MAD

MARCH 2024

PROJECT ID: 3050-04-81

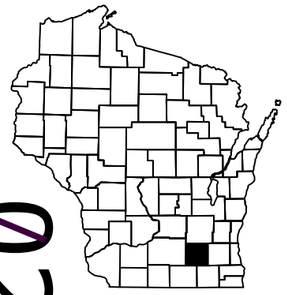
WITH: N/A

COUNTY: JEFFERSON

02

ORDER OF SHEETS

TOTAL SHEETS = 152



N

DESIGN DESIGNATION 3050-04-01

A.A.D.T.	2026	=	10,900
A.A.D.T.	2046	=	10,900
D.H.V.		=	1,254
D.D.		=	59/41
T.		=	6.7 %
DESIGN SPEED		=	30 MPH
ESALS		=	960,000

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

UTILITIES

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

C WATERTOWN, MAIN STREET

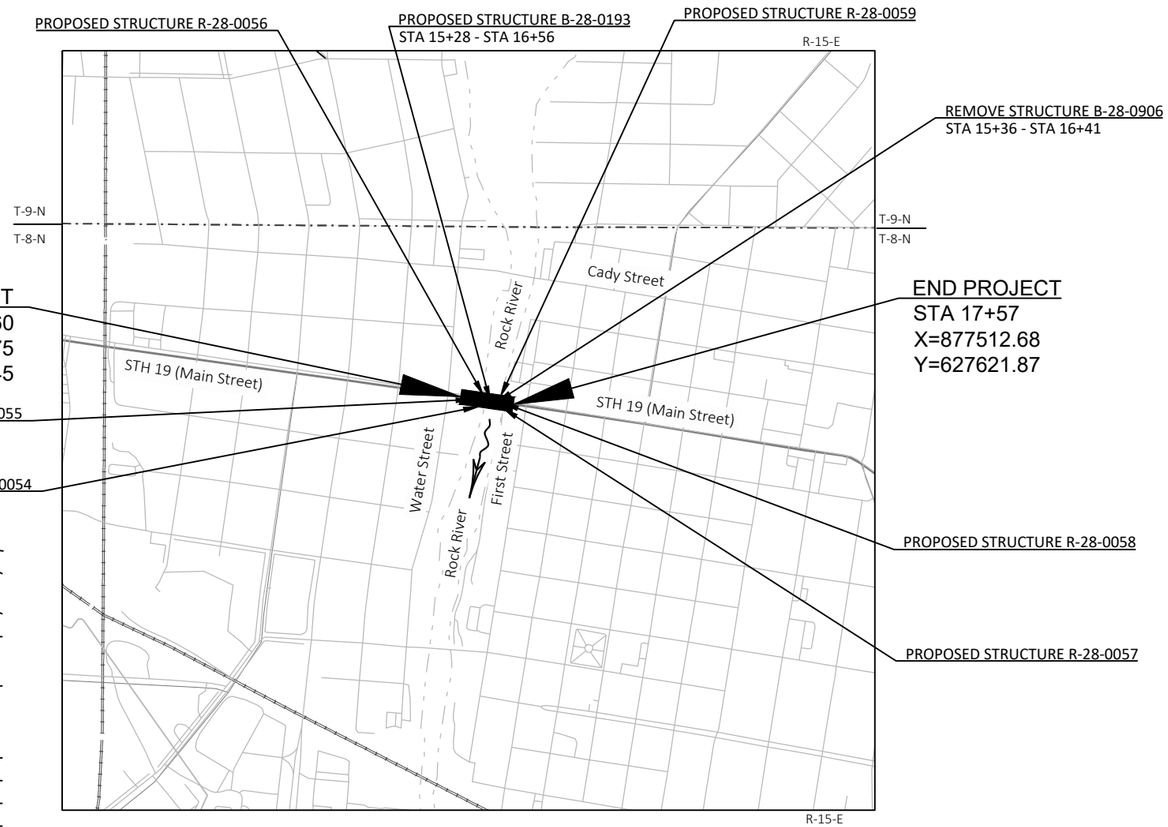
ROCK RIVER STRUCTURE B-28-0193

STH 19

JEFFERSON COUNTY

STATE PROJECT NUMBER
3050-04-81

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
3050-04-81	WISC 2024278	1



LAYOUT

SCALE 0 1000 FT.

TOTAL NET LENGTH OF CENTERLINE = 0.056 MILES

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), JEFFERSON 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 OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	SW REGION
Designer	PEDRO BAUTISTA
Project Manager	STEVEN PORTER, P.E.
Regional Examiner	SW REGION
Regional Supervisor	ALEX HAGEN, P.E.

APPROVED FOR THE DEPARTMENT

DATE: 11/30/2023 (Signature)

E

FILE NAME : N:\PDS\C3D\30500401\SHEETSPLAN\010101-TI.DWG PLOT DATE : 10/25/2023 1:47 PM PLOT BY : HERRERA BAUTISTA, PE PLOT NAME :

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 COORDINATE THEIR CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOT LINE AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA. NOT ALL UTITLITIES ARE MEMBERS OF DIGGERS HOTLINE.
- D.O.T. BRIDGE BENCHMARK MONUMENT TO BE FURNISHED BY THE STATE AND PLACED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.
- RIGHT OF WAY LINES SHOWN ON THE CROSS SECTIONS ARE APPROXIMATE.
- ALL RADII ARE MEASURED TO EDGE OF FACE OF CURB UNLESS OTHERWISE SHOWN OR NOTED ON THE PLAN.
- CONSTRUCT INSIDE EDGE OF SIDEWALK 1/2 INCH HIGHER THAN TOP OF CURB WHEN THEY ARE ADJACENT TO EACH OTHER.
- 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, BIKE OR PARKING LANE.
- HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LB/SY/IN.
- 6-INCH ASPHALTIC SURFACE, SHALL BE CONSTRUCTED WITH 3 EQUAL 2-INCH LIFTS.
- CONTRACTOR WILL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY THEIR OPERATION OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.
- TOPSOIL SHALL BE PLACED 1 INCH BELOW THE TOP OF ADJACENT CONCRETE CURBS OR SIDEWALKS.
- THE QUANTITY OF THE ITEMS FOR EROSION PROTECTION INCLUDES AN UNDISTRIBUTED AMOUNT FOR PROTECTION, CONTROL AND ABATEMENT OF WATER POLLUTION RESULTING FROM SOIL EROSION. THE DISTRIBUTION AND LOCATION OF THESE MATERIALS ARE TO BE DETERMINED BY THE ENGINEER.
- DISTURBED AREAS WITHIN THE RIGHT OF WAY ARE TO BE TOPSOILED, FERTILIZED, SEEDED, AND MULCHED AS DIRECTED BY THE ENGINEER.
- TOPSOIL AND MULCH HAS BEEN COMPUTED BY DIRECT MEASUREMENTS ON THE CROSS SECTIONS PLUS 5 FT BEYOND THE TOE OF SLOPE. SEEDING AND FERTILIZER HAS BEEN COMPUTED BY DIRECT MEASUREMENTS ON THE CROSS SECTIONS PLUS 10 FT.
- APPLY TACK COAT AT A RATE OF 0.05 GAL/SY BETWEEN LAYERS OF NEW HAM PAVEMENT

STANDARD ABBREVIATIONS

AC	ACRE
AGG	AGGREGATE
<	ANGLE
AE, AEW	APRON ENDWALL
ASPH.	ASPHALTIC
A.D.T.	AVERAGE DAILY TRAFFIC
A A D.T.	ANNUAL AVERAGE DAILY TRAFFIC
B.F.	BACK FACE
BM	BENCHMARK
BTWN	BETWEEN
CTR.	CENTER
C/L	CENTER LINE
Δ	CENTRAL ANGLE OR DELTA
C.E.	COMMERCIAL ENTRANCE
CONST.	CONSTRUCTION
CMCP	CORRUGATED METAL CULVERT PIPE
CMP	CORRUGATED METAL PIPE
CO.	COUNTY
CTH	COUNTY TRUNK HIGHWAY
CR.	CREEK
CABC	CRUSHED AGGREGATE BASE COURSE
CY	CUBIC YARD
CP	CONTROL POINT OR CULVERT PIPE
C&G	CURB AND GUTTER
D	DEGREE OF CURVE
D.H.V.	DESIGN HOURLY VOLUME
DIA.	DIAMETER
D.D.	DIRECTIONAL DISTRIBUTION
DISCH.	DISCHARGE
DMS	DYNAMIC MESSAGE SIGN
EA	EACH
E	EAST
EB	EASTBOUND
ELEC.	ELECTRIC(AL), ELEC. CABLE
EL., ELEV.	ELEVATION
ESALS	EQUIVALENT SINGLE AXLE LOADS
EXC.	EXCAVATION
EXIST	EXISTING
F.F.	FACE TO FACE
FERT.	FERTILIZER
F.E.	FIELD ENTRANCE
F/L, F.L	FLOW LINE
GALV.	GALVANIZE
H.S.	HIGH STRENGTH
CWT	HUNDRED WEIGHT
INL	INLET
INTER.	INTERSECTION
IH	INTERSTATE HIGHWAY
JT.	JOINT
LT	LEFT
L H.F.	LEFT HAND FORWARD
L.	LENGTH OF CURVE
L.F.	LINEAR FOOT(FEET)
LC.	LONG CHORD
LS	LUMP SUM
M.P.	MARKER POST
MGAL	1000 GALLONS
N.C.	NORMAL CROWN
N	NORTH
NB	NORTHBOUND
NOR	NORMAL
NO.	NUMBER
PAV'T	PAVEMENT
P.L.E.	PERMANENT LIMITED EASEMENT
P.C.	POINT OF CURVATURE
P I	POINT OF INTERSECTION
P.T.	POINT OF TANGENCY
PCC	PORTLAND CEMENT CONCRETE
P E.	PRIVATE ENTRANCE
PGL	PROFILE GRADE LINE
P.L.	PROPERTY LINE
R	RADIUS OR RANGE
R/L	REFERENCE LINE
R.C.C.P.	REINFORCED CONCRETE CULVERT PIPE
REQ'D	REQUIRED
RT	RIGHT
R.H.F.	RIGHT HAND FORWARD
R/W	RIGHT OF WAY
RD.	ROAD
SHLD.	SHOULDER(S)
SHR.	SHRINKAGE
S	SOUTH
SB	SOUTHBOUND
S.F.	SQUARE FOOT (FEET)
SDD	STANDARD DETAIL DRAWING(S)
STH	STATE TRUNK HIGHWAY
STA.	STATION
S.E.	SUPERELEVATION
S/L	SURVEY LINE
SYM	SYMMETRICAL
T.	PERCENT TRUCKS
TEL.	TELEPHONE
TEMP.	TEMPORARY
T.L.E.	TEMPORARY LIMITED EASEMENT
T.O.C.	TOP OF CURB
TYP	TYPICAL
UNCL.	UNCLASSIFIED
U.G.	UNDERGROUND (CABLE)
VAR	VARIABLE
V.C.	VERTICAL CURVE
V.P.C.	VERTICAL POINT OF CURVATURE
V.P.I.	VERTICAL POINT OF INTERSECTION
V.P.T	VERTICAL POINT OF TANGENCY
Wt.	WEIGHT
W	WEST
WB	WESTBOUND

UTILITIES

WATER/SEWER

CITY OF WATERTOWN
PETER HARTZ
800 HOFFMAN DR
WATERTOWN, WI 53094
PHONE: (920)-262-4085
EMAIL: PHARTZ@WATERTOWNWI.GOV

GAS

WE ENERGIES
SCOTT HOLSTEIN
700 S KANE STREET
BURLINGTON, WI 53105
PHONE: (262)-763-1084
SCOTT.HOLSTEIN@WE-ENERGIES.COM

ELECTRIC

WE ENERGIES
ERIC KICKHAVER
500 S. 116TH STREET
WEST ALLIS, WI 53214
PHONE: (414)-944-5917
ERIC.KICKHAVER@WE-ENERGIES.COM

ORDER OF SECTION 2 SHEETS

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

OTHER AGENCIES

WISDOT DESIGN

WISDOT SW REGION
STEVE PORTER, P.E.
2101 WRIGHT ST
MADISON, WI 53704
PHONE: (608)-243-3366
EMAIL: STEVE.PORTER@DOT.WI.GOV

WDNR LIASON

DNR SOUTH CENTRAL REGION
SHELLEY NELSON
3911 FISH HATCHERY RD
FITCHBURG, WI 53711
PHONE: (608)-444-2835
EMAIL: SHELLEY.NELSON@WISCONSIN.GOV

WATERTOWN CITY ENGINEER

CITY OF WATERTOWN
ANDREW M. BEYER, P.E.
106 JONES STREET
WATERTOWN, WI 53094
PHONE: (920)-262-4052
EMAIL: ABEYER@WATERTOWNWI.GOV

2

2

N

FIRST BANK

ROCK RIVER

BEGIN CONSTRUCTION
SAW CUT REQUIRED
STA 14+60
X: 627661.53
Y: 877218.31

TLE

STRUCTURE R-28-0056

END CONCRETE APPROACH
STA 15+27

SLOPE INTERCEPT

STRUCTURE R-28-0059

BEGIN CONCRETE APPROACH
STA 16+50

TLE

WATER ST

N FIRST ST

S FIRST ST

STH 19

12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00

PB4 PB3 PB2 PB1

EXPB4 EXPB3 EXPB2 EXPB1

U/C

STRUCTURE R-28-0054

BEGIN CONCRETE APPROACH
STA 15+09

TLE

STRUCTURE B-28-0193
STA 15+28 TO STA 16+56

RIPRAP

END CONCRETE APPROACH
STA 16+68

STRUCTURE R-28-0057

TLE

TOWN SQUARE
DEVELOPMENT

ROCK RIVER

END CONSTRUCTION
SAW CUT REQUIRED
STA 17+57
X: 627692.83
Y: 877524.04

LEGEND

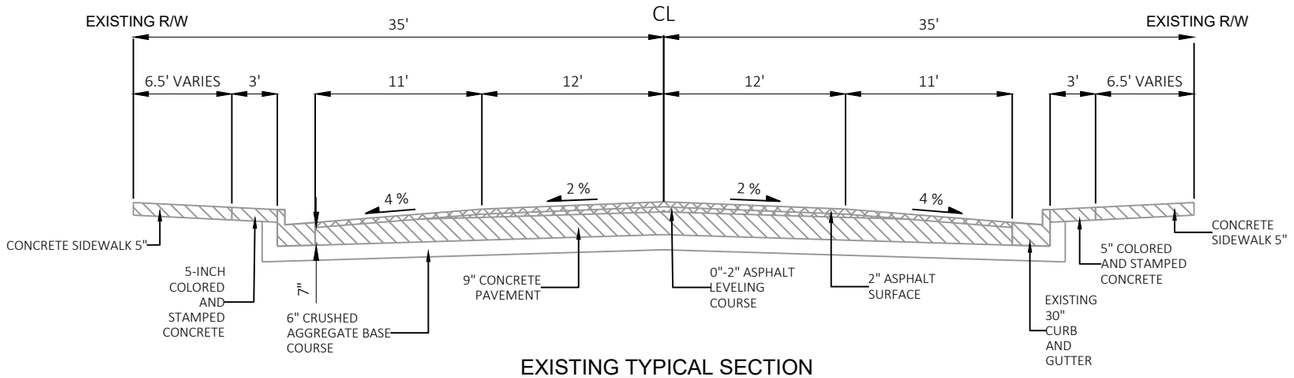
ENVIRONMENTALLY SENSITIVE AREA

PROJECT NO: 3050-04-81	HWY: STH 19	COUNTY: JEFFERSON	PROJECT OVERVIEW	SHEET 3	E

FILE NAME : N:\PDS\C3D\30500401\SHEETSPLAN\020202-PO.DWG
LAYOUT NAME - Plan 1 IN 50 FT

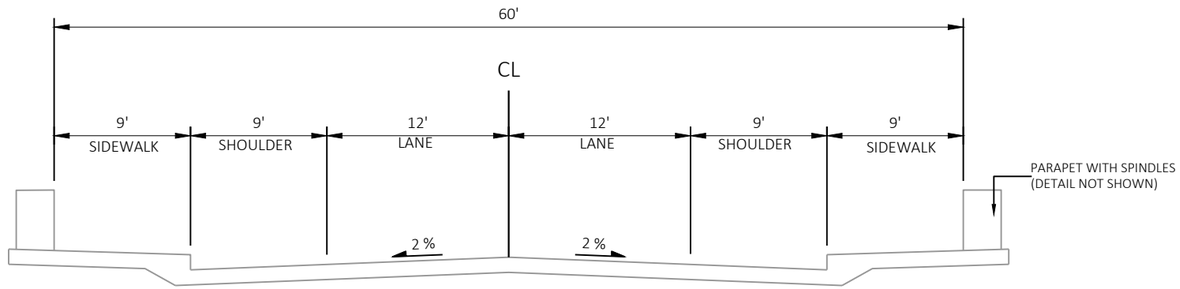
PLOT DATE : 10/25/2023 2:12 PM PLOT BY : HERRERA BAUTISTA, PE PLOT NAME : PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 42



EXISTING TYPICAL SECTION

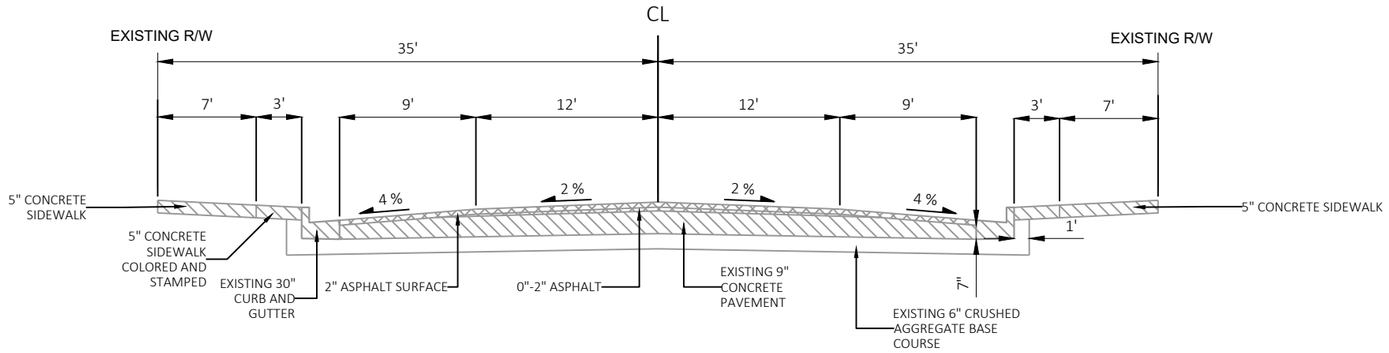
STA 14+60 - 15+08



EXISTING TYPICAL SECTION

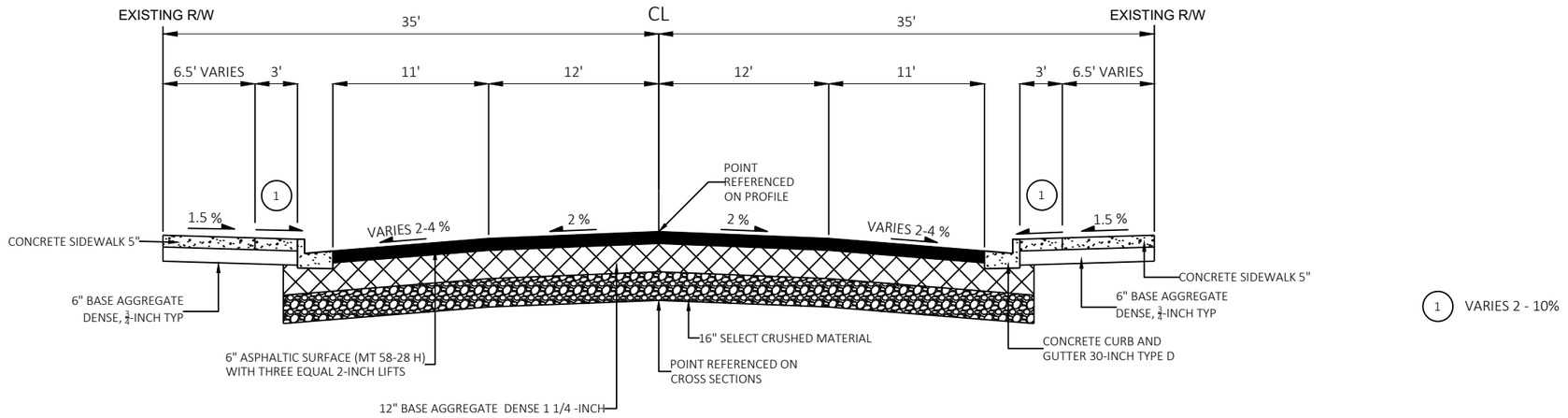
B-28-0906

2



EXISTING TYPICAL SECTION

STA 16+75 - 17+57



FINISHED TYPICAL SECTION

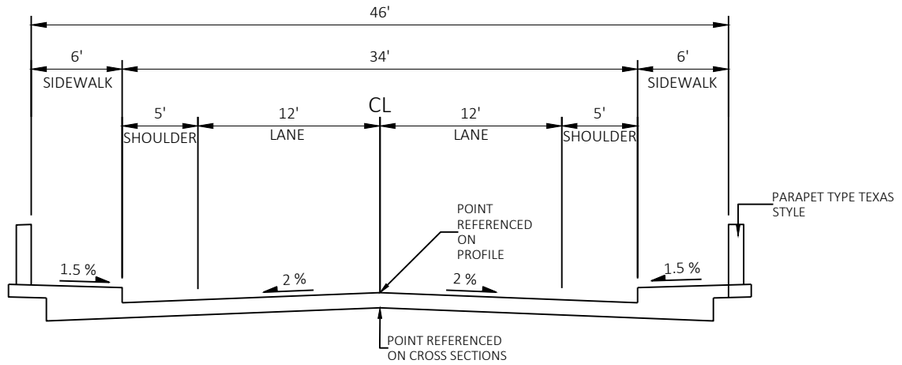
STA 14+60 - 15+09

PROJECT NO: 3050-04-81	HWY: STH 19	COUNTY: JEFFERSON	TYPICAL SECTIONS	SHEET 5	E

FILE NAME : N:\PDS\C3D\30500401\SHEETSPLAN\020301-TS.DWG
LAYOUT NAME - 02-10ft

PLOT DATE : 10/25/2023 2:33 PM PLOT BY : HERRERA BAUTISTA, PE PLOT NAME : PLOT SCALE : 1 IN:10 FT

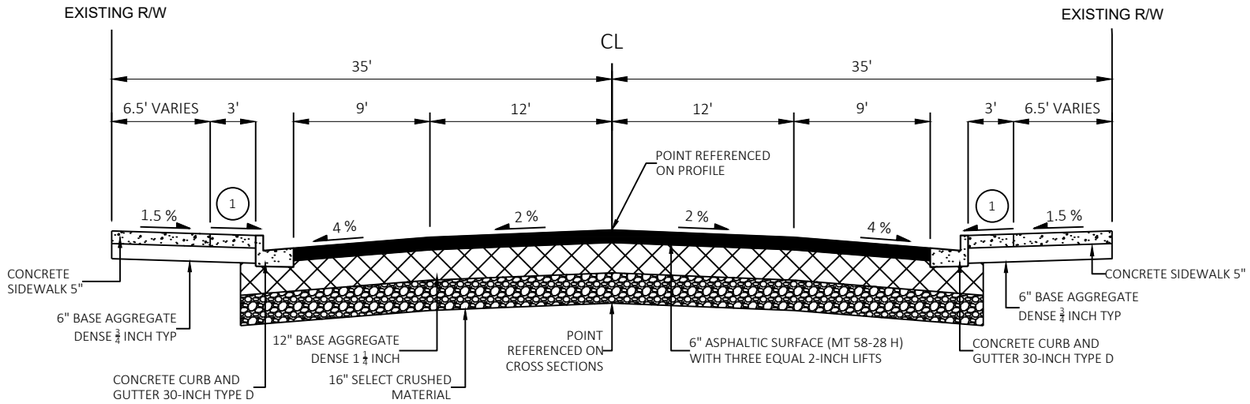
2



FINISHED TYPICAL SECTION

B-28-0193

SEE STRUCTURE PLANS FOR MORE DETAIL



FINISHED TYPICAL SECTION

STA 16+68 - 17+57

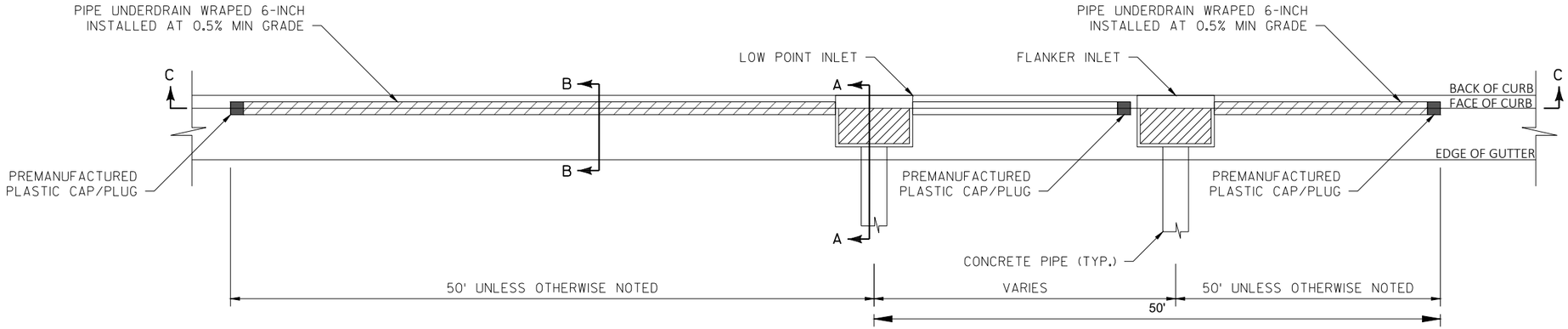
(1) VARIES 2 - 10%

PROJECT NO: 3050-04-81	HWY: STH 19	COUNTY: JEFFERSON	TYPICAL SECTIONS	SHEET 6	E

FILE NAME : N:\PDS\C3D\30500401\SHEETSPLAN\020301-TS.DWG
LAYOUT NAME - 03-10ft

PLOT DATE : 10/25/2023 2:33 PM PLOT BY : HERRERA BAUTISTA, PE PLOT NAME : PLOT SCALE : 1 IN:10 FT

2

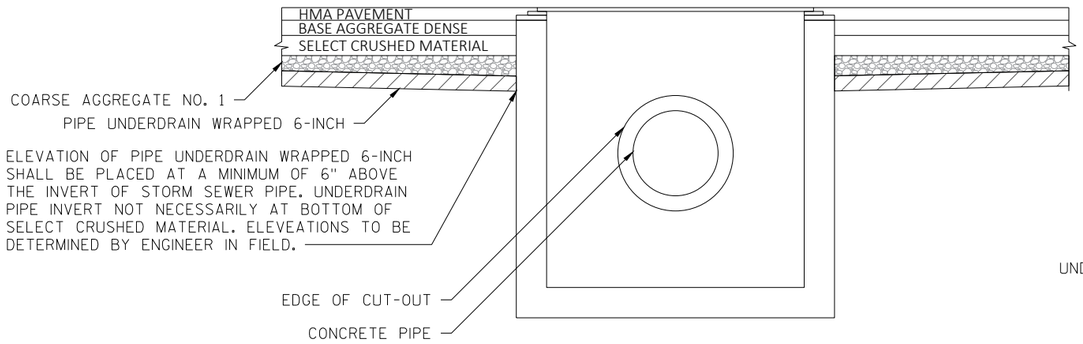


LOW POINT INLET
WITH FLANKING INLETS

TOP VIEW
SPLIT DETAIL

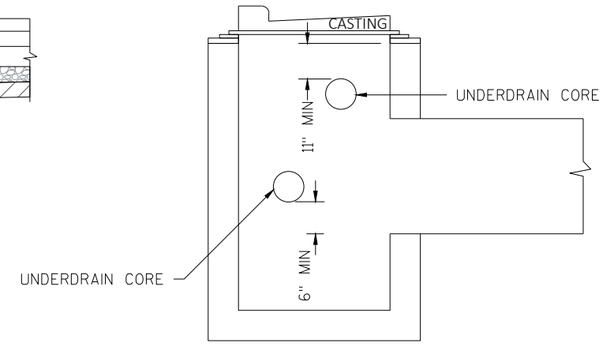
LOW POINT INLET
WITH FLANKING INLETS

INLET CONFIGURATION WITH
UNDERDRAIN AT LOW POINTS



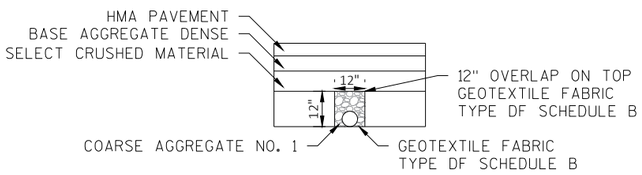
SECTION C-C

TYPICAL INLET CONFIGURATION WITH
UNDERDRAIN CORED INTO WALL AT LOW POINTS
WITHOUT FLANKING INLETS



SECTION A-A

TYPICAL INLET CONFIGURATION WITH
UNDERDRAIN CORED INTO WALL AT LOW POINTS
WITHOUT FLANKING INLETS



SECTION B-B

NOTE:
WHERE MULTIPLE INLETS ARE USED AT LOW POINTS, PIPE UNDERDRAIN WRAPPED 6-INCH SHALL BE INSTALLED 50 FEET TO EITHER DIRECTION FROM THE LOW POINT AT A MINIMUM POSITIVE GRADE OF 0.5%. THE SECTION OF UNDERDRAIN BETWEEN THE CENTER AND OUTER INLETS SHALL BE PLACED TIGHT TO THE OUTER INLET, CAPPED WITH A PREMANUFACTURED PLASTIC CAP OR PLUG, AND LAID AS SPECIFIED ABOVE TO THE CENTER OF THE INLET.

ATTACHMENT TO REAR OF INLET IS SATISFACTORY IF PIPE SIZE RESTRICTS SPACE FOR UNDERDRAIN CORE.

BOTTOM OF PIPE SHALL BE PLACED AT THE BOTTOM OF COARSE AGGREGATE NO. 1 MATERIAL.

BOTTOM OF COARSE AGGREGATE NO. 1 MATERIAL IS NOT NECESSARILY THE BOTTOM OF THE SELECT CRUSHED MATERIAL.

BOTTOM OF CORE PLACED A MINIMUM OF 6" ABOVE THE INVERT OF THE CROSS PIPE.

TOP OF CORE HOLES WILL BE A MINIMUM OF 11" BELOW TOP OF THE INLET STRUCTURES (BOTTOM OF ADJUSTING RINGS).

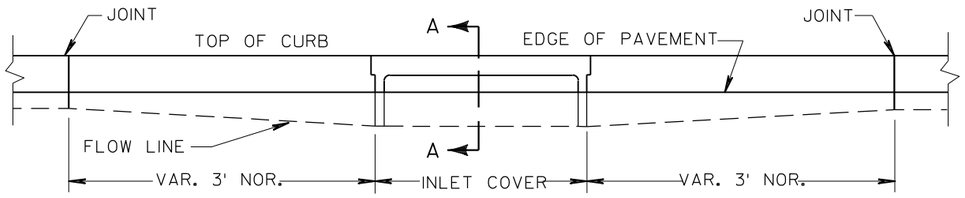
DRAIN TILES SHALL NOT BE ALLOWED IN THE ADJUSTING RINGS OF THE STRUCTURE OF INLETS OR MANHOLES.

CORE HOLES SHALL PROVIDE FOR A MINIMUM OF 2" OF CONCRETE BETWEEN THE CUTOUT FOR A CONCRETE PIPE AND THE EDGE OF THE CORE HOLE.

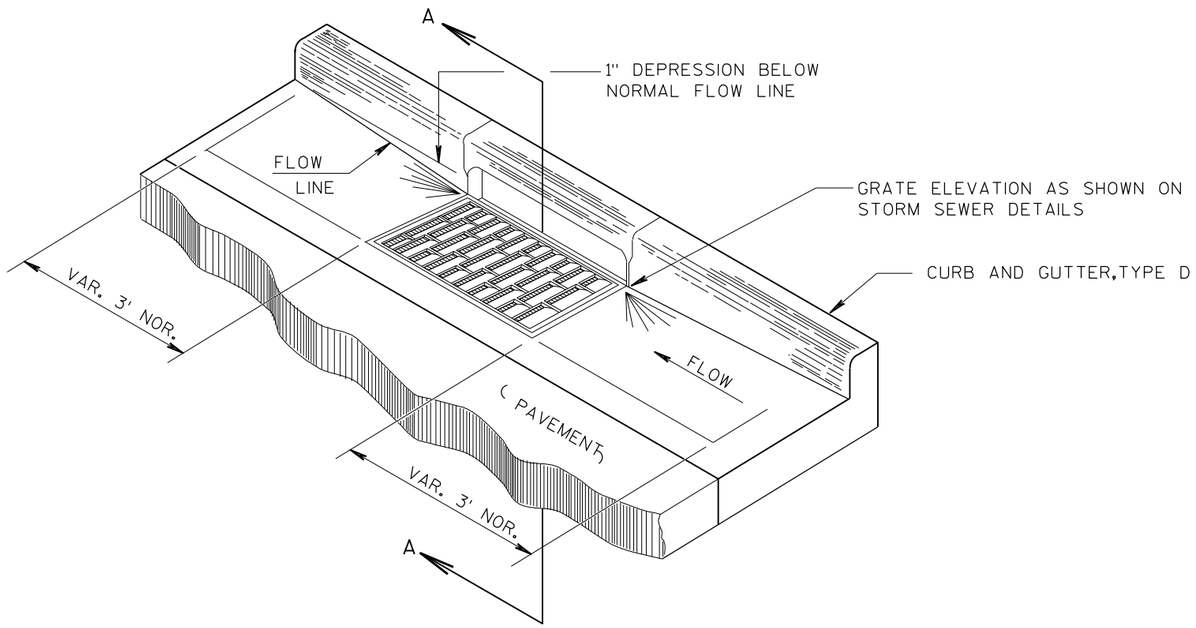
CORE HOLES SHALL HAVE 1" CLEARANCE FROM THE INSIDE WALLS OF A STRUCTURE.

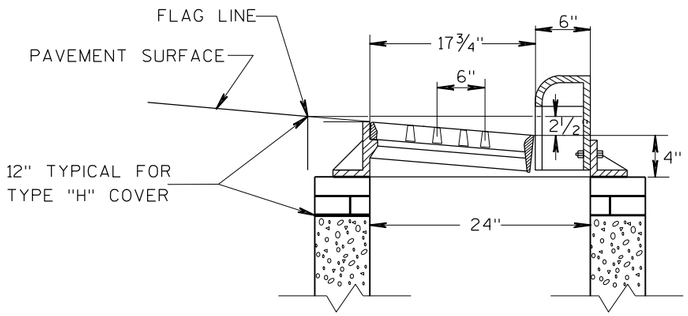
PIPE UNDERDRAIN 6-INCH WITH GEOTEXTILE FABRIC AND AGGREGATE

2



ELEVATION





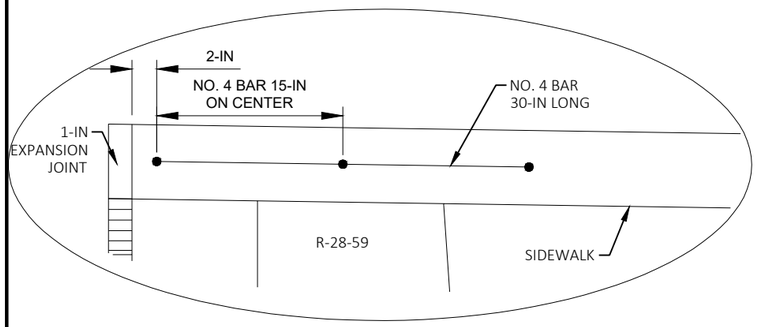
SECTION A-A

DETAIL OF CURB AND GUTTER AT INLETS

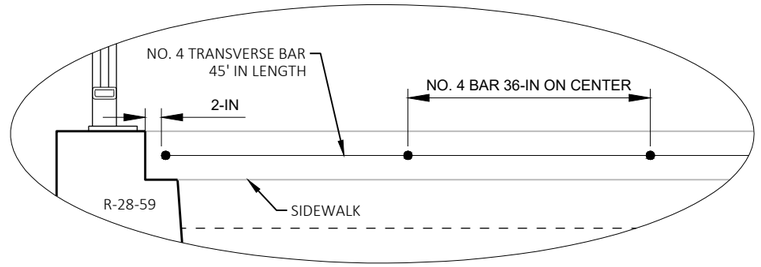
(TYPE 3-H INLET SHOWN)

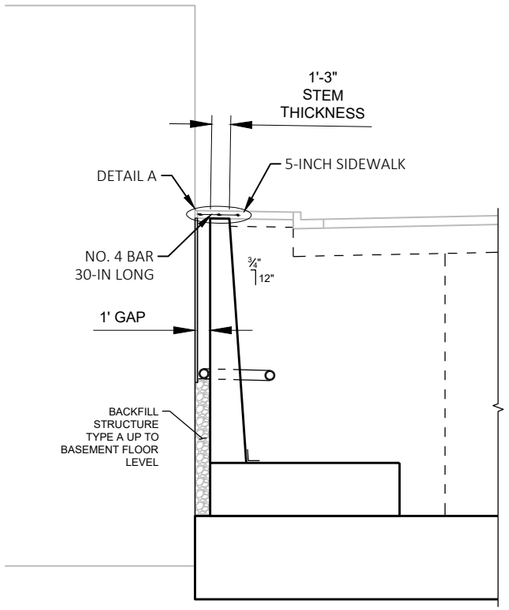
STRUCTURE R-28-59 SIDEWALK REINFORCEMENT

DETAIL A

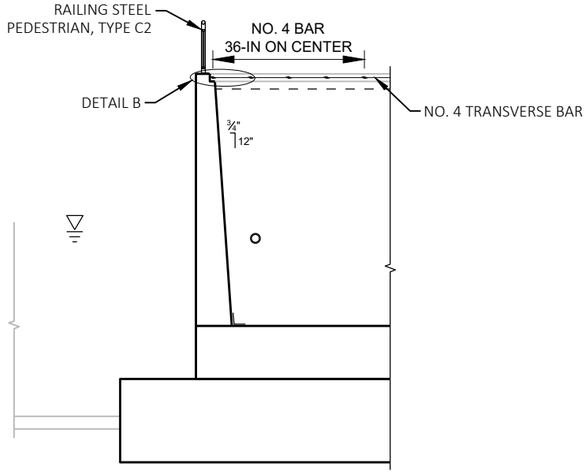


DETAIL B





TYPICAL SECTION LOOKING EAST



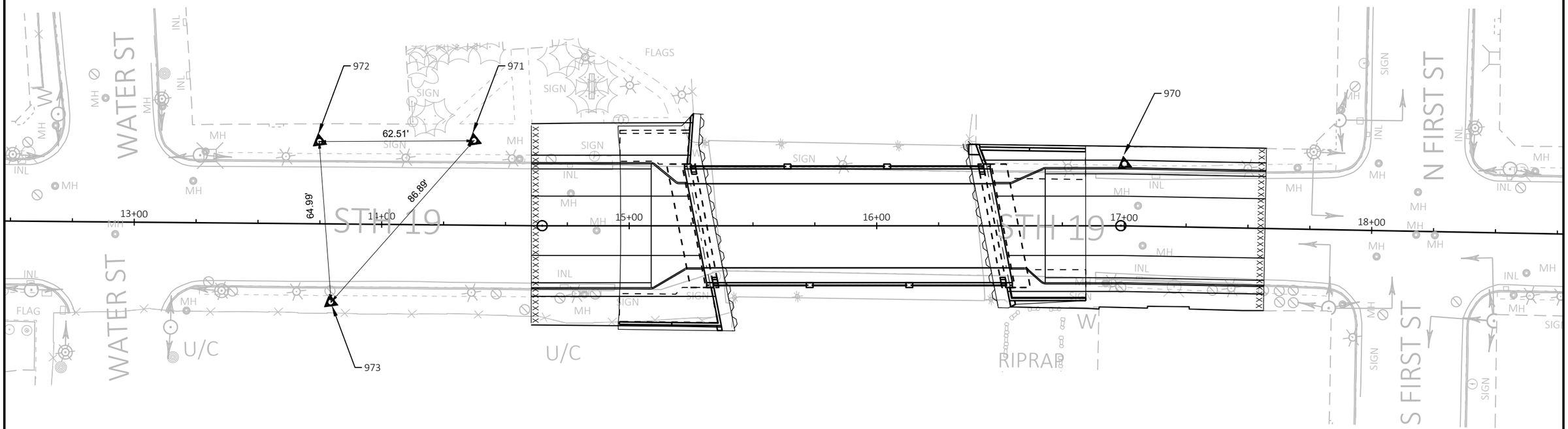
TYPICAL SECTION LOOKING NORTH

NOTE:

NO. 4 BARS SHALL BE COATED

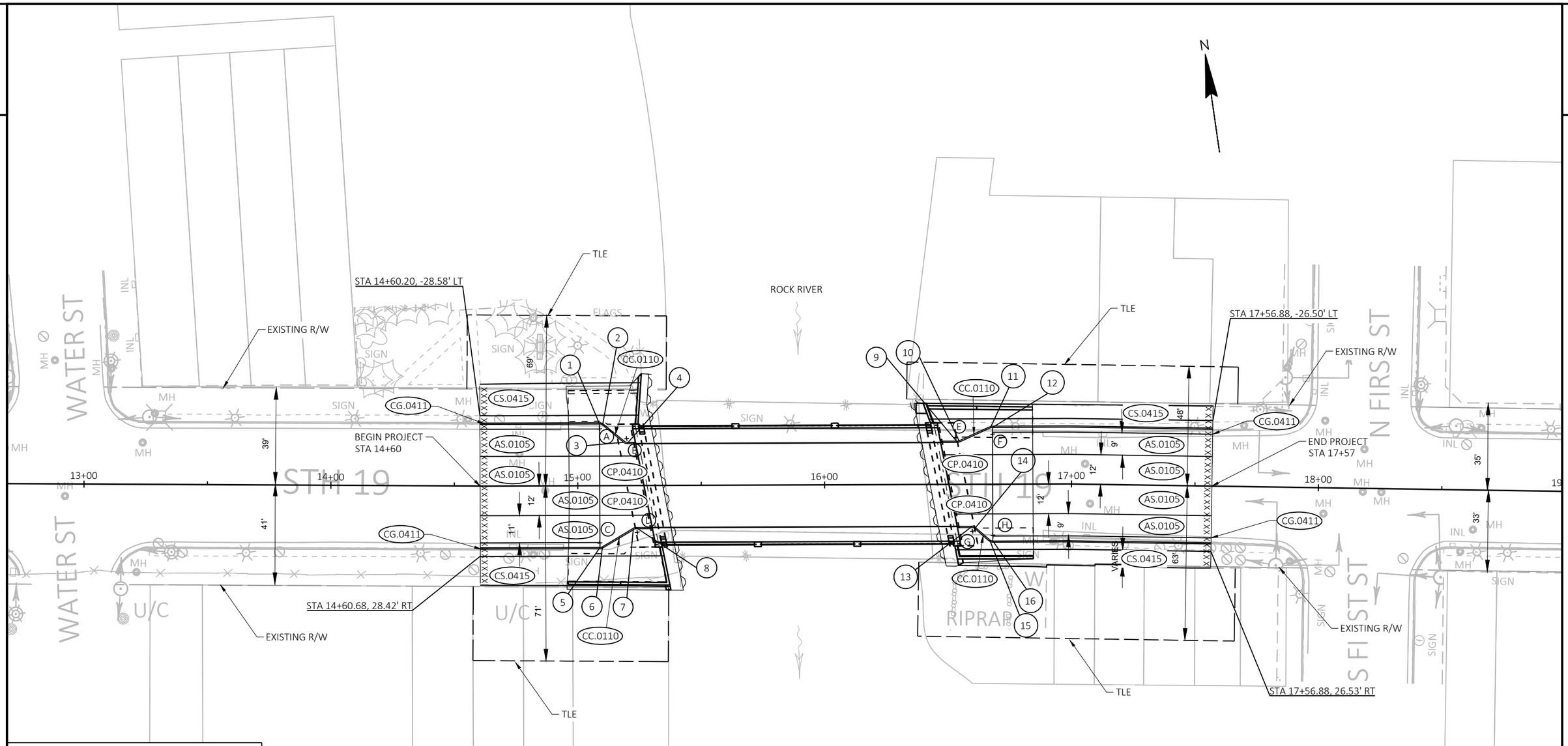
NO. 4 BARS SHALL BE INCIDENTAL TO BID ITEM
602.0410 CONCRETE SIDEWALK 5-INCH

2



STATION & OFFSET TABLE						
POINT	STATION	OFFSET	Y COORDS	X COORDS	ELEVATION	POINT DESCRIPTION
970	16+99.58	25.03 LT	627655.659	877459.940	821.74	CP CROSS X
971	14+36.98	34.19 LT	627701.686	877201.058	824.11	CP CROSS X
972	13+74.50	33.36 LT	627710.129	877139.151	825.58	CP CROSS X
973	13+79.61	31.60 RT	627645.130	877134.564	825.31	CP CROSS X

2



LEGEND

AS.0105	ASPHALTIC SURFACE
CS.0415	CONCRETE SIDEWALK 5-INCH
CG.0411	CONCRETE CURB AND GUTTER 30-INCH TYPE D
CP.0410	CONCRETE PAVEMENT APPROACH SLAB
CC.0110	CONCRETE CURB TYPE D

NOTE: ALL RADII ARE MEASURED TO THE FACE OF CURB.

STATION & OFFSET TABLE		
POINT	STATION	OFFSET
1	15+08.84	25.50 LT
2	15+10.56	24.86 LT
3	15+18.94	17.93 LT
4	15+19.89	17.59 LT
5	15+08.89	25.72 RT
6	15+10.16	25.38 RT
7	15+23.29	17.62 RT
8	15+24.05	17.41 RT

STATION & OFFSET TABLE		
POINT	STATION	OFFSET
9	16+53.23	17.53 LT
10	16+53.75	17.62 LT
11	16+67.22	22.59 LT
12	16+68.08	22.74 LT
13	16+59.84	17.47 RT
14	16+60.81	17.83 RT
15	16+66.47	22.59 RT
16	16+68.08	23.18 RT

RADII TABLE	
POINT	RADIUS
A	2
B	2
C	2
D	2
E	2
F	2
G	2
H	2

PROJECT NO: 3050-04-81	HWY: STH 19	COUNTY: JEFFERSON	PLAN DETAILS	SHEET 11	E

FILE NAME : N:\PDS\C3D\30500401\SHEETSPLAN\021202-PD.DWG
LAYOUT NAME - 01
PLOT DATE : 11/16/2023 2:20 PM
PLOT BY : HERRERA BAUTISTA, PE
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2

N

EXISTING "FIRST BANK" SIGN TO REMAIN

EXISTING BENCH/BRICKS TO REMAIN

ROCK RIVER

C

TLE

REMOVE EXISTING INLET

SALVAGE LIGHTS
STA: 15+61.29, 32.91' LT

SALVAGE WISDOT LIGHTPOLE
STA: 15+86.24, 25' LT

SALVAGE LIGHTS
STA: 16+08.71, 32.19' LT

SALVAGE CITY LIGHT POLE
STA: 16+77, 23' LT

SALVAGE LIGHTS
STA: 15+30.24 33.62' LT

SALVAGE LIGHTS
STA: 16+36.06, 31.80' LT

EXISTING R/W

D

B

REMOVING EXISTING INLET

TLE

REMOVE EXISTING STORM MANHOLE

SALVAGE CITY LIGHT POLE
STA: 17+49, 24' LT

BEGIN CONSTRUCTION
STA 14+60
MATCH EXISTING
SAW CUT REQ'D

A

END CONSTRUCTION
STA 17+57
MATCH EXISTING
SAW CUT REQ'D

EXISTING R/W

SALVAGE CITY LIGHT POLE
STA: 17+44, 24' RT

REMOVE EXISTING INLET

SALVAGE WISDOT LIGHTPOLE
STA: 14+78, 27' RT

EXISTING R/W

REMOVING EXISTING INLET

REMOVING MANHOLE
NOT SHOWN IN PLAN

SALVAGE LIGHTS
STA: 16+46.09, 29.83' RT

TLE

B

TLE

SALVAGE LIGHTS
STA: 15+67.90, 28.68' RT

SALVAGE WISDOT LIGHT POLE
STA: 16+95, 23' RT

SALVAGE LIGHTS
STA: 15+42.49, 29.05' RT

ROCK RIVER

WATER STREET

N FIRST ST

S FIRST ST

STH 19

14+00 15+00 16+00 17+00 18+00 19+00

LEGEND

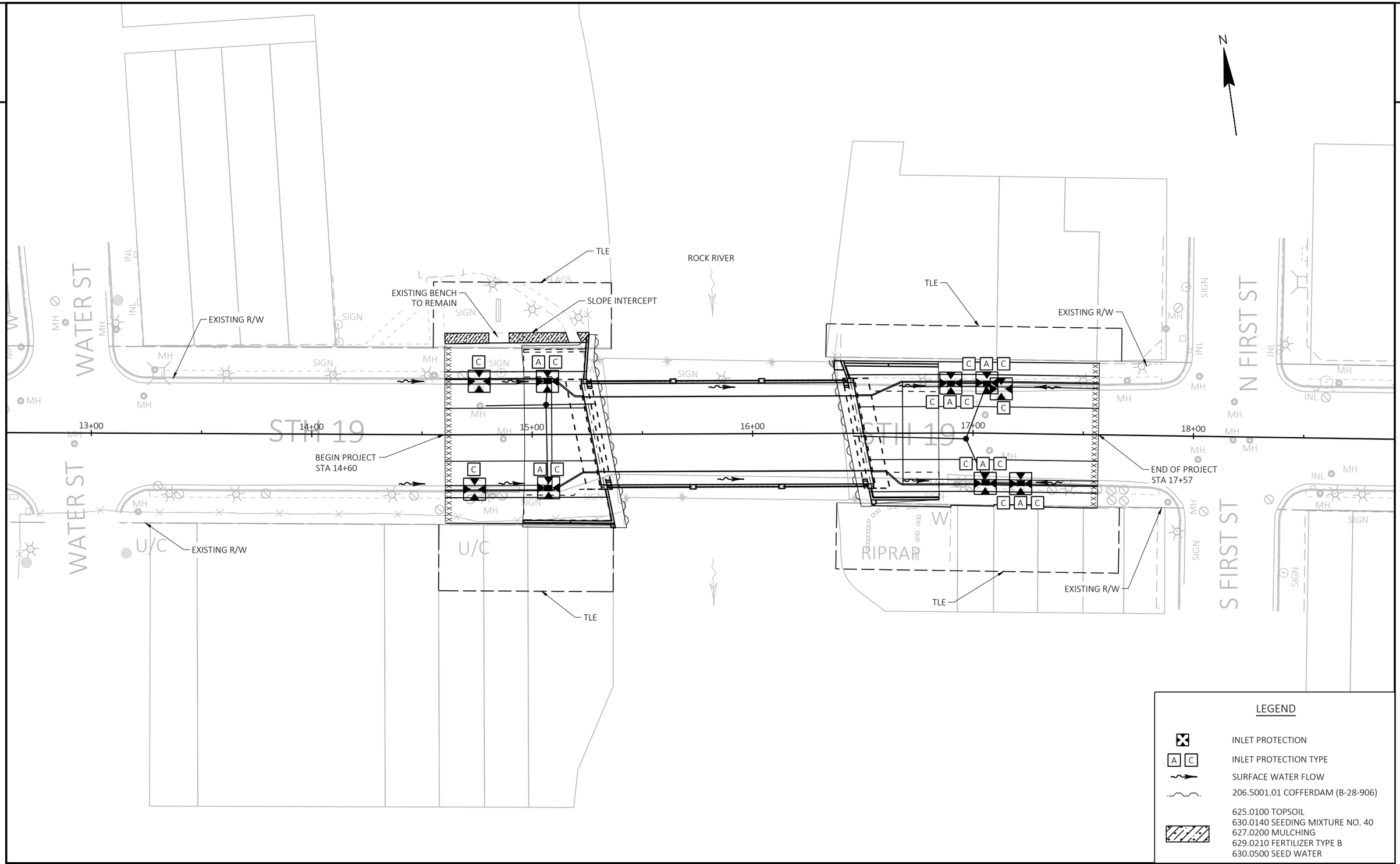
- REMOVE STRUCTURE (B-28-0906)
- REMOVE CONCRETE PAVEMENT
- REMOVE CONCRETE SIDEWALK
- (A) REMOVING STORM SEWER 36-INCH
- (B) REMOVING STORM SEWER 12-INCH
- (C) REMOVING STORM SEWER 24-INCH
- (D) REMOVING STORM SEWER 15-INCH

NOTE:

UNDER ITEM SALVAGING LIGHT POLES BOTH WISDOT AND CITY POLES SHALL BE DELIVERED TO THE CITY OF WATERTOWN. CALL ANDREW M. BEYER (920)-262-4052 TWO WEEKS IN ADVANCE OF REMOVAL TO COORDINATE DROP OFF LOCATION.

PROJECT NO: 3050-04-81	HWY: STH 19	COUNTY: JEFFERSON	PLAN DETAILS - REMOVALS	SHEET 12	E

2



PROJECT NO: 3050-04-81	HWY: STH 19	COUNTY: JEFFERSON	PLAN DETAILS - EROSION CONTROL	SHEET 13	E

FILE NAME : N:\PDS\C3D\30500401\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 01

PLOT DATE : 10/10/2023 10:07 AM PLOT BY : HERRERA BAUTISTA, PE PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

104 W MAIN STREET
TOWN & COUNTRY BANK

WATER STREET
120 W MAIN STREET
118 W MAIN STREET
116 W MAIN STREET
114 W MAIN STREET

EXISTING R/W
TLE
SI
FLAGS
SIGN

ROCK RIVER

CB 9 STA 15+07, 25.0' LT CATCH BASINS 2x3-H
MH 3 STA 15+06, 13.4' LT MANHOLES 5-J-S

STRUCTURE B-28-193
STA 15+28 - STA 16+56

PIPE EXTENDS 3-FEET FROM ABUTMENT. CONTRACTOR TO USE FULL LENGTH PIPE THROUGH ABUTMENTS

BY-PASS STORM SEWER, TYP.

MH 4
SAN MH 6
STH 19
SAN MH 5
CB 10 STA 15+07, 25.0' RT CATCH BASINS 2x3-H
TOWN SQUARE

13+00 14+00 15+00 16+00 17+00 18+00

2 E MAIN STREET
MASONIC TEMPLE

8 E MAIN STREET
14 E MAIN STREET
FIRST STREET

CB 6 STA 16+90, 22.2' LT CATCH BASINS 2x3-H-S
CB 5 STA 17+06, 22.2' LT CATCH BASINS 2x3-H
MH 2 STA 16+97, 2.7' RT MANHOLES 6-J-S

SAN MH 3
SAN MH 1
SAN MH 4
SAN MH 2
MH 1

STA 17+06, 22.7' RT CATCH BASINS 2x3-H-S CB 7
CB 8 STA 17+22, 22.7' RT CATCH BASINS 2x3-H

BEGIN CONSTRUCTION
STA 14+60
MATCH EXISTING
SAW CUT REQ'D

CONNECT TO EXISTING STORM SEWER
STA 14+68

CONNECT TO EXISTING STORM SEWER
STA 17+21

END CONSTRUCTION
STA 17+57
MATCH EXISTING
SAW CUT REQ'D

835
830
825
820
815
810
805
803

EXISTING GROUND
EX 24-INCH STORM
8.0 INCH PVC PIPE @ 1.00%
8.0 INCH PVC PIPE @ 0.33%

MH 3
823.01
817.18
816.05
815.55
811.81
23 L.F. - SSPRC CLASS III 30-INCH @ 16.44%
APPROXIMATE WATER SERVICE CROSSINGS
38 L.F. - SSP CLASS III-B 24-INCH @ 2.97%

2-YR RIVER LEVEL
810.11

RIVER BOTTOM

EX GRADE
PR GRADE

821.46
MH 2
PROPOSED PROFILE
24 L.F. - SSP CLASS III-B 36-INCH @ 0.53%
APPROXIMATE WATER SERVICE CROSSINGS
51 L.F. - SSPRC CLASS III 42-INCH @ 2.86%
EX 36-INCH STORM
810.21
811.78
811.91
811.68
8.0 INCH PVC PIPE @ 1.22%
8.0 INCH PVC PIPE @ 1.53%

829.23	827.70	826.21	824.84	823.87	823.31	823.34	822.83	822.29	822.05	821.76	821.60	821.51	821.71	821.72	822.23	822.79

12 13 14 15 16 17 18 18

PROJECT NO: 3050-04-81	HWY: STH-19	COUNTY: JEFFERSON	PLAN DETAILS - STORM SEWER	SHEET 14	E

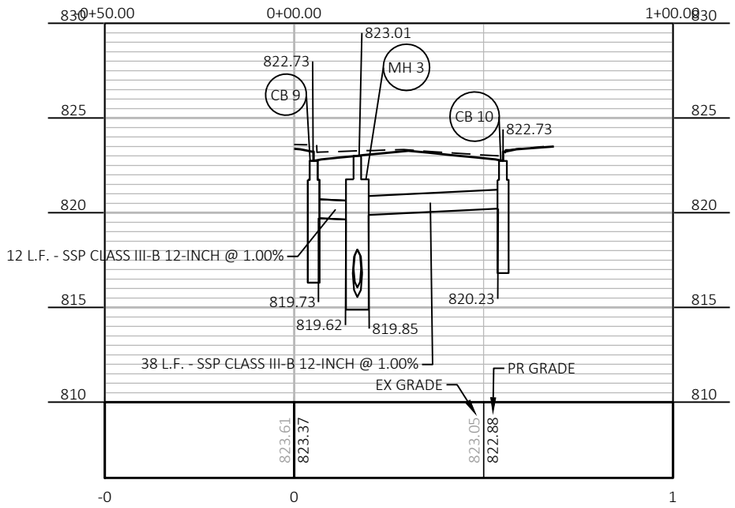
FILE NAME : C:\ONEDRIVE\AECOM\60684201 WATERTOWN MAIN ST. BRIDGE - GENERAL\900_CAD_GIS\910_CAD\07 SHEETSPLAN\050102-SS_2022.DWG
LAYOUT NAME - 01

PLOT DATE : 10/25/2023 3:26 PM PLOT BY : JONES, CARLEY PLOT NAME : PLOT SCALE : 1 IN:40 FT

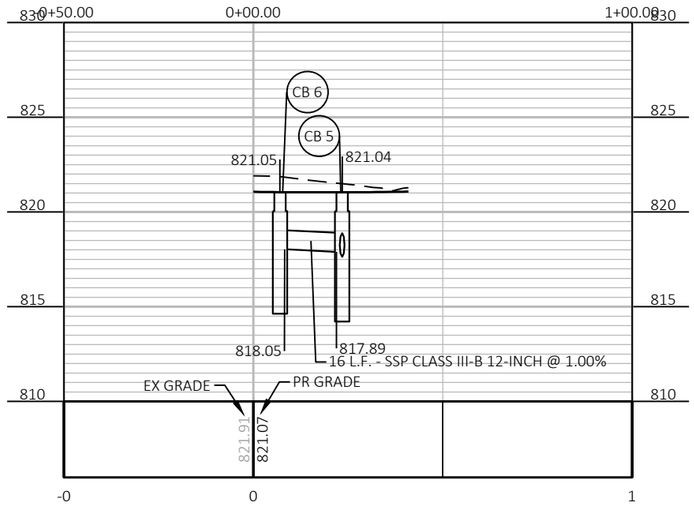
WISDOT/CADDS SHEET 44

2

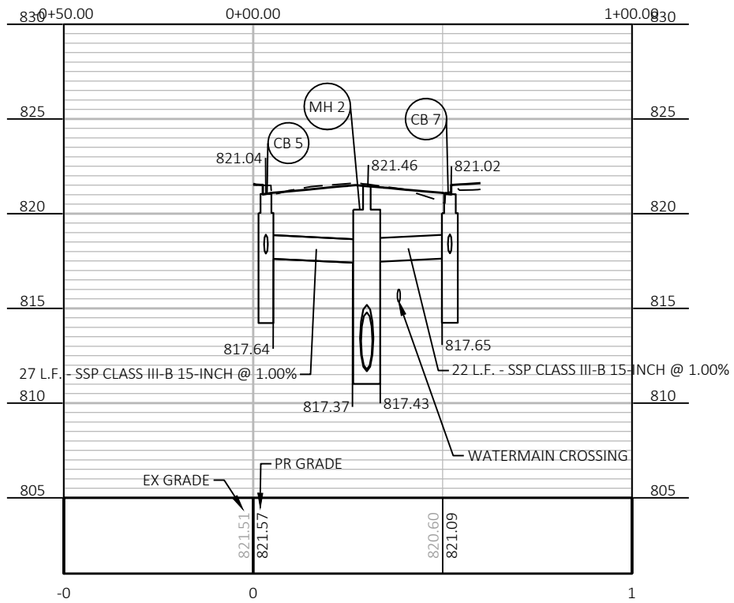
Profile View of West Inlets



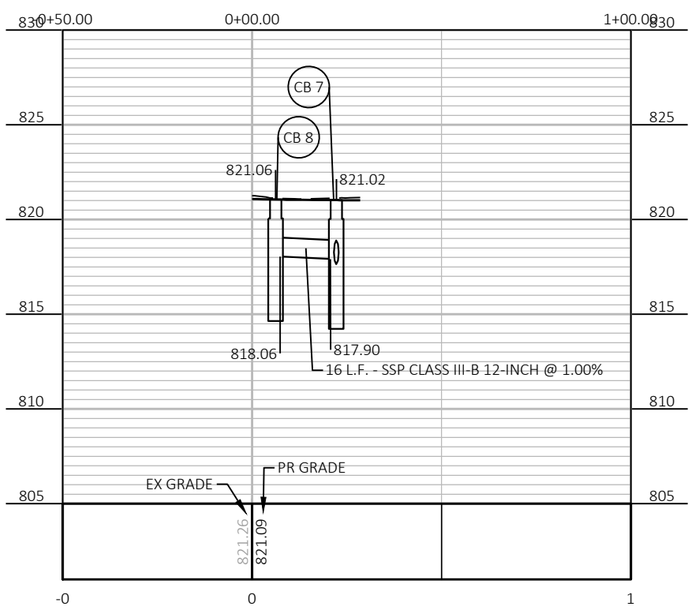
Profile View of NE Inlets



Profile View of East Inlets



Profile View of SE Inlets



PROJECT NO: 3050-04-81	HWY: STH-19	COUNTY: JEFFERSON	PLAN DETAILS - STORM SEWER	SHEET 15	E

FILE NAME : C:\ONEDRIVE\AECOM\60684201 WATERTOWN MAIN ST. BRIDGE - GENERAL\900_CAD_GIS\910_CAD\07 SHEETSPLAN\050102-SS_2022.DWG
LAYOUT NAME - 02
PLOT DATE : 10/25/2023 3:26 PM
PLOT BY : JONES, CARLEY
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 44

2

2

N

EXISTING "FIRST BANK" SIGN TO REMAIN

TLE

REMOVED BY LOCALS

EXISTING R/W

ROCK RIVER

WATER ST

N FIRST ST

S FIRST ST

STH 19

STH 19

BEGIN PROJECT STA 14+60

END PROJECT STA: 17+57

13+00 14+00 15+00 16+00 17+00 18+00 19+00

TLE

EXISTING R/W

MOVING SIGNS ATTACH TO LIGHT POLE

EAST M3-2 24"X12"

19 M1-6 24"X24"

TLE

ADD HISTORIC SIGN

ROCK RIVER

MOVING SIGNS ATTACH TO LIGHT POLE

W11-8 30"X30"

TLE

EXISTING R/W

RIPRAP

U/C

U/C

NOTE:

LOCAL SIGNS TO BE REMOVED BY CITY OF WATERTOWN. PLEASE CONTACT ANDREW M. BEYER, P.E. AT (920)-262-4052 TWO WEEKS IN ADVANCE PRIOR TO CONSTRUCTION START AND COMPLETION

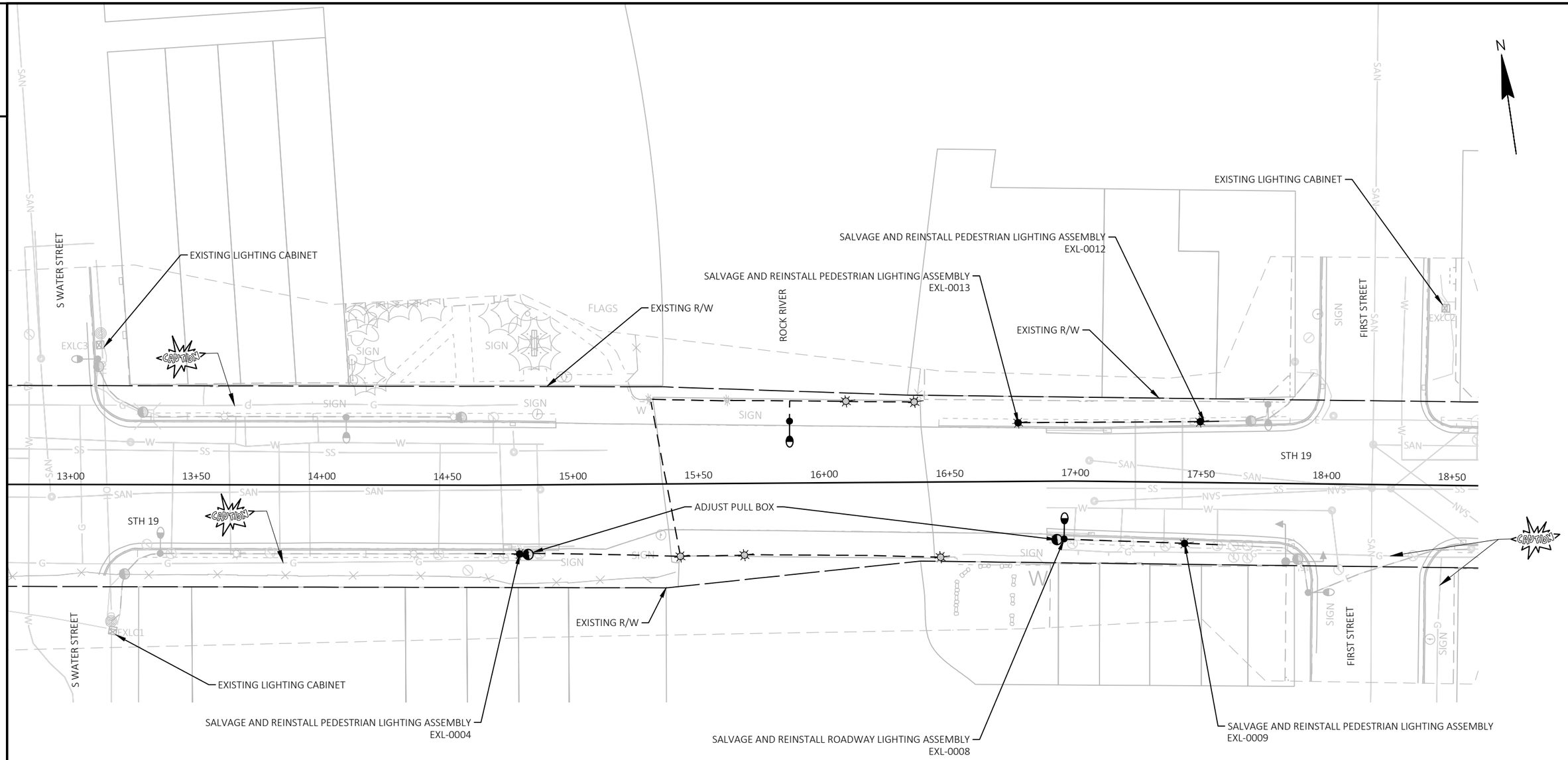
PROJECT NO: 3050-04-81	HWY: STH 19	COUNTY: JEFFERSON	PLAN DETAILS - PERMANENT SIGNING	SHEET 16	E

FILE NAME : N:\PDS\C3D\30500401\SHEETSPLAN\023201-PS.DWG
LAYOUT NAME - SIGNING PLAN

PLOT DATE : 10/10/2023 12:36 PM PLOT BY : HERRERA BAUTISTA, PE PLOT NAME : PLOT SCALE : Custom

WISDOT/CADDS SHEET 42

2



LIGHTING REMOVAL LEGEND

- LIGHTING UNIT ROADWAY
- LIGHTING UNIT PEDESTRIAN
- LIGHTING UNIT BRIDGE
- PULL BOX, 24" X 36"
- CONTROL CABINET
- NONMETALLIC CONDUIT

NOTE: GRAYSHADE REPRESENTS EXISTING, BOLD REPRESENTS ITEMS TO BE SALVAGED OR ADJUSTED.

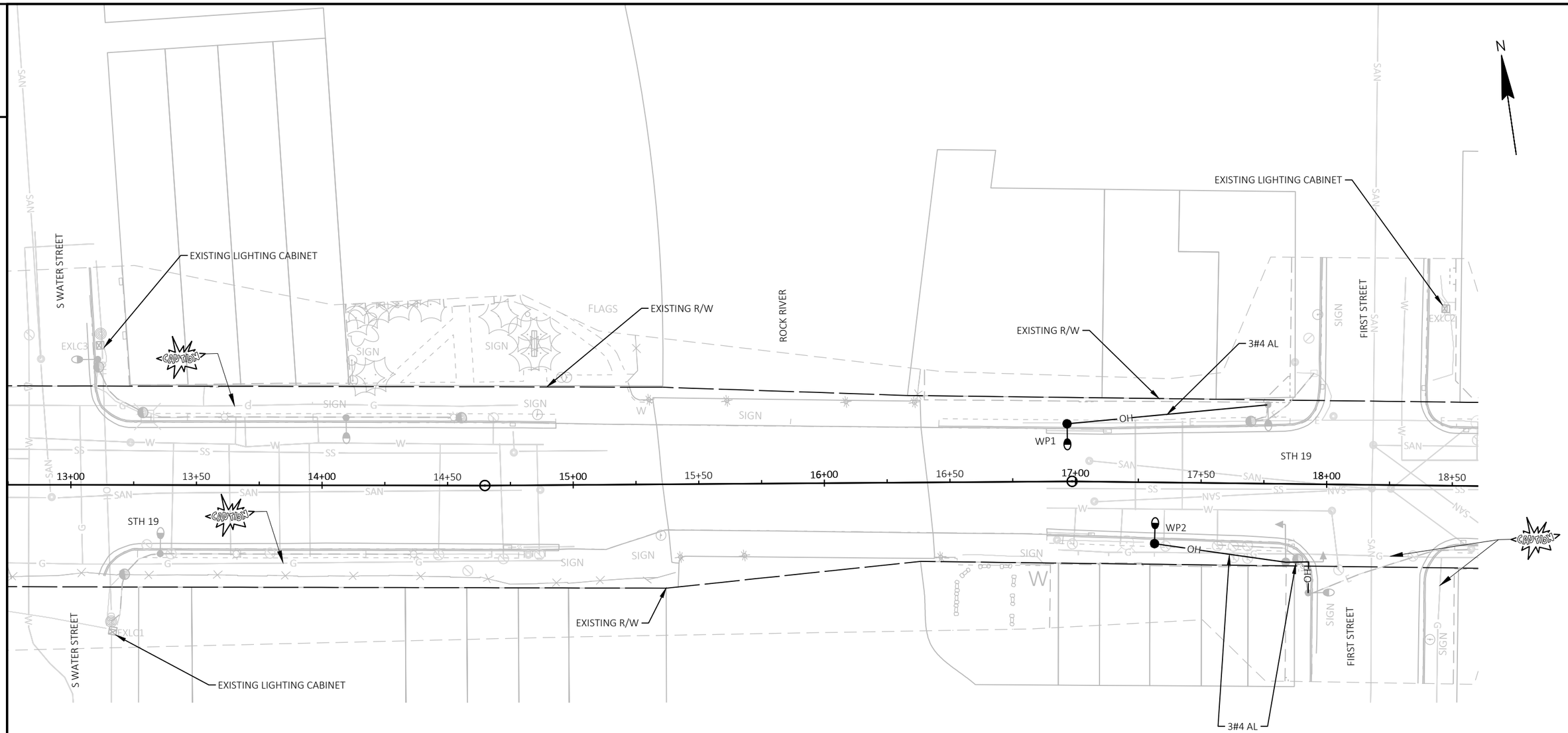
NOTES:

1. REMOVE ALL LIGHTING WIRE AND CABLE, AND GROUNDING WIRES FROM EXISTING CONDUIT SYSTEM. ABANDON CONDUIT IN PLACE.
2. POLES, AND LUMINAIRES ON BRIDGE TO BE SALVAGED AND DELIVERED TO THE CITY OF WATERTOWN.
3. POLES, LUMINAIRES, AND ARMS SHOWN IN BOLD OFF THE BRIDGE TO BE SALVAGED AND REINSTALLED.
4. COORDINATE WITH ANDREW BEYER (920) 262 - 4060, FOR RETURNS OF THE CITY BRIDGE LIGHTS, LIGHTING CABINET ACCESS, AND DISCONNECTION SCHEDULE FOR LIGHT POLES TO BE REMOVED.
5. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.

PROJECT NO: 3050-04-81	HWY: STH-19	COUNTY: JEFFERSON	STREET LIGHTING REMOVAL PLAN	SHEET 17	E

FILE NAME : C:\ONEDRIVE\AECOM\60684201 WATERTOWN MAIN ST. BRIDGE - GENERAL\900_CAD_GIS\910_CAD\07 SHEETSPLAN\023601-LP.DWG
LAYOUT NAME - E_lgt
PLOT DATE : 10/25/2023 2:41 PM PLOT BY : JENINGA, JAMES PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 44

2



TEMPORARY LIGHTING LEGEND

- CLASS 4 WOOD POLE WITH LUMINAIRE
- OH — AERIAL SIGNAL CABLE
- CONTROL CABINET

NOTE: GRAYSHADE REPRESENTS EXISTING, BOLD REPRESENTS TEMPORARY ITEMS.

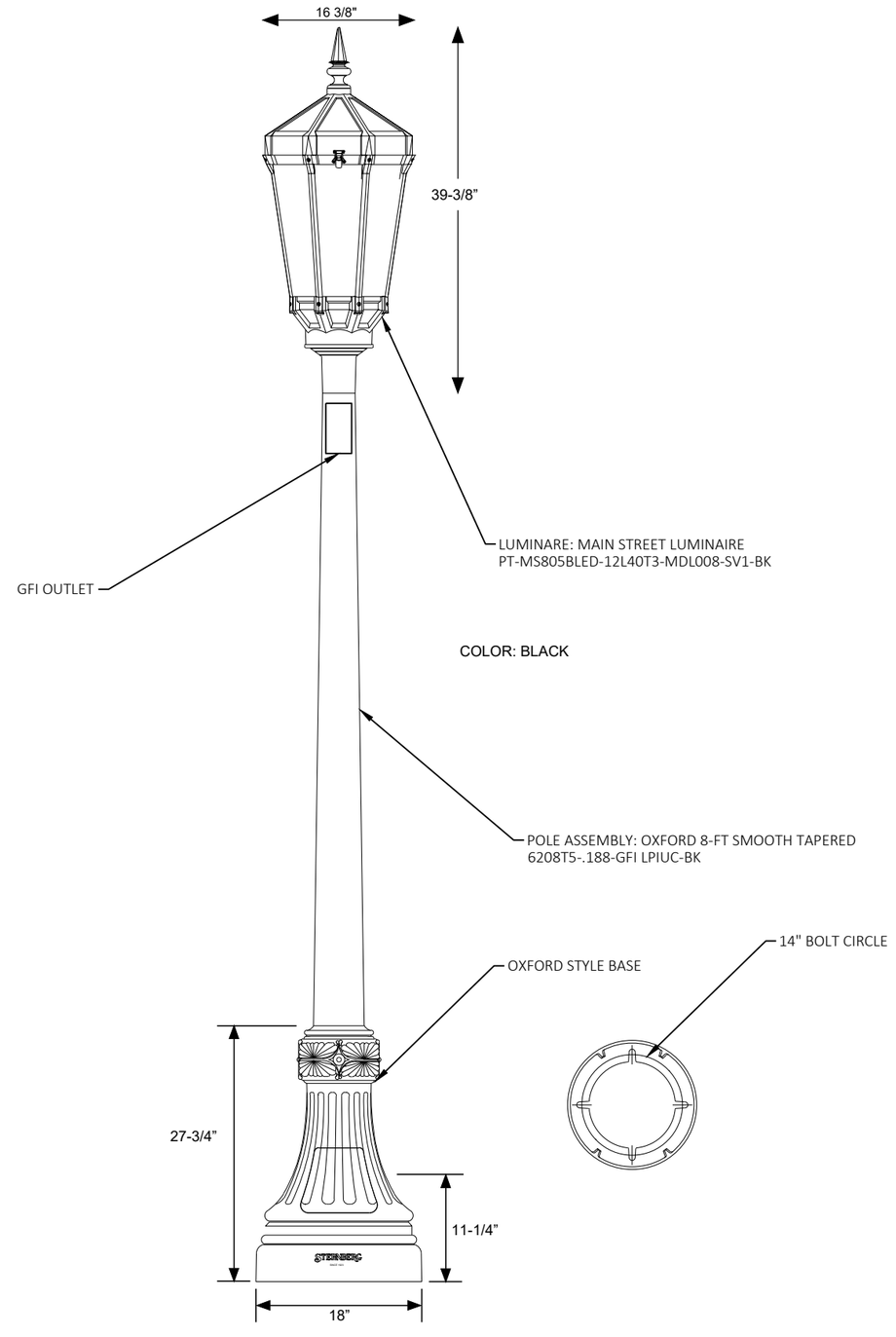
SUMMARY OF MATERIALS FOR INFORMATION ONLY	
450 (FT)	CABLE - OVERHEAD
2	WOOD POLES, CLASS 4 (30-FT MOUNTING HEIGHT)
2	LUMINAIRES LED B

NOTES:

1. LIGHTING SYSTEM SHALL REMAIN OPERATIONAL DURING CONSTRUCTION.
2. COORDINATE WITH CITY OF WATERTOWN FOR CONNECTIONS AND DISCONNECTIONS OF LIGHTING CIRCUIT.
3. CONNECTIONS INTO THE EXISTING SYSTEM WILL BE MADE BY THE CONTRACTOR.
4. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.

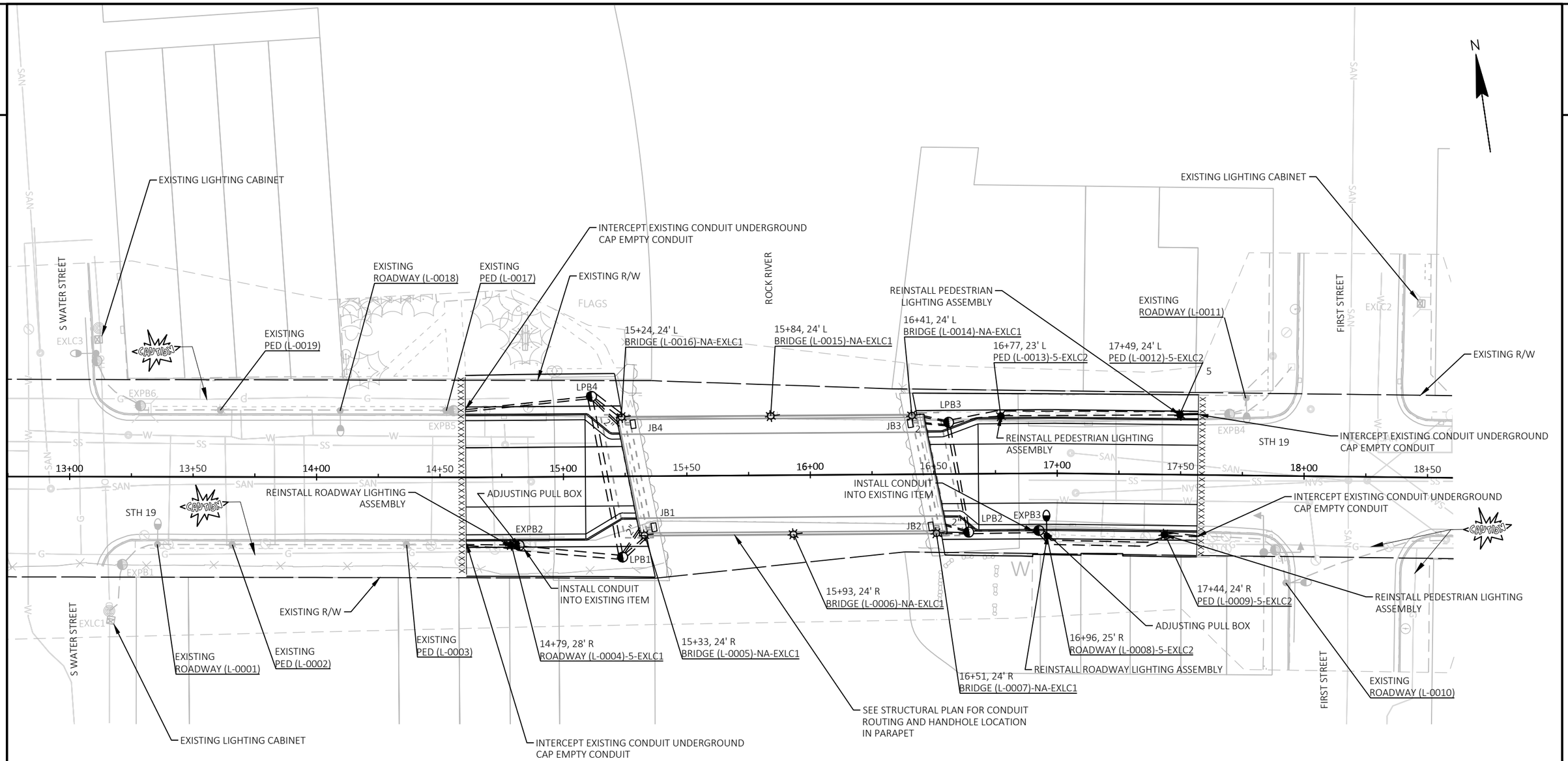
PROJECT NO: 3050-04-81	HWY: STH-19	COUNTY: JEFFERSON	TEMPORARY STREET LIGHTING PLAN	SHEET 18	E

2



BRIDGE LIGHTING ASSEMBLY DETAIL
8-FT DETAIL

PROJECT NO: 3050-04-81	HWY: STH-19	COUNTY: JEFFERSON	BRIDGE LIGHTING ASSEMBLY DETAIL	SHEET 19	E



PROPOSED LIGHTING LEGEND

- LIGHTING UNIT CONCRETE
- LIGHTING UNIT PEDESTRIAN
- LIGHTING UNIT BRIDGE
- PULL BOX, 24" X 36"
- NONMETALLIC CONDUIT 3", UNLESS OTHERWISE NOTED
- CONTROL CABINET
- JUNCTION BOX ATTACHED TO STRUCTURE, STAINLESS STEEL, 18" X 12" X 6"

STA. XXX+XX', XX' RT — STATION (LOCATION)
TYPE (L-XXXX)-X-EXCLX
- SOURCE CABINET
- BASE TYPE (5 = WISDOT TYPE 5, NA = NOT APPLICABLE)
- LIGHT POLE NUMBER
- LUMINAIRES TYPE (ROADWAY=STANDARD, PED=PEDESTRIAN, BRIDGE = BRIDGE MOUNTED)

NOTES:

1. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
2. GRAYSHADE REPRESENTS EXISTING ROADWAY, UTILITIES AND EXISTING LIGHTING EQUIPMENT
3. PROPOSED BRIDGE SHOWN IN GRAY FOR PLAN CLARITY.
4. CONTRACTOR TO VERIFY EXISTING WIRE SIZE IN FIELD.
5. CONTRACTOR TO VERIFY EXISTING LIGHT POLE BOLT CIRCLE AND ANCHOR ROD DIAMETER FOR POLES TO BE REINSTALLED.

