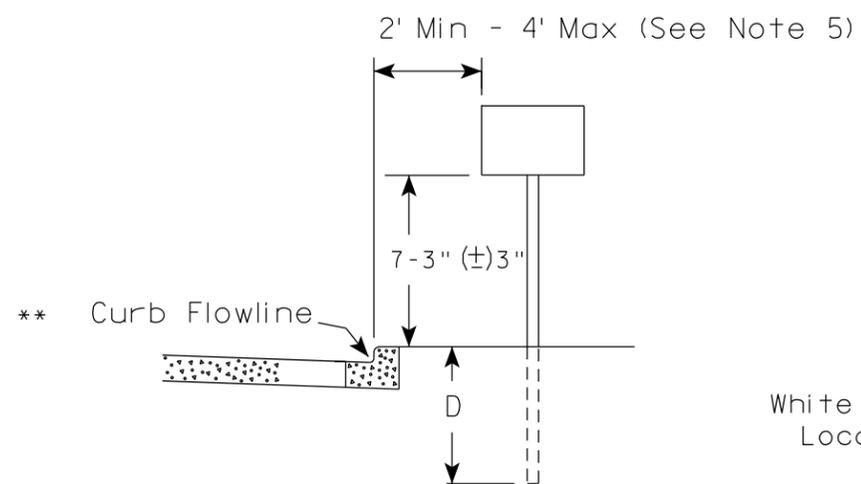
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SDD 15D30-12K

SDD 15D30-12K

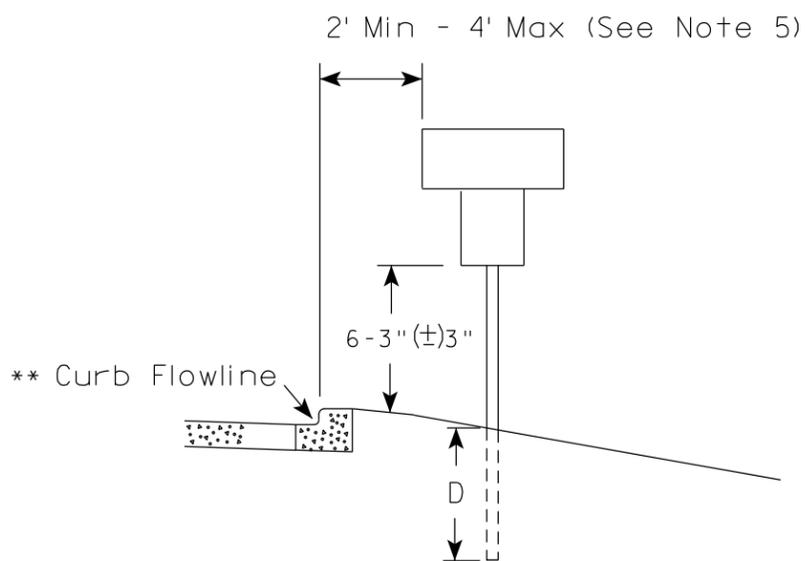
URBAN AREA

RURAL AREA (See Note 2)



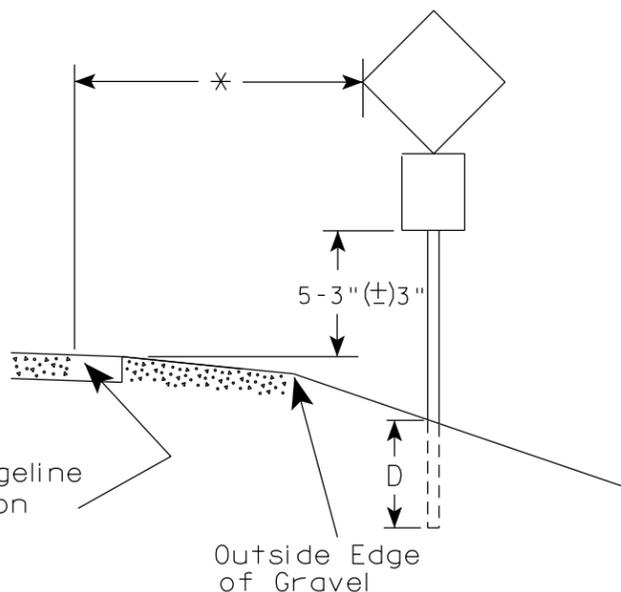
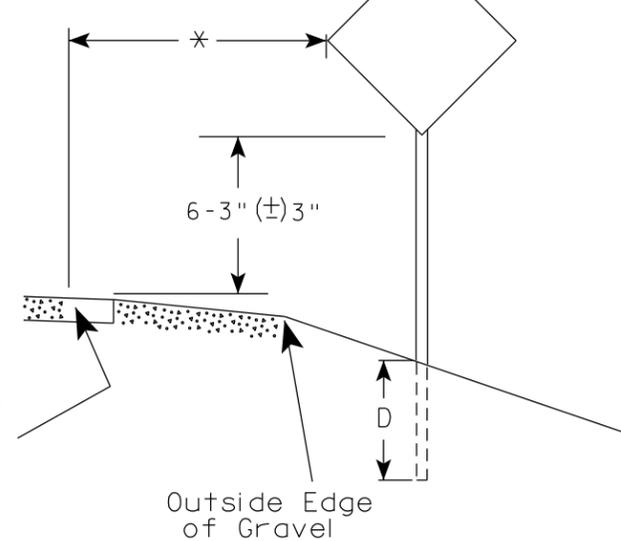
White Edgeline Location

Outside Edge of Gravel



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 or behind barrier wall, see A4-10 sign plate.  
The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (± 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" (± 3)".
3. For expressways and freeways, mounting height is 7'- 3" (± 3)" or 6'-3" (± 3)" depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (± 3)".
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. Folding signs shall be mounted at a height of 5'-3" (± 3)" or as directed by the 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.

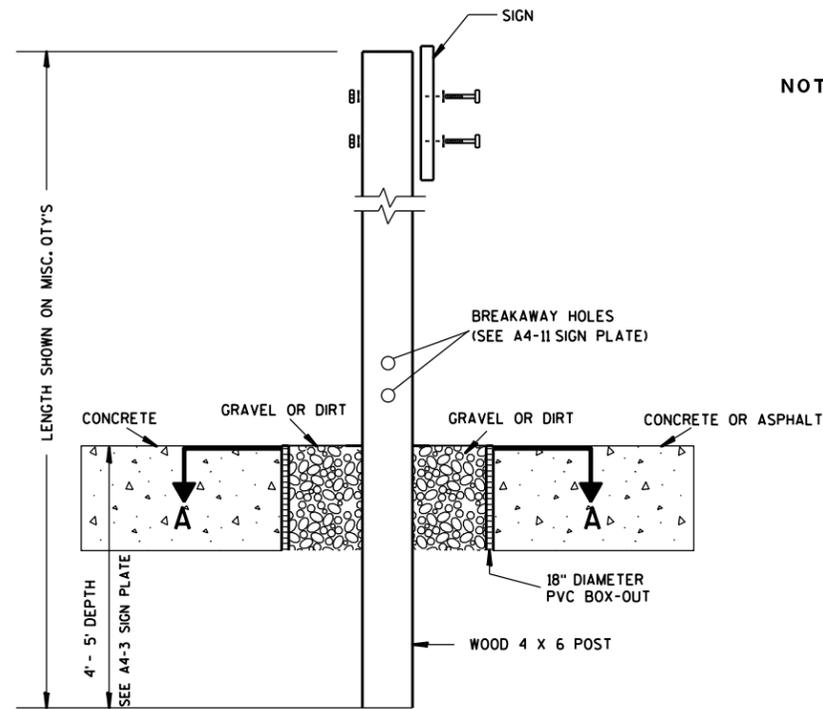
\* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Raub*  
for State Traffic Engineer

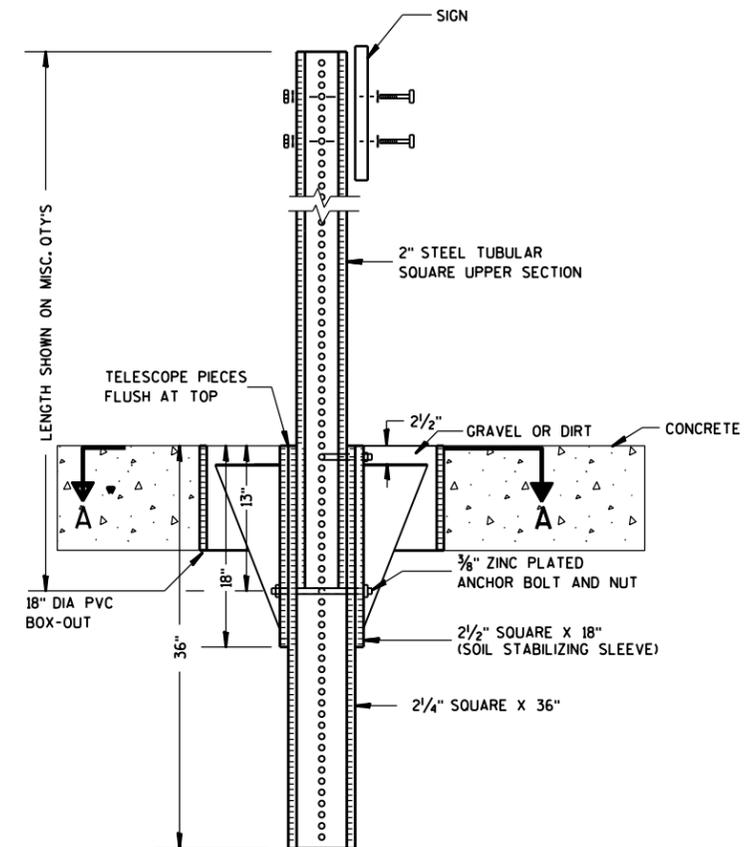
DATE 12/6/23 PLATE NO. A4-3.23



**ELEVATION VIEW**

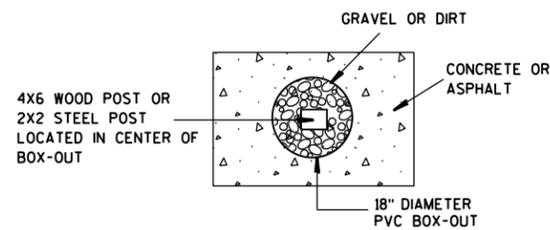
**DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT**

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



**ELEVATION VIEW**

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



**PLAN VIEW**

**FOR NEW CONCRETE/ASPHALT INSTALLATIONS**

**SIGN POST  
BOX-OUTS  
A4-3B**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

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

GENERAL NOTES

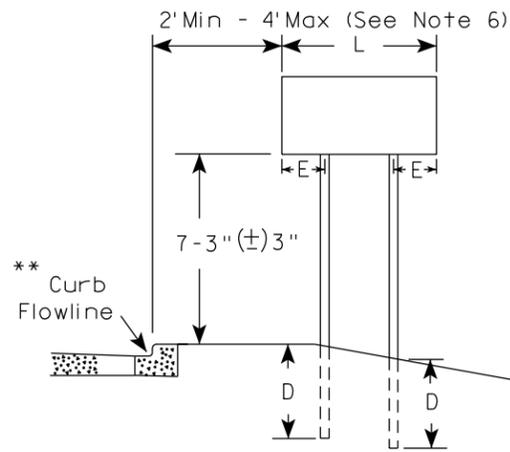
- For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
- See tables below for required number of posts.
- For expressways and freeways, mounting height is 7'-3" (±) 3" or 6'-3" (±) 3" depending upon existence of sub-sign.
- The (±) tolerance for mounting height is 3 inches.
- J-Assemblies are considered to be one sign for mounting height.
- Offset distance shall be consistent with existing signs or consistent throughout length of project.
- Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the engineer.
- The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±) 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" (±) 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.

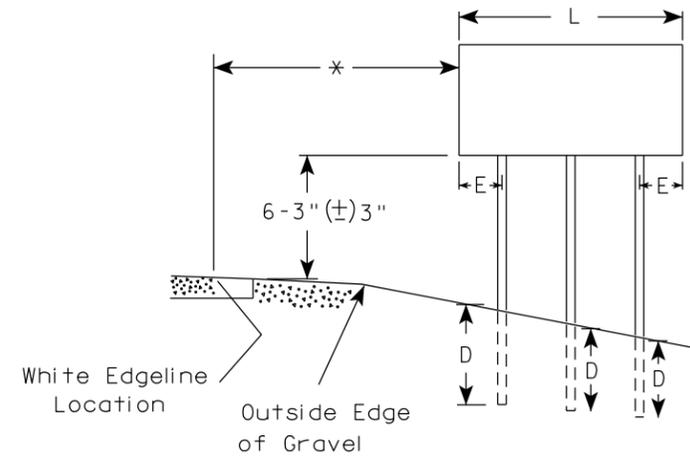
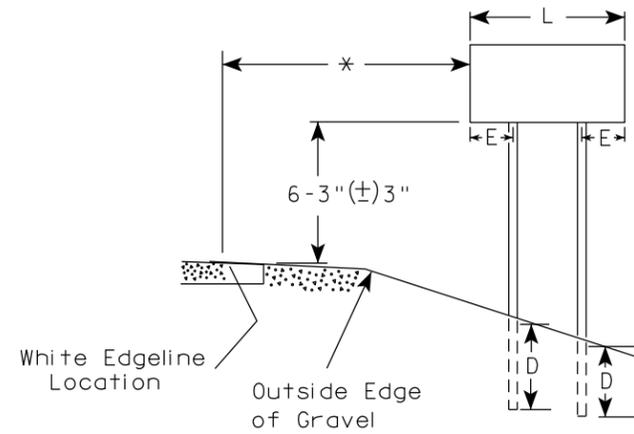
\*\* The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of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

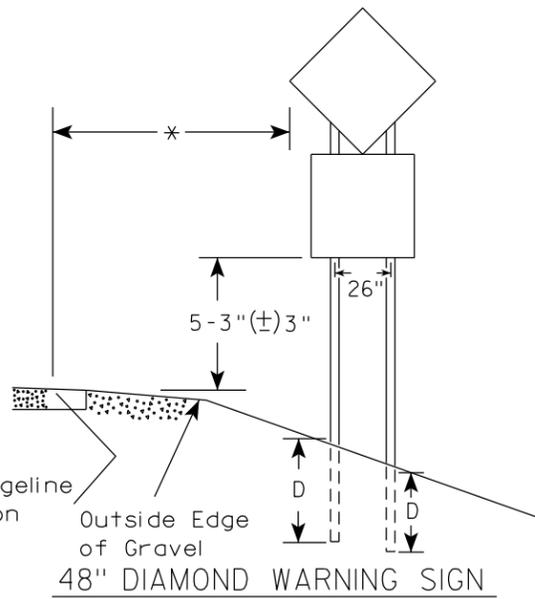
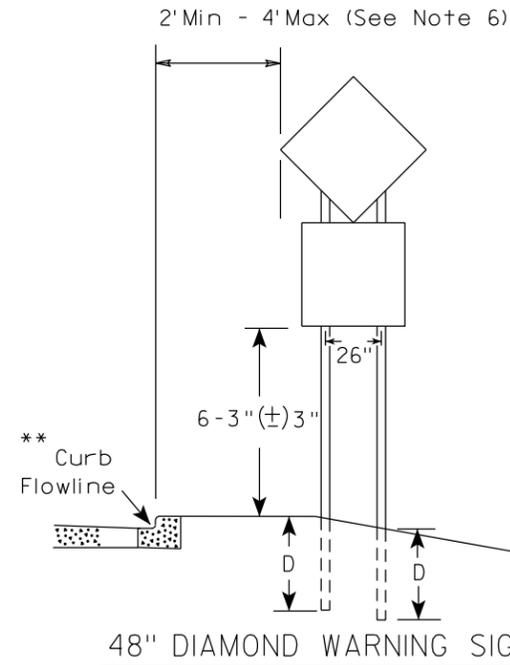
URBAN AREA



RURAL AREA (See Note 3)



URBAN 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 12/6/23 PLATE NO. A4-4.16

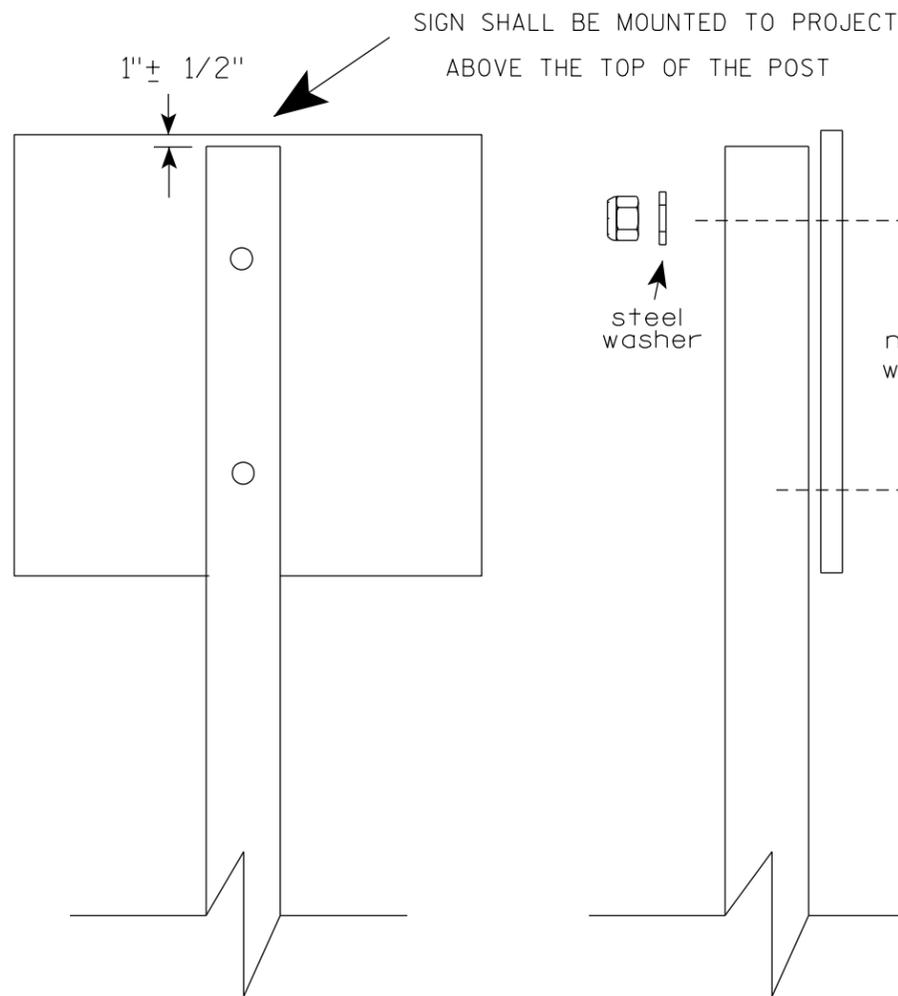
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



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

- Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- 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.

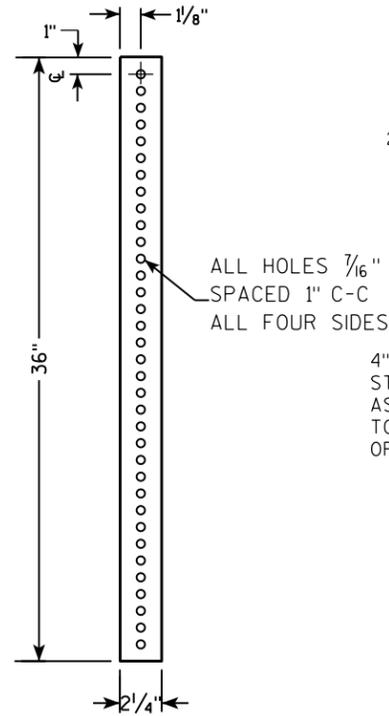
- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)  
3/8" X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)  
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- 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

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

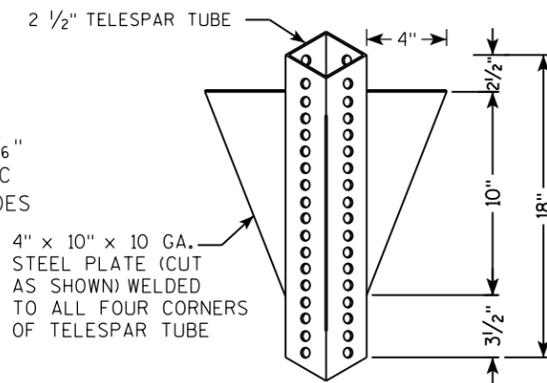
ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R Rauch</i> For State Traffic Engineer
DATE 4/1/2020	PLATE NO. A4-8.9

**TELESCOPIC TUBING ANCHORS  
TWO PIECE SYSTEM**

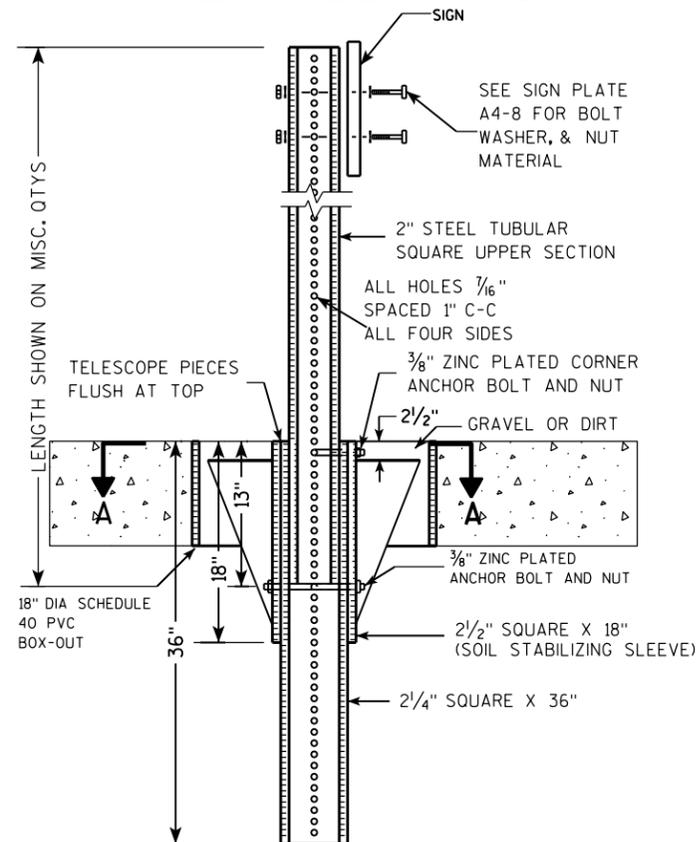
2 1/4" SQUARE  
12 GAUGE  
PERFORATED  
GALVANIZED FINISH



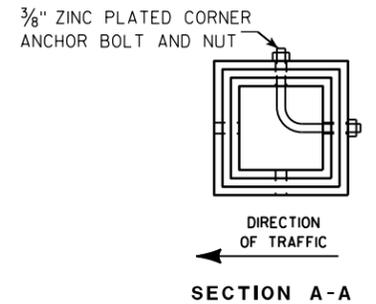
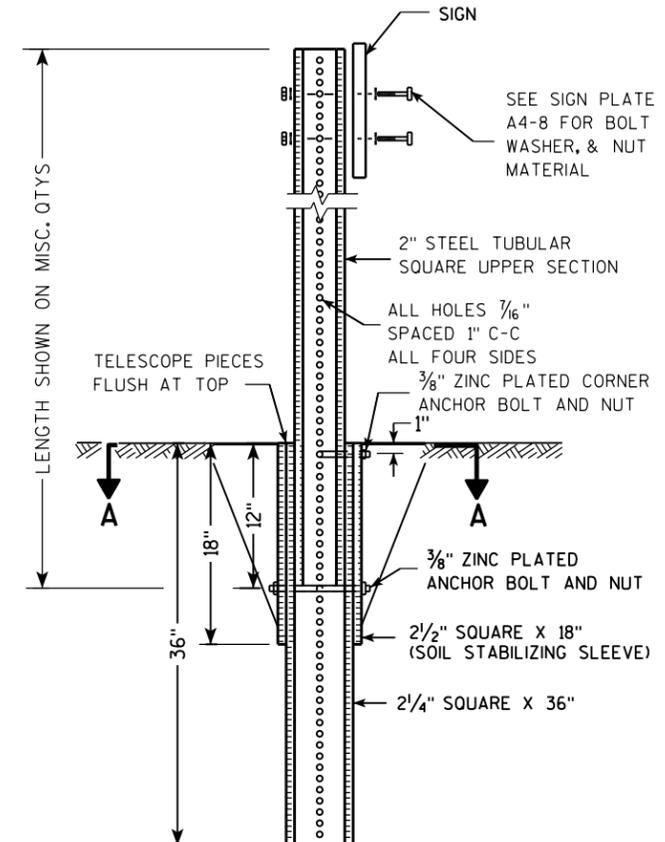
2 1/2" SQUARE  
12 GAUGE  
OMNI-DIRECTIONAL  
PERFORATED  
SOIL STABILIZING SLEEVE  
GALVANIZED FINISH



