

ORDER OF SHEETS

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

TOTAL SHEETS = 126



DESIGN DESIGNATION

A.A.D.T.	2024	=	1,140
A.A.D.T.	2044	=	1,390
D.H.V.		=	
D.D.		=	
T.		=	7.0%
DESIGN SPEED		=	30 MPH
ESALS		=	190,000 HMA

CONVENTIONAL SYMBOLS

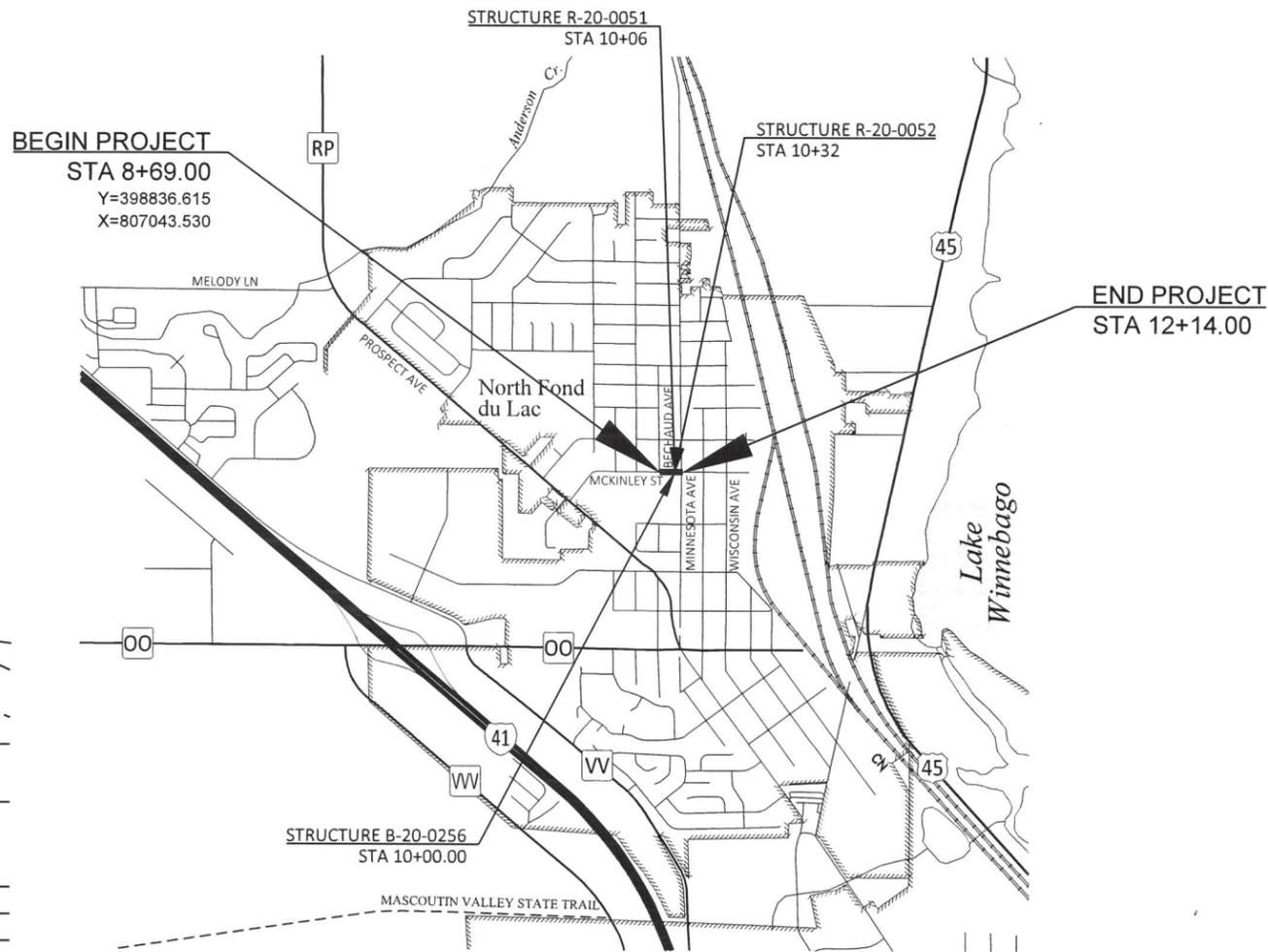
PLAN	PROFILE
CORPORATE LIMITS	GRADE LINE
PROPERTY LINE	ORIGINAL GROUND
LOT LINE	MARSH OR ROCK PROFILE (To be noted as such)
LIMITED HIGHWAY EASEMENT	SPECIAL DITCH
EXISTING RIGHT OF WAY	GRADE ELEVATION
PROPOSED OR NEW R/W LINE	CULVERT (Profile View)
SLOPE INTERCEPT	UTILITIES
REFERENCE LINE	ELECTRIC
EXISTING CULVERT	FIBER OPTIC
PROPOSED CULVERT (Box or Pipe)	GAS
COMBUSTIBLE FLUIDS	SANITARY SEWER
	STORM SEWER
MARSH AREA	TELEPHONE
	WATER
WOODED OR SHRUB AREA	UTILITY PEDESTAL
	POWER POLE
	TELEPHONE POLE

# STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

## PLAN OF PROPOSED IMPROVEMENT

### V NORTH FOND DU LAC, MCKINLEY STREET MOSHER CREEK BRIDGE LOC STR FOND DU LAC COUNTY

STATE PROJECT NUMBER  
**4986-00-59**



LAYOUT  
SCALE 0 0.5 MI  
TOTAL NET LENGTH OF CENTERLINE = 0.065 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 12A.

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4986-00-59	WISC 2024233	1

ACCEPTED FOR  
VILLAGE OF NORTH FOND DU LAC  
Date 10/23/23  
*Mitch Vis*  
MITCH VIS  
DIRECTOR OF PUBLIC WORKS

ORIGINAL PLANS PREPARED BY  
**G GREMMER & ASSOCIATES, INC.**  
CONSULTING ENGINEERS  
Stevens Point • Fond du Lac  
93 South Pioneer Road, Suite 300  
Fond du Lac, WI 54935  
(920) 924-5720



DATE: 10/20/23  
*Andrew L. Klemp*  
ANDREW L. KLEMP, PE

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PREPARED BY  
Surveyor: GREMMER & ASSOCIATES, INC.  
Designer: GREMMER & ASSOCIATES, INC.  
Project Manager: JODI JAROSINSKI  
Regional Examiner: NORTHEAST REGION  
Regional Supervisor: BRIAN EDWARDS

APPROVED FOR THE DEPARTMENT  
DATE: 10/24/2023  
*Jodi Jarosinski*  
(Signature)

E

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. THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY. SAWCUT LOCATIONS SHOWN ON THE PLANS ARE SUBJECT TO ADJUSTMENT BY THE ENGINEER IN THE FIELD. THE EXACT LOCATION AND LAYOUT OF PRIVATE ENTRANCES IS TO BE DETERMINED IN THE FIELD BY THE ENGINEER. NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER. NO FERTILIZER SHALL BE APPLIED WITHIN 20 FEET OF A BODY OF WATER OR WETLAND. PROPOSED SECTIONS AS SHOWN ON THE CROSS SECTION SHEETS SHOW THE FINISHED SURFACE 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. ROTATE MANHOLE COVERS TO MATCH LANE LINES OR CENTER OF LANE AS DIRECTED BY THE ENGINEER IN THE FIELD. 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. THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, PASSING, OR PARKING LANE. HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LBS/SY-INCH. TACK COAT APPLICATION RATE BASED ON 0.050 GAL/SY.

ORDER OF SECTION 2 SHEETS

- GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
REMOVAL PLAN
PLAN DETAILS
CURB RAMP DETAILS
EROSION CONTROL PLAN
STORM SEWER LAYOUT
SIGNING & PAVEMENT MARKING PLAN
TRAFFIC CONTROL
PEDESTRIAN DETOUR

ABBREVIATIONS

- A.A.D.T. ANNUAL AVERAGE DAILY TRAFFIC
A.D.T. AVERAGE DAILY TRAFFIC
AE, AEW APRON ENDWALL
AGG AGGREGATE
ASPH ASPHALT
BAD BASE AGGREGATE DENSE
BM BENCHMARK
CABC CRUSHED AGGREGATE BASE COURSE
CC CENTER OF CURVATURE
CE COMMERCIAL ENTRANCE
C/L CENTER LINE
CONC CONCRETE
CMCP CORRUGATED METAL CULVERT PIPE
CMP CORRUGATED METAL PIPE
D DEGREE OF CURVE
DELTA DELTA
D.H.V. DESIGN HOURLY VOLUME
E EXTERNAL DISTANCE FROM MIDPOINT OF CIRCULAR CURVE FROM ANGLE INTERSECTION
ELEVATION ELEVATION
EL, ELEV ELEVATION
ESALS EQUIVALENT SINGLE AXLE LOADS
EXC EXCAVATION
EXC EXCAVATION
FE FIELD ENTRANCE
F/L, FL FLOW LINE
HT HEIGHT
INTER INTERSECTION
INV INVERT
L LENGTH OF CURVE
LHF LEFT HAND FORWARD
MP MARKER POST
NC NORMAL CROWN
NOM NOMINAL
NOR, NORM NORMAL
PAVT PAVEMENT
PC POINT OF CURVE
PCC POINT OF COMPOUND CURVE
PE PRIVATE ENTRANCE
PI POINT OF INTERSECTION
P.L. PROPERTY LINE
PLE PERMANENT LIMITED EASEMENT
PT POINT OF TANGENT
R RADIUS OF CURVE
R/L REFERENCE LINE
R/W RIGHT OF WAY
RC REVERSE CROWN
RCP REINFORCED CONCRETE PIPE
REQ'D REQUIRED
RO RUN OFF LENGTH
SALV SALVAGED
SDD STANDARD DETAIL DRAWING(S)
SE SUPERELEVATION
SEG SEGMENT
SHLD SHOULDER
S/L SURVEY LINE
T. PERCENT TRUCKS
T TANGENT LENGTH
TEMP TEMPORARY
TER TERRACE
TLE TEMPORARY LIMITED EASEMENT
TYP TYPICAL
V VELOCITY OR DESIGN SPEED
VAR VARIABLE
VC VERTICAL CURVE
VCL VERTICAL CURVE LENGTH
VPC VERTICAL POINT OF CURVATURE
VPI VERTICAL POINT OF INTERSECTION
VPRC VERTICAL POINT OF REVERSE CURVATURE
VPT VERTICAL POINT OF TANGENCY

DESIGN CONTACT

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VILLAGE OF NORTH FOND DU LAC CONTACT

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UTILITIES

COMMUNICATIONS

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EMAIL: cb1461@att.com

ELECTRIC & GAS

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COMMUNICATIONS

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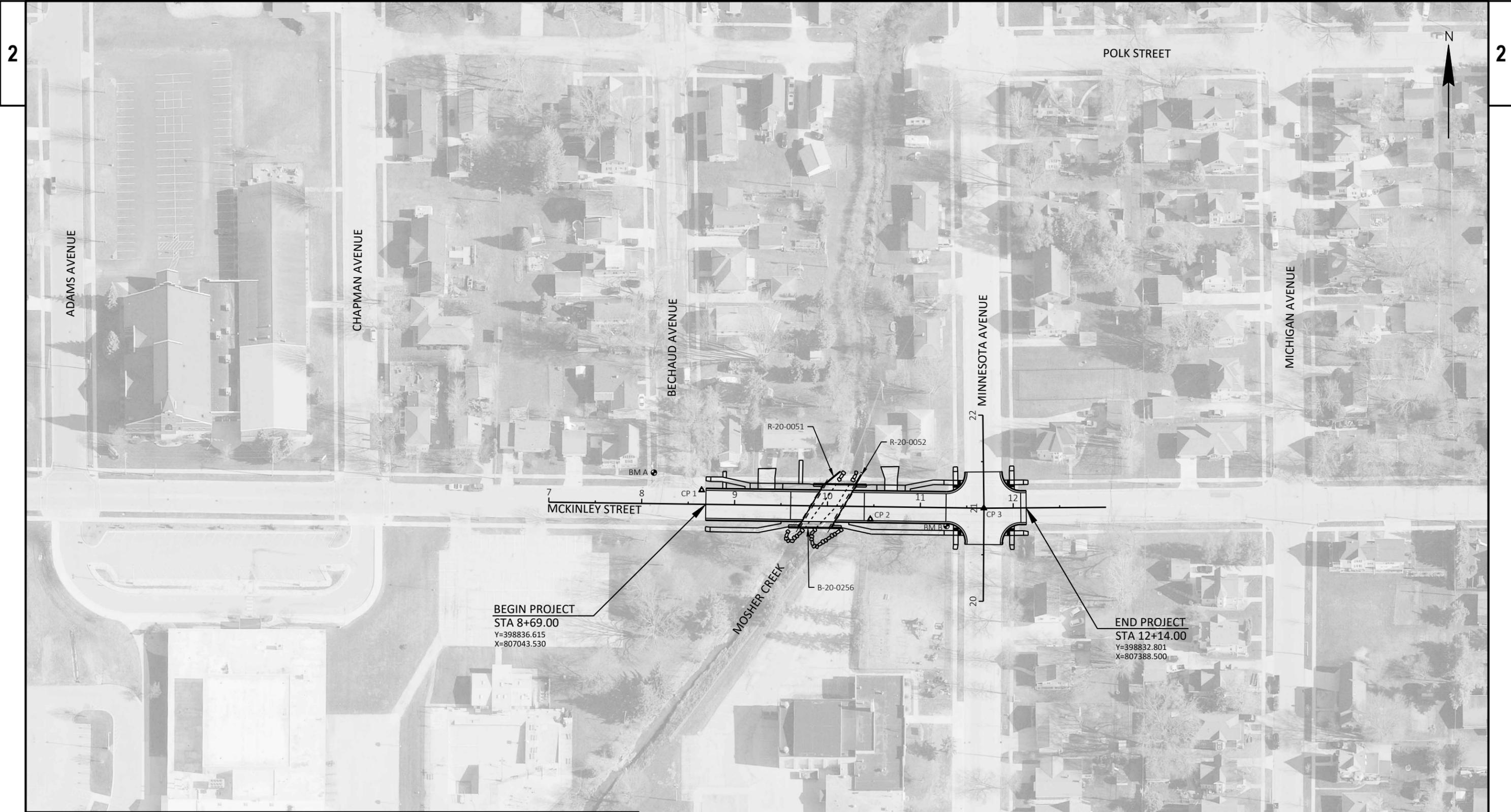
Dial 811 or (800)242-8511
www.DiggersHotline.com

RUNOFF COEFFICIENT TABLE

Table with columns for Land Use, Hydrologic Soil Group (A, B, C, D), and Slope Range (Percent). 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 = 0.550 ACRES

TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.557 ACRES



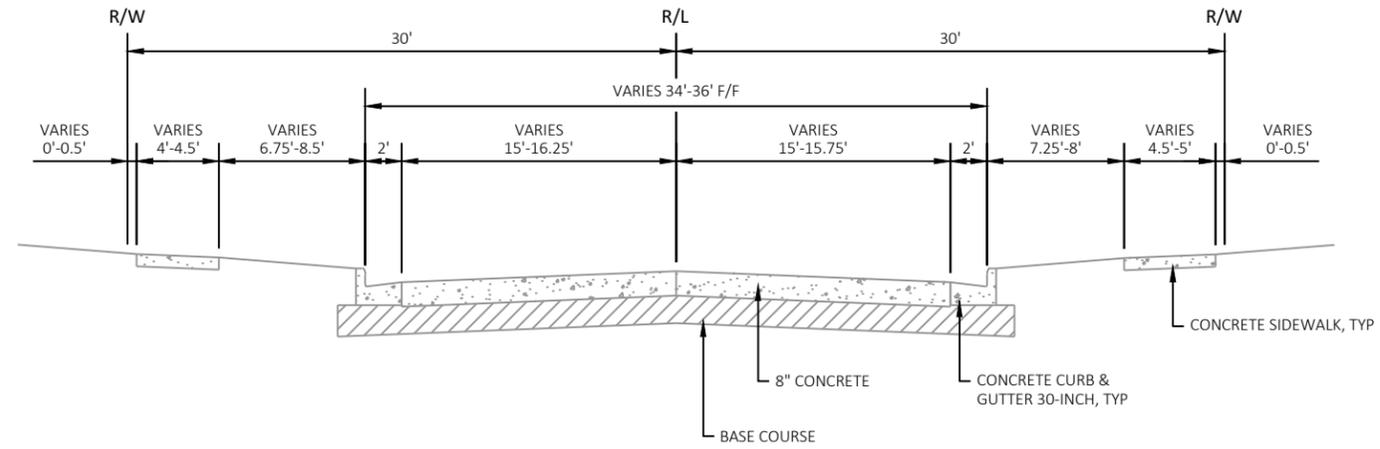
**BEGIN PROJECT**  
**STA 8+69.00**  
 Y=398836.615  
 X=807043.530

**END PROJECT**  
**STA 12+14.00**  
 Y=398832.801  
 X=807388.500

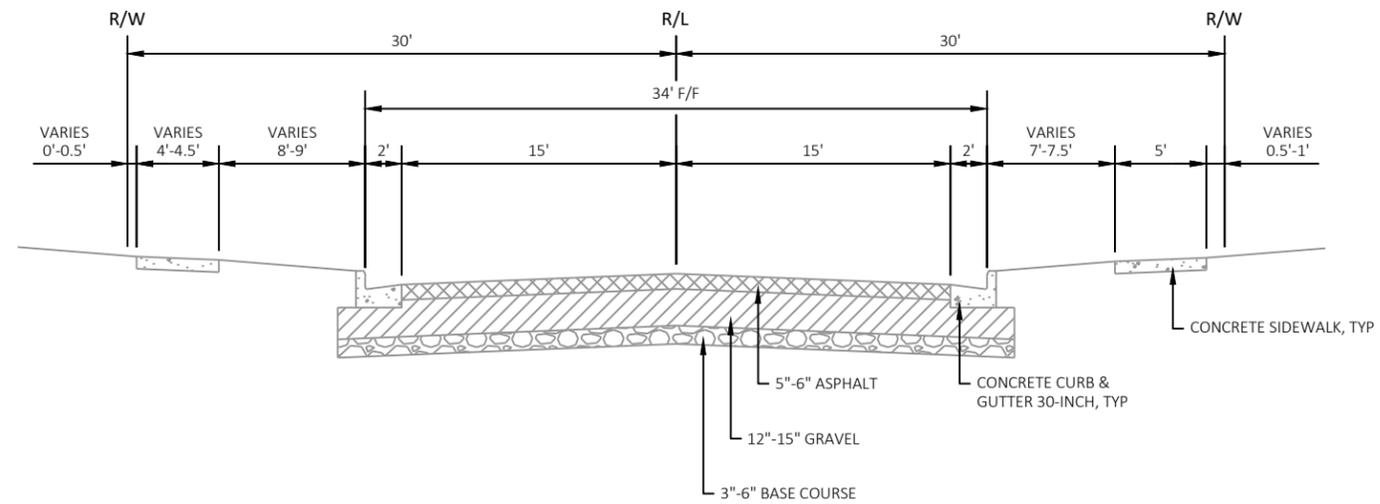
BENCH MARKS			
BM	STATION	DESCRIPTION	ELEVATION
A	8+13; 33' LT	SOUTHWEST BOLT ON FLANGE OF HYDRANT, NORTHWEST CORNER OF MCKINLEY STREET AND BECHAUD AVENUE	771.13
B	11+28; 20' RT	RAILROAD SPIKE IN POWER POLE, SOUTHWEST CORNER OF MCKINLEY STREET AND MINNESOTA AVENUE	768.38

CONTROL POINT TABLE				
POINT #	DESCRIPTION	NORTHING	EASTING	ELEVATION
1	MAG NAIL IN ASPHALT, NORTHEAST CORNER OF MCKINLEY STREET AND BECHAUD AVENUE, 15' NORTH AND 28' EAST OF CENTERLINES	398851.999	807039.086	768.41
2	MAG NAIL IN ASPHALT, SOUTH SIDE OF MCKINLEY STREET, 50' EAST OF BRIDGE, 1.5' NORTH OF CURB FLANGE	398820.679	807220.588	767.31
3	ALUMINUM MONUMENT ON CONCRETE AT INTERSECTION OF MCKINLEY STREET AND MINNESOTA AVENUE	398832.454	807342.821	767.93

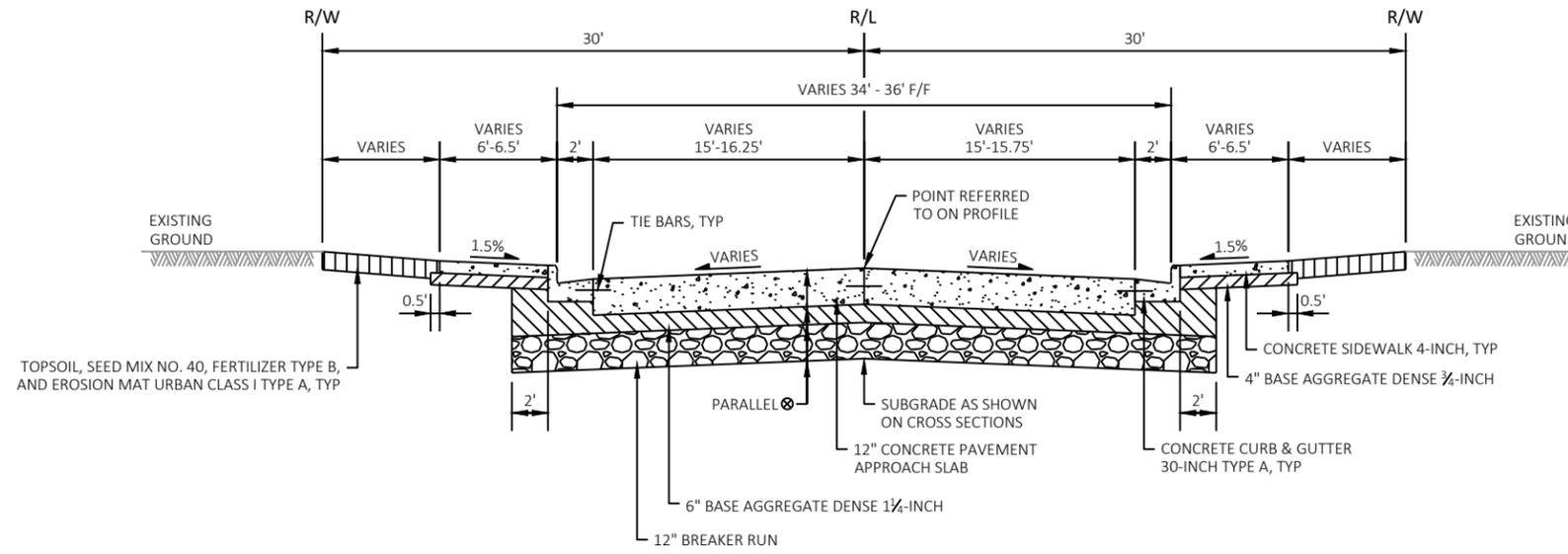
PROJECT NO: 4986-00-59	HWY: MCKINLEY STREET	COUNTY: FOND DU LAC	PROJECT OVERVIEW	SHEET	<b>E</b>
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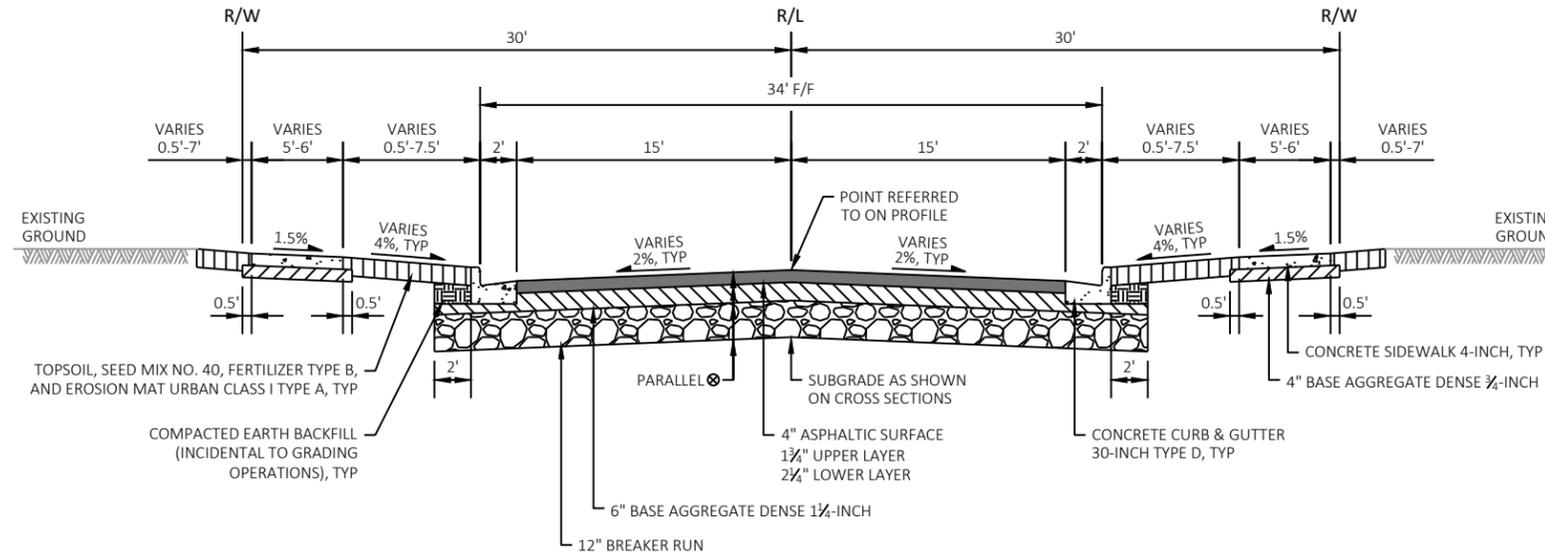
**TYPICAL EXISTING SECTION**  
 MCKINLEY STREET  
 STA 11+28.20 - STA 12+10.12



**TYPICAL EXISTING SECTION**  
 MCKINLEY STREET  
 STA 8+69.00 - STA 11+28.20  
 STA 12+10.12 - STA 12+14.00

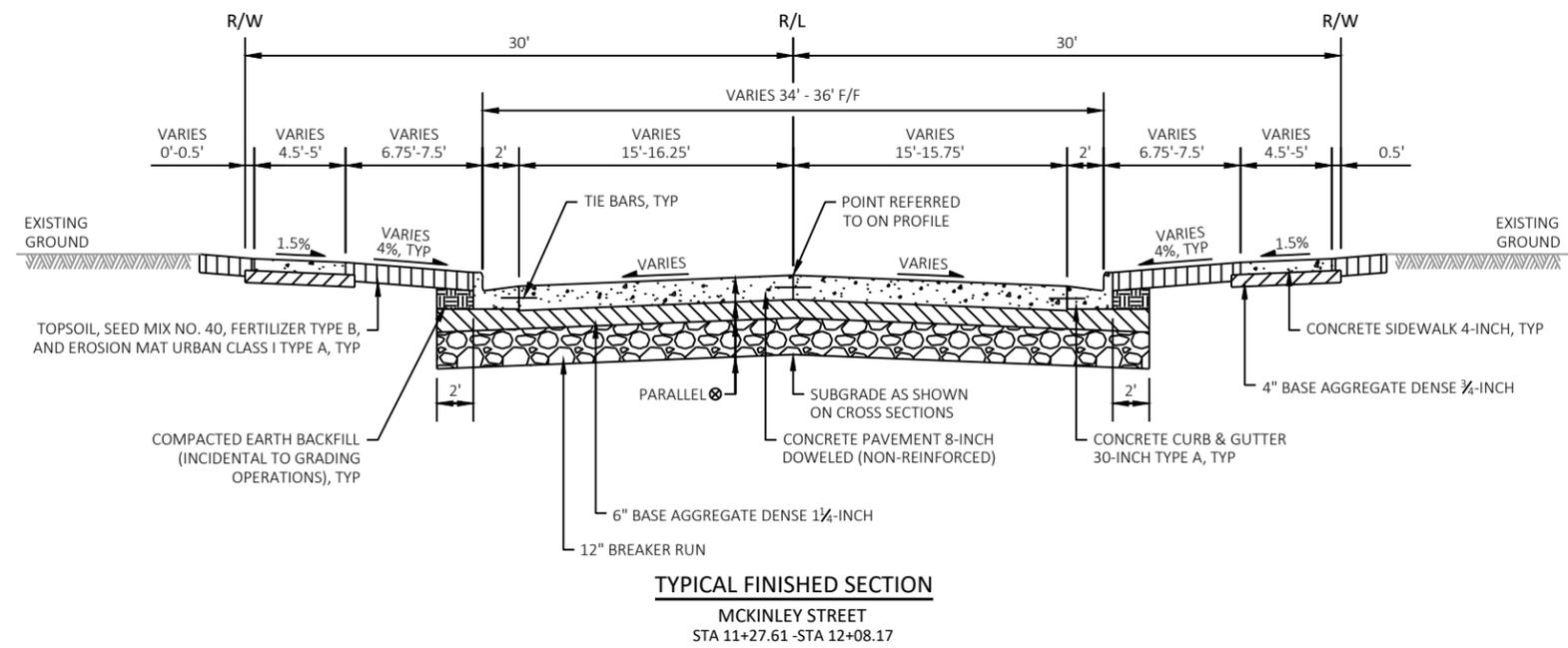


**TYPICAL FINISHED SECTION**  
 MCKINLEY STREET  
 STA 9+60.40 - STA 10+39.60

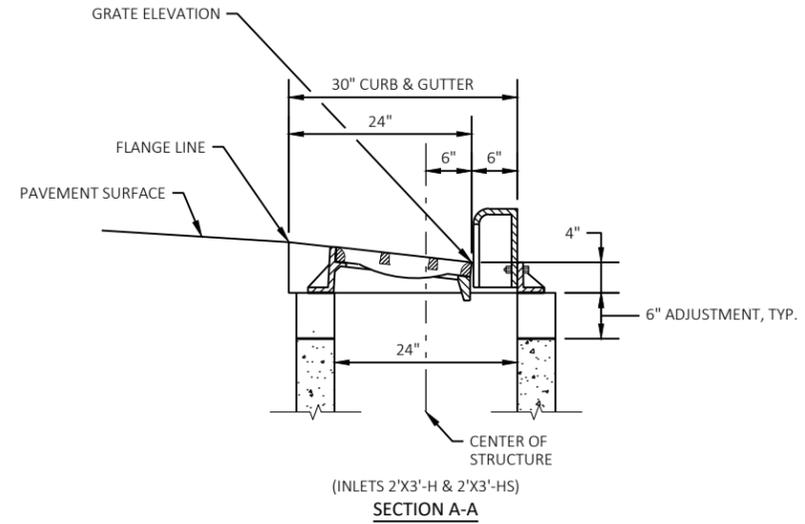
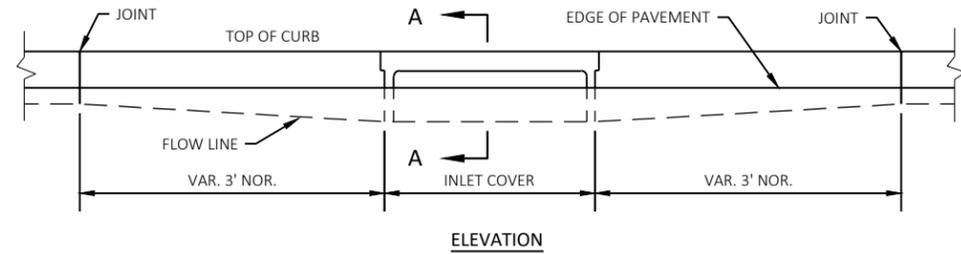


**TYPICAL FINISHED SECTION**  
 MCKINLEY STREET  
 STA 8+69.00 - STA 9+60.40  
 STA 10+39.60 - STA 11+27.61  
 STA 12+08.17 - STA 12+14.00

NOTES:  
 ⊗ SUBGRADE SLOPES ARE PARALLEL TO TRAVEL LANE.



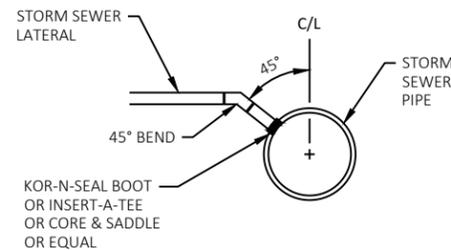
**NOTES:**  
 ⊗ SUBGRADE SLOPES ARE PARALLEL TO TRAVEL LANE.



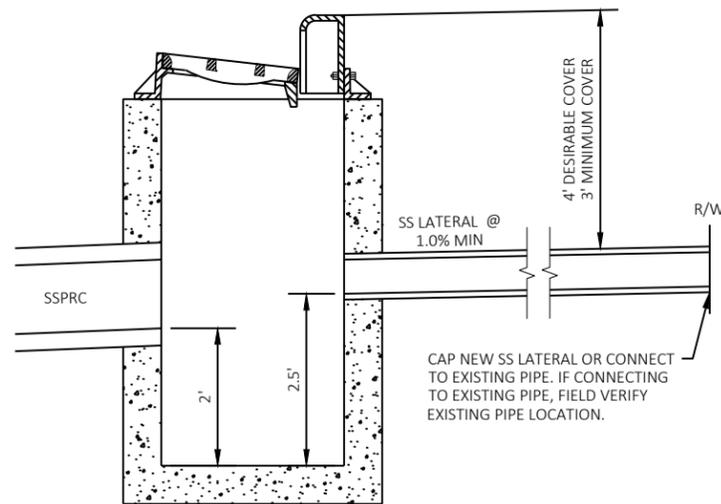
**CURB AND GUTTER DETAIL AT INLETS**

NOTES:

- STORM SEWER LATERALS SHALL BE INSTALLED WITH 4- FEET OF DESIRABLE COVER AND 3- FEET OF MINIMUM COVER.
- STORM SEWER LATERALS WHEN CONNECTED DIRECTLY TO THE STORM SEWER PIPE SHALL BE AT AN ELEVATION NO LOWER THAN THE SPRING LINE.
- STORM SEWER LATERAL DEPTHS SHALL BE ADJUSTED TO AVOID UTILITY CONFLICTS.
- STORM SEWER LATERALS SHALL BE CAPPED AT A POINT BEYOND THE RIGHT-OF- WAY LINE OR SHALL BE CONNECTED TO AN EXISTING PIPE.
- STORM SEWER LATERAL LOCATIONS SHALL BE VERIFIED BY THE ENGINEER IN THE FIELD.



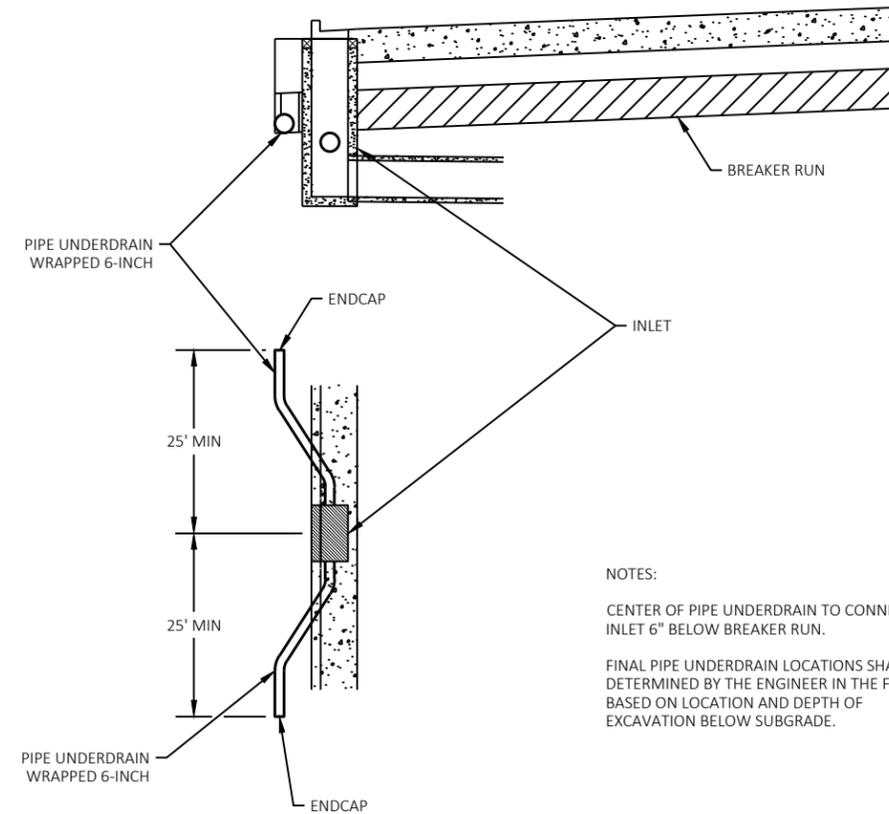
**STORM SEWER PIPE CONNECTION**



**CATCH BASIN CONNECTION**

**STORM SEWER LATERAL CONNECTION**

CAP NEW SS LATERAL OR CONNECT TO EXISTING PIPE. IF CONNECTING TO EXISTING PIPE, FIELD VERIFY EXISTING PIPE LOCATION.



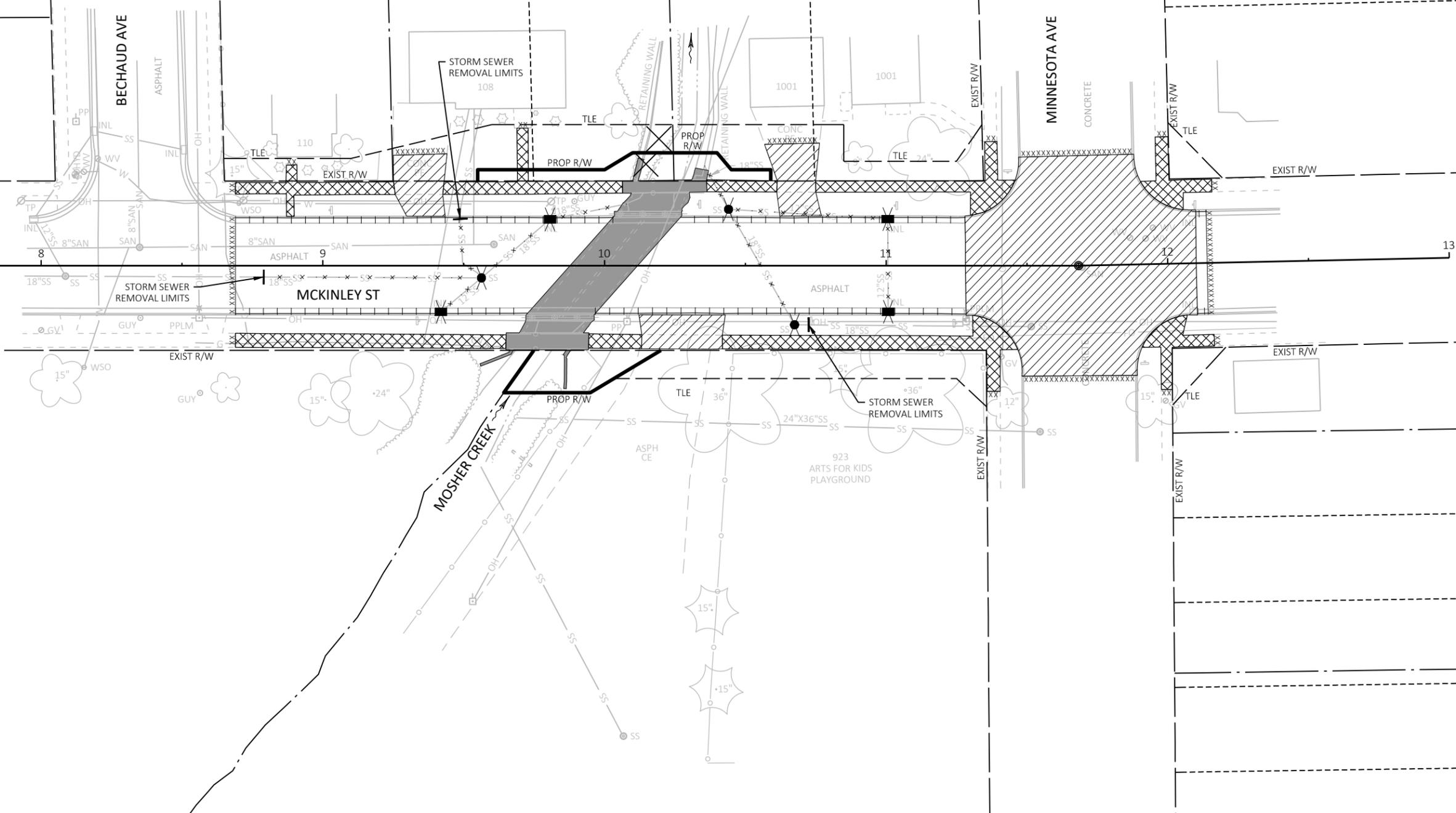
NOTES:

- CENTER OF PIPE UNDERDRAIN TO CONNECT TO INLET 6" BELOW BREAKER RUN.
- FINAL PIPE UNDERDRAIN LOCATIONS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD BASED ON LOCATION AND DEPTH OF EXCAVATION BELOW SUBGRADE.

**DETAIL FOR PIPE UNDERDRAIN AT CURB & GUTTER INLETS**



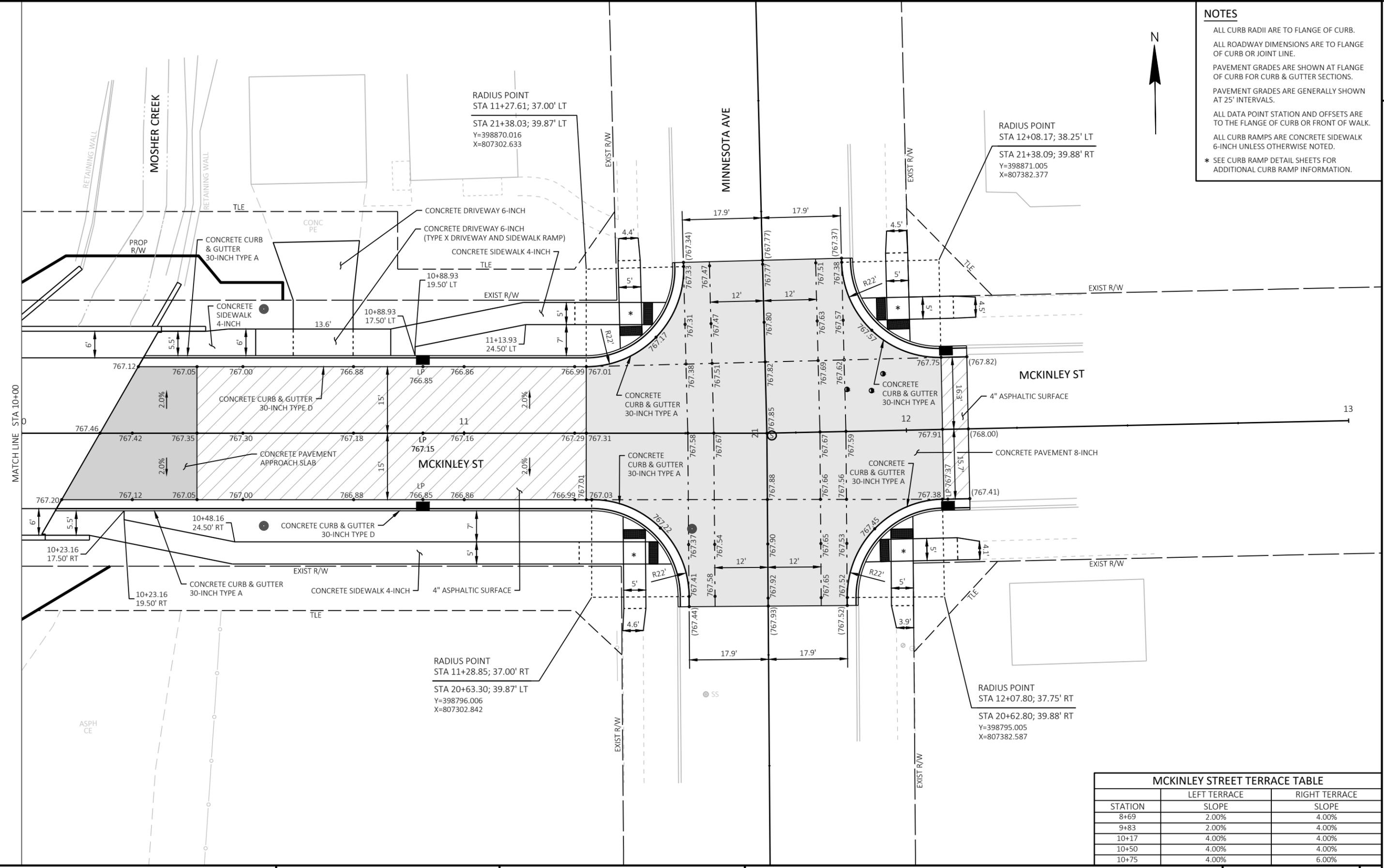
LEGEND			
	REMOVING CONCRETE PAVEMENT		REMOVING MANHOLES
	REMOVING CONCRETE SIDEWALK		REMOVING INLETS
	REMOVING STRUCTURE P-20-0736		REMOVING STORM SEWER
	REMOVING CURB AND GUTTER		TREE REMOVED BY OTHERS GRUBBING REQUIRED
	SAWCUT		



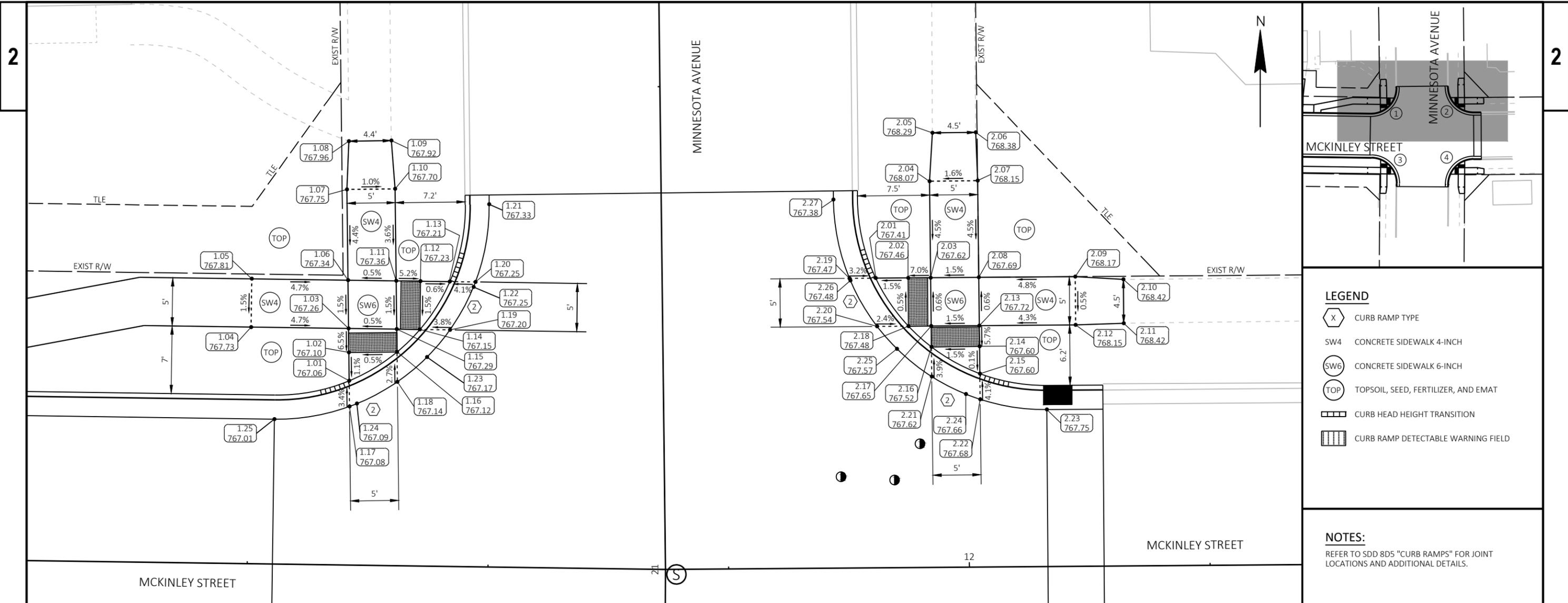


**NOTES**

- ALL CURB RADII ARE TO FLANGE OF CURB.
- ALL ROADWAY DIMENSIONS ARE TO FLANGE OF CURB OR JOINT LINE.
- 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 CURB RAMP ARE CONCRETE SIDEWALK 6-INCH UNLESS OTHERWISE NOTED.
- \* SEE CURB RAMP DETAIL SHEETS FOR ADDITIONAL CURB RAMP INFORMATION.



MCKINLEY STREET TERRACE TABLE		
STATION	LEFT TERRACE	RIGHT TERRACE
	SLOPE	SLOPE
8+69	2.00%	4.00%
9+83	2.00%	4.00%
10+17	4.00%	4.00%
10+50	4.00%	4.00%
10+75	4.00%	6.00%



**LEGEND**

- CURB RAMP TYPE
- SW4 CONCRETE SIDEWALK 4-INCH
- SW6 CONCRETE SIDEWALK 6-INCH
- TOP TOPSOIL, SEED, FERTILIZER, AND EMAT
- CURB HEAD HEIGHT TRANSITION
- CURB RAMP DETECTABLE WARNING FIELD

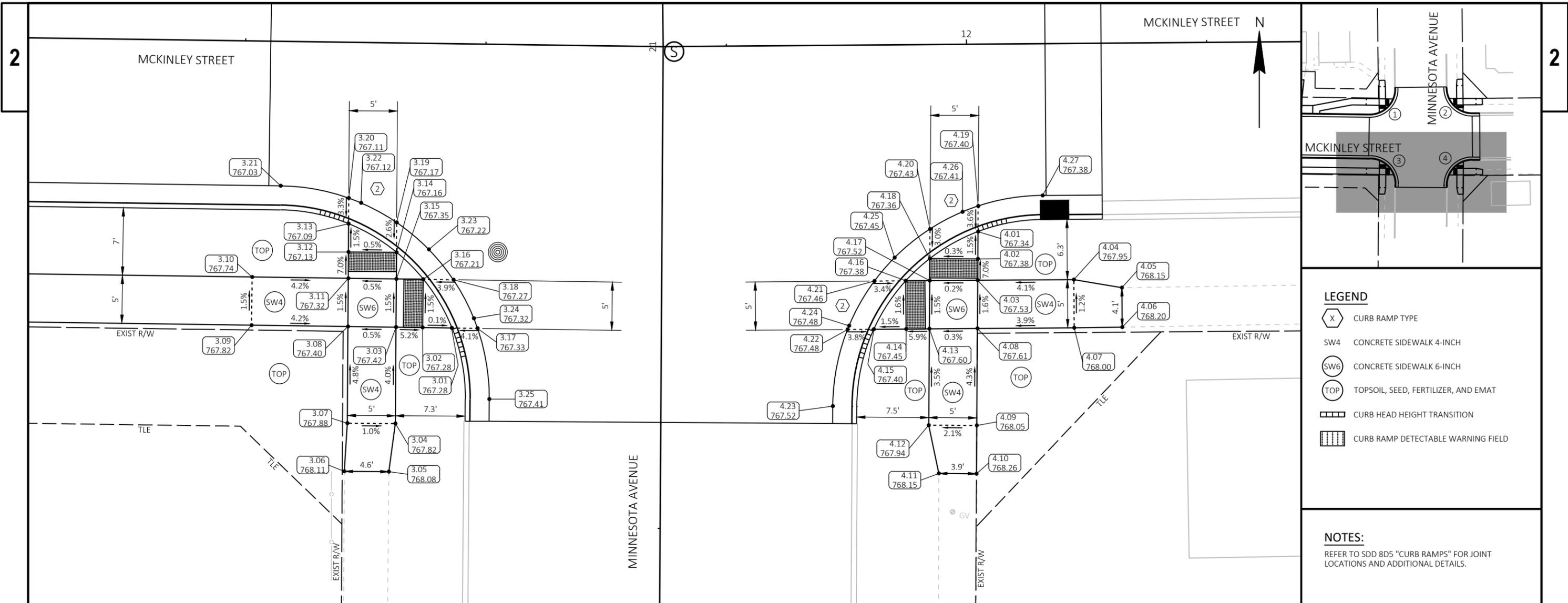
**NOTES:**  
REFER TO SDD 8D5 "CURB RAMPS" FOR JOINT LOCATIONS AND ADDITIONAL DETAILS.

CURB RAMP - 1						
POINT NO.	ALIGNMENT	STATION	OFFSET	ELEVATION	NORTHING	EASTING
1.01	MCKINLEY	11+35.32	19.09' LT	767.06	398852.00	807310.09
1.02	MCKINLEY	11+35.25	22.02' LT	767.10	398854.93	807310.06
1.03	MCKINLEY	11+35.18	24.50' LT	767.26	398857.41	807310.03
1.04	MCKINLEY	11+25.06	24.50' LT	767.73	398857.55	807299.90
1.05	MCKINLEY	11+25.06	29.50' LT	767.81	398862.55	807299.97
1.06	MCKINLEY	11+35.06	29.50' LT	767.34	398862.41	807309.97
1.07	MCKINLEY	11+34.82	38.90' LT	767.75	398871.81	807309.86
1.08	MCKINLEY	11+34.94	43.90' LT	767.96	398876.81	807310.05
1.09	MCKINLEY	11+39.36	44.01' LT	767.92	398876.87	807314.47
1.10	MCKINLEY	11+39.82	39.02' LT	767.70	398871.87	807314.86
1.11	MCKINLEY	11+40.06	29.50' LT	767.36	398862.34	807314.97
1.12	MCKINLEY	11+42.58	29.50' LT	767.23	398862.31	807317.49
1.13	MCKINLEY	11+45.61	29.50' LT	767.21	398862.27	807320.53
1.14	MCKINLEY	11+42.58	24.50' LT	767.15	398857.31	807317.42
1.15	MCKINLEY	11+40.19	24.50' LT	767.29	398857.34	807315.03
1.16	MCKINLEY	11+40.25	22.15' LT	767.12	398854.99	807315.06

CURB RAMP - 1						
POINT NO.	ALIGNMENT	STATION	OFFSET	ELEVATION	NORTHING	EASTING
1.17	MCKINLEY	11+35.39	16.42' LT	767.08	398849.33	807310.12
1.18	MCKINLEY	11+40.33	19.04' LT	767.14	398851.89	807315.09
1.19	MCKINLEY	11+45.72	24.50' LT	767.20	398857.27	807320.56
1.20	MCKINLEY	11+48.30	29.50' LT	767.25	398862.23	807323.21
1.21	MCKINLEY	11+49.61	37.56' LT	767.33	398870.27	807324.63
1.22	MCKINLEY	11+48.10	28.97' LT	767.25	398861.70	807323.00
1.23	MCKINLEY	11+43.37	21.64' LT	767.17	398854.44	807318.17
1.24	MCKINLEY	11+36.16	16.73' LT	767.09	398849.63	807310.90
1.25	MCKINLEY	11+27.61	15.00' LT	767.01	398848.02	807302.33

CURB RAMP - 2						
POINT NO.	ALIGNMENT	STATION	OFFSET	ELEVATION	NORTHING	EASTING
2.01	MCKINLEY	11+90.50	30.00' LT	767.41	398862.62	807364.77
2.02	MCKINLEY	11+93.86	30.00' LT	767.46	398862.65	807368.13
2.03	MCKINLEY	11+96.20	30.00' LT	767.62	398862.66	807370.47
2.04	MCKINLEY	11+96.16	40.00' LT	768.07	398872.66	807370.36
2.05	MCKINLEY	11+96.50	45.00' LT	768.29	398877.67	807370.66
2.06	MCKINLEY	12+00.99	45.02' LT	768.38	398877.72	807375.15
2.07	MCKINLEY	12+01.16	40.02' LT	768.15	398872.72	807375.36
2.08	MCKINLEY	12+01.20	30.00' LT	767.69	398862.70	807375.47
2.09	MCKINLEY	12+11.22	30.00' LT	768.17	398862.78	807385.49
2.10	MCKINLEY	12+16.22	29.67' LT	768.42	398862.49	807390.49
2.11	MCKINLEY	12+16.22	25.14' LT	768.42	398857.95	807390.53
2.12	MCKINLEY	12+11.22	25.00' LT	768.15	398857.78	807385.53
2.13	MCKINLEY	12+01.22	25.00' LT	767.72	398857.70	807375.53
2.14	MCKINLEY	12+01.23	22.85' LT	767.60	398855.55	807375.56
2.15	MCKINLEY	12+01.24	20.02' LT	767.60	398852.73	807375.59
2.16	MCKINLEY	11+96.23	22.83' LT	767.52	398855.50	807370.56

CURB RAMP - 2						
POINT NO.	ALIGNMENT	STATION	OFFSET	ELEVATION	NORTHING	EASTING
2.17	MCKINLEY	11+96.22	25.00' LT	767.65	398857.67	807370.53
2.18	MCKINLEY	11+93.86	25.00' LT	767.48	398857.65	807368.17
2.19	MCKINLEY	11+87.77	30.00' LT	767.47	398862.60	807362.05
2.20	MCKINLEY	11+90.61	25.00' LT	767.54	398857.62	807364.92
2.21	MCKINLEY	11+96.24	19.76' LT	767.62	398852.43	807370.59
2.22	MCKINLEY	12+01.25	17.37' LT	767.68	398850.07	807375.62
2.23	MCKINLEY	12+08.17	16.25' LT	767.75	398849.01	807382.54
2.24	MCKINLEY	11+99.77	17.92' LT	767.66	398850.61	807374.13
2.25	MCKINLEY	11+92.64	22.66' LT	767.57	398855.30	807366.97
2.26	MCKINLEY	11+87.87	29.77' LT	767.48	398862.37	807362.14
2.27	MCKINLEY	11+86.17	38.16' LT	767.38	398870.75	807360.38



CURB RAMP - 3						
POINT NO.	ALIGNMENT	STATION	OFFSET	ELEVATION	NORTHING	EASTING
3.01	MCKINLEY	11+46.85	29.50' RT	767.28	398803.26	807320.94
3.02	MCKINLEY	11+43.82	29.50' RT	767.28	398803.30	807317.91
3.03	MCKINLEY	11+41.04	29.50' RT	767.42	398803.34	807315.14
3.04	MCKINLEY	11+41.12	39.50' RT	767.82	398793.34	807315.08
3.05	MCKINLEY	11+40.51	44.50' RT	768.08	398788.34	807314.39
3.06	MCKINLEY	11+35.88	44.54' RT	768.11	398788.37	807309.76
3.07	MCKINLEY	11+36.12	39.54' RT	767.88	398793.37	807310.08
3.08	MCKINLEY	11+36.04	29.50' RT	767.40	398803.41	807310.14
3.09	MCKINLEY	11+26.01	29.50' RT	767.82	398803.55	807300.10
3.10	MCKINLEY	11+26.01	24.50' RT	767.74	398808.54	807300.17
3.11	MCKINLEY	11+36.01	24.50' RT	767.32	398808.41	807310.17
3.12	MCKINLEY	11+35.98	21.77' RT	767.13	398811.13	807310.19
3.13	MCKINLEY	11+35.96	18.84' RT	767.09	398814.06	807310.20
3.14	MCKINLEY	11+40.98	21.74' RT	767.16	398811.10	807315.19
3.15	MCKINLEY	11+41.01	24.50' RT	767.35	398808.34	807315.17
3.16	MCKINLEY	11+43.82	24.50' RT	767.21	398808.30	807317.98

CURB RAMP - 3						
POINT NO.	ALIGNMENT	STATION	OFFSET	ELEVATION	NORTHING	EASTING
3.17	MCKINLEY	11+49.53	29.50' RT	767.33	398803.22	807323.63
3.18	MCKINLEY	11+46.95	24.50' RT	767.27	398808.25	807321.12
3.19	MCKINLEY	11+40.96	18.63' RT	767.17	398814.20	807315.21
3.20	MCKINLEY	11+35.94	16.17' RT	767.11	398816.73	807310.22
3.21	MCKINLEY	11+28.85	15.00' RT	767.03	398818.00	807303.15
3.22	MCKINLEY	11+37.23	16.66' RT	767.12	398816.23	807311.50
3.23	MCKINLEY	11+44.35	21.38' RT	767.22	398811.40	807318.55
3.24	MCKINLEY	11+49.13	28.46' RT	767.32	398804.26	807323.24
3.25	MCKINLEY	11+50.85	36.83' RT	767.41	398795.87	807324.84

CURB RAMP - 4						
POINT NO.	ALIGNMENT	STATION	OFFSET	ELEVATION	NORTHING	EASTING
4.01	MCKINLEY	12+01.05	19.45' RT	767.34	398813.25	807375.70
4.02	MCKINLEY	12+01.01	22.28' RT	767.38	398810.42	807375.68
4.03	MCKINLEY	12+00.98	24.50' RT	767.53	398808.20	807375.67
4.04	MCKINLEY	12+10.98	24.50' RT	767.95	398808.28	807385.67
4.05	MCKINLEY	12+15.98	25.38' RT	768.15	398807.44	807390.68
4.06	MCKINLEY	12+15.98	29.48' RT	768.20	398803.33	807390.71
4.07	MCKINLEY	12+10.98	29.50' RT	768.00	398803.28	807385.71
4.08	MCKINLEY	12+00.91	29.50' RT	767.61	398803.20	807375.64
4.09	MCKINLEY	12+00.77	39.57' RT	768.05	398793.13	807375.57
4.10	MCKINLEY	12+00.70	44.57' RT	768.26	398788.13	807375.54
4.11	MCKINLEY	11+96.79	44.51' RT	768.15	398788.16	807371.62
4.12	MCKINLEY	11+95.77	39.50' RT	767.94	398793.16	807370.58
4.13	MCKINLEY	11+95.91	29.50' RT	767.60	398803.16	807370.64
4.14	MCKINLEY	11+93.49	29.50' RT	767.45	398803.15	807368.22
4.15	MCKINLEY	11+90.13	29.50' RT	767.40	398803.12	807364.86
4.16	MCKINLEY	11+93.49	24.50' RT	767.38	398808.15	807368.18

CURB RAMP - 4						
POINT NO.	ALIGNMENT	STATION	OFFSET	ELEVATION	NORTHING	EASTING
4.17	MCKINLEY	11+95.98	24.50' RT	767.52	398808.16	807370.67
4.18	MCKINLEY	11+96.01	22.21' RT	767.36	398810.45	807370.68
4.19	MCKINLEY	12+01.09	16.80' RT	767.40	398815.90	807375.72
4.20	MCKINLEY	11+96.06	19.15' RT	767.43	398813.52	807370.70
4.21	MCKINLEY	11+90.24	24.50' RT	767.46	398808.12	807364.92
4.22	MCKINLEY	11+87.41	29.50' RT	767.48	398803.10	807362.13
4.23	MCKINLEY	11+85.80	37.44' RT	767.52	398795.14	807360.59
4.24	MCKINLEY	11+87.56	29.12' RT	767.48	398803.48	807362.29
4.25	MCKINLEY	11+92.35	22.09' RT	767.45	398810.55	807367.02
4.26	MCKINLEY	11+99.45	17.40' RT	767.41	398815.30	807374.08
4.27	MCKINLEY	12+07.80	15.75' RT	767.38	398817.00	807382.42

PROJECT NO: 4986-00-59

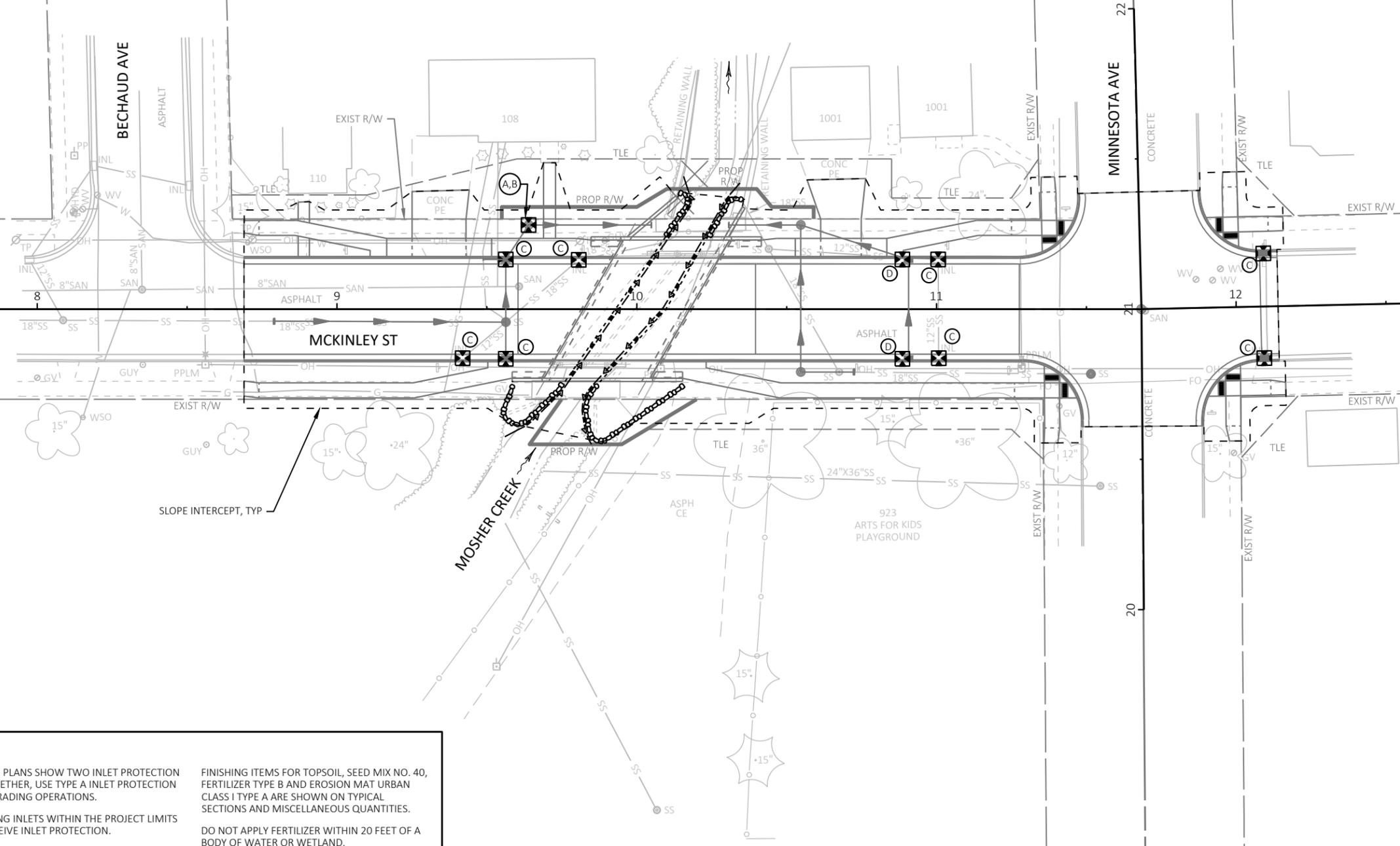
HWY: MCKINLEY STREET

COUNTY: FOND DU LAC

CURB RAMP DETAILS

SHEET

E



**LEGEND**

- - - SLOPE INTERCEPT
- - -> TURBIDITY BARRIER
- ▣ RIPRAP HEAVY
- ⊗ ⊙ INLET PROTECTION (TYPE)
- SURFACE WATER FLOW EXISTING
- SURFACE WATER FLOW PROPOSED

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

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

PROJECT NO: 4986-00-59

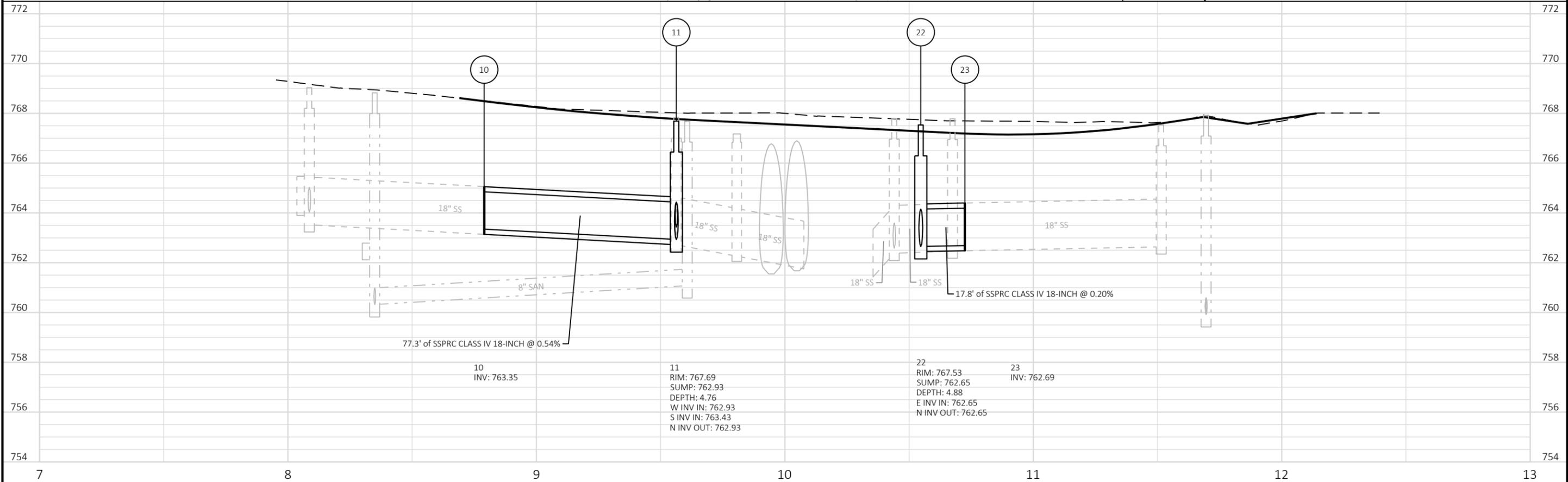
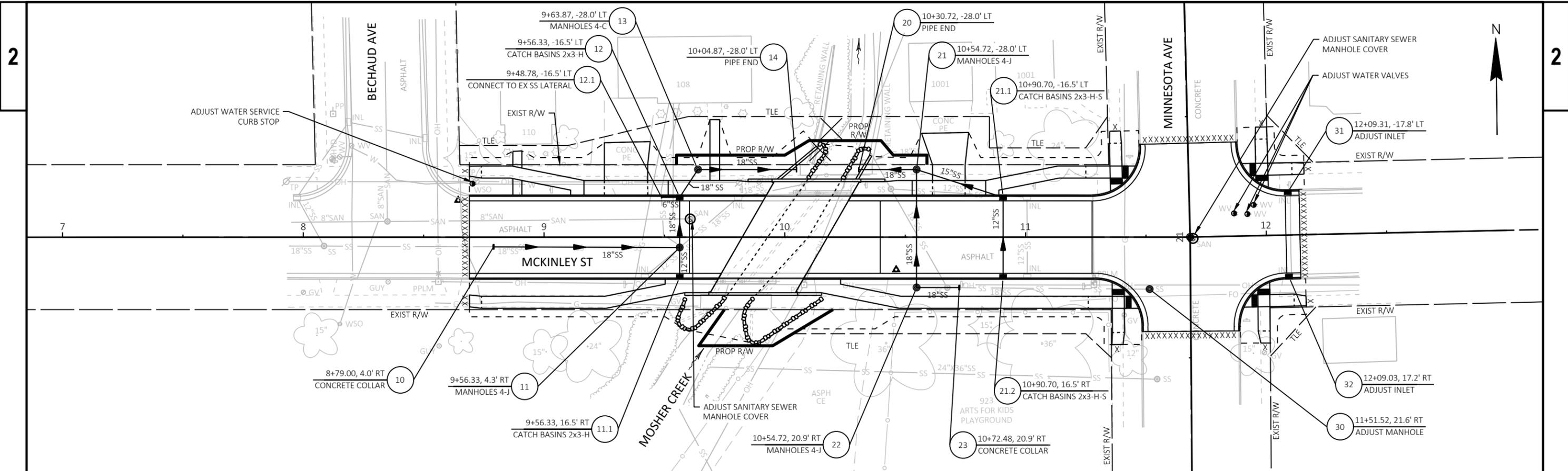
HWY: MCKINLEY STREET

COUNTY: FOND DU LAC

EROSION CONTROL PLAN

SHEET

E



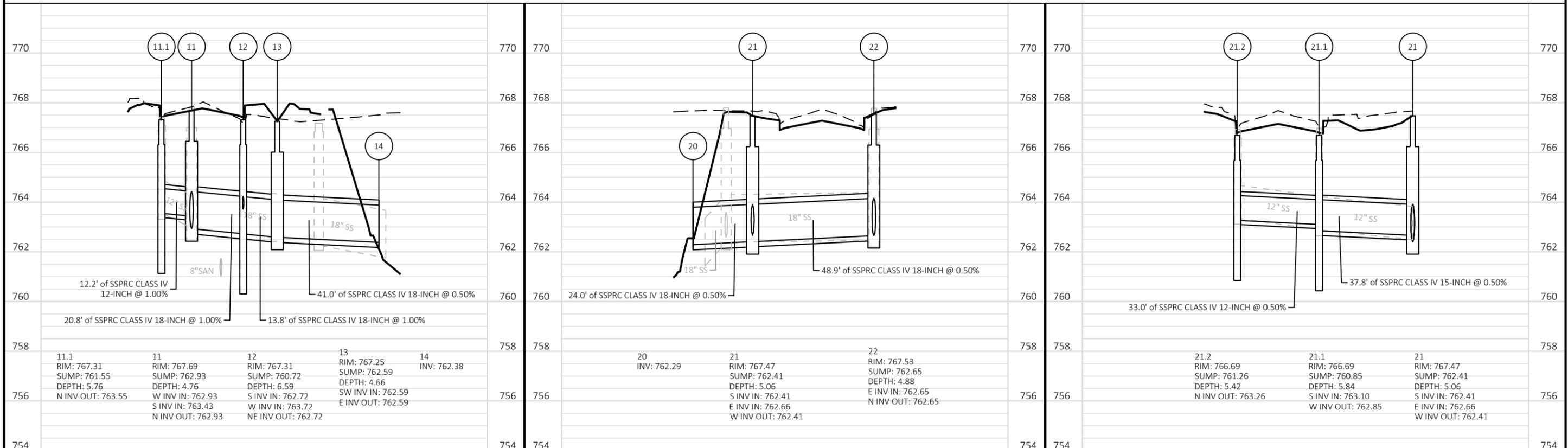
PROJECT NO: 4986-00-59 | HWY: MCKINLEY STREET | COUNTY: FOND DU LAC | STORM SEWER LAYOUT | SHEET | E

STORM SEWER STRUCTURE DATA

STRUCTURE NUMBER	ALIGNMENT	STATION	OFFSET	LOCATION	TYPE	RIM/GRATE ELEVATION	STRUCTURE INV ELEV	TOTAL DEPTH	SUMP DEPTH	CONNECTING PIPES	PIPE DIRECTION	PIPE SIZE & TYPE	PIPE INVERT	PIPE ROUTE	PIPE LENGTH	PIPE SLOPE	REMARKS
10	MCKINLEY	8+79.00	4.0	RT	CONCRETE COLLAR					10-11 OUT	E	SSPRC CLASS IV 18-INCH	763.35	TO STR: 11	77.3'	0.54%	
11	MCKINLEY	9+56.33	4.3	RT	MANHOLES 4-J	767.69	762.93	4.76	0.00	10-11 IN 11.1-11 IN 11-12 OUT	W S N	SSPRC CLASS IV 18-INCH SSPRC CLASS IV 12-INCH SSPRC CLASS IV 18-INCH	762.93 763.43 762.93	FROM STR: 10 FROM STR: 11.1 TO STR: 12	-- -- 20.8'	-- -- 1.00%	
11.1	MCKINLEY	9+56.33	16.5	RT	CATCH BASINS 2X3-H	767.31	761.55	5.76	2.00	11.1-11 OUT	N	SSPRC CLASS IV 12-INCH	763.55	TO STR: 11	12.2'	1.00%	
12	MCKINLEY	9+56.33	-16.5	LT	CATCH BASINS 2X3-H	767.31	760.72	6.59	2.00	11-12 IN 12-12.1 IN 12-13 OUT	S W NE	SSPRC CLASS IV 18-INCH SS LATERAL 6-INCH SSPRC CLASS IV 18-INCH	762.72 763.72 762.72	FROM STR: 11 FROM STR: 12.1 TO STR: 13	-- -- 13.8'	-- -- 1.00%	
12.1	MCKINLEY	9+48.78	-16.5	LT	CONNECT TO EX SS LATERAL					12-12.1 OUT	E	SS LATERAL 6-INCH	763.76	TO STR: 12	7.6'	0.50%	
13	MCKINLEY	9+63.87	-28.0	LT	MANHOLES 4-C	767.25	762.59	4.66	0.00	12-13 IN 13-14 OUT	SW E	SSPRC CLASS IV 18-INCH SSPRC CLASS IV 18-INCH	762.59 762.59	FROM STR: 12 TO STR: 14	-- 41.0'	-- 0.50%	
14	MCKINLEY	10+04.87	-28.0	LT	PIPE END					13-14 IN	W	SSPRC CLASS IV 18-INCH	762.38	FROM STR: 13	--	--	
20	MCKINLEY	10+30.72	-28.0	LT	PIPE END					21-20 IN	E	SSPRC CLASS IV 18-INCH	762.29	FROM STR: 21	--	--	
21	MCKINLEY	10+54.72	-28.0	LT	MANHOLES 4-J	767.47	762.41	5.06	0.00	22-21 IN 21.1-21 IN 21-20 OUT	S E W	SSPRC CLASS IV 18-INCH SSPRC CLASS IV 15-INCH SSPRC CLASS IV 18-INCH	762.41 762.66 762.41	FROM STR: 22 FROM STR: 21.1 TO STR: 20	-- -- 24.0'	-- -- 0.50%	
21.1	MCKINLEY	10+90.70	-16.5	LT	CATCH BASINS 2X3-H-S	766.69	760.85	5.84	2.00	21.2-21.1 IN 21.1-21 OUT	S W	SSPRC CLASS IV 12-INCH SSPRC CLASS IV 15-INCH	763.10 762.85	FROM STR: 21.2 TO STR: 21	-- 37.8'	-- 0.50%	
21.2	MCKINLEY	10+90.70	16.5	RT	CATCH BASINS 2X3-H-S	766.69	761.26	5.42	2.00	21.2-21.1 OUT	N	SSPRC CLASS IV 12-INCH	763.26	TO STR: 21.1	33.0'	0.50%	
22	MCKINLEY	10+54.72	20.9	RT	MANHOLES 4-J	767.53	762.65	4.88	0.00	23-22 IN 22-21 OUT	E N	SSPRC CLASS IV 18-INCH SSPRC CLASS IV 18-INCH	762.65 762.65	FROM STR: 23 TO STR: 21	-- 48.9'	-- 0.50%	
23	MCKINLEY	10+72.48	20.9	RT	CONCRETE COLLAR					23-22 OUT	W	SSPRC CLASS IV 18-INCH	762.69	TO STR: 22	17.8'	0.20%	
30	MCKINLEY	11+51.52	21.6	RT	ADJUST MANHOLE	767.41											
31	MCKINLEY	12+09.31	-17.8	LT	ADJUST INLET	767.60											
32	MCKINLEY	12+09.03	17.2	RT	ADJUST INLET	767.20											

NOTES:

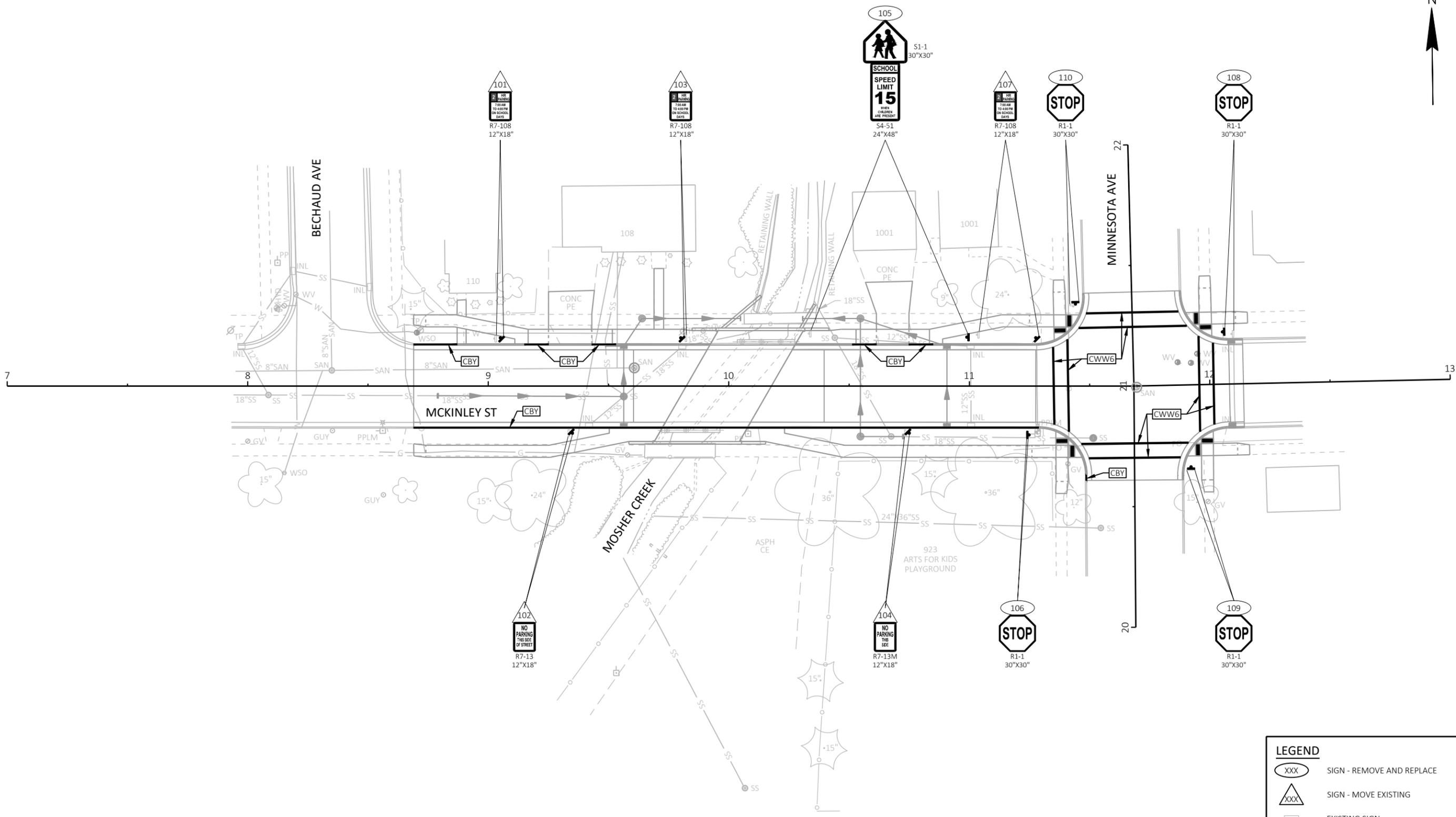
- TOTAL DEPTH = RIM/GRATE ELEVATION - STRUCTURE INVERT ELEVATION.
- MANHOLES SHALL BE CONSTRUCTED IN A WAY THAT WILL ALLOW THE CASTING TO BE ALIGNED IN THE MIDDLE OF A LANE OR ON A JOINT LINE.
- CONTRACTOR SHALL VERIFY EXISTING PIPE SIZES, MATERIALS AND INVERT ELEVATION WHEN CONNECTING NEW STORM SEWER INTO EXISTING PIPES PRIOR TO MANUFACTURING INLETS AND MANHOLES.
- STATION/ OFFSET OF STORM SEWER STRUCTURES ARE TO THE CENTER OF STRUCTURE EXCEPT FOR CONCRETE APRON ENDWALLS WHICH ARE TO PIPE END.



758	11.1 RIM: 767.31 SUMP: 761.55 DEPTH: 5.76 N INV OUT: 763.55	11 RIM: 767.69 SUMP: 762.93 DEPTH: 4.76 W INV IN: 762.93 S INV IN: 763.43 N INV OUT: 762.93	12 RIM: 767.31 SUMP: 760.72 DEPTH: 6.59 S INV IN: 762.72 W INV IN: 763.72 NE INV OUT: 762.72	13 RIM: 767.25 SUMP: 762.59 DEPTH: 4.66 SW INV IN: 762.59 E INV OUT: 762.59	14 INV: 762.38	756	20 INV: 762.29	21 RIM: 767.47 SUMP: 762.41 DEPTH: 5.06 S INV IN: 762.41 E INV IN: 762.66 W INV OUT: 762.41	22 RIM: 767.53 SUMP: 762.65 DEPTH: 4.88 E INV IN: 762.65 N INV OUT: 762.65	754	21.2 RIM: 766.69 SUMP: 761.26 DEPTH: 5.42 N INV OUT: 763.26	21.1 RIM: 766.69 SUMP: 760.85 DEPTH: 5.84 S INV IN: 763.10 W INV OUT: 762.85	21 RIM: 767.47 SUMP: 762.41 DEPTH: 5.06 S INV IN: 762.41 E INV IN: 762.66 W INV OUT: 762.41	754
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PROJECT NO: 4986-00-59      HWY: MCKINLEY STREET      COUNTY: FOND DU LAC      STORM SEWER LAYOUT      SHEET      E

LEGEND	
CBY	MARKING CURB EPOXY (YELLOW)
CWW6	MARKING CROSSWALK TRANSVERSE LINE EPOXY 6-INCH (WHITE)



LEGEND	
(XXX)	SIGN - REMOVE AND REPLACE
(XXX)	SIGN - MOVE EXISTING
(Symbol)	EXISTING SIGN
(Symbol)	PROPOSED SIGN MOUNTED ON POST(S)

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 E" IN SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"
-  PLACE TRAFFIC CONTROL SIGNS PER "DETAIL 4" IN SDD "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES"

GENERAL NOTES

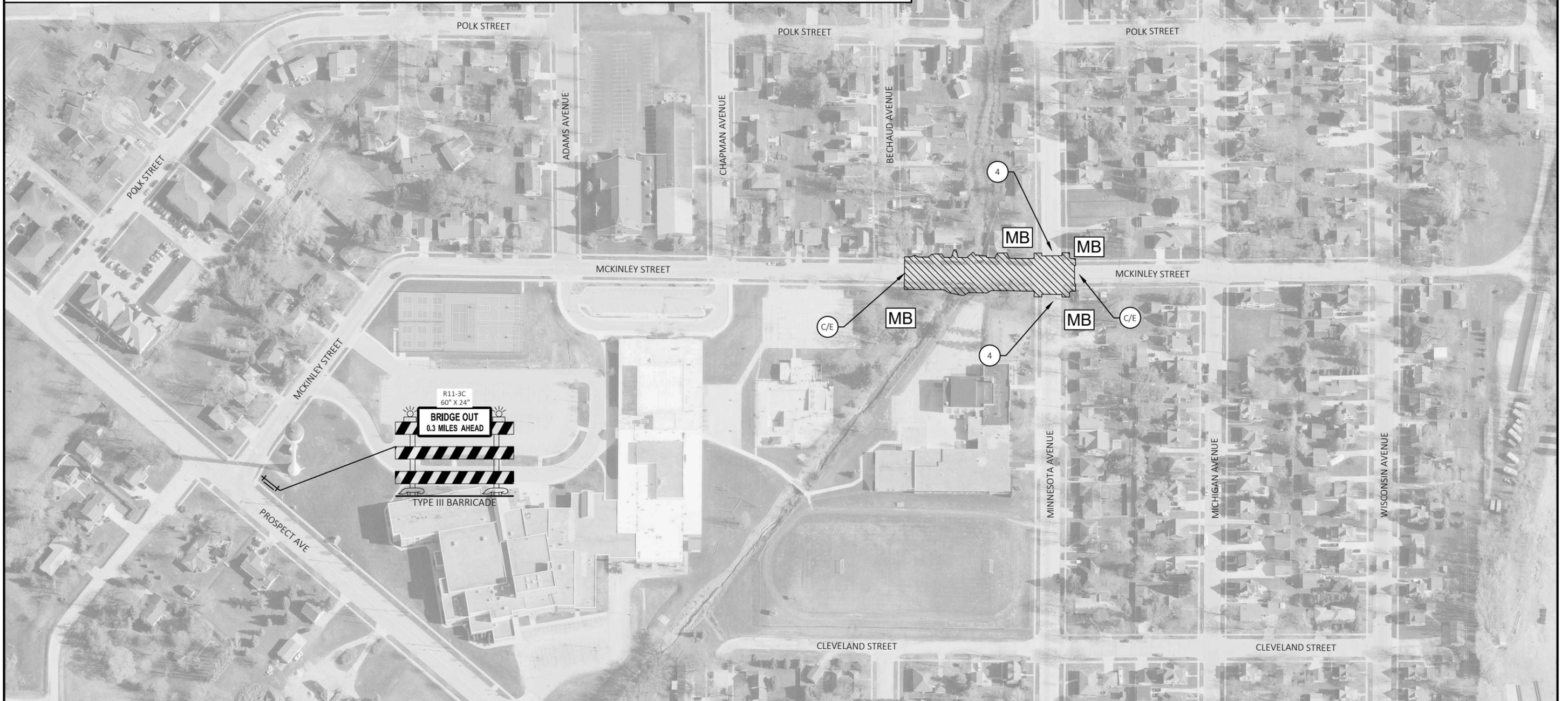
SEE S.D.D. "BARRICADES AND SIGNS FOR MAINLINE CLOSURES", "BARRICADES AND SIGNS FOR VARIOUS CLOSURES", "DETOUR SIGNING FOR MAINLINE CLOSURES", AND "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES" FOR GENERAL NOTES AND SIGN SPACING REQUIREMENTS.