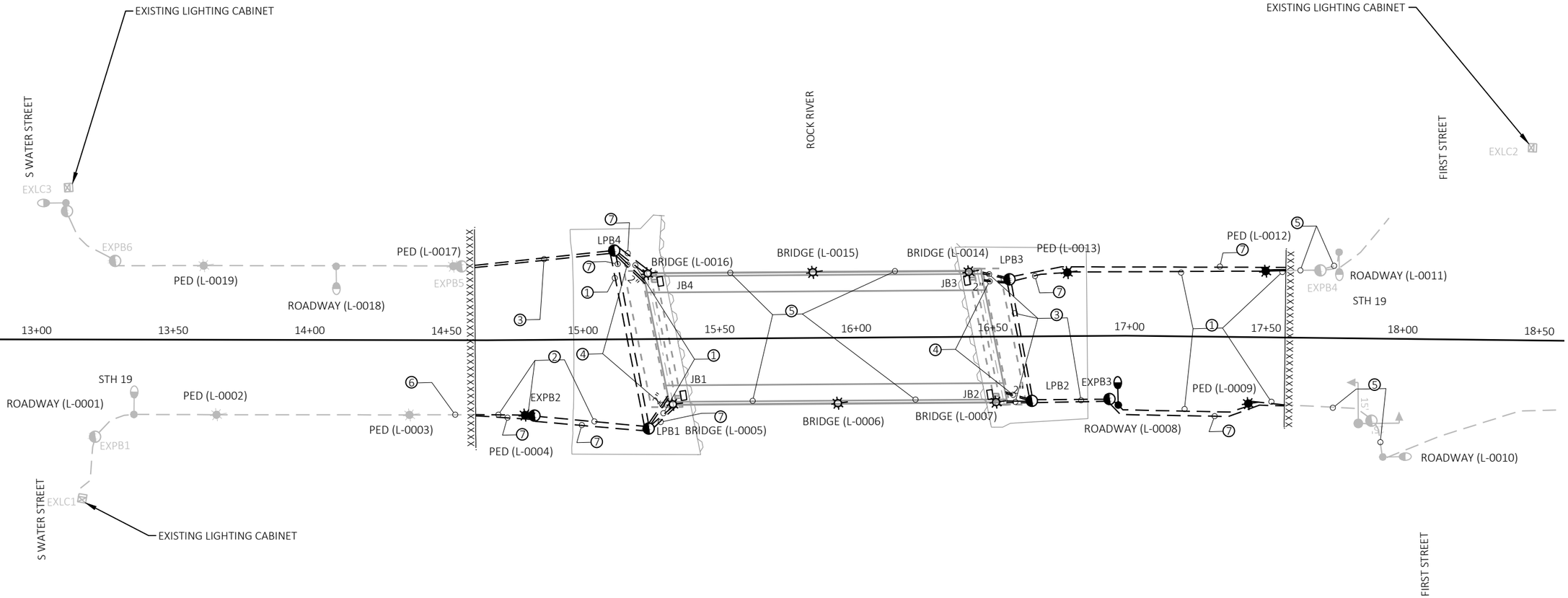
PROJECT NO: 3050-04-81	HWY: STH-19	COUNTY: JEFFERSON	STREET LIGHTING PLAN	SHEET 20	E

2

①	(4)#4 AND (1)#4 GROUND IN 1-3" SCH. 40 C
②	(8)#4 AND (2)#4 GROUND IN 1-3" SCH. 40 C
③	2-3" SCH. 40 C
④	2-2" SCH. 40 C
⑤	(4)#4 AND (1)#4 GROUND
⑥	(8)#4 AND (2)#4 GROUND
⑦	1-3" SCH. 40 C

LIGHTING - 240V	2-4 AWG 1-4 AWG GND
FESTOON - 120V	2-4 AWG 1-4 AWG GND

N



PROPOSED LIGHTING LEGEND

- LIGHTING UNIT CONCRETE
- LIGHTING UNIT PEDESTRIAN
- LIGHTING UNIT BRIDGE
- PULL BOX, 24" X 36"
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- CONTROL CABINET
- JUNCTION BOX ATTACHED TO STRUCTURE, STAINLESS STEEL, 18" X 12" X 6"

TYPE (L-XXXX)
- LIGHT POLE NUMBER
- LUMINAIRES TYPE (ROADWAY=STANDARD, PED=PEDESTRIAN, BRIDGE = BRIDGE MOUNTED)

PROJECT NO: 3050-04-81	HWY: STH-19	COUNTY: JEFFERSON	LIGHTING WIRE DIAGRAM	SHEET 21	E

FILE NAME : C:\ONEDRIVE\AECOM\60684201 WATERTOWN MAIN ST. BRIDGE - GENERAL\900_CAD_GIS\910_CAD\07 SHEETSPLAN\023601-LP.DWG
LAYOUT NAME - wiring diagram
PLOT DATE : 10/25/2023 2:42 PM PLOT BY : JENINGA, JAMES PLOT NAME : PLOT SCALE : ##########

2

N

ROCK RIVER

WATER ST

N FIRST ST

S FIRST ST

STH 19

STH 19

STA 14+65 - STA 15+08

1

TLE

EXISTING R/W

STA 14+60 - STA 17+57

3

STA 14+60 - STA 17+57

2

STA 16+78 - STA 17+49

1

TLE

EXISTING R/W

BEGIN PROJECT
STA 14+60

END OF PROJECT
STA 17+57

13+00 14+00 15+00 16+00 17+00 18+00 19+0

21' 22' 21' 21' 21' 21' 23' 23'

U/C U/C

EXISTING R/W

1

STA 14+66 - STA 15+10

3

STA 14+60 - STA 17+57

TLE

RIPRAP

1

STA 16+69 - STA 17+37

EXISTING R/W

TLE

LEGEND

1 MARKING PARKING STALL EPOXY (WHITE)

2 MARKING LINE EPOXY 6-INCH (DOUBLE YELLOW)

3 MARKING CURB EPOXY (YELLOW)

PROJECT NO: 3050-04-81	HWY: STH 19	COUNTY: JEFFERSON	PLAN DETAILS - PAVEMENT MARKING	SHEET 22	E

FILE NAME : N:\PDS\C3D\30500401\SHEETSPLAN\024501-PM.DWG
LAYOUT NAME - 01

PLOT DATE : 8/27/2023 8:09 PM PLOT BY : HERRERA BAUTISTA, PE PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

O'CONNELL STREET

N WASHINGTON STREET

N WATER STREET

ROCK RIVER

E MADISON STREET

S 1ST STREET

S 2ND STREET

ROAD WORK AHEAD W20-1A

ROAD WORK AHEAD W20-1A

BRIDGE OUT R11-2B 48"X30"

ROAD CLOSED 500 FT W20-3D

ROAD CLOSED 1000 FT W20-3C

ROAD CLOSED AHEAD W20-3A

BRIDGE OUT 2-1/4 MILES AHEAD R11-3C 60"X24"

9+00 10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00

3 MILES

1000' 500' 500' 500' 500' 1000'

WORK AREA

RIPRAP

BRIDGE OUT R11-2B 48"X30"

BRIDGE OUT 2-1/4 MILES AHEAD R11-3C 60"X24"

ROAD CLOSED AHEAD W20-3A

ROAD CLOSED 1000 FT W20-3C

ROAD CLOSED 500 FT W20-3D

BRIDGE OUT R11-2B 48"X30"

BEGIN PROJECT STA 14+60

END PROJECT STA 17+57

S WASHINGTON STREET

S WATER STREET

ROAD WORK AHEAD W20-1A

EMMET STREET

ROCK RIVER

MARKET STREET

ROAD WORK AHEAD W20-1A

S 1ST STREET

S 2ND STREET

LEGEND

TC SIGN ON TEMPORARY SUPPORT

NOTES

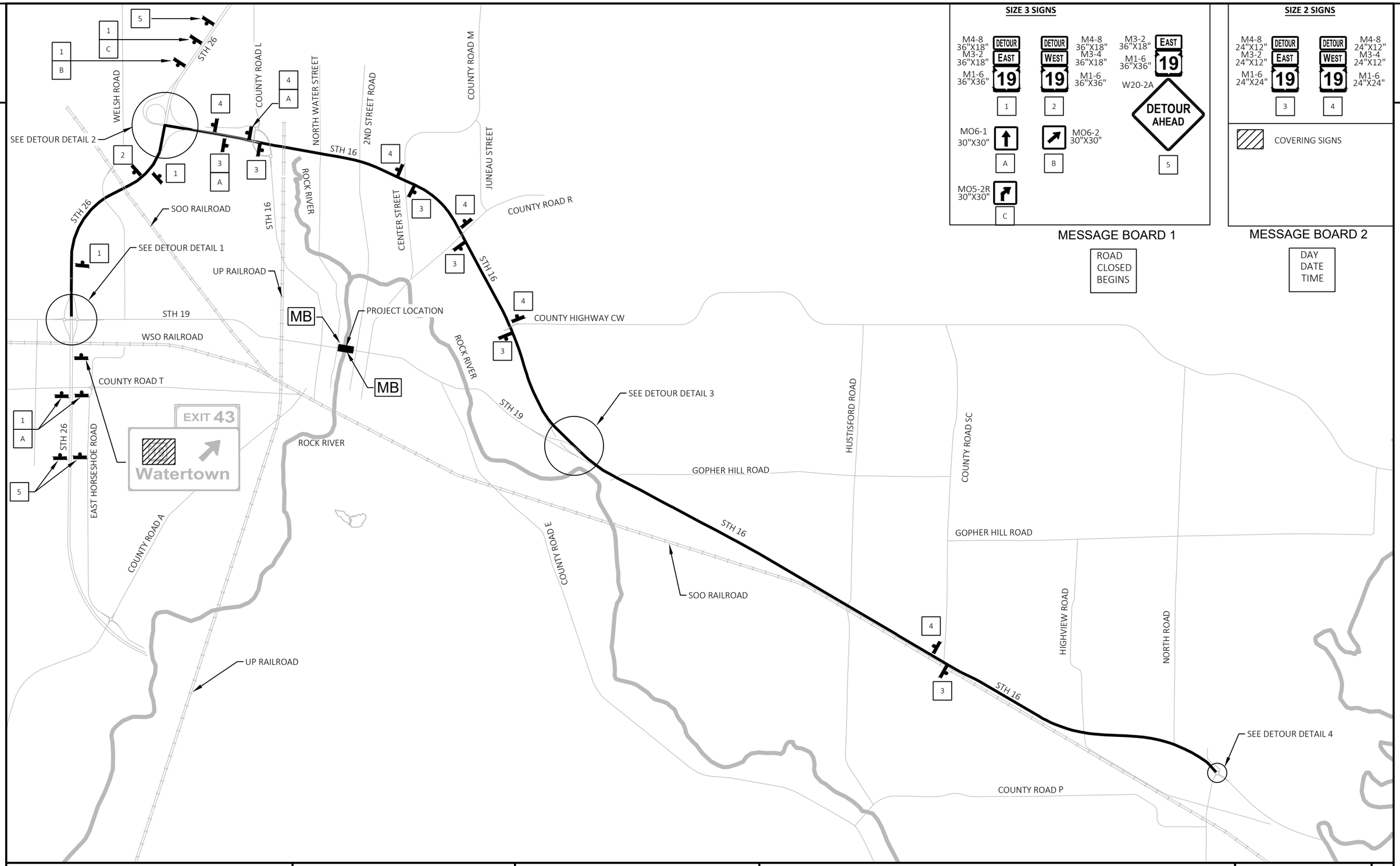
SEE PEDESTRIAN DETOUR SHEET FOR DETAILED DETOUR PLAN

FOLLOW SDD BARRICADES AND SIGNS FOR MAINLINE CLOSURES FOR BARRICADE LOCATION AND SPACING

PROJECT NO: 3050-04-81	HWY: STH 19	COUNTY: JEFFERSON	PLAN DETAILS - TRAFFIC CONTROL	SHEET 23	E

FILE NAME : N:\PDS\C3D\30500401\SHEETSPLAN\025101-TC.DWG
LAYOUT NAME - 025100-tc

PLOT DATE : 10/10/2023 1:26 PM PLOT BY : HERRERA BAUTISTA, PE PLOT NAME : PLOT SCALE : 1 IN:100 FT



SIZE 3 SIGNS

M4-8 36"X18" / M3-2 36"X18" / M1-6 36"X36" — DETOUR / EAST / 19 — 1

M4-8 36"X18" / M3-4 36"X18" / M1-6 36"X36" — DETOUR / WEST / 19 — 2

M3-2 36"X18" / M1-6 36"X36" — EAST / 19

W20-2A — DETOUR AHEAD — 5

MO6-1 30"X30" — A

MO6-2 30"X30" — B

MO5-2R 30"X30" — C

MESSAGE BOARD 1

ROAD CLOSED BEGINS

SIZE 2 SIGNS

M4-8 24"X12" / M3-2 24"X12" / M1-6 24"X24" — DETOUR / EAST / 19 — 3

M4-8 24"X12" / M3-4 24"X12" / M1-6 24"X24" — DETOUR / WEST / 19 — 4

COVERING SIGNS

MESSAGE BOARD 2

DAY
DATE
TIME

2

PROJECT NO: 3050-04-81	HWY: STH 19	COUNTY: JEFFERSON	PLAN DETAILS - DETOUR ROUTE	SHEET 24	E

FILE NAME : N:\PDS\C3D\30500401\SHEETSPLAN\027001-DT.DWG
LAYOUT NAME - DETOUR OVERVIEW
PLOT DATE : 11/6/2023 10:44 AM
PLOT BY : HERRERA BAUTISTA, PE
PLOT NAME :
PLOT SCALE : Custom
WISDOT/CADDS SHEET 42

2

COUNTY ROAD K

STH 26

STH 26

STH 26

WSO RAILROAD

GYPSY ROAD

STH 26

TYPE 3 BARRICADE
WITH SIGN

LEGEND

M4-8 24"X12" DETOUR
M3-2 24"X12" EAST
M1-6 24"X24" 19
1

M3-4 24"X12" EAST
M1-6 24"X24" 19
2

M4-8A 24"X12" END DETOUR
M3-4 24"X12" WEST
M1-6 24"X24" 19
3

MO6-1 21"X21"
A

MO5-1R 21"X21"
B

MO5-1L 21"X21"
C

MO6-2 21"X21"
D

MO6-2 21"X21"
E

BRIDGE OUT
2 1/4 MILES AHEAD
R11-3C
60"X24"
5

DETOUR AHEAD
W20-2A
4

COVERING SIGNS

SOUTH 26 / EAST 19 / WEST 19

EAST 19

NORTH 26 / WEST 19

NORTH 26

EXIT 43
Watertown

PROJECT NO: 3050-04-81	HWY: STH 19	COUNTY: JEFFERSON	PLAN DETAILS - DETOUR DETAIL 1	SHEET 25	E

FILE NAME : N:\PDS\C3D\30500401\SHEETSPLAN\027002-DT.DWG
LAYOUT NAME - Detail 1

PLOT DATE : 11/2/2023 2:46 PM PLOT BY : HERRERA BAUTISTA, PE PLOT NAME : PLOT SCALE : 1 IN:400 FT

SIZE 3 SIGNS

M4-8 36"X18" / M3-2 36"X18" / M1-6 36"X36" — DETOUR EAST 19 — 1

M4-8 36"X18" / M3-4 36"X18" / M1-6 36"X36" — DETOUR WEST 19 — 2

MO5-2R 30"X30" — A

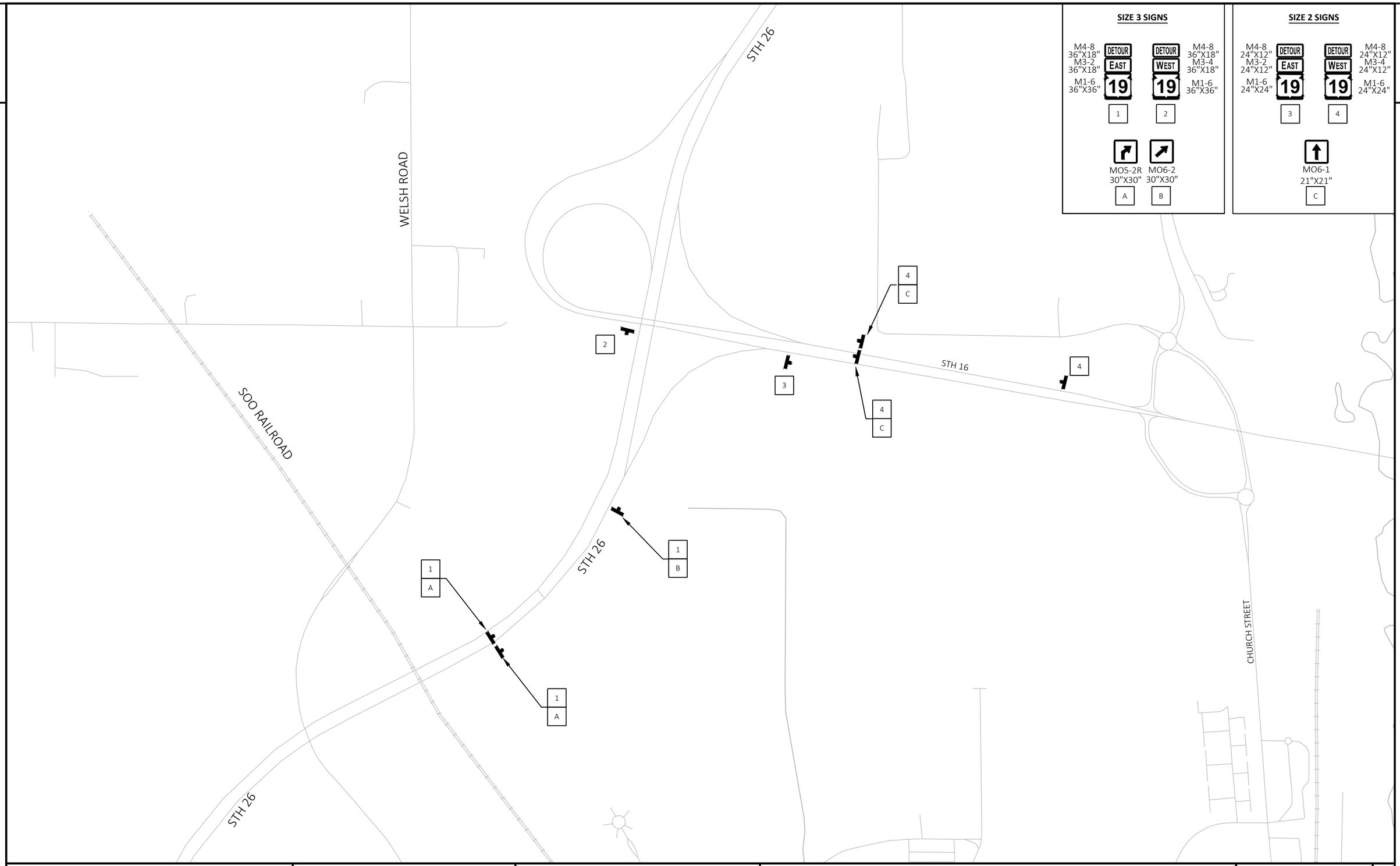
MO6-2 30"X30" — B

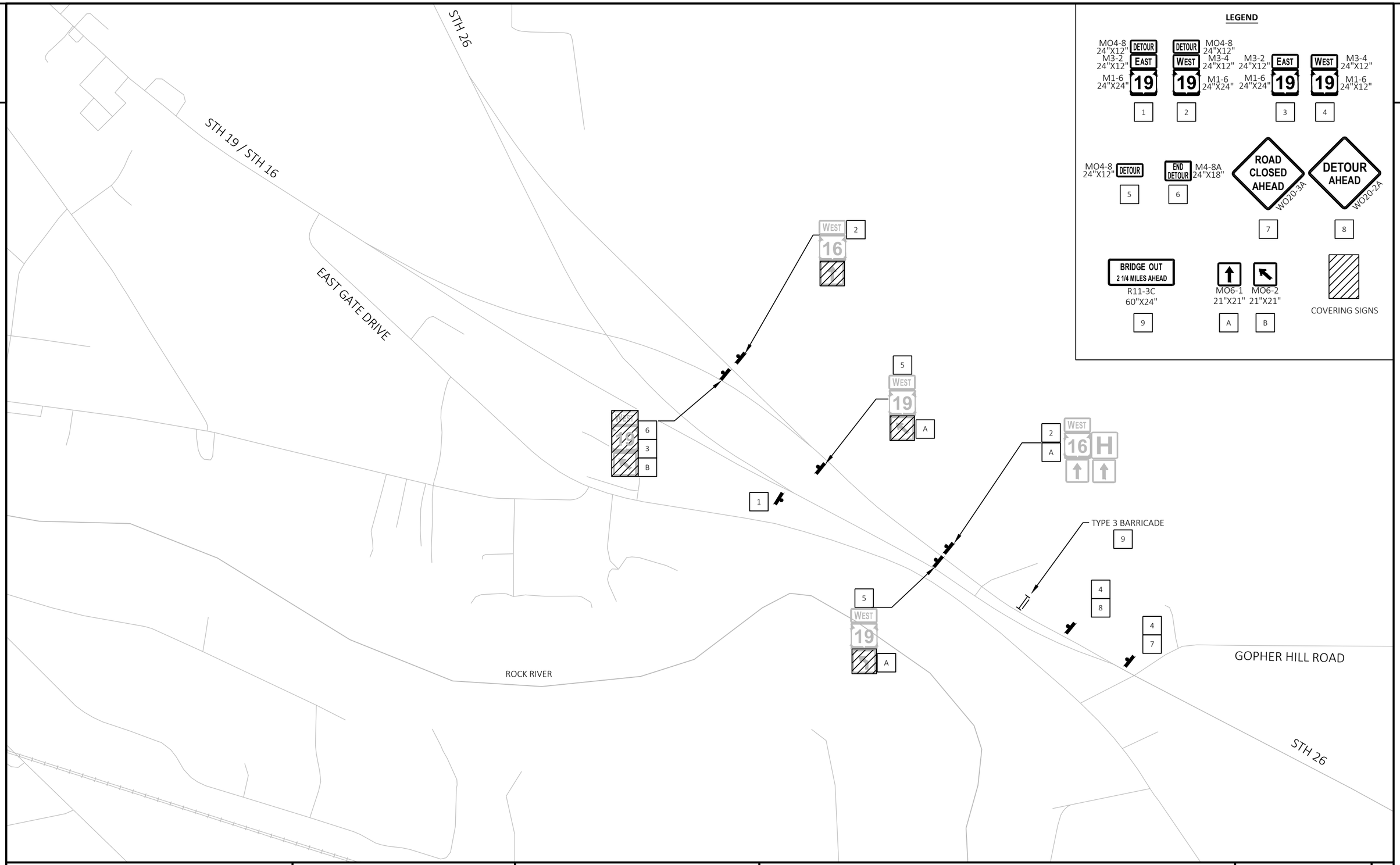
SIZE 2 SIGNS

M4-8 24"X12" / M3-2 24"X12" / M1-6 24"X24" — DETOUR EAST 19 — 3

M4-8 24"X12" / M3-4 24"X12" / M1-6 24"X24" — DETOUR WEST 19 — 4

MO6-1 21"X21" — C




STH 26
STH 19 / STH 16
EAST GATE DRIVE
ROCK RIVER
GOPHER HILL ROAD
STH 26
WEST 16
WEST 19
WEST 19
WEST 16 H
TYPE 3 BARRICADE
LEGEND
MO4-8 24"X12"
DETOUR
M3-2 24"X12"
EAST
M1-6 24"X24"
19
1
DETOUR
WEST
M3-4 24"X12"
M1-6 24"X24"
2
M3-2 24"X12"
EAST
M1-6 24"X24"
3
WEST
M3-4 24"X12"
M1-6 24"X12"
4
MO4-8 24"X12"
DETOUR
5
END DETOUR
M4-8A 24"X18"
6
ROAD CLOSED AHEAD
WO20-3A
7
DETOUR AHEAD
WO20-2A
8
BRIDGE OUT
2 1/4 MILES AHEAD
R11-3C
60"X24"
9
MO6-1 21"X21"
A
MO6-2 21"X21"
B
COVERING SIGNS

2

LEGEND

MO4-8 24"X12" — DETOUR / EAST / M3-2 24"X12" / M1-6 24"X24" 19 — 1

MO6-1 21"X21" — A

MO6-2 21"X21" — B

MO6-2 30"X30" — C

STH 16

AMERICAN STREET

COUNTY ROAD F

EAST 16 / AMERICAN ST / SOUTH COUNTY F — 1, A

1

1, C

1, B

1, B

1, B

PROJECT NO: 3050-04-81	HWY: STH 19	COUNTY: JEFFERSON	PLAN DETAILS - DETOUR DETAIL 4	SHEET 28	E

FILE NAME : N:\PDS\C3D\30500401\SHEETSPLAN\027002-DT.DWG
LAYOUT NAME - Detail 4

PLOT DATE : 11/2/2023 2:46 PM PLOT BY : HERRERA BAUTISTA, PE PLOT NAME : PLOT SCALE : Custom

2

2

N

DETOUR
MO4-9BR
30"X24"

DETOUR
MO4-9BL
30"X24"

DETOUR
MO4-9BL
30"X24"

DETOUR
MO4-9BR
30"X24"

DETOUR
MO4-9RA
30"X24"

DETOUR
MO4-9RA
30"X24"

DETOUR
MO4-9BL
30"X24"

SIDEWALK CLOSED
R9-9
24"X12"

DETOUR
MO4-9BR
30"X24"

SIDEWALK CLOSED AHEAD
R9-9A
30"X18"

DETOUR
MO4-9BL
30"X24"

SIDEWALK CLOSED
R9-9
24"X12"

DETOUR
MO4-9BR
30"X24"

SIDEWALK CLOSED AHEAD
R9-9A
30"X18"

DETOUR
MO4-9BR
30"X24"

DETOUR
MO4-9BL
30"X24"

PROJECT LOCATION

TEMPORARY CURB RAMP

CADY STREET

O'CONNELL STREET

STH 19 / MAIN STREET

JONES STREET

MADISON STREET

MARKET STREET

CHURCH STREET

WASHINGTON STREET

WATER STREET

1ST STREET

2ND STREET

3RD STREET

4TH STREET

5TH STREET

N Water St

W Cady St

Cole St

N 4th St

N 5th St

N Church St

N Washington St

S Washington St

S Church St

N 1st St

N 2nd St

N 3rd St

E Cady St

E Madison St

E Main St

Jones St

Market St

Emmet St

O'Connell St

W Main St

S 3rd St

S 4th St

S 5th St

Rock River

LEGEND

TRAFFIC CONTROL SIGN ON PERMANENT SUPPORT

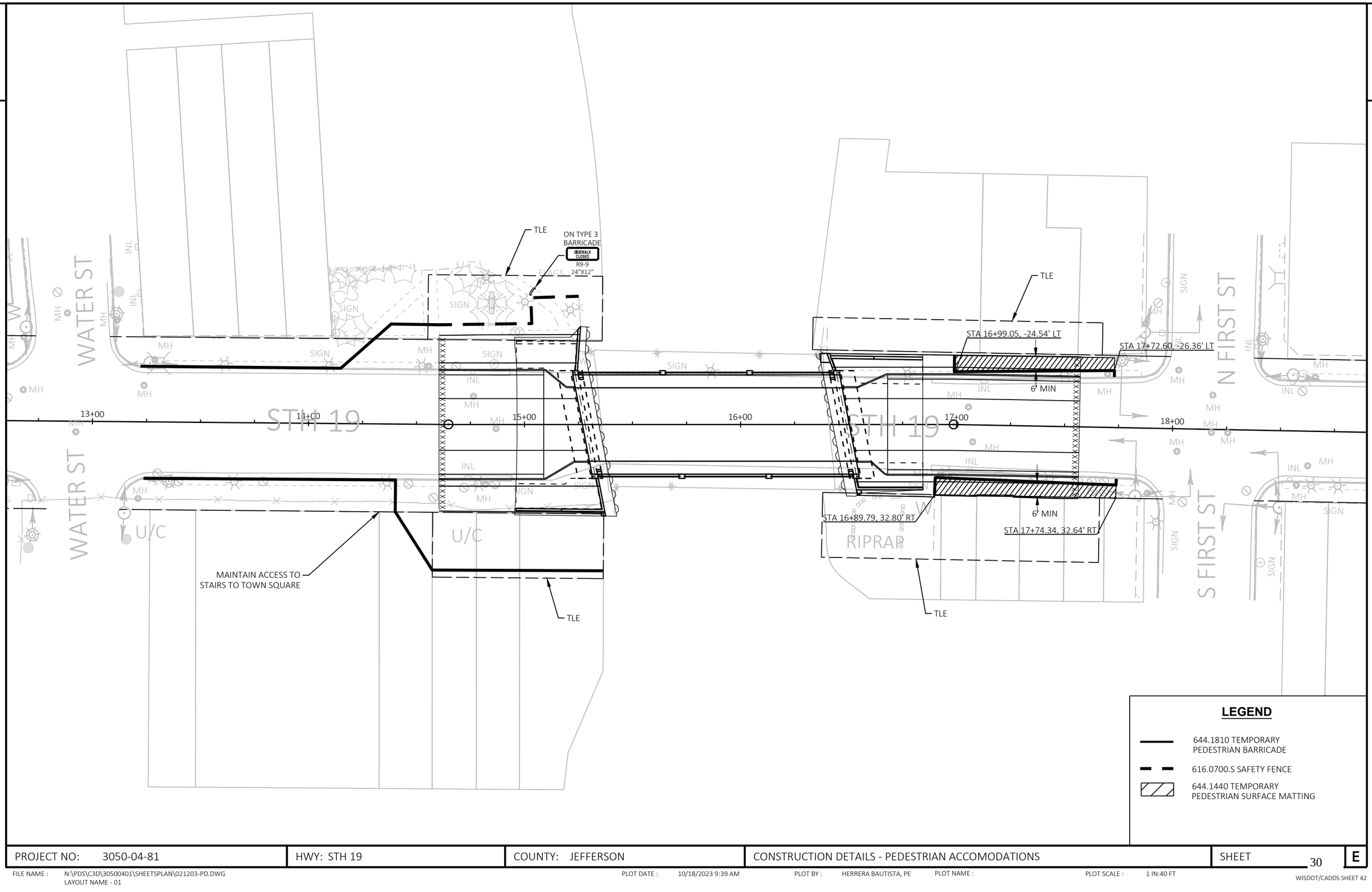
PROJECT NO: 3050-04-81	HWY: STH 19	COUNTY: JEFFERSON	PLAN DETAILS - PEDESTRIAN DETOUR	SHEET 29	E

FILE NAME : N:\PDS\C3D\30500401\SHEETSPLAN\027003-DT.DWG
LAYOUT NAME - 027002-dt

PLOT DATE : 10/26/2023 11:06 AM PLOT BY : HERRERA BAUTISTA, PE PLOT NAME : PLOT SCALE : Custom

WISDOT/CADDS SHEET 42

2



PROJECT NO: 3050-04-81	HWY: STH 19	COUNTY: JEFFERSON	CONSTRUCTION DETAILS - PEDESTRIAN ACCOMODATIONS	SHEET 30	E

FILE NAME : N:\PDS\C3D\30500401\SHEETSPLAN\021203-PD.DWG
LAYOUT NAME - 01

PLOT DATE : 10/18/2023 9:39 AM PLOT BY : HERRERA BAUTISTA, PE PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

N

BEGIN PROJECT
STA 14+60

13+00

S81° 28' 01"E
1464.77'

14+00

PI: 14+64.77

15+00

S81° 58' 32"E
233.84'

16+00

PI: 16+98.61

17+00

END PROJECT
STA 17+57

18+00

S80° 54' 13"E
2251.53'

N = 627663.746
E = 877223.473

N = 627664.454
E = 877218.754

N = 627631.102
E = 877455.026

N = 627621.871
E = 877512.677

PROJECT NO: 3050-04-81	HWY: STH 19	COUNTY: JEFFERSON	ALIGNMENT DETAILS	SHEET 31	E

Estimate Of Quantities

3050-04-81

Line	Item	Item Description	Unit	Total	Qty
0002	203.0250	Removing Structure Over Waterway Remove Debris (structure) 01. B-28-906	EACH	1.000	1.000
0004	204.0100	Removing Concrete Pavement	SY	1,000.000	1,000.000
0006	204.0110	Removing Asphaltic Surface	SY	720.000	720.000
0008	204.0155	Removing Concrete Sidewalk	SY	561.000	561.000
0010	204.0195	Removing Concrete Bases	EACH	5.000	5.000
0012	204.0210	Removing Manholes	EACH	2.000	2.000
0014	204.0220	Removing Inlets	EACH	4.000	4.000
0016	204.0231	Removing Building (station) 01. 16+75	EACH	1.000	1.000
0018	204.0245	Removing Storm Sewer (size) 01. 36-INCH	LF	113.000	113.000
0020	204.0245	Removing Storm Sewer (size) 02. 12-INCH	LF	41.000	41.000
0022	204.0245	Removing Storm Sewer (size) 03. 24-INCH	LF	51.000	51.000
0024	204.0245	Removing Storm Sewer (size) 04. 15-INCH	LF	37.000	37.000
0026	205.0100	Excavation Common	CY	1,366.000	1,366.000
0028	206.1001	Excavation for Structures Bridges (structure) 01. B-28-193	EACH	1.000	1.000
0030	206.1050.S	Underwater Foundation Inspection (location) 01. East Abutment	EACH	1.000	1.000
0032	206.1050.S	Underwater Foundation Inspection (location) 02. West Abutment	EACH	1.000	1.000
0034	206.5001	Cofferdams (structure) 01. B-28-193	EACH	2.000	2.000
0036	210.1500	Backfill Structure Type A	TON	3,814.000	3,814.000
0038	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 3050-04-81	EACH	1.000	1.000
0040	213.0100	Finishing Roadway (project) 01. 3050-04-81	EACH	1.000	1.000
0042	305.0110	Base Aggregate Dense 3/4-Inch	TON	176.000	176.000
0044	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	605.000	605.000
0046	312.0110	Select Crushed Material	TON	827.000	827.000
0048	415.0410	Concrete Pavement Approach Slab	SY	95.000	95.000
0050	450.4000	HMA Cold Weather Paving	TON	245.000	245.000
0052	455.0605	Tack Coat	GAL	125.000	125.000
0054	465.0105	Asphaltic Surface	TON	245.000	245.000
0056	465.0125	Asphaltic Surface Temporary	TON	245.000	245.000
0058	502.0100	Concrete Masonry Bridges	CY	552.000	552.000
0060	502.1100	Concrete Masonry Seal	CY	1,510.000	1,510.000
0062	502.3200	Protective Surface Treatment	SY	702.000	702.000
0064	502.3210	Pigmented Surface Sealer	SY	125.000	125.000
0066	502.9000.S	Underwater Substructure Inspection (structure) 01. B-28-193	EACH	1.000	1.000
0068	503.0155	Prestressed Girder Type I 54W-Inch	LF	854.000	854.000
0070	504.0500	Concrete Masonry Retaining Walls	CY	439.000	439.000
0072	505.0400	Bar Steel Reinforcement HS Structures	LB	25,600.000	25,600.000
0074	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	95,780.000	95,780.000
0076	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	18.000	18.000
0078	506.4000	Steel Diaphragms (structure) 01. B-28-193	EACH	16.000	16.000
0080	511.2200	Temporary Shoring Left in Place (structure) 01. B-28-193	SF	360.000	360.000
0082	513.8011	Railing Steel Pedestrian Type C2	LF	126.000	126.000
0084	516.0500	Rubberized Membrane Waterproofing	SY	74.000	74.000
0086	531.8990	Anchor Assemblies Poles on Structures	EACH	6.000	6.000
0088	601.0110	Concrete Curb Type D	LF	79.000	79.000
0090	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	276.000	276.000
0092	602.0410	Concrete Sidewalk 5-Inch	SF	4,476.000	4,476.000
0094	606.0300	Riprap Heavy	CY	110.000	110.000
0096	608.0330	Storm Sewer Pipe Reinforced Concrete Class III 30-Inch	LF	23.000	23.000
0098	608.0342	Storm Sewer Pipe Reinforced Concrete Class III 42-Inch	LF	51.000	51.000
0100	608.3612	Storm Sewer Pipe Class III-B 12-Inch	LF	82.000	82.000

3050-04-81

Line	Item	Item Description	Unit	Total	Qty
0102	608.3615	Storm Sewer Pipe Class III-B 15-Inch	LF	49.000	49.000
0104	608.3624	Storm Sewer Pipe Class III-B 24-Inch	LF	38.000	38.000
0106	608.3636	Storm Sewer Pipe Class III-B 36-Inch	LF	24.000	24.000
0108	611.0535	Manhole Covers Type J-Special	EACH	2.000	2.000
0110	611.0624	Inlet Covers Type H	EACH	4.000	4.000
0112	611.0639	Inlet Covers Type H-S	EACH	2.000	2.000
0114	611.1230	Catch Basins 2x3-FT	EACH	6.000	6.000
0116	611.2005	Manholes 5-FT Diameter	EACH	1.000	1.000
0118	611.2006	Manholes 6-FT Diameter	EACH	1.000	1.000
0120	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	382.000	382.000
0122	616.0700.S	Fence Safety	LF	77.000	77.000
0124	618.0100	Maintenance and Repair of Haul Roads (project) 01. 3050-04-81	EACH	1.000	1.000
0126	619.1000	Mobilization	EACH	1.000	1.000
0128	624.0100	Water	MGAL	29.000	29.000
0130	625.0100	Topsoil	SY	28.000	28.000
0132	627.0200	Mulching	SY	28.000	28.000
0134	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0136	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0138	628.7005	Inlet Protection Type A	EACH	6.000	6.000
0140	628.7015	Inlet Protection Type C	EACH	13.000	13.000
0142	629.0210	Fertilizer Type B	CWT	3.000	3.000
0144	630.0140	Seeding Mixture No. 40	LB	3.000	3.000
0146	630.0500	Seed Water	MGAL	1.000	1.000
0148	638.2102	Moving Signs Type II	EACH	2.000	2.000
0150	642.5001	Field Office Type B	EACH	1.000	1.000
0152	643.0420	Traffic Control Barricades Type III	DAY	3,105.000	3,105.000
0154	643.0705	Traffic Control Warning Lights Type A	DAY	6,210.000	6,210.000
0156	643.0900	Traffic Control Signs	DAY	46,161.000	46,161.000
0158	643.0910	Traffic Control Covering Signs Type I	EACH	2.000	2.000
0160	643.0920	Traffic Control Covering Signs Type II	EACH	8.000	8.000
0162	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0164	643.3165	Temporary Marking Line Paint 6-Inch	LF	1,086.000	1,086.000
0166	643.5000	Traffic Control	EACH	1.000	1.000
0168	644.1440	Temporary Pedestrian Surface Matting	SF	1,098.000	1,098.000
0170	644.1810	Temporary Pedestrian Barricade	LF	569.000	569.000
0172	645.0120	Geotextile Type HR	SY	180.000	180.000
0174	646.2020	Marking Line Epoxy 6-Inch	LF	594.000	594.000
0176	646.6466	Cold Weather Marking Epoxy 6-Inch	LF	1,086.000	1,086.000
0178	646.8120	Marking Curb Epoxy	LF	332.000	332.000
0180	646.8320	Marking Parking Stall Epoxy	LF	160.000	160.000
0182	650.4000	Construction Staking Storm Sewer	EACH	8.000	8.000
0184	650.4500	Construction Staking Subgrade	LF	138.000	138.000
0186	650.5000	Construction Staking Base	LF	138.000	138.000
0188	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	367.000	367.000
0190	650.6501	Construction Staking Structure Layout (structure) 01. B-28-193	EACH	1.000	1.000
0192	650.6501	Construction Staking Structure Layout (structure) 02. R-28-0054	EACH	1.000	1.000
0194	650.6501	Construction Staking Structure Layout (structure) 03. R-28-0056	EACH	1.000	1.000
0196	650.6501	Construction Staking Structure Layout (structure) 04. R-28-0057	EACH	1.000	1.000
0198	650.6501	Construction Staking Structure Layout (structure) 05. R-28-0059	EACH	1.000	1.000
0200	650.9911	Construction Staking Supplemental Control (project) 01. 3050-04-81	EACH	1.000	1.000

Estimate Of Quantities

3050-04-81

Line	Item	Item Description	Unit	Total	Qty
0202	652.0125	Conduit Rigid Metallic 2-Inch	LF	98.000	98.000
0204	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	601.000	601.000
0206	652.0235	Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	972.000	972.000
0208	652.0700.S	Install Conduit into Existing Item	EACH	2.000	2.000
0210	653.0154	Pull Boxes Non-Conductive 24x36-Inch	EACH	4.000	4.000
0212	653.0222	Junction Boxes 18x12x6-Inch	EACH	10.000	10.000
0214	653.0900	Adjusting Pull Boxes	EACH	2.000	2.000
0216	654.0105	Concrete Bases Type 5	EACH	5.000	5.000
0218	655.0615	Electrical Wire Lighting 10 AWG	LF	1,140.000	1,140.000
0220	655.0630	Electrical Wire Lighting 4 AWG	LF	4,945.000	4,945.000
0222	690.0250	Sawing Concrete	LF	148.000	148.000
0224	715.0502	Incentive Strength Concrete Structures	DOL	3,300.000	3,300.000
0226	715.0720	Incentive Compressive Strength Concrete Pavement	DOL	500.000	500.000
0228	999.1001.S	Seismograph	EACH	1.000	1.000
0230	999.1501.S	Crack and Damage Survey	EACH	9.000	9.000
0232	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	600.000	600.000
0234	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	500.000	500.000
0236	SPV.0060	Special 01. Decorative Bridge Lighting Assembly	EACH	6.000	6.000
0238	SPV.0060	Special 02. Salvage And Reinstall Roadway Lighting Assembly	EACH	1.000	1.000
0240	SPV.0060	Special 03. Salvage And Reinstall Pedestrian Lighting Assembly	EACH	4.000	4.000
0242	SPV.0060	Special 04. Remove And Salvage Bridge Lighting System	EACH	1.000	1.000
0244	SPV.0060	Special 05. Connect To Existing Storm Sewer	EACH	2.000	2.000
0246	SPV.0060	Special 06. Adjusting Water Valve Boxes	EACH	7.000	7.000
0248	SPV.0060	Special 07. Adjusting Sanitary Manhole Covers	EACH	3.000	3.000
0250	SPV.0060	Special 08. Research And Locate Existing Land Parcel Monuments	EACH	9.000	9.000
0252	SPV.0060	Special 09. Verify And Replace Existing Land Parcel Monuments	EACH	9.000	9.000
0254	SPV.0060	Special 10. Precast Concrete Rib Arch	EACH	2.000	2.000
0256	SPV.0060	Special 11. By-Pass Storm Sewer	EACH	2.000	2.000
0258	SPV.0060	Special 12. Temporary Lighting System	EACH	1.000	1.000
0260	SPV.0090	Special 01. Pipe Underdrain 6-INCH With Geotextile Fabric And Aggregate	LF	294.000	294.000
0262	SPV.0090	Special 02. Parapet Concrete Type 'TX'	LF	248.000	248.000
0264	SPV.0090	Special 03. Prestressed Girder Type Special 54-INCH	LF	244.000	244.000
0266	SPV.0195	Special 01. Excavation, Hauling, And Disposal Of Contaminated Soil	TON	332.000	332.000
0268	SPV.0195	Special 02. Roadway Embankment	TON	2,470.000	2,470.000

REMOVALS

CATEGORY	STATION	TO	STATION	LOCATION	204.0100 REMOVING CONCRETE PAVEMENT SY	204.0110 REMOVING ASPHALTIC SURFACE SY	204.0155 REMOVING CONCRETE SIDEWALK SY	204.0210 REMOVING MANHOLES EACH	204.0220 REMOVING INLETS EACH	204.0245.01 REMOVING STORM SEWER (SIZE) (36-INCH) LF	204.0245.02 REMOVING STORM SEWER (SIZE) (12-INCH) LF	204.0245.03 REMOVING STORM SEWER (SIZE) (24-INCH) LF	204.0245.04 REMOVING STORM SEWER (SIZE) (15-INCH) LF	REMARKS
0010	14+60	-	15+33	LT	-		141	-	-	-	-	-	-	
0010	14+60	-	15+42	RT	-		142	-	-	-	-	-	-	
0010	16+39	-	17+57	LT	-		136	-	-	-	-	-	-	
0010	16+43	-	17+57	RT	-		142	-	-	-	-	-	-	
0010	14+60	-	15+38	WEST APPROACH	417	-	-	-	-	-	-	-	-	
0010	16+38	-	17+57	EAST APPROACH	583	-	-	-	-	-	-	-	-	
0010	14+76	-		LT	-	-	-	-	1	-	-	-	-	
0010	14+73	-		RT	-	-	-	-	1	-	-	-	-	
0010	17+12	-		LT	-	-	-	-	1	-	-	-	-	
0010	17+06	-		RT	-	-	-	-	1	-	-	-	-	
0010	14+76	-		LT	-	-	-	1	-	-	-	-	-	
0010	16+97	-		CENTERLINE	-	-	-	1	-	-	-	-	-	
0010	14+76	-		LATERAL - LT	-	-	-	-	-	-	-	-	7	
0010	14+73	-	15+06	RT	-	-	-	-	-	-	-	-	30	INLET TO ABUTMENT FACE
0010	14+76	-	15+14	LT	-	-	-	-	-	-	-	35	-	INLET TO ABUTMENT FACE
0010	14+60	-	14+76	LT	-	-	-	-	-	-	-	16	-	BEGIN PROJECT TO INLET
0010	16+44	-	17+57	RT	-	-	-	-	-	113	-	-	-	
0010	16+88	-	17+12	LT	-	-	-	-	-	-	23	-	-	INLET TO ABUTMENT FACE
0010	16+88	-	17+06	RT	-	-	-	-	-	-	18	-	-	INLET TO ABUTMENT FACE
0010	14+60	-	15+09	WEST APPROACH	-	129	-	-	-	-	-	-	-	MAINLINE
0010	16+68	-	17+57	EAST APPROACH	-	237	-	-	-	-	-	-	-	MAINLINE
0010	14+60	-	15+90	LT	-	72	-	-	-	-	-	-	-	PARKING
0010	14+61	-	15+09	RT	-	77	-	-	-	-	-	-	-	PARKING
0010	16+68	-	17+57	LT	-	105	-	-	-	-	-	-	-	PARKING
0010	16+68	-	17+57	RT	-	100	-	-	-		-	-	-	PARKING
				TOTAL 0010	1,000	720	561	2	4	113	41	51	37	

MOVING SIGNS

CATEGORY	STATION	LOCATION	638.2102 MOVING SIGNS TYPE II EACH	REMARKS
0010	14+78	RT	1	ATTACH TO LIGHT POLE
0010	16+95	RT	1	ATTACH TO LIGHT POLE
		TOTAL 0010	2	

BASE AGGREGATE

CATEGORY	STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	312.0110 SELECT CRUSHED MATERIAL TON	624.0100 WATER MGAL	REMARKS
0010	14+60	-	15+25	LT	42	-	-	1	SIDEWALK
0010	14+60	-	15+37	RT	49	-	-	1	SIDEWALK
0010	16+40	-	17+57	LT	44	-	-	1	SIDEWALK
0010	16+53	-	17+57	RT	41	-	-	1	SIDEWALK
0010	14+60	-	15+24	LT	-	22	28	1	CURB & GUTTER
0010	14+60	-	15+09		-	86	109	3	MAINLINE
0010	14+60	-	15+31	RT	-	24	31	1	CURB & GUTTER
0010	15+09	-	15+30		-	24	60	2	CONCRETE APPROACH
0010	16+47	-	17+57	LT	-	38	48	2	CURB & GUTTER
0010	16+47	-	16+68		-	22	56	2	CONCRETE APPROACH
0010	16+53	-	17+57	RT	-	35	44	2	CURB & GUTTER
0010	16+68	-	17+57		-	158	201	6	MAINLINE
				TOTAL 0010	176	409	577	19	
0070	14+60	-	15+09	LT	-	39	50	2	PARKING LANE
0070	14+60	-	15+09	RT	-	39	50	2	PARKING LANE
0070	16+68	-	17+57	LT	-	59	75	3	PARKING LANE
0070	16+68	-	17+57	RT	-	59	75	3	PARKING LANE
				TOTAL 0070	0	196	250	10	
				PROJECT TOTAL	176	605	827	29	

CONCRETE ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY	601.0110 CONCRETE CURB TYPE D LF	601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D LF	602.0410 CONCRETE SIDEWALK 5-INCH SF	690.0250 SAWING CONCRETE LF	REMARKS
0010	15+09	-	15+29	WEST	48	-	-	-	-	
0010	16+48	-	16+68	EAST	47	-	-	-	-	
0010	14+60	-	15+09	LT	-	-	49	-	-	WEST END
0010	14+60	-	15+09	RT	-	-	49	-	-	WEST END
0010	16+68	-	17+57	LT	-	-	89	-	-	EAST END
0010	16+68	-	17+57	RT	-	-	89	-	-	EAST END
0010	14+60	-	15+25	LT	-	-	-	1,079	-	WEST END
0010	14+60	-	15+37	RT	-	-	-	1,249	-	WEST END
0010	16+40	-	17+57	LT	-	-	-	1,115	-	EAST END
0010	16+53	-	17+57	RT	-	-	-	1,033	-	EAST END
0010	15+09	-	15+24	LT	-	17	-	-	-	WEST END
0010	15+09	-	15+30	RT	-	23	-	-	-	WEST END
0010	16+47	-	16+68	LT	-	22	-	-	-	EAST END
0010	16+54	-	16+68	RT	-	17	-	-	-	EAST END
0010		-	14+60		-	-	-	-	82	BEGIN PROJECT
0010		-	17+57		-	-	-	-	66	END PROJECT
				TOTAL 0010	95	79	276	4,476	148	

HMA ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	211.0101.01 PREPARE FOUNDATION FOR ASPHALTIC PAVING (PROJECT) (3050-04-81) EACH	450.4000 HMA COLD WEATHER PAVING TON	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON	465.0125 ASPHALTIC SURFACE TEMPORARY TON	REMARKS
0010	14+60	-	15+09	WEST APPROACH	0.5	44	22	44	44	MAINLINE
0010	16+68	-	17+57	EAST APPROACH	0.5	80	41	80	80	MAINLINE
				TOTAL 0010	1	124	63	124	124	
0070	14+60	-	15+90	LT	-	25	13	25	25	PARKING LANE
0070	14+61	-	15+09	RT	-	26	14	26	26	PARKING LANE
0070	16+68	-	17+57	LT	-	36	18	36	36	PARKING LANE
0070	16+68	-	17+57	RT	-	34	17	34	34	PARKING LANE
				TOTAL 0070	0	121	62	121	121	
				PROJECT TOTAL	1	245	125	245	245	

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PAVEMENT MARKING

CATEGORY	STATION	TO	STATION	LOCATION	643.3165 TEMPORARY MARKING LINE PAINT 6-INCH LF	646.2020 MARKING LINE EPOXY 6-INCH LF	646.6466 COLD WEATHER MARKING EPOXY 6-INCH LF	646.8120 MARKING CURB EPOXY LF	646.8320 MARKING PARKING STALL EPOXY LF	REMARKS
0010	14+60	-	17+57	CENTER LINE	594	594	594	-	-	DOUBLE YELLOW
0010	15+07	-	16+70	LT	167	-	167	167	-	YELLOW
0010	15+09	-	16+69	RT	165	-	165	165	-	YELLOW
0010		-	14+65	LT	12	-	12	-	12	WHITE
0010		-	14+66	RT	12	-	12	-	12	WHITE
0010		-	14+86	LT	12	-	12	-	12	WHITE
0010		-	14+87	RT	12	-	12	-	12	WHITE
0010		-	15+08	LT	12	-	12	-	12	WHITE
0010		-	15+09	RT	12	-	12	-	12	WHITE
0010		-	16+69	RT	11	-	11	-	11	WHITE
0010		-	16+70	LT	11	-	11	-	11	WHITE
0010		-	16+90	RT	11	-	11	-	11	WHITE
0010		-	16+95	LT	11	-	11	-	11	WHITE
0010		-	17+14	RT	11	-	11	-	11	WHITE
0010		-	17+20	LT	11	-	11	-	11	WHITE
0010		-	17+37	RT	11	-	11	-	11	WHITE
0010		-	17+45	LT	11	-	11	-	11	WHITE
				TOTAL 0010	1,086	594	1,086	332	160	

CONSTRUCTION STAKING SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	650.4000 CONSTRUCTION STAKING STORM SEWER EACH	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF	650.9911.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (PROJECT 3050-04-81) EACH	REMARKS
0010		-	15+07	24.5 FT, LT	1	-	-	-	-	INLET 9
0010		-	15+06	13.4 FT, LT	1	-	-	-	-	MANHOLE 3
0010		-	15+07	24.5 FT, RT	1	-	-	-	-	INLET 10
0010		-	16+90	22.5 FT, LT	1	-	-	-	-	INLET 6
0010		-	17+06	22.5 FT, LT	1	-	-	-	-	INLET 5
0010		-	16+97	2.7 FT, RT	1	-	-	-	-	MANHOLE 2
0010		-	17+06	22.5 FT, RT	1	-	-	-	-	INLET 7
0010		-	17+22	22.5 FT, RT	1	-	-	-	-	INLET 8
0010	14+60	-	15+09	MAINLINE	-	49	49	-	-	WEST END
0010	16+68	-	17+57	MAINLINE	-	89	89	-	-	EAST END
0010	14+60	-	15+27	LT	-	-	-	69	-	
0010	14+61	-	15+33	RT	-	-	-	75	-	
0010	16+44	-	17+57	LT	-	-	-	114	-	
0010	16+50	-	17+57	RT	-	-	-	109	-	
0010	14+60	-	17+57	PROJECT	-	-	-	-	1	
				TOTAL 0010	8	138	138	367	1	

EROSION CONTROL

CATEGORY	STATION	TO	STATION	LOCATION	625.0100 TOPSOIL SY	627.0200 MULCHING SY	628.7005 INLET PROTECTION TYPE A EACH	628.7015 INLET PROTECTION TYPE C EACH	629.0210 FERTILIZER TYPE B CWT	630.0140 SEEDING MIXTURE NO. 40 LB	630.0500 SEED WATER MGAL	REMARKS
0010		-	14+76	24.3 FT, LT	-	-	-	1	-	-	-	EXISTING INLET
0010		-	14+74	24.7 FT, RT	-	-	-	1	-	-	-	EXISTING INLET
0010		-	15+07	24.4 FT, LT	-	-	1	1	-	-	-	NEW INLET
0010		-	15+07	24.7 FT, RT	-	-	1	1	-	-	-	NEW INLET
0010		-	16+90	22.3 FT, LT	-	-	1	2	-	-	-	EXISTING AND NEW INLET
0010		-	17+06	22.3 FT, RT	-	-	1	2	-	-	-	EXISTING AND NEW INLET
0010		-	17+06	22.5 FT, LT	-	-	1	2	-	-	-	NEW INLET
0010		-	17+12	20.3 FT, LT	-	-	-	1	-	-	-	EXISTING INLET
0010		-	17+22	21.9 FT, RT	-	-	1	2	-	-	-	NEW INLET
0010	14+60	-	14+81	LT	11	11	-	-	1	1	0.23	
0010	14+90	-	15+17	LT	14	14	-	-	1	1	0.30	
0010	15+20	-	15+26	LT	3	3	-	-	1	1	0.05	
				TOTAL 0010	28	28	6	13	3	3	1	

TRAFFIC CONTROL

CATEGORY	LOCATION	BARRICADES TYPE III NO. DEVICES	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	WARNING LIGHTS TYPE A NO. DEVICES	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	SIGNS NO. DEVICES	643.0900 TRAFFIC CONTROL SIGNS DAY	643.0910 TRAFFIC CONTROL COVERING SIGNS TYPE I EACH	NO. OF CYCLES	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II EACH	NO. OF CYCLES	PCMS NO. DEVICES	643.1050 TRAFFIC CONTROL SIGNS PCMS DAY	DURATION
0010	TRAFFIC DETOUR	12	2,484	24	4,968	16	3,312	-	-	-	-	-	-	207
0010	PED DETOUR	1.00	207	2	414	24	4,968	-	-	-	-	-	-	207
0010	HWY 19	2	414	4	828	183	37,881	2	1	8	1	-	-	207
0010	PROJECT DETOUR	-	-	-	-	-	-	-	-	-	-	2	14	7
	TOTAL 0010		3,105		6,210		46,161	2		8			14	

TEMPORARY PEDESTRIAN ACCOMMODATIONS

CATEGORY	STATION	TO	STATION	LOCATION	616.0700.S FENCE SAFETY LF	644.1440 TEMPORARY PEDESTRIAN SURFACE MATTING SF	644.1810 TEMPORARY PEDESTRIAN BARRICADE LF
0010	14+60	-	15+25	LT	77	-	-
0010	13+22	-	14+60	LT	-	-	146
0010	13+23	-	15+36	RT	-	-	243
0010	16+90	-	17+74	RT	-	-	95
0010	16+99	-	17+73	LT	-	-	85
0010	16+90	-	17+74	RT	-	599	-
0010	16+99	-	17+73	LT	-	499	-
				TOTAL 0010	77	1,098	569

SPECIAL ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	999.1001.S SEISMOGRAPH EACH	999.1501.S CRACK AND DAMAGE SURVEY EACH	SPV.0060.06 SPECIAL (ADJUSTING WATER VALVE BOXES) EACH	SPV.0060.07 SPECIAL (ADJUSTING SANITARY MANHOLE COVERS) EACH	SPV.0060.08 SPECIAL (RESEARCH AND LOCATE EXISTING LAND PARCEL MONUMENTS) EACH	SPV.0060.09 SPECIAL (VERIFY AND REPLACE EXISTING LAND PARCEL MONUMENTS) EACH	SPV.0060.11 SPECIAL (BY-PASS STORM SEWER) EACH	SPV.0195.01 SPECIAL (EXCAVATION, HAULING, AND DISPOSAL OF CONTAMINATED SOIL) TON	SPV.0195.02 SPECIAL (ROADWAY EMBANKMENT) TON	REMARKS
0010		-	15+36	39 FT, LT	-	-	-	-	1	1	-	-	-	
0010		-	16+33	35 FT, LT	-	-	-	-	1	1	-	-	-	
0010		-	16+93	32 FT, RT	-	-	-	-	1	1	-	-	-	
0010		-	17+10	33 FT, RT	-	-	-	-	1	1	-	-	-	
0010		-	17+10	33 FT, LT	-	-	-	-	1	1	-	-	-	
0010		-	17+30	33 FT, RT	-	-	-	-	1	1	-	-	-	
0010		-	17+50	33 FT, RT	-	-	-	-	1	1	-	-	-	
0010		-	17+55	33 FT, LT	-	-	-	-	1	1	-	-	-	
0010		-	17+69	33 FT, RT	-	-	-	-	1	1	-	-	-	
0010	16+51	-	16+87	SE QUADRANT	-	-	-	-	-	-	-	332	-	SEE PLAN & PROFILE SHEET
0010		-		MAINLINE	-	-	-	-	-	-	1	-	1,433	WEST ABUTMENT
0010		-		MAINLINE	-	-	-	-	-	-	1	-	1,037	EAST ABUTMENT
0010		-		2 E MAIN STREET	1	1	-	-	-	-	-	-	-	MASONIC TEMPLE
0010		-		8 E MAIN STREET	-	1	-	-	-	-	-	-	-	
0010		-		14 E MAIN STREET	-	1	-	-	-	-	-	-	-	
0010		-		1 E MAIN STREET	-	1	-	-	-	-	-	-	-	
0010		-		5 E MAIN STREET	-	1	-	-	-	-	-	-	-	
0010		-		7 E MAIN STREET	-	1	-	-	-	-	-	-	-	
0010		-		9 E MAIN STREET	-	1	-	-	-	-	-	-	-	
0010		-		11 E MAIN STREET	-	1	-	-	-	-	-	-	-	
0010		-		13 E MAIN STREET	-	1	-	-	-	-	-	-	-	
		-		TOTAL 0010	1	9	0	0	9	9	2	332	2,470	
0070		-	14+87	1.9 FT, RT	-	-	-	1	-	-	-	-	-	
0070		-	17+05	8.2 FT, LT	-	-	-	1	-	-	-	-	-	
0070		-	17+07	7.9 FT, RT	-	-	-	1	-	-	-	-	-	
0070		-	14+68	27.2 FT, LT	-	-	1	-	-	-	-	-	-	
0070		-	16+99	25 FT, RT	-	-	2	-	-	-	-	-	-	
0070		-	17+18	24.6 FT, RT	-	-	1	-	-	-	-	-	-	
0070		-	17+23	24.7 FT, LT	-	-	1	-	-	-	-	-	-	
0070		-	17+35	25.3 FT, RT	-	-	1	-	-	-	-	-	-	
0070		-	17+42	24.6 FT, LT	-	-	1	-	-	-	-	-	-	
				TOTAL 0070	0	0	7	3	0	0	0	0	0	
				PROJECT TOTAL	1	9	7	3	9	9	2	332	2470	

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STORM SEWER ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	611.0535 MANHOLE COVERS TYPE J-SPECIAL EACH	611.0624 INLET COVERS TYPE H EACH	611.0639 INLET COVERS TYPE H-S EACH	611.1230 CATCH BASINS 2X3-FT EACH	611.2005 MANHOLES 5-FT DIAMETER EACH	611.2006 MANHOLES 6-FT DIAMETER EACH	SPV.0060.05 SPECIAL (CONNECT TO EXISTING STORM SEWER) EACH	SPV.0090.01 SPECIAL (01. PIPE UNDERDRAIN 6-INCH WITH GEOTEXTILE FABRIC AND AGGREGATE) LF	REMARKS
0010		-	15+07	25 FT, LT	-	1	-	1	-	-	-	-	CATCH BASIN 9
0010		-	15+06	13.4 FT, LT	1	-	-	-	1	-	-	-	MANHOLE 3
0010		-	15+07	25 FT, RT	-	1	-	1	-	-	-	-	CATCH BASIN 10
0010		-	16+90	22.4 FT, LT	-	-	1	1	-	-	-	-	CATCH BASIN 6
0010		-	16+97	3.0 FT, RT	1	-	-	-	-	1	-	-	MANHOLE 2
0010		-	17+06	22.5 FT, LT	-	1	-	1	-	-	-	-	CATCH BASIN 5
0010		-	17+06	22.4 FT, RT	-	-	1	1	-	-	-	-	CATCH BASIN 7
0010		-	17+22	23 FT, RT	-	1	-	1	-	-	-	-	CATCH BASIN 8
0010	14+60	-	15+07	LT	-	-	-	-	-	-	-	47	EXISTING & CATCH BASIN 9
0010	14+60	-	15+07	RT	-	-	-	-	-	-	-	47	EXISTING & CATCH BASIN 10
0010	16+56	-	17+56	RT	-	-	-	-	-	-	-	100	CATCH BASIN 7 & 8
0010	16+63	-	17+63	LT	-	-	-	-	-	-	-	100	CATCH BASIN 6 & 5
0010		-	14+68		-	-	-	-	-	-	1	-	
0010		-	17+21		-	-	-	-	-	-	1	-	
				TOTAL 0010	2	4	2	6	1	1	2	294	

STORM SEWER PIPE

CATEGORY	STATION	TO	STATION	LOCATION	608.0330 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 30-INCH LF	608.0342 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 42-INCH LF	608.3612 STORM SEWER PIPE CLASS III-B 12-INCH LF	608.3615 STORM SEWER PIPE CLASS III-B 15-INCH LF	608.3624 STORM SEWER PIPE CLASS III-B 24-INCH LF	608.3636 STORM SEWER PIPE CLASS III-B 36-INCH LF	REMARKS
0010	15+06	-	15+29	LT	23	-	-	-	-	-	
0010	16+45	-	16+97	RT	-	51	-	-	-	-	
0010		-		WEST LATERAL	-	-	12	-	-	-	CB 9 TO MH 3
0010		-		WEST LATERAL	-	-	38	-	-	-	CB 10 TO MH 3
0010	16+90	-	17+06	22' , LT	-	-	16	-	-	-	CB 6 TO CB 5
0010	17+06	-	17+22	23' , RT	-	-	16	-	-	-	CB 8 TO CB 7
0010		-		EAST LATERAL	-	-	-	27	-	-	CB 5 TO MH 2
0010		-		EAST LATERAL	-	-	-	22	-	-	CB 7 TO MH 2
0010	14+68	-	15+06	LT	-	-	-	-	38	-	
0010	16+97	-	17+21	RT	-	-	-	-	-	24	
				TOTAL 0010	23	51	82	49	38	24	

DIVISION	FROM/TO STATION	LOCATION	205.0100 COMMON EXCAVATION (1) CUT (2)	SALVAGED/UNUSABLE PAVEMENT MATERIAL (4)	AVAILABLE MATERIAL (5)	UNEXPANDED FILL	EXPANDED FILL (13) FACTOR 1.25	MASS ORDINATE +/- (14)	WASTE	208.0100 BORROW	COMMENT
DIVISION 1											
EWRK-19-BRIDGE	14+60.81/17+56.57		1,366	0	1,366	0	0	1,366	1,366	0	
DIVISION 1 SUBTOTAL			1,366	0	1,366	0	0	1,366	1,366	0	
GRAND TOTAL			1,366	0	1,366	0	0	1,366	1,366	0	

NOTES:
(1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
(2) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
(4) SALVAGED/UNUSABLE PAVEMENT MATERIAL
5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSUABLE PAVEMENT MATERIAL
(13) EXPANDED FILL FACTOR = 1.25
DEPENDING ON SELECTIONS: EXPANDED FILL = (UNEXPANDED FILL - EXPANDED ROCK - REDUCED MARSH - REDUCED EBS) * FILL FACTOR
OR EXPANDED FILL = (UNEXPANDED FILL - EXPANDED ROCK) * 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.

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STREET LIGHTING EQUIPMENT

LTG. BASE NO.	** LOCATION	SPV.0060.01 DECORATIVE BRIDGE LIGHTING ASSEMBLY EACH
L-0005	15+33, 24' RT	1
L-0006	15+93, 24' RT	1
L-0007	16+51, 24' RT	1
L-0014	16+41, 24' LT	1
L-0015	15+84, 24' LT	1
L-0016	15+24, 24' LT	1
TOTAL		6

REMOVE AND SALVAGE LIGHTING

NO.	204.0195 REMOVING CONCRETE BASES EACH	SPV.0060.02 SALVAGE AND REINSTALL ROADWAY LIGHTING ASSEMBLY EACH	SPV.0060.03 SALVAGE AND REINSTALL PEDESTRIAN LIGHTING ASSEMBLY EACH
EXL-0004	1	1	
EXL-0008	1		1
EXL-0009	1		1
EXL-0012	1		1
EXL-0013	1		1
	5	1	4

REMOVE AND SALVAGE BRIDGE LIGHTING SYSTEM

** LOCATION	SPV.0060.04 REMOVE AND SALVAGE BRIDGE LIGHTING SYSTEM EACH
MAIN ST. BRIDGE	1
TOTAL	1

3

PULL BOXES

PULL BOX NO.	** LOCATION	653.0154 PULL BOXES NON-CONDUCTIVE 24X36-INCH EACH	653.0222 JUNCTION BOXES 18X12X6-INCH EACH
LPB1	15+24, 33' RT	1	
LPB2	16+64, 24' RT	1	
LPB3	16+56, 21' LT	1	
LPB4	15+12, 32' LT	1	
JB1	15+36, 21' RT		1
JB2	16+50, 21' RT		1
JB3	16+40, 21' LT		1
JB4	15+28, 21' LT		1
	TOTAL	4	4

CONCRETE BASES

LIGHTING BASE NO.	** LOCATION	654.0105 CONCRETE BASES TYPE 5 EACH
L-0004	14+79, 28 RT	1
L-0008	16+96, 25' RT	1
L-0009	17+44, 24' RT	1
L-0012	17+49, 24' LT	1
L-0013	16+77, 23' LT	1
	TOTAL	5

ADJUSTING PULL BOXES

NO.	** LOCATION	653.0900 ADJUSTING PULL BOXES EACH
EXPB2	EXISTING	1
EXPB3	EXISTING	1
	TOTAL	2

LEGEND

** FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

STH 19 BRIDGE LIGHTING

PAGE 1 OF 2

LIGHTING CONDUIT & ELECTRICAL WIRE

LOC.	TO	LOC.	LINEAR DISTANCE	NUMBER OF CONDUITS	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH L.F.	652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH L.F.	IN CONDUIT RUN WIRE SLACK LF	IN CONDUIT RUN NUMBER OF WIRES (INCLUDING GROUND WIRE)	IN LIGHT POLE LENGTH OF WIRE IN POLE	IN LIGHT POLE NUMBER OF WIRES (INCLUDING GROUND WIRE)	IN LIGHT POLE NUMBER OF FESTOON RECEPTACLE WIRES (INCLUDING GROUND WIRE)	655.0615 ELECTRICAL WIRE LIGHTING 10 AWG L.F.	655.0630 ELECTRICAL WIRE LIGHTING 4 AWG L.F.
L-0003		EXPB2	22	1	-	22	-	-				-	-
L-0003		L-0004	43	1	-	18	6	10	17	3	3	102	490
L-0004		EXPB2	4	1	-	4	18	10				-	220
EXPB2		LPB1	43	2	-	86	30	10				-	730
LPB1		LPB4	67	2	-	134	30	5				-	485
LPB1		JB1	13	2	26	-	-	-				-	-
LPB1		L-0005	15	2	-	30	18	5	14	3	3	84	165
L-0005		L-0006	59	-	-	-	6	5	14	3	3	84	325
L-0006		L-0007	57	-	-	-	6	5	14	3	3	84	315
L-0007		LPB2	14	2	-	28	-	-				-	-
LPB2		LPB3	46	2	-	92	-	-				-	-
LPB2		JB2	10	2	20	-	-	-				-	-
LPB2		EXPB3	29	2	-	58	-	-				-	-
EXPB3		L-0010	67	1	-	67	-	-				-	-
EXPB3		L-0008	4	1	-	4	-	-	38	3	3	228	-
L-0008		L-0009	48	1	-	48	6	5	17	3	3	102	270
L-0009		L-0010	62	1	-	14	6	5				-	340
L-0011		EXPB4	11	-	-	-	18	5				-	145
EXPB4		LPB3	102	1	-	102	-	-				-	-
EXPB4		L-0012	21	1	-	8	18	5	17	3	3	102	195
L-0012		L-0013	73	1	-	73	6	5	17	3	3	102	395
L-0013		LPB3	22	1	-	22	-	-				-	-
LPB3		JB3	9	2	18	-	-	-				-	-
LPB3		L-0014	16	2	-	22	30	5	14	3	3	84	230
EXPB5		LPB4	57	2	-	104	-	-				-	-
LPB4		JB4	16	2	32	-	-	-				-	-
LPB4		L-0016	18	2	-	36	18	-				-	-
L-0016		L-0015	60	-	-	-	6	5	14	3	3	84	330
L-0015		L-0014	56	-	-	-	6	5	14	3	3	84	310
		TOTAL		96	972							1140	4945

INSTALL CONDUIT INTO EXISTING ITEM

LOCATION	652.0700.S INSTALL CONDUIT INTO EXISTING ITEM EACH
EXPB2	1
EXPB3	1
TOTAL	2

TEMPORARY LIGHTING

LOCATION	SPV.0060.12 TEMPORARY LIGHTING SYSTEM EACH
STH 19	1
TOTAL	1

LEGEND

** FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

STH 19 BRIDGE LIGHTING

PAGE 2 OF 2

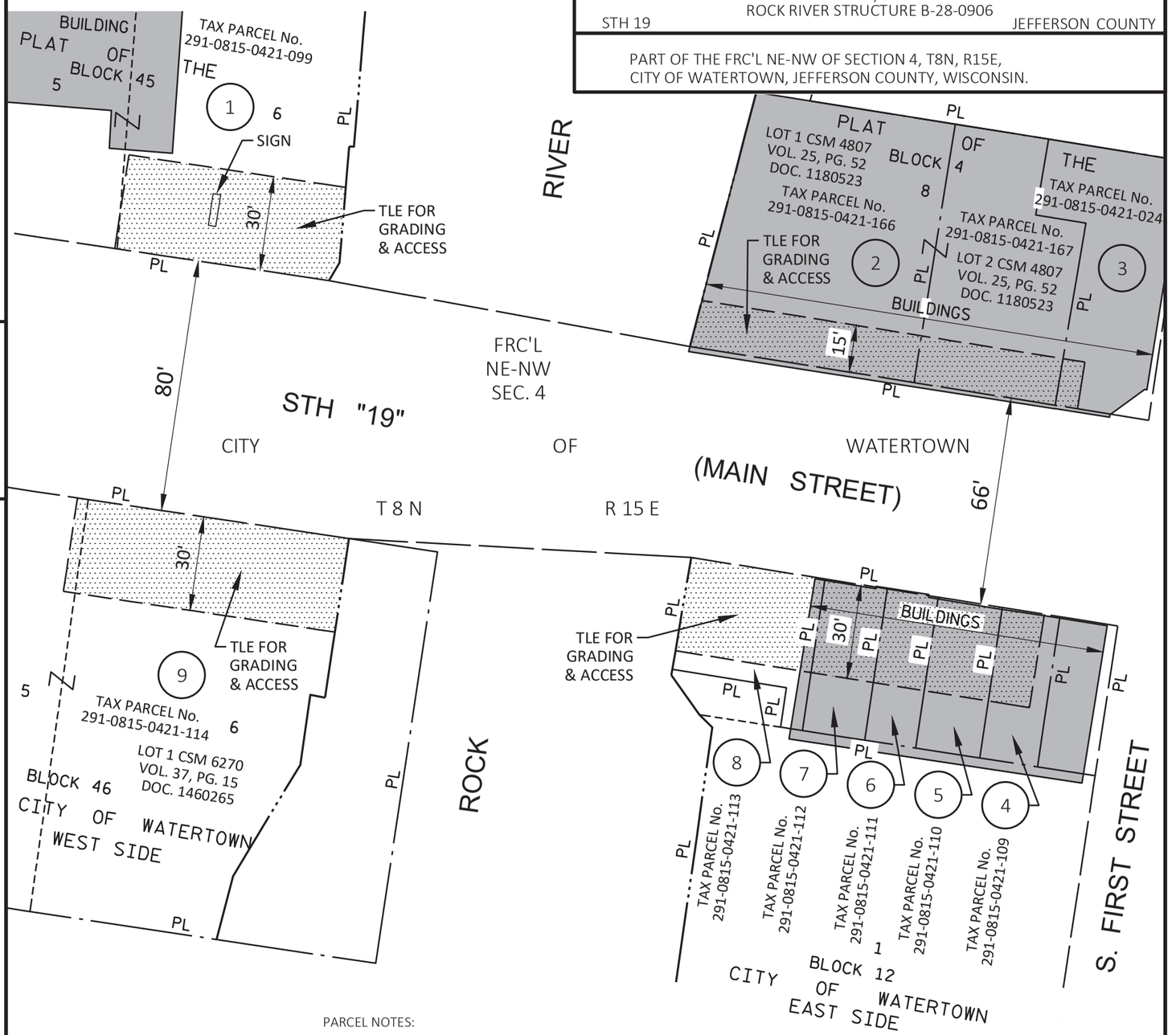
NOTES:
THIS EXHIBIT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY.
REFER TO THE CONVEYANCE DOCUMENT FOR PARCEL RELATED DETAILS.

R/W PROJECT NUMBER: 3050-04-21	SHEET NUMBER: 1

TLE ACQUISITION EXHIBIT
C WATERTOWN, MAIN STREET
ROCK RIVER STRUCTURE B-28-0906
STH 19 JEFFERSON COUNTY

PART OF THE FRC'L NE-NW OF SECTION 4, T8N, R15E,
CITY OF WATERTOWN, JEFFERSON COUNTY, WISCONSIN.

4



PARCEL NOTES:
NO IMPACTS TO EXISTING SIGN ON PARCEL 1.
NO IMPACTS TO EXISTING BUILDINGS ON PARCELS 2 THROUGH 8.

SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	TLE S.F.
1	TOWN & COUNTRY BANK	TLE	2108
2	MASONIC FISCHER BUILDING BLOCK LLC	TLE	1751
3	WHITE OAK LLC	TLE	106
4	JACOB SCHULTZ AND ERICKA M. NIEMANN, HUSBAND AND WIFE	TLE	400
5	JOSEPH D. WENDT AND SARA E. WENDT, HUSBAND AND WIFE	TLE	617
6	CHERYL A. HEIMAN	TLE	491
7	GARDETTO PROPERTIES, LLC	TLE	600
8	CITY OF WATERTOWN	TLE	1298
9	REDEVELOPMENT AUTHORITY OF THE CITY OF WATERTOWN	TLE	2612

GN

SCALE, FEET
0 25 50

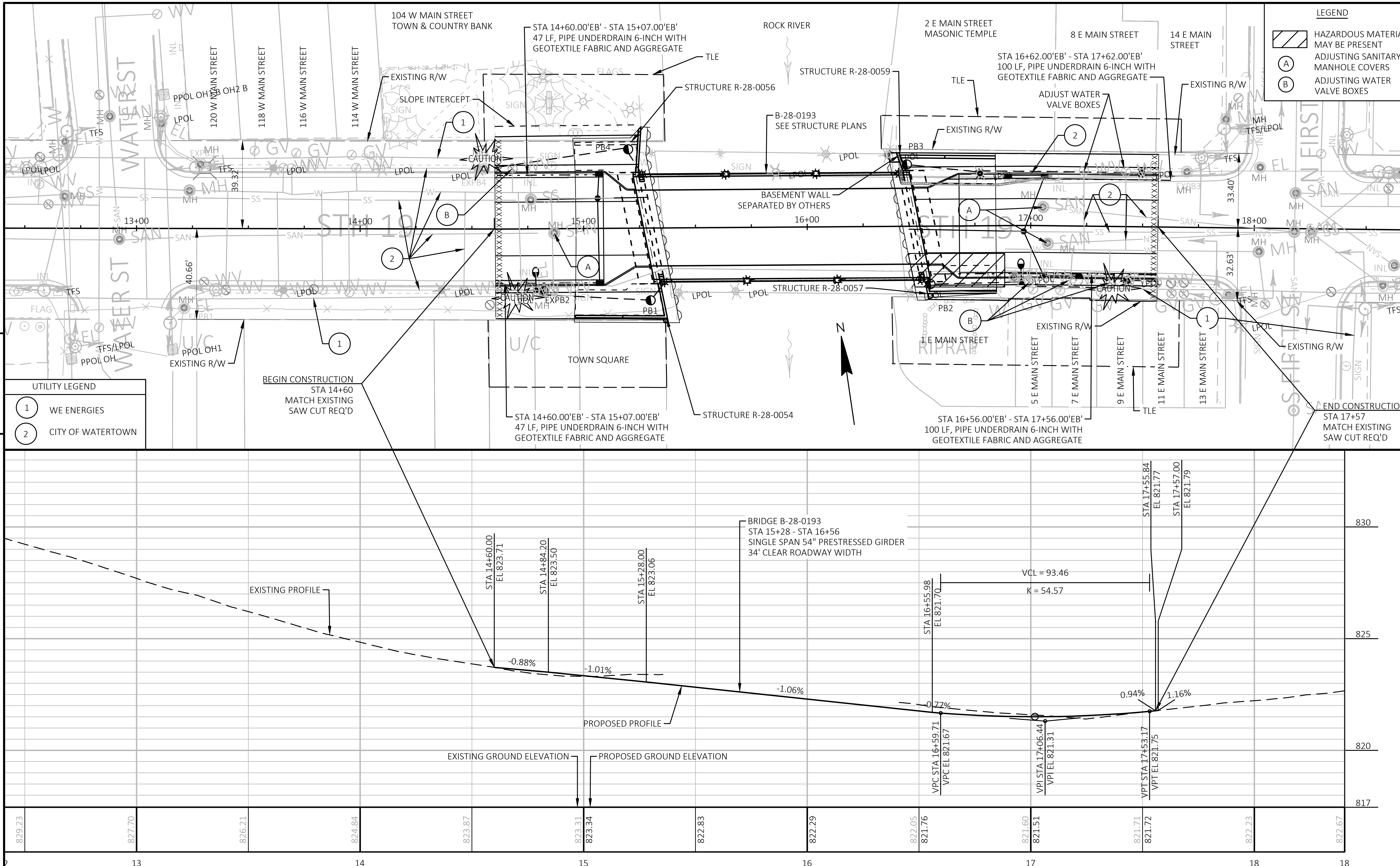
THIS MAP PREPARED BY AECOM FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

THIS MAP IS APPROVED FOR THE DEPARTMENT OF TRANSPORTATION, SOUTHWEST REGION.

SIGNATURE: Cory Schlagel DATE: 3/20/2023

PRINT NAME: CORY SCHLAGEL

FILE NAME : 30500401-TLE.DWG PLOT DATE : 3/2/2023 11:23 AM R/W PROJECT: 3050-04-21

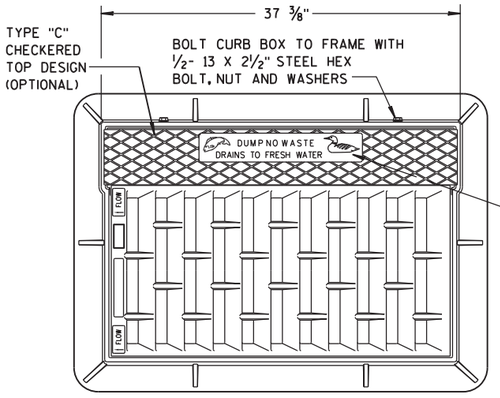

LEGEND
HAZARDOUS MATERIALS MAY BE PRESENT
A ADJUSTING SANITARY MANHOLE COVERS
B ADJUSTING WATER VALVE BOXES
UTILITY LEGEND
1 WE ENERGIES
2 CITY OF WATERTOWN
104 W MAIN STREET
TOWN & COUNTRY BANK
STA 14+60.00'EB' - STA 15+07.00'EB'
47 LF, PIPE UNDERDRAIN 6-INCH WITH
GEOTEXTILE FABRIC AND AGGREGATE
TLE
STRUCTURE R-28-0056
ROCK RIVER
STRUCTURE R-28-0059
B-28-0193
SEE STRUCTURE PLANS
2 E MAIN STREET
MASONIC TEMPLE
8 E MAIN STREET
14 E MAIN STREET
STA 16+62.00'EB' - STA 17+62.00'EB'
100 LF, PIPE UNDERDRAIN 6-INCH WITH
GEOTEXTILE FABRIC AND AGGREGATE
EXISTING R/W
ADJUST WATER VALVE BOXES
SLOPE INTERCEPT
120 W MAIN STREET
118 W MAIN STREET
116 W MAIN STREET
114 W MAIN STREET
WATER ST
STH 19
N FIRST ST
S FIRST ST
BASEMENT WALL
SEPARATED BY OTHERS
STRUCTURE R-28-0057
13+00
14+00
15+00
16+00
17+00
18+00
39.32'
40.66'
33.40'
32.63'
CAUTION
TOWN SQUARE
1 E MAIN STREET
5 E MAIN STREET
7 E MAIN STREET
9 E MAIN STREET
11 E MAIN STREET
13 E MAIN STREET
RIPRAP
N
BEGIN CONSTRUCTION
STA 14+60
MATCH EXISTING
SAW CUT REQ'D
STA 14+60.00'EB' - STA 15+07.00'EB'
47 LF, PIPE UNDERDRAIN 6-INCH WITH
GEOTEXTILE FABRIC AND AGGREGATE
STRUCTURE R-28-0054
STA 16+56.00'EB' - STA 17+56.00'EB'
100 LF, PIPE UNDERDRAIN 6-INCH WITH
GEOTEXTILE FABRIC AND AGGREGATE
END CONSTRUCTION
STA 17+57
MATCH EXISTING
SAW CUT REQ'D
5
5
STA 14+60.00 EL 823.71
STA 14+84.20 EL 823.50
STA 15+28.00 EL 823.06
BRIDGE B-28-0193
STA 15+28 - STA 16+56
SINGLE SPAN 54" PRESTRESSED GIRDER
34' CLEAR ROADWAY WIDTH
STA 16+55.98 EL 821.70
VCL = 93.46
K = 54.57
STA 17+55.84 EL 821.77
STA 17+57.00 EL 821.79
EXISTING PROFILE
PROPOSED PROFILE
-0.88%
-1.01%
-1.06%
-0.77%
0.94%
1.16%
VPC STA 16+59.71 VPC EL 821.67
VPI STA 17+06.44 VPI EL 821.31
VPT STA 17+53.17 VPT EL 821.75
EXISTING GROUND ELEVATION
PROPOSED GROUND ELEVATION
830
825
820
817
829.23
827.70
826.21
824.84
823.87
823.31
823.34
822.83
822.29
822.05
821.76
821.60
821.51
821.71
821.72
822.23
822.67
12
13
14
15
16
17
18
18

PROJECT NO: 3050-04-81	HWY: STH 19	COUNTY: JEFFERSON	PLAN AND PROFILE: STH 19	SHEET 45	E

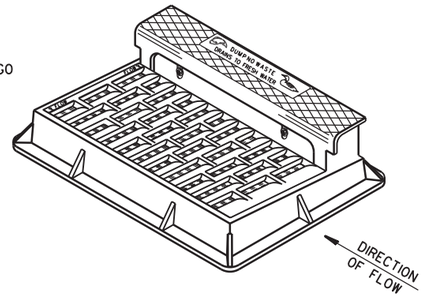
FILE NAME : N:\PDS\C3D\30500401\SHEETSPLAN\050101-PP.DWG
LAYOUT NAME - 01
PLOT DATE : 10/19/2023 9:27 AM
PLOT BY : HERRERA BAUTISTA, PE
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 44

Standard Detail Drawing List

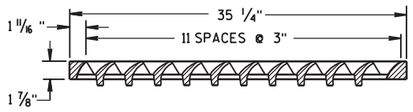
08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08A05-20A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-20D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08A09-02	CATCH BASINS 2X3-FT AND 2.5X3-FT
08B09-03	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, 8-FT, 9-FT, 10-FT DIAMETER
08D01-23A	CONCRETE CURB & GUTTER
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09B02-10	CONDUIT
09B04-12	PULL BOX
09B16-02	PULL BOX NON-CONDUCTIVE
09C02-09	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
10A01-04	ELECTRICAL HANDHOLE WIRING
10A02-03	IDENTIFICATION PLAQUES LIGHT POLES
10A05-03	ELECTRICAL DETAILS GROUND MOUNT LIGHT POLES ISOLATED NEUTRAL SYSTEMS
10A06-03	ELECTRICAL DETAILS GROUND MOUNT LIGHT POLES GROUNDED NEUTRAL SYSTEMS
10A07-03	ELECTRICAL DETAILS GROUND MOUNT LIGHT POLES PHASE-TO-PHASE SYSTEMS
10A08-03	ELECTRICAL DETAILS STRUCTURE MOUNT LIGHT POLES ISOLATED NEUTRAL SYSTEMS
10A09-03	ELECTRICAL DETAILS STRUCTURE MOUNT LIGHT POLES GROUNDED NEUTRAL SYSTEMS
10A10-03	ELECTRICAL DETAILS STRUCTURE MOUNT LIGHT POLES PHASE-TO-PHASE SYSTEMS
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13B02-09B	STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
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
13C18-08F	CONCRETE PAVEMENT INTERSECTION BOXOUT FOR INTEGRAL CURB AND GUTTER
13C19-03	HMA LONGITUDINAL JOINTS
14C02-03	HISTORICAL MARKER CONSTRUCTION
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C35-06A	PAVEMENT MARKING (INTERSECTIONS)
15C36-01	PARKING STALL MARKING
15D30-09A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09B	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09C	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09F	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09K	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

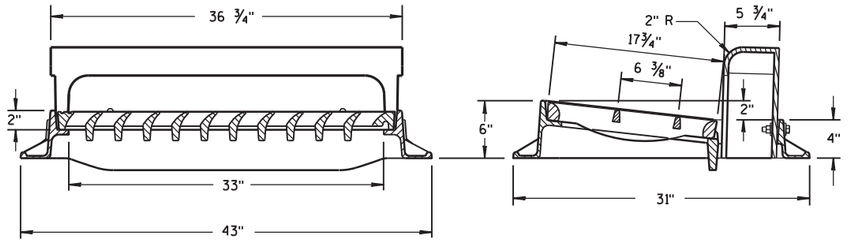


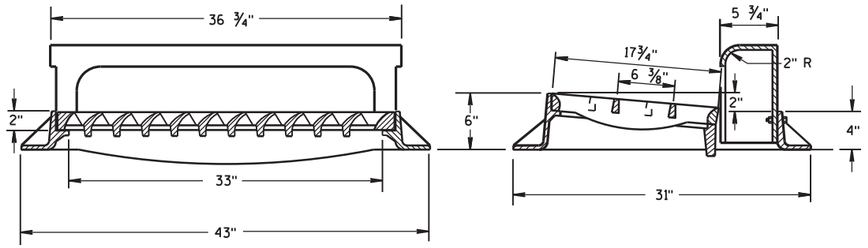
NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

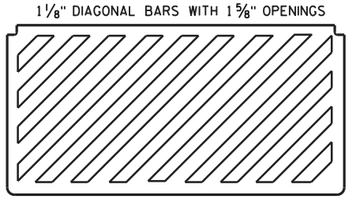






TYPE "H"

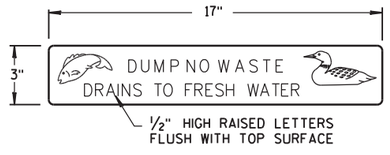
NOTE: EITHER CASTING IS ACCEPTABLE



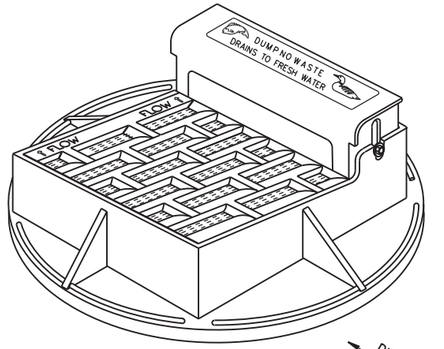
SPECIAL GRATE FOR TYPE "H" COVER

(MEASURES 35 1/4" X 17 3/4" X 2")

(NOTED AS TYPE H-S ON DRAINAGE TABLE)

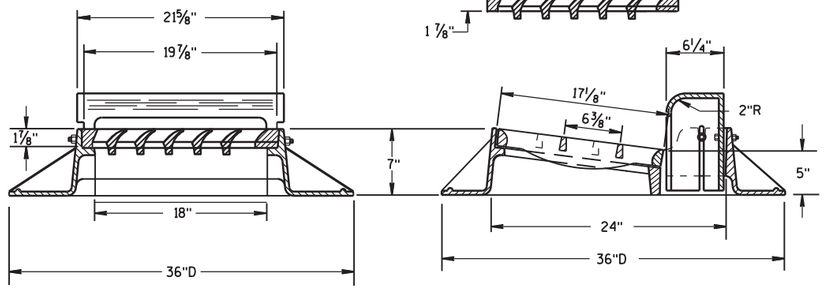


LOGO DETAIL



NOTE: CURB BOX ADJUSTABLE 4" TO 9"

NOTE:
GRATE IS REVERSIBLE.



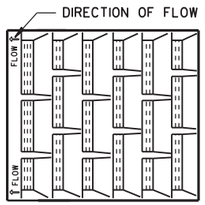
TYPE "A"

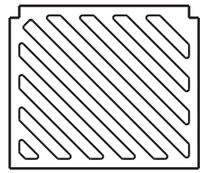
GENERAL NOTES

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

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.