**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 PLATE NO. A4-9.9

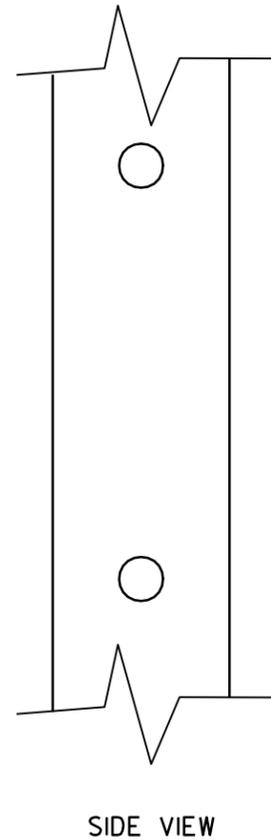
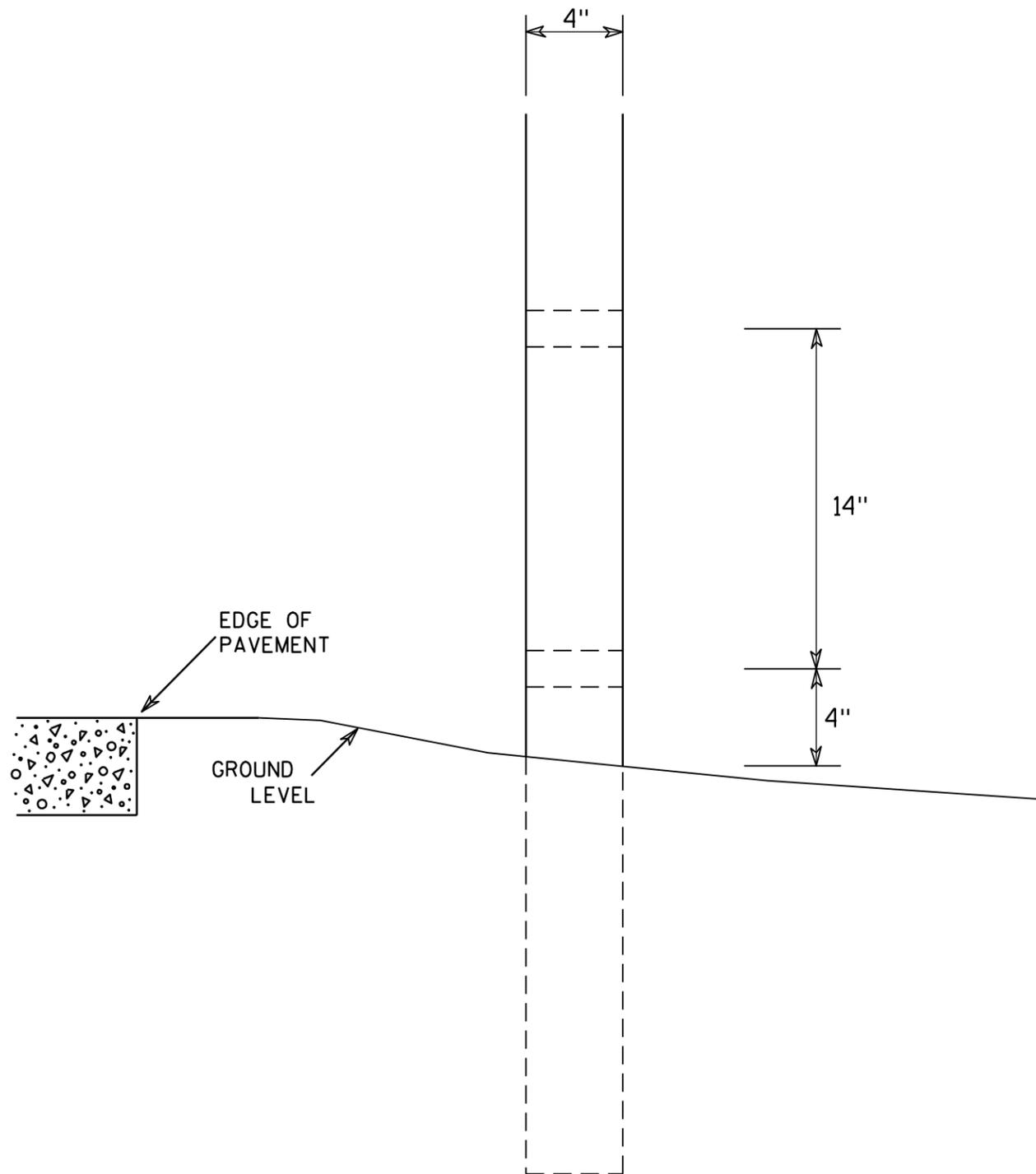
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



GENERAL NOTES

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

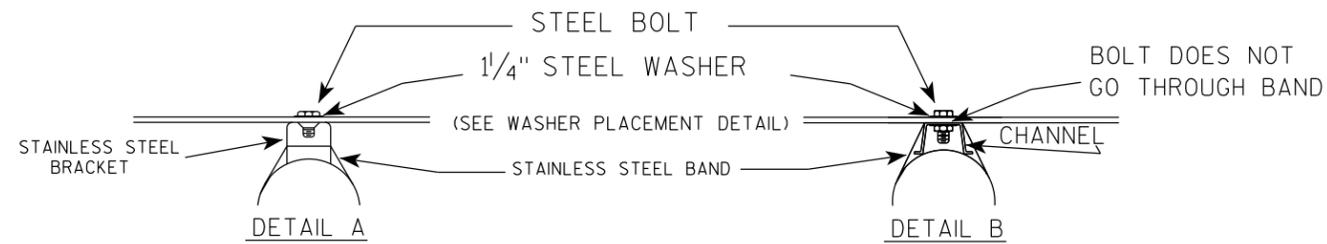
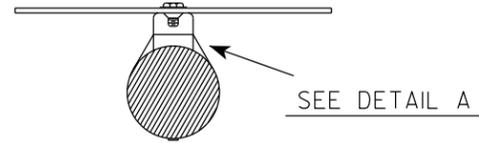
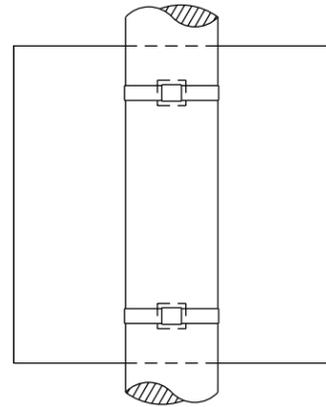
7

7

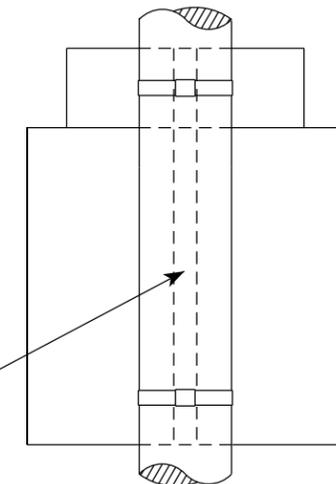
<b>4 X 6 WOOD POST MODIFICATIONS</b>	
<i>WISCONSIN DEPT OF TRANSPORTATION</i>	
APPROVED	<i>Chester J Spang</i> for State Traffic Engineer
DATE <u>3/27/97</u>	PLATE NO. <u>A4-11.2</u>

# BANDING

SINGLE SIGN



"J" ASSEMBLY

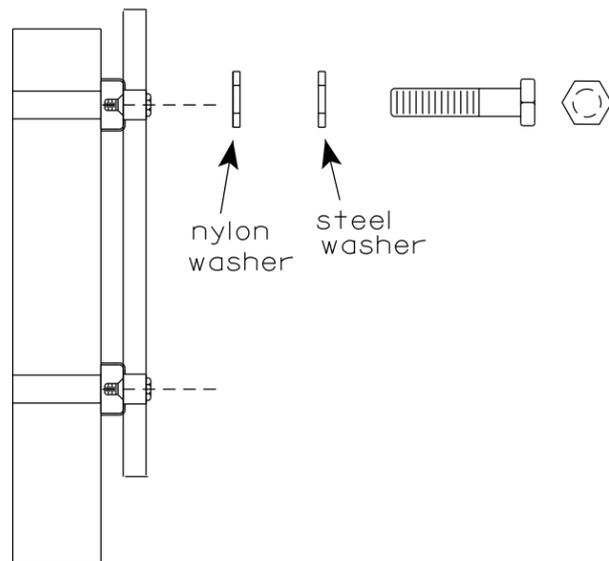


CHANNEL  
SEE TYPICAL PANEL  
INSTALLATION SHEET



- 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

WASHER PLACEMENT



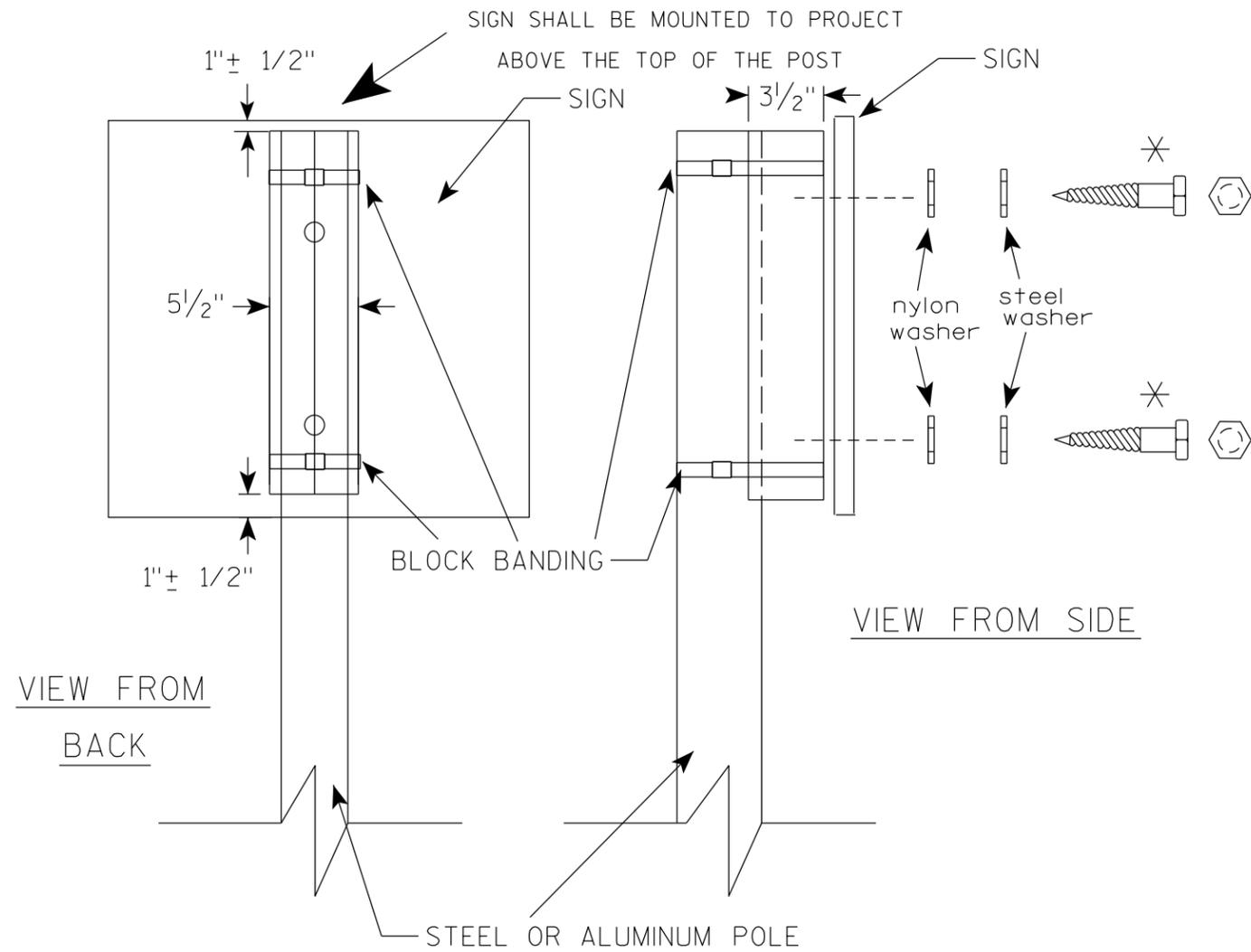
WASHERS (ALL POSTS) -  
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL  
1-1/4" O.D. X 3/8" I.D. X .080 NYLON  
FOR ALL TYPE H SIGNS

STANDARD SIGN  
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

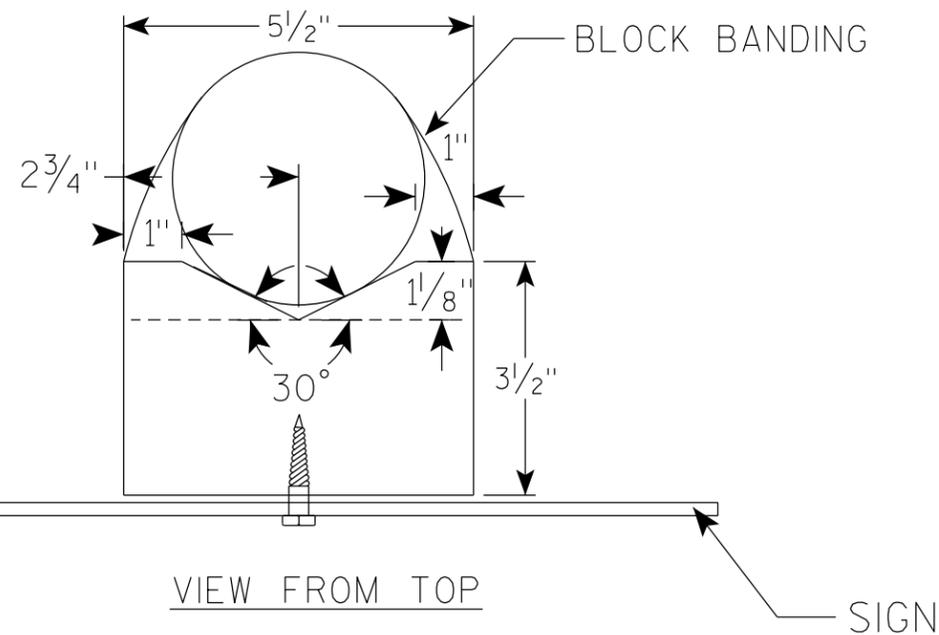
DATE 6/10/19 PLATE NO. A5-9.4



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, 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 1/4" O.D. X 3/8" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1/4" O.D. X 3/8" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✱ LAG BOLTS SHALL BE 3/8" X 2 1/2"



BLOCK BANDING DETAIL  
( V-BLOCK OPTION )

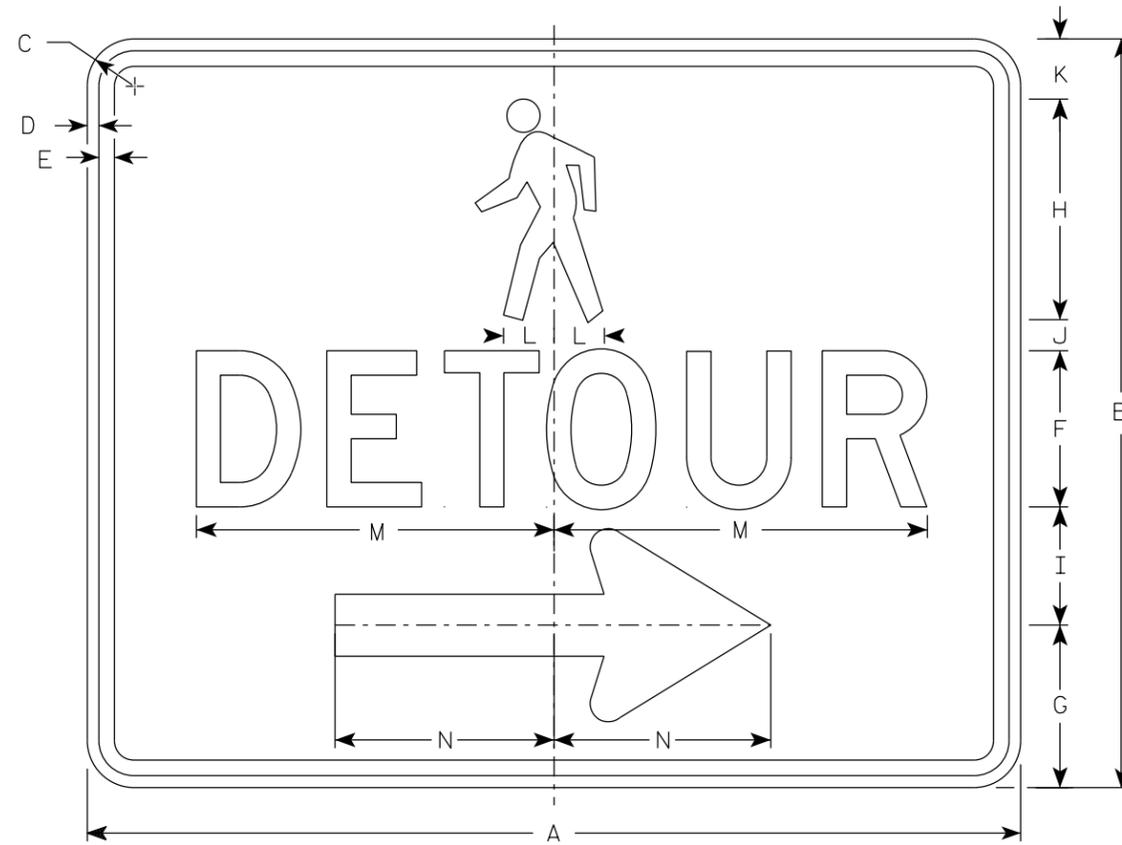
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*  
for State Traffic Engineer

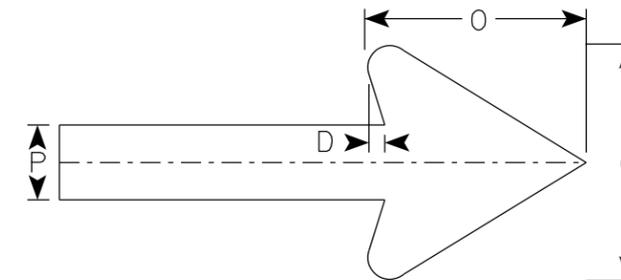
DATE 4/19/2022 PLATE NO. A5-10.3

NOTES

1. Sign is Type II-Type F Reflective
2. Color:  
Background - Orange  
Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-9BL is the same as M4-9BR except the arrow is reversed.



M4-9BR



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	24	1 1/2	3/8	1/2	5	5 1/4	7 1/8	3 3/4	1	1 1/8	1 5/8	11 3/4	7	6	2											5.0
2M	30	24	1 1/2	3/8	1/2	5	5 1/4	7 1/8	3 3/4	1	1 1/8	1 5/8	11 3/4	7	6	2											5.0
3																											
4																											
5																											

STANDARD SIGN  
M4-9B L&R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

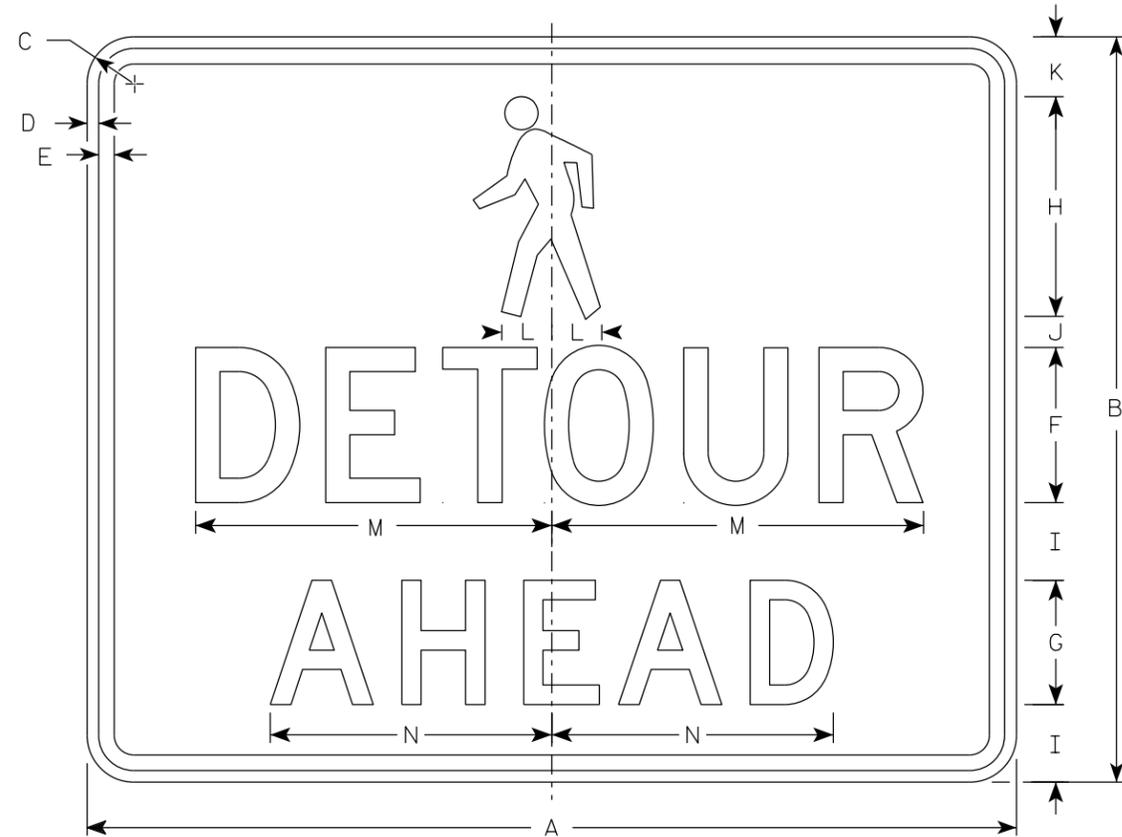
DATE 2/9/2023 PLATE NO. M4-9B.4

7

7

NOTES

1. Sign is Type II - Type F Reflective
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.



M4 - 9BA

7

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																											
2S	30	24	1 1/2	3/8	1/2	5	4	7 1/8	2 1/2	1	1 7/8	1 5/8	11 3/4	9 1/8													5.0
2M	30	24	1 1/2	3/8	1/2	5	4	7 1/8	2 1/2	1	1 7/8	1 5/8	11 3/4	9 1/8													5.0
3																											
4																											
5																											

STANDARD SIGN  
M4 - 9BA

WISCONSIN DEPT OF TRANSPORTATION

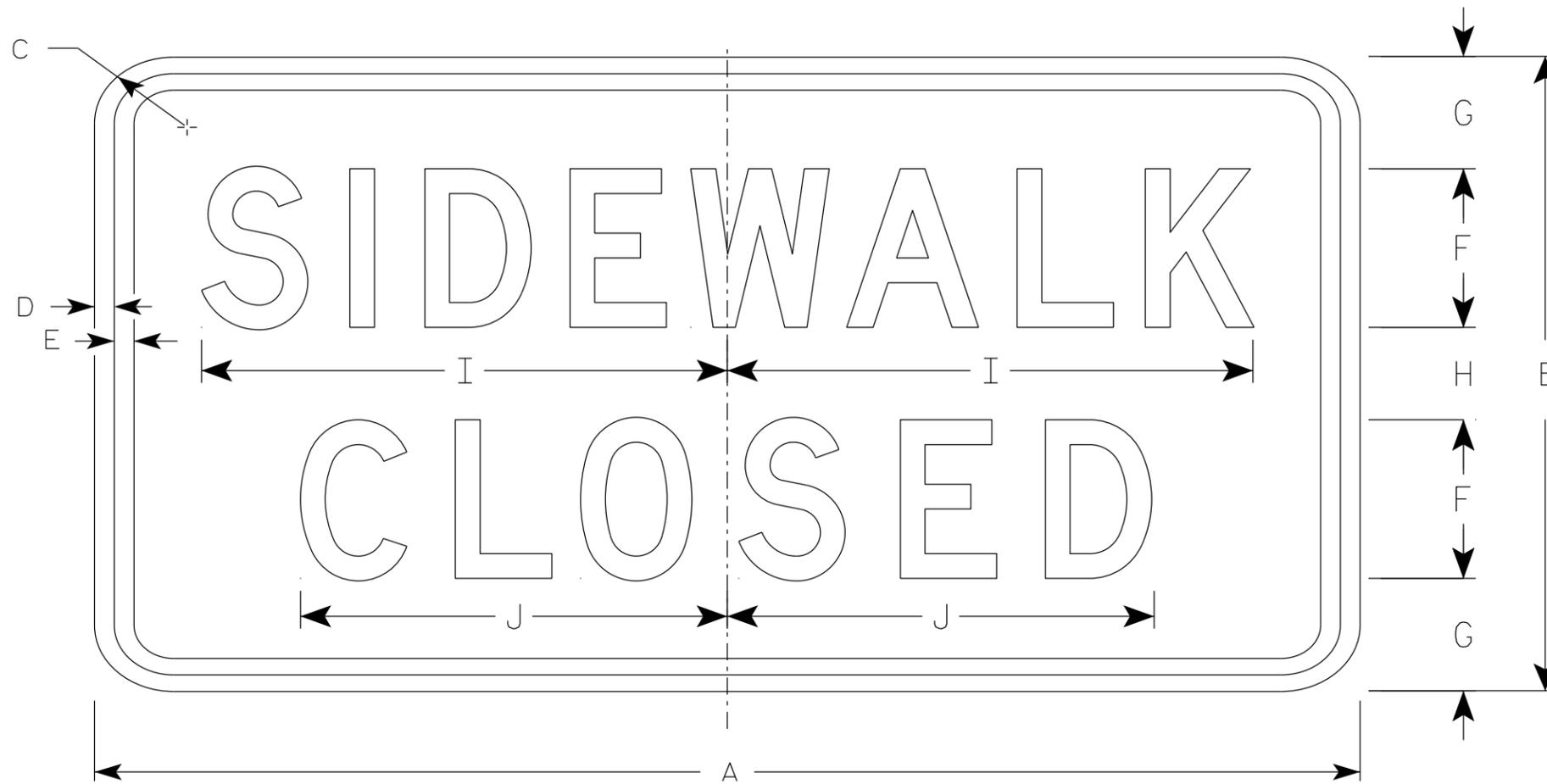
APPROVED *Matthew R Rauch*  
for State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-9BA.3

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
  - Background - White
  - Message - Black
3. Message Series - C
4. Use Size 2 for Sidewalks. Use Size 3 for Paths and Trails.