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

LOCATION	7 DAYS PRIOR TO PROJECT STARTUP		7 DAYS PRIOR TO INTERSECTION WORK	
	PHASE 1 (2 SEC.)	PHASE 2 (2 SEC.)	PHASE 1 (2 SEC.)	PHASE 2 (2 SEC.)
MCKINLEY STREET EB	ROAD CLOSED BEGINS	{DAY} {DATE XX}	---	---
MCKINLEY STREET WB	ROAD CLOSED BEGINS	{DAY} {DATE XX}	ROAD CLOSED BEGINS	{DAY} {DATE XX}
MINNESOTA AVENUE NB	---	---	ROAD CLOSED BEGINS	{DAY} {DATE XX}
MINNESOTA AVENUE SB	---	---	ROAD CLOSED BEGINS	{DAY} {DATE XX}



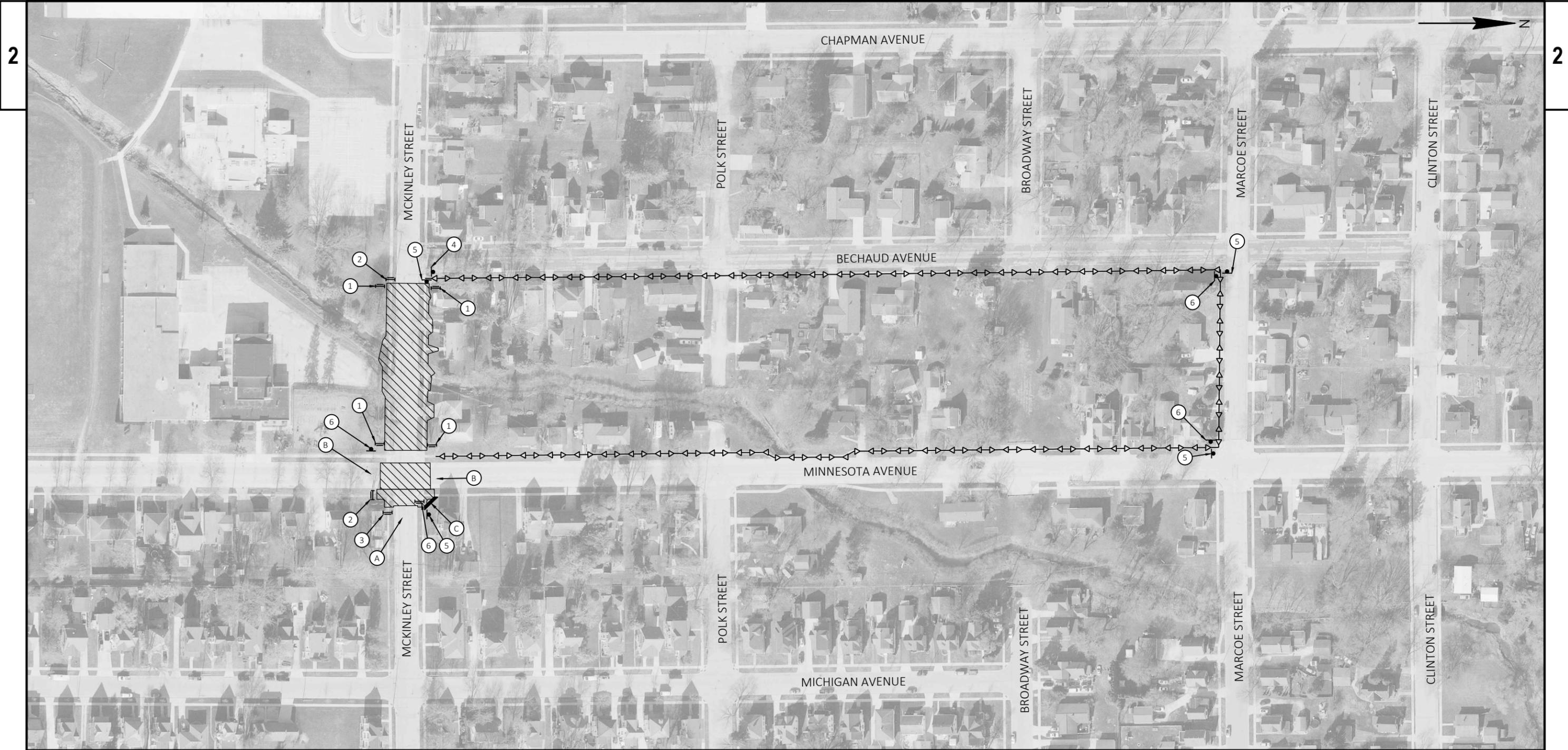
PROJECT NO: 4986-00-59

HWY: MCKINLEY STREET

COUNTY: FOND DU LAC

TRAFFIC CONTROL: TRAFFIC CONTROL

SHEET



**LEGEND**

-  SIGN LOCATION
-  TYPE II BARRICADE WITH SIGN AND ONE WARNING LIGHT TYPE A
-  PROPOSED DETOUR ROUTE
-  WORK AREA
-  (A) TEMPORARY CROSSWALK ACROSS MCKINLEY STREET.
-  (B) TEMPORARY CROSSWALK ACROSS MINNESOTA AVENUE.
-  (C) TEMPORARY PEDESTRIAN SURFACE ASPHALT WITH TEMPORARY PEDESTRIAN BARRICADE.



**GENERAL NOTES - PEDESTRIAN ACCOMMODATIONS**

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

TEMPORARY CROSSWALKS SHALL BE MOVED AS NEEDED TO PROVIDE CONTINUOUS PEDESTRIAN ACCESS THROUGHOUT THE PROJECT. TEMPORARY CROSSWALKS SHALL BE PROVIDED AT ALL TIMES FOR A MINIMUM OF ONE NORTH-SOUTH LEG OF THE INDICATED INTERSECTIONS AS DIRECTED BY THE FIELD ENGINEER.

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.

MAINTAIN ONE NORTH-SOUTH CROSSING OF MCKINLEY STREET & MINNESOTA AVENUE INTERSECTION AT ALL TIMES.

FURNISH AND INSTALL TEMPORARY CURB RAMPS WHEN EXISTING OR FINISHED CURB RAMPS ARE NOT IN PLACE.

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.

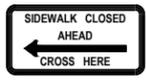


**LEGEND**

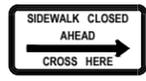
-  SIGN LOCATION
-  TYPE II BARRICADE WITH SIGN AND ONE WARNING LIGHT TYPE A
-  PROPOSED DETOUR ROUTE
-  WORK AREA
-  (A) TEMPORARY CROSSWALK ACROSS MCKINLEY STREET.
-  (B) TEMPORARY CROSSWALK ACROSS MINNESOTA AVENUE.
-  (C) TEMPORARY PEDESTRIAN SURFACE ASPHALT WITH TEMPORARY PEDESTRIAN BARRICADE.



1



2



3



4



5



6

**GENERAL NOTES - PEDESTRIAN ACCOMMODATIONS**

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

TEMPORARY CROSSWALKS SHALL BE MOVED AS NEEDED TO PROVIDE CONTINUOUS PEDESTRIAN ACCESS THROUGHOUT THE PROJECT. TEMPORARY CROSSWALKS SHALL BE PROVIDED AT ALL TIMES FOR A MINIMUM OF ONE NORTH-SOUTH LEG OF THE INDICATED INTERSECTIONS AS DIRECTED BY THE FIELD ENGINEER.

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.

MAINTAIN ONE NORTH-SOUTH CROSSING OF MCKINLEY STREET & MINNESOTA AVENUE INTERSECTION AT ALL TIMES.

FURNISH AND INSTALL TEMPORARY CURB RAMPS WHEN EXISTING OR FINISHED CURB RAMPS ARE NOT IN PLACE.

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.

PROJECT NO: 4986-00-59

HWY: MCKINLEY STREET

COUNTY: FOND DU LAC

PEDESTRIAN DETOUR - WEST MINNESOTA AVE CURB RAMPS CLOSED

SHEET

E

Estimate Of Quantities

4986-00-59

Line	Item	Item Description	Unit	Total	Qty
0002	201.0205	Grubbing	STA	1.000	1.000
0004	203.0220	Removing Structure (structure) 01. P-20-0736	EACH	1.000	1.000
0006	204.0100	Removing Concrete Pavement	SY	690.000	690.000
0008	204.0150	Removing Curb & Gutter	LF	530.000	530.000
0010	204.0155	Removing Concrete Sidewalk	SY	310.000	310.000
0012	204.0210	Removing Manholes	EACH	3.000	3.000
0014	204.0220	Removing Inlets	EACH	4.000	4.000
0016	204.0245	Removing Storm Sewer (size) 01. 12-Inch	LF	109.000	109.000
0018	204.0245	Removing Storm Sewer (size) 02. 18-Inch	LF	207.000	207.000
0020	204.0245	Removing Storm Sewer (size) 03. Lateral	LF	24.000	24.000
0022	205.0100	Excavation Common	CY	1,227.000	1,227.000
0024	206.1001	Excavation for Structures Bridges (structure) 01. B-20-0256	EACH	1.000	1.000
0026	206.3001	Excavation for Structures Retaining Walls (structure) 02. R-20-0051	EACH	1.000	1.000
0028	206.3001	Excavation for Structures Retaining Walls (structure) 03. R-20-0052	EACH	1.000	1.000
0030	210.1500	Backfill Structure Type A	TON	430.000	430.000
0032	213.0100	Finishing Roadway (project) 01. 4986-00-59	EACH	1.000	1.000
0034	305.0110	Base Aggregate Dense 3/4-Inch	TON	90.000	90.000
0036	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	595.000	595.000
0038	311.0110	Breaker Run	TON	1,125.000	1,125.000
0040	415.0080	Concrete Pavement 8-Inch	SY	511.000	511.000
0042	415.0410	Concrete Pavement Approach Slab	SY	148.000	148.000
0044	415.4100	Concrete Pavement Joint Filling	SY	550.000	550.000
0046	416.0610	Drilled Tie Bars	EACH	18.000	18.000
0048	416.0620	Drilled Dowel Bars	EACH	44.000	44.000
0050	455.0605	Tack Coat	GAL	32.000	32.000
0052	465.0105	Asphaltic Surface	TON	145.000	145.000
0054	502.0100	Concrete Masonry Bridges	CY	209.000	209.000
0056	502.3200	Protective Surface Treatment	SY	190.000	190.000
0058	502.3210	Pigmented Surface Sealer	SY	47.000	47.000
0060	504.0500	Concrete Masonry Retaining Walls	CY	19.000	19.000
0062	505.0400	Bar Steel Reinforcement HS Structures	LB	6,490.000	6,490.000
0064	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	34,080.000	34,080.000
0066	513.4056	Railing Tubular Type H	LF	114.000	114.000
0068	516.0500	Rubberized Membrane Waterproofing	SY	34.000	34.000
0070	520.8000	Concrete Collars for Pipe	EACH	2.000	2.000
0072	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	480.000	480.000
0074	601.0409	Concrete Curb & Gutter 30-Inch Type A	LF	220.000	220.000
0076	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	371.000	371.000
0078	602.0405	Concrete Sidewalk 4-Inch	SF	2,685.000	2,685.000
0080	602.0415	Concrete Sidewalk 6-Inch	SF	280.000	280.000
0082	602.0515	Curb Ramp Detectable Warning Field Natural Patina	SF	80.000	80.000
0084	602.0810	Concrete Driveway 6-Inch	SY	115.000	115.000
0086	606.0300	Riprap Heavy	CY	120.000	120.000
0088	608.0412	Storm Sewer Pipe Reinforced Concrete Class IV 12-Inch	LF	45.000	45.000
0090	608.0415	Storm Sewer Pipe Reinforced Concrete Class IV 15-Inch	LF	38.000	38.000
0092	608.0418	Storm Sewer Pipe Reinforced Concrete Class IV 18-Inch	LF	244.000	244.000
0094	611.0530	Manhole Covers Type J	EACH	3.000	3.000
0096	611.0612	Inlet Covers Type C	EACH	1.000	1.000
0098	611.0624	Inlet Covers Type H	EACH	2.000	2.000
0100	611.0639	Inlet Covers Type H-S	EACH	2.000	2.000

Estimate Of Quantities

4986-00-59

Line	Item	Item Description	Unit	Total	Qty
0102	611.1230	Catch Basins 2x3-FT	EACH	4.000	4.000
0104	611.2004	Manholes 4-FT Diameter	EACH	4.000	4.000
0106	611.8110	Adjusting Manhole Covers	EACH	1.000	1.000
0108	611.8115	Adjusting Inlet Covers	EACH	2.000	2.000
0110	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	264.000	264.000
0112	619.1000	Mobilization	EACH	1.000	1.000
0114	624.0100	Water	MGAL	23.000	23.000
0116	625.0100	Topsoil	SY	800.000	800.000
0118	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0120	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0122	628.2006	Erosion Mat Urban Class I Type A	SY	800.000	800.000
0124	628.6005	Turbidity Barriers	SY	165.000	165.000
0126	628.7005	Inlet Protection Type A	EACH	1.000	1.000
0128	628.7010	Inlet Protection Type B	EACH	1.000	1.000
0130	628.7015	Inlet Protection Type C	EACH	10.000	10.000
0132	628.7020	Inlet Protection Type D	EACH	2.000	2.000
0134	628.7560	Tracking Pads	EACH	2.000	2.000
0136	629.0210	Fertilizer Type B	CWT	0.500	0.500
0138	630.0140	Seeding Mixture No. 40	LB	15.000	15.000
0140	630.0500	Seed Water	MGAL	18.000	18.000
0142	634.0814	Posts Tubular Steel 2x2-Inch X 14-FT	EACH	4.000	4.000
0144	634.0818	Posts Tubular Steel 2x2-Inch X 18-FT	EACH	1.000	1.000
0146	637.2210	Signs Type II Reflective H	SF	20.720	20.720
0148	637.2230	Signs Type II Reflective F	SF	14.750	14.750
0150	638.2102	Moving Signs Type II	EACH	5.000	5.000
0152	638.2602	Removing Signs Type II	EACH	5.000	5.000
0154	638.3000	Removing Small Sign Supports	EACH	5.000	5.000
0156	638.4000	Moving Small Sign Supports	EACH	5.000	5.000
0158	642.5001	Field Office Type B	EACH	1.000	1.000
0160	643.0300	Traffic Control Drums	DAY	1,875.000	1,875.000
0162	643.0410	Traffic Control Barricades Type II	DAY	600.000	600.000
0164	643.0420	Traffic Control Barricades Type III	DAY	1,125.000	1,125.000
0166	643.0705	Traffic Control Warning Lights Type A	DAY	2,400.000	2,400.000
0168	643.0900	Traffic Control Signs	DAY	2,025.000	2,025.000
0170	643.1050	Traffic Control Signs PCMS	DAY	35.000	35.000
0172	643.3350	Temporary Marking Crosswalk Removable Tape 6-inch	LF	226.000	226.000
0174	643.5000	Traffic Control	EACH	1.000	1.000
0176	644.1410	Temporary Pedestrian Surface Asphalt	SF	352.000	352.000
0178	644.1601	Temporary Pedestrian Curb Ramp	DAY	175.000	175.000
0180	644.1810	Temporary Pedestrian Barricade	LF	79.000	79.000
0182	645.0111	Geotextile Type DF Schedule A	SY	160.000	160.000
0184	645.0120	Geotextile Type HR	SY	189.000	189.000
0186	645.0140	Geotextile Type SAS	SY	170.000	170.000
0188	646.7420	Marking Crosswalk Epoxy Transverse Line 6-Inch	LF	316.000	316.000
0190	646.8120	Marking Curb Epoxy	LF	324.000	324.000
0192	650.4000	Construction Staking Storm Sewer	EACH	12.000	12.000
0194	650.4500	Construction Staking Subgrade	LF	309.000	309.000
0196	650.5000	Construction Staking Base	LF	185.000	185.000
0198	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	371.000	371.000
0200	650.6501	Construction Staking Structure Layout (structure) 01. B-20-0256	EACH	1.000	1.000

Estimate Of Quantities

4986-00-59

Line	Item	Item Description	Unit	Total	Qty
0202	650.6501	Construction Staking Structure Layout (structure) 02. R-20-0051	EACH	1.000	1.000
0204	650.6501	Construction Staking Structure Layout (structure) 03. R-20-0052	EACH	1.000	1.000
0206	650.7000	Construction Staking Concrete Pavement	LF	124.000	124.000
0208	650.9000	Construction Staking Curb Ramps	EACH	8.000	8.000
0210	650.9500	Construction Staking Sidewalk (project) 01. 4986-00-59	EACH	1.000	1.000
0212	650.9911	Construction Staking Supplemental Control (project) 01. 4986-00-59	EACH	1.000	1.000
0214	650.9920	Construction Staking Slope Stakes	LF	245.000	245.000
0216	690.0150	Sawing Asphalt	LF	63.000	63.000
0218	690.0250	Sawing Concrete	LF	183.000	183.000
0220	715.0502	Incentive Strength Concrete Structures	DOL	1,368.000	1,368.000
0222	715.0720	Incentive Compressive Strength Concrete Pavement	DOL	500.000	500.000
0224	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	1,200.000	1,200.000
0226	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	600.000	600.000
0228	SPV.0060	Special 01. Adjusting Sanitary Manholes	EACH	2.000	2.000
0230	SPV.0060	Special 02. Adjusting Water Valves	EACH	3.000	3.000
0232	SPV.0060	Special 03. Adjusting Water Service Curb Stops	EACH	1.000	1.000
0234	SPV.0090	Special 01. Storm Sewer Lateral 6-INCH	LF	8.000	8.000

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**GRUBBING**

STATION - STATION	201.0205 STA
CATEGORY CODE 0010	
10+00 - 11+00	1
<b>TOTAL</b>	<b>1</b>

**REMOVING ITEMS**

STATION - STATION	LOCATION	204.0100	204.0150	204.0155	COMMENTS
		REMOVING CONCRETE PAVEMENT	REMOVING CURB & GUTTER	REMOVING CONCRETE SIDEWALK	
SY	LF	SY	LF	SY	
CATEGORY CODE 0010					
8+69 - 11+28	LT	85	261	126	--
8+69 - 11+28	RT	40	261	134	--
11+28 - 11+50	LT & RT	120	--	--	--
11+86 - 12+16	LT	35	4	26	NE QUAD MCKINLEY ST/ MINNESOTA AVE INTERSECTION
11+86 - 12+16	RT	35	4	24	SE QUAD MCKINLEY ST/ MINNESOTA AVE INTERSECTION
CATEGORY CODE 0010 SUBTOTALS		315	530	310	
CATEGORY CODE 0030					
11+50 - 12+10	LT & RT	375	--	--	MCKINLEY ST/ MINNESOTA AVE INTERSECTION
CATEGORY CODE 0030 SUBTOTALS		375	--	--	
<b>TOTALS</b>		<b>690</b>	<b>530</b>	<b>310</b>	

**REMOVING STORM SEWER ITEMS**

STATION - STATION	LOCATION	204.0210	204.0220	204.0245.01	204.0245.02	204.0245.03
		REMOVING MANHOLES	REMOVING INLETS	REMOVING STORM SEWER 12-INCH	REMOVING STORM SEWER 18-INCH	REMOVING STORM SEWER LATERAL
EACH	EACH	LF	LF	LF	LF	LF
CATEGORY CODE 0010						
8+79 - 9+56	RT	--	--	--	77	--
9+42	RT	--	1	--	--	--
9+42 - 9+56	RT	--	--	19	--	--
9+56	RT	1	--	--	--	--
9+56 - 9+81	LT	--	--	--	32	--
9+81	LT	--	1	--	--	--
9+81 - 10+08	LT	--	--	--	28	--
10+35 - 10+44	LT	--	--	--	18	--
10+44	LT	1	--	--	--	--
10+44 - 10+68	RT	--	--	--	47	--
10+44 - 11+00	LT	--	--	57	--	--
10+67	RT	1	--	--	--	--
10+68 - 10+73	RT	--	--	--	5	--
11+00	LT	--	1	--	--	--
11+00	LT - RT	--	--	33	--	--
11+00	RT	--	1	--	--	--
CATEGORY CODE 0010 SUBTOTALS		3	4	109	207	--
CATEGORY CODE 0030						
9+49 - 9+56	LT & RT	--	--	--	--	24
CATEGORY CODE 0030 SUBTOTALS		--	--	--	--	24
<b>TOTALS</b>		<b>3</b>	<b>4</b>	<b>109</b>	<b>207</b>	<b>24</b>

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**BASE AGGREGATE DENSE, BREAKER RUN, AND WATER ITEMS**

STATION - STATION	LOCATION	305.0110	305.0120	311.0110*	624.0100	COMMENTS
		BASE AGGREGATE DENSE 3/4-INCH	BASE AGGREGATE DENSE 1 1/4-INCH	BREAKER RUN	WATER	
TON	TON	TON	MGAL			
CATEGORY CODE 0010						
8+69 - 9+82	LT & RT	36	209	310	7.6	--
10+18 - 11+50	LT & RT	42	216	384	8.8	--
11+86 - 12+16	LT	6	18	29	0.7	NE QUAD MCKINLEY ST/ MINNESOTA AVE INTERSECTION
11+86 - 12+16	RT	6	18	28	0.7	SE QUAD MCKINLEY ST/ MINNESOTA AVE INTERSECTION
CATEGORY CODE 0010 SUBTOTALS		90	461	751	17.8	
CATEGORY CODE 0030						
11+50 - 12+14	LT & RT	--	134	239	5.2	MCKINLEY ST/ MINNESOTA AVE INTERSECTION
CATEGORY CODE 0030 SUBTOTALS		--	134	239	5.2	
<b>TOTALS</b>		<b>90</b>	<b>595</b>	<b>990</b>	<b>23.0</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.  
 BREAKER RUN WEIGHT CALCULATIONS BASED ON 1.8 TONS/CY.  
 \* ADDITIONAL QUANTITY SHOWN ELSEWHERE IN PLANS

**BREAKER RUN & GEOSYNTHETICS**

STATION	311.0110* BREAKER RUN TON	645.0140 GEOTEXTILE TYPE SAS SY
CATEGORY CODE 0010		
UNDISTRIBUTED EBS	135	170
<b>TOTAL</b>	<b>135</b>	<b>170</b>

BREAKER RUN WEIGHT CALCULATIONS BASED ON 1.8 TONS/ CY.  
 \* ADDITIONAL QUANTITY SHOWN ELSEWHERE IN PLANS

DIVISION	FROM/TO STATION	LOCATION	205.0100 COMMON EXCAVATION (1)		SALVAGED/ UNUSABLE PAVEMENT MATERIAL (4)	AVAILABLE MATERIAL (5)	UNEXPANDED FILL	EXPANDED FILL (13) FACTOR 1.30	MASS ORDINATE +/- (14)	WASTE
			CUT (2)	EBS EXCAVATION (3)						
<b>CATEGORY CODE 0010</b>										
DIVISION 1										
MCKINLEY STREET (WEST)	08+69/09+81.557		314	30	67	247	10	13	234	234
DIVISION 1 SUBTOTAL			314	30	67	247	10	13	234	234
DIVISION 2										
MCKINLEY STREET (EAST)	10+18.443/12+14.00		500	45	135	365	2	3	362	362
DIVISION 2 SUBTOTAL			500	45	135	365	2	3	362	362
GRAND TOTAL			814	75	202	612	12	16	596	596
CATEGORY CODE 0010 SUBTOTAL COMMON EXC			889							
<b>CATEGORY CODE 0030</b>										
DIVISION 2										
MCKINLEY STREET (EAST)	10+18.443/12+14.00		338	0	135	203	4	0	203	203
DIVISION 2 SUBTOTAL			338	0	135	203	4	0	203	203
GRAND TOTAL			338	0	135	203	4	0	203	203
CATEGORY CODE 0030 SUBTOTAL COMMON EXC			338							
PROJECT TOTAL COMMON EXC			1,227							

**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 BREAKER RUN.
- (4) SALVAGED/UNUSABLE PAVEMENT MATERIAL = LENGTH \* TYPICAL WIDTH \* TYPICAL DEPTH
- (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 - REDUCED MARSH - REDUCED EBS) \* 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.

**CONCRETE PAVEMENT ITEMS**

415.0080 415.0410 415.4100  
 CONCRETE CONCRETE CONCRETE  
 PAVEMENT PAVEMENT PAVEMENT  
 8-INCH APPROACH JOINT  
 SLAB FILLING

STATION - STATION	LOCATION	SY	SY	SY	COMMENTS
<b>CATEGORY CODE 0010</b>					
9+60 - 9+82	LT & RT	--	74	--	--
10+18 - 10+40	LT & RT	--	74	--	--
11+28 - 11+50	LT & RT	99	--	118	--
11+86 - 12+08	LT	24	--	34	NE QUAD MCKINLEY ST/ MINNESOTA AVE INTERSECTION
11+86 - 12+08	RT	23	--	33	SE QUAD MCKINLEY ST/ MINNESOTA AVE INTERSECTION
<b>CATEGORY CODE 0010 SUBTOTALS</b>		146	148	185	
<b>CATEGORY CODE 0030</b>					
11+50 - 12+08	LT & RT	365	--	365	MCKINLEY ST/ MINNESOTA AVE INTERSECTION
<b>CATEGORY CODE 0030 SUBTOTALS</b>		365	--	365	
<b>TOTALS</b>		<b>511</b>	<b>148</b>	<b>550</b>	

**DRILLED TIE BARS AND DRILLED DOWEL BARS**

416.0610 416.0620  
 TIE BARS DOWEL BARS  
 EACH EACH

STATION - STATION	LOCATION	416.0610 TIE BARS EACH	416.0620 DOWEL BARS EACH
<b>CATEGORY CODE 0010</b>			
12+14	LT & RT	6	--
20+61	LT & RT	6	--
21+39	LT & RT	6	--
<b>CATEGORY CODE 0010 SUBTOTALS</b>		18	--
<b>CATEGORY CODE 0030</b>			
20+61	LT & RT	--	22
21+39	LT & RT	--	22
<b>CATEGORY CODE 0030 SUBTOTALS</b>		--	44
<b>TOTALS</b>		<b>18</b>	<b>44</b>

**ASPHALTIC ITEMS**

455.0605 465.0105  
 TACK ASPHALTIC  
 COAT SURFACE

STATION - STATION	LOCATION	GAL	TON	COMMENTS
<b>CATEGORY CODE 0010</b>				
8+69 - 9+60	LT & RT	16	71	--
10+40 - 11+28	LT & RT	15	69	--
12+08 - 12+14	LT	--	1	NE QUAD MCKINLEY ST/ MINNESOTA AVE INTERSECTION
12+08 - 12+14	RT	--	1	SE QUAD MCKINLEY ST/ MINNESOTA AVE INTERSECTION
<b>CATEGORY CODE 0010 SUBTOTALS</b>		31	142	
<b>CATEGORY CODE 0030</b>				
12+08 - 12+14	LT & RT	1	3	MCKINLEY ST/ MINNESOTA AVE INTERSECTION
<b>CATEGORY CODE 0030 SUBTOTALS</b>		1	3	
<b>TOTALS</b>		<b>32</b>	<b>145</b>	

TACK COAT CALCULATIONS BASED ON 0.050 GAL/SY  
 ASPHALTIC SURFACE WEIGHT CALCULATIONS BASED ON 112 LB/SY/IN.

**CONCRETE CURB AND GUTTER ITEMS**

601.0409 601.0411 650.5500  
 CONCRETE CONCRETE CONSTRUCTION  
 CURB & GUTTER CURB & GUTTER STAKING  
 30-INCH 30-INCH CURB GUTTER AND  
 TYPE A TYPE D CURB & GUTTER  
 LF LF LF

STATION - STATION	LOCATION	601.0409 CURB & GUTTER 30-INCH TYPE A LF	601.0411 CURB & GUTTER 30-INCH TYPE D LF	650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF
<b>CATEGORY CODE 0010</b>				
8+69 - 9+60	LT & RT	--	183	183
9+60 - 9+92	LT	32	--	--
9+60 - 9+73	RT	12	--	--
10+08 - 10+40	RT	32	--	--
10+27 - 10+40	LT	12	--	--
10+40 - 11+28	LT & RT	--	176	176
11+28 - 11+50	LT	33	--	--
11+28 - 11+50	RT	34	--	--
11+86 - 12+08	LT	32	--	--
11+86 - 12+08	RT	33	--	--
12+08 - 12+14	LT	--	6	6
12+08 - 12+14	RT	--	6	6
<b>TOTALS</b>		<b>220</b>	<b>371</b>	<b>371</b>

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**CONCRETE SIDEWALK ITEMS**

STATION - STATION	LOCATION	602.0405 CONCRETE SIDEWALK 4-INCH	602.0415 CONCRETE SIDEWALK 6-INCH	602.0515 CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA
CATEGORY CODE 0010				
8+69 - 11+50	LT & RT	2,391	143	40
11+86 - 12+08	RT	146	69	20
11+86 - 12+08	LT	148	68	20
<b>TOTALS</b>		<b>2,685</b>	<b>280</b>	<b>80</b>

\*CURB RAMPS TO BE PAID FOR AS CONCRETE SIDEWALK 6-INCH

**CONCRETE DRIVEWAY 6-INCH**

STATION	LOCATION	602.0810 SY
CATEGORY CODE 0010		
9+35	LT	58
10+67	LT	57
<b>TOTAL</b>		<b>115</b>

**RESTORATION ITEMS**

STATION - STATION	LOCATION	625.0100 TOPSOIL	628.2006 EROSION MAT URBAN CLASS I TYPE A	629.0210 FERTILIZER TYPE B	630.0140 SEED MIX NO. 40	630.0500 SEED WATER
CATEGORY CODE 0010						
8+69 - 11+50	LT	272	272	0.15	5	6
8+69 - 11+50	RT	275	275	0.20	5	6
11+86 - 12+14	LT	41	41	0.05	1	1
11+86 - 12+14	RT	53	53	0.05	1	1
UNDISTRIBUTED		159	159	0.05	3	4
<b>TOTALS</b>		<b>800</b>	<b>800</b>	<b>0.50</b>	<b>15</b>	<b>18</b>

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**STORM SEWER STRUCTURES**

STRUCTURE	STATION	OFFSET*	LOCATION	520.8000 CONCRETE COLLARS FOR PIPE	611.0530 MANHOLE TYPE J	611.0612 INLET COVERS TYPE C	611.0624 INLET COVERS TYPE H	611.0639 INLET COVERS TYPE H-S	611.1230 CATCH BASINS 2X3-FT	611.2004 MANHOLES 4-FT DIAMETER	611.8110 ADJUSTING MANHOLE COVERS	611.8115 ADJUSTING INLET COVERS	650.4000 CONSTRUCTION STAKING SEWER
CATEGORY CODE 0010													
10	8+79.00	4.02' RT	MCKINLEY	1	--	--	--	--	--	--	--	--	1
11	9+56.33	4.32' RT	MCKINLEY	--	1	--	--	--	--	1	--	--	1
11.1	9+56.33	16.50' RT	MCKINLEY	--	--	1	--	1	1	--	--	--	1
12	9+56.33	16.50' LT	MCKINLEY	--	--	1	--	1	1	--	--	--	1
13	9+63.87	28.00' LT	MCKINLEY	--	--	1	--	1	1	--	--	--	1
14	10+04.87	28.00' LT	MCKINLEY	--	--	--	--	--	--	--	--	--	1
20	10+30.72	28.00' LT	MCKINLEY	--	--	--	--	--	--	--	--	--	1
21	10+54.72	28.00' LT	MCKINLEY	--	1	--	--	--	1	--	--	--	1
21.1	10+90.70	16.50' LT	MCKINLEY	--	--	--	--	1	1	--	--	--	1
21.2	10+90.70	16.50' RT	MCKINLEY	--	--	--	--	1	1	--	--	--	1
22	10+54.72	20.90' RT	MCKINLEY	--	1	--	--	--	1	--	--	--	1
23	10+72.48	20.90' RT	MCKINLEY	1	--	--	--	--	--	--	--	--	1
31	12+09.31	17.75' LT	MCKINLEY	--	--	--	--	--	--	--	1	--	--
32	12+09.03	17.25' RT	MCKINLEY	--	--	--	--	--	--	--	1	--	--
CATEGORY CODE 0010 SUBTOTALS				2	3	1	2	2	4	4	--	2	12
CATEGORY CODE 0030													
30	11+51.52	21.56' RT	MCKINLEY	--	--	--	--	--	--	--	1	--	--
CATEGORY CODE 0030 SUBTOTALS				--	--	--	--	--	--	--	1	--	--
<b>TOTALS</b>				<b>2</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>4</b>	<b>4</b>	<b>1</b>	<b>2</b>	<b>12</b>

REMARKS:

\*STATIONS AND OFFSETS ARE TO CENTER OF STRUCTURE

**STORM SEWER PIPES**

FROM - TO	LOCATION	608.0412 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 12-INCH	608.0415 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 15-INCH	608.0418 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 18-INCH	SPV.0090.01 STORM SEWER LATERAL 6-INCH
CATEGORY CODE 0010					
10 - 11	MCKINLEY	--	--	77	--
11 - 12	MCKINLEY	--	--	21	--
11.1 - 11	MCKINLEY	12	--	--	--
12 - 13	MCKINLEY	--	--	14	--
13 - 14	MCKINLEY	--	--	41	--
21 - 20	MCKINLEY	--	--	24	--
21.1 - 21	MCKINLEY	--	38	--	--
21.2 - 21.1	MCKINLEY	33	--	--	--
22 - 21	MCKINLEY	--	--	49	--
23 - 22	MCKINLEY	--	--	18	--
CATEGORY CODE 0010 SUBTOTAL		45	38	244	--
CATEGORY CODE 0030					
12.1 - 12	MCKINLEY	--	--	--	8
CATEGORY CODE 0030 SUBTOTAL		--	--	--	8
<b>TOTALS</b>		<b>45</b>	<b>38</b>	<b>244</b>	<b>8</b>

3

**EROSION CONTROL ITEMS**

STATION	LOCATION	628.1905	628.1910	628.6005	628.7005	628.7010	628.7015	628.7020	628.7560
		MOBILIZATIONS EROSION CONTROL EACH	MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	TURBIDITY BARRIERS SY	INLET PROTECTION TYPE A EACH	INLET PROTECTION TYPE B EACH	INLET PROTECTION TYPE C EACH	INLET PROTECTION TYPE D EACH	TRACKING PADS EACH
CATEGORY CODE 0010									
8+69 - 12+14	LT & RT	5	3	--	--	--	--	--	2
9+41	RT	--	--	--	--	--	1	--	--
9+56	LT & RT	--	--	--	--	--	2	--	--
9+64	LT	--	--	--	1	1	--	--	--
9+65 - 10+28	LT & RT	--	--	132	--	--	--	--	--
9+81	LT	--	--	--	--	--	1	--	--
10+91	LT & RT	--	--	--	--	--	--	2	--
11+01	LT & RT	--	--	--	--	--	2	--	--
12+09	LT & RT	--	--	--	--	--	2	--	--
UNDISTRIBUTED		--	--	33	--	--	2	--	--
<b>TOTALS</b>		<b>5</b>	<b>3</b>	<b>165</b>	<b>1</b>	<b>1</b>	<b>10</b>	<b>2</b>	<b>2</b>

**PAVEMENT MARKING ITEMS**

STATION - STATION	LOCATION	646.7420	646.8120
		MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH WHITE LF	MARKING CURB EPOXY YELLOW LF
CATEGORY CODE 0010			
8+69 - 8+87	LT	--	18
8+69 - 11+29	RT	--	263
9+15 - 9+25	LT	--	10
9+43 - 9+53	LT	--	10
10+51.4 - 10+61.4	LT	--	10
10+75 - 10+85	LT	--	10
11+39	LT & RT	72	--
11+49	37' RT	--	3
11+48 - 11+89	28' LT	85	--
11+49	27' RT	84	--
11+99	LT & RT	75	--
<b>TOTALS</b>		<b>316</b>	<b>324</b>

3

**SIGNING ITEMS**

SIGN NUMBER	EXISTING STATION	EXISTING LOCATION	PROPOSED STATION	PROPOSED LOCATION	ROADWAY	SIGN CODE	SIZE	634.0814	634.0818	637.2210	637.2230	638.2102	638.2602	638.3000	638.4000
								POSTS TUBULAR STEEL 2x2X14 EACH	POSTS TUBULAR STEEL 2x2X18 EACH	SIGNS TYPE II REFLECTIVE H SF	SIGNS TYPE II REFLECTIVE F SF	MOVING SIGNS TYPE II EACH	REMOVING SIGNS TYPE II EACH	REMOVING SMALL SIGN SUPPPORTS EACH	MOVING SMALL SIGN SUPPORTS EACH
CATEGORY CODE 0010															
101	9+02	19.7' LT	9+05	20.0' LT	MCKINLEY STREET	R1-1	30X30	1	--	5.18	--	--	1	1	--
102	9+34	19.5' RT	9+35	19.5' RT	MCKINLEY STREET	R1-1	30X30	1	--	5.18	--	--	1	1	--
103	9+81	19.9' LT	9+80	20.0' LT	MCKINLEY STREET	R1-1	30X30	1	--	5.18	--	--	1	1	--
104	10+74	19.6' RT	10+75	19.5' RT	MCKINLEY STREET	R1-1	30X30	1	--	5.18	--	--	1	1	--
105	10+33	21.8' LT	10+99	20.3' LT	MCKINLEY STREET	S1-1	36X36	--	1	--	6.75	--	1	1	--
						S4-51	24X48	--	--	--	8.00	--	--	--	--
106	11+25	20.4' RT	11+25	20.3' RT	MCKINLEY STREET	--	--	--	--	--	--	1	--	--	1
107	11+03	21.3' LT	11+28	20.0' LT	MCKINLEY STREET	--	--	--	--	--	--	1	--	--	1
108	12+10	20.7' LT	12+06	21.7' LT	MCKINLEY STREET	--	--	--	--	--	--	1	--	--	1
109	11+91	34.5' RT	11+92	34.0' RT	MINNESOTA AVENUE	--	--	--	--	--	--	1	--	--	1
110	11+43	33' LT	11+44	34.0' LT	MINNESOTA AVENUE	--	--	--	--	--	--	1	--	--	1
<b>TOTALS</b>								<b>4</b>	<b>1</b>	<b>20.72</b>	<b>14.75</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>

3

**TRAFFIC CONTROL ITEMS**

LOCATION	NUMBER OF DAYS IN SERVICE	643.0300 TRAFFIC CONTROL DRUMS		643.0410 TRAFFIC CONTROL BARRICADES TYPE II		643.0420 TRAFFIC CONTROL BARRICADES TYPE III		643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A		643.0900 TRAFFIC CONTROL SIGNS		643.1050 TRAFFIC CONTROL SIGNS PCMS			643.5000 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	TOTAL DAY	NO. REQ'D	NO. DAYS	TOTAL DAY	EACH
		CATEGORY CODE 0010													
PROJECT 4986-00-58 PRIOR TO PROJECT	75	25	1,875	8	600	15	1,125	32	2,400	27	2,025	--	--	--	1
PRIOR TO INTERSECTION WORK	--	--	--	--	--	--	--	--	--	--	--	2	7	14	--
	--	--	--	--	--	--	--	--	--	--	--	3	7	21	--
<b>TOTALS</b>			<b>1,875</b>	<b>600</b>	<b>1,125</b>	<b>2,400</b>	<b>2,025</b>			<b>35</b>	<b>1</b>				

**TEMPORARY PEDESTRIAN ACCOMMODATION ITEMS**

LOCATION	643.3350 TEMPORARY MARKING CROSSWALK REMOVABLE TAPE 6-INCH	644.1410 TEMPORARY PEDESTRIAN SURFACE ASPHALT	644.1601 TEMPORARY PEDESTRIAN CURB RAMP	644.1810 TEMPORARY PEDESTRIAN BARRICADE
	LF	SF	DAY	LF
CATEGORY CODE 0010				
12+20, LT & RT	66.0	67.0	70.0	--
20+50, LT & RT	80.0	90.0	70.0	--
21+50, LT & RT	80.0	85.0	35.0	--
20+50 - 20+70, RT	--	110.0	--	79
<b>TOTALS</b>	<b>226.0</b>	<b>352.0</b>	<b>175.0</b>	<b>79</b>

3

**CONSTRUCTION STAKING ITEMS**

LOCATION	650.4500 SUBGRADE	650.5000 BASE	650.6501 STRUCTURE LAYOUT	650.7000 CONCRETE PAVEMENT	650.9000 CURB RAMPS	650.9500 SIDEWALK	650.9911 SUPPLEMENTAL CONTROL	650.9920 SLOPE STAKES
	LF	LF	EACH	LF	EACH	EACH	EACH	LF
CATEGORY CODE 0010								
01. PROJECT 4986-00-59	--	--	--	--	8	1	1	--
8+69 - 9+82	113	91	--	22	--	--	--	113
10+18 - 11+50	132	88	--	44	--	--	--	132
CATEGORY CODE 0010 SUBTOTALS	245	179	--	66	8	1	1	245
CATEGORY CODE 0020								
01. B-20-0256	--	--	1	--	--	--	--	--
02. R-20-0051	--	--	1	--	--	--	--	--
03. R-20-0052	--	--	1	--	--	--	--	--
CATEGORY CODE 0020 SUBTOTALS	--	--	3	--	--	--	--	--
CATEGORY CODE 0030								
11+50 - 12+14	64	6	--	58	--	--	--	--
CATEGORY CODE 0030 SUBTOTALS	64	6	--	58	--	--	--	--
<b>TOTALS</b>	<b>309</b>	<b>185</b>	<b>3</b>	<b>124</b>	<b>8</b>	<b>1</b>	<b>1</b>	<b>245</b>

**SAWING PAVEMENT ITEMS**

STATION - STATION	LOCATION	690.0150 ASPHALT	690.0250 CONCRETE	COMMENTS
		LF	LF	
CATEGORY CODE 0010				
8+69	LT & RT	30	5	ROADWAY
8+69	LT & RT	--	9	SIDEWALK
8+89	LT	--	4	SIDEWALK
9+35	LT	--	19	DRIVEWAY
9+71	LT	--	4	SIDEWALK
10+67	LT	--	20	DRIVEWAY
11+37	LT	--	4	SIDEWALK
11+38	RT	--	5	SIDEWALK
11+47	LT - RT	--	5	C&G
11+89	LT & RT	--	5	C&G
12+14	LT & RT	--	4	C&G
12+16	LT & RT	--	9	SIDEWALK
20+56	LT & RT	--	9	SIDEWALK
21+45	LT & RT	--	9	SIDEWALK
CATEGORY CODE 0010 SUBTOTALS		30	111	
CATEGORY CODE 0030				
12+14	LT & RT	33	--	ROADWAY
20+61	LT & RT	--	36	ROADWAY
21+39	LT & RT	--	36	ROADWAY
CATEGORY CODE 0030 SUBTOTALS		33	72	

**ADJUSTING SANITARY SEWER AND WATER MAIN ITEMS**

STATION	LOCATION	EXISTING ELEVATION	FINISHED ELEVATION	SPV.0060.01	SPV.0060.02	SPV.0060.03	COMMENTS
				ADJUSTING SANITARY MANHOLES EACH	ADJUSTING WATER VALVES EACH	ADJUSTING WATER SERVICE CURB STOPS EACH	
CATEGORY CODE 0030							
8+70	22' LT	768.51	768.67	--	--	1	0.16' ADJUSTMENT UP
9+61	8' LT	767.68	767.60	1	--	--	0.08' ADJUSTMENT DOWN
11+70	1' RT	767.92	767.83	1	--	--	0.09' ADJUSTMENT DOWN
11+87	9' LT	767.48	767.61	--	1	--	0.13' ADJUSTMENT UP
11+92	9' LT	767.50	767.62	--	1	--	0.12' ADJUSTMENT UP
11+95	13' LT	767.57	767.64	--	1	--	0.07' ADJUSTMENT UP
<b>TOTALS</b>				<b>2</b>	<b>3</b>	<b>1</b>	

CONVENTIONAL SYMBOLS

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

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')
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	NGS		
NUMBER	NO		
OUTLOT	OL		
PAGE	P		
POINT OF TANGENCY	PT		
PERMANENT LIMITED EASEMENT	PLE		
POINT OF BEGINNING	POB		
POINT OF CURVATURE	PC		

CURVE DATA ABBREVIATIONS

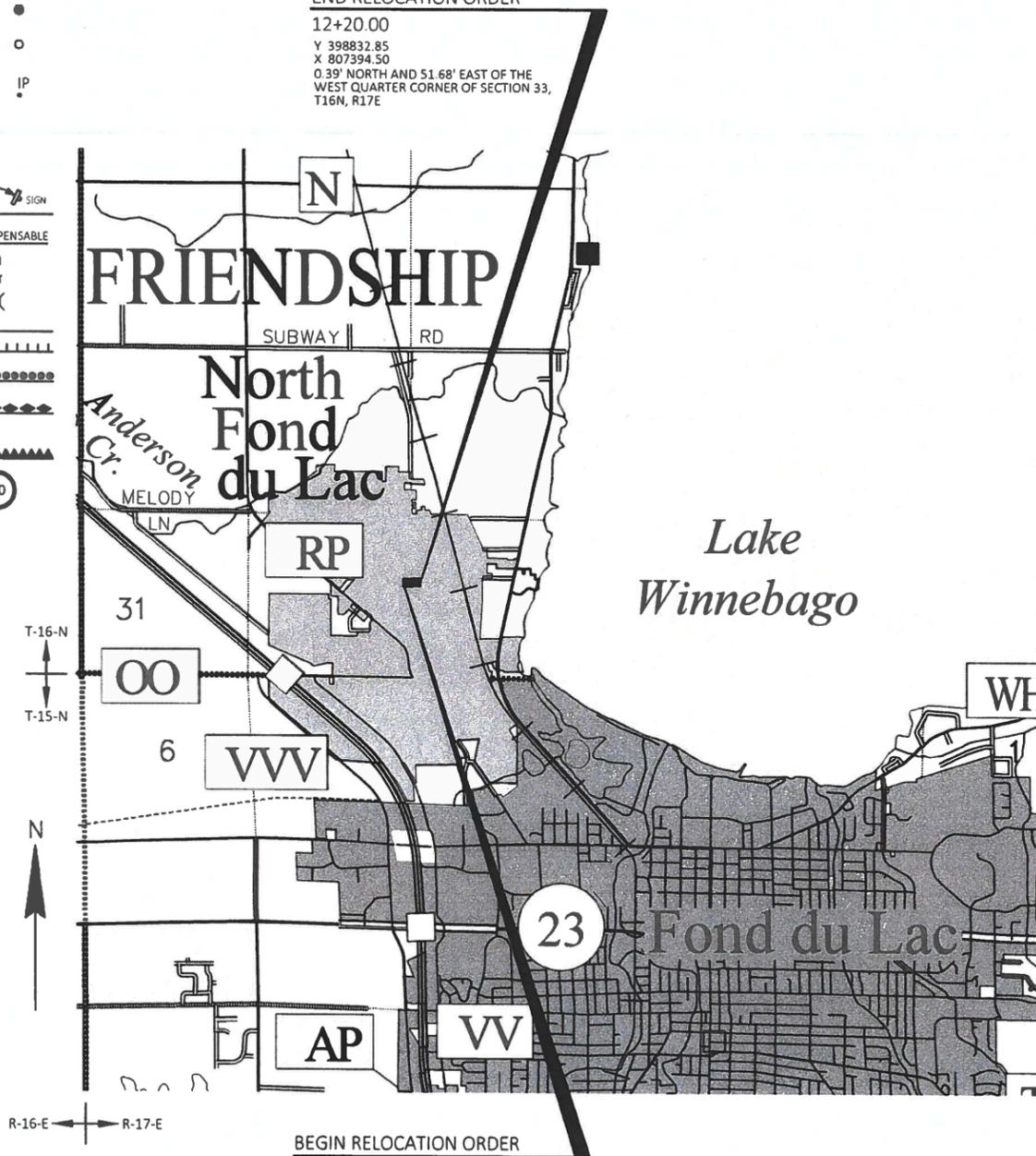
LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE	Δ / DELTA
LENGTH OF CURVE	L
TANGENT	T
DIRECTION AHEAD	DA
DIRECTION BACK	DB

END RELOCATION ORDER

12+20.00  
 Y 398832.85  
 X 807394.50  
 0.39' NORTH AND 51.68' EAST OF THE WEST QUARTER CORNER OF SECTION 33, T16N, R17E

BEGIN RELOCATION ORDER

8+65.00  
 Y 398836.67  
 X 807039.53  
 4.21' NORTH AND 303.29' WEST OF THE EAST QUARTER CORNER OF SECTION 32, T16N, R17E



TOTAL NET LENGTH OF CENTERLINE = 0.067 MI.

R/W PROJECT NUMBER 4986-00-58	SHEET NUMBER 4.01	TOTAL SHEETS 5
FEDERAL PROJECT NUMBER		
<b>PLAT OF RIGHT OF WAY REQUIRED FOR V NORTH FOND DU LAC, MCKINLEY STREET MOSHER CREEK BRIDGE</b>		
LOCAL STREET	FOND DU LAC COUNTY	
CONSTRUCTION PROJECT NUMBER 4986-00-59		

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  
 VILLAGE OF NORTH FOND DU LAC  
 Date 1-17-23  
 MITCH VIS  
 DIRECTOR OF PUBLIC WORKS

ORIGINAL PLAT PREPARED BY  
**G GREMMER & ASSOCIATES, INC.**  
 CONSULTING ENGINEERS  
 Stevens Point • Fond du Lac  
 88 South Pioneer Road, Suite 300 • Fond du Lac, WI 54605  
 (920) 984-8729 • Fax (920) 984-8728  
 1/9/2023  
 DATE BY JAY PANETTI, PLS



REVISION DATE	STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED FOR THE DEPARTMENT	DATE: _____ (Signature)





4

4

2

3

6

7

4

8



NE-SE

NW-SW

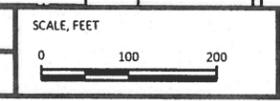
VILLAGE OF NORTH  
FOND DU LAC

SHEET 3 OF 5 SHEETS

REVISED: 1/9/2023

REVISION DATE	DATE
	1/16/2023

DATE 1/16/2023  
GRID FACTOR

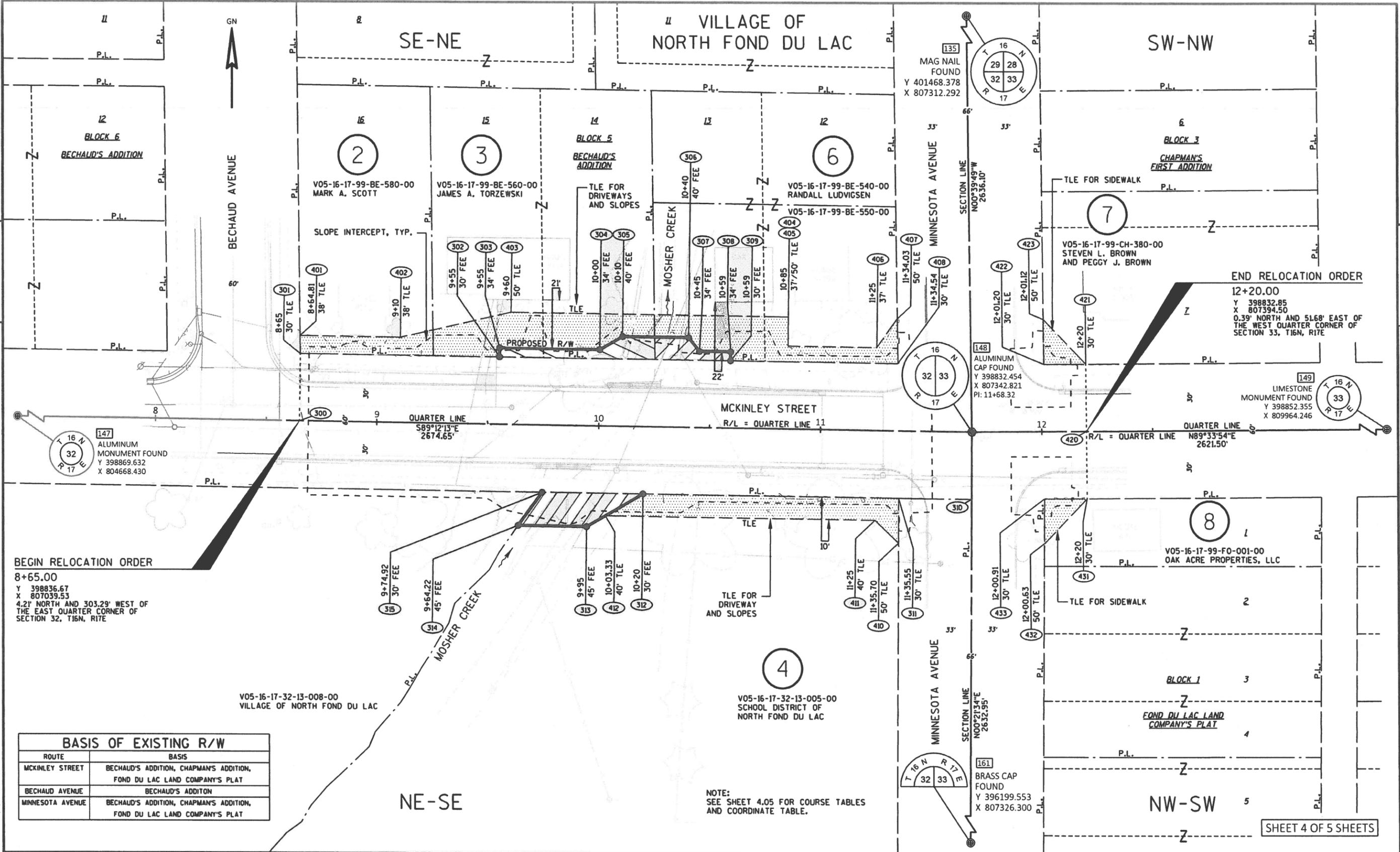


HWY: MCKINLEY STREET  
COUNTY: FOND DU LAC

STATE R/W PROJECT NUMBER 4986-00-58  
CONSTRUCTION PROJECT NUMBER 4986-00-59

PLAT SHEET 4.03  
PS&E SHEET

E



**BEGIN RELOCATION ORDER**  
 8+65.00  
 Y 398836.67  
 X 807039.53  
 4.21' NORTH AND 303.29' WEST OF  
 THE EAST QUARTER CORNER OF  
 SECTION 32, T16N, R17E

**END RELOCATION ORDER**  
 12+20.00  
 Y 398832.85  
 X 807394.50  
 0.39' NORTH AND 51.68' EAST OF  
 THE WEST QUARTER CORNER OF  
 SECTION 33, T16N, R17E

BASIS OF EXISTING R/W	
ROUTE	BASIS
MCKINLEY STREET	BECHAUD'S ADDITION, CHAPMAN'S ADDITION, FOND DU LAC LAND COMPANY'S PLAT
BECHAUD AVENUE	BECHAUD'S ADDITION
MINNESOTA AVENUE	BECHAUD'S ADDITION, CHAPMAN'S ADDITION, FOND DU LAC LAND COMPANY'S PLAT

NOTE:  
 SEE SHEET 4.05 FOR COURSE TABLES  
 AND COORDINATE TABLE.

REVISED: 1/9/2023

REVISION DATE	DATE 1/16/2023	SCALE, FEET 0 20 40	HWY: MCKINLEY STREET	STATE R/W PROJECT NUMBER 4986-00-58	PLAT SHEET 4.04
FILE NAME: 040104-RP.DWG LAYOUT NAME - RW 1 IN 40 FT	GRID FACTOR	PLOT DATE: 1/10/2023 8:22 AM	COUNTY: FOND DU LAC	CONSTRUCTION PROJECT NUMBER 4986-00-59	PS&E SHEET

SHEET 4 OF 5 SHEETS

COURSE TABLES  
PARCELS 3 & 6 - FEE

FROM POINT	TO POINT	BEARING	DISTANCE
148	300	N89°12'13"W	303.32'
300	301	N00°47'47"E	30.00'
301	302	S89°12'13"E	90.00'
302	303	N00°47'47"E	4.00'
303	304	S89°12'13"E	45.00'
304	305	N59°49'58"E	11.66'
305	306	S89°12'13"E	30.00'
306	307	S39°00'33"E	7.81'
307	308	S89°12'13"E	14.00'
308	309	S00°47'47"W	4.00'
309	302	N89°12'13"W	104.00'

PARCEL 4 - FEE

FROM POINT	TO POINT	BEARING	DISTANCE
148	310	S00°21'34"W	30.00'
310	311	N89°12'13"W	33.00'
311	312	N89°12'13"W	115.55'
312	313	S59°49'57"W	29.15'
313	314	N89°12'13"W	30.78'
314	315	N36°17'22"E	18.42'
315	312	S89°12'13"E	45.08'

PARCELS 2, 3 & 6 - TLE

FROM POINT	TO POINT	BEARING	DISTANCE
148	300	N89°12'13"W	303.32'
300	301	N00°47'47"E	30.00'
301	401	N00°37'39"W	8.00'
401	402	S89°12'13"E	45.19'
402	403	N77°18'03"E	51.42'
403	404	S89°12'13"E	125.00'
404	405	S00°47'47"W	13.00'
405	406	S89°12'13"E	40.00'
406	407	N35°35'42"E	15.83'
407	408	S00°39'49"E	20.01'
408	309	N89°12'13"W	75.54'
309	308	N00°47'47"E	4.00'
308	307	N89°12'13"W	14.00'
307	306	N39°00'33"W	7.81'
306	305	N89°12'13"W	30.00'
305	304	S59°49'58"W	11.66'
304	303	N89°12'13"W	45.00'
303	302	S00°47'47"W	4.00'
302	301	N89°12'13"W	90.00'

PARCEL 4 - TLE

FROM POINT	TO POINT	BEARING	DISTANCE
148	310	S00°21'34"W	30.00'
310	311	N89°12'13"W	33.00'
311	410	S00°21'34"W	20.00'
410	411	N46°08'27"W	14.65'
411	412	N89°12'13"W	121.67'
412	312	N59°49'57"E	19.44'
312	311	S89°12'13"E	115.55'

PARCEL 7 - TLE

FROM POINT	TO POINT	BEARING	DISTANCE
148	420	N89°33'54"E	51.68'
420	421	N00°26'06"W	30.00'
421	422	S89°33'54"W	18.80'
422	423	N00°39'49"W	20.00'
423	421	S43°47'03"E	27.50'

PARCEL 8 - TLE

FROM POINT	TO POINT	BEARING	DISTANCE
148	420	N89°33'54"E	51.68'
420	431	S00°26'06"E	30.00'
431	432	S43°38'56"W	27.84'
432	433	N00°21'34"E	20.00'
433	431	N89°33'54"E	19.09'

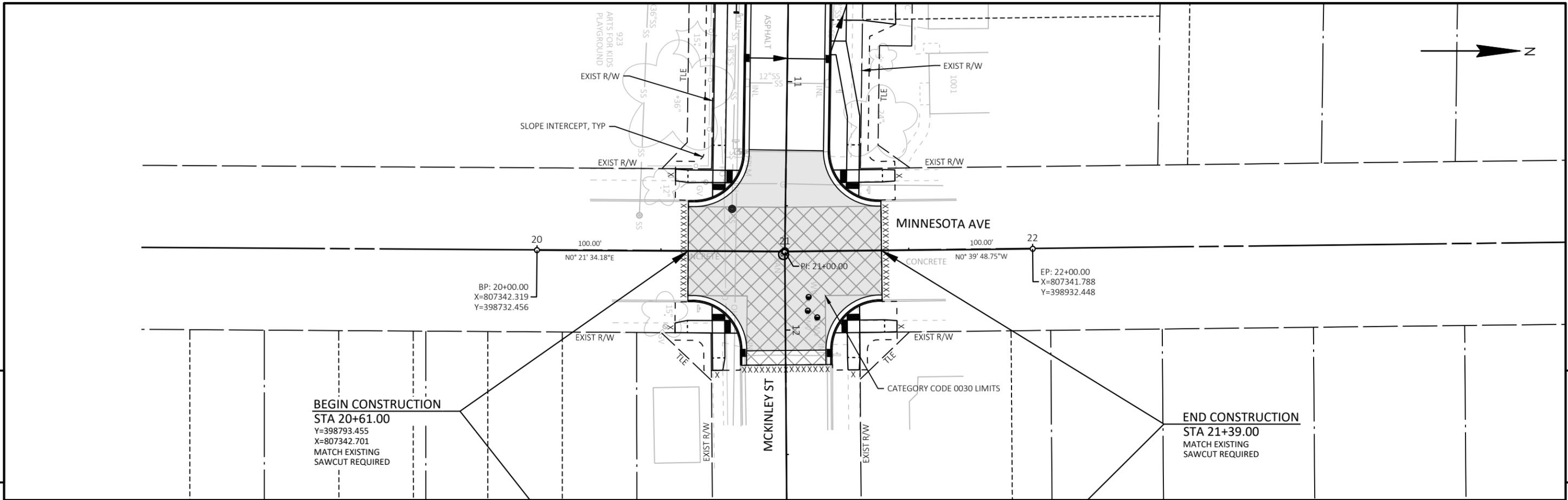
COORDINATE TABLE

POINT	NORTH	EAST
300	398836.6701	807039.5346
301	398866.6672	807039.9516
302	398865.4163	807129.9388
303	398869.4159	807129.9944
304	398868.7904	807114.9901
305	398874.6508	807185.0725
306	398874.2338	807215.0696
307	398868.1649	807219.9857
308	398867.9703	807233.9844
309	398863.9707	807233.9288
310	398802.4537	807342.6328
311	398802.9124	807309.6350
312	398804.5186	807194.0985
313	398789.8675	807168.8924
314	398790.2953	807138.1190
315	398805.1452	807149.0232
401	398874.6692	807039.8640
402	398874.0410	807085.0544
403	398885.3448	807135.2163
404	398883.6073	807260.2043
405	398870.6086	807260.0236
406	398870.0526	807300.0197
407	398882.9257	807309.2342
408	398862.9206	807309.4659
410	398782.9122	807309.5095
411	398793.0600	807298.9494
412	398794.7512	807177.2944
420	398832.8463	807394.4997
421	398862.8455	807394.2720
422	398862.7027	807375.4729
423	398882.7016	807375.2413
431	398802.8472	807394.7275
432	398782.7007	807375.5095
433	398802.7022	807375.6350

REVISED: 1/9/2023

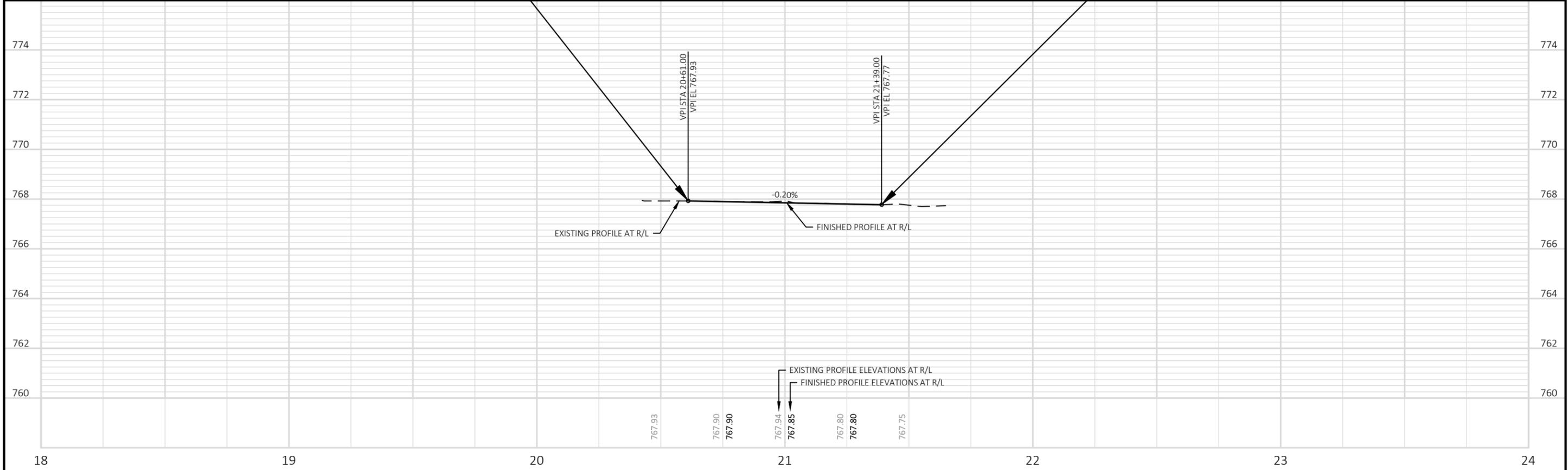
REVISION DATE	DATE 1/16/2023	SCALE, FEET	HWY: MCKINLEY STREET	STATE R/W PROJECT NUMBER 4986-00-58	PLAT SHEET 4.05
	GRID FACTOR		COUNTY: FOND DU LAC	CONSTRUCTION PROJECT NUMBER 4986-00-59	PS&E SHEET





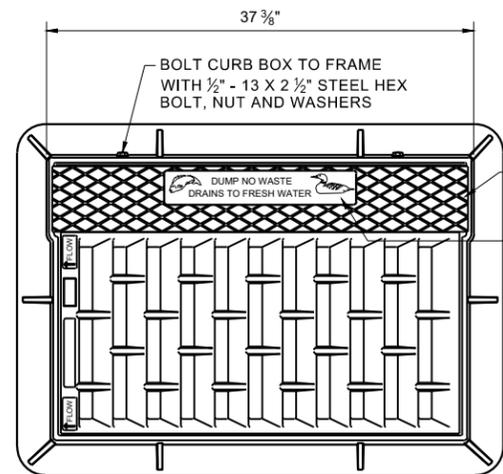
**BEGIN CONSTRUCTION**  
**STA 20+61.00**  
 Y=398793.455  
 X=807342.701  
 MATCH EXISTING  
 SAWCUT REQUIRED

**END CONSTRUCTION**  
**STA 21+39.00**  
 MATCH EXISTING  
 SAWCUT REQUIRED

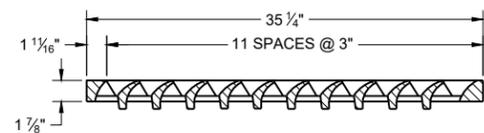
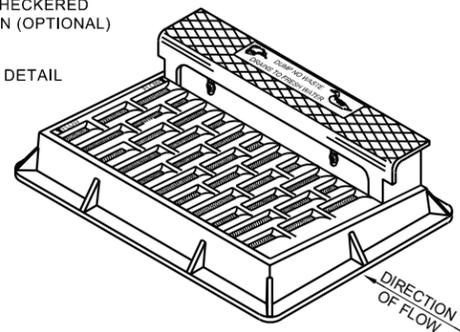


## Standard Detail Drawing List

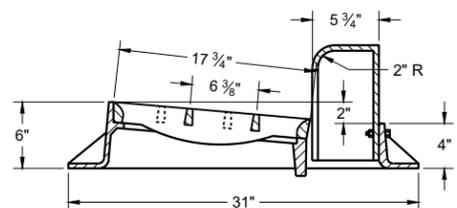
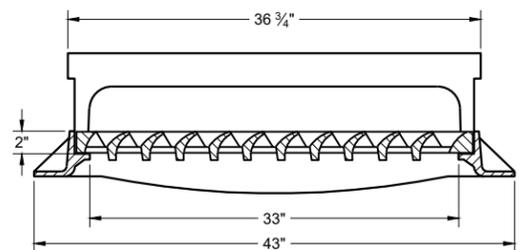
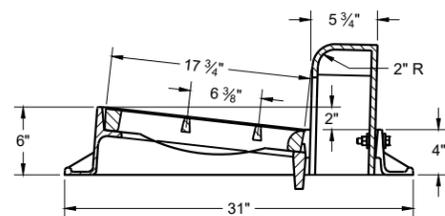
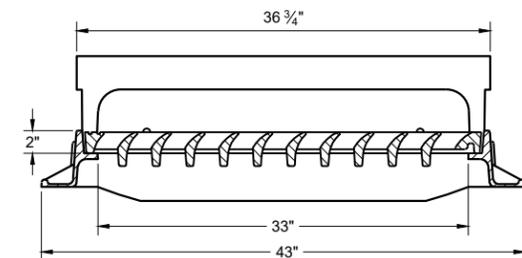
08A05-20A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-20B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-20D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08A09-02	CATCH BASINS 2X3-FT AND 2.5X3-FT
08B09-03	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, 8-FT, 9-FT, 10-FT DIAMETER
08D01-23A	CONCRETE CURB & GUTTER
08D01-23B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D05-21A	CURB RAMPS TYPES 1 AND 1-A
08D05-21B	CURB RAMPS TYPES 2 AND 3
08D05-21C	CURB RAMPS TYPES 4A AND 4A1
08D05-21D	CURB RAMPS TYPE 4B AND 4B1
08D05-21E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D05-21F	CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS
08D05-21G	CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES
08D18-04	DRIVEWAY AND SIDEWALK RAMPS TYPES X & Y
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E11-02	TURBIDITY BARRIER
08E14-01	TRACKING PAD
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
12A03-10	NAME PLATE (STRUCTURES)
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C13-11	URBAN DOWELED CONCRETE PAVEMENT
13C18-08A	CONCRETE PAVEMENT JOINTING
13C18-08B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-08C	CONCRETE PAVEMENT JOINT TYPES
13C18-08D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D30-09A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09B	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09C	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09D	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09E	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09F	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09G	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09H	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09I	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09J	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09K	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09L	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION



NOTE: EITHER CASTING IS ACCEPTABLE



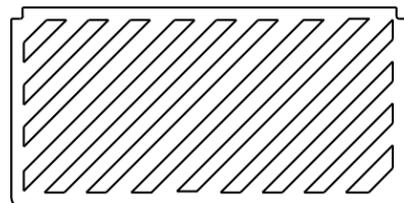
NOTE: CURB BOX HEIGHT ADJUSTABLE 6" - 9"



**TYPE "H"**

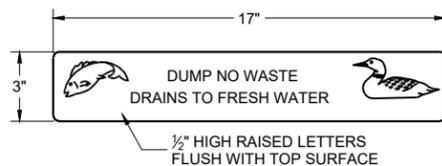
NOTE: EITHER CASTING IS ACCEPTABLE

1 1/8" DIAGONAL BARS WITH 1 5/8" OPENINGS



**SPECIAL GRATE FOR TYPE "H" COVER**

(MEASURES 35" X 17 3/4" X 2")  
(NOTED AS TYPE H-S ON DRAINAGE TABLE)



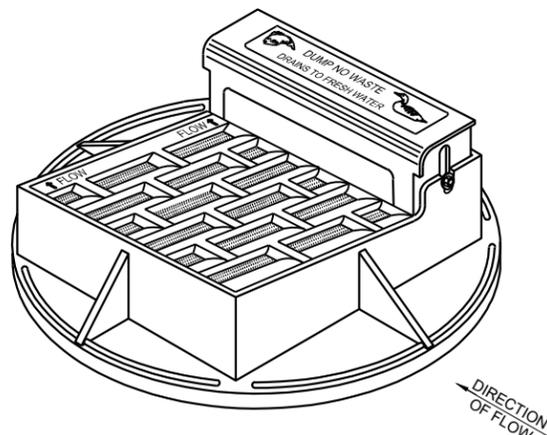
**LOGO DETAIL**

**GENERAL NOTES**

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

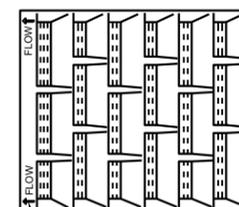
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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

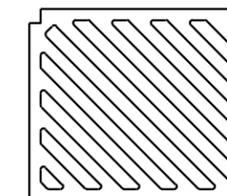


NOTE: CURB BOX HEIGHT ADJUSTABLE 6" - 9"

NOTE: EITHER CASTING IS ACCEPTABLE

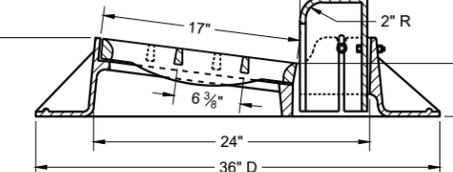
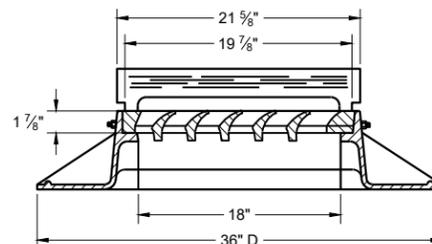
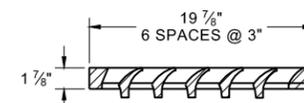


1" DIAGONAL BARS WITH 1 1/2" OPENINGS

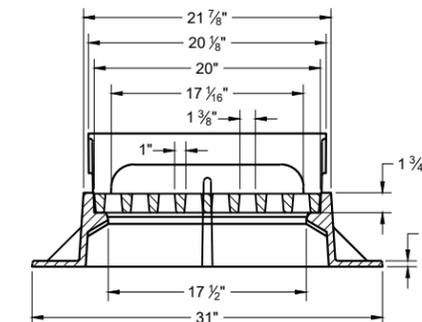
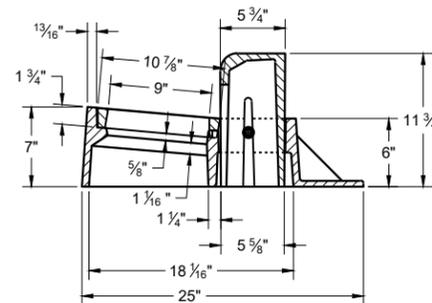


**SPECIAL GRATE FOR TYPE "A" COVER**

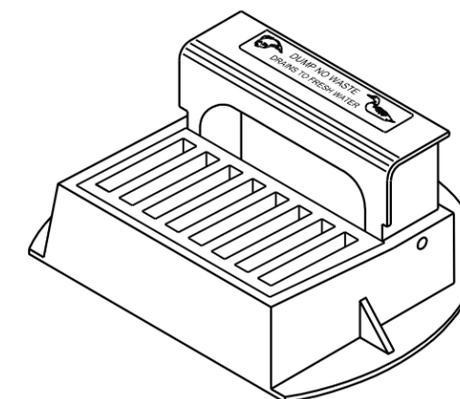
(MEASURES 19 3/4" X 17" X 1 7/8")  
(NOTED AS TYPE A-S ON DRAINAGE TABLE)



**TYPE "A"**



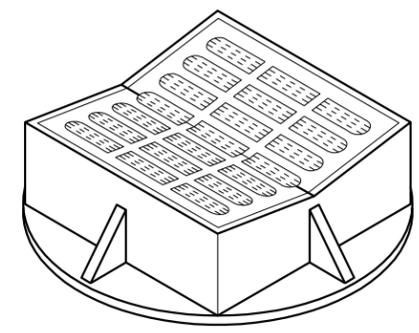
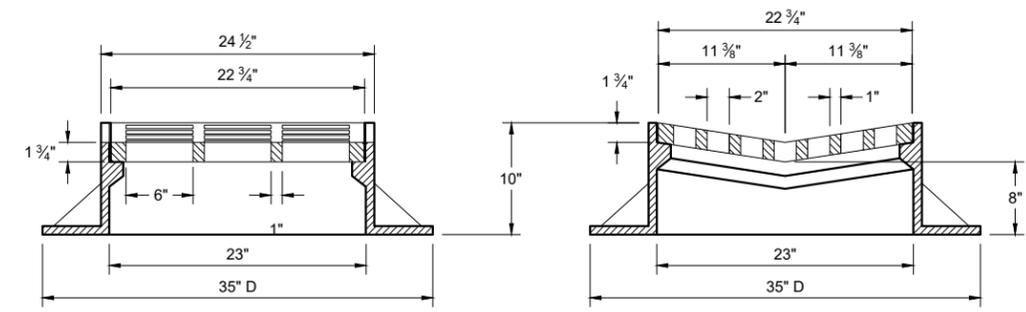
**TYPE "Z"**



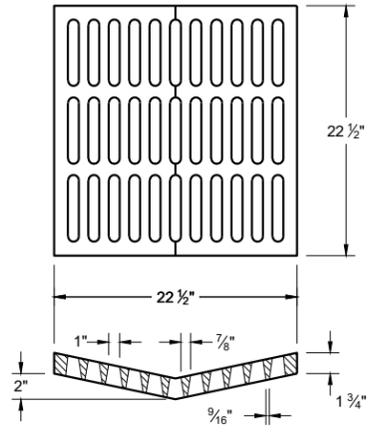
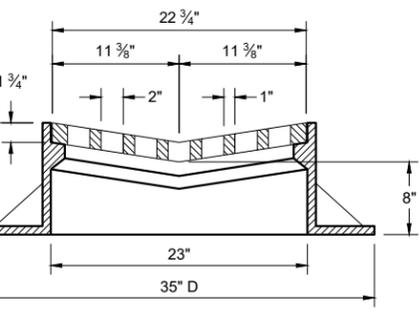
**INLET COVERS TYPES A, H, A-S, H-S AND Z**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

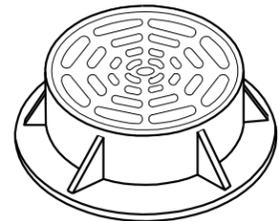
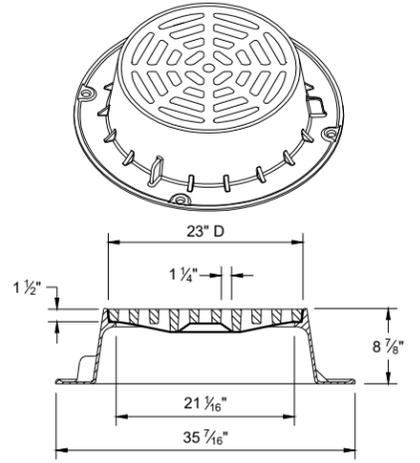


**TYPE "B"**



**ALTERNATIVE GRATE FOR TYPE "B" COVER**

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE  
**NOTED AS TYPE B - A ON THE DRAINAGE TABLE**



**TYPE "C"**

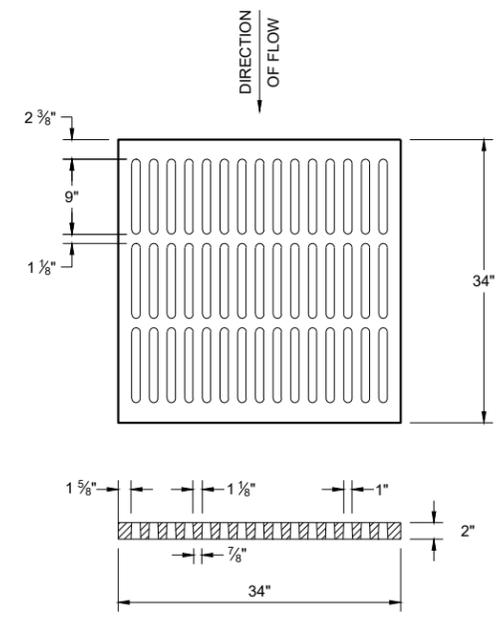
NOTE: EITHER CASTING IS ACCEPTABLE

**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.

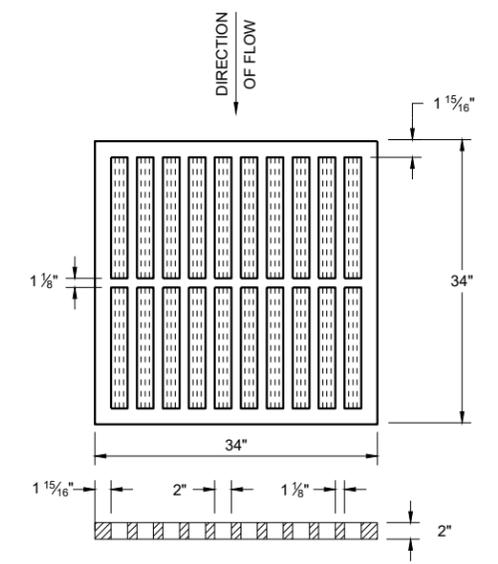
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



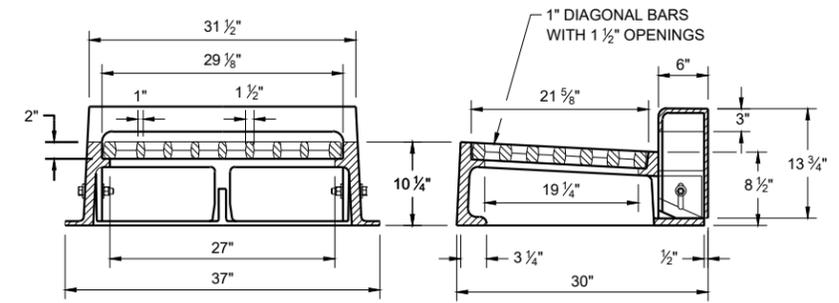
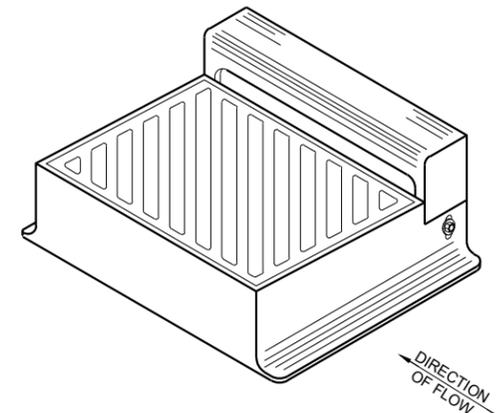
**ALTERNATIVE TYPE "MS"**

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED  
**NOTED AS TYPE MS-A ON THE DRAINAGE TABLE**



**TYPE "MS"**

USE ON FREEWAYS AND EXPRESSWAYS  
**NOTED AS TYPE MS ON THE DRAINAGE TABLE**



**TYPE "WM"**

NOTE: CURB BOX HEIGHT ADJUSTABLE 6" - 9"

DIAGONAL SLOTS SHALL BE ORIENTED TO THE DIRECTION OF FLOW AS ILLUSTRATED. GRATES ARE MANUFACTURED TO BE REVERSIBLE.