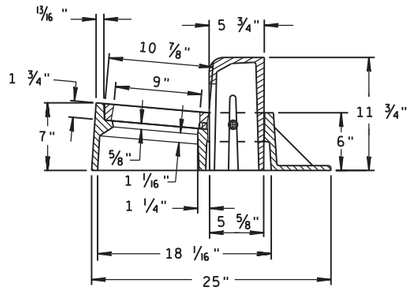


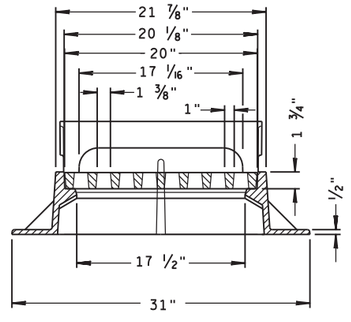


SPECIAL GRATE FOR TYPE "A" COVER

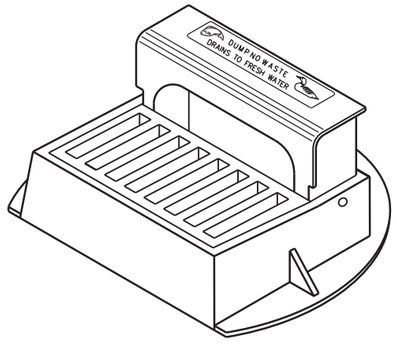
(MEASURES 19 3/4" X 17" X 1 7/8")

(NOTED AS TYPE A-S ON DRAINAGE TABLE)





TYPE "Z"



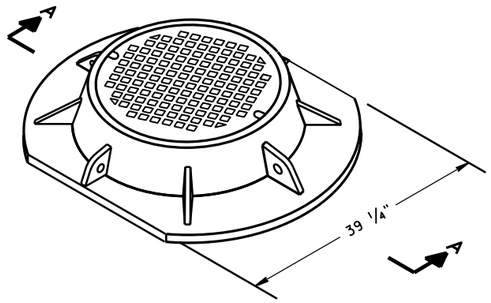
INLET COVERS TYPE A, H, A-S, H-S & Z

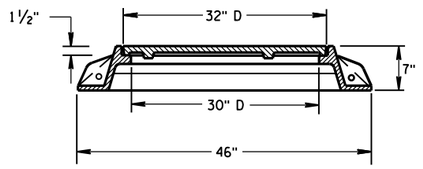
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11-27-13 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

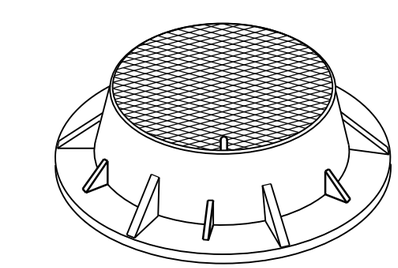
6

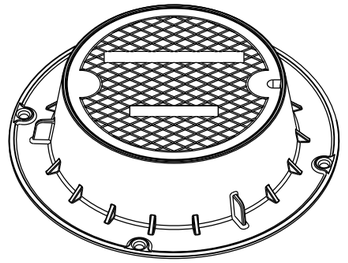
S.D.D. 8 A 5-19a

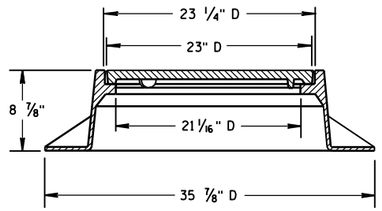


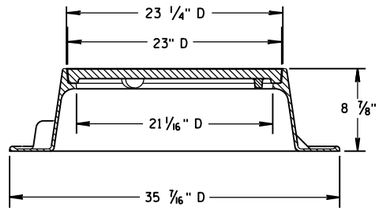


SECTION A-A
TYPE "K"









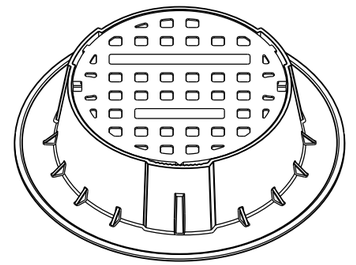
TYPE "J"
NOTE: EITHER CASTING IS ACCEPTABLE

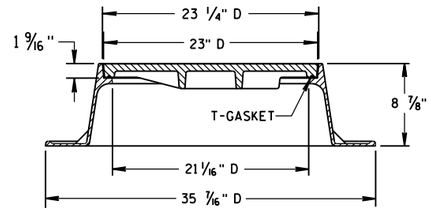
GENERAL NOTES

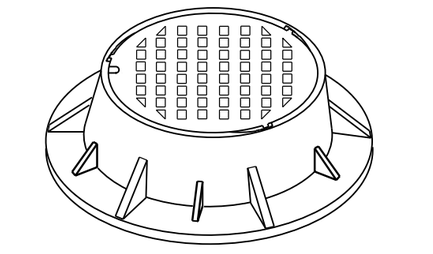
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

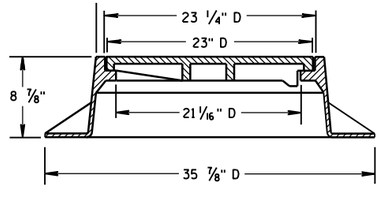
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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

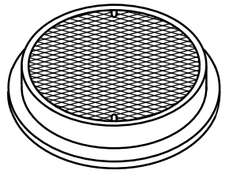


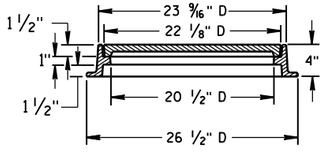




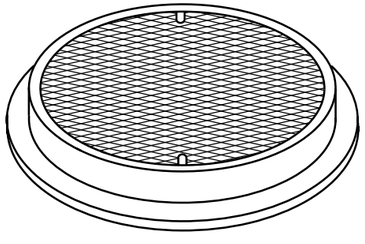


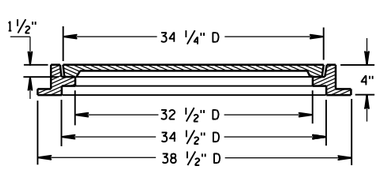
TYPE "J" SPECIAL
TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)
NOTE: EITHER CASTING IS ACCEPTABLE



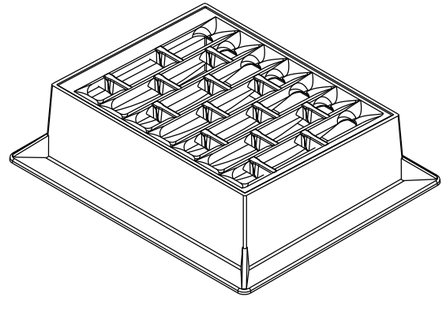


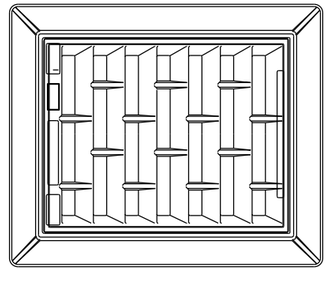
TYPE "L"

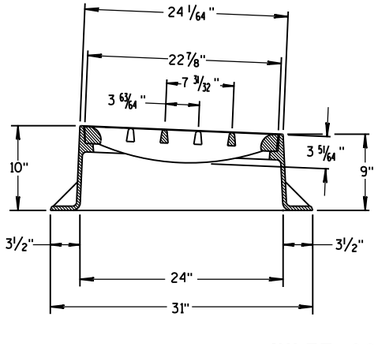


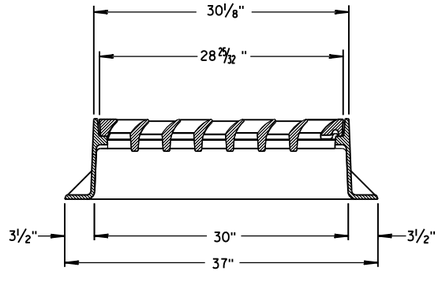


TYPE "M"









INLET COVER TYPE "BW"

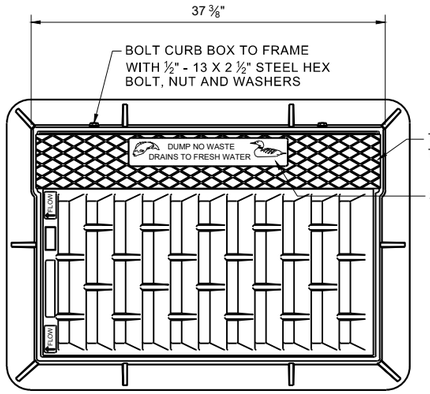
INLET COVER TYPE BW
MANHOLE COVERS, TYPE K, J, J-S, L & M

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

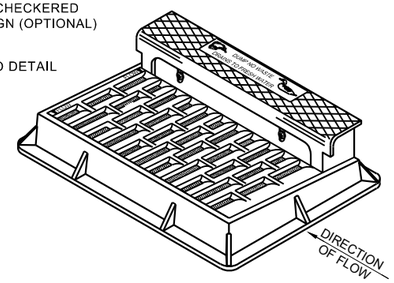
S.D.D. 8 A 5-19d



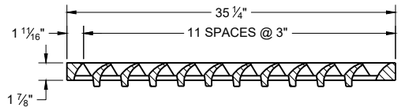
TYPE "C" CHECKERED TOP DESIGN (OPTIONAL)

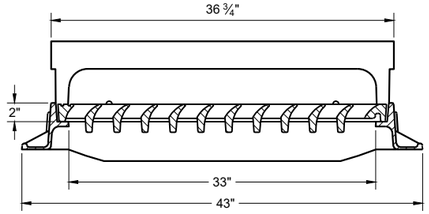
SEE LOGO DETAIL

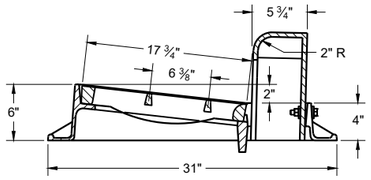
NOTE: EITHER CASTING IS ACCEPTABLE

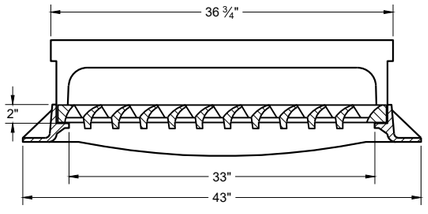


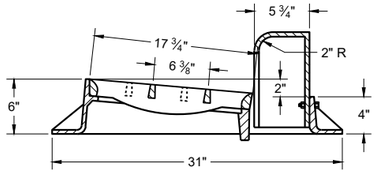
NOTE: CURB BOX HEIGHT ADJUSTABLE 6" - 9"







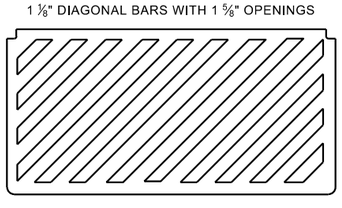




TYPE "H"

NOTE: EITHER CASTING IS ACCEPTABLE

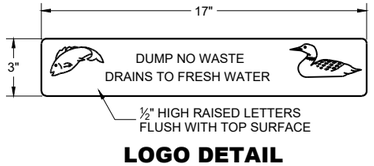
1 ⅛" DIAGONAL BARS WITH 1 ⅝" OPENINGS



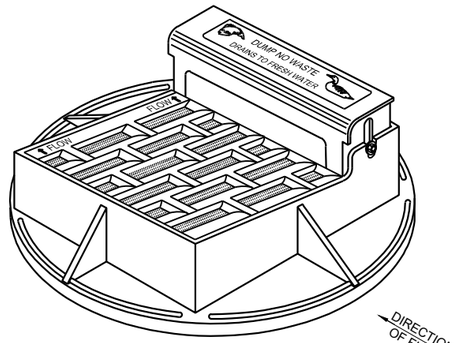
SPECIAL GRATE FOR TYPE "H" COVER

(MEASURES 35" X 17 ¾" X 2")

(NOTED AS TYPE H-S ON DRAINAGE TABLE)

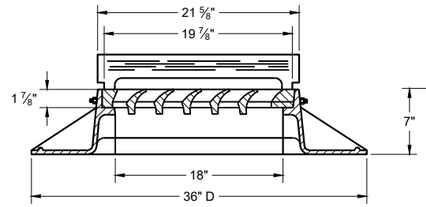


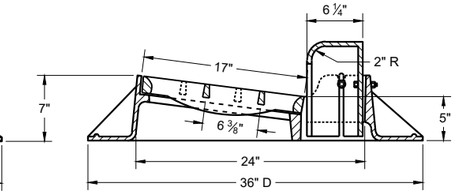
LOGO DETAIL



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" - 9"

NOTE: EITHER CASTING IS ACCEPTABLE





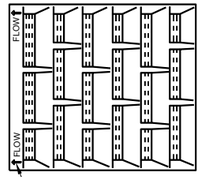
TYPE "A"

GENERAL NOTES

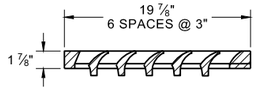
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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.

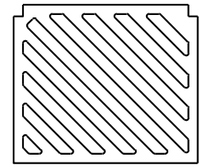
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.



DIRECTION OF FLOW ARROWS



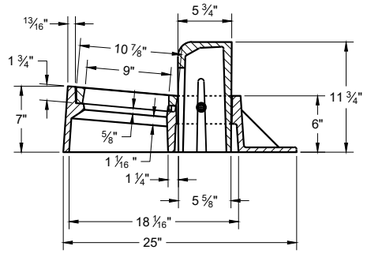
1" DIAGONAL BARS WITH 1 ½" OPENINGS

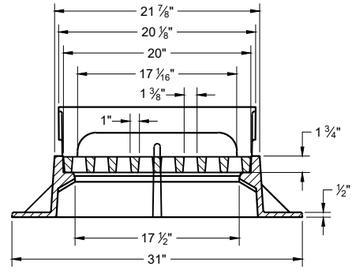


SPECIAL GRATE FOR TYPE "A" COVER

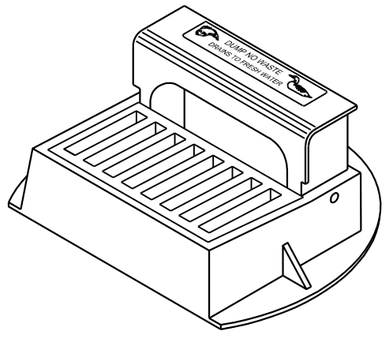
(MEASURES 19 ¾" X 17" X 1 ⅞")

(NOTED AS TYPE A-S ON DRAINAGE TABLE)





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

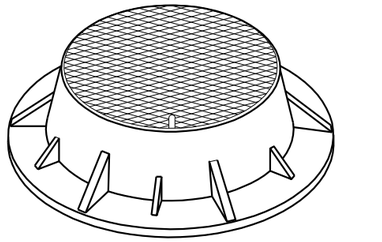
FHWA

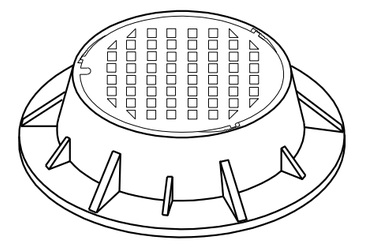
GENERAL NOTES

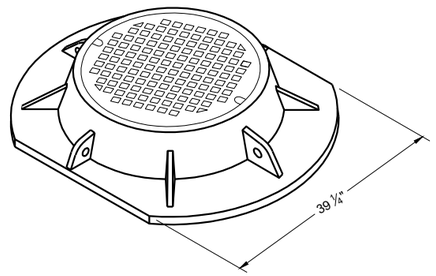
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

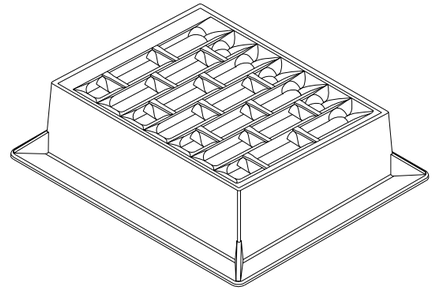
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

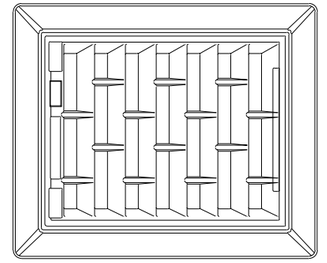


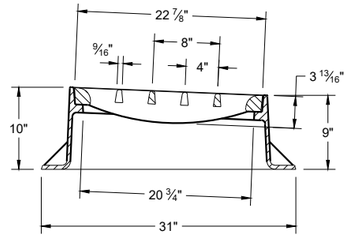


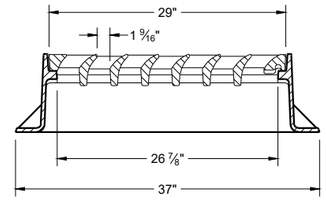


TYPE "K"

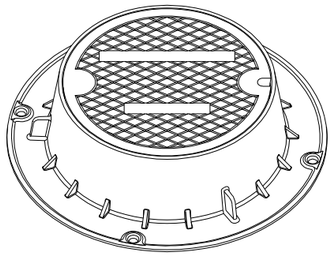


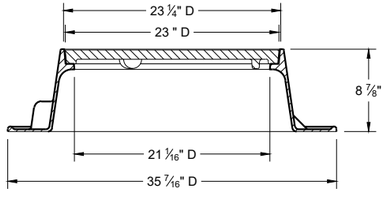






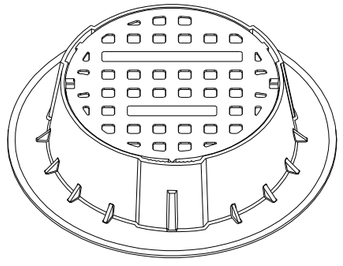
INLET COVER TYPE "BW"

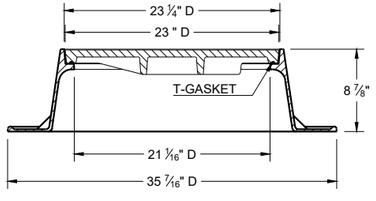




TYPE "J"

NOTE: EITHER CASTING IS ACCEPTABLE

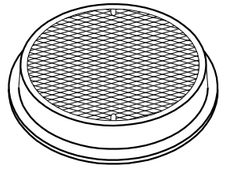


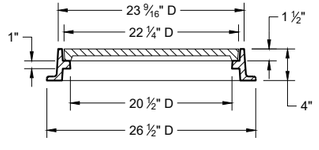


TYPE "J" SPECIAL

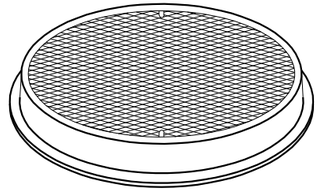
TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)

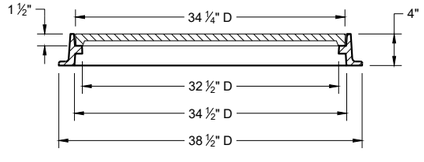
NOTE: EITHER CASTING IS ACCEPTABLE





TYPE "L"





TYPE "M"

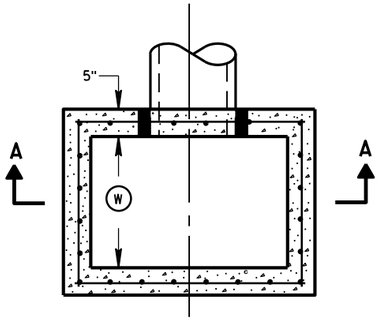
INLET COVERS TYPES BW
MANHOLE COVERS TYPES K, J, J-S, L, AND M

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

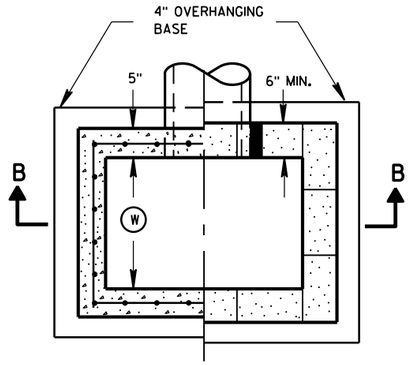
APPROVED
July 2023 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

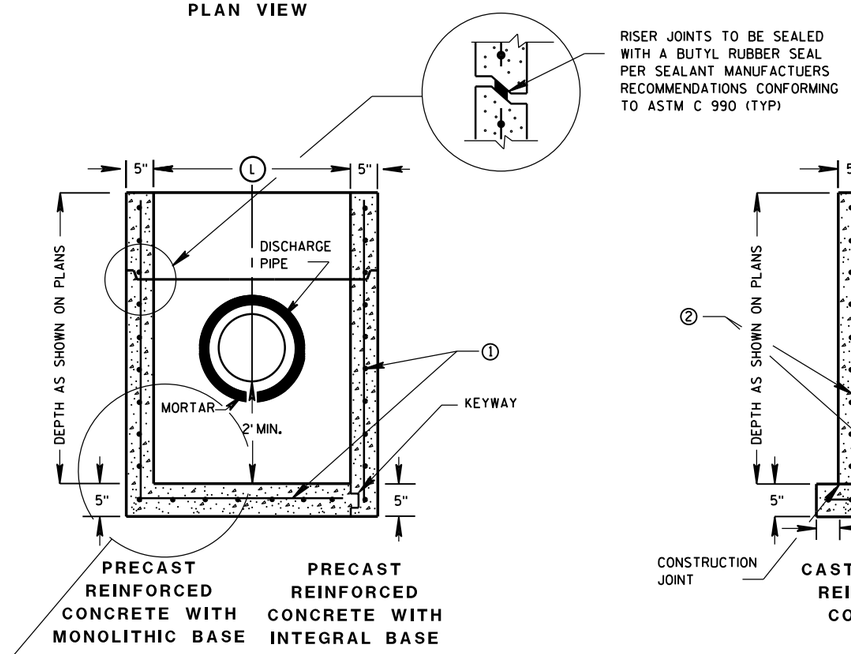
6
SDD 08A05-20d



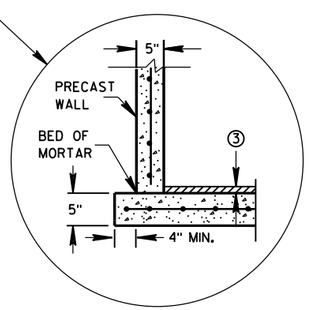
PLAN VIEW



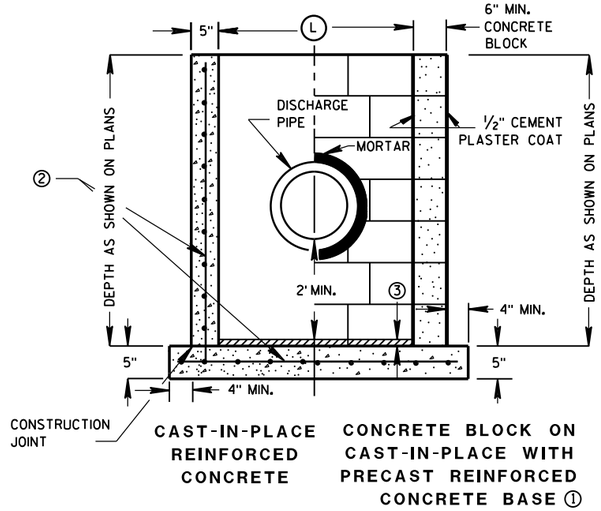
PLAN VIEW



SECTION A-A



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION



SECTION B-B

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.

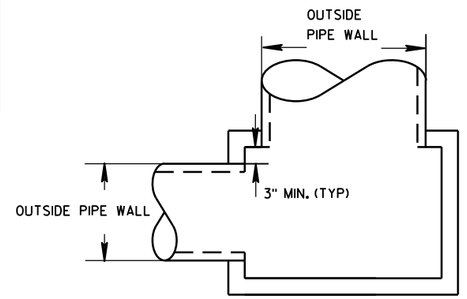
③ 1" CONCRETE KEY POURED AFTER INSTALLATION. 2' SUMP MEASURED FROM TOP OF KEY.

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



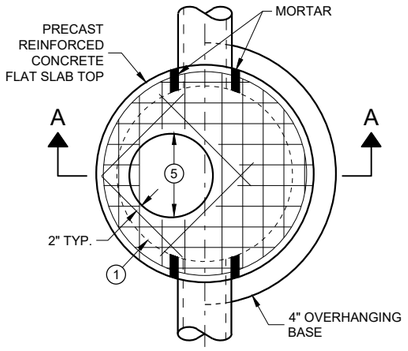
DETAIL "A"

CATCH BASINS 2X3-FT AND 2.5X3-FT

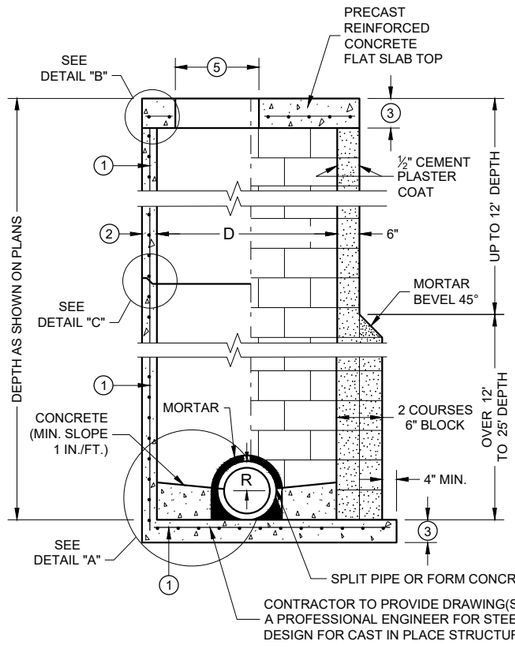
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 — DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA

6
S.D.D. 8 A 9-2



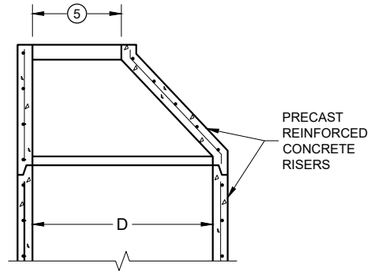
PLAN VIEW
CIRCULAR OPENING



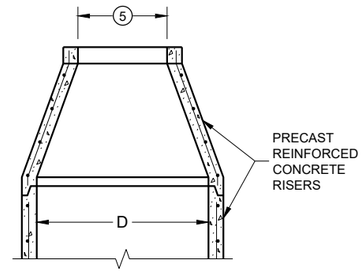
SECTION A - A

PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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



OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP



OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

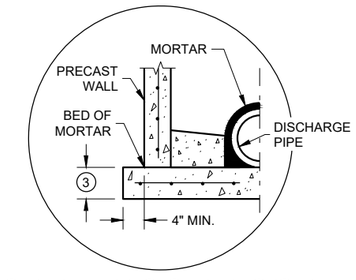
MANHOLE COVER OPENING MATRIX

OPENING SIZE (FT.) \ MANHOLE COVER TYPE	C	ALL J'S	K	L	M
2 DIA.	X	X		X	
3 DIA.			X		X

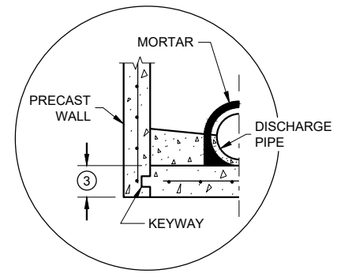
PIPE MATRIX

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.

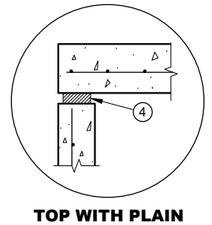


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

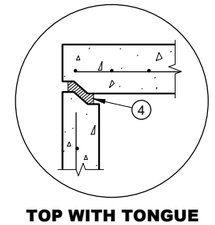


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

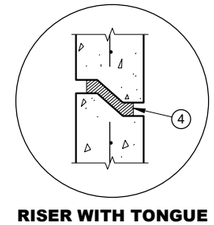
DETAIL "A"



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 ½ 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".

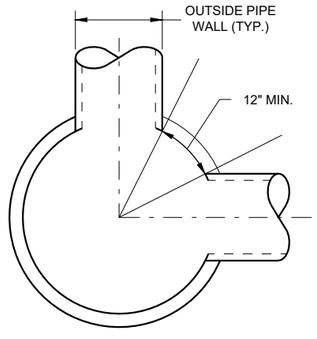
(1) FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

(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

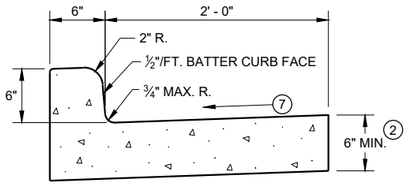
APPROVED
November 2021 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

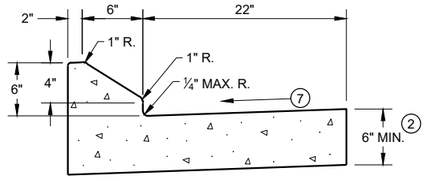
MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, 8-FT, 9-FT AND 10-FT DIAMETER

6

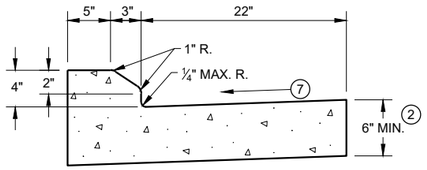
SDD 08B09 - 03



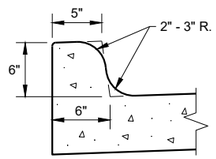
TYPES A (1) & D



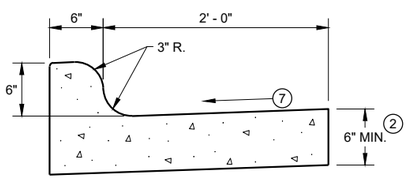
6" SLOPED CURB TYPES G (1) & J



4" SLOPED CURB TYPES G (1) & J

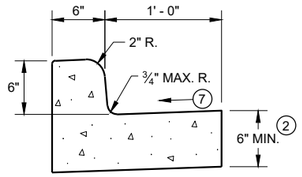


TYPES K (1) & L
(OPTIONAL CURB SHAPE)



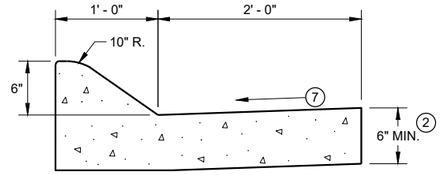
TYPES K (1) & L

CONCRETE CURB AND GUTTER 30"

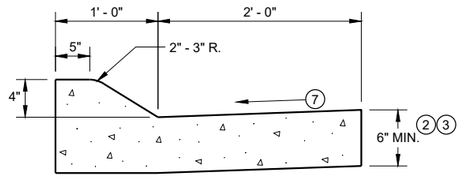


TYPES A (1) & D

CONCRETE CURB AND GUTTER 18"

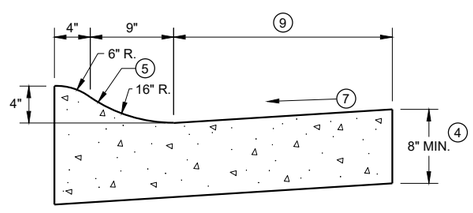


6" SLOPED CURB TYPES A (1) & D



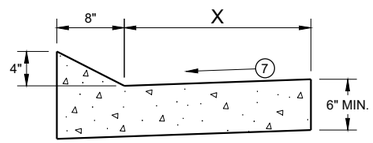
4" SLOPED CURB TYPES A (1) & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R (1) & T

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

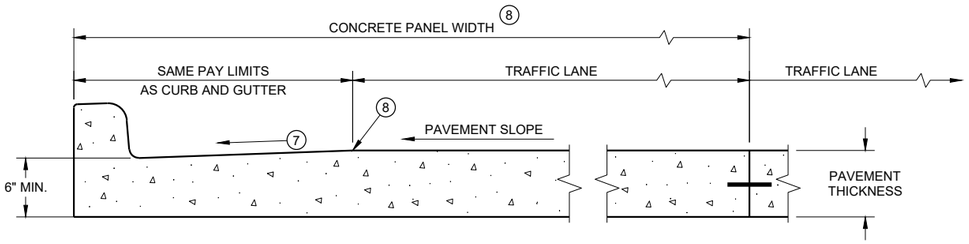


TYPES TBT & TBTT (1)

CONCRETE CURB AND GUTTER

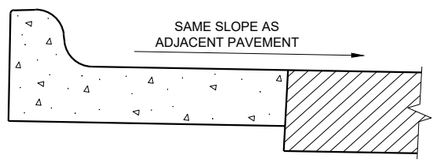
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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 (6)
(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.

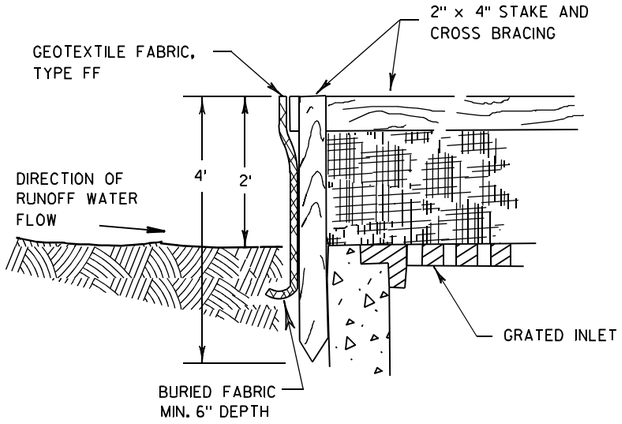
(8) INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

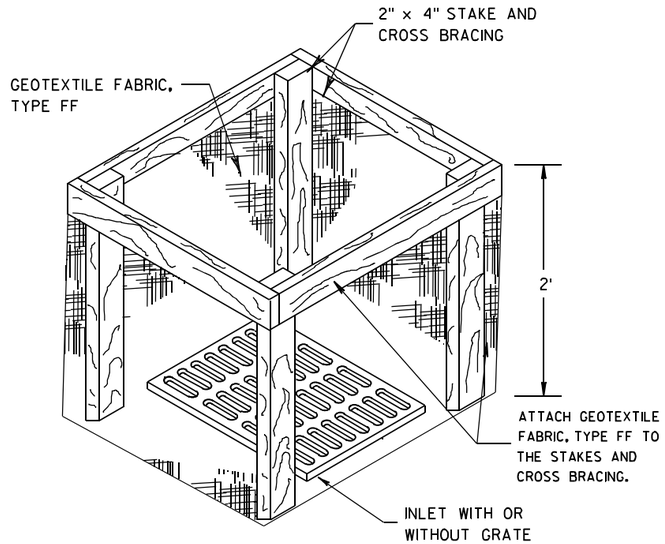
(9) CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES

CONCRETE CURB AND GUTTER

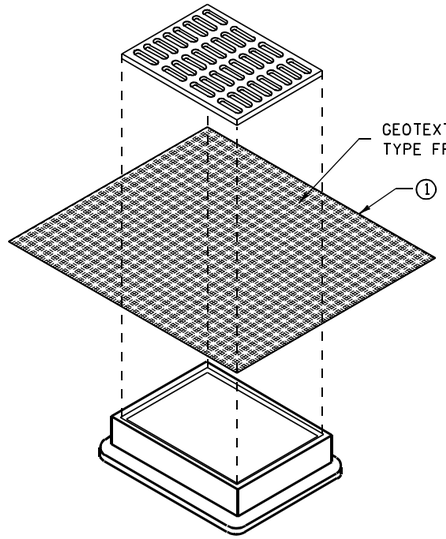
6

SDD 08D01 - 23a



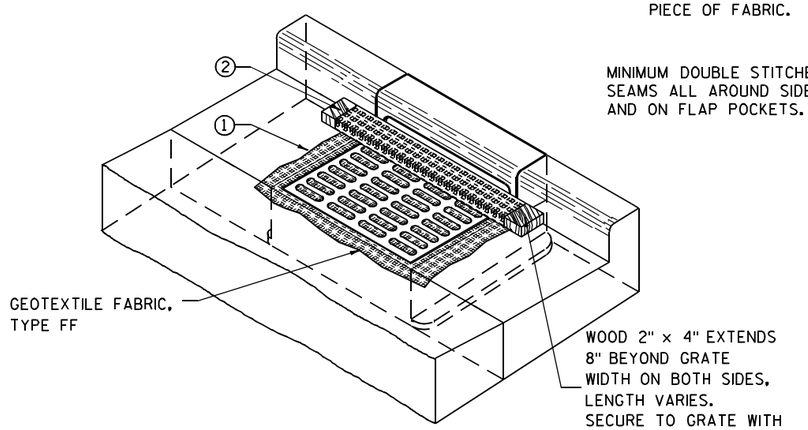


INLET PROTECTION, TYPE A

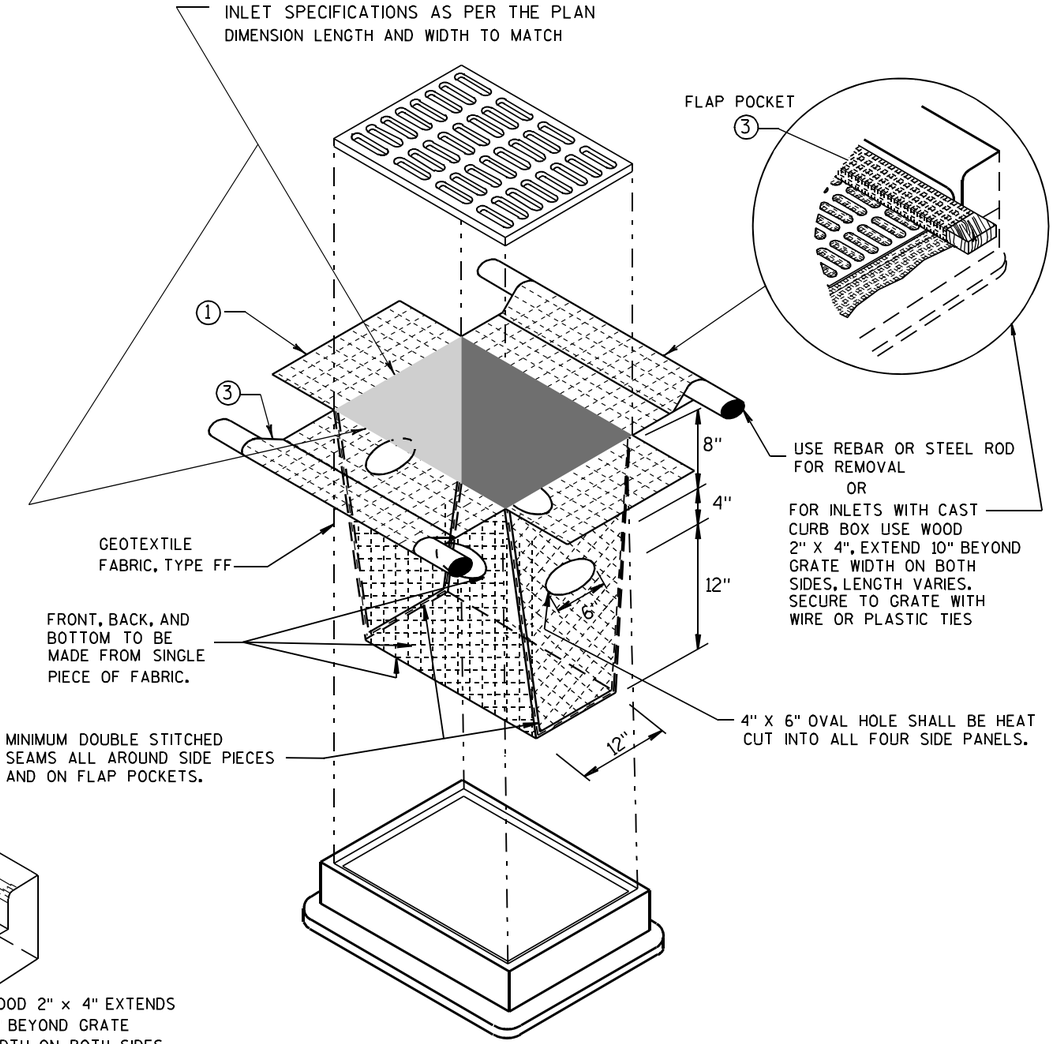


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

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.

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 A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

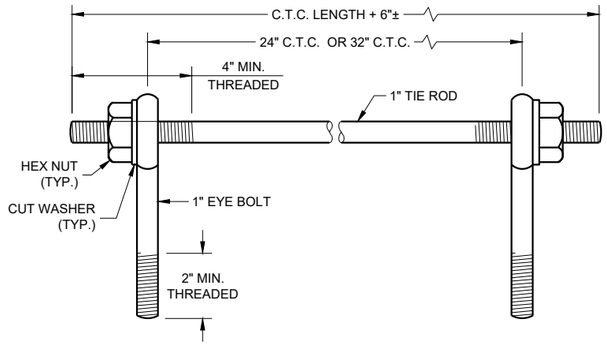
APPROVED

10/16/02
DATE

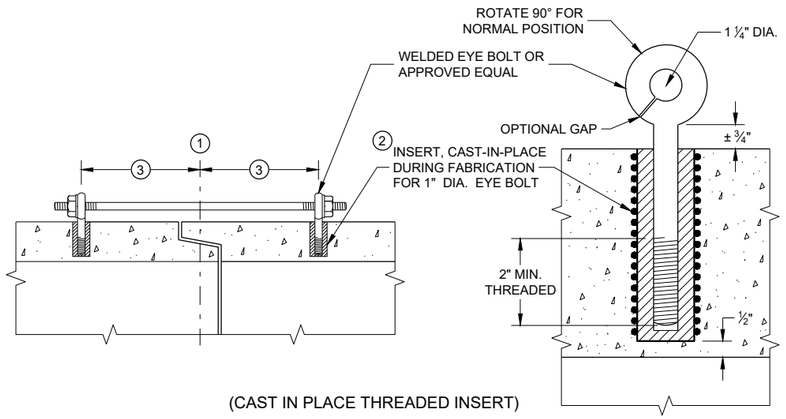
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

6
S.D.D. 8 E 10-2



EYE BOLTS AND TIE ROD



(CAST IN PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

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

GENERAL NOTES

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

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

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

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

(1) 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.

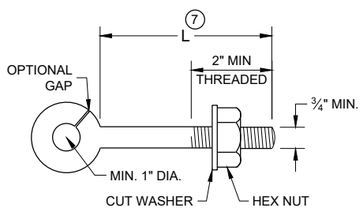
(3) HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.

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

(5) OPENING TO BE ROD DIAMETER PLUS 1 INCH.

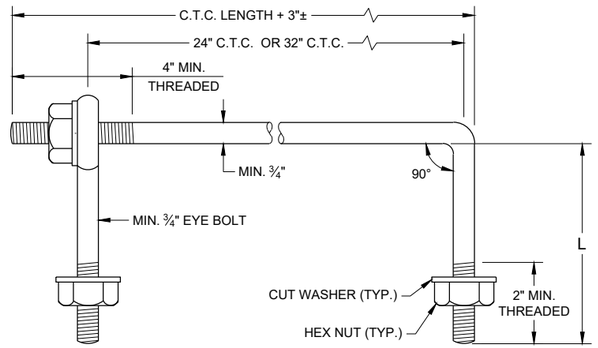
(6) LENGTH ADEQUATE TO EXTEND TO WITHIN ½ INCH OF THE INNER SURFACE OF THE PIPE.

(7) EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.

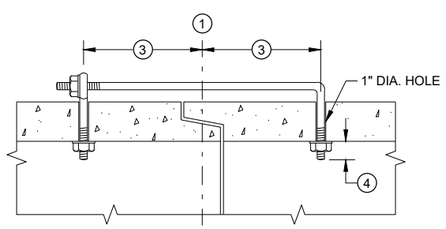


EYE BOLT (7)

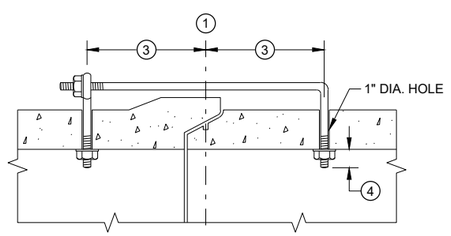
NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD



(TONGUE AND GROOVE PIPE)



(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

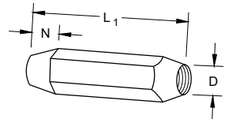
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12 - 60	⅝	⅝	5	½
66 - 84	¾	¾	5	½
90 - 144	1	1	7	1 7/16

DIMENSIONS SHOWN ARE IN INCHES



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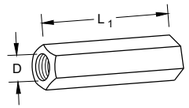
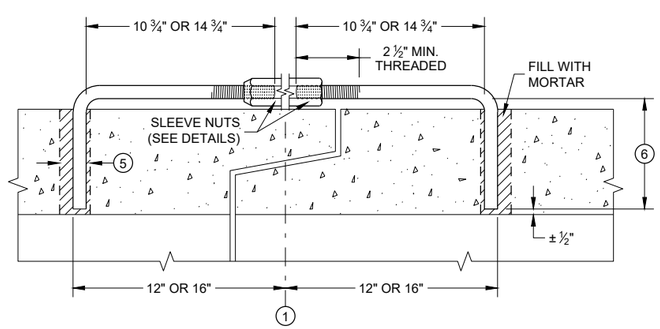


PLAIN

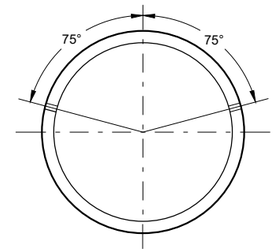
RIGHT AND LEFT THREADS

SLEEVE NUTS



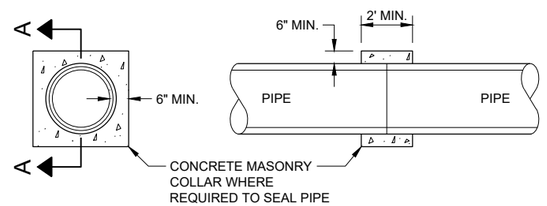
LONGITUDINAL SECTION

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

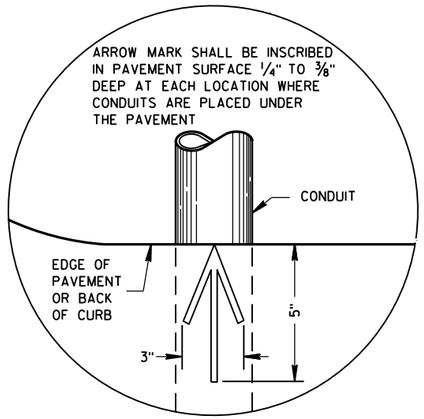
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

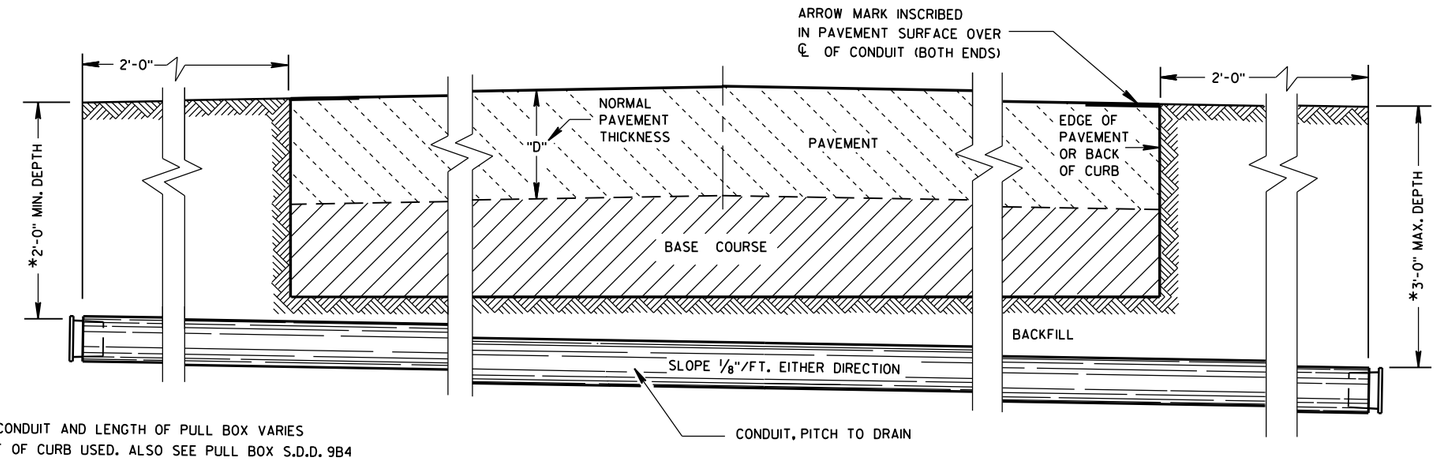
SDD 08F04 - 08

SDD 08F04 - 08



PLAN VIEW

ARROW MARK



*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

SIDE ELEVATION

DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

GENERAL NOTES

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

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE, ETC.).

TRACER WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March, 2017 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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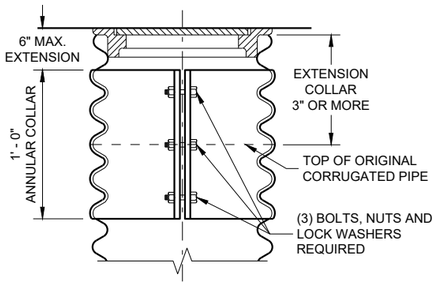
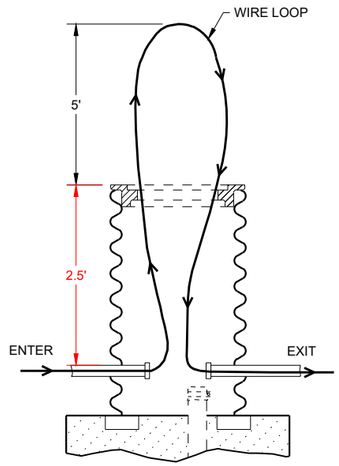
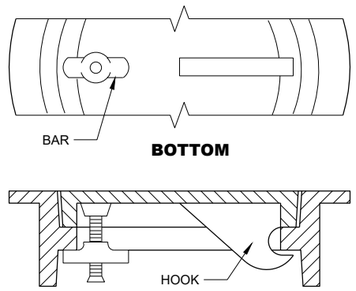
S.D.D. 9 B 2-10



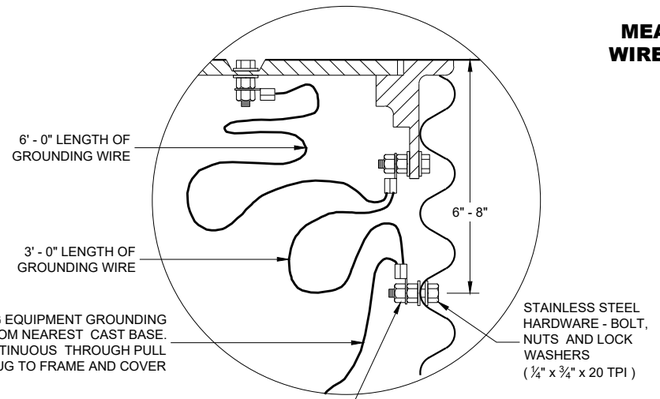
CORRUGATED PIPE EXTENDER



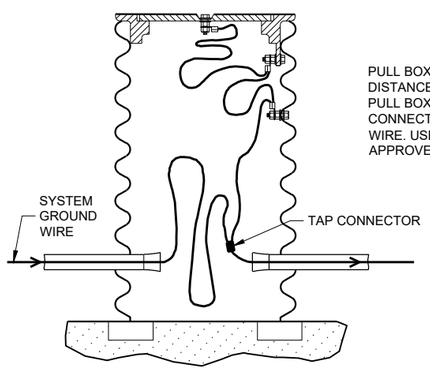
MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX



ALTERNATE COVER (LOCKING)
TIGHTENING BAR TYPE

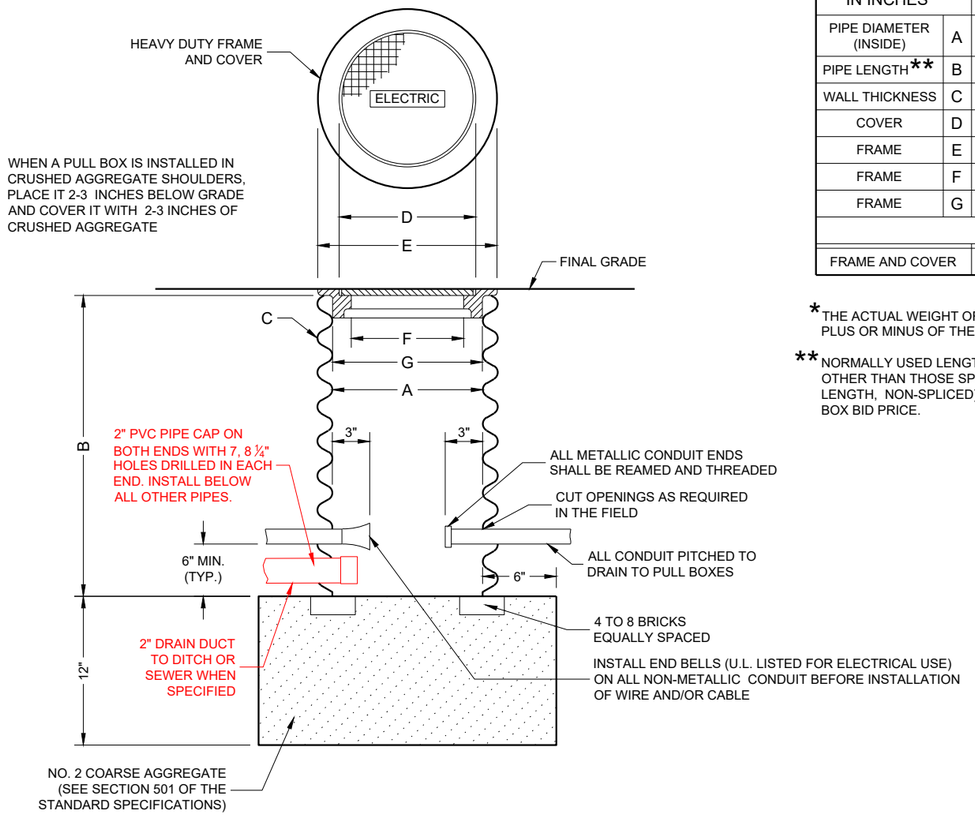


EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES



PULL BOX TO NEAREST BASE DISTANCE MORE THAN 20 FEET. PULL BOX GROUND WIRE SHALL CONNECT AT SYSTEM GROUNDING WIRE. USE DEPARTMENT APPROVED TAP CONNECTOR.

EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES



PULL BOX

GENERAL NOTES

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

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR TRAFFIC LOADS.

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN ¼".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH**	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 ¼	10 ¼	10 ¼	16 ¼	16 ¼	16 ¼	22 ¼	22 ¼	22 ¼
FRAME	E	14 ½	14 ½	14 ½	20 ½	20 ½	20 ½	26 ½	26 ½	26 ½
FRAME	F	8 ½	8 ½	8 ½	14 ½	14 ½	14 ½	20 ½	20 ½	20 ½
FRAME	G	11 ½	11 ½	11 ½	17 ½	17 ½	17 ½	23 ½	23 ½	23 ½
WEIGHT IN POUNDS*										
FRAME AND COVER		60	60	60	110	110	110	155	155	155

*THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.

**NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.

PULL BOX

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGI

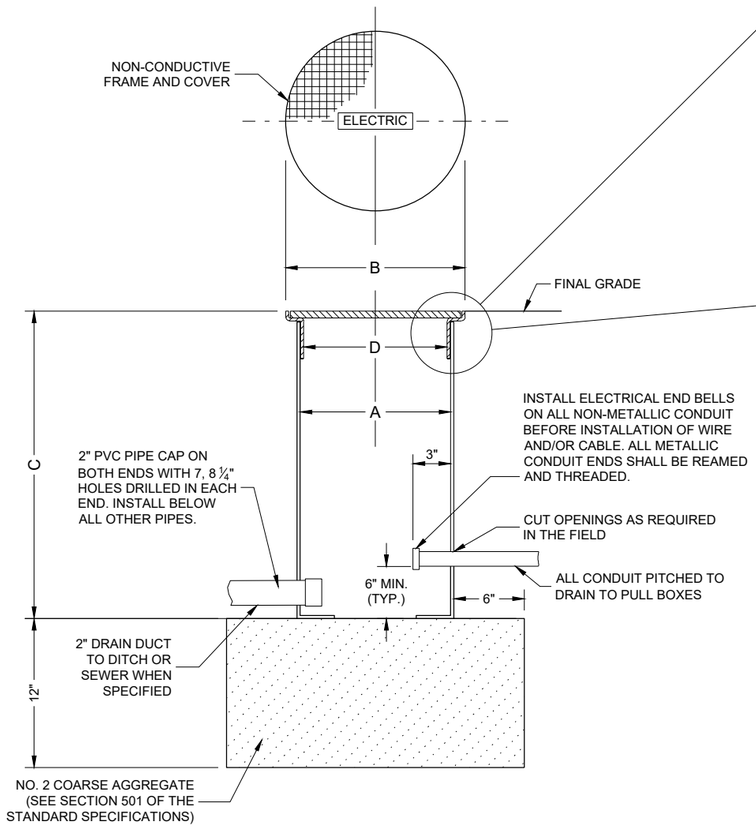
FHWA

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

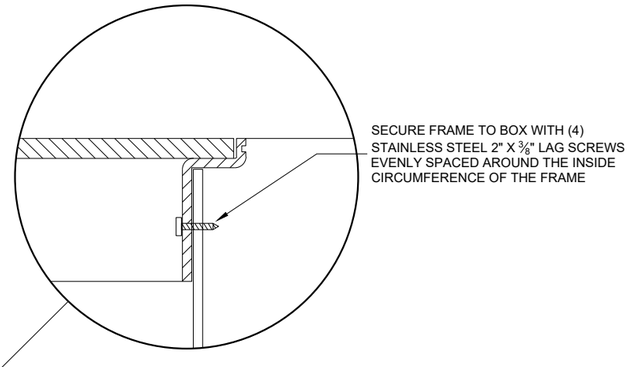
DIMENSION IN INCHES		NON- CONDUCTIVE PULL BOX	
BOX DIAMETER ** (INSIDE)	A	24	24
BOX OVERALL OUTSIDE DIAMETER	B	27	27
BOX LENGTH	C	36	42
FRAME OPENING	D	22 ½	22 ½
WEIGHT IN POUNDS *			
COVER		50	50
BOX ONLY		75	85

* THE ACTUAL WEIGHT OF THE COVER OR BOX ONLY MAY VARY NOT TO EXCEED 100 LBS INDIVIDUALLY.

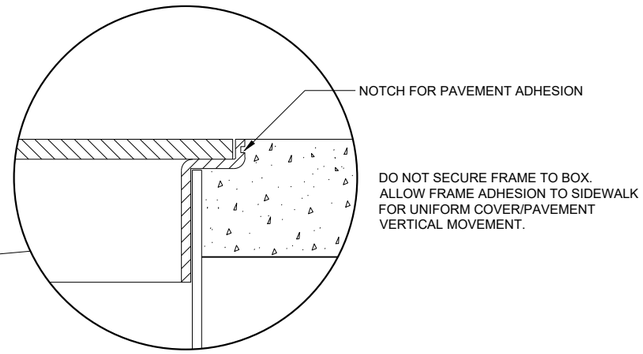
** DIAMETER VARIES FROM TOP TO BOTTOM WITH THE DIAMETER LARGER AT THE BOTTOM TO PREVENT FROST HEAVE.



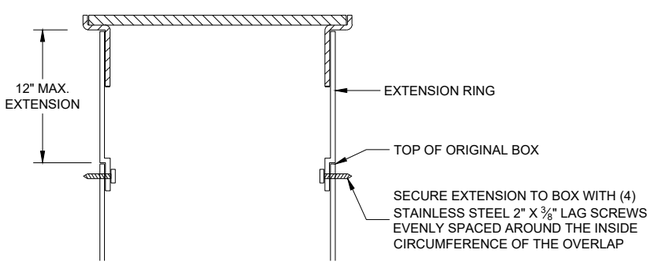
NON-CONDUCTIVE PULL BOX



INSTALLED IN SOD OR CRUSHED AGGREGATE



INSTALLED IN SIDEWALK



BOX EXTENSION

GENERAL NOTES

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

ALL BOXES, FRAMES AND COVERS SHALL BE SUITABLE FOR TIER 15 LOADING AS SPECIFIED IN ANSI/SCTE 77.

PROVIDE AN OPENING FOR TOOL ASSISTED COVER REMOVAL NOT LARGE ENOUGH TO PERMIT PASSAGE OF A SPHERE MORE THAN ½" DIAMETER

ENSURE COVER SURFACE IS SKID RESISTANT WITH A COEFFICIENT OF FRICTION OF AT LEAST 0.5 AND VERTICAL SURFACE DICONTINUITIES LESS THAN ¼".

COVER SHALL BE MAGNETICALLY LOCATABLE.

BOXES AND EXTENSIONS ARE TRIMMABLE FOR CUSTOM LENGTHS. TRIMMED PIECES SHALL MAINTAIN A UNIFORM LENGTH.

ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN ¼".

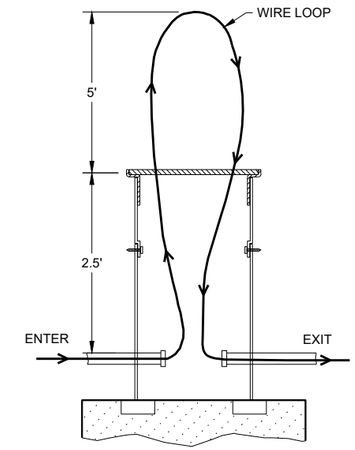
THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

ENTIRE BOX MUST BE CONSTRUCTED OF NON-CONDUCTIVE MATERIALS WITH THE EXCEPTION OF STAINLESS STEEL FASTENERS AND MAGNETIC LOCATABLE DEVICE.

WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE.

LABEL ON COVER SHALL READ "ELECTRIC" FOR SIGNAL AND LIGHTING SYSTEMS, "WISDOT ITS" FOR COMMUNICATIONS AND ITS EQUIPMENT SYSTEMS.



MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX

PULL BOXES NON-CONDUCTIVE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE
/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGI

FHWA

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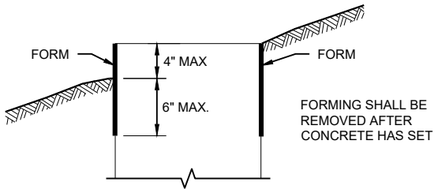
SDD 09B16 - 02

FORM DEPTH SHALL BE NO MORE THAN 6" BELOW GRADE ON THE LOWER SIDE OF BASE



FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5 & 6
APPROX. CUBIC YARDS OF CONCRETE	0.40	0.57	0.40
LBS. OF HOOP BAR STEEL	NONE	23	16
LBS. OF VERTICAL BAR STEEL	NONE	60	18

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE SHOWN ON THE PLANS

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN A THE ENTRANCE OF THE BASE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FRO FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NON-METALLIC.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NON-METALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION.

WHEN REQUIRED TO CONNECT NON-METALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 2, TYPE 5 AND TYPE 6 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER ALL BASE TYPES THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 OF THE STANDARD SPECIFICATIONS.

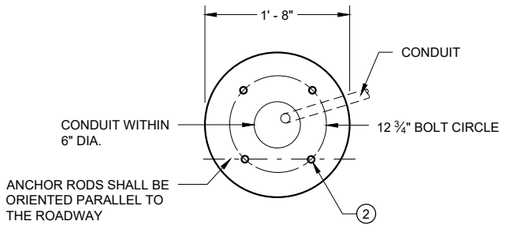
WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

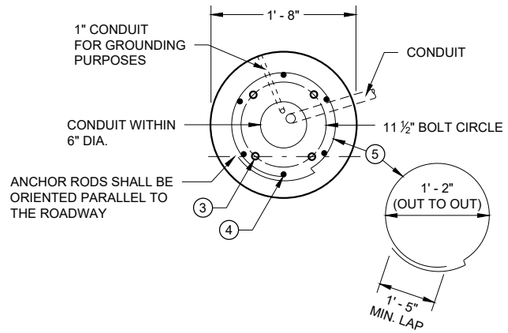
WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4 INCH"L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND SHALL NOT BE THREADED.

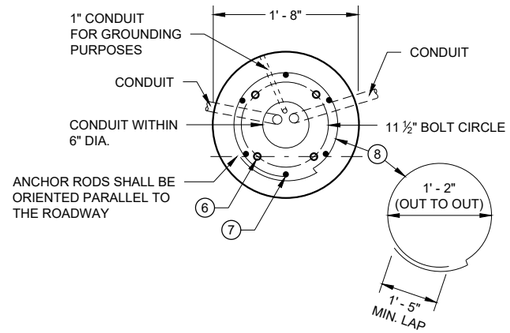
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

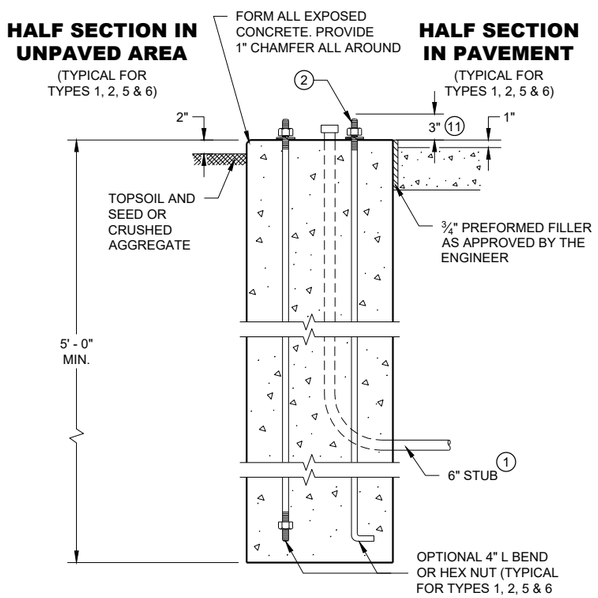
WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

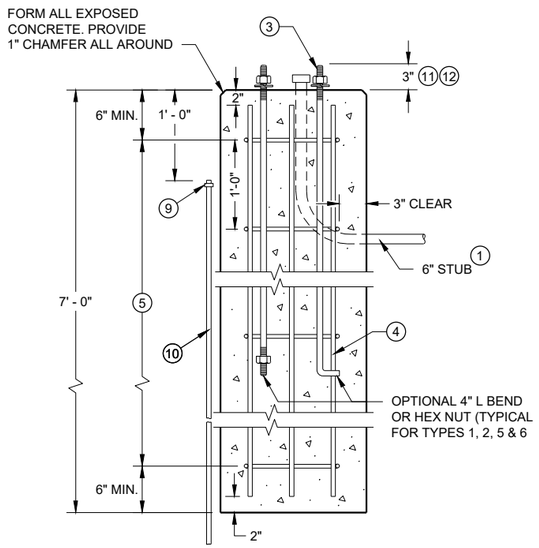




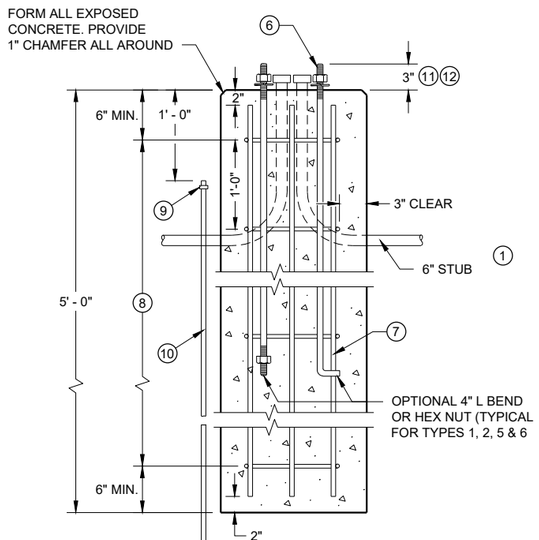




TYPE 1



TYPE 2



TYPE 5 & 6

(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL OF THE ENGINEER.

(2) (4) 1" DIA. X 3' - 6" ANCHOR RODS.

(3) (4) 1" DIA. X 5' - 0" ANCHOR RODS.

(4) (6) NO. 6 X 6' - 8" BAR STEEL REINFORCEMENT.

(5) (7) NO. 4 X 5' - 1" BAR STEEL REINFORCEMENT @ 1' - 0" C - C.

(6) (4) 1" DIA. X 3' - 6" ANCHOR RODS.

(7) (6) NO. 4 X 4' - 8" BAR STEEL REINFORCEMENT.

(8) (5) NO. 4 X 5' - 1" BAR STELL REINFORCEMENT @ 1' - 0" C -C.

(9) EXOTHERMIC CONNECTION TO EUIPMENT GROUNDING CONDUCTOR

(10) ⅝" DIA. X 8' -0" COPPERCLAD EQUIPMENT GROUNDING ELECTRODE REQUIRED

(11) ANY ANCHOR ROD PROJECTION SHORTER THAN 2 ¾" OR LONGER THAN 3 ¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

(12) FOR NON - BREAKAWAY INSTALLATIONS, 4 ½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

CONCRETE BASES
TYPES 1, 2, 5, & 6

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE
/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGI

FHWA

6
SDD 09C02 - 09

GENERAL NOTES

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

FOUR (4) BOLTS SHALL BE FURNISHED WITH EACH TRANSFORMER BASE. BOLTS SHALL BE 1" DIAMETER, 4" IN LENGTH, WITH WASHERS, LOCK WASHERS AND NUTS. BOLTS, NUTS AND WASHERS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 531.2.2 OF THE STANDARD SPECIFICATIONS.

LEVELING SHIMS, IF NEEDED, SHALL BE DESIGNED FOR THE PURPOSE AND USED UNDER CAST BASES WHEN PLUMBING POLES OR STANDARDS DURING INSTALLATION. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE.

SHIM LENGTH SHALL BE LONG ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

A NEMA APPROVED, U.L. LISTED, COPPER WITH BRASS OR STAINLESS STEEL SET SCREW, DIRECT BURY RATED, MECHANICAL CONNECTOR (LUG), SIZED TO ACCEPT AWG. #10 TO #4 COPPER STRANDED WIRE SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

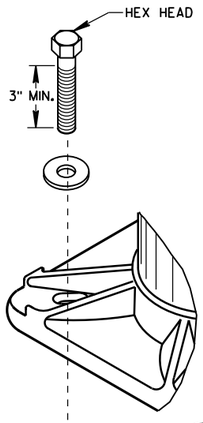
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

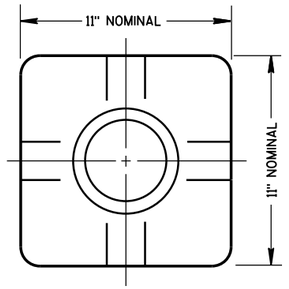
SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

PEDESTAL BASE COLLAR THREADING SHALL BE TAPERED AND IN ACCORDANCE WITH NATIONAL PIPE THREADING DIMENSIONS.

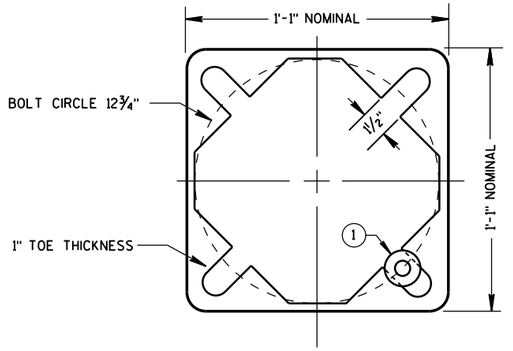
BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

THE ACCESS DOOR SHALL BE OF THE SAME MATERIAL AS THE BASE.

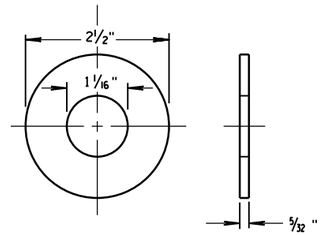




TOP VIEW
(PEDESTAL BASE)

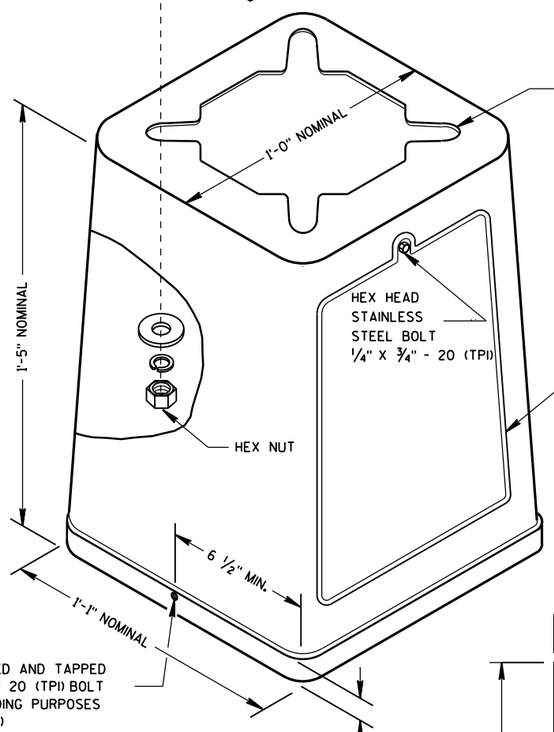


BOTTOM VIEW
(PEDESTAL BASE)

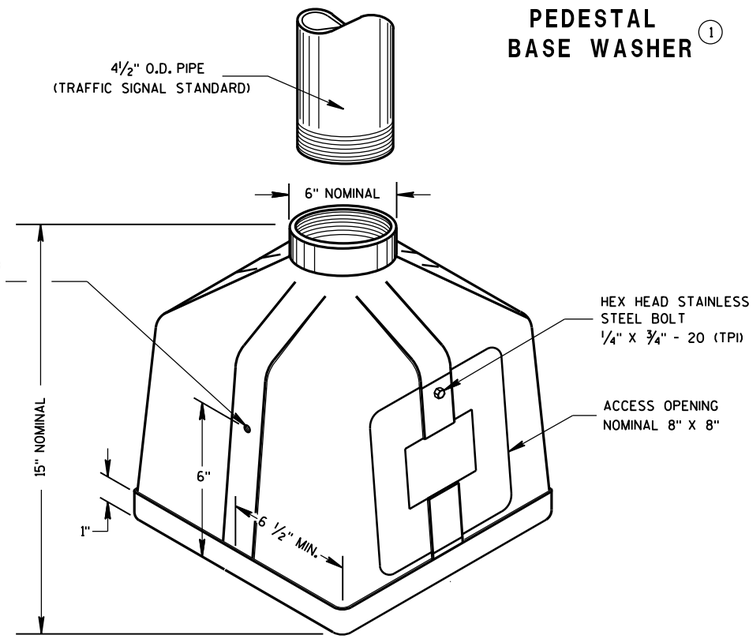


ZINC COATED STEEL WASHER
TO BE PROVIDED BY THE CONTRACTOR

PEDESTAL BASE WASHER (1)

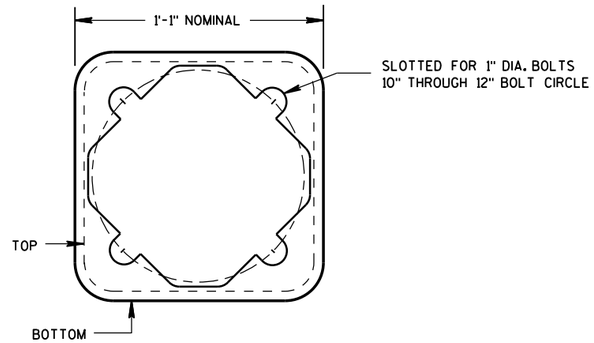


ISOMETRIC VIEW

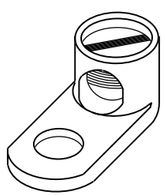


ISOMETRIC VIEW

PEDESTAL BASE



BOTTOM VIEW
(TRANSFORMER BASE)

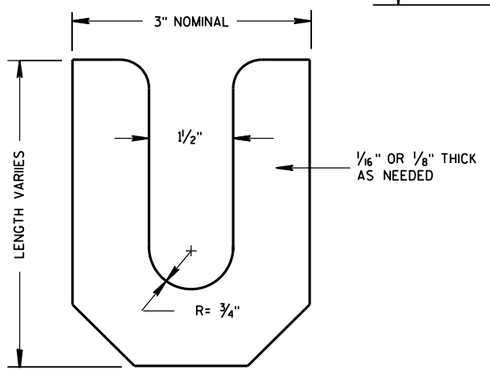


TYPICAL MECHANICAL CONNECTOR LUG

TO BE FURNISHED WITH EACH BASE

TRANSFORMER BASE

INTENDED FOR USE WITH TYPE 2, 3, 4, 5 & 6 POLES



LEVELING SHIM

TRANSFORMER/PEDESTAL BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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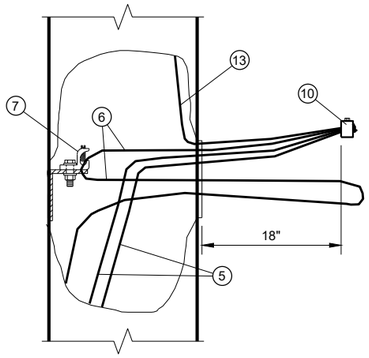
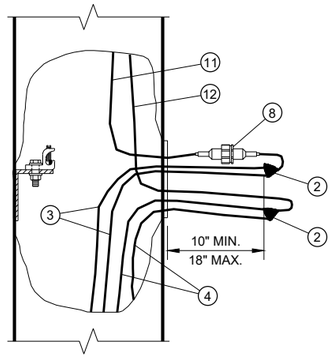
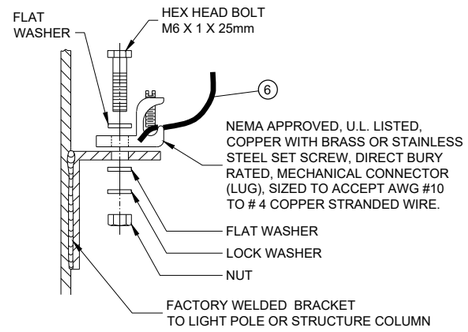


EQUIPMENT GROUNDING CONDUCTOR SLACK



UNGROUNDED CONDUCTOR SLACK (AND GROUNDED NEUTRAL SLACK IN GROUNDED NEUTRAL SYSTEM)

TYPICAL CONDUCTOR SLACK AT HANDHOLES



HANDHOLE GROUNDING LUG

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL

GENERAL NOTES

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

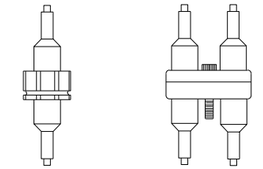
USE THIS DETAIL IN CONJUNCTION WITH THE ELECTRICAL DETAILS FOR THE APPLICATION, WHICH MAY BE A LIGHT POLE, SIGN BRIDGE, ETC.

THE GROUNDING ELECTRODE CONDUCTOR SHALL BE CONTINUOUS WITHOUT SPLICES FROM THE GROUNDING ELECTRODE THROUGH THE HANDHOLE GROUNDING LUG TO THE CONNECTOR.

THREE POLE WIRES ARE SHOWN FOR A SINGLE LUMINAIRE LIGHT POLE. THREE ADDITIONAL POLE WIRES REQUIRED FOR TWIN LUMINAIRE LIGHT POLES ARE OMITTED FROM THE DRAWING FOR CLARITY. IN THE TWIN POLE CASE, BUNDLE EACH SET OF THREE WIRES WITH A NYLON CABLE TIE.

IN 3-PHASE SYSTEMS, THERE WILL BE ONE MORE UNGROUNDED LINE WIRE, WHICH IS OMITTED FROM THE DRAWING FOR CLARITY.

CIRCUIT TAGS SHALL BE INSTALLED ONLY WHERE REQUIRED IN THE SPECIAL PROVISIONS.



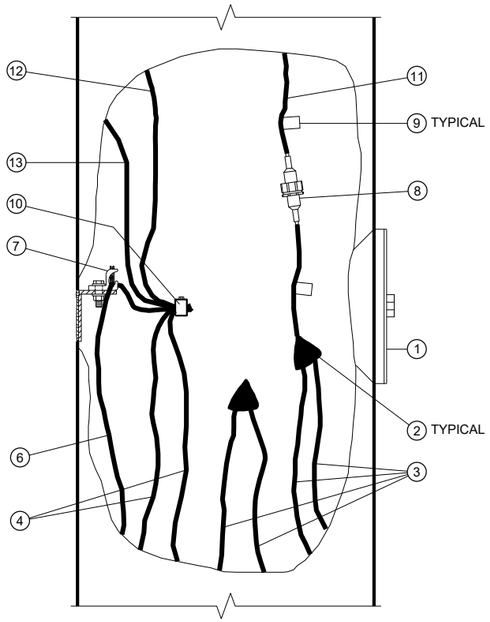
1 POLE (1P) 2 POLE (2P)

FUSE ASSEMBLIES

CONDUCTOR COLOR CODES

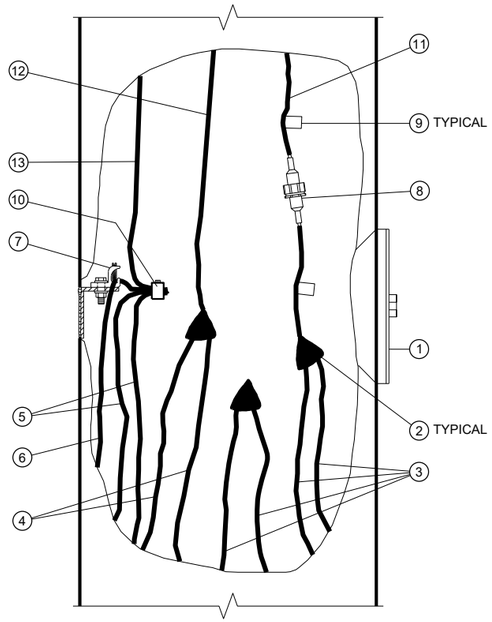
KEY	CONDUCTOR	COLOR
3	UNGROUNDED LINE WIRE	*
4	GROUNDED LINE WIRE	WHITE
5	SYSTEM GROUNDING LINE WIRE	GREEN
6	GROUNDING ELECTRODE CONDUCTOR	BARE
11	UNGROUNDED POLE WIRE	*
12	GROUNDED POLE WIRE	WHITE
13	EQUIPMENT GROUNDING POLE WIRE	GREEN

* FOLLOW COLOR CODING SHOWN IN THE PLANS. WHERE THE PLANS DO NOT SHOW COLOR CODING, USE BLACK FOR SINGLE LUMINAIRE POLES; BLACK AND RED FOR TWIN LUMINAIRE POLES.



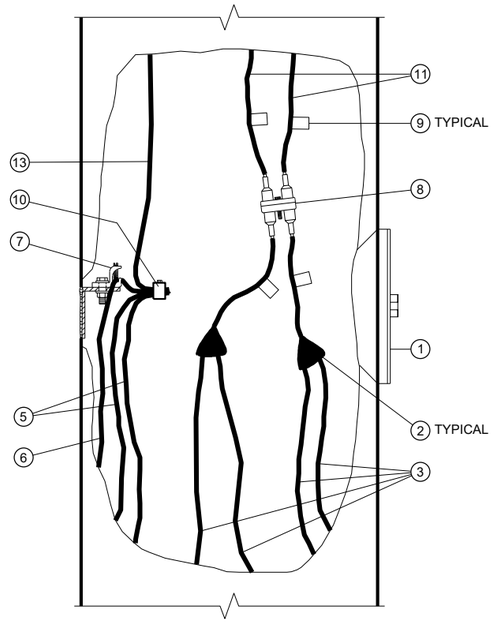
CUTAWAY HANDHOLE DETAIL

GROUNDED NEUTRAL SYSTEMS
1-ϕ



CUTAWAY HANDHOLE DETAIL

ISOLATED NEUTRAL SYSTEMS
1-ϕ SHOWN; 3-ϕ WYE SIMILAR
(SEE GENERAL NOTE)



CUTAWAY HANDHOLE DETAIL

PHASE TO PHASE SYSTEMS
1-ϕ SHOWN; 3-ϕ DELTA SIMILAR
(SEE GENERAL NOTE)

NOTE: REQUIRED CONDUCTOR SLACK NOT SHOWN ON "CUTAWAY HAND HOLE" DETAILS FOR DRAWING CLARITY, SEE "TYPICAL CONDUCTOR SLACK AT HANDHOLES" ON THIS SHEET.

1. HANDHOLE AND COVER
2. INSULATED SPLICE
3. UNGROUNDED LINE WIRE
4. GROUNDED LINE WIRE
5. SYSTEM GROUNDING LINE WIRE
6. GROUNDING ELECTRODE CONDUCTOR
7. HANDHOLE GROUNDING LUG
8. FUSE ASSEMBLY, 1P OR 2P AS REQUIRED
9. CIRCUIT TAG (SEE GENERAL NOTE)
10. REVERSIBLE PRESSURE OR COMPRESSION GROUNDING CONNECTOR (NOT INSULATED)
11. UNGROUNDED POLE WIRE
12. GROUNDED POLE WIRE
13. EQUIPMENT GROUNDING POLE WIRE

ELECTRICAL HANDHOLE WIRING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGI

FHWA

SDD 10A01 - 04

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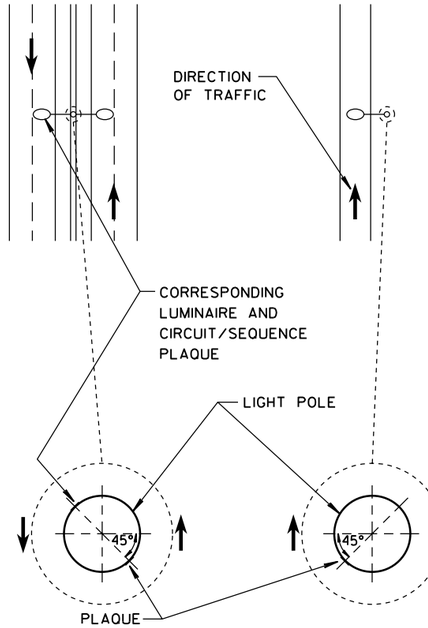


MEDIAN POLE SINGLE ARM POLE

LOCATION OF LIGHT POLE CIRCUIT/SEQUENCE PLAQUE

GENERAL NOTES

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

PLAQUES SHALL BE INCIDENTAL TO ALL NEW INSTALLATIONS.

WHERE SHOWN IN THE PLANS, REPLACEMENT PLAQUES WILL BE MEASURED AND PAID SEPARATELY.

FASTEN TOP, CENTER AND BOTTOM OF PLAQUE TO POLE OR OTHER LOCATION AS FOLLOWS:

GALVANIZED STEEL SHAFT - STAINLESS STEEL POP RIVETS

A588 STEEL SHAFT - SHIM FOR DRAINAGE WITH STAINLESS WASHERS; FASTEN WITH STAINLESS SELF-TAPPING SCREWS

ALUMINUM SHAFTS - ALUMINUM POP RIVETS

MOUNTING HEIGHT SHALL BE APPROXIMATELY 5.0' ABOVE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL OBSTRUCT.

PLAQUE MATERIALS:

BASE - SHEET ALUMINUM, 0.060" THICK.

FACE - WHITE, SELF-ADHESIVE VINYL SHEETING, NON-RETRORFLECTIVE

LINES - BLACK, 1/2" WIDE, SELF-ADHESIVE

CHARACTERS - BLACK, SELF-ADHESIVE, SERIES "D", SIZE AS SHOWN

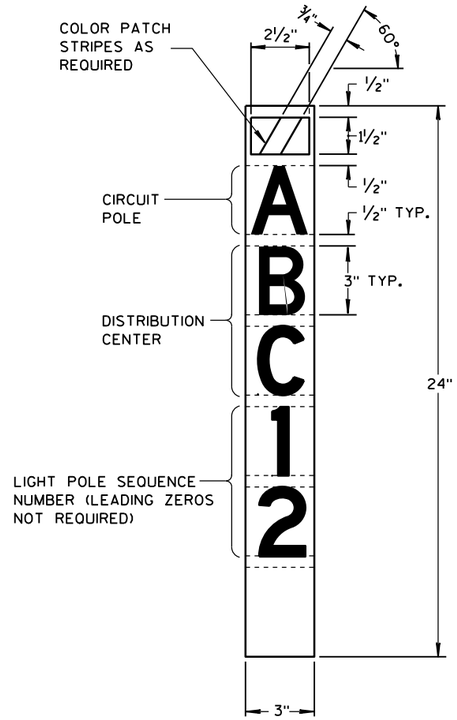
COLOR PATCHES - VARIOUS COLORS, SELF-ADHESIVE VINYL SHEETING

WITH THE APPROVAL OF THE ENGINEER, THE BASE MATERIAL MAY BE OMITTED AND THE FACE ADHERED DIRECTLY TO THE SURFACE, IN CASES SUCH AS SMOOTH, CLEAN ALUMINUM POLES.

ALTERNATIVE COMPUTER-GENERATED SIGN LETTERING MAY BE ACCEPTED IF THE ENGINEER FINDS IT TO BE EQUIVALENT.

COLOR PATCH CODE FOR HPS AND LED LUMINAIRES

HPS	LED	COLOR PATCH CODE
1000 WATT		NO PATCH
400 WATT	CATEGORY D	ORANGE
310 WATT		BLUE
250 WATT	CATEGORY C	ORANGE WITH WHITE STRIPE
200 WATT		RED
150 WATT	CATEGORY B	GREEN
100 WATT	CATEGORY A	BROWN
70 WATT	CATEGORY UDL	BROWN WITH WHITE STRIPE



LIGHT POLE CIRCUIT/SEQUENCE PLAQUE

IDENTIFICATION PLAQUES LIGHT POLES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Feb. 2015 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
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GENERAL NOTES

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

USE THIS DETAIL IN CONJUNCTION WITH THE DETAIL FOR ELECTRICAL HANDHOLE WIRING, SDD10A01.

USE TIME DELAY FUSE PER LUMINAIRE MANUFACTURER RECOMMENDATION.