R9-9

7

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																											
2S	24	12	1 1/2	1/2	1/2	3	2 1/8	1 3/4	10	8 1/8																	2.0
2M	24	12	1 1/2	1/2	1/2	3	2 1/8	1 3/4	10	8 1/8																	2.0
3	30	18	1 1/2	1/2	1/2	4	3 1/2	3	12 1/2	10 1/4																	3.75
4																											
5																											

STANDARD SIGN  
R9-9

WISCONSIN DEPT OF TRANSPORTATION

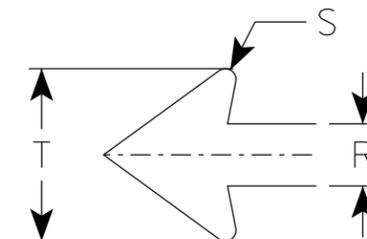
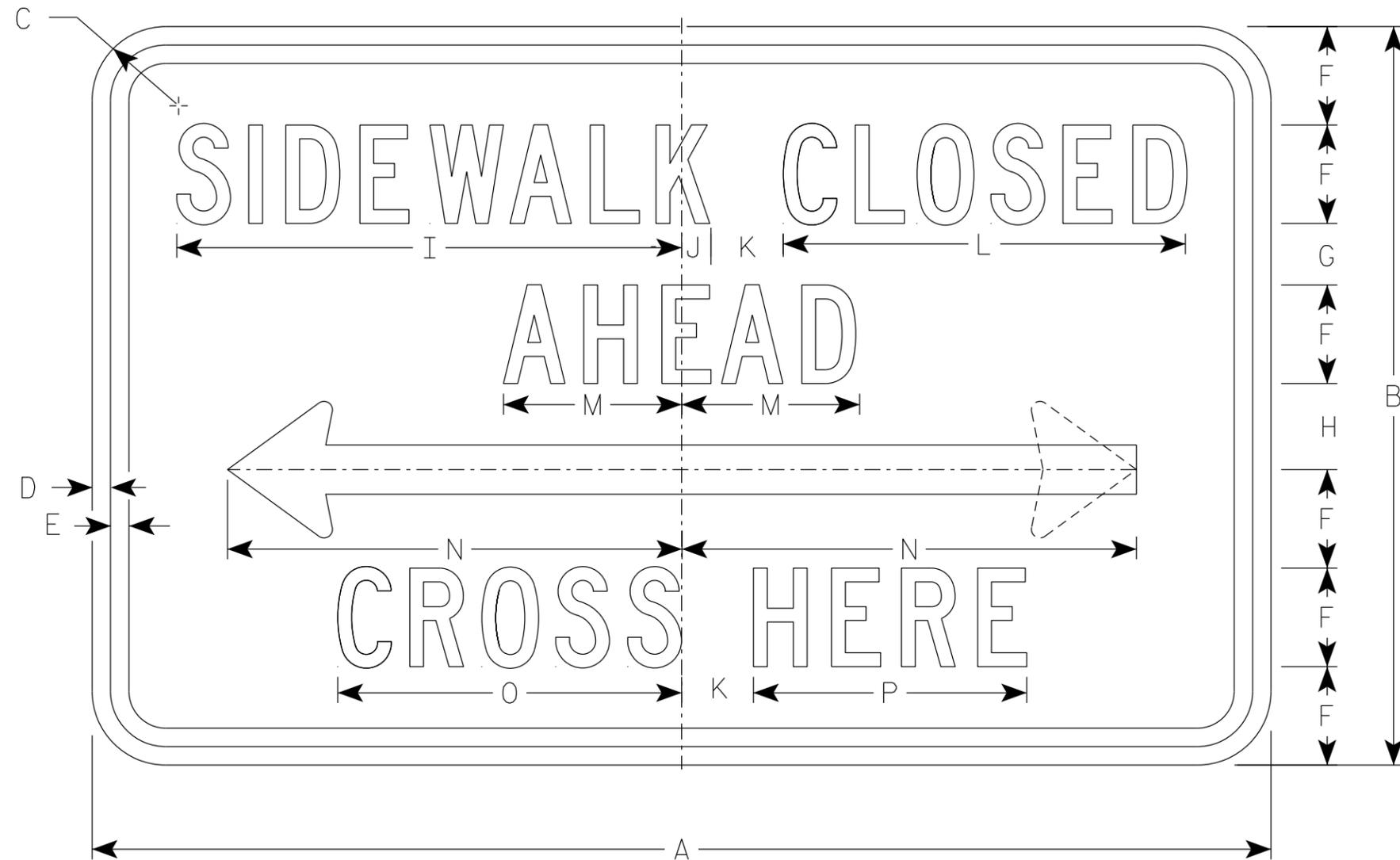
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 1/24/24 PLATE NO. R9-9.7

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

NOTES

1. Sign is Type II - Type H Reflective
2. Color:  
Background - White  
Message - Black
3. Message Series - C except Size 1 is Series D
4. Use Size 2 for Sidewalks. Use Size 3 for Paths and Trails.
5. R9-11 D (double arrow)  
R9-11 L (left arrow)  
R9-11 R (right arrow)



R9-11

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 1/2	3/8	3/8	1 1/2	1 1/2	1 1/2	9 3/4	5/8	1 1/2	7 5/8	3 1/2	9 1/4	6 5/8	5 1/8		1	1/8	2 3/4							2.0
2M	24	12	1 1/2	3/8	3/8	1 1/2	1 1/2	1 1/2	9 3/4	5/8	1 1/2	7 5/8	3 1/2	9 1/4	6 5/8	5 1/8		1	1/8	2 3/4							2.0
3	30	15	1 1/2	3/8	1/2	2	1 1/2	1 1/2	13	3/4	2	10 1/4	4 5/8	12 3/8	8 7/8	6 7/8		1 1/4	1/4	3 5/8							3.125
4																											
5																											

STANDARD SIGN  
R9-11

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

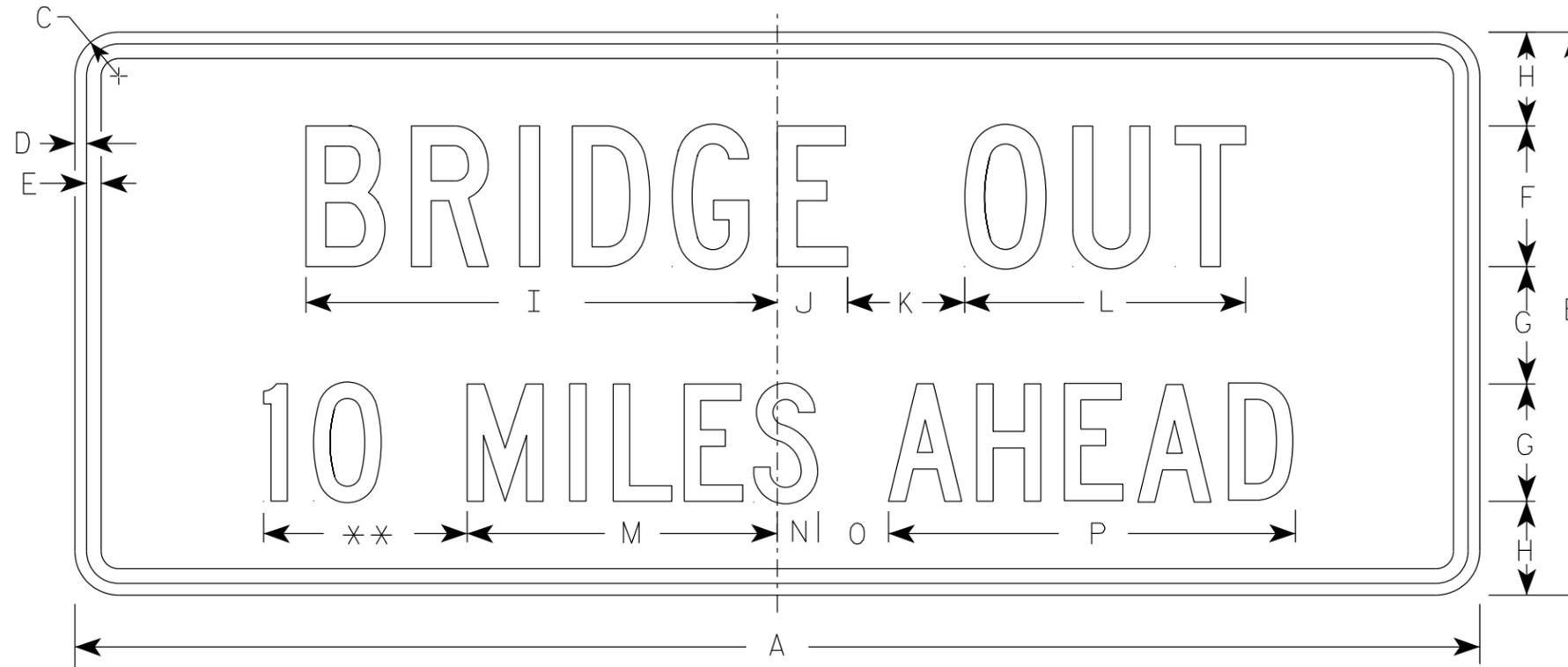
DATE 1/24/24 PLATE NO. R9-11.5

7

7

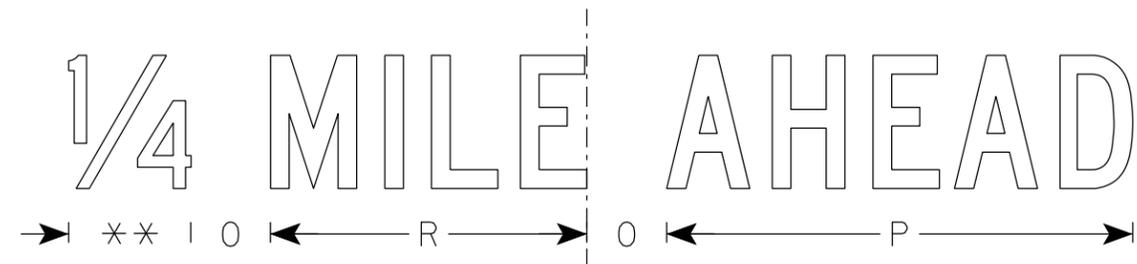
NOTES

1. Sign is Type II - Type H Reflective
2. Color:  
Background - White  
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.



R11-3C

\*\* See Note 5



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	15	1 1/2	1/2	5/8	4	3	2 1/2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4		7 1/8									3.75
2S	60	24	1 7/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
2M	60	24	1 7/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
3																											
4																											
5																											

STANDARD SIGN  
R11-3C

WISCONSIN DEPT OF TRANSPORTATION

APPROVED  
*Matthew R. Raub*  
for State Traffic Engineer

DATE 2/5/24 PLATE NO. R11-3C.4

PROJECT NO:

SHEET NO:

E

**DESIGN DATA**

**LIVE LOAD:**

DESIGN LOADING: HL-93  
 INVENTORY RATING: RF = 1.21  
 OPERATING RATING: RF = 1.57  
 WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 (KIPS)

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

**MATERIAL PROPERTIES:**

CONCRETE MASONRY:  
 SUPERSTRUCTURE  $f'_c = 4,000$  PSI  
 ALL OTHER  $f'_c = 3,500$  PSI  
 BAR STEEL REINFORCEMENT  
 GRADE 60  $f_y = 60,000$  PSI

**FOUNDATION DATA**

ABUTMENTS TO BE SUPPORTED ON HP 10-INCH X 42 LB STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 110 TONS \*\* PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 80'-0" LONG AT WEST ABUTMENT. ESTIMATED 80'-0" LONG AT EAST ABUTMENT.

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

**HYDRAULIC DATA**

**100-YEAR FREQUENCY:**

$Q_{100} = 2000$  C.F.S.  
 $V_{100} = 5.2$  F.P.S.  
 $HW_{100} = 754.20$  EL.  
 WATERWAY AREA = 387 SQ. FT.  
 DRAINAGE AREA = 20.2 SQ. MI.  
 ROADWAY OVERTOPPING = N/A  
 SCOUR CRITICAL CODE = 5

**2-YEAR FREQUENCY:**

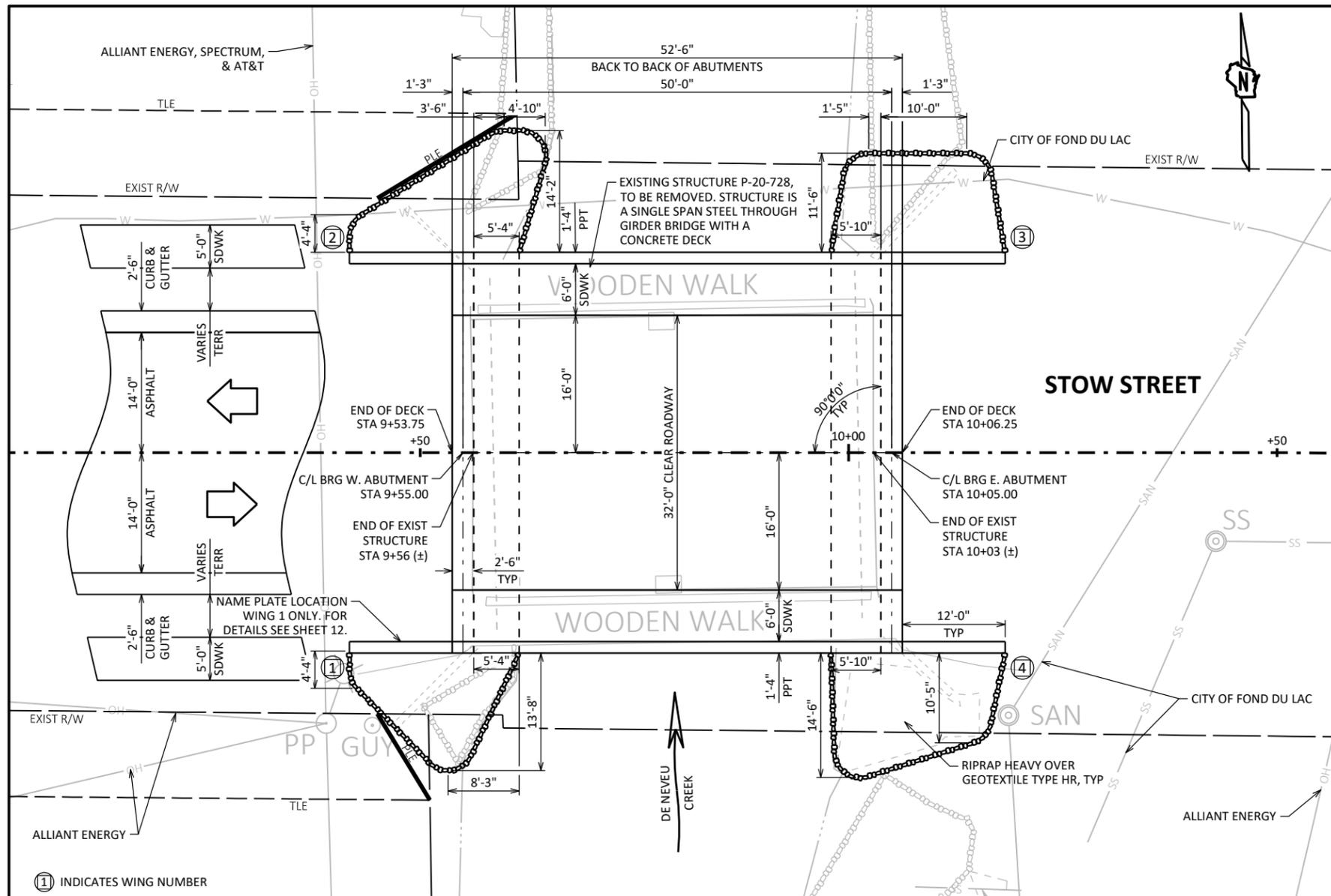
$Q_2 = 470$  C.F.S.  
 $V_2 = 3.6$  F.P.S.  
 $HW_2 = 748.63$  EL.

**TRAFFIC DATA**

**ROAD:**  
 ADT = 1,970 (2026)  
 2,400 (2046)  
 R.D.S. = 30 MPH

**LIST OF DRAWINGS:**

1. GENERAL PLAN
2. QUANTITIES AND CROSS SECTION
3. SUBSURFACE EXPLORATION
4. WEST ABUTMENT
5. WEST ABUTMENT DETAILS
6. EAST ABUTMENT
7. EAST ABUTMENT DETAILS
8. CONSTRUCTION DETAILS AND CONDUIT DETAILS
9. SUPERSTRUCTURE
10. SUPERSTRUCTURE DETAILS
11. SUPERSTRUCTURE DETAILS
12. COMBINATION RAILING TYPE 'C6'
13. COMBINATION RAILING DETAILS

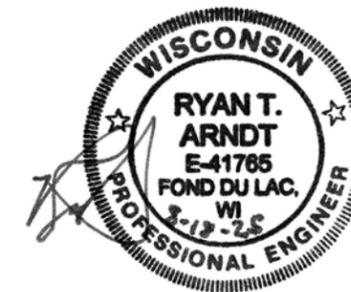


① INDICATES WING NUMBER

**BENCH MARKS**

BM	STA	DESCRIPTION	ELEV
A	8+25	ARROW ON FLANGE OF HYDRANT, SE CORNER OF STOW ST. AND TAFT ST.	754.63
B	12+68	NORTHEAST BOLT (TAG BOLT) ON FLANGE OF HYDRANT, NE CORNER OF STOW ST. AND WETTSTEIN AVE.	755.99

**PLAN**  
SINGLE SPAN FLAT SLAB



**STRUCTURE DESIGN CONTACTS:**  
 CONSULTANT CONTACT: ANDREW KLEMP 920-924-5720  
 BRIDGE OFFICE CONTACT: AARON BONK 608-261-0261

NO.	DATE	REVISION	BY

**G GREMMER & ASSOCIATES, INC.**  
 CONSULTING ENGINEERS  
 Stevens Point • Fond du Lac

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION  
 ACCEPTED *[Signature]* JLR 08/20/25  
 CHIEF STRUCTURES DESIGN ENGINEER DATE

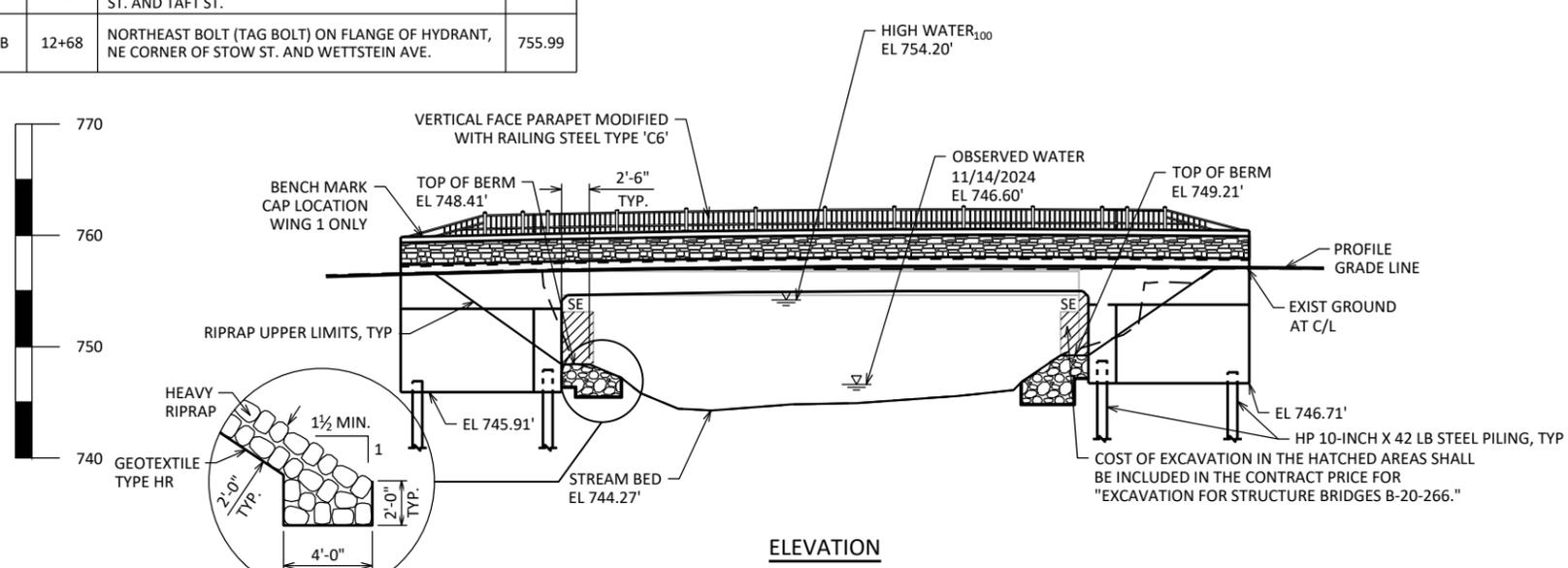
**STRUCTURE B-20-266**

STOW STREET OVER DE NEVEU CREEK

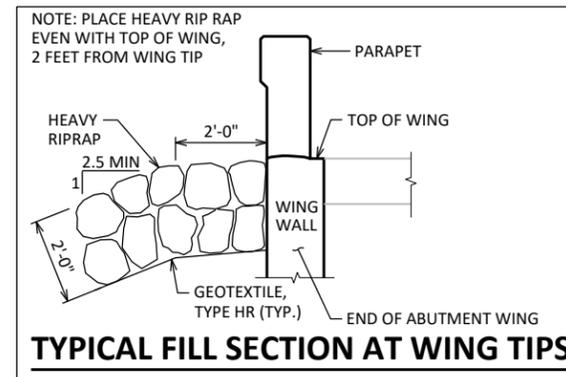
COUNTY FOND DU LAC CITY FOND DU LAC

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATION  
 DESIGNED BY RTA CK'D ALK DRAWN BY MJK PLANS CK'D ALK

**GENERAL PLAN** SHEET 1 OF 13



**ELEVATION**  
NORMAL TO WATERWAY



**TYPICAL FILL SECTION AT WING TIPS**

**GENERAL NOTES**

DRAWINGS SHALL NOT BE SCALED.

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

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

BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-20-266" SHALL BE THE EXISTING GROUNDLINE.

AT THE BACK FACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TYPE A.

EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT.

THE QUANTITY FOR BACKFILL STRUCTURE IS CALCULATED BASED ON THE DETAIL SHOWN IN THE PLANS.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE EXPOSED TOP OF DECK AND TO THE VERTICAL AND HORIZONTAL SURFACES OF SIDEWALKS.

PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE, BACK FACE, AND THE TOP OF THE PARAPETS, EXCLUSIVE OF AREAS RECEIVING ARCHITECTURAL SURFACE TREATMENT.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE TYPE "HR" TO THE EXTENT SHOWN ON SHEET 1 AND THE ABUTMENT DETAILS.

AT ABUTMENTS, HP 12X53 STEEL PILING MAY BE USED IN LIEU OF HP 10X42 STEEL PILING. PAYMENT SHALL BE BASED ON BID PRICE FOR HP 10X42 STEEL PILING.

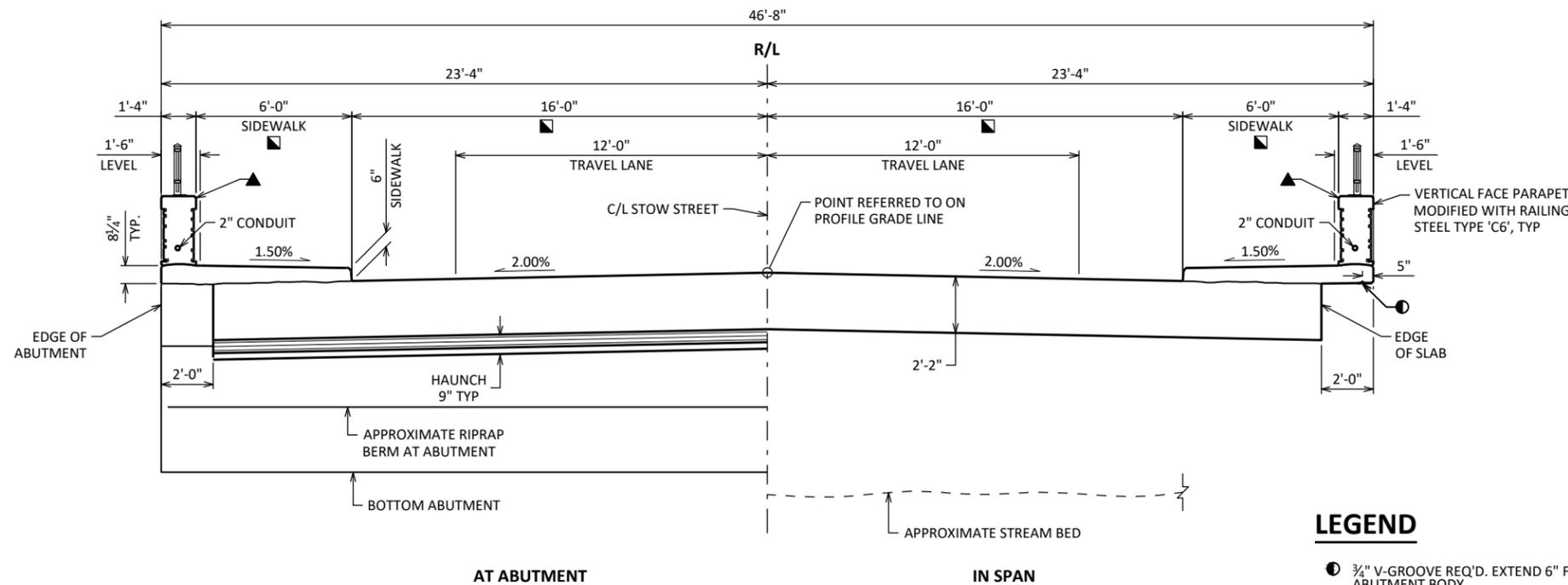
SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE, UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.

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

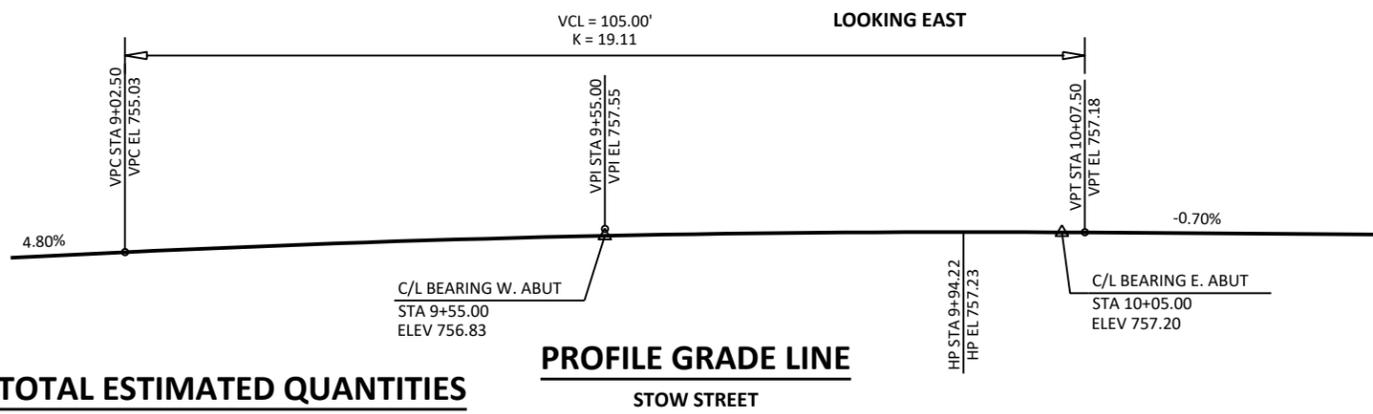
ALL FIELD CONNECTIONS SHALL BE MADE WITH 3/8" DIAMETER A325 HIGH-TENSILE STRENGTH BOLTS UNLESS OTHERWISE SHOWN OR NOTED.