<b>INLET COVERS TYPES B, B-A, C, MS, MS-A AND WM</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED July 2023 DATE	/s/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
<small>FHWA</small>	

6

6

SDD 08A05-20b

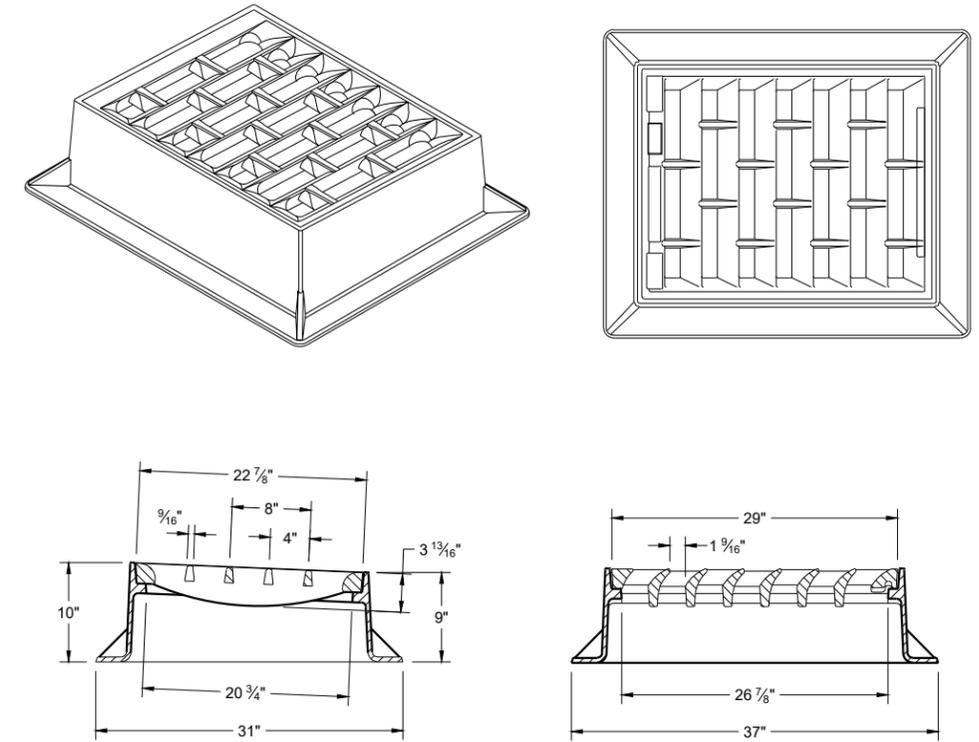
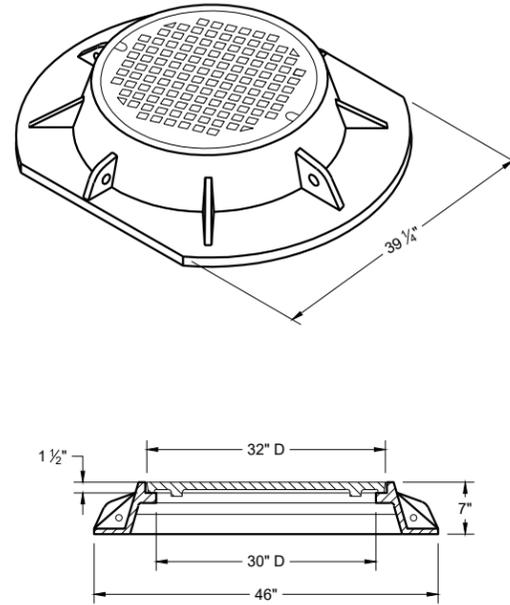
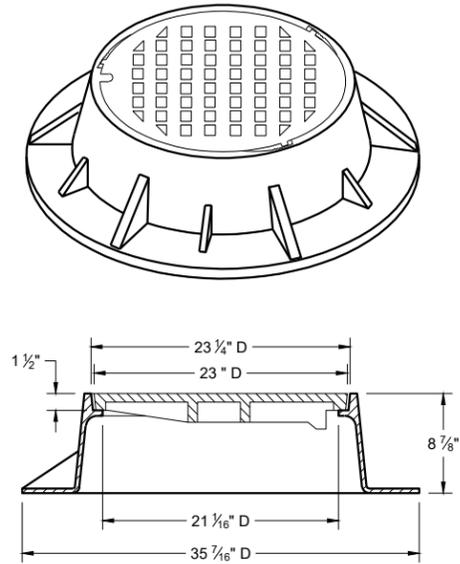
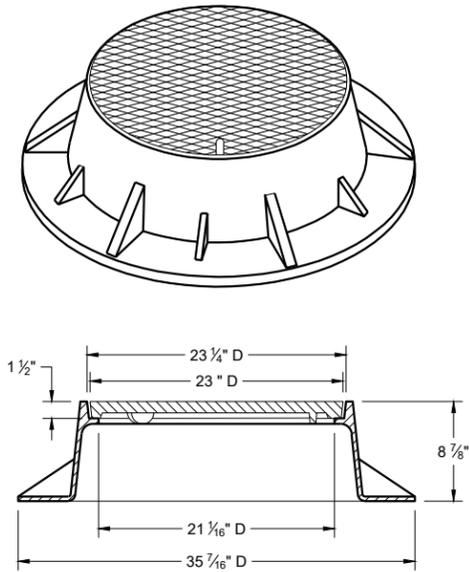
SDD 08A05-20b

**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.

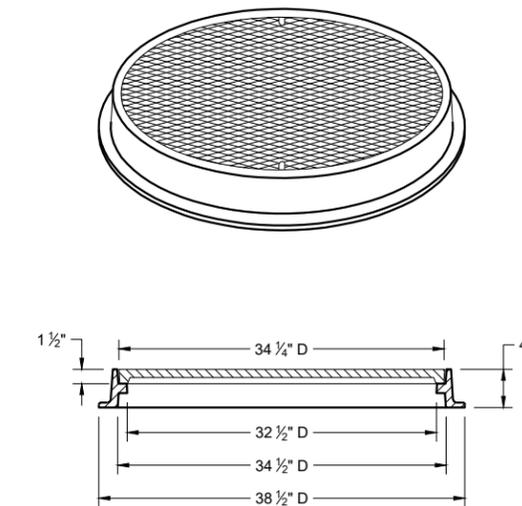
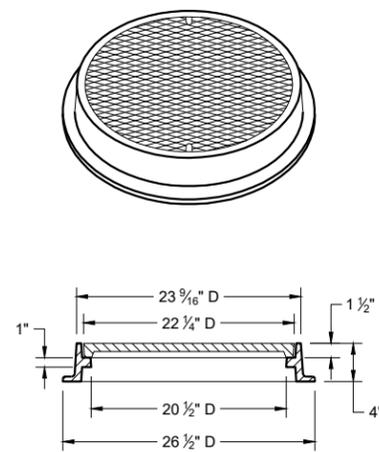
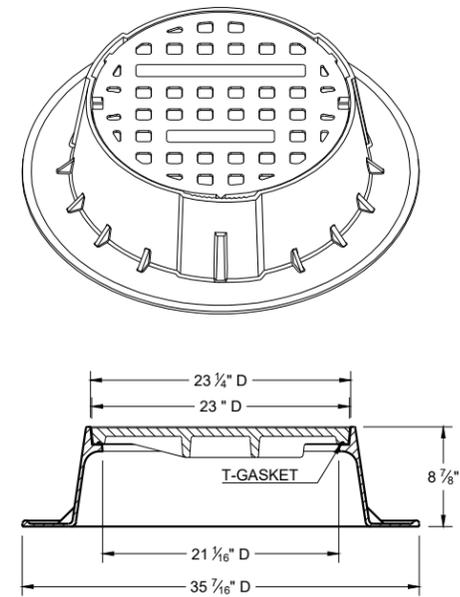
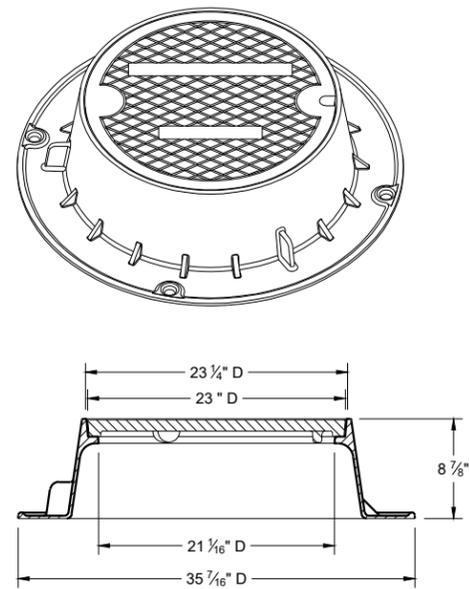


**TYPE "K"**

**INLET COVER TYPE "BW"**

6

6



**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"**

SDD 08A05-20d

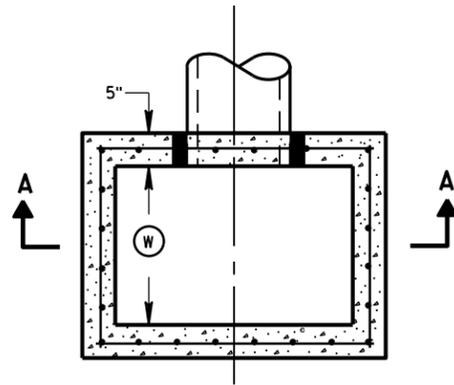
SDD 08A05-20d

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

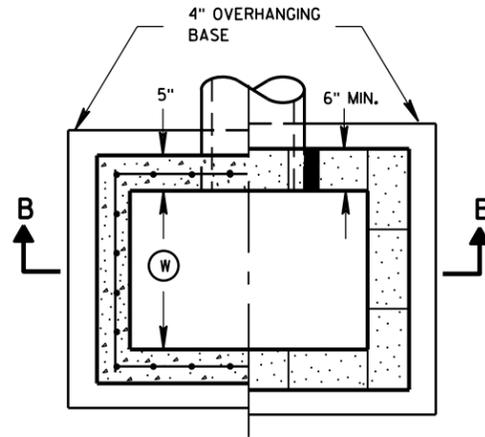
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

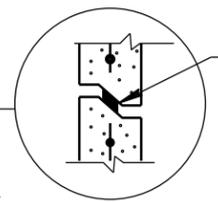
FHWA



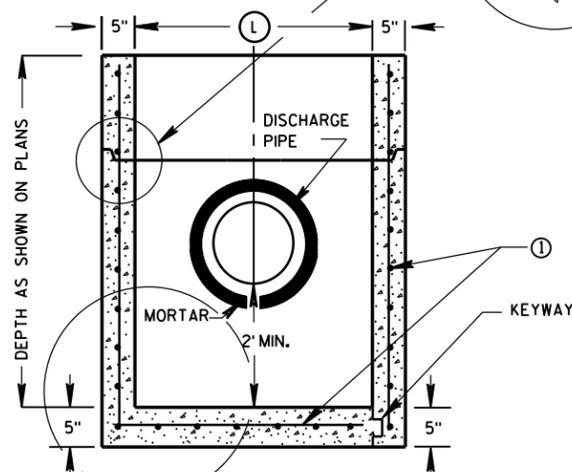
PLAN VIEW



PLAN VIEW

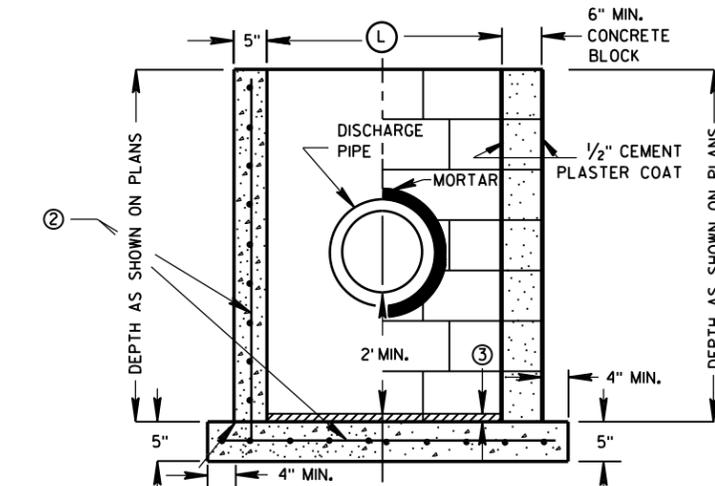


RISER JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



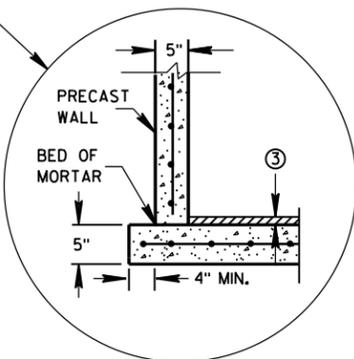
PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

SECTION A-A



CAST-IN-PLACE REINFORCED CONCRETE CONCRETE BLOCK ON CAST-IN-PLACE WITH PRECAST REINFORCED CONCRETE BASE ①

SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

**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.

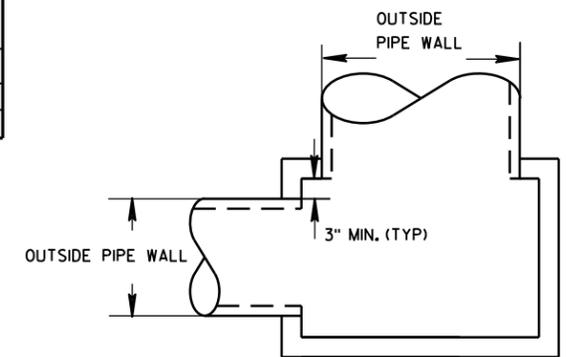
- ① FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- ② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.
- ③ 1" CONCRETE KEY POURED AFTER INSTALLATION. 2" SUMP MEASURED FROM TOP OF KEY.

**CATCH BASIN COVER MATRIX**

CATCH BASIN SIZE	INLET COVER TYPE		F	ALL H'S
	WIDTH (W) (FT)	LENGTH (L) (FT)		
2X3-FT	2	3		X
2.5X3-FT	2.5	3	X	

**PIPE MATRIX**

CATCH BASIN SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	WIDTH (IN)	LENGTH (IN)
2X3-FT	12	24
2.5X3-FT	18	24



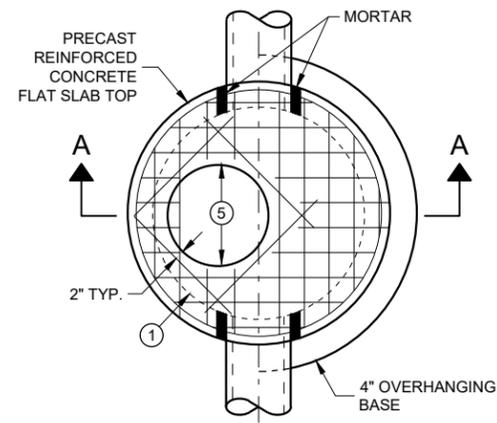
DETAIL "A"

CATCH BASINS 2X3-FT AND 2.5X3-FT

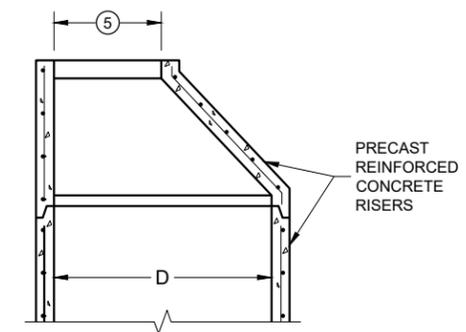
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED  
 Sep 2016 /S/ Rodney Taylor  
 DATE ROADWAY STANDARDS DEVELOPMENT  
 FHWA UNIT SUPERVISOR

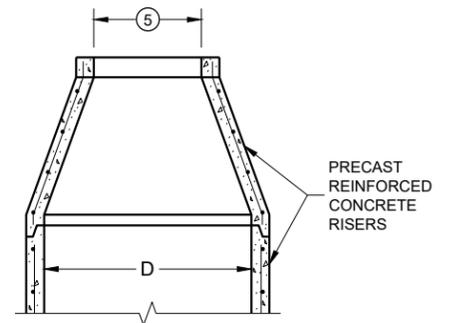
**CATCH BASINS 2X3-FT AND 2.5X3-FT**



PLAN VIEW CIRCULAR OPENING



OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP



OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

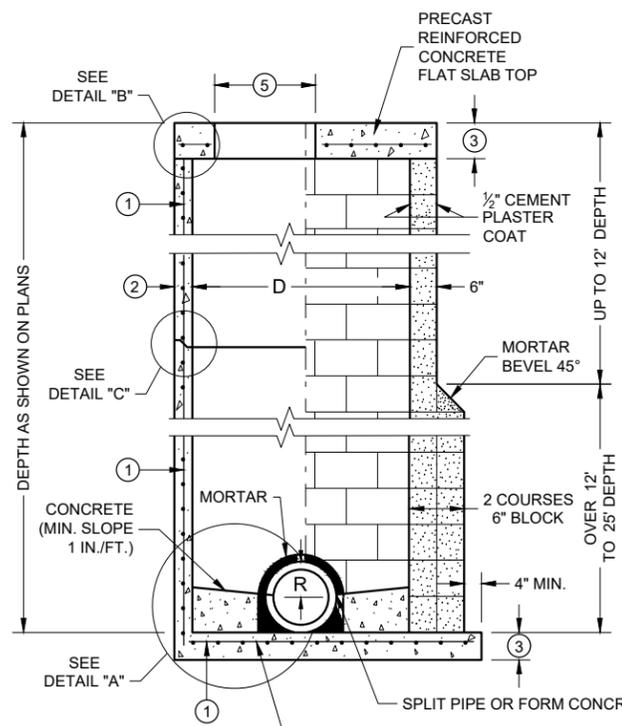
MANHOLE COVER OPENING MATRIX

MANHOLE COVER TYPE \ OPENING SIZE (FT.)	C	ALL J'S	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

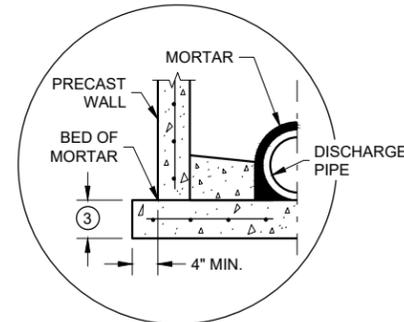
\*A 36" PIPE AND A 42" PIPE CAN BE PLACED WITHIN 90 DEGREES. SEE MINIMUM HORIZONTAL PIPE SEPARATION DETAIL.



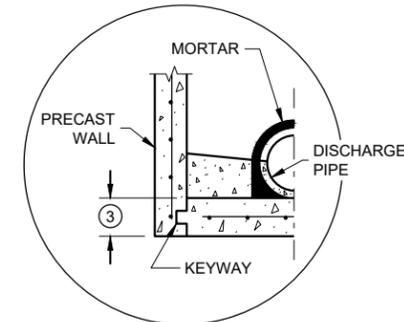
SECTION A - A

PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST IN PLACE OR PRECAST REINFORCED CONCRETE BASE ①

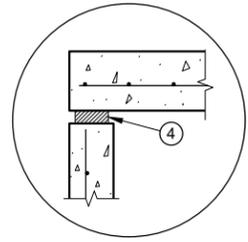


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

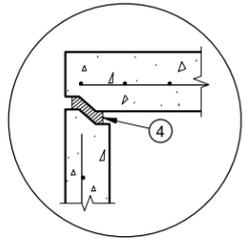


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

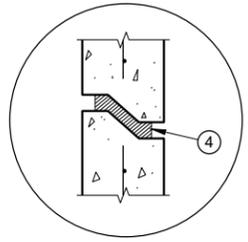
DETAIL "A"



TOP WITH PLAIN END JOINT



TOP WITH TONGUE AND GROOVE JOINT



RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

DETAIL "C"

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 1/2 INCH 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.

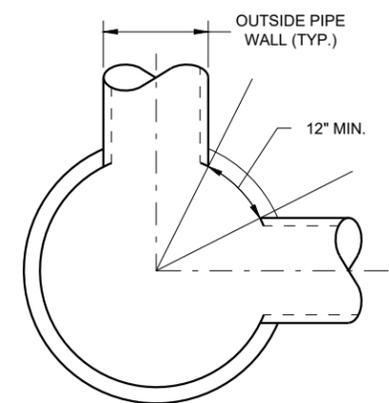
PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

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".

- ① FOR PRECAST MANHOLES 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 (TYP.).
- ⑤ SEE MANHOLE COVER OPENING MATRIX.



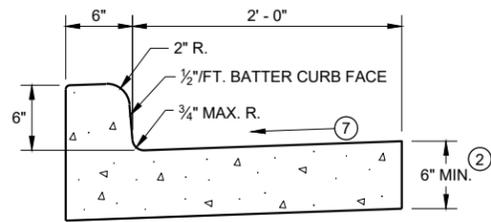
MINIMUM HORIZONTAL PIPE SEPARATION

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

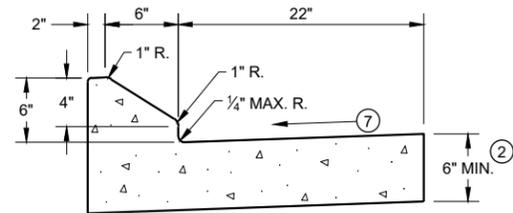
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

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

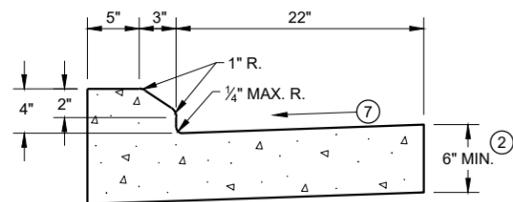
FHWA



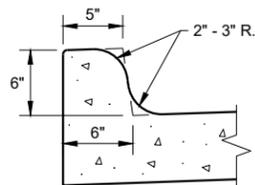
**TYPES A<sup>1</sup> & D**



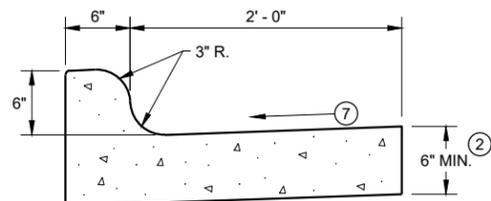
**6" SLOPED CURB TYPES G<sup>1</sup> & J**



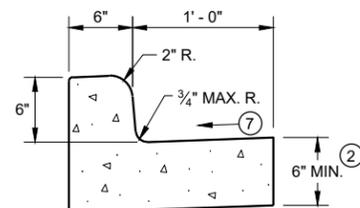
**4" SLOPED CURB TYPES G<sup>1</sup> & J**



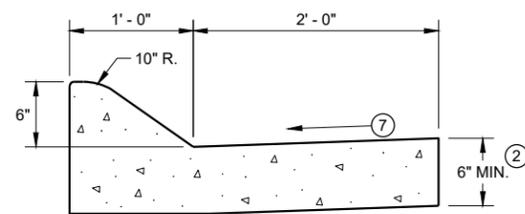
**TYPES K<sup>1</sup> & L**  
(OPTIONAL CURB SHAPE)



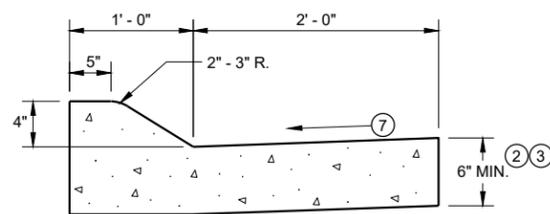
**TYPES K<sup>1</sup> & L**  
**CONCRETE CURB AND GUTTER 30"**



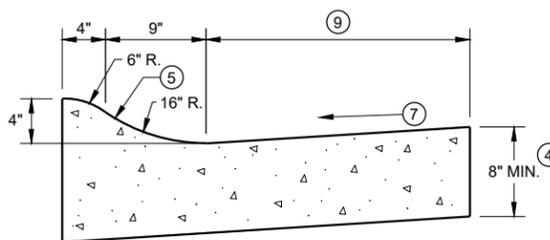
**TYPES A<sup>1</sup> & D**  
**CONCRETE CURB AND GUTTER 18"**



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

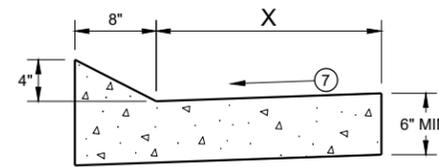


**4" SLOPED CURB TYPES A<sup>1</sup> & D**  
**CONCRETE CURB AND GUTTER 36"**



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

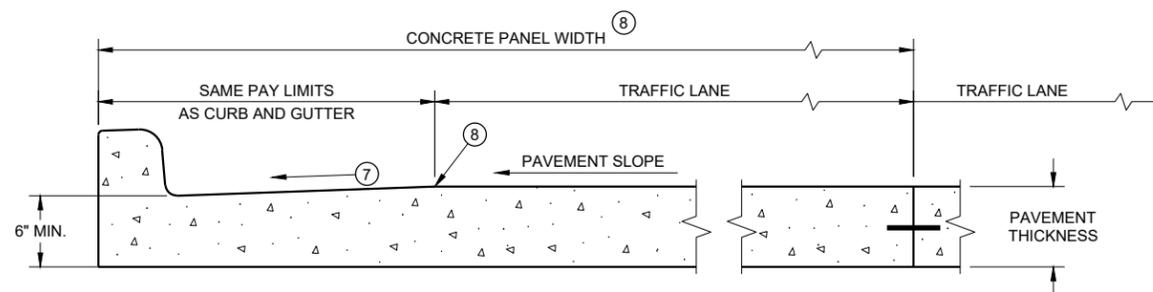
TBT & TBTT	X
30"	22"
36"	28"



**TYPES TBT & TBTT<sup>1</sup>**  
**CONCRETE CURB AND GUTTER**

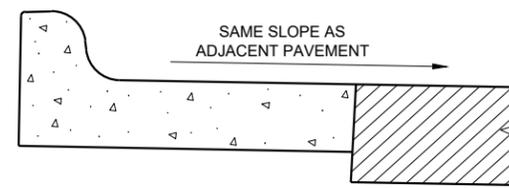
**PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE**

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**

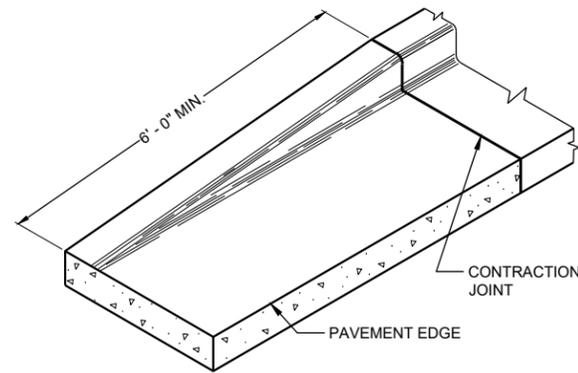
DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

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

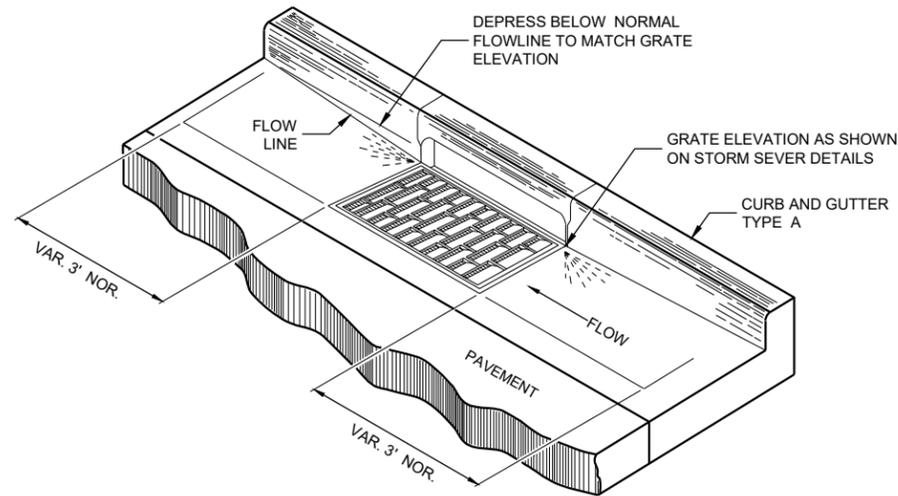
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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 CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES  
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES



**END SECTION CURB AND GUTTER**



**DETAIL OF CURB AND GUTTER AT INLETS**

(TYPICAL H INLET COVER SHOWN)

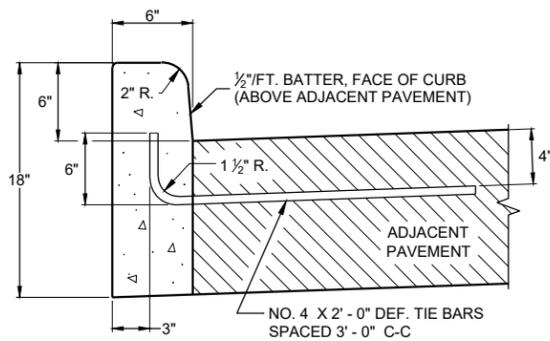
**GENERAL NOTES**

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

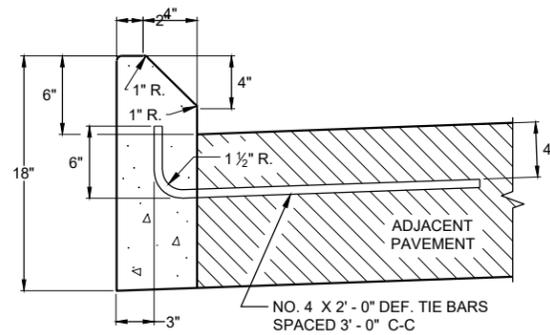
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

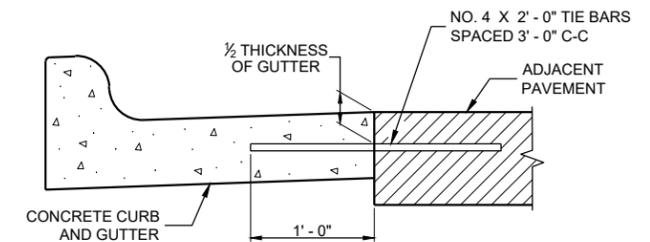
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑩ REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL 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.



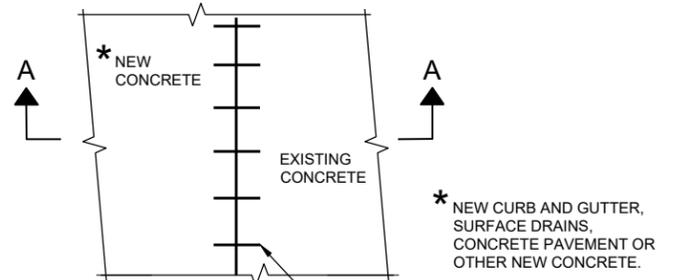
**TYPES A<sup>①</sup> & D**



**TYPES G<sup>①</sup> & J  
CONCRETE CURB**

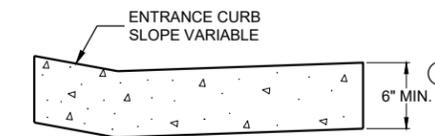


**TYPICAL TIE BAR LOCATION<sup>①</sup>**

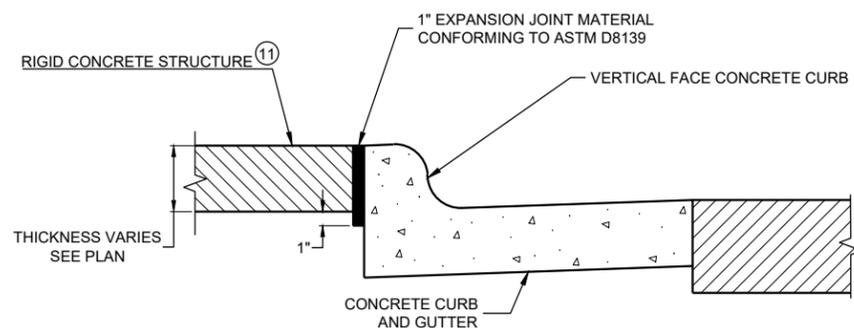


**PLAN VIEW**

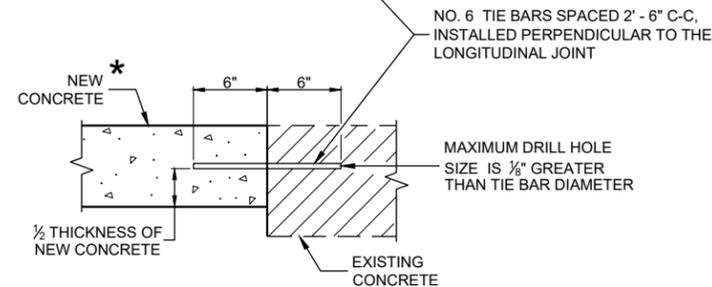
\* NEW CURB AND GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.



**DRIVEWAY ENTRANCE CURB<sup>⑩</sup>  
(WHEN DIRECTED BY THE ENGINEER)**



**EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE<sup>⑪</sup>**



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

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

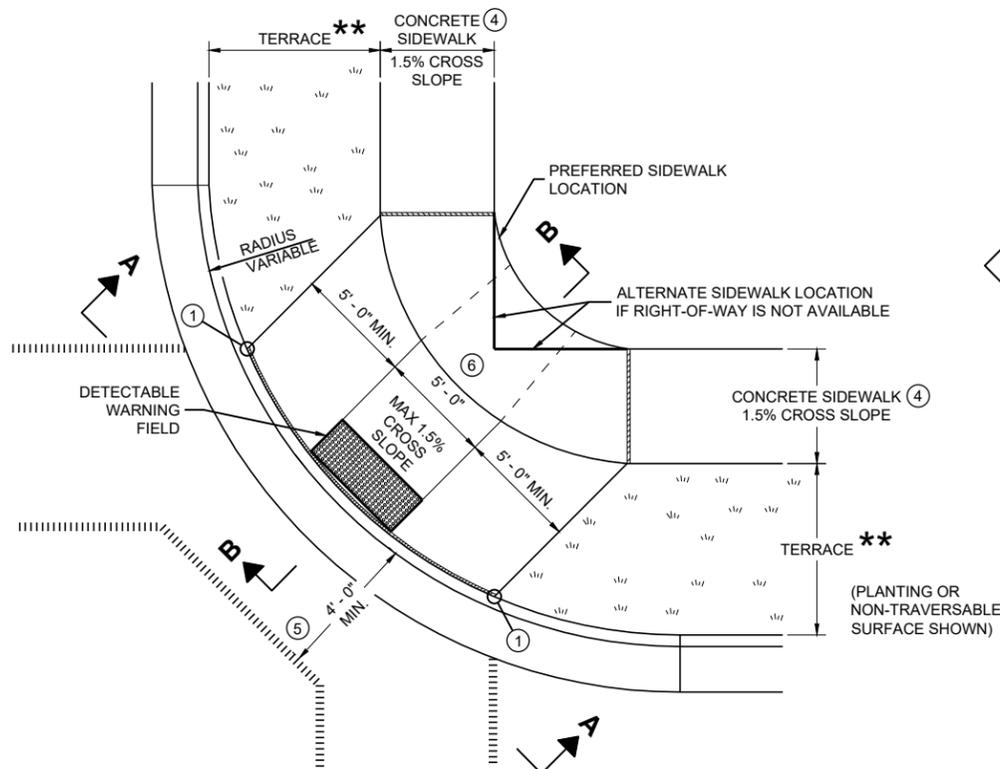
MAXIMUM DRILL HOLE SIZE IS 1/8" GREATER THAN TIE BAR DIAMETER

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

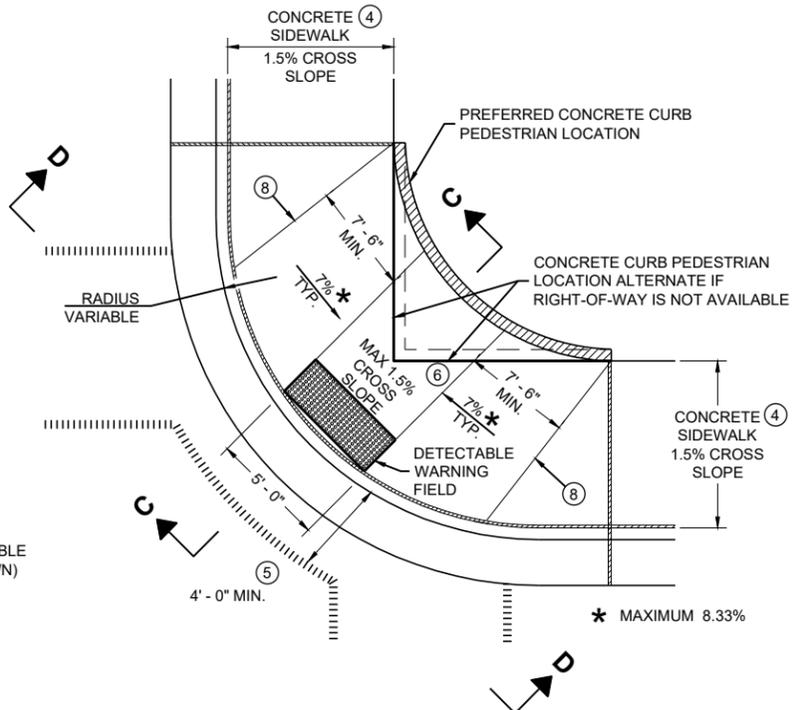
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
DATE May 2023 /S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT ENGINEER

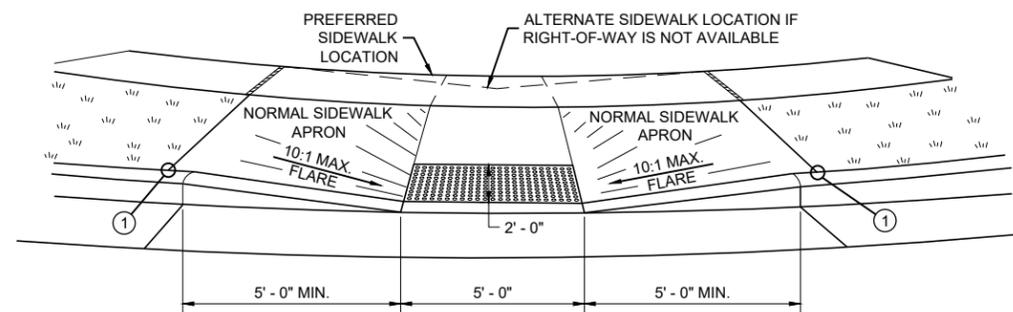
FHWA



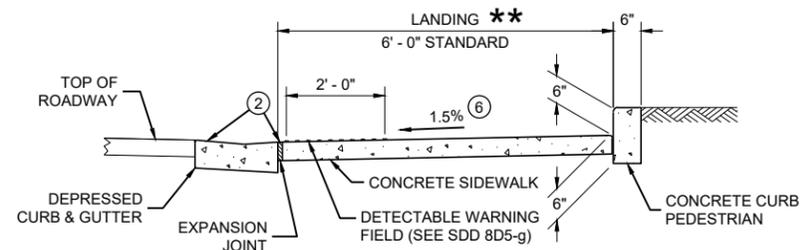
**PLAN VIEW  
CURB RAMP TYPE 1  
(CENTER OF CORNER RADIUS)**



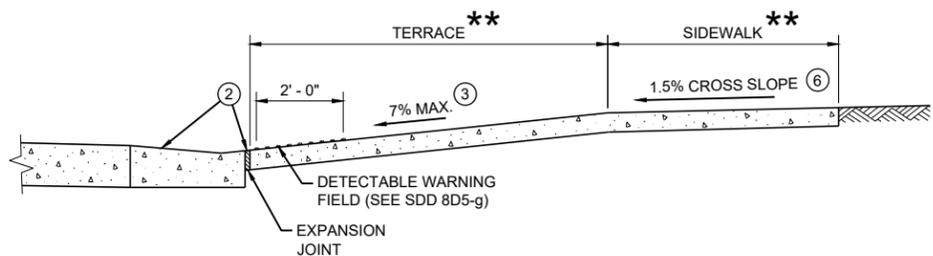
**PLAN VIEW  
CURB RAMP TYPE 1 - A  
(NO TERRACE)**



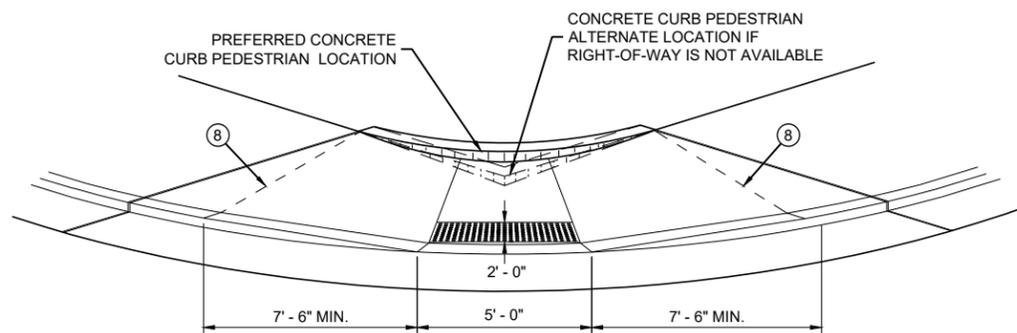
**VIEW A - A FOR TYPE 1**



**SECTION C - C FOR TYPE 1 - A**



**SECTION B - B FOR TYPE 1**



**VIEW D - D FOR TYPE 1 - A**

**GENERAL NOTES**

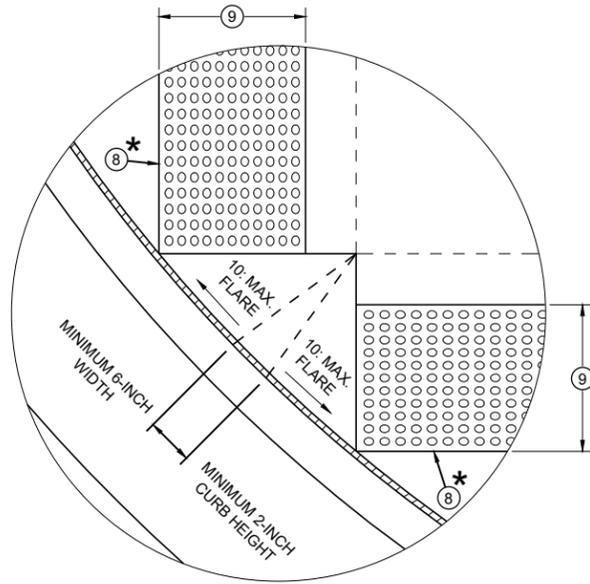
- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.
- WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.
- TYPE 1 CURB RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.
- DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAR FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.
- SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD"
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.
- ① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB. POINT LOCATION MAY BE ADJUSTED TO ALIGN WITH BEGINNING OF FULL-HEIGHT CURB IF THIS DISTANCE IS SHORT.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4 - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ MAXIMUM 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑤ PROVIDE A LEVEL LANDING IN THE STREET AND GUTTER AREA (2% MAXIMUM SLOPE IN ANY DIRECTION). WHEN THE GUTTER SLOPE EXCEEDS 2%, CONSTRUCT THE LEVEL LANDING IN THE STREET AREA. 4 FOOT WIDTH IS MEASURED FROM THE FLANGE LINE
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

**LEGEND**

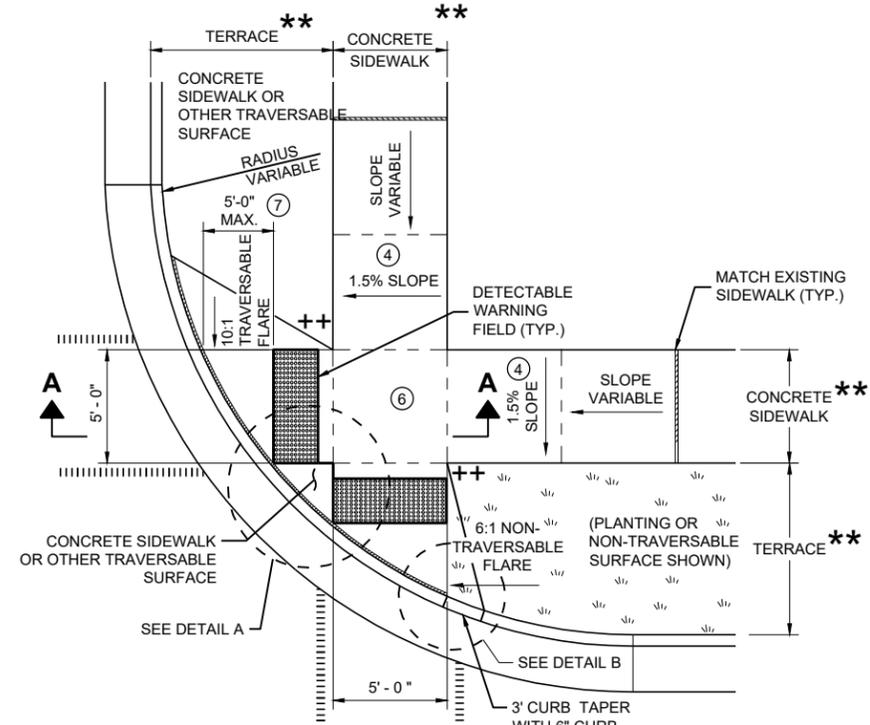
- ▬▬▬▬▬ 1/2" EXPANSION JOINT SIDEWALK
- - - - - CONTRACTION JOINT FIELD LOCATED
- ||||||| PAVEMENT MARKING CROSSWALK (WHITE)

**CURB RAMPS  
TYPE 1 AND 1-A**

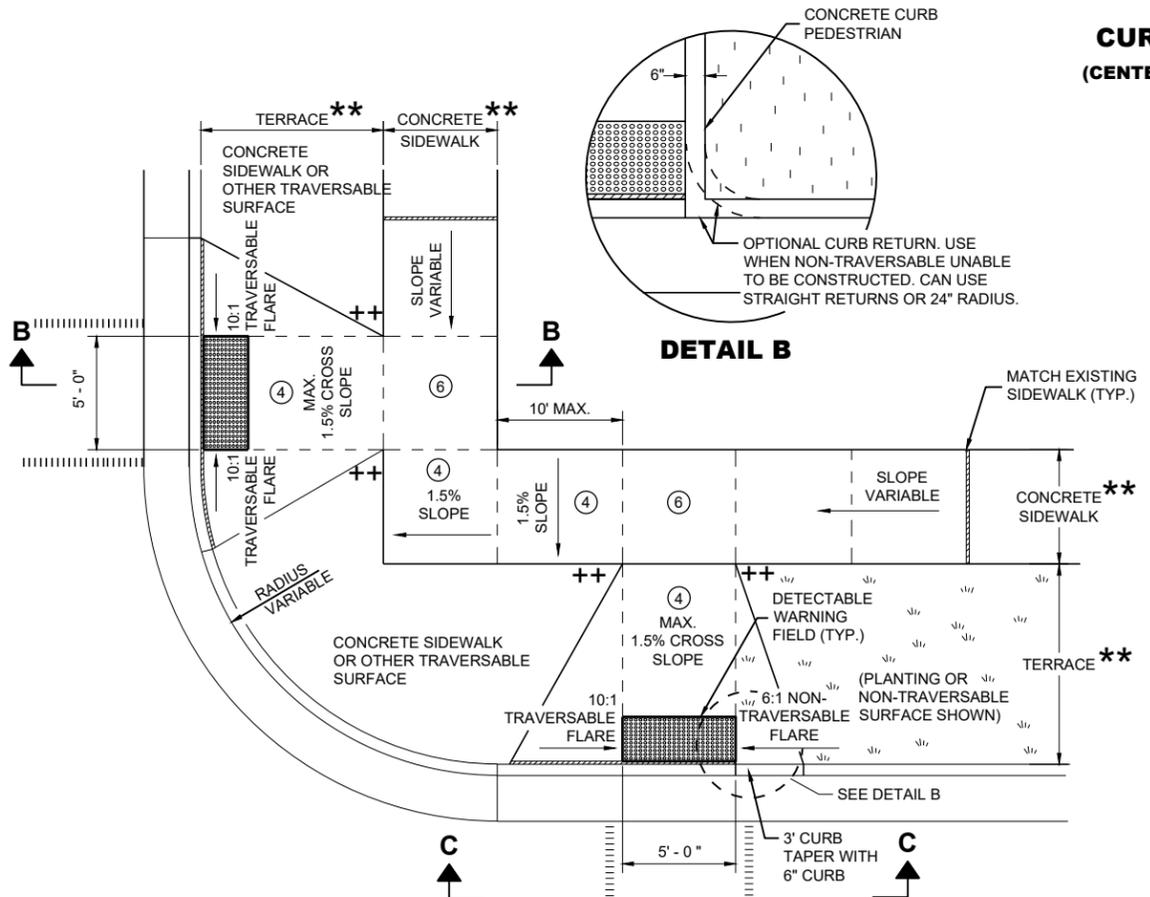
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



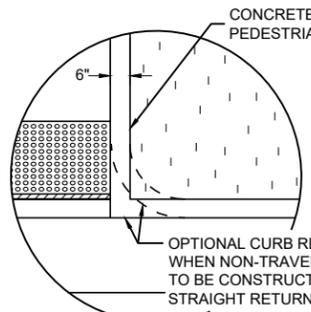
**DETAIL A**



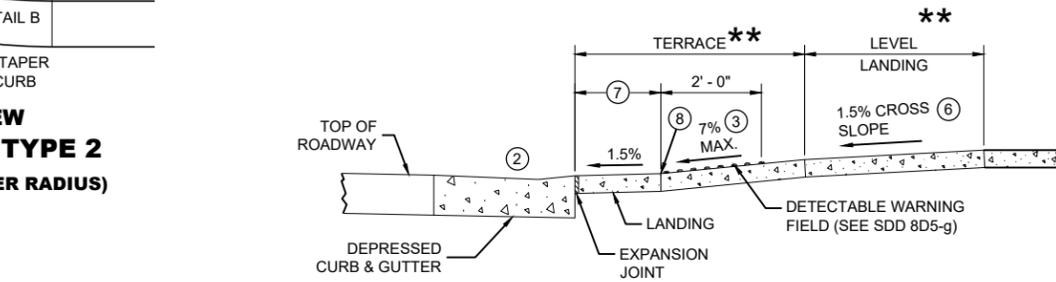
**PLAN VIEW  
CURB RAMP TYPE 2  
(CENTER OF CORNER RADIUS)**



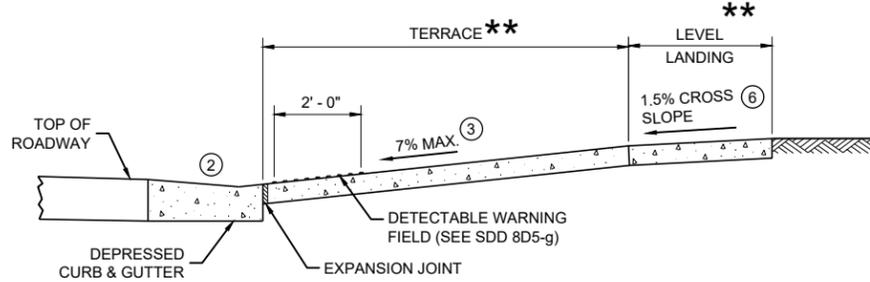
**PLAN VIEW  
CURB RAMP TYPE 3  
(OUTSIDE OF CROSSWALK AREA)**



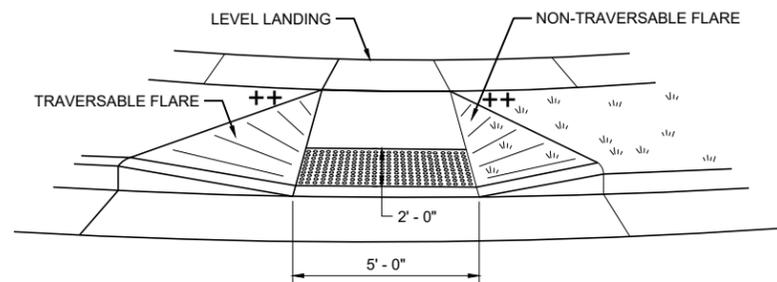
**DETAIL B**



**SECTION A - A FOR TYPE 2**



**SECTION B - B FOR TYPE 3**



**VIEW C - C FOR TYPE 3**

**GENERAL NOTES**

- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- 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.
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE SHALL BE FROM THE SAME MANUFACTURER.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4" INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE (2.67% OR LESS) AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET X 5 FEET.
- ⑦ WHEN GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- ⑨ WHEN DISTANCE IS LESS THAN 6' - 0", IT MAY BE DIFFICULT TO ACHIEVE A 7% SLOPE OR FLATTER ALONG THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 7% SLOPE OR FLATTER ON RAMP. CONSTRUCT 2-INCH MINIMUM CURB HEIGHT BETWEEN 10:1 FLARES.

- \* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK
- \*\* WIDTH SHOWN ELSEWHERE IN THE PLANS
- ++ CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE

**LEGEND**

- 1/2" EXPANSION JOINT SIDEWALK
- - - - CONTRACTION JOINT SIDEWALK
- |||||| PAVEMENT MARKING CROSSWALK (WHITE)

**CURB RAMPS  
TYPE 2 AND 3**

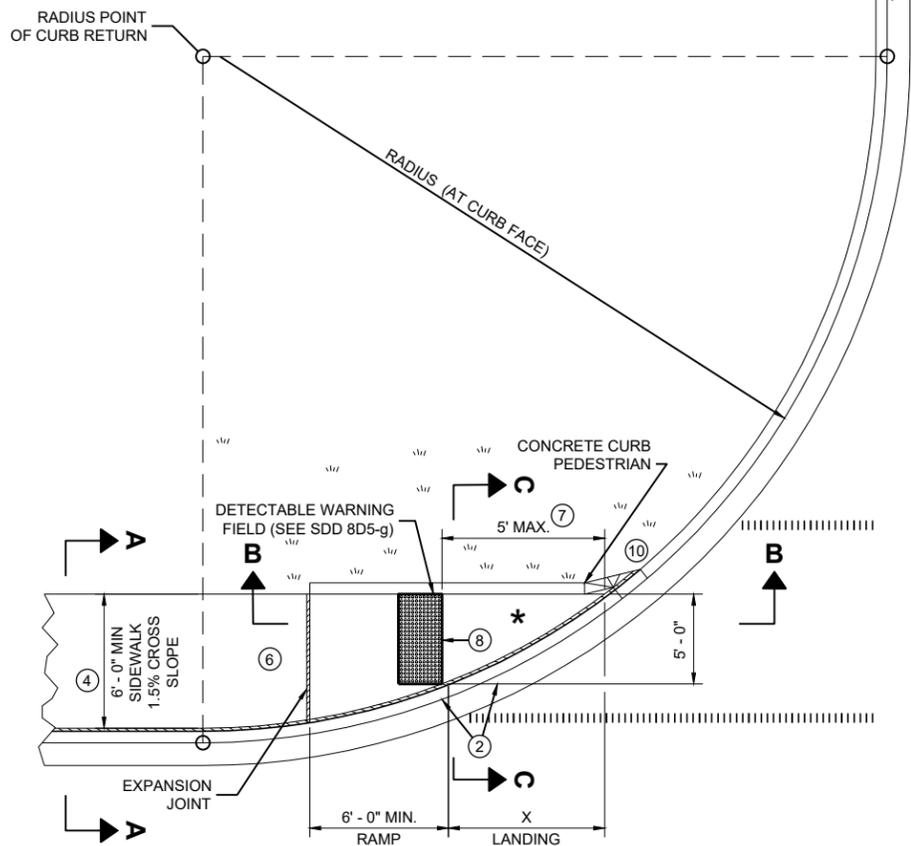
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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6

SDD 08D05-21b

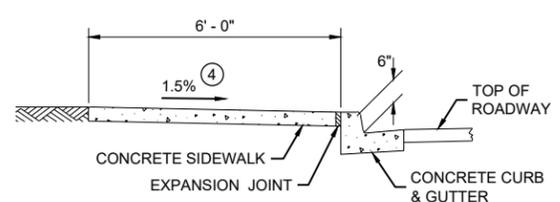
SDD 08D05-21b



**PLAN VIEW  
CURB RAMP TYPE 4A**

RADIUS (AT CURB FACE)	X
10 FEET	4' - 7"

INTERMEDIATE RADII CAN BE INTERPOLATED



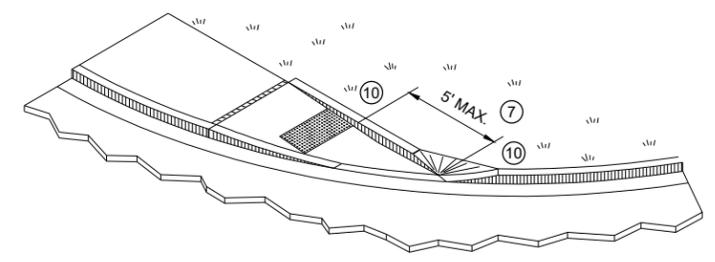
**SECTION A - A FOR TYPE 4A**

**GENERAL NOTES**

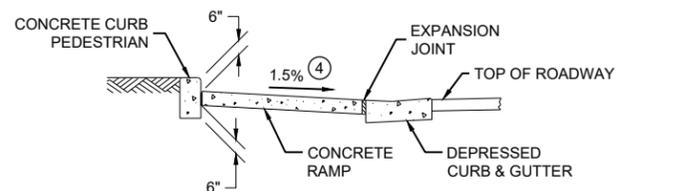
- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4 - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.
- ⑦ WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- ⑩ INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

**LEGEND**

- 1/2" EXPANSION JOINT SIDEWALK
- - - - CONTRACTION JOINT SIDEWALK
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)

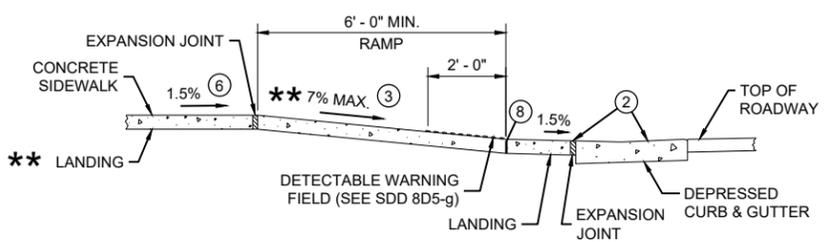


**ISOMETRIC VIEW FOR TYPE 4A**



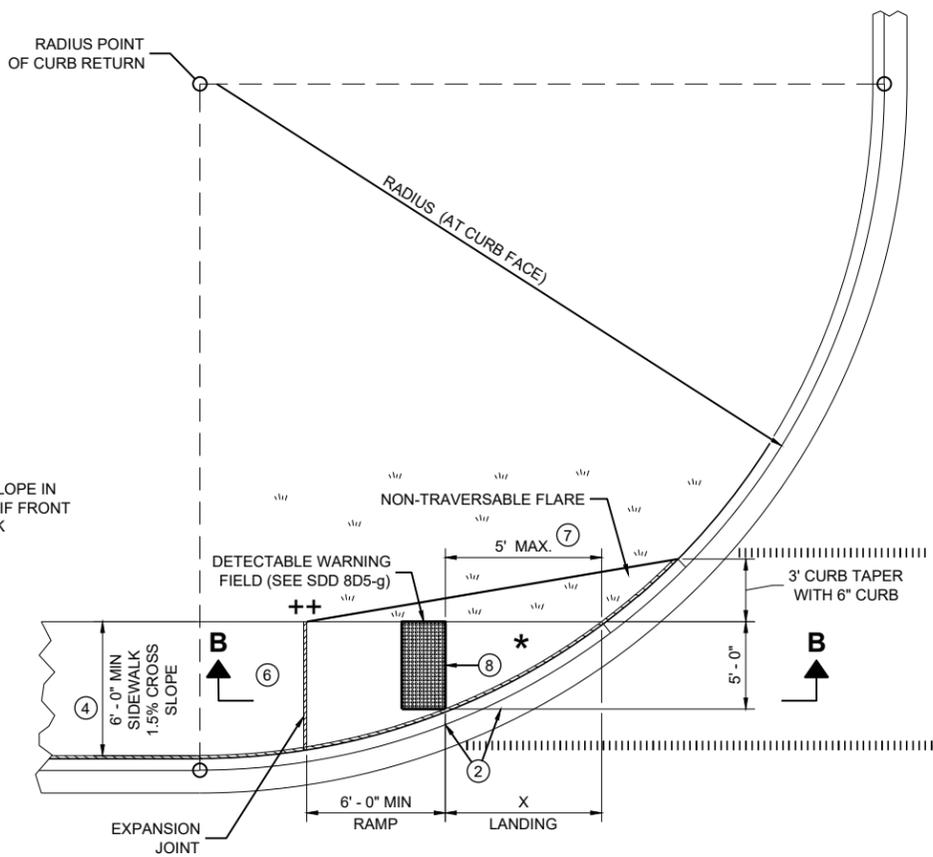
**SECTION C - C FOR TYPE 4A**

\* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IF FRONT OF GRADE BREAK



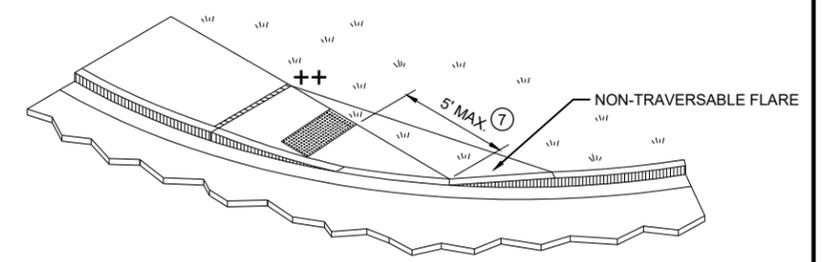
**SECTION B - B FOR  
TYPE 4A AND TYPE 4A1**

\*\* IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED



**PLAN VIEW  
CURB RAMP TYPE 4A1**

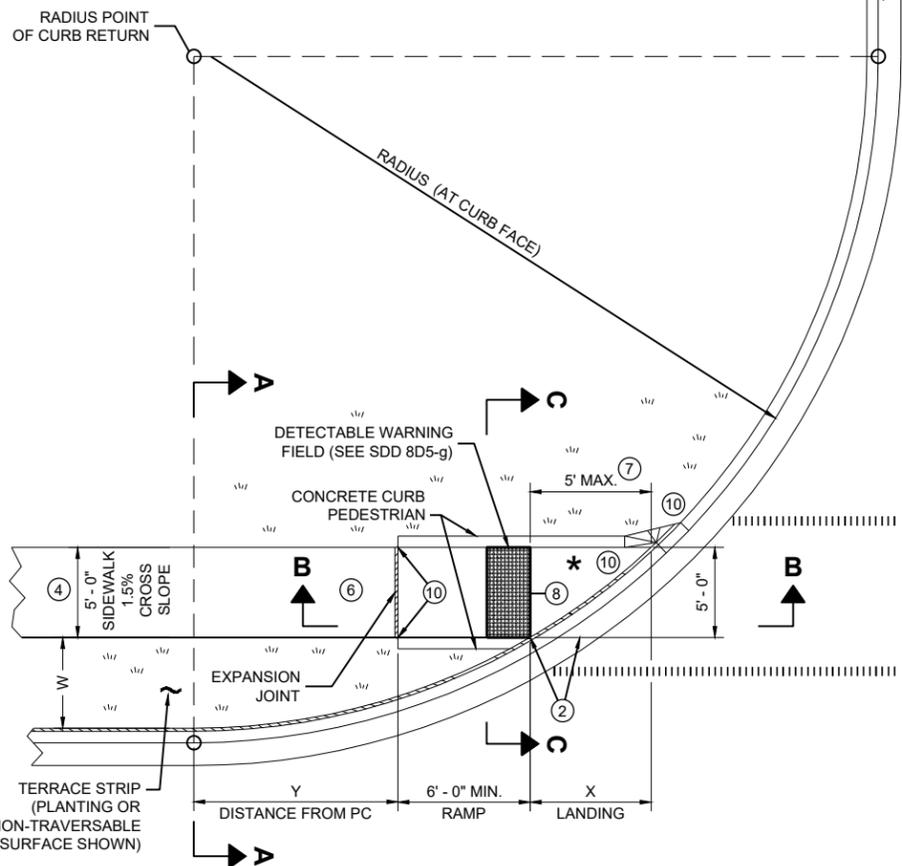
++ CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE



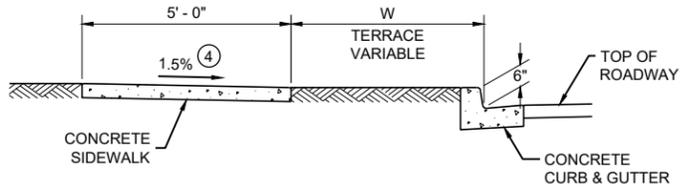
**ISOMETRIC VIEW FOR TYPE 4A1**

**CURB RAMPS  
TYPE 4A AND 4A1**

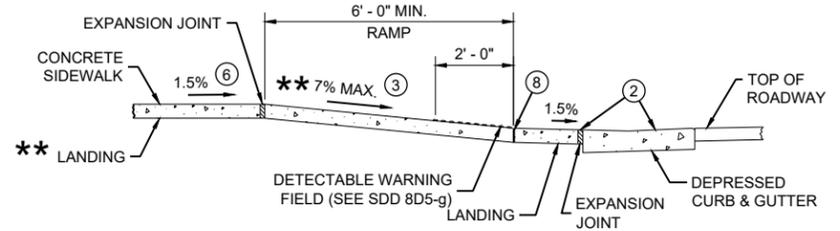
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**PLAN VIEW CURB RAMP TYPE 4B**



**SECTION A - A FOR TYPE 4B**

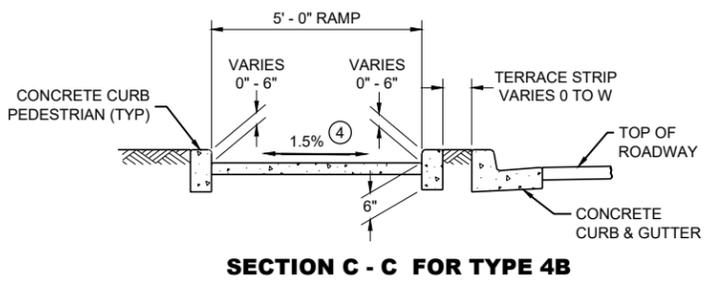


**SECTION B - B FOR TYPE 4B AND TYPE 4B1**

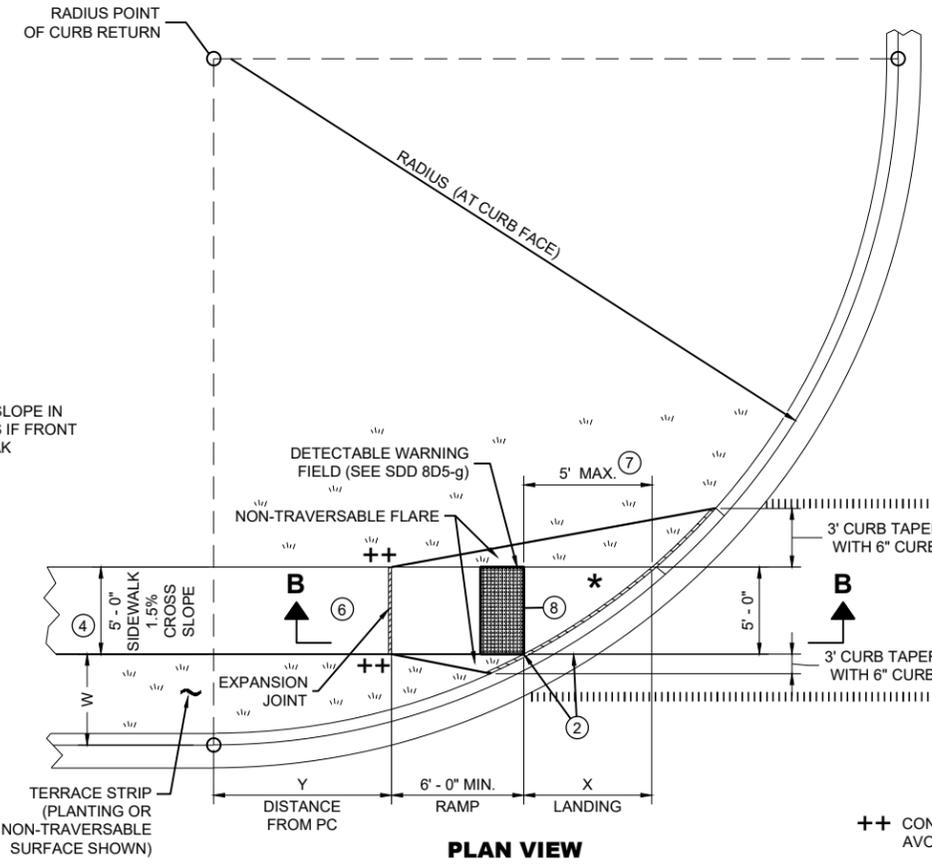
\*\* IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

RADIUS (AT CURB FACE)	W = 3' - 0"		W = 4' - 0"		W = 5' - 0"		W = 6' - 0"		W = 7' - 0"		W = 8' - 0"		W = 9' - 0"		W = 10' - 0"	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
10 FEET	2' - 10 1/4"	0' - 5"	2' - 1"	1' - 4 1/2"	1' - 5"	2' - 1"	0' - 10"	2' - 7 1/2"	0' - 3 1/4"	3' - 0 1/4"						
15 FEET	4' - 6 3/4"	2' - 1 3/4"	3' - 9"	3' - 5 3/4"	3' - 1 1/4"	4' - 6"	2' - 6 3/4"	5' - 4 1/2"	2' - 1"	6' - 1"	1' - 8"	6' - 8 1/2"	1' - 3 1/4"	7' - 2 1/2"	0' - 10 3/4"	7' - 7 1/4"
20 FEET			4' - 11 1/2"	5' - 1 3/4"	4' - 3 1/4"	6' - 5 1/2"	3' - 8 3/4"	7' - 7"	3' - 3"	8' - 6 1/2"	2' - 10"	9' - 4 1/2"	2' - 5 1/2"	10' - 1 1/4"	2' - 1 1/4"	10' - 9"
30 FEET									4' - 10 3/4"	12' - 5 3/4"	4' - 5 1/2"	13' - 7 3/4"	4' - 0 3/4"	14' - 8 1/2"	3' - 8 1/2"	15' - 8 1/4"
40 FEET															4' - 10 3/4"	19' - 8 1/4"

INTERMEDIATE RADII CAN BE INTERPOLATED  
 DIMENSION "Y" IS CALCULATED BASED ON 6'-0" RAMP LENGTH  
 DIMENSION "X" IS CALCULATED BASED ON 5'-0" SIDEWALK WIDTH

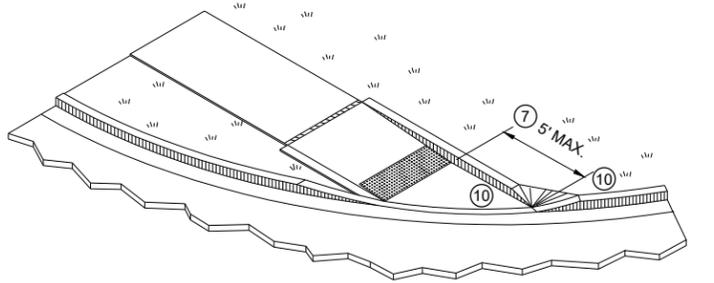


**SECTION C - C FOR TYPE 4B**

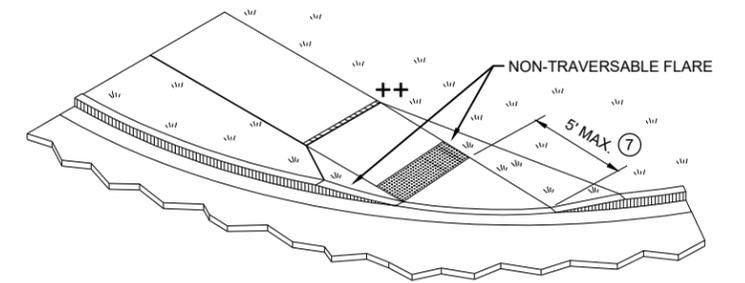


**PLAN VIEW CURB RAMP TYPE 4B1**

++ CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE



**ISOMETRIC VIEW FOR TYPE 4B**



**ISOMETRIC VIEW FOR TYPE 4B1**

**LEGEND**

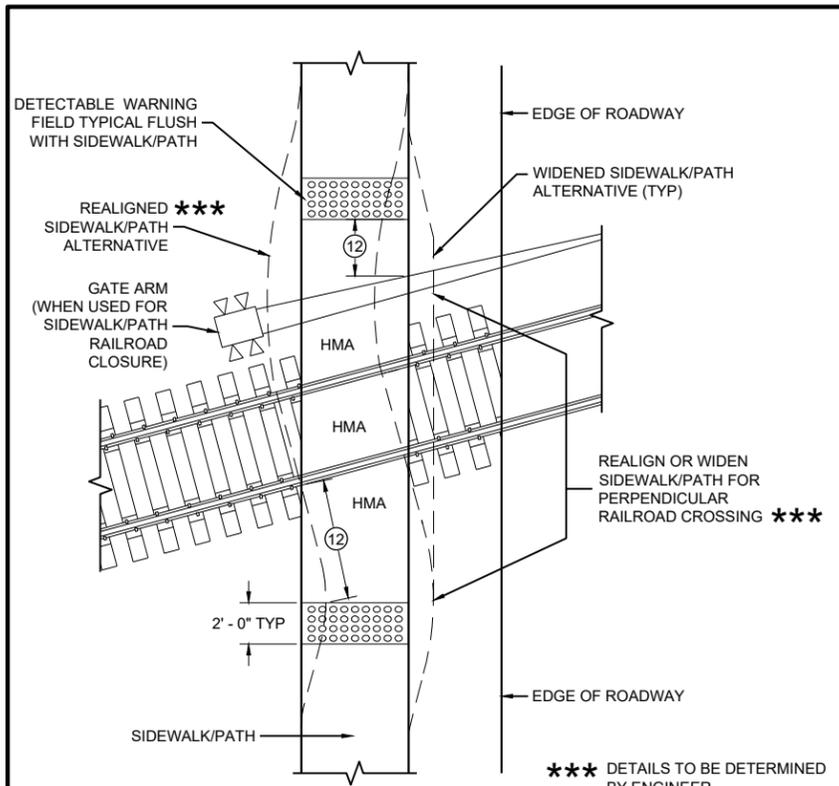
- 1/2" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT SIDEWALK
- PAVEMENT MARKING CROSSWALK (WHITE)

**GENERAL NOTES**

- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- 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.
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- (2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4" INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- (3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- (4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- (6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.
- (7) WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
- (8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- (10) INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

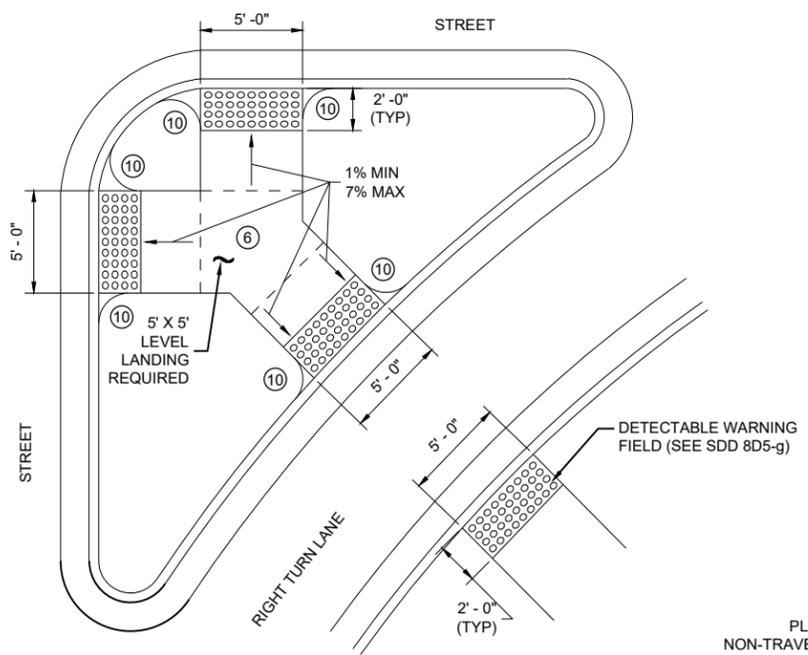
**CURB RAMPS TYPE 4B AND 4B1**

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION



**CURB RAMP TYPE 8**

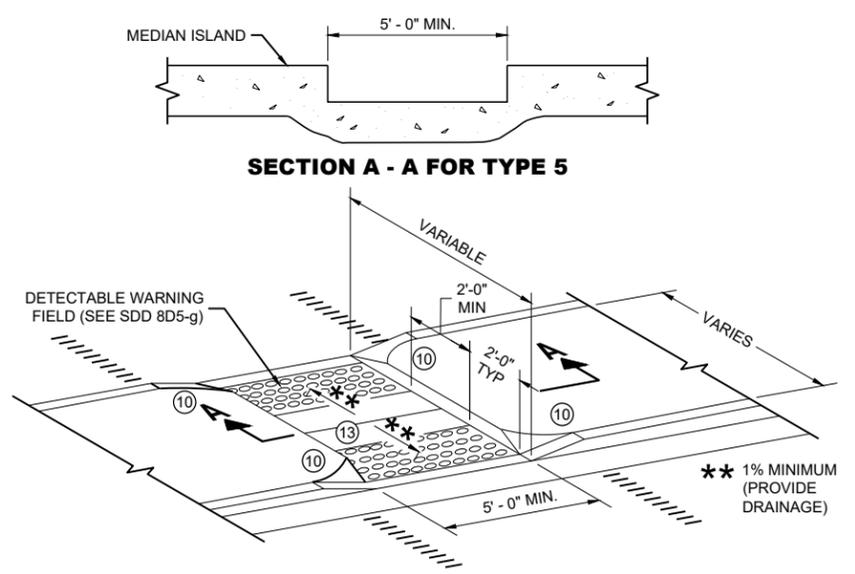
**DETECTABLE WARNINGS FOR SIDEWALKS OR SHARED USE PATHS AT RAILROAD CROSSINGS**



**CURB RAMP TYPE 6**

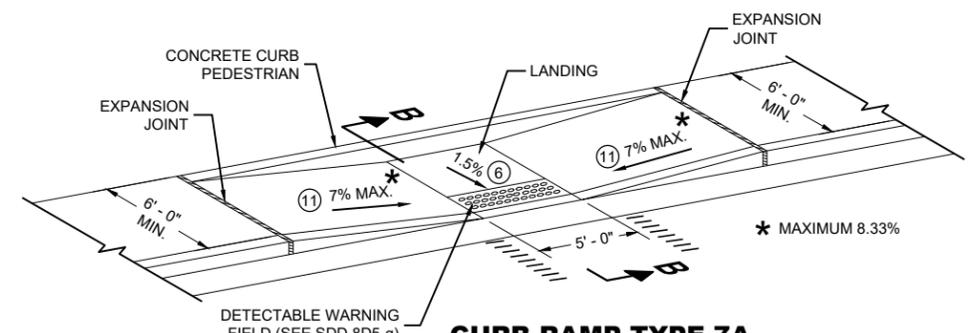
**DETECTABLE WARNING AT ISLANDS**

REFER TO GENERAL NOTES ② AND ③ FOR ALL ISLAND CURB RAMPS

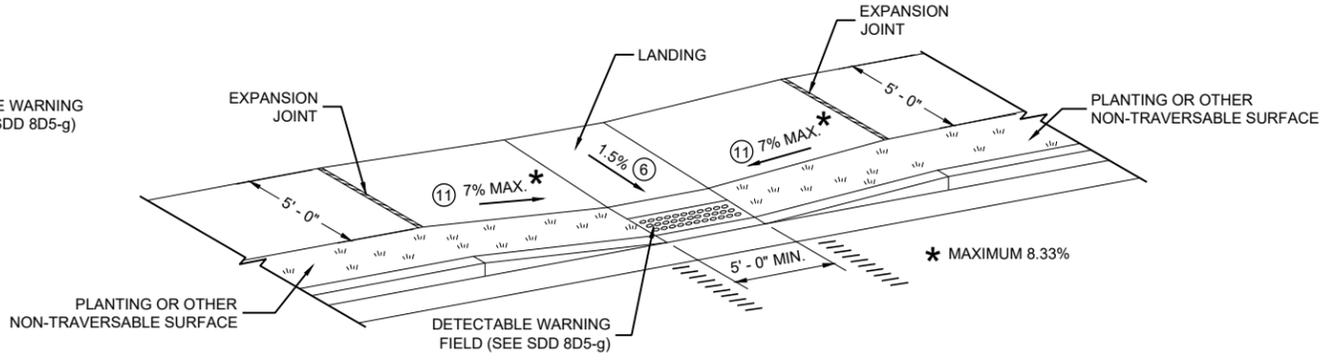


**SECTION A - A FOR TYPE 5**

**CURB RAMP TYPE 5  
MEDIAN ISLAND  
NON-ELEVATED PEDESTRIAN CROSSING**



**CURB RAMP TYPE 7A  
FOR INTERSECTIONS AND  
MID BLOCK CROSSINGS**



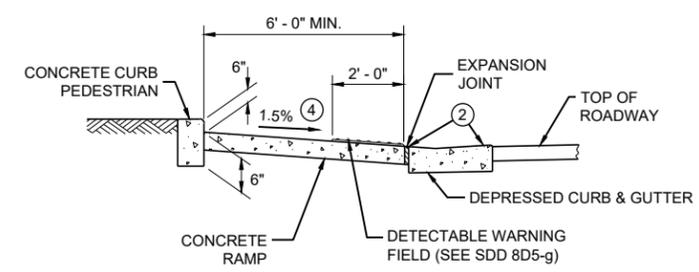
**CURB RAMP TYPE 7B  
FOR INTERSECTIONS AND  
MID BLOCK CROSSINGS**

**GENERAL NOTES**

- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- 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.
- SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4 INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.
- ⑩ INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.
- ⑪ SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.
- ⑫ THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ±0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK/PATH. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD TRACK IS 15 FEET MAXIMUM AND 12 FEET MINIMUM, 15 FEET TYPICAL FROM THE NEAREST RAIL.
- ⑬ DO NOT INSTALL DETECTABLE WARNING FIELDS AT THE EDGES OF STREET-LEVEL PEDESTRIAN REFUGE ISLANDS IF A MINIMUM 2 FOOT CONCRETE SURFACE WITHOUT DETECTABLE WARNINGS (MEASURED IN THE DIRECTION OF PEDESTRIAN TRAVEL) CANNOT BE ACHIEVED.

**LEGEND**

- ===== 1/2" EXPANSION JOINT SIDEWALK
- - - - - CONTRACTION JOINT FIELD LOCATED
- ||||||| PAVEMENT MARKING CROSSWALK (WHITE)



**SECTION B - B FOR TYPE 7A**

**CURB RAMPS  
TYPE 5, 6, 7A, 7B & 8**

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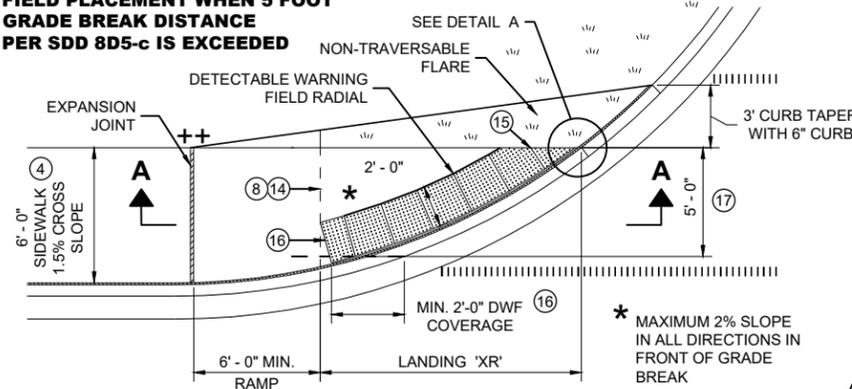
6

SDD 08D05-21e

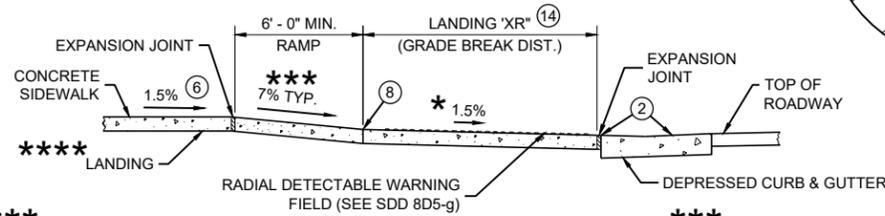
6

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**RADIAL DETECTABLE WARNING  
FIELD PLACEMENT WHEN 5 FOOT  
GRADE BREAK DISTANCE  
PER SDD 8D5-c IS EXCEEDED**



**PLAN VIEW  
CURB RAMP TYPE 4A1  
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)**



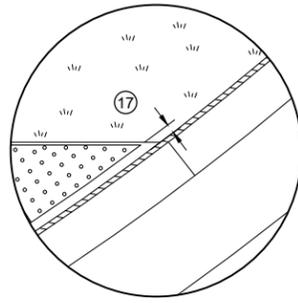
**SECTION A - A FOR TYPE 4A1**

\*\*\*\* IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

\*\*\* MAXIMUM 8.33%

**LEGEND**

- ===== 1/2" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT SIDEWALK
- |||||| PAVEMENT MARKING CROSSWALK (WHITE)

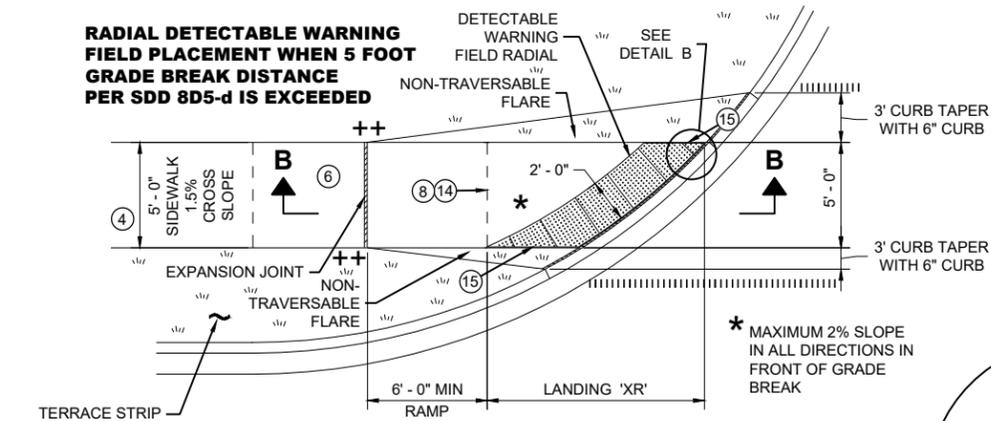


**DETAIL A**

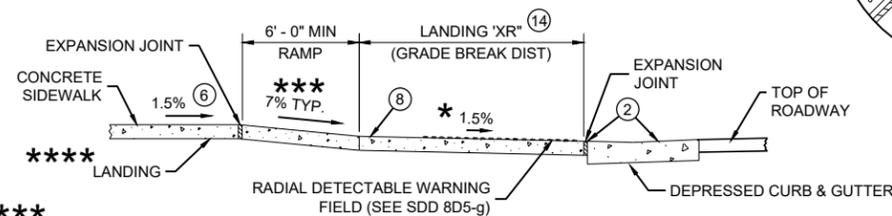
**GENERAL NOTES**

- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- 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.
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- APPLY RADIAL DETECTABLE WARNING PLACEMENT SIMILARLY FOR TYPE 4A AND 4A1 CURB RAMPS AND SIMILARLY FOR TYPE 4B AND 4B1 CURB RAMPS. TYPE 4A AND 4B CURB RAMPS ARE NOT SHOWN.
- REFER TO SDD 8D5-g FOR ADDITIONAL RADIAL PLATE REQUIREMENTS.
- FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FIELD ARE PROHIBITED.
- DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.
- (2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4" INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- (3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- (4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- (6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET BY 5 FEET.
- (8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- (14) CONSULT ENGINEER IF GRADE BREAK LOCATION (END OF LANDING DIMENSION "XR") REQUIRES FIELD ADJUSTMENT WHEN ESTABLISHING FINAL RADIAL DETECTABLE WARNING FIELD LOCATION.
- (15) FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN 1/2" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.
- (16) USE 1' X 2" RECTANGULAR END PLATE AT END OF TYPE 4A1 RAMP AND PROVIDE MINIMUM 2' - 0" DETECTABLE WARNING FIELD COVERAGE (IN DIRECTION OF PEDESTRIAN TRAVEL) ALONG THE ENTIRE CURB RAMP WIDTH.
- (17) A MAXIMUM 3 INCH CONCRETE BORDER WIDTH IS ALLOWABLE IN FRONT OF RADIAL DETECTABLE WARNING FIELD FOR CONSTRUCTABILITY PURPOSES. CONCRETE BORDER WIDTH MAY VARY UP TO 1 INCH.