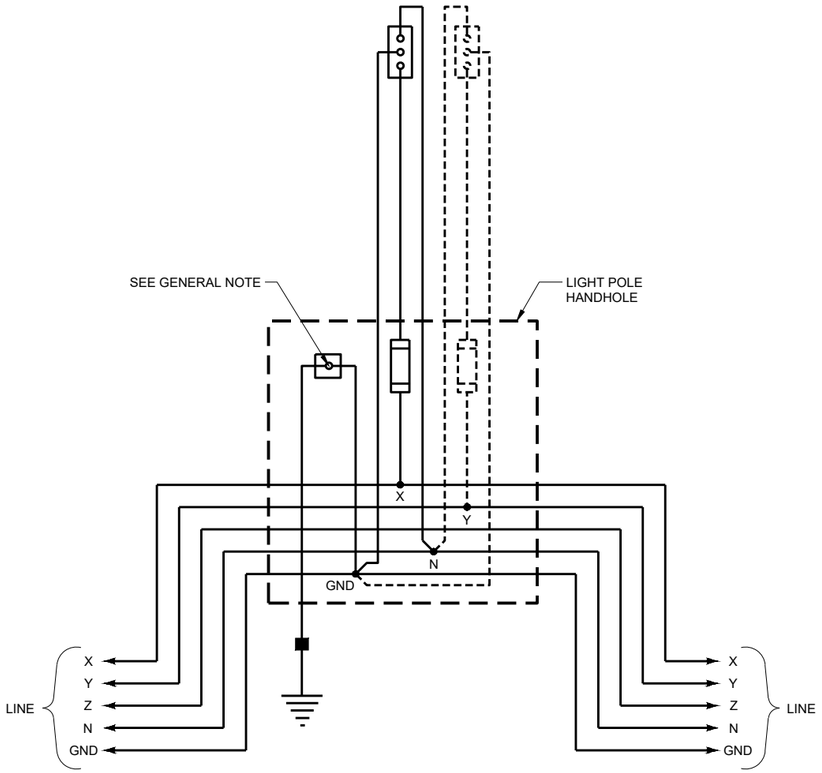
THE GROUNDING ELECTRODE CONDUCTOR SHALL BE CONTINUOUS WITHOUT SPLICES FROM THE GROUNDING ELECTRODE THROUGH THE HANDHOLD GROUNDING LUG TO THE CONNECTOR.

WIRING FOR SINGLE LUMINAIRE POLES IS SHOWN WITH SOLID LINES. WIRING FOR THE SECOND LUMINAIRE OF TWIN LUMINAIRE POLES IS SHOWN WITH DOTTED LINES.

THE PLANS WILL SHOW WHICH CIRCUIT LEG(S) ARE CONNECTED TO EACH INSTALLATION.

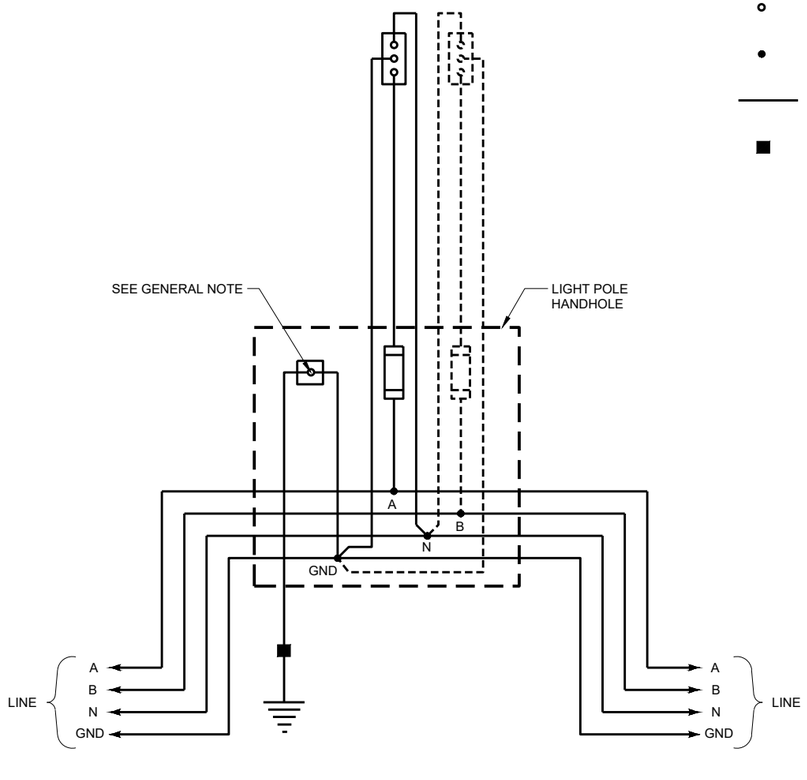
LEGEND

A,B,X,Y,Z	UNGROUNDED CIRCUIT CONDUCTORS
N	GROUNDED CIRCUIT CONDUCTORS
GND	EQUIPMENT GROUNDING CONDUCTOR
P	POLE (ELECTRICAL CIRCUIT)
ϕ	PHASE (ELECTRICAL CURRENT)
	HANDHOLE GROUND LUG
	SINGLE-POLE (1P) FUSE ASSEMBLY
	UNFUSED LUMINAIRE
	EQUIPMENT GROUNDING ELECTRODE
	TERMINAL
	SPLICE
	CONDUCTOR
	EXOTHERMIC WELD



TYPICAL WIRING DIAGRAM

ISOLATED NEUTRAL SYSTEM
3 - ϕ 208Y / 120VAC OR 480Y / 277VAC 4 WIRE



TYPICAL WIRING DIAGRAM

ISOLATED NEUTRAL SYSTEM
1 - ϕ 120 / 240VAC OR 240 / 480VAC 3 WIRE

ELECTRICAL DETAILS
GROUND MOUNT LIGHT POLES
ISOLATED NEUTRAL SYSTEM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGI

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SDD 10A05 - 03

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SDD 10A05 - 03

GENERAL NOTES

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

USE THIS DETAIL IN CONJUNCTION WITH THE DETAIL FOR ELECTRICAL HANDHOLE WIRING, SDD10A01.

USE TIME DELAY FUSE PER LUMINAIRE MANUFACTURER RECOMMENDATION.

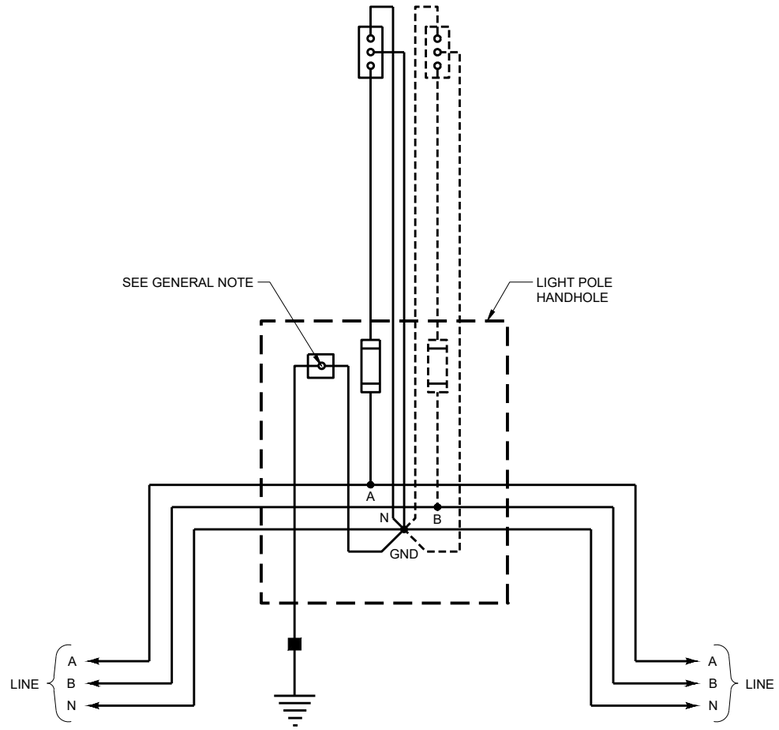
THE GROUNDING ELECTRODE CONDUCTOR SHALL BE CONTINUOUS WITHOUT SPLICES FROM THE GROUNDING ELECTRODE THROUGH THE HANDHOLD GROUNDING LUG TO THE CONNECTOR.

WIRING FOR SINGLE LUMINAIRE POLES IS SHOWN WITH SOLID LINES. WIRING FOR THE SECOND LUMINAIRE OF TWIN LUMINAIRE POLES IS SHOWN WITH DOTTED LINES.

THE PLANS WILL SHOW WHICH CIRCUIT LEG(S) ARE CONNECTED TO EACH INSTALLATION.

LEGEND

A,B,X,Y,Z	UNGROUNDED CIRCUIT CONDUCTORS
N	GROUNDED CIRCUIT CONDUCTORS
GND	EQUIPMENT GROUNDING CONDUCTOR
P	POLE (ELECTRICAL CIRCUIT)
ϕ	PHASE (ELECTRICAL CURRENT)
	HANDHOLE GROUND LUG
	SINGLE-POLE (1P) FUSE ASSEMBLY
	UNFUSED LUMINAIRE
	EQUIPMENT GROUNDING ELECTRODE
	TERMINAL
	SPLICE
	CONDUCTOR
	EXOTHERMIC WELD



TYPICAL WIRING DIAGRAM

GROUNDED NEUTRAL SYSTEM
1 - ϕ 240 / 480VAC 3 WIRE OR 480VAC 2 WIRE

ELECTRICAL DETAILS
GROUND MOUNT LIGHT POLES
GROUNDED NEUTRAL SYSTEM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE
/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGI

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SDD 10A06 - 03

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SDD 10A06 - 03

GENERAL NOTES

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

USE THIS DETAIL IN CONJUNCTION WITH THE DETAIL FOR ELECTRICAL HANDHOLE WIRING, SDD10A01.

USE TIME DELAY FUSE PER LUMINAIRE MANUFACTURER RECOMMENDATION.

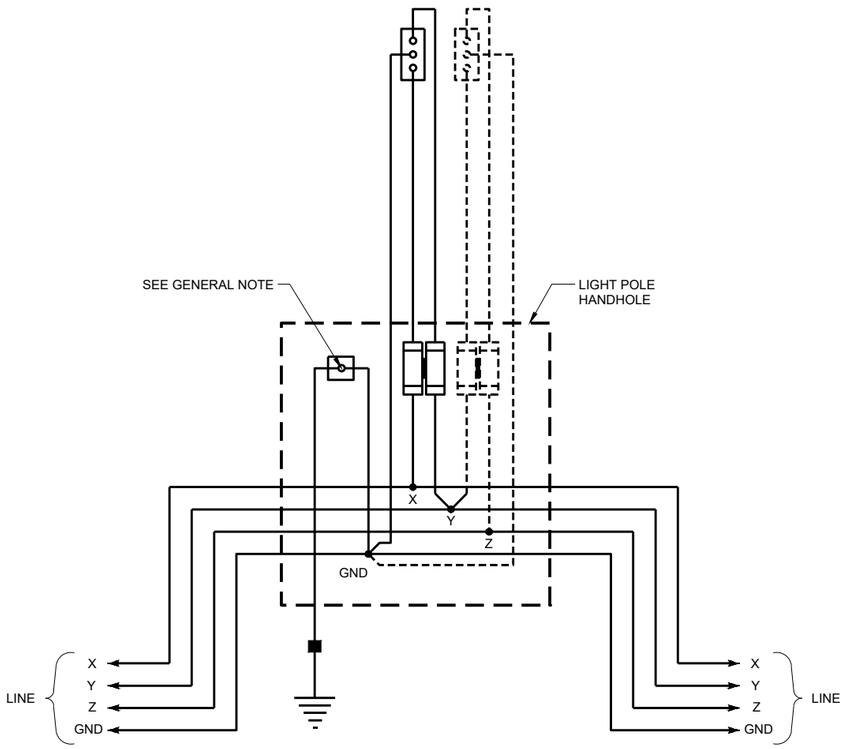
THE GROUNDING ELECTRODE CONDUCTOR SHALL BE CONTINUOUS WITHOUT SPLICES FROM THE GROUNDING ELECTRODE THROUGH THE HANDHOLD GROUNDING LUG TO THE CONNECTOR.

WIRING FOR SINGLE LUMINAIRE POLES IS SHOWN WITH SOLID LINES. WIRING FOR THE SECOND LUMINAIRE OF TWIN LUMINAIRE POLES IS SHOWN WITH DOTTED LINES.

THE PLANS WILL SHOW WHICH CIRCUIT LEG(S) ARE CONNECTED TO EACH INSTALLATION.

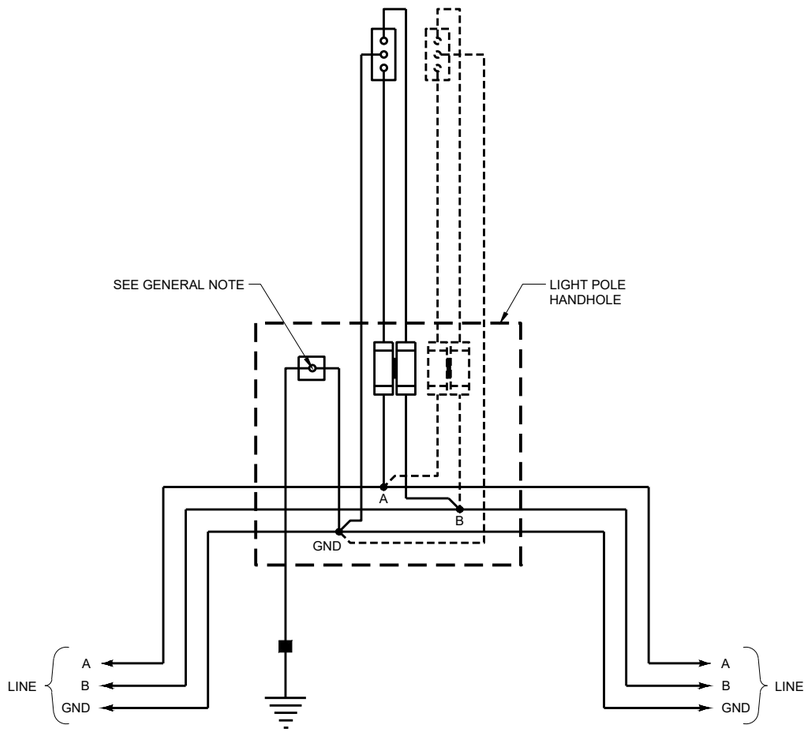
LEGEND

A,B,X,Y,Z	UNGROUNDED CIRCUIT CONDUCTORS
N	GROUNDED CIRCUIT CONDUCTORS
GND	EQUIPMENT GROUNDING CONDUCTOR
P	POLE (ELECTRICAL CIRCUIT)
ϕ	PHASE (ELECTRICAL CURRENT)
	HANDHOLE GROUND LUG
	SINGLE-POLE (1P) FUSE ASSEMBLY
	TWO-POLE (2P) FUSE ASSEMBLY
	UNFUSED LUMINAIRE
	EQUIPMENT GROUNDING ELECTRODE
	TERMINAL
	SPLICE
	CONDUCTOR
	EXOTHERMIC WELD



TYPICAL WIRING DIAGRAM

PHASE - TO - PHASE DELTA SYSTEM
3 - ϕ 480VAC 3 WIRE



TYPICAL WIRING DIAGRAM

UNGROUNDED SYSTEM
1 - ϕ 120 - 120VAC 2 WIRE

ELECTRICAL DETAILS
GROUND MOUNT LIGHT POLES
PHASE - TO - PHASE SYSTEMS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGI

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SDD 10A07 - 03

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SDD 10A07 - 03

GENERAL NOTES

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

USE THIS DETAIL IN CONJUNCTION WITH THE DETAIL FOR ELECTRICAL HANDHOLE WIRING, SDD10A01.

USE TIME DELAY FUSE PER LUMINAIRE MANUFACTURER RECOMMENDATION.

WIRING FOR SINGLE LUMINAIRE POLES IS SHOWN WITH SOLID LINES. WIRING FOR THE SECOND LUMINAIRE OF TWIN LUMINAIRE POLES IS SHOWN WITH DOTTED LINES.

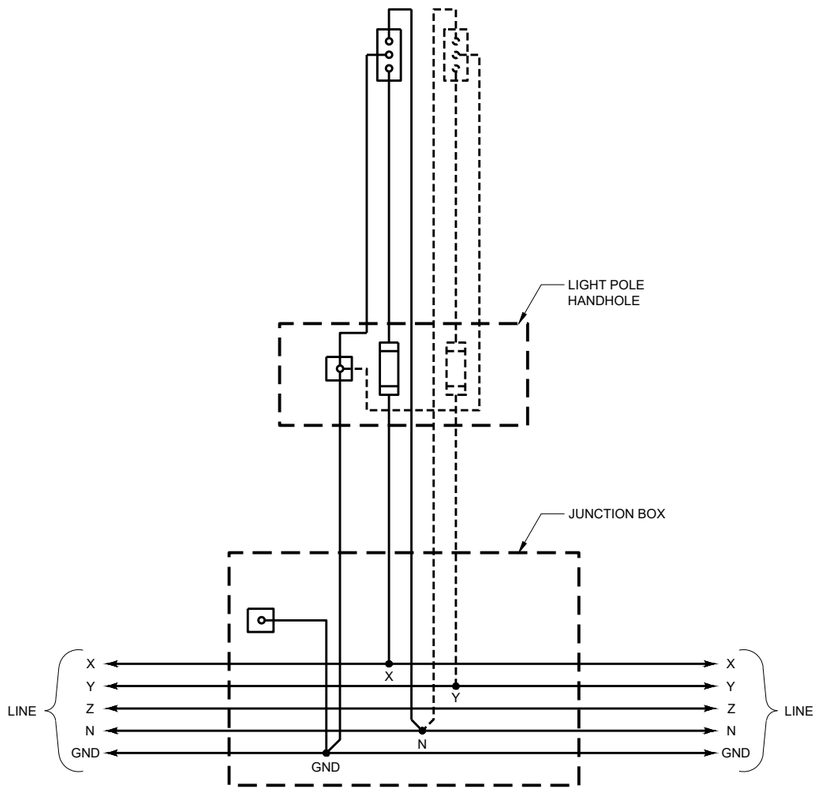
THE PLANS WILL SHOW WHICH CIRCUIT LEG(S) ARE CONNECTED TO EACH INSTALLATION.

WIRE SIZE FROM THE JUNCTION BOX TO THE POLE HANDHOLE SHALL EQUAL THE SIZE OF THE POLE WIRE.

THE INTENT OF JUNCTION BOX SPLICES AS SHOWN IN THIS DETAIL IS FOR LIGHTING SYSTEMS WITH HEAVY LINE WIRE TOO LARGE TO PULL THROUGH THE CONDUIT INTO THE POLE HANDHOLE, DUE TO CONDUIT FILL REQUIREMENTS OF N.E.C. AND / OR THE STIFFNESS OF THE WIRE COMPARED TO THE NUMBER OF BENDS IN THE CONDUIT. IN CASES WHERE LINE WIRE IS LIGHTER, SUCH AS SMALL ER SYSTEMS OR TOWARD THE FURTHEST END OF A LARGER SYSTEM PULL THE LINE WIRE INTO THE POLE HANDHOLE FOR SPLICING.

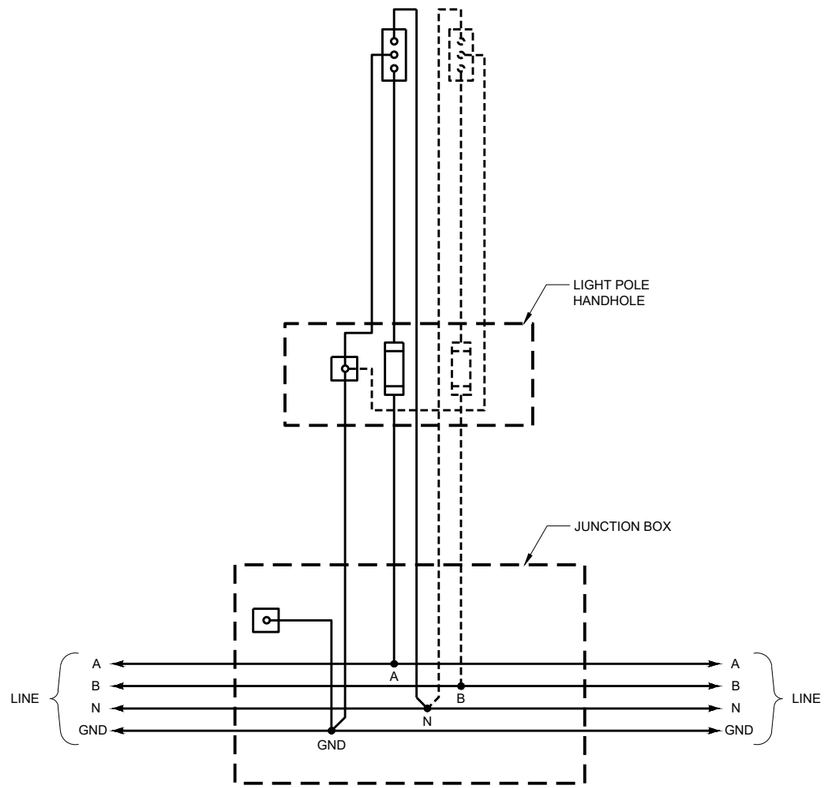
LEGEND

A,B,X,Y,Z	UNGROUNDED CIRCUIT CONDUCTORS
N	GROUNDED CIRCUIT CONDUCTORS
GND	EQUIPMENT GROUNDING CONDUCTOR
P	POLE (ELECTRICAL CIRCUIT)
ϕ	PHASE (ELECTRICAL CURRENT)
	HANDHOLE GROUND LUG
	SINGLE-POLE (1P) FUSE ASSEMBLY
	UNFUSED LUMINAIRE
	EQUIPMENT GROUNDING ELECTRODE
	TERMINAL
	SPLICE
	CONDUCTOR
	EXOTHERMIC WELD



TYPICAL WIRING DIAGRAM

ISOLATED NEUTRAL SYSTEM
3 - ϕ 208Y / 120VAC OR 480Y / 277VAC 4 WIRE



TYPICAL WIRING DIAGRAM

ISOLATED NEUTRAL SYSTEM
1 - ϕ 120 / 240VAC OR 240 / 480VAC 3 WIRE

ELECTRICAL DETAILS
STRUCTURE MOUNT LIGHT POLES
ISOLATED NEUTRAL SYSTEMS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGI

FHWA

6

SDD 10A08 - 03

GENERAL NOTES

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

USE THIS DETAIL IN CONJUNCTION WITH THE DETAIL FOR ELECTRICAL HANDHOLE WIRING, SDD10A01.

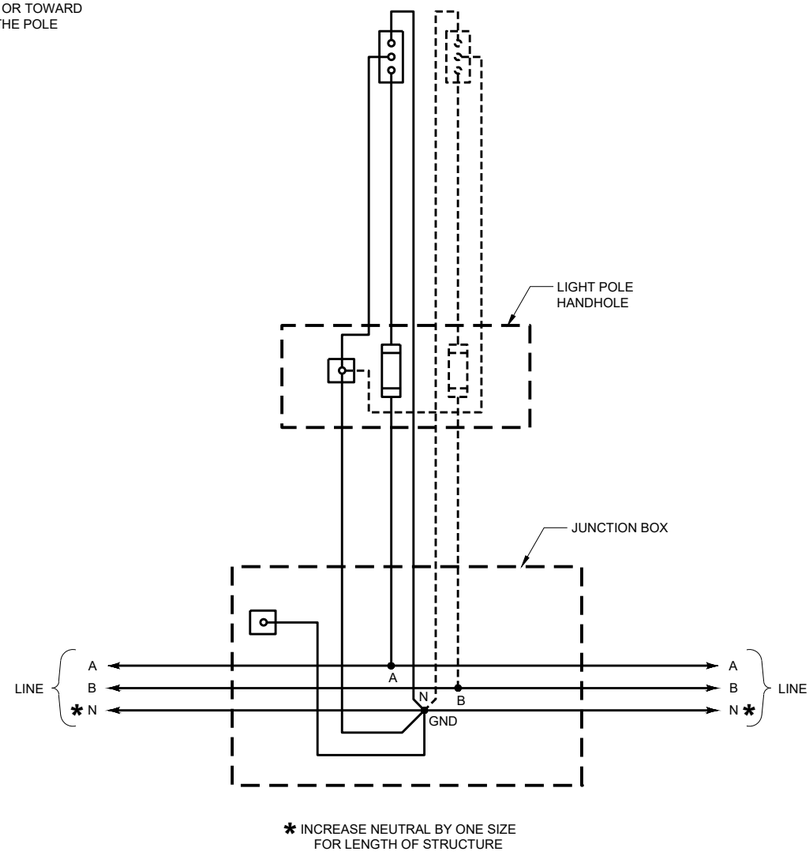
USE TIME DELAY FUSE PER LUMINAIRE MANUFACTURER RECOMMENDATION.

WIRING FOR SINGLE LUMINAIRE POLES IS SHOWN WITH SOLID LINES. WIRING FOR THE SECOND LUMINAIRE OF TWIN LUMINAIRE POLES IS SHOWN WITH DOTTED LINES.

THE PLANS WILL SHOW WHICH CIRCUIT LEG(S) ARE CONNECTED TO EACH INSTALLATION.

WIRE SIZE FROM THE JUNCTION BOX TO THE POLE HANDHOLE SHALL EQUAL THE SIZE OF THE POLE WIRE.

THE INTENT OF JUNCTION BOX SPLICES AS SHOWN IN THIS DETAIL IS FOR LIGHTING SYSTEMS WITH HEAVY LINE WIRE TOO LARGE TO PULL THROUGH THE CONDUIT INTO THE POLE HANDHOLE, DUE TO CONDUIT FILL REQUIREMENTS OF N.E.C. AND / OR THE STIFFNESS OF THE WIRE COMPARED TO THE NUMBER OF BENDS IN THE CONDUIT. IN CASES WHERE LINE WIRE IS LIGHTER, SUCH AS SMALL ER SYSTEMS OR TOWARD THE FURTHEST END OF A LARGER SYSTEM PULL THE LINE WIRE INTO THE POLE HANDHOLE FOR SPLICING.



* INCREASE NEUTRAL BY ONE SIZE FOR LENGTH OF STRUCTURE

TYPICAL WIRING DIAGRAM

GROUNDED NEUTRAL SYSTEM
1 - ϕ 240 / 480VAC 3 WIRE OR 480VAC 2 WIRE

LEGEND

A,B,X,Y,Z	UNGROUNDED CIRCUIT CONDUCTORS
N	GROUNDED CIRCUIT CONDUCTORS
GND	EQUIPMENT GROUNDING CONDUCTOR
P	POLE (ELECTRICAL CIRCUIT)
ϕ	PHASE (ELECTRICAL CURRENT)
	HANDHOLE GROUND LUG
	SINGLE-POLE (1P) FUSE ASSEMBLY
	UNFUSED LUMINAIRE
	EQUIPMENT GROUNDING ELECTRODE
	TERMINAL
	SPLICE
	CONDUCTOR
	EXOTHERMIC WELD

ELECTRICAL DETAILS
STRUCTURE MOUNT LIGHT POLES
GROUNDED NEUTRAL SYSTEMS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGI 67

FHWA

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SDD 10A09 - 03

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SDD 10A09 - 03

GENERAL NOTES

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

USE THIS DETAIL IN CONJUNCTION WITH THE DETAIL FOR ELECTRICAL HANDHOLE WIRING, SDD10A01.

USE TIME DELAY FUSE PER LUMINAIRE MANUFACTURER RECOMMENDATION.

WIRING FOR SINGLE LUMINAIRE POLES IS SHOWN WITH SOLID LINES. WIRING FOR THE SECOND LUMINAIRE OF TWIN LUMINAIRE POLES IS SHOWN WITH DOTTED LINES.

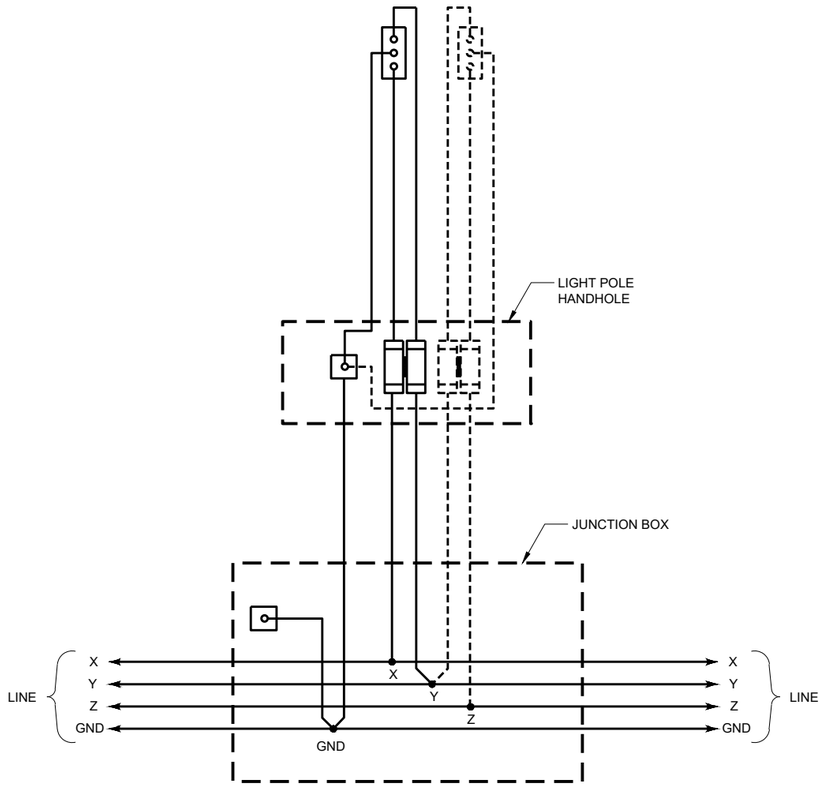
THE PLANS WILL SHOW WHICH CIRCUIT LEG(S) ARE CONNECTED TO EACH INSTALLATION.

WIRE SIZE FROM THE JUNCTION BOX TO THE POLE HANDHOLE SHALL EQUAL THE SIZE OF THE POLE WIRE.

THE INTENT OF JUNCTION BOX SPLICES AS SHOWN IN THIS DETAIL IS FOR LIGHTING SYSTEMS WITH HEAVY LINE WIRE TOO LARGE TO PULL THROUGH THE CONDUIT INTO THE POLE HANDHOLE, DUE TO CONDUIT FILL REQUIREMENTS OF N.E.C. AND / OR THE STIFFNESS OF THE WIRE COMPARED TO THE NUMBER OF BENDS IN THE CONDUIT. IN CASES WHERE LINE WIRE IS LIGHTER, SUCH AS SMALL ER SYSTEMS OR TOWARD THE FURTHEST END OF A LARGER SYSTEM PULL THE LINE WIRE INTO THE POLE HANDHOLE FOR SPLICING.

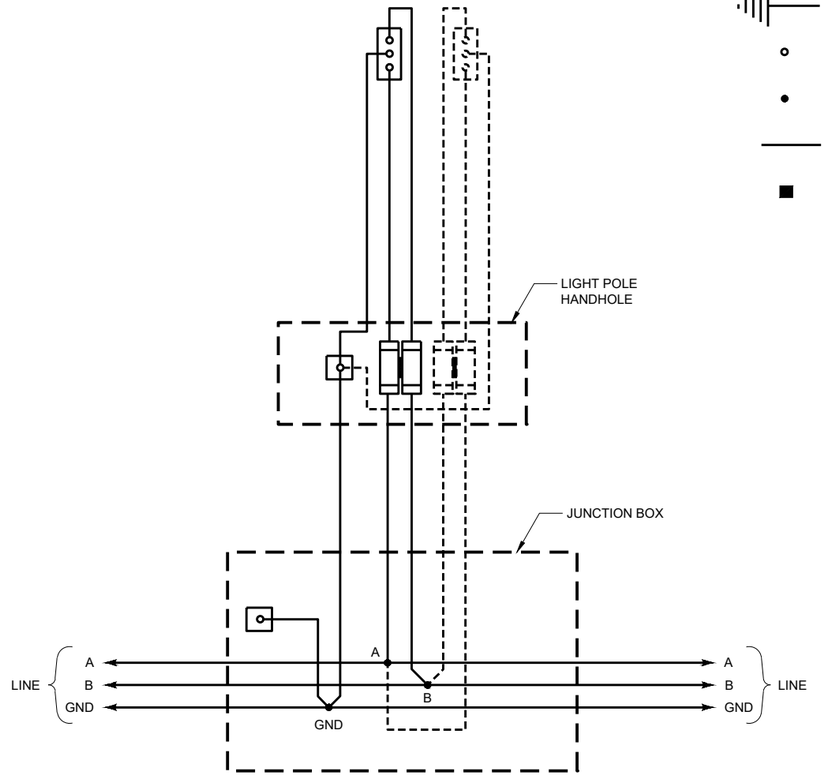
LEGEND

A,B,X,Y,Z	UNGROUNDED CIRCUIT CONDUCTORS
N	GROUNDED CIRCUIT CONDUCTORS
GND	EQUIPMENT GROUNDING CONDUCTOR
P	POLE (ELECTRICAL CIRCUIT)
ϕ	PHASE (ELECTRICAL CURRENT)
	HANDHOLE GROUND LUG
	SINGLE-POLE (1P) FUSE ASSEMBLY
	TWO-POLE (2P) FUSE ASSEMBLY
	UNFUSED LUMINAIRE
	EQUIPMENT GROUNDING ELECTRODE
	TERMINAL
	SPLICE
	CONDUCTOR
	EXOTHERMIC WELD



TYPICAL WIRING DIAGRAM

PHASE - TO - PHASE DELTA SYSTEM
3 - ϕ 480VAC 3 WIRE



TYPICAL WIRING DIAGRAM

UNGROUNDED SYSTEM
1 - ϕ 120 - 120VAC 2 WIRE

ELECTRICAL DETAILS
STRUCTURE MOUNT LIGHT POLES
PHASE TO PHASE SYSTEMS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGI

FHWA

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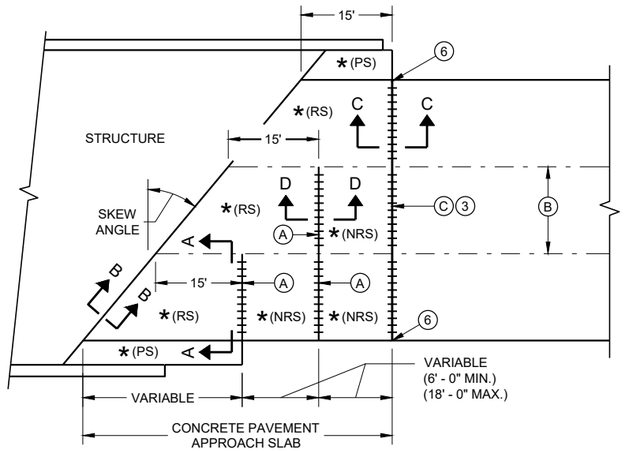
SDD 10A10 - 03



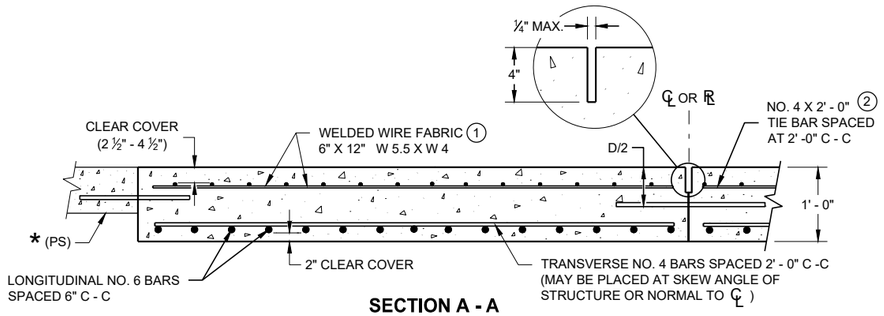
SKEWED APPROACH
(PAVEMENT MORE THAN TWO LANES)

(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

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.

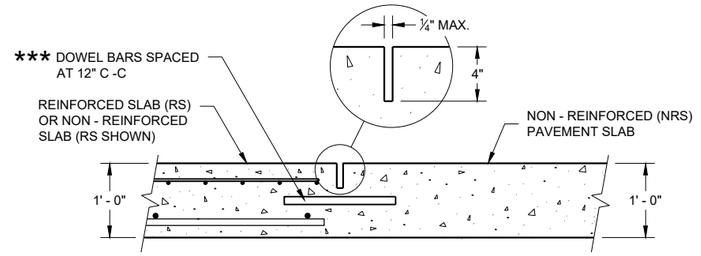
(5) PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.

(6) EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.

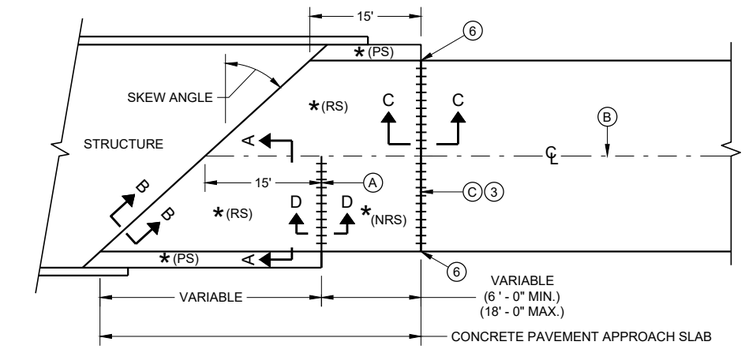
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℞.

(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.

(C) 1 ½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℞ .

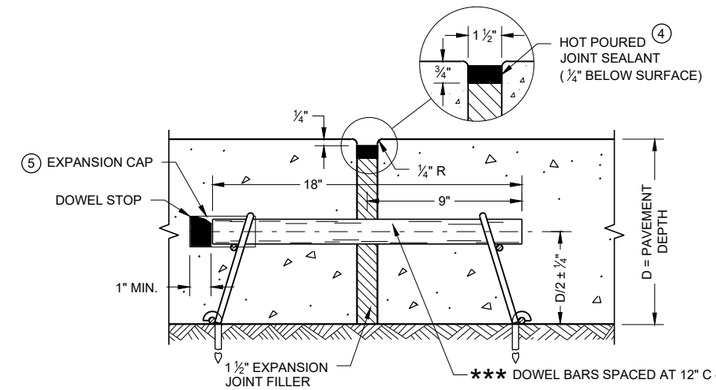


SECTION D - D
CONTRACTION JOINT

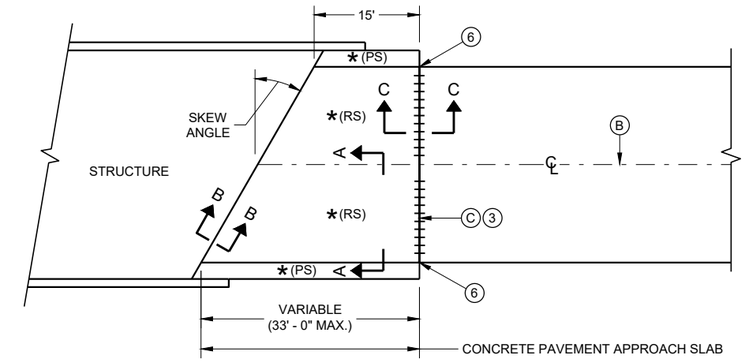


SKEWS > 20°
(PAVEMENT WIDTH ≤ 30')

SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT

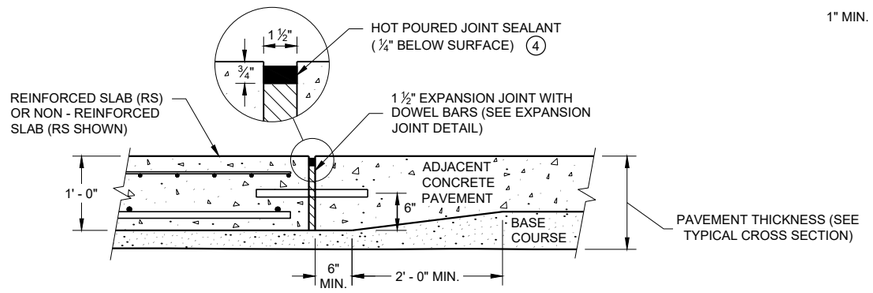


EXPANSION JOINT DETAIL



SKEWS ≤ 20°
(PAVEMENT WIDTH ≤ 30')

APPROACH SLAB AND ADJACENT PAVEMENT



SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Peter Kemp, P.E.
PAVEMENT SUPERVISO

FHWA

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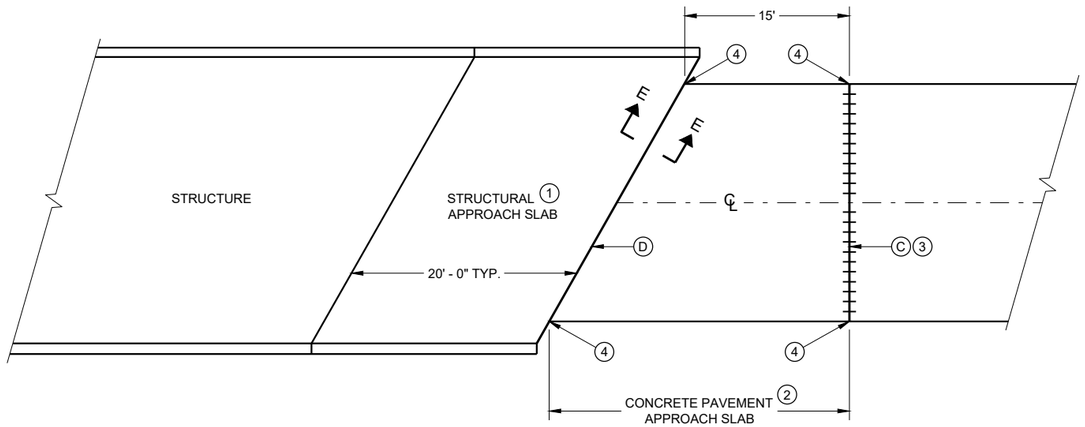
SDD 13B02 - 09a



BRIDGE APPROACHES

GENERAL NOTES

ALL PROJECTS THAT INVOLVE A STRUCTURAL APPROACH SLAB WILL ALSO HAVE A CONCRETE PAVEMENT APPROACH SLAB.

(1) SEE BRIDGE PLAN.

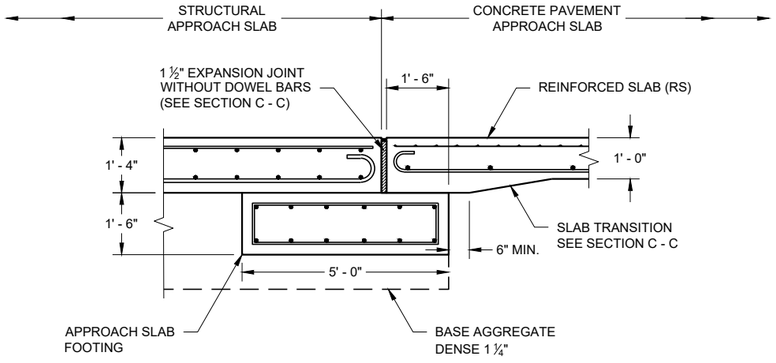
(2) CONFORM TO SDD 13B02 SHEET A FOR CONCRETE PAVEMENT APPROACH SLAB DETAILS

(3) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

(4) EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.

(C) 1 ½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℞.

(D) 1 ½" EXPANSION JOINT (NO DOWELS)



SECTION E - E
FOOTING DETAIL
STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH

STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

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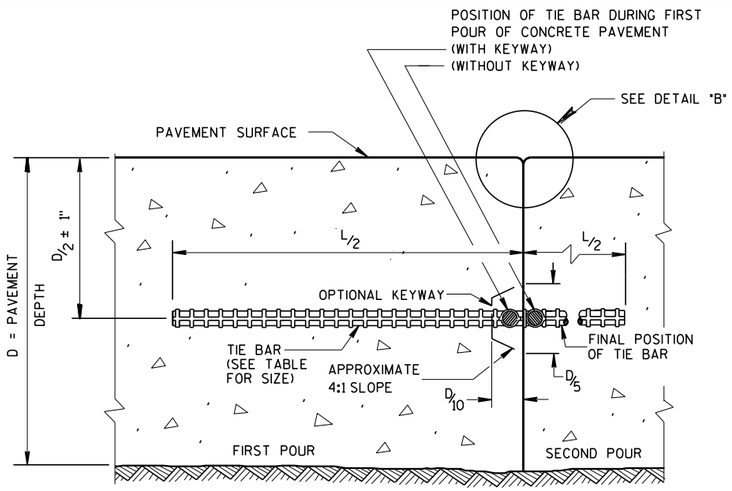
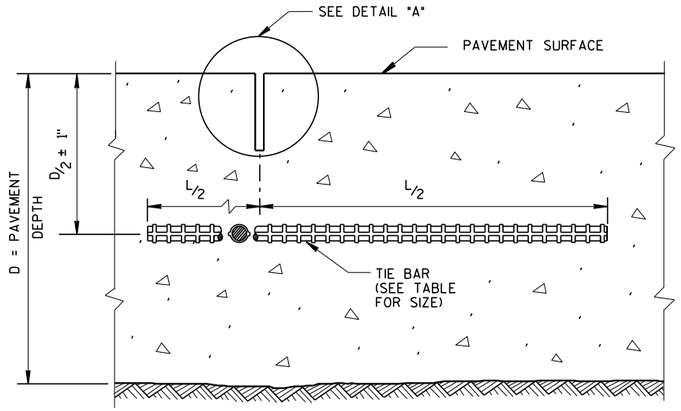
SDD 13B02 - 09b



CONSTRUCTION JOINT



SAWED JOINT

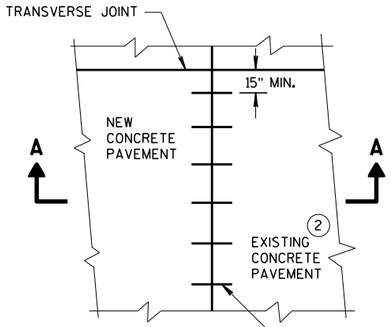
GENERAL NOTES

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

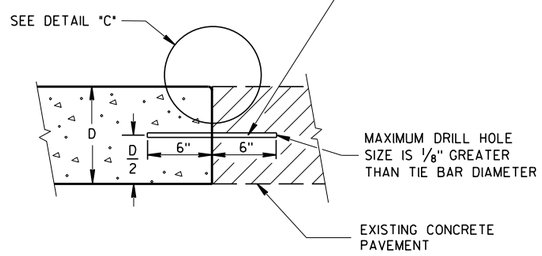
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

(2) PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

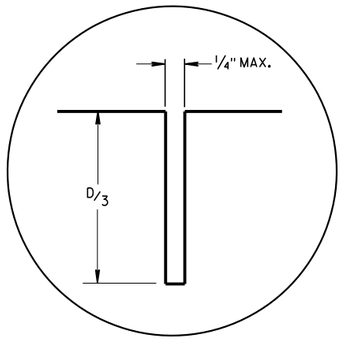


PLAN VIEW

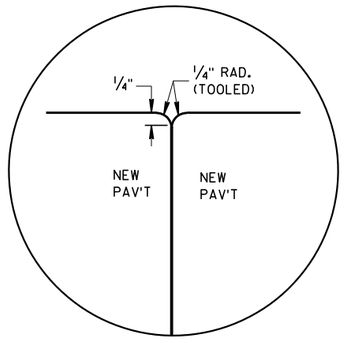


SECTION A-A

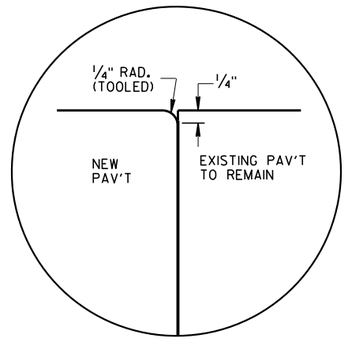
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT



DETAIL "A"



DETAIL "B"



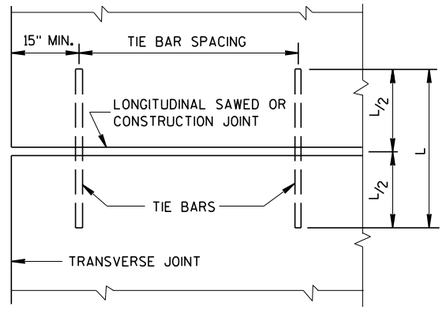
DETAIL "C"

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" MINUMUM 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 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPE
FHWA

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S.D.D. 13 C 1-19

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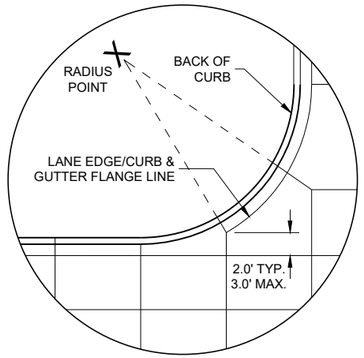
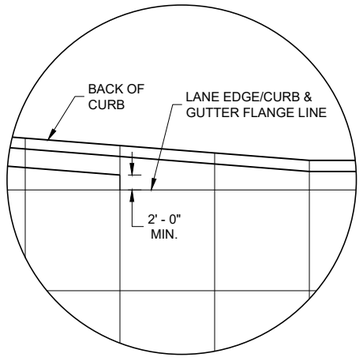
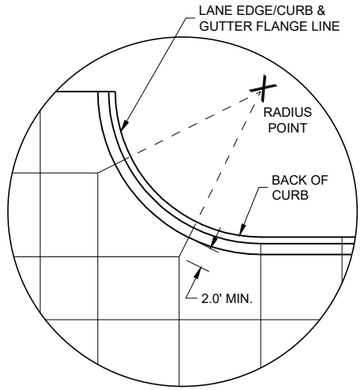
S.D.D. 13 C 1-19



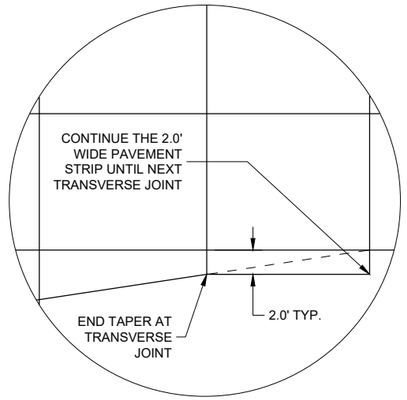
DETAIL "A"



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.

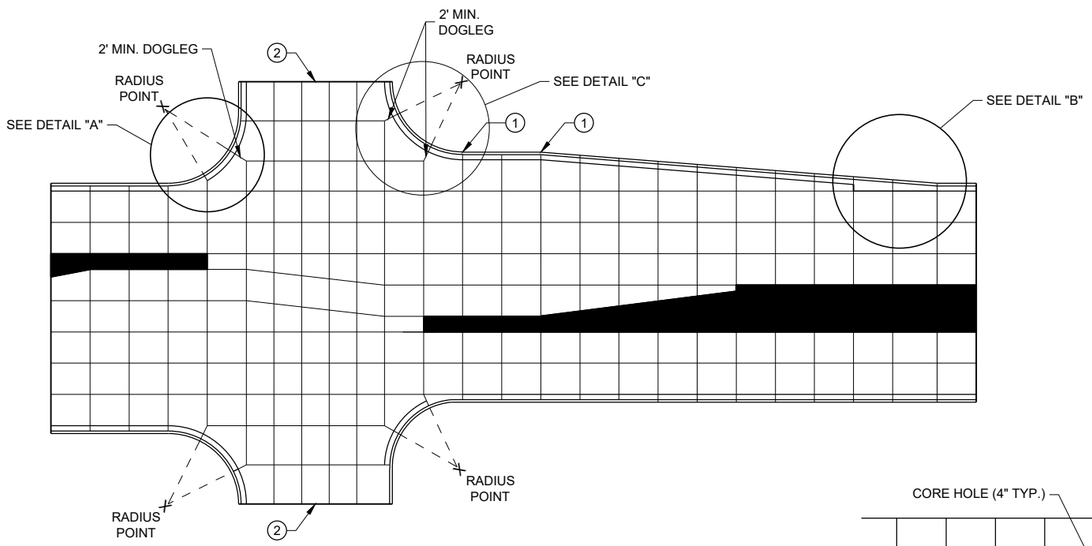
AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

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.

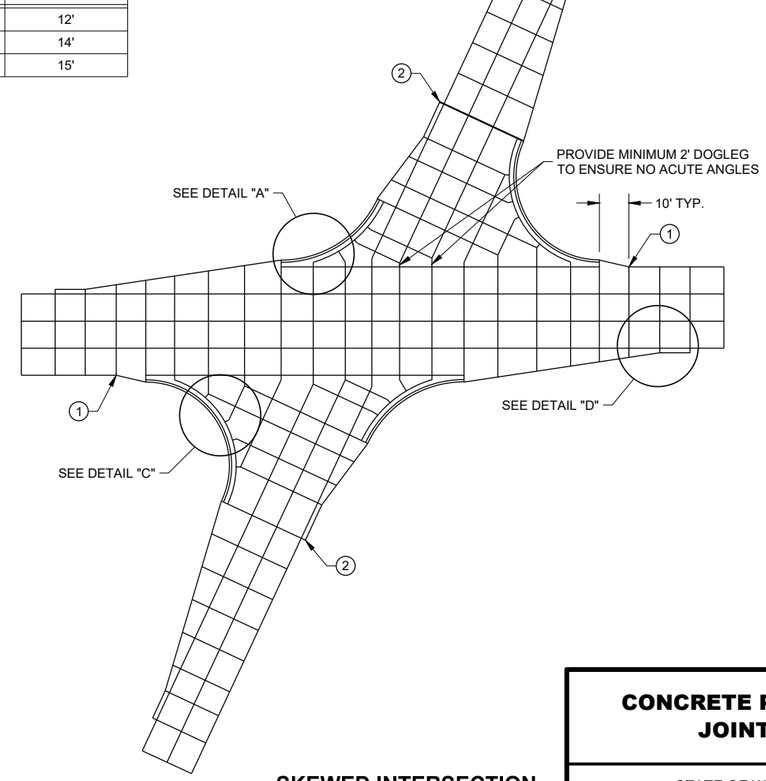
(3) THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



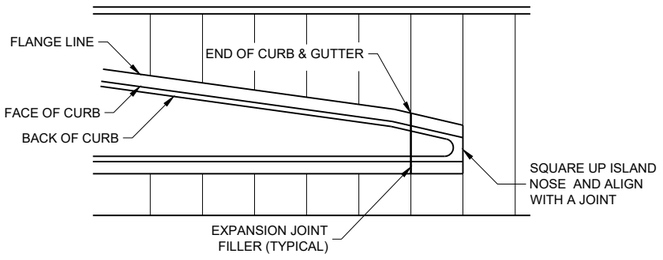
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

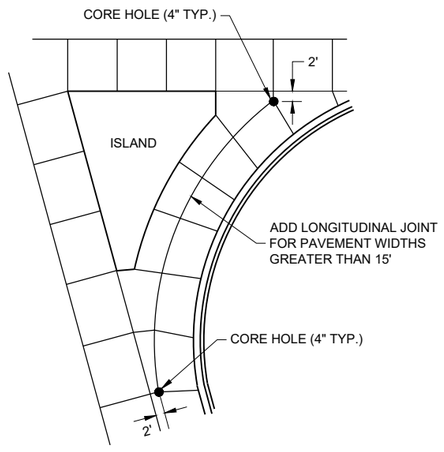
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6 ½"	12'
7", 7 ½"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 13C18 - 08a

6

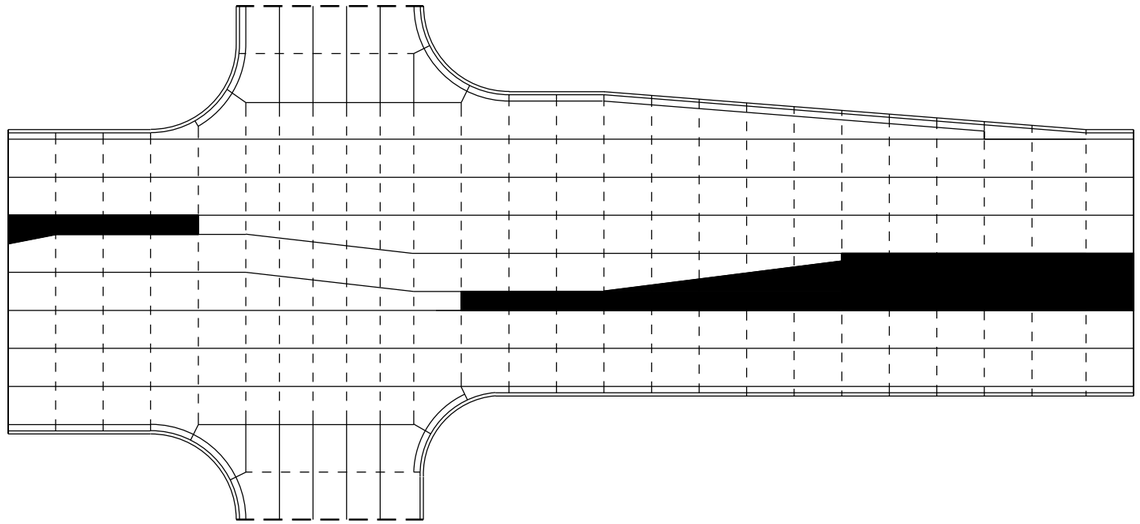
SDD 13C18 - 08a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

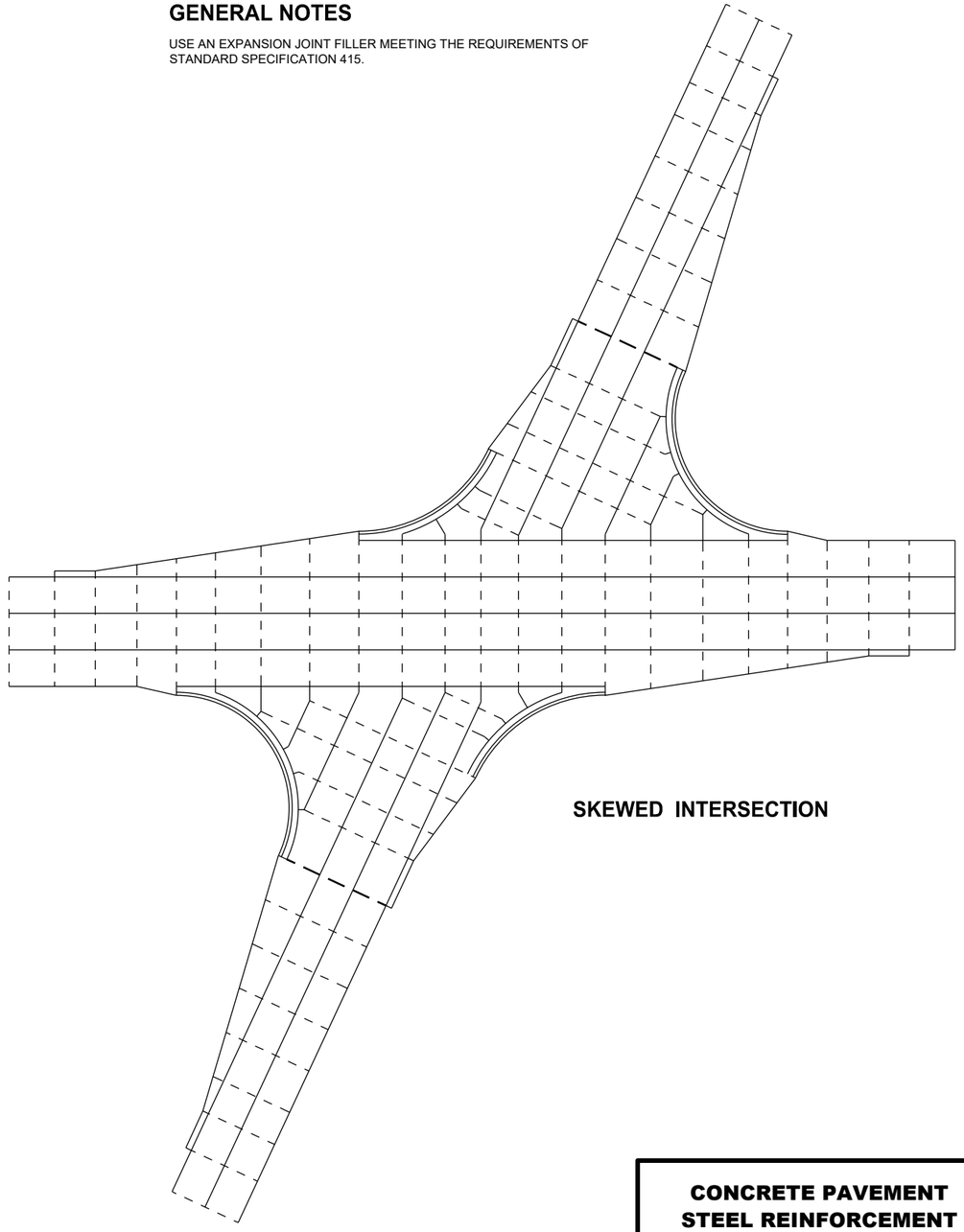
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

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



SKEWED INTERSECTION

6

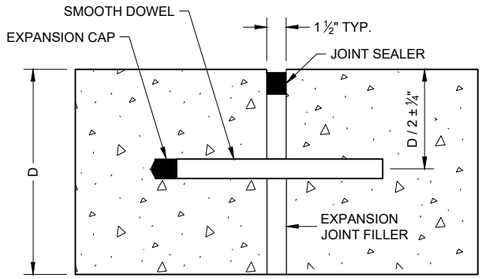
SDD 13C18 - 08b

CONCRETE PAVEMENT STEEL REINFORCEMENT

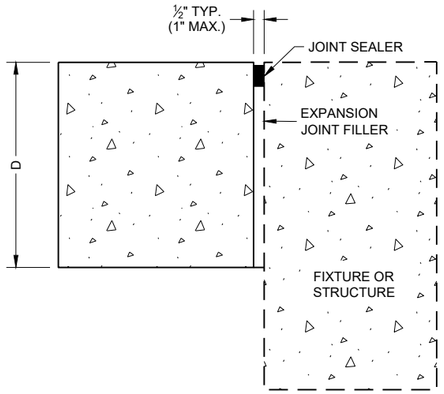
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 13C18 - 08b



DOWELED TRANSVERSE (1)



UNTIED - LONGITUDINAL

EXPANSION JOINTS

TIE BAR TABLE

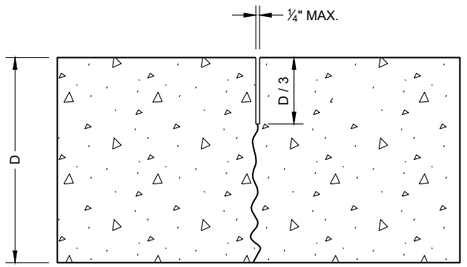
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

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

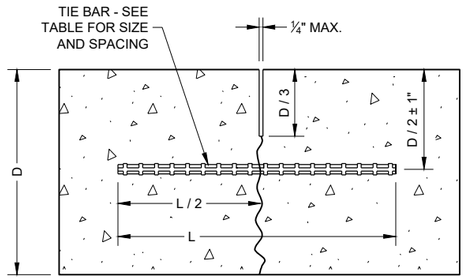
** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

GENERAL NOTES

1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATETHE 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 ¼" RADIUS.
6. ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



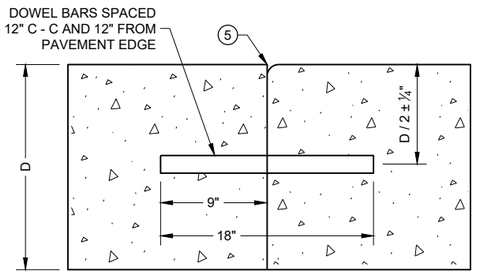
UNDOWELED TRANSVERSE



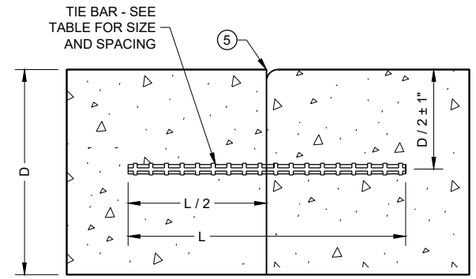
TIED LONGITUDINAL

DOWELED TRANSVERSE

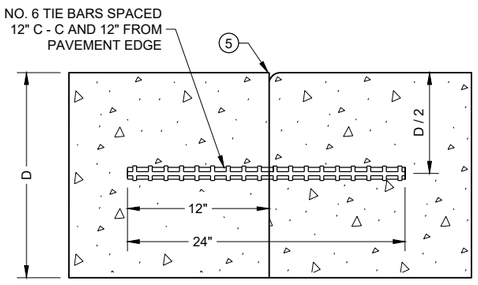
CONTRACTION JOINTS (2)



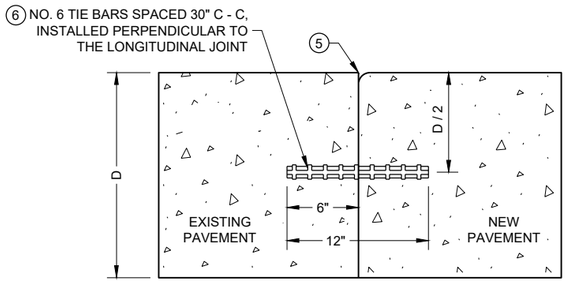
DOWELED TRANSVERSE (3)



TIED LONGITUDINAL



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

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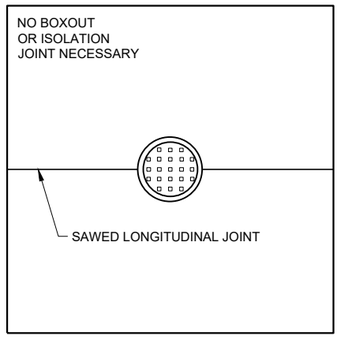
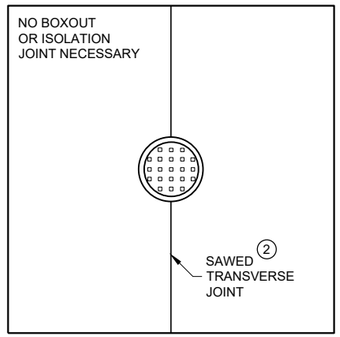
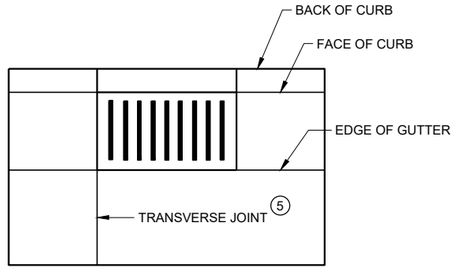
SDD 13C18 - 08c



MANHOLE WITH LONGITUDINAL JOINT



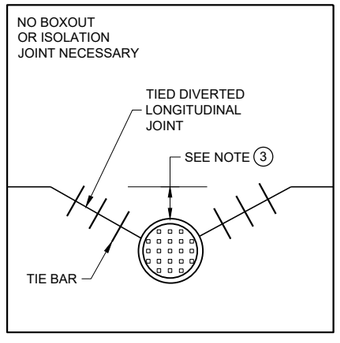
MANHOLE WITH TRANSVERSE JOINT



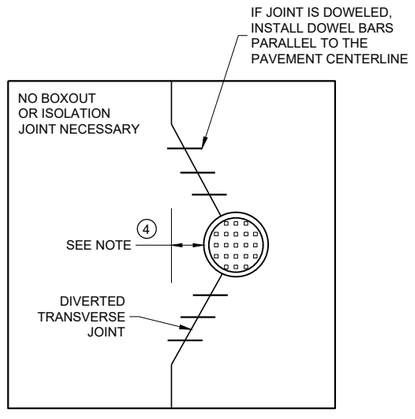
INLET WITH TRANSVERSE JOINT

GENERAL NOTES

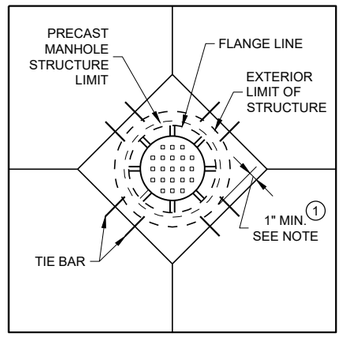
1. USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1 FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.
2. ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.
3. IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF 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
DATE

/S/ Peter Kemp P.E.
PAVEMENT SUPERVISO

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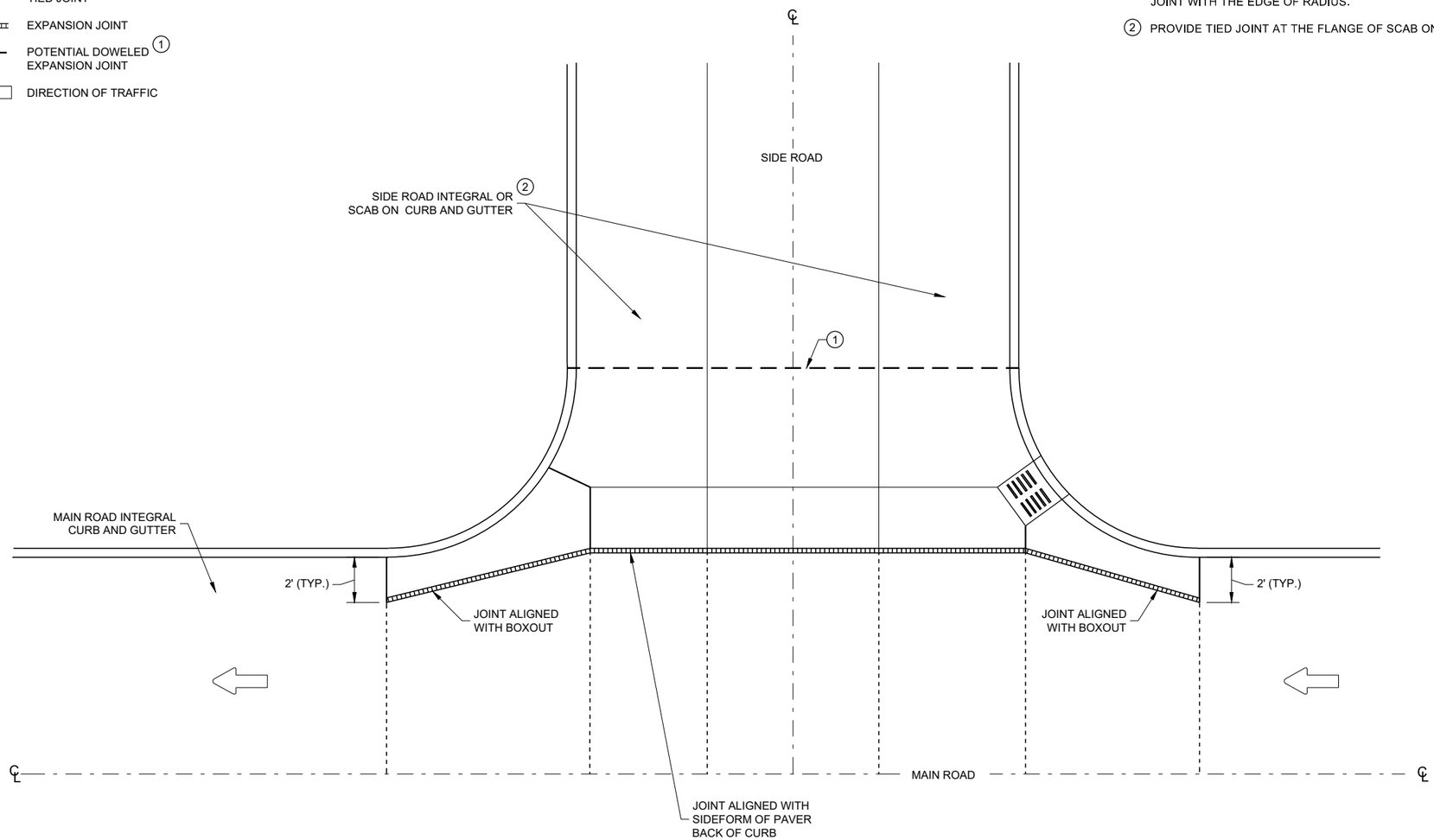
LEGEND

- DOWELED JOINT
- TIED JOINT
- EXPANSION JOINT
- POTENTIAL DOWELED EXPANSION JOINT (1)
- DIRECTION OF TRAFFIC



GENERAL NOTES

(1) 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 THE EDGE OF RADIUS.

(2) PROVIDE TIED JOINT AT THE FLANGE OF SCAB ON CURB IF SCAB ON CURB AND GUTTER IS USE.

INTERSECTION BOXOUT FOR INTEGRAL CURB AND GUTTER

CONCRETE PAVEMENT INTERSECTION BOXOUT FOR INTEGRAL CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Peter Kemp P.E.
PAVEMENT SUPERVIS

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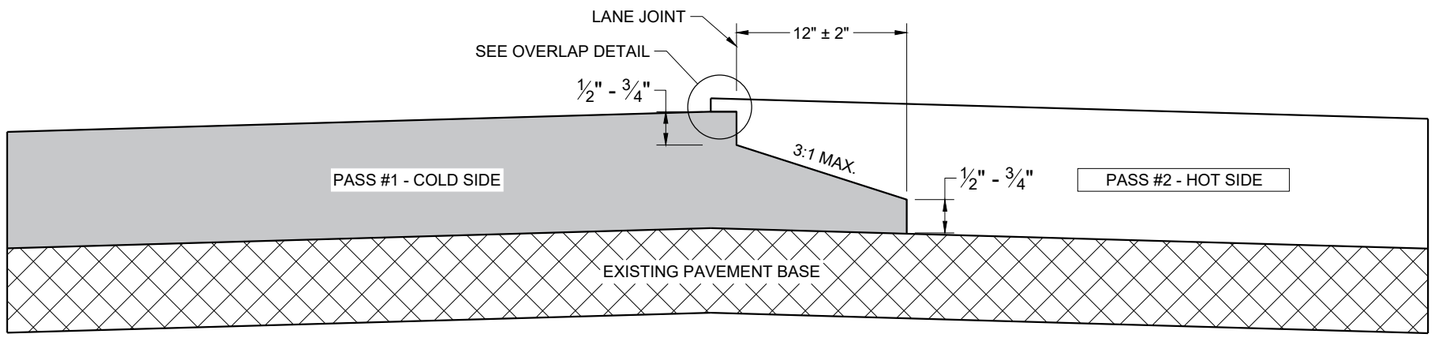
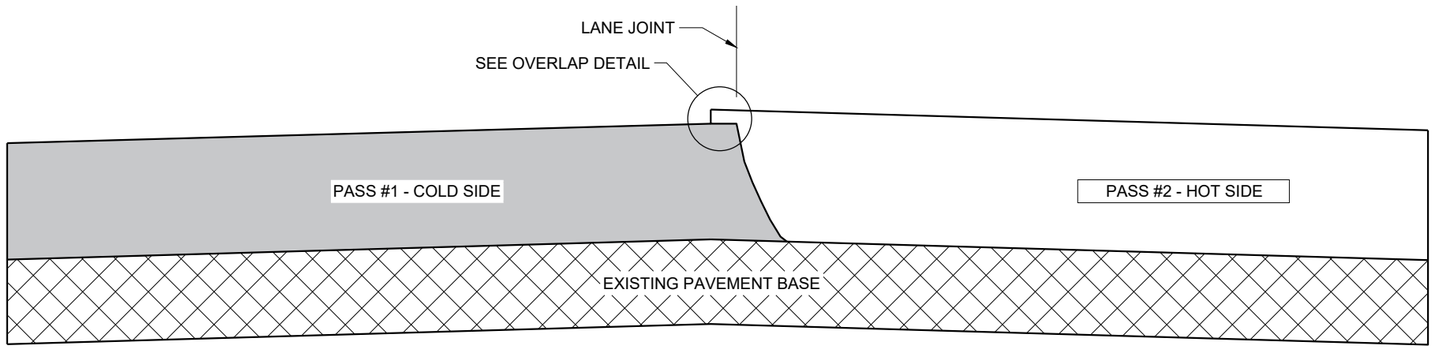
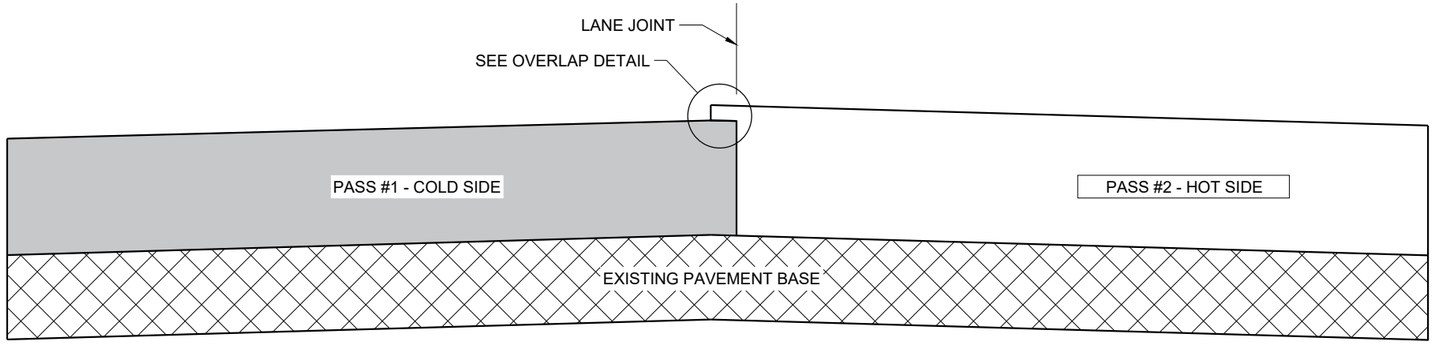


TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

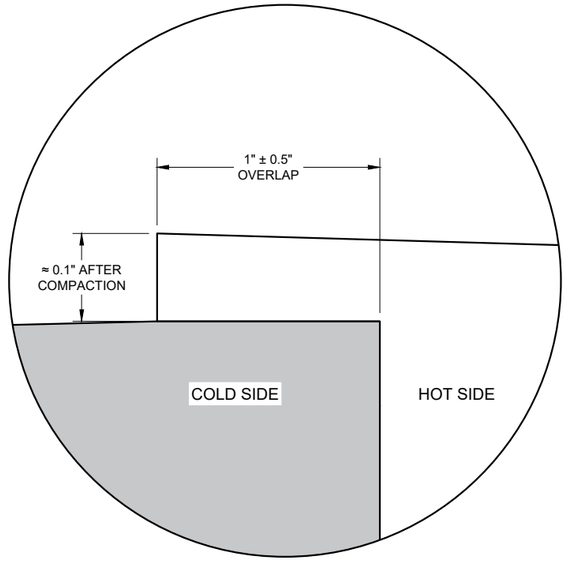
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

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SDD 13C19 - 03

SDD 13C19 - 03

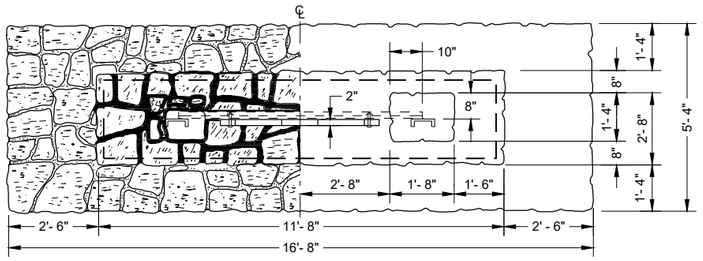
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

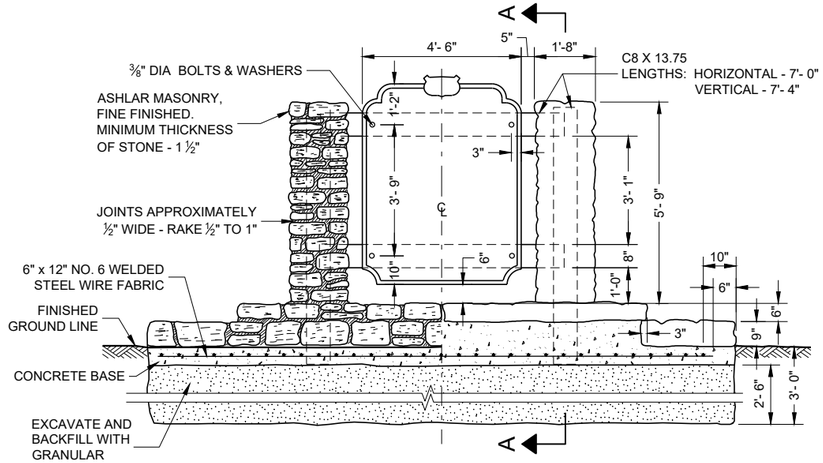
APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

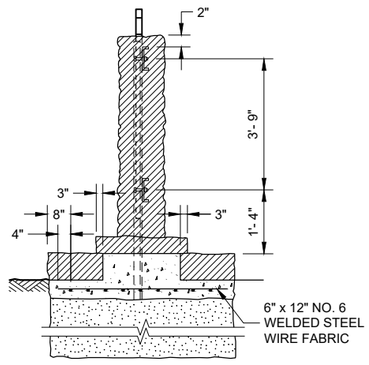
FHWA



TOP VIEW

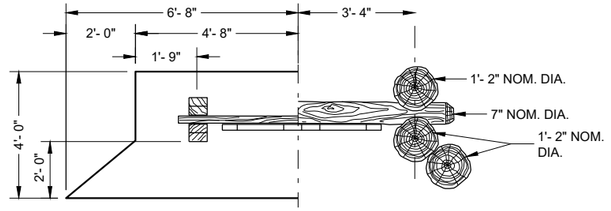


FRONT ELEVATION

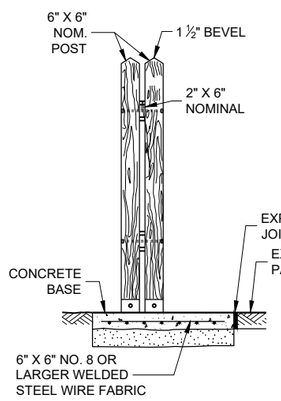


SECTION A - A

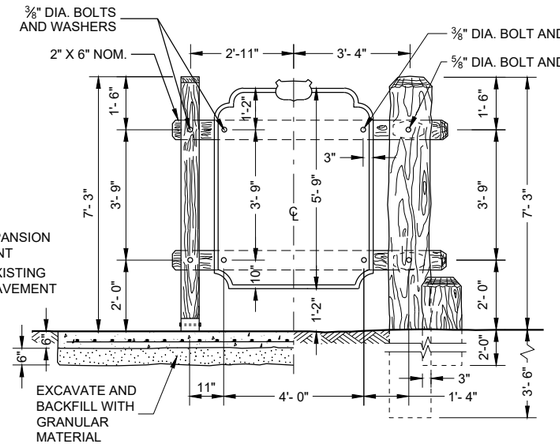
MASONRY CONSTRUCTION



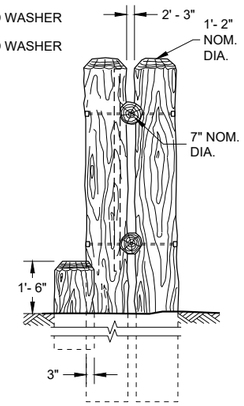
TOP VIEW



LEFT ELEVATION



FRONT ELEVATION



RIGHT ELEVATION

DIMENSIONED POST CONSTRUCTION

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS SECTION 615.

CAST ALUMINUM PLAQUE SHALL BE STATE FURNISHED.

ALL CARRIAGE BOLTS USED IN CONSTRUCTION SHALL BE CUT OFF FLUSH WITH THE NUTS AND ALL NUTS SHALL BE COUNTER SUNK, EXCEPT FOR THOSE FASTENED TO THE PLAQUE.

DIMENSIONED POSTS & RAILS

POSTS SHALL BE DOUGLAS FIR, CONSTRUCTION GRADE. CROSS MEMBERS SHALL BE DOUGLAS FIR, FINISHED LUMBER, GRADE "C" SELECT OR BETTER. POSTS AND CROSS MEMBERS SHALL BE PAINTED WITH TWO COATS OF BROWN WOOD STAIN.

WELDED STEEL POST BASES SHALL BE FABRICATED. BASES SHALL BE PAINTED WITH DARK BROWN PAINT. GENEROUSLY TREAT ALL END GRAIN, DRILLED HOLES AND CUT SURFACES.

RUSTIC POSTS AND RAILS

POSTS AND CROSS MEMBERS MAY BE FROM ONE OF THE FOLLOWING SPECIES (SALVAGED UTILITY POLES OR TREATED TIMBER PILINGS MAY BE USED).

- WHITE PINE
- RED (NORWAY) PINE
- NORTHERN RED CEDAR
- NORTHERN HEMLOCK OR OAK

THE ABOVE-GROUND PORTION OF THE TREATED AND UNTREATED POSTS AND RAILS SHALL BE PAINTED WITH TWO COATS OF BROWN WOOD STAIN.