REMOVAL OF EXISTING ABUTMENT FOOTINGS REQUIRED PRIOR TO DRIVING PILES. FOOTING REMOVAL IS INCIDENTAL TO "EXCAVATION FOR STRUCTURES B-20-266".

REMOVING STRUCTURE ITEM SHALL INCLUDE A SINGLE SPAN STEEL THROUGH GIRDER BRIDGE WITH A CONCRETE DECK, SIDEWALK STRUCTURES, ABUTMENTS, RAILINGS, AND OTHER ITEMS AS SHOWN ON THE REMOVAL PLAN SHEET IN THE ROADWAY PLANS.



**CROSS SECTION THRU BRIDGE**

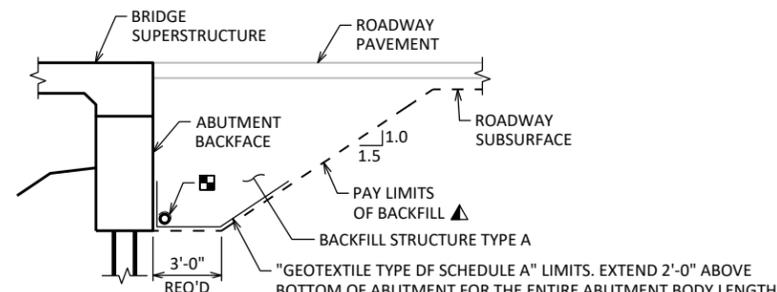


**TOTAL ESTIMATED QUANTITIES**

BID ITEM NUMBER	BID ITEMS	UNIT	W ABUT	E ABUT	SUPER	TOTAL
203.0250	REMOVING STRUCTURE OVER WATERWAY REMOVE DEBRIS P-20-728	EACH	---	---	---	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-20-266	EACH	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	135	125	---	260
502.0100	CONCRETE MASONRY BRIDGES	CY	52.8	51.1	224.6	329
502.3200	PROTECTIVE SURFACE TREATMENT	SY	---	---	261	261
502.3210	PIGMENTED SURFACE SEALER	SY	---	---	46	46
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	3115	3065	---	6,180
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1905	1880	37680	41,470
513.7031	RAILING STEEL TYPE C6	LF	---	---	151	151
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	12	12	---	24
517.1015.S	CONCRETE STAINING MULTI-COLOR B-20-266	SF	---	---	592	592
517.1050.S	ARCHITECTURAL SURFACE TREATMENT B-20-266	SF	---	---	592	592
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	880	880	---	1,760
606.0300	RIPRAP HEAVY	CY	62	70	---	132
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	102	102	---	204
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	54	54	---	108
645.0120	GEOTEXTILE TYPE HR	SY	78	89	---	167
652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	---	---	24	24
652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	---	---	131	131
NON-BID ITEMS						
----	JOINT FILLER	SIZE	---	---	---	1/2" & 3/4"

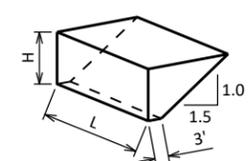
**LEGEND**

- 3/4" V-GROOVE REQ'D. EXTEND 6" FROM F.F. OF ABUTMENT BODY.
- COAT WITH "PROTECTIVE SURFACE TREATMENT" AS PER THE STANDARD SPECIFICATIONS.
- ▲ COAT WITH "PIGMENTED SURFACE SEALER" AS PER THE STANDARD SPECIFICATIONS AND GENERAL NOTES.



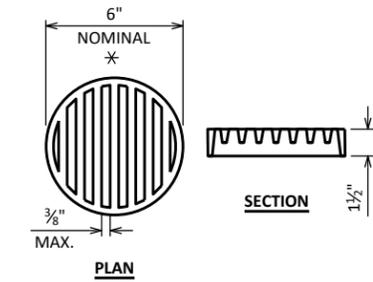
**TYPICAL SECTION THRU ABUTMENT**

- ▲ BACKFILL PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.



**ABUTMENT BACKFILL DIAGRAM**

L = OUT TO OUT OF ABUTMENT BODY INCLUDING WINGS (FT)  
 H = AVERAGE ABUTMENT FILL HEIGHT (FT)  
 EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)  
 $V_{CF} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H)$   
 $V_{CY} = V_{CF}(EF)/27$   
 $V_{TON} = V_{CY}(2.0)$



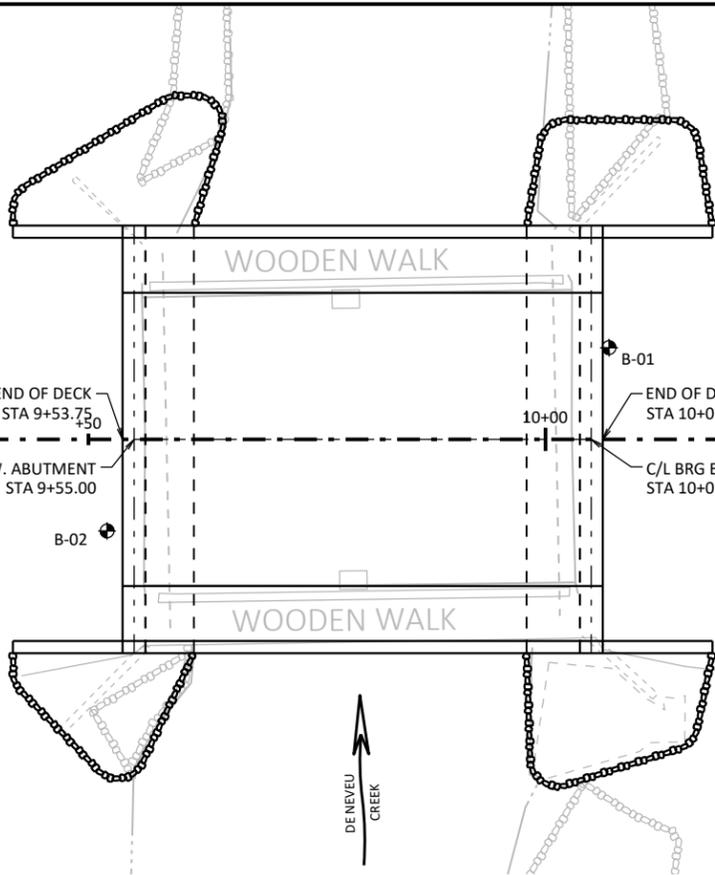
**RODENT SHIELD DETAIL**

- \* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.
- THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".
- THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-20-266</b>			
DRAWN BY		PLANS CK'D	
MJK		ALK	
<b>QUANTITIES AND CROSS SECTION</b>			SHEET 2



STOW STREET



BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-01	06/18/2024	389477.8	821055.2
B-02	06/17/2024	389458.4	821000.1

BORINGS COMPLETED BY: ECS MIDWEST, LLC  
 REPORT COMPLETED BY: ECS MIDWEST, LLC  
 ALL COORDINATES REFERENCED TO WCCS NAD 83 (2011) FOND DU LAC COUNTY

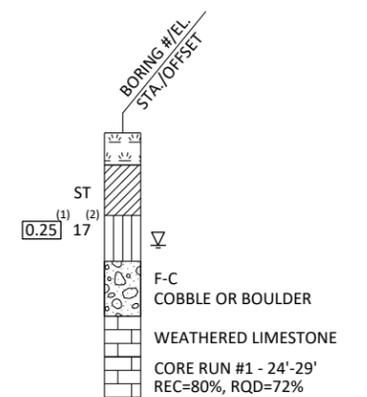
STATE PROJECT NUMBER

4811-00-72

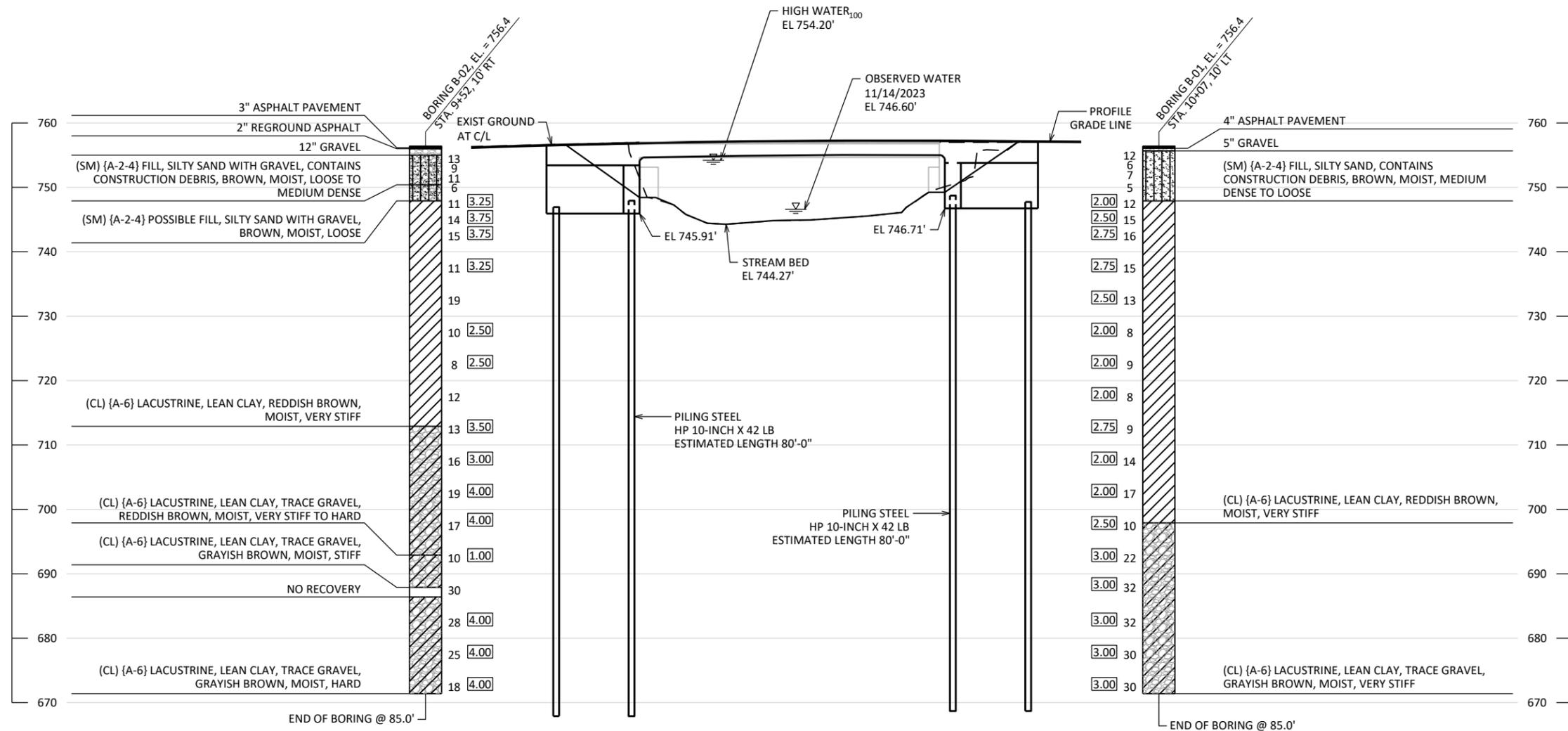
MATERIAL SYMBOLS

	ASPHALT		TOPSOIL		PEAT
	CONCRETE		FILL		GRAVEL
	SAND		CLAY		SILT
	BOULDERS OR COBBLES		LIMESTONE		BEDROCK (UNKNOWN)
	SHALE		SANDSTONE		IGNEOUS/META

LEGEND OF BORING



\* FOR DETAILED FIELD CLASSIFICATIONS AND REMARKS SEE GEOTECHNICAL REPORT.



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

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

GROUND WATER ELEVATION

- AT TIME OF DRILLING
- END OF DRILLING
- AFTER DRILLING

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-20-266

DRAWN BY	MJK	PLANS CK'D	ALK
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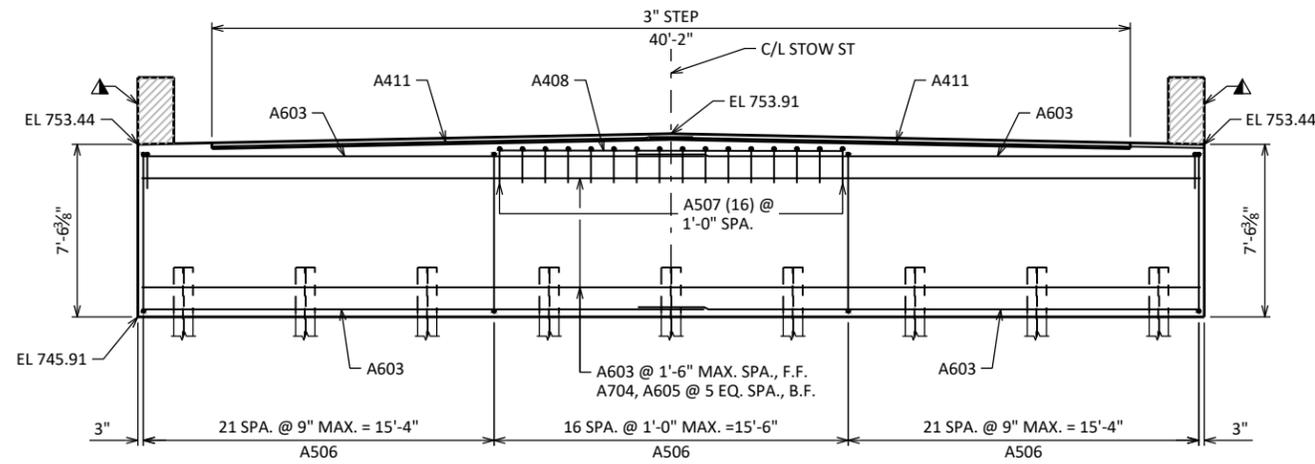
SUBSURFACE EXPLORATION

SHEET 3

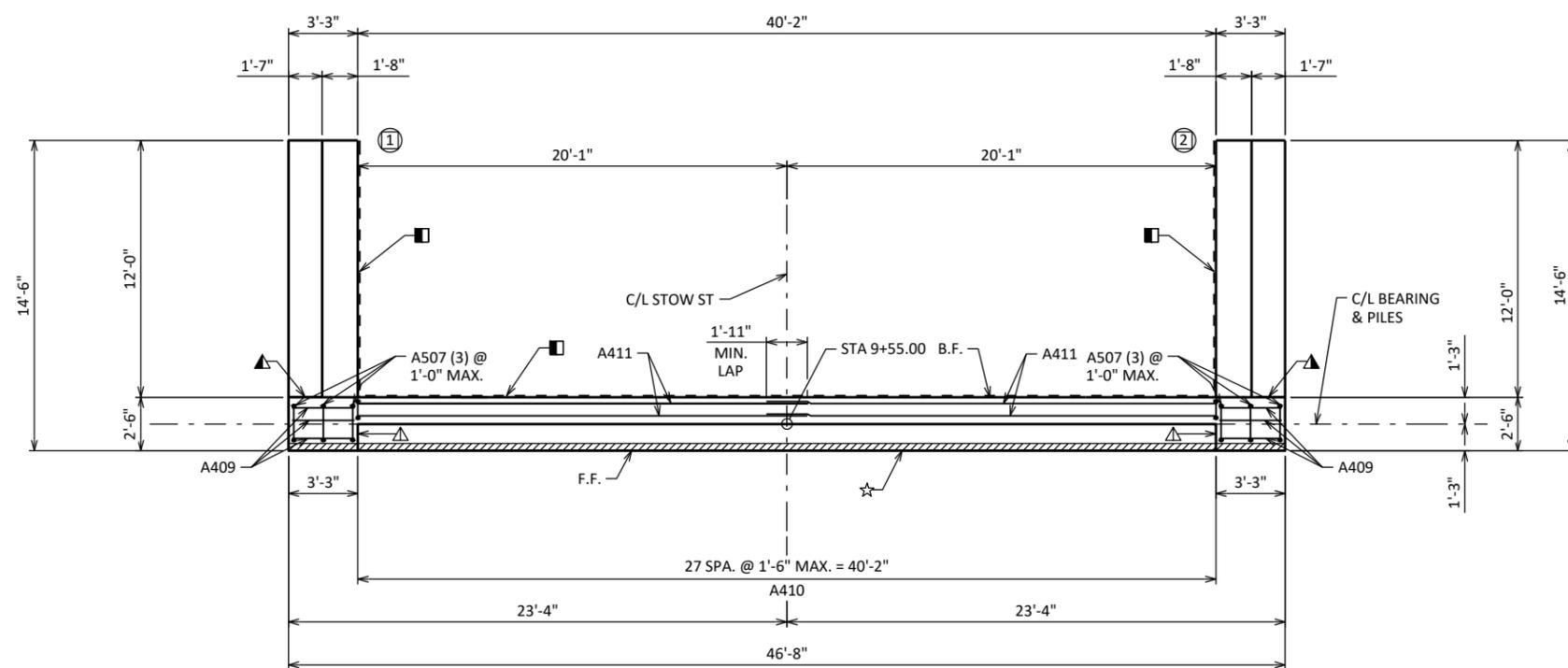
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**LEGEND**

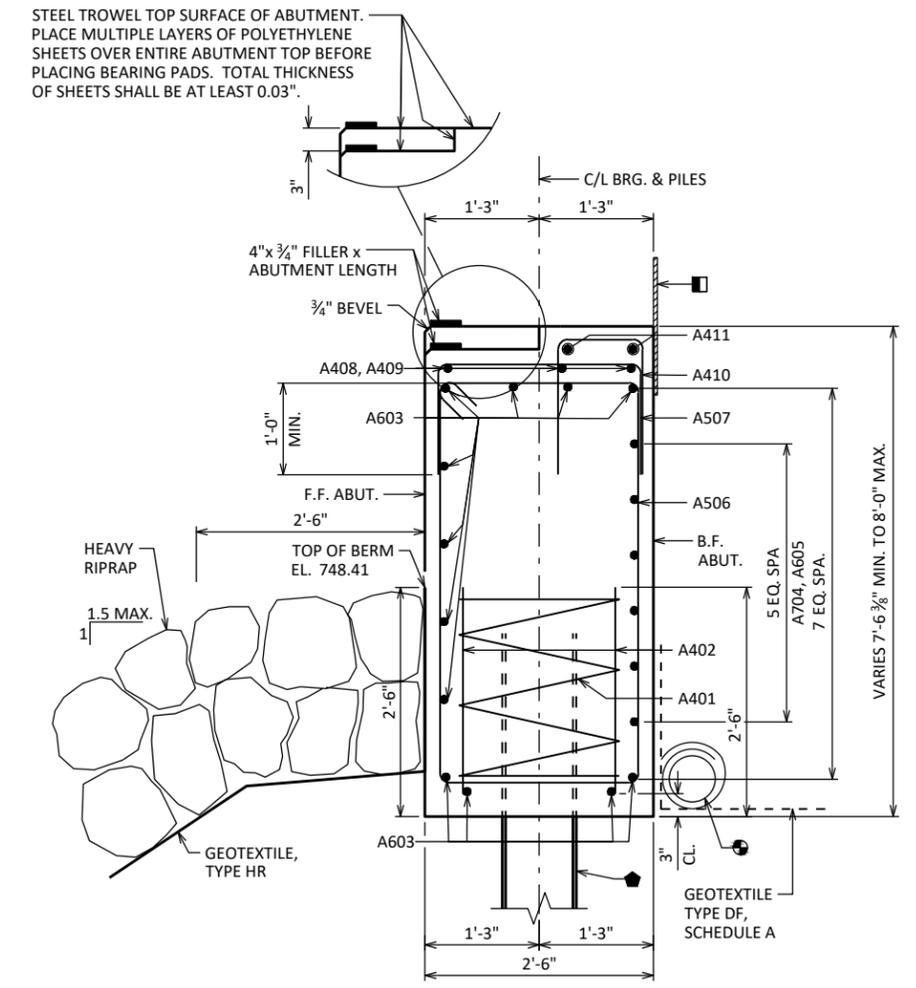
- ⊖ INDICATES WING NUMBER
- ⊕ INDICATES PILE NUMBER
- F.F. FRONT FACE
- B.F. BACK FACE
- ◆ SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, ESTIMATED 80'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 110 TONS PER PILE.
- 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- ▲ ½" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ½" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- ☆ 4" x ¾" PREFORMED JOINT FILLER, LENGTH OF ABUTMENT.
- △ ¾" CORK FILLER ON VERTICAL SEAT FACES.
- ⊙ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.



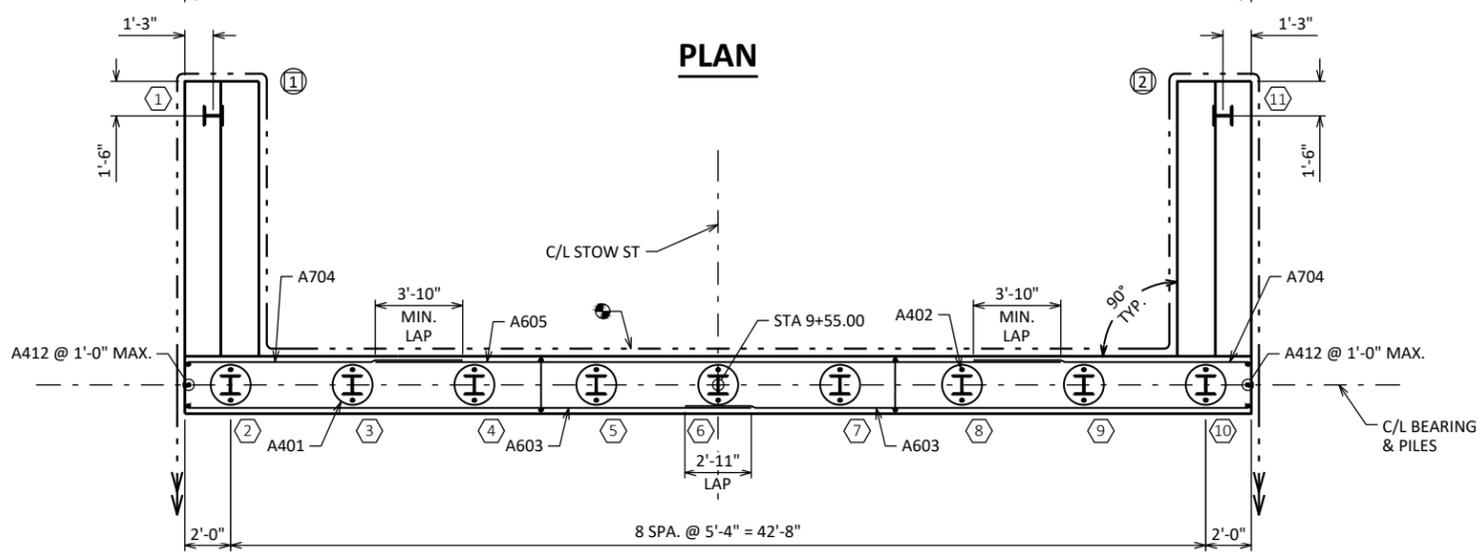
**ELEVATION**  
(LOOKING WEST)



**PLAN**



**SECTION THRU BODY**

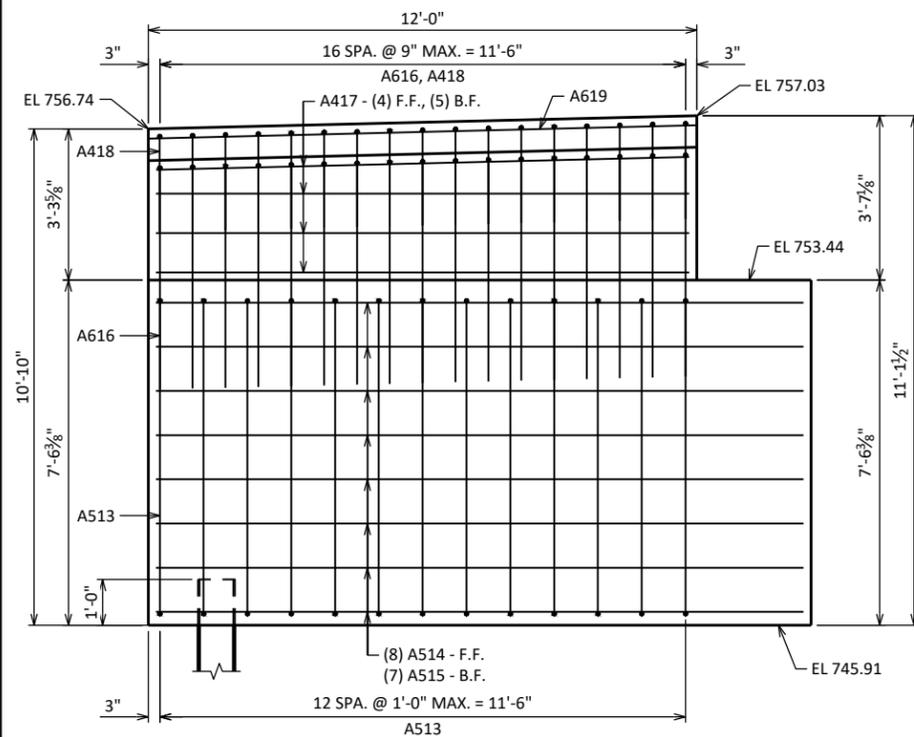


**PILE PLAN**

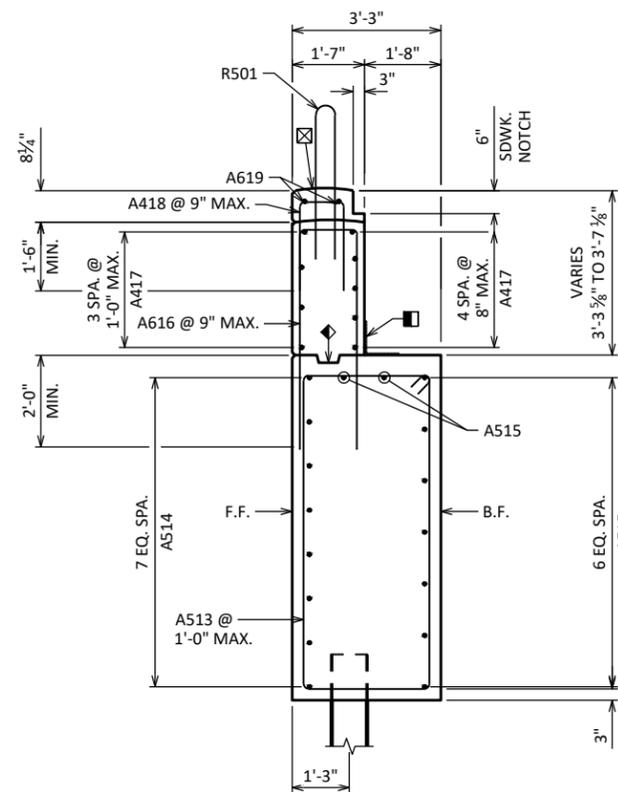
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-20-266</b>			
DRAWN BY: MJK		PLANS CK'D: ALK	
<b>WEST ABUTMENT</b>			SHEET 4