**RADIAL DETECTABLE WARNING  
FIELD PLACEMENT WHEN 5 FOOT  
GRADE BREAK DISTANCE  
PER SDD 8D5-d IS EXCEEDED**



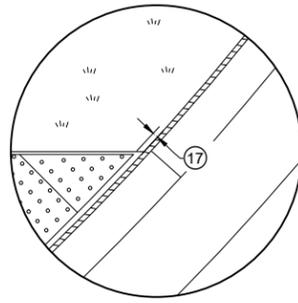
**PLAN VIEW  
CURB RAMP TYPE 4B1  
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)**



**SECTION B - B FOR TYPE 4B1**

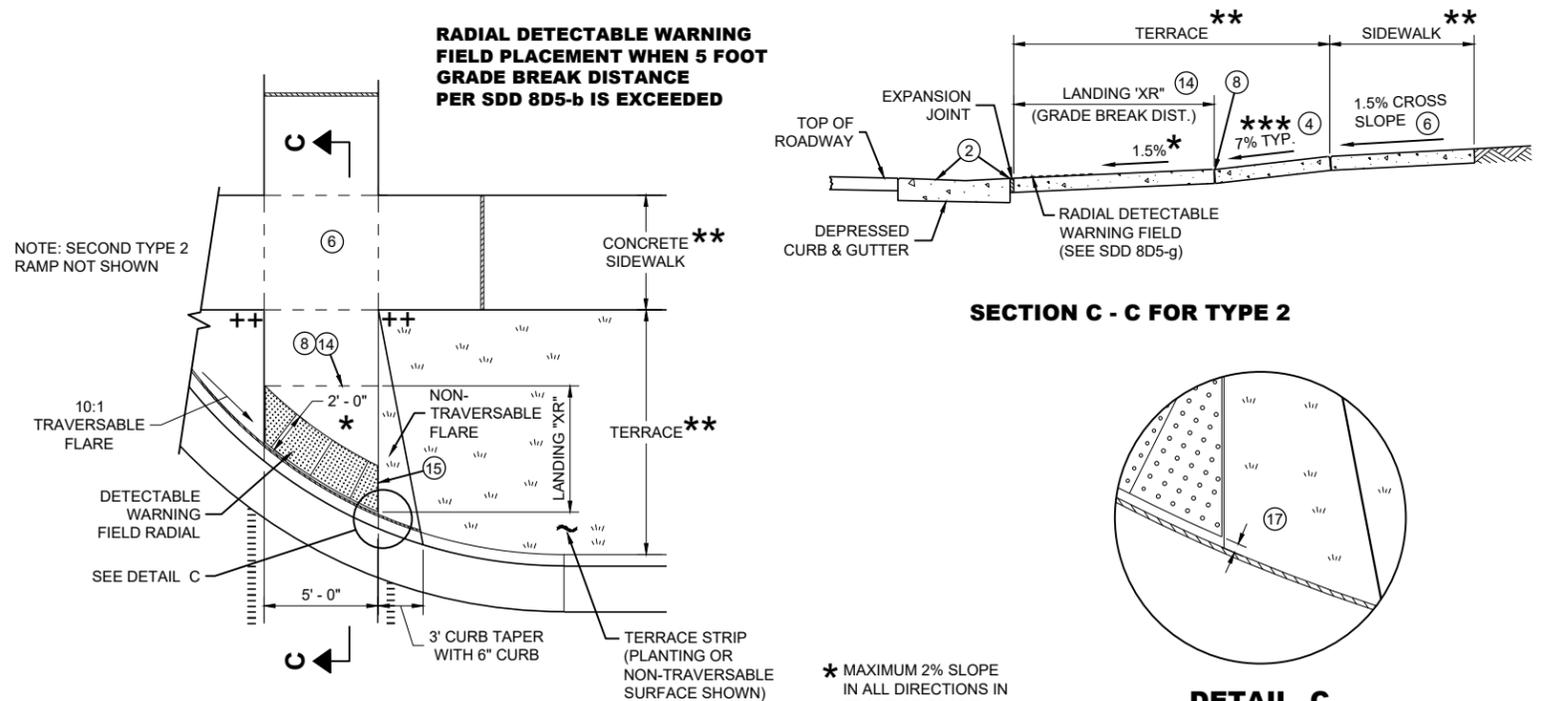
\*\*\*\* IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

\*\*\* MAXIMUM 8.33%



**DETAIL B**

**RADIAL DETECTABLE WARNING  
FIELD PLACEMENT WHEN 5 FOOT  
GRADE BREAK DISTANCE  
PER SDD 8D5-b IS EXCEEDED**



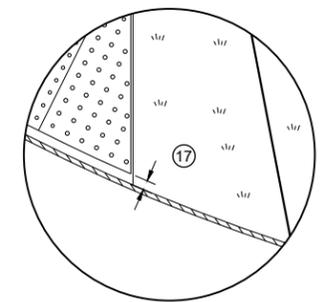
**PLAN VIEW  
CURB RAMP TYPE 2  
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)  
(ON LINE WITH SIDEWALK)**

\* MAXIMUM 2% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

\*\* WIDTH SHOWN ELSEWHERE IN THE PLANS

\*\*\* MAXIMUM 8.33%

++ CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE



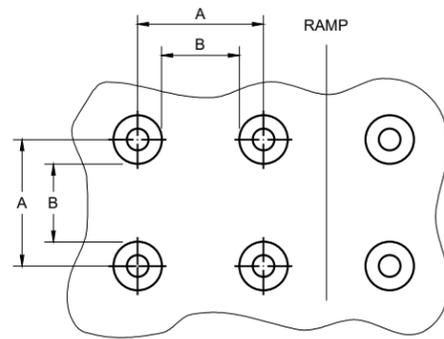
**DETAIL C**

**CURB RAMPS  
RADIAL DETECTABLE WARNING**

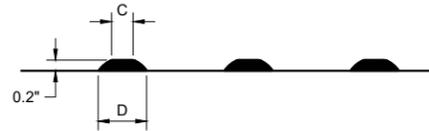
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

	MIN.	MAX.
<b>A</b>	1.6"	2.4"
<b>B</b>	0.65"	1.5"
<b>C</b>	*	*
<b>D</b>	0.9"	1.4"

\* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.

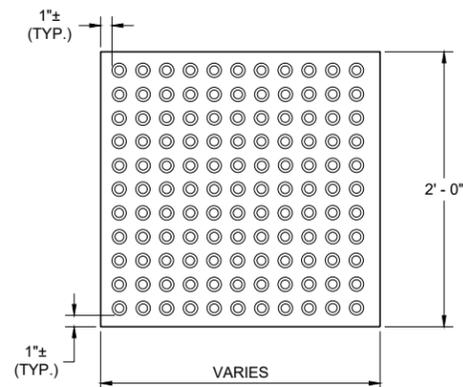


**PLAN VIEW**

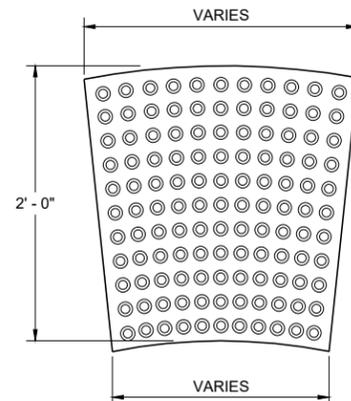


**ELEVATION VIEW**

**TRUNCATED DOMES  
DETECTABLE WARNING PATTERN DETAIL**

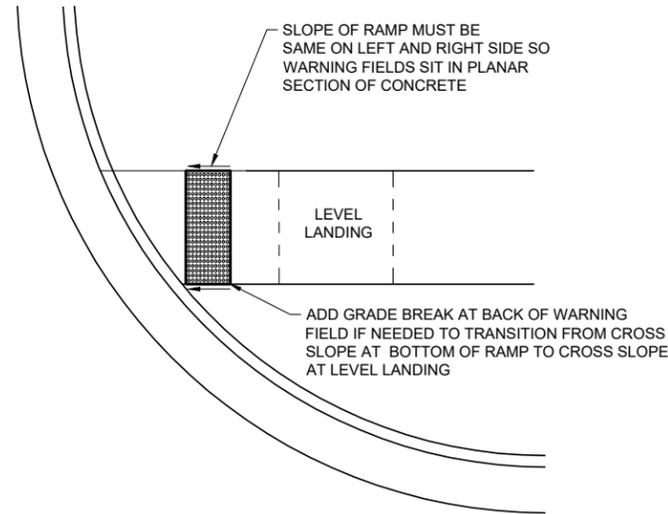


**RECTANGULAR  
PLATES**

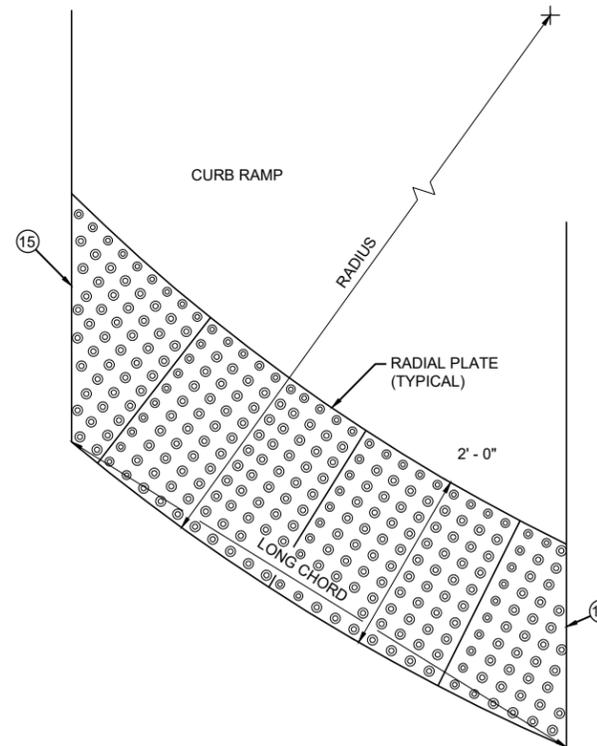


**RADIAL  
PLATES**

**PLAN VIEW  
DETECTABLE WARNING FIELDS (TYPICAL)**



**DETECTABLE WARNING FIELD  
PLANAR INSTALLATION**

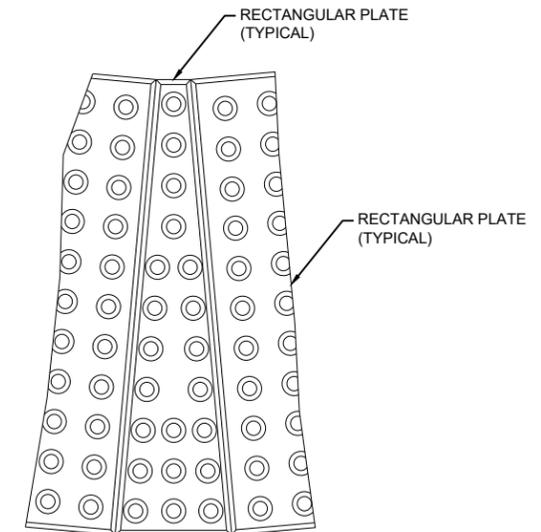


**PLAN VIEW  
RADIAL DETECTABLE  
WARNING FIELD ATTRIBUTES**

**GENERAL NOTES**

- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AT A CURB RAMP SHALL BE FROM THE SAME MANUFACTURER.
- PLACE ALL DETECTABLE WARNING FIELD SYSTEMS IN ACCORDANCE TO THE MANUFACTURER'S RECOMMENDATION.
- FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FIELD ARE PROHIBITED.
- DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.
- FOR RADIAL DETECTABLE WARNING FIELD APPLICATIONS WHERE STANDARD RADIAL PLATES ARE NOT AVAILABLE AT AN INTERSECTION CURB RADIUS, A COMBINATION OF SQUARE OR RECTANGULAR PLATES AND RADIAL PLATES MAY BE USED TO FORM RADIAL CONFIGURATION. RADIAL WEDGE PLATES IN COMBINATION WITH SQUARE PLATES ARE ALSO ACCEPTABLE. FOLLOW MANUFACTURER'S RECOMMENDATIONS.
- REFER TO CONTRACT AND STANDARD SPECIFICATIONS FOR FIELD CUTTING REQUIREMENTS.
- DO NOT EMBED IN CONCRETE ANY FIELD-CUT PLATES WITH CUT EDGES SHORTER THAN 6 INCHES. CONSULT WITH MANUFACTURER FOR RE-DRILLING AND ANCHORING REQUIREMENTS OF FIELD-CUT PLATES.

(15) FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN 1/8" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.

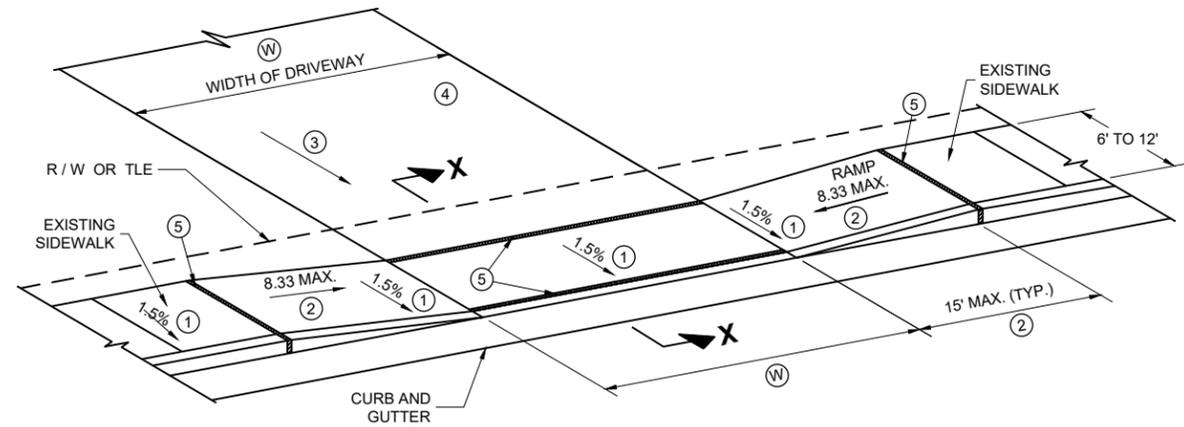


**PLAN VIEW  
RADIAL WEDGE PLATE  
CONNECTION DETAIL**

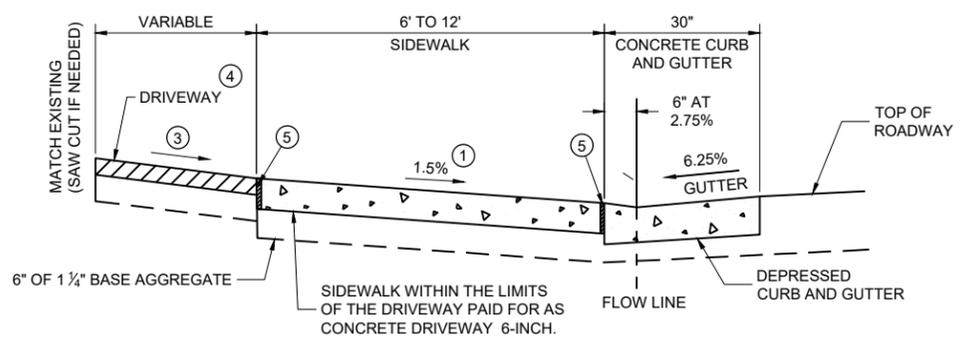
**CURB RAMPS  
RECTANGULAR AND RADIAL  
DETECTABLE WARNING PLATES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

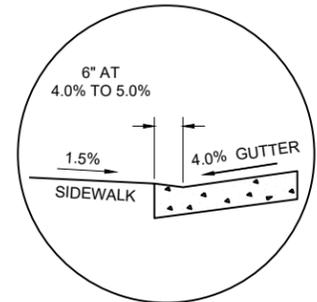
APPROVED  
July 2023 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT  
UNIT SUPERVISOR



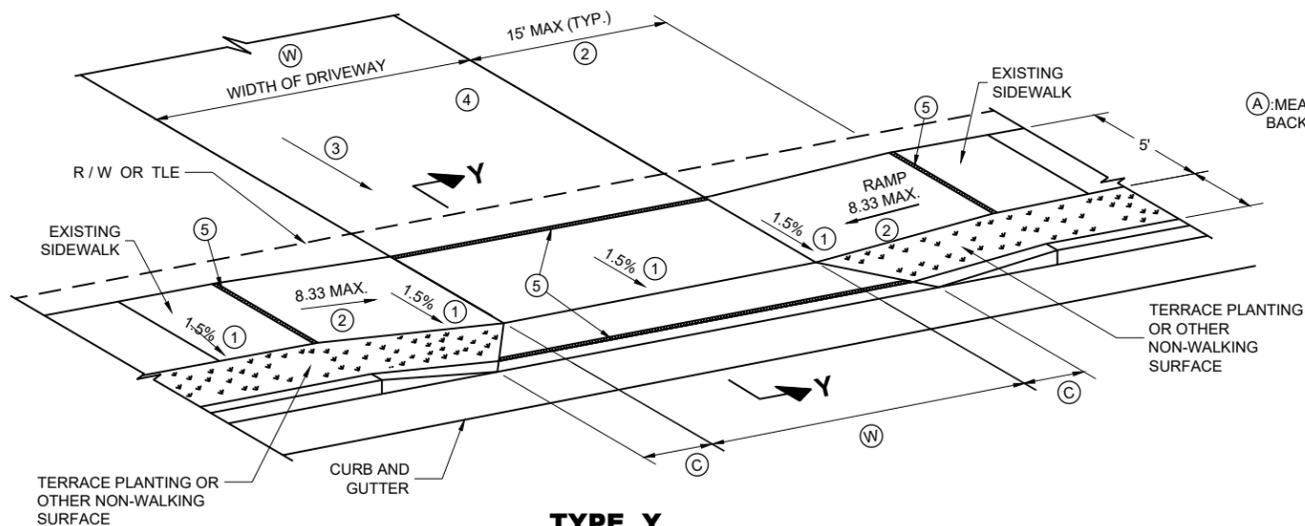
**TYPE X**  
**SIDWALK ABUTS CURB AND GUTTER**  
**TERRACE VARIES 0 TO 3 FEET**



**SECTION X - X**

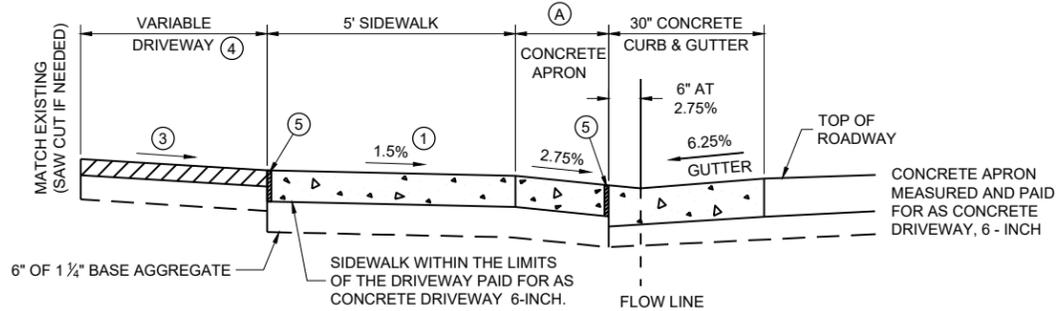


**SECTION X - X**  
**4% GUTTER SLOPE**



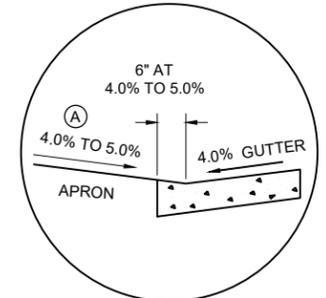
**TYPE Y**  
**SIDWALK WITH NARROWER TERRACE**  
**TERRACE VARIES 4 TO 6 FEET**

(A): MEASURE FROM  
 BACK OF CURB



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**

**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)

**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%.

(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) ½" EXPANSION JOINT FILLER

**DRIVEWAY AND**  
**SIDWALK RAMPS**  
**TYPES X AND Y**

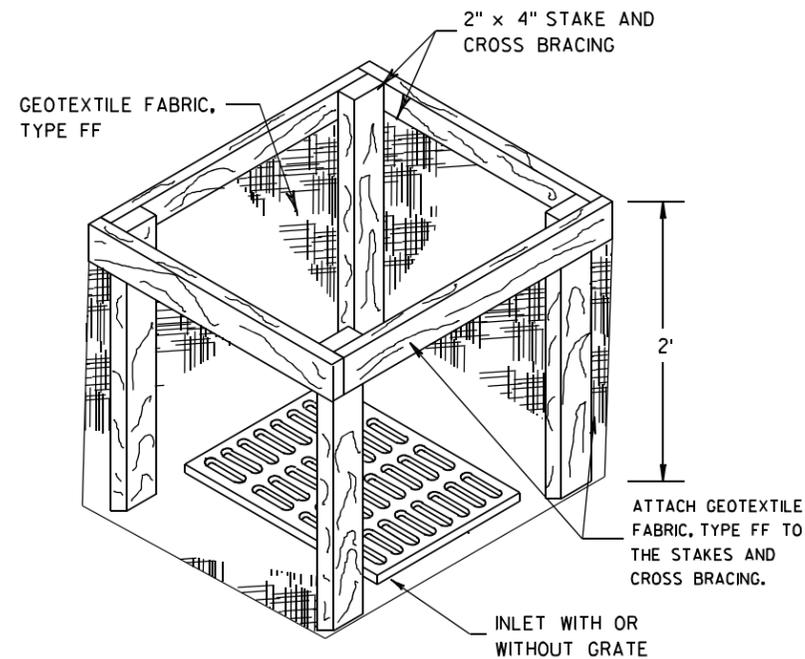
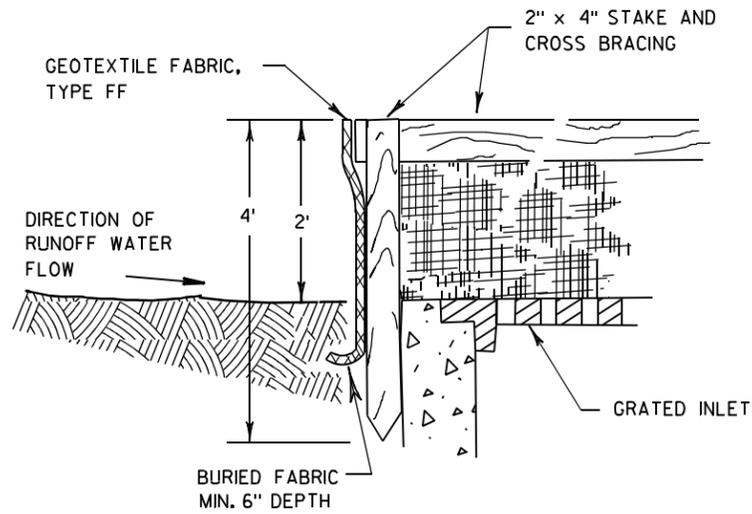
STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

APPROVED

July 2023  
 DATE

/s/ Rodney Taylor  
 ROADWAY STANDARDS DEVELOPMENT  
 UNIT SUPERVISOR

FHWA



**INLET PROTECTION, TYPE A**

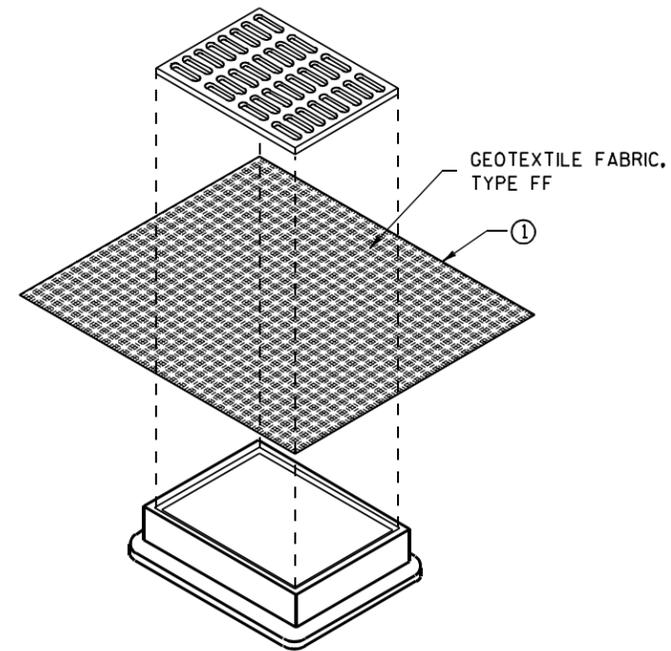
**GENERAL NOTES**

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

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

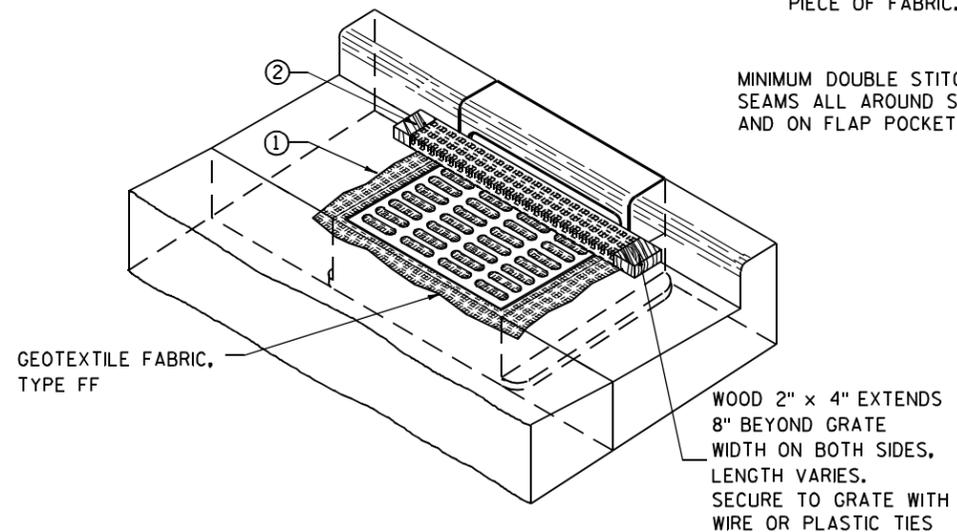
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

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



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

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



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

**INSTALLATION NOTES**

**TYPE B & C**

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

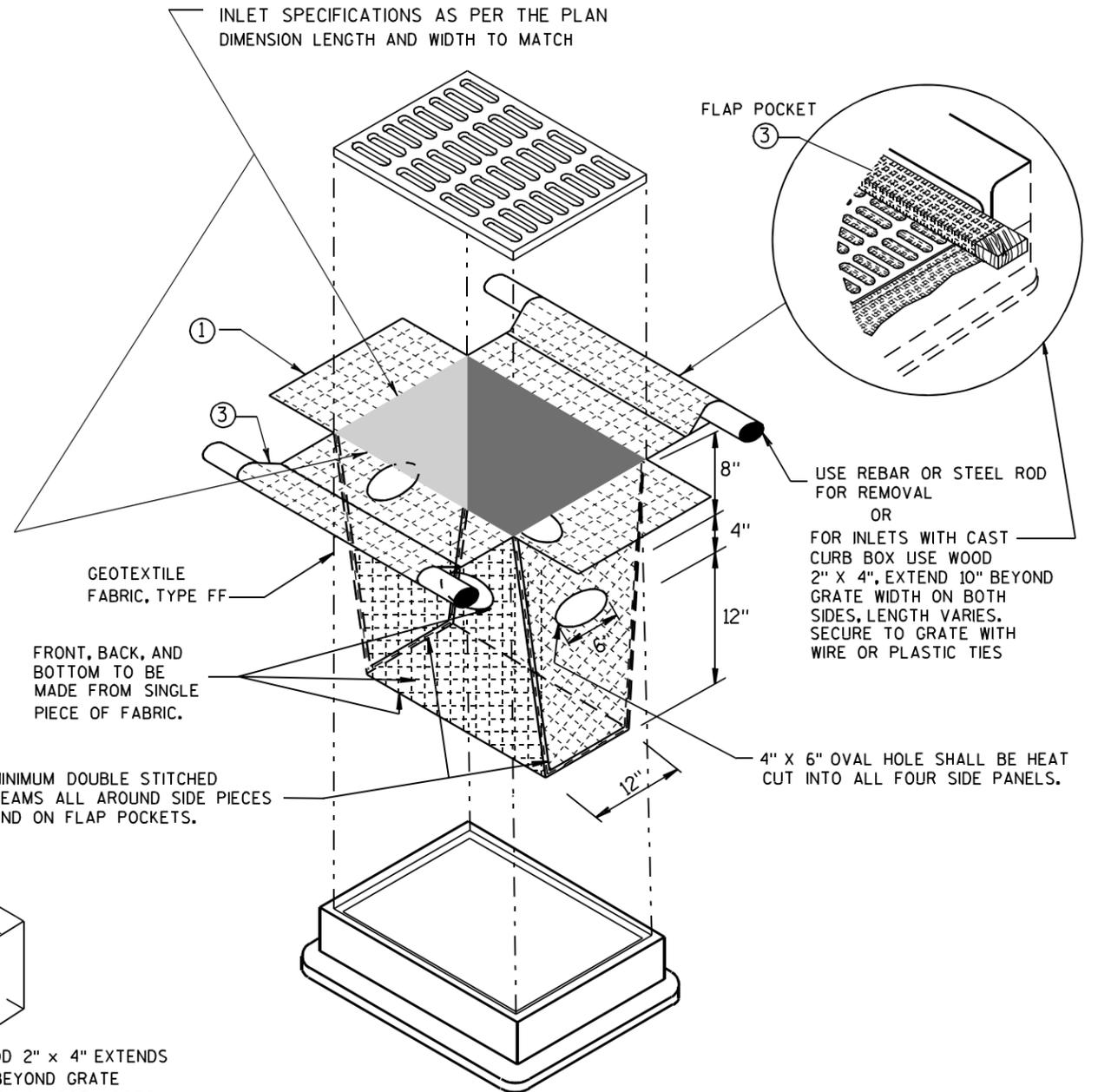
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

**TYPE D**

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

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

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



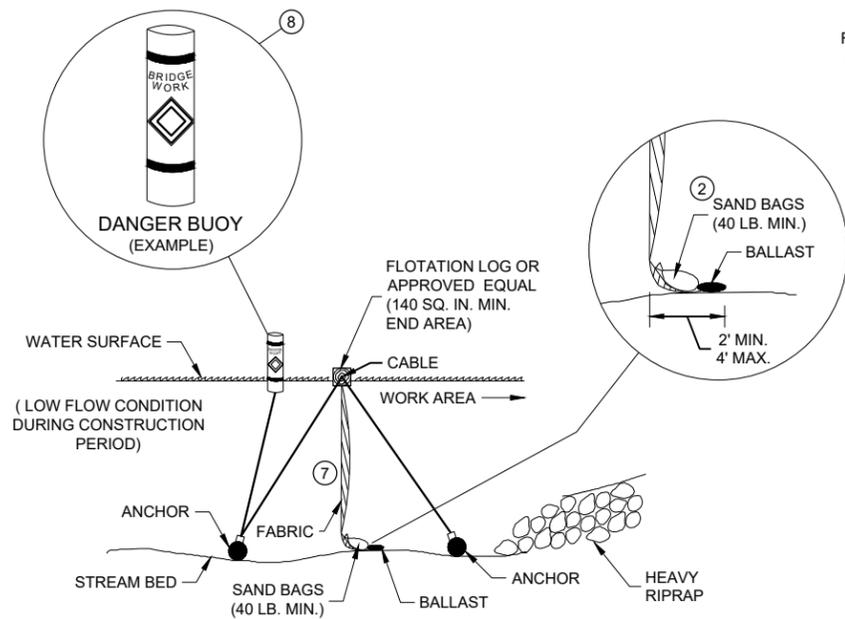
**INLET PROTECTION, TYPE D**

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

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

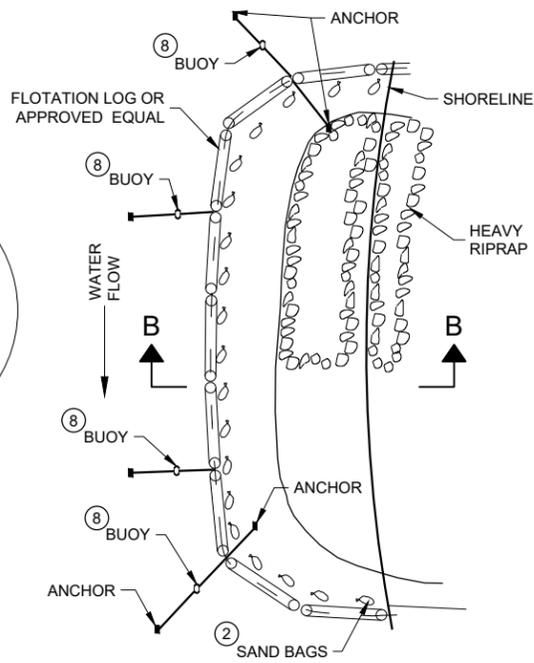
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

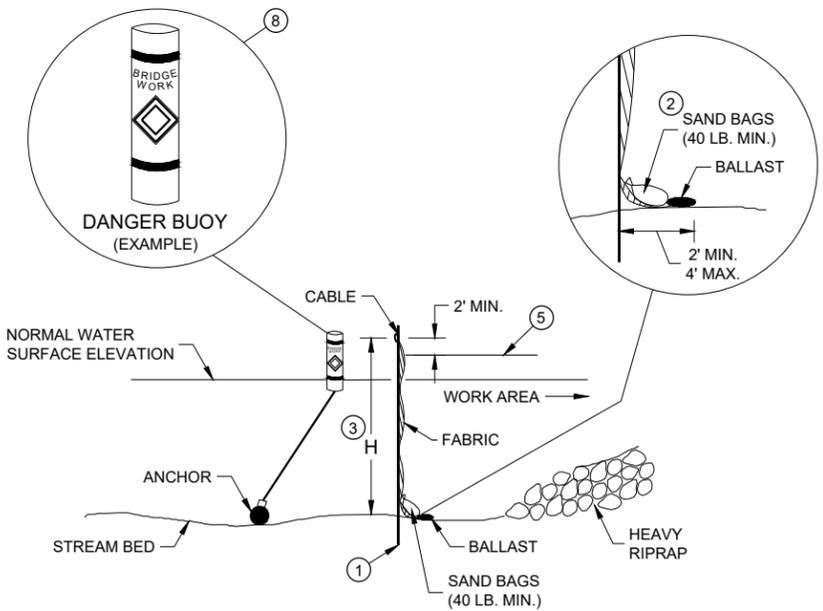


**SECTION B - B**

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

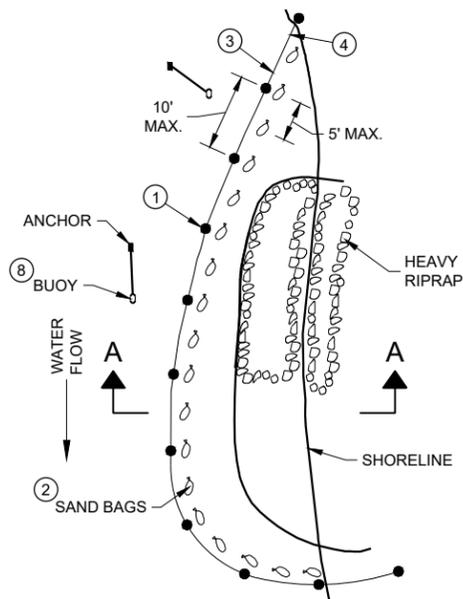


**PLAN VIEW**



**SECTION A - A**

**TURBIDITY BARRIER - STANDARD POST INSTALLATION**



**PLAN VIEW**

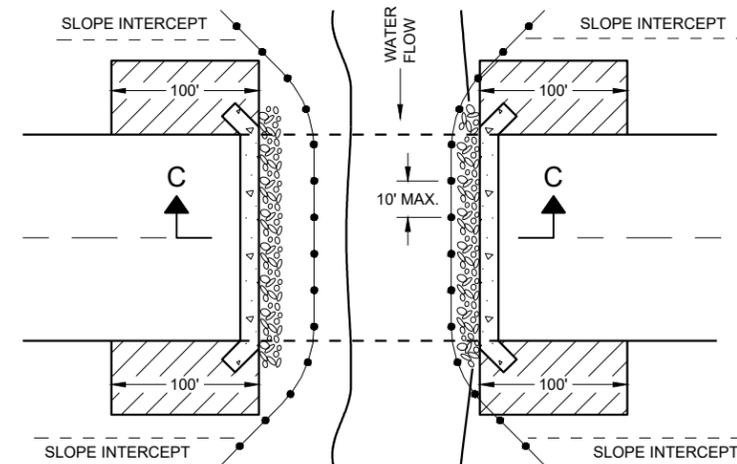
**TURBIDITY BARRIER PLACEMENT DETAILS**

**GENERAL NOTES**

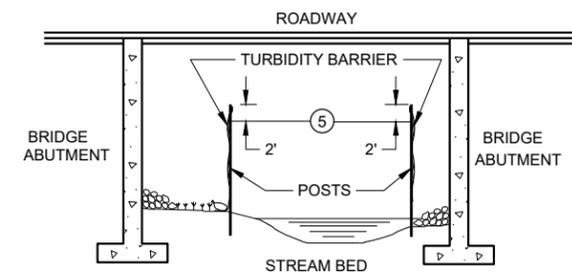
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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.

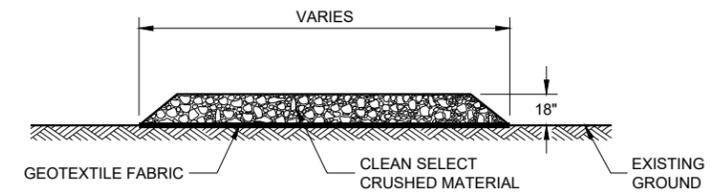
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

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

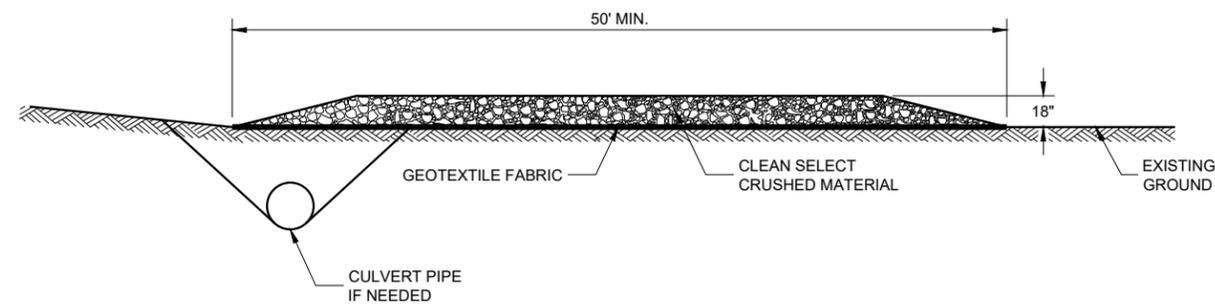
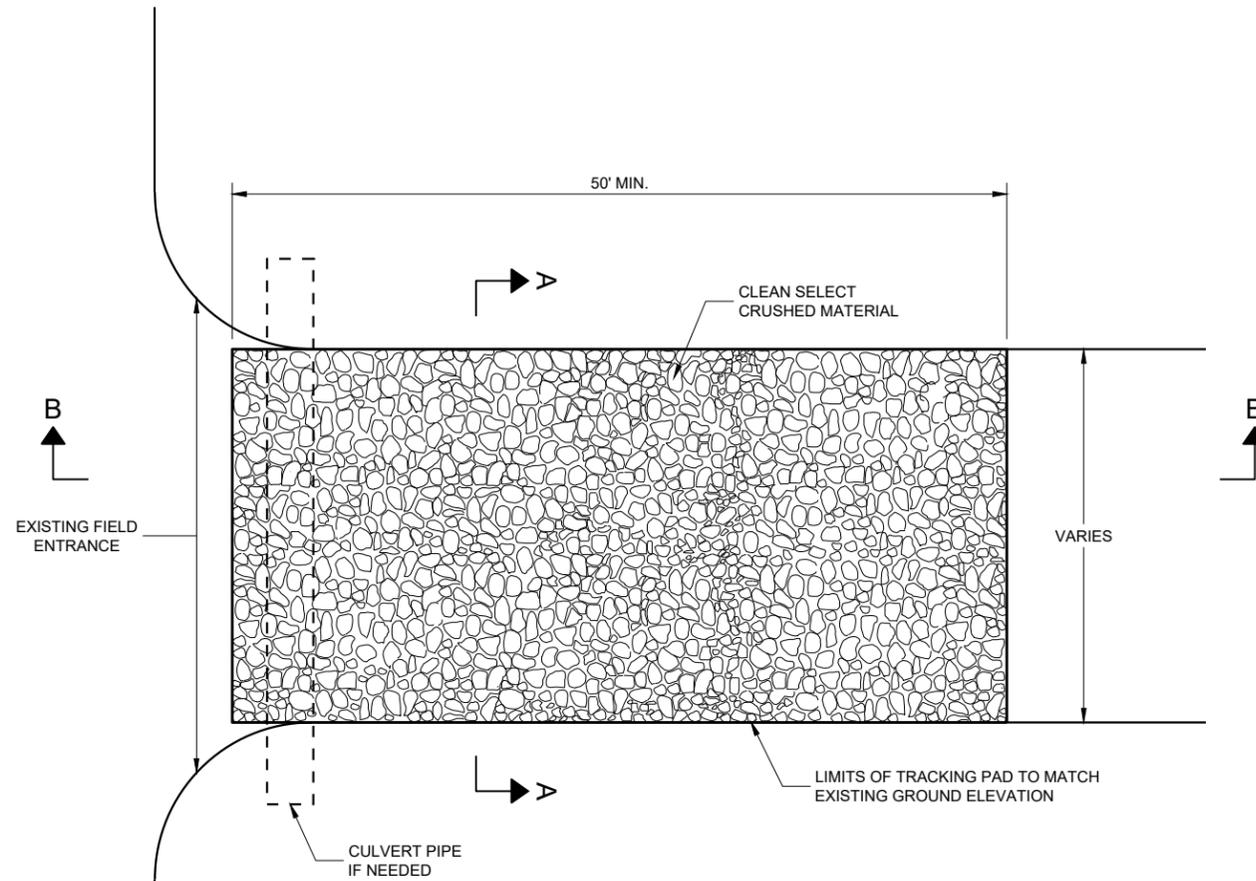
SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

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**



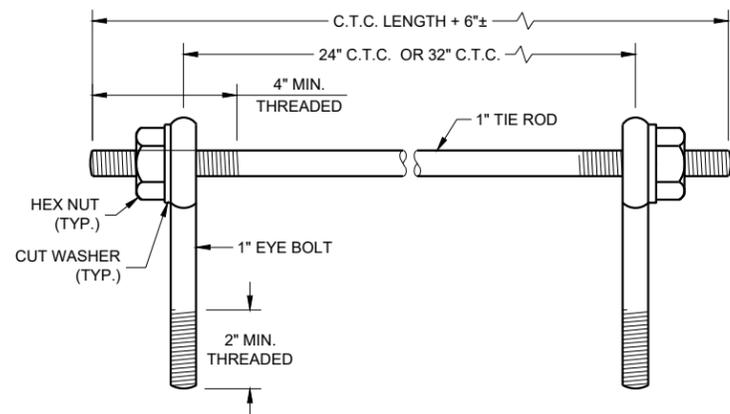
**SECTION B - B**

**TRACKING PAD**

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DEPARTMENT OF TRANSPORTATION

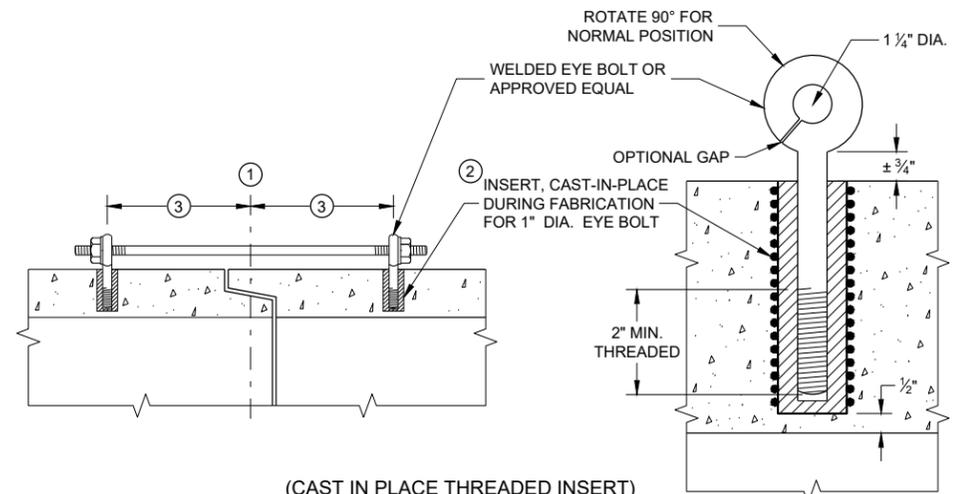
APPROVED  
3/24/2011 /S/ Jerry H. Zogg  
DATE ROADWAY STANDARDS DEVELOPMENT  
ENGINEER

FHWA



**EYE BOLTS AND TIE ROD**

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



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

**GENERAL NOTES**

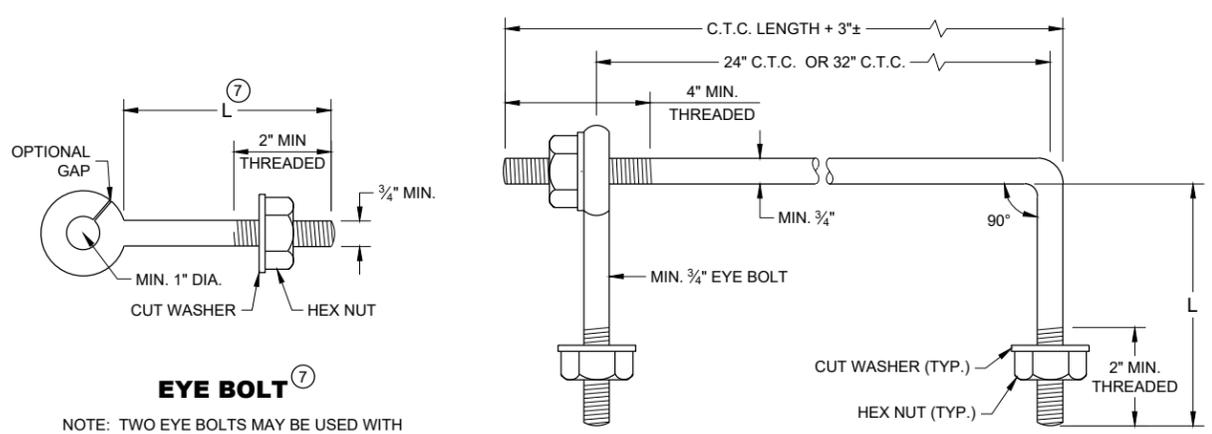
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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.

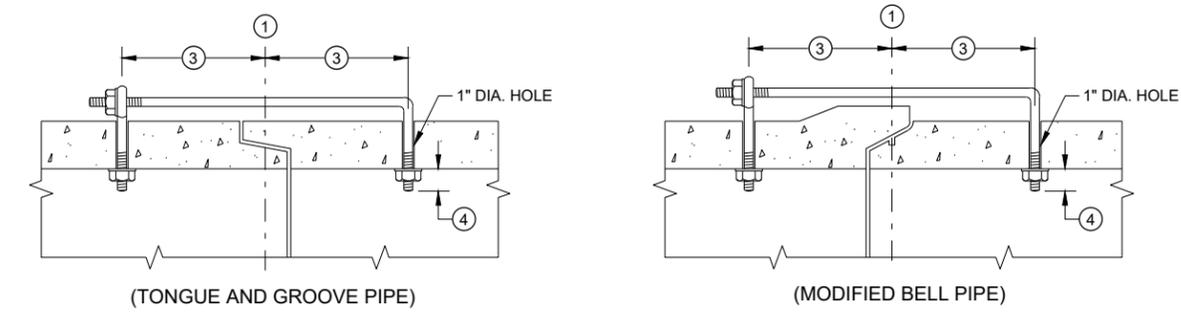


**EYE BOLT AND TIE ROD**

**EYE BOLT 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.



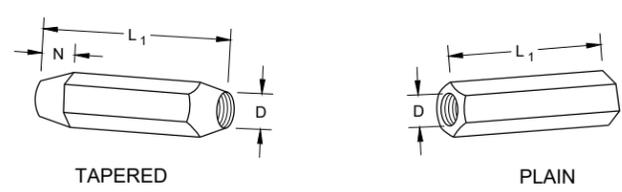
**LONGITUDINAL SECTION**  
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

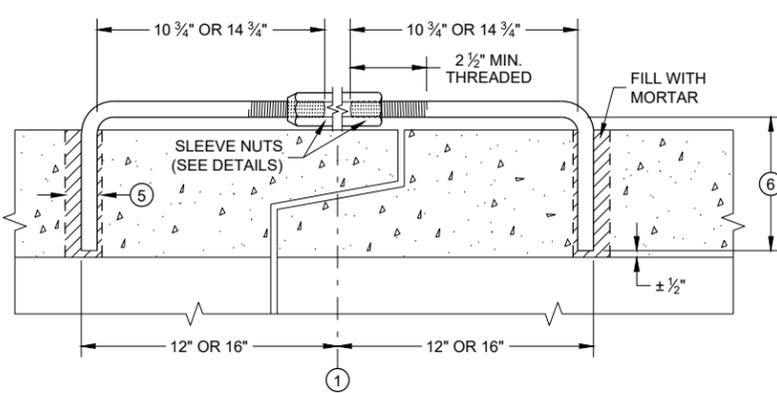
**ADJUSTABLE TIE ROD TABLE**

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 1/16

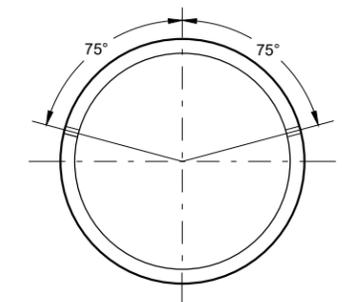
DIMENSIONS SHOWN ARE IN INCHES



**RIGHT AND LEFT THREADS SLEEVE NUTS**

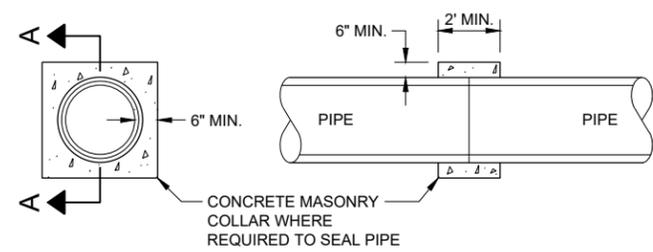


**LONGITUDINAL SECTION**  
**ADJUSTABLE TIE ROD (ALTERNATE NO. 3)**



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

**TRANSVERSE SECTION**

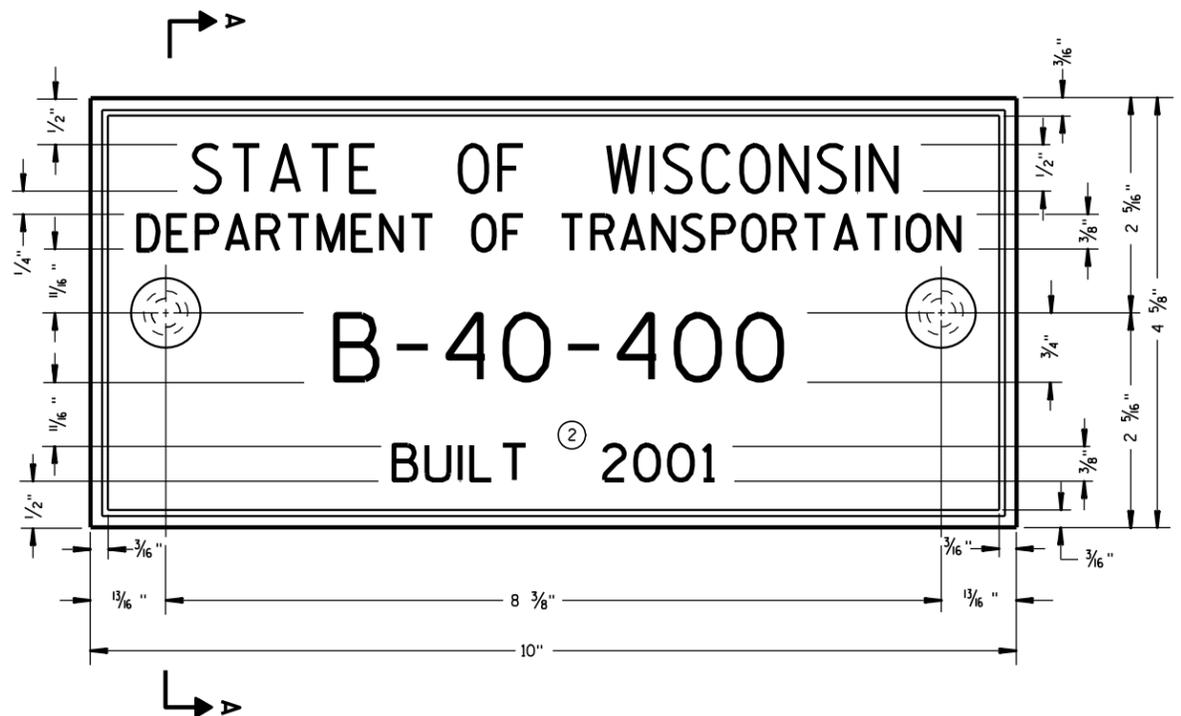


**SECTION A - A**  
**CONCRETE COLLAR DETAIL**

**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



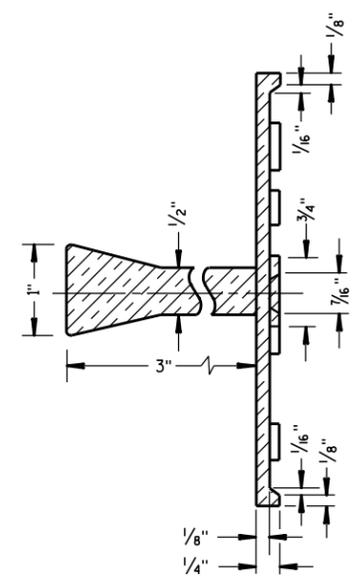
**TYPICAL NAME PLATE**  
(BRIDGES, CULVERTS, AND RETAINING WALLS)

**GENERAL NOTES**

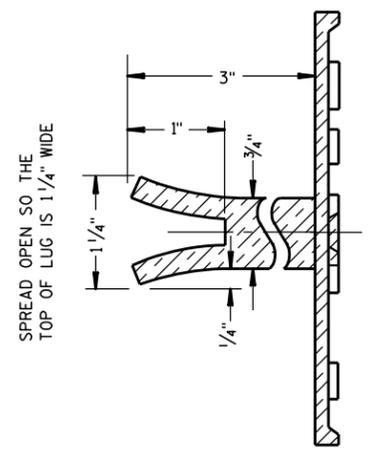
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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**

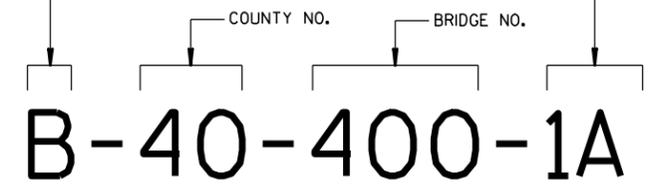
6

6

FOR MULTI-UNIT STRUCTURES  
LINE 3 ABOVE SHALL READ

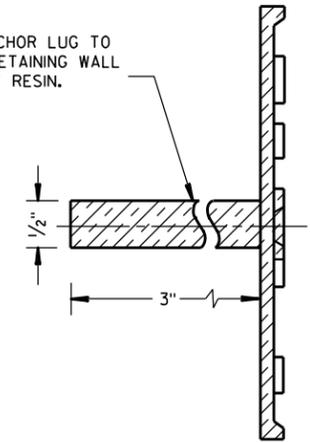
B = BRIDGE  
C = CULVERT  
R = RETAINING WALL

UNIT NO. FOR MULTIPLE  
UNIT BRIDGE



**NUMBERING DESIGNATION  
MULTI-UNIT STRUCTURES**

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

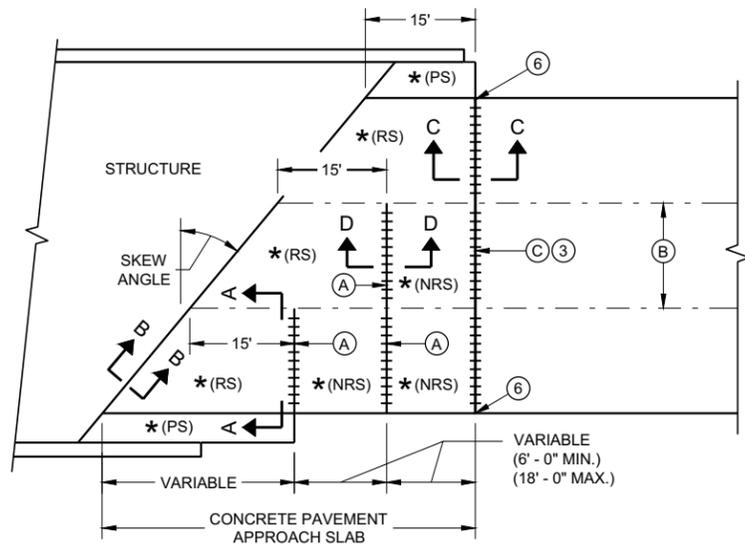


**ALTERNATE LUG**  
(FOR ATTACHMENT TO PRECAST STRUCTURES)

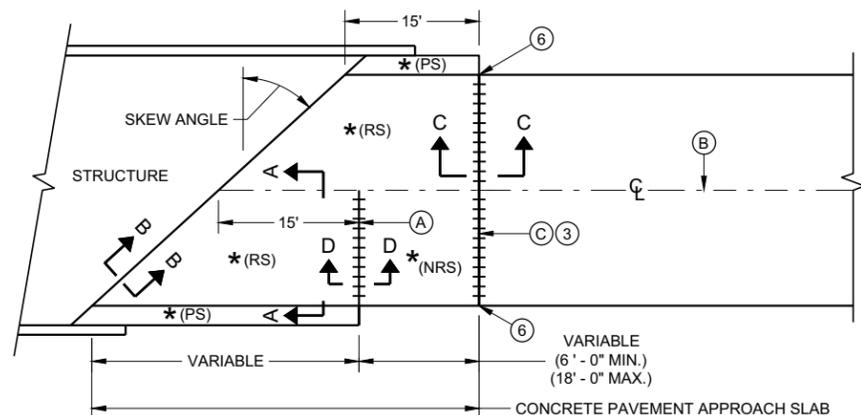
S.D.D. 12 A 3-10

S.D.D. 12 A 3-10

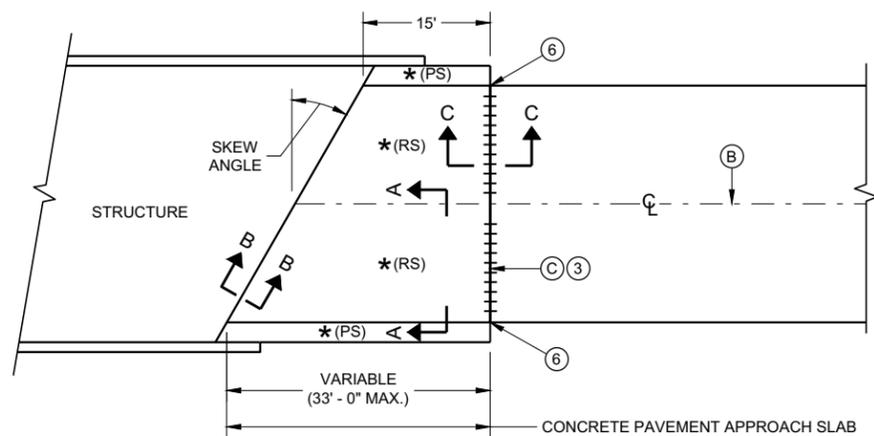
<b>NAME PLATE (STRUCTURES)</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE 3/26/10	/S/ Scot Becker CHIEF STRUCTURAL DEVELOPMENT ENGINEER
FHWA	



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

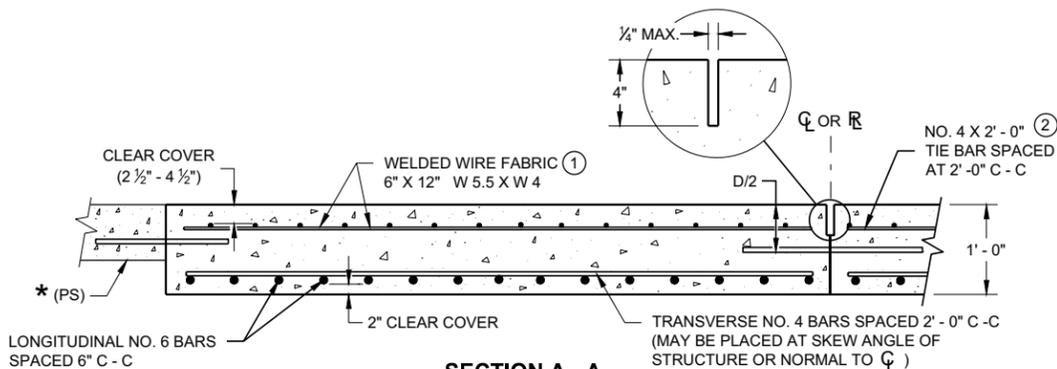


**SKews > 20°  
(PAVEMENT WIDTH ≤ 30')**

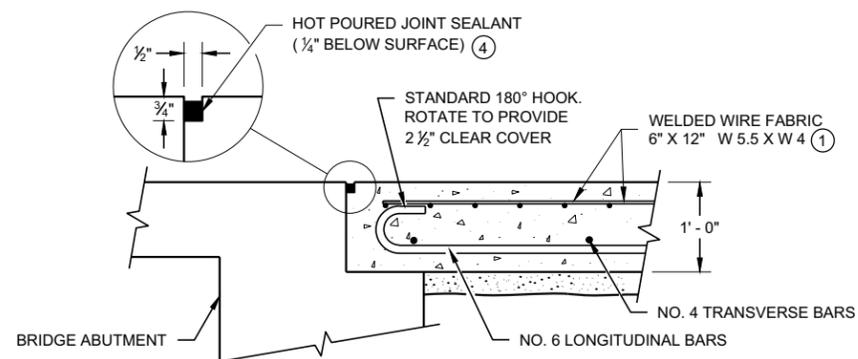


**SKews ≤ 20°  
(PAVEMENT WIDTH ≤ 30')**  
**APPROACH SLAB AND ADJACENT PAVEMENT**

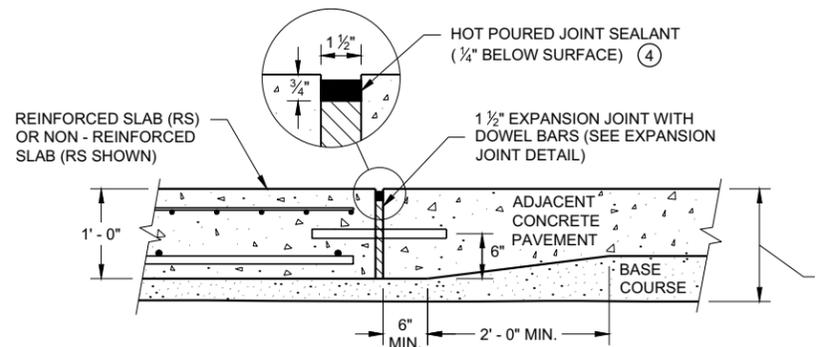
- \* (RS) = REINFORCED CONCRETE SLAB
- \* (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
- \* (NRS) - NON - REINFORCED CONCRETE SLAB
- \*\*\* STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



**SECTION A - A  
REINFORCEMENT POSITIONING DETAIL**



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



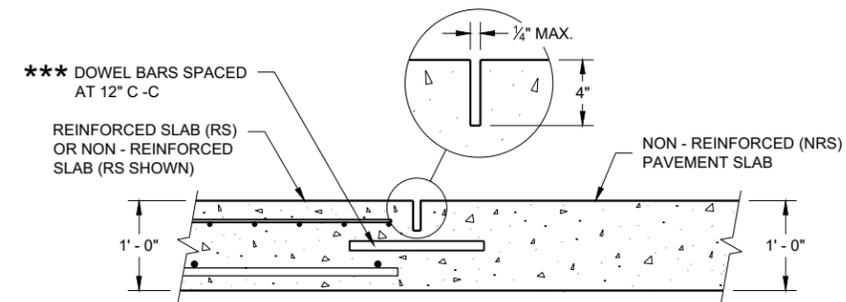
**SECTION C - C  
TRANSITION DETAIL  
APPROACH SLAB TO ADJACENT PAVEMENT**

**GENERAL NOTES**

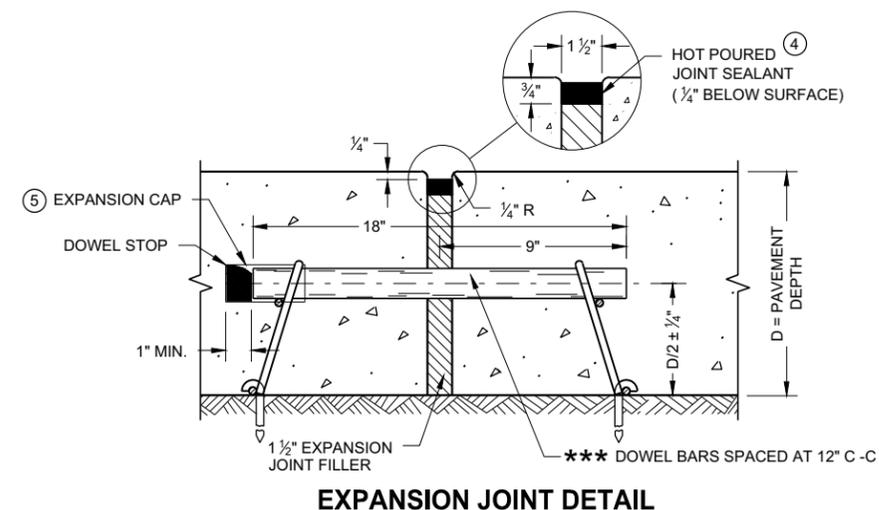
THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

- ① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2' - 0" C - C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.
- ② THE CONTRACTOR MAY OMIT THE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
- ③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.
- ④ USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
- ⑤ PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.
- ⑥ EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.
- (A) STANDARD CONTRACTION JOINT NORMAL TO  $\bar{C}$  OR  $\bar{R}$ .
- (B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.
- (C) 1 1/2" EXPANSION JOINT WITH DOWEL BARS NORMAL TO  $\bar{C}$  OR  $\bar{R}$ .



**SECTION D - D  
CONTRACTION JOINT**



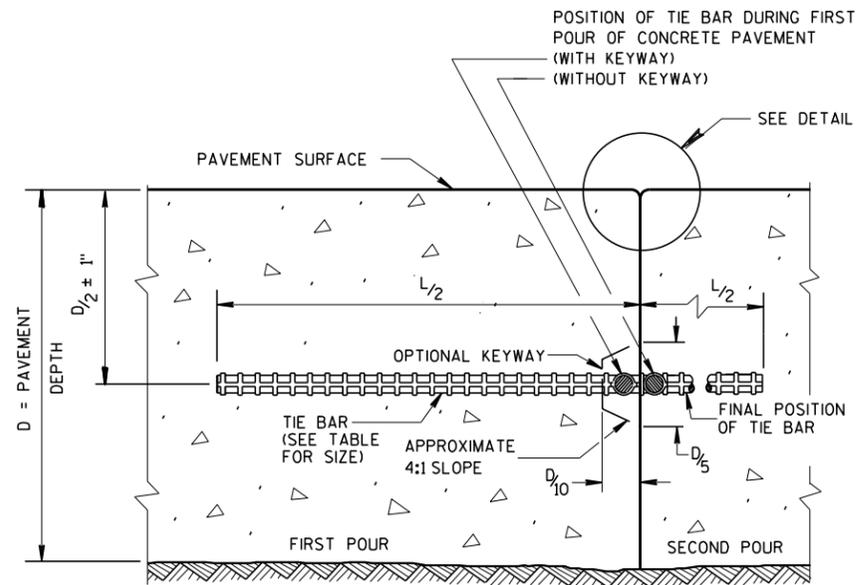
**EXPANSION JOINT DETAIL**

**CONCRETE PAVEMENT  
APPROACH SLAB**

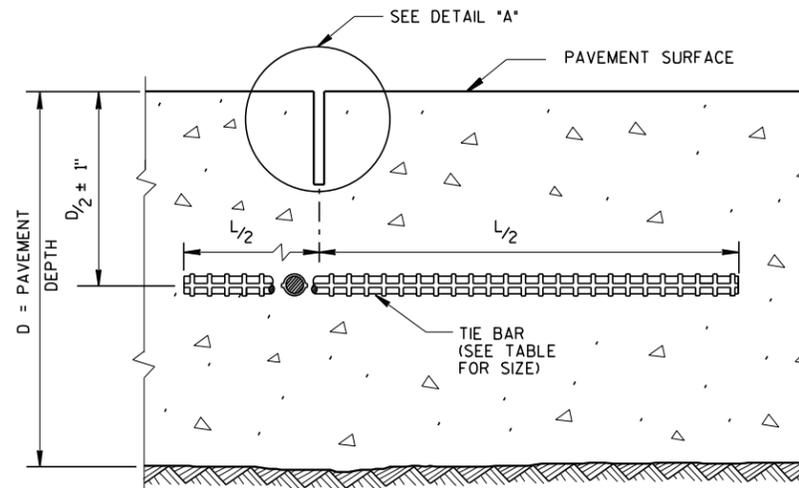
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2018 /S/ Peter Kemp, P.E.  
DATE DATE PAVEMENT SUPERVISOR

FHWA



**CONSTRUCTION JOINT**



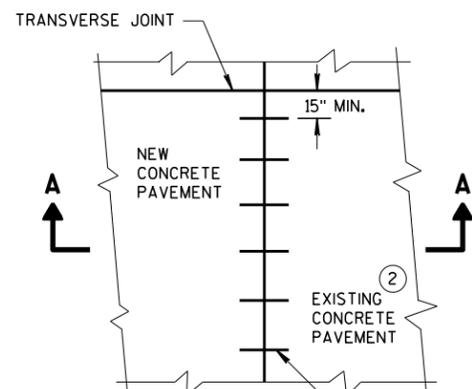
**SAWED JOINT**

**GENERAL NOTES**

CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

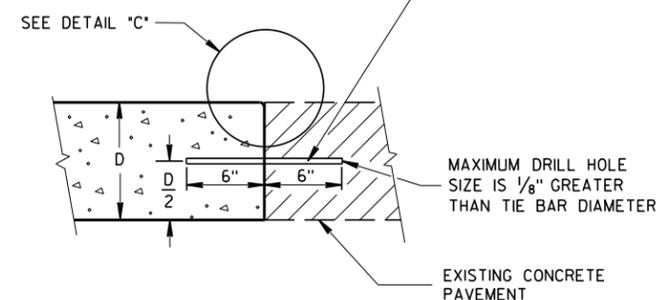
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

- ① ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.
- ② PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

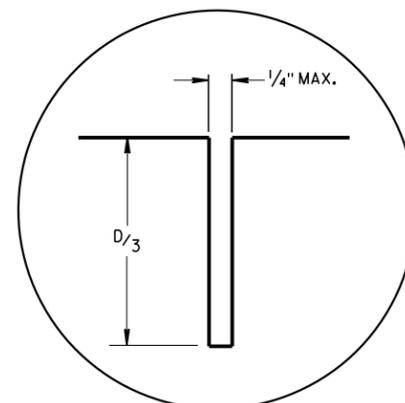


**PLAN VIEW**

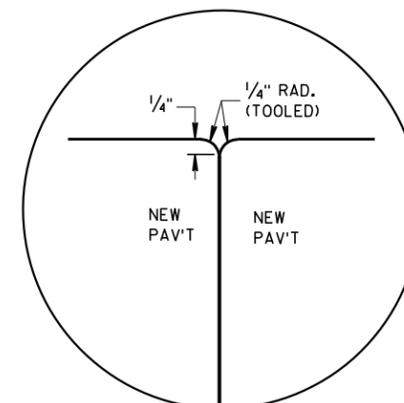
NO. 6 TIE BARS SPACED 30" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT. ①



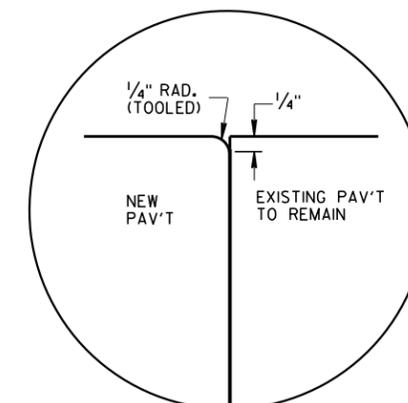
**SECTION A-A  
LONGITUDINAL CONSTRUCTION JOINT  
TIE BARS ANCHORED  
INTO EXISTING PAVEMENT**



**DETAIL "A"**



**DETAIL "B"**



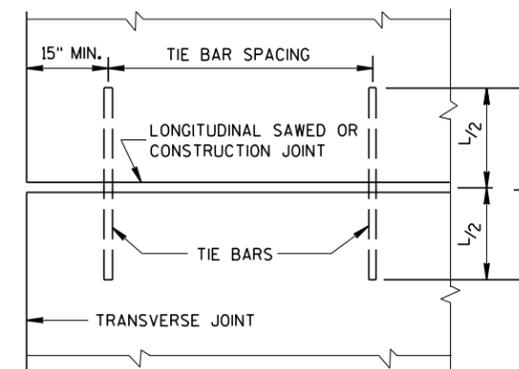
**DETAIL "C"**

**TIE BAR TABLE**

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

\* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

\*\* CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

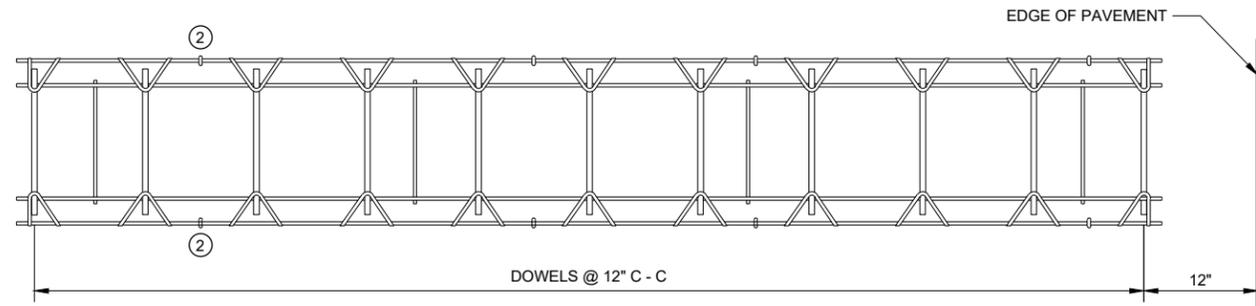


**PLAN VIEW  
SHOWING LOCATION OF TIE BARS**

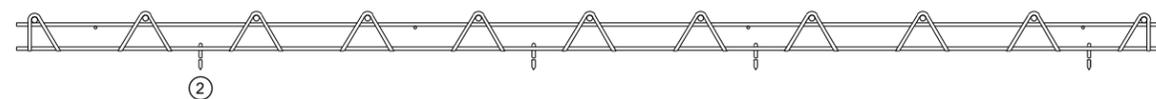
**CONCRETE PAVEMENT  
LONGITUDINAL JOINTS AND TIES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
March 2018 /S/ Peter Kemp, P.E.  
DATE PAVEMENT SUPERVISOR  
FHWA

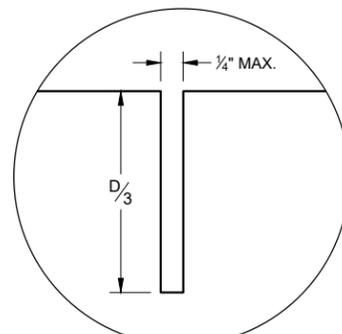


**PLAN VIEW**



**SIDE VIEW**

**CONTRACTION JOINT DOWEL ASSEMBLY** ①



**JOINT DETAIL**

**GENERAL NOTES**

**CONTRACTION JOINTS**

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

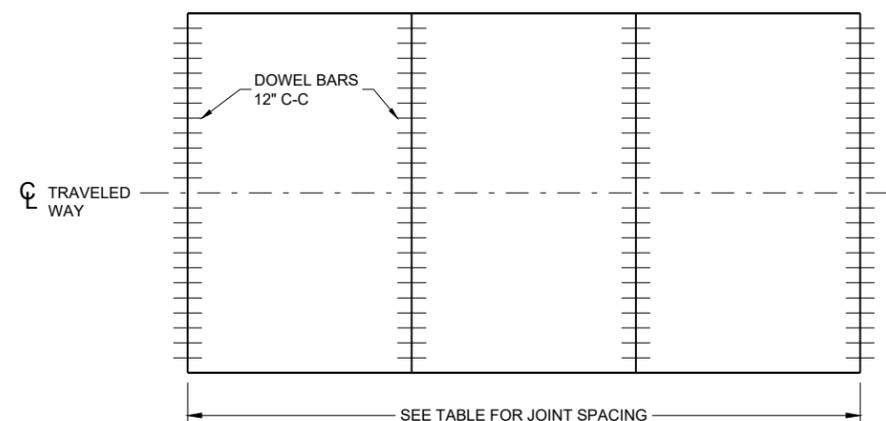
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES FROM AND A MAXIMUM OF 18 INCHES FROM THE FREE EDGE OF PAVEMENT.

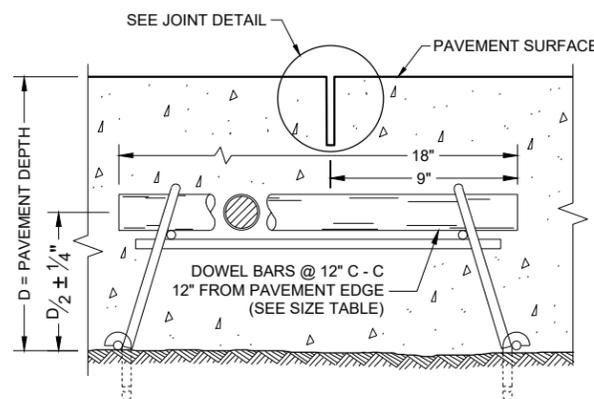
**CONSTRUCTION JOINTS**

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO THE CONTRACTION JOINTS.

- ① OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTION CONTRACTION JOINTS.
- ② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.
- ③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A 1/4" RADIUS AT FORMED JOINTS.
- ④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.
- ⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C - C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO THE "DRILLED DOWEL BAR CONSTRUCTION JOINT" DETAIL.
- ⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.
- ⑦ ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS 1/8" GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



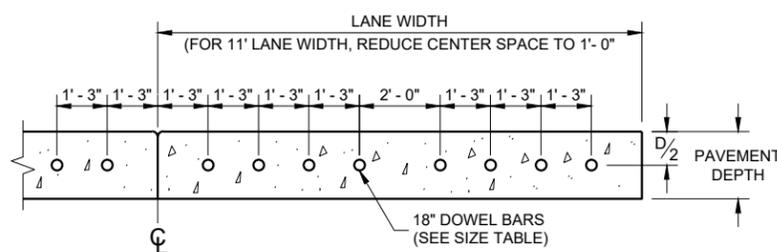
**CONTRACTION JOINT LOCATIONS**



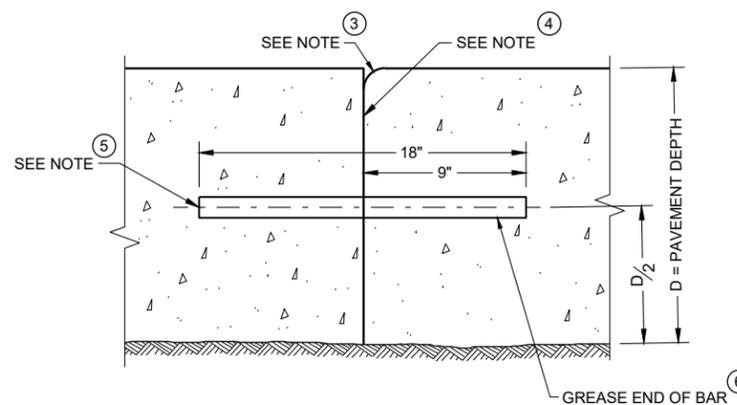
**DOWELED CONTRACTION JOINT**

**PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE**

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
6", 6 1/2"	NONE	12'
7", 7 1/2"	1"	14'
8" & ABOVE	1 1/4"	15'



**DRILLED DOWEL BAR CONSTRUCTION JOINT** ⑦



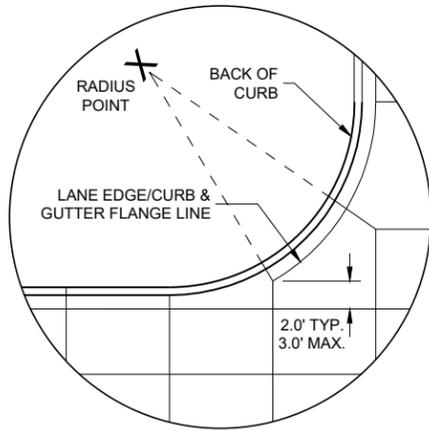
**TRANSVERSE CONSTRUCTION JOINT**

**URBAN DOWELED CONCRETE PAVEMENT**

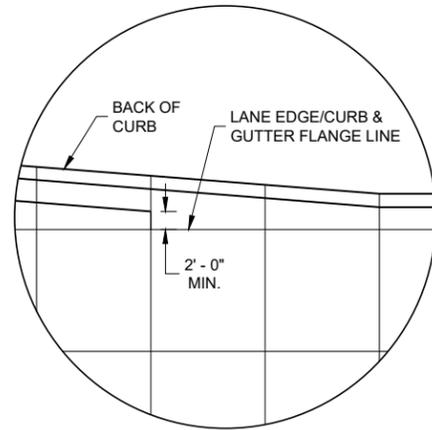
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2022 /S/ Peter Kemp P.E.  
DATE PAVEMENT SUPERVISOR

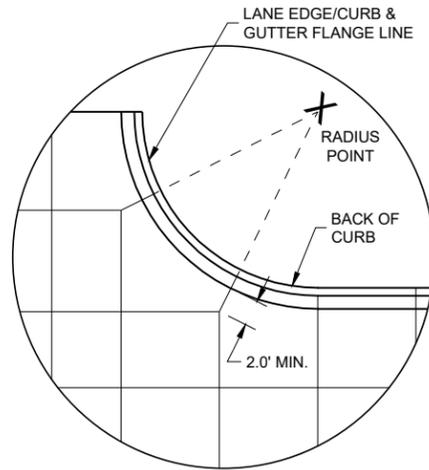
FHWA



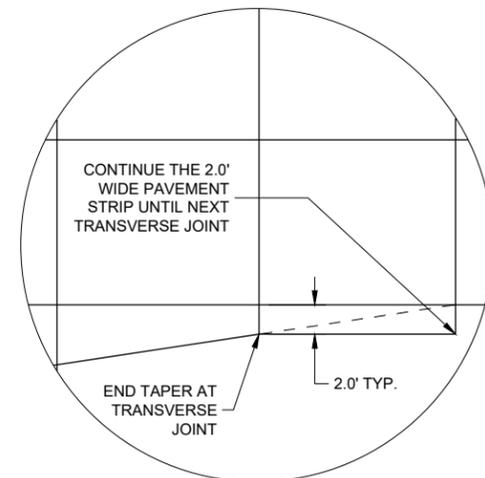
DETAIL "A"



DETAIL "B"



DETAIL "C"

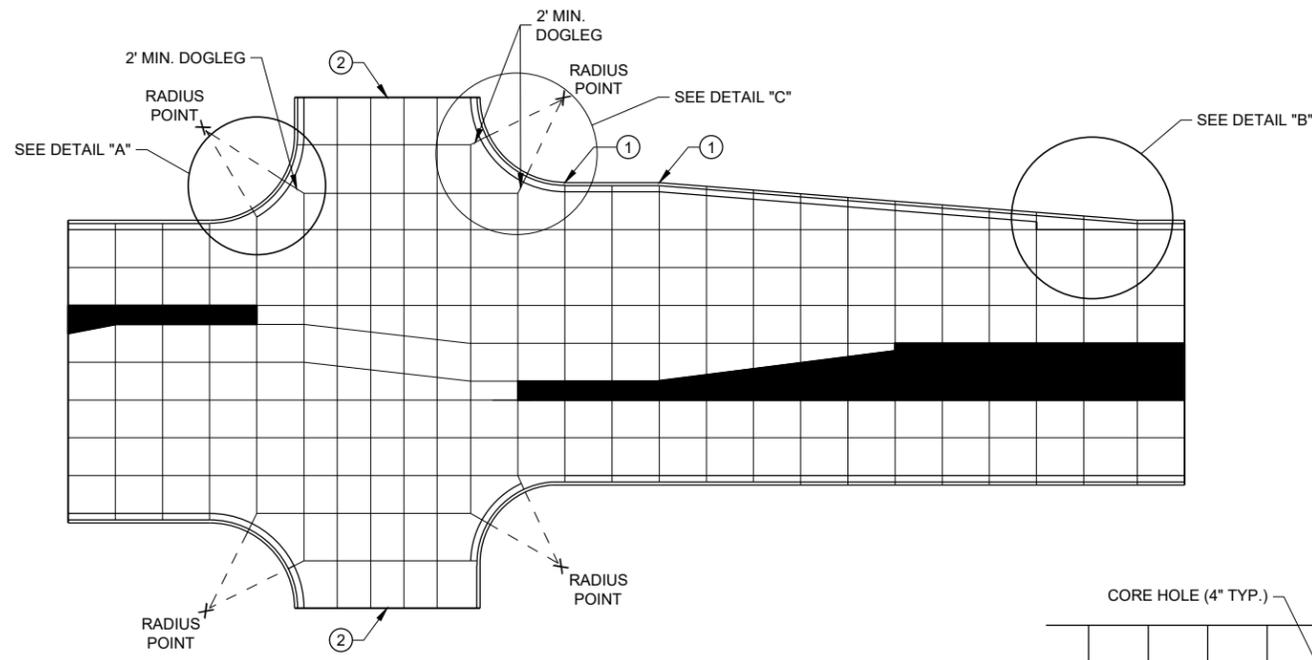


DETAIL "D"

**GENERAL NOTES**

- THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.
- ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.
- CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.
- ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.
- AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.
- SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.
- AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.
- CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

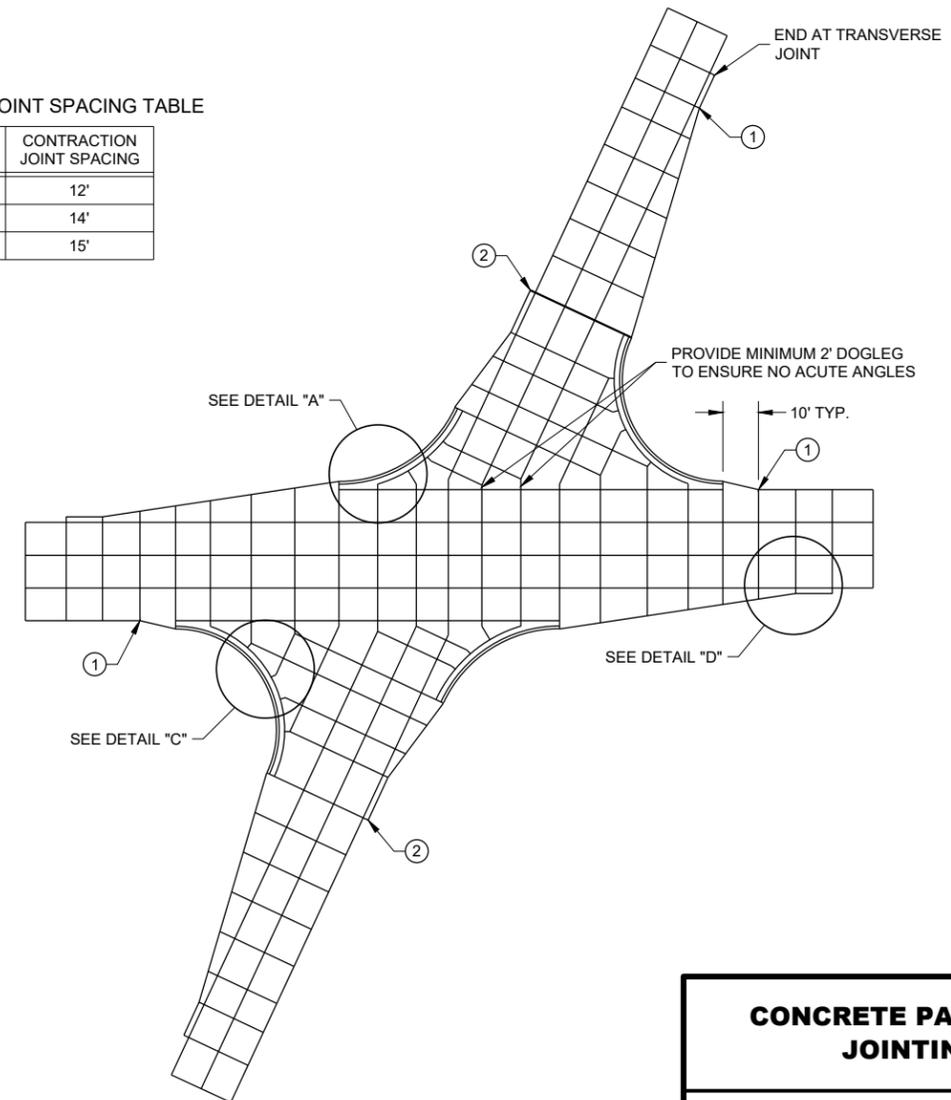
- ① PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
- ② CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
- ③ THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



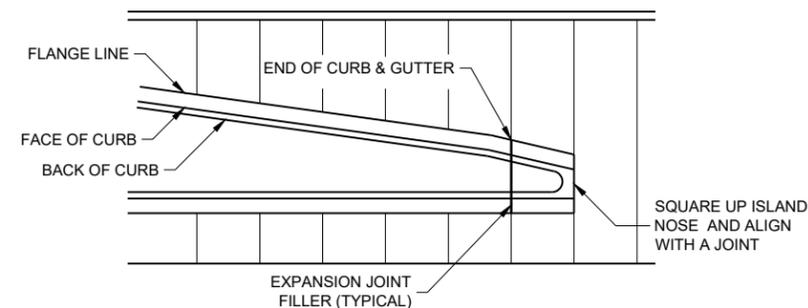
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

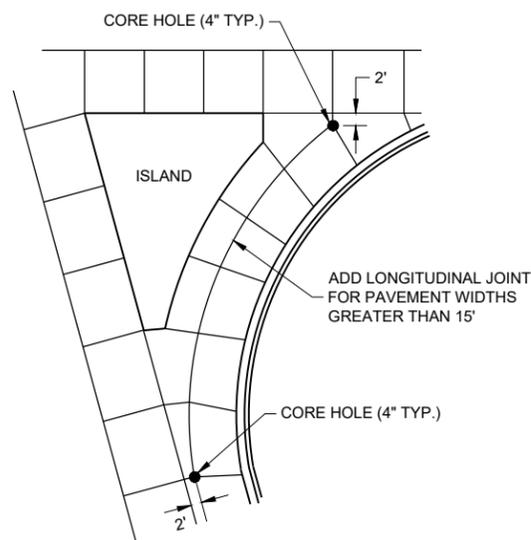
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6 1/2"	12'
7", 7 1/2"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

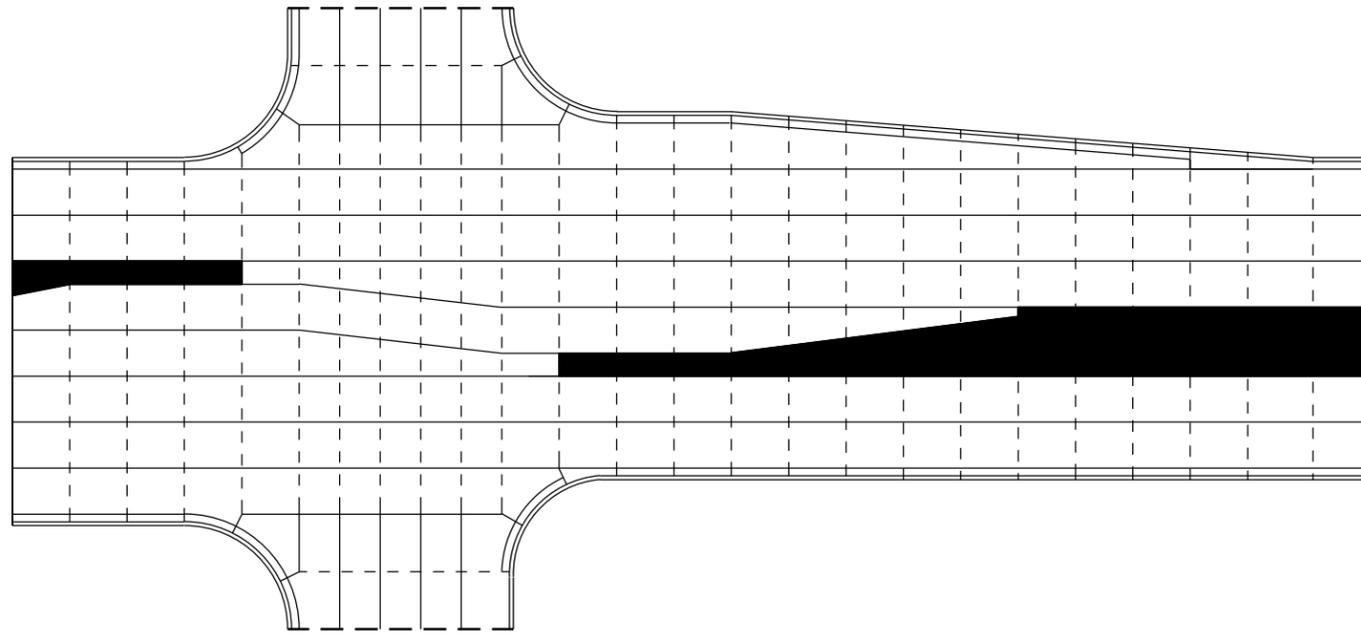
**LEGEND**

- - - - - POTENTIAL DOWELED EXPANSION JOINT
- - - - - DOWELED JOINT
- TIED JOINT

**GENERAL NOTES**

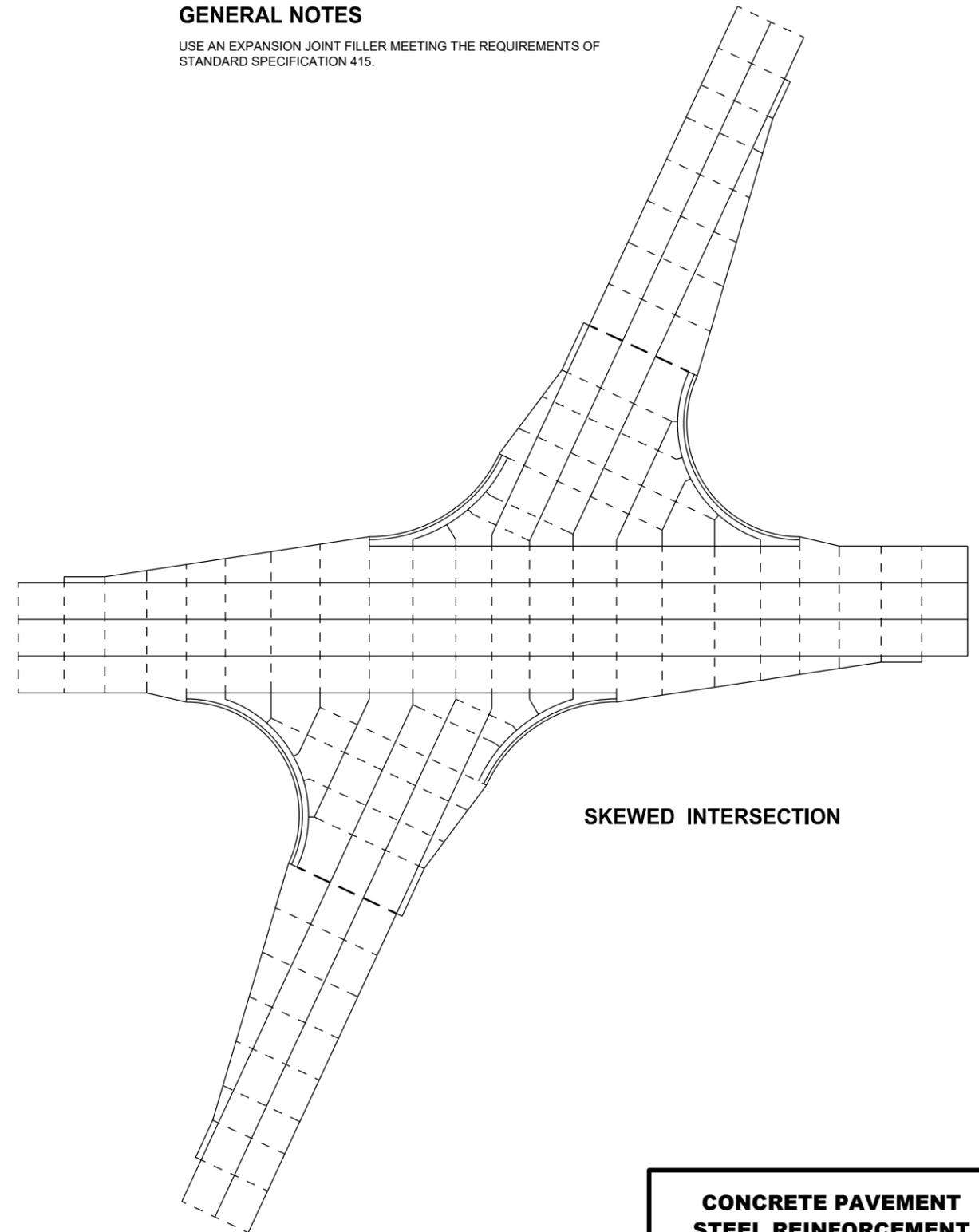
USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.