BILL OF MATERIALS

DIMENSIONED POSTS CONSTRUCTION

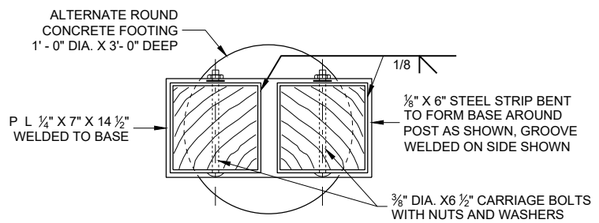
ITEM	UNIT	QUANTITY
CONCRETE (FLAT SLAB)	CY	0.80
WIRE FABRIC (FLAT SLAB)	SY	4.6
STEEL POST BASES	EA	2
POSTS	6" X 6" X 7' - 3"	4
LUMBER	2" X 6" X 6 - 10	2
ANCHOR BOLTS (FLAT SLAB)	⅜" X 5"	4
CARRIAGE BOLTS	⅜" X 4"	4
CARRIAGE BOLTS	⅜" X 14"	4
CARRIAGE BOLTS	⅜" X 6 ½"	4
ANCHOR BOLTS (ROUND FOOTING)	⅜" "U"	2
CONCRETE (ROUND FOOTING)	CY	0.17

RUSTIC POSTS CONSTRUCTION

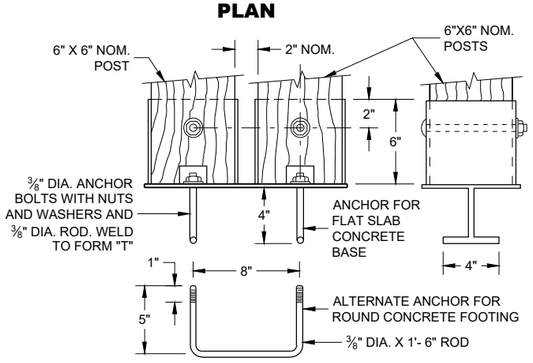
ITEM	UNIT	QUANTITY
POSTS	1' - 2" DIA. X 10' - 9"	4
POSTS	1' - 2" DIA. X 3' - 6"	2
RAILS	7" DIA. X 8' - 10"	2
CARRIAGE BOLTS	⅜" X 8"	4
CARRIAGE BOLTS	⅝" X 27"	4

MASONRY CONSTRUCTION

ITEM	UNIT	QUANTITY
CONCRETE (FLAT SLAB)	CY	2.3
ASHLAR MASONRY	CY	3.5
WIRE FABRIC (FLAT SLAB)	SY	9.8
CHANNEL STEEL	LBS	396
CARRIAGE BOLTS	⅜" X 2 ¾"	4



PLAN



POST BASE DETAIL

(DIMENSIONED POST CONSTRUCTION)

HISTORICAL MARKER CONSTRUCTION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE

/S/ Joseph Coughlin
ROADSIDE FACILITIES ENG

FHWA

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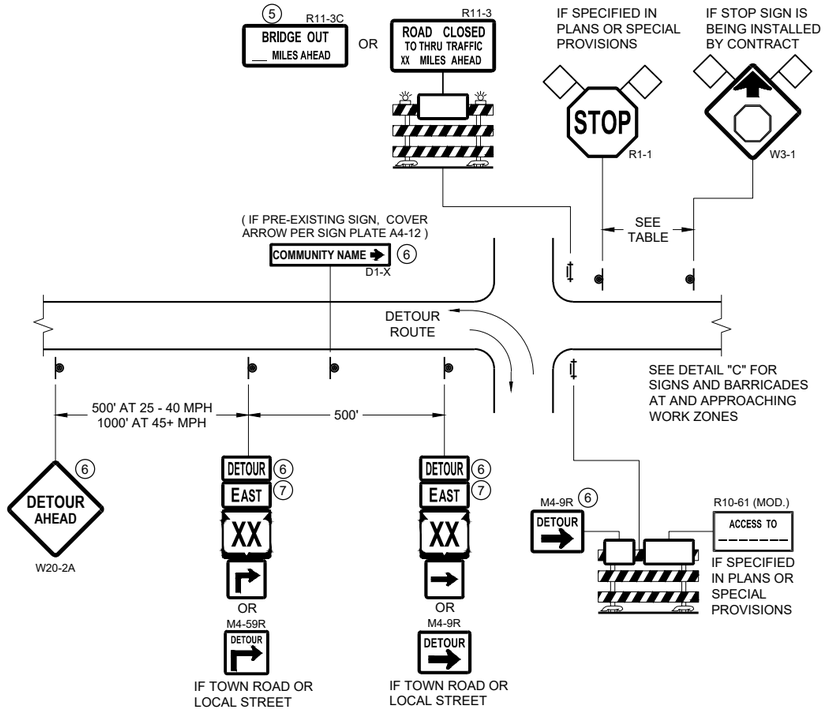
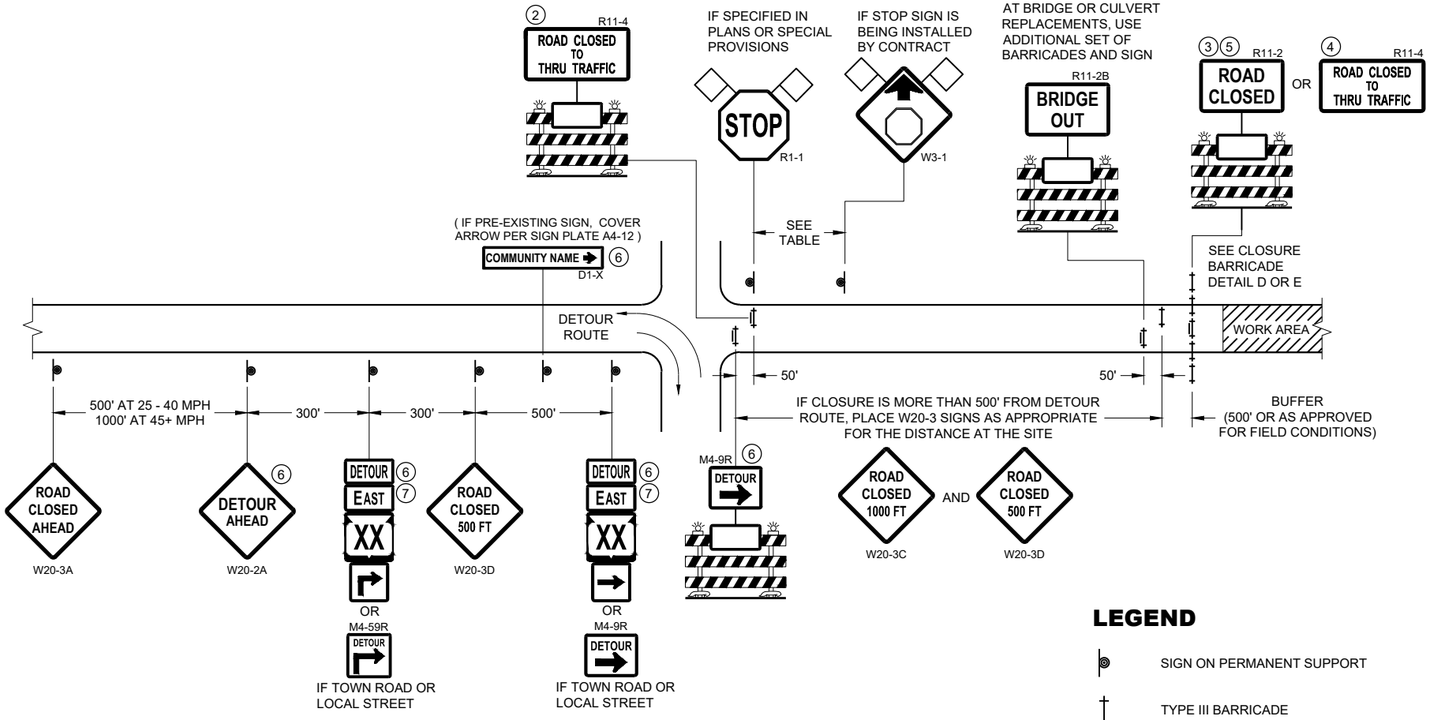
SDD 14C02 - 03



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



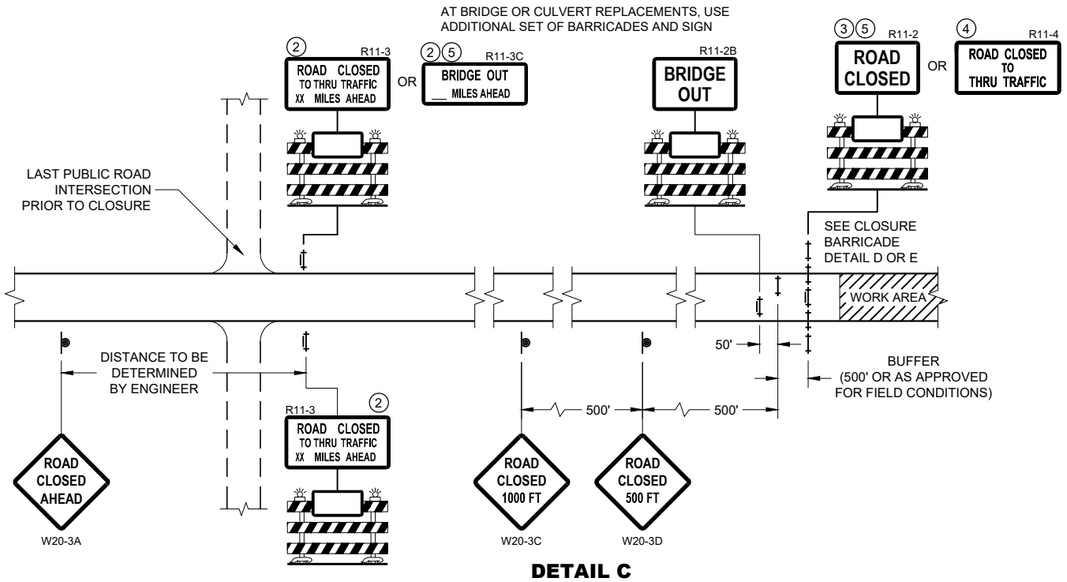
DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ 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)

DETOUR M4 - 8
EAST M3 - X
XX M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A
M05 - 1 OR M06 - 1



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

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SDD 15C02 - 09a

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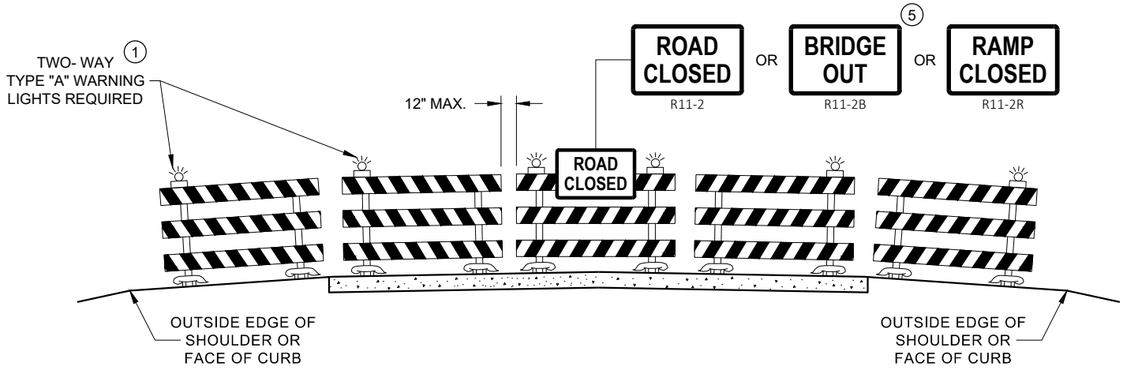
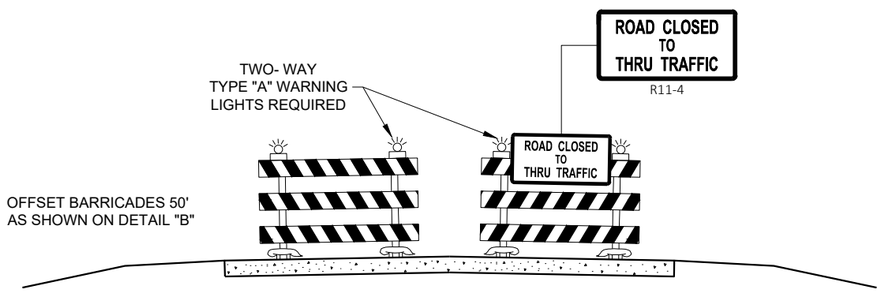


DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



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
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER
FHWA

6

SDD 15C02 - 09b

6

SDD 15C02 - 09b

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR — M4 - 8
- EAST — M3 - X
- XX — M1 - 4 OR XX — M1 - 6 OR COUNTY X — M1 - 5A
- M05 - 1 OR M06 - 1 OR M06 - 1

GENERAL NOTES

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

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. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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.

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

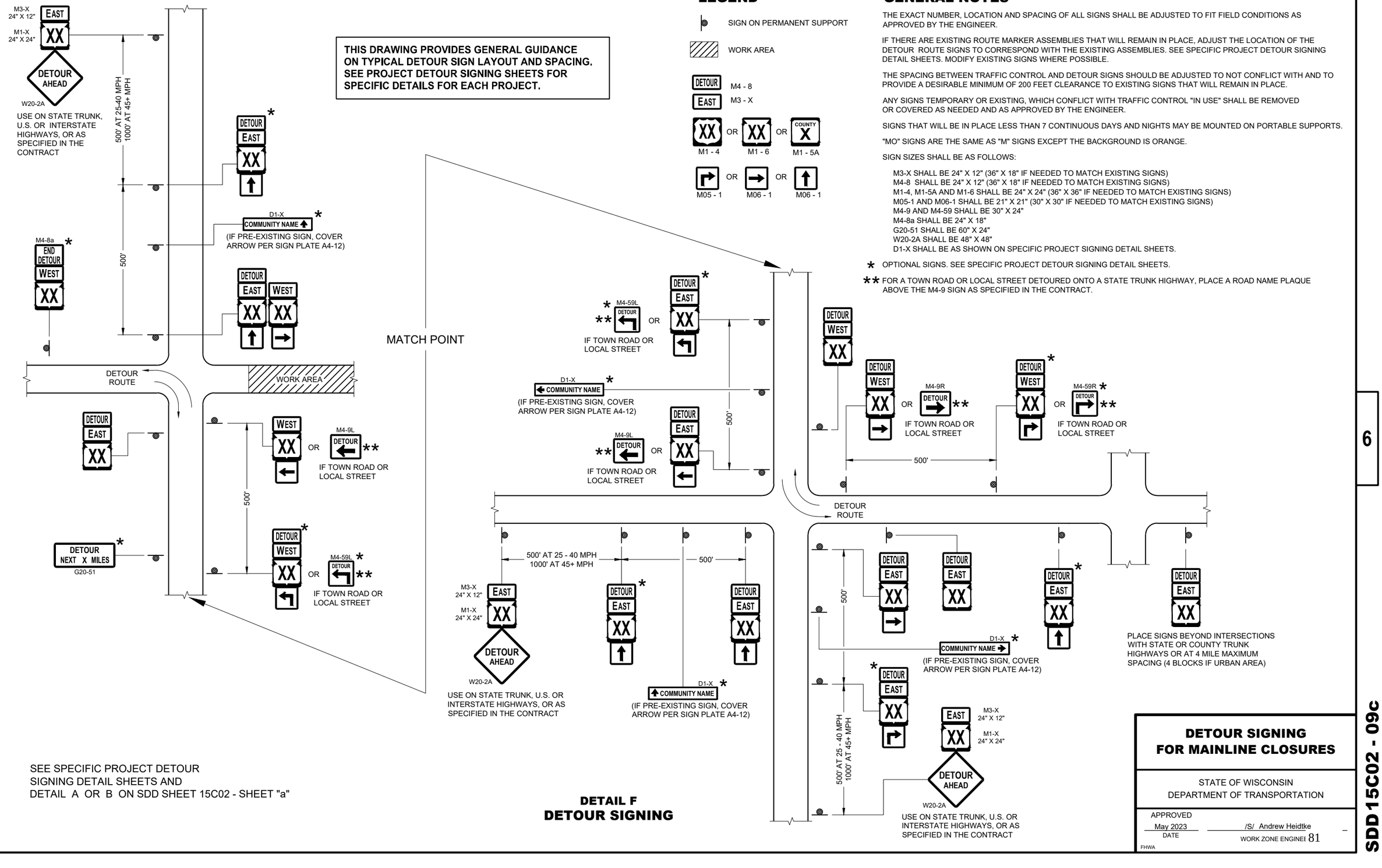
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

- 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)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-9 AND M4-59 SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2A SHALL BE 48" X 48"
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.



SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

DETAIL F
DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

SDD 15C02 - 09c
6

GENERAL NOTES

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

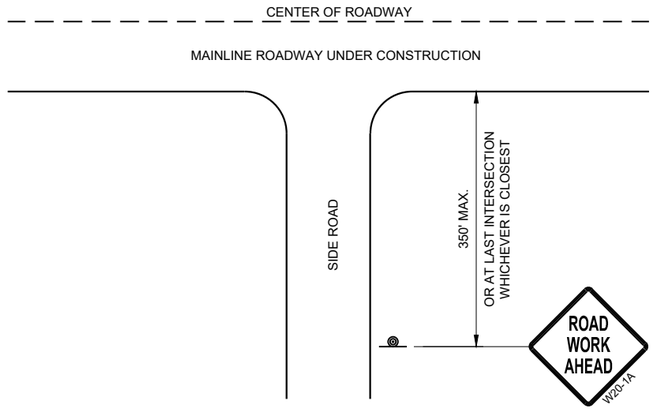
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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.



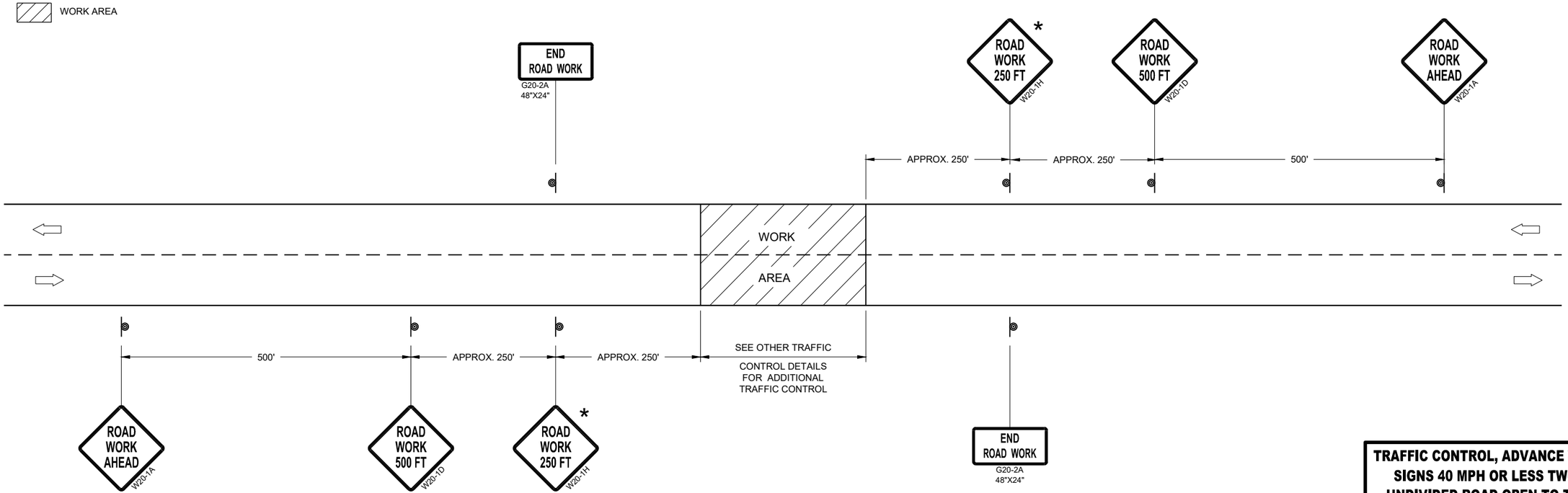
TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA



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
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C05 - 05

GENERAL NOTES

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

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

(2) MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

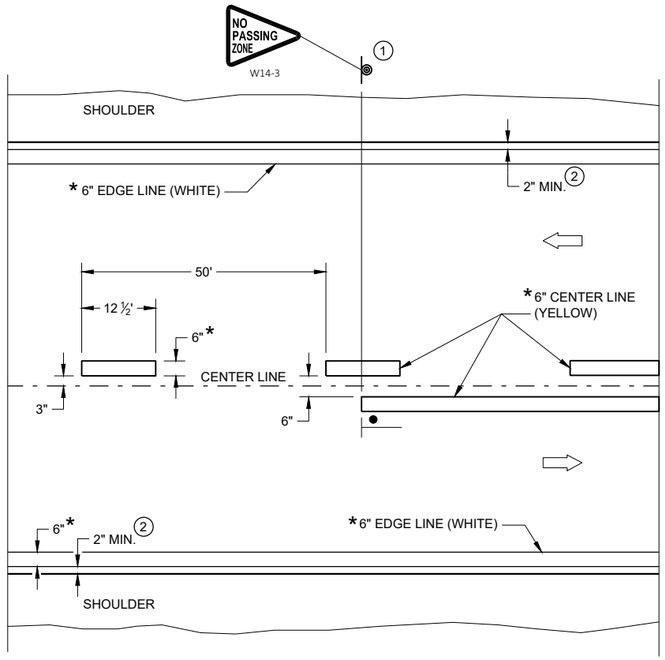
* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

LEGEND

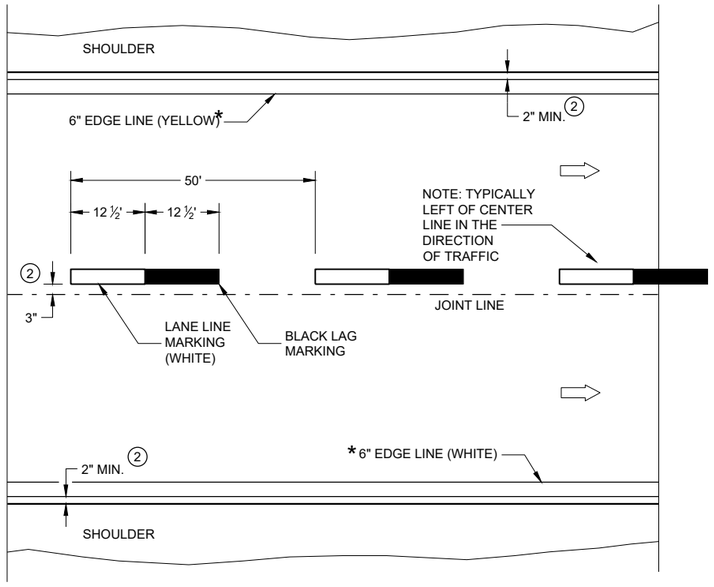
"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

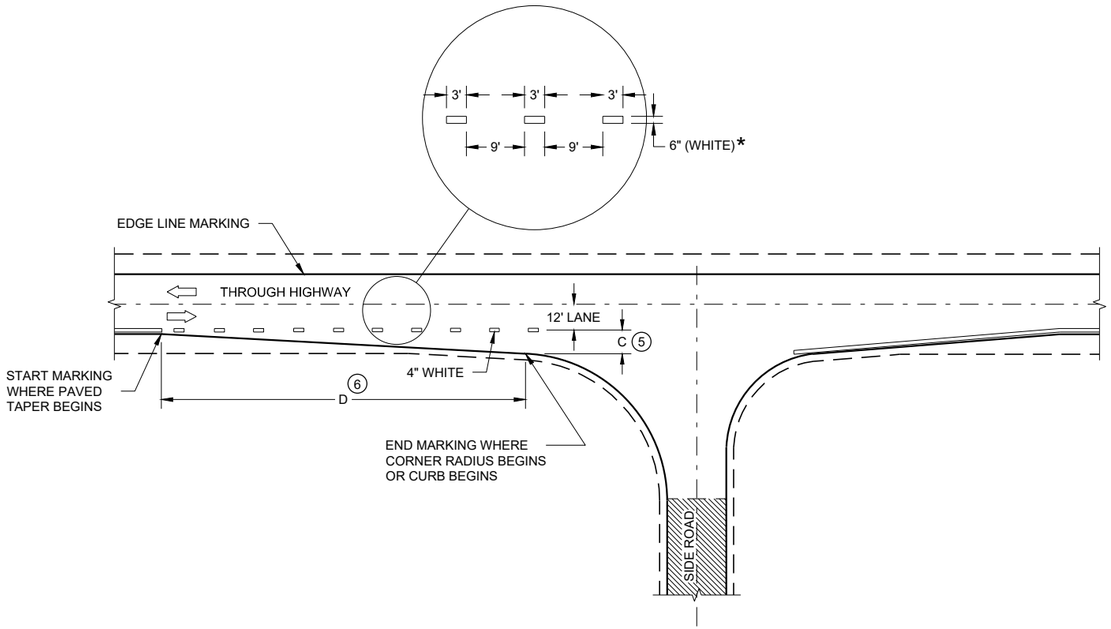
PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Jeannie Silver — STATEWIDE SIGNING AND M ENGINEER
FHWA

6

SDD 15C08-23a



MINOR INTERSECTION

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

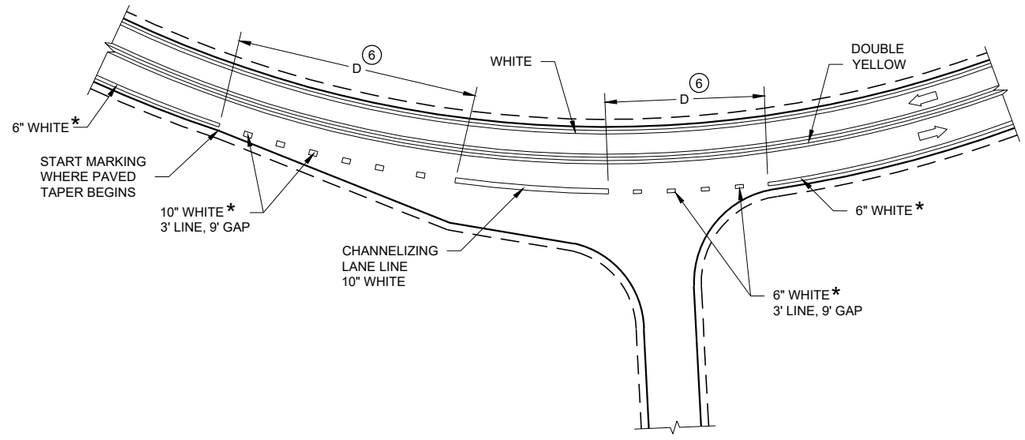
GENERAL NOTES

OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES THROUGH DRIVEWAYS.

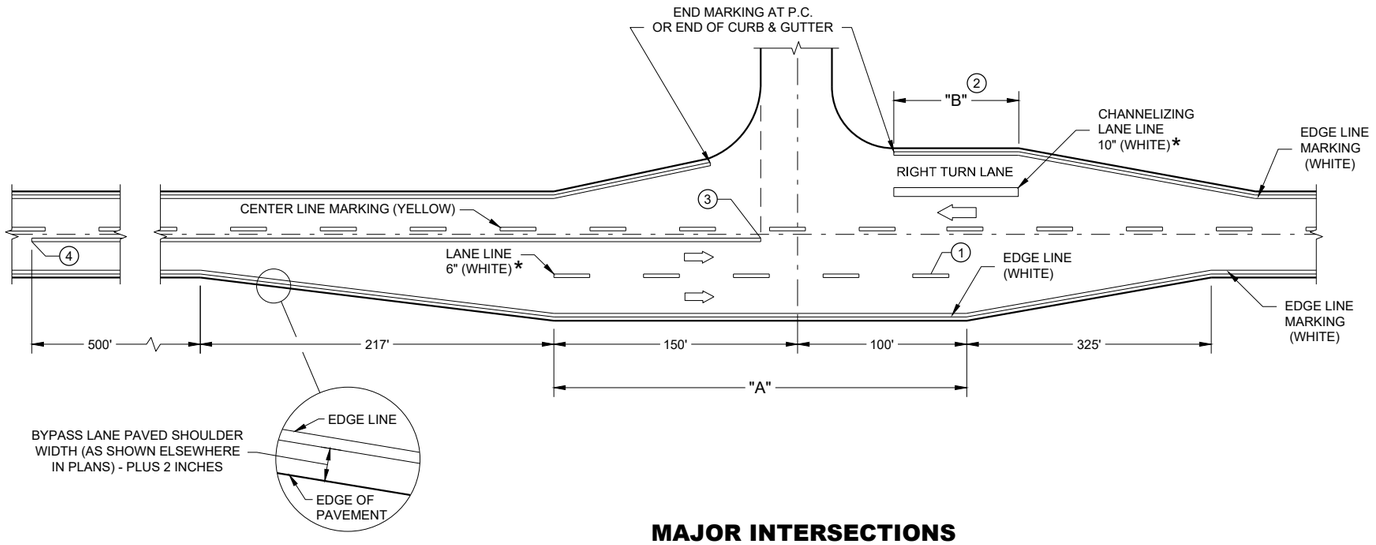
1. WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
2. WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
3. BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
4. BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
5. WHEN DISTANCE "C" IS LESS THAN 4 FEET, OMIT DOTTED EXTENSION.
6. WHEN DISTANCE "D" IS LESS THAN 50 FEET, OMIT DOTTED EXTENSION.

LEGEND

DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE



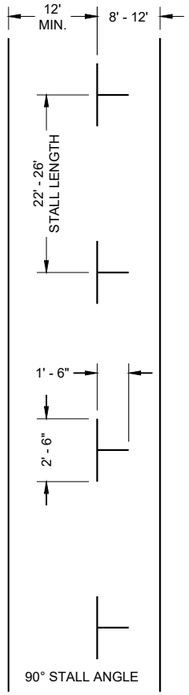
MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

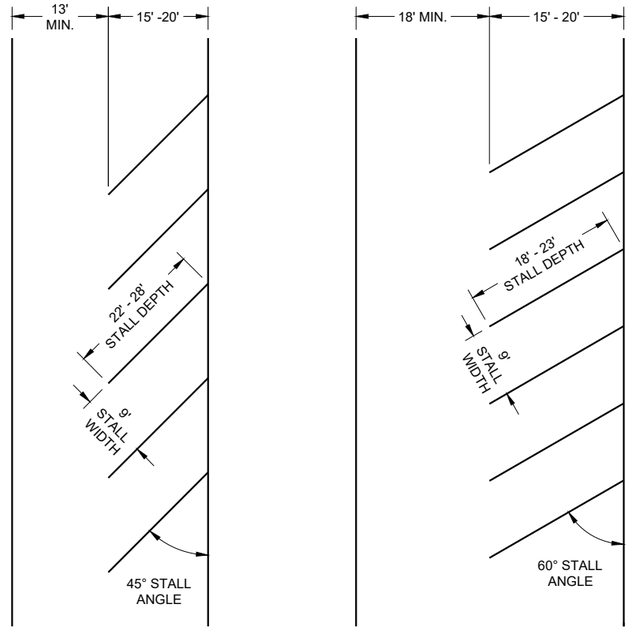
PAVEMENT MARKING (INTERSECTIONS)

SDD 15C35-06a

6

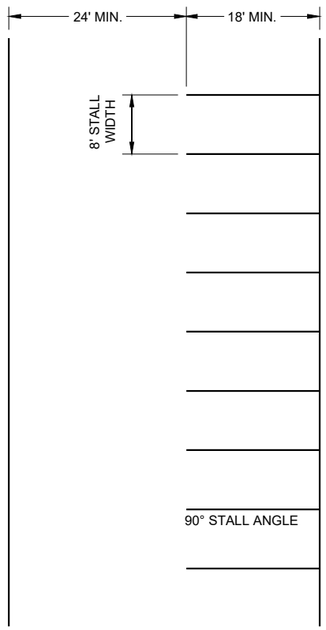


PARALLEL PARKING



ANGLED PARKING

(ANGLED PARKING IS NOT ALLOWED ON STATE HIGHWAYS UNLESS A DESIGN JUSTIFICATION HAS BEEN COMPLETED.)



PARKING LOTS

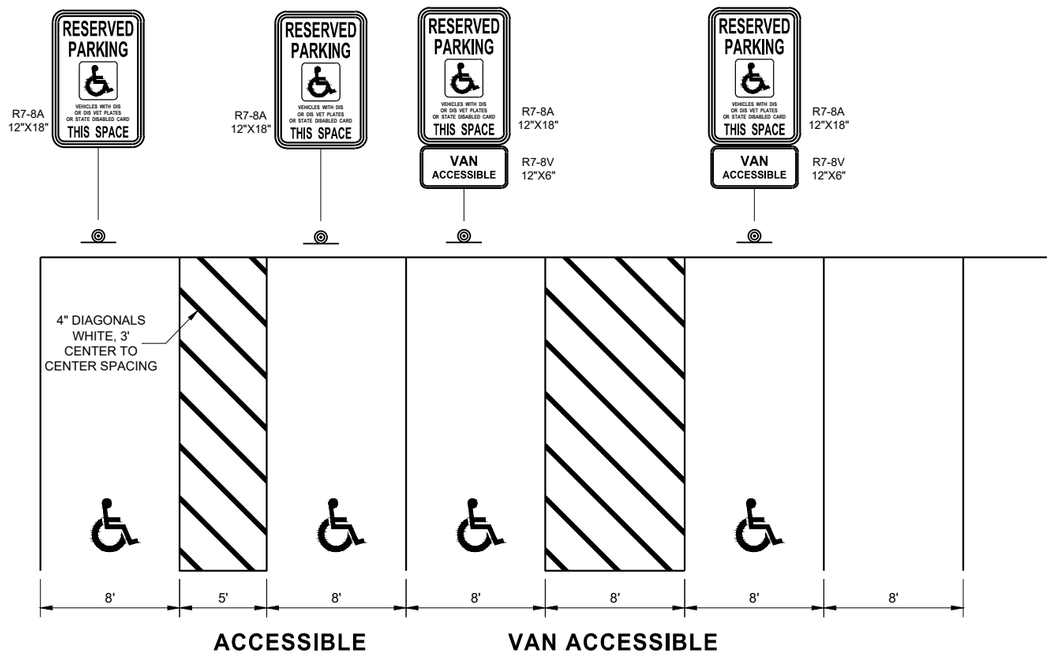
GENERAL NOTES

ALL LINES 4" WHITE (UNLESS OTHERWISE NOTED)

LAST PARKING STALL IS A MINIMUM OF 15' FROM THE CROSSWALK.

LEGEND

SIGN ON PERMANENT SUPPORT



ACCESSIBLE

VAN ACCESSIBLE

PARKING STALL MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2019 — DATE
/S/ Matthew Rauch — STATE SIGNING AND MAF ENGINEER

FHWA

SDD 15C36 - 01

SDD 15C36 - 01

GENERAL NOTES

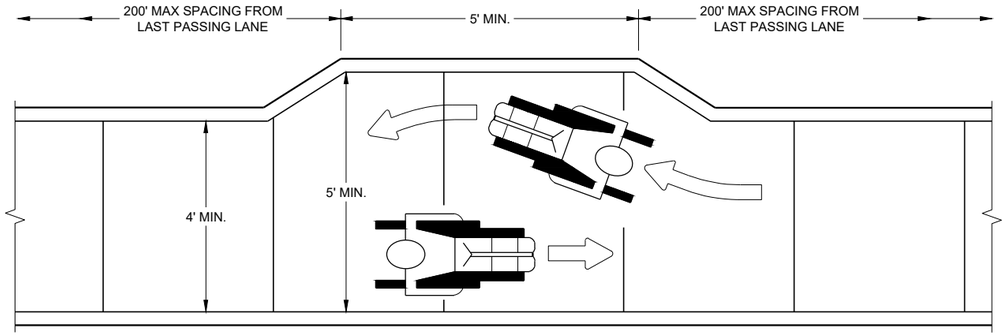
BARRICADE DEVICE SELECTED FROM APPROVED PRODUCT LIST

(1) REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

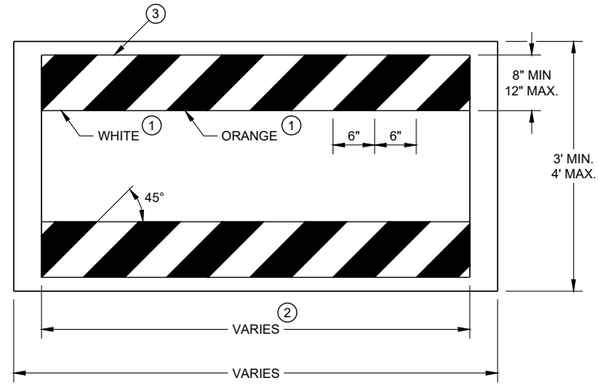
(2) SHEETING REQUIRED ON MORE THAN 50% OF BARRICADE WIDTH.

(3) PLACE SHEETING ON BOTH SIDES OF THE BARRICADE.

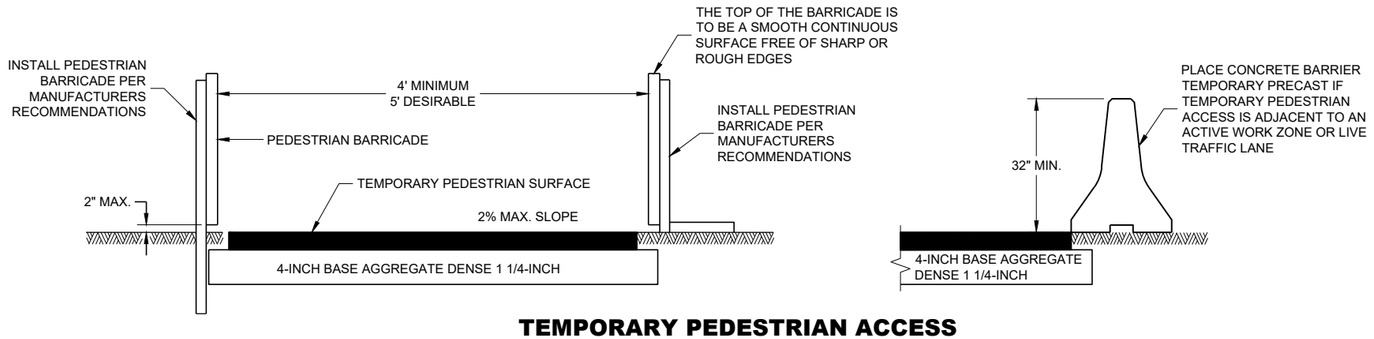
* USE THIS DETAIL FOR SHEETING PLACEMENT REFERENCE.



NARROW SIDEWALK PASSING DETAIL



TEMPORARY PEDESTRIAN BARRICADE*

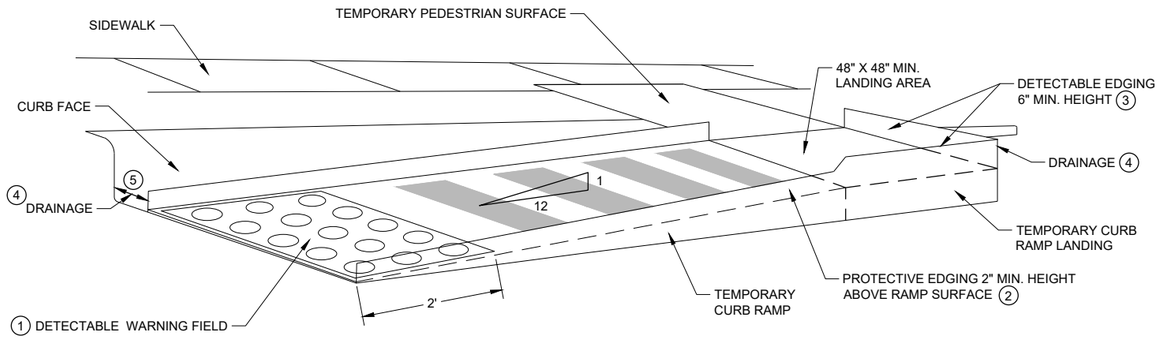


TEMPORARY PEDESTRIAN ACCESS

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

6

SDD 15D30 - 09a



PERSPECTIVE VIEW

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 ½" WIDTH.

CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED ½". LATERAL EDGES MAY BE VERTICAL UP TO ¼" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN ¼" AND ½".

(1) INSTALL CONTRASTING TEMPORARY DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS, AS SHOWN IN THE PLANS.

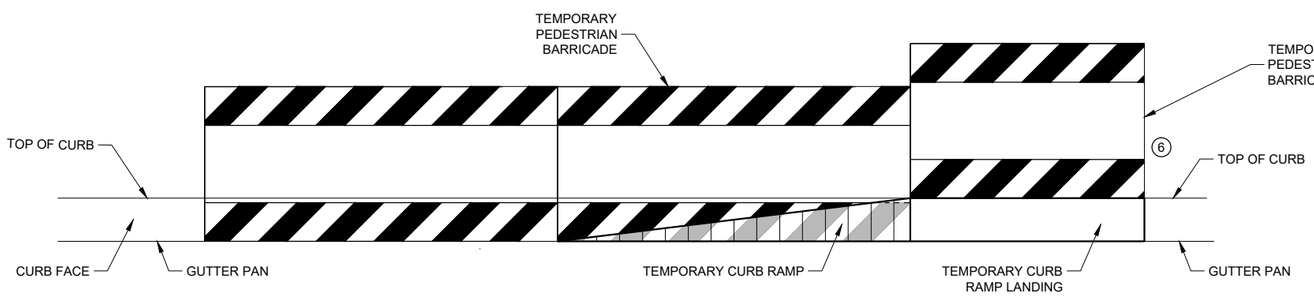
(2) PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.

(3) DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).

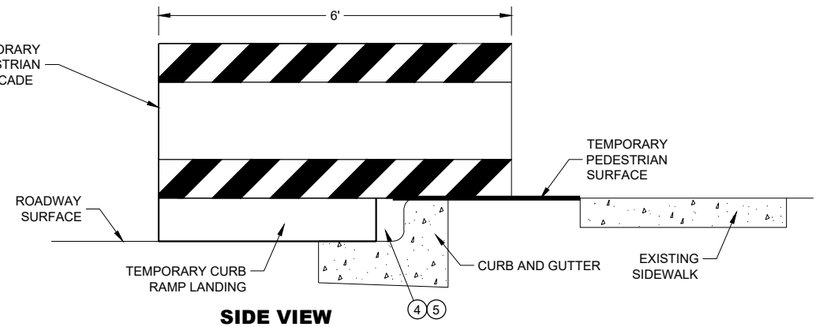
(4) DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.

(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.



FRONT VIEW



SIDE VIEW

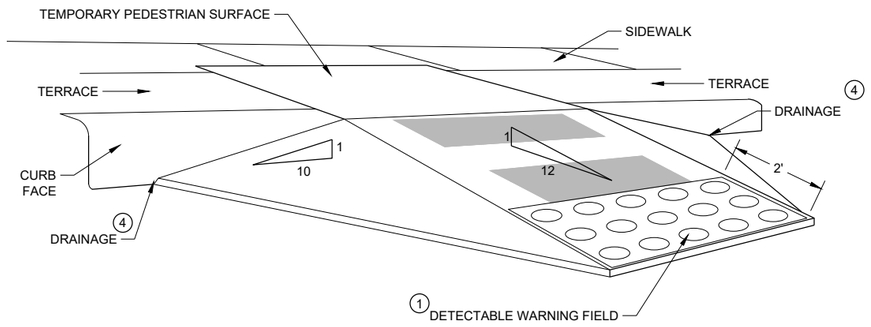
TEMPORARY CURB RAMP PARALLEL TO CURB

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

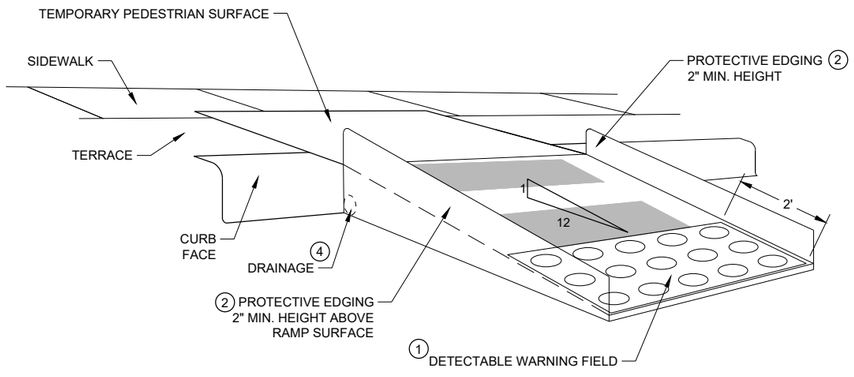
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 15D30 - 09b



WITH SIDE APRON (5)



WITH PROTECTIVE EDGE

TEMPORARY CURB RAMP PERPENDICULAR TO CURB

GENERAL NOTES

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

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

CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (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 ½" WIDTH.

CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED ½". LATERAL EDGES MAY BE VERTICAL UP TO ¼" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN ¼" AND ½".

(1) INSTALL CONTRASTING TEMPORARY DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS, AS SHOWN IN THE PLANS

(2) PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.

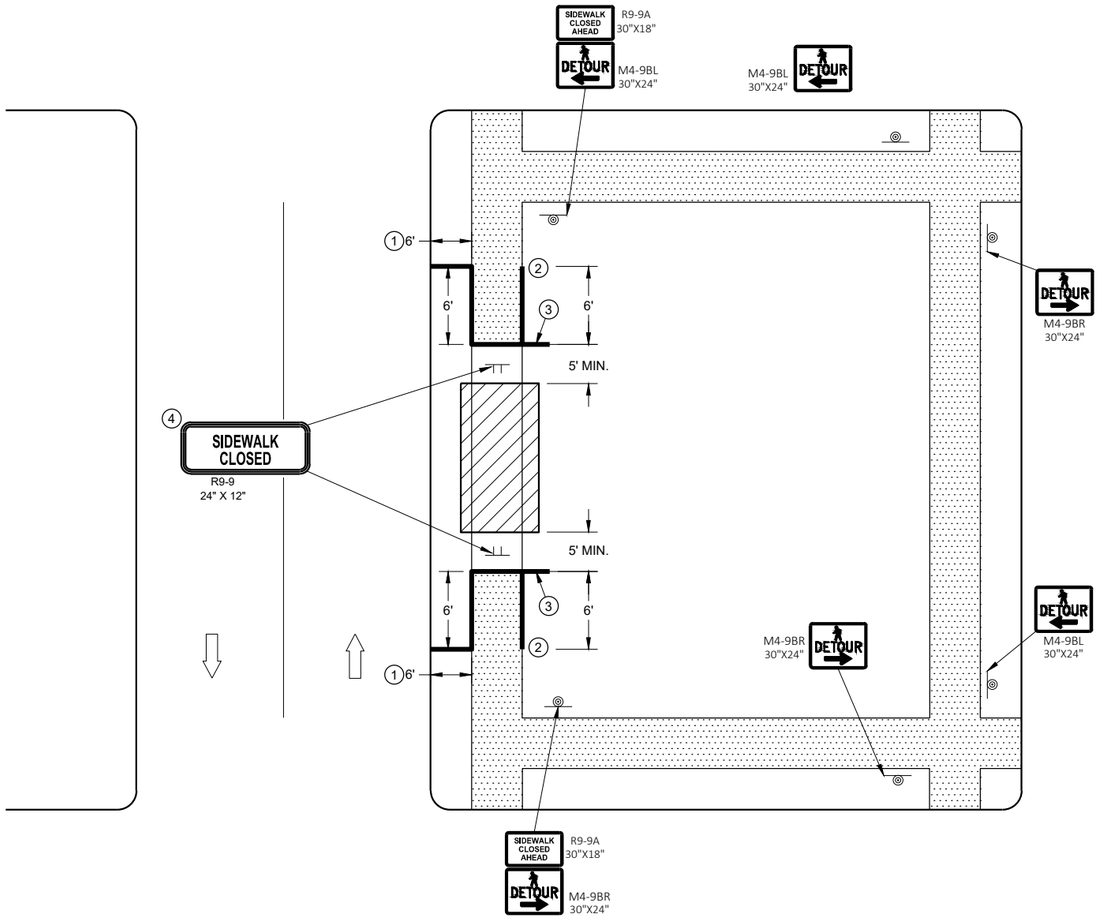
(3) DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).

(4) DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.

(5) CAN ONLY BE USED FOR RAMPS WITH 6" OR LESS OF VERTICAL CHANGE.

LEGEND

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



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

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

6

SDD 15D30 - 09f

LEGEND

SIGN ON PERMANENT SUPPORT

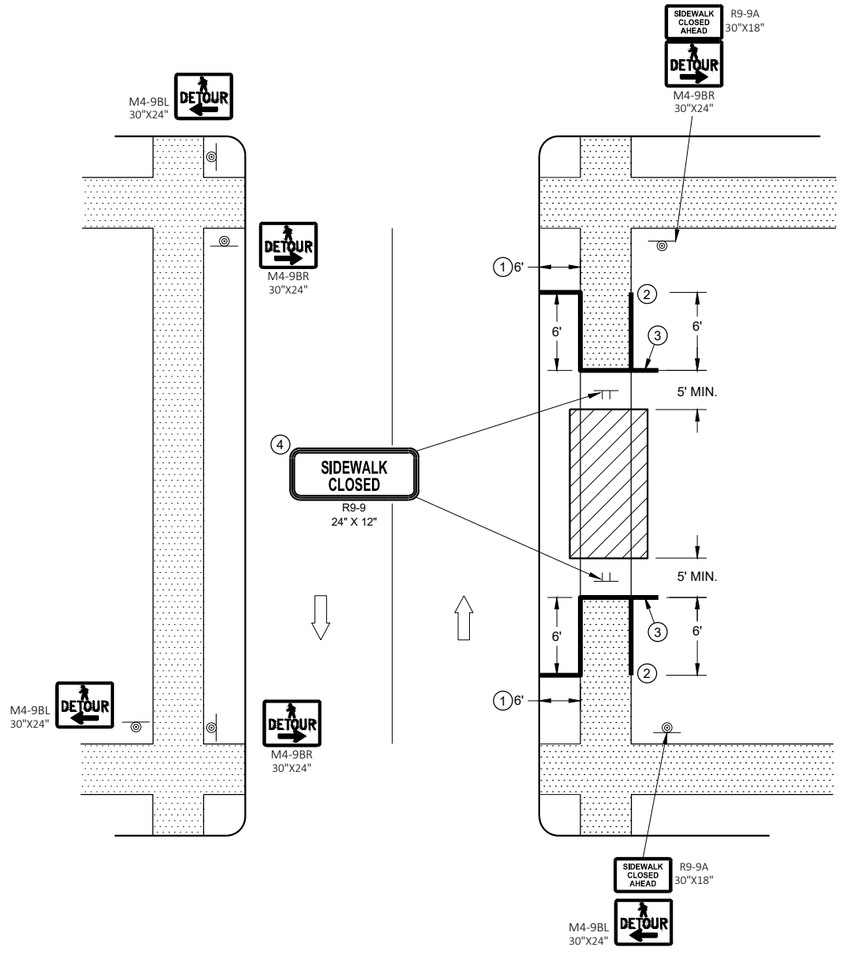
SIGN ON TEMPORARY SUPPORT

UNDER PEDESTRIAN TRAFFIC

WORK AREA

TEMPORARY PEDESTRIAN BARRICADE

DIRECTION OF TRAFFIC



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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

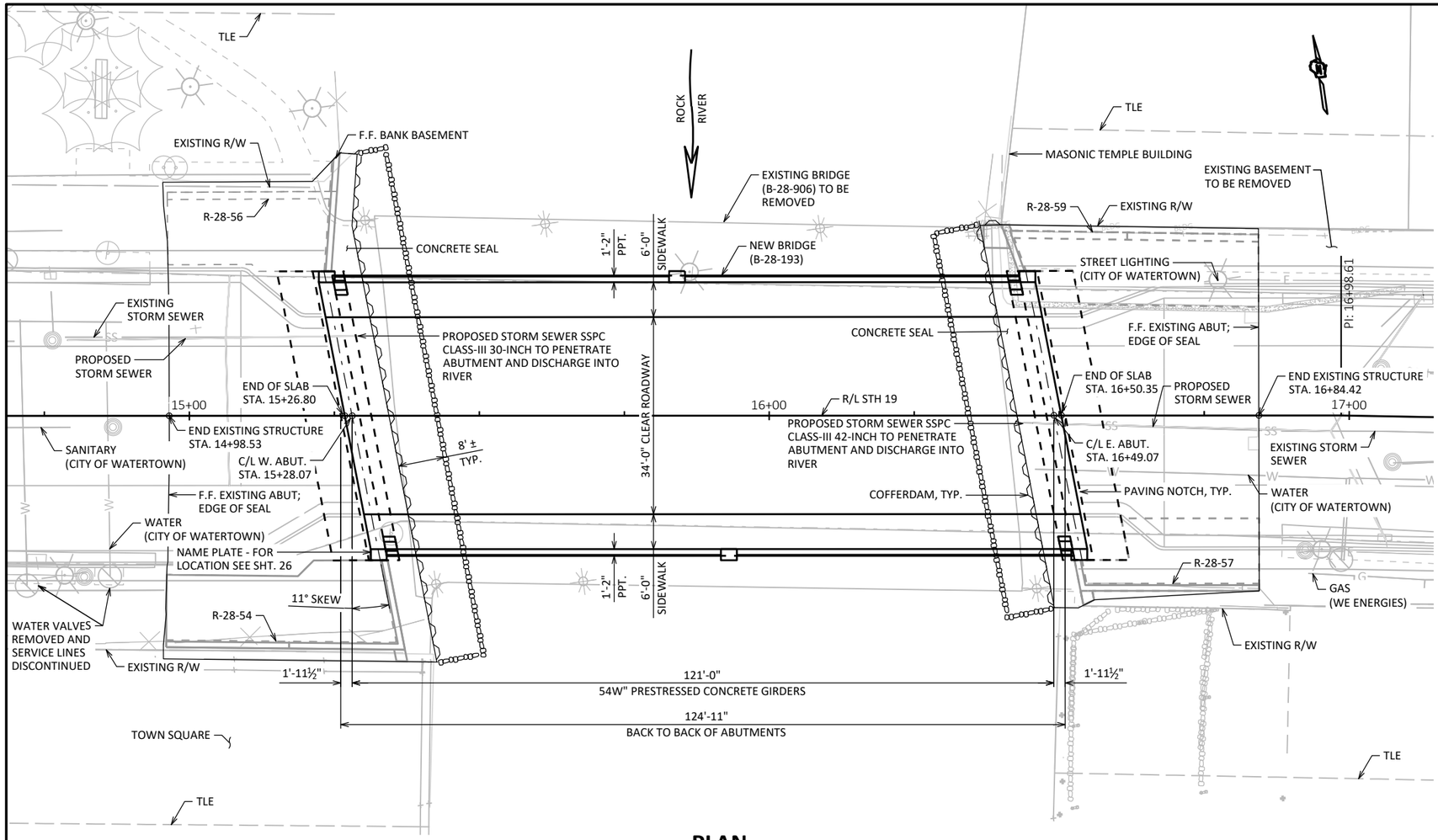
TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

6

SDD 15D30 - 09k

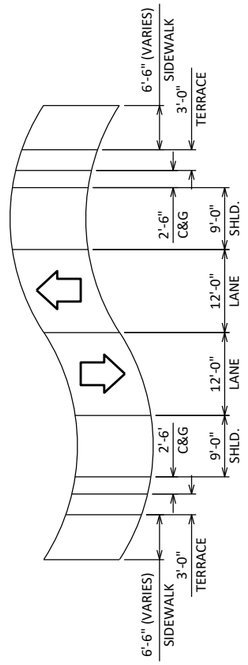
STATE PROJECT NUMBER

3050-04-81



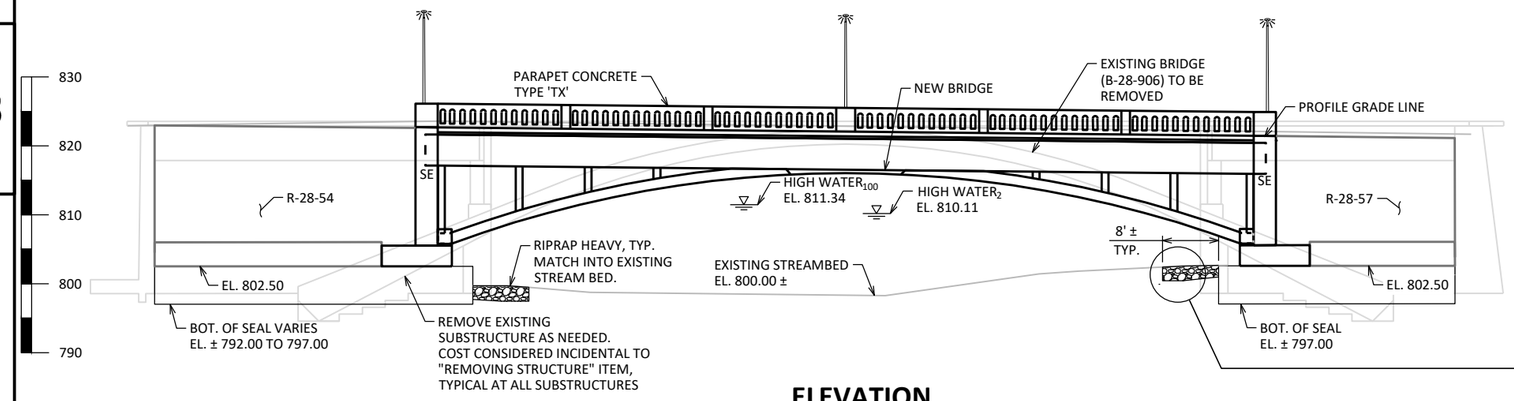
PLAN

SINGLE SPAN - 54W PRESTRESSED CONCRETE GIRDER BRIDGE



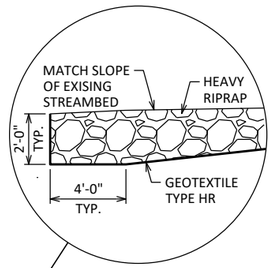
LIST OF DRAWINGS:

FOR GENERAL NOTES, DESIGN DATA, AND TYPICAL SECTIONS SEE SHEETS 2 & 3.



ELEVATION

NORMAL TO ROADWAY - LOOKING NORTH



STRUCTURE DESIGN CONTACT:

BUREAU OF STRUCTURES:
AARON BONK (608) 261-0261

CONSULTANT:
MATTHEW KRIPPNER (608) 334-3850

WISCONSIN
MATTHEW S. KRIPPNER
E-42470
VERONA
WI
PROFESSIONAL ENGINEER

11/27/2023

NO.	DATE	REVISION	BY

AECOM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORATION

ACCEPTED SDR 11/28/23
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-28-193

STH 19 OVER ROCK RIVER

COUNTY	~~TOWN~~/CITY/~~VILLAGE~~
JEFFERSON	WATERTOWN

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATION

DESIGNED BY	DESIGNED CK'D	DRAWN BY	PLANS CK'D
DCH	NAR	DCH	MSK

GENERAL PLAN

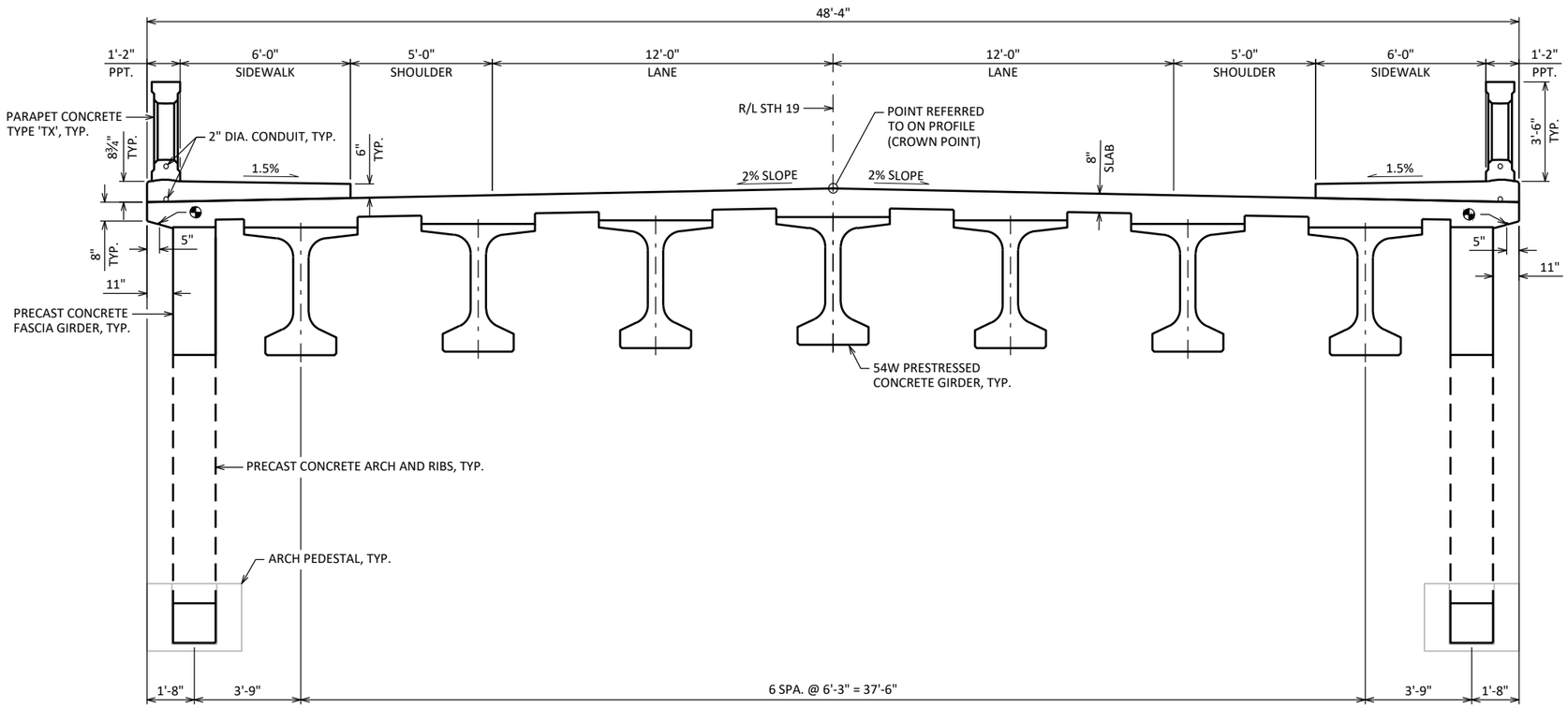
SHEET 1 OF 27
91

I.D. DATE: SEP 2023

SCALE =

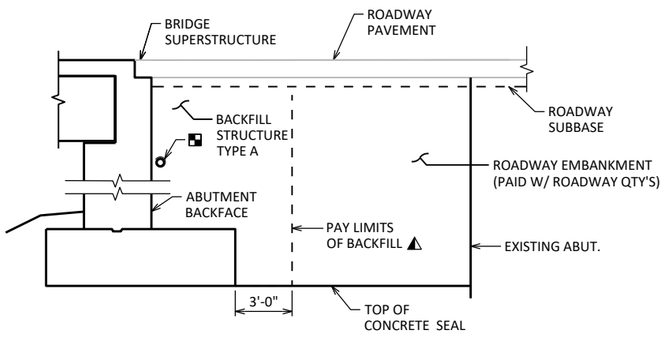
STATE PROJECT NUMBER

3050-04-81



CROSS SECTION THRU ROADWAY

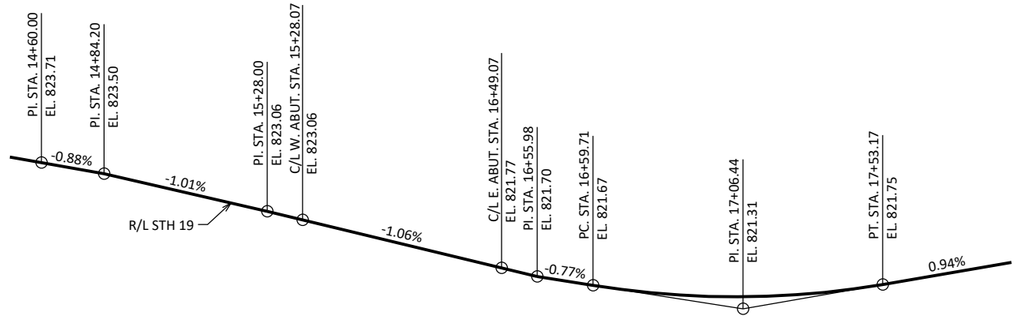
LOOKING EAST



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. CONNECT TO STORM SEWER SSPC.



PROFILE GRADE LINE

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.

THE EXISTING STRUCTURE, B-28-906, IS A THREE SPAN CONCRETE SPANDREL ARCH AND STEEL GIRDER BRIDGE, 197-FOOT LONG AND 63-FOOT WIDE ON CONCRETE ABUTMENTS, TO BE REMOVED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURE BRIDGES B-28-193" SHALL BE THE EXISTING GROUNDLINE. EXCAVATION FOR RETAINING WALLS R-28-54/56/57/59 SHALL BE COMPLETED UNDER "EXCAVATION FOR STRUCTURE BRIDGES B-28-193."

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE EXPOSED TOP OF DECK AND SIDEWALK 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 OF SHEET 1 AND THE ABUTMENT DETAILS.

EXISTING SUBSTRUCTURE LOCATIONS ARE BASED ON AS-BUILT PLANS. REMOVE EXISTING SUBSTRUCTURES AS NEEDED TO BUILD NEW SUBSTRUCTURES. COST OF REMOVAL IS CONSIDERED INCIDENTAL TO THE "REMOVING STRUCTURES" BID ITEM.

REMOVE EXISTING MASONIC TEMPLE BASEMENT UNDER EXISTING SIDEWALK. BASEMENT WILL BE DISCONNECTED FROM EXISTING MASONIC TEMPLE BUILDING BY OTHERS. BASEMENT REMOVAL IS INCLUDED IN THE "REMOVING BUILDING STATION 01. 16+75" BID ITEM.

THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENT FOOTINGS FOR 3 FEET, AS SHOWN ON THE DETAIL ON THIS SHEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR CONSIDERED ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO TYPE AND LOCATION OF UNDERGROUND UTILITIES.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE PRESTRESSED GIRDER DETAILS SHEET.

CONSTRUCTION OF THE ABUTMENT FOUNDATIONS BELOW WATER WILL REQUIRE A DEWATERING SYSTEM THAT WILL ALLOW THEM TO BE BUILT DIRECTLY ON TOP OF BEDROCK. FIRM SEATING OF STEEL COFFERDAM SHEETING MAY NOT BE FEASIBLE AT SOME LOCATIONS DUE TO THE LIMITED WATERWAY BOTTOM MATERIAL OVERLAYING BEDROCK. THE DESIGN OF THE DEWATERING SYSTEM IS THE CONTRACTORS RESPONSIBILITY.

THE CONCRETE SEAL QUANTITY IS BASED ON THE PLAN AS SHOWN. THE CONCRETE SEAL QUANTITY REQUIRED FOR CONSTRUCTION OF R-28-54, R-28-56, R-28-57 AND R-28-59 IS INCLUDED IN THE BID ITEM "CONCRETE MASONRY SEAL".

◓ ¾" V-GROOVE, EXTEND V-GROOVE TO 6" FROM FRONT FACE OF ABUTMENT.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-193

DRAWN BY DCH | PLANS CK'D MSK

CROSS SECTIONS & NOTES

SHEET 2 OF 27

92

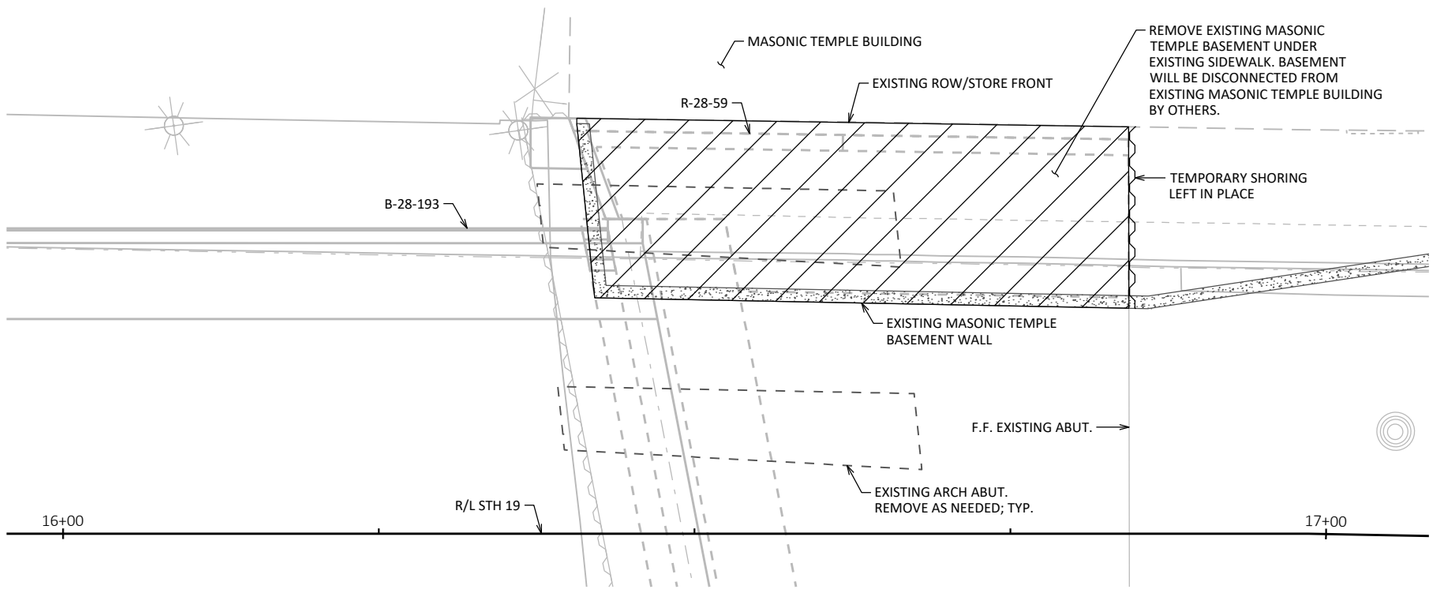
SCALE =

STATE PROJECT NUMBER

3050-04-81

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEM	UNIT	EAST ABUTMENT	WEST ABUTMENT	SUPER.	TOTALS
203.0250.01	REMOVING STRUCTURE OVER WATERWAY REMOVE DEBRIS B-28-906	EACH				1
204.0231	REMOVING BUILDING STATION 01. 16+75	EACH				1
206.1001.01	EXCAVATION FOR STRUCTURES BRIDGES B-28-193	EACH				1
206.1050.S.01	UNDERWATER FOUNDATION INSPECTION EAST ABUTMENT	EACH				1
206.1050.S.02	UNDERWATER FOUNDATION INSPECTION WEST ABUTMENT	EACH				1
206.5001.01	COFFERDAMS B-28-193	EACH				2
210.1500	BACKFILL STRUCTURE TYPE A	TON	520	620		1,140
502.0100	CONCRETE MASONRY BRIDGES	CY	127	135	290	552
502.1100	CONCRETE MASONRY SEAL	CY	550	960		1,510
502.3200	PROTECTIVE SURFACE TREATMENT	SY			665	665
502.3210	PIGMENTED SURFACE SEALER	SY			125	125
502.9000.S.01	UNDERWATER SUBSTRUCTURE INSPECTION B-28-193	EACH				1
503.0155	PRESTRESSED GIRDER TYPE I 54W-INCH	LF			854	854
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	3,790	3,790		7,580
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	9,480	9,870	45,710	65,060
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH				18
506.4000.01	STEEL DIAPHRAGMS B-28-193	EACH				16
511.2200	TEMPORARY SHORING LEFT IN PLACE B-28-193	SF	360			360
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	19	19		38
531.8990	ANCHOR ASSEMBLIES POLES ON STRUCTURES	EACH				6
606.0300	RIPRAP HEAVY	CY	50	60		110
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	55	55		110
645.0120	GEOTEXTILE TYPE HR	SY	80	100		180
652.0125	CONDUIT RIGID METALLIC 2-INCH	LF			98	98
652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF			505	505
653.0222	JUNCTION BOXES 18X12X6-INCH	EACH				6
SPV.0060.10	PRECAST CONCRETE RIB ARCH	EACH				2
SPV.0090.02	PARAPET CONCRETE TYPE 'TX'	LF			248	248
SPV.0090.03	PRESTRESSED GIRDER TYPE SPECIAL 54-INCH	LF			244	244
	NON-BID ITEMS					
	FILLER	SIZE				1/2"



BASEMENT REMOVALS

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING: RF = 1.14
OPERATING RATING: RF = 1.97
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
- PRECAST FASCIA ARCH — f'_c = 6,000 PSI
- ALL OTHER — f'_c = 3,500 PSI

BAR STEEL REINFORCEMENT
- GRADE 60 — f_y = 60,000 PSI

54W" PRESTRESSED GIRDER & 54" FASCIA GIRDER
CONCRETE MASONRY — f'_c = 8,000 PSI
0.6" DIA. STRANDS WITH ULTIMATE STRENGTH OF 270,000 PSI

FOUNDATION DATA

ABUTMENTS WITH SPREAD FOOTINGS TO BE SUPPORTED ON CONCRETE SEAL ON SOUND ROCK WITH A REQUIRED FACTORED BEARING RESISTANCE OF 11,250 PSF ***. A GEOTECHNICAL ENGINEER, WITH THREE DAYS NOTICE, WILL DETERMINE THE FACTORED BEARING RESISTANCE BY VISUAL INSPECTION PRIOR TO CONSTRUCTION OF THE ABUTMENT FOOTING.

*** THE FACTORED BEARING RESISTANCE IS THE VALUE USED FOR DESIGN.

HYDRAULIC DATA

100-YEAR FREQUENCY:

Q_{100}= 6370 C.F.S.
V_{100}= 5.8 F.P.S.
HW_{100}= EL. 811.34
WATERWAY AREA = 1092.4 SQ. FT.
DRAINAGE AREA = 971.6 SQ. MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 5

2-YEAR FREQUENCY:

Q_2= 2200 C.F.S.
V_2= 2.2 F.P.S.
HW_2= EL. 810.11

TRAFFIC DATA

STH 19:

ADT = 10,900 (2026)
ADT = 10,900 (2046)
R.D.S. = 30 MPH

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-193

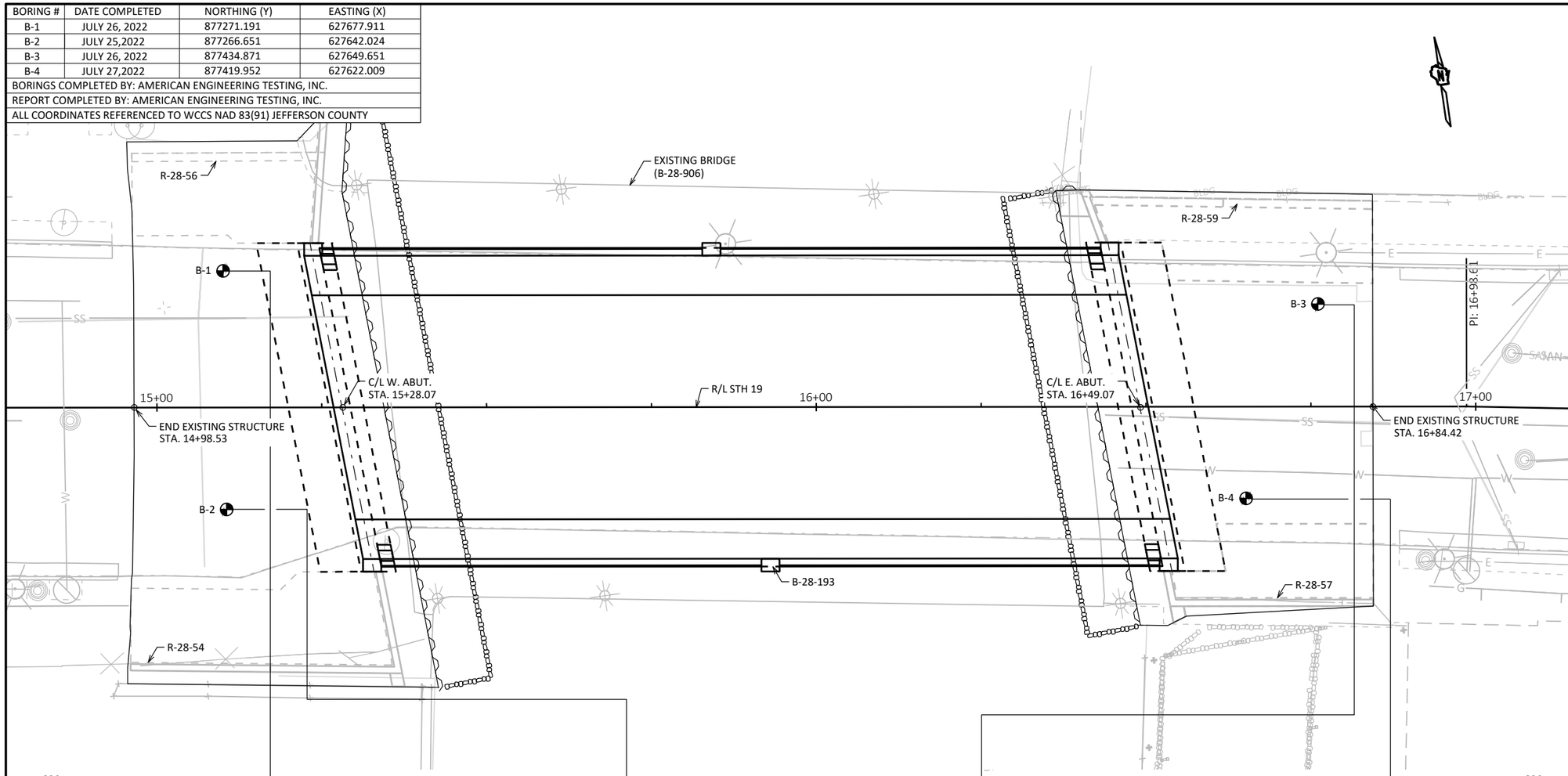
DRAWN BY DCH | PLANS CK'D MSK

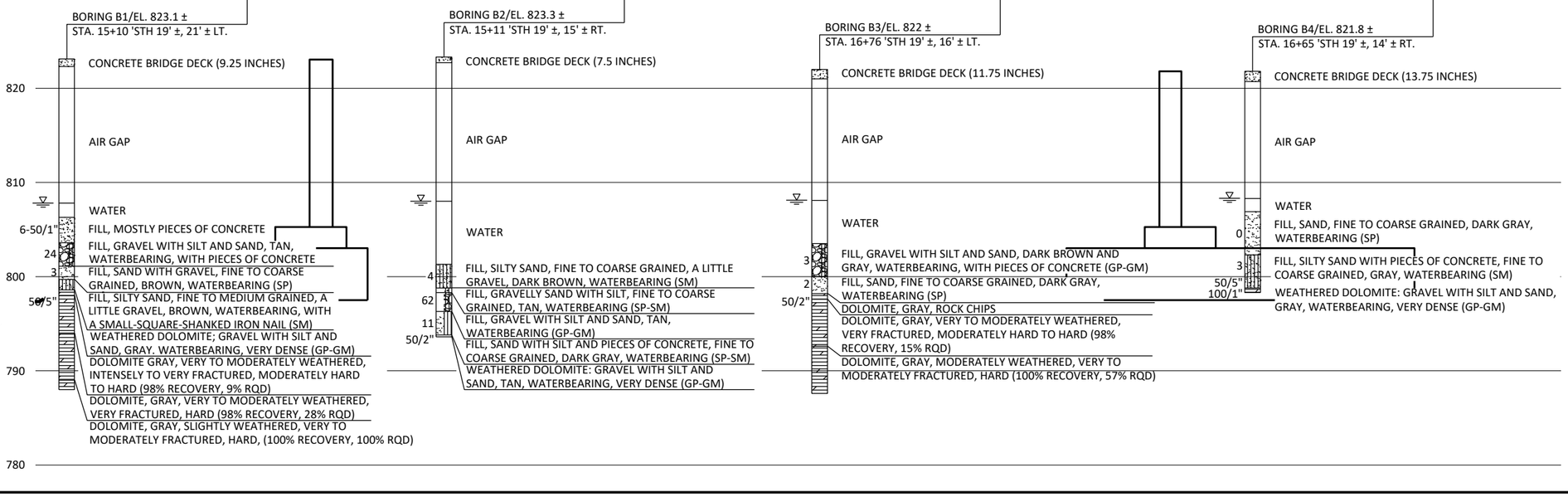
QUANTITIES & DESIGN DATA

SHEET 3 OF 27
93

SCALE =

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-1	JULY 26, 2022	877271.191	627677.911
B-2	JULY 25,2022	877266.651	627642.024
B-3	JULY 26, 2022	877434.871	627649.651
B-4	JULY 27,2022	877419.952	627622.009
BORINGS COMPLETED BY: AMERICAN ENGINEERING TESTING, INC.			
REPORT COMPLETED BY: AMERICAN ENGINEERING TESTING, INC.			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) JEFFERSON COUNTY			





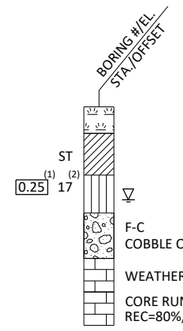
STATE PROJECT NUMBER

3050-04-81

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-28-193

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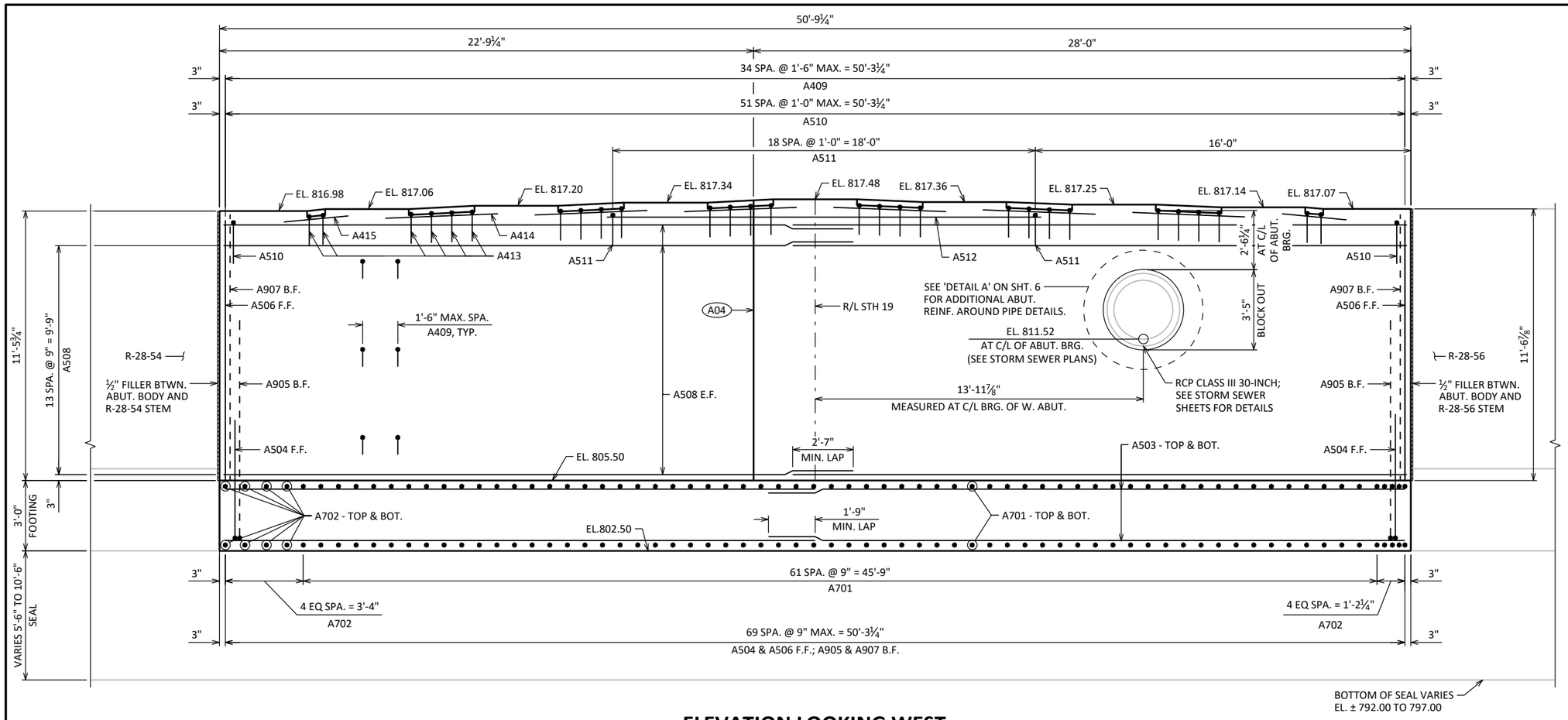
SUBSURFACE EXPLORATION

SHEET 4 OF 27
94

SCALE =

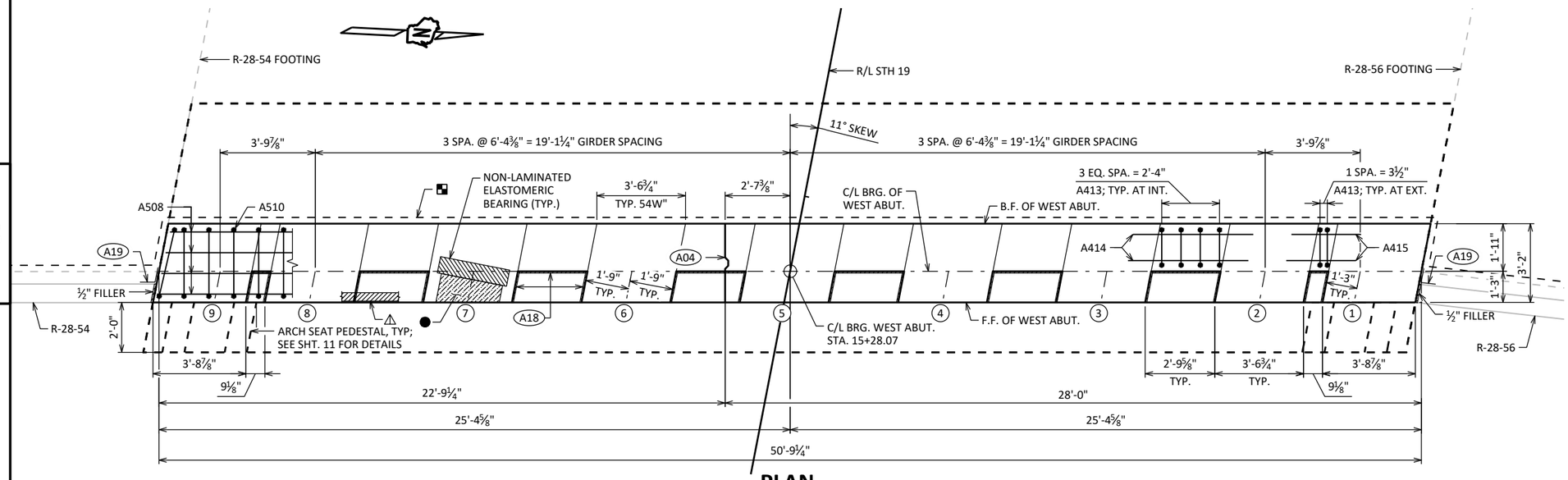
STATE PROJECT NUMBER

3050-04-81



ELEVATION LOOKING WEST

NOTE: ARCH SEAT PEDESTALS NOT SHOWN FOR CLARITY



PLAN

F.F. DENOTES FRONT FACE

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

■ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. CONNECT TO STORM SEWER SSPC. PLACE ABOVE MIN. INVERT EL. 809.13.

⚠ 4" x ½" FILLER, EXTEND FULL ABUTMENT LENGTH.

● ½" JOINT FILLER UNDER GIRDER FLANGE IN FRONT OF BRG. PAD, TYPICAL FOR ALL GIRDERS.

(A04) VERT. CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 x 8. ¾" "V" GROOVE @ THE FRONT FACE AND 18" RMW @ BACKFACE. FOR OPTIONAL DETAILS SEE "ALTERNATE CONSTRUCTION JOINT" SHEET.

(A18) ¾" CORK FILLER UP VERT. BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER, TYPICAL FOR ALL BEAM SEATS.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-193

DRAWN BY DCH | PLANS CK'D NAR

WEST ABUTMENT

SHEET 5 OF 27

95

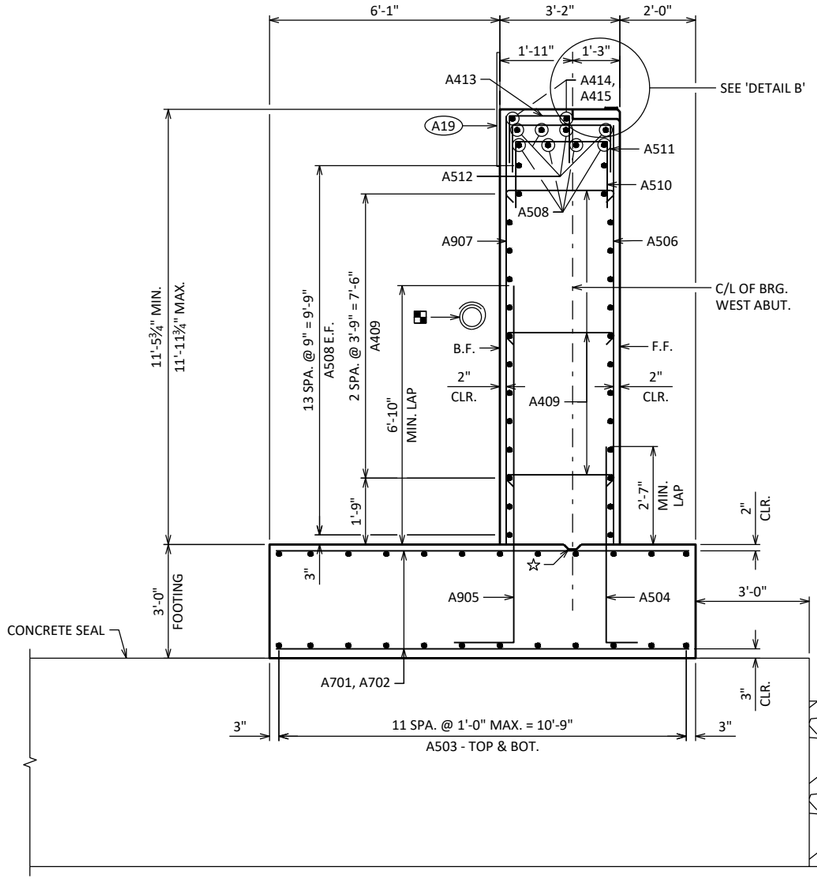
SCALE =

8

8

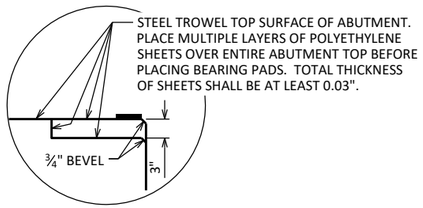
STATE PROJECT NUMBER

3050-04-81

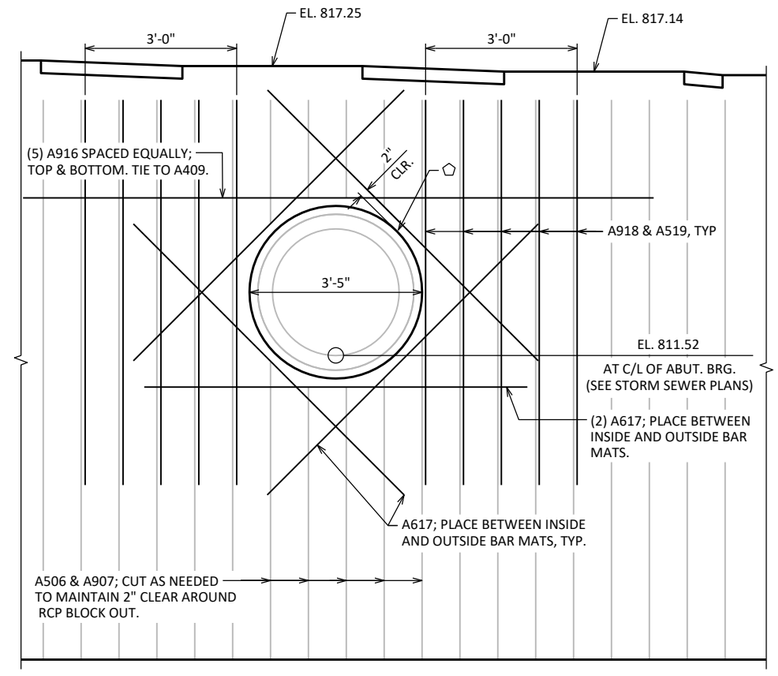


SECTION THRU ABUTMENT

LOOKING NORTH

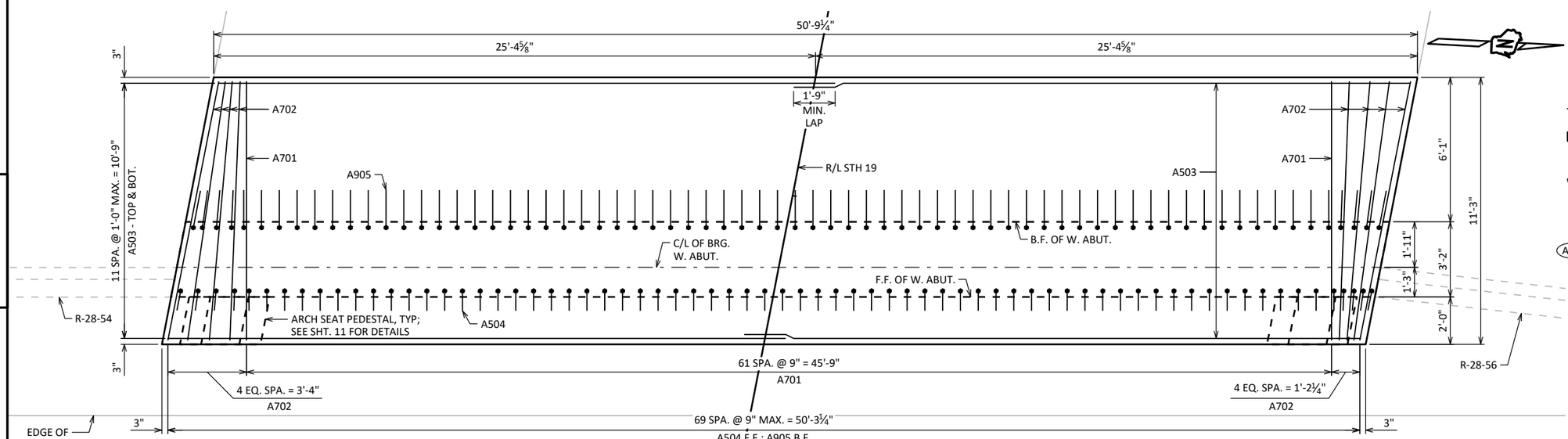


DETAIL B



DETAIL A

SEE STORM SEWER SHEETS FOR PIPE DETAILS.
A905 & A508 NOT SHOWN FOR CLARITY. CUT REINFORCEMENT AS NEEDED TO MAINTAIN 2" CLEAR FROM RCP BLOCK OUT.