8

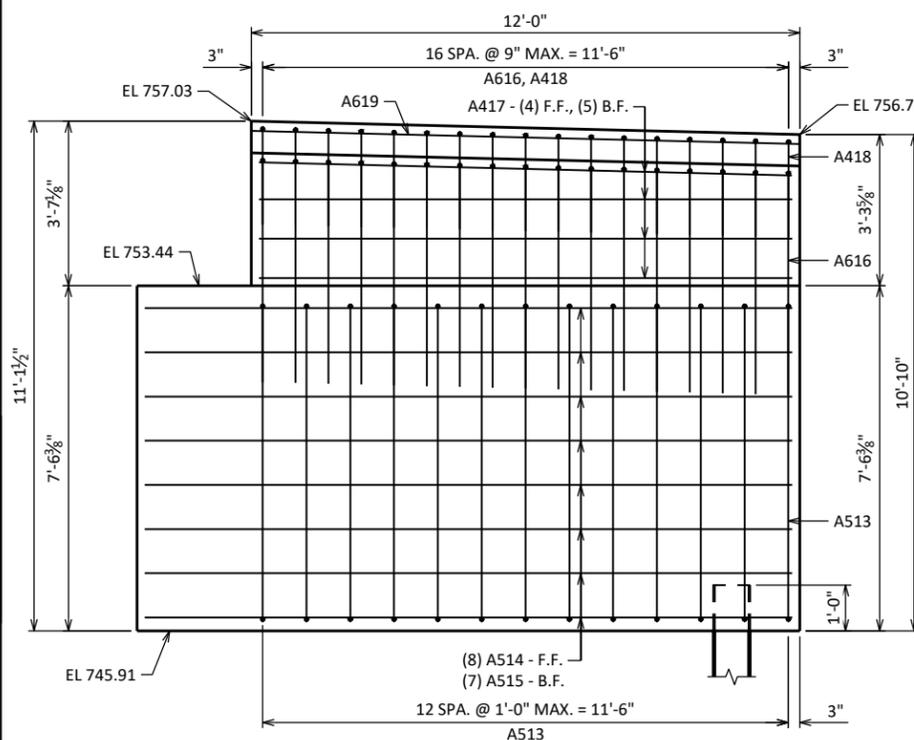
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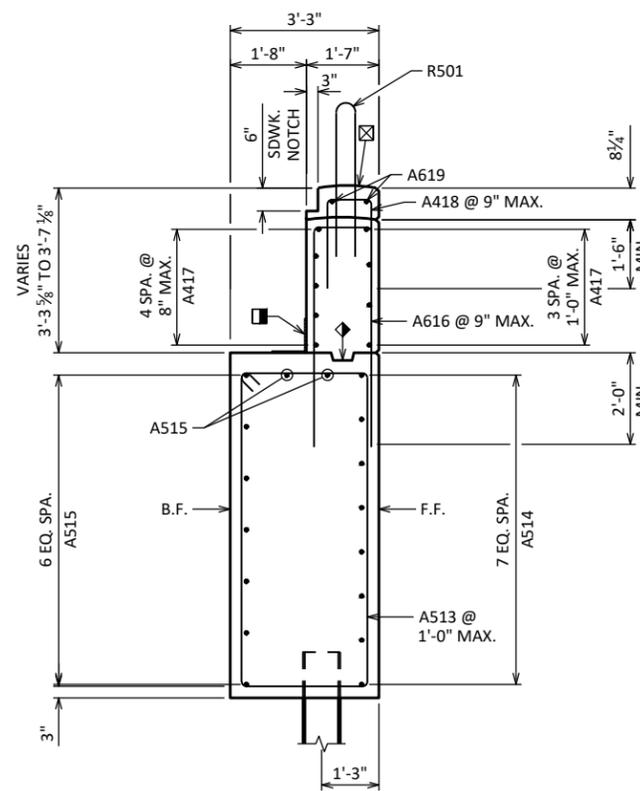
**WING 1 ELEVATION**



**WING 1 ELEVATION**



**WING 2 ELEVATION**

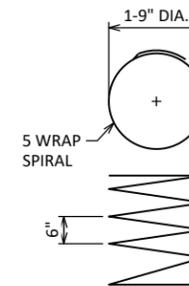


**WING 2 ELEVATION**

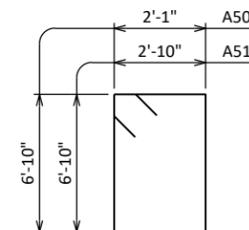
**BILL OF BARS**

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

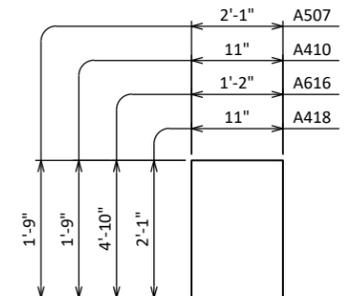
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A401		9	28'-0"	X		BODY - PILES
A402		18	2'-3"			BODY - PILES
A603		24	24'-8"			BODY - HORIZONTAL - F.F., TOP, BOTTOM
A704		12	12'-0"			BODY - HORIZONTAL - B.F. AT WINGS
A605		6	30'-0"			BODY - HORIZONTAL - B.F.
A506		59	18'-6"	X		BODY - TIES
A507		22	5'-4"	X		BODY - TIE UPPER - VERTICAL
A408		3	15'-0"			BODY - TIE UPPER - CENTER - HORIZONTAL
A409		6	2'-11"			BODY - TIE UPPER - OUTSIDE - HORIZONTAL
A410		28	4'-3"	X		BODY SEAT TIE - VERTICAL
A411		4	21'-1"			BODY SEAT TIE - HORIZONTAL
A412		6	7'-1"			ABUTMENT ENDS - VERTICAL
A513	X	26	20'-0"	X		WING 1 AND 2 - VERTICAL - STIRRUPS
A514	X	16	14'-2"			WING 1 AND 2 - HORIZONTAL - F.F.
A515	X	18	14'-2"			WING 1 AND 2 - HORIZONTAL - B.F.
A616	X	34	10'-6"	X		WING 1 AND 2 - VERTICAL
A417	X	18	11'-8"			WING 1 AND 2 - HORIZONTAL
A418	X	34	4'-11"	X		WING 1 AND 2 SW NOTCH - VERTICAL
A619	X	4	11'-8"			WING 1 AND 2 SW NOTCH - HORIZONTAL



**A401**



**A506, A513**



**A507, A410, A616, A418**

**LEGEND**

⊕ INDICATES WING NUMBER

F.F. FRONT FACE

B.F. BACK FACE

■ 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

▲ 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

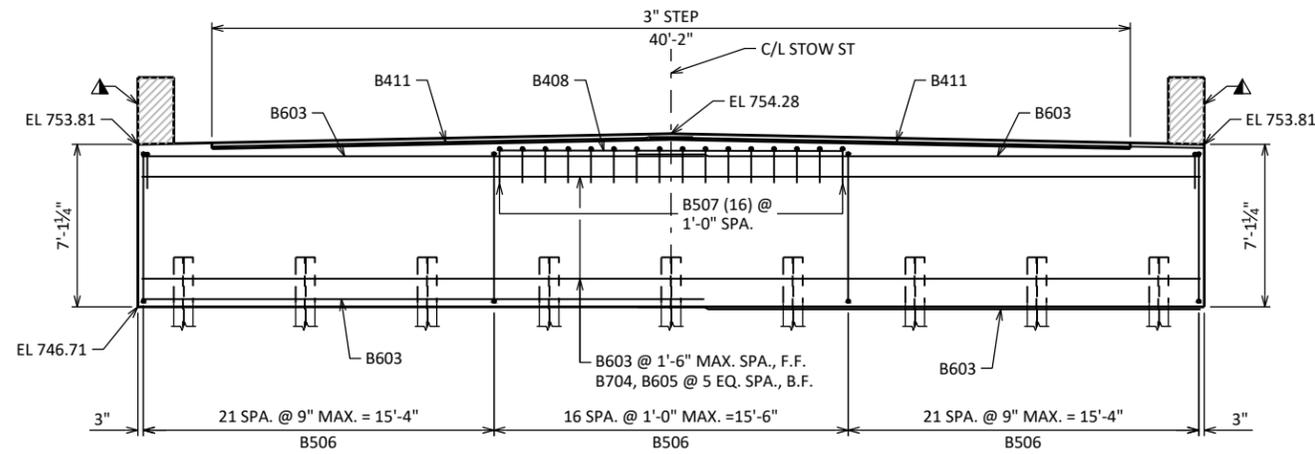
◆ OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" RMW @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).

⊠ OPTIONAL CONST. JOINT, LEAVE ROUGH. IF JOINT IS USED, POUR CONCRETE ABOVE THIS JOINT AFTER DECK IS IN PLACE. UTILIZE RUBBERIZED MEMBRANE WATERPROOFING (COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES").

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-20-266</b>			
DRAWN BY		PLANS CK'D	
MJK		ALK	
<b>WEST ABUTMENT DETAILS</b>		SHEET 5	

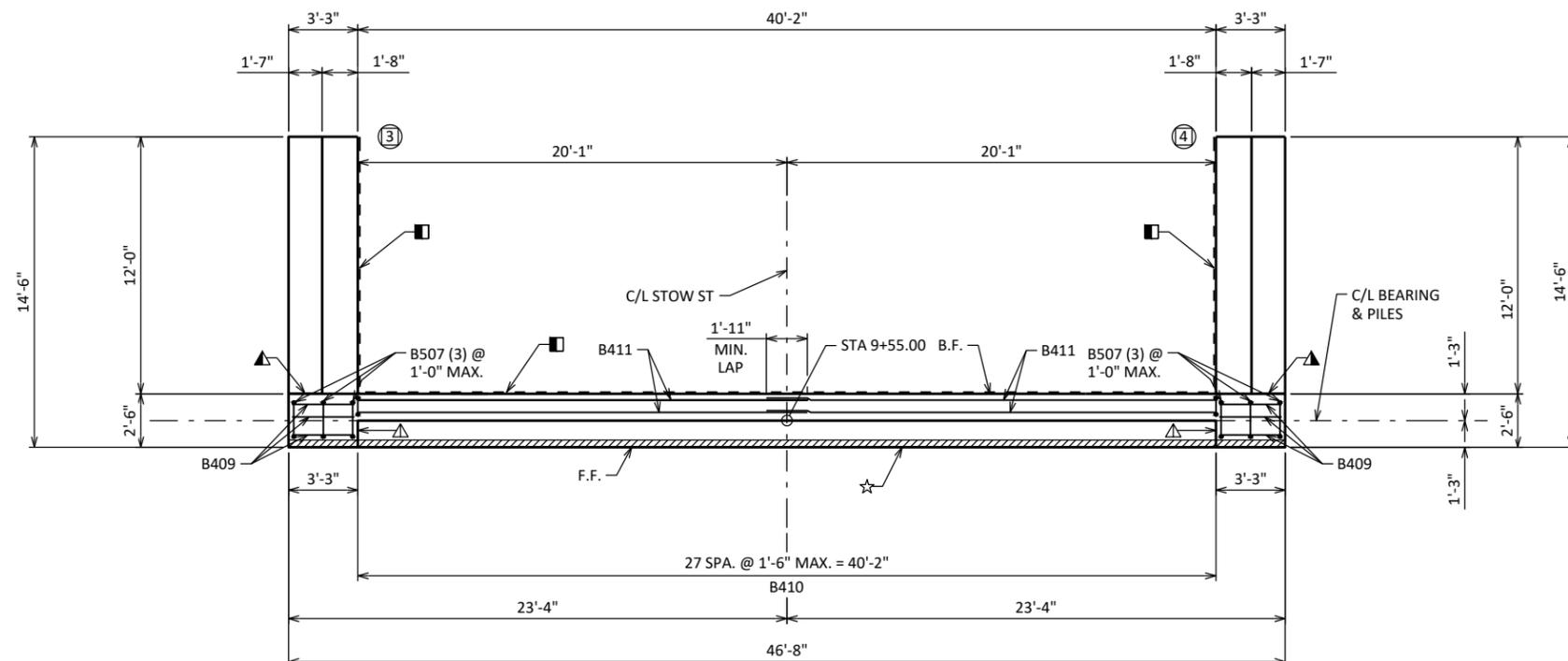
**LEGEND**

- ⊖ INDICATES WING NUMBER
- ⊕ INDICATES PILE NUMBER
- F.F. FRONT FACE
- B.F. BACK FACE
- ◆ SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, ESTIMATED 80'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 110 TONS PER PILE.
- 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- ▲ ½" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ½" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- ☆ 4" x ¾" PREFORMED JOINT FILLER, LENGTH OF ABUTMENT.
- △ ¾" CORK FILLER ON VERTICAL SEAT FACES.
- ⊙ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

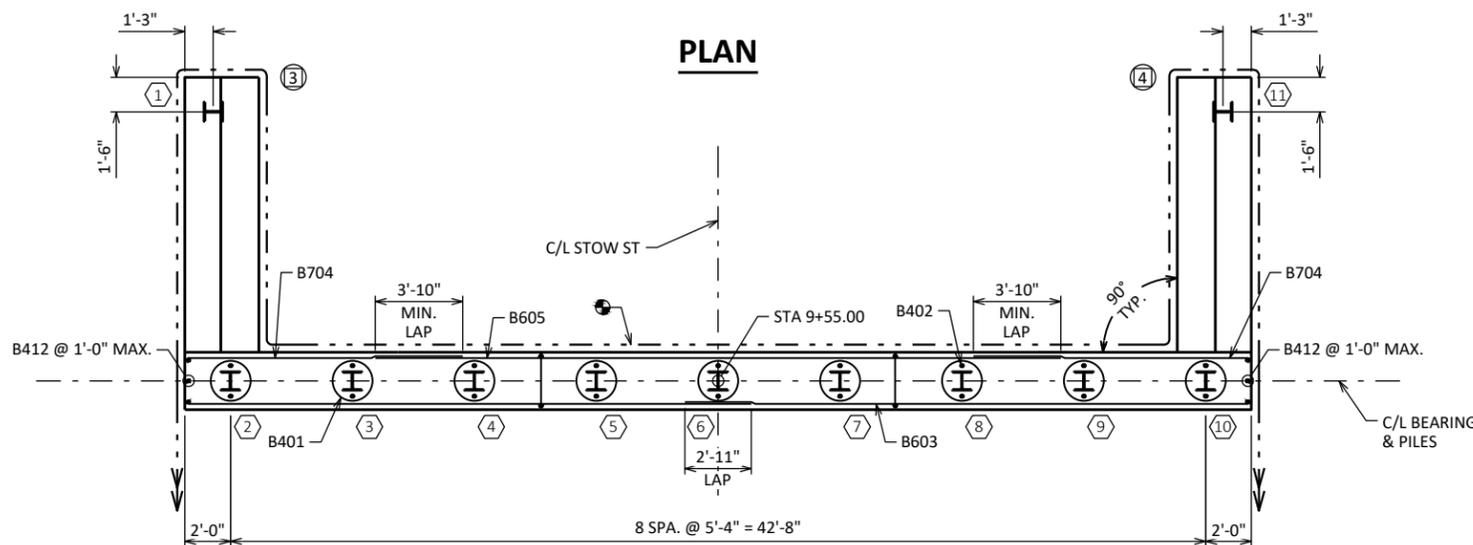


**ELEVATION**

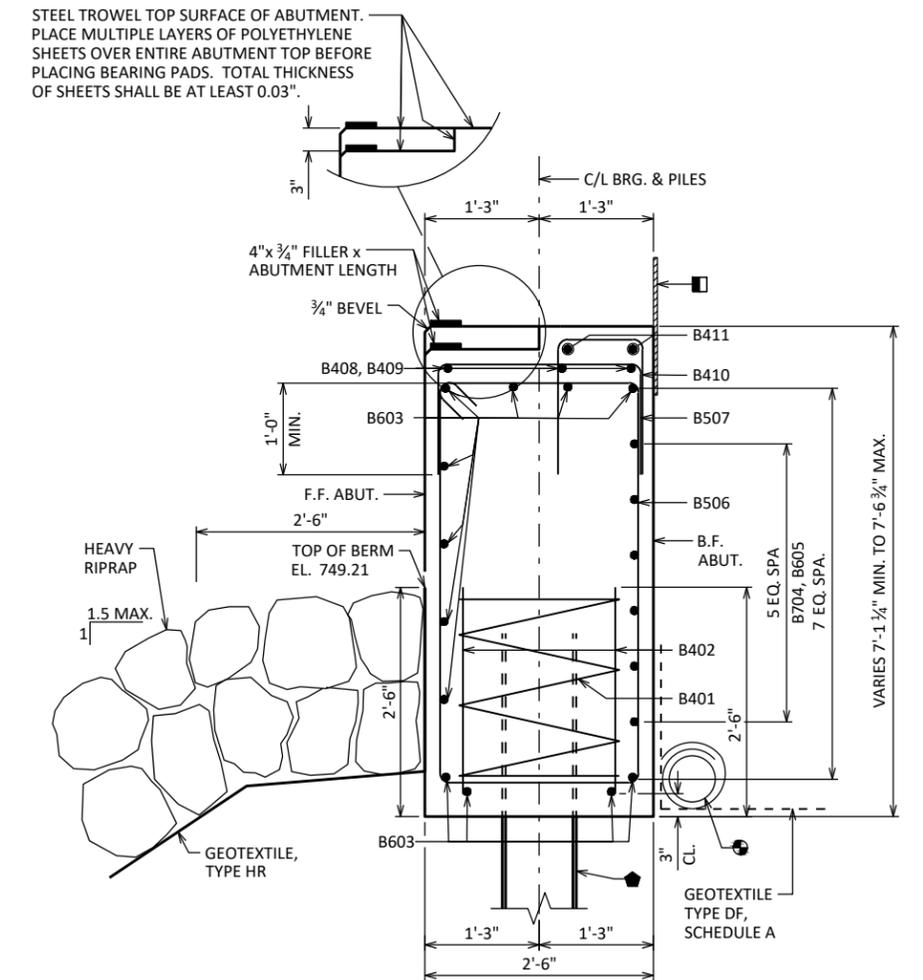
(LOOKING EAST)



**PLAN**



**PILE PLAN**

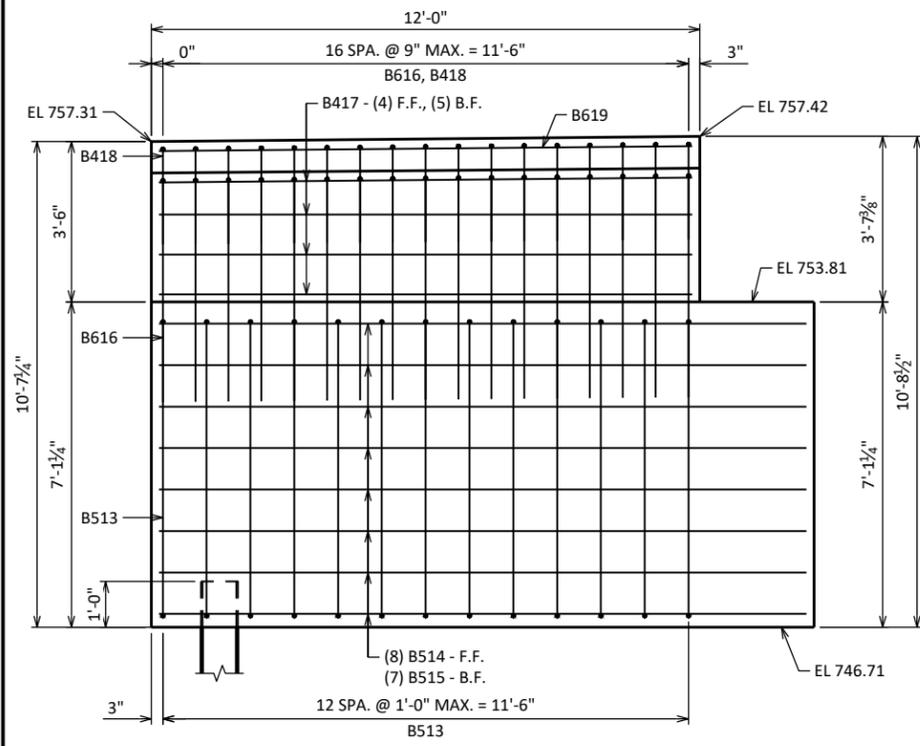


**SECTION THRU BODY**

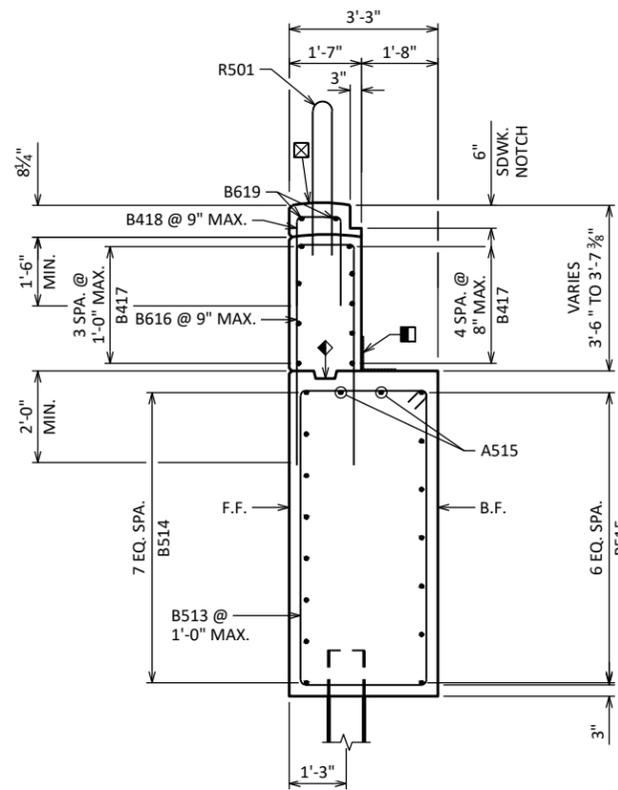
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-20-266</b>			
DRAWN BY		PLANS CK'D	
MJK		ALK	
<b>EAST ABUTMENT</b>		SHEET 6	

8

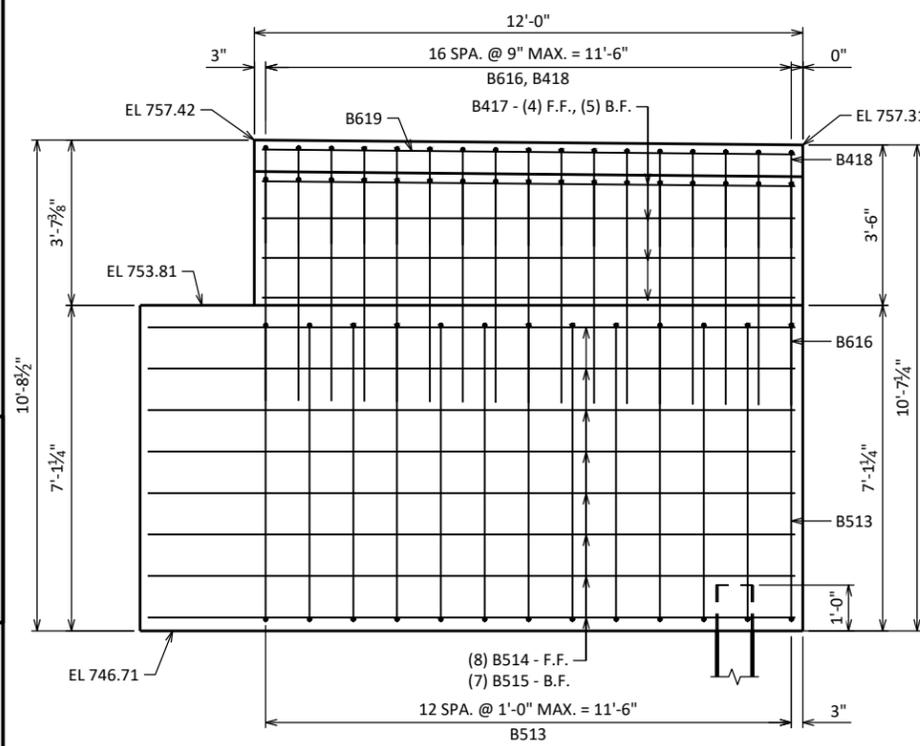
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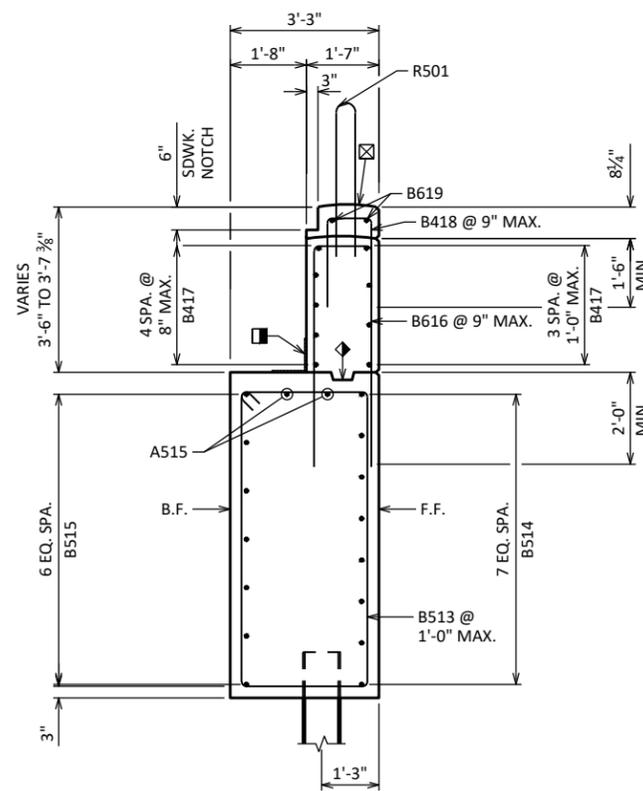
**WING 3 ELEVATION**