6



**STANDARD INTERSECTION**

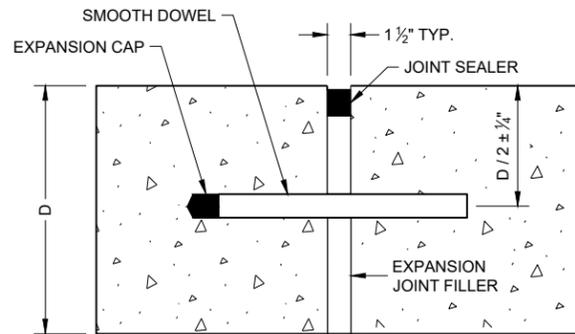
6



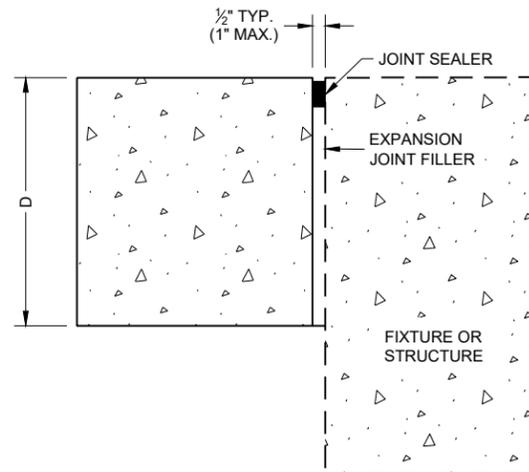
**SKewed INTERSECTION**

**CONCRETE PAVEMENT  
STEEL REINFORCEMENT**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**DOWELED TRANSVERSE** ①



**UNTIED - LONGITUDINAL**

**EXPANSION JOINTS**

**TIE BAR TABLE**

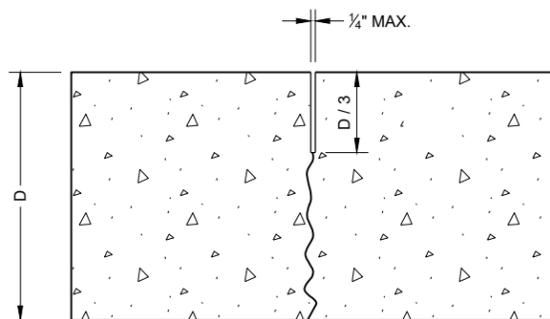
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4*	30"	24" **

\* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

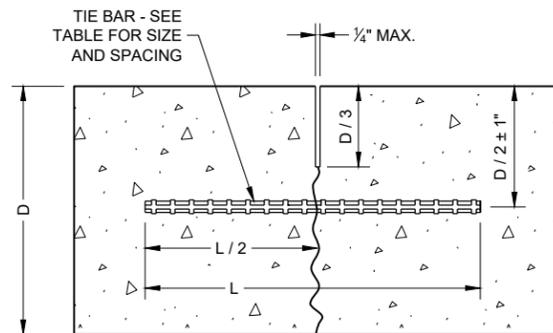
\*\* CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

**GENERAL NOTES**

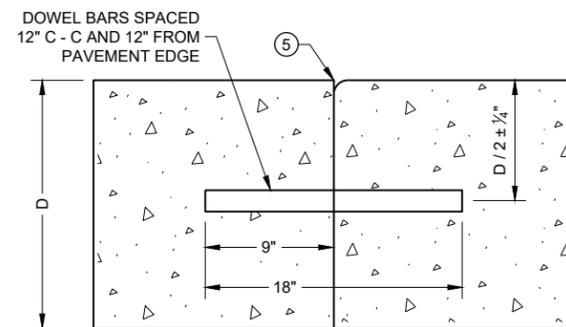
- ① USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
- ② SPACE CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C4, 13C11 OR 13C13.
- ③ LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
- ④ CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
- ⑤ IF JOINT IS FORMED, PROVIDE A 1/4" RADIUS.
- ⑥ ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



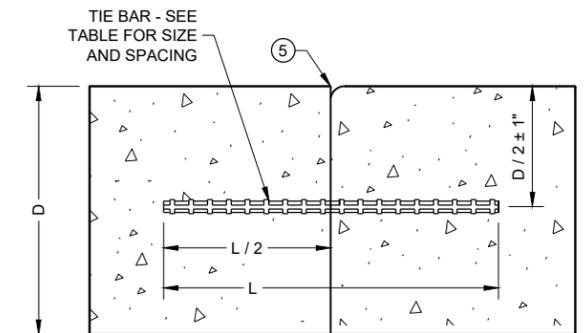
**UNDOWELED TRANSVERSE**



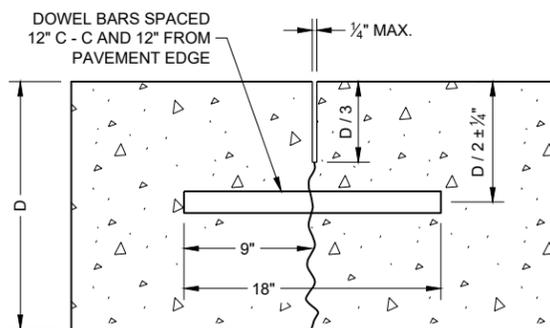
**TIED LONGITUDINAL**



**DOWELED TRANSVERSE** ③

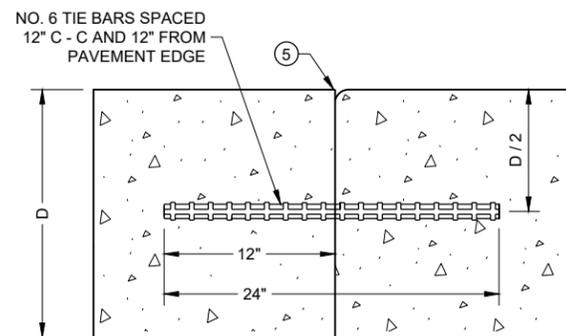


**TIED LONGITUDINAL**

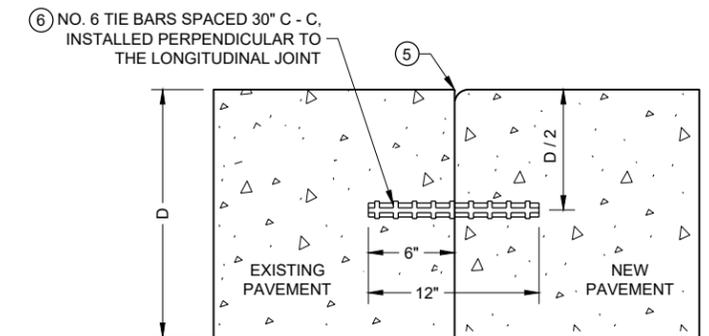


**DOWELED TRANSVERSE**

**CONTRACTION JOINTS** ②



**TIED TRANSVERSE** ③  
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)

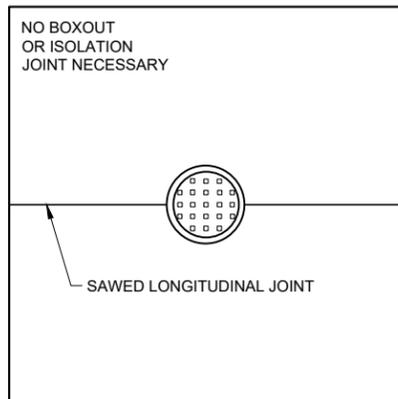


**TIED LONGITUDINAL TO EXISTING**

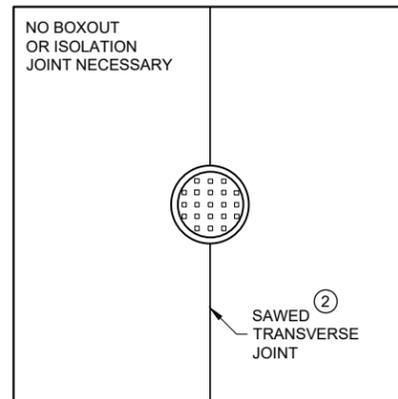
**CONSTRUCTION JOINTS** ④

**CONCRETE PAVEMENT  
JOINT TYPES**

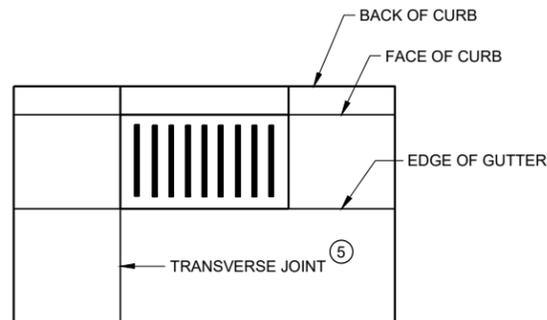
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



MANHOLE WITH LONGITUDINAL JOINT



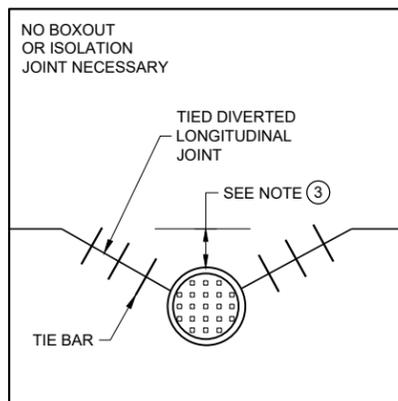
MANHOLE WITH TRANSVERSE JOINT



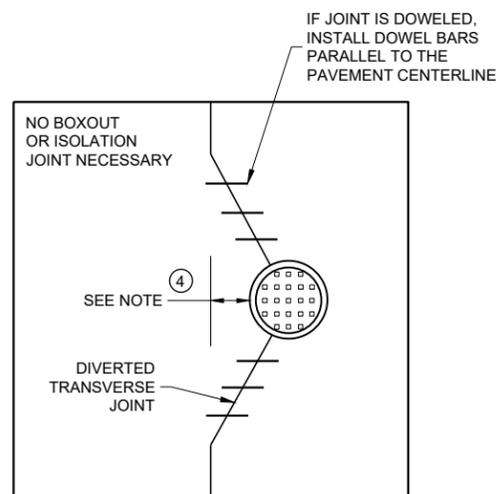
INLET WITH TRANSVERSE JOINT

GENERAL NOTES

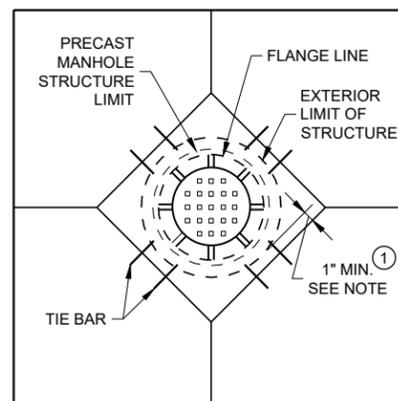
- ① USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1 FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.
- ② ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.
- ③ IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDINAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REINFORCEMENT REBAR AROUND THE MANHOLE.
- ④ IF THE DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS LESS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REINFORCEMENT REBAR AROUND THE MANHOLE.
- ⑤ ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT

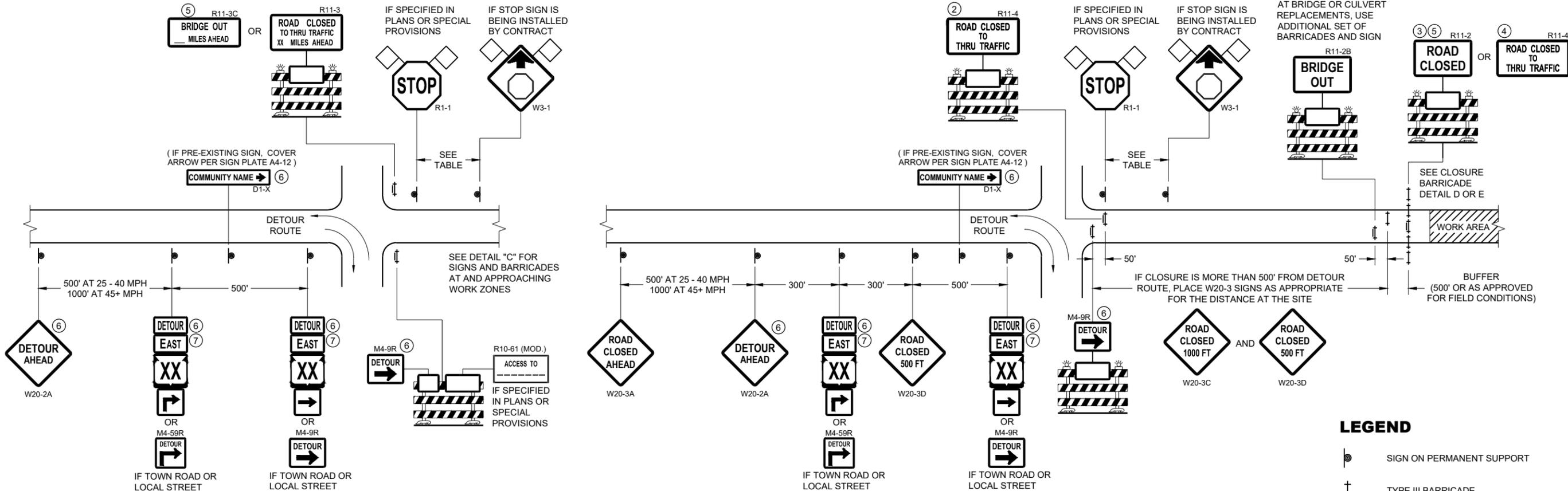


DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS

CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED  
 May 2023 /S/ Peter Kemp P.E.  
 DATE PAVEMENT SUPERVISOR



**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**

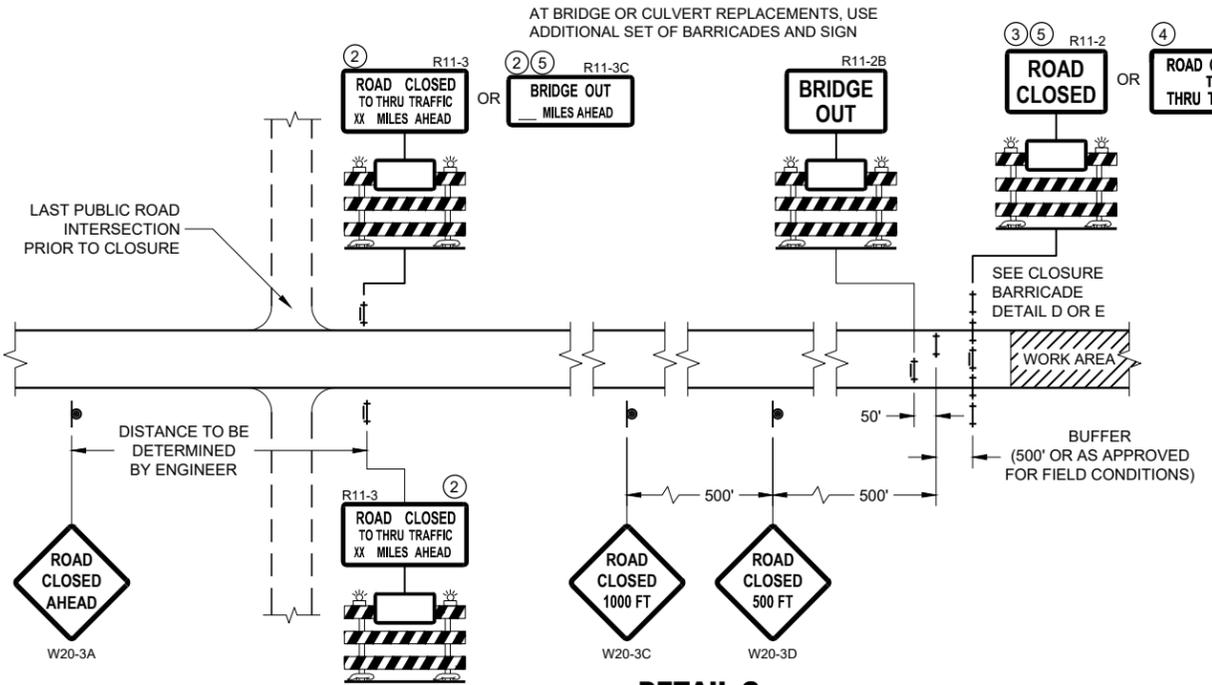
WORK ZONE LESS THAN 1/2 MILE FROM  
DETOUR ROUTE ( 1000 FEET IF URBAN )

**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 OR M1 - 6 OR M1 - 5A
- M05 - 1 OR M06 - 1



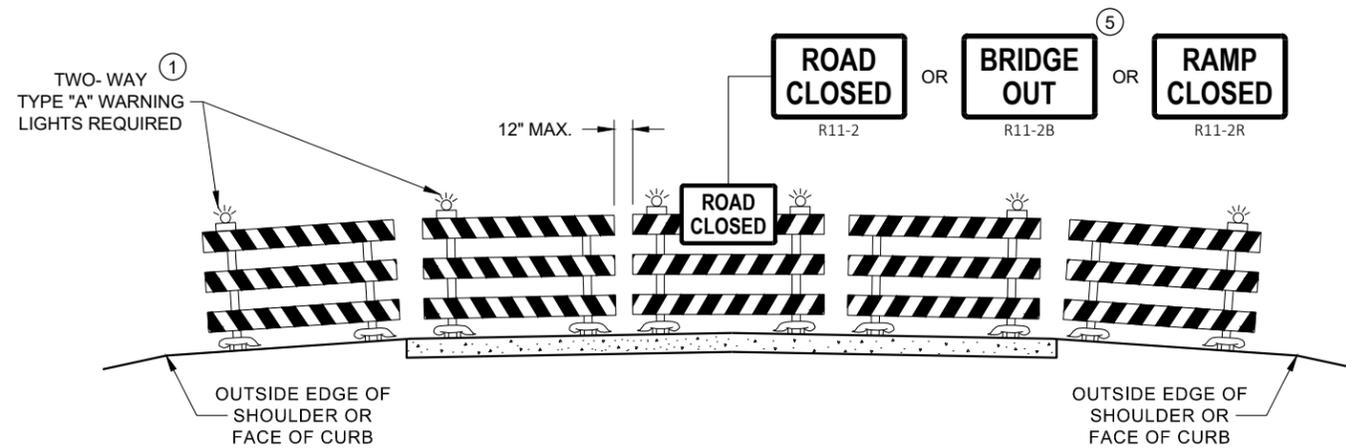
**DETAIL C  
MAINLINE CLOSURE, NO POSTED DETOUR**

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

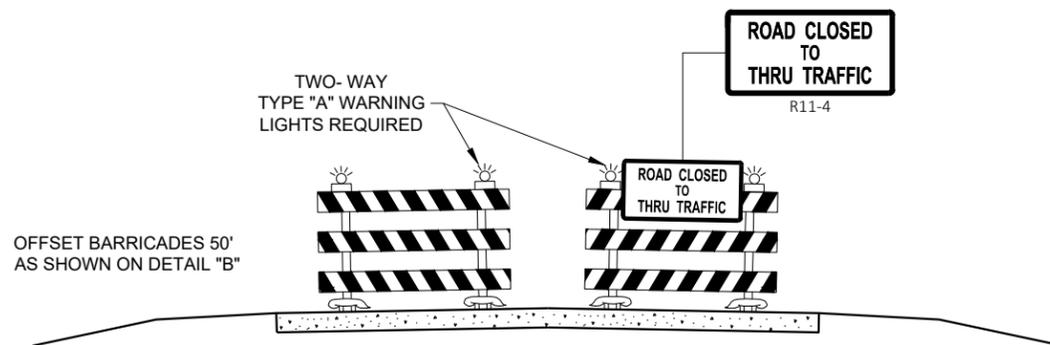
**BARRICADES AND SIGNS  
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



**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:

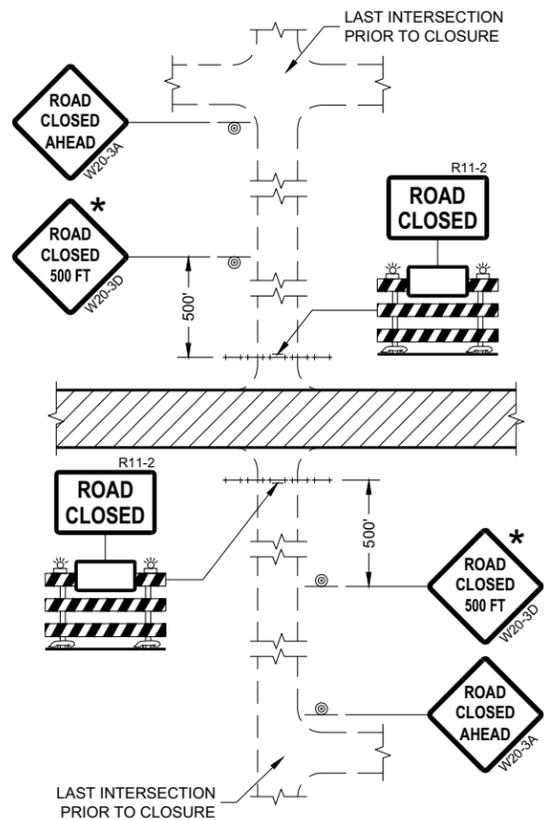
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60" X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" 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.

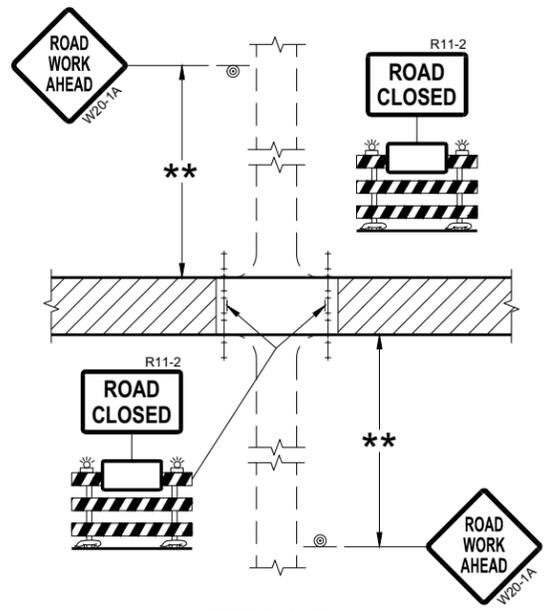
**BARRICADES AND SIGNS  
FOR  
VARIOUS CLOSURES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

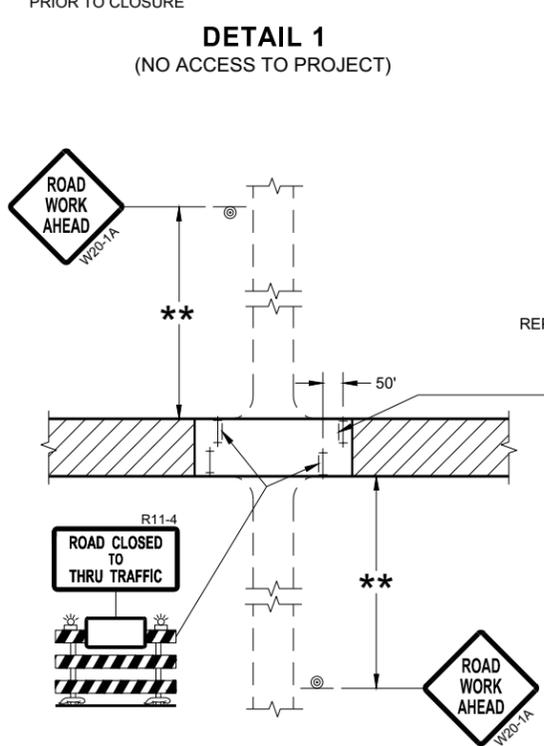
APPROVED  
May 2023 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER



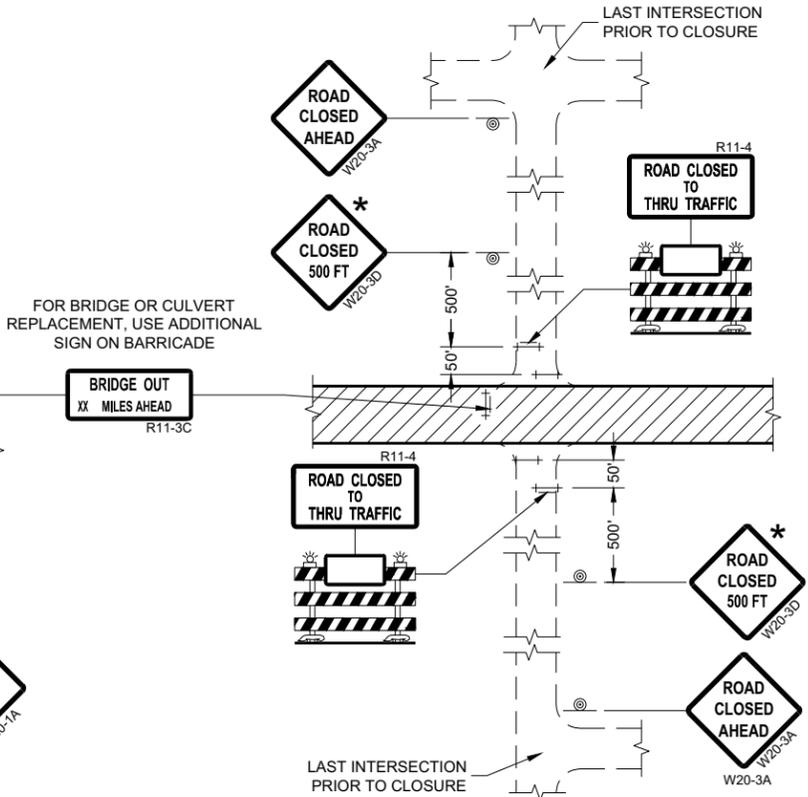
**DETAIL 1**  
(NO ACCESS TO PROJECT)



**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

FHWA

**GENERAL NOTES**

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

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

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

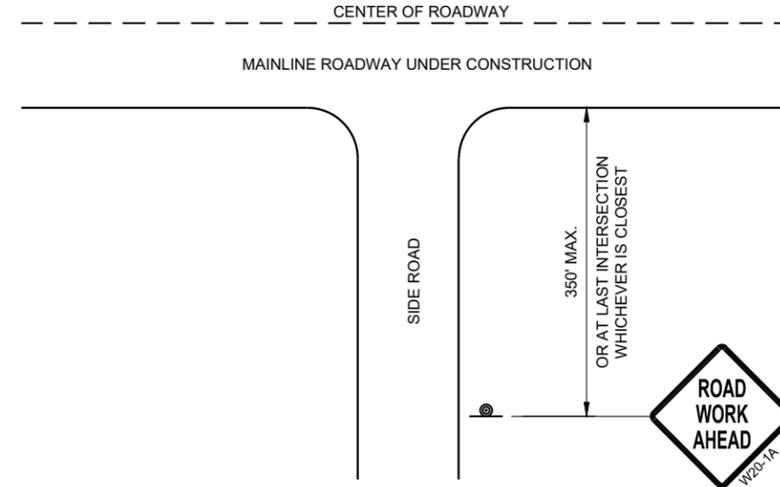
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

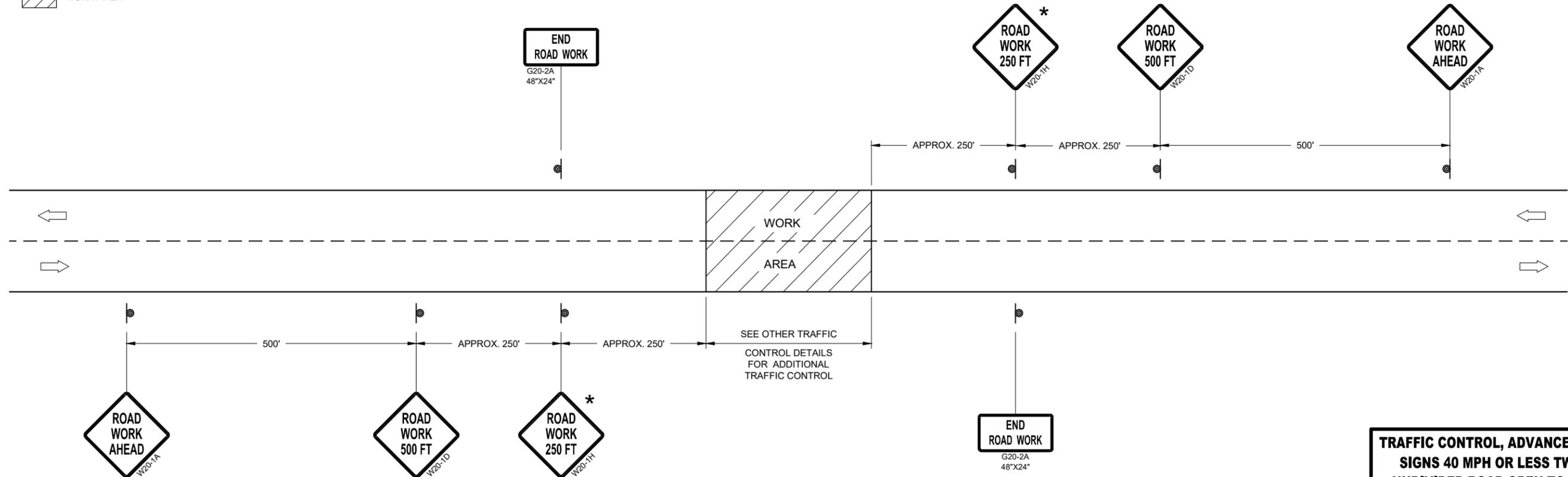
\* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FEET" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.

**LEGEND**

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



**TYPICAL SIDE ROAD APPROACH  
WARNING SIGN DETAIL**



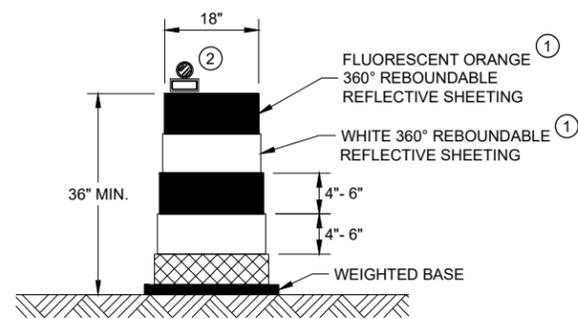
**TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS**

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

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

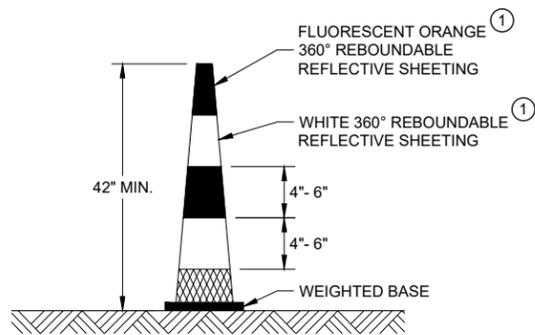
APPROVED  
DATE July 2018 /S/ Andrew Heidtke  
WORK ZONE ENGINEER

FHWA



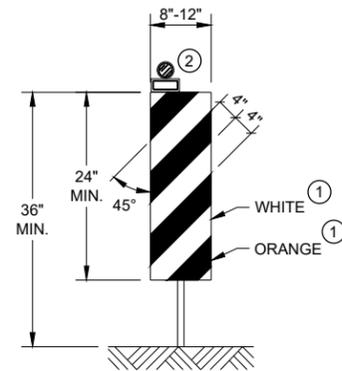
**DRUM**

BALLAST WIDTHS  
RANGE FROM 24"-36"



**42" CONE**

DO NOT USE IN TAPERS  
1/2 SPACING OF DRUMS  
BALLAST WIDTHS  
RANGE FROM 14"-20"

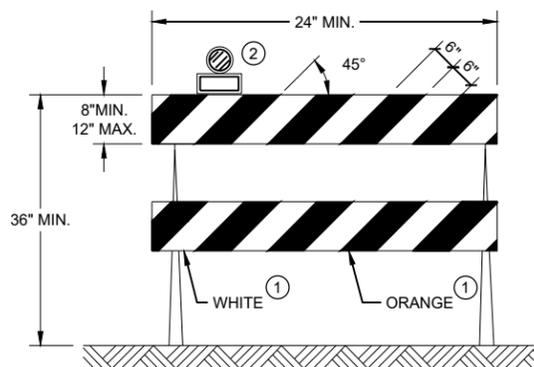


**VERTICAL PANEL**

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

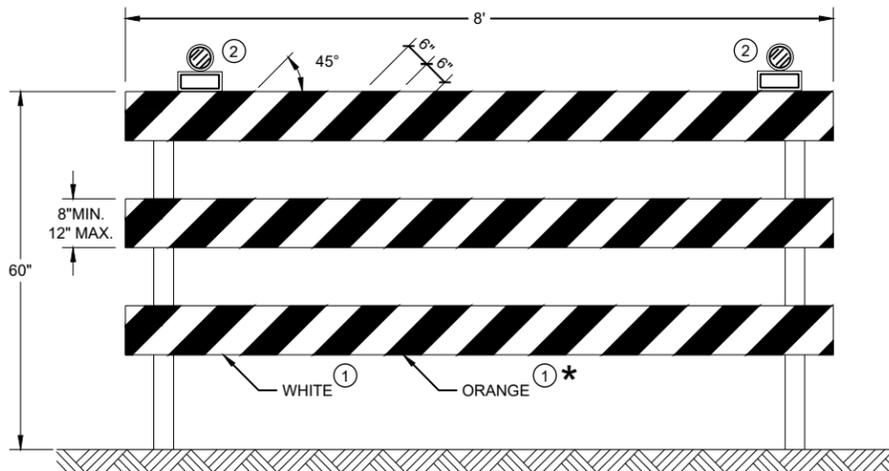
**GENERAL NOTES**

- 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

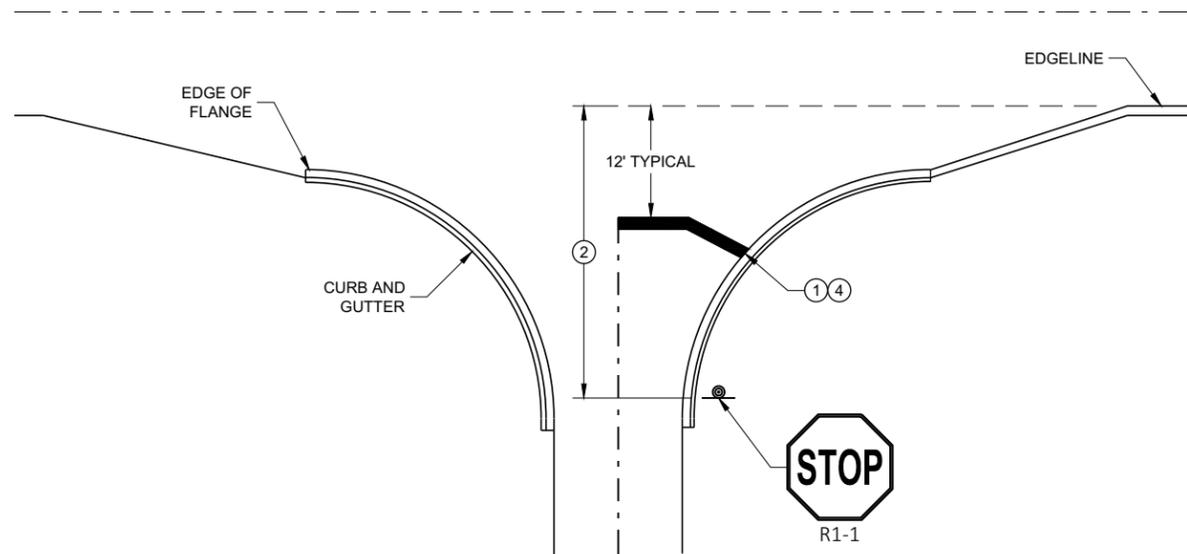
APPROVED  
November 2022 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

FHWA

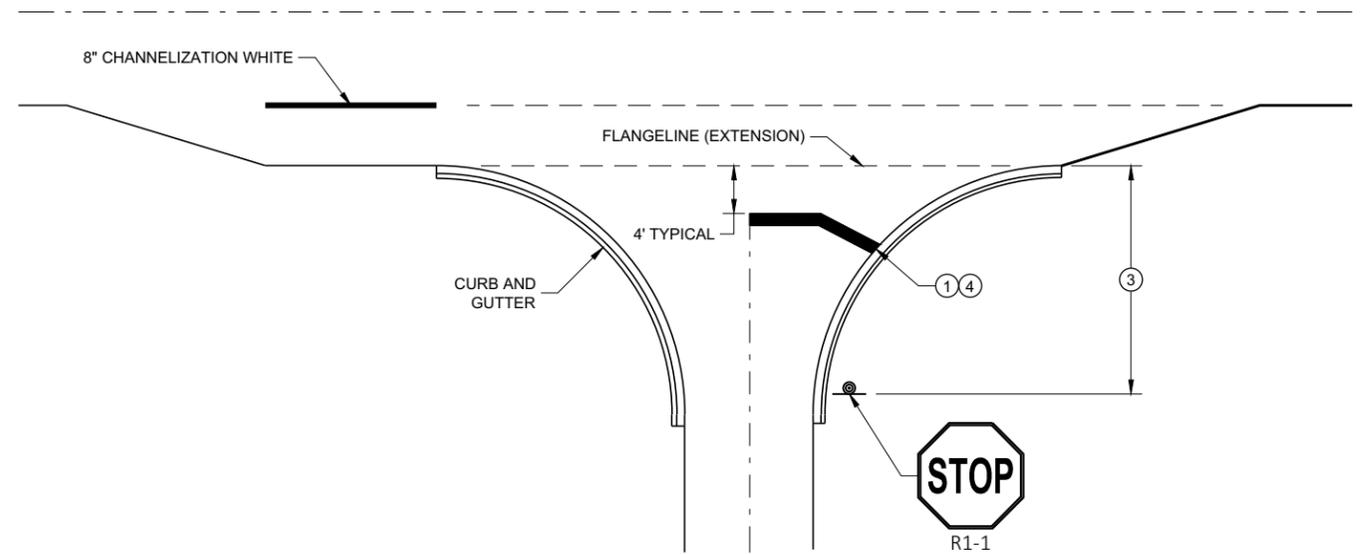
**GENERAL NOTES**

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

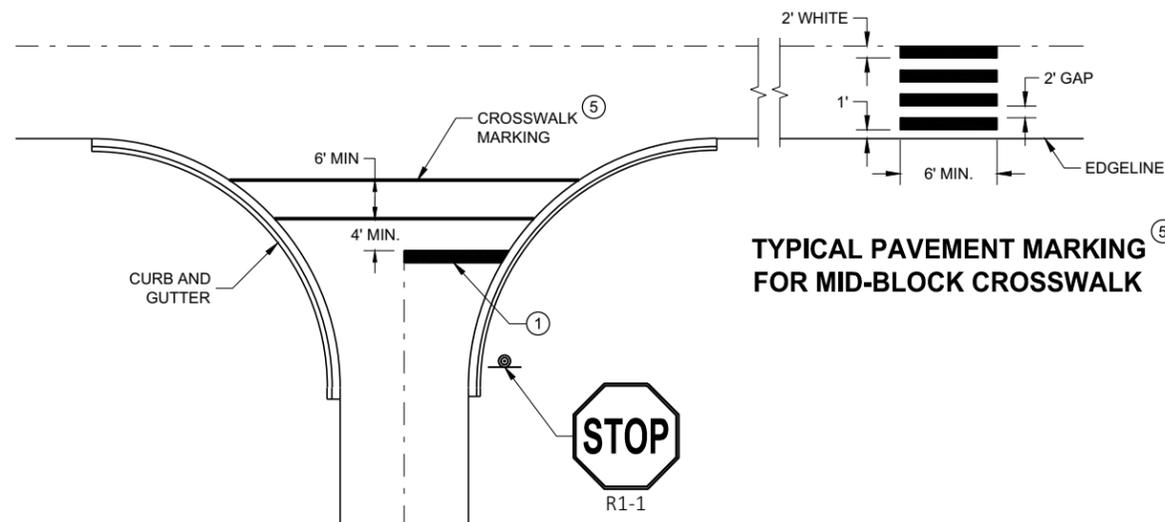
- ① 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- ② NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
- ③ NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION.
- ④ MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).
- ⑤ LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES INSTEAD.



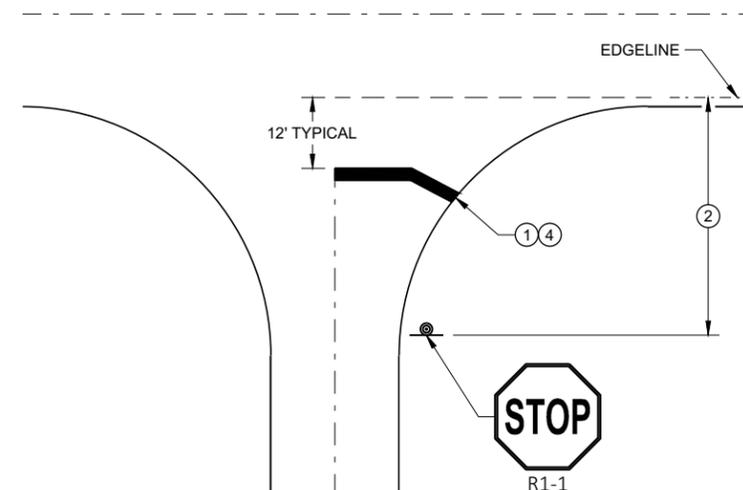
**TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER**



**TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE**



**TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING**



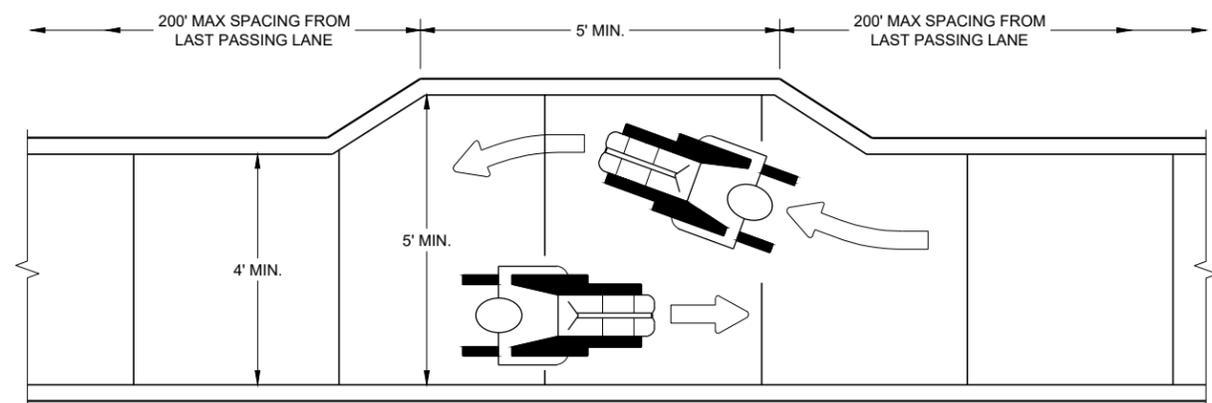
**TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER**

**STOP LINE AND CROSSWALK PAVEMENT MARKING**

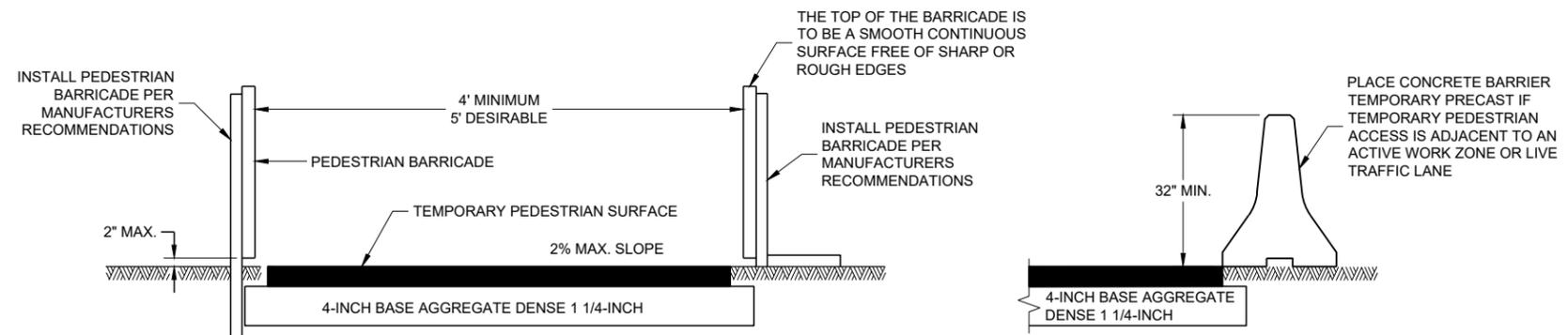
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2019 /S/ Matthew Rauch  
DATE STATE SIGNING AND MARKING ENGINEER

FHWA



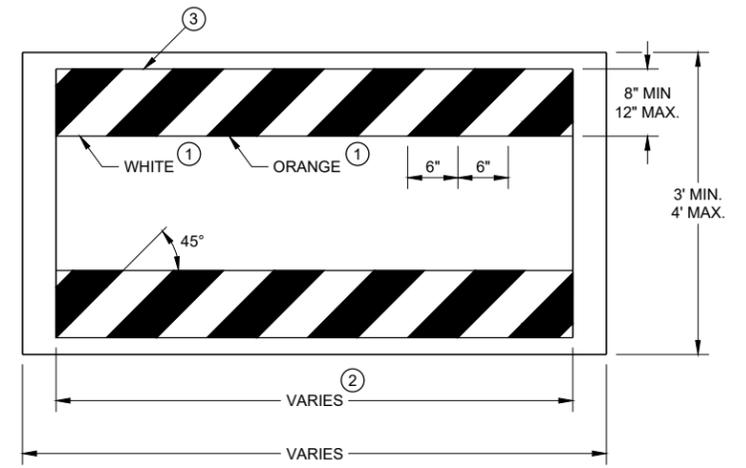
**NARROW SIDEWALK PASSING DETAIL**



**TEMPORARY PEDESTRIAN ACCESS**

**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.

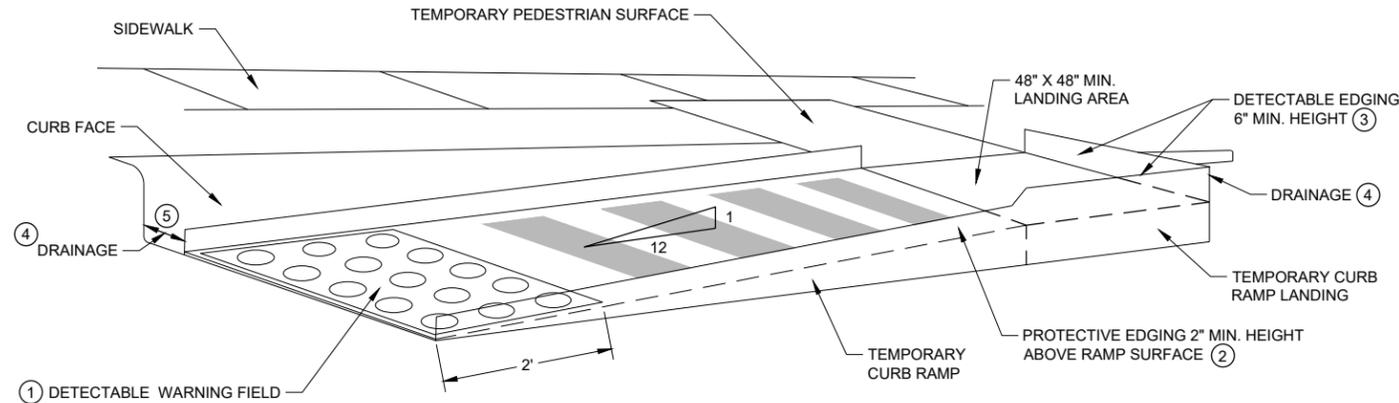


**TEMPORARY PEDESTRIAN BARRICADE\***

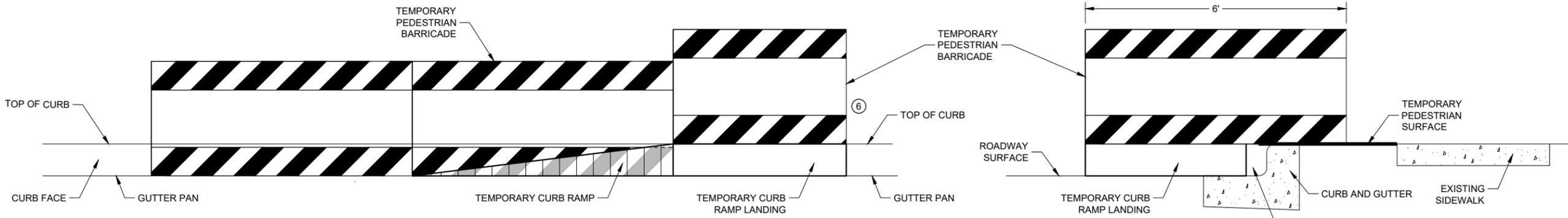
**GENERAL NOTES**

CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.  
 CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) 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.



**PERSPECTIVE VIEW**

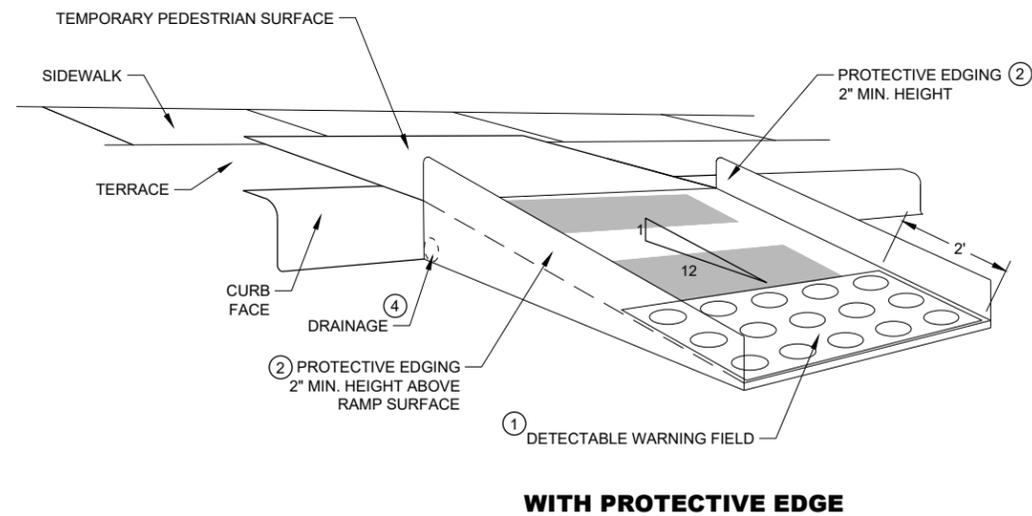
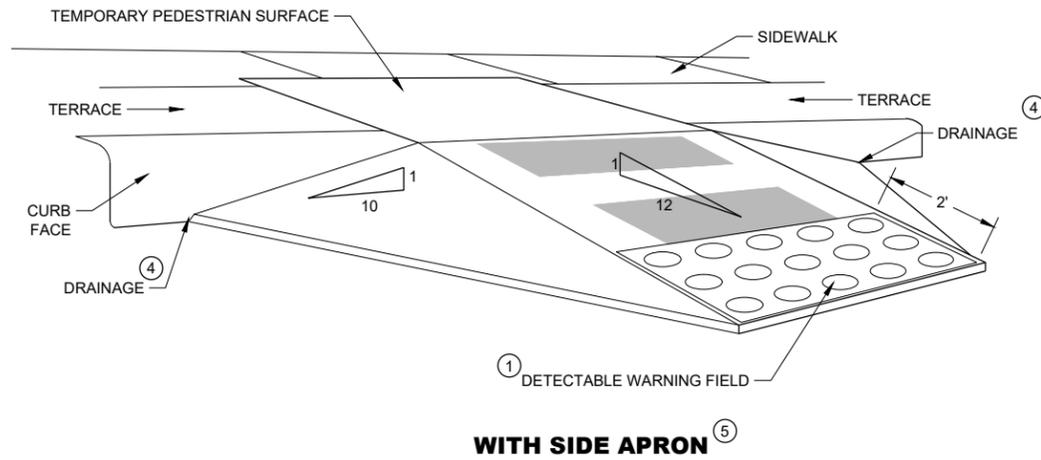


**FRONT VIEW**

**SIDE VIEW**

**TEMPORARY CURB RAMP PARALLEL TO CURB**

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



**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 1:50 (2%) MAX. CROSS-SLOPE.

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

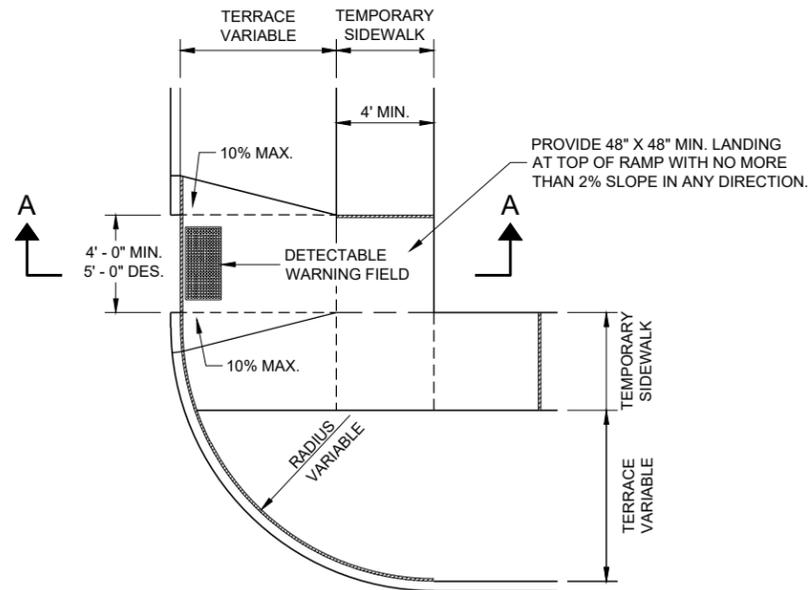
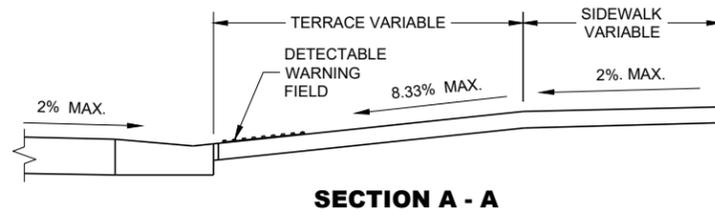
LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.

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.

**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.



**PLAN VIEW**  
**TEMPORARY TYPE 3 RAMP**  
 (OUTSIDE OF CROSSWALK AREA)

6

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SDD 15D30-09d

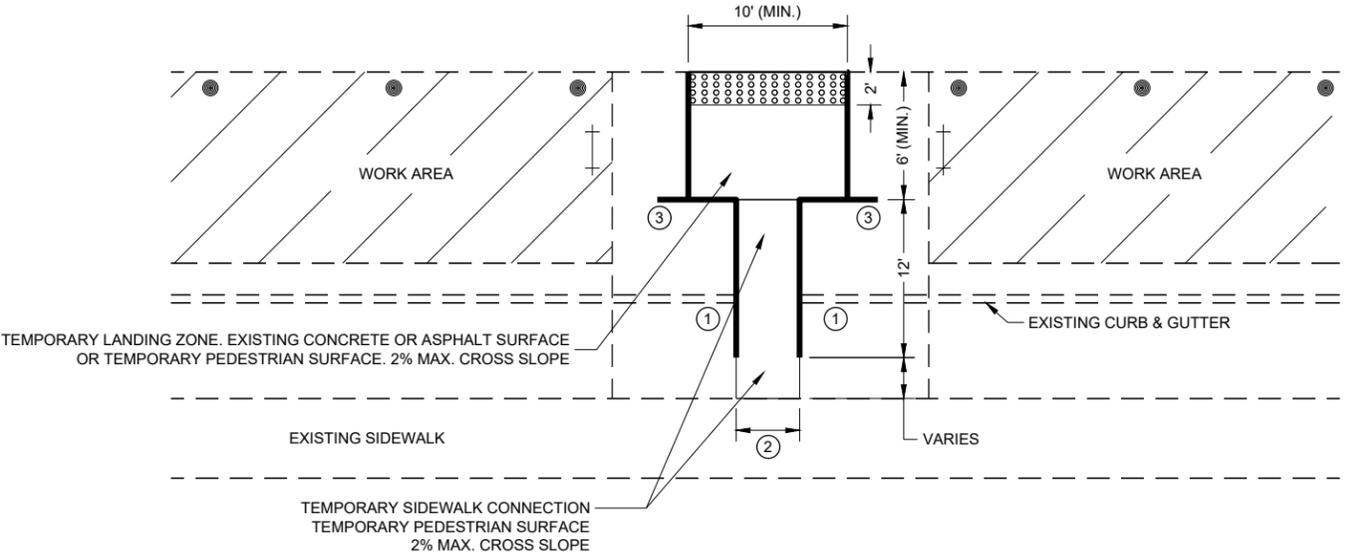
SDD 15D30-09d

<b>TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

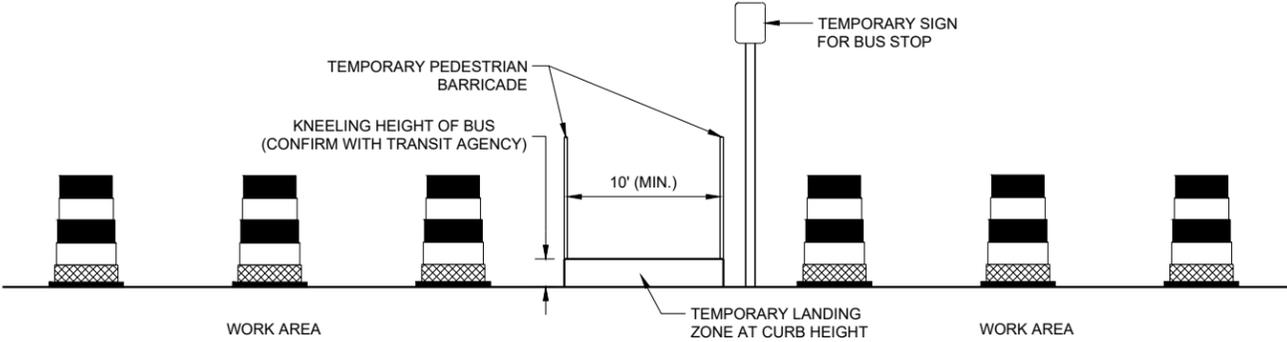
**GENERAL NOTES**

- TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG.
- NOTIFY THE BUS COMPANY 7 DAYS IN ADVANCE OF THE BUS STOP RELOCATION.
- 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 RAMP OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
- DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
- 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".
- CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.

- ① DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.
- ② 5' WIDE MIN. WITH TEMPORARY PEDESTRIAN BARRICADE, 10' WIDE MIN. WITHOUT TEMPORARY PEDESTRIAN BARRICADE.
- ③ PLACE EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE INTO THIS SPACE.



**PLAN VIEW**



**PROFILE VIEW  
TEMPORARY BUS STOP PAD**

**LEGEND**

- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE
- TEMPORARY PEDESTRIAN BARRICADE
- TEMPORARY DETECTABLE WARNING FIELD
- WORK AREA

**TRAFFIC CONTROL,  
PEDESTRIAN ACCOMMODATION**

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STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

6

6

SDD 15D30 - 09e

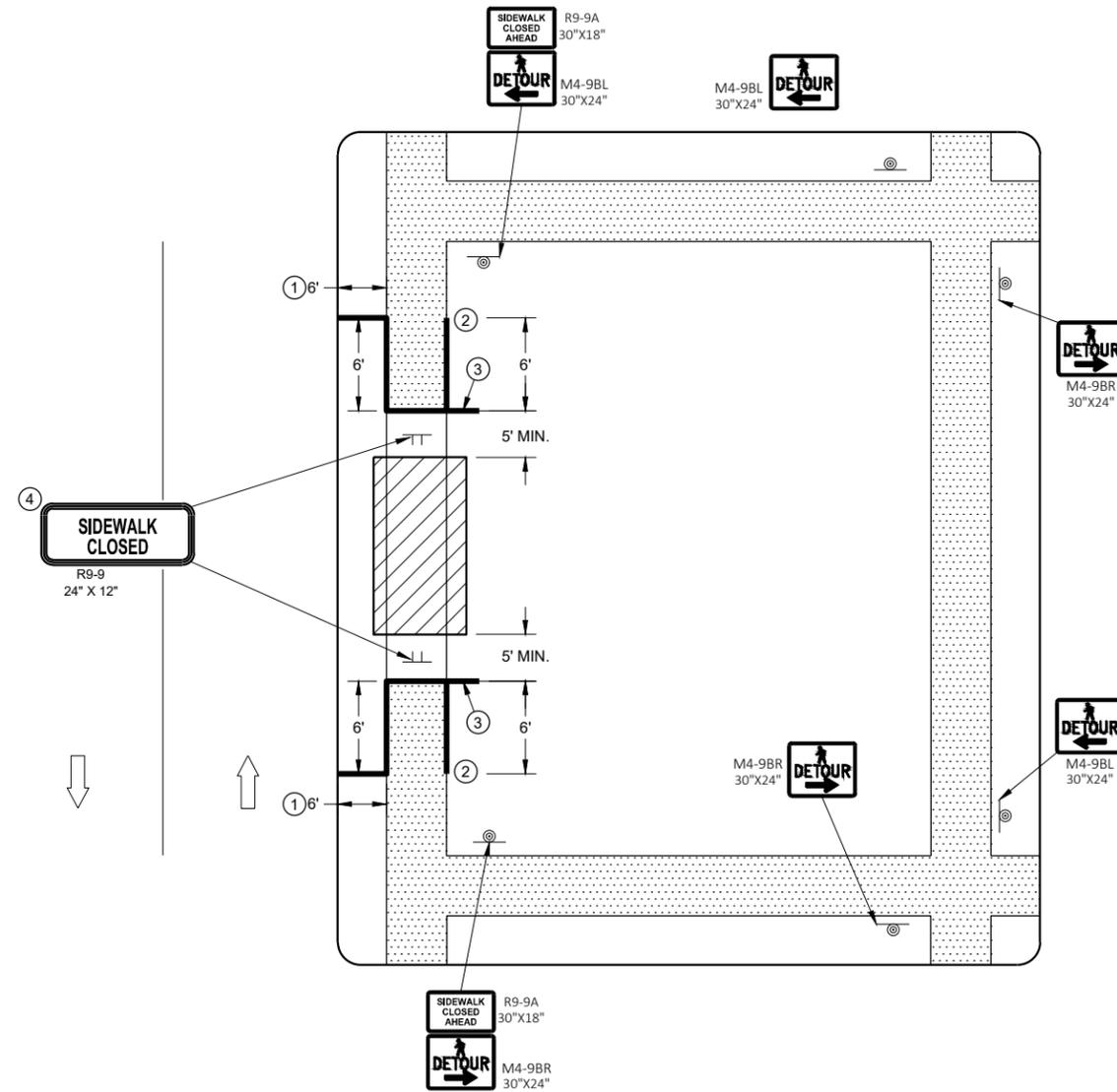
SDD 15D30 - 09e

**LEGEND**

-  SIGN ON PERMANENT SUPPORT
-  SIGN ON TEMPORARY SUPPORT
-  UNDER PEDESTRIAN TRAFFIC
-  WORK AREA
-  TEMPORARY PEDESTRIAN BARRICADE
-  DIRECTION OF TRAFFIC

**GENERAL NOTES**

- SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.
- 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**

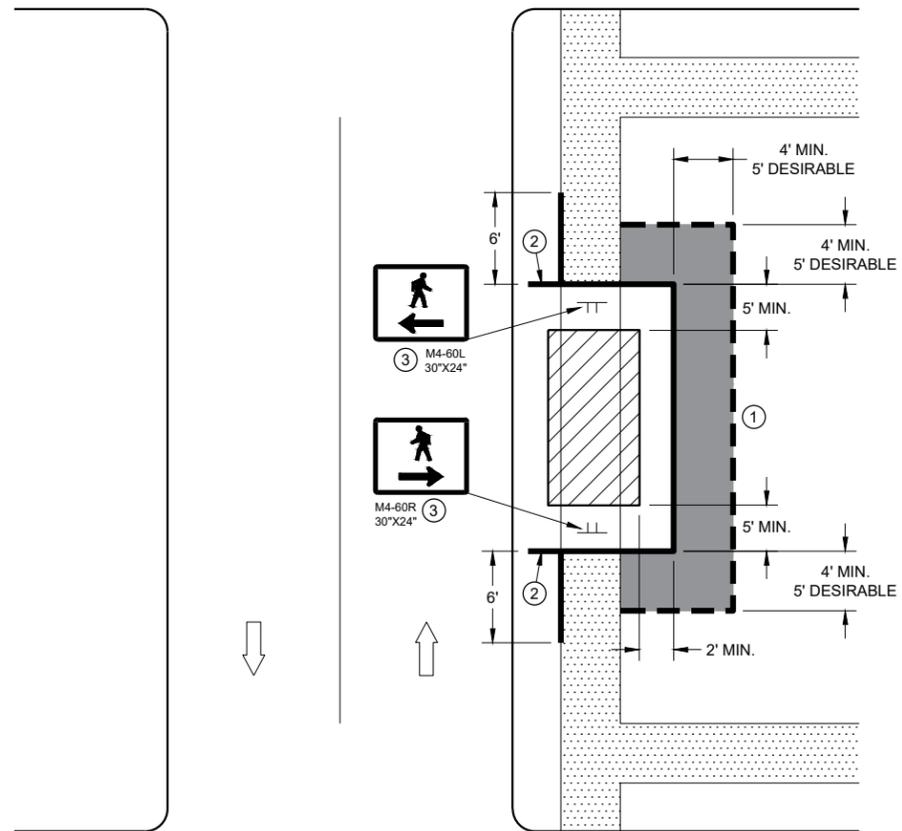
<b>TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION</b>
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

**LEGEND**

-  SIGN ON TEMPORARY SUPPORT
-  WORK AREA
-  UNDER PEDESTRIAN TRAFFIC
-  TEMPORARY PEDESTRIAN SURFACE
-  TEMPORARY PEDESTRIAN BARRICADE
-  OPTIONAL TEMPORARY PEDESTRIAN BARRICADE
-  DIRECTION OF TRAFFIC

**GENERAL NOTES**

- TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG.
- SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.
- 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.
- ① USE TEMPORARY PEDESTRIAN BARRICADE TO SEPARATE PEDESTRIANS FROM DROP OFFS OR FOR ADDITIONAL PEDESTRIAN CHANNELIZATION.
- ② IF TEMPORARY PEDESTRIAN BARRICADE PANEL IS WIDER THAN THE SIDEWALK WIDTH, THE PORTION OF EXCESS PANEL SHOULD EXTEND INTO THE TERRACE.
- ③ MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF SIGN.



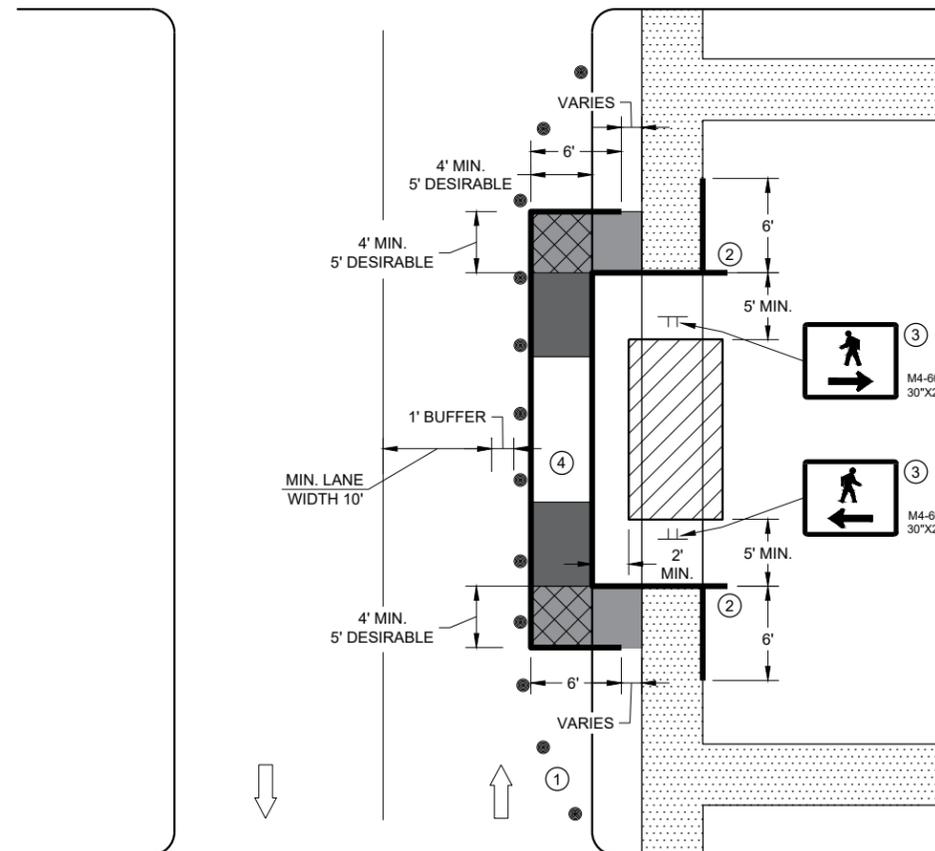
**SIDEWALK DIVERSION  
SINGLE SIDE**

**LEGEND**

-  SIGN ON TEMPORARY SUPPORT
-  TRAFFIC CONTROL DRUM
-  WORK AREA
-  UNDER PEDESTRIAN TRAFFIC
-  TEMPORARY CURB RAMP
-  TEMPORARY PEDESTRIAN SURFACE "A"
-  TEMPORARY PEDESTRIAN SURFACE "B"
-  TEMPORARY PEDESTRIAN BARRICADE
-  DIRECTION OF TRAFFIC

**GENERAL NOTES**

- TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG.
- SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.
- WHERE TEMPORARY BARRICADE RUNS PARALLEL ALONG SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.
- ① SHOULDER OR LANE CLOSURE ADVANCE WARNING AND BUFFER SPACE REQUIRED.
  - ② PLACE EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL PAST THE SIDEWALK ON THE SIDE AWAY FROM THE ROAD.
  - ③ MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF SIGN.
  - ④ USE EXISTING PAVEMENT SURFACE. IF EXISTING PAVEMENT SURFACE HAS BEEN REMOVED, USE A TEMPORARY PEDESTRIAN SURFACE.



**SIDEWALK DIVERSION, SINGLE SIDE**

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

6

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SDD 15D30 - 09h

SDD 15D30 - 09h

### GENERAL NOTES

IF PEDESTRIAN PUSH BUTTONS ARE PRESENT ON THE EXISTING FACILITY, ENSURE THEY ARE MAINTAINED/ACCESSIBLE FOR PEDESTRIAN USE THROUGHOUT THE TEMPORARY PEDESTRIAN ACCOMMODATIONS.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.

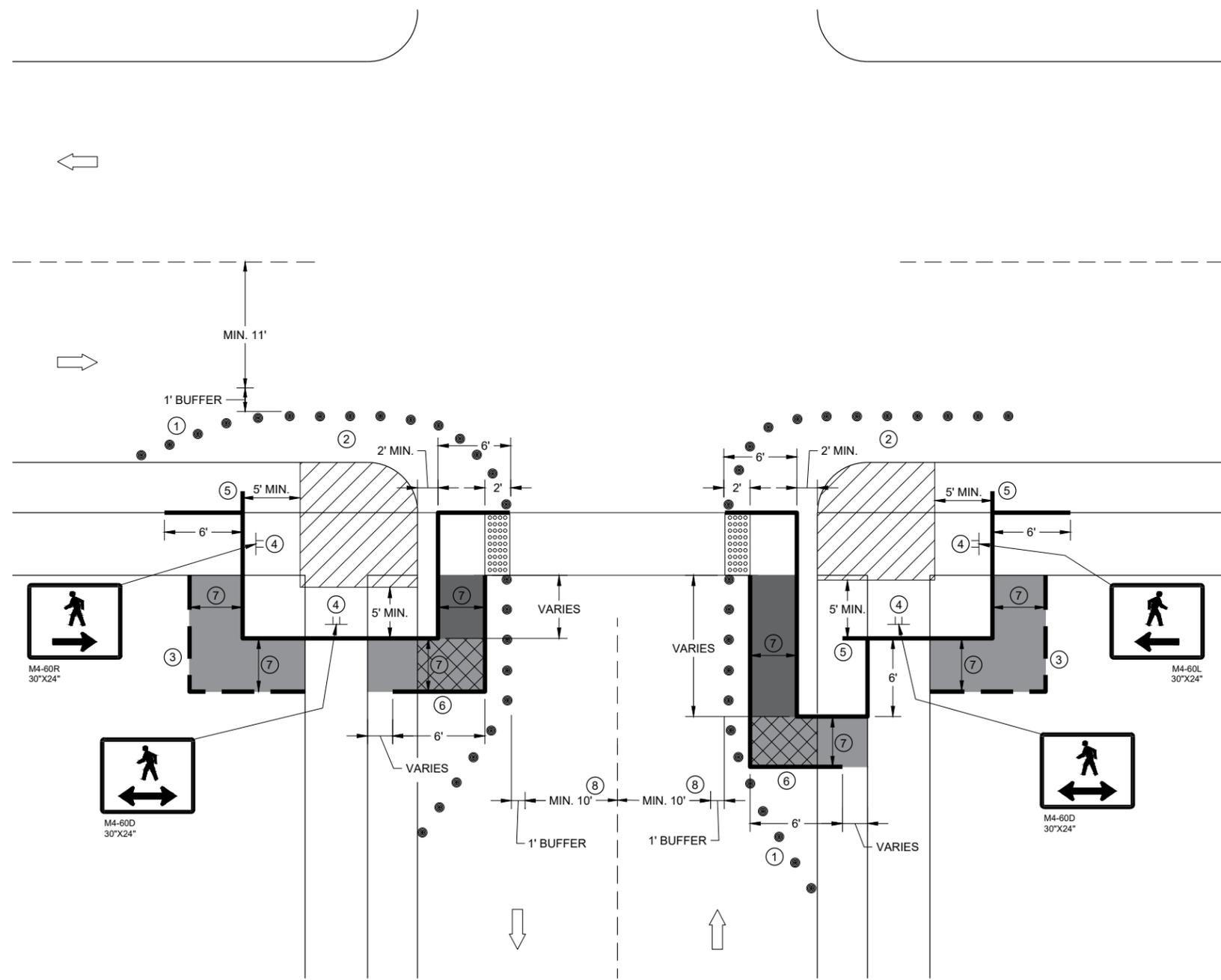
TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG

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

- ① SHOULDER OR LANE CLOSURE ADVANCE WARNING AND PROPER BUFFER SPACE REQUIRED.
- ② PROVIDE ADEQUATE SPACE FOR CONTRACTOR OPERATIONS
- ③ USE TEMPORARY PEDESTRIAN BARRICADE TO SEPARATE PEDESTRIANS FROM DROP OFFS OR FOR ADDITIONAL PEDESTRIAN CHANNELIZATION.
- ④ MOUNTING HEIGHT OF 5 FEET FROM SIDEWALK SURFACE TO BOTTOM OF SIGN.
- ⑤ PLACE EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL IN THE SIDEWALK TERRACE.
- ⑥ IF TEMPORARY PEDESTRIAN BARRICADE DOES NOT REACH THE FACE OF THE CURB, USE AN ADDITIONAL PANEL AND EXTEND INTO THE TERRACE.
- ⑦ 4 FEET MINIMUM, 5 FEET DESIRABLE
- ⑧ IF MINIMUM LANE WIDTHS CAN'T BE ATTAINED, CURB RAMPS MAY NEED TO BE CONSTRUCTED AT SEPARATE TIMES.

### LEGEND

-  SIGN ON TEMPORARY SUPPORT
-  TRAFFIC CONTROL DRUM
-  WORK AREA
-  TEMPORARY CURB RAMP
-  TEMPORARY PEDESTRIAN SURFACE "A"
-  TEMPORARY PEDESTRIAN SURFACE "B"
-  TEMPORARY DETECTABLE WARNING FIELD
-  TEMPORARY PEDESTRIAN BARRICADE
-  OPTIONAL TEMPORARY PEDESTRIAN BARRICADE
-  DIRECTION OF TRAFFIC



**CURB RAMP PEDESTRIAN TRAFFIC CONTROL  
SIDEWALK ON SINGLE SIDE**

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

6

6

SDD 15D30 - 09i

SDD 15D30 - 09i

**GENERAL NOTES**

IF PEDESTRIAN PUSH BUTTONS ARE PRESENT ON THE EXISTING FACILITY, ENSURE THEY ARE MAINTAINED/ACCESSIBLE FOR PEDESTRIAN USE THROUGHOUT THE TEMPORARY PEDESTRIAN ACCOMMODATIONS.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.