FOOTING PLAN

☆ KEYED CONST. JOINT FORMED BY BEVELED 2" x 6"

▪ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. CONNECT TO STORM SEWER RCP. PLACE ABOVE MIN. INVERT EL. 809.13.

⬠ UTILITY BOX OUT. AFTER THIS PIPE HAS BEEN INSTALLED, THE BOX OUT NEEDS TO BE GROUTED CLOSED. A PIECE OF 18" RUBBERIZED MEMBRANE WATERPROOFING SHALL BE APPLIED TO THE BACK FACE OF THE ABUTMENT AT THE BOX OUT LOCATION.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-193

DRAWN BY DCH | PLANS CK'D NAR

WEST ABUTMENT DETAILS

SHEET 6 OF 27

96

SCALE =

8

8

STATE PROJECT NUMBER

3050-04-81

BILL OF BARS

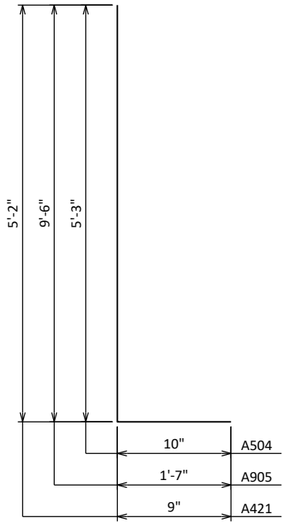
MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION	
NON-COATED BARS					TOTAL WEIGHT =	3790 LBS
A701	124	10'-11"			FOOTING - TOP & BOT.	TRANS.
A702	16	11'-1"		⚠	FOOTING - TOP & BOT.	TRANS.
A503	24	26'-1"			FOOTING - TOP & BOT.	LONGIT.
COATED BARS					TOTAL WEIGHT =	9870 LBS
A504	70	6'-0"	X		FOOTING/ABUT. BODY DOWEL - F.F.	VERT.
A905	70	10'-10"	X		FOOTING/ABUT. BODY DOWEL - B.F.	VERT.
A506	70	11'-1"			ABUT. BODY - F.F.	VERT.
A907	70	11'-4"			ABUT. BODY - B.F.	VERT.
A508	64	26'-6"			ABUT. BODY - E.F. & TOP	LONGIT.
A409	105	3'-7"	X		ABUT. BODY TIES	TRANS.
A510	52	6'-1"	X		ABUT. BODY TOP	VERT.
A511	19	5'-1"	X		ABUT. BODY TOP	VERT.
A512	4	18'-6"			ABUT. BODY TOP	LONGIT.
A413	28	3'-11"	X		ABUT. BODY TOP NOTCH	VERT.
A414	12	4'-10"			ABUT. BODY TOP NOTCH	LONGIT.
A415	4	2'-9"			ABUT. BODY TOP NOTCH	LONGIT.
A916	5	12'-7"			ABUT. BODY AROUND PIPE	TRANS.
A617	10	7'-7"			ABUT. BODY AROUND PIPE	DIAG.
A918	10	7'-0"			ABUT. BODY AROUND PIPE	VERT.
A519	10	7'-0"			ABUT. BODY AROUND PIPE	VERT.
A420	20	1'-8"			ARCH SEAT PEDESTAL	TRANS.
A421	16	3'-5"	X		ARCH SEAT PEDESTAL	VERT.

⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

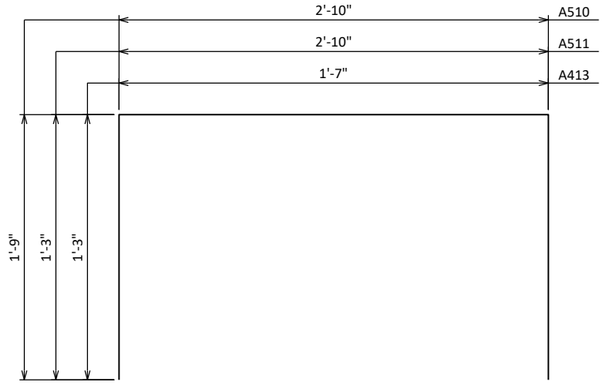
BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

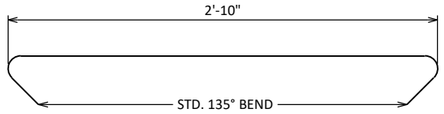
MARK	NO. REQ'D	LENGTH
A702	4 SETS OF 4	10'-11" TO 11'-2"



A504, A905, A421



A510, A511, A413



A409

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-193

DRAWN BY DCH | PLANS CK'D NAR

WEST ABUTMENT BILL OF BARS

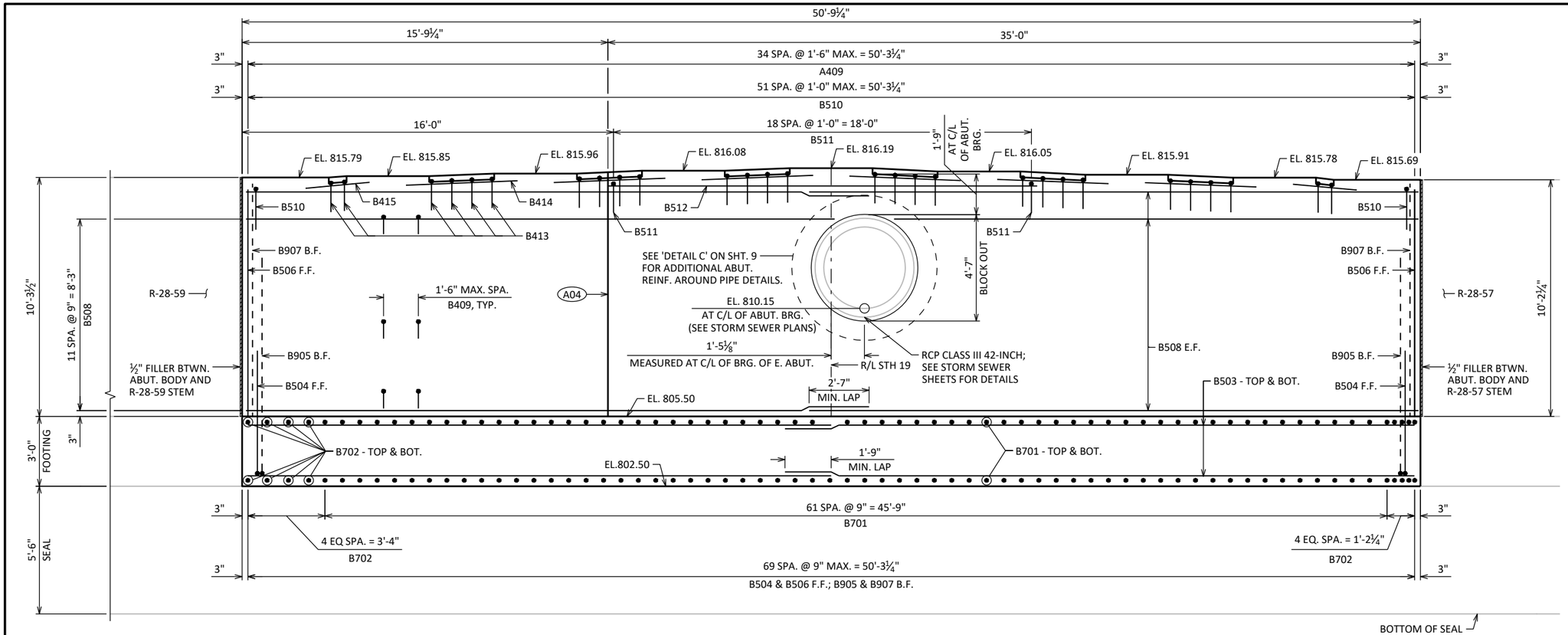
SHEET 7 OF 27

97

SCALE =

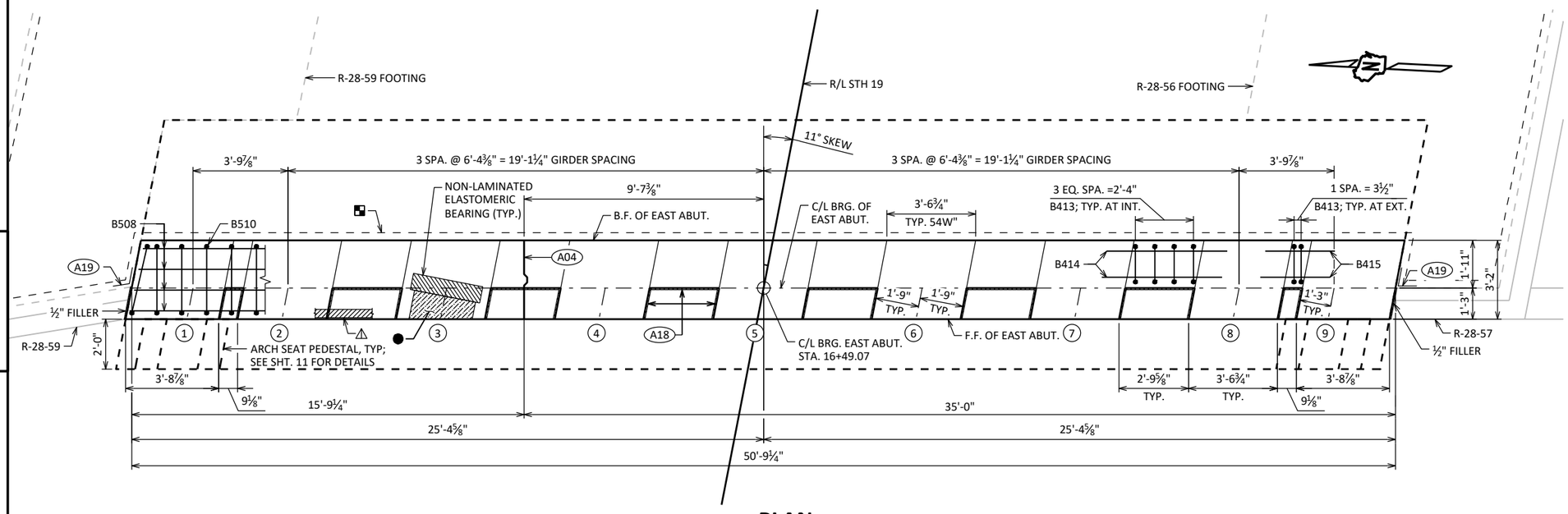
STATE PROJECT NUMBER

3050-04-81



ELEVATION LOOKING EAST

NOTE: ARCH SEAT PEDESTALS NOT SHOWN FOR CLARITY



PLAN

F.F. DENOTES FRONT FACE

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. CONNECT TO STORM SEWER SSPC. PLACE ABOVE MIN. INVERT EL. 809.13.

⚠ 4" x ½" FILLER, EXTEND FULL ABUTMENT LENGTH.

● ½" JOINT FILLER UNDER GIRDER FLANGE IN FRONT OF BRG. PAD, TYPICAL FOR ALL GIRDERS.

(A04) VERT. CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 x 8. ¾" "V" GROOVE @ THE FRONT FACE AND 18" RMW @ BACKFACE. FOR OPTIONAL DETAILS SEE "ALTERNATE CONSTRUCTION JOINT" SHEET.

(A18) ¾" CORK FILLER UP VERT. BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER, TYPICAL FOR ALL BEAM SEATS.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

NO.	DATE	REVISION	BY

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-193

DRAWN BY DCH | PLANS CK'D NAR

EAST ABUTMENT

SHEET 8 OF 27

98

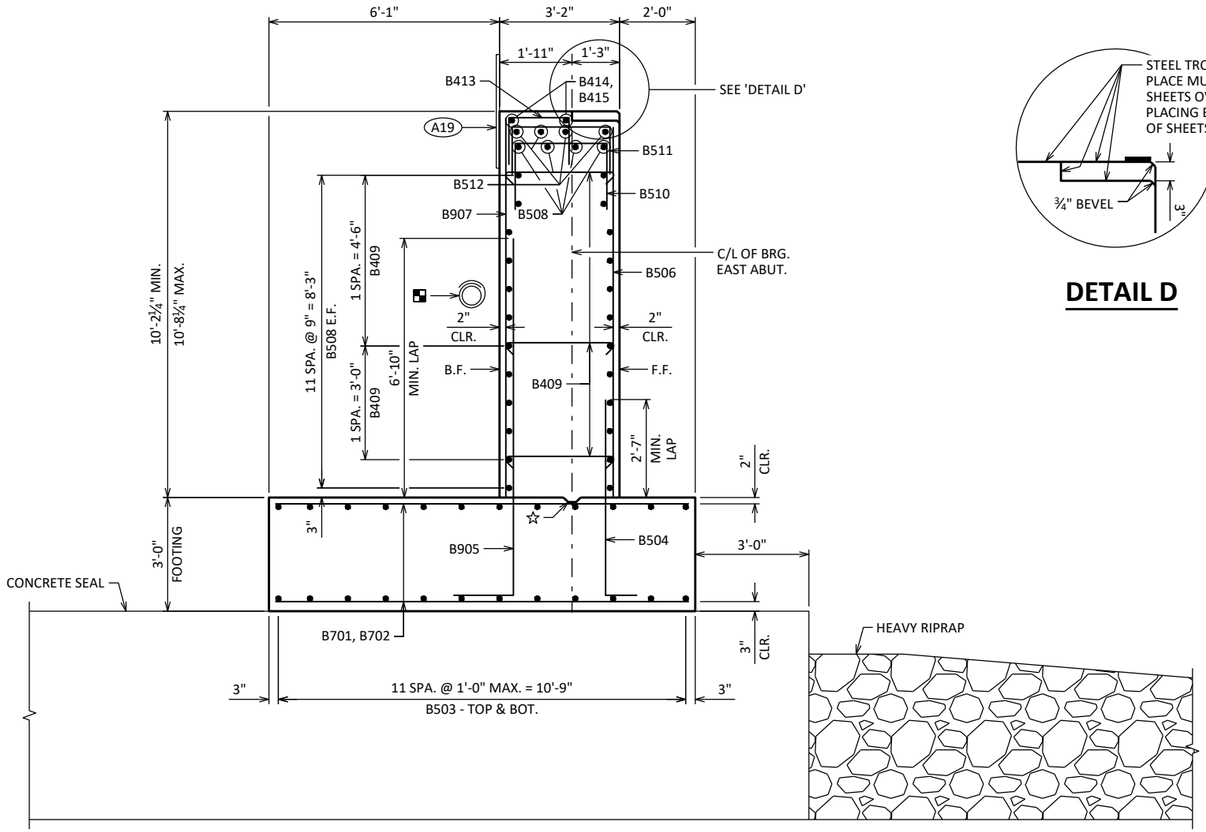
SCALE =

8

8

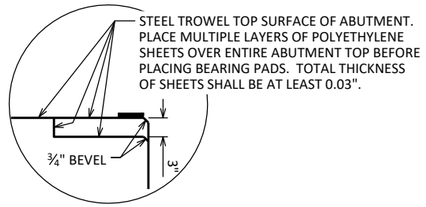
STATE PROJECT NUMBER

3050-04-81

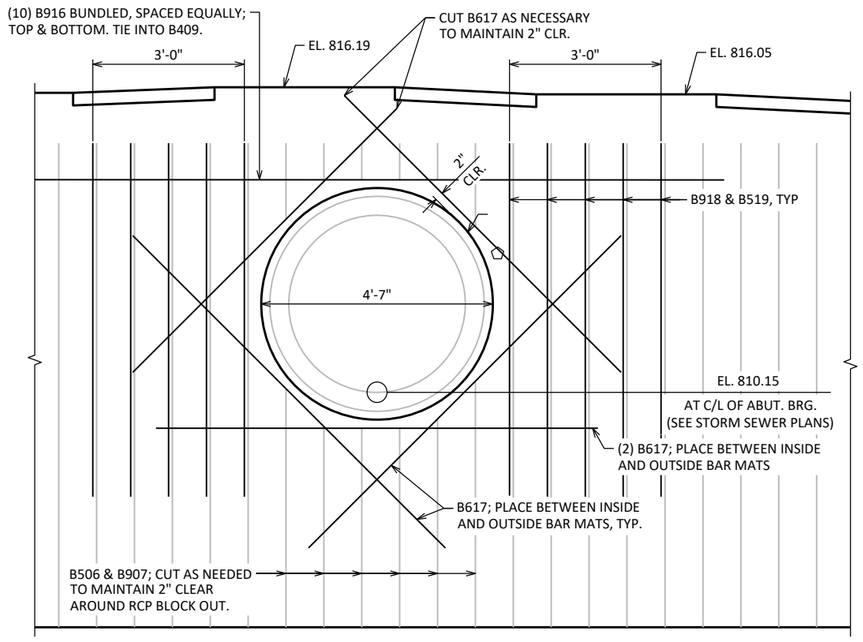


SECTION THRU ABUTMENT

LOOKING SOUTH

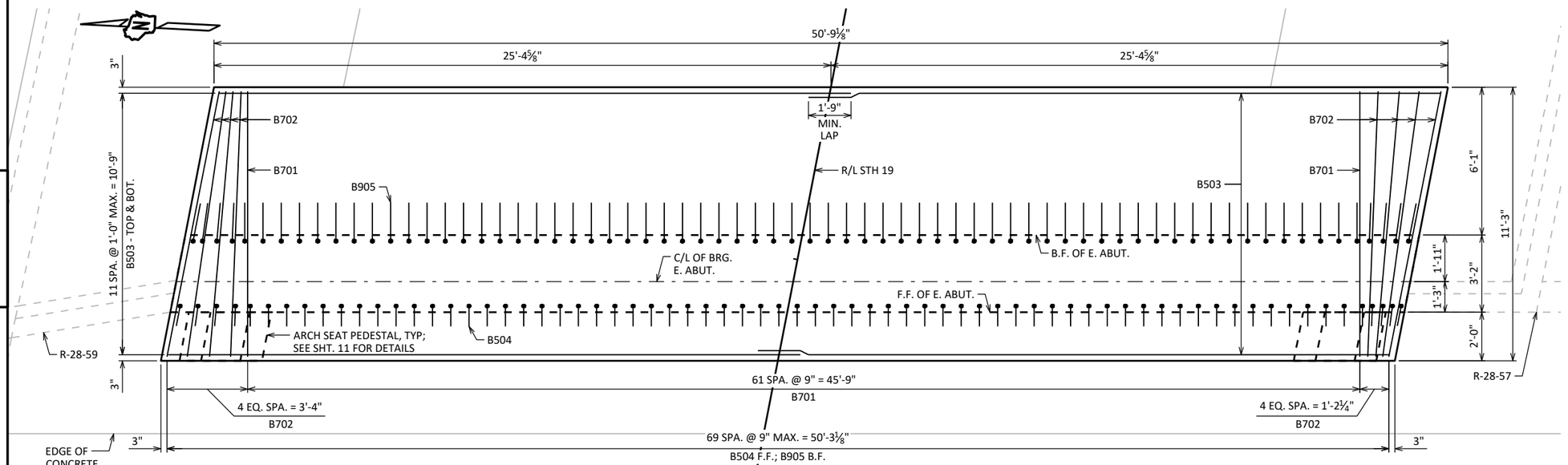


DETAIL D



DETAIL C

SEE STORM SEWER SHEETS FOR PIPE DETAILS.
B905, B508, B510 & B511 NOT SHOWN FOR CLARITY. CUT REINFORCEMENT AS NEEDED TO MAINTAIN 2" CLEAR FROM RCP BLOCK OUT.



FOOTING PLAN

☆ KEYED CONST. JOINT FORMED BY BEVELED 2" x 6"

PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. CONNECT TO STORM SEWER RCP. PLACE ABOVE MIN. INVERT EL. 809.13.

UTILITY BOX OUT. AFTER THIS PIPE HAS BEEN INSTALLED, THE BOX OUT NEEDS TO BE GROUTED CLOSED. A PIECE OF 18" RUBBERIZED MEMBRANE WATERPROOFING SHALL BE APPLIED TO THE BACK FACE OF THE ABUTMENT AT THE BOX OUT LOCATION.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-193

DRAWN BY DCH | PLANS CK'D NAR

EAST ABUTMENT DETAILS

SHEET 9 OF 27

99

SCALE =

8

8

STATE PROJECT NUMBER

3050-04-81

BILL OF BARS

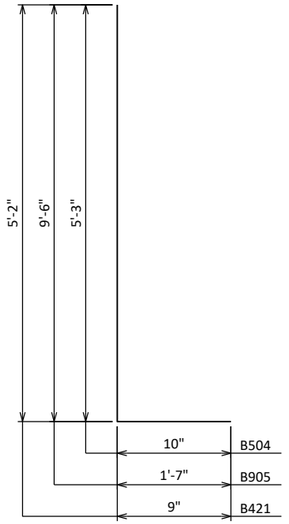
MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION	
NON-COATED BARS					TOTAL WEIGHT =	3790 LBS
B701	124	10'-11"			FOOTING - TOP & BOT.	TRANS.
B702	16	11'-1"		⚠	FOOTING - TOP & BOT.	TRANS.
B503	24	26'-1"			FOOTING - TOP & BOT.	LONGIT.
COATED BARS					TOTAL WEIGHT =	9480 LBS
B504	70	6'-0"	X		FOOTING/ABUT. BODY DOWEL - F.F.	VERT.
B905	70	10'-10"	X		FOOTING/ABUT. BODY DOWEL - B.F.	VERT.
B506	70	9'-9"			ABUT. BODY - F.F.	VERT.
B907	70	10'-0"			ABUT. BODY - B.F.	VERT.
B508	56	26'-6"			ABUT. BODY - E.F. & TOP	LONGIT.
B409	105	3'-7"	X		ABUT. BODY TIES	TRANS.
B510	52	6'-1"	X		ABUT BODY TOP	VERT.
B511	19	5'-1"	X		ABUT. BODY TOP	VERT.
B512	4	18'-6"			ABUT. BODY TOP	LONGIT.
B413	28	3'-11"	X		ABUT. BODY TOP NOTCH	VERT.
B414	12	4'-10"			ABUT. BODY TOP NOTCH	LONGIT.
B415	4	2'-9"			ABUT. BODY TOP NOTCH	LONGIT.
B916	10	13'-9"			ABUT. BODY AROUND PIPE	TRANS.
B617	10	8'-9"			ABUT. BODY AROUND PIPE	DIAG.
B918	10	7'-0"			ABUT. BODY AROUND PIPE	VERT.
B519	10	7'-0"			ABUT. BODY AROUND PIPE	VERT.
B420	20	1'-8"			ARCH SEAT PEDESTAL	TRANS.
B421	16	3'-5"	X		ARCH SEAT PEDESTAL	VERT.

⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

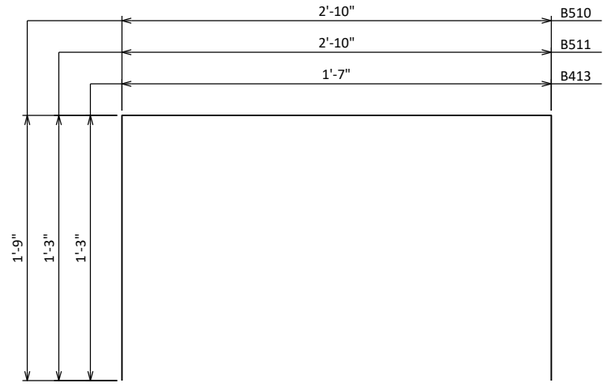
BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

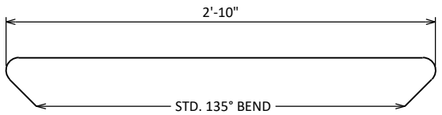
MARK	NO. REQ'D	LENGTH
B702	4 SETS OF 4	10'-11" TO 11'-2"



B504, B905, B421



B510, B511, B513



B409

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-193

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EAST ABUTMENT BILL OF BARS

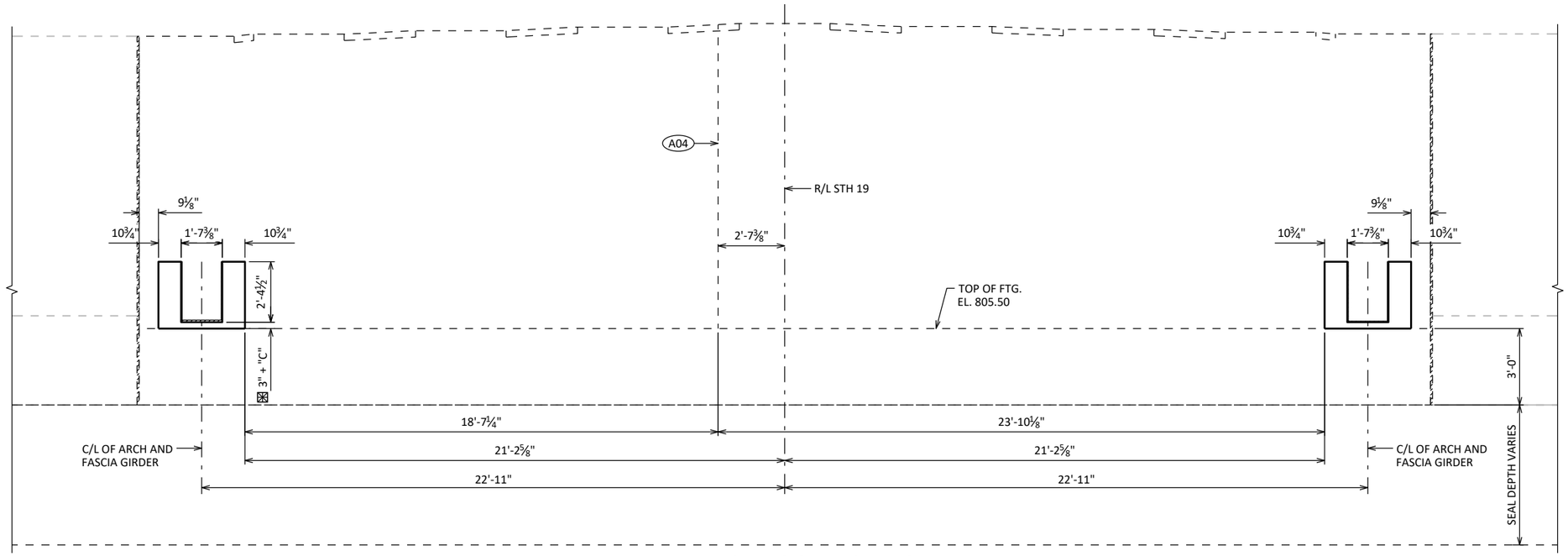
SHEET 10 OF 27

100

SCALE =

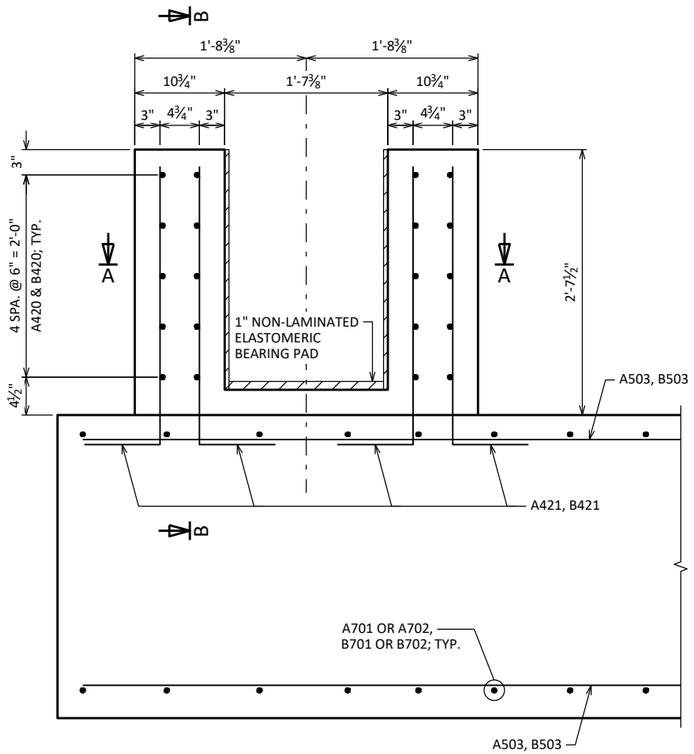
STATE PROJECT NUMBER

3050-04-81



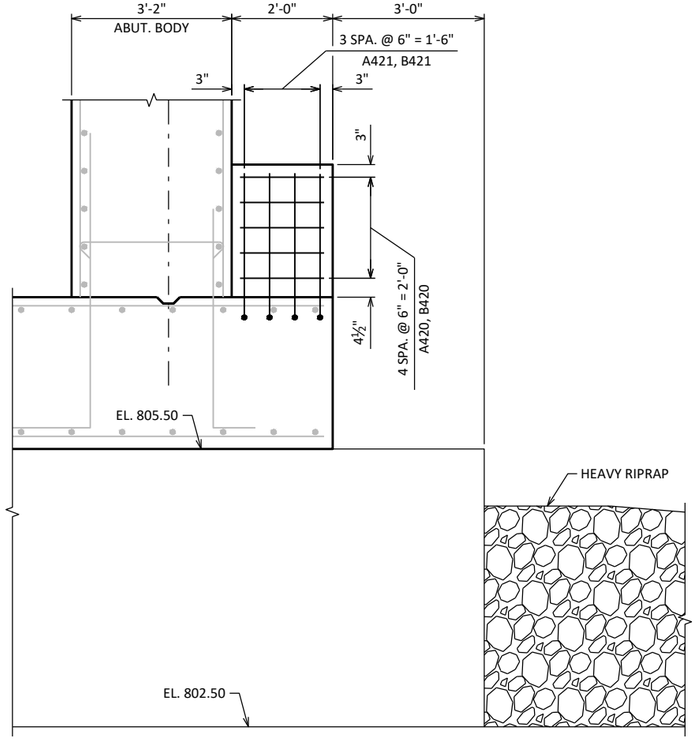
ELEVATION LOOKING WEST

NOTE: DIMENSIONS TAKEN ABOUT F.F. OF ABUTMENT
WEST ABUTMENT ARCH SEAT PEDESTALS SHOWN
(EAST ABUTMENT ARCH SEAT PEDESTALS SIMILAR)

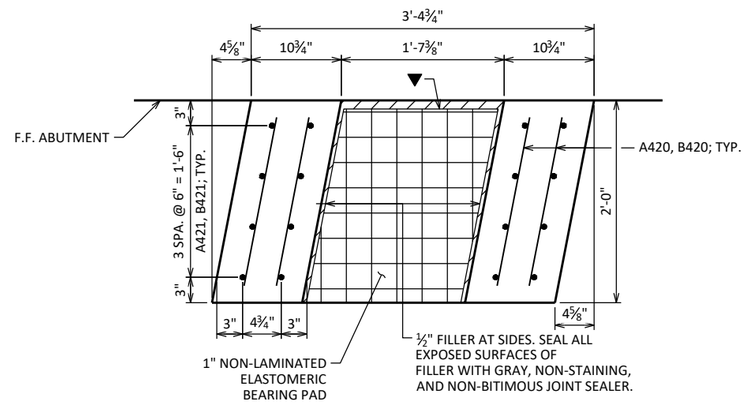


ELEVATION LOOKING WEST

NOTE: WEST ABUTMENT ARCH SEAT PEDESTAL SHOWN
(EAST ABUTMENT ARCH SEAT PEDESTALS SIMILAR)



SECTION B-B



SECTION A-A

8

8

ADD FIELD MEASURED "C" TO ARCH PEDESTAL BASE THICKNESS. SEE SHEET 15 FOR DESCRIPTION AND ESTIMATED VALUE.

▼ CLOSED CELL SPONGE RUBBER FILLER TO BE AASHTO M153, TYPE 1 OR EQUIVALENT - 1" MINIMUM THICKNESS. CLOSED CELL SPONGE RUBBER FILLER TO BE INCIDENTAL TO "CONCRETE MASONRY BRIDGES".

(A04) VERT. CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 x 8. ¾" "V" GROOVE @ THE FRONT FACE AND 18" RMW @ BACKFACE. FOR OPTIONAL DETAILS SEE "ALTERNATE CONSTRUCTION JOINT" SHEET.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-193

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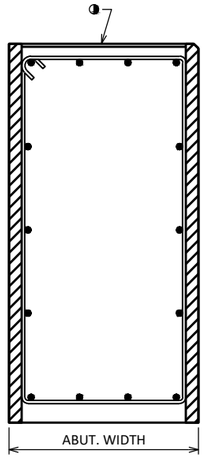
ABUT. ARCH SEAT PEDESTAL DETAILS

SHEET 11 OF 27

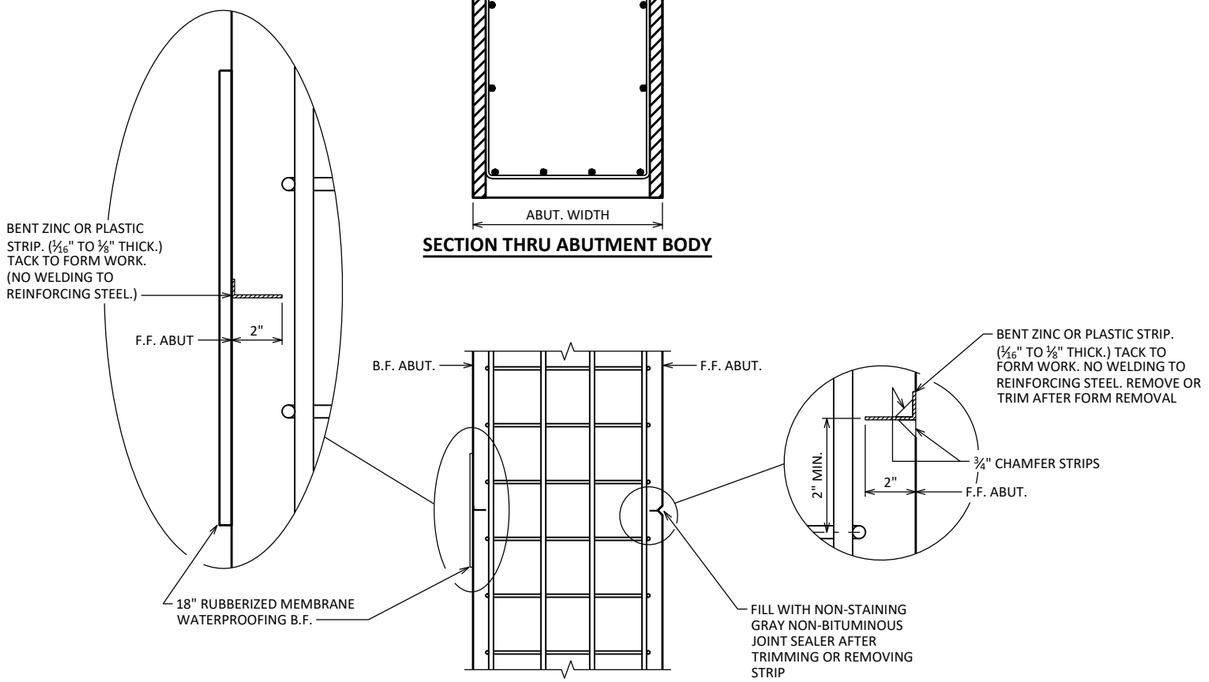
101

SCALE =

STATE PROJECT NUMBER
3050-04-81



SECTION THRU ABUTMENT BODY



SECTION A-A

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 ½" DEEP.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-193

DRAWN BY DCH | PLANS CK'D NAR

ALTERNATE CONSTRUCTION JOINT

SHEET 12 OF 27
102

SCALE =

8

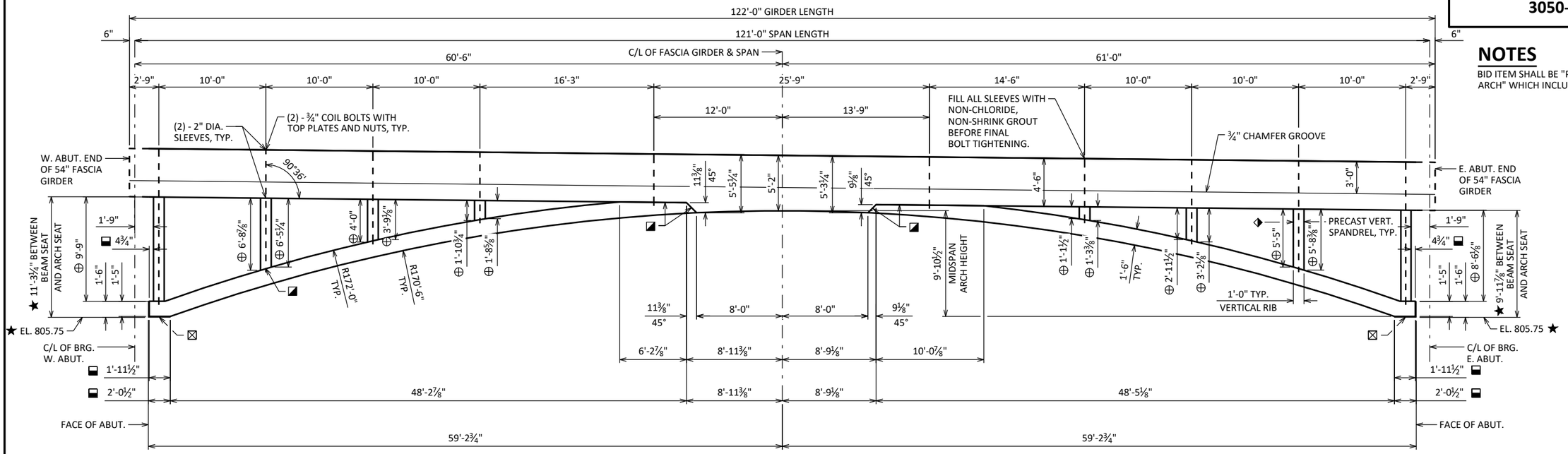
8

STATE PROJECT NUMBER

3050-04-81

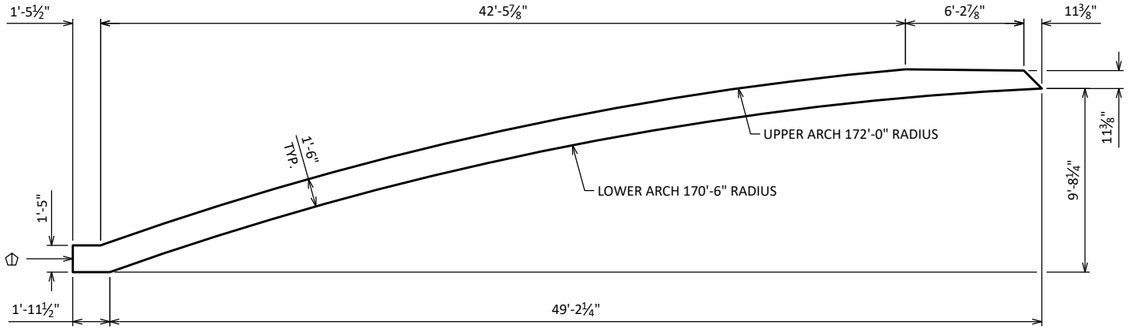
NOTES

BID ITEM SHALL BE "PRECAST CONCRETE RIB ARCH" WHICH INCLUDES ALL ITEMS SHOWN.

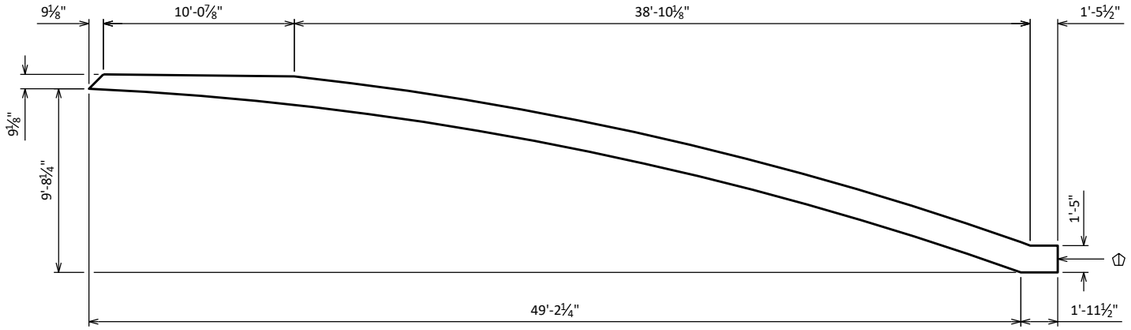


54" FASCIA GIRDER AND RIB ARCH

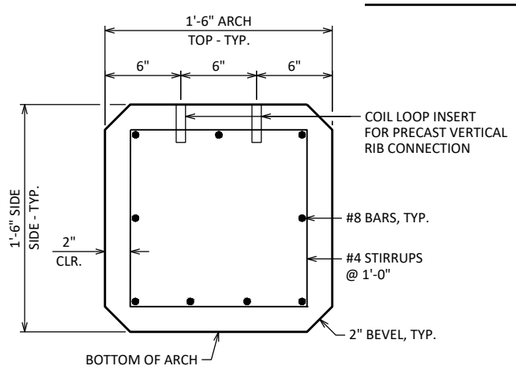
DIMENSIONS OF THE RIBS AND ARCHES ARE BASED ON THE NON-CAMBERED BOTTOM OF THE GIRDER (STRAIGHT).



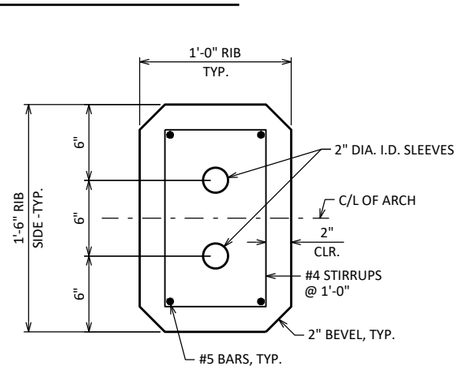
WEST ABUTMENT ARCH DETAILS



EAST ABUTMENT ARCH DETAILS

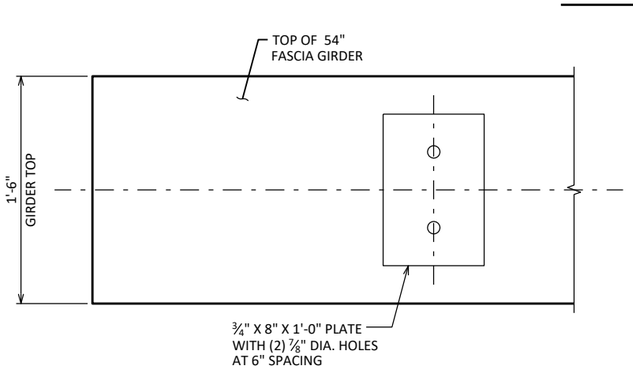


PRECAST LOWER ARCH



PRECAST VERTICAL SPANDREL

TYPICAL SECTIONS



TOP PLATE DETAIL

- ◪ DURING ASSEMBLY, PROVIDE NON-CHLORIDE, NON SHRINK GROUT BETWEEN MATING SURFACES (TYP.). FINISH SURFACES & MATED JOINTS WITH SACK RUB SURFACE.
- ⊠ USE 1" NON-LAMINATED ELASTOMERIC BEARING PAD AT ARCH PEDESTAL BEAM SEAT. USE 1/16" STEEL SHIMS CONFORMING TO ASTM DESIGNATION A709, GRADE 36, AT BEAM SEAT AS NEEDED TO FACILITATE ARCH FIT-UP. STEEL SHIMS TO BE INCIDENTAL TO "PRECAST CONCRETE RIB ARCH".
- ⬗ ASSEMBLE PRECAST MEMBERS SO THAT RIBS ARE VERTICAL. DISPLACE TOPS OF RIBS WITH TIE RODS & OVERSIZED SLEEVES AS NEEDED.
- ⊕ SEE PRECAST ARCH DETAILS 2 SHEET FOR MODIFICATIONS TO VERTICAL SPANDREL LENGTHS TO ACCOMODATE GIRDER CAMBER.
- ⬒ MEASURED ALONG THE CENTERLINE OF ARCH RIB.
- ★ SEE PRECAST ARCH DETAILS 2 SHEET FOR MODIFICATIONS TO BEAM SEAT ELEVATION TO ACCOMODATE GIRDER CAMBER.
- ⏢ END OF ARCH SKEWED TO MATCH ABUTMENT FACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-193

DRAWN BY	PLANS CK'D
DCH	NAR

54" FASCIA GIRDER & RIB ARCH DETAILS

SHEET 13 OF 27

103

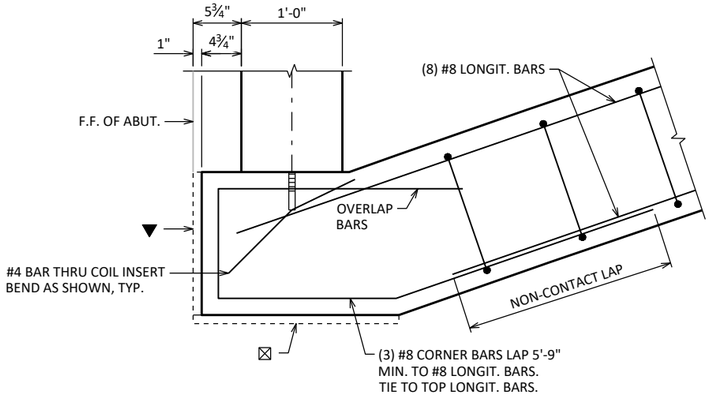
SCALE =

8

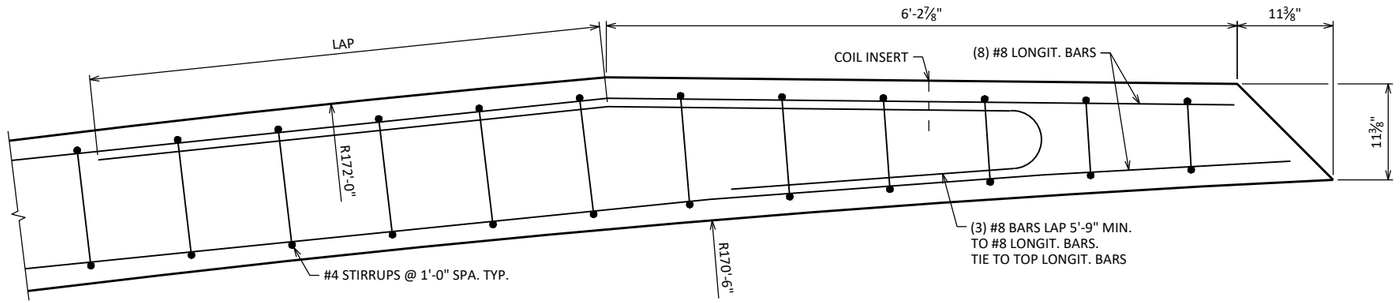
8

STATE PROJECT NUMBER

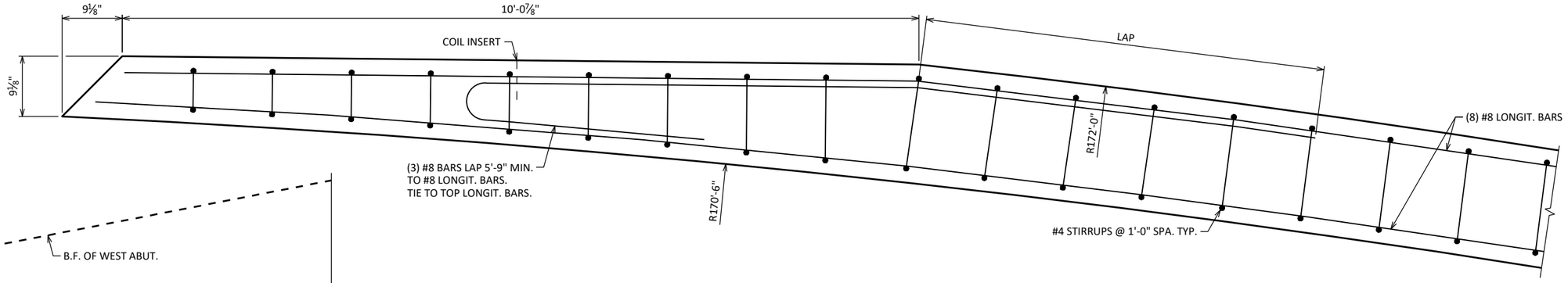
3050-04-81



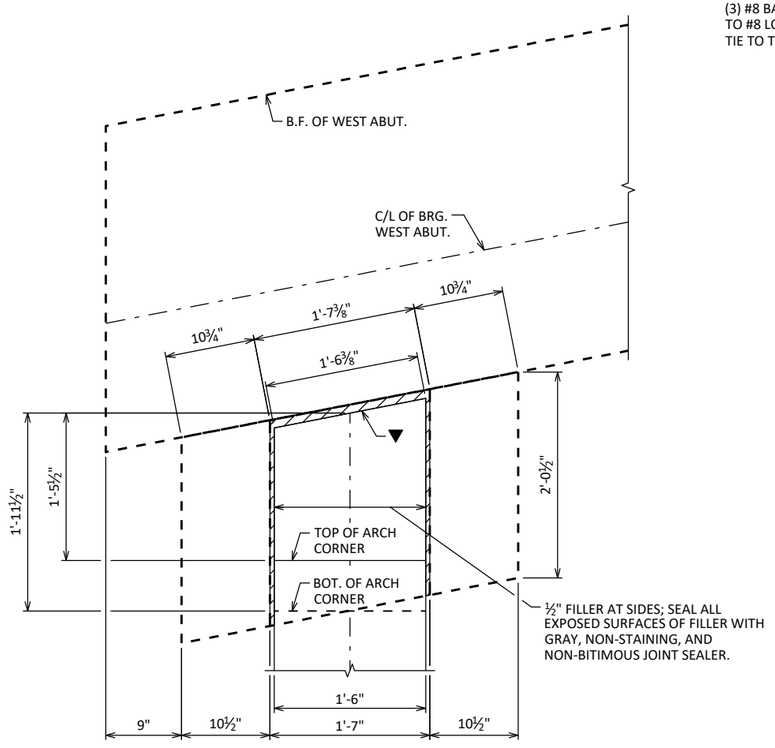
CORNER DETAIL



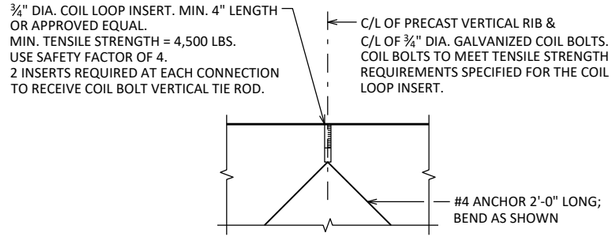
WEST ABUTMENT ARCH POINT DETAIL



EAST ABUTMENT ARCH POINT DETAIL



ARCH SEAT PLAN



COIL INSERT DETAIL

NOTES

BID ITEM SHALL BE "PRECAST CONCRETE RIB ARCH" WHICH INCLUDES ALL ITEMS SHOWN.

☒ USE 1" NON-LAMINATED ELASTOMERIC BEARING PAD AT ARCH PEDESTAL BEAM SEAT. USE 1/16" STEEL SHIMS CONFORMING TO ASTM DESIGNATION A709, GRADE 36, AT BEAM SEAT AS NEEDED TO FACILITATE ARCH FIT-UP. STEEL SHIMS TO BE INCIDENTAL TO "PRECAST CONCRETE RIB ARCH".

▼ CLOSED CELL SPONGE RUBBER FILLER TO BE AASHTO M153, TYPE 1 OR EQUIVALENT - 1" MINIMUM THICKNESS. CLOSED CELL SPONGE RUBBER FILLER TO BE INCIDENTAL TO "CONCRETE MASONRY BRIDGES".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-193

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PRECAST ARCH DETAILS

SHEET 14 OF 27

104

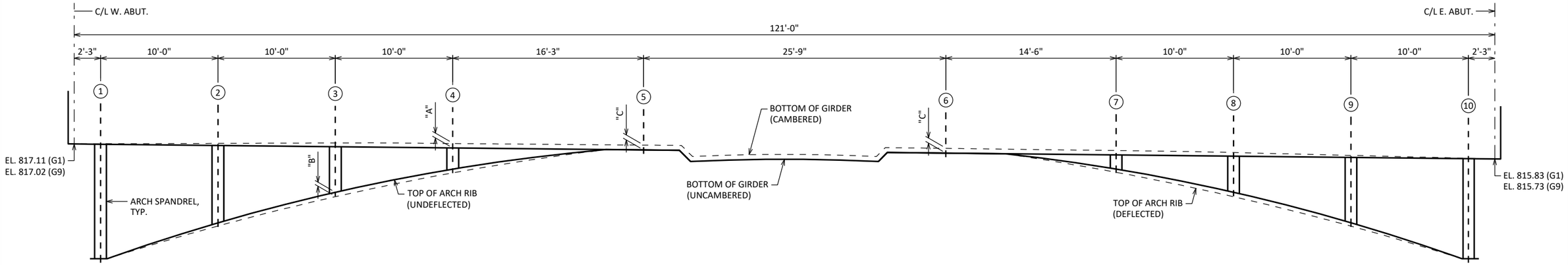
SCALE =

8

8

STATE PROJECT NUMBER

3050-04-81



ARCH CAMBER & DEFLECTION

EXTERIOR FASCIA GIRDER AND ARCH CONSTRUCTION SEQUENCE

1. CAST EXTERIOR GIRDER AND RELEASE PRESTRESSING STRANDS.
2. MEASURE GIRDER RESIDUAL CAMBER DUE TO SELF-WEIGHT AND PRESTRESSING STRANDS IMMEDIATELY AFTER STRAND RELEASE.
3. ESTIMATE CAMBER GROWTH FROM RELEASE UNTIL TIME GIRDER IS ERECTED. FOR ESTIMATING PURPOSES, A CAMBER MULTIPLIER OF 1.4 WAS USED.
4. ADJUST SPANDREL COLUMN LENGTH AS FOLLOWS PRIOR TO CASTING:

   Δ = SPANDREL COLUMN LENGTH ADJUSTMENTS = + RESIDUAL CAMBER AT SPANDREL COLUMN = "A"
   + ARCH DEAD LOAD DEFLECTION = "B"
   - RESIDUAL CAMBER AT ARCH RIB/GIRDER MATING SURFACE = "C"
   = +/- CHANGE IN SPANDREL COLUMN LENGTH
5. ERECT EXTERIOR GIRDER. LIFTING POINTS OF EXTERIOR GIRDER ARE LOCATED AT 6' FROM GIRDER ENDS.
6. PLACE 1/16" THICK STEEL SHIMS AT ABUTMENT ARCH SUPPORT TO ACHIEVE PROPER FIT-UP, IF NECESSARY.
7. ERECT ARCH RIB BY PLACING ONTO BEARING AT ABUTMENTS AND CONNECTING ¾" COIL BOLTS AT THE ARCH RIB/GIRDER MATING SURFACE.
8. ERECT ARCH SPANDREL COLUMN AND CONNECT ¾" DIAMETER COIL BOLTS.
9. CAST DECK.
10. CAST SIDEWALK AND PARAPETS.

ESTIMATE OF CHANGES TO SPANDREL LENGTH

THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY. USE ACTUAL MEASUREMENTS PRIOR TO SPANDREL COLUMN FABRICATION.

THE CHANGE IN SPANDREL LENGTH CAN BE TAKEN AS: Δ = "A" + "B" - "C"
WHERE "C" = RESIDUAL CAMBER AT THE GIRDER MATING SURFACE.

Location	SP1	SP2	SP3	SP4
"A"	1/4"	1 3/16"	1 7/8"	2 3/8"
"B"	1/16"	1/2"	13/16"	13/16"
"C"	2 13/16"	2 13/16"	2 13/16"	2 13/16"
Δ	2 1/2''	-1 1/8''	-1/8''	3/8"

Location	SP7	SP8	SP9	SP10
"A"	2 3/8"	1 7/8"	1 3/16"	1/4"
"B"	3/4"	3/4"	1/2"	1/16"
"C"	2 13/16"	2 13/16"	2 13/16"	2 13/16"
Δ	5/16"	-3/16''	-1 1/8''	-2 1/2''

NOTE: THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE IS MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-193

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PRECAST ARCH DETAILS 2

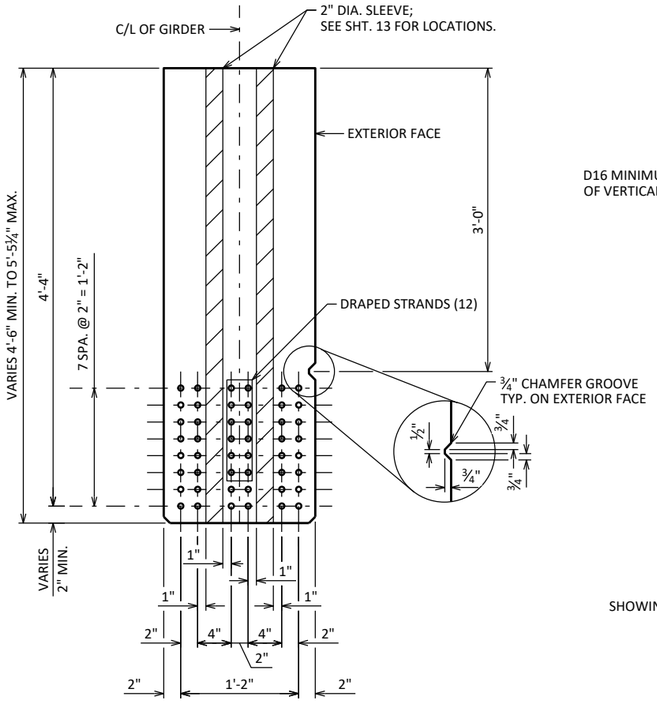
SHEET 15 OF 27

105

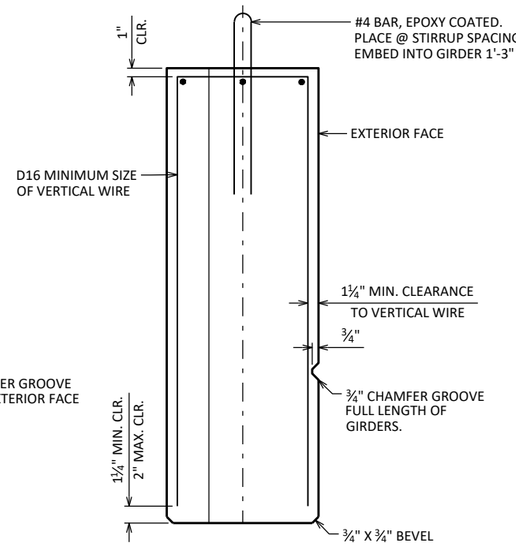
SCALE =

STATE PROJECT NUMBER

3050-04-81

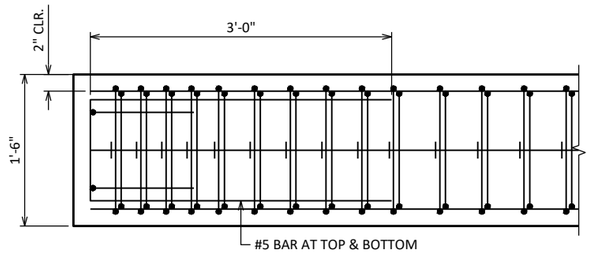


SECTION THRU GIRDER

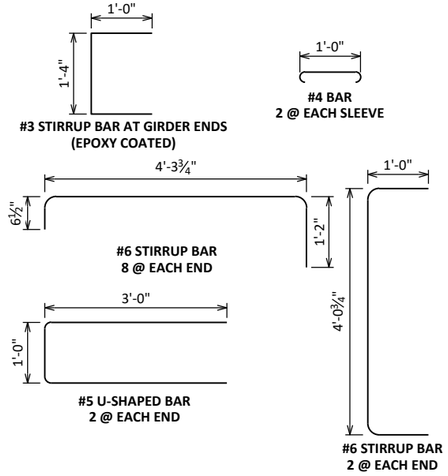


SECTION THRU GIRDER

SHOWING REINF. OPTION WITH WELDED WIRE FABRIC (WWF) STIRRUPS. SEE DETAIL AT RIGHT FOR EXTRA BOTTOM BARS.



TOP VIEW OF GIRDER



NOTES

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN,

PRESTRESSING STRANDS SHALL BE (0.6" DIA.) - 7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS. POSITION GIRDER LIFTING DEVICE TO ALLOW ATTACHMENT OF CONCRETE ARCH & RIBS. SEE SECT. 503.3.3 OF STANDARD SPECIFICATIONS FOR GUIDANCE.

TOP OF GIRDERS TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY FOR BONDING TO THE SLAB, EXCEPT THE OUTSIDE 2" OF GIRDER WHICH SHALL BE TROWEL FINISHED.

STRANDS SHALL BE FLUSH WITH END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, END OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL INTER. DIAPHRAGM DETAILS" SHEET.

#6 TOP BARS MAY BE SPLICED AT ⅓ POINTS OF GIRDER. MINIMUM LAP LENGTH IS 3'-7" AND BEND DOWN AT ENDS 1'-0".

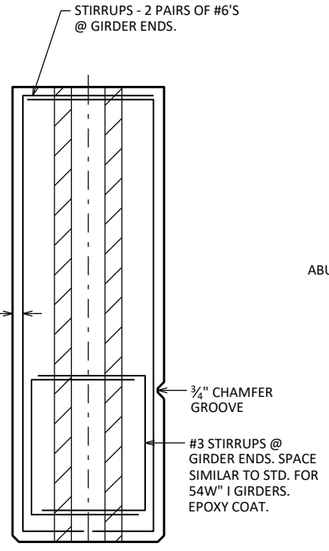
SPACING FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT. IF THE FABRICATOR WANTS TO BUILD A BAR STEEL CAGE BY WELDING LONGITUDINAL REINFORCEMENT TO THE #4 STIRRUPS, 2 OPTIONS ARE AVAILABLE:

1. USE ASTM A706, GRADE 60 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.

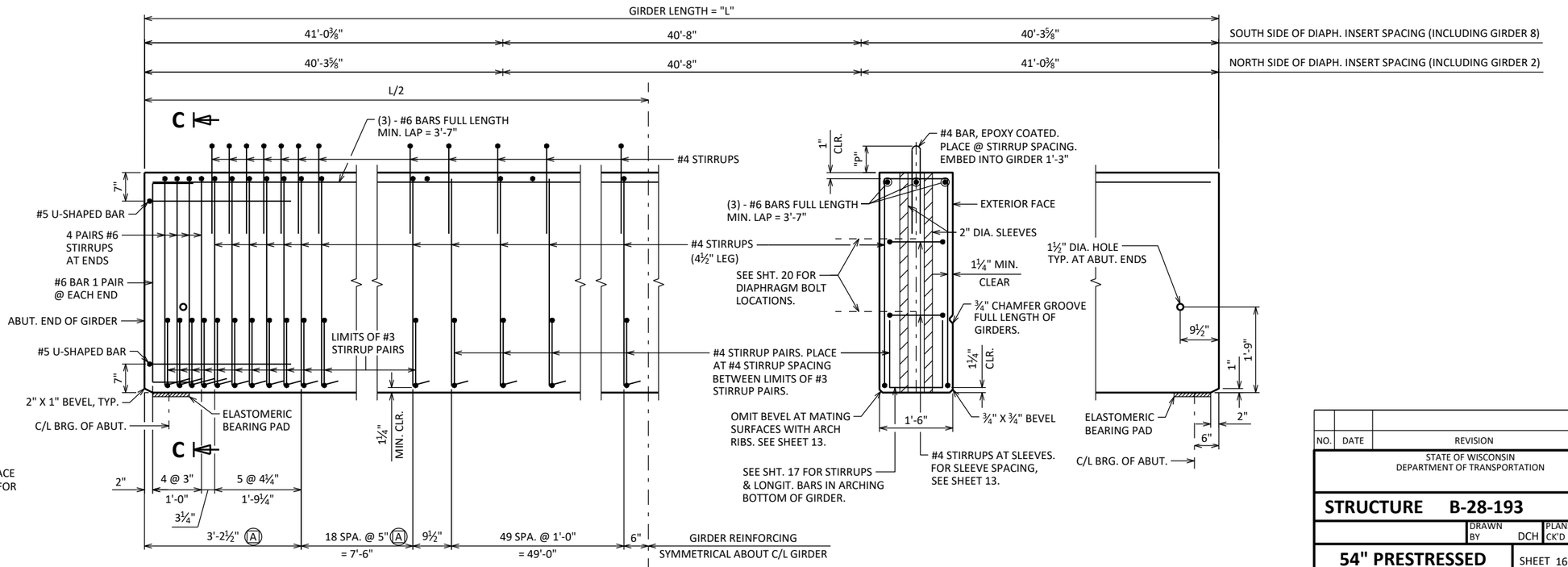
2. USE ASTM A615, GRADE 40 REINFORCEMENT AND A MODIFIED STIRRUP SPACING SUBMITTED TO AND APPROVED BY STRUCTURES DEVELOPMENT SECTION, (608) 266-8494.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

WELDED WIRE FABRIC SHALL CONFORM TO THE REQUIREMENTS OF ASTM A497.



SECTION C-C



SIDE VIEW & TYP. SECTION IN SPAN

Ⓐ DETAIL TYP. AT EACH END

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-193

DRAWN BY DCH | PLANS CK'D NAR

54" PRESTRESSED CONCRETE FASCIA GIRDER DETAILS

SHEET 16 OF 27

106

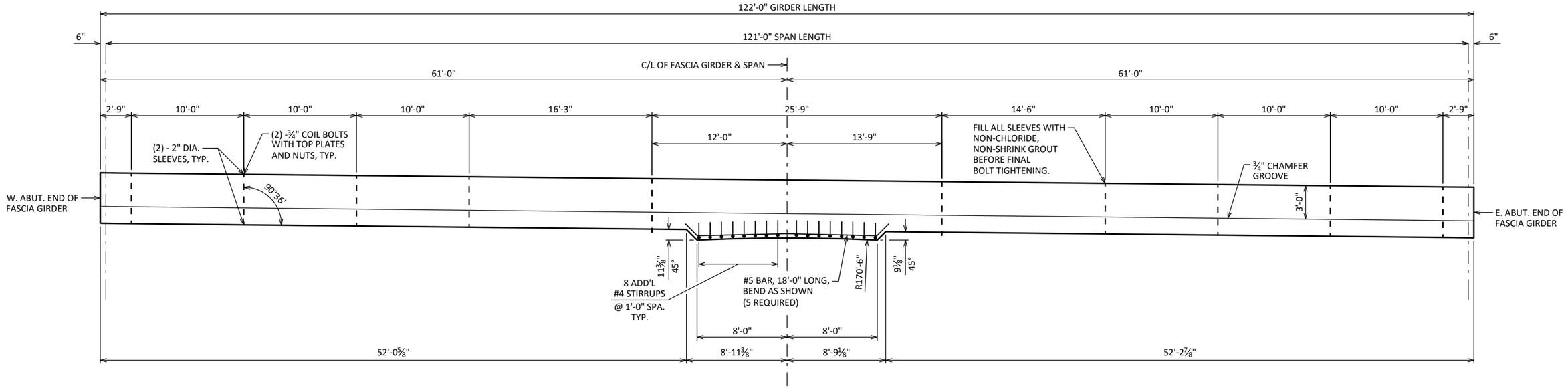
SCALE =

8

8

STATE PROJECT NUMBER

3050-04-81



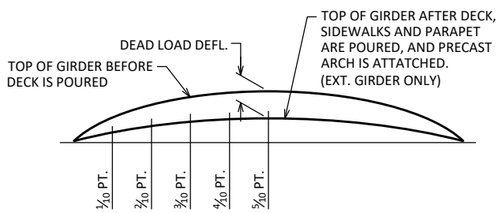
FASCIA GIRDER DIMENSIONS

DIMENSIONS OF THE RIBS AND ARCHES ARE BASED ON THE NON-CAMBERED BOTTOM OF THE GIRDER (STRAIGHT).

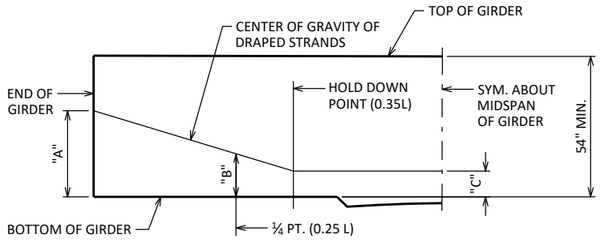
* THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.) *
1	4.15

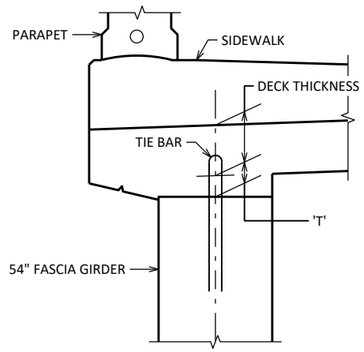
THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS.
THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.



DEAD LOAD DEFLECTION DIAGRAM



DRAPED STRAND PROFILE



DECK HAUNCH DETAIL

IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR, IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIRDERS AT C/L OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
– TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
– DECK THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVG. HAUNCH ('T') OF 3⅝" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGE".

⚹ MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

SPAN	GIRDER NO.	GIRDER LENGTH "L" (FEET)	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (P.S.I.)	"P" (IN.) 1ST 1/3 OF GIRDER	MID 1/3 OF GIRDER	END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) ⚹	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) ⚹
1	1 & 9	122	0.82	1.58	2.17	2.55	2.67	2.54	2.17	1.58	0.82	8,000	8.00	7.00	8.00	0.60	12	6,800	47	20	23	11	36	6,800

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-193

DRAWN BY DCH | PLANS CK'D NAR

54" PRESTRESSED CONCRETE FASCIA GIRDER DETAILS 2

SHEET 17 OF 27
107

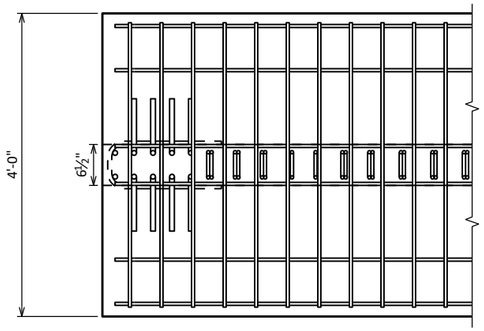
SCALE =

8

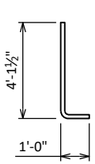
8

STATE PROJECT NUMBER

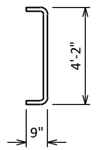
3050-04-81



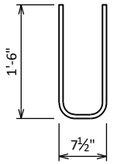
TOP FLANGE



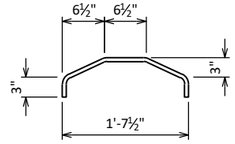
#6 BAR
2 @ EACH END



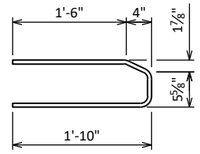
#6 BAR
8 @ EACH END



#5 BAR
1 @ EACH END



#3 BAR
3 @ EACH END
(EPOXY COATED)



#3 BAR
29 PAIRS EACH END
(EPOXY COATED)

NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 15" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 15" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER OR EPOXY TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS. SEE SECT. 503.3.4 OF STANDARD SPECIFICATIONS FOR GUIDANCE.

STRANDS SHALL BE FLUSH WITH END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, END OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, GRADE 2, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO THE APPLICATION OF THE SEALER.

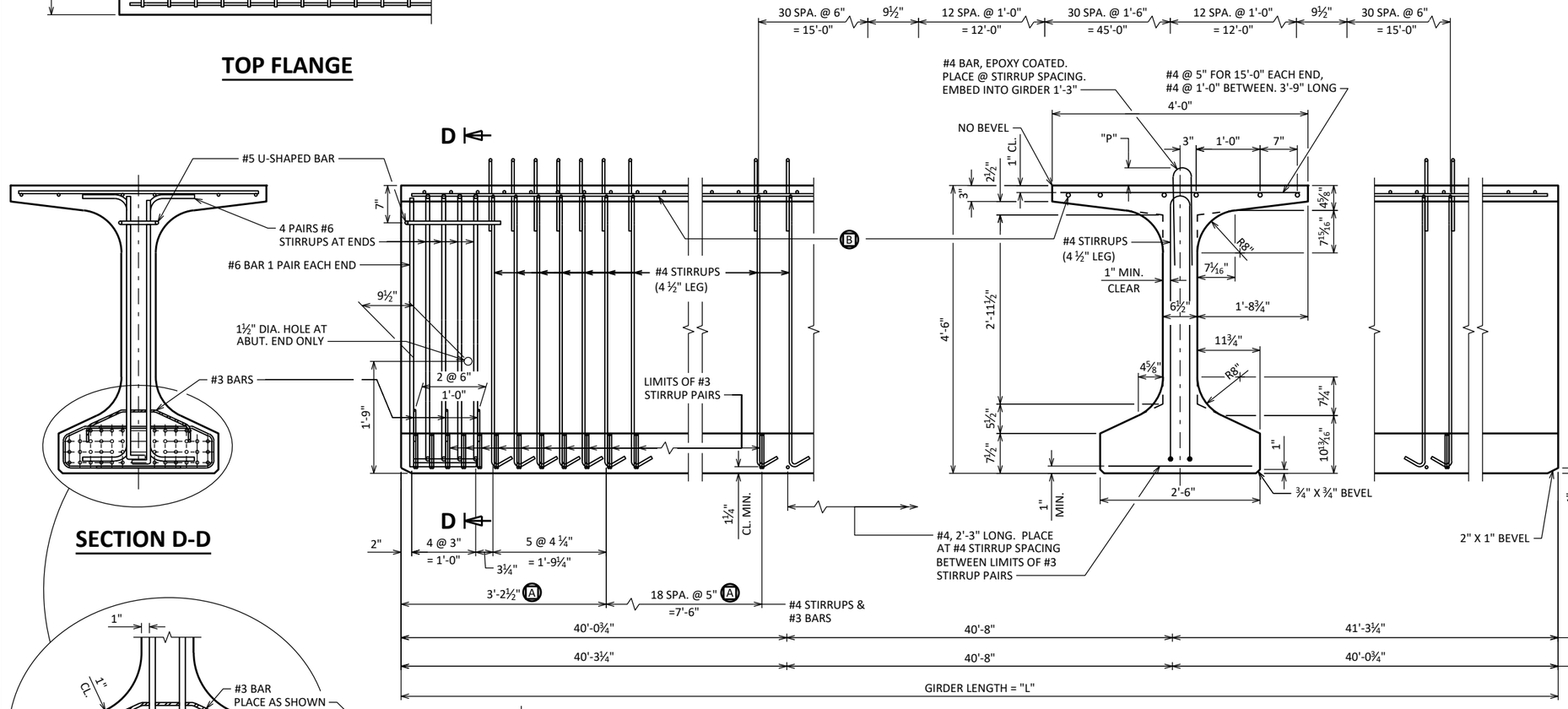
ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

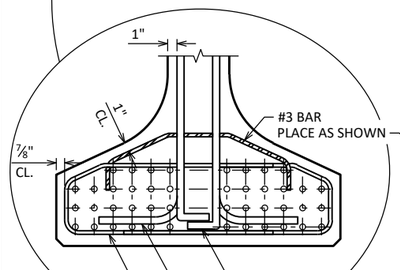
AN EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A1064 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON ACCEPTANCE OF THE STRUCTURES MAINTENANCE SECTION. IF USED, WWF SUBSTITUTION DETAILS SHALL BE SUBMITTED ELECTRONICALLY TO THE WISDOT FABRICATION LIBRARY AND ACCEPTED PRIOR TO SHOP DRAWING SUBMITTAL.

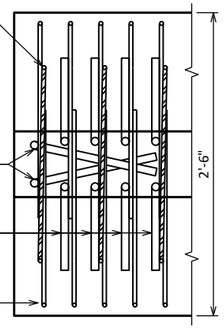
PRESTRESSING STRANDS SHALL BE (0.6" DIA.)-7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL INTER. DIAPHRAGM DETAILS" SHEET.



SECTION D-D





BOTTOM FLANGE

SIDE VIEW & TYP. SECTION IN SPAN

A DETAIL TYP. AT EACH END

B 6 #4 BARS, FULL LENGTH, MIN. LAP = 1'-11"

⚹ MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L" (FEET)	DEAD LOAD DEFL. (IN.)									CONC. STRGTH. f'_c (P.S.I.)	"P" (IN.)			DIA. OF STRAND (IN.)	DRAPED PATTERN						UNDRAPED PATTERN	
			1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10		1ST ⅓ OF GIRDER	MID ⅓ OF GIRDER	END ⅓ OF GIRDER		TOTAL NO. OF STRANDS	f'_{ci} (P.S.I.) ⚹	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	TOTAL NO. OF STRANDS	f'_{ci} (P.S.I.) ⚹
1	2 & 8	122	0.64	1.24	1.72	2.01	2.12	2.01	1.72	1.24	0.64	8,000	8	7	8	0.6	38	6,800	49	16	19	5		
1	3 TO 7	122	0.69	1.33	1.83	2.15	2.26	2.15	1.83	1.33	0.69	8,000	8	7	8	0.6	38	6,800	49	16	19	5		

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-193

DRAWN BY UD | PLANS CK'D NAR

54W" PRESTRESSED GIRDER DETAILS

SHEET 18 OF 27

108

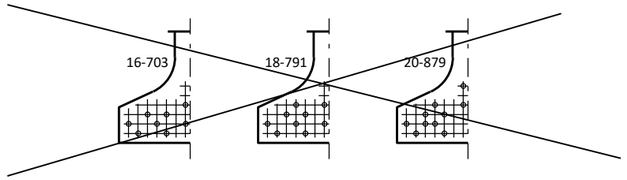
SCALE =

8

8

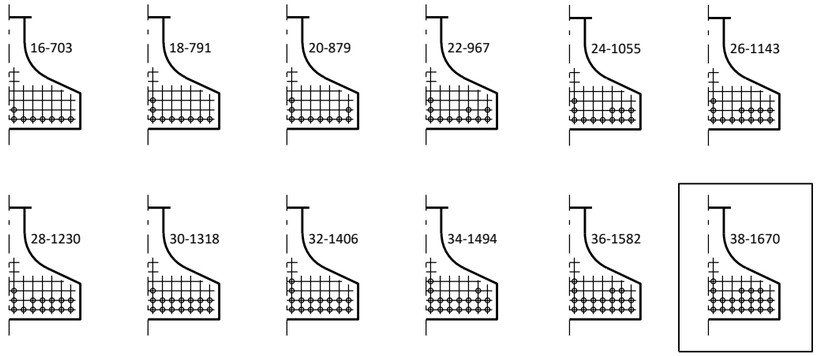
STATE PROJECT NUMBER

3050-04-81



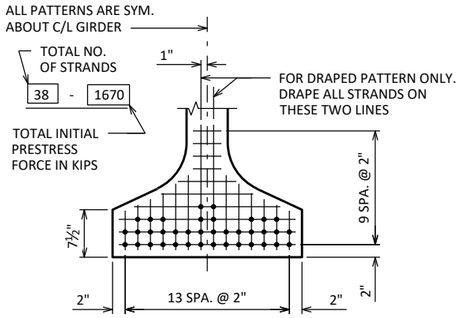
STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY TO AVOID DRAPING OF STRANDS

0.6" DIA. STRANDS

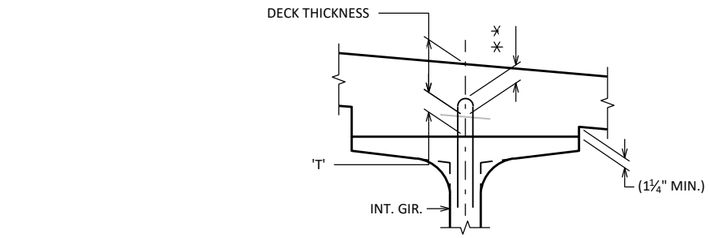


ARRANGEMENT AT C/L SPAN - FOR GIRDERS WITH DRAPED STRANDS

0.6" DIA. STRANDS



TYP. STRAND PATTERN



DECK HAUNCH DETAIL

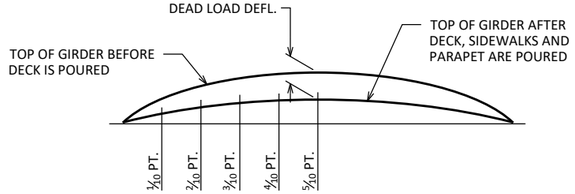
IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

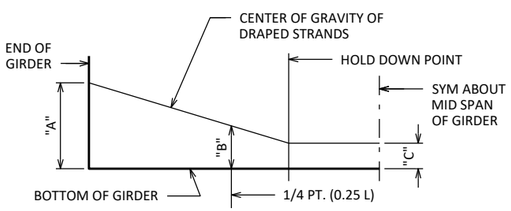
TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT C/L OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

	TOP OF DECK ELEV. AT FINAL GRADE
-	TOP OF GIRDER ELEVATION
+	DEAD LOAD DEFLECTION
-	DECK THICKNESS
=	HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 4½" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



DEAD LOAD DEFLECTION DIAGRAM



DRAPED STRAND PROFILE

* THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.) *
1	3.833

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS.

THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-193

DRAWN BY UD | PLANS CK'D NAR

54W" PRESTRESSED GIRDER DETAILS 2

SHEET 19 OF 27

109

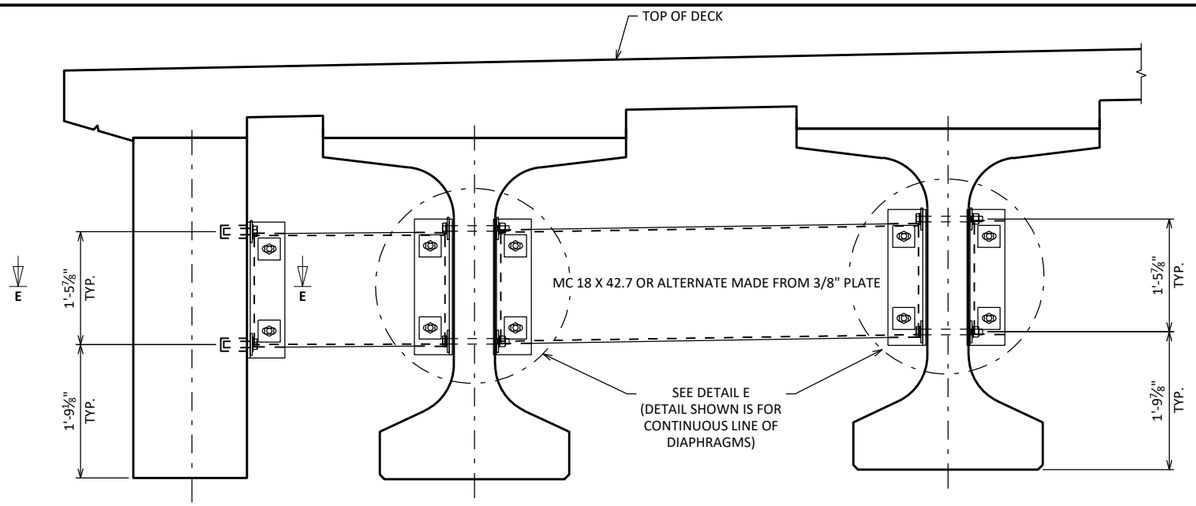
SCALE =

8

8

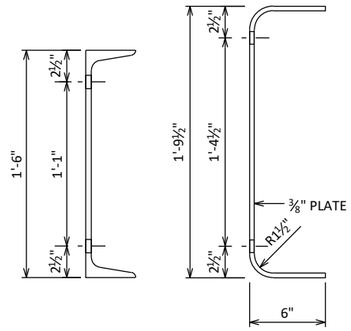
STATE PROJECT NUMBER

3050-04-81



EXTERIOR FASCIA GIRDER **INTERIOR GIRDERS**

PART TRANSVERSE SECTION AT DIAPHRAGM



MC18X42.7 **ALTERNATE DIAPHRAGM**

SECTION THRU DIAPHRAGM

NOTES

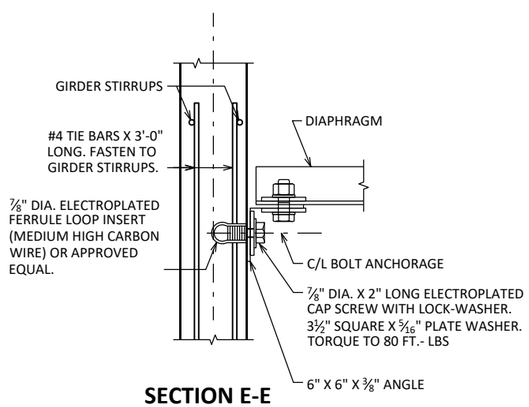
ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-28-193", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

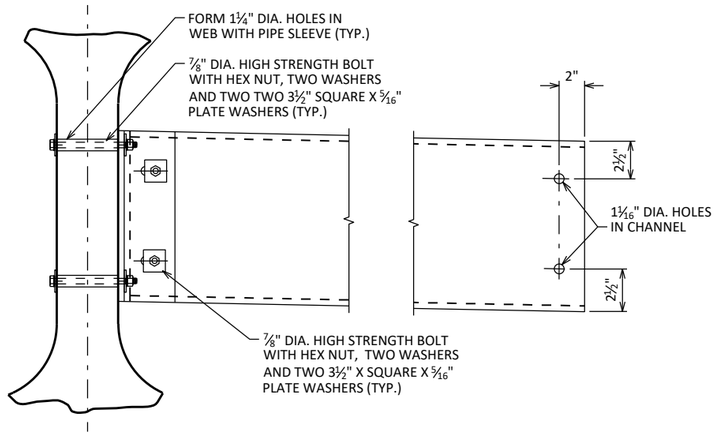
ALL DIAPHRAGM MATERIAL INCLUDING BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION.

STEEL DIAPHRAGM TO CONCRETE WEB CONNECTION SHALL BE SNUG-TIGHT PLUS 1/4 TURN, UNLESS NOTED OTHERWISE. HIGH STRENGTH BOLTS FOR WEB CONNECTION SHALL MEET THE REQUIREMENTS FOR ASTM A325 OR ASTM A449.