**WING 3 ELEVATION**



**WING 4 ELEVATION**

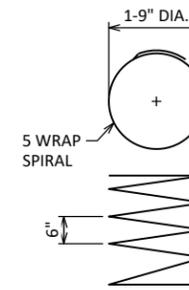


**WING 4 ELEVATION**

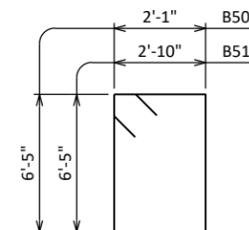
**BILL OF BARS**

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

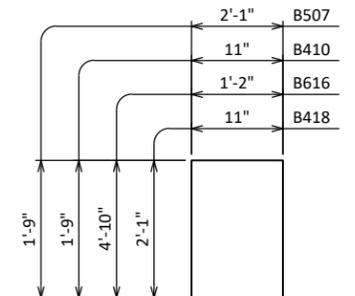
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B401		9	28'-0"	X		BODY - PILES
B402		18	2'-3"			BODY - PILES
B603		24	24'-8"			BODY - HORIZONTAL - F.F., TOP, BOTTOM
B704		12	12'-0"			BODY - HORIZONTAL - B.F. AT WINGS
B605		6	30'-0"			BODY - HORIZONTAL - B.F.
B506		59	17'-8"	X		BODY - TIES
B507		22	5'-4"	X		BODY - TIE UPPER - VERTICAL
B408		3	15'-0"			BODY - TIE UPPER - CENTER - HORIZONTAL
B409		6	2'-11"			BODY - TIE UPPER - OUTSIDE - HORIZONTAL
B410		28	4'-3"	X		BODY SEAT TIE - VERTICAL
B411		4	21'-1"			BODY SEAT TIE - HORIZONTAL
B412		6	6'-8"			ABUTMENT ENDS - VERTICAL
B513	X	26	19'-2"	X		WING 3 AND 4 - VERTICAL - STIRRUPS
B514	X	16	14'-2"			WING 3 AND 4 - HORIZONTAL - F.F.
B515	X	18	14'-2"			WING 3 AND 4 - HORIZONTAL - B.F.
B616	X	34	10'-6"	X		WING 3 AND 4 - VERTICAL
B417	X	18	11'-8"			WING 3 AND 4 - HORIZONTAL
B418	X	34	4'-11"	X		WING 3 AND 4 SW NOTCH - VERTICAL
B619	X	4	11'-8"			WING 1 AND 2 SW NOTCH - HORIZONTAL



**B401**



**B506, B513**

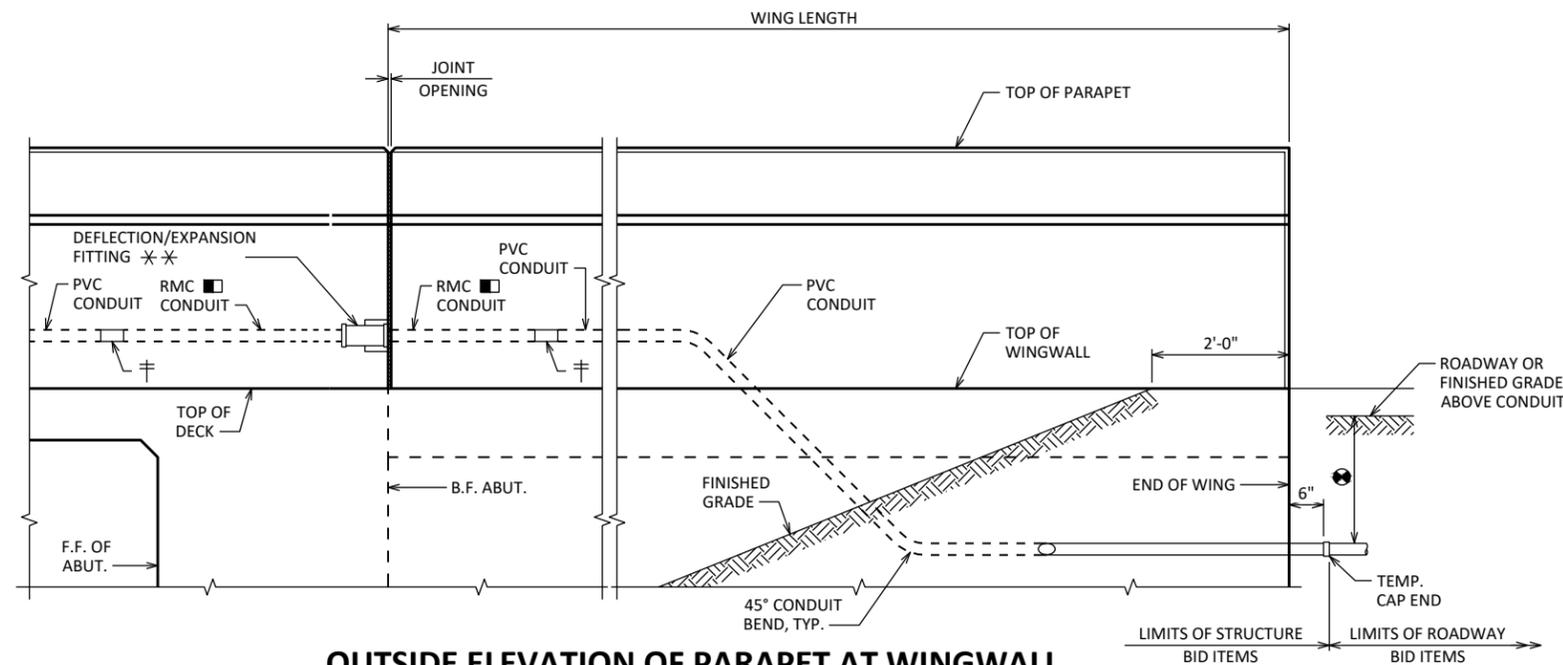


**B507, B410, B616, B418**

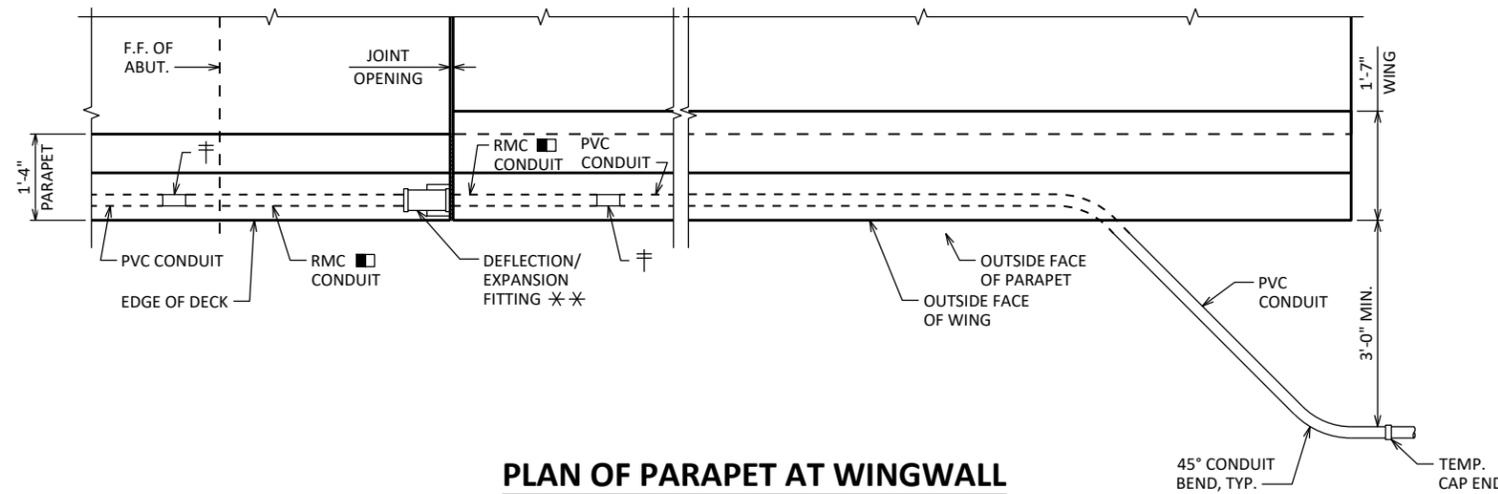
**LEGEND**

- ⊕ INDICATES WING NUMBER
- F.F. FRONT FACE
- B.F. BACK FACE
- 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- ▲ 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- ◆ OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" RMW @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).
- ☒ OPTIONAL CONST. JOINT, LEAVE ROUGH. IF JOINT IS USED, POUR CONCRETE ABOVE THIS JOINT AFTER DECK IS IN PLACE. UTILIZE RUBBERIZED MEMBRANE WATERPROOFING (COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES").

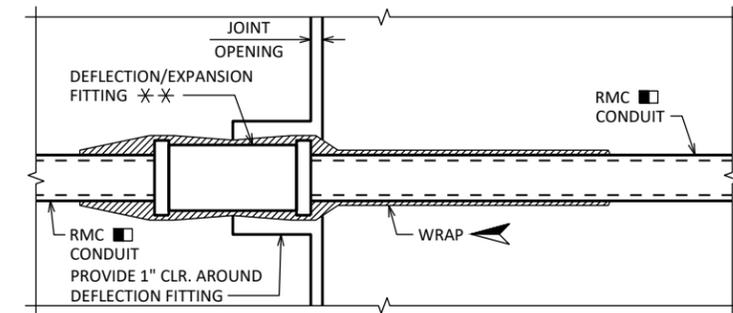
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-20-266</b>			
DRAWN BY: MJK		PLANS CK'D: ALK	
<b>EAST ABUTMENT DETAILS</b>		SHEET 7	



**OUTSIDE ELEVATION OF PARAPET AT WINGWALL**

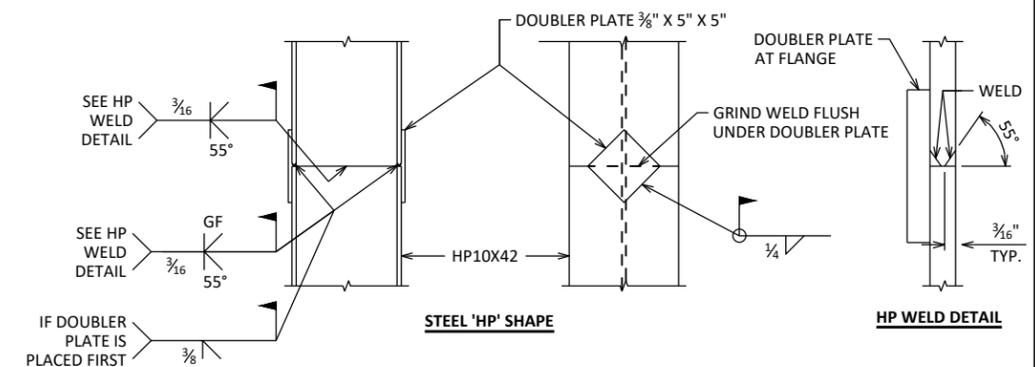


**PLAN OF PARAPET AT WINGWALL**



**DEFLECTION/EXPANSION FITTING**

THIS DETAIL ACCOMMODATES A MAXIMUM OF 3/4" TOTAL MOVEMENT AND UP TO 30 DEGREES OF ANGULAR MISALIGNMENT IN ANY DIRECTION. BOND JUMPER NOT SHOWN FOR CLARITY. (CONCRETE TO CONCRETE FITTING)



**'HP' PILE DETAILS**

**LEGEND**

- USE 2" DIA. RIGID METALLIC (RMC) CONDUIT AT FITTINGS. PROVIDE RMC FOR 3'-0" MIN. ON EACH SIDE OF JOINT OPENINGS UNLESS NOTED OTHERWISE.
- † NONMETALLIC CONDUIT TO METALLIC CONDUIT ADAPTER FITTING (UL OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED).
- ◀ SPONGE RUBBER WRAP TO BE AASHTO M153, TYPE 1 OR EQUIVALENT - 1/4" MINIMUM THICKNESS. PROVIDE WRAP FOR THE ENTIRE LENGTH OF THE FITTING OR AS SHOWN. SPONGE RUBBER WRAP INCIDENTAL TO "CONDUIT RIGID METALLIC 2-INCH".
- ◆ POSITION MOVABLE END OF CONDUIT INSIDE EXPANSION FITTING, SUCH THAT IT WILL HAVE THE SAME ALLOWANCE FOR MOVEMENT (EXPANSION/CONTRACTION) AS THE EXPANSION DEVICE SET IN PLACE IN THE DECK BELOW IT. TAKE CARE TO INSTALL EXPANSION FITTING AND CONDUIT EXACTLY PARALLEL TO BRIDGE MOVEMENT.
- 2'-0" MIN. CONDUIT COVER UNDER ROADWAYS, 1'-6" OTHERWISE. CONDUIT COVER SHOULD NOT EXCEED 3'-0".
- \* EXPANSION FITTING REQUIREMENTS (IF USED):
  - 4" TOTAL MOVEMENT WITH BONDING JUMPER
  - 8" TOTAL MOVEMENT WITH BONDING JUMPER
- \* \* DEFLECTION/EXPANSION FITTING REQUIREMENTS (IF USED):
  - UP TO 3/4" CONDUIT CONTRACTION OR EXPANSION AND UP TO 30° OF ANGULAR MISALIGNMENT IN ANY DIRECTION WITH BONDING JUMPER

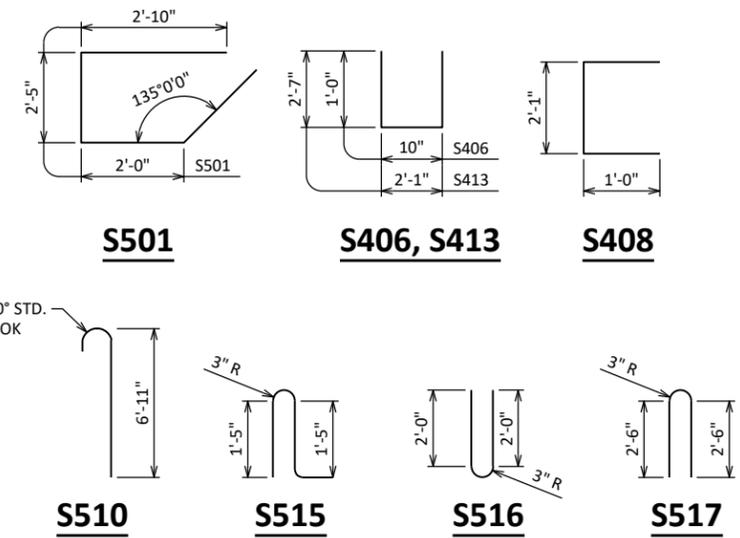
**NOTES**

- CONDUIT SHALL BE EMBEDDED 2" CLEAR.
- USE 2" DIA. RIGID NONMETALLIC CONDUIT (PVC) UNLESS NOTED OTHERWISE.
- CONDUIT FITTINGS, CONDUIT BENDS, AND ADAPTER FITTINGS INCIDENTAL TO CONDUIT WORK.
- CONDUIT BENDS SHALL CONFORM TO THE NATIONAL ELECTRIC CODE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-20-266</b>			
DRAWN BY		PLANS CK'D	
MJK		ALK	
<b>CONSTRUCTION DETAILS AND CONDUIT DETAILS</b>			SHEET 8

**LEGEND**

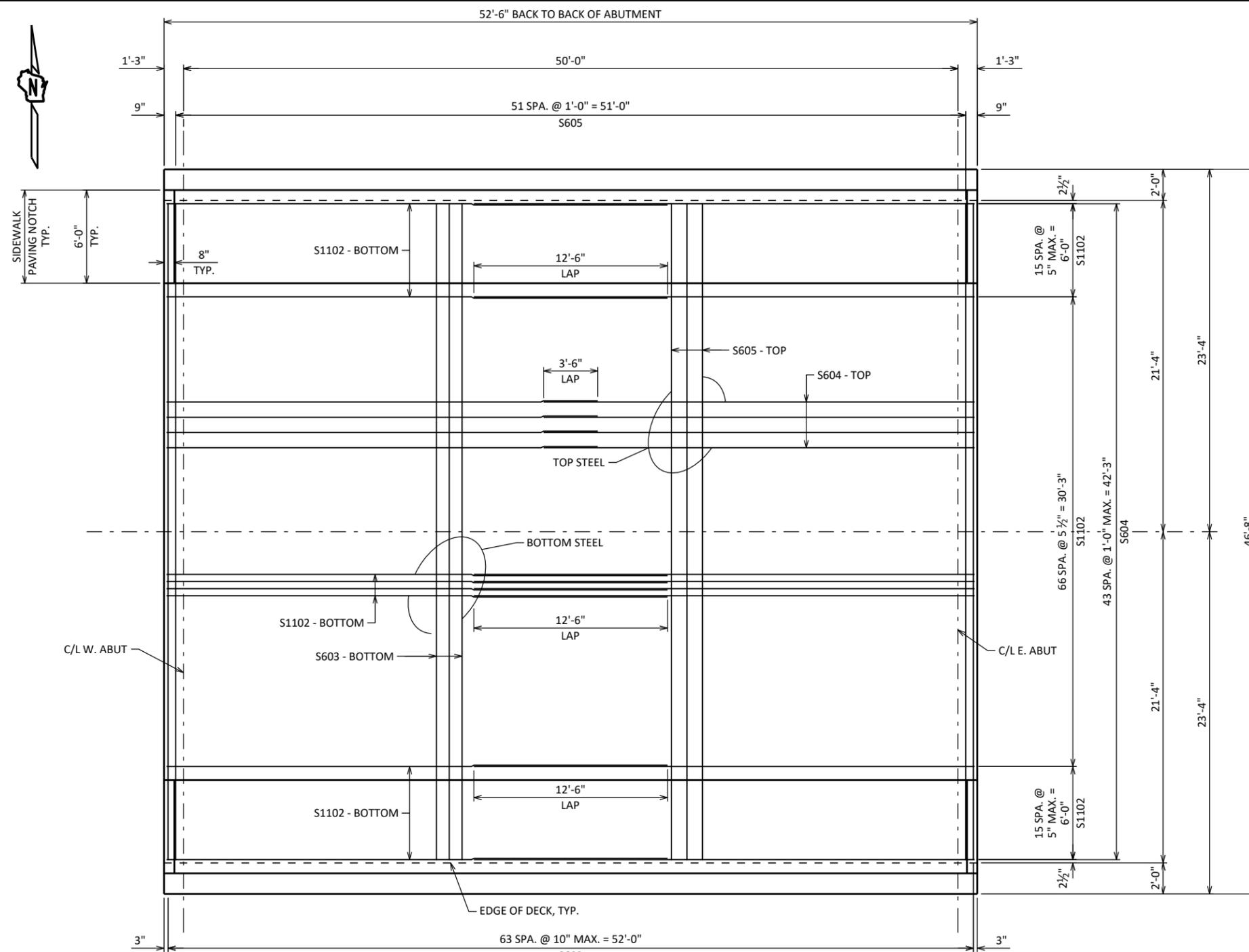
- 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING  
SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- ☆ 4" X 3/4" PREFORMED JOINT FILLER, LENGTH OF ABUTMENT.
- ▽ DIMENSIONS ARE MEASURED NORMAL TO C/L  
SUBSTRUCTURE.



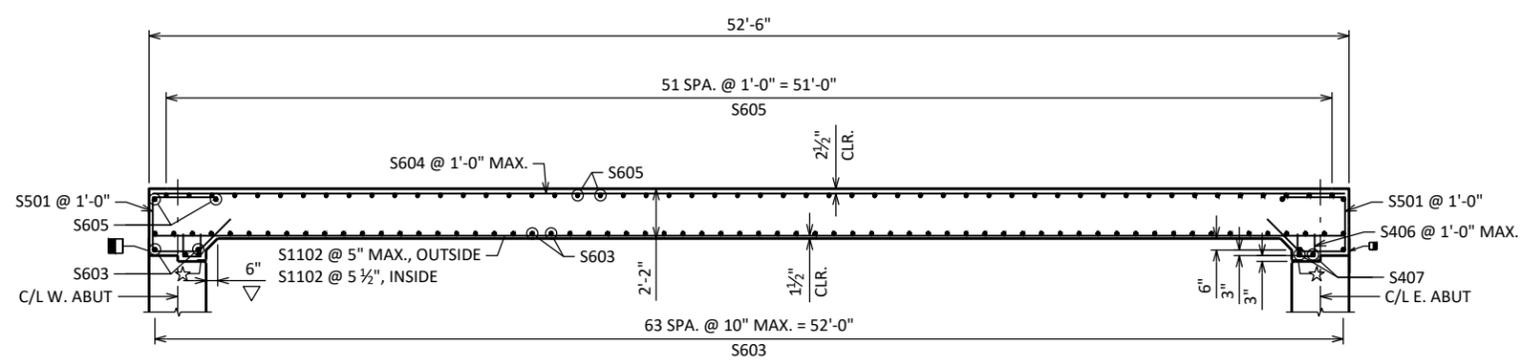
**BILL OF BARS**

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S501	X	88	9'-0"	X		END OF DECK - VERTICAL
S1102	X	98	32'-4"			SLAB - BOTTOM - LONGITUDINAL
S603	X	68	42'-4"			SLAB, DIAPHRAGM - BOTTOM - TRANSVERSE
S604	X	88	27'-10"			SLAB - TOP - LONGITUDINAL
S605	X	56	42'-4"			SLAB, DIAPHRAGM - TOP - TRANSVERSE
S406	X	82	2'-8"	X		DIAPHRAGM - VERTICAL
S407	X	4	39'-10"			DIAPHRAGM - HORIZONTAL
S408	X	412	3'-11"	X		SIDEWALK TIES
S409	X	70	3'-0"			SIDEWALK - TRANSVERSE
S510	X	308	7'-6"	X		SIDEWALK - TRANSVERSE
S411	X	44	26'-7"			SIDEWALK - LONGITUDINAL
S412	X	12	27'-3"			SIDEWALK - LONGITUDINAL - EXTERIOR
S413	X	12	7'-1"	X		SLAB - CORNERS AT ABUTMENT - VERTICAL
S414	X	24	5'-6"			SLAB - CORNERS AT ABUTMENT - HORIZONTAL
S515	X	126	4'-4"	X		PARAPET - VERTICAL - IN SPAN
S516	X	130	4'-10"	X		PARAPET - VERTICAL - IN SPAN
S517	X	4	5'-10"	X		PARAPET - VERTICAL - IN SPAN AT ABUTMENT
S518	X	32	27'-0"			PARAPET - HORIZONTAL - IN SPAN



**PLAN**



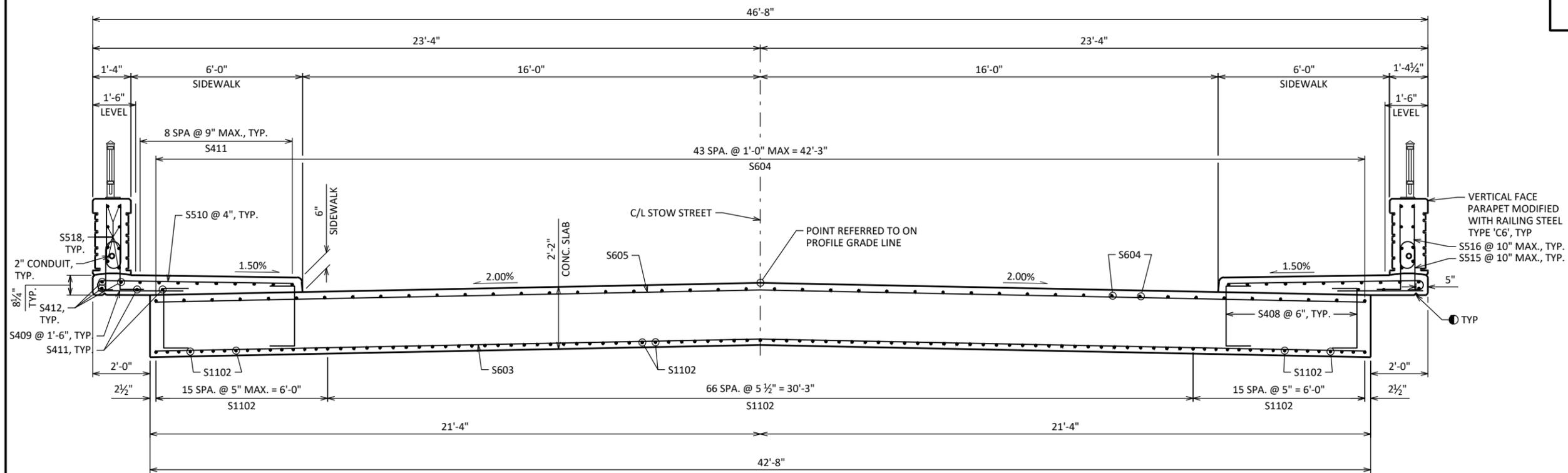
**LONGITUDINAL SECTION AT R/L**

8

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-20-266</b>			
DRAWN BY		PLANS CK'D	
MJK		ALK	
<b>SUPERSTRUCTURE</b>			SHEET 9

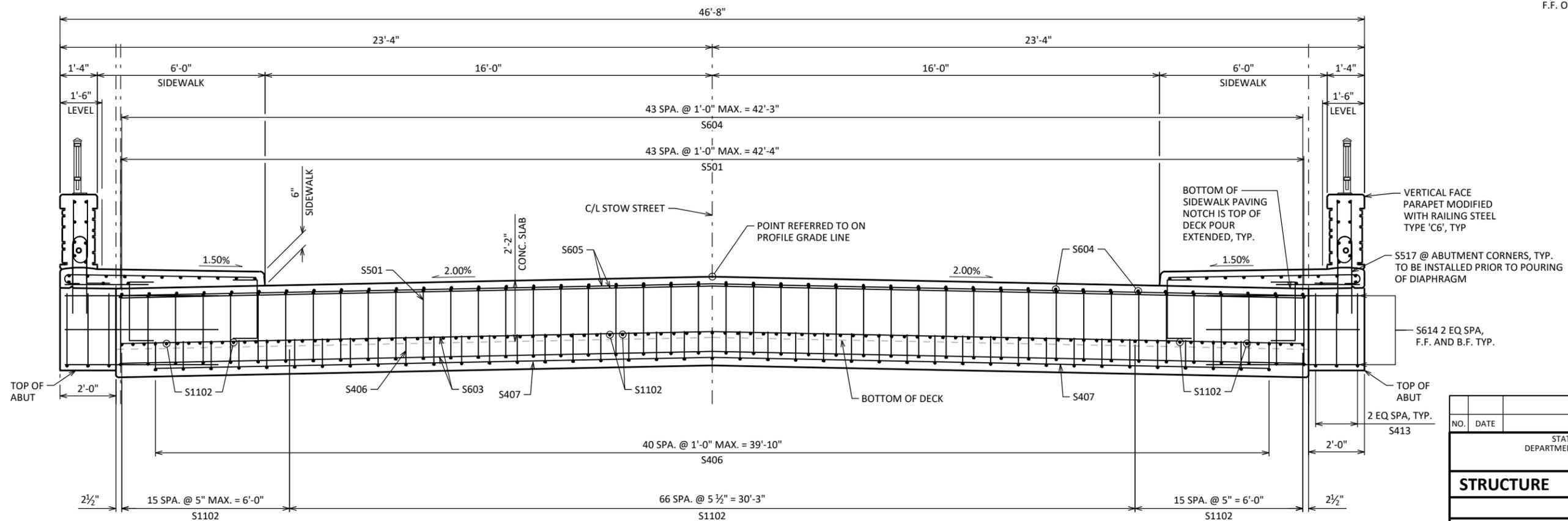
SCALE = #####



**CROSS SECTION THRU BRIDGE - IN SPAN**

**LEGEND**

① 3/4" V-GROOVE REQ'D. EXTEND 6" FROM F.F. OF ABUTMENT BODY.