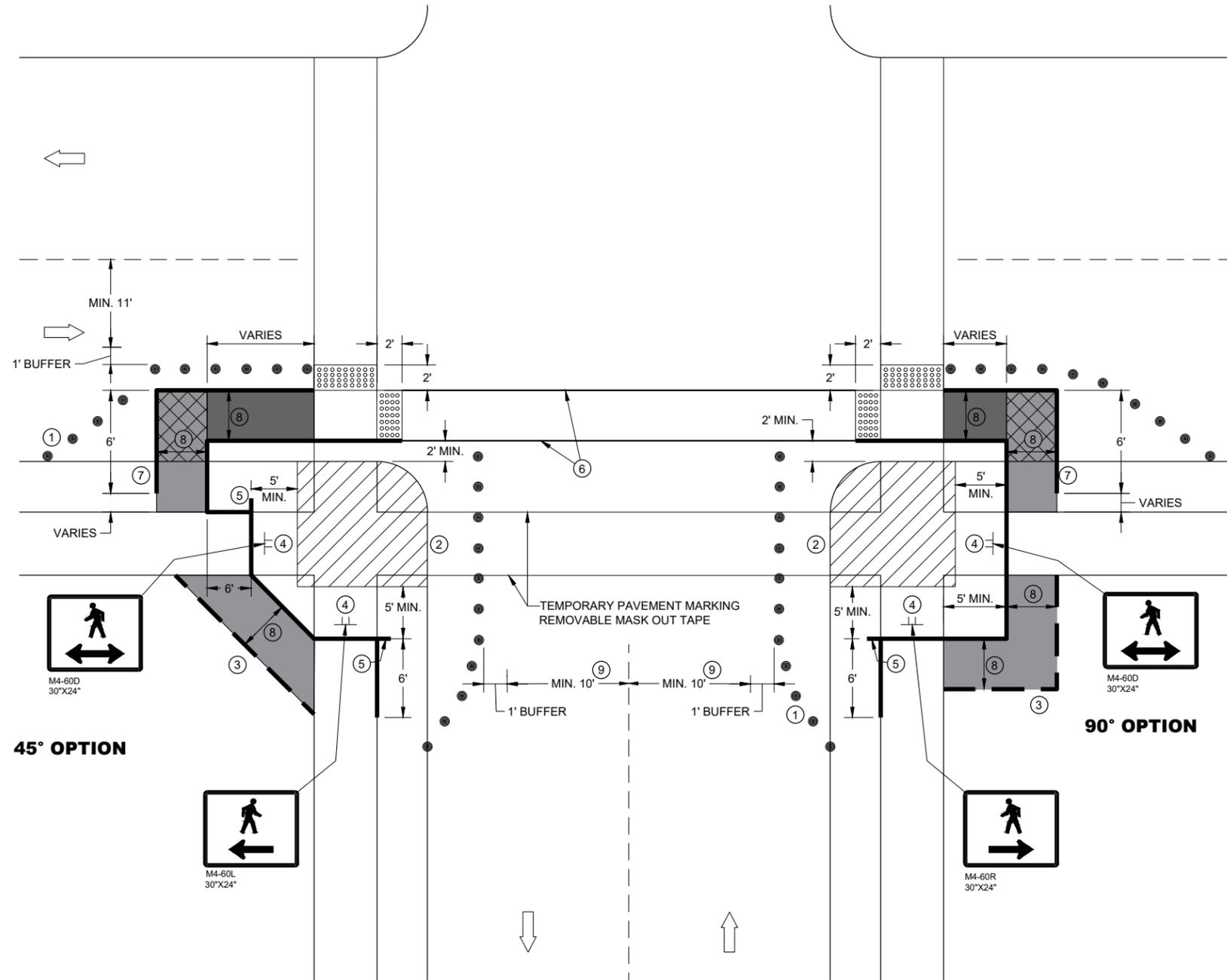
TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG

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

- ① SHOULDER OR LANE CLOSURE ADVANCE WARNING AND PROPER BUFFER SPACE REQUIRED.
- ② PROVIDE ADEQUATE SPACE FOR CONTRACTOR OPERATIONS
- ③ USE TEMPORARY PEDESTRIAN BARRICADE TO SEPARATE PEDESTRIANS FROM DROP OFFS OR FOR ADDITIONAL PEDESTRIAN CHANNELIZATION.
- ④ MOUNTING HEIGHT OF 5 FEET FROM SIDEWALK SURFACE TO BOTTOM OF SIGN.
- ⑤ PLACE EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL IN THE SIDEWALK TERRACE.
- ⑥ WHITE 6" TEMPORARY PAVEMENT MARKING
- ⑦ IF TEMPORARY PEDESTRIAN BARRICADE DOES NOT REACH THE FACE OF THE CURB, USE AN ADDITIONAL PANEL AND EXTEND INTO THE TERRACE.
- ⑧ 4 FEET MINIMUM, 5 FEET DESIRABLE
- ⑨ IF MINIMUM LANE WIDTHS CAN'T BE ATTAINED, CURB RAMPS MAY NEED TO BE CONSTRUCTED AT SEPARATE TIMES.

**LEGEND**

-  SIGN ON TEMPORARY SUPPORT
-  TRAFFIC CONTROL DRUM
-  WORK AREA
-  TEMPORARY CURB RAMP
-  TEMPORARY PEDESTRIAN SURFACE "A"
-  TEMPORARY PEDESTRIAN SURFACE "B"
-  TEMPORARY DETECTABLE WARNING FIELD
-  TEMPORARY PEDESTRIAN BARRICADE
-  OPTIONAL TEMPORARY PEDESTRIAN BARRICADE
-  DIRECTION OF TRAFFIC



**CURB RAMP PEDESTRIAN TRAFFIC CONTROL**

**TRAFFIC CONTROL,  
PEDESTRIAN ACCOMMODATION**

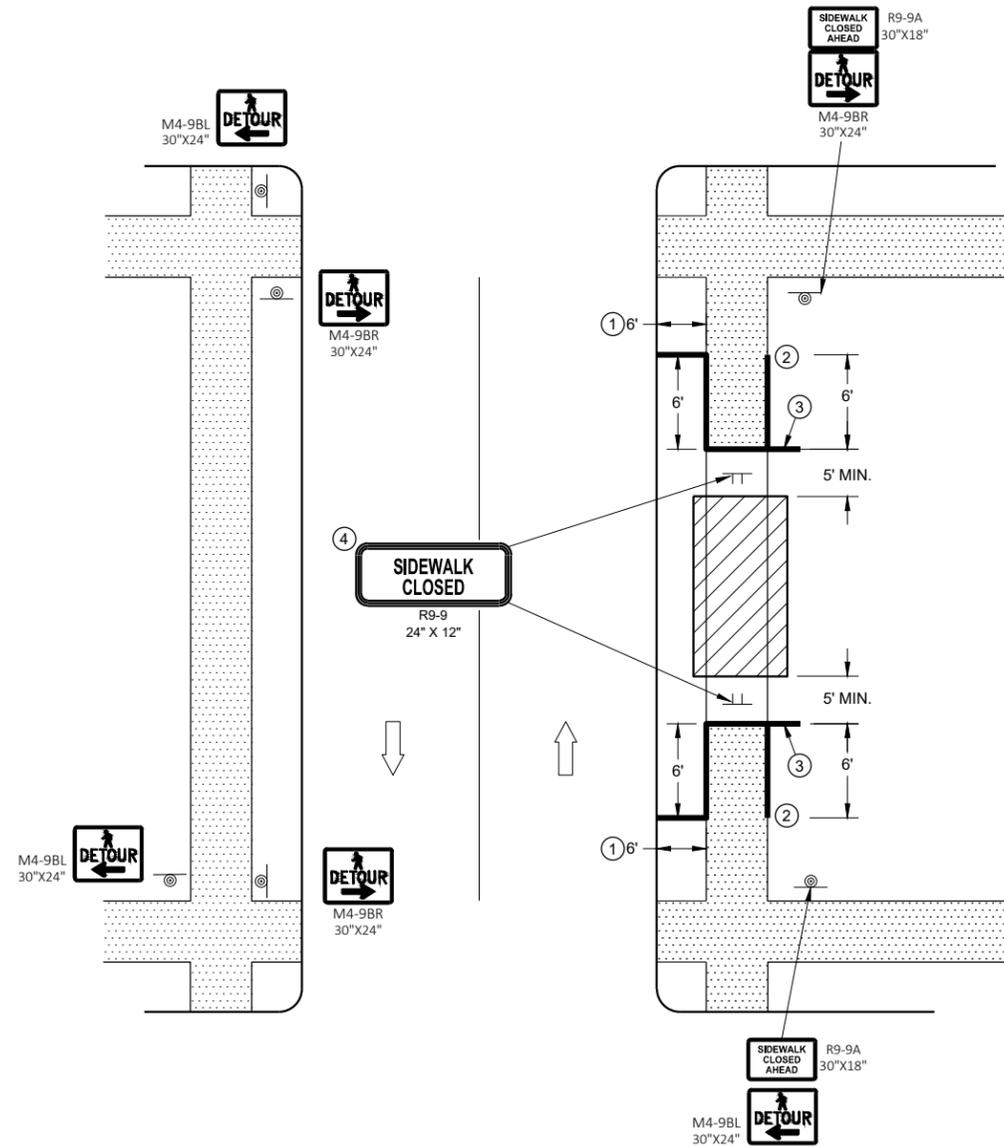
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

**LEGEND**

-  SIGN ON PERMANENT SUPPORT
-  SIGN ON TEMPORARY SUPPORT
-  UNDER PEDESTRIAN TRAFFIC
-  WORK AREA
-  TEMPORARY PEDESTRIAN BARRICADE
-  DIRECTION OF TRAFFIC

**GENERAL NOTES**

- SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.
- 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**

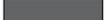
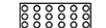
<b>TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION</b>
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

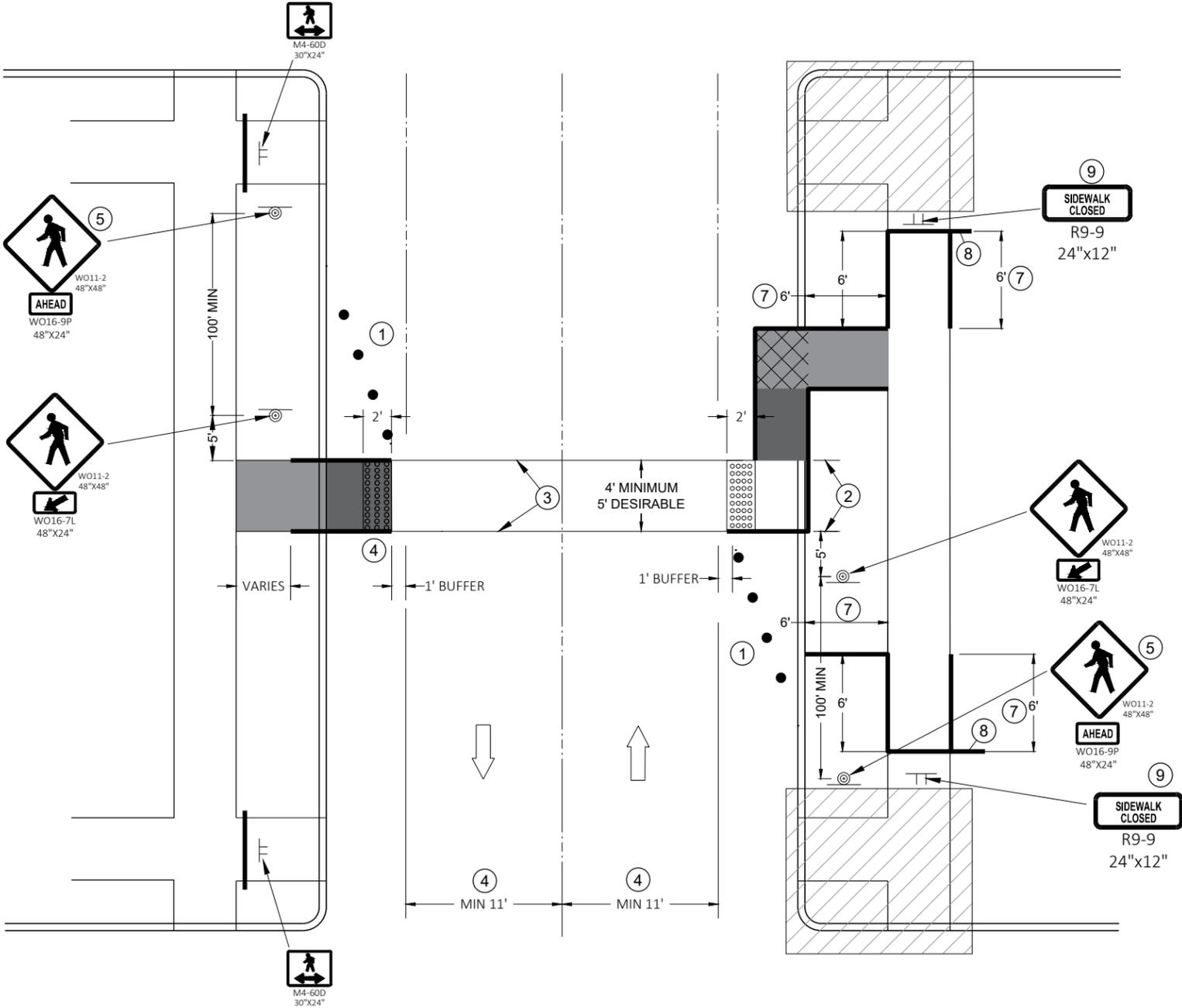
# GENERAL NOTES

TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG.  
 SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.  
 SEE OTHER PEDESTRIAN ACCOMMODATION DETAILS FOR SIGNING AND DEVICES FOR DIFFERENT PEDESTRIAN FACILITIES CLOSURES.

- ① SHOULDER OR LANE CLOSURE ADVANCED WARNING AND PROPER BUFFER SPACE REQUIRED.
- ② 4 FEET MINIMUM, 5 FEET DESIRABLE.
- ③ WHITE 6" TEMPORARY PAVEMENT MARKING.
- ④ IF MINIMUM LANE WIDTHS CAN'T BE ATTAINED, PERPENDICULAR CURB RAMPS MAY NEED TO BE UTILIZED.
- ⑤ IF MINIMUM 100' SPACING FROM THE MID-BLOCK CROSSING CANNOT BE ATTAINED BEFORE THE INTERSECTION, REMOVE THIS SIGN ASSEMBLY.
- ⑥ IF TERRACE IS LESS THAN 6 FEET WIDE, OMIT TEMPORARY PEDESTRIAN BARRICADE FROM THE SIDEWALK TO THE CURB.
- ⑦ 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.
- ⑧ IF TEMPORARY PEDESTRIAN BARRICADE PANEL IS WIDER THAN THE SIDEWALK WIDTH, THE PORTION OF THE EXCESS PANEL SHOULD EXTEND INTO THE TERRACE.
- ⑨ MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF THE SIGN.

## LEGEND

-  TRAFFIC CONTROL DRUM
-  SIGN ON TEMPORARY SUPPORT
-  TEMPORARY CURB RAMP
-  TEMPORARY DETECTABLE WARNING FIELD
-  TEMPORARY PEDESTRIAN SURFACE "A"
-  TEMPORARY PEDESTRIAN SURFACE "B"
-  WORK AREA
-  TEMPORARY PEDESTRIAN BARRICADE
-  DIRECTION OF TRAFFIC



**TEMPORARY PEDESTRIAN CROSSING**

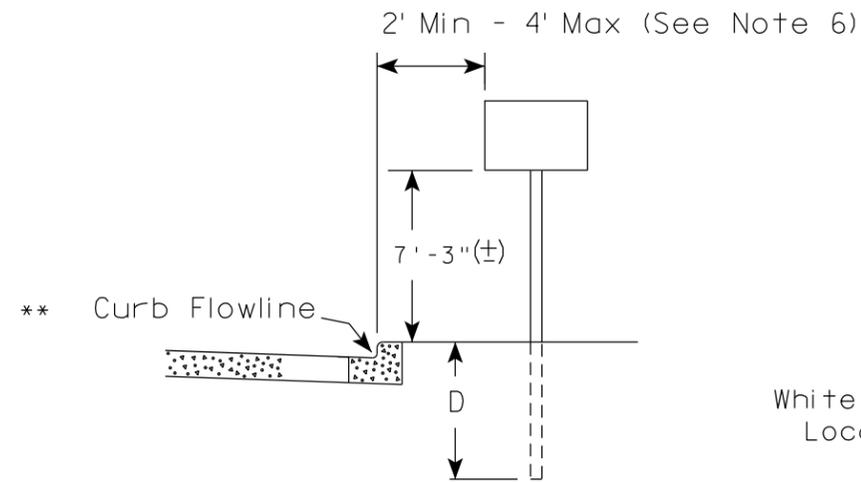
**TRAFFIC CONTROL,  
PEDESTRIAN ACCOMMODATION**

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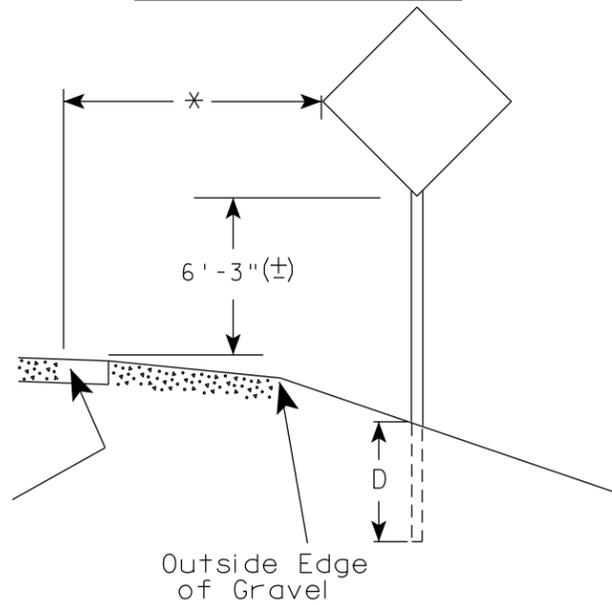
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

URBAN AREA

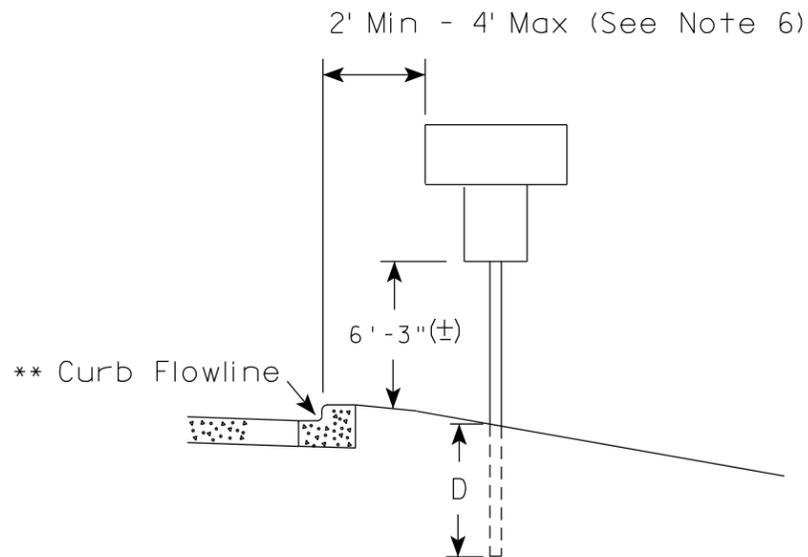
RURAL AREA (See Note 2)



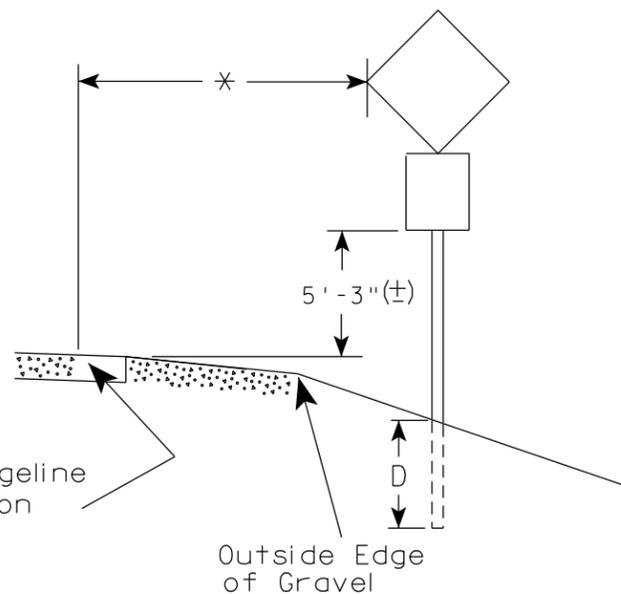
White Edgeline Location



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" (±). 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. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. The (±) tolerance for mounting height is 3 inches.
7. Folding signs shall be mounted at a height of 5'-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.

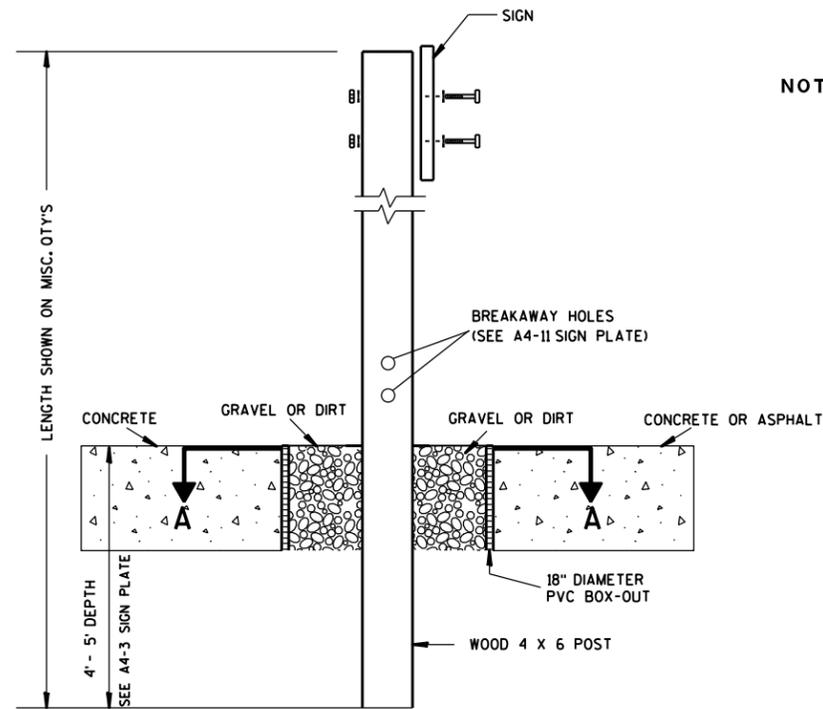
\* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

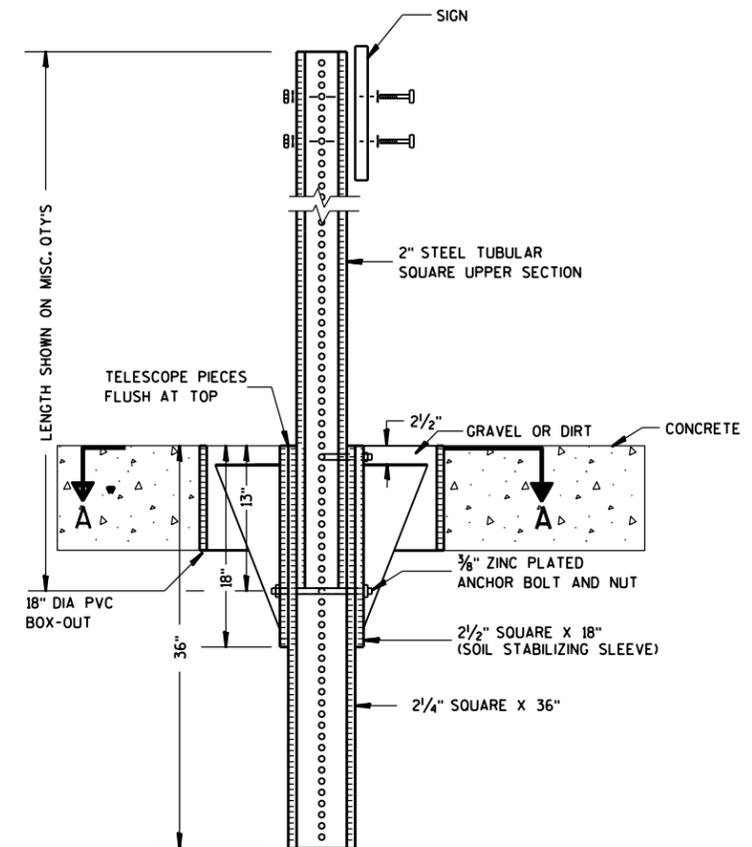
DATE 5/13/2020 PLATE NO. A4-3.22



**ELEVATION VIEW**

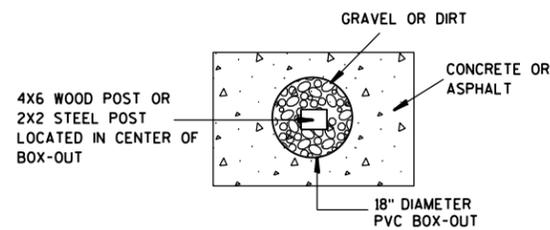
**DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT**

- 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

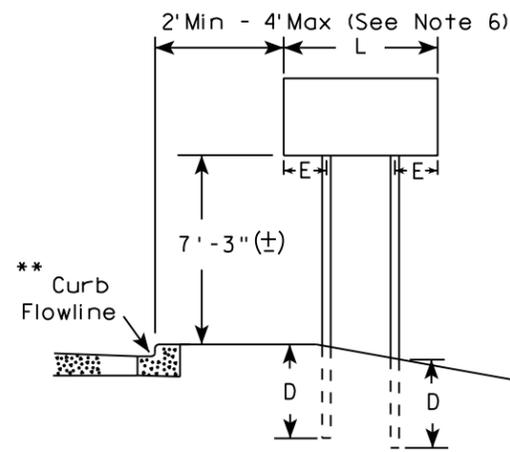
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

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

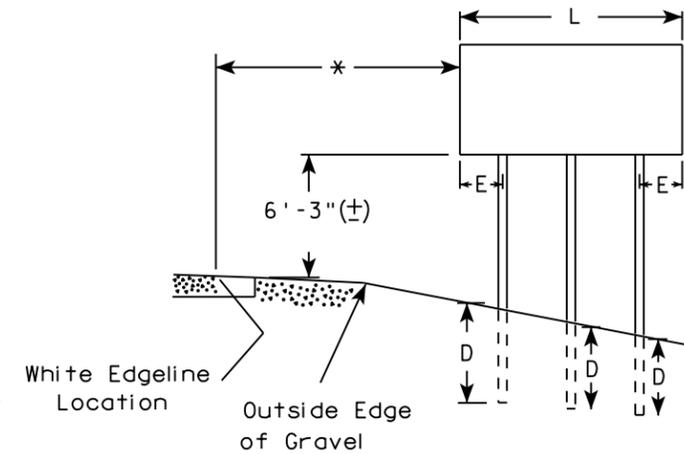
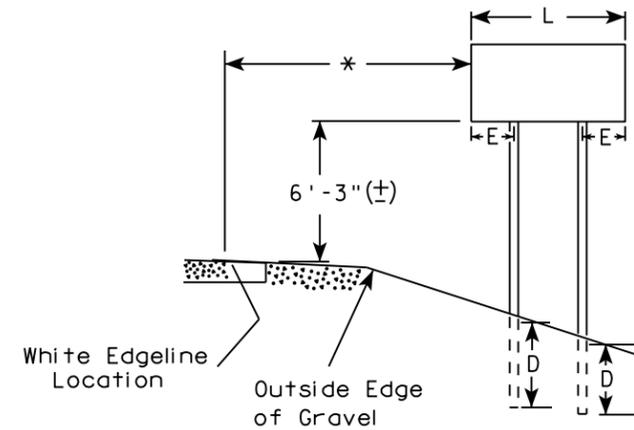
GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

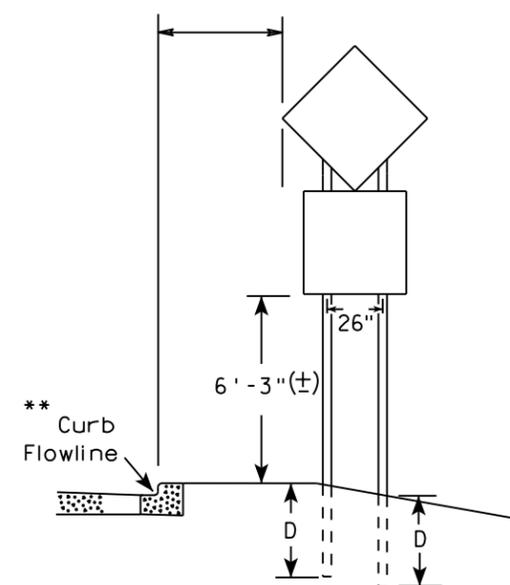
URBAN AREA



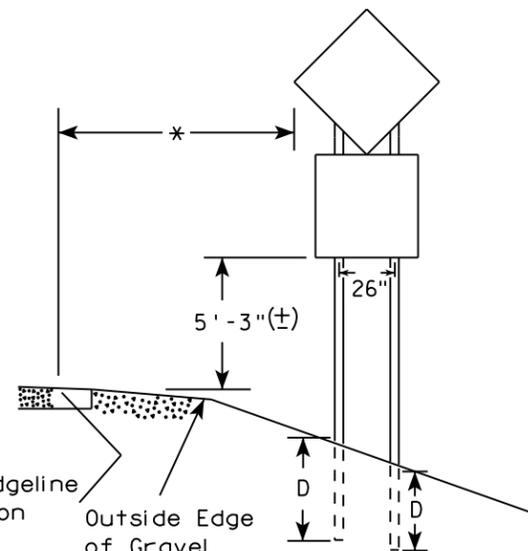
RURAL AREA (See Note 3)



2' Min - 4' Max (See Note 6)



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

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

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

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

\*\*\*

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

POST EMBEDMENT DEPTH

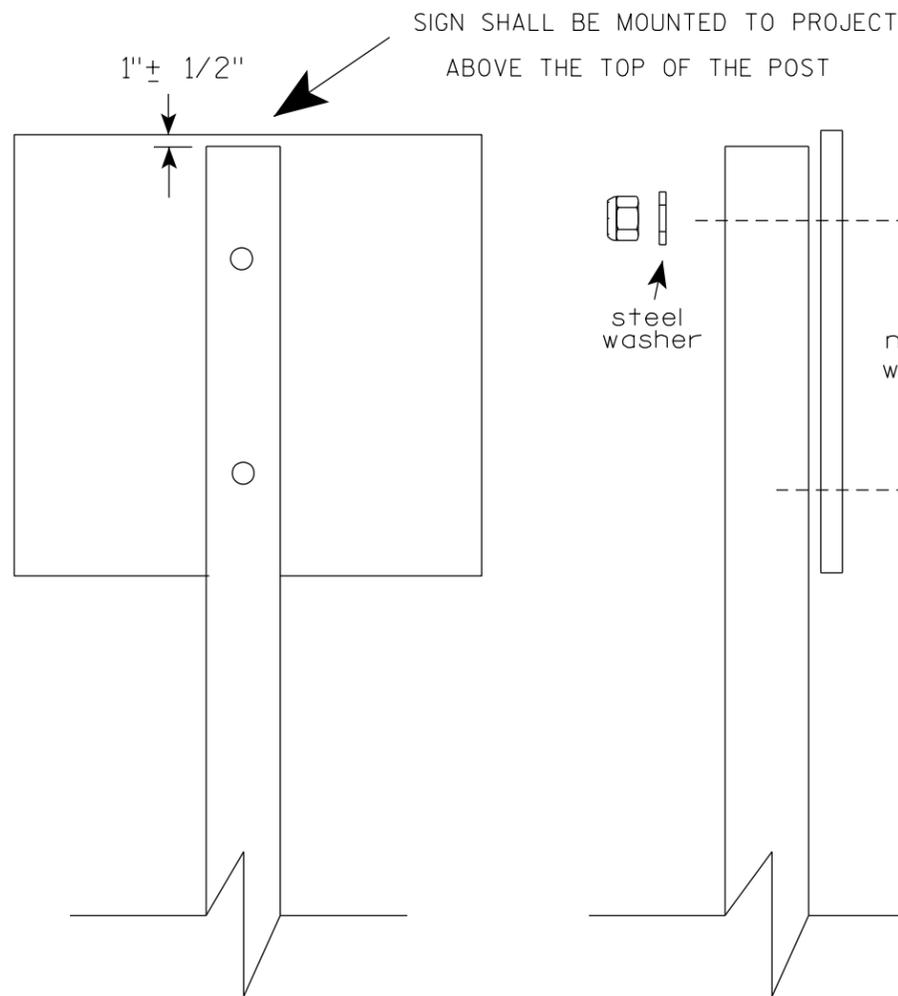
Area of Sign Installation ( Sq. Ft. )	D ( Min )
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

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



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

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

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

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)

MACHINE BOLTS - 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

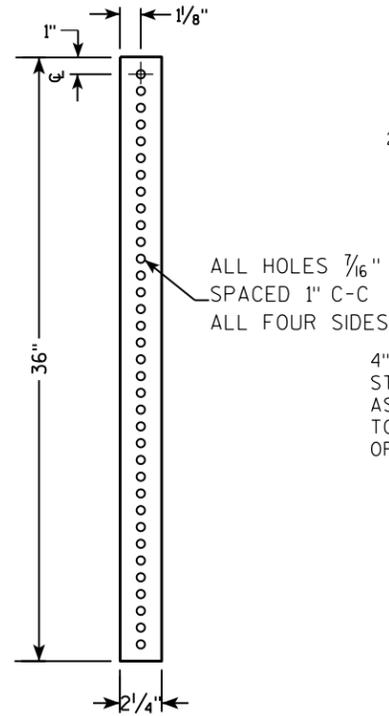
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*  
For State Traffic Engineer

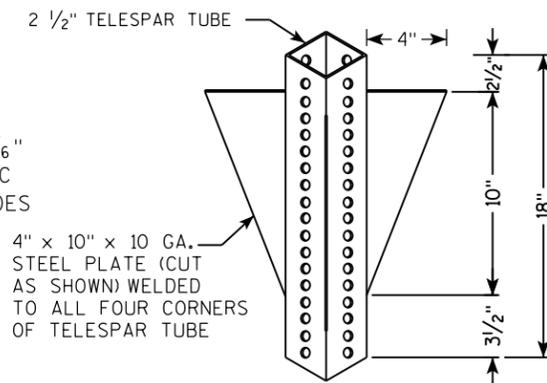
DATE 4/1/2020 PLATE NO. A4-8.9

**TELESCOPIC TUBING ANCHORS  
TWO PIECE SYSTEM**

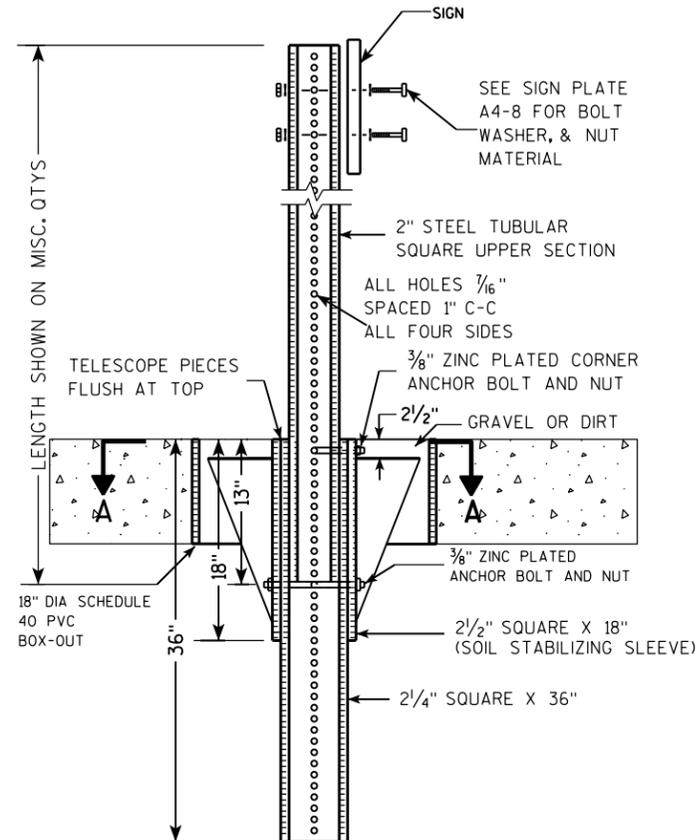
2 1/4" SQUARE  
12 GAUGE  
PERFORATED  
GALVANIZED FINISH



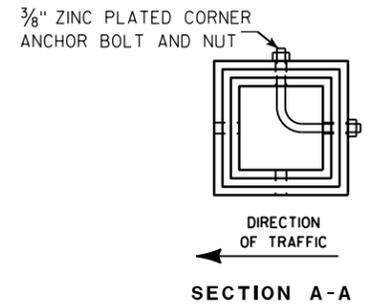
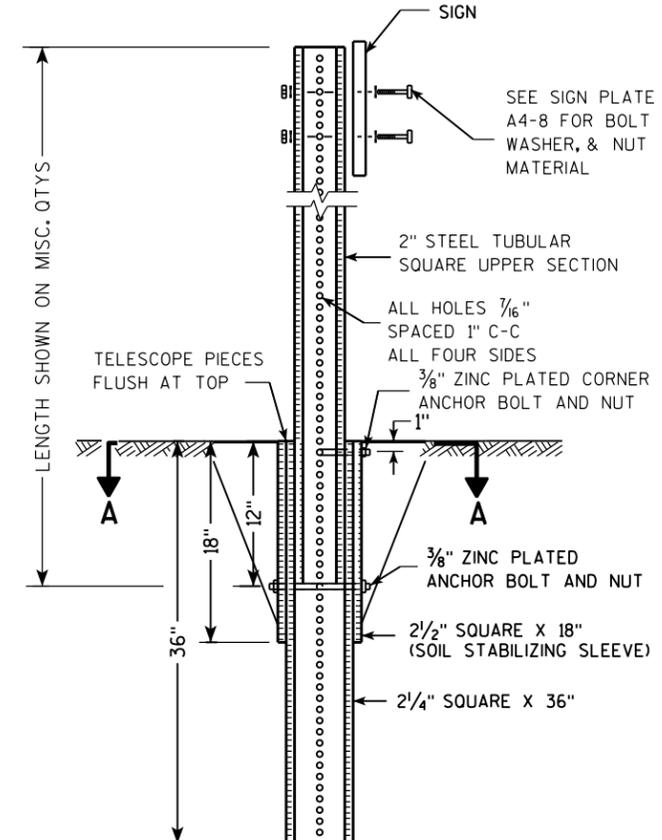
2 1/2" SQUARE  
12 GAUGE  
OMNI-DIRECTIONAL  
PERFORATED  
SOIL STABILIZING SLEEVE  
GALVANIZED FINISH



**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

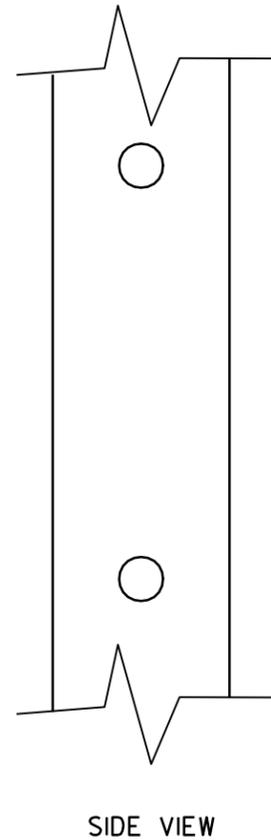
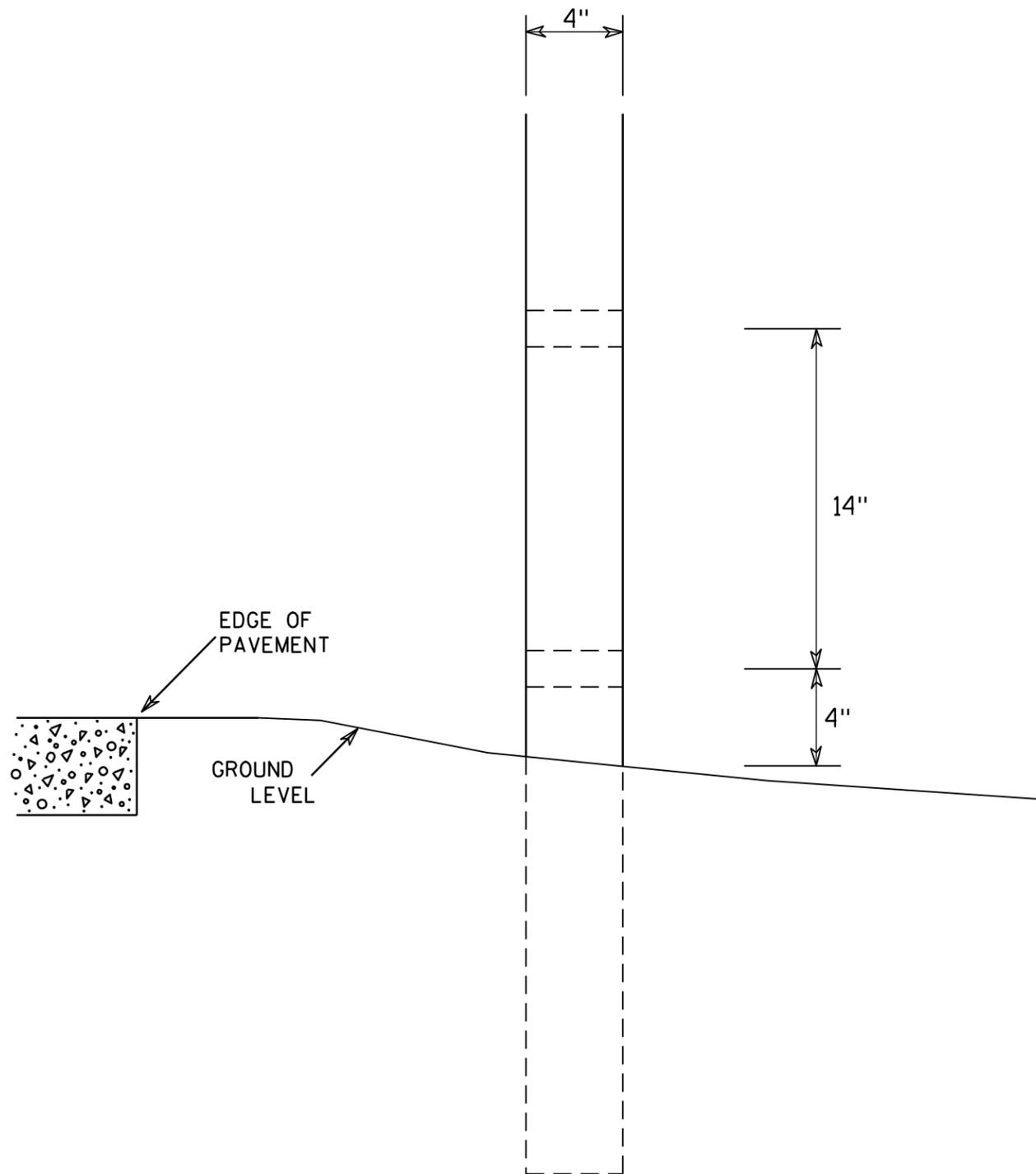
PROJECT NO:

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.

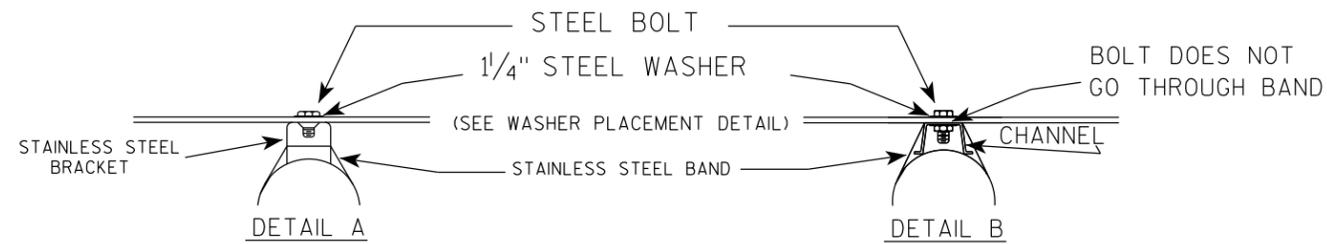
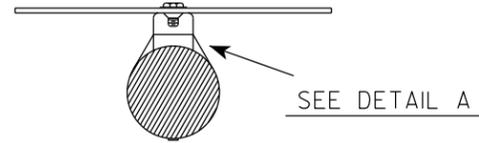
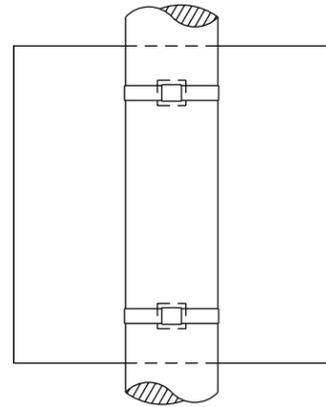
7

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

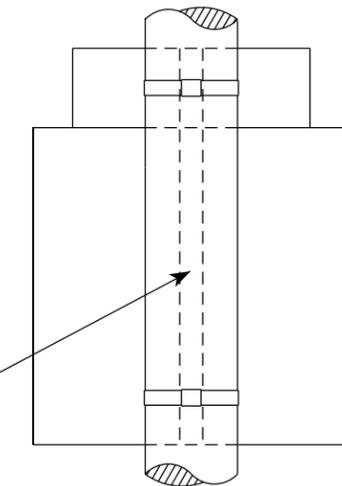
SINGLE SIGN



## GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 3/4" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
  - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
  - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

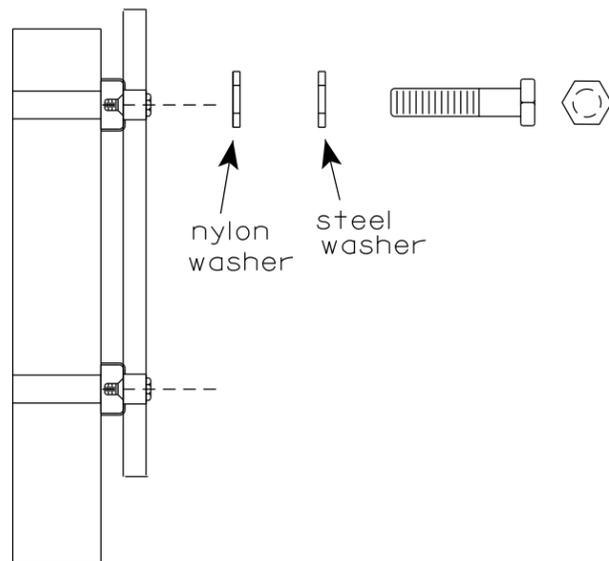
"J" ASSEMBLY



CHANNEL  
SEE TYPICAL PANEL  
INSTALLATION SHEET



WASHER PLACEMENT



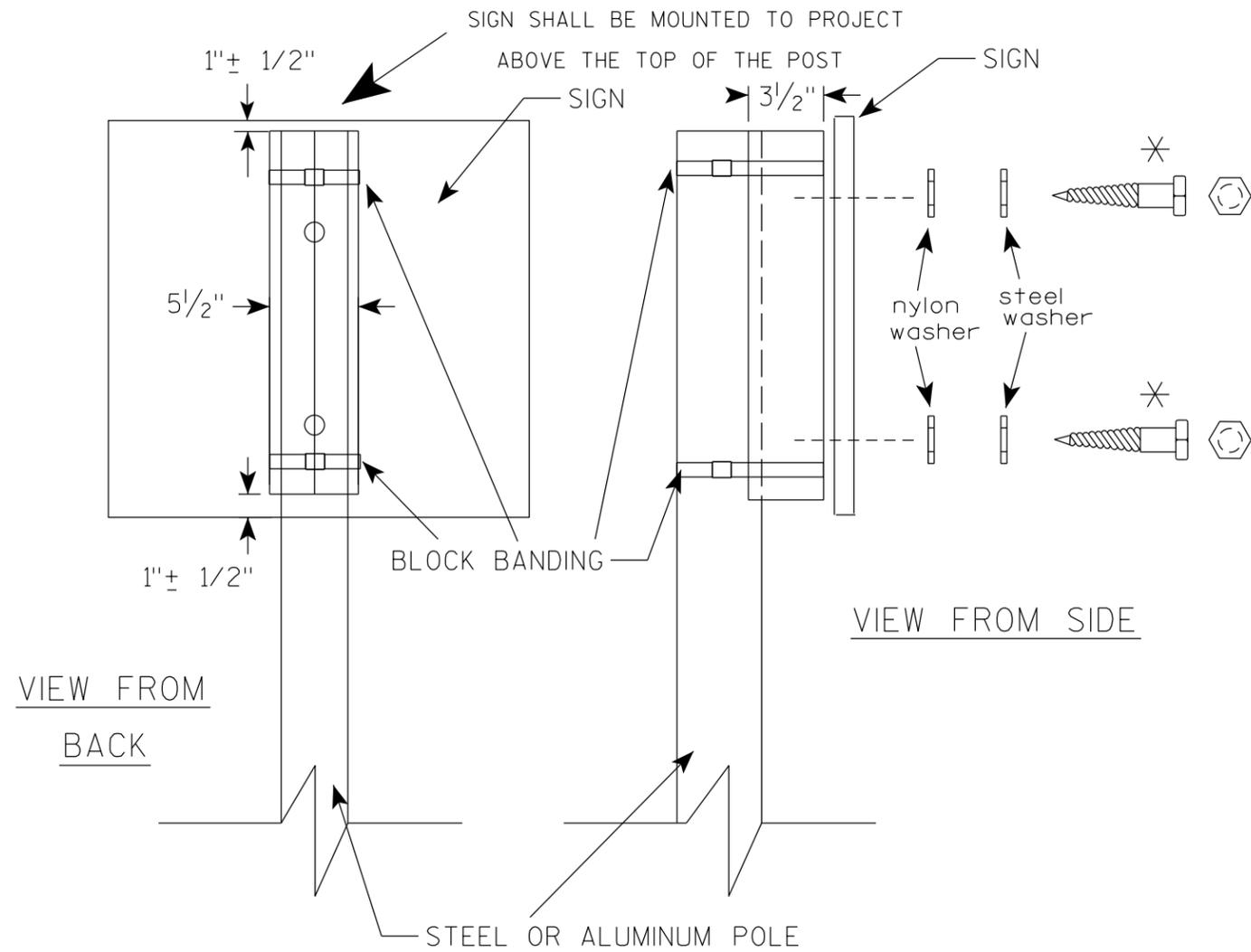
WASHERS (ALL POSTS) -  
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL  
1-1/4" O.D. X 3/8" I.D. X .080 NYLON  
FOR ALL TYPE H SIGNS

STANDARD SIGN  
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

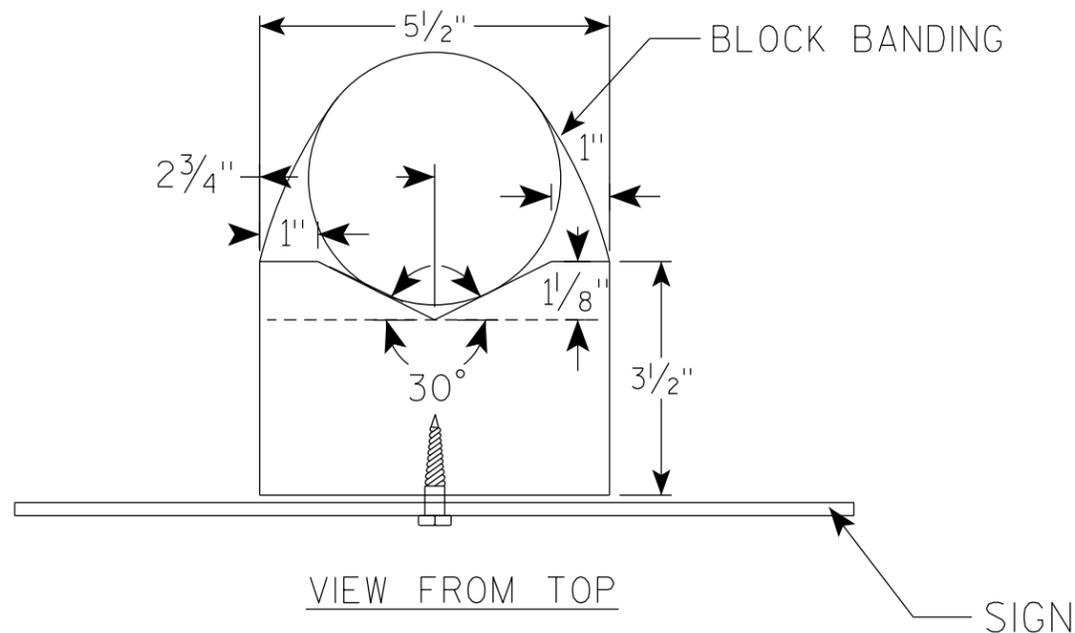
DATE 6/10/19 PLATE NO. A5-9.4



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

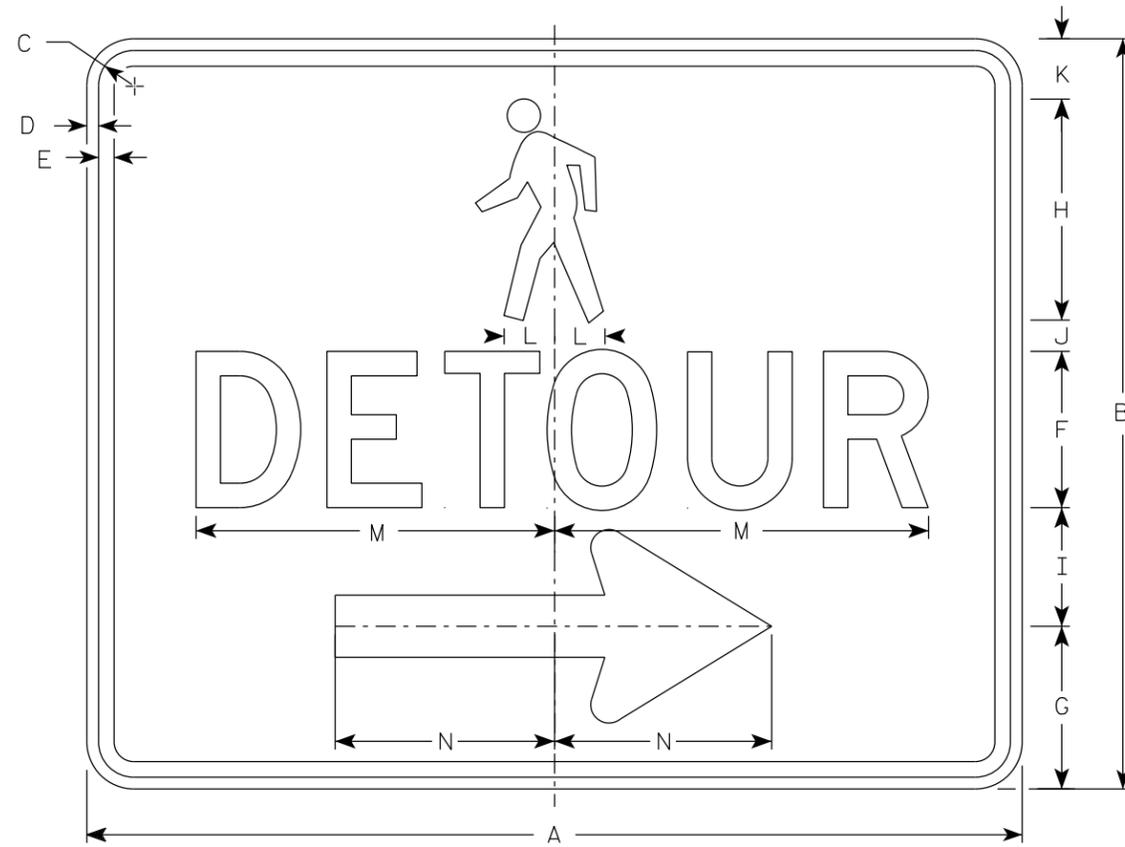
✱ LAG BOLTS SHALL BE 3/8" X 2 1/2"



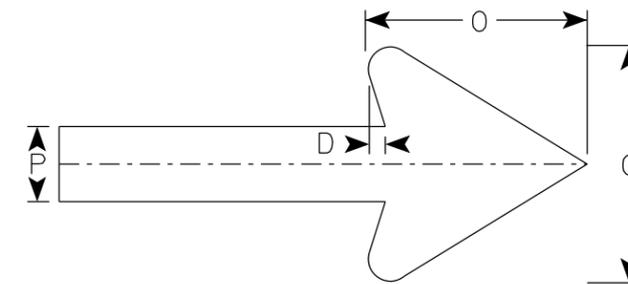
BLOCK BANDING DETAIL ( V-BLOCK OPTION )	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R Rauch</i> for State Traffic Engineer
DATE 4/19/2022	PLATE NO. A5-10.3

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																											
2	30	24	1 1/8	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											5.00
3																											
4																											
5																											

STANDARD SIGN  
M4-9B L&R

WISCONSIN DEPT OF TRANSPORTATION

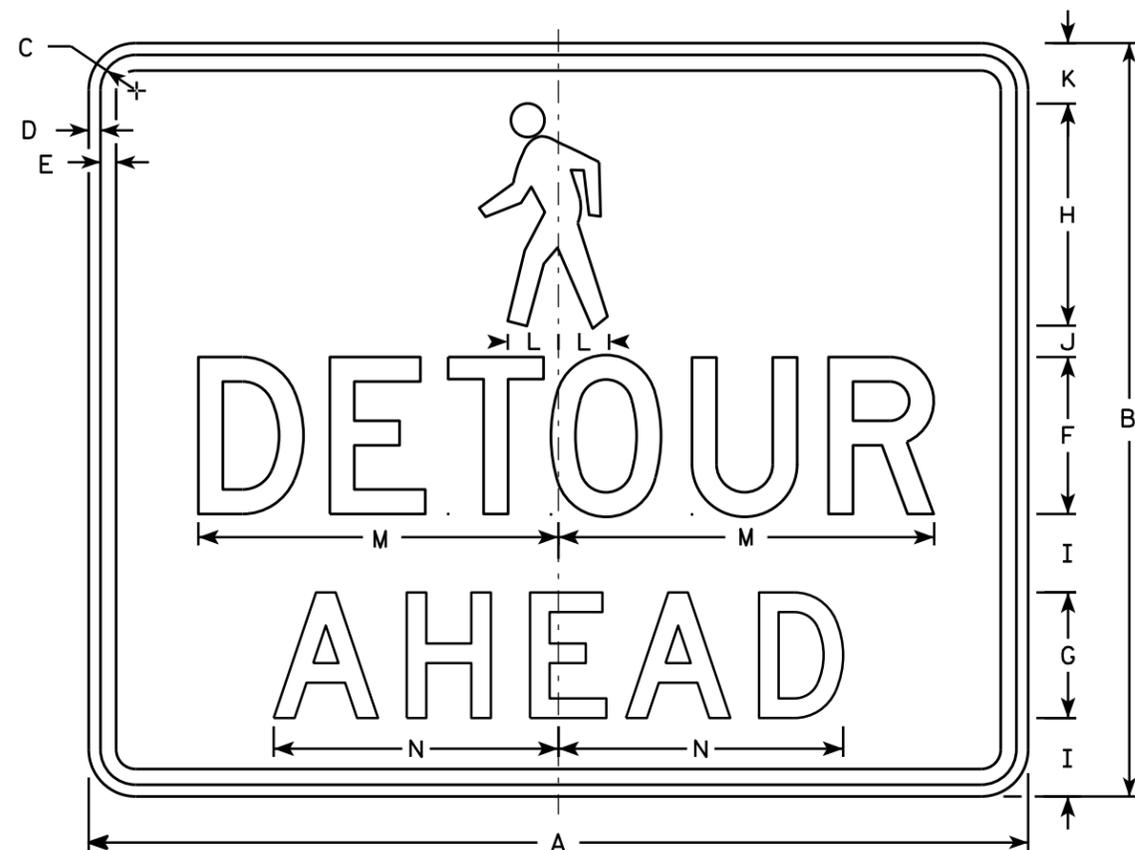
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 7/1/19 PLATE NO. M4-9B.2

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

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																											
2	30	24	1 1/8	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

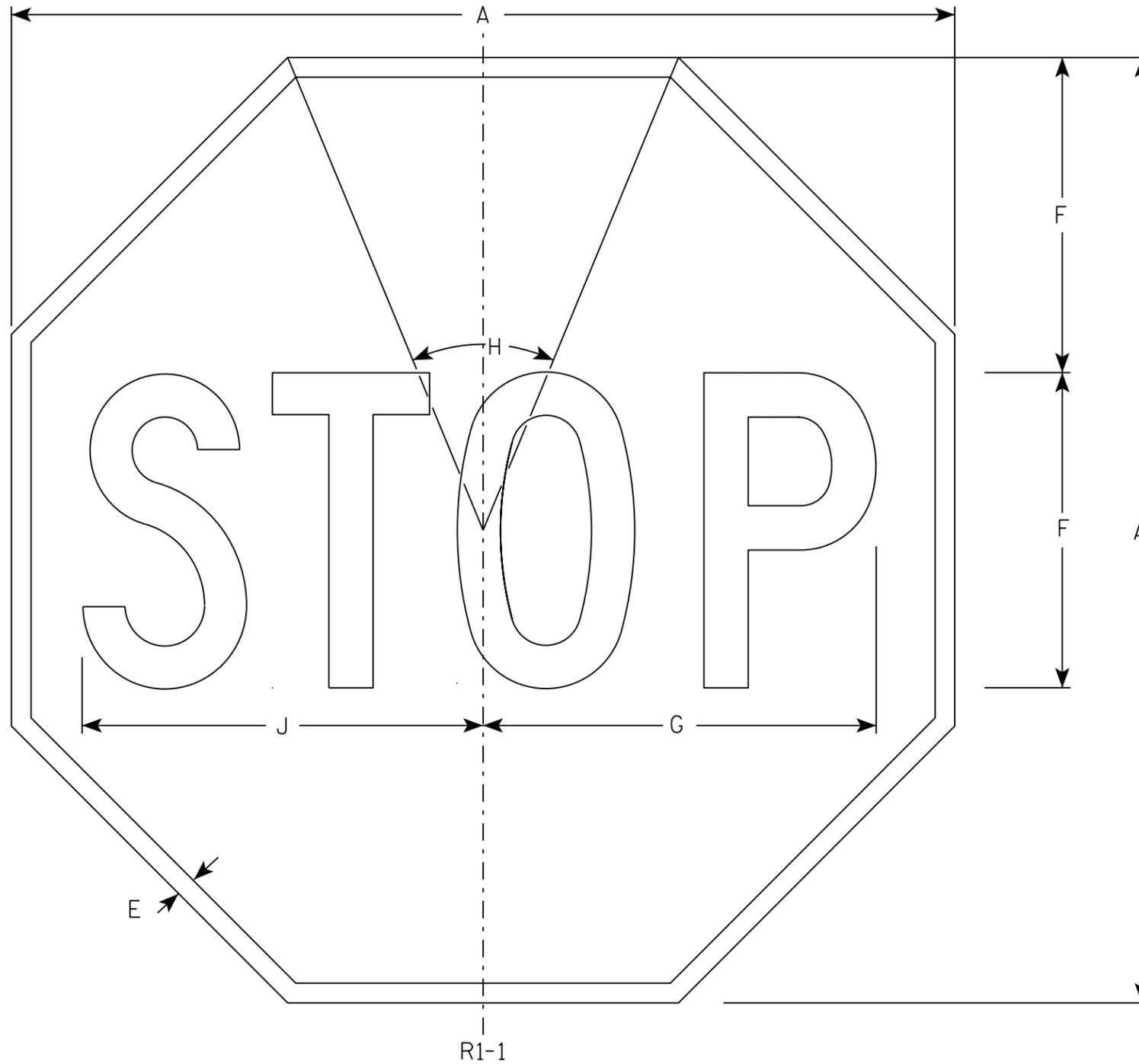
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/24/16 PLATE NO. M4-9BA.1

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

NOTES

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



R1-1

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

STANDARD SIGN  
R1-1

WISCONSIN DEPT OF TRANSPORTATION

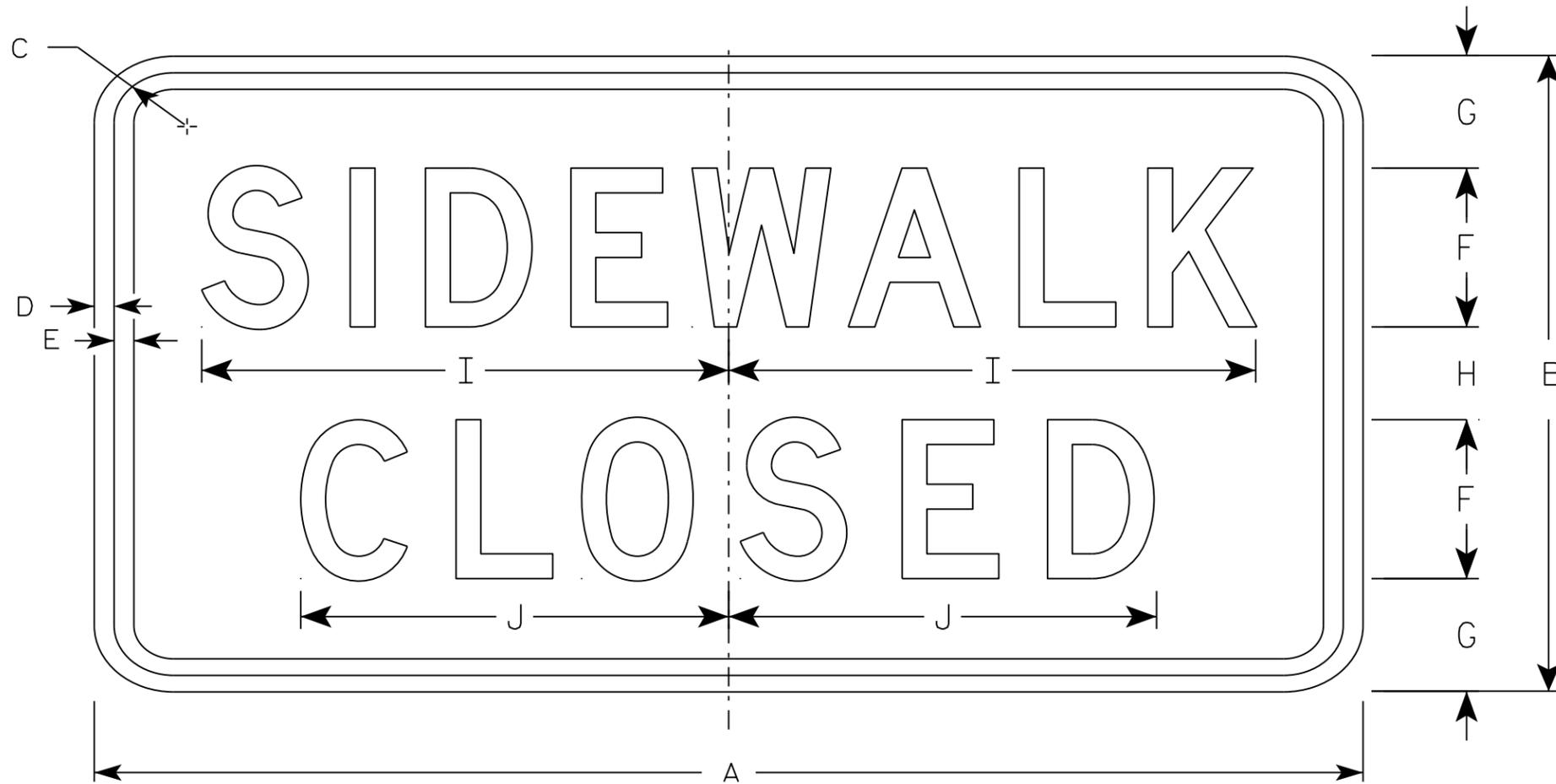
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 11/12/15 PLATE NO. R1-1.13

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

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - White  
Message - Black
3. Message Series - 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. Use Size 2 for Sidewalks. Use Size 3 for Paths and Trails.



R9-9

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

STANDARD SIGN  
R9-9

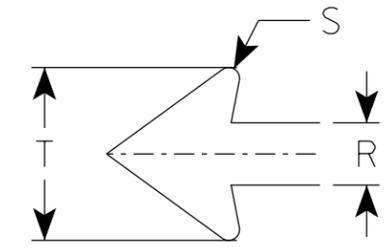
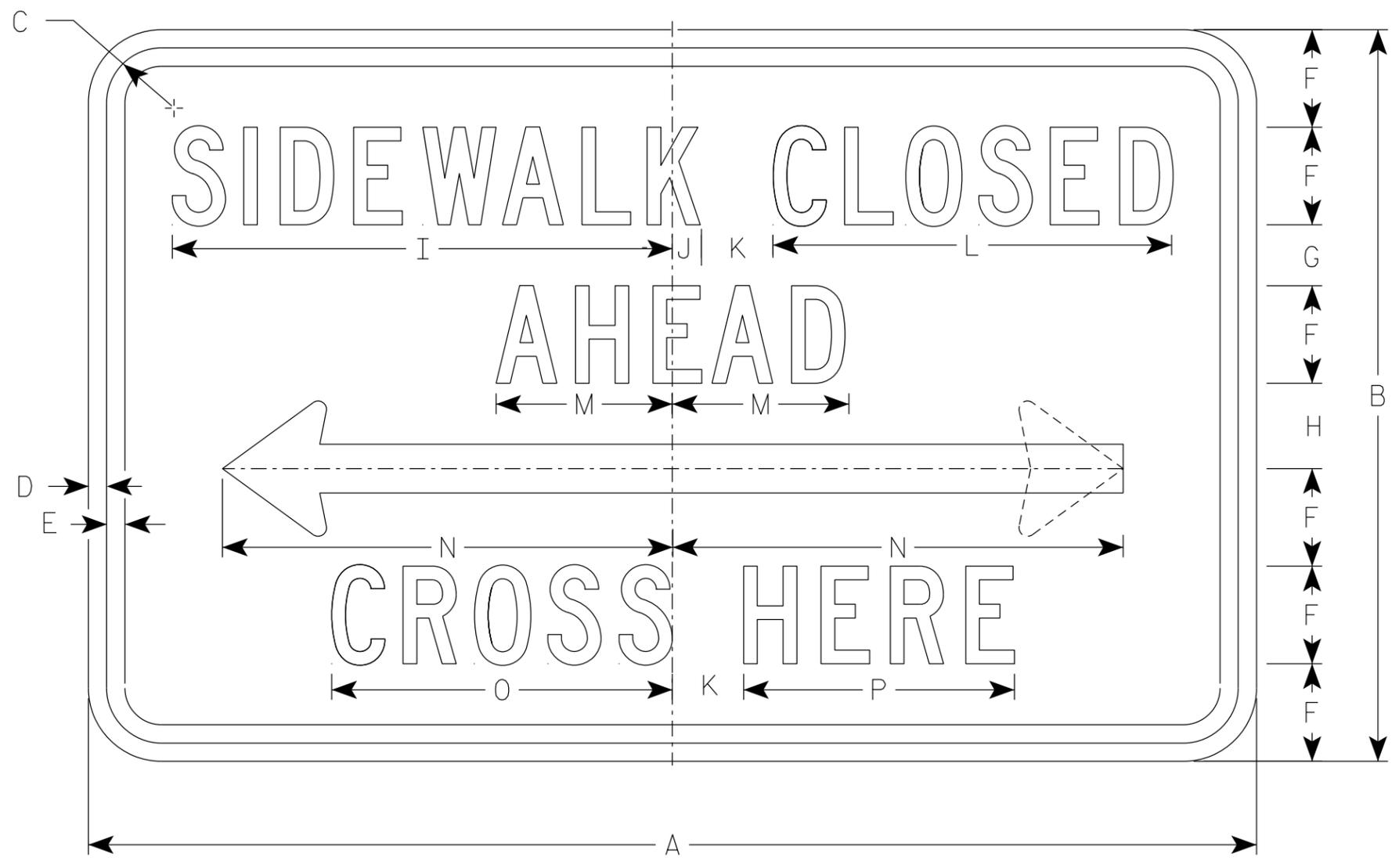
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 8/11/16 PLATE NO. R9-9.6

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. 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. Use Size 2 for Sidewalks. Use Size 3 for Paths and Trails.
6. R9-11D (double arrow)  
R9-11L (left arrow)  
R9-11R (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 1/8	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 1/8	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 1/8	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 3/30/2021 PLATE NO. R9-11.4

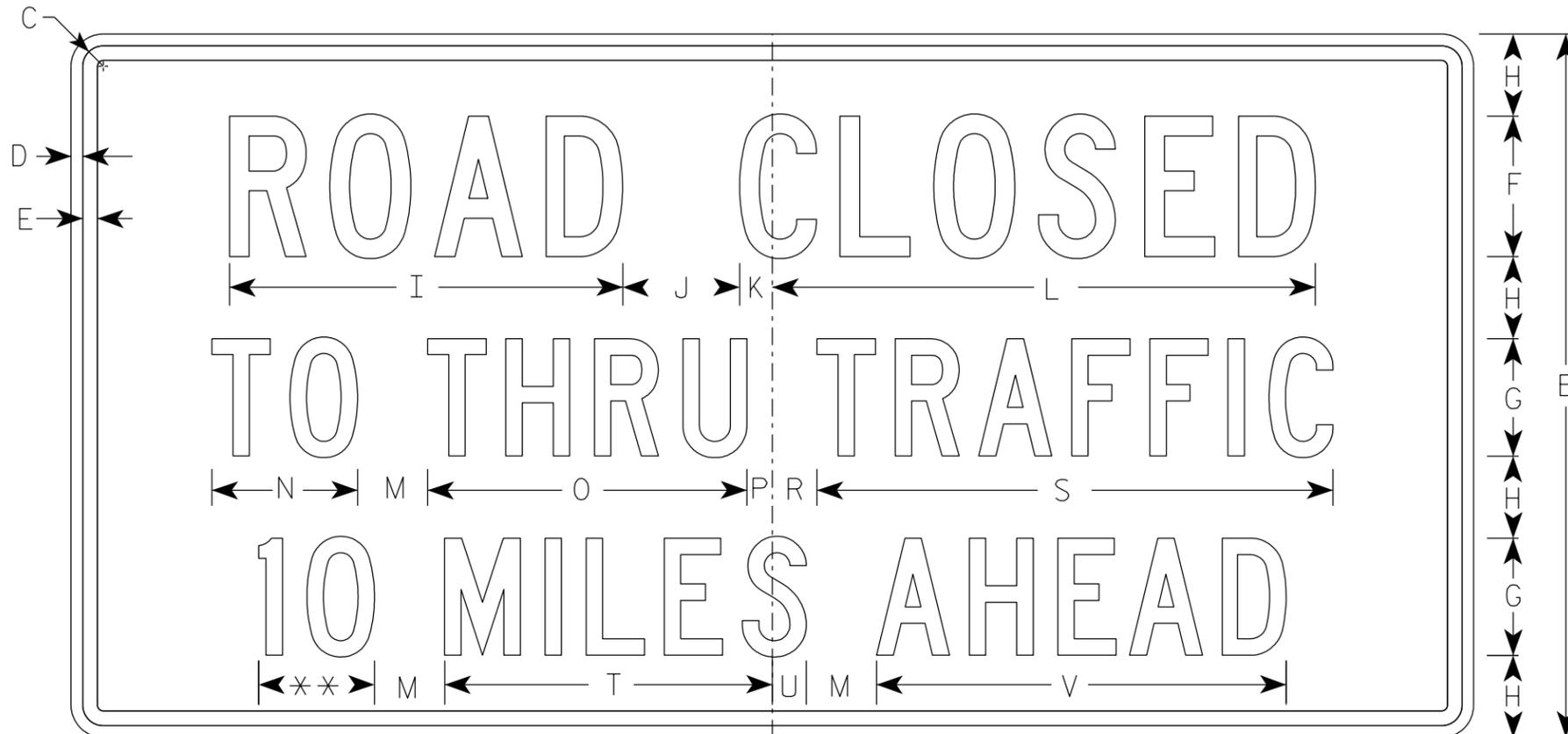
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ **E**

7

7

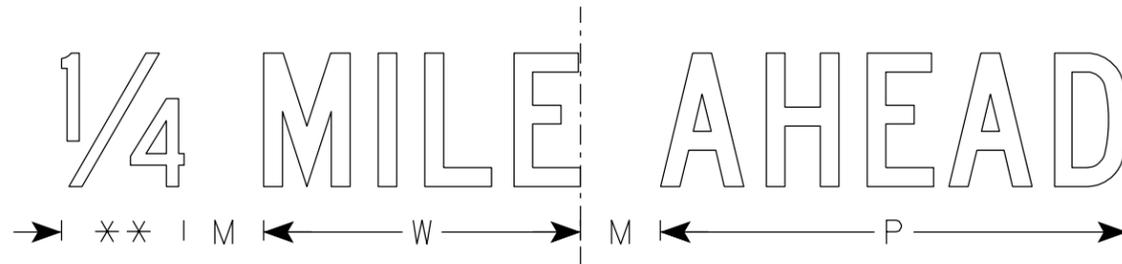
NOTES

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.



R11-3

\*\* See Note 5



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/4	3/8	3/8	4	3	2	11 1/4	3	1 1/8	15 3/8	2	3 3/4	8 1/4	5/8		1 3/8	13 1/4	8 3/8	7/8	10 1/2	7 1/8			4.5	
2S	60	30	1 3/8	1/2	5/8	6	5	3 1/2	16 7/8	5	1 3/8	23 1/4	3	6 1/4	13 5/8	1 1/8		1 7/8	22 1/8	14	1 1/2	17 1/2	11 7/8			12.5	
2M	60	30	1 3/8	1/2	5/8	6	5	3 1/2	16 7/8	5	1 3/8	23 1/4	3	6 1/4	13 5/8	1 1/8		1 7/8	22 1/8	14	1 1/2	17 1/2	11 7/8			12.5	
3																											
4																											
5																											

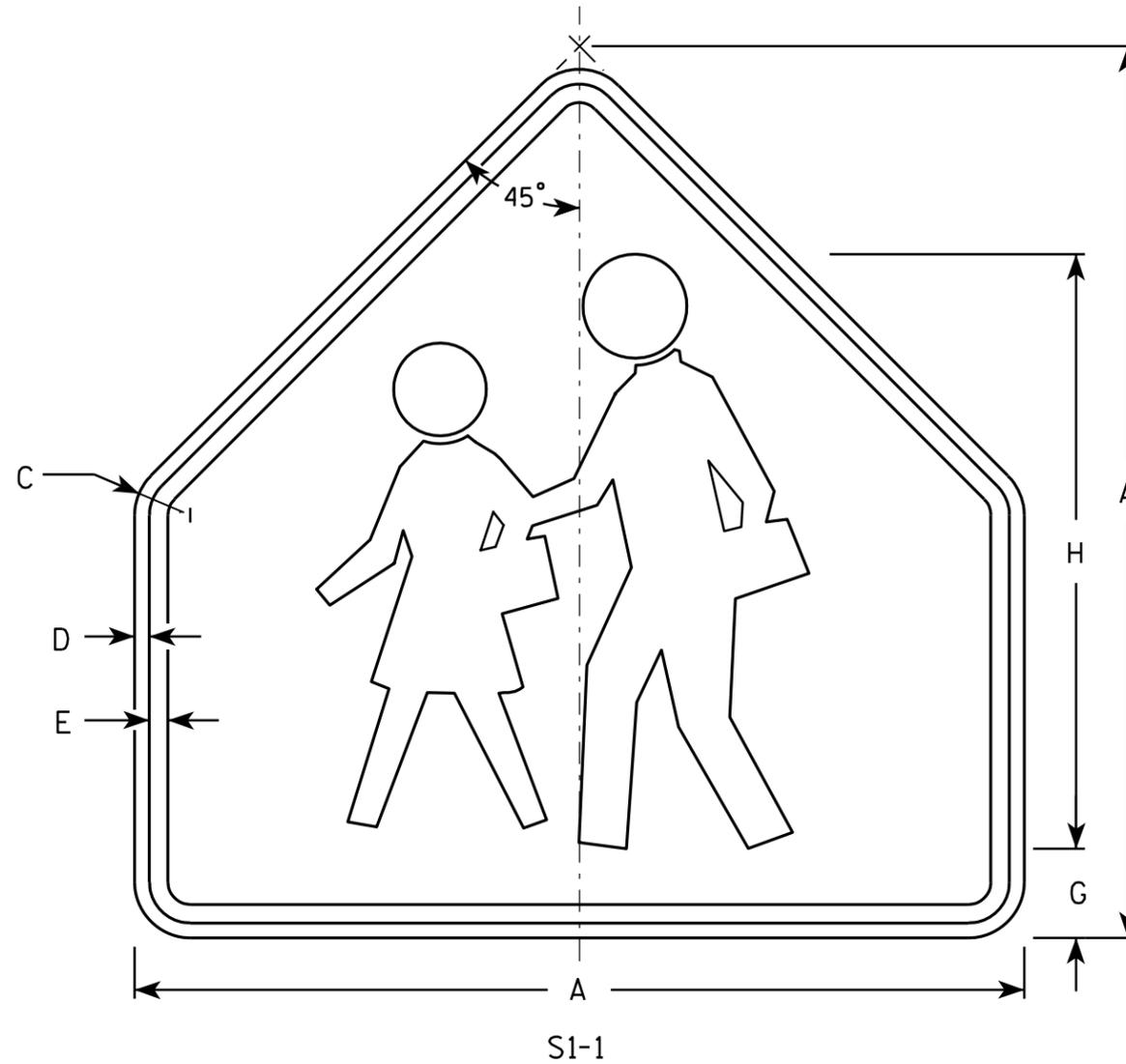
STANDARD SIGN  
R11-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 6/14/2021 PLATE NO. R11-3.9

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



**NOTES**

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

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	30		1 3/8	1/2	5/8		3	20																			4.69
2	36		1 5/8	5/8	3/4		3 1/2	24																			6.75
3	36		1 5/8	5/8	3/4		3 1/2	24																			6.75
4	48		2 1/4	3/4	1		4 3/4	32																			12
5																											

**STANDARD SIGN**  
S1-1

WISCONSIN DEPT OF TRANSPORTATION

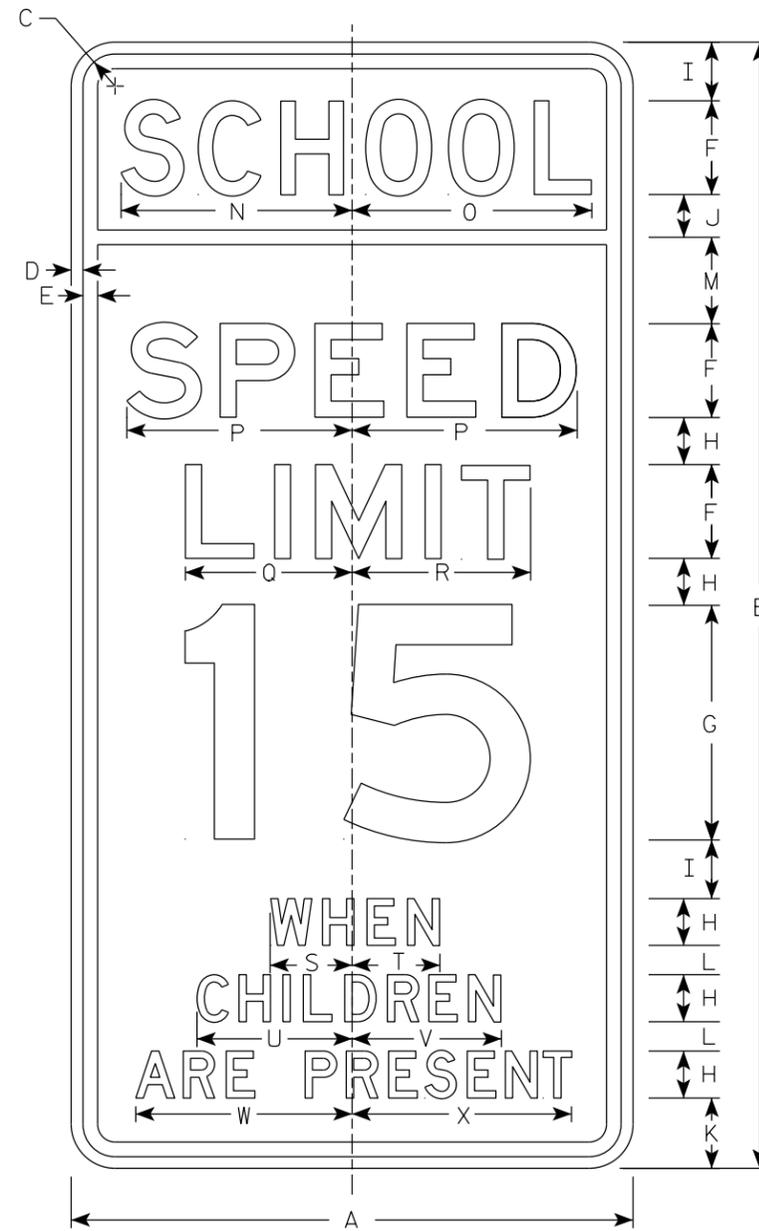
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 6/30/05 PLATE NO. S1-1.8

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

NOTES

1. Sign is Type II - See Note 2 for Sheeting Type
2. Color:
  - Background - See Note 4
  - Message - Black
3. Message Series - See Note 5
4. Top panel (SCHOOL) background - Yellow Green - Type F Reflective  
Lower panel background - White - Type SH Reflective
5. From top to bottom:
  - Lines 1, 5, 6 & 7 are series D
  - Lines 2, 3 & 4 are series E
6. Line 4 substitute appropriate numerals and adjust spacing to achieve proper balance.



S4-51

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	48	1 3/8	1/2	5/8	4	10	2	2 1/2	1 3/4	3	1 1/4	3 3/4	9 7/8	10 1/4	9 5/8	7 1/8	7 5/8	3 1/2	3 3/8	6 5/8	6 3/8	9 1/4	9 3/8			8.00
3	36	72	2 1/4	3/4	1	6	15	3	3 3/4	2 3/4	4 1/2	1 7/8	5 1/2	15	15 1/4	14 1/2	11 1/4	11 1/2	5 1/2	5 3/4	10	9 3/4	14	14 1/8			18.00
4																											
5																											

STANDARD SIGN  
S4-51

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 7/27/2020 PLATE NO. S4-51.10

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

**DESIGN DATA**

**LIVE LOAD:**

DESIGN LOADING: HL-93  
 INVENTORY RATING: RF = 1.23  
 OPERATING RATING: RF = 1.59  
 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 10X42 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 110 TONS \*\* PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.  
 ESTIMATED 30'-0" LONG AT WEST ABUTMENT.  
 ESTIMATED 30'-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:**

$Q_{100} = 533$  C.F.S.  
 AVG.  $V_{100} = 5.8$  F.P.S.  
 $HW_{100} = EL. 767.84$   
 WATERWAY AREA = 92 SQ. FT.  
 DRAINAGE AREA = 2.8 SQ. MI.  
 ROADWAY OVERTOPPING = N/A  
 SCOUR CRITICAL CODE = 5

**2-YEAR FREQUENCY:**

$Q_2 = 130$  C.F.S.  
 $V_2 = 4.9$  F.P.S.  
 $HW_2 = EL. 764.00$

**TRAFFIC DATA**

**MCKINLEY STREET:**  
 ADT = 1,390 (2044)  
 R.D.S. = 30 MPH

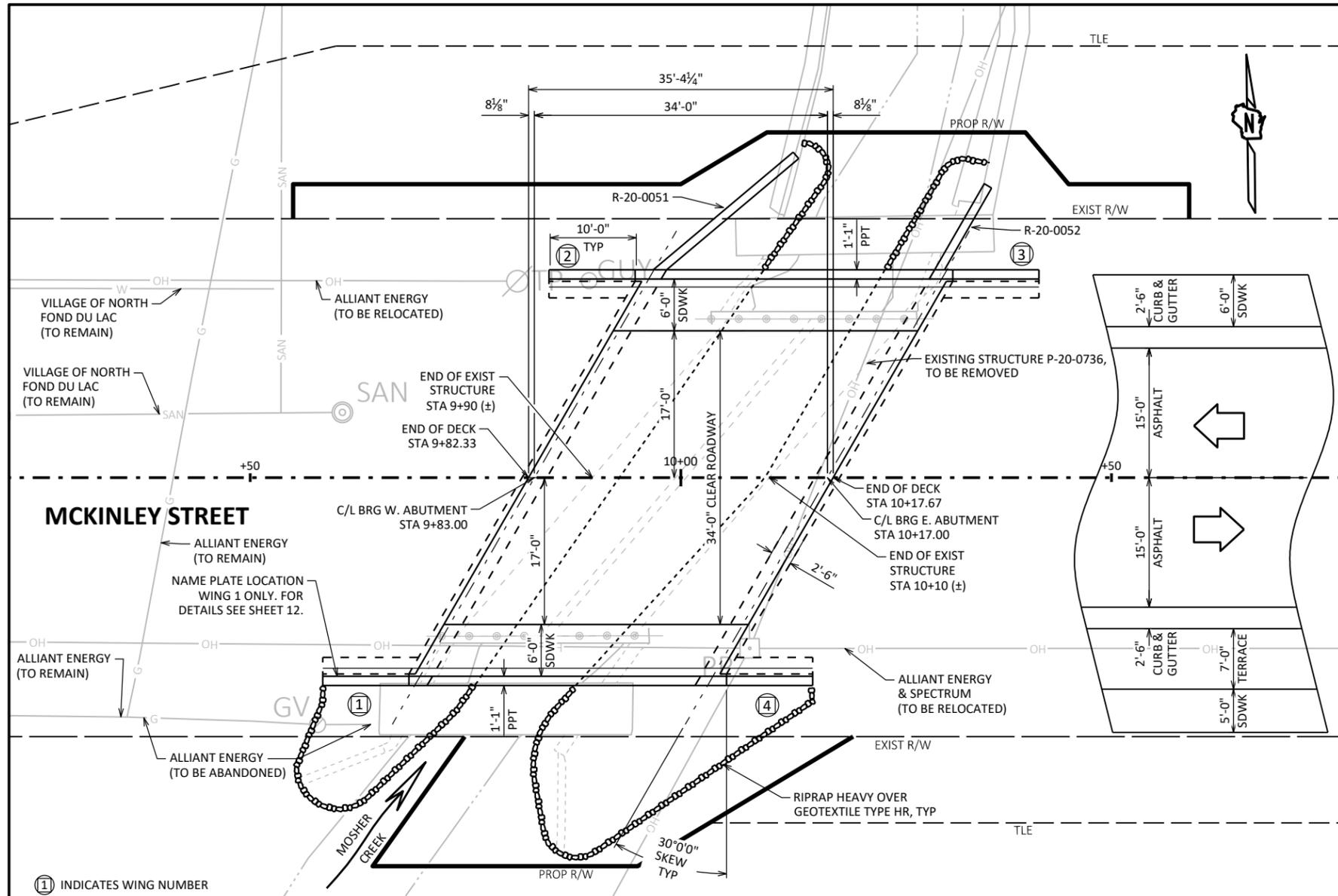
**LIST OF DRAWINGS:**

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
9. SUPERSTRUCTURE
10. SUPERSTRUCTURE DETAILS
11. SUPERSTRUCTURE DETAILS
12. VERTICAL FACE PARAPET 'A'
13. TUBULAR RAILING TYPE 'H' (ALUM.)