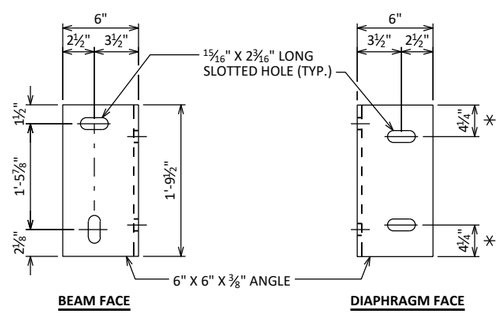
SECTION E-E

(FOR EXTERIOR ATTACHMENT)



DETAIL E

(FOR STAGGERED DIAPHRAGM)



DIAPHRAGM SUPPORT

* 2½" FOR ALTERNATE PLATE DIAPHRAGM

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-193

DRAWN BY UD | PLANS CK'D MSK

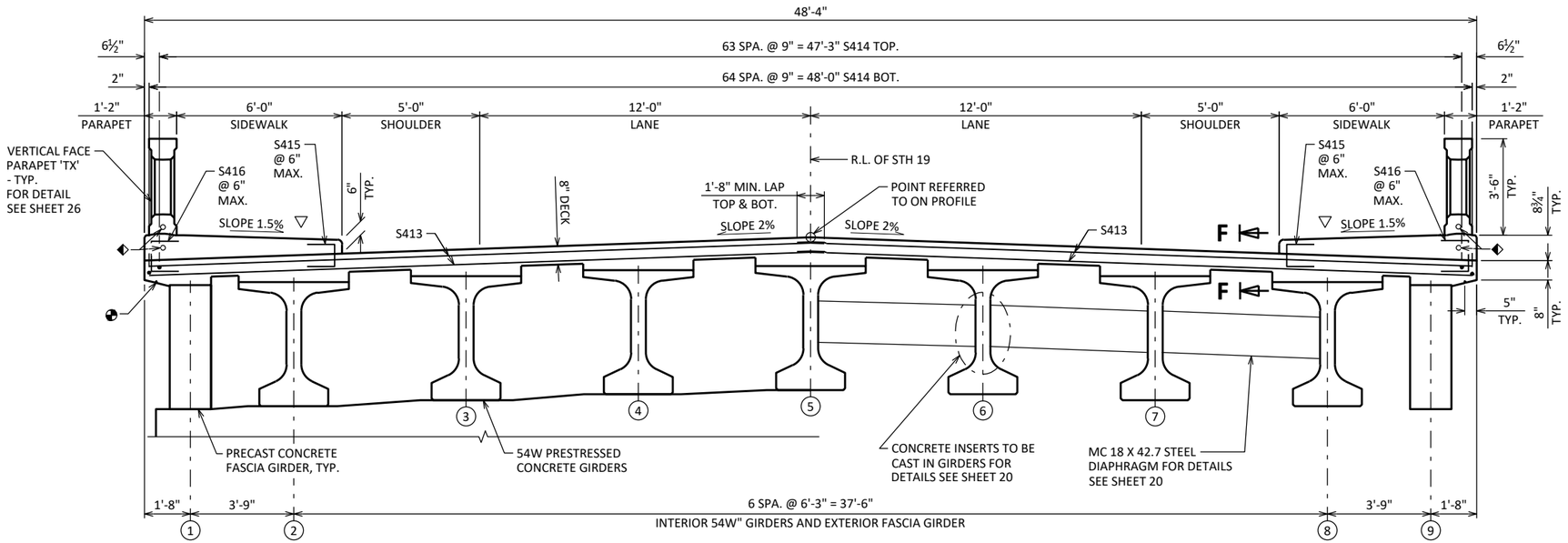
STEEL INTER. DIAPHRAGM DETAILS

SHEET 20 OF 27

SCALE = 110

STATE PROJECT NUMBER

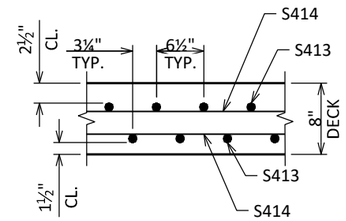
3050-04-81



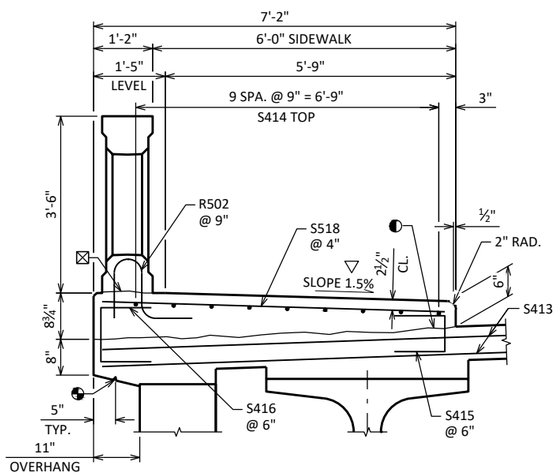
TYPICAL SECTION THRU SPAN

(LOOKING EAST)

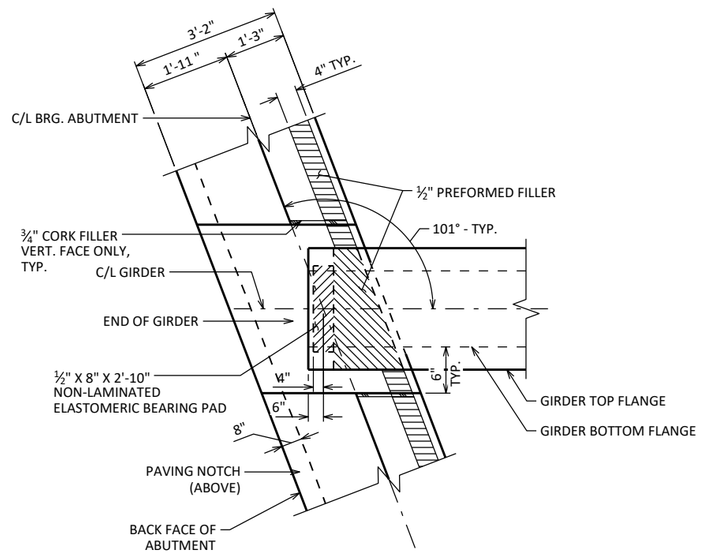
- ◆ 2" DIAMETER NON-METALLIC CONDUIT IN TYPE 'TX' RAILING & SDWK. - TYP.
- ◔ ¾" V-GROOVE. EXTEND V-GROOVE TO 6" FROM FACE OF ABUTMENT DIAPHRAGM - TYP.
- ▽ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ◐ CONS. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH. FOR DECK POUR, MATCH BRIDGE X-SLOPE
- ⊠ CONS. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.



SECTION F-F



TYPICAL CROSS SECTION THRU SIDEWALK



54W" GIRDER BEARING PAD DETAILS AT ABUT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-193

DRAWN BY UD | PLANS CK'D MSK

SUPERSTRUCTURE

SHEET 21 OF 27

111

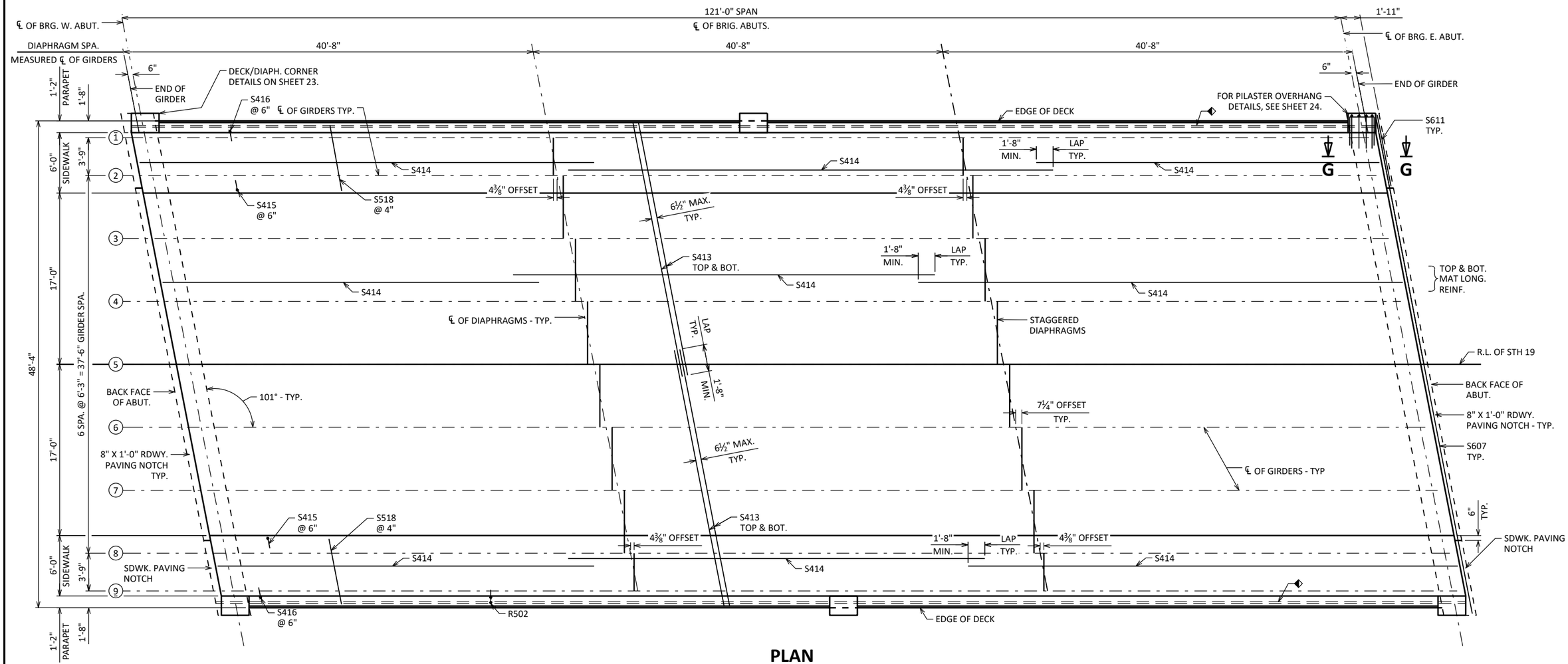
SCALE =

8

8

STATE PROJECT NUMBER

3050-04-81



PLAN

FOR SECTION G-G , SEE SHEET 23.

◆ 2" DIAMETER NON-METALLIC CONDUIT IN TYPE 'TX' RAILING & SDWK. - TYP. SEE SHEETS 26 & 27 FOR CONDUIT DETAILS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-193

DRAWN BY UD | PLANS CK'D MSK

SUPERSTRUCTURE PLAN

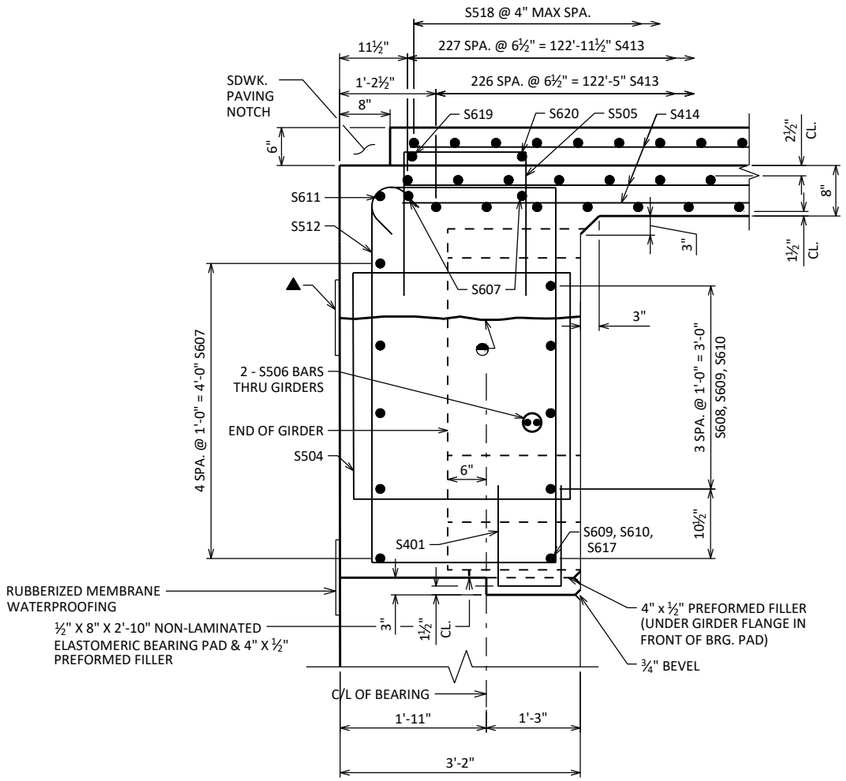
SHEET 22 OF 27

112

SCALE =

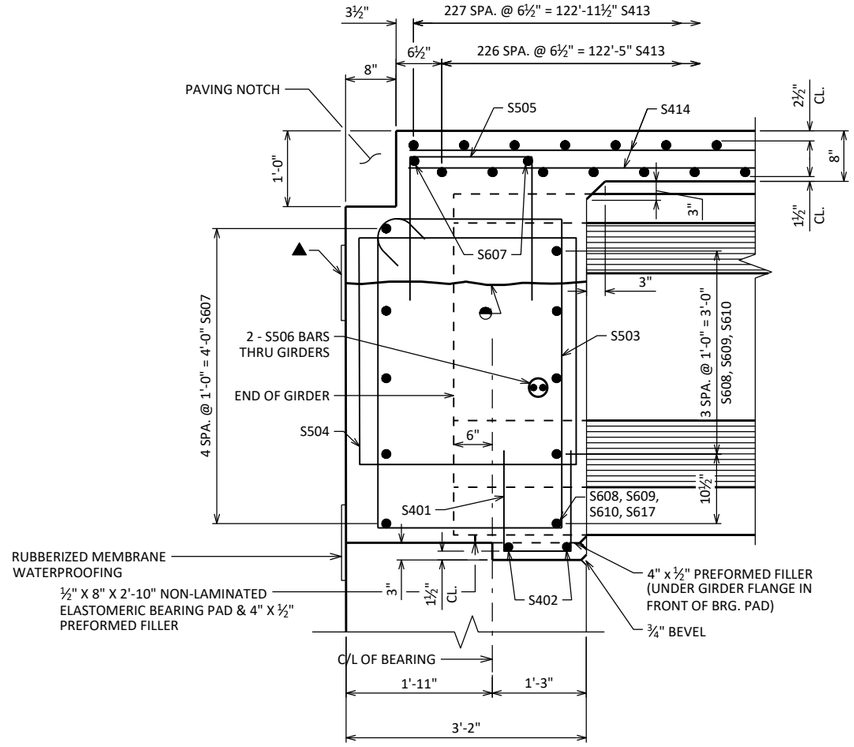
STATE PROJECT NUMBER

3050-04-81

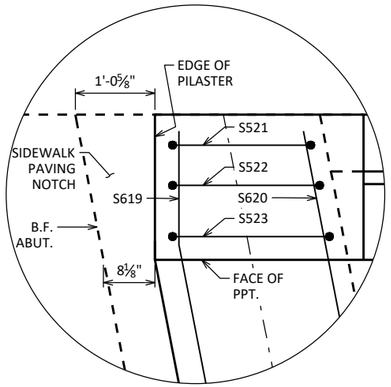


SECTION G-G

FOR LOCATION OF SECTION G-G, SEE SHEET 22

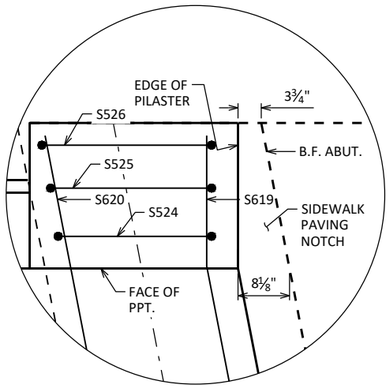


PART LONGITUDINAL SECTION



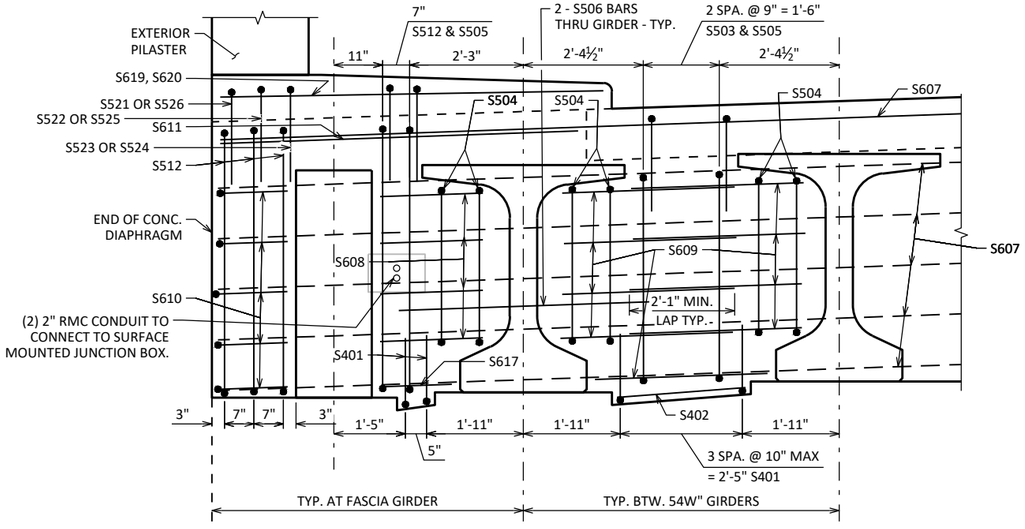
DETAIL F

(PLAN VIEW OF NW RAIL CORNER)
(SE CORNER SIMILAR)

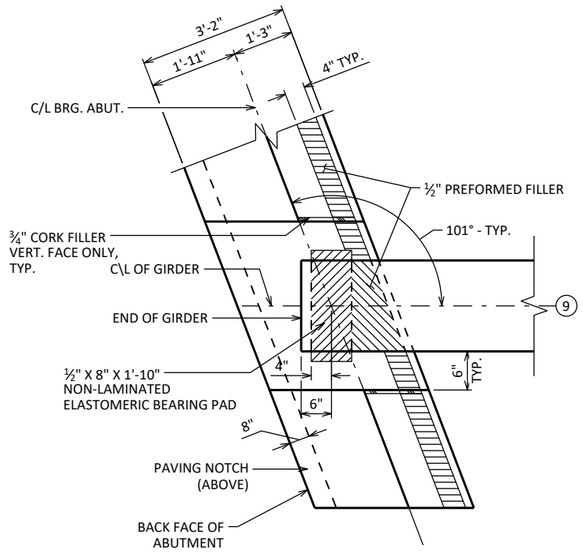


DETAIL G

(PLAN VIEW OF NE RAIL CORNER)
(SW CORNER SIMILAR)



TRANSVERSE SECTION AT ABUTMENT DIAPHRAGM



FASCIA GIRDER BEARING PAD DETAILS AT ABUT.

◓ OPTIONAL CONSTRUCTION JOINT 1-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

▲ 18" RUBBERIZED MEMBRANE WATERPROOFING IF CONST. JT. IS USED. COST INCLUDED WITH BID ITEM "CONCRETE MASONRY STRUCTURES"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-193

DRAWN BY UD | PLANS CK'D MSK

SUPERSTRUCTURE DETAILS

SHEET 23 OF 27

113

SCALE =

8

8

STATE PROJECT NUMBER

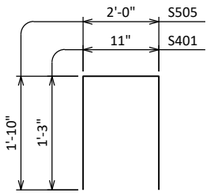
3050-04-81

BILL OF BARS

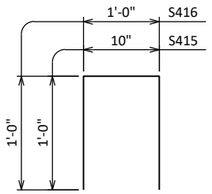
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION	
COATED BARS					TOTAL WEIGHT = 39740	
S401	56	3-3	X		DIAPH. @ ABUT. NOTCH	VERT.
S402	24	2-6			DIAPH. @ ABUT. NOTCH	HORIZ.
S503	36	14-8	X		DIAPH. @ ABUT.	VERT.
S504	56	12-7	X		DIAPH. @ ABUT.	VERT.
S505	44	5-5	X		DIAPH. @ ABUT. NOTCH	VERT.
S506	36	6-0			DIAPH. THRU. GIRDER	HORIZ.
S607	14	50-5			DIAPH. @ ABUT.	HORIZ.
S608	16	2-0			DIAPH. @ ABUT. BTW. GIRDERS	HORIZ.
S609	108	3-5			DIAPH. @ ABUT. BTW. GIRDERS	HORIZ.
S610	20	5-0	X		DIAPH. @ ABUT. ENDS	HORIZ.
S611	4	7-2			DIAPH. @ ABUT. ENDS	HORIZ.
S512	20	16-6	X		DIAPH. @ ABUT. ENDS	VERT.
S413	910	25-4			DECK TRANS. TOP & BOT.	HORIZ.
S414	447	42-2			DECK & SDWK. LONG. TOP. & BOT.	HORIZ.
S415	496	2-8	X		SUPER. @ SDWK.	VERT.
S416	496	2-10	X		SUPER. @ SDWK.	VERT.
S617	4	1-5			DIAPH. @ ABUT. BTW. GIRDERS	HORIZ.
S518	742	6-11			SDWK. TRANS. TOP	HORIZ.
S619	4	7-3	X		DIAPH. @ ABUT.	HORIZ.
S620	4	7-3			DIAPH. @ ABUT.	HORIZ.
S521	2	5-1	X		DIAPH. @ ABUT. ENDS	VERT.
S522	2	5-2	X		DIAPH. @ ABUT. ENDS	VERT.
S523	2	5-3	X		DIAPH. @ ABUT. ENDS	VERT.
S524	2	5-5	X		DIAPH. @ ABUT. ENDS	VERT.
S525	2	5-6	X		DIAPH. @ ABUT. ENDS	VERT.
S526	2	5-8	X		DIAPH. @ ABUT. ENDS	VERT.
S427	8	7-11	X		PILASTER OVERHANG	HORIZ.
S528	24	5-10	X		PILASTER OVERHANG	HORIZ.
S529	24	5-3			PILASTER OVERHANG	HORIZ.
S430	4	7-11	X		PILASTER OVERHANG	HORIZ.
		-				

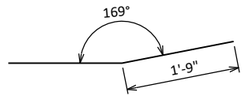
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



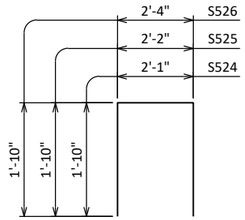
S401 & S505



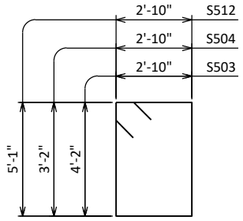
S415 & S416



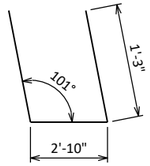
S619



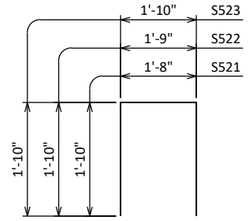
S524, S525 & S526



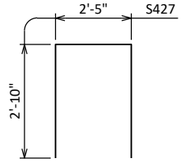
S503, S504 & S512



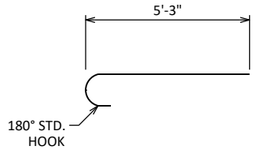
S610



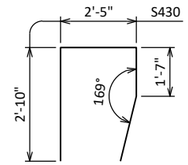
S521, S522 & S523



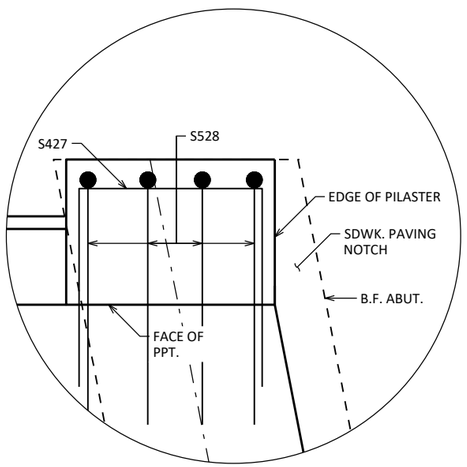
S427



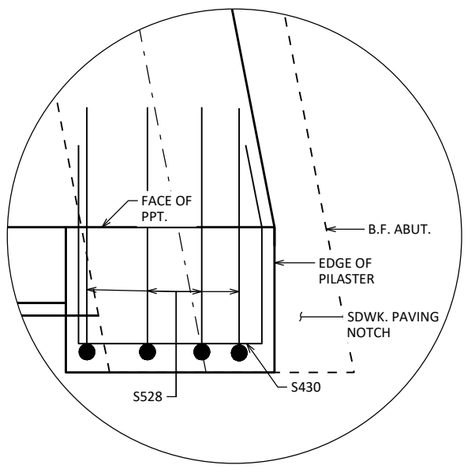
S528



S430



PILASTER OVERHANG DETAIL - TYP



PILASTER OVERHANG DETAIL

(AT SE & NW CORNERS)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-193

DRAWN BY UD | PLANS CK'D MSK

SUPERSTRUCTURE BILL OF BARS

SHEET 24 OF 27

114

SCALE =

STATE PROJECT NUMBER

3050-04-81

TOP OF DECK ELEVATIONS

	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.
N. Edge of Deck	822.62	822.50	822.37	822.24	822.11	821.98	821.85	821.72	821.60	821.47	821.34
Fascia Girder 1	822.65	822.53	822.40	822.27	822.14	822.01	821.88	821.75	821.63	821.50	821.37
Girder 2	822.72	822.59	822.47	822.34	822.21	822.08	821.95	821.82	821.69	821.56	821.44
Girder 3	822.83	822.71	822.58	822.45	822.32	822.19	822.06	821.93	821.81	821.68	821.55
Girder 4	822.95	822.82	822.69	822.56	822.43	822.30	822.18	822.05	821.92	821.79	821.66
R/L & Girder 5	823.06	822.93	822.80	822.67	822.54	822.42	822.29	822.16	822.03	821.90	821.77
Girder 6	822.92	822.79	822.66	822.54	822.41	822.28	822.15	822.02	821.89	821.76	821.63
Girder 7	822.78	822.65	822.53	822.40	822.27	822.14	822.01	821.88	821.75	821.63	821.50
Girder 8	822.65	822.52	822.39	822.26	822.13	822.00	821.87	821.74	821.62	821.49	821.36
Fascia Girder 9	822.56	822.43	822.31	822.18	822.05	821.92	821.79	821.66	821.53	821.40	821.28
S. Edge of Deck	822.53	822.40	822.27	822.14	822.01	821.88	821.75	821.63	821.50	821.37	821.24

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-193

DRAWN BY DCH | PLANS CK'D MSK

TOP OF DECK ELEVATIONS

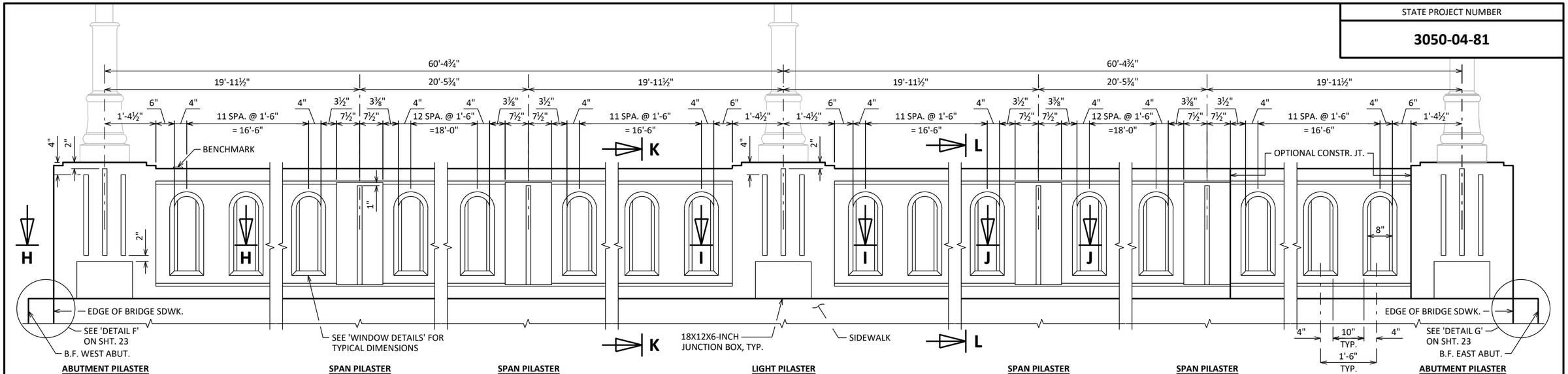
SHEET 25 OF 27

115

SCALE =

STATE PROJECT NUMBER

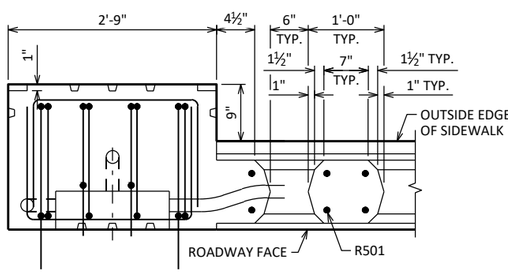
3050-04-81



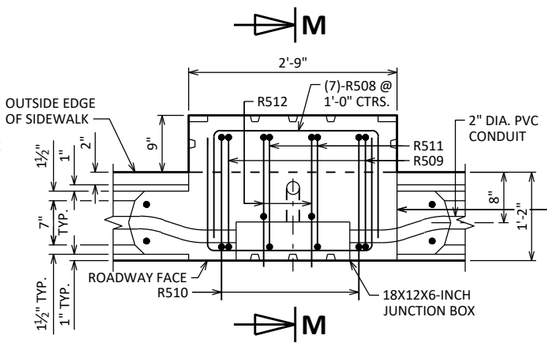
INSIDE ELEVATION

NORTH RAIL SHOWN
(SOUTH RAIL SIMILAR)

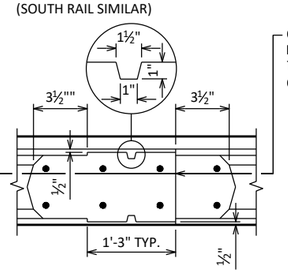
OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9" (#5 BARS), 2'-7" (#7 BARS)



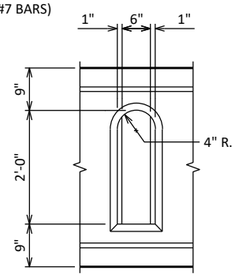
SECTION H-H



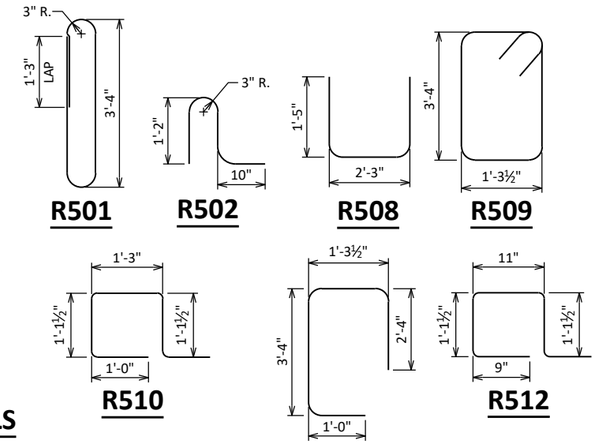
SECTION I-I



SECTION J-J

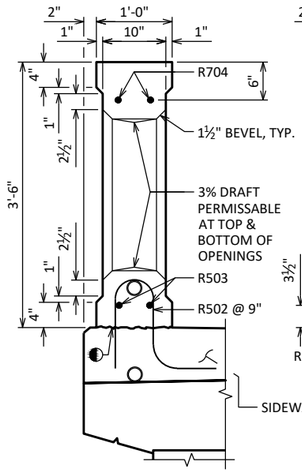


WINDOW DETAILS

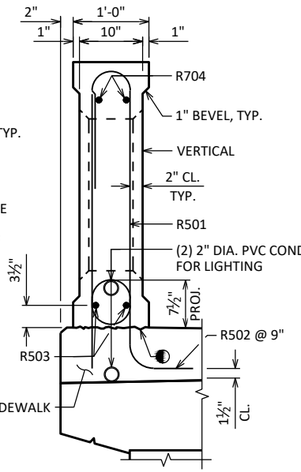


BILL OF BARS

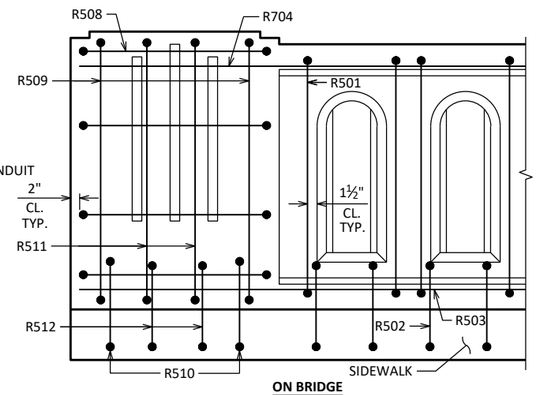
BAR MARK	COAT	NO. REQD. N. RAIL	NO. REQD. S. RAIL	LENGTH	BENT	LOCATION
R501	X	156	156	8'-6"	X	PARAPET VERT.
R502	X	156	156	3'-4"	X	PARAPET VERT.
R503	X	6	6	42'-3"		PARAPET HORIZ. BOT.
R704	X	6	6	42'-9"		PARAPET HORIZ. TOP
R505						NOT USED
R506						NOT USED
R707						NOT USED
R508	X	21	21	4'-9"	X	PARAPET HORIZ. @ LIGHT STD.
R509	X	6	6	9'-6"	X	PARAPET VERT. @ LIGHT STD.
R510	X	6	6	4'-9"	X	PARAPET VERT. @ LIGHT STD.
R511	X	6	6	7'-7"	X	PARAPET VERT. @ LIGHT STD.
R512	X	6	6	4'-3"	X	PARAPET VERT. @ LIGHT STD.



SECTION K-K



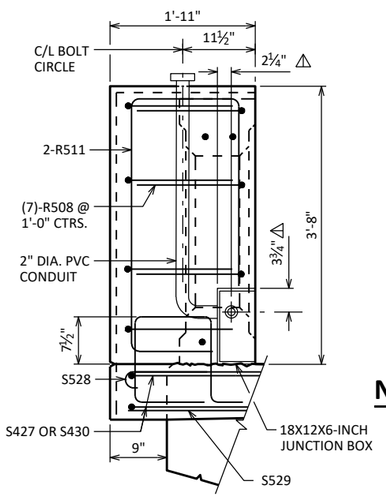
SECTION L-L



ON BRIDGE

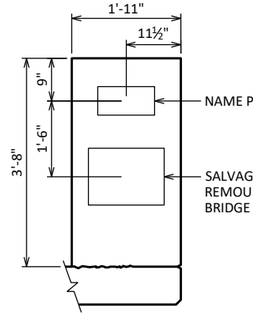
OUTSIDE ELEVATION SHOWING TYP. REINF. PLACEMENT

JUNCTION BOX AND CONDUIT NOT INCLUDED FOR CLARITY



SECTION M-M

CUT (1) R503 BAR AT JUNCTION BOX



NAME PLATE DETAILS

(LOOKING EAST AT SW PILASTER END)

NOTES

BID ITEM SHALL BE "PARAPET CONCRETE TYPE 'TX'", WHICH SHALL INCLUDE ALL ITEMS SHOWN.

◐ HORIZ. CONSTR. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

⚠ LOCATION OF CONDUIT IS MEASURED FROM OUTSIDE EDGE OF JUNCTION BOX.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-193

DRAWN BY DCH | PLANS CK'D MSK

VERTICAL FACE PARAPET 'TX'

SHEET 26 OF 27

116

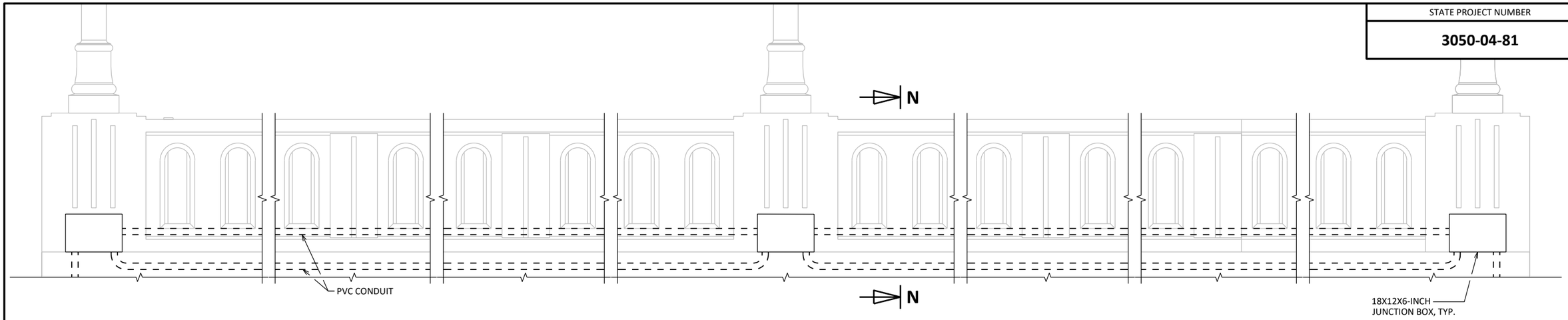
SCALE =

8

8

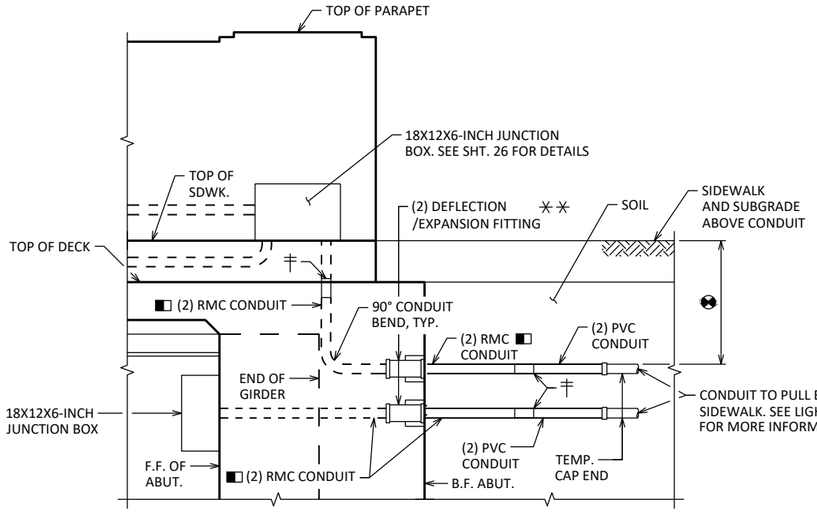
STATE PROJECT NUMBER

3050-04-81

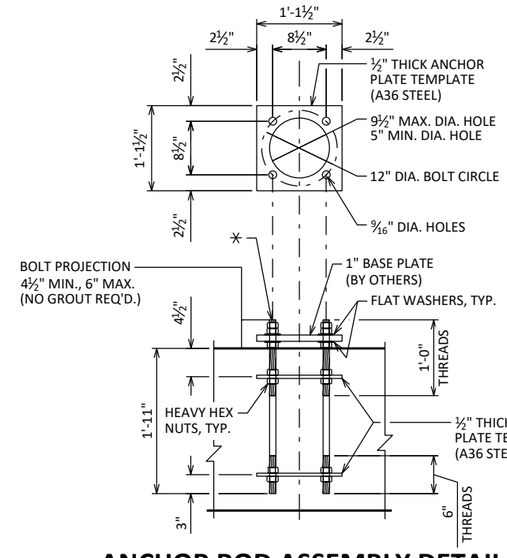


INSIDE PARAPET ELEVATION OF CONDUIT LAYOUT

NORTH RAIL SHOWN
(SOUTH RAIL SIMILAR)



OUTSIDE ELEVATION OF PARAPET & DIAPHRAGM AT DEFL. JOINT & EXP. JOINT



ANCHOR ROD ASSEMBLY DETAIL

BID ITEM SHALL BE "ANCHOR ASSEMBLIES POLES ON STRUCTURES", EACH.
(4) - ANCHOR RODS REQUIRED PER ASSEMBLY. VERIFY ANCHOR ROD ASSEMBLY WITH LIGHT POLE MANUFACTURER.

✳ ½" DIA. ANCHOR RODS ASTM F1554 GR 55, HEAVY HEX NUTS ASTM A563, AND WASHERS ASTM F436. ANCHOR ASSEMBLIES SHALL BE GALVANIZED PER SECTION 531 OF THE STANDARD SPECIFICATION. PROVIDE (2) WASHERS AND (7) NUTS PER ANCHOR ROD.

NOTES

CONDUIT SHALL BE EMBEDDED 2" CLEAR.

USE 2" DIA. RIGID NONMETALLIC CONDUIT (PVC) UNLESS NOTED OTHERWISE.

CONDUIT FITTINGS, CONDUIT BENDS, AND ADAPTER FITTINGS INCIDENTAL TO CONDUIT WORK.

CONDUIT BENDS SHALL CONFORM TO THE NATIONAL ELECTRIC CODE.

LEGEND

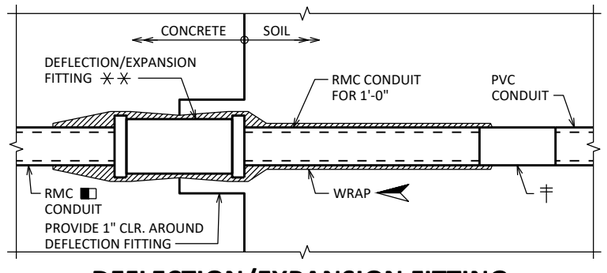
◧ USE 2" DIA. RIGID METALLIC (RMC) CONDUIT AT FITTINGS. PROVIDE RMC FOR 3'-0" MIN. ON EACH SIDE OF JOINT OPENINGS UNLESS NOTED OTHERWISE.

╪ NONMETALLIC CONDUIT TO METALLIC CONDUIT ADAPTER FITTING (UL OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED).

◤ SPONGE RUBBER WRAP TO BE AASHTO M153, TYPE 1 OR EQUIVALENT - ¼" MINIMUM THICKNESS. PROVIDE WRAP FOR THE ENTIRE LENGTH OF THE FITTING OR AS SHOWN. SPONGE RUBBER WRAP INCIDENTAL TO "CONDUIT RIGID METALLIC 2-INCH".

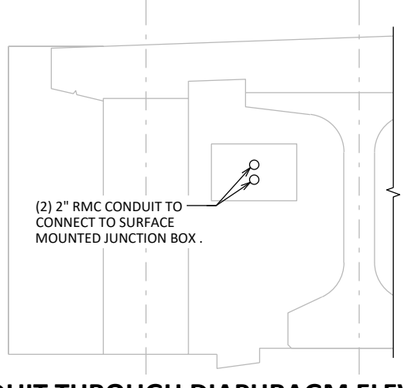
◓ 2'-0" MIN. CONDUIT COVER UNDER ROADWAYS, 1'-6" OTHERWISE. CONDUIT COVER SHOULD NOT EXCEED 3'-0".

✳✳ DEFLECTION/EXPANSION FITTING REQUIREMENTS (IF USED):
- UP TO ¾" CONDUIT CONTRACTION OR EXPANSION AND UP TO 30° OF ANGULAR MISALIGNMENT IN ANY DIRECTION WITH BONDING JUMPER



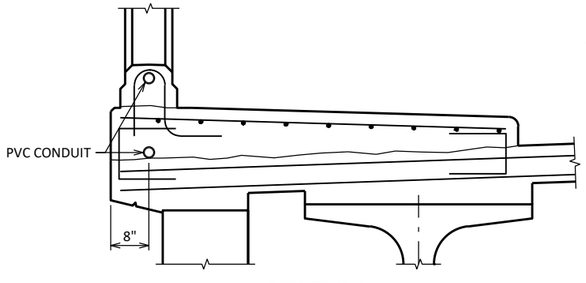
DEFLECTION/EXPANSION FITTING

THIS DETAIL ACCOMMODATES A MAXIMUM OF ¾" TOTAL MOVEMENT AND UP TO 30 DEGREES OF ANGULAR MISALIGNMENT IN ANY DIRECTION. BOND JUMPER NOT SHOWN FOR CLARITY.
(CONCRETE TO SOIL FITTING)



CONDUIT THROUGH DIAPHRAGM ELEVATION

TYPICAL FOR GIRDER BAYS 1 AND 8 AT EAST AND WEST ABUTMENTS.



SECTION N-N

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-193

DRAWN BY DCH | PLANS CK'D MSK

CONDUIT DETAILS & PARAPET BILL OF BARS

SHEET 27 OF 27

117

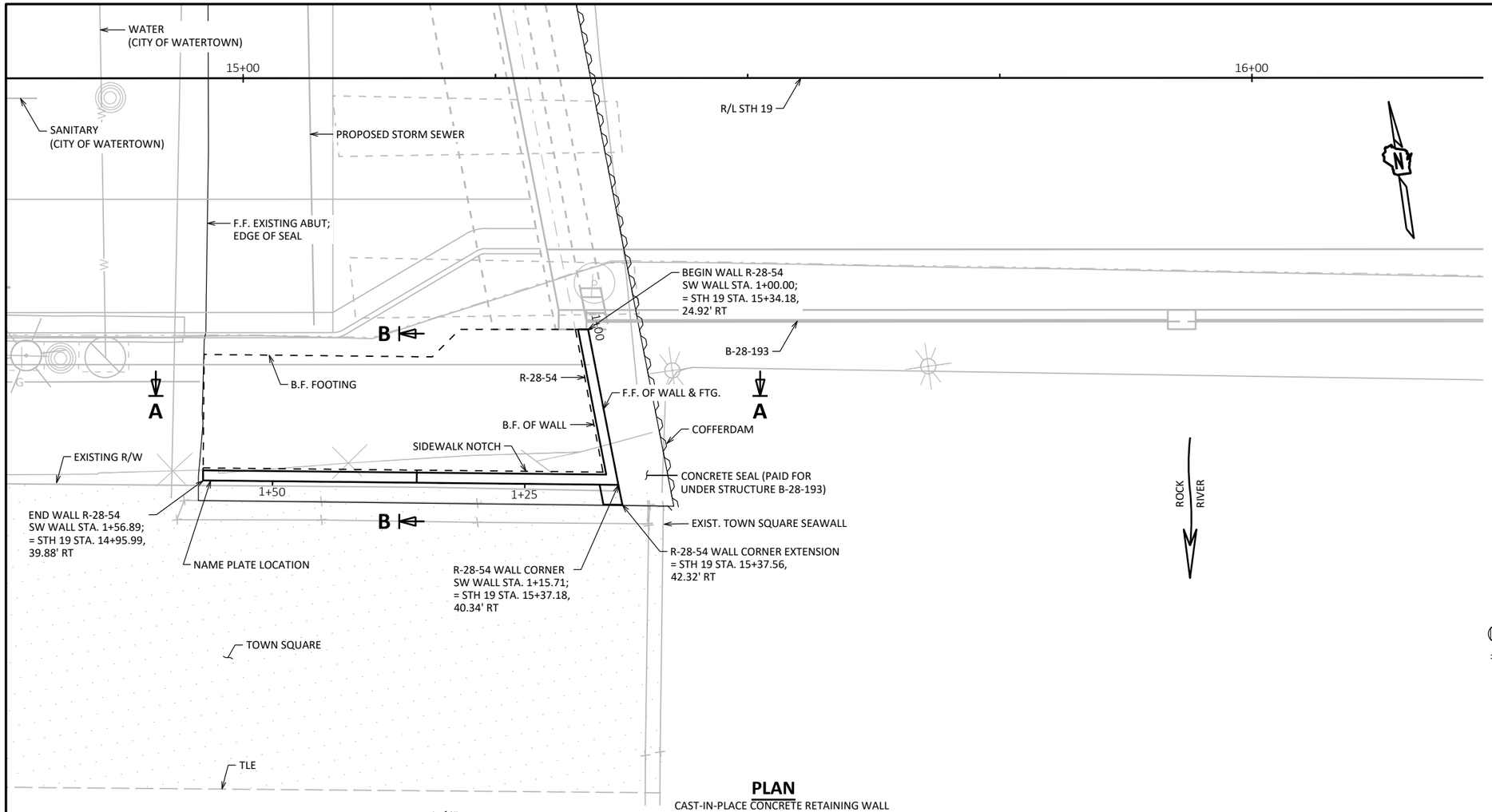
SCALE =

8

8

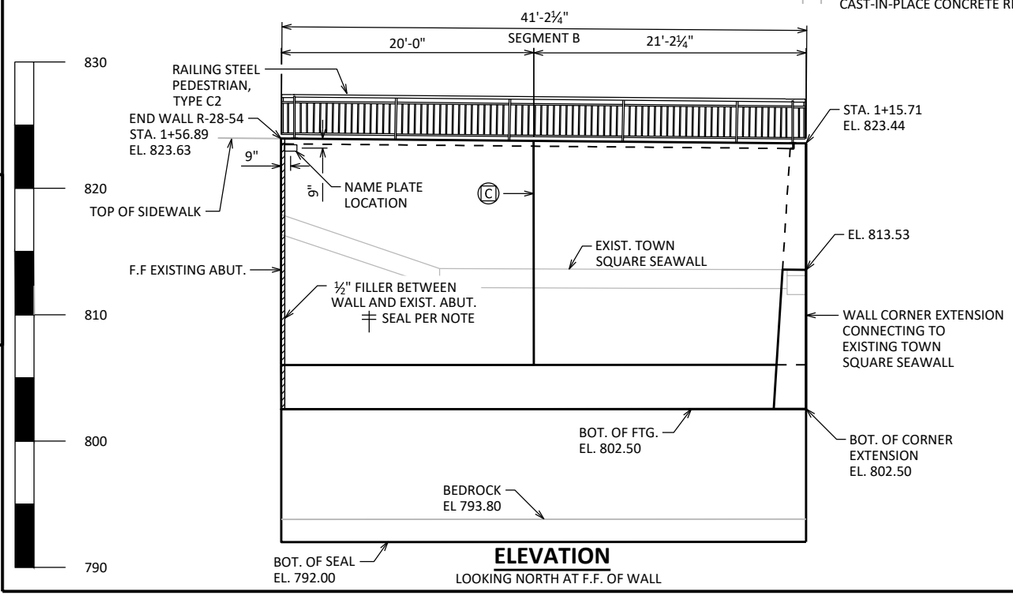
STATE PROJECT NUMBER

3050-04-81



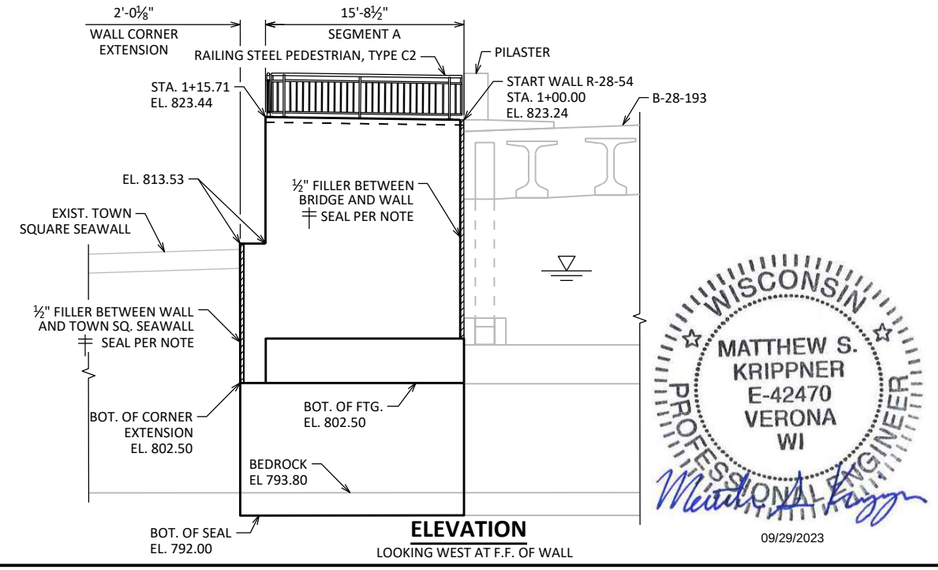
PLAN

CAST-IN-PLACE CONCRETE RETAINING WALL



ELEVATION

LOOKING NORTH AT F.F. OF WALL



ELEVATION

LOOKING WEST AT F.F. OF WALL

DESIGN DATA

LIVE LOAD:

RETAINING WALL IS DESIGNED FOR A LIVE LOAD SURCHARGE OF 240 PSF.

RETAINING WALL IS DESIGNED FOR FINISHED GRADE SLOPED BEHIND WALL AS SHOWN.

MATERIAL PROPERTIES:

CONCRETE MASONRY ——— f'_c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 ——— f_y = 60,000 P.S.I.

FOUNDATION DATA:

RETAINING WALL WITH SPREAD FOOTINGS TO BE SUPPORTED ON CONCRETE SEAL (PAID FOR UNDER STRUCTURE B-28-193) ON SOUND ROCK WITH A REQUIRED FACTORED BEARING RESISTANCE OF 11,250 PSF***. A GEOTECHNICAL ENGINEER, WITH THREE DAYS NOTICE, WILL DETERMINE THE FACTORED BEARING RESISTANCE BY VISUAL INSPECTION PRIOR TO CONSTRUCTION OF THE CONCRETE SEAL.

***THE FACTORED BEARING RESISTANCE IS THE VALUE USED FOR DESIGN.

LIST OF DRAWINGS

STRUCTURES DESIGN CONTACTS:

BUREAU OF STRUCTURES:
AARON BONK (608) 261-0261
CONSULTANT:
MATTHEW KRIPPNER (608) 828-8123

LEGEND

F.F. = FRONT FACE, B.F. = BACK FACE

Ⓒ = CONTRACTION JOINT. SEE THIS SHEET FOR DETAILS.

SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)

FOR SECTION A-A & B-B, SEE SHEET 5.

NO.	DATE	REVISION	BY

AECOM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED _____ SDR 11/28/23
CHIEF STRUCTURES DESIGN ENGINEER — DATE

WISCONSIN
MATTHEW S. KRIPPNER
E-42470
VERONA
WI
PROFESSIONAL ENGINEER

09/29/2023

STRUCTURE R-28-54

SW WINGWALL FOR B-28-193

COUNTY	TOWN/CITY/VILLAGE
JEFFERSON	WATERTOWN

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATION

DESIGNED BY	NAR	DESIGNED CK'D	MSK	DRAWN BY	UD	PLANS CK'D	AMF

GENERAL PLAN

SHEET 1 OF 7
118

I.D. 3050-04-01

DATE: SEP 2023

8

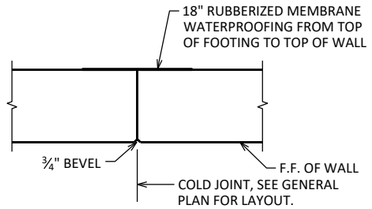
8

STATE PROJECT NUMBER

3050-04-81

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
210.1500	BACKFILL STRUCTURE TYPE A	TON	790
502.3200	PROTECTIVE SURFACE TREATMENT	SY	11
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	136
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	5070
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	8720
513.8011	RAILING STEEL PEDESTRIAN TYPE C2	LF	56
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	12
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	57
	NON-BID ITEMS		
	FILLER	SIZE	½"



VERTICAL CONTRACTION JOINT AT WALL

DO NOT RUN BAR STEEL THRU JOINT.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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.

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF JOINT FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW THE SURFACE OF CONCRETE).

ALL WALL STATIONING AND OFFSETS ARE GIVEN TO THE FRONT FACE OF WALL R-28-54.

COORDINATE THE CONSTRUCTION OF RETAINING WALL R-28-54 WITH THE WEST ABUTMENT OF BRIDGE B-28-193.

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.

THE QUANTITY FOR "BACKFILL STRUCTURE TYPE A" IS BASED ON THE PAY LIMITS SHOWN IN THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED FOR THE ENTIRE WALL LENGTH. BACKFILL PLACED BEYOND THE PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

THE COFFERDAM AND CONCRETE SEAL QUANTITY REQUIRED FOR CONSTRUCTION OF R-28-54 IS INCLUDED IN THE B-28-193 PLANS.

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

APPLY PROTECTIVE SURFACE TREATMENT BASED ON THE DETAIL SHOWN IN THE PLANS.

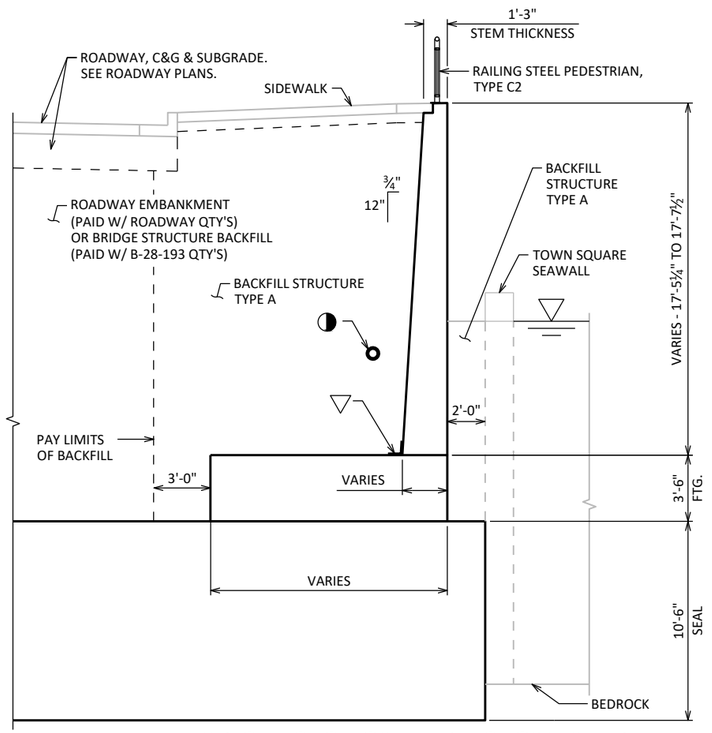
SEE B-28-193 PLANS FOR WATER ELEVATION INFORMATION.

F.F. = FRONT FACE, B.F. = BACK FACE

Ⓒ = CONTRACTION JOINT. SEE THIS SHEET FOR DETAILS.

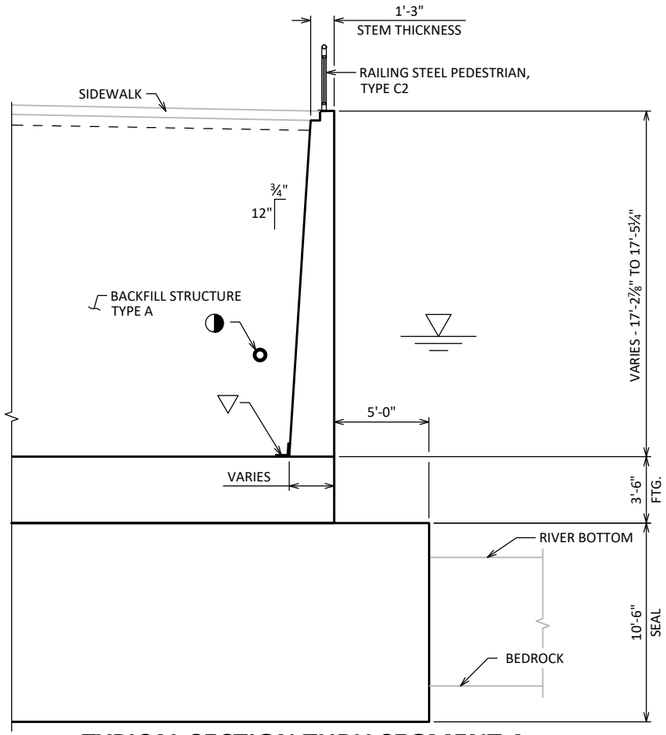
◑ PIPE UNDERDRAIN WRAPPED 6-INCH
SLOPE 0.5% MIN. TO STORM SEWER OUTLET PIPE.
COORDINATE INSTALLATION WITH PIPE
UNDERDRAIN AT W. ABUT OF B-28-193.

▽ 18" RUBBERIZED MEMBRANE WATERPROOFING



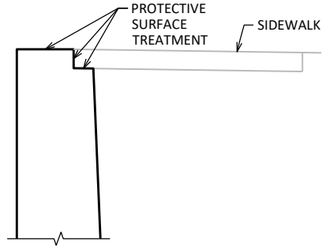
TYPICAL SECTION THRU SEGMENT B

LOOKING EAST



TYPICAL SECTION THRU SEGMENT A

LOOKING NORTH



PROTECTIVE SURFACE TREATMENT LIMITS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-28-54

DRAWN BY UD | PLANS CK'D AMF

TYPICAL SECTION, QUANTITIES & NOTES

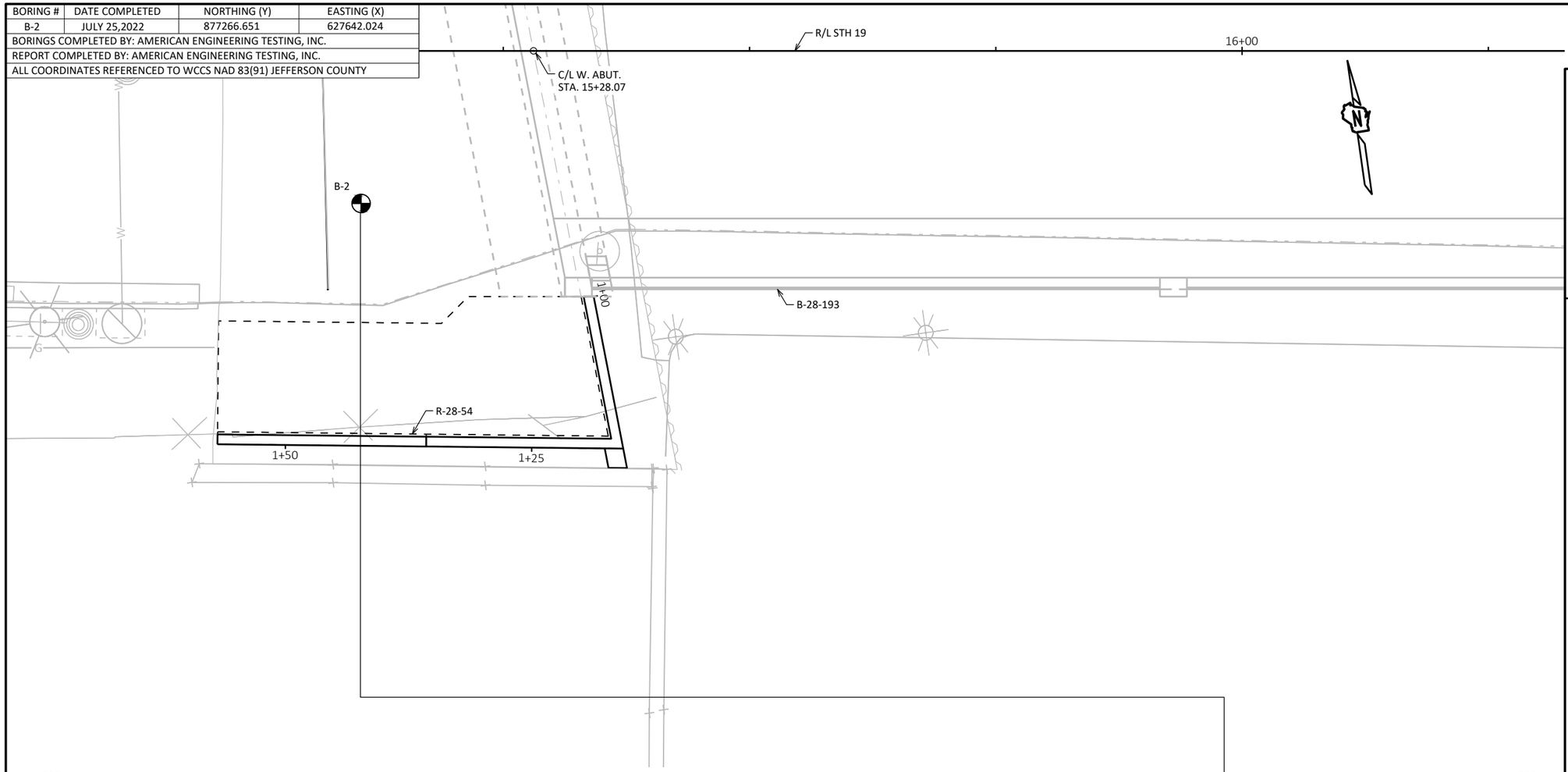
SHEET 2 OF 7

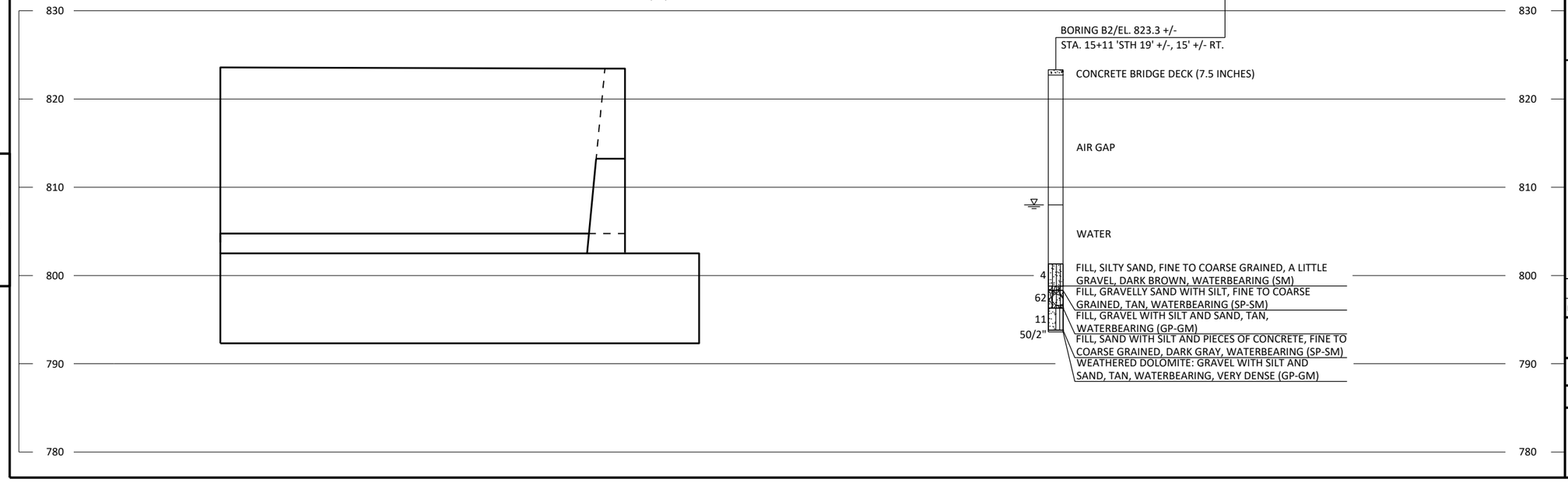
119

8

8

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-2	JULY 25,2022	877266.651	627642.024
BORINGS COMPLETED BY: AMERICAN ENGINEERING TESTING, INC.			
REPORT COMPLETED BY: AMERICAN ENGINEERING TESTING, INC.			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) JEFFERSON COUNTY			





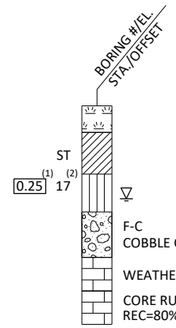
STATE PROJECT NUMBER

3050-04-81

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 R-28-54

DRAWN BY UD | PLANS CK'D AMF

SUBSURFACE EXPLORATION

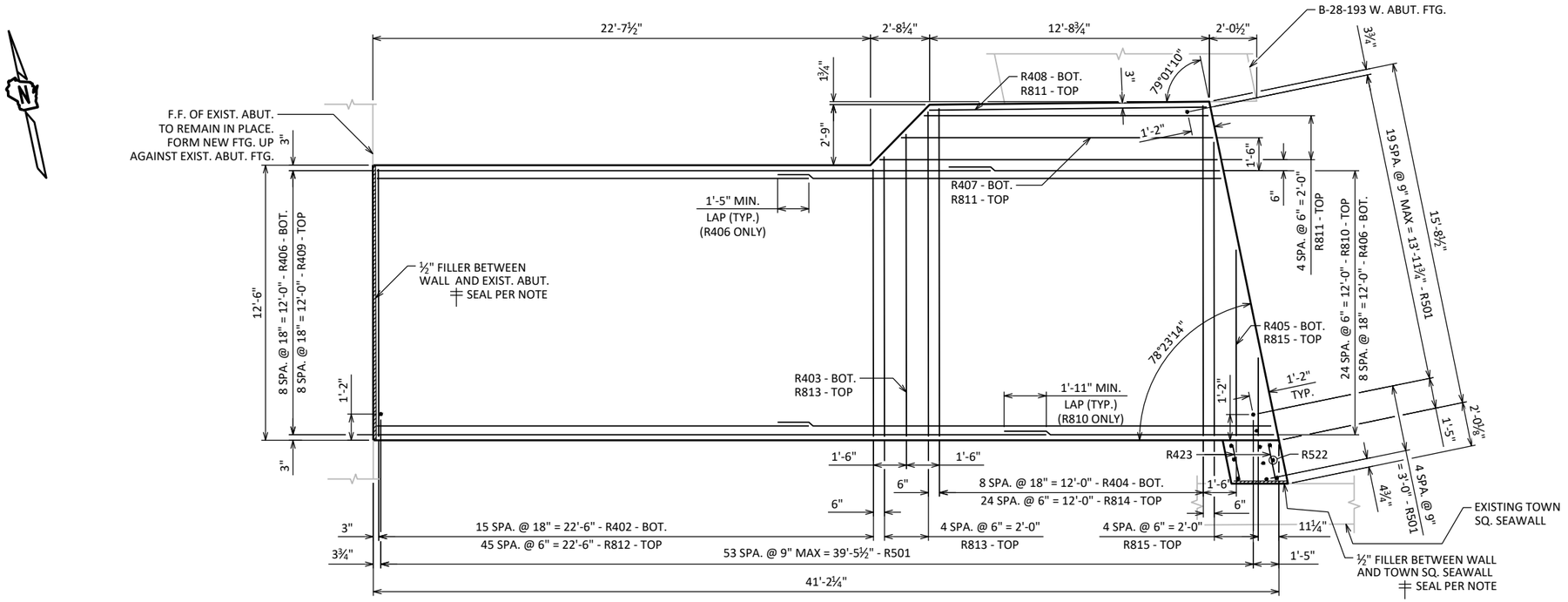
SHEET 3 OF 7
120

8

8

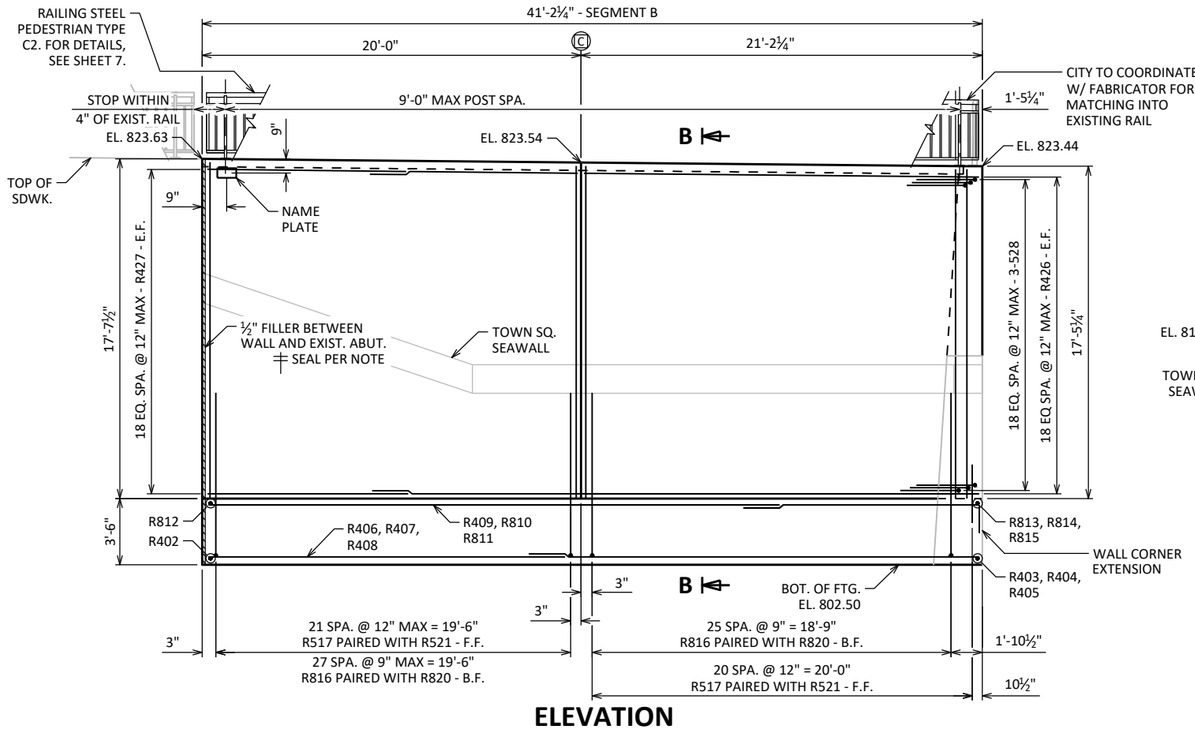
STATE PROJECT NUMBER

3050-04-81



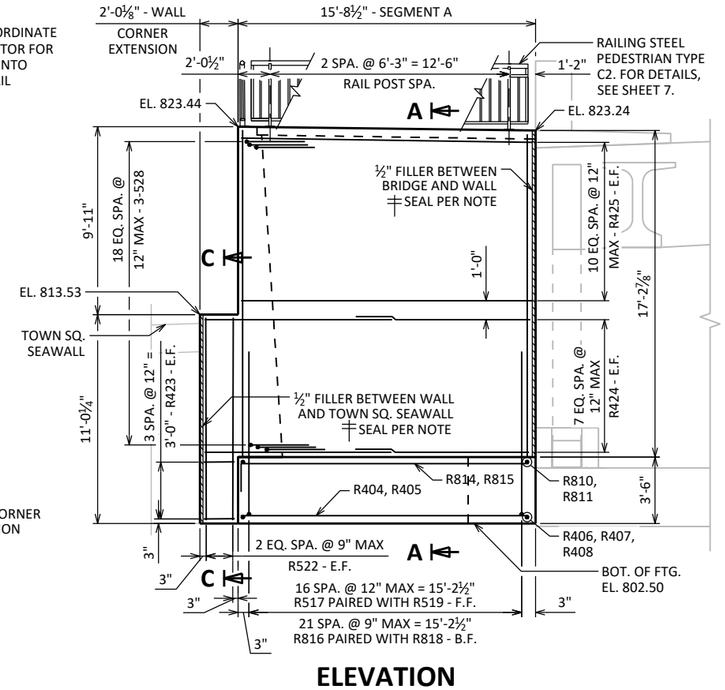
PLAN

(SHOWING FTG. REINFORCEMENT)



ELEVATION

(LOOKING NORTH AT F.F. OF WALL)



ELEVATION

(LOOKING WEST AT F.F. OF WALL)

LEGEND

F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE

Ⓒ = CONTRACTION JOINT. SEE SHEET 2 FOR DETAILS.

⧺ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)

FOR SECTION A-A, B-B & C-C, SEE SHEET 5.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-28-54

DRAWN BY UD | PLANS CK'D AMF

WALL DETAILS 1

SHEET 4 OF 7

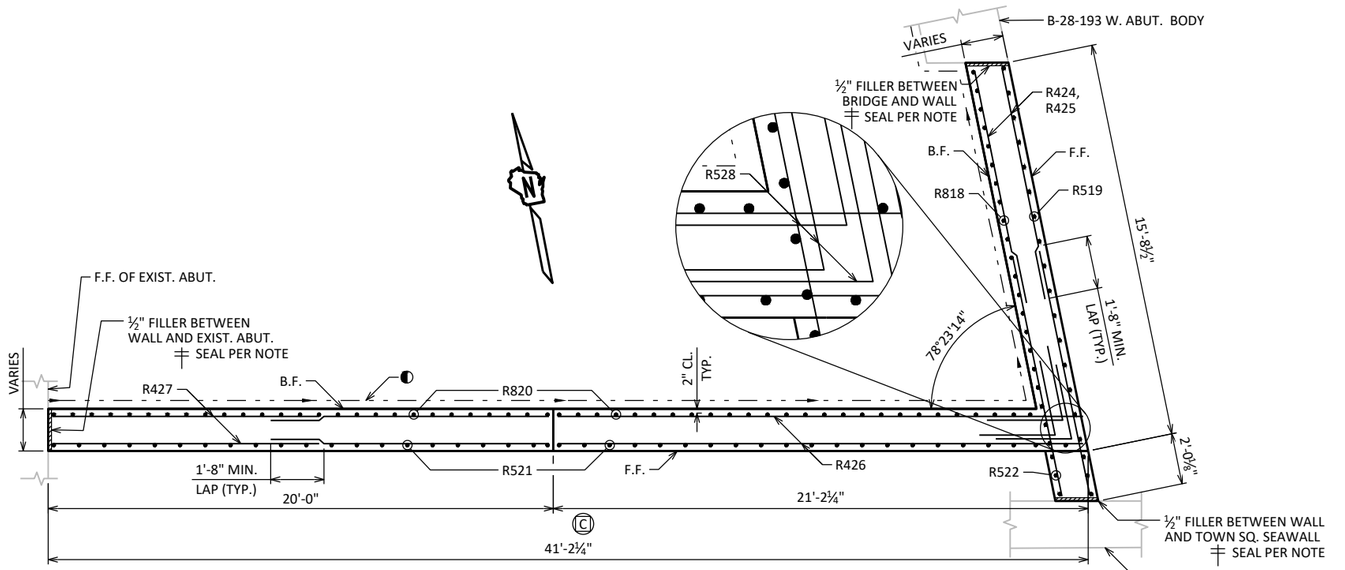
121

8

8

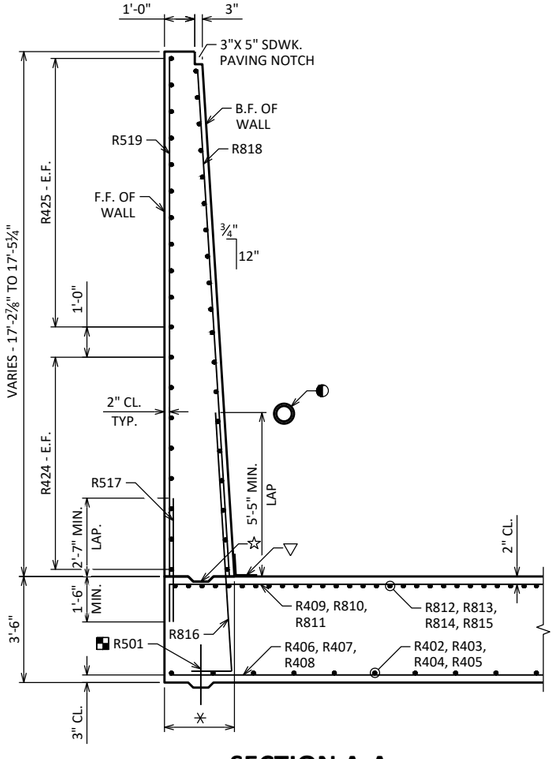
STATE PROJECT NUMBER

3050-04-81



PLAN

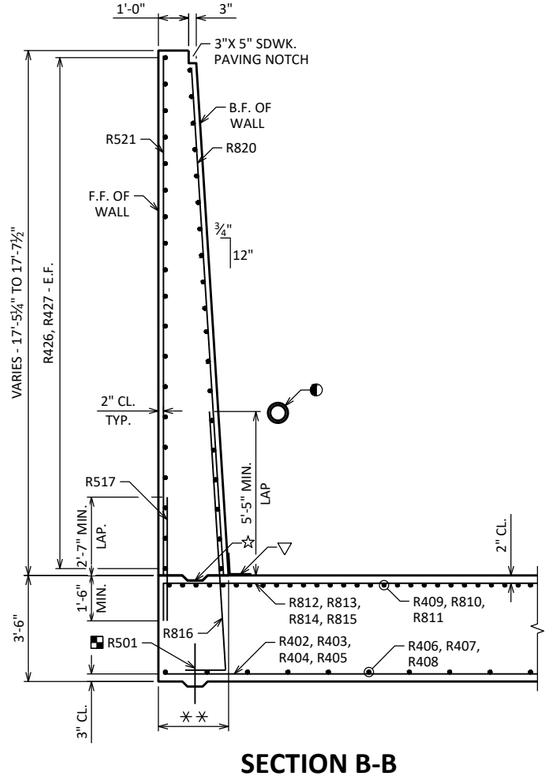
(SHOWING WALL REINFORCEMENT)



SECTION A-A

(LOOKING SOUTH)

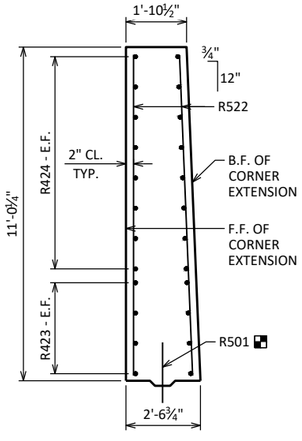
✳ VARIES FROM 2'-4" (STA 1+00.00) TO 2'-4⅛" (STA 1+15.71)



SECTION B-B

(LOOKING WEST)

✳✳ VARIES FROM 2'-4⅛" (STA 1+15.71) TO 2'-4¼" (STA 1+56.89)



SECTION C-C

(LOOKING SOUTH)

LEGEND

F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE

☆ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6"

◐ PIPE UNDERDRAIN WRAPPED 6-INCH, SLOPE 0.5% MIN. TO STORM SEWER OUTLET PIPE. COORDINATE INSTALLATION WITH PIPE UNDERDRAIN AT W. ABUT. OF B-28-193

▪ BARS @ 9" CTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

▽ 18" RUBBERIZED MEMBRANE WATERPROOFING.

Ⓒ = CONTRACTION JOINT. SEE SHEET 2 FOR DETAILS.

⧦ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)

FOR SECTION A-A, B-B & C-C LOCATIONS, SEE SHEET 4.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-28-54

DRAWN BY UD | PLANS CK'D AMF

WALL DETAILS 2

SHEET 5 OF 7

122

8

8

STATE PROJECT NUMBER

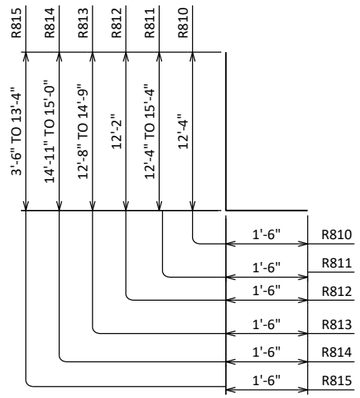
3050-04-81

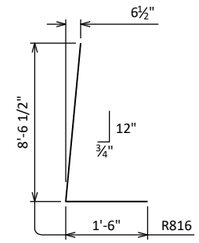
BILL OF BARS

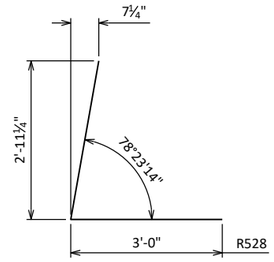
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
NON-COATED BARS					TOTAL WEIGHT = 5070
R501	77	2-0			FTG./SEAL INTERFACE VERT.
R402	16	12-2			FTG. TRANS. BOT.
R403	1	13-9			FTG. TRANS. BOT.
R404	9	14-11			FTG. TRANS./LONG. BOT.
R405	1	8-5			FTG. TRANS./LONG. BOT.
R406	18	21-1		⚠	FTG. TRANS./LONG. BOT.
R407	1	14-2			FTG. TRANS. BOT.
R408	1	12-7			FTG. TRANS. BOT.
R409	9	30-0		⚠	FTG. LONG. TOP
R810	25	13-8	X		FTG. TRANS./LONG. TOP
R811	6	15-1	X	⚠	FTG. TRANS. TOP
R812	46	13-5	X		FTG. TRANS. TOP
R813	5	15-1	X	⚠	FTG. TRANS. TOP
R814	25	16-3	X	⚠	FTG. TRANS./LONG. TOP
R815	5	9-9	X	⚠	FTG. TRANS./LONG. TOP
COATED BARS					TOTAL WEIGHT = 8720
R816	76	9-10	X		FTG. DOWEL B.F.
R517	60	4-1			FTG. DOWEL F.F.
R818	22	16-9		⚠	WALL VERT. B.F.
R519	17	17-2		⚠	WALL VERT. F.F.
R820	54	17-0		⚠	WALL VERT. B.F.
R521	43	17-4		⚠	WALL VERT. F.F.
R522	6	10-8			WALL VERT. E.F.
R423	8	1-6			WALL HORIZ. E.F.
R424	32	10-0			WALL HORIZ. E.F.
R425	22	15-4			WALL HORIZ. E.F.
R426	38	19-8			WALL HORIZ. E.F.
R427	76	11-8			WALL HORIZ. E.F.
R528	57	5-10	X		WALL CORNER HORIZ.

⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.







BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

BAR MARK	NO. REQ'D.	LENGTH
R406	2 SERIES OF 9	20'-5" TO 21'-8"
R409	1 SERIES OF 9	28'-9" TO 31'-3"
R811	1 SERIES OF 6	13'-6" TO 16'-8"
R813	1 SERIES OF 5	14'-0" TO 16'-1"
R814	1 SERIES OF 25	16'-3" TO 16'-4"
R815	1 SERIES OF 5	4'-10" TO 14'-8"
R818	1 SERIES OF 22	16'-8" TO 16'-11"
R519	1 SERIES OF 17	17'-0" TO 17'-3"
R820	1 SERIES OF 54	16'-11" TO 17'-1"
R521	1 SERIES OF 41	17'-3" TO 17'-5"

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-28-54

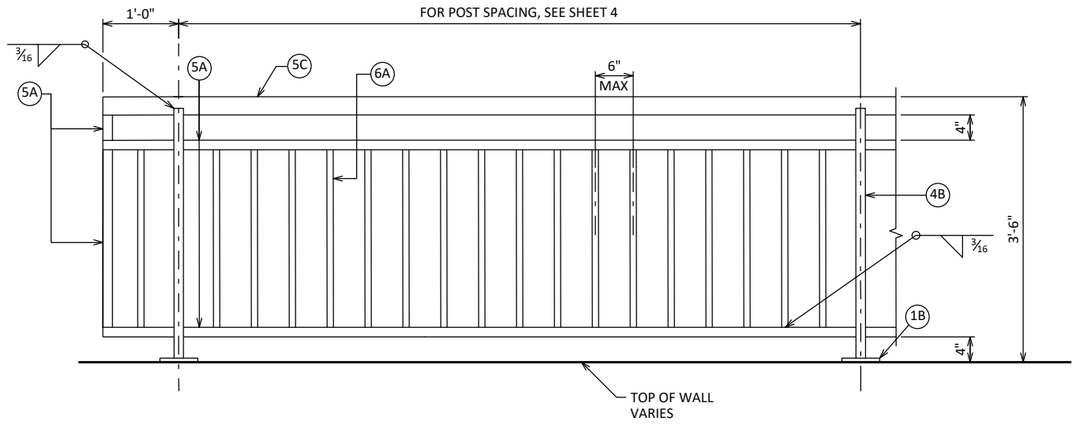
DRAWN BY UD | PLANS CK'D AMF

BILL OF BARS

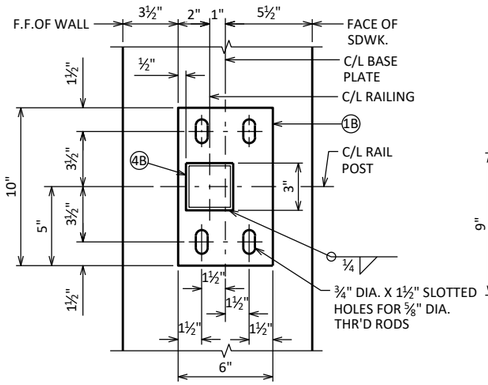
SHEET 6 OF 7

STATE PROJECT NUMBER

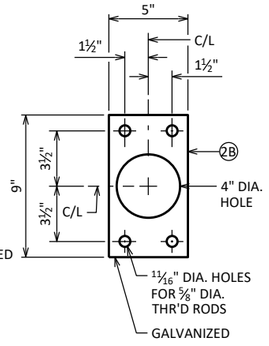
3050-04-81



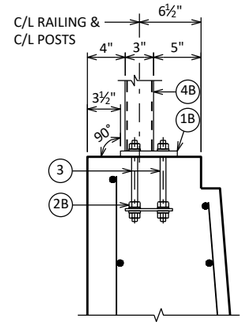
TYPICAL ELEVATION OF RAILING



TYPICAL RAIL POST BASE PLATE

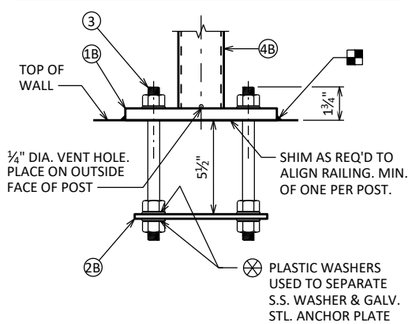


ANCHOR PLATE



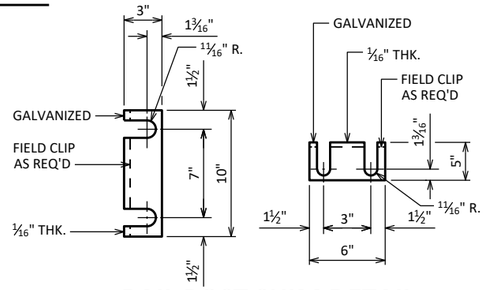
SECTION THRU WALL

⚹ ADJUST LOCATIONS OF BARS TO ALLOW PLACEMENT OF ANCHOR ASSEMBLY FOR RAILING.