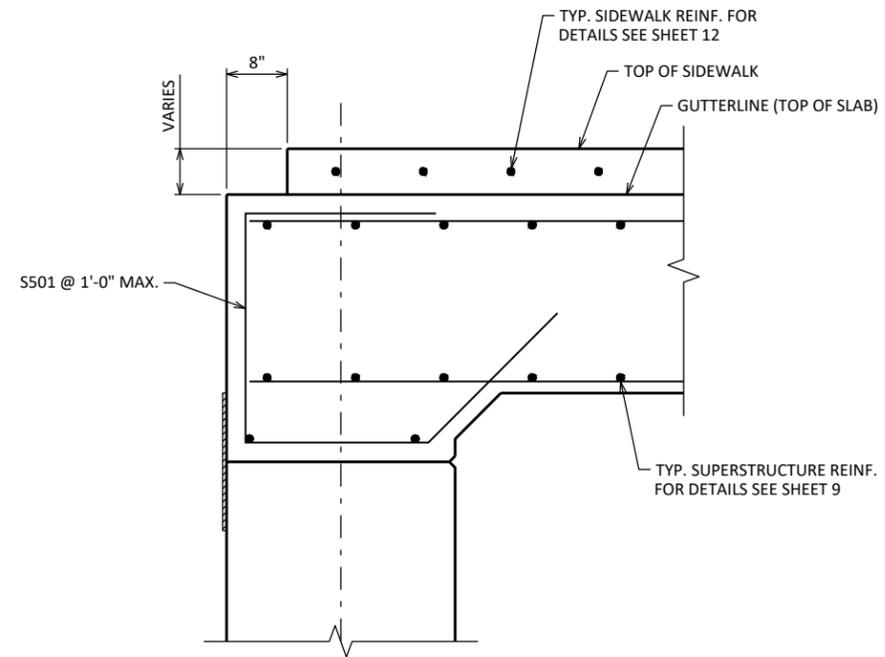
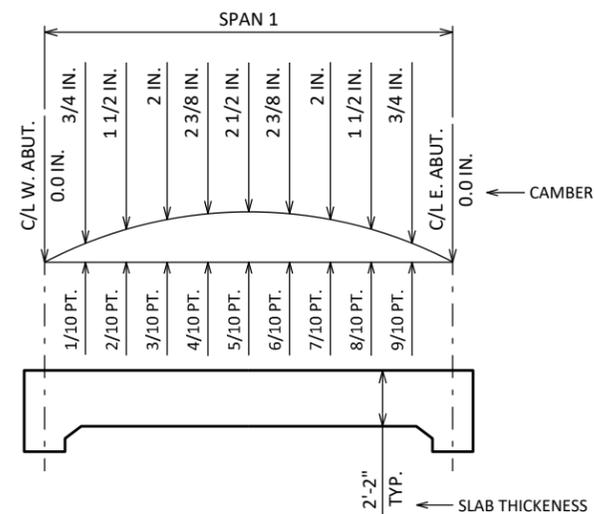


**CROSS SECTION THRU BRIDGE - AT ABUTMENT**

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-20-266</b>			
DRAWN BY		PLANS CK'D	
MJK		ALK	
<b>SUPERSTRUCTURE DETAILS</b>			SHEET 10

8

8



**CAMBER AND SLAB THICKNESS DIAGRAM**

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

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

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

**TOP OF SLAB ELEVATIONS**

SPAN	LOCATION	C/L BRG. W. ABUT.	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	C/L BRG. E. ABUT.
1	N. EDGE OF DECK	756.40	756.49	756.58	756.65	756.70	756.75	756.78	756.80	756.80	756.79	756.77
	CROWN OR R/L	756.83	756.92	757.01	757.08	757.13	757.18	757.21	757.23	757.23	757.22	757.20
	S. EDGE OF DECK	756.40	756.49	756.58	756.65	756.70	756.75	756.78	756.80	756.80	756.79	756.77

**AT ABUTMENTS - SIDEWALK  
PARTIAL LONGITUDINAL SECTION**

**SURVEY TOP OF SLAB ELEVATIONS**

LOCATION	ABUTMENT	5/10 PT.	ABUTMENT
N. EDGE OF SLAB			
N. GUTTER			
CROWN OR R/L			
S. GUTTER			
S. EDGE OF SLAB			

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE C/L OF ABUTMENTS, THE C/L OF PIERS AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG GUTTER LINES AND CROWN OR C/L. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.

**NOTES**

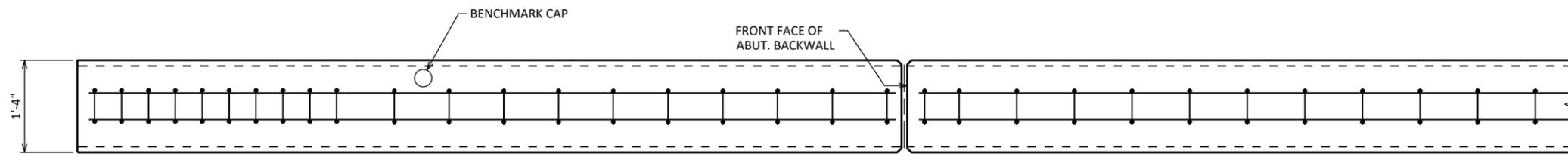
FILL IN THE TABLE OF "SURVEY TOP OF SLAB ELEVATIONS" FOR EACH SPAN ON AS BUILT PLANS.

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

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

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-20-266</b>			
DRAWN BY		PLANS CK'D	
MJK		ALK	
<b>SUPERSTRUCTURE DETAILS</b>			SHEET 11

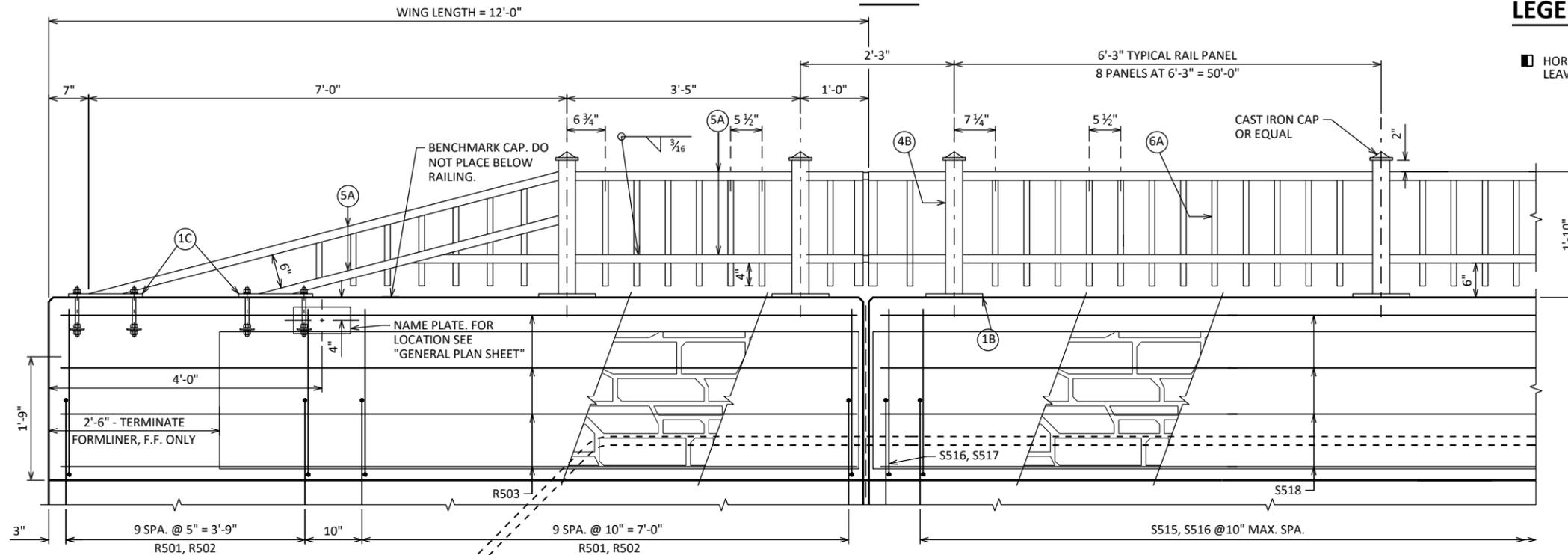
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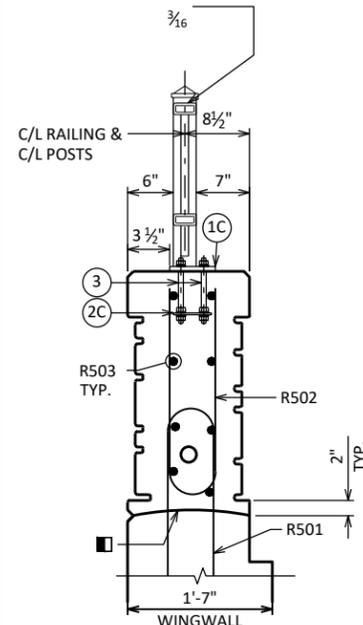
PLAN

LEGEND

■ HORIZ. CONST. JOINT-STRIKE OFF AS SHOWN AND LEAVE ROUGH



ELEVATION OF PARAPET

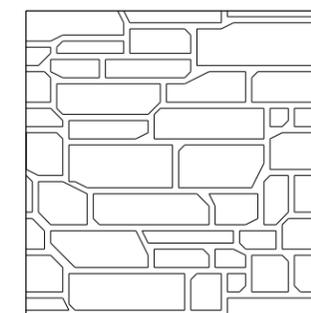


END VIEW

BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	80	5'-10"	X		PARAPET - VERTICAL
R502	X	80	4'-10"	X		PARAPET - VERTICAL
R503	X	32	11'-8"			PARAPET - HORIZONTAL



FORMLINER DETAIL

RUSTIC ASHLAR  
FORMLINER THICKNESS = 2" MAX.  
SIZE = 8" TO 32"  
RELIEF = 1"

NOTES

ARCH. SURFACE TREATMENT LIMITS. PATTERN SHOWN IS REPRESENTATIVE ONLY AND DOES NOT MATCH PATTERN TO BE UTILIZED. SEE SPECIAL PROVISION FOR ADDITIONAL DETAILS.

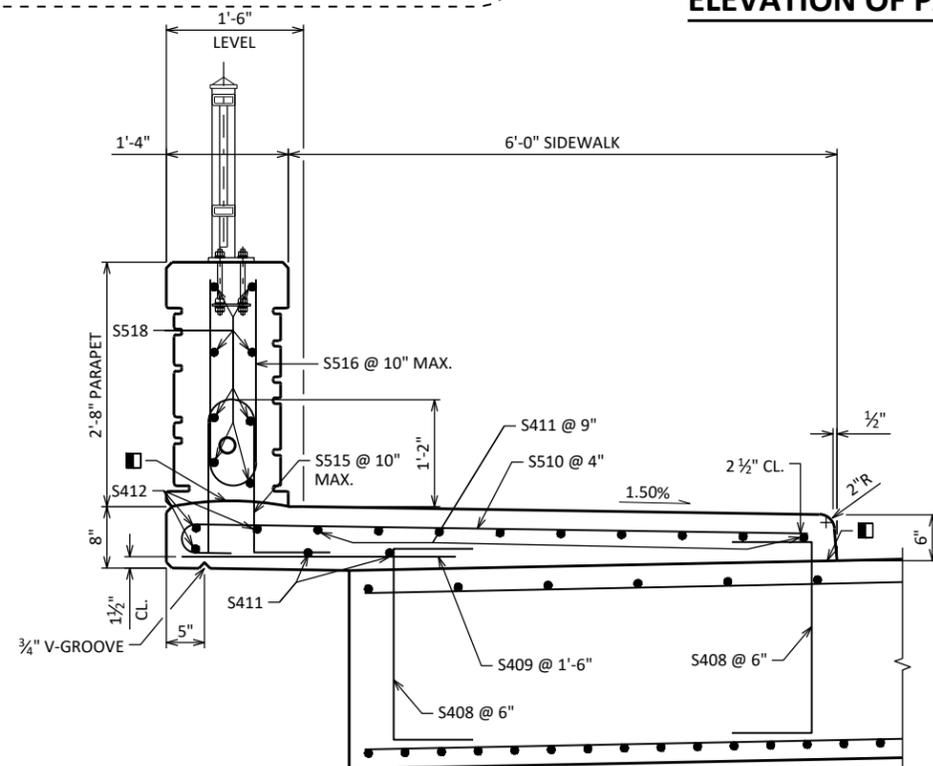
ARCH. SURFACE TREATMENT PATTERN SHALL BE RUSTIC ASHLAR AND SHALL MATCH PATTERN USED FOR STRUCTURE B-20-18.

CONC. STAINING MULTI-COLOR SHALL BE APPLIED TO ALL ARCH. SURFACE TREATMENT. SEE SPECIAL PROVISION FOR CONCRETE STAINING DETAILS.

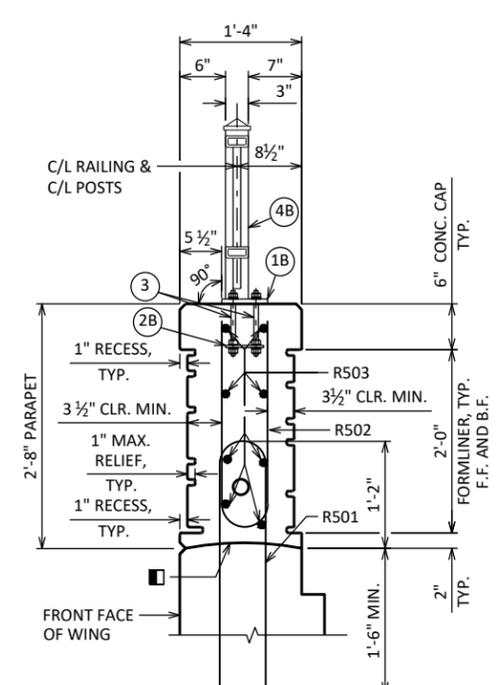
CONC. STAINING MULTI-COLOR USED SHALL MATCH STRUCTURE B-20-18.

THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS CONSTRUCTION JOINTS.

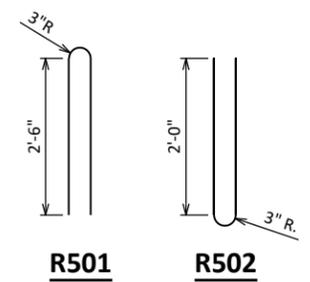
THE FORMLINER COURSING ON PARAPETS SHALL BE PARALLEL TO TOP OF THE PARAPET.



SECTION C-C



SECTION A-A

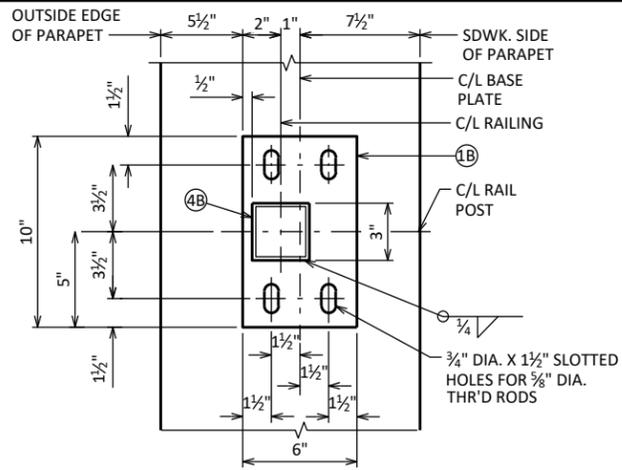


R501

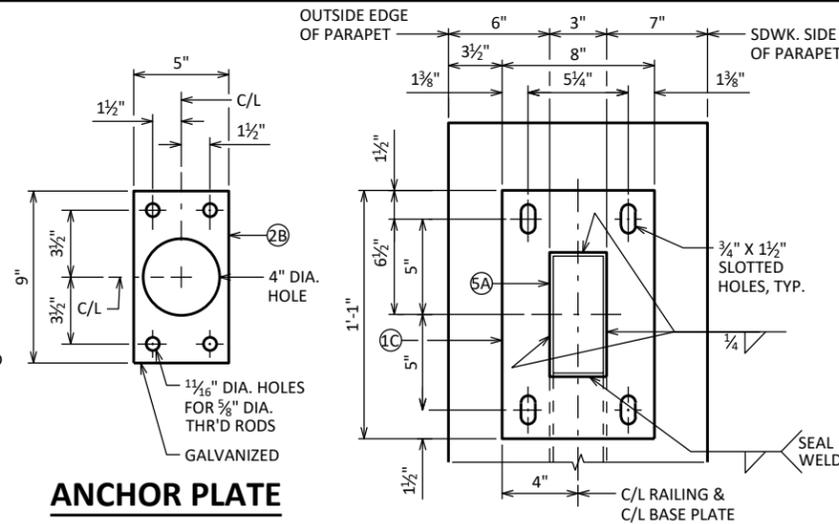
R502

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-20-266</b>			
DRAWN BY		PLANS CK'D	
MJK		ALK	
<b>COMBINATION RAILING TYPE 'C6'</b>			SHEET 12

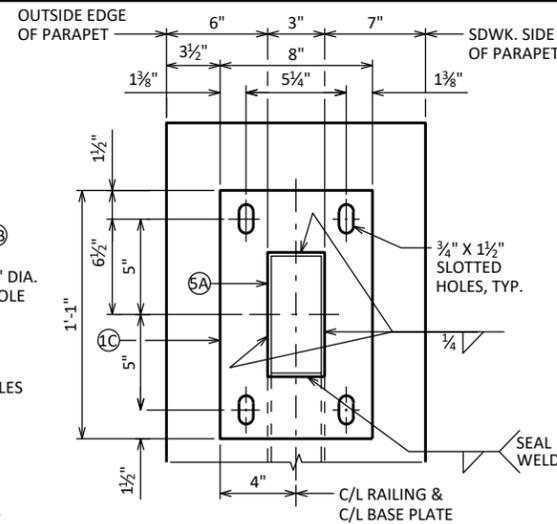
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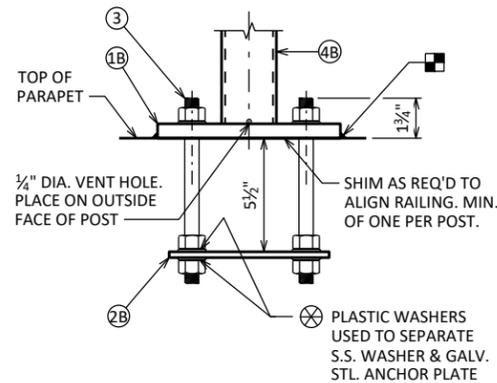
**TYPICAL RAIL POST BASE PLATE**



**ANCHOR PLATE**

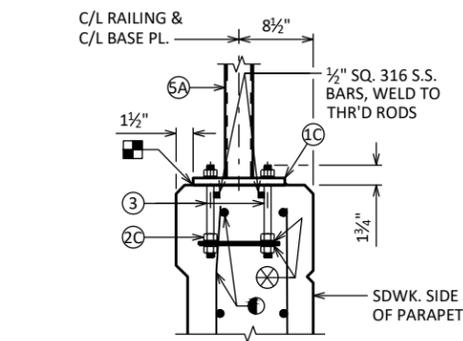


**END RAIL BASE PLATE**



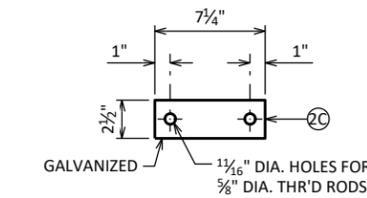
**ANCHORAGE FOR RAIL POSTS**

NOTE: ANCHOR PLATE NOT REQUIRED WHEN ADHESIVE ANCHORS ARE USED.



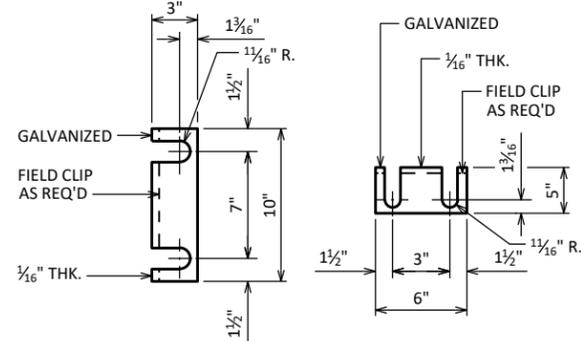
**ANCHORAGE FOR END RAIL**

NOTE: ANCHOR PLATE NOT REQUIRED WHEN ADHESIVE ANCHORS ARE USED.  
 1 WHEN ADHESIVE ANCHORS ARE USED, FIELD BEND AND/OR DISPLACE TO AVOID HITTING LONGITUDINAL BAR WHEN DRILLING FOR ADHESIVE ANCHORS.



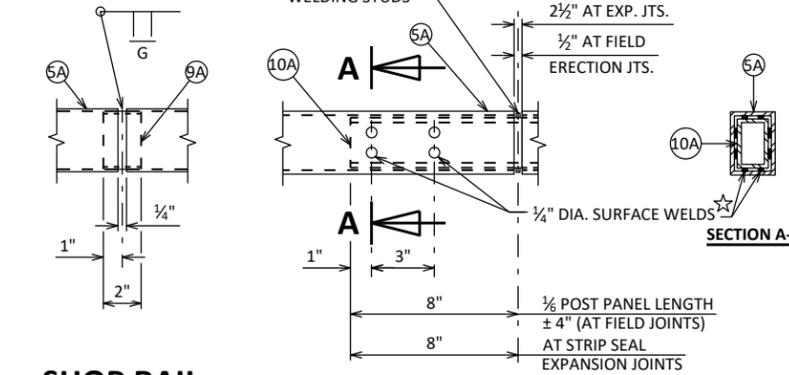
**END RAIL ANCHOR PLATE**

2 REQ'D. PER END RAIL BASE PLATE



**RAIL POST SHIM DETAIL**

(2 SETS PER POST)

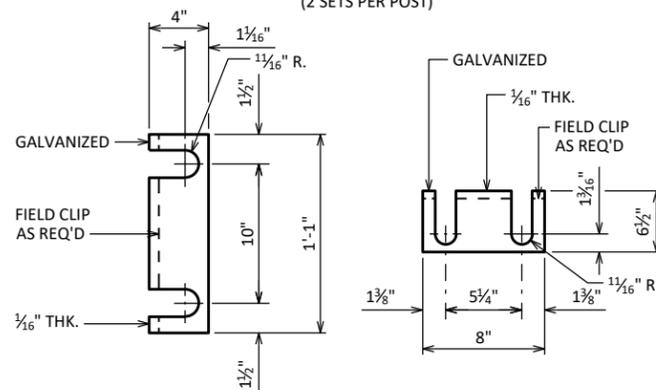


**SHOP RAIL SPLICE DETAIL**

(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)

**FIELD ERECTION JOINT DETAIL**

☆ MIN. 3/8" FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE.