**STRUCTURE DESIGN CONTACTS:**

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

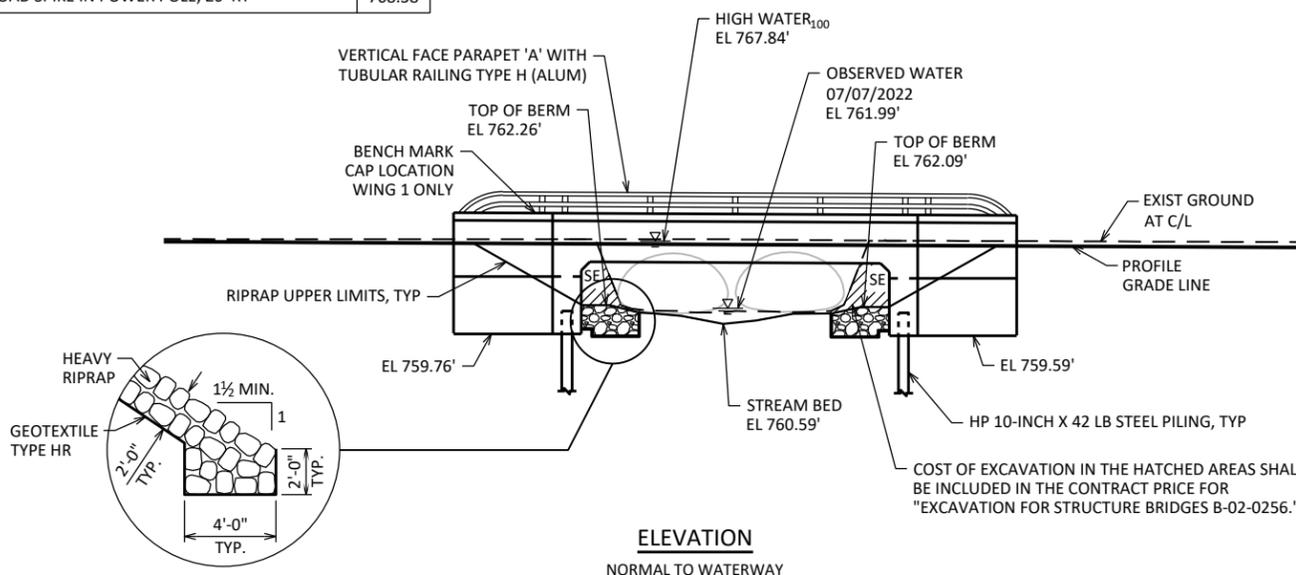


① INDICATES WING NUMBER

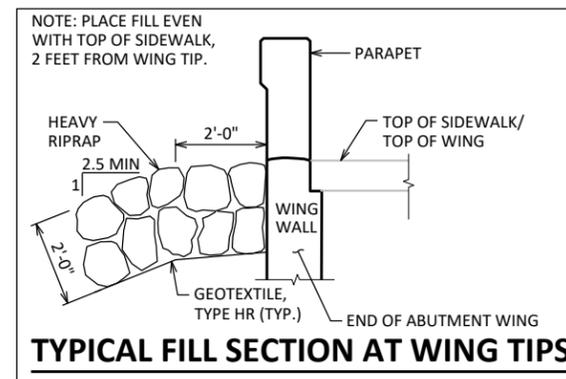
**BENCH MARKS**

BM	STA	DESCRIPTION	ELEV
A	8+13	SOUTHWEST BOLT ON FLANGE OF HYDRANT, 33' LT	771.13
B	11+28	RAILROAD SPIKE IN POWER POLE, 20' RT	768.38

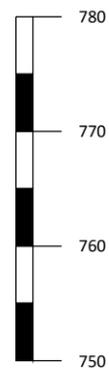
**PLAN**  
SINGLE SPAN FLAT SLAB



**ELEVATION**  
NORMAL TO WATERWAY



**TYPICAL FILL SECTION AT WING TIPS**



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

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

ACCEPTED *[Signature]* SDR 11/08/23  
 CHIEF STRUCTURES DESIGN ENGINEER DATE

**STRUCTURE B-20-0256**  
 MCKINLEY STREET OVER MOSHER CREEK

COUNTY FOND DU LAC VILLAGE NORTH FOND DU LAC

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATION

DESIGNED BY	RTA	DESIGNED CK'D	ALK	DRAWN BY	AJS	PLANS CK'D	ALK
-------------	-----	---------------	-----	----------	-----	------------	-----

**GENERAL PLAN** SHEET 1 OF 13

**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-20-256" 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 TO BE APPLIED TO THE ENTIRE EXPOSED TOP OF DECK AND APPROACH SLAB SURFACES AND TO THE VERTICAL AND HORIZONTAL SURFACES OF THE PAVING NOTCHES AT ABUTMENT DIAPHRAGMS.

PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE AND THE TOP OF THE PARAPETS.

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.

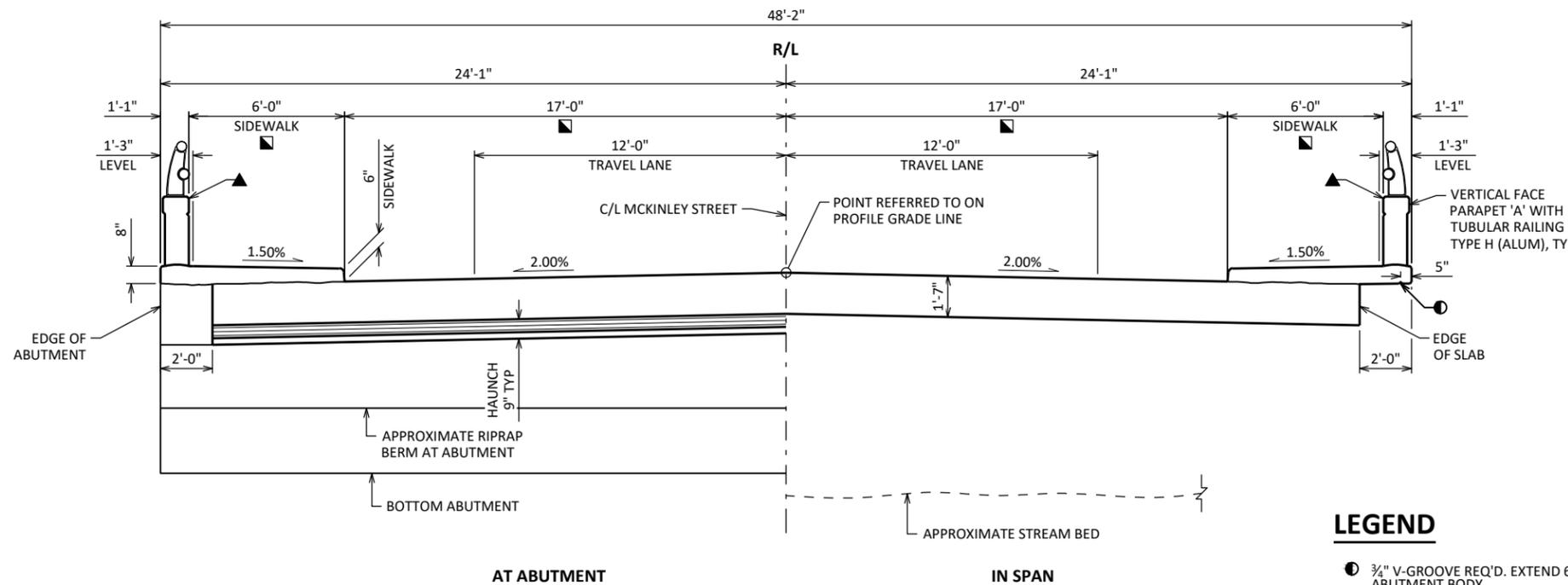
SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE, UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.

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 3/4" DIAMETER A325 HIGH-TENSILE STRENGTH BOLTS UNLESS OTHERWISE SHOWN OR NOTED.

SHAPING CHANNEL BOTTOM IS INCIDENTAL TO BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-20-0256".

REMOVING STRUCTURE ITEM SHALL INCLUDE TWIN CMPA 88X60-INCH, SIDEWALK STRUCTURES, ABUTMENTS, WALLS, AND OTHER ITEMS AS SHOWN ON THE REMOVAL PLAN SHEET IN THE ROADWAY PLANS.

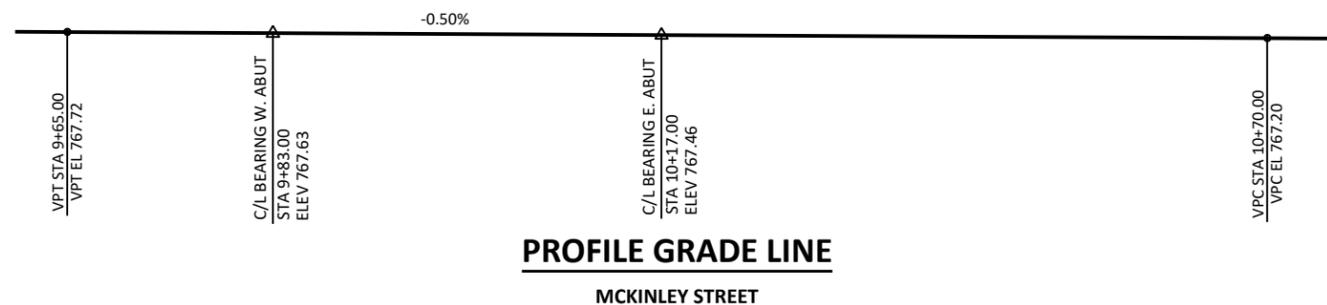


**CROSS SECTION THRU BRIDGE**

LOOKING EAST

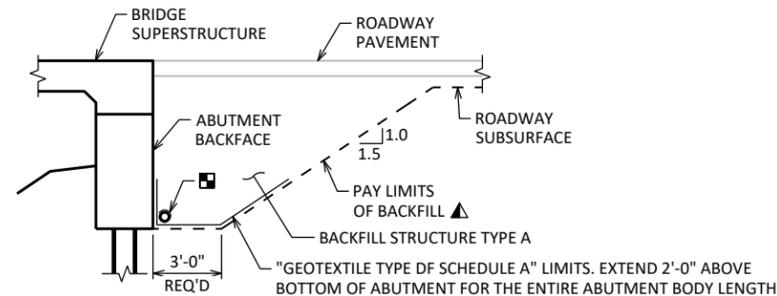
**LEGEND**

- 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.



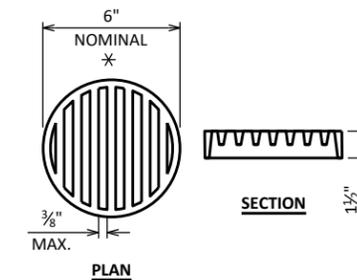
**PROFILE GRADE LINE**

MCKINLEY STREET



**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.



**RODENT SHIELD DETAIL**

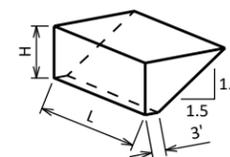
\* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

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.

**TOTAL ESTIMATED QUANTITIES**

BID ITEM NUMBER	BID ITEMS	UNIT	WEST ABUT	EAST ABUT	SUPER	TOTAL
203.0220	REMOVING STRUCTURE P-20-0736	EACH	---	---	---	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-20-256	EACH	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	160	160	---	320
502.0100	CONCRETE MASONRY BRIDGES	CY	42	42	125	209
502.3200	PROTECTIVE SURFACE TREATMENT	SY	---	---	190	190
502.3210	PIGMENTED SURFACE SEALER	SY	---	---	47	47
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	3245	3245	---	6,490
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1550	1550	30040	33,140
513.4056	RAILING TUBULAR TYPE H	LF	---	---	114	114
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	13	13	---	26
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	240	240	---	480
606.0300	RIPRAP HEAVY	CY	46	60	---	106
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	110	120	---	230
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	80	80	---	160
645.0120	GEOTEXTILE TYPE HR	SY	72	95	---	167
NON-BID ITEMS						
----	JOINT FILLER	SIZE	---	---	---	1/2" & 3/4"



**ABUTMENT BACKFILL DIAGRAM**

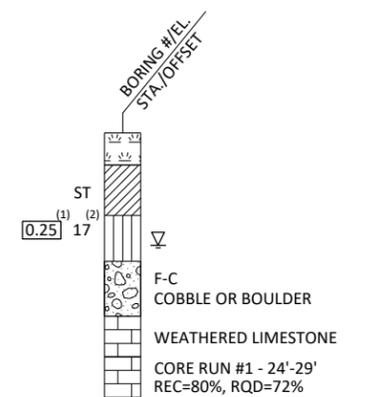
L = OUT TO OUT OF ABUTMENT BODY INCLUDING WINGS (FT)  
 H = AVERAGE ABUTMENT FILL HEIGHT (FT)  
 EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)  
 $V_{CF} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H)$   
 $V_{CY} = V_{CF}(EF)/27$   
 $V_{TON} = V_{CY}(2.0)$

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-20-0256</b>			
DRAWN BY		AJS	PLANS CK'D ALK
<b>QUANTITIES AND CROSS SECTION</b>			SHEET 2

MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

- ▽ 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-20-0256

DRAWN BY	AJS	PLANS CK'D	ALK
----------	-----	------------	-----

SUBSURFACE EXPLORATION

SHEET 3

SCALE = 20:0



MCKINLEY STREET

9+00

+50

10+00

+50

11+00

END OF DECK  
STA 9+82.33

C/L BRG W. ABUTMENT  
STA 9+83.00

B-01

END OF DECK  
STA 10+17.67  
C/L BRG E. ABUTMENT  
STA 10+17.00

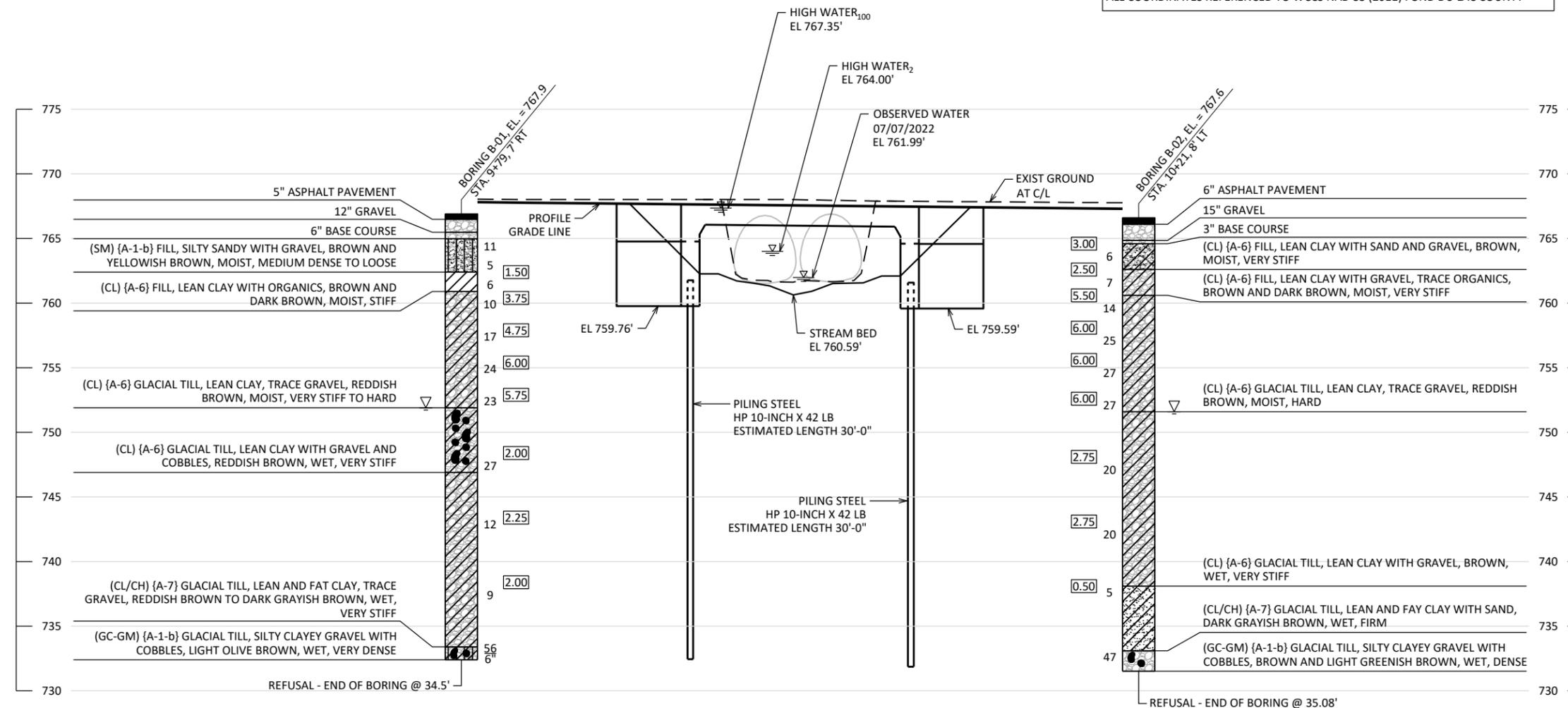
B-02

MOSHER  
CREEK

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-01	08/10/2022	398827.8	807153.2
B-02	08/10/2022	398842.2	807196.1

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

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

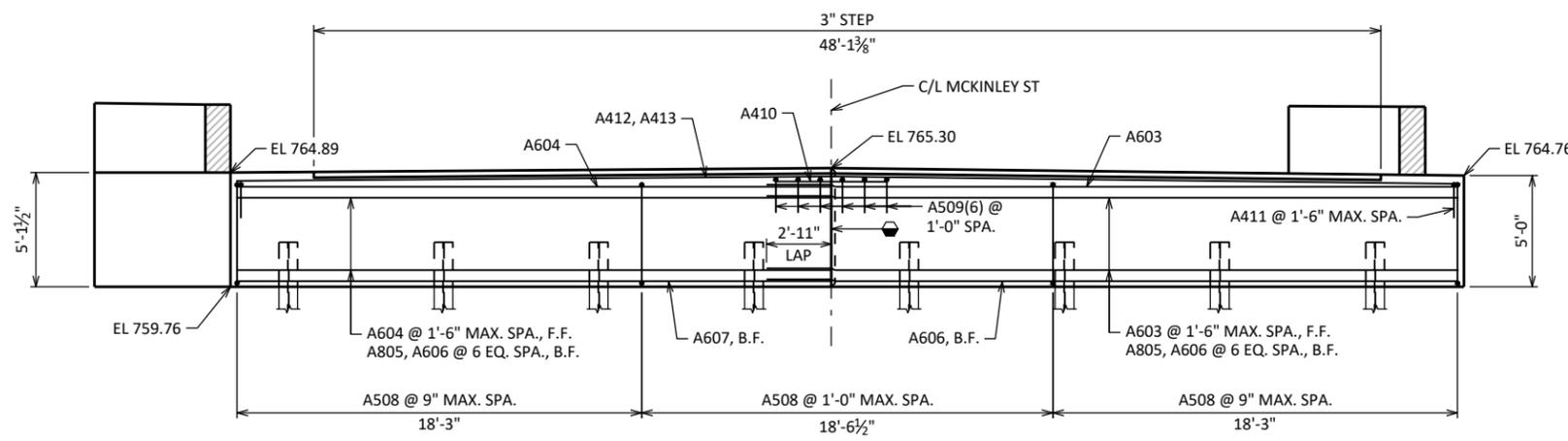


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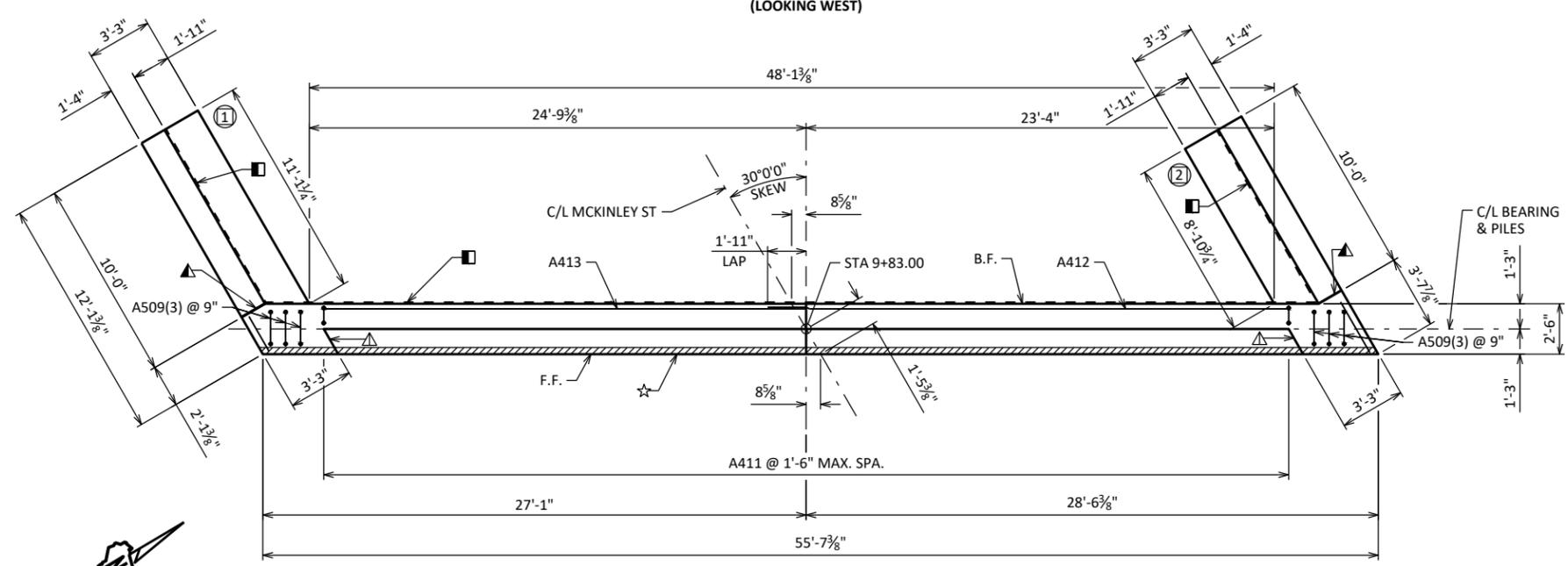
**LEGEND**

- ⊙ INDICATES WING NUMBER
- ⊕ INDICATES PILE NUMBER
- F.F. FRONT FACE
- B.F. BACK FACE
- ⊖ VERT. CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 x 8. 3/4" "V" GROOVE @ THE FRONT FACE AND 18" RMW @ BACKFACE. FOR OPTIONAL DETAILS SEE "CONSTRUCTION DETAILS" SHEET.
- ◆ SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, ESTIMATED 30'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 110 TONS PER PILE.
- 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 1/2" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- ☆ 4" x 3/4" PREFORMED JOINT FILLER, LENGTH OF ABUTMENT.
- △ 3/4" CORK FILLER ON VERTICAL SEAT FACES.
- ⊕ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

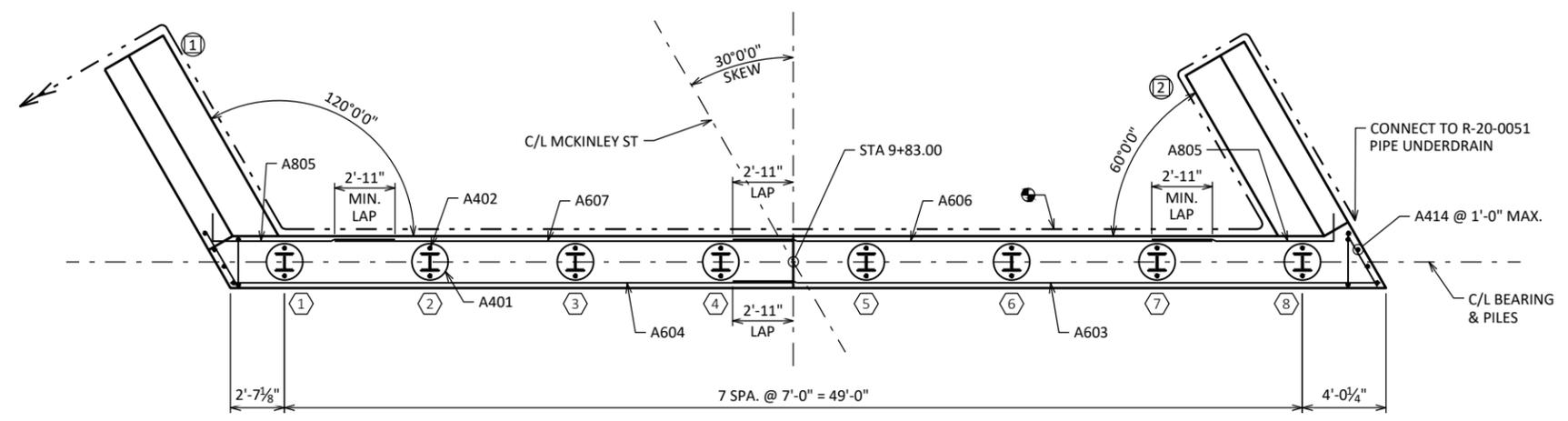


**ELEVATION**

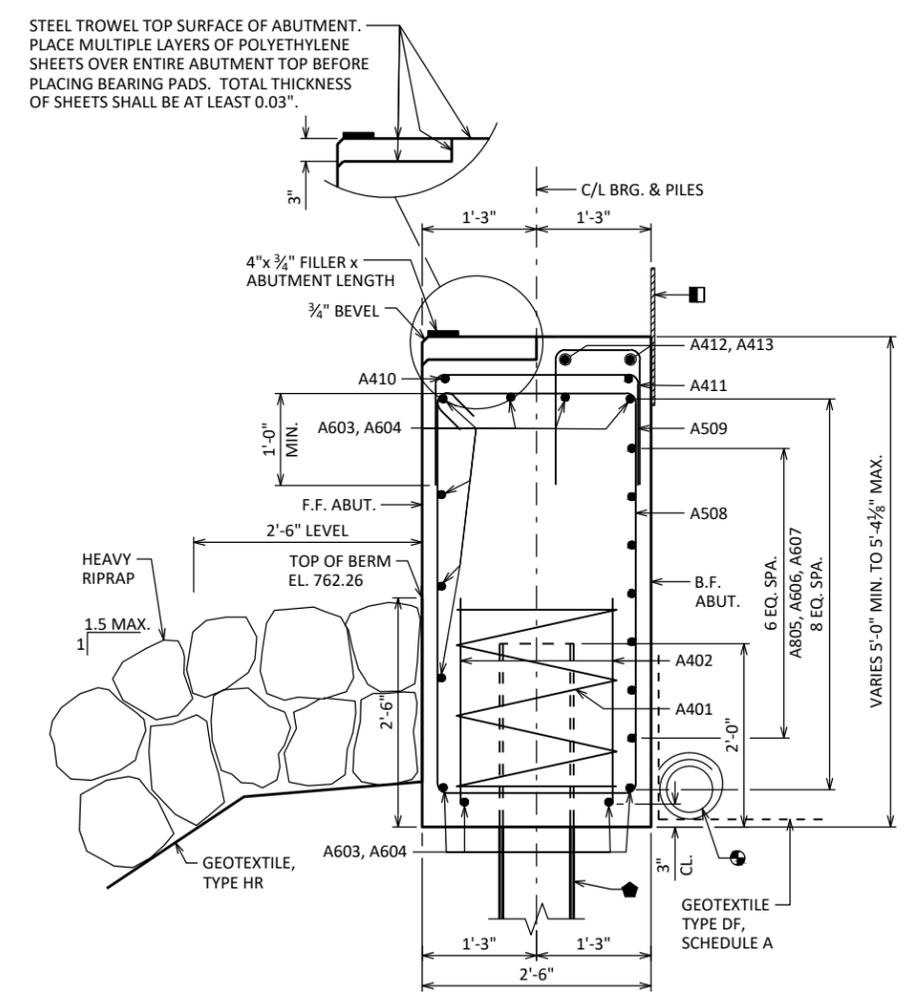
(LOOKING WEST)



**PLAN**



**PILE PLAN**



**SECTION THRU BODY**

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-20-0256</b>			
DRAWN BY		PLANS CK'D	
AJS		ALK	
<b>WEST ABUTMENT</b>			SHEET 4

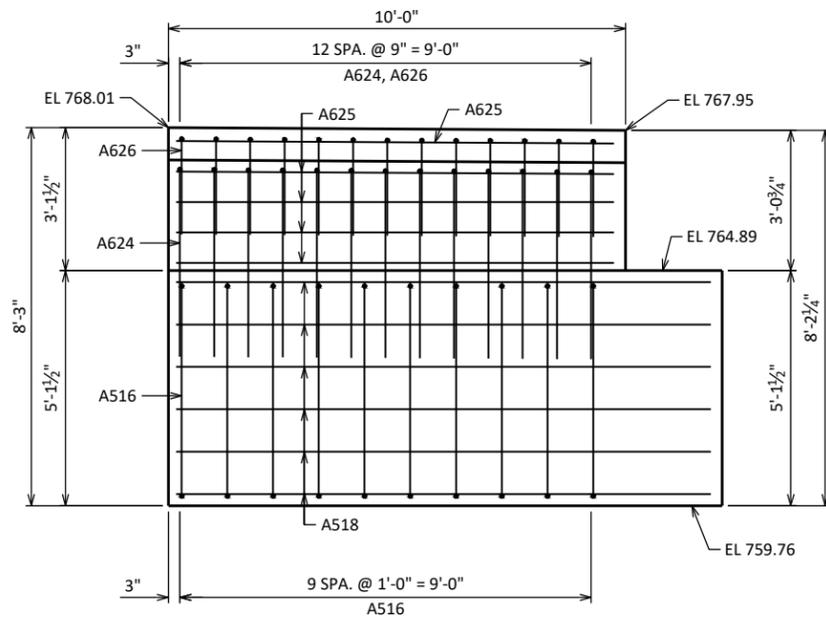
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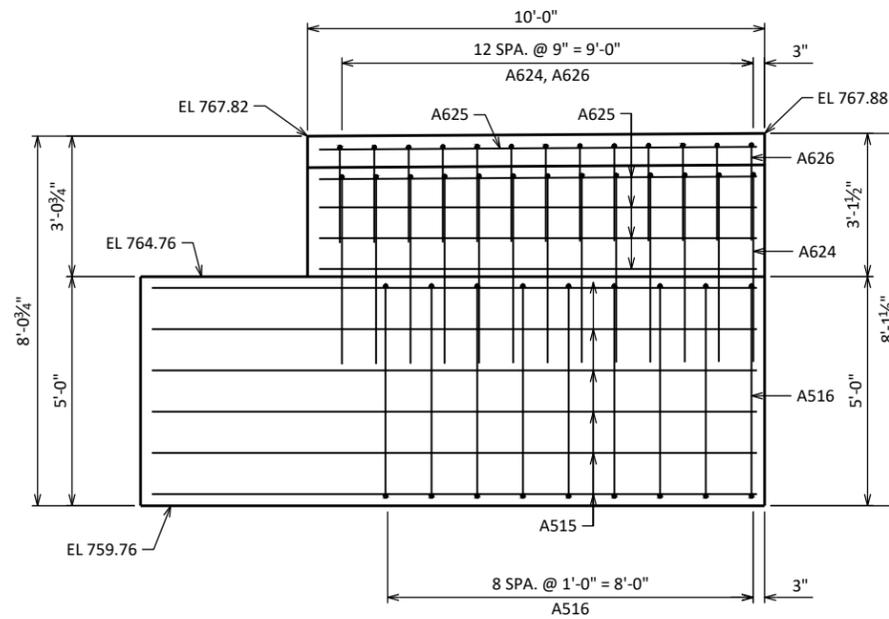
**BILL OF BARS**

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

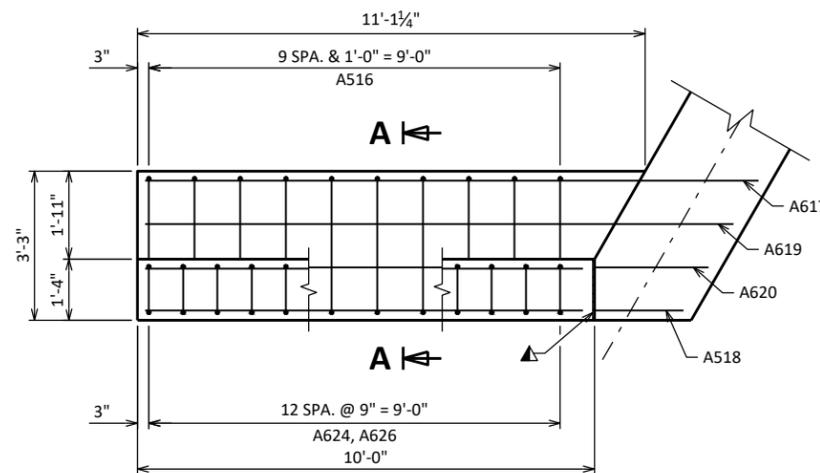
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A401		8	28'-0"	X		BODY - PILES
A402		16	2'-3"			BODY PILES
A603		11	30'-7"			BODY - HORIZONTAL F.F. TOP BOTTOM - NORTH HALF
A604		11	27'-7"			BODY - HORIZONTAL - F.F. TOP BOTTOM - SOUTH HALF
A805		14	10'-2"	X		BODY - HORIZONTAL - B.F. AT WINGS
A606		7	23'-1"			BODY - HORIZONTAL - B.F. - NORTH HALF
A607		7	22'-1"			BODY - HORIZONTAL - B.F. - SOUTH HALF
A508		71	13'-6"	X		BODY - TIES
A509		12	4'-10"	X		BODY-TIE UPPER - VERTICAL
A410		2	5'-0"			BODY-TIE UPPER - CENTER - HORIZONTAL
A411		35	3'-9"	X		BODY SEAT TIE - VERTICAL
A412		2	28'-10"			BODY - HORIZONTAL - NORTH
A413		2	26'-10"			BODY SEAT - HORIZONTAL - SOUTH
A414		8	4'-7"			ABUTMENT ENDS - VERTICAL
A515	X	6	13'-3"			WING 2 - HORIZONTAL - F.F.
A516	X	19	15'-4"	X		WINGS VERTICAL STIRRUPS
A617	X	6	13'-1"			WING 1 - HORIZONTAL - B.F.
A518	X	6	11'-10"			WING 1 - HORIZONTAL - F.F.
A619	X	1	12'-5"			WING 1 LOWER WING - TOP
A620	X	1	11'-10"			WING 1 LOWER WING - TOP
A621	X	6	10'-10"			WING 2 - HORIZONTAL - B.F.
A622	X	1	12'-0"			WING 2 LOWER WING - TOP
A623	X	1	11'-5"			WING 2 LOWER WING - TOP
A624	X	26	9'-2"	X		UPPER WING 1 & 2 - VERTICAL
A625	X	18	9'-8"			UPPER WING 1 & 2 - HORIZONTAL
A626	X	26	4'-8"	X		SW NOTCH - WINGS 1 & 2 - VERTICAL



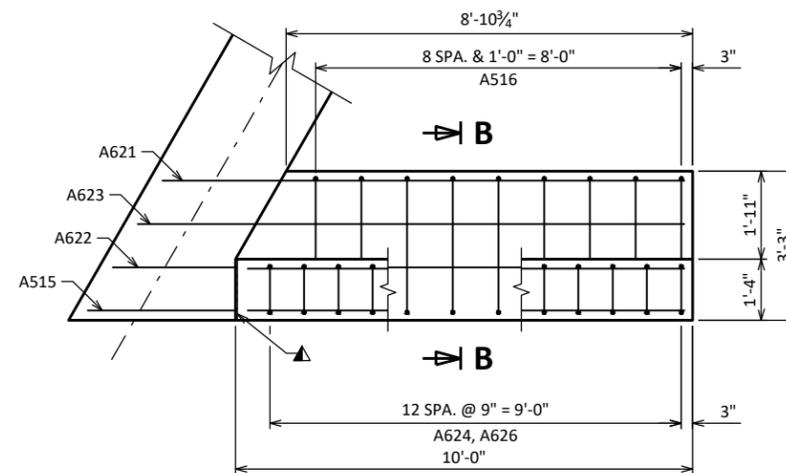
**WING 1 ELEVATION**



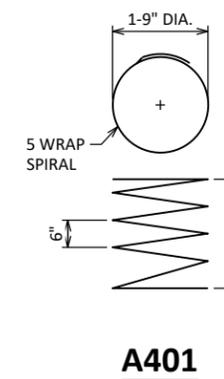
**WING 2 ELEVATION**



**WING 1 PLAN**

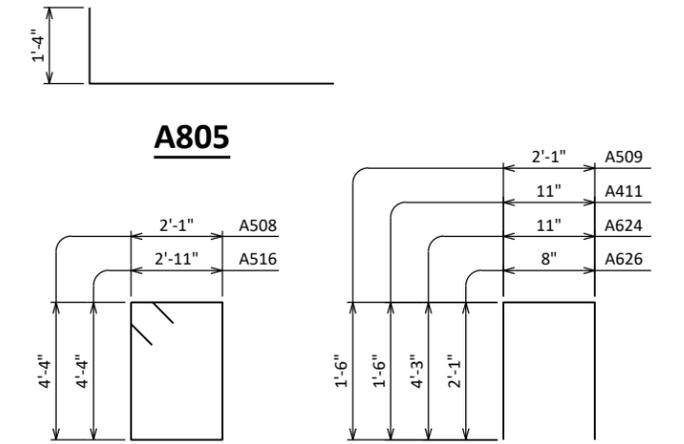


**WING 2 PLAN**



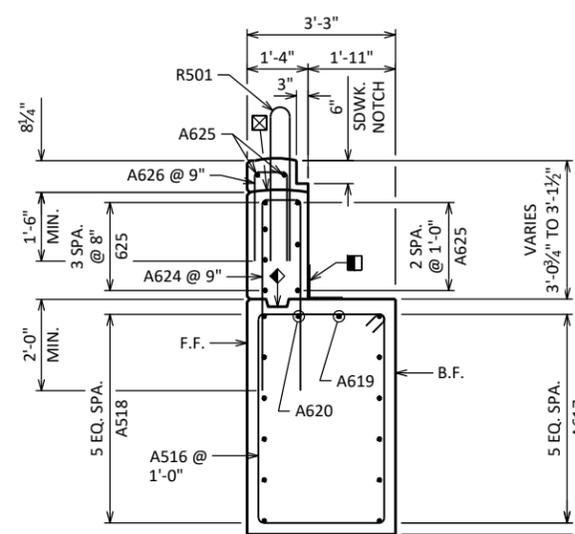
**LEGEND**

- ⊕ 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").

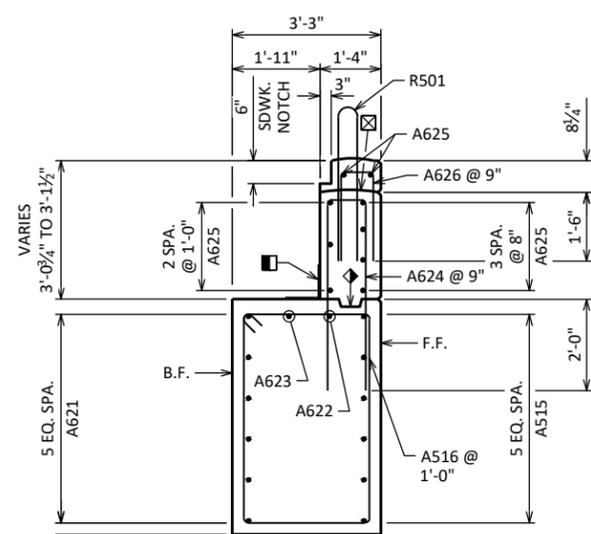


**A508, A516**

**A509, A411, A624, A626**



**SECTION A-A**



**SECTION B-B**

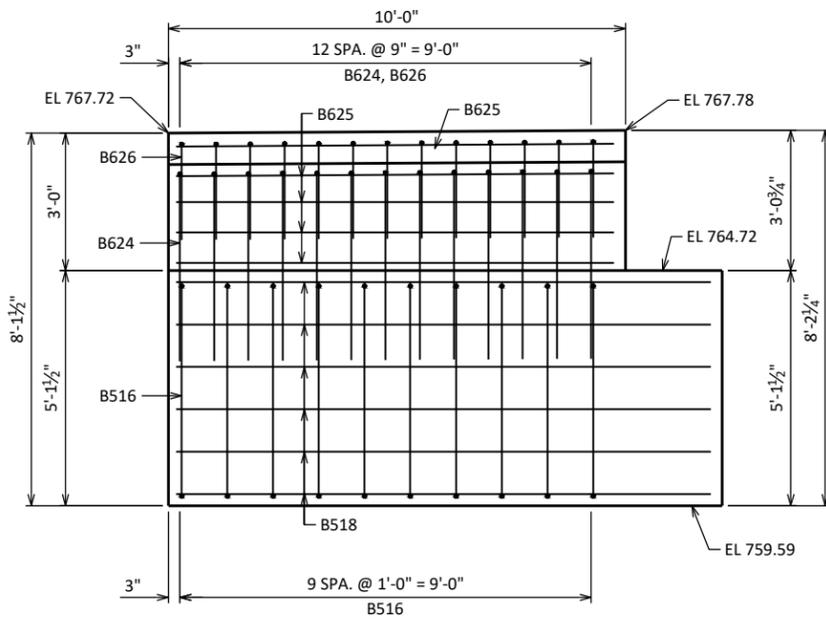
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-20-0256</b>			
DRAWN BY		AJS	PLANS CK'D ALK
<b>WEST ABUTMENT DETAILS</b>		SHEET 5	



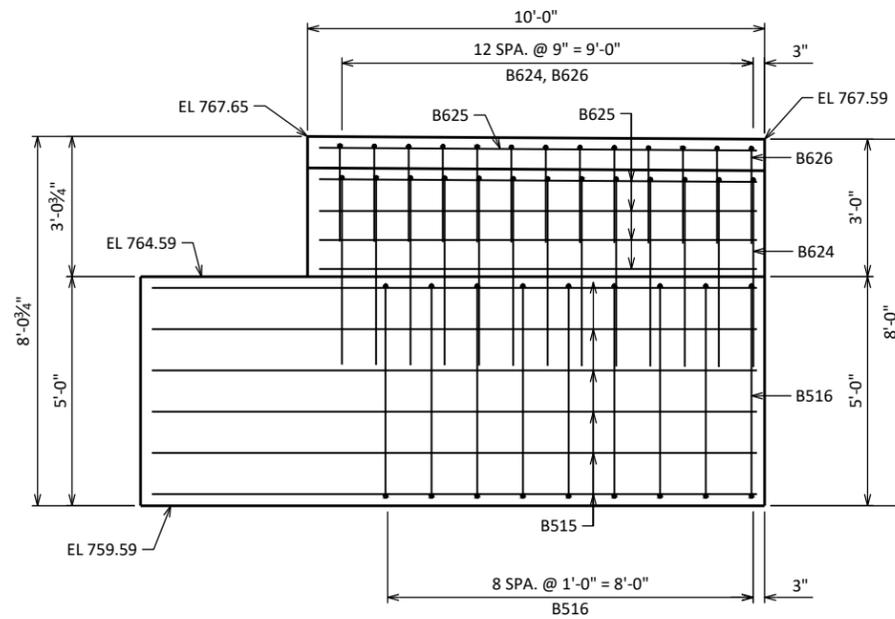
**BILL OF BARS**

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

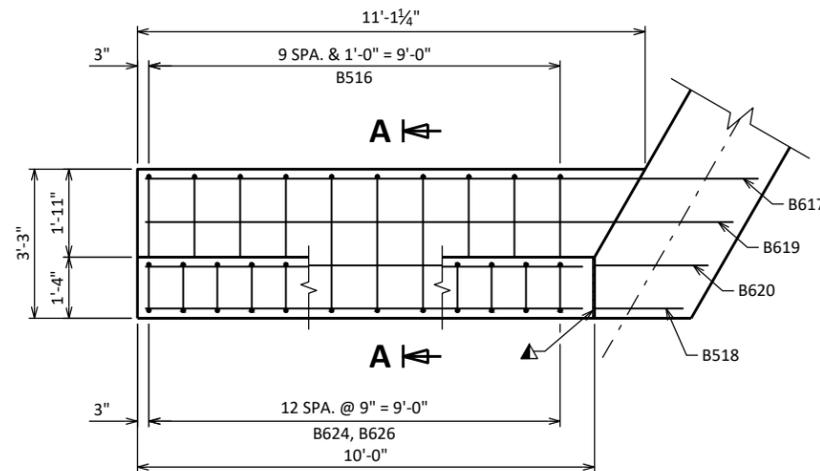
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B401		8	28'-0"	X		BODY - PILES
B402		16	2'-3"			BODY PILES
B603		11	30'-7"			BODY - HORIZONTAL - F.F. TOP BOTTOM - SOUTH HALF
B604		11	27'-7"			BODY - HORIZONTAL - F.F. TOP BOTTOM - NORTH HALF
B805		14	10'-2"	X		BODY - HORIZONTAL - B.F. AT WINGS
B606		7	23'-1"			BODY - HORIZONTAL - B.F. - SOUTH HALF
B607		7	22'-1"			BODY - HORIZONTAL - B.F. - NORTH HALF
B508		71	13'-6"	X		BODY - TIES
B509		12	4'-10"	X		BODY-TIE UPPER - VERTICAL
B410		2	5'-0"			BODY-TIE UPPER - CENTER - HORIZONTAL
B411		35	3'-9"	X		BODY SEAT TIE - VERTICAL
B412		2	28'-10"			BODY - HORIZONTAL - SOUTH
B413		2	26'-10"			BODY - HORIZONTAL - NORTH
B414		8	4'-7"			ABUTMENT ENDS - VERTICAL
B515	X	6	13'-3"			WING 4 - HORIZONTAL - F.F.
B516	X	19	15'-4"	X		WINGS VERTICAL STIRRUPS
B617	X	6	13'-1"			WING 3 - HORIZONTAL - B.F.
B518	X	6	11'-10"			WING 3 - HORIZONTAL - F.F.
B619	X	1	12'-5"			WING 3 LOWER WING - TOP
B620	X	1	11'-10"			WING 3 LOWER WING - TOP
B621	X	6	10'-10"			WING 4 - HORIZONTAL - B.F.
B622	X	1	12'-0"			WING 4 LOWER WING - TOP
B623	X	1	11'-5"			WING 4 LOWER WING - TOP
B624	X	26	9'-2"	X		UPPER WING 3 & 4 - VERTICAL
B625	X	18	9'-8"			UPPER WING 3 & 4 - HORIZONTAL
B626	X	26	4'-8"	X		SW NOTCH - WINGS 3 & 4 - VERTICAL



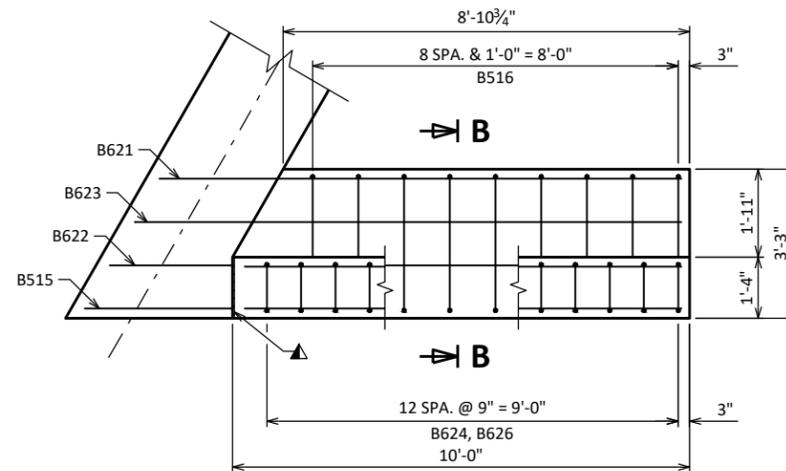
**WING 3 ELEVATION**



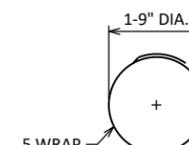
**WING 4 ELEVATION**



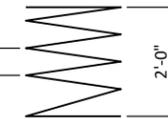
**WING 3 PLAN**



**WING 4 PLAN**



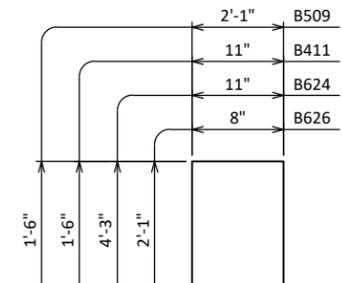
5 WRAP SPIRAL



**B401**



**B508, B516**



**B509, B411, B624, B626**

**LEGEND**

⊕ INDICATES WING NUMBER

F.F. FRONT FACE

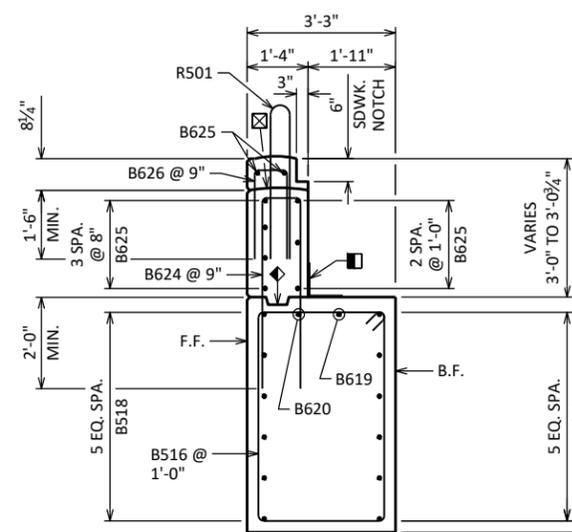
B.F. BACK FACE

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

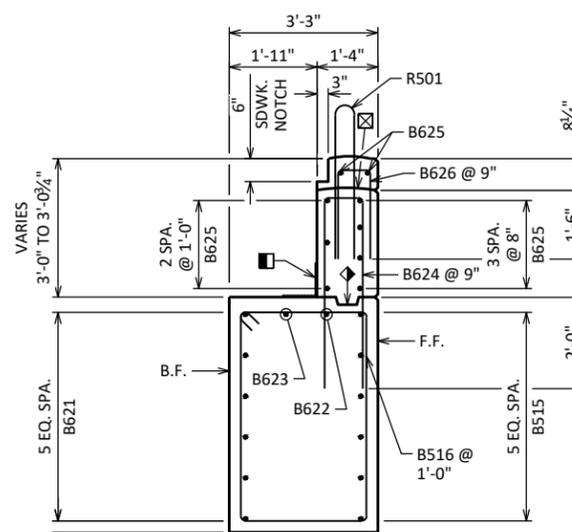
▲ ½" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ½" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

◆ OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" RMW @ B.F. & ¾" "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").



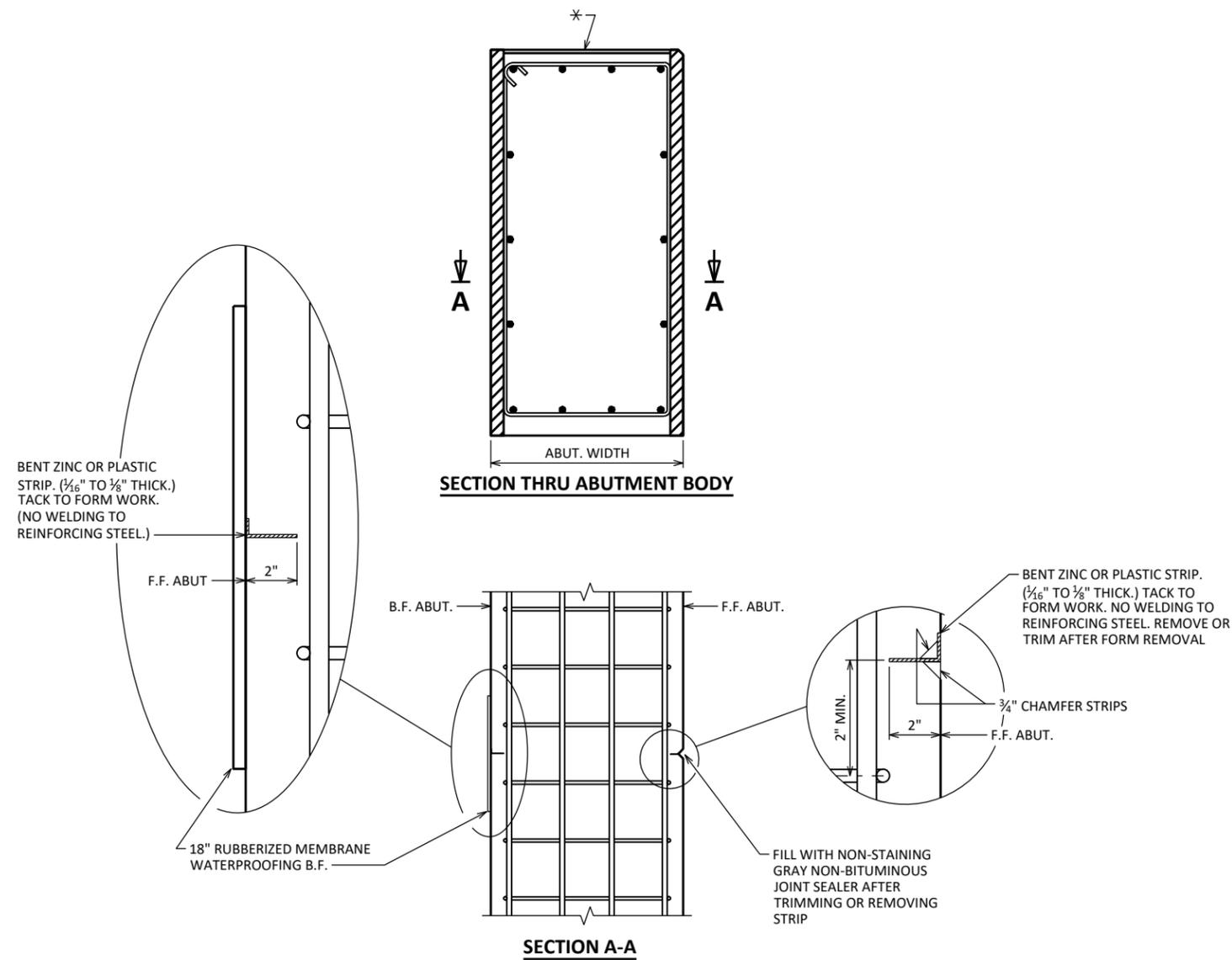
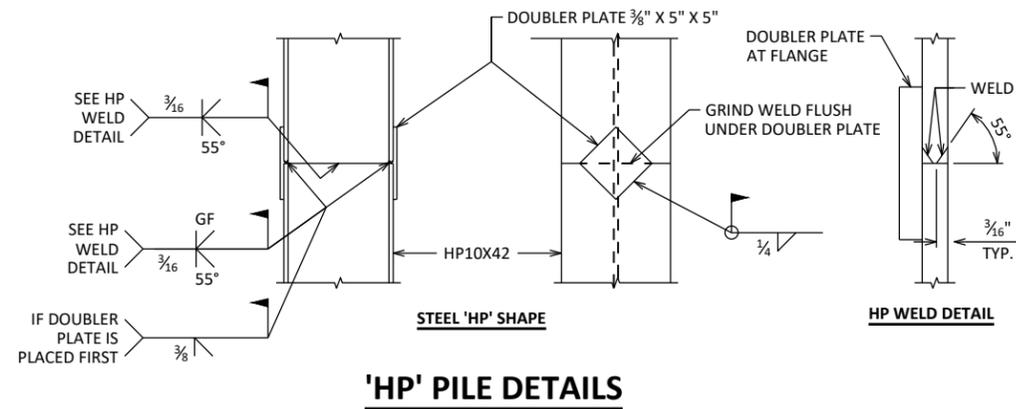
**SECTION A-A**



**SECTION B-B**

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-20-0256</b>			
DRAWN BY		AJS	PLANS CK'D ALK
<b>EAST ABUTMENT DETAILS</b>		SHEET 7	

SCALE = 4.00



**ALTERNATE CONSTRUCTION JOINT AT ABUTMENT**

**NOTES**

PARTIAL ZINC OR PLASTIC BULKHEAD MAY BE USED AS ALTERNATIVE CONSTRUCTION JOINT, WITH THE PERMISSION OF THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

VERTICAL CONSTRUCTION JOINT KEYWAY IS NOT REQUIRED WHEN USING ALTERNATE CONSTRUCTION JOINT.

CARE IS TO BE USED IN CASTING CONCRETE AROUND BULKHEAD TO PREVENT DISLOCATION OR MISALIGNMENT OF THE BULKHEAD.

SAW CUTTING JOINT IS NOT ALLOWED.

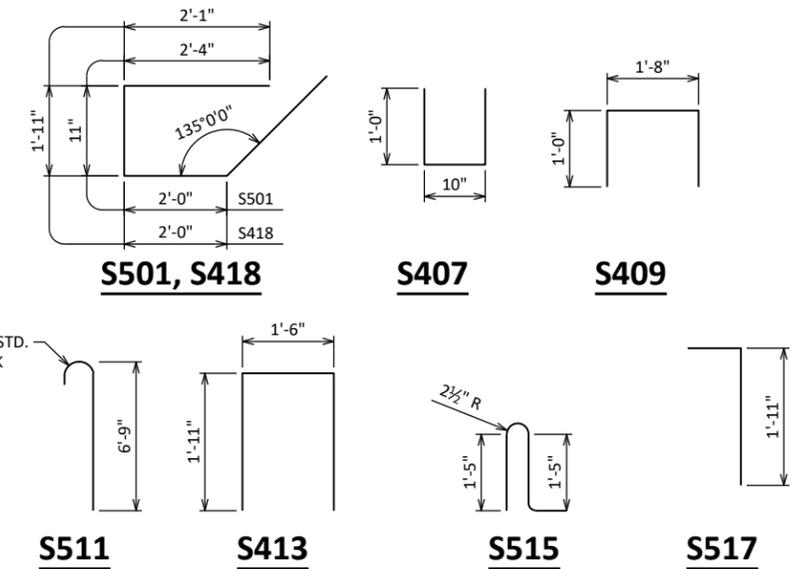
\* USE A JOINT TOOL TO CONSTRUCT A CONTRACTION JOINT APPROXIMATELY  $\frac{1}{2}$ " DEEP.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-20-0256</b>			
DRAWN BY		PLANS CK'D	
AJS		ALK	
<b>CONSTRUCTION DETAILS</b>			SHEET 8

SCALE = 2.00

**LEGEND**

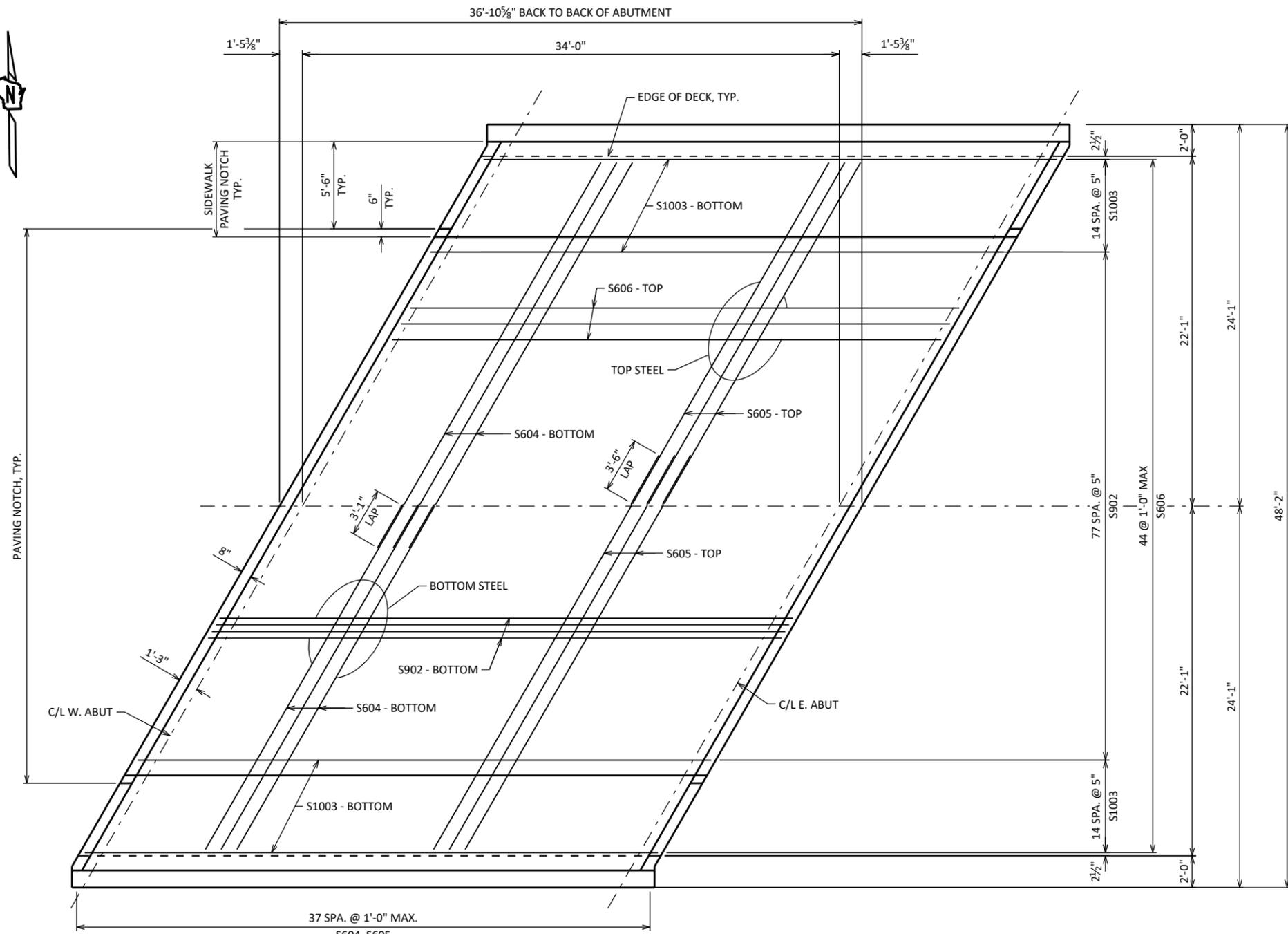
- 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING  
SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- ☆ 4" X 3/4" PREFORMED JOINT FILLER, LENGTH OF ABUTMENT.
- ▽ DIMENSIONS ARE MEASURED NORMAL TO C/L  
SUBSTRUCTURE.



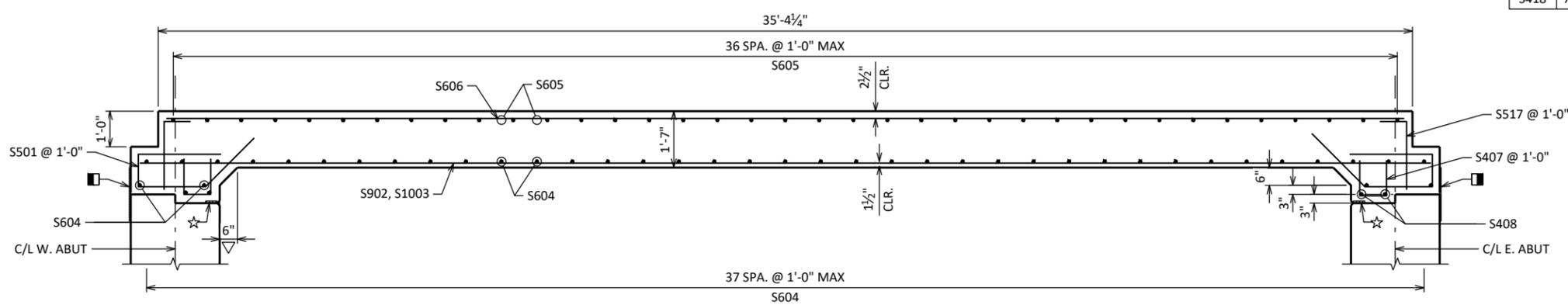
**BILL OF BARS**

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	68	7'-0"	X		END OF DECK PARALLEL TO R/L
S902	X	77	36'-6"			SLAB - BOTTOM - LONGITUDINAL
S1003	X	30	36'-6"			SLAB - BOTTOM - LONGITUDINAL - EXT
S604	X	84	26'-11"			SLAB - BOTTOM - TRANSVERSE
S605	X	74	27'-1"			SLAB - TOP - TRANSVERSE
S606	X	45	35'-0"			SLAB - TOP - LONGITUDINAL
S407	X	90	2'-8"	X		VERTICAL OVER ABUTMENT
S408	X	8	26'-2"			HORIZONTAL OVER ABUTMENT
S409	X	288	3'-6"	X		SIDEWALK TIES
S410	X	50	3'-0"			SIDEWALK - TRANSVERSE
S511	X	214	7'-4"	X		SIDEWALK - TRANSVERSE
S412	X	26	35'-0"			SIDEWALK - LONGITUDINAL
S413	X	32	5'-4"	X		DECK - CORNERS - AT ABUTMENT - VERT
S414	X	24	4'-4"			DECK - CORNERS - AT ABUTMENT
S515	X	90	4'-4"	X		PARAPET STIRRUP IN SPAN - VERT
S516	X	16	35'-0"			PARAPET HORIZONTAL IN SPAN
S517	X	74	2'-8"	X		END OF DECK PARALLEL TO R/L - VERT
S418	X	40	8'-0"	X		DECK CORNERS @ ABUT - OUTSIDE PAVING NOTCH



**PLAN**



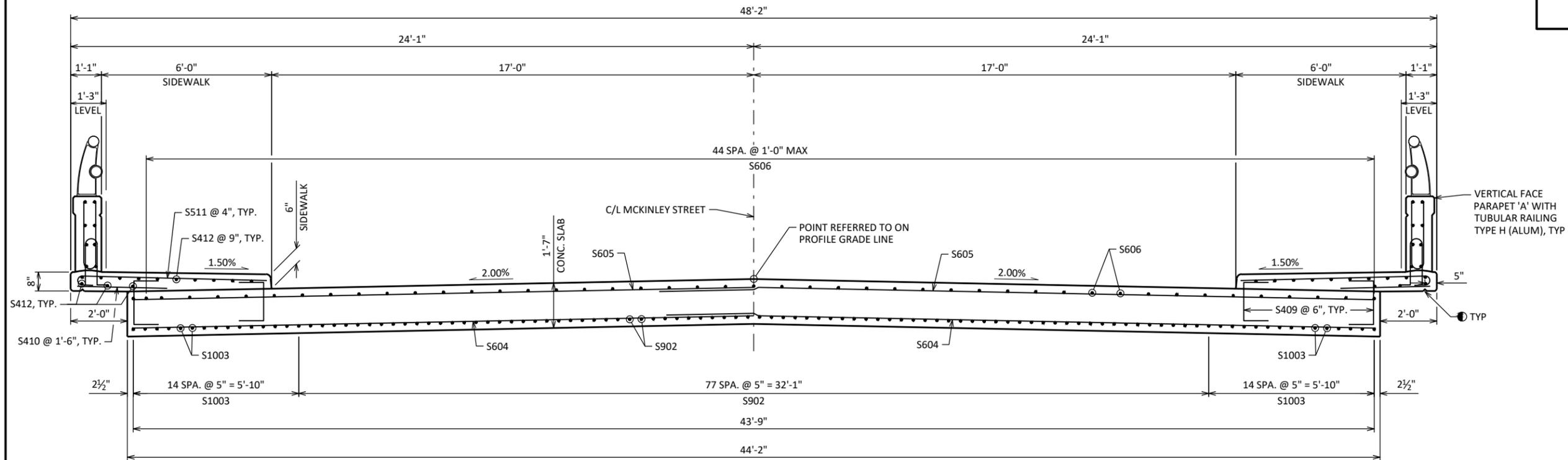
**LONGITUDINAL SECTION AT R/L**

8

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-20-0256</b>			
DRAWN BY		PLANS CK'D	ALK
AJS			
<b>SUPERSTRUCTURE</b>			SHEET 9

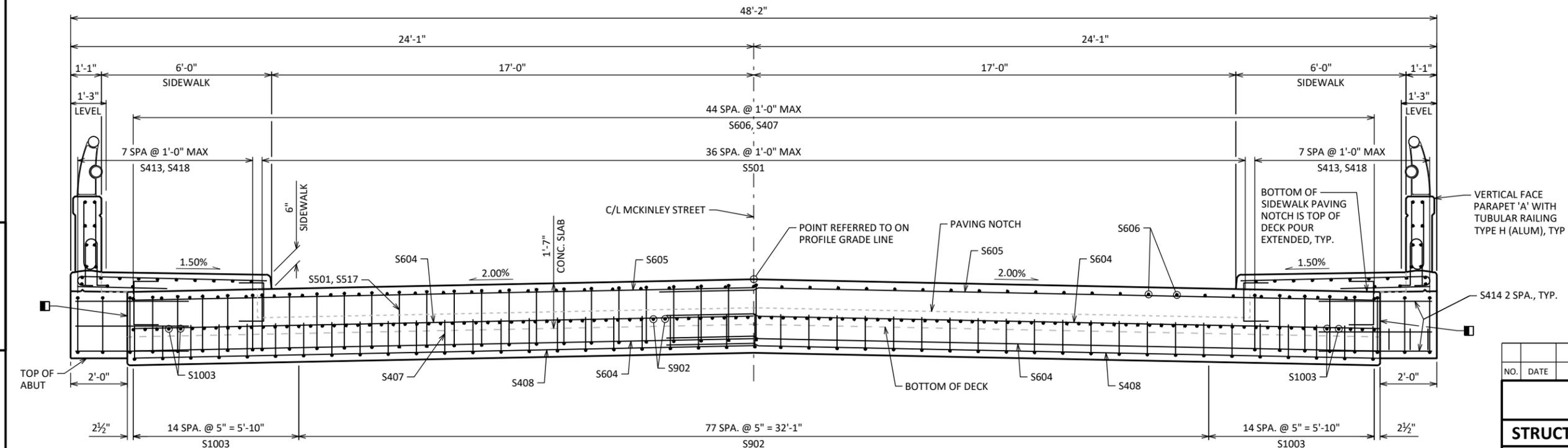
SCALE = 8.00



**CROSS SECTION THRU BRIDGE - IN SPAN**

**LEGEND**

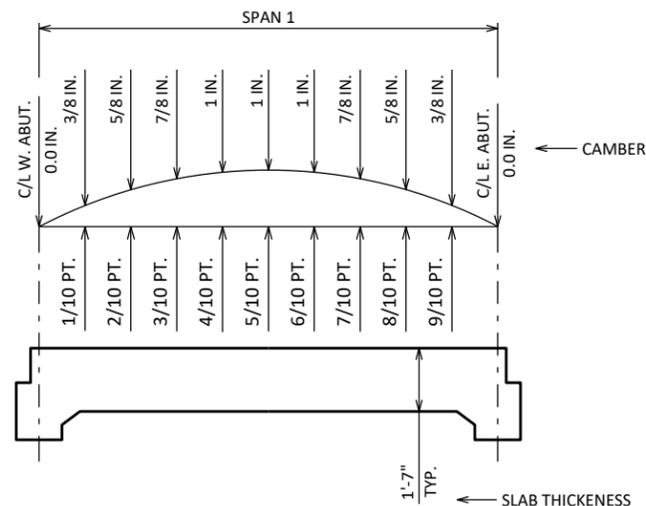
① 3/4" V-GROOVE REQ'D. EXTEND 6" FROM F.F. OF ABUTMENT BODY.



**CROSS SECTION THRU BRIDGE - AT ABUTMENT**

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-20-0256</b>			
DRAWN BY		PLANS CK'D	
AJS		ALK	
<b>SUPERSTRUCTURE DETAILS</b>			SHEET 10

SCALE = 4:00



**CAMBER AND SLAB THICKNESS DIAGRAM**

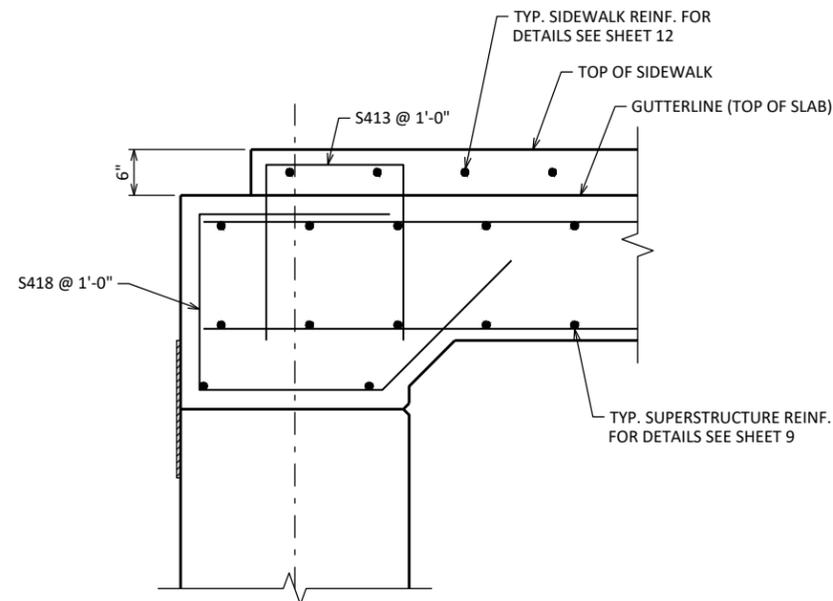
CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS. CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT. PARAPETS, SIDEWALKS AND MEDIANS PLACED ON TOP OF THE SLAB SHALL BE POURED AFTER FALSEWORK HAS BEEN RELEASED, EXCEPT 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
- PLUS 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	767.13	767.11	767.10	767.08	767.06	767.04	767.03	767.01	766.99	766.98	766.96
	CROWN OR R/L	767.63	767.62	767.60	767.58	767.57	767.55	767.53	767.52	767.50	767.48	767.46
	S. EDGE OF DECK	767.26	767.24	767.22	767.21	767.19	767.17	767.16	767.14	767.12	767.10	767.09



**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**

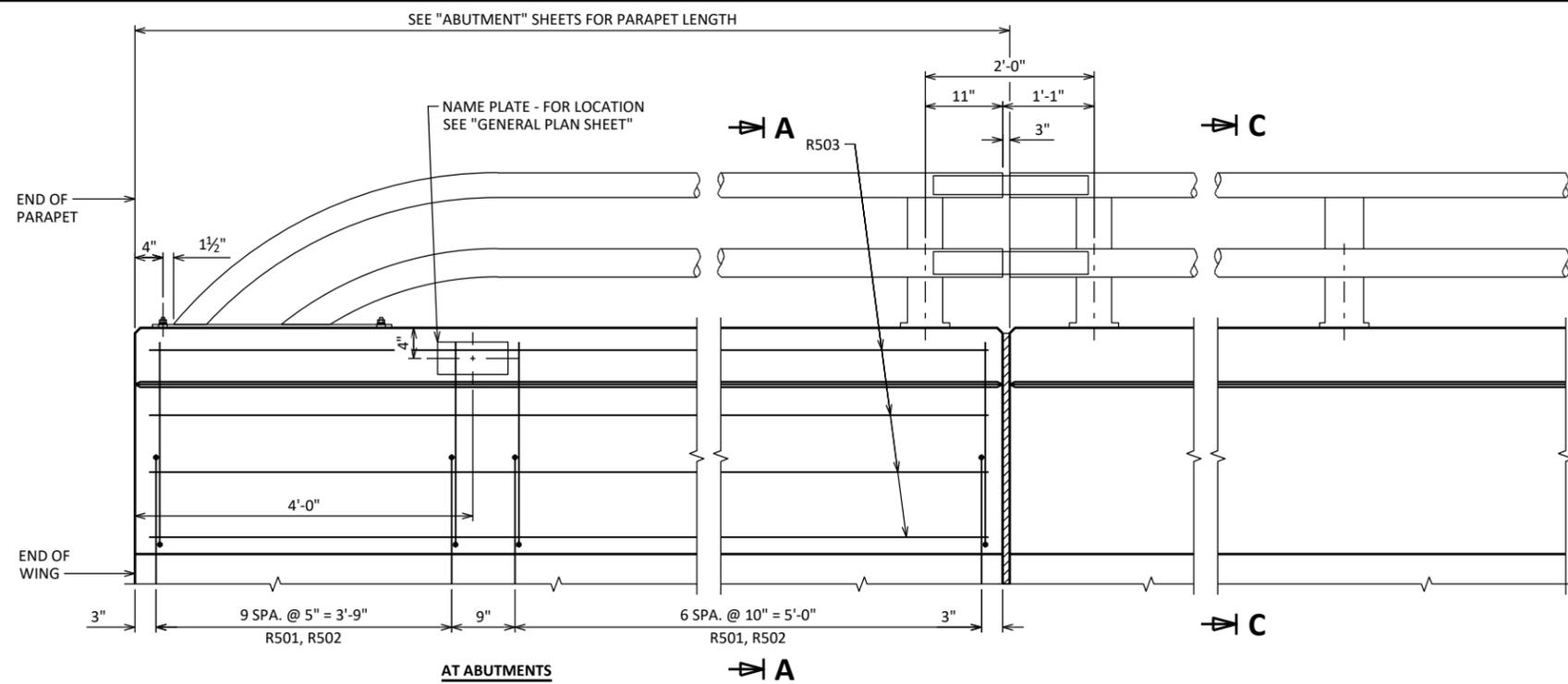
FILL IN THE TABLE OF "SURVEY TOP OF SLAB ELEVATIONS" FOR EACH SPAN ON AS BUILT PLANS.

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 (+).

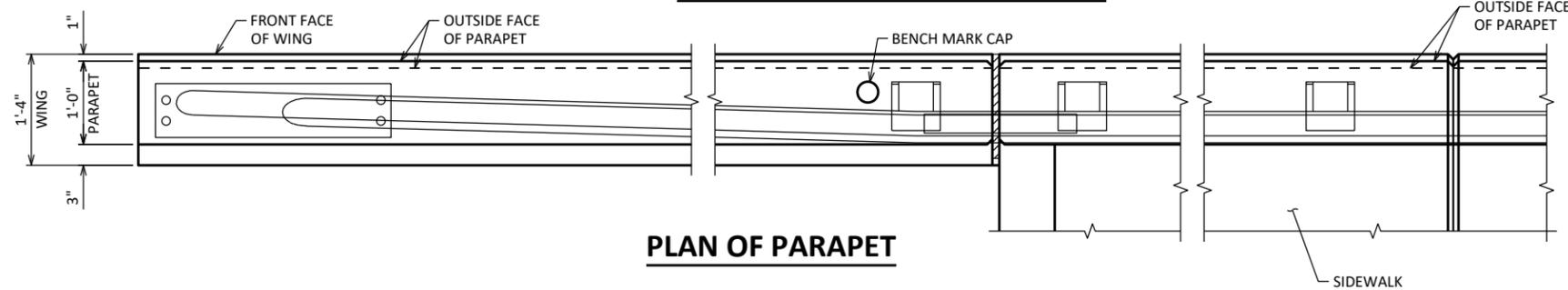
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-20-0256</b>			
DRAWN BY		PLANS CK'D	
AJS		ALK	
<b>SUPERSTRUCTURE DETAILS</b>			SHEET 11

SCALE = 2.00

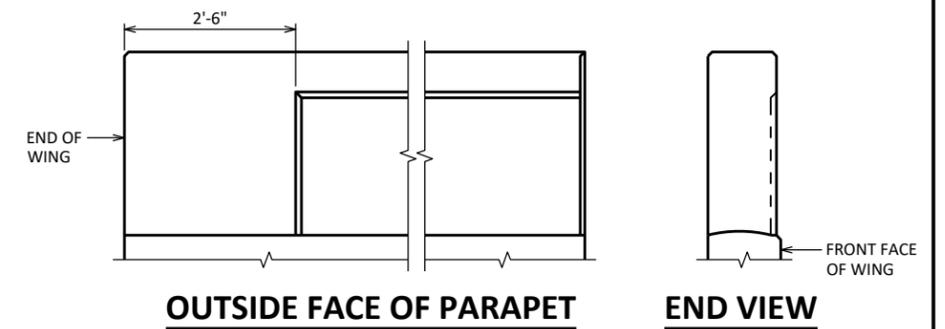


AT ABUTMENTS

**INSIDE ELEVATION OF PARAPET**



**PLAN OF PARAPET**



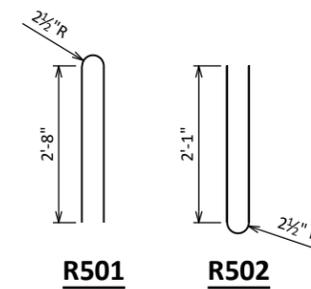
**OUTSIDE FACE OF PARAPET**

**END VIEW**

**BILL OF BARS**

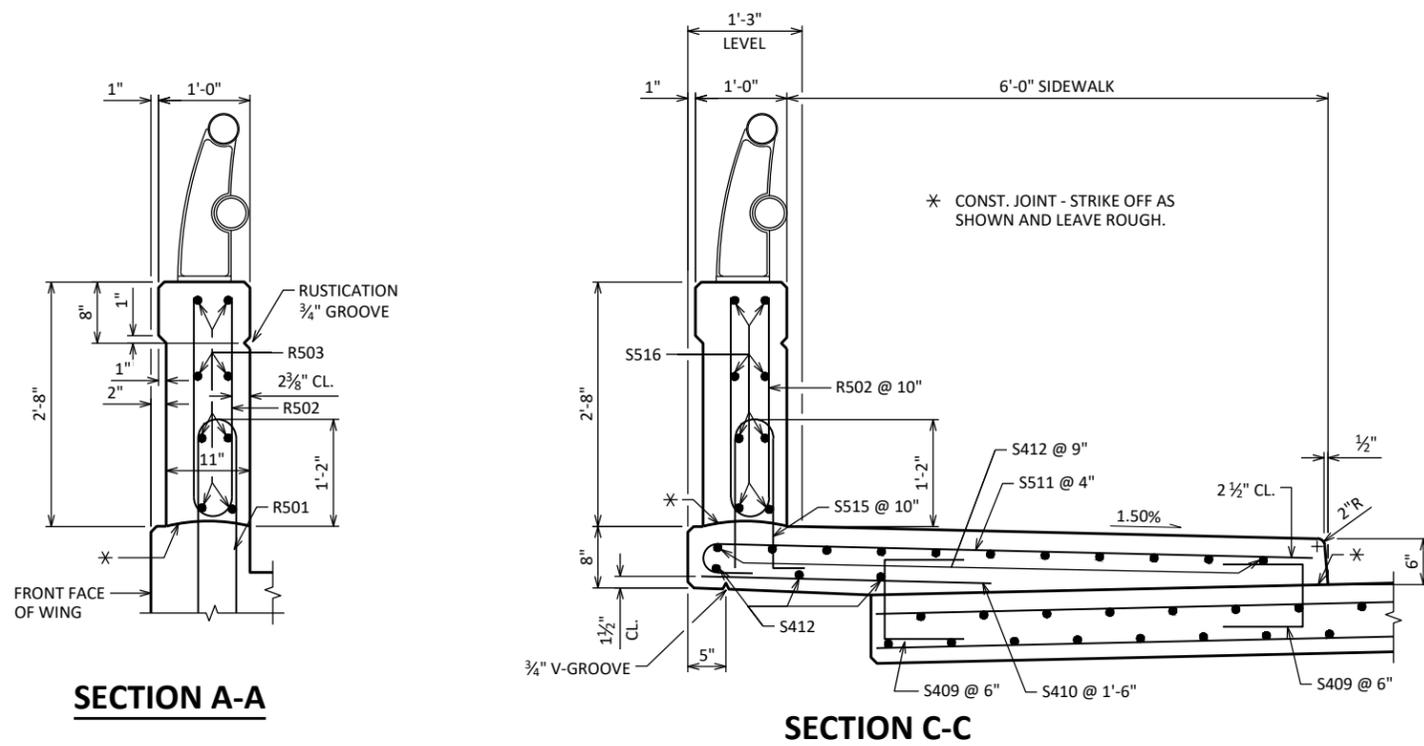
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	68	6'-2"	X		PARAPET VERT.
R502	X	158	4'-9"	X		PARAPET VERT.
R503	X	32	9'-6"			PARAPET HORIZ.



**R501**

**R502**



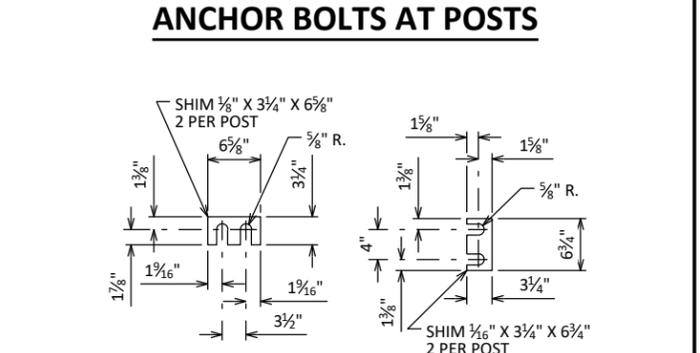
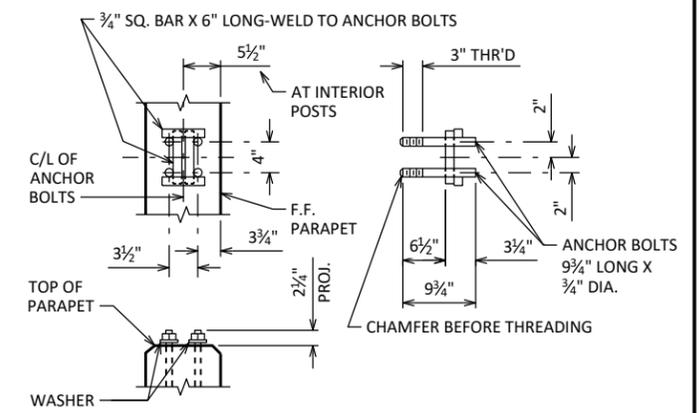
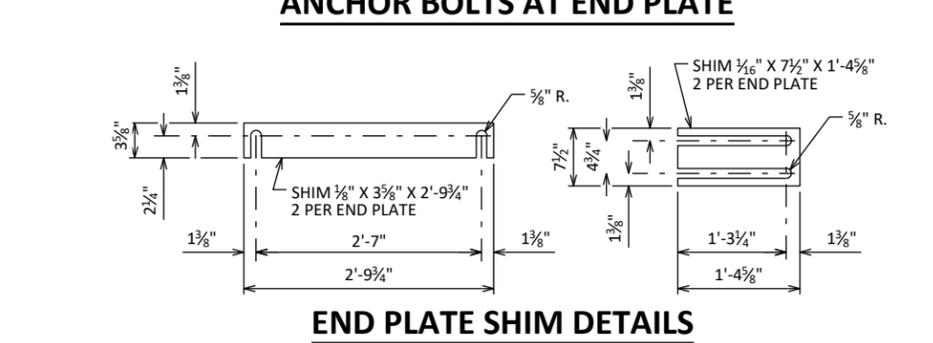
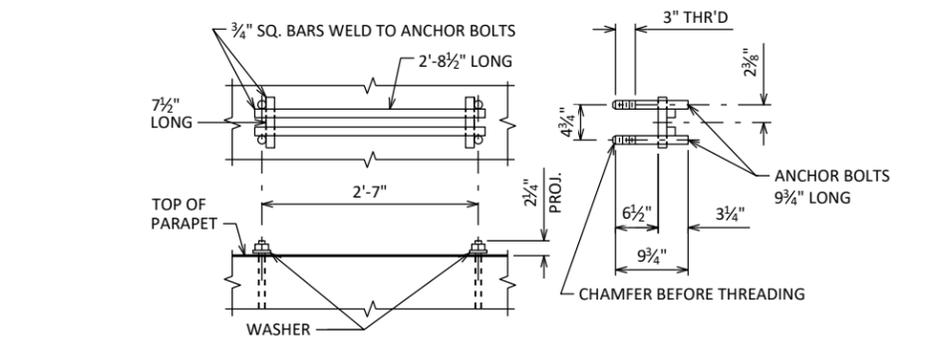
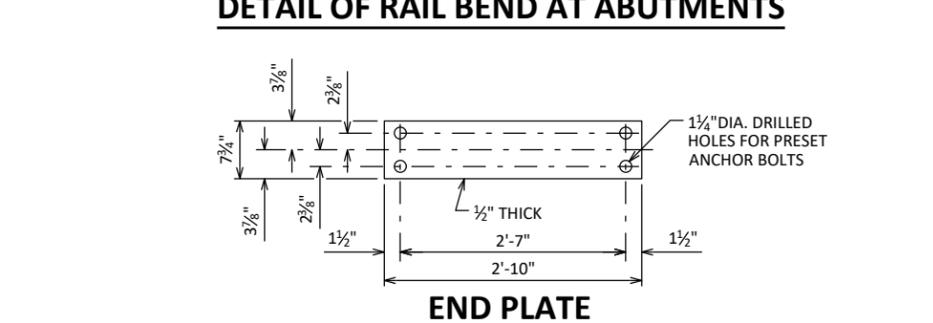
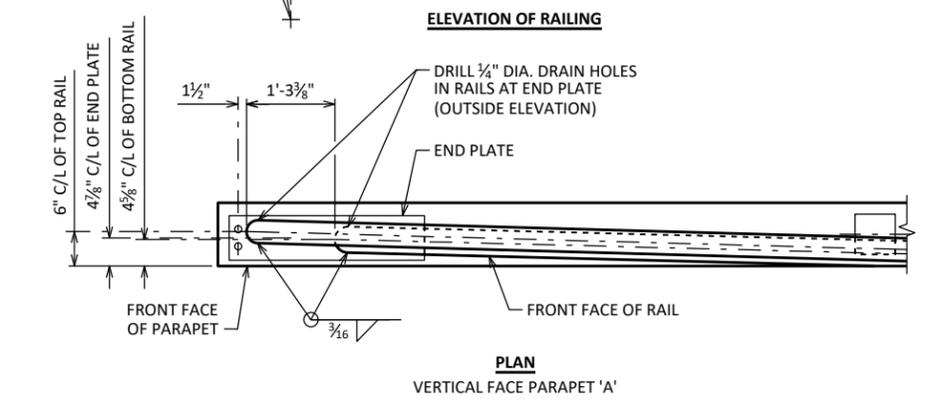
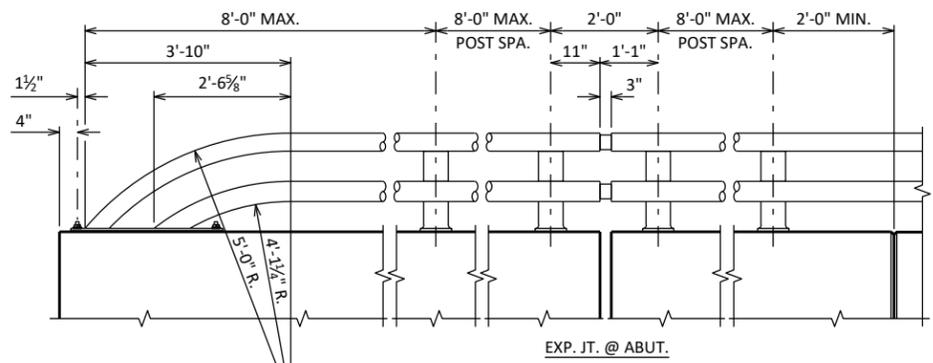
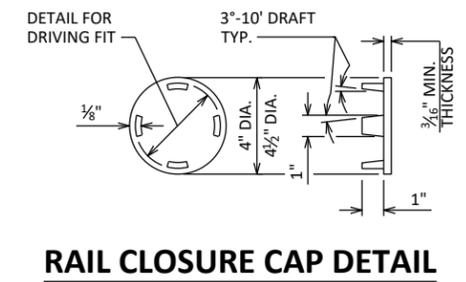
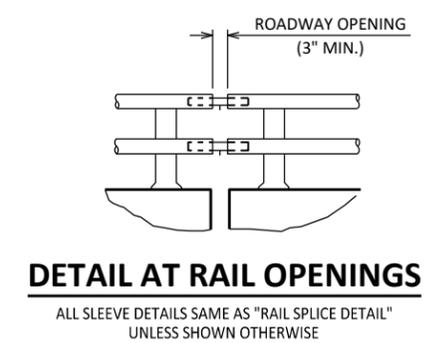
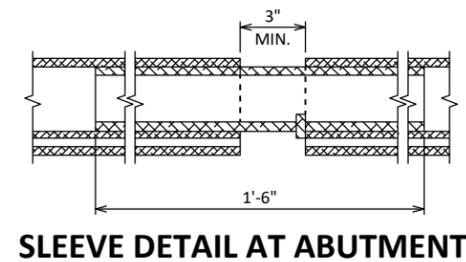
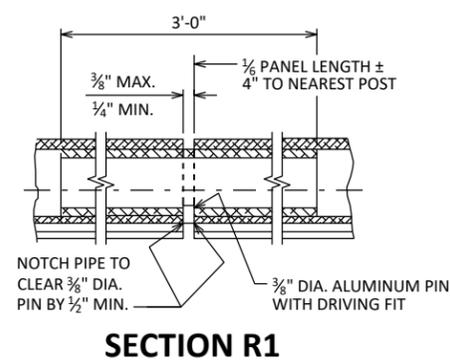
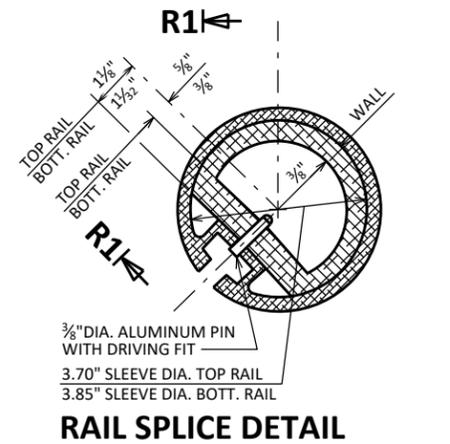
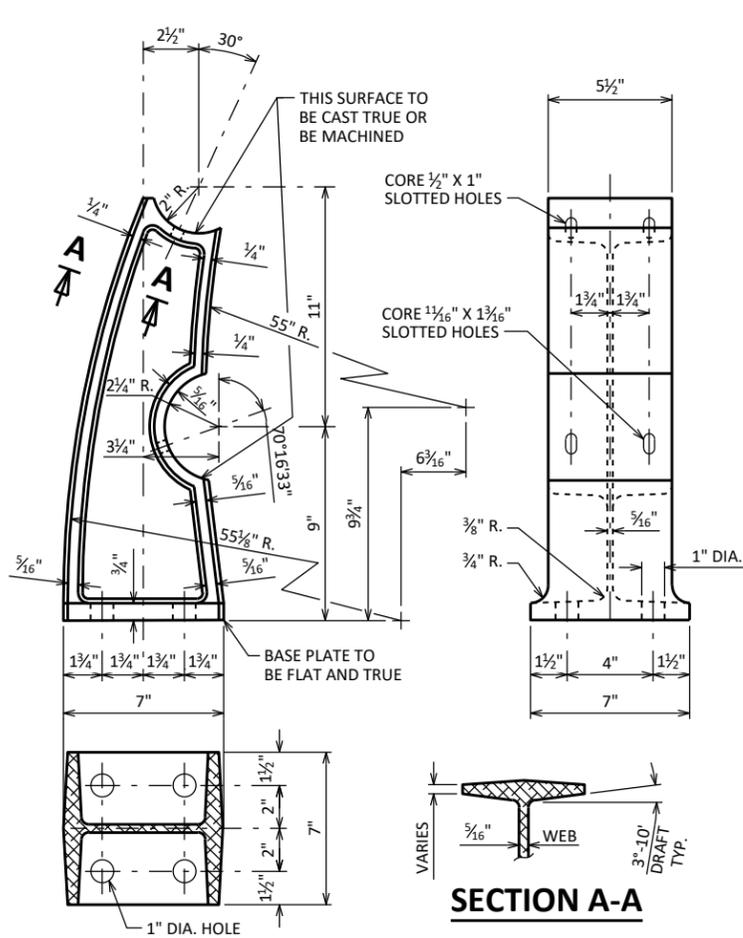
**SECTION A-A**

**SECTION C-C**

8

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-20-0256</b>			
DRAWN BY		PLANS CK'D	
AJS		ALK	
<b>VERTICAL FACE PARAPET 'A'</b>			SHEET 12



**NOTES**

- BID ITEM SHALL BE "RAILING TUBULAR TYPE H" WHICH INCLUDES ALL ITEMS SHOWN.
- ANCHOR BOLTS, NUTS AND WASHERS SHALL BE STAINLESS STEEL.
- SHIMS SHALL CONFORM TO SAME MATERIAL AS POSTS.
- RAILINGS SHALL BE FABRICATED IN 2 AND 3 PANEL LENGTHS.
- RAILING POSTS SHALL BE SET NORMAL TO GRADE LINE.
- ALL POST SPACINGS ARE MEASURED HORIZONTALLY ALONG CENTERLINE OF THE POST BASE.
- SHIMS SHALL BE USED UNDER POSTS AND END PLATES WHERE REQ'D FOR ALIGNMENT.
- FILL ALL EXPOSED OPENINGS BETWEEN SHIMS AND POST ANCHOR BOLT HOLES WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.
- RAILS SHALL BE BUILT STRAIGHT AND SPRUNG INTO PLACE FOR STRUCTURES CURVED UP TO 3°. FOR STRUCTURES CURVED GREATER THAN 3°, RAILS SHALL BE CURVED TO FIT.

**DETAIL OF RAIL ATTACHMENT TO POST**

NOTE: MAX. REDUCTION IN DIAMETER OF BENT SECTION SHALL BE 3%. WALL THICKNESS OF TUBING SHOWN ABOVE SHALL BE MIN. NOMINAL AVERAGE WALL THICKNESS. MAX. REDUCTION IN SLOT WIDTH IN BENT TUBING SHALL BE 3/16".

8

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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-20-0256</b>			
DRAWN BY		AJS	PLANS CK'D ALK
<b>TUBULAR RAILING TYPE 'H' (ALUM.)</b>		SHEET 13	

**DESIGN DATA**

**MATERIAL PROPERTIES:**

CONCRETE MASONRY  $f_c = 3,500$  PSI  
 HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60  $f_y = 60,000$  PSI

**FOUNDATION DATA**

FOOTING AT THE RETAINING WALL IS DESIGNED TO PLACE A MINIMUM LOAD OF 1.0 TONS PER SQUARE FOOT ON THE UNDERLYING SOIL. SOILS AT THE RETAINING WALL FOOTING ELEVATIONS ARE ESTIMATED TO HAVE A FACTORED BEARING RESISTANCE OF 2.0 TONS PER SQUARE FOOT.

**BENCH MARKS**

BM	STA	DESCRIPTION	ELEV
A	8+13	SOUTHWEST BOLT ON FLANGE OF HYDRANT, 33' LT	771.13
B	11+28	RAILROAD SPIKE IN POWER POLE, 20' RT	768.38

**LEGEND**

- PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MINIMUM. CONNECT TO B-20-0256 PIPE UNDERDRAIN.
- ▲ 18" MIN. RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND CONTINUOUS BETWEEN STRUCTURES FROM FOOTING TO TOP OF STRUCTURE. (FLUSH WITH FACE OF CONCRETE)
- NAME PLATE LOCATION (SEE "WALL DETAILS" SHEET)
- \* RIPRAP TO BE PLACED IN COORDINATION WITH BRIDGE (SEE B-20-0256 PLANS)

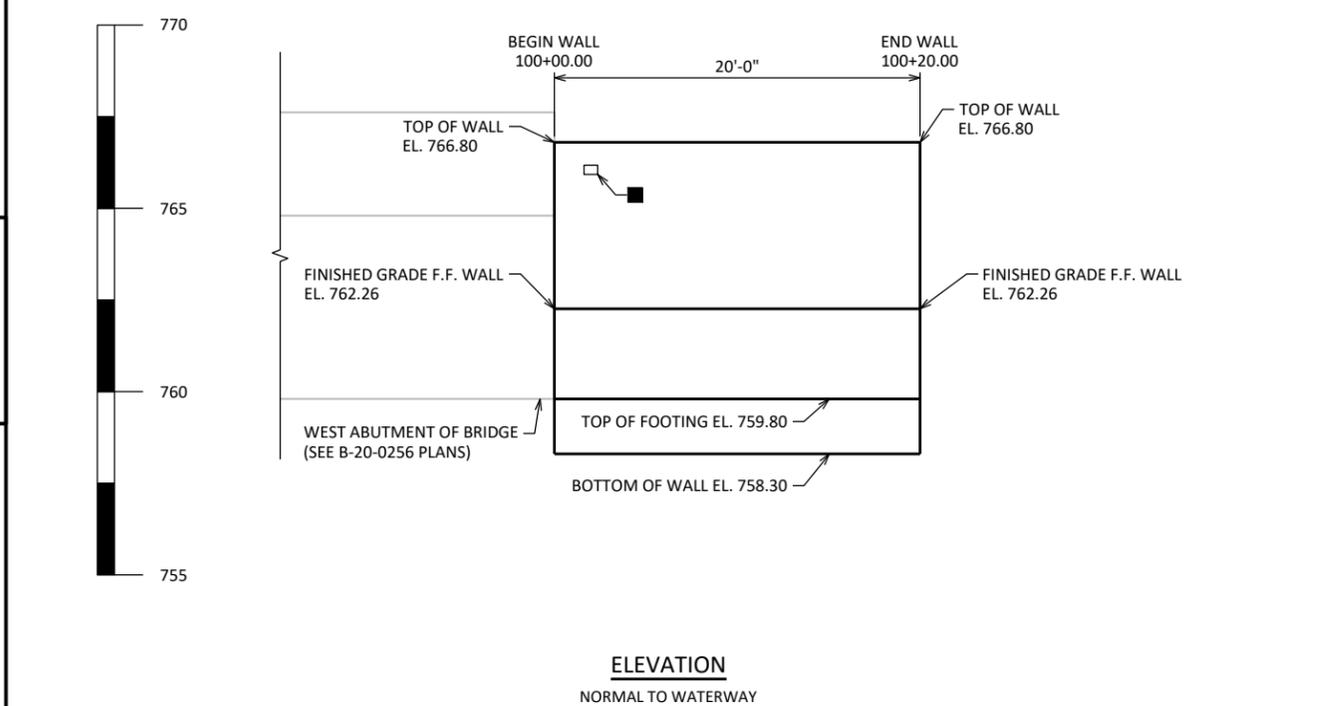
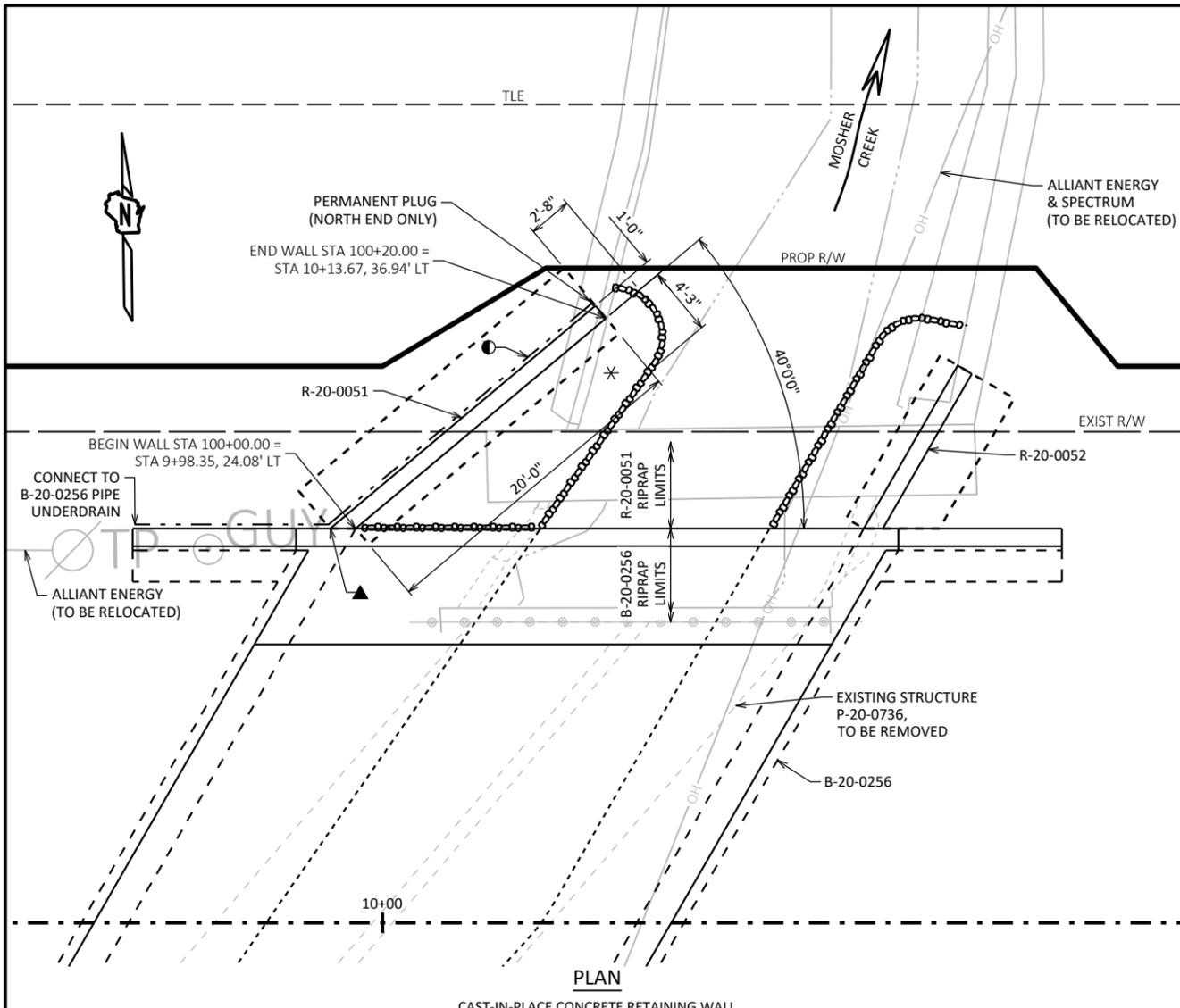
**GENERAL NOTES**

- DRAWINGS SHALL NOT BE SCALED.
- BEVEL EXPOSED EDGES OF CONCRETE  $\frac{3}{4}$ " UNLESS OTHERWISE NOTED.
- BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR COVER UNLESS OTHERWISE SHOWN OR NOTED
- THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.
- ALL BAR STEEL REINFORCEMENT IN CAST-IN-PLACE CONCRETE IS TO BE EPOXY COATED.
- SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF JOINT FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD  $\frac{1}{8}$ " BELOW THE SURFACE OF CONCRETE.
- THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES RETAINING WALLS R-20-0051" SHALL BE THE EXISTING GROUNDLINE.
- ALL WALL STATIONING AND OFFSETS ARE GIVEN TO THE FRONT FACE OF WALL R-20-0051.
- COORDINATE THE CONSTRUCTION OF RETAINING WALL R-20-0051 WITH THE WEST ABUTMENT OF BRIDGE B-20-0256.
- THE REMOVAL OF THE EXISTING ROCK WALL IS INCIDENTAL TO BID ITEM "203.0220 REMOVING STRUCTURE P-20-0736".
- THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO TYPE AND LOCATION OF UNDERGROUND UTILITIES AS NECESSARY TO AVOID DAMAGE.
- AT THE BACK FACE OF WALL ALL VOLUME WHICH CANNOT BE PLACED BEFORE WALL CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.
- THE QUANTITY FOR BACKFILL STRUCTURE IS CALCULATED BASED ON THE DETAIL SHOWN IN THE PLANS.
- THE VOLUME OF EARTHWORK REQUIRED TO INSTALL THE FOOTING, WALL, AND BACKFILL IS INCIDENTAL TO THE BID ITEM "EXCAVATION FOR STRUCTURES RETAINING WALLS R-20-0051".
- USE MORTAR CONFORMING TO 519.2.3 TO FILL ANY GAPS BETWEEN END OF WALL AND EXISTING ROCK WALL. THIS WORK IS INCIDENTAL TO "CONCRETE MASONRY RETAINING WALLS" BID ITEM.
- PLACE  $\frac{1}{2}$ " FILLER BETWEEN ALL FACES OF WALLS/FOOTINGS AND B-20-0256 STRUCTURE.

**LIST OF DRAWINGS:**

1. GENERAL PLAN
2. SUBSURFACE EXPLORATION
3. WALL DETAILS

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



**TOTAL ESTIMATED QUANTITIES**

BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
206.3001	EXCAVATION FOR STRUCTURES RETAINING WALLS R-20-0051	EACH	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	80
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	12
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	600
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	5
606.0300	RIPRAP HEAVY	CY	8
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	22
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	13

NO.	DATE	REVISION	BY

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

STATE OF WISCONSIN  
 DEPARTMENT OF  
 TRANSPORTATION

ACCEPTED: *[Signature]* SDR 11/07/23  
 CHIEF STRUCTURES DESIGN ENGINEER DATE

**STRUCTURE R-20-0051**  
 MCKINLEY STREET OVER MOSHER CREEK

COUNTY: FOND DU LAC VILLAGE: NORTH FOND DU LAC

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATION

DESIGNED BY: RTA DESIGNED CK'D: ALK DRAWN BY: AJS PLANS CK'D: ALK

**GENERAL PLAN** SHEET 1 OF 3

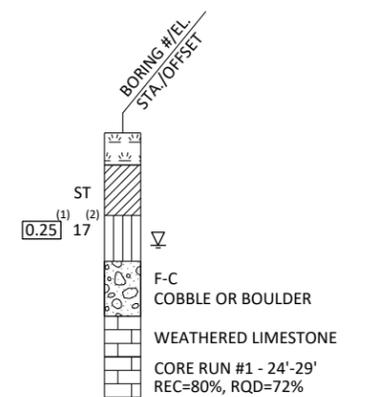
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MATERIAL SYMBOLS

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

LEGEND OF BORING



- (1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)
- (2) UNLESS OTHERWISE SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

- ▽ 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
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STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

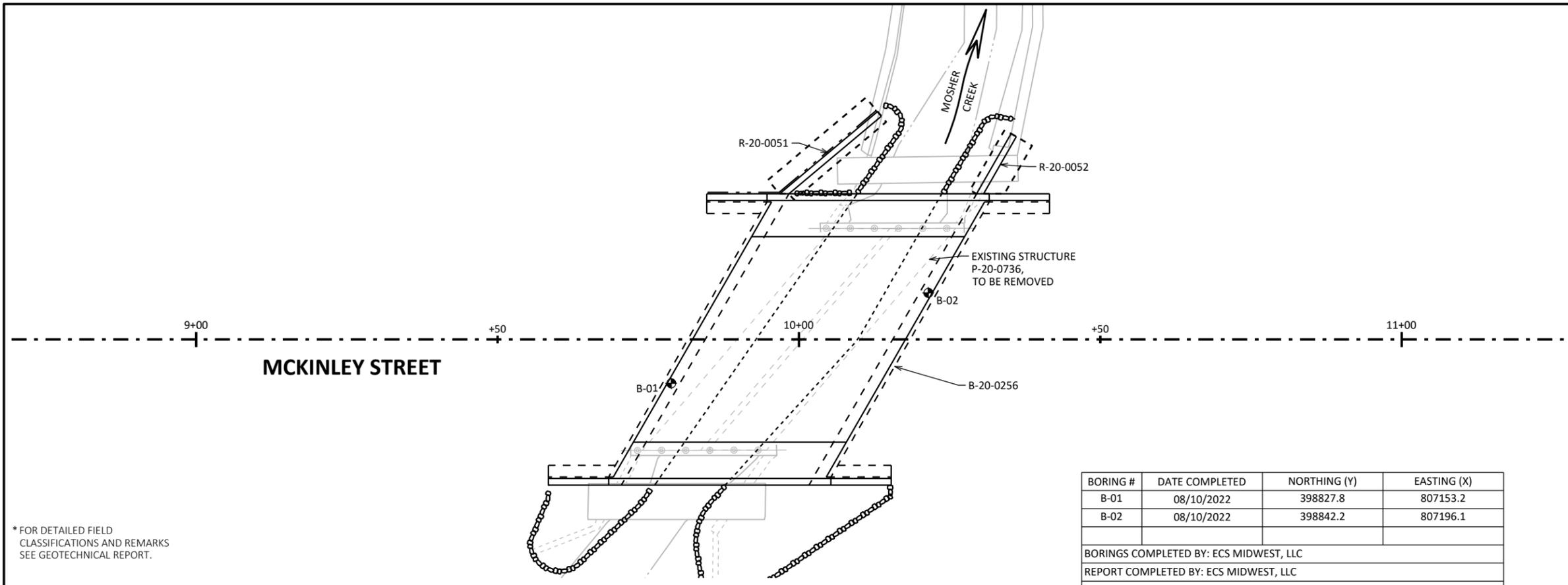
STRUCTURE R-20-0051

DRAWN BY	AJS	PLANS CK'D	ALK
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SUBSURFACE EXPLORATION

SHEET 2

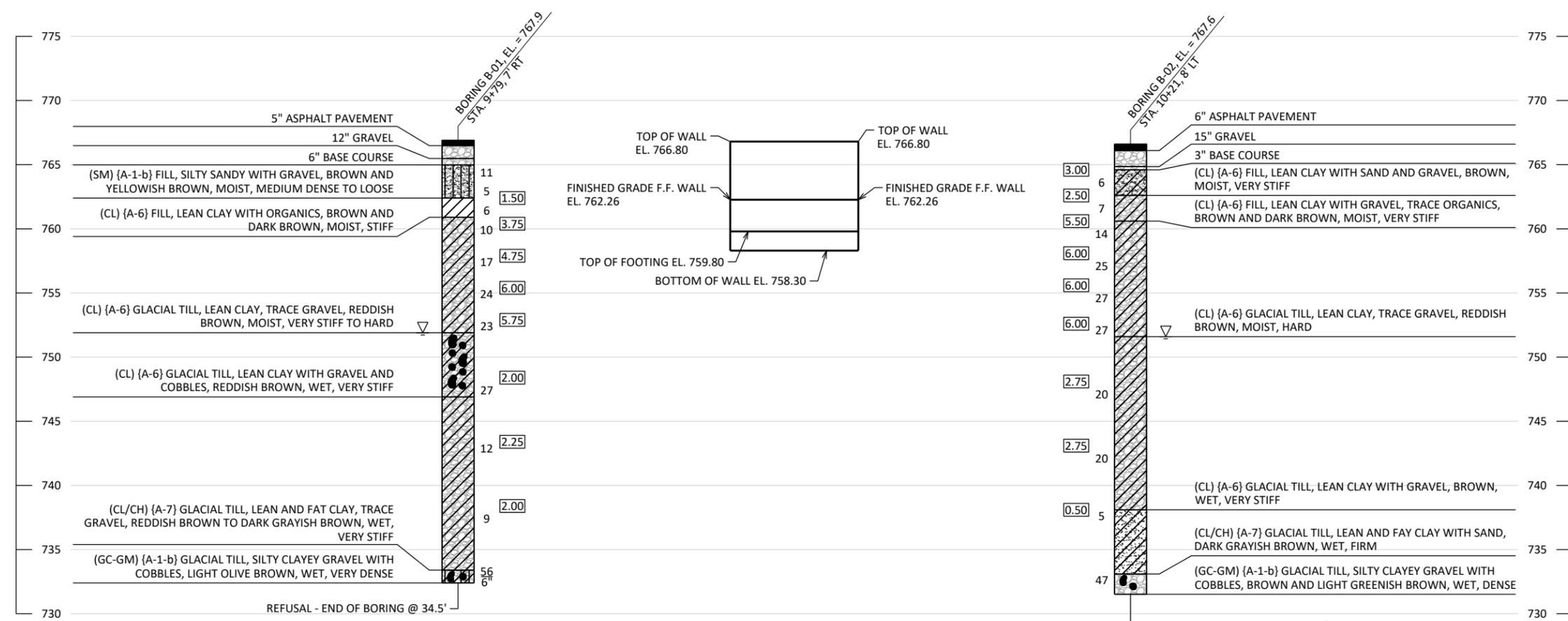
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BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-01	08/10/2022	398827.8	807153.2
B-02	08/10/2022	398842.2	807196.1

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

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



8

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**LEGEND**

- PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MINIMUM. CONNECT TO B-20-0256 PIPE UNDERDRAIN.
- ▲ 18" MIN. RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND CONTINUOUS BETWEEN STRUCTURES FROM FOOTING TO TOP OF STRUCTURE. (FLUSH WITH FACE OF CONCRETE)

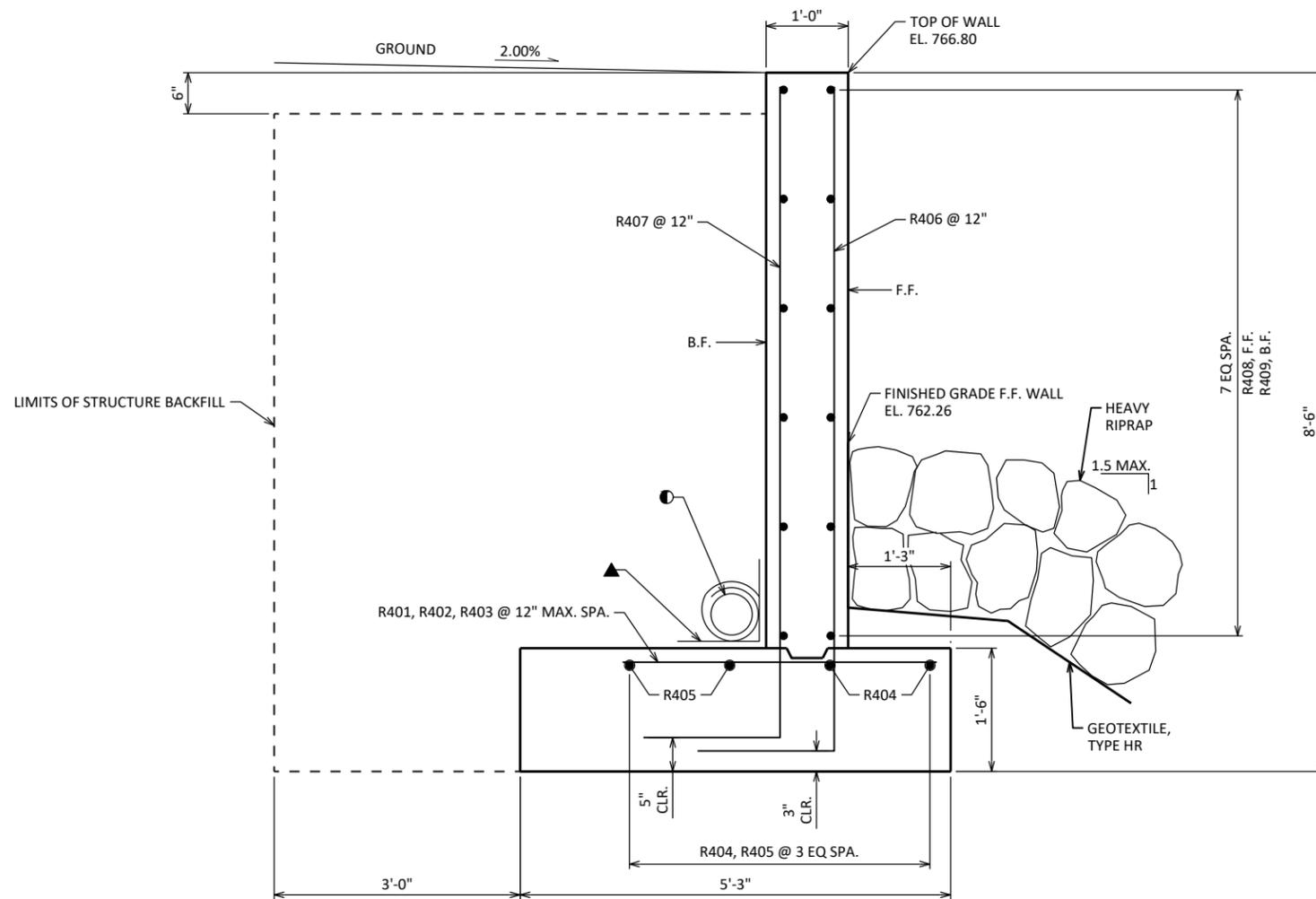


**R406, R407**

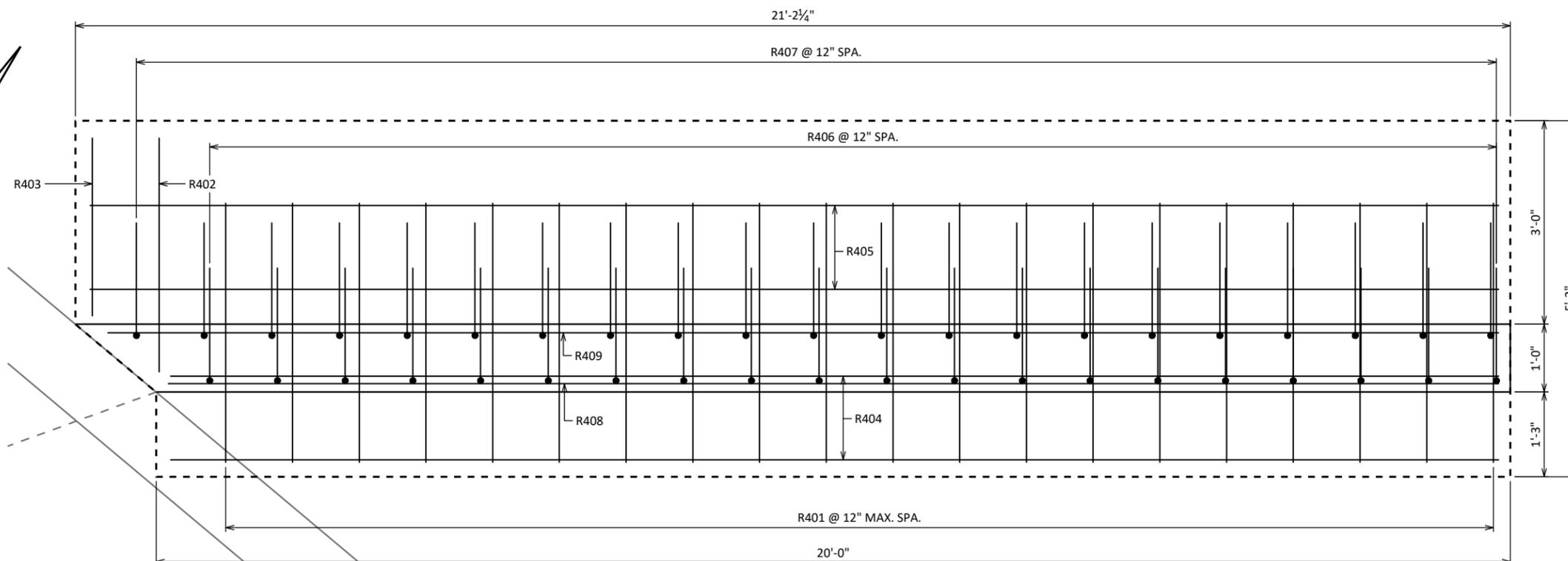
**BILL OF BARS**

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

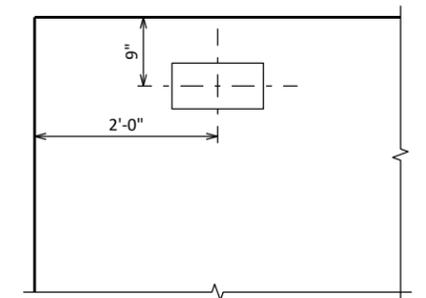
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
R401	X	20	3'-10"			FOOTING - TRANSVERSE
R402	X	1	3'-5"			FOOTING - TRANSVERSE
R403	X	1	2'-9"			FOOTING - TRANSVERSE
R404	X	2	19'-8"			FOOTING - LONGINTUDINAL
R405	X	2	20'-10"			FOOTING - LONGINTUDINAL
R406	X	21	9'-8"	X		STEM - F.F. - VERTICAL
R407	X	22	9'-6"	X		STEM - B.F. - VERTICAL
R408	X	8	20'-6"			STEM - F.F. - LONGITUDINAL
R409	X	8	19'-8"			STEM - B.F. - LONGITUDINAL



**SECTION THRU WALL**



**PLAN VIEW**



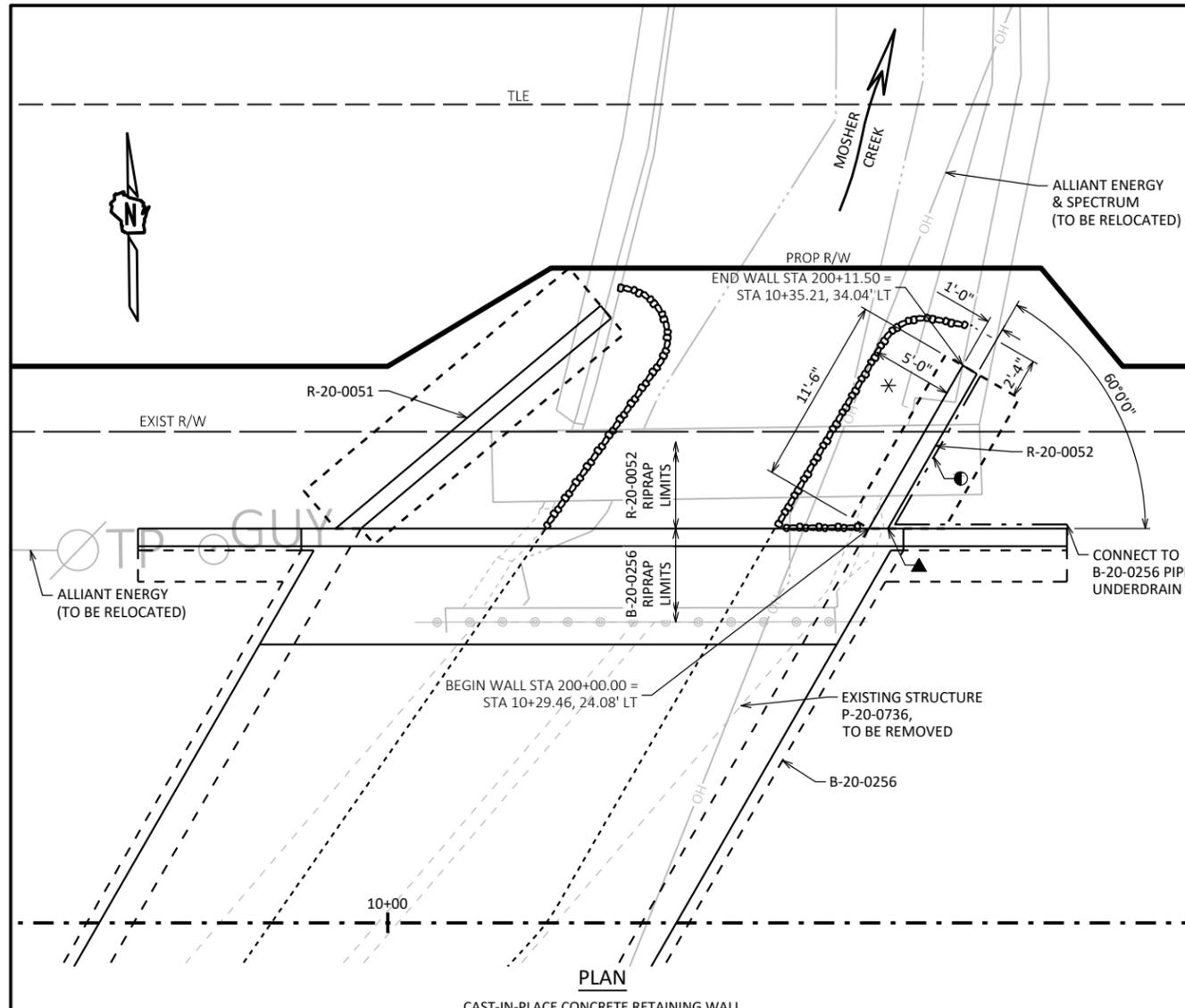
**NAME PLATE DETAIL**

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE R-20-0051</b>			
DRAWN BY		AJS	PLANS CK'D ALK
<b>WALL DETAILS</b>			SHEET 3

SCALE = 2.00

8

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PLAN  
CAST-IN-PLACE CONCRETE RETAINING WALL

**DESIGN DATA**

**MATERIAL PROPERTIES:**

CONCRETE MASONRY  $f_c = 3,500$  PSI  
 HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60  $f_y = 60,000$  PSI

**FOUNDATION DATA**

FOOTING AT THE RETAINING WALL IS DESIGNED TO PLACE A MINIMUM LOAD OF 1.0 TONS PER SQUARE FOOT ON THE UNDERLYING SOIL. SOILS AT THE RETAINING WALL FOOTING ELEVATIONS ARE ESTIMATED TO HAVE A FACTORED BEARING RESISTANCE OF 2.0 TONS PER SQUARE FOOT.

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**LIST OF DRAWINGS:**

1. GENERAL PLAN
2. SUBSURFACE EXPLORATION
3. WALL DETAILS



**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]* SDR 11/13/23  
 CHIEF STRUCTURES DESIGN ENGINEER DATE

**STRUCTURE R-20-0052**

MCKINLEY STREET OVER MOSHER CREEK

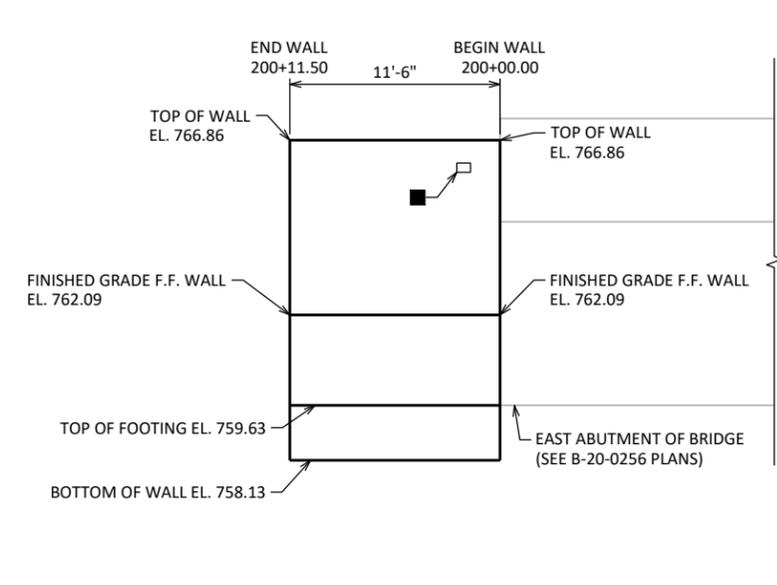
COUNTY FOND DU LAC VILLAGE NORTH FOND DU LAC

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

GENERAL PLAN SHEET 1 OF 3

**TOTAL ESTIMATED QUANTITIES**

BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
206.3001	EXCAVATION FOR STRUCTURES RETAINING WALLS R-20-0052	EACH	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	30
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	7
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	340
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	3
606.0300	RIPRAP HEAVY	CY	6
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	12
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	9



**ELEVATION**  
 NORMAL TO WATERWAY

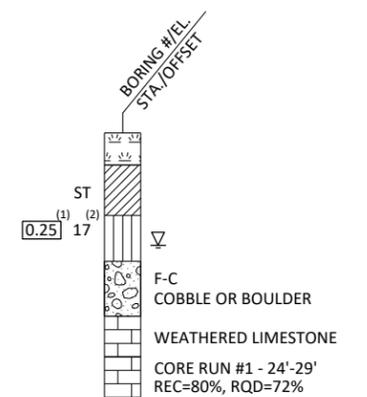
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MATERIAL SYMBOLS

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

LEGEND OF BORING



- (1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)
- (2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

- ▽ 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
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STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

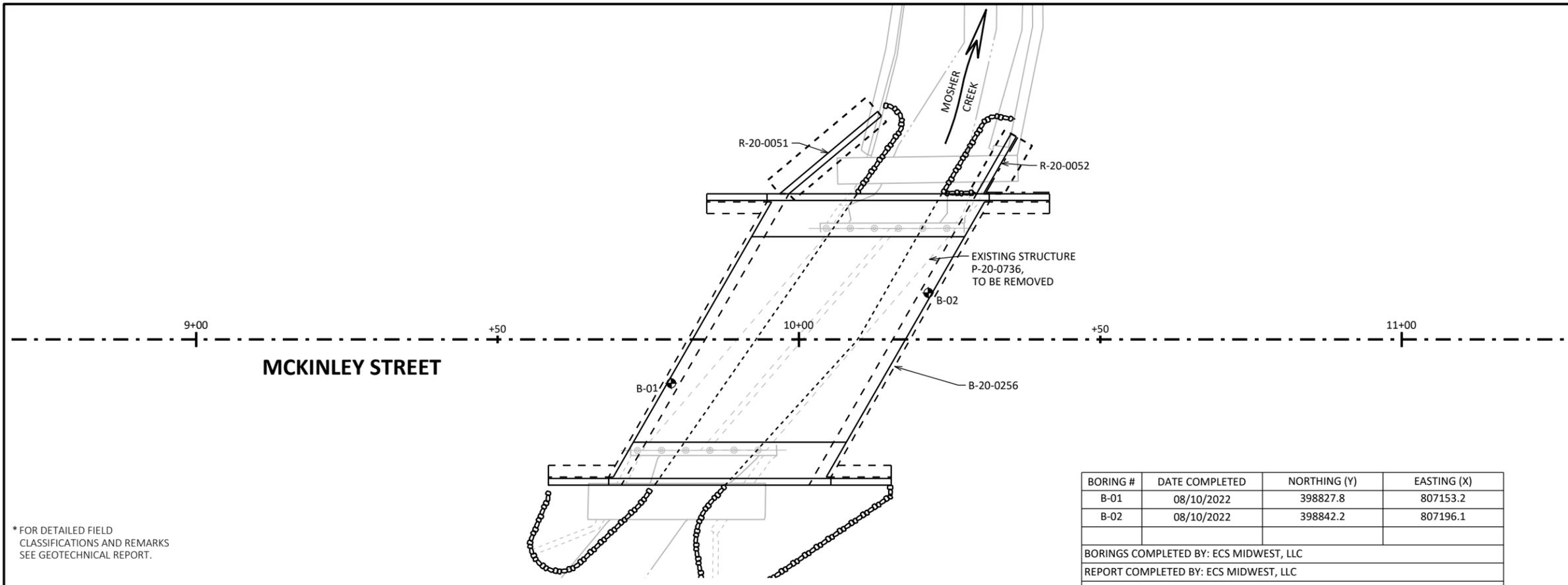
STRUCTURE R-20-0052

DRAWN BY	AJS	PLANS CK'D	ALK
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SUBSURFACE EXPLORATION

SHEET 2

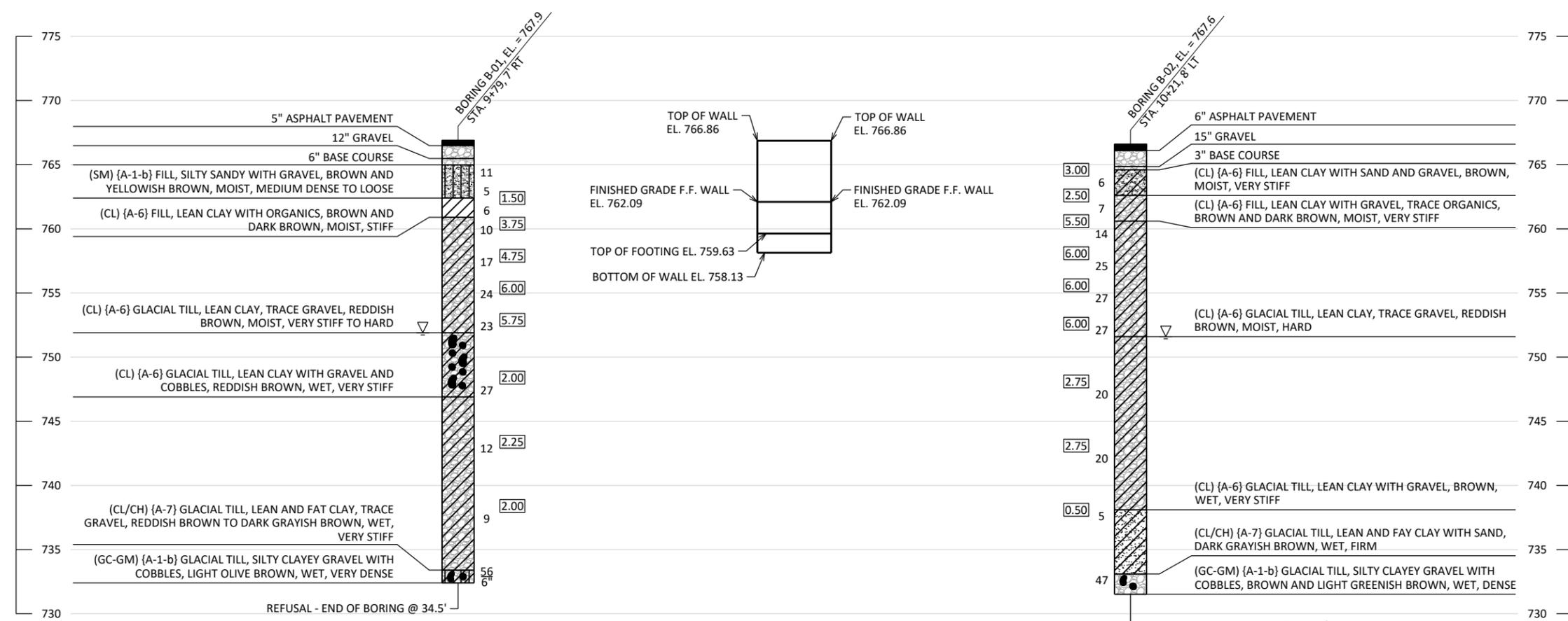
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BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-01	08/10/2022	398827.8	807153.2
B-02	08/10/2022	398842.2	807196.1

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

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



8

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**LEGEND**

- PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MINIMUM. CONNECT TO B-20-0256 PIPE UNDERDRAIN.
- ▲ 18" MIN. RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND CONTINUOUS BETWEEN STRUCTURES FROM FOOTING TO TOP OF STRUCTURE. (FLUSH WITH FACE OF CONCRETE)

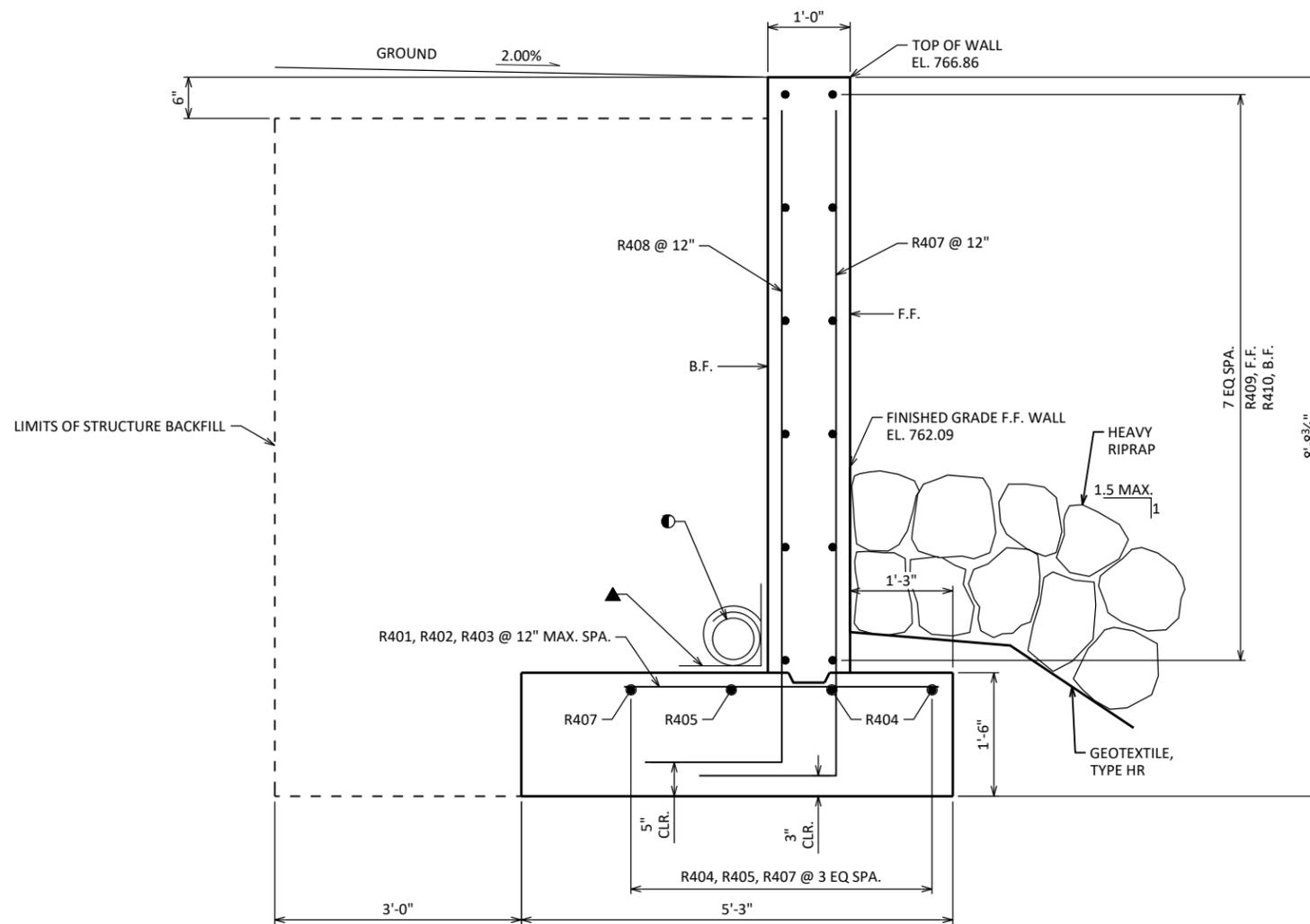


**R407, R408**

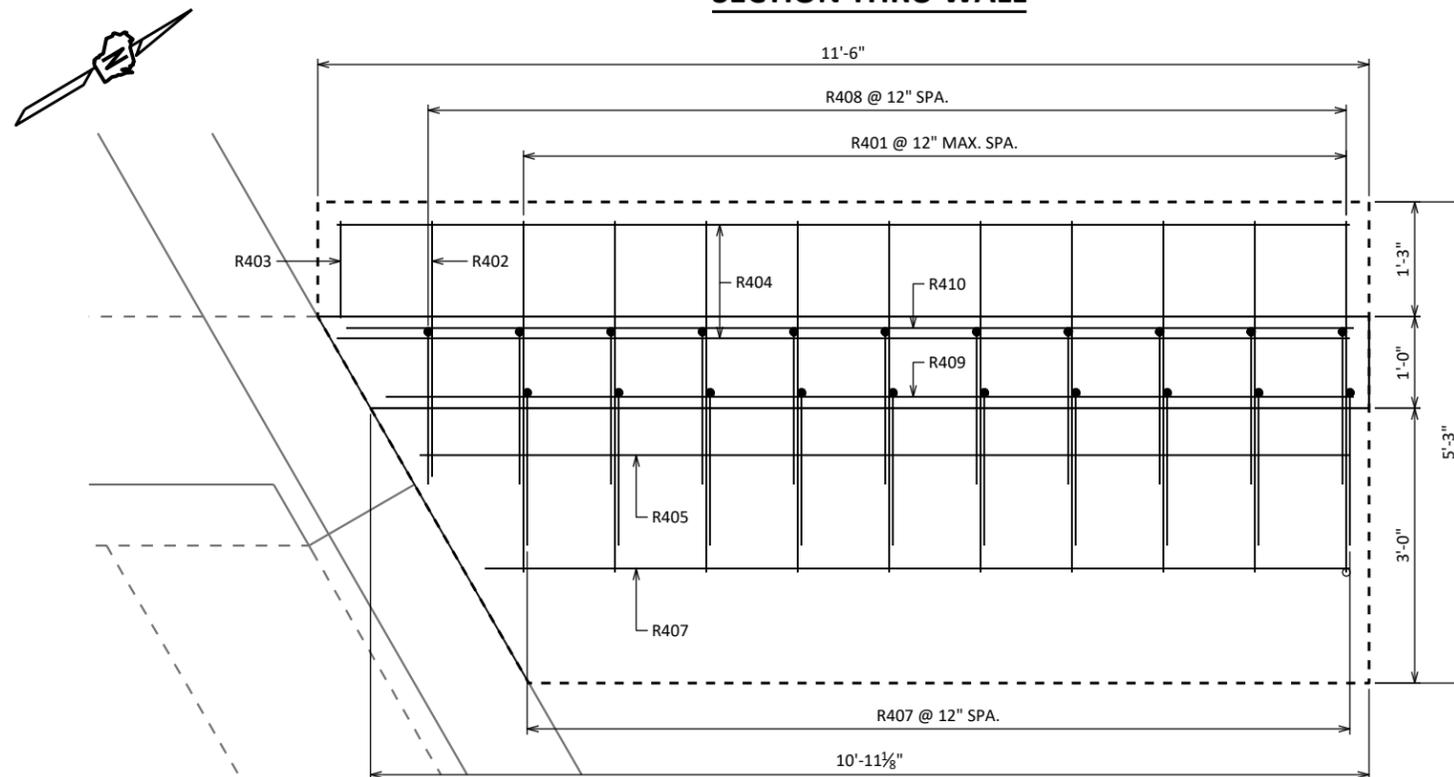
**BILL OF BARS**

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

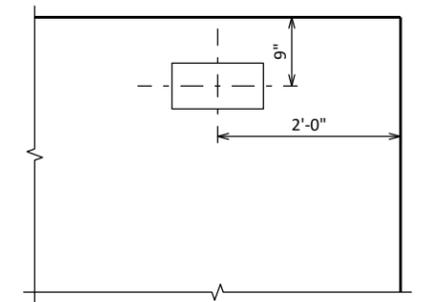
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
R401	X	10	3'-10"			FOOTING - TRANSVERSE
R402	X	1	3'-0"			FOOTING - TRANSVERSE
R403	X	1	1'-4"			FOOTING - TRANSVERSE
R404	X	2	11'-2"			FOOTING - LONGINTUDINAL
R405	X	1	10'-4"			FOOTING - LONGINTUDINAL
R406	X	1	9'-7"			FOOTING - LONGINTUDINAL
R407	X	13	9'-10"	X		STEM - F.F. - VERTICAL
R408	X	12	9'-8"	X		STEM - B.F. - VERTICAL
R409	X	8	11'-0"			STEM - F.F. - LONGITUDINAL
R410	X	8	10'-8"			STEM - B.F. - LONGITUDINAL



**SECTION THRU WALL**



**PLAN VIEW**



**NAME PLATE DETAIL**

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE R-20-0052</b>			
DRAWN BY		PLANS CK'D	
AJS		ALK	
<b>WALL DETAILS</b>			SHEET 3

8

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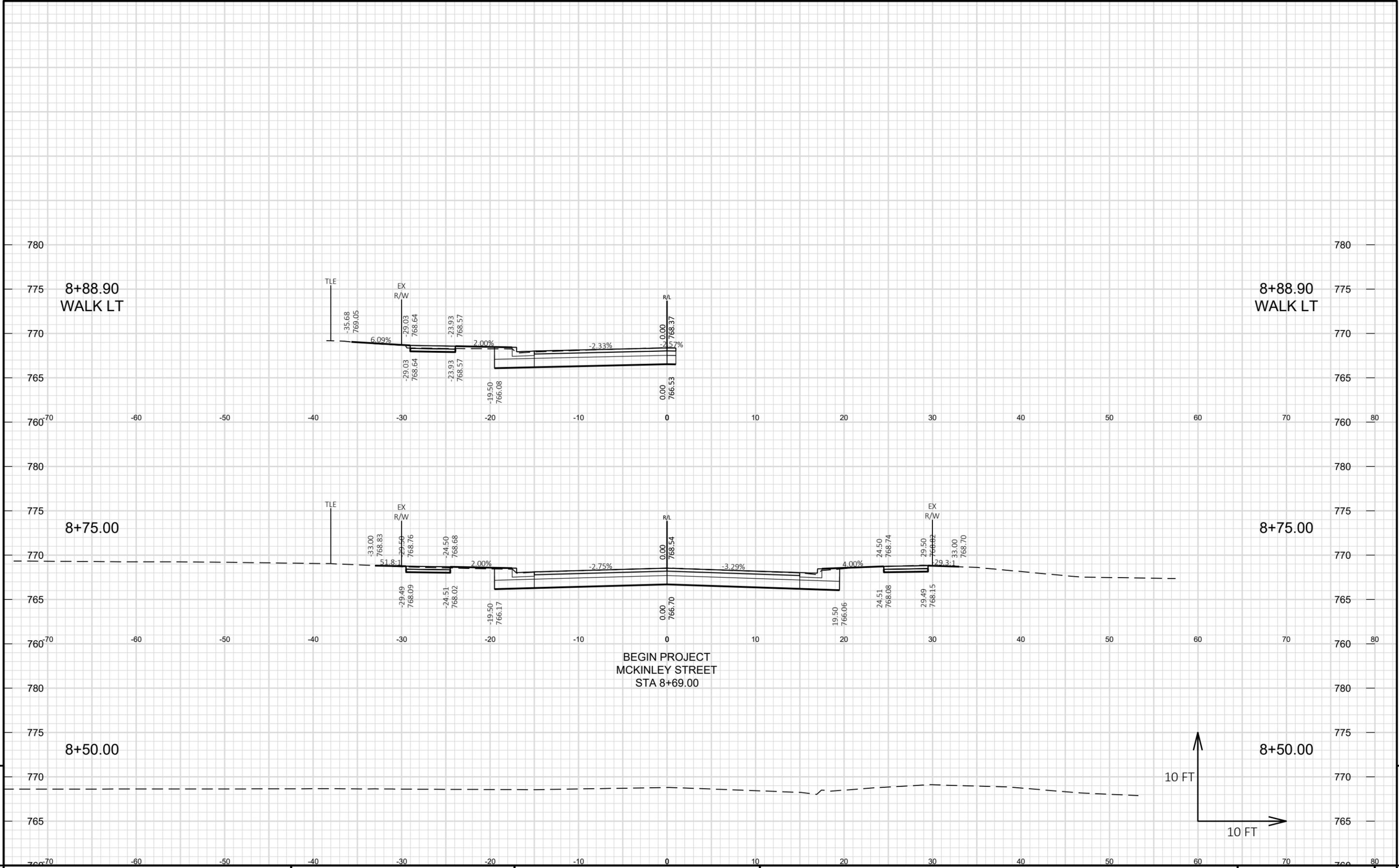
DIVISION 1 - MCKINLEY STREET (WEST)

STATION	REAL 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+69	869.00	0.00	78.30	1.74	0	0	0	0	0
08+75	875.00	6.00	78.97	0.96	17	0	17	0	17
09+00	900.00	25.00	73.92	3.42	71	2	88	3	85
09+25	925.00	25.00	76.36	0.72	70	2	158	5	153
09+50	950.00	25.00	80.11	0.71	72	1	230	7	224
09+75	975.00	25.00	64.05	7.82	67	4	297	12	285
09+81.557	981.56	6.56	73.03	0.00	17	1	314	13	301
TOTAL					314	10			

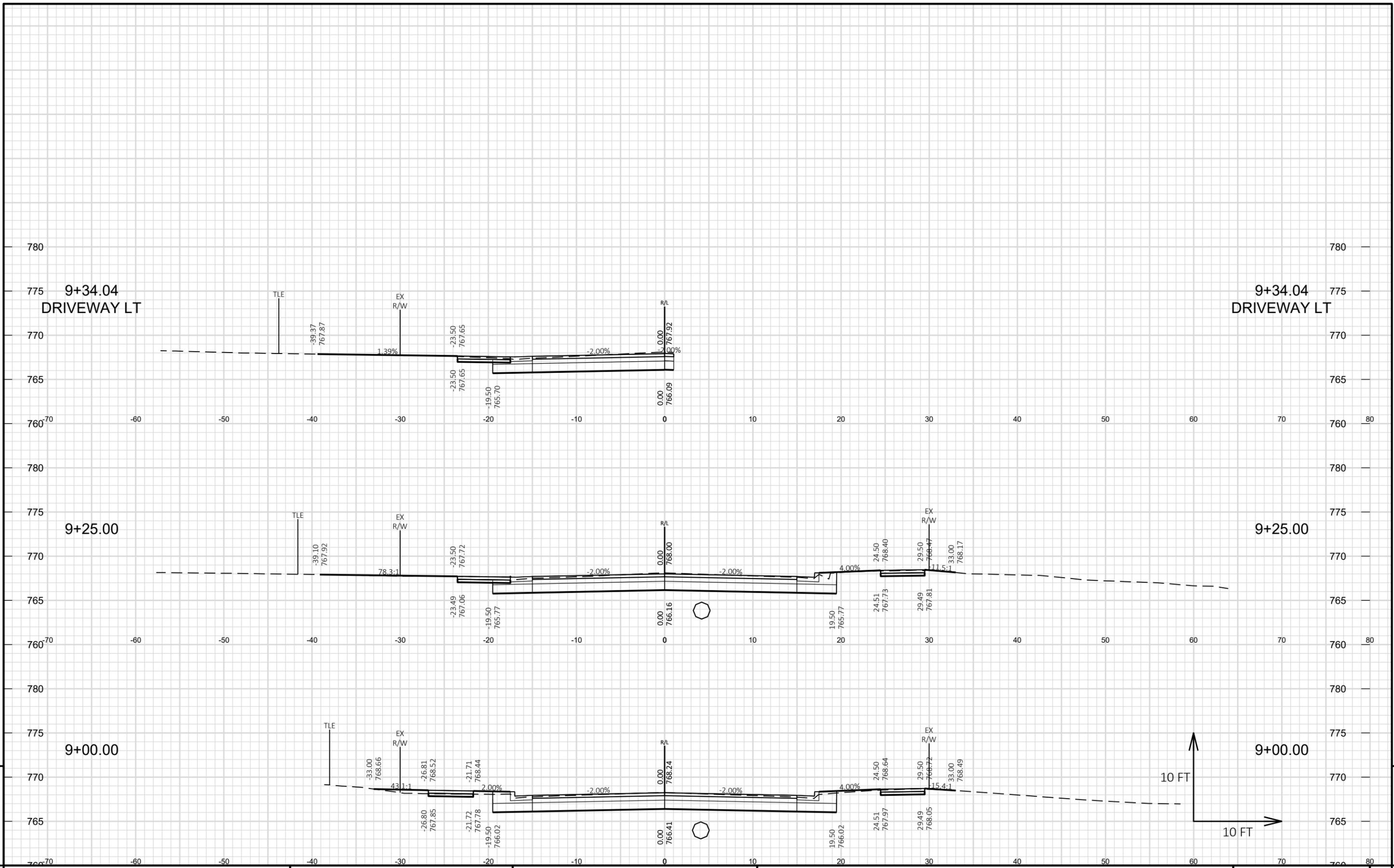
DIVISION 2 - MCKINLEY STREET (EAST)

STATION	REAL 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+18.443	1018.44	0.00	75.07	0.00	0	0	0	0	0
10+25	1025.00	6.56	70.79	0.07	18	0	18	0	18
10+50	1050.00	25.00	93.40	0.07	76	0	94	0	94
10+75	1075.00	25.00	100.97	0.00	90	0	184	0	184
11+00	1100.00	25.00	102.53	0.00	94	0	278	0	278
11+25	1125.00	25.00	100.42	0.00	94	0	372	0	372
11+50	1150.00	25.00	176.98	0.00	128	0	500	0	500
11+75	1175.00	25.00	168.79	0.00	160	0	660	0	660
12+00	1200.00	25.00	105.67	1.13	127	1	787	1	786
12+14	1214.00	14.00	90.86	1.45	51	1	838	3	835
TOTAL					838	2			

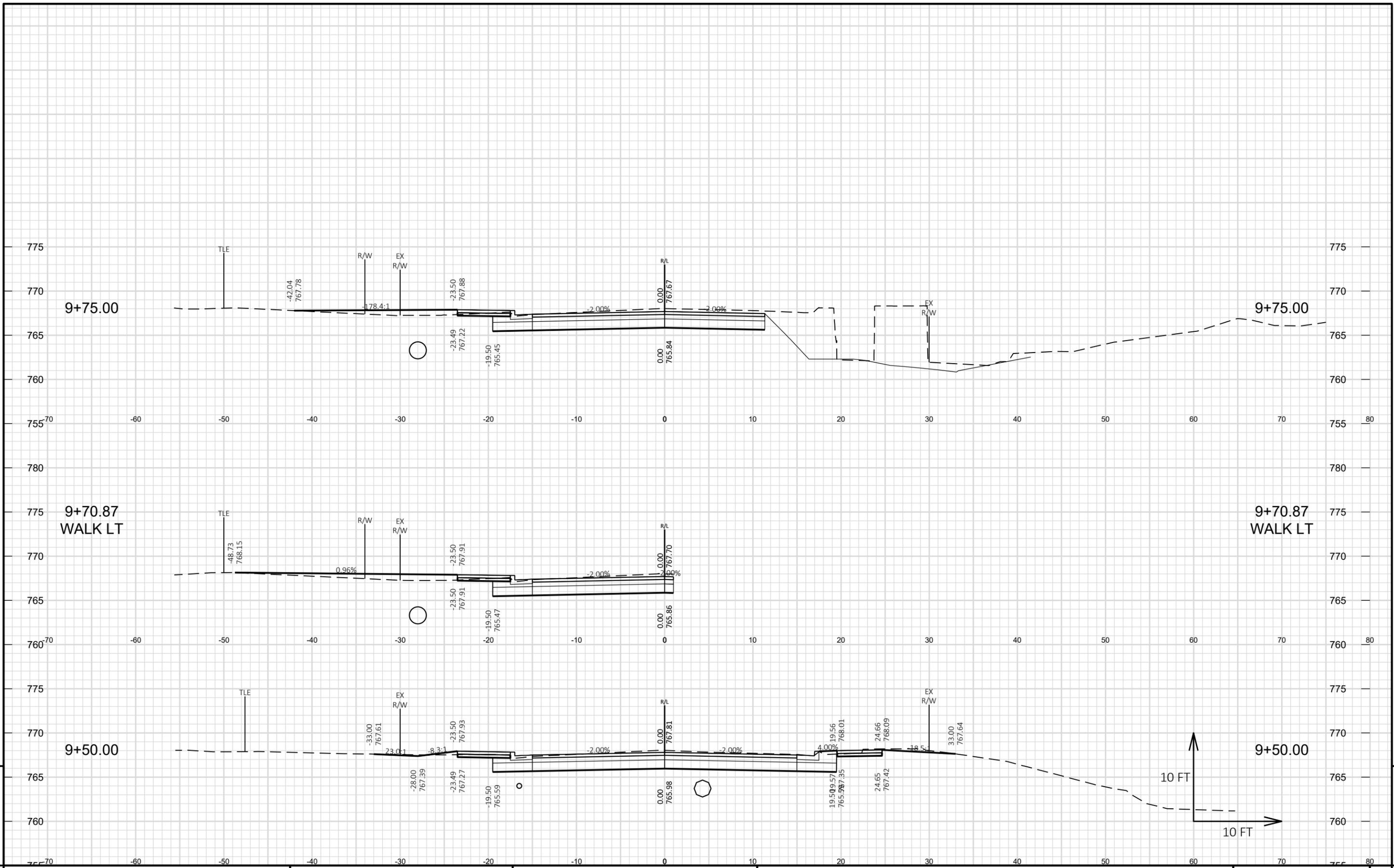
<b>Notes:</b>	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
8 - MASS ORDINATE	MASS ORDINATE = CUT - EXPANDED FILL



PROJECT NO: 4986-00-59      HWY: MCKINLEY STREET      COUNTY: FOND DU LAC      CROSS SECTIONS: MCKINLEY STREET      SHEET 9

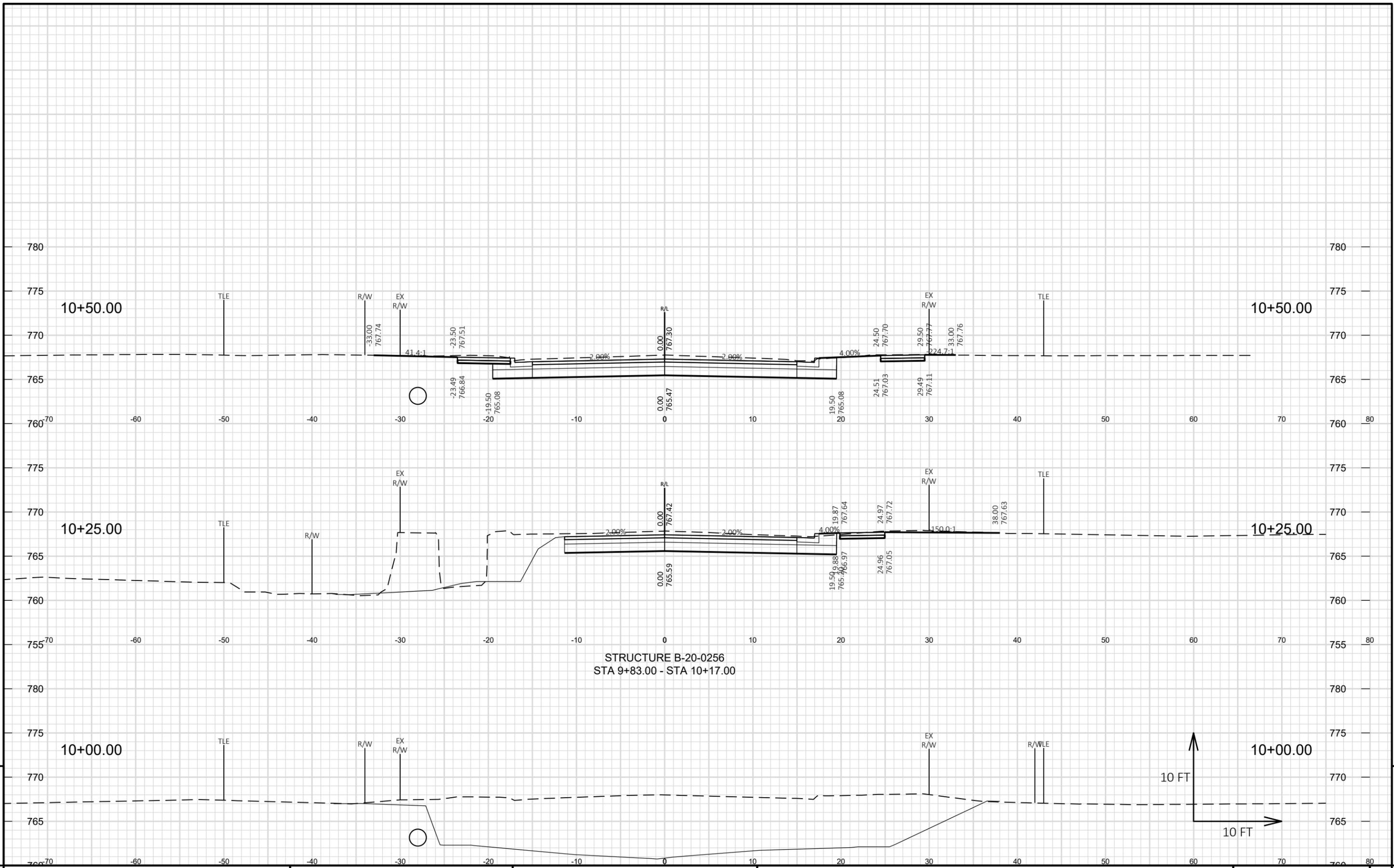


PROJECT NO: 4986-00-59      HWY: MCKINLEY STREET      COUNTY: FOND DU LAC      CROSS SECTIONS: MCKINLEY STREET      SHEET 9



PROJECT NO: 4986-00-59      HWY: MCKINLEY STREET      COUNTY: FOND DU LAC      CROSS SECTIONS: MCKINLEY STREET      SHEET 9

FILE NAME: S:\CURRPRO\FONDDUCO\NORTH FDL, VILLAGE OF MCKINLEY STREET BRIDGE\CIVIL3D\MCKINLEYST\SHETSPLAN\49860059-090201-XS.DWG      PLOT DATE: 10/27/2023 5:03 PM      PLOT BY: AARON SARAUER      PLOT NAME:      PLOT SCALE: 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.      WISDOT/CADD SHEET 49



PROJECT NO: 4986-00-59

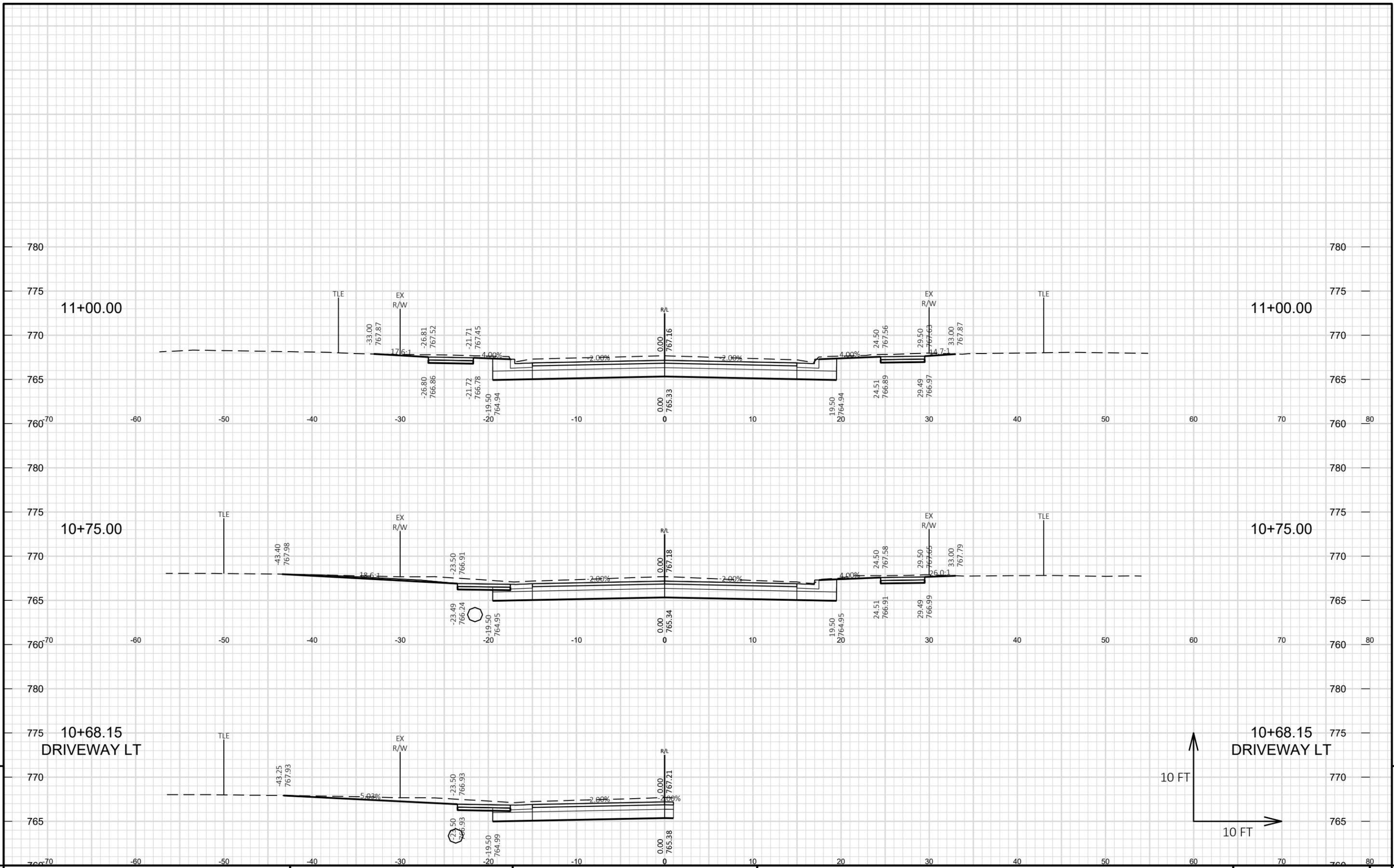
HWY: MCKINLEY STREET

COUNTY: FOND DU LAC

CROSS SECTIONS: MCKINLEY STREET

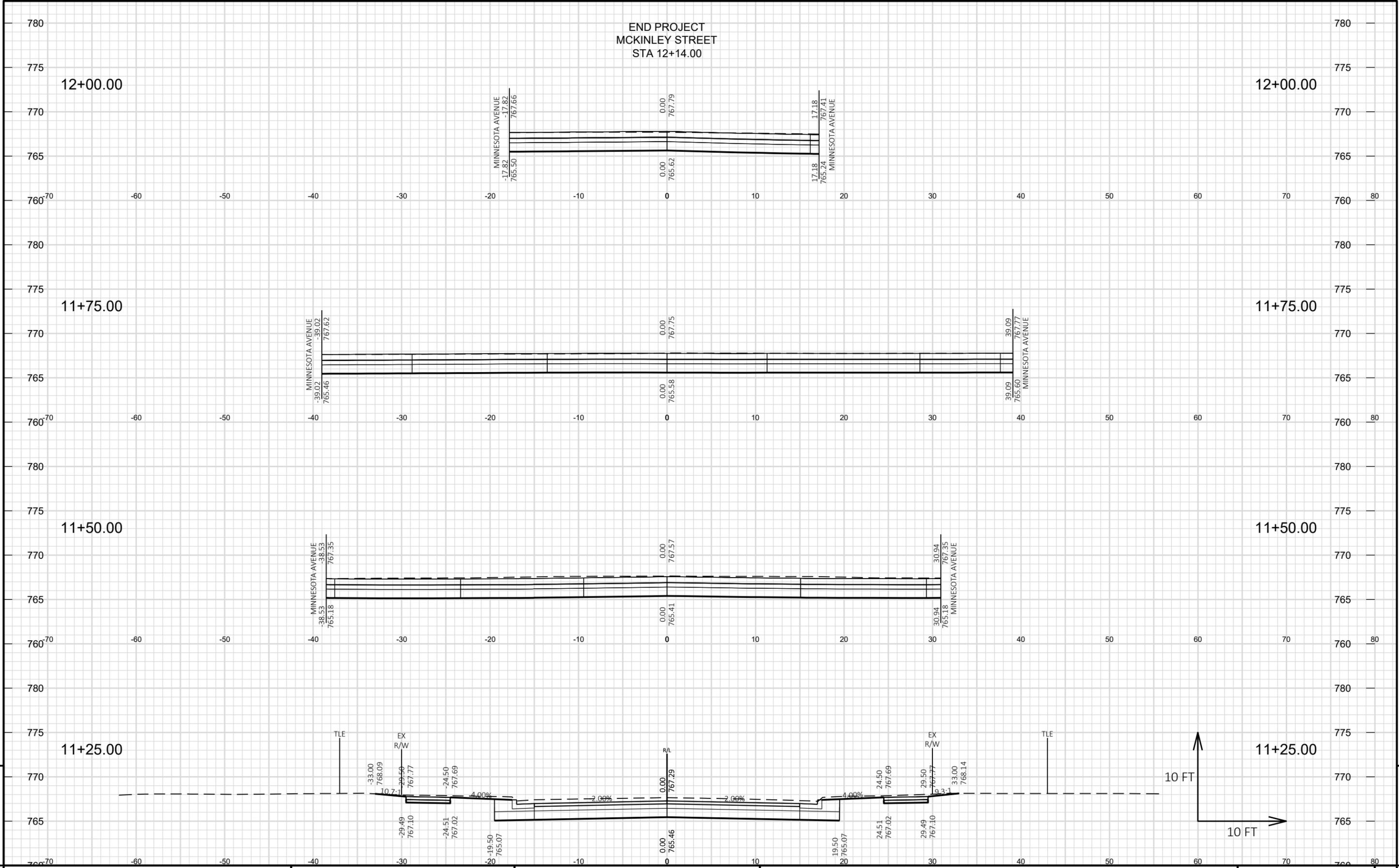
SHEET

E



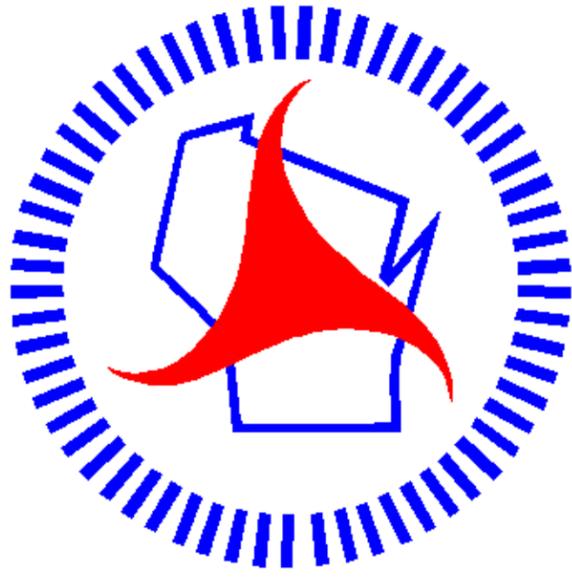
PROJECT NO: 4986-00-59      HWY: MCKINLEY STREET      COUNTY: FOND DU LAC      CROSS SECTIONS: MCKINLEY STREET      SHEET 9

END PROJECT  
MCKINLEY STREET  
STA 12+14.00



PROJECT NO: 4986-00-59      HWY: MCKINLEY STREET      COUNTY: FOND DU LAC      CROSS SECTIONS: MCKINLEY STREET      SHEET 9

# Notes



## ***Wisconsin Department of Transportation***

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