**END RAIL SHIM DETAIL**

(2 SETS PER POST)

**LEGEND**

- 1B PLATE 3/8" X 6" X 10" WITH 3/4" X 1 1/2" SLOTTED HOLES.
- 1C PLATE 3/8" X 8" X 1'-1" WITH 3/4" X 1 1/2" SLOTTED HOLES.
- 2B 3/4" X 5" X 9" ANCHOR PLATE WITH 1 1/16" DIA. HOLES FOR THR'D RODS NO. 3.
- 2C 3/4" X 2 1/2" X 7 1/4" ANCHOR PLATE WITH 1 1/16" DIA. HOLES FOR THR'D RODS NO. 3.
- 3 3/8" DIA. X 9" LONG, TYPE 316 STAINLESS STEEL THREADED RODS (MIN. TENSILE STRENGTH = 70 KSI) WITH NUT AND WASHERS OF SAME ALLOY GROUP. ALTERNATIVE ANCHORAGE: CONCRETE ADHESIVE ANCHORS 3/8"-INCH. EMBED 7" IN CONCRETE FOR RAIL POSTS. EMBED 5" IN CONCRETE FOR END RAILS. ADHESIVE ANCHORS SHALL CONFORM TO SECTIONS 502.2.12 OF THE STANDARD SPECIFICATIONS.
- 4B STRUCTURAL TUBING 3" X 3" X 3/16". PLACE VERTICAL. WELD TO NO. 1 & 5.
- 5A STRUCTURAL TUBING 3" X 1 1/2" X 3/16" RAILS. WELD TO NO. 1 & NO. 4. INSIDE OF TUBE TO BE PAINTED AT ALL FIELD ERECTION & EXPANSION JOINTS.
- 6A BAR 1" X 1" PICKETS. WELD TO NO. 5. PLACE VERTICAL.
- 6C BAR 1" X 1 1/2" PICKETS. WELD TO NO. 11. PLACE VERTICAL.
- 9A RECTANGULAR SLEEVE FABRICATED FROM 3/16" PLATES. PROVIDE "SLIDING FIT".
- 10A RECTANGULAR SLEEVE FABRICATED FROM 3/16" PLATES. (1'-4" @ FIELD ERECTION JTS.) (1'-4" @ STRIP SEAL EXP. JTS.)

**RAILING NOTES**

BID ITEM SHALL BE "RAILING STEEL TYPE C6", WHICH SHALL INCLUDE ALL STEEL ITEMS SHOWN.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT, AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

ALL PLATES, BARS, AND RECTANGULAR SLEEVES SHALL CONFORM TO ASTM A709 GRADE 36. ALL STRUCTURAL TUBING SHALL CONFORM TO ASTM A500 GRADE B.

ANCHORAGES SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING. SET NORMAL TO GRADE.

CUT BOTTOM OF POST TO MAKE POST VERTICAL IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTION.

STEEL SHIMS SHALL BE PROVIDED & USED UNDER BASE PLATES WHERE REQUIRED FOR ALIGNMENT, AND SHALL BE GALVANIZED.

CAULK AROUND PERIMETER OF BASE PLATES, NO. 1, AND FILL BOLT SLOT OPENINGS IN SHIMS AND BASE PLATES WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

ALL JOINTS AND RECESSES IN CONCRETE PARAPET ARE TO BE VERTICAL.

ALL MATERIAL (EXCEPT NO. 3 & 12) SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, THE STEEL RAILING SHALL BE GIVEN A NO. 6 BLAST CLEANING PER SSPC SPECIFICATIONS. PAINT OVER GALVANIZING WITH AN APPROVED TIE COAT AND TOP COAT AS SPECIFIED IN THE CONTRACT DOCUMENTS. THE RAILING SHALL BE PAINTED AMS STD. COLOR NO. 27038, BLACK.

VENT HOLES SHALL BE DRILLED IN POST AND RAIL MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE 3 OR 4 POSTS.

TOUCH-UP PAINTING TO BE DONE AT COMPLETION OF STEEL RAILING INSTALLATION TO THE SATISFACTION OF THE ENGINEER AT NO EXTRA COST.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-20-266</b>			
DRAWN BY		MJK	PLANS CK'D ALK
<b>COMBINATION RAILING DETAILS</b>			SHEET 13

**DIVISION 1 - STOW STREET (WEST)**

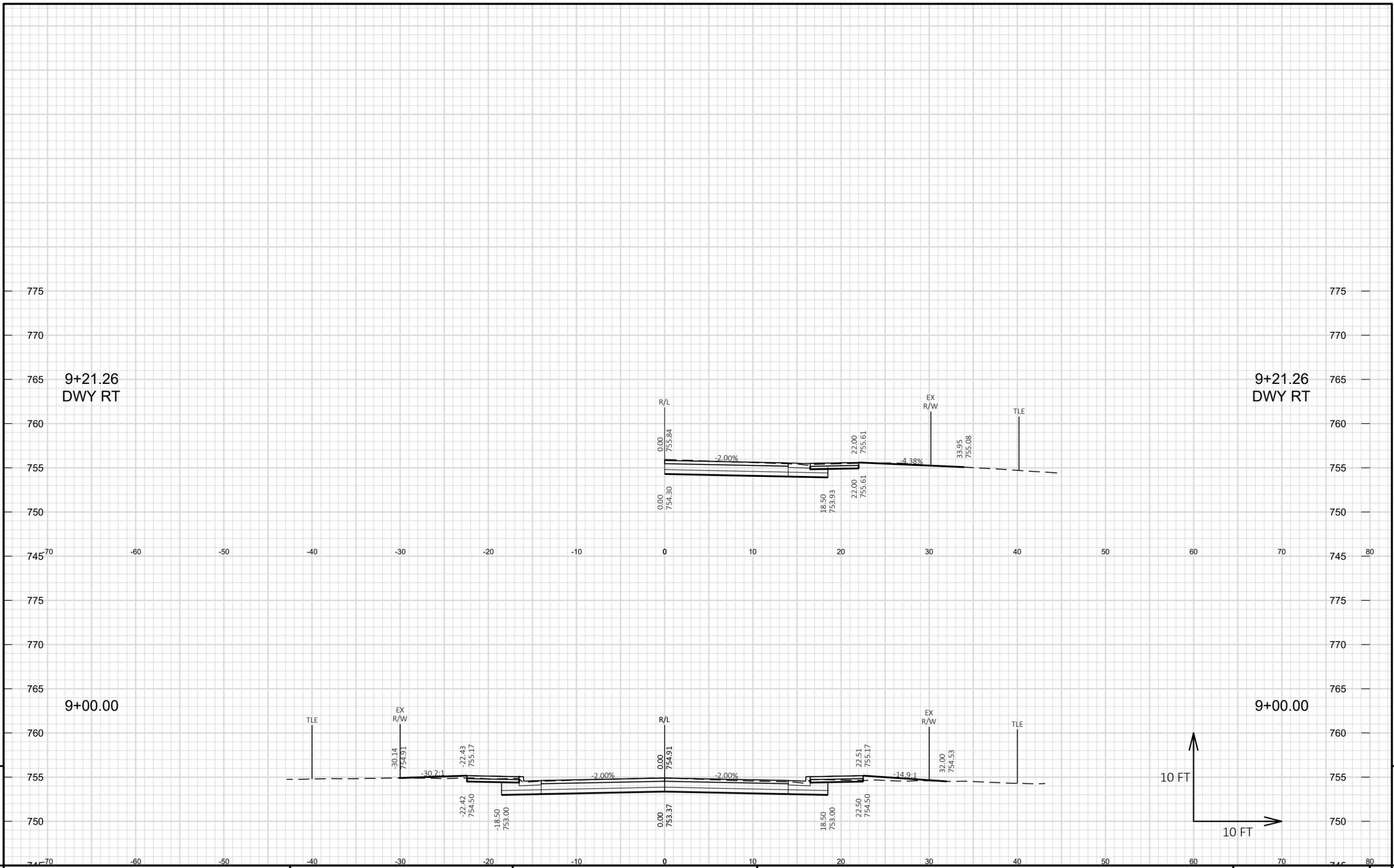
STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
		CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL 1.30	MASS ORDINATE
08+60.361	0.00	3.69	0.00	0	0	0	0	0
08+65.477	5.12	6.82	1.22	1	0	1	0	1
08+75	9.52	8.34	1.25	3	0	4	0	4
08+85	10.00	30.21	2.61	7	1	11	1	10
09+00	15.00	57.88	3.57	24	2	35	4	31
09+25	25.00	65.18	0.60	57	2	92	7	86
09+50	25.00	69.21	0.00	62	0	154	7	148
09+53.75	3.75	73.50	0.00	10	0	164	7	158
<b>TOTAL</b>				<b>164</b>	<b>5</b>			

**DIVISION 2 - STOW STREET (EAST)**

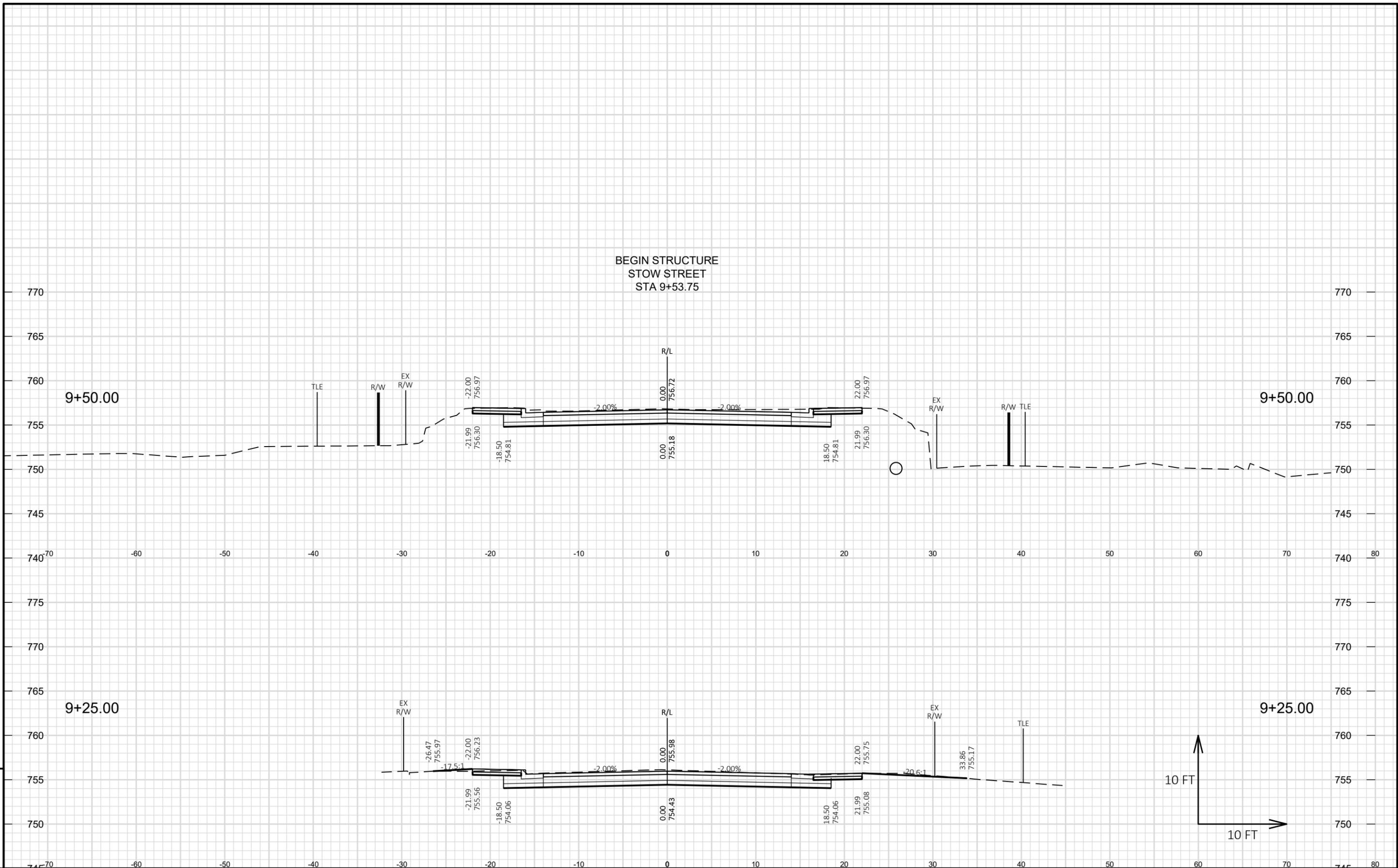
STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
		CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL 1.30	MASS ORDINATE
10+06.25	0.00	61.42	0.00	0	0	0	0	0
10+25	18.75	64.77	3.13	44	1	44	1	43
10+50	25.00	62.94	2.63	59	3	103	5	98
10+65	15.00	65.76	0.57	36	1	139	7	133
<b>TOTAL</b>				<b>139</b>	<b>5</b>			

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
3 - MASS ORDINATE	CUT - (FILL*FILL FACTOR)





PROJECT NO: 4811-00-72      HWY: STOW STREET      COUNTY: FOND DU LAC      CROSS SECTIONS: STOW STREET      SHEET 9



PROJECT NO: 4811-00-72

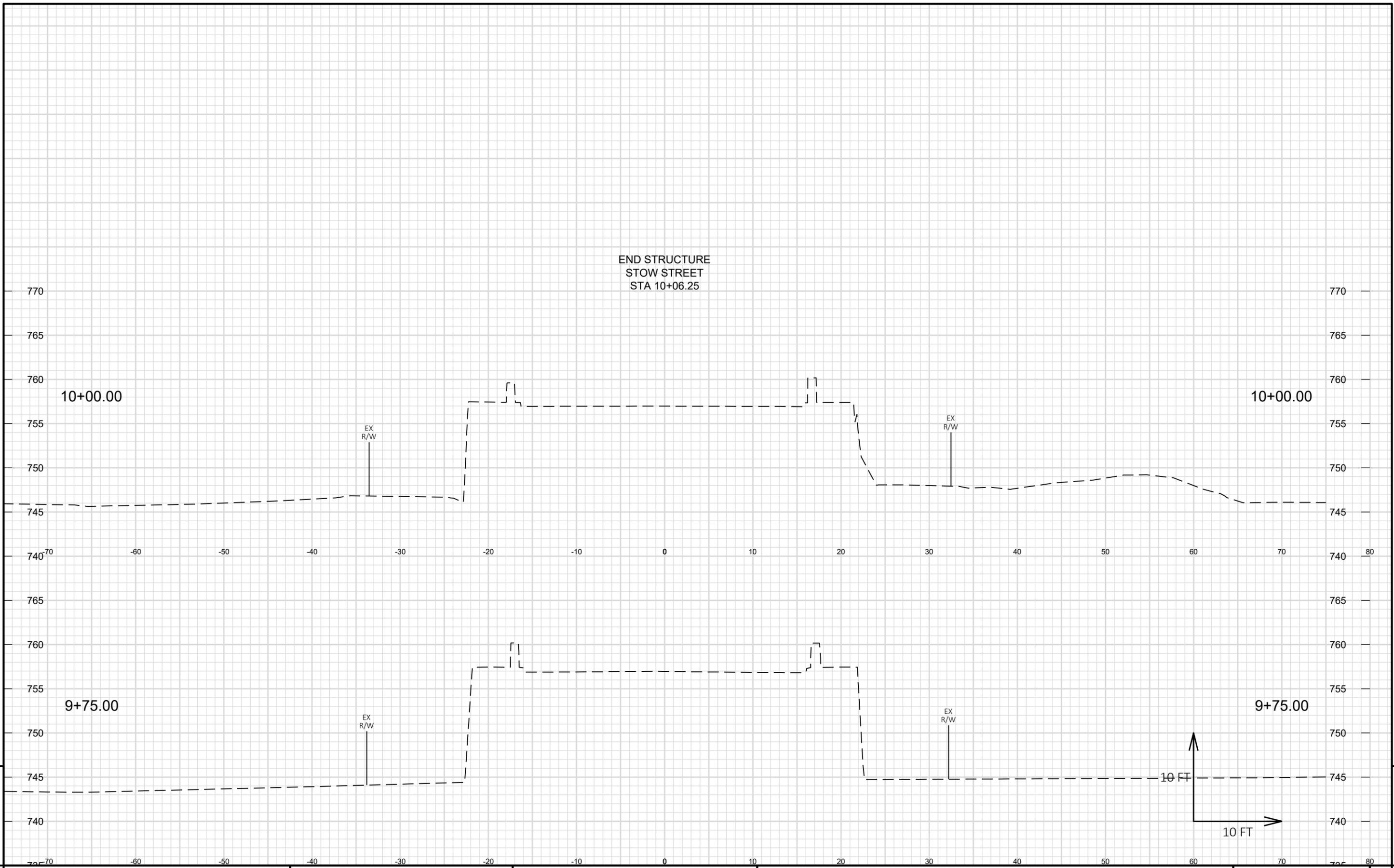
HWY: STOW STREET

COUNTY: FOND DU LAC

CROSS SECTIONS: STOW STREET

SHEET

E



END STRUCTURE  
STOW STREET  
STA 10+06.25

10+00.00

10+00.00

70

80

9+75.00

9+75.00

70

80

PROJECT NO: 4811-00-72

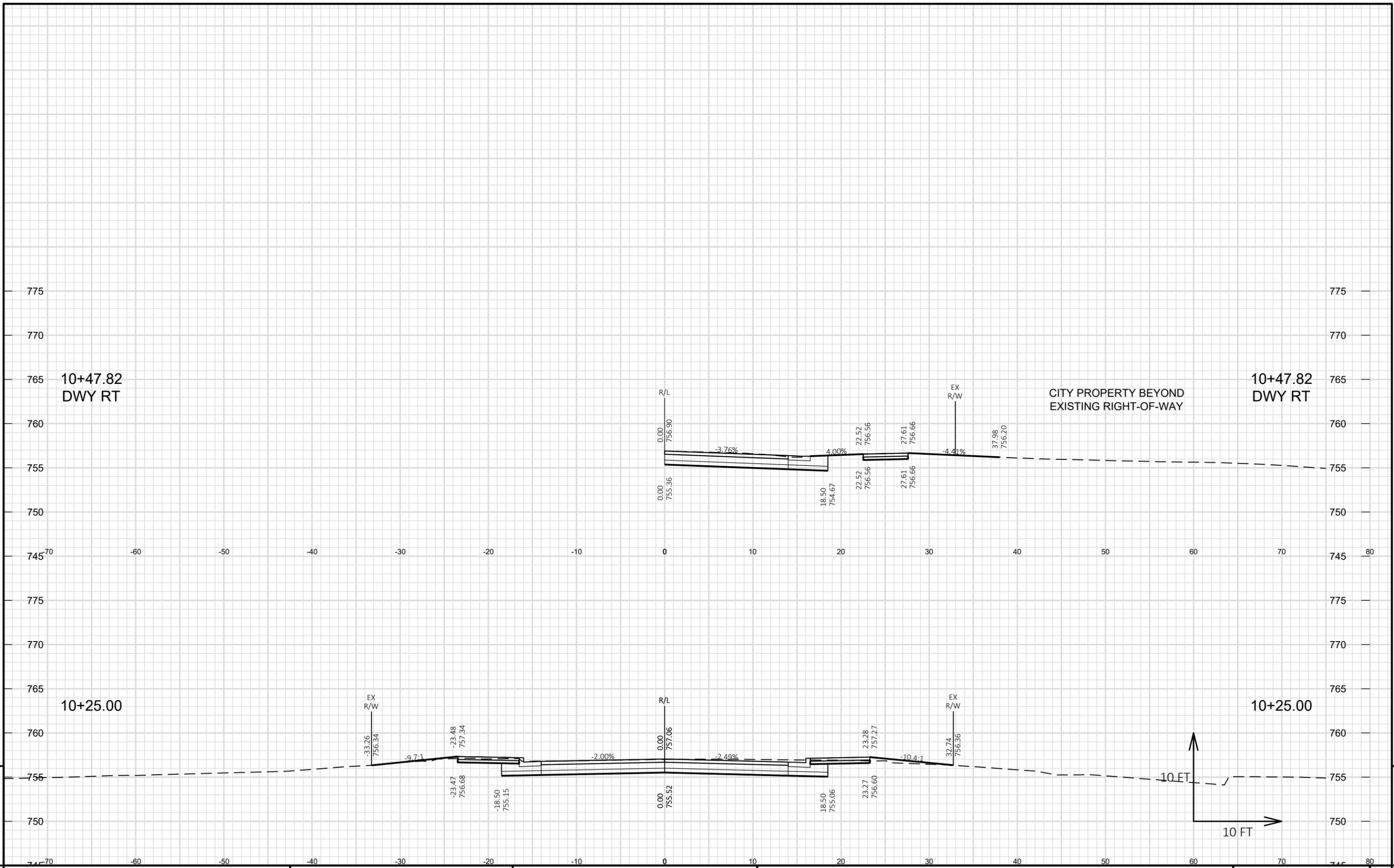
HWY: STOW STREET

COUNTY: FOND DU LAC

CROSS SECTIONS: STOW STREET

SHEET

E



PROJECT NO: 4811-00-72

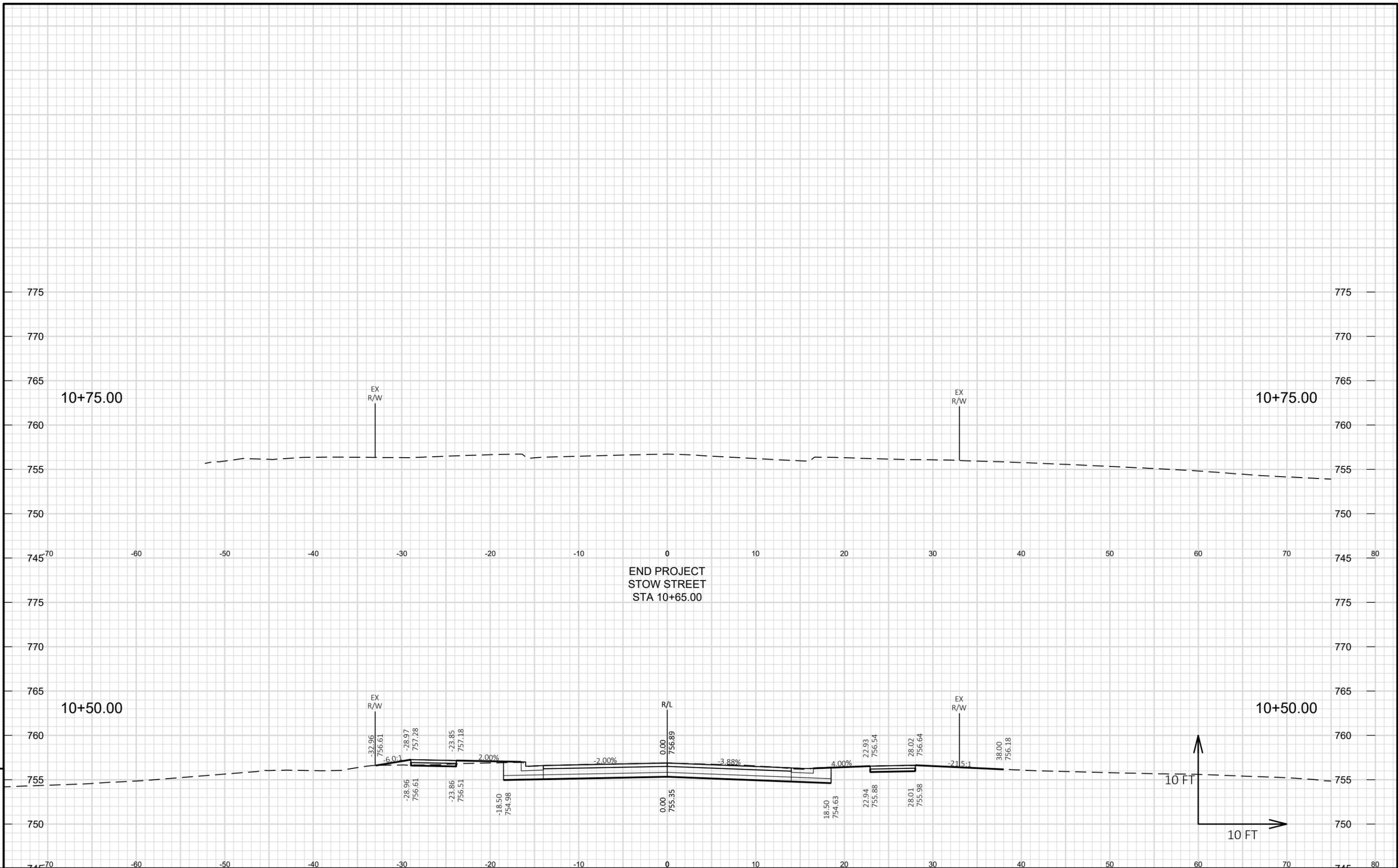
HWY: STOW STREET

COUNTY: FOND DU LAC

CROSS SECTIONS: STOW STREET

SHEET

E



PROJECT NO: 4811-00-72

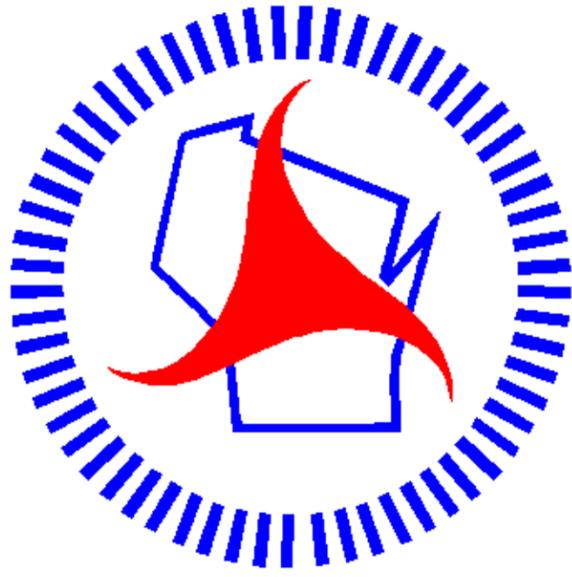
HWY: STOW STREET

COUNTY: FOND DU LAC

CROSS SECTIONS: STOW STREET

SHEET

E



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