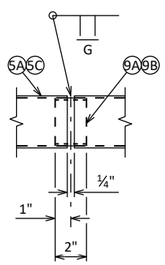
ANCHORAGE FOR RAIL POSTS

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



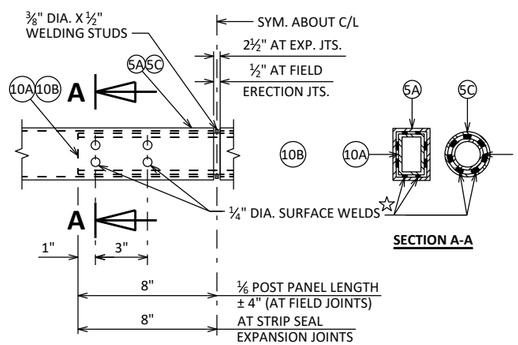
RAIL POST SHIM DETAIL

(2 SETS PER POST)



SHOP RAIL SPLICE DETAIL

(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



FIELD ERECTION JOINT DETAIL

☆ MIN. ⅝" FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE.

LEGEND

(1B) PLATE ⅝" X 6" X 10" WITH ¾" X 1½" SLOTTED HOLES.

(2B) ¼" X 5" X 9" ANCHOR PLATE WITH 1 1/16" DIA. HOLES FOR THR'D RODS NO. 3.

(3) ⅝" DIA. X 9" LONG, TYPE 316 STAINLESS STEEL THREADED RODS (MIN. TENSILE STRENGTH = 70 KSI) WITH NUT AND WASHERS OF SAME ALLOY GROUP. ALTERNATIVE ANCHORAGE: CONCRETE ADHESIVE ANCHORS ⅝-INCH. EMBED 7" IN CONCRETE FOR RAIL POSTS. EMBED 5" IN CONCRETE FOR END RAILS. ADHESIVE ANCHORS SHALL CONFORM TO SECTIONS 502.2.12 OF THE STANDARD SPECIFICATIONS.

(4B) STRUCTURAL TUBING 3" X 3" X 3/16". PLACE VERTICAL. WELD TO NO. 1 & 5.

(5A) STRUCTURAL TUBING 3" X 1½" X 3/16" RAILS. WELD TO NO. 1 & NO. 4. INSIDE OF TUBE TO BE PAINTED AT ALL FIELD ERECTION & EXPANSION JOINTS.

(5C) STRUCTURAL TUBING 2½" DIA. (STANDARD SIZE) (2.875" O.D.). WELD TO NO. 1 & NO. 4. INSIDE OF TUBE TO BE PAINTED AT ALL FIELD ERECTION & EXPANSION JOINTS.

(6A) BAR 1" X 1" PICKETS. WELD TO NO. 5. PLACE VERTICAL.

(9A) RECTANGULAR SLEEVE FABRICATED FROM 3/16" PLATES. PROVIDE "SLIDING FIT".

(9B) CIRCULAR SLEEVE FABRICATED FROM STRUCTURAL TUBING 2" DIA. (STANDARD SIZE) (2.375" O.D.)

(10A) RECTANGULAR SLEEVE FABRICATED FROM 3/16" PLATES. (1'-4" @ FIELD ERECTION JTS.) (1'-4" @ STRIP SEAL EXP. JTS.)

(10B) CIRCULAR SLEEVE FABRICATED FROM STRUCTURAL TUBING 2" DIA. (STANDARD SIZE) (2.375" O.D.) (1'-4" @ FIELD ERECTION JTS.) (1'-4" @ STRIP SEAL EXP. JTS.)

RAILING NOTES

BID ITEM SHALL BE "RAILING STEEL PEDESTRIAN TYPE C2", WHICH SHALL INCLUDE ALL STEEL ITEMS SHOWN.

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

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

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

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

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

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

ALL JOINTS AND RECESSES IN CONCRETE ARE TO BE VERTICAL.

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

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

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

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-28-54

DRAWN BY UD | PLANS CK'D AMF

RAILING DETAILS

SHEET 7 OF 7

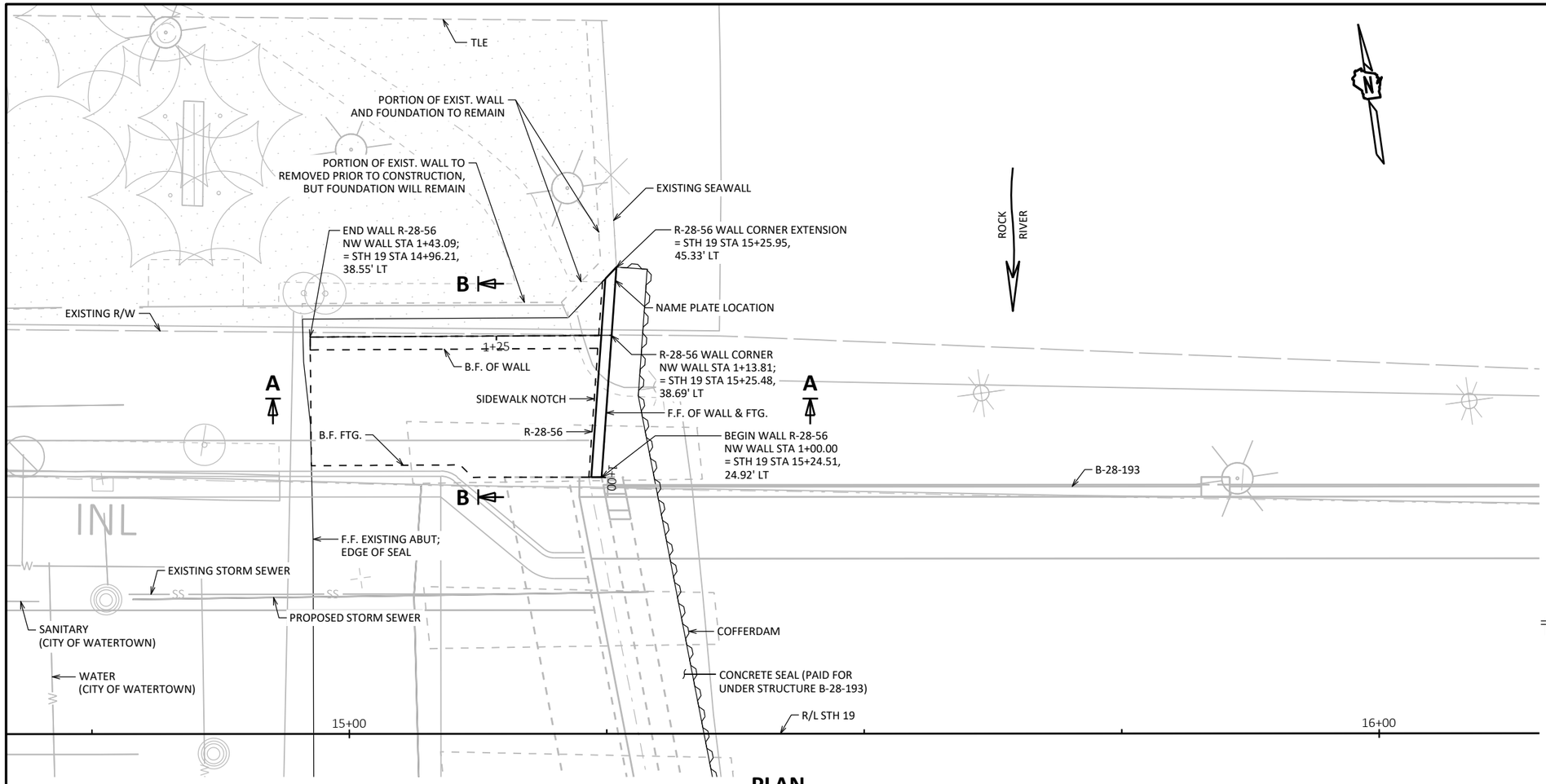
124

8

8

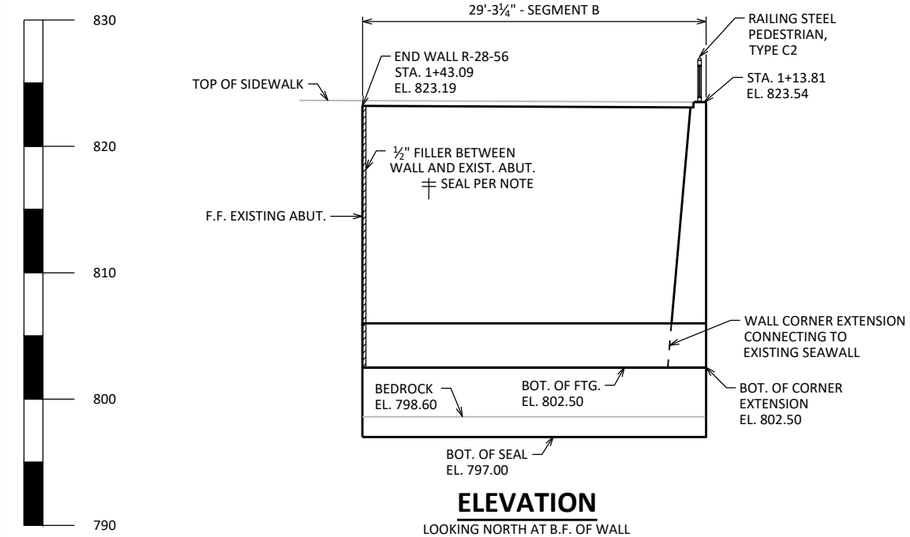
STATE PROJECT NUMBER

3050-04-81



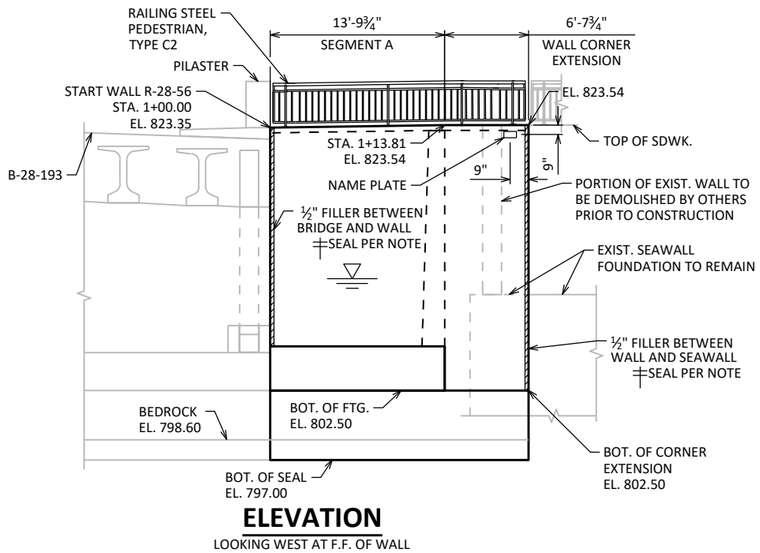
PLAN

CAST-IN-PLACE CONCRETE RETAINING WALL



ELEVATION

LOOKING NORTH AT B.F. OF WALL



ELEVATION

LOOKING WEST AT F.F. OF WALL

DESIGN DATA

LIVE LOAD:

RETAINING WALL IS DESIGNED FOR A LIVE LOAD SURCHARGE OF 240 PSF.

RETAINING WALL IS DESIGNED FOR FINISHED GRADE SLOPED BEHIND WALL AS SHOWN.

MATERIAL PROPERTIES:

CONCRETE MASONRY ——— f'_c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 ——— f_y = 60,000 P.S.I.

FOUNDATION DATA:

RETAINING WALL WITH SPREAD FOOTINGS TO BE SUPPORTED ON CONCRETE SEAL (PAID FOR UNDER STRUCTURE B-28-193) ON SOUND ROCK WITH A REQUIRED FACTORED BEARING RESISTANCE OF 11,250 PSF***. A GEOTECHNICAL ENGINEER, WITH THREE DAYS NOTICE, WILL DETERMINE THE FACTORED BEARING RESISTANCE BY VISUAL INSPECTION PRIOR TO CONSTRUCTION OF THE CONCRETE SEAL.

***THE FACTORED BEARING RESISTANCE IS THE VALUE USED FOR DESIGN.

LIST OF DRAWINGS

STRUCTURES DESIGN CONTACTS:

BUREAU OF STRUCTURES:
AARON BONK (608) 261-0261
CONSULTANT:
MATTHEW KRIPPNER (608) 828-8123

LEGEND

F.F. = FRONT FACE, B.F. = BACK FACE

‡ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)

FOR SECTION A-A & B-B, SEE SHEET 5.

WISCONSIN
MATTHEW S. KRIPPNER
E-42470
VERONA
WI
PROFESSIONAL ENGINEER
09/29/2023

NO.	DATE	REVISION	BY

AECOM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 11/28/23
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE R-28-56

NW WINGWALL FOR B-28-193

COUNTY	~~TOWN~~/CITY/~~VILLAGE~~
JEFFERSON	WATERTOWN

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATION

DESIGNED BY	NAR	DESIGNED CK'D	MSK	DRAWN BY	UD	PLANS CK'D	AMF

GENERAL PLAN

SHEET 1 OF 7
125

I.D. 3050-04-01 DATE: SEP 2023

8

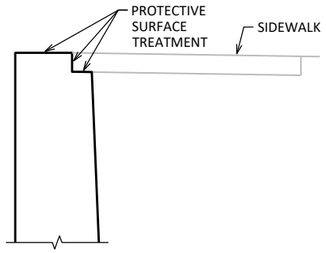
8

STATE PROJECT NUMBER

3050-04-81

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
210.1500	BACKFILL STRUCTURE TYPE A	TON	830
502.3200	PROTECTIVE SURFACE TREATMENT	SY	8
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	107
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	5810
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	9260
513.8011	RAILING STEEL PEDESTRIAN TYPE C2	LF	20
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	7
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	80
	NON-BID ITEMS		
	FILLER	SIZE	½"



PROTECTIVE SURFACE TREATMENT LIMITS

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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.

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF JOINT FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW THE SURFACE OF CONCRETE).

ALL WALL STATIONING AND OFFSETS ARE GIVEN TO THE FRONT FACE OF WALL R-28-56.

COORDINATE THE CONSTRUCTION OF RETAINING WALL R-28-56 WITH THE WEST ABUTMENT OF BRIDGE B-28-193.

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.

THE QUANTITY FOR "BACKFILL STRUCTURE TYPE A" IS BASED ON THE PAY LIMITS SHOWN IN THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED FOR THE ENTIRE WALL LENGTH. BACKFILL PLACED BEYOND THE PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

THE COFFERDAM AND CONCRETE SEAL QUANTITY REQUIRED FOR CONSTRUCTION OF R-28-56 IS INCLUDED IN THE B-28-193 PLANS.

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

APPLY PROTECTIVE SURFACE TREATMENT BASED ON THE DETAIL SHOWN IN THE PLANS.

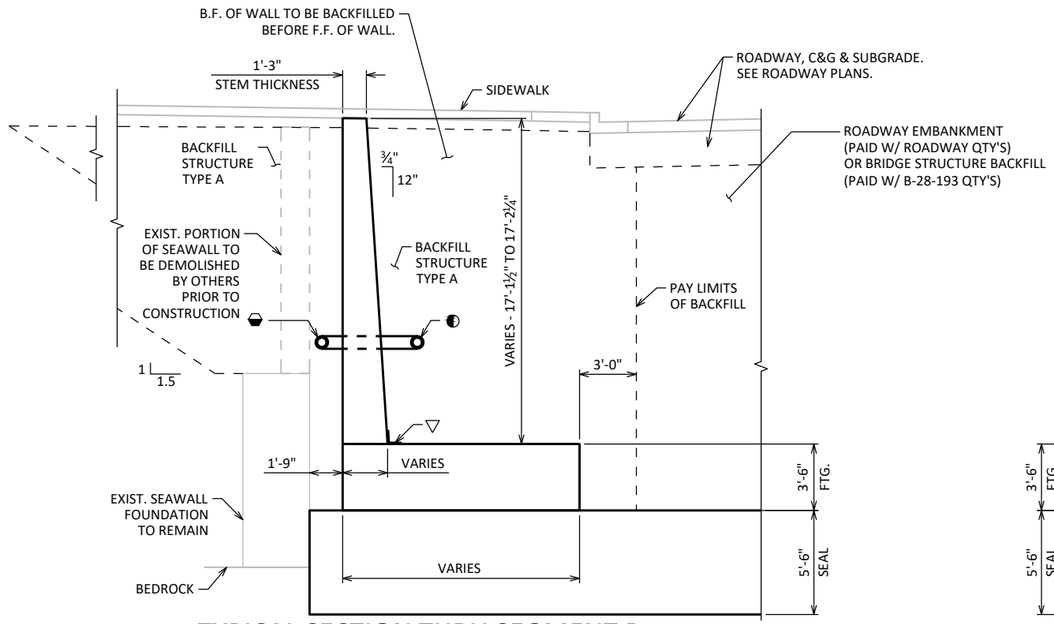
SEE B-28-193 PLANS FOR WATER ELEVATION INFORMATION.

F.F. = FRONT FACE, B.F. = BACK FACE

◐ PIPE UNDERDRAIN WRAPPED 6-INCH
SLOPE 0.5% MIN. TO STORM SEWER OUTLET PIPE.
COORDINATE INSTALLATION WITH PIPE
UNDERDRAIN AT W. ABUT OF B-28-193.

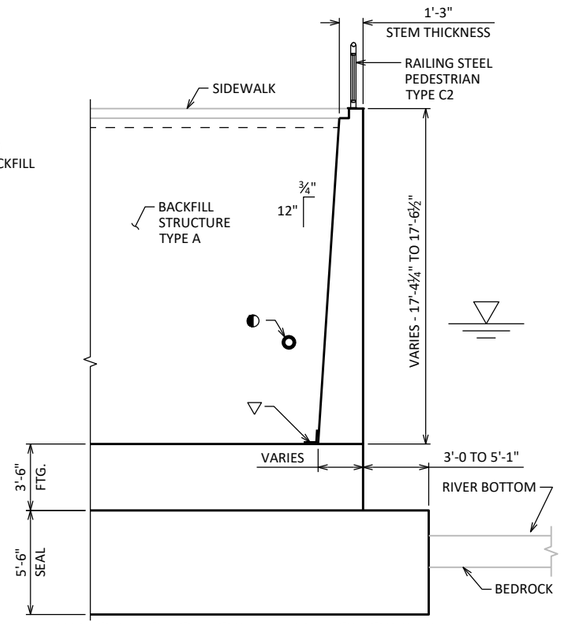
◓ PIPE UNDERDRAIN WRAPPED 6-INCH, SLOPE 0.5% MIN. TIE INTO PIPE UNDERDRAIN AT B.F. OF WALL.

▽ 18" RUBBERIZED MEMBRANE WATERPROOFING.



TYPICAL SECTION THRU SEGMENT B

LOOKING EAST



TYPICAL SECTION THRU SEGMENT A

LOOKING NORTH

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-28-56

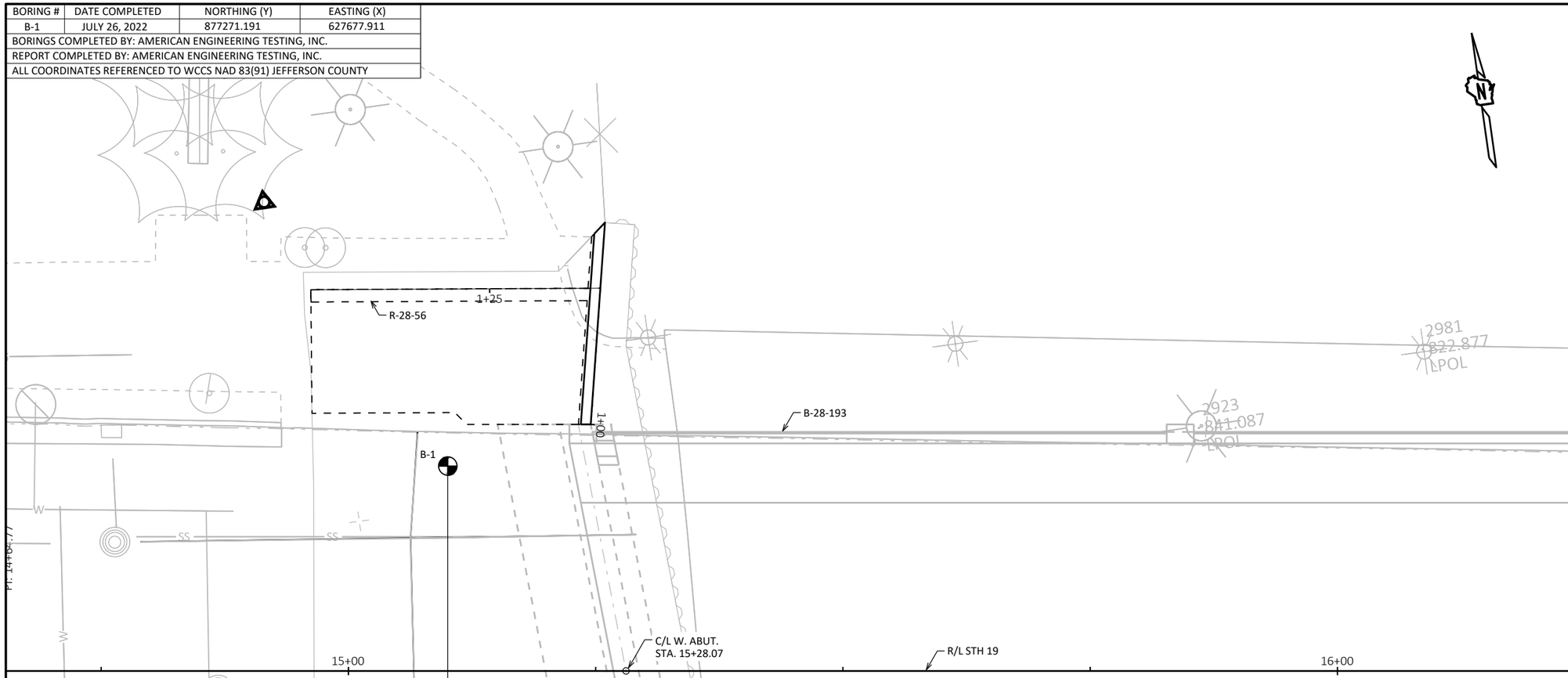
DRAWN BY UD | PLANS CK'D AMF

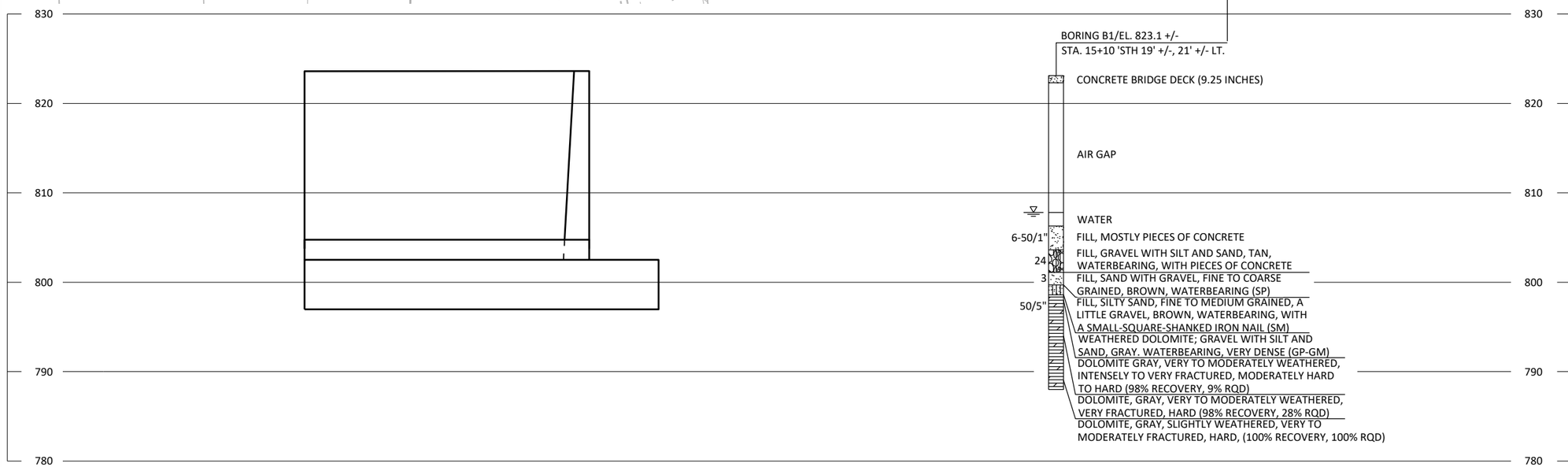
TYPICAL SECTION, QUANTITIES & NOTES

SHEET 2 OF 7

126

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-1	JULY 26, 2022	877271.191	627677.911
BORINGS COMPLETED BY: AMERICAN ENGINEERING TESTING, INC.			
REPORT COMPLETED BY: AMERICAN ENGINEERING TESTING, INC.			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) JEFFERSON COUNTY			





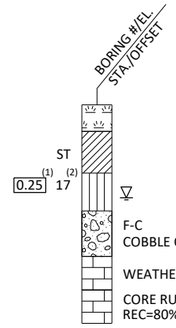
STATE PROJECT NUMBER

3050-04-81

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 R-28-56

DRAWN BY UD | PLANS CK'D AMF

SUBSURFACE EXPLORATION

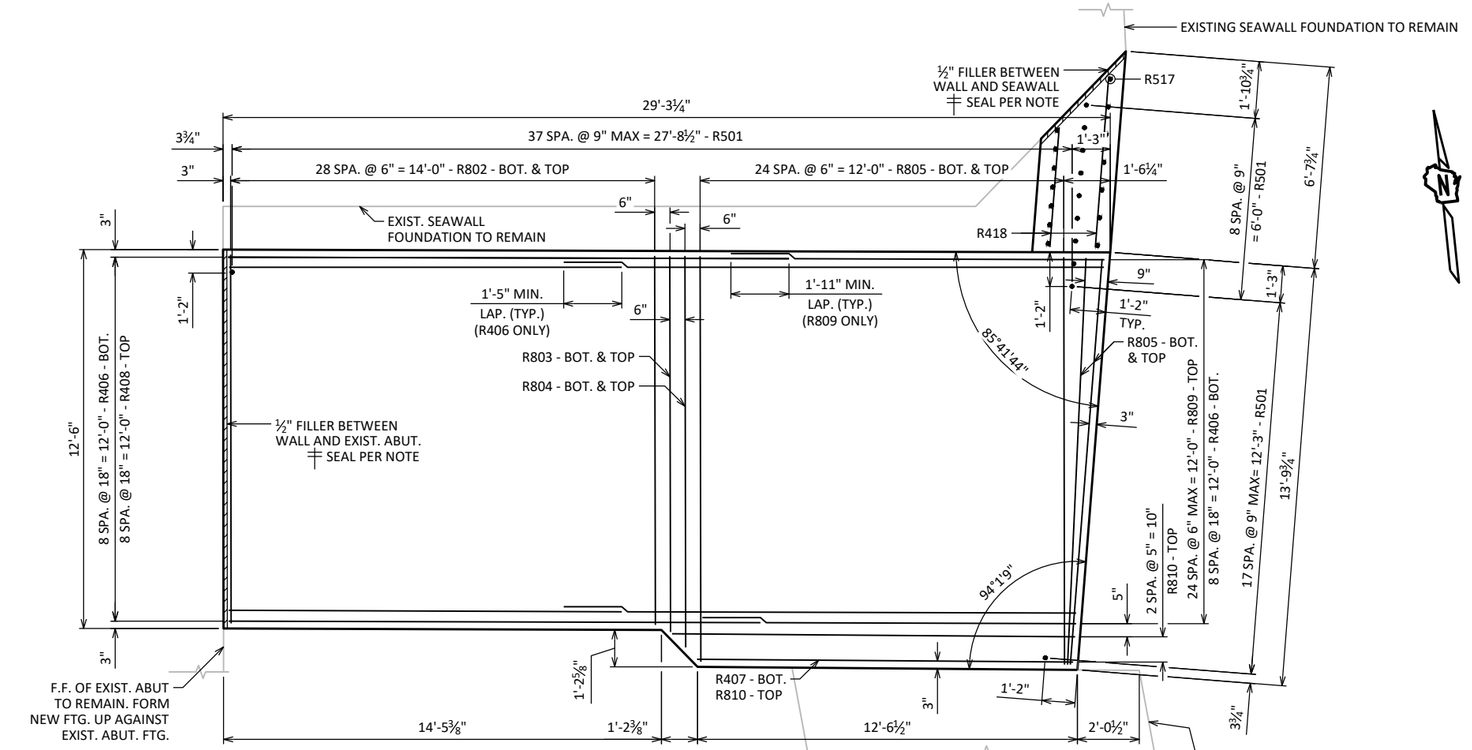
SHEET 3 OF 7
127

8

8

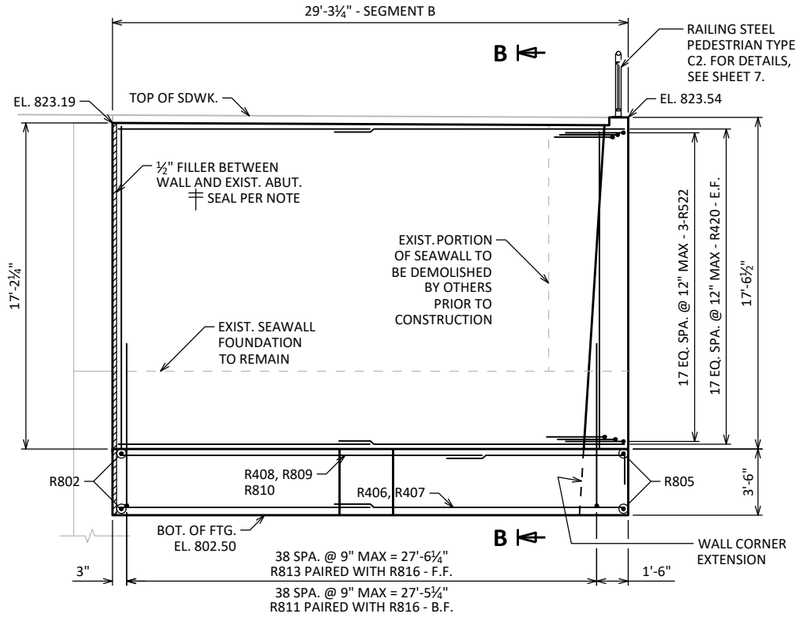
STATE PROJECT NUMBER

3050-04-81



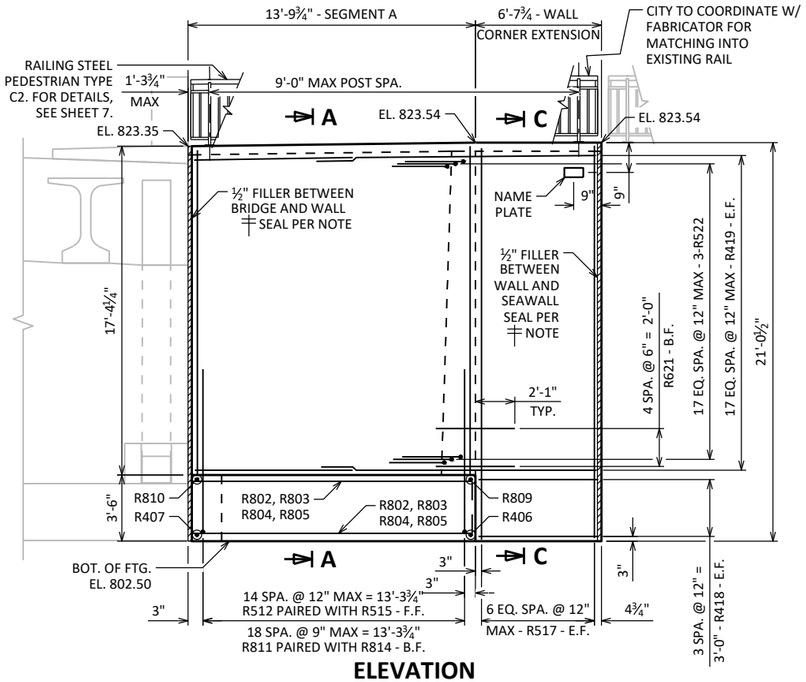
PLAN

(SHOWING FTG. REINFORCEMENT)



ELEVATION

(LOOKING NORTH AT B.F. OF WALL)



ELEVATION

(LOOKING WEST AT F.F. OF WALL)

LEGEND

F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE

≠ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)

FOR SECTION A-A, B-B & C-C, SEE SHEET 5.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-28-56

DRAWN BY UD | PLANS CK'D AMF

WALL DETAILS 1

SHEET 4 OF 7

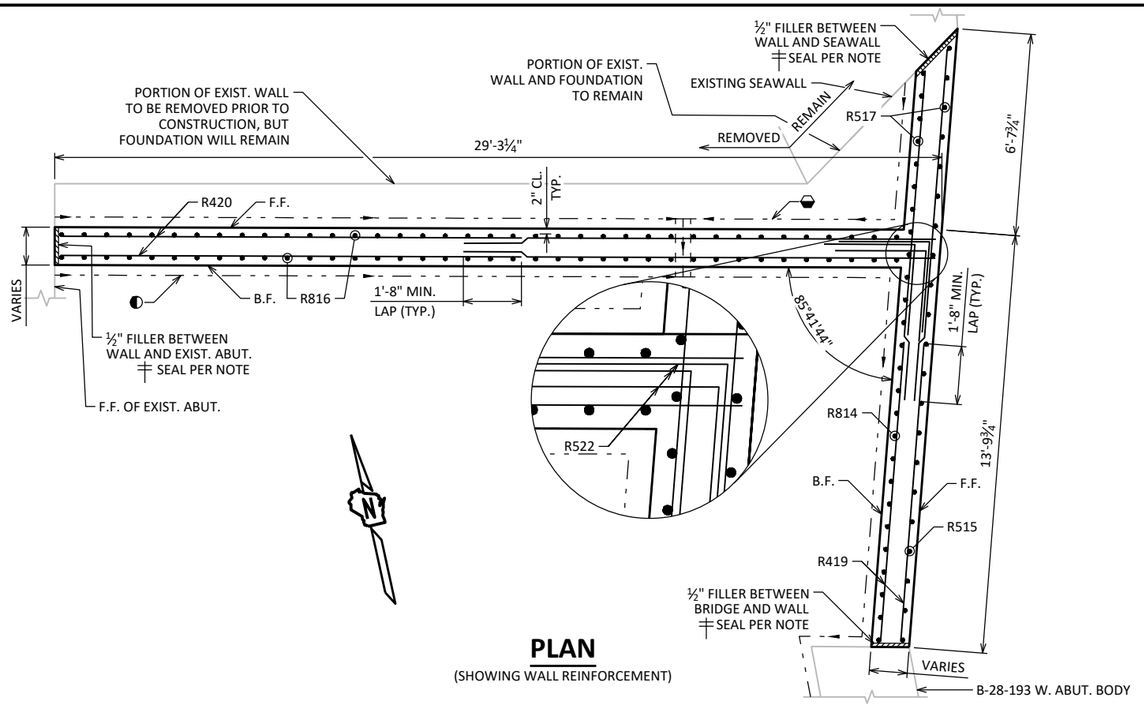
128

8

8

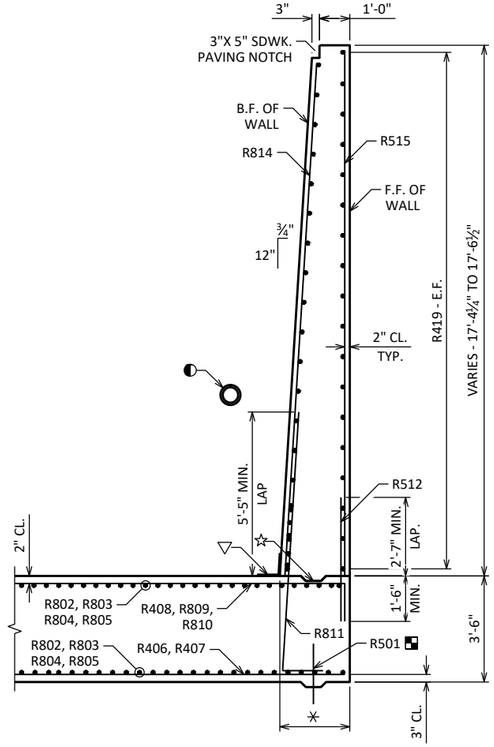
STATE PROJECT NUMBER

3050-04-81



PLAN

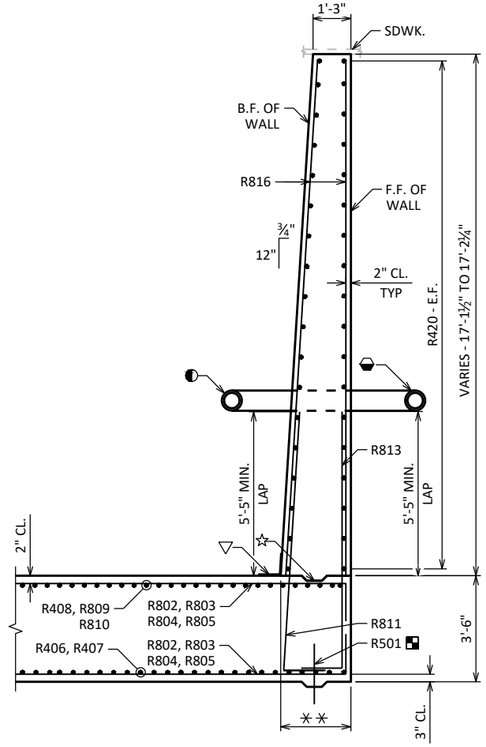
(SHOWING WALL REINFORCEMENT)



SECTION A-A

(LOOKING NORTH)

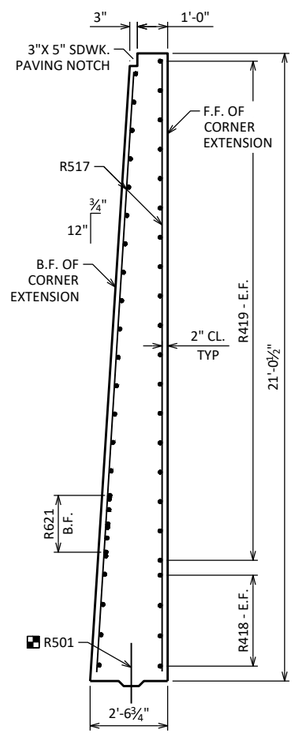
⚹ VARIES FROM 2'-4" (STA 1+00.00) TO 2'-4⅛" (STA 1+13.81)



SECTION B-B

(LOOKING WEST)

⚹⚹ VARIES FROM 2'-4⅛" (STA 1+13.81) TO 2'-4" (STA 1+43.09)



SECTION C-C

(LOOKING NORTH)

LEGEND

F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE

☆ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6"

◐ PIPE UNDERDRAIN WRAPPED 6-INCH, SLOPE 0.5% MIN. TO STORM SEWER OUTLET PIPE. COORDINATE INSTALLATION WITH PIPE UNDERDRAIN AT W. ABUT. OF B-28-193

◒ PIPE UNDERDRAIN WRAPPED 6-INCH, SLOPE 0.5% MIN. TIE INTO PIPE UNDERDRAIN AT B.F. OF WALL.

▪ BARS @ 9" CTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

▽ 18" RUBBERIZED MEMBRANE WATERPROOFING.

⧦ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)

FOR SECTION A-A, B-B & C-C LOCATIONS, SEE SHEET 4.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-28-56

DRAWN BY UD | PLANS CK'D AMF

WALL DETAILS 2

SHEET 5 OF 7

129

8

8

STATE PROJECT NUMBER

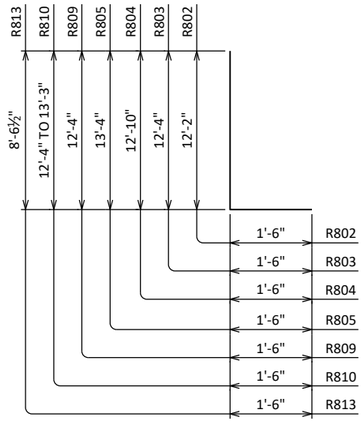
3050-04-81

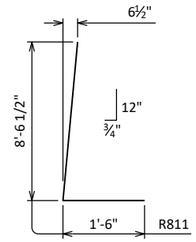
BILL OF BARS

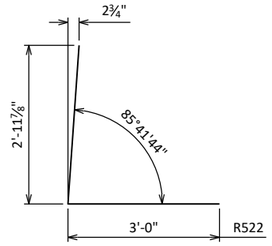
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
NON-COATED BARS					TOTAL WEIGHT = 5810
R501	63	2-0			FTG./SEAL INTERFACE VERT.
R802	58	13-5	X		FTG. TRANS. BOT. & TOP
R803	2	13-8	X		FTG. TRANS. BOT. & TOP
R804	2	14-2	X		FTG. TRANS. BOT. & TOP
R805	54	14-8	X		FTG. TRANS./LONG. BOT. & TOP
R406	18	15-5		⚠	FTG. TRANS./LONG. BOT.
R407	1	12-4			FTG. TRANS. BOT.
R408	9	19-0		⚠	FTG. LONG. TOP
R809	25	13-8	X		FTG. TRANS./LONGIT. TOP
R810	3	14-1	X	⚠	FTG. TRANS. TOP
COATED BARS					TOTAL WEIGHT = 9260
R811	58	9-10	X		FTG. DOWEL B.F.
R512	15	4-1			FTG. DOWEL F.F.
R813	39	9-10	X		FTG. DOWEL F.F.
R814	19	16-10		⚠	WALL VERT. B.F.
R515	15	17-3		⚠	WALL VERT. F.F.
R816	78	16-11			WALL VERT. B.F. & F.F.
R517	14	20-8			WALL EXTENSION VERT. E.F.
R418	8	5-4			WALL EXTENSION HORIZ. E.F.
R419	72	11-4			WALL HORIZ. E.F.
R420	72	15-9			WALL HORIZ. E.F.
R621	5	4-2			WALL CORNER HORIZ. B.F.
R522	54	5-10	X		WALL CORNER HORIZ.

⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.







BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

BAR MARK	NO. REQ'D.	LENGTH
R406	2 SERIES OF 9	15'-2" TO 15'-8"
R408	1 SERIES OF 9	18'-6" TO 19'-5"
R810	1 SERIES OF 3	13'-7" TO 14'-6"
R814	1 SERIES OF 19	16'-9" TO 16'-11"
R515	1 SERIES OF 15	17'-2" TO 17'-4"

8

8

NO.	DATE	REVISION	BY

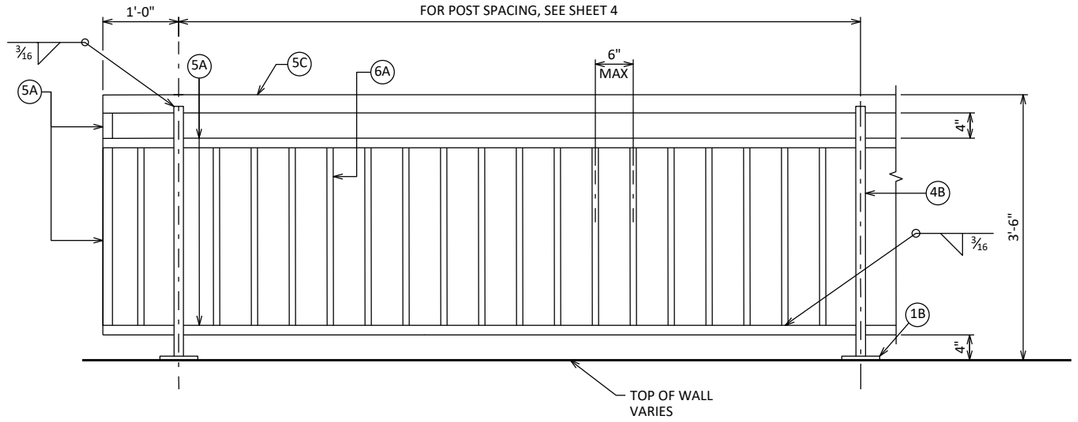
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-28-56

DRAWN BY UD | PLANS CK'D AMF

BILL OF BARS

SHEET 6 OF 7



TYPICAL ELEVATION OF RAILING

LEGEND

(1B) PLATE 5/8" X 6" X 10" WITH 3/4" X 1 1/2" SLOTTED HOLES.

(2B) 1/4" X 5" X 9" ANCHOR PLATE WITH 1 1/16" DIA. HOLES FOR THR'D RODS NO. 3.

(3) 5/8" DIA. X 9" LONG, TYPE 316 STAINLESS STEEL THREADED RODS (MIN. TENSILE STRENGTH = 70 KSI) WITH NUT AND WASHERS OF SAME ALLOY GROUP. ALTERNATIVE ANCHORAGE: CONCRETE ADHESIVE ANCHORS 5/8-INCH. EMBED 7" IN CONCRETE FOR RAIL POSTS. EMBED 5" IN CONCRETE FOR END RAILS. ADHESIVE ANCHORS SHALL CONFORM TO SECTIONS 502.2.12 OF THE STANDARD SPECIFICATIONS.

(4B) STRUCTURAL TUBING 3" X 3" X 3/16". PLACE VERTICAL. WELD TO NO. 1 & 5.

(5A) STRUCTURAL TUBING 3" X 1 1/2" X 3/16" RAILS. WELD TO NO. 1 & NO. 4. INSIDE OF TUBE TO BE PAINTED AT ALL FIELD ERECTION & EXPANSION JOINTS.

(5C) STRUCTURAL TUBING 2 1/2" DIA. (STANDARD SIZE) (2.875" O.D.). WELD TO NO. 1 & NO. 4. INSIDE OF TUBE TO BE PAINTED AT ALL FIELD ERECTION & EXPANSION JOINTS.

(6A) BAR 1" X 1" PICKETS. WELD TO NO. 5. PLACE VERTICAL.

(9A) RECTANGULAR SLEEVE FABRICATED FROM 3/16" PLATES. PROVIDE "SLIDING FIT".

(9B) CIRCULAR SLEEVE FABRICATED FROM STRUCTURAL TUBING 2" DIA. (STANDARD SIZE) (2.375" O.D.)

(10A) RECTANGULAR SLEEVE FABRICATED FROM 3/16" PLATES. (1'-4" @ FIELD ERECTION JTS.) (1'-4" @ STRIP SEAL EXP. JTS.)

(10B) CIRCULAR SLEEVE FABRICATED FROM STRUCTURAL TUBING 2" DIA. (STANDARD SIZE) (2.375" O.D.) (1'-4" @ FIELD ERECTION JTS.) (1'-4" @ STRIP SEAL EXP. JTS.)

RAILING NOTES

BID ITEM SHALL BE "RAILING STEEL PEDESTRIAN TYPE C2", WHICH SHALL INCLUDE ALL STEEL ITEMS SHOWN.

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

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

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

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

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

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

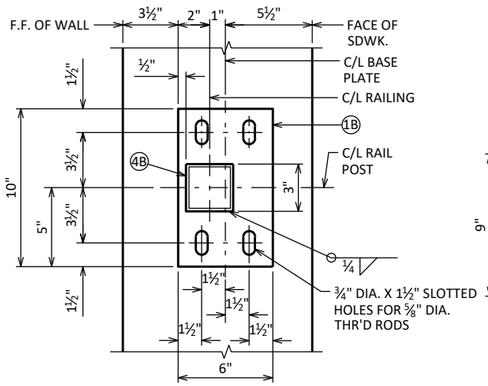
ALL JOINTS AND RECESSES IN CONCRETE WALL ARE TO BE VERTICAL.

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

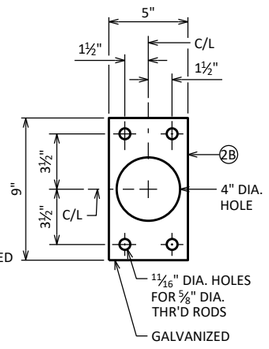
VENT HOLES SHALL BE DRILLED IN POST AND RAIL MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

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

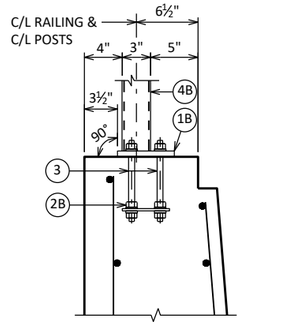
TOUCH-UP PAINTING TO BE DONE AT COMPLETION OF STEEL RAILING INSTALLATION TO THE SATISFACTION OF THE ENGINEER AT NO EXTRA COST.



TYPICAL RAIL POST BASE PLATE

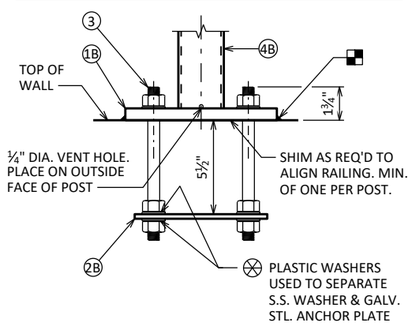


ANCHOR PLATE



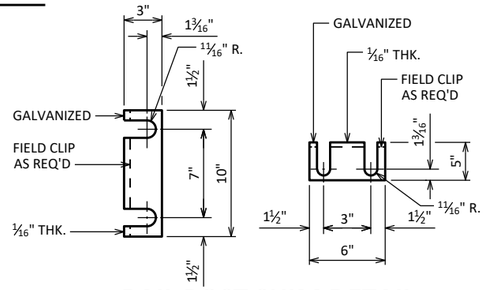
SECTION THRU WALL

ADJUST LOCATIONS OF BARS TO ALLOW PLACEMENT OF ANCHOR ASSEMBLY FOR RAILING AND BEAM GUARD.



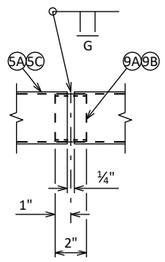
ANCHORAGE FOR RAIL POSTS

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



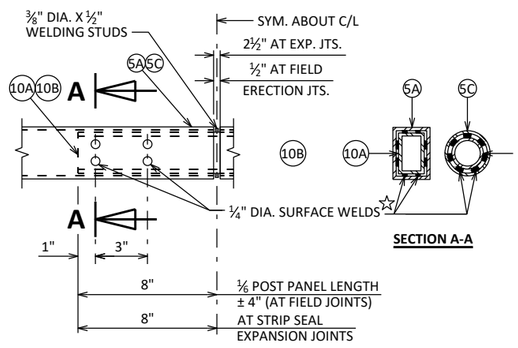
RAIL POST SHIM DETAIL

(2 SETS PER POST)



SHOP RAIL SPLICE DETAIL

(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



FIELD ERECTION JOINT DETAIL

☆ MIN. 5/8" FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-28-56

DRAWN BY UD | PLANS CK'D AMF

RAILING DETAILS

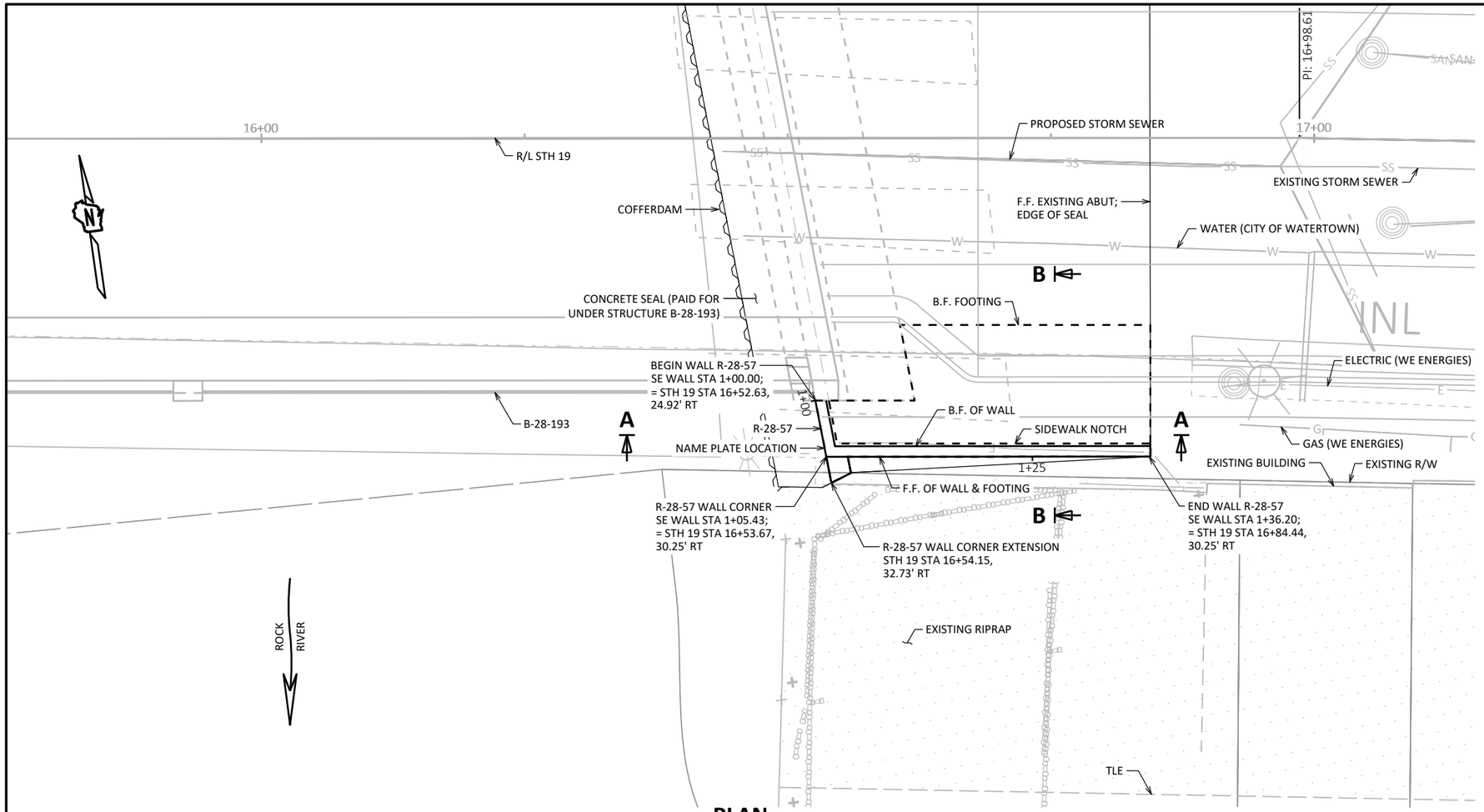
SHEET 7 OF 7
131

8

8

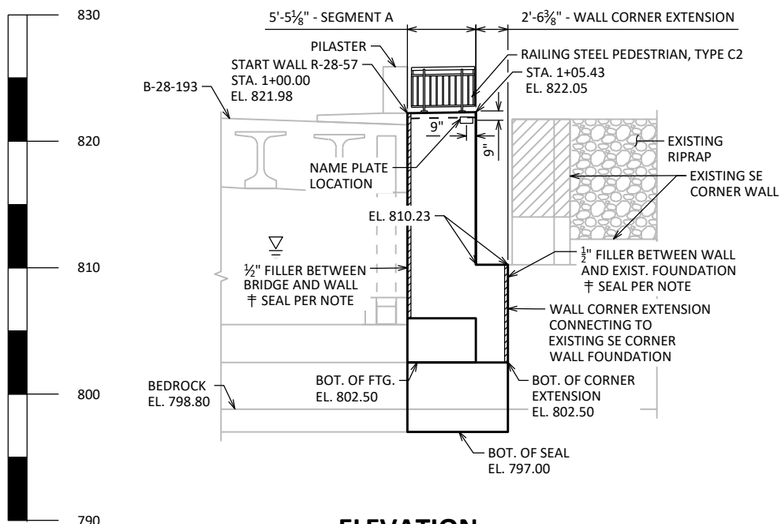
STATE PROJECT NUMBER

3050-04-81



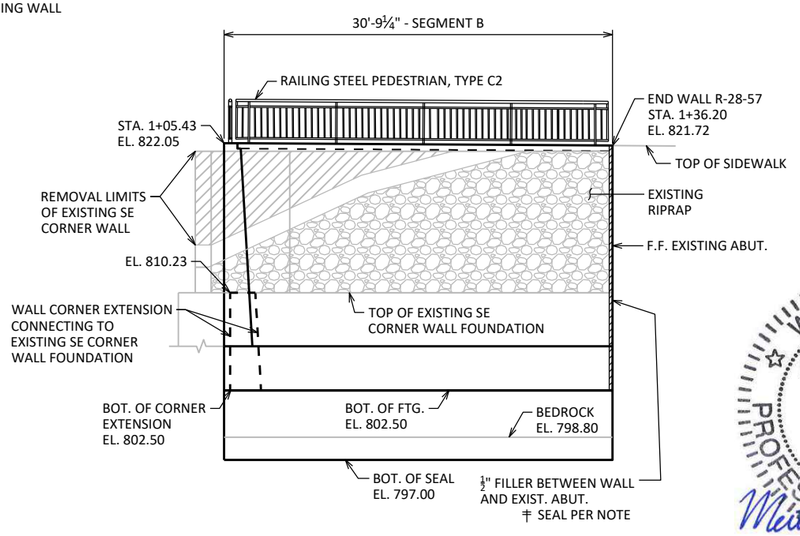
PLAN

CAST IN PLACE CONCRETE RETAINING WALL



ELEVATION

LOOKING EAST AT F.F. OF WALL



ELEVATION

LOOKING NORTH AT F.F. OF WALL

DESIGN DATA

LIVE LOAD:

RETAINING WALL IS DESIGNED FOR A LIVE LOAD SURCHARGE OF 240 PSF.

RETAINING WALL IS DESIGNED FOR FINISHED GRADE SLOPED BEHIND WALL AS SHOWN.

MATERIAL PROPERTIES:

CONCRETE MASONRY ——— f'_c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 ——— f_y = 60,000 P.S.I.

FOUNDATION DATA:

RETAINING WALL WITH SPREAD FOOTINGS TO BE SUPPORTED ON CONCRETE SEAL (PAID FOR UNDER STRUCTURE B-28-193) ON SOUND ROCK WITH A REQUIRED FACTORED BEARING RESISTANCE OF 11,250 PSF***. A GEOTECHNICAL ENGINEER, WITH THREE DAYS NOTICE, WILL DETERMINE THE FACTORED BEARING RESISTANCE BY VISUAL INSPECTION PRIOR TO CONSTRUCTION OF THE CONCRETE SEAL.

***THE FACTORED BEARING RESISTANCE IS THE VALUE USED FOR DESIGN.

LIST OF DRAWINGS

STRUCTURES DESIGN CONTACTS:

BUREAU OF STRUCTURES:
AARON BONK (608) 261-0261
CONSULTANT:
MATTHEW KRIPPNER (608) 828-8123

LEGEND

F.F. = FRONT FACE, B.F. = BACK FACE

† SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE)

FOR SECTION A-A & B-B, SEE SHEET 5.

WISCONSIN
MATTHEW S. KRIPPNER
E-42470
VERONA
WI
PROFESSIONAL ENGINEER

09/29/2023

NO.	DATE	REVISION	BY

AECOM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORATION

ACCEPTED SDR 11/28/23
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE R-28-57

SE WINGWALL FOR B-28-193

COUNTY	TOWN/CITY/VILLAGE
JEFFERSON	WATERTOWN

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATION

DESIGNED BY	DESIGNED CK'D	DRAWN BY	PLANS CK'D
NAR	MSK	ABH	AMF

GENERAL PLAN

SHEET 1 OF 7
132

I.D. 3050-04-01 DATE: SEPT 2023

STATE PROJECT NUMBER

3050-04-81

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
210.1500	BACKFILL STRUCTURE TYPE A	TON	440
502.3200	PROTECTIVE SURFACE TREATMENT	SY	8
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	81
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	3040
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	5380
513.8011	RAILING STEEL PEDESTRIAN TYPE C2	LF	35
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	6
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	40
	NON-BID ITEMS		
	FILLER	SIZE	½"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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.

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF JOINT FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW THE SURFACE OF CONCRETE).

ALL WALL STATIONING AND OFFSETS ARE GIVEN TO THE FRONT FACE OF WALL R-28-57.

COORDINATE THE CONSTRUCTION OF RETAINING WALL R-28-57 WITH THE EAST ABUTMENT OF BRIDGE B-28-193.

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.

THE QUANTITY FOR "BACKFILL STRUCTURE TYPE A" IS BASED ON THE PAY LIMITS SHOWN IN THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED FOR THE ENTIRE WALL LENGTH. BACKFILL PLACED BEYOND THE PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

THE COFFERDAM AND CONCRETE SEAL QUANTITY REQUIRED FOR CONSTRUCTION OF R-28-57 IS INCLUDED IN THE B-28-193 PLANS.

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

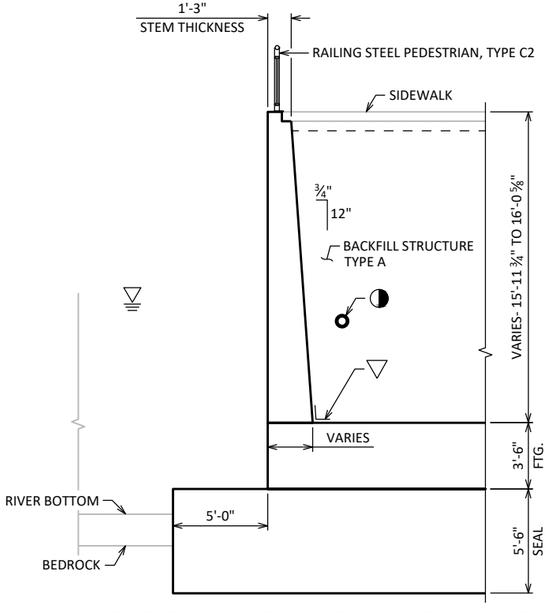
APPLY PROTECTIVE SURFACE TREATMENT BASED ON THE DETAIL SHOWN IN THE PLANS.

SEE B-28-193 PLANS FOR WATER ELEVATION INFORMATION.

F.F. = FRONT FACE, B.F. = BACK FACE

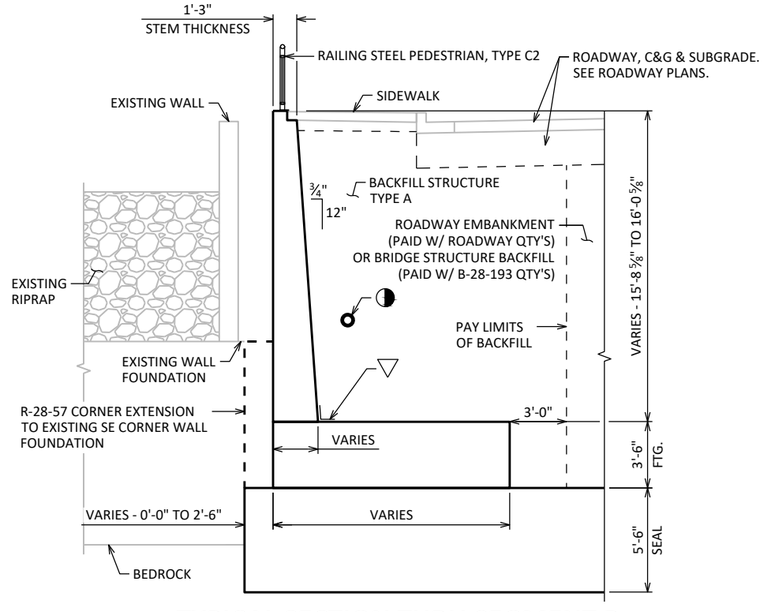
◑ PIPE UNDERDRAIN WRAPPED 6-INCH
SLOPE 0.5% MIN. TO STORM SEWER OUTLET PIPE.
COORDINATE INSTALLATION WITH PIPE UNDERDRAIN AT E. ABUT OF B-28-193.

▽ 18" RUBBERIZED MEMBRANE WATERPROOFING



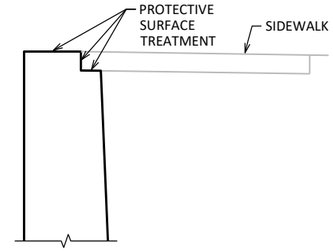
TYPICAL SECTION THRU SEGMENT A

(LOOKING NORTH)



TYPICAL SECTION THRU SEGMENT B

(LOOKING WEST)



PROTECTIVE SURFACE TREATMENT LIMITS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-28-57

DRAWN BY ABH | PLANS CK'D AMF

TYPICAL SECTION, QUANTITIES & NOTES

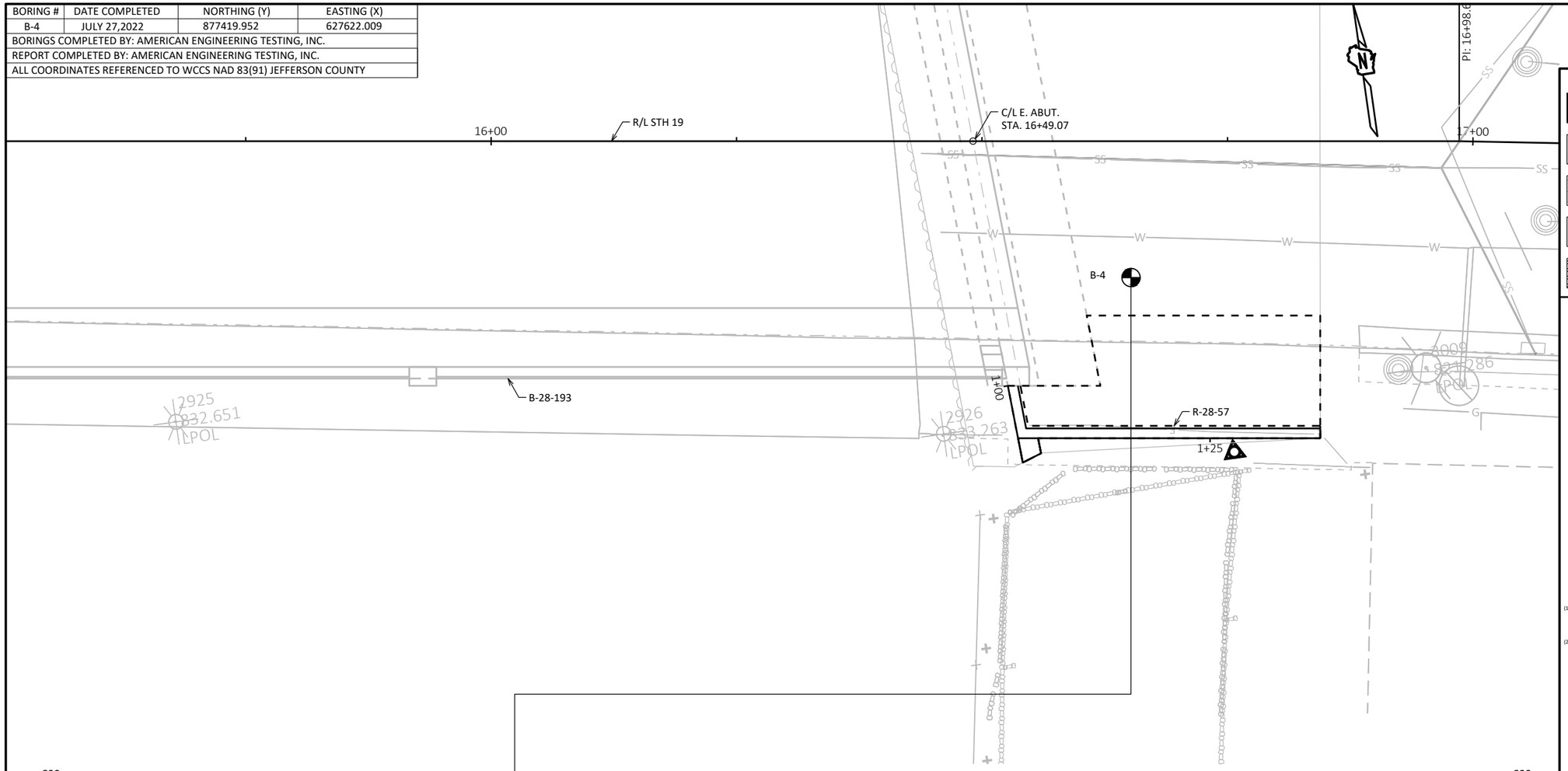
SHEET 2 OF 7

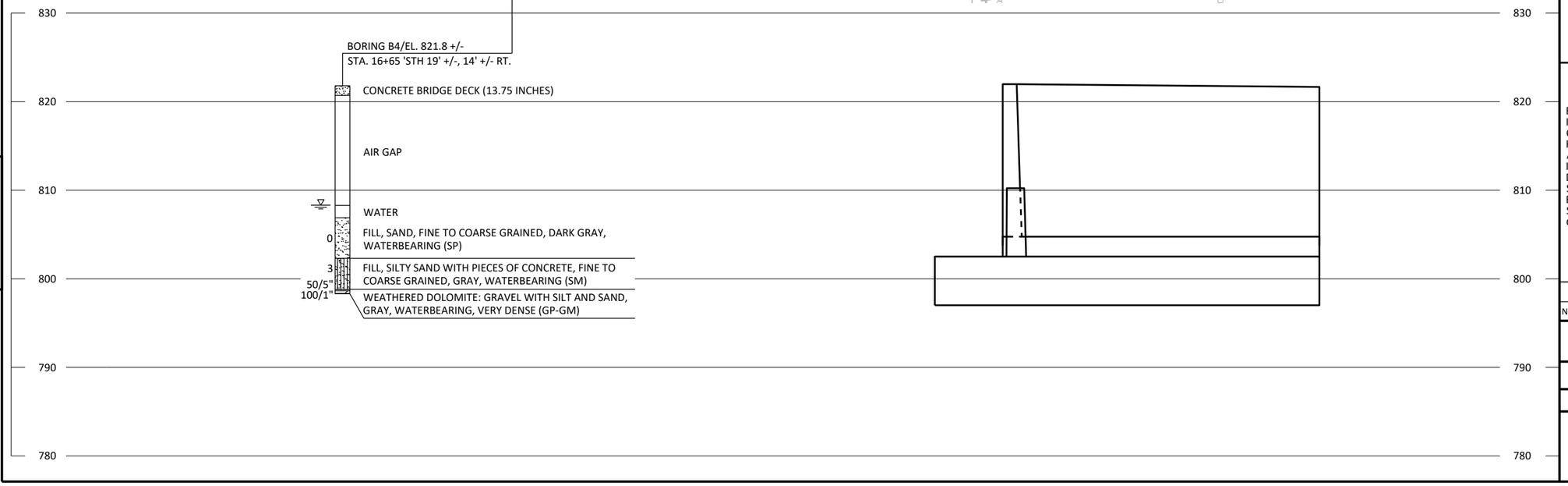
133

8

8

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-4	JULY 27,2022	877419.952	627622.009
BORINGS COMPLETED BY: AMERICAN ENGINEERING TESTING, INC.			
REPORT COMPLETED BY: AMERICAN ENGINEERING TESTING, INC.			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) JEFFERSON COUNTY			





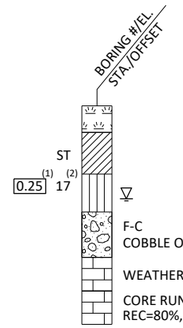
STATE PROJECT NUMBER

3050-04-81

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 R-28-57

DRAWN BY ABH | PLANS CK'D AMF

SUBSURFACE EXPLORATION

SHEET 3 OF 7

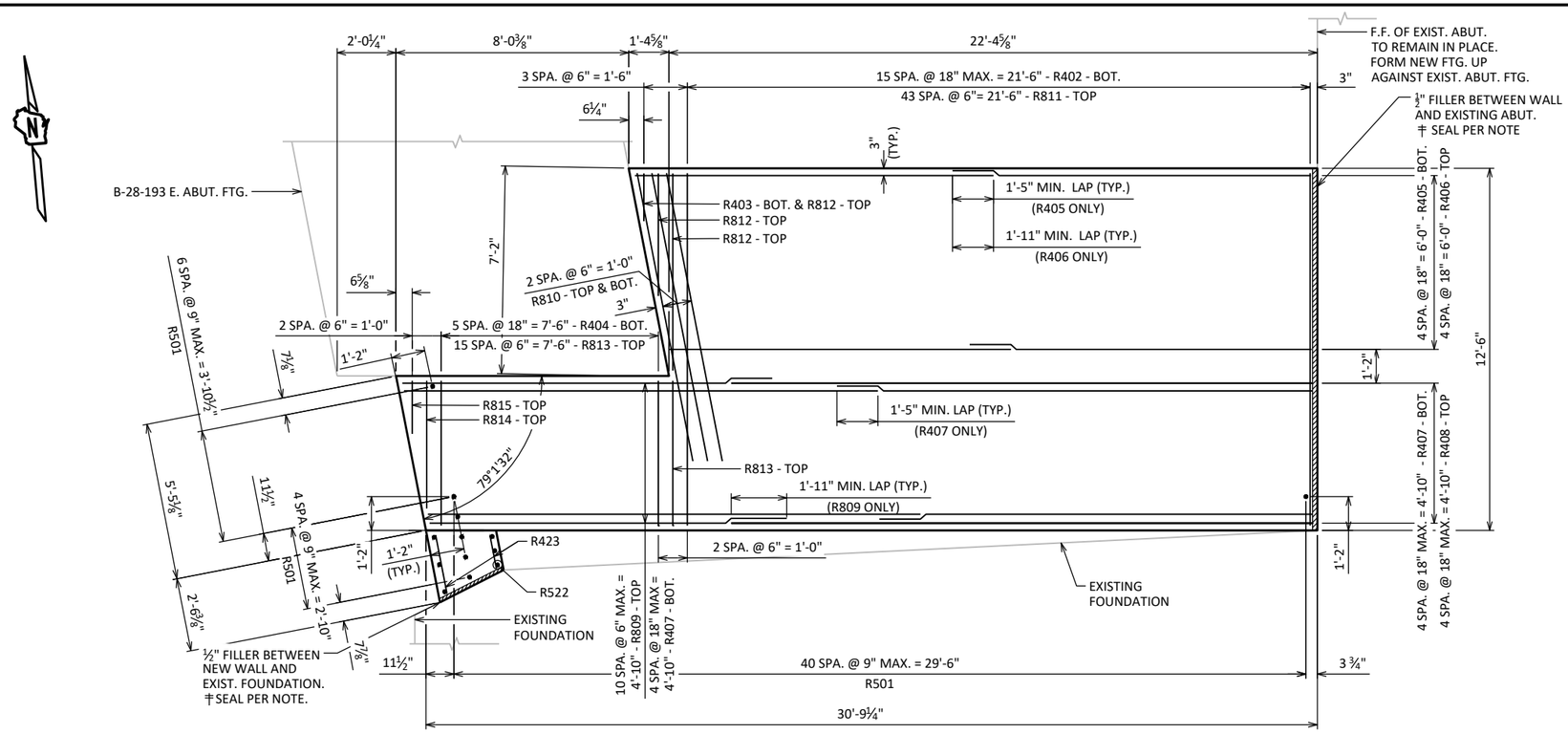
134

8

8

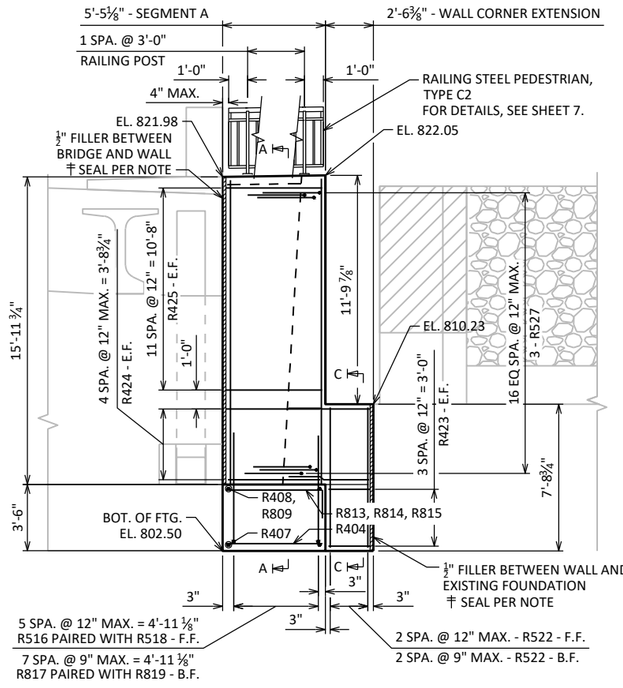
STATE PROJECT NUMBER

3050-04-81



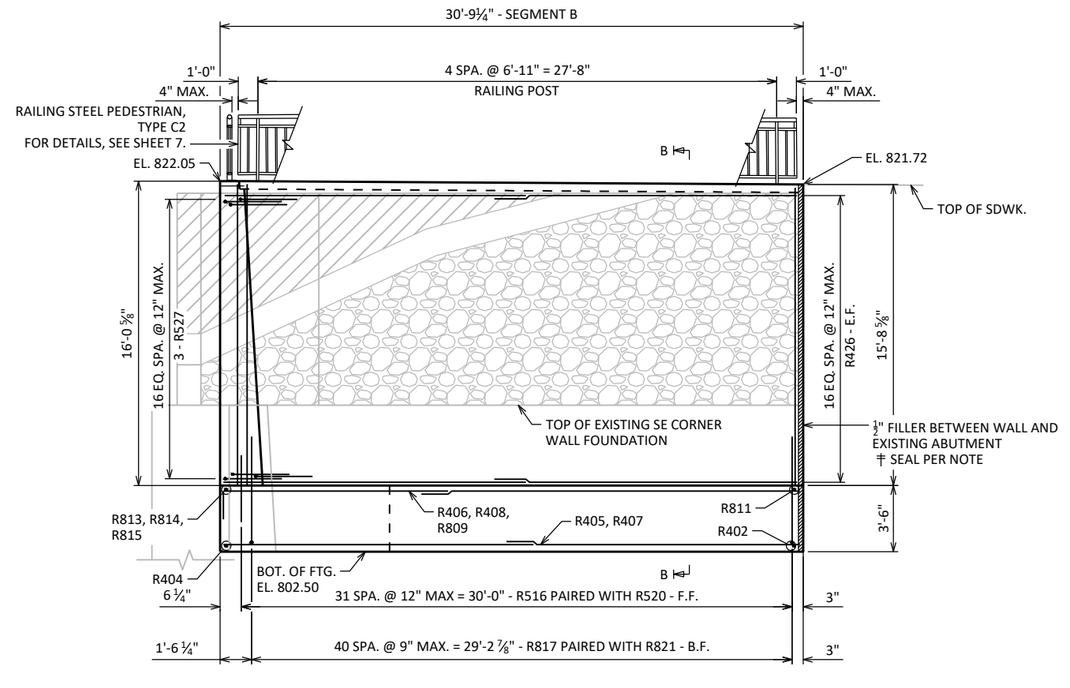
PLAN

(SHOWING FOOTING REINFORCEMENT)



ELEVATION

(LOOKING EAST AT F.F. OF WALL)



ELEVATION

(LOOKING NORTH AT F.F. OF WALL)

LEGEND

F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE

FOR SECTION A-A, B-B & C-C, SEE SHEET 5.

‡ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-28-57

DRAWN BY ABH | PLANS CK'D AMF

WALL DETAILS 1

SHEET 4 OF 7

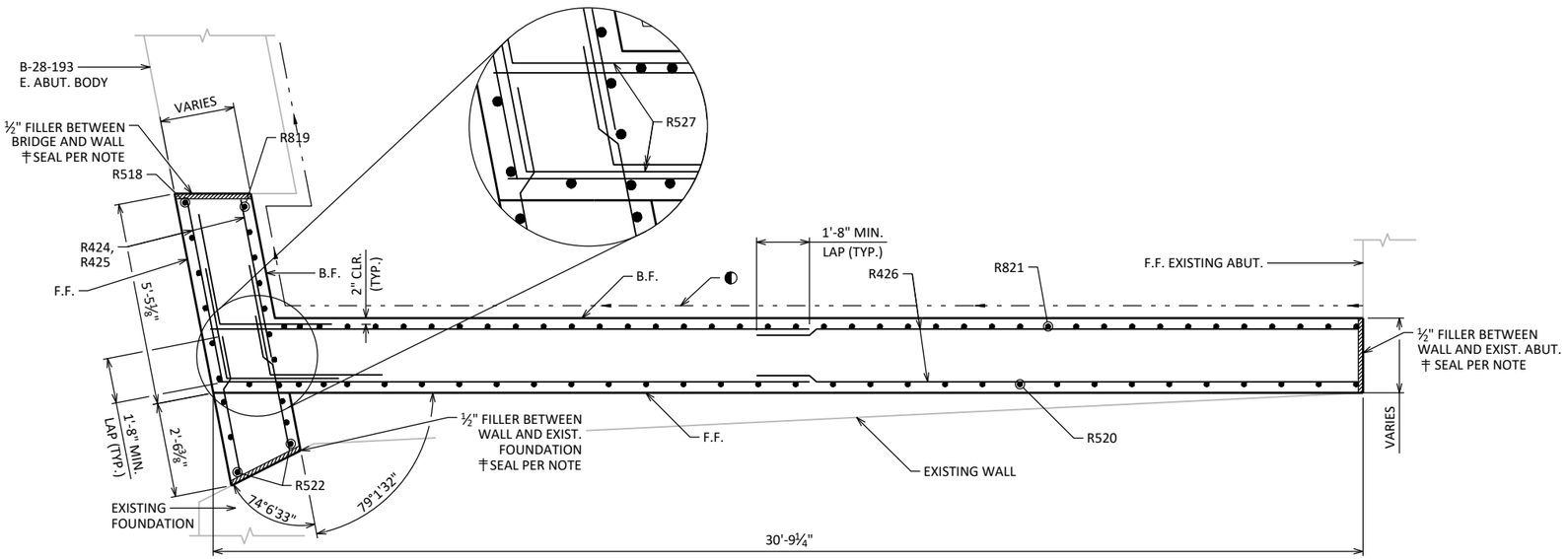
135

8

8

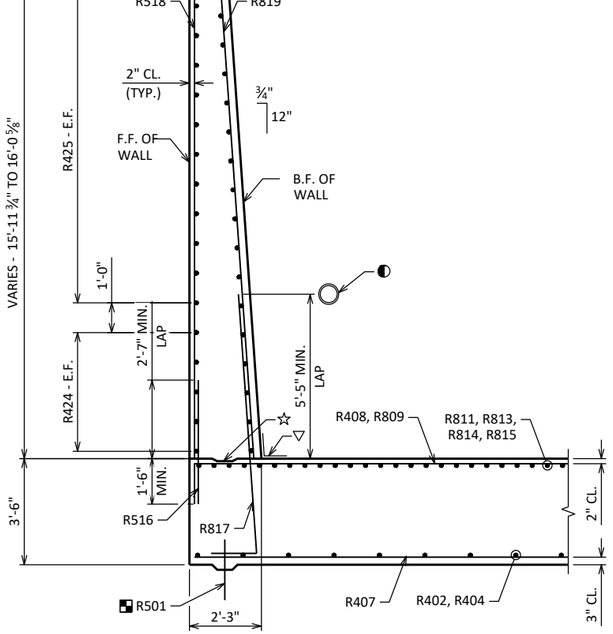
STATE PROJECT NUMBER

3050-04-81



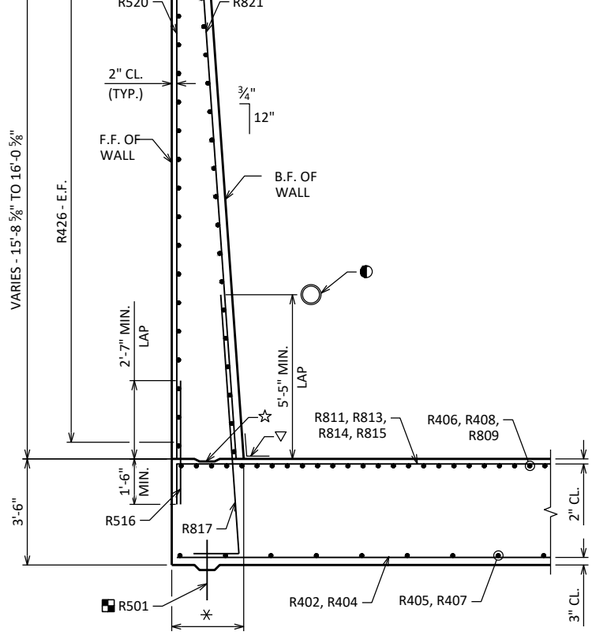
PLAN

(SHOWING WALL REINFORCEMENT)



SECTION A-A

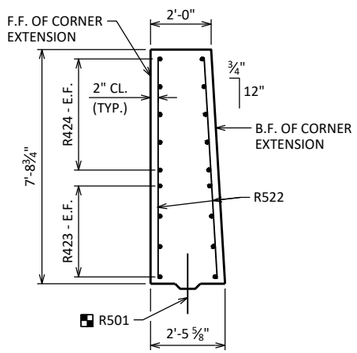
(LOOKING NORTH)



SECTION B-B

(LOOKING WEST)

✳ VARIES 2'-2 ¾" (STA. 1+36.20) TO 2'-3" (STA. 1+05.43)



SECTION C-C

(LOOKING NORTH)

LEGEND

F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE

☆ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6"

◐ PIPE UNDERDRAIN WRAPPED 6-INCH SLOPE 0.5% MIN. TO STORM SEWER OUTLET PIPE. COORDINATE INSTALLATION WITH PIPE UNDERDRAIN AT E. ABUT. OF B-28-193

▪ BARS @ 9" CTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

▽ 18" RUBBERIZED MEMBRANE WATERPROOFING

FOR SECTION A-A, B-B & C-C LOCATIONS, SEE SHEET 4.

† SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-28-57

DRAWN BY ABH | PLANS CK'D AMF

WALL DETAILS 2

SHEET 5 OF 7
136

8

8

BILL OF BARS

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

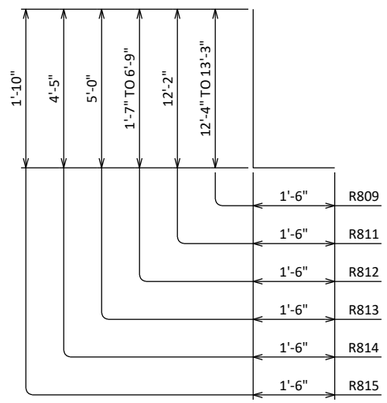
MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
NON-COATED BARS					TOTAL WEIGHT = 3040 LBS
R501	51	2-0			FTG./SEAL INTERFACE VERT.
R402	16	12-2			FTG. TRANS./LONGIT. BOT.
R403	1	1-8			FTG. TRANS./LONGIT. BOT.
R404	6	5-0			FTG. TRANS./LONGIT. BOT.
R405	10	12-7		⚠	FTG. LONGIT. BOT.
R406	10	12-10		⚠	FTG. LONGIT. TOP
R407	10	16-8		⚠	FTG. TRANS./LONG. BOT.
R408	5	21-0			FTG. LONG./TRANS. TOP
R809	11	14-1	X	⚠	FTG. TRANS./LONGIT. TOP
R810	3	10-2			FTG. ALONG ABUT. TOP/BOT.
R811	44	13-5	X		FTG. TRANS./LONGIT. TOP
R812	3	5-6	X	⚠	FTG. TRANS/LONGIT. TOP
R813	17	6-3	X		FTG. TRANS/LONGIT. TOP
R814	1	5-8	X		FTG. TRANS/LONGIT. TOP
R815	1	3-1	X		FTG. TRANS/LONGIT. TOP
COATED BARS					TOTAL WEIGHT = 5380 LBS
R516	38	4-1			FTG. DOWEL F.F.
R817	49	9-10	X		FTG. DOWEL B.F.
R518	6	15-9			WALL VERT. F.F.
R819	8	15-5			WALL VERT. B.F.
R520	32	15-8		⚠	WALL VERT. F.F.
R821	41	15-4		⚠	WALL VERT. B.F.
R522	6	7-4			WALL EXTENSION VERT. B.F./F.F.
R423	8	2-0			WALL EXTENSION HORIZ. E.F.
R424	20	5-6			WALL HORIZ. E.F.
R425	24	5-1			WALL HORIZ. E.F.
R426	68	17-0			WALL HORIZ. E.F.
R527	51	5-10	X		WALL CORNER HORIZ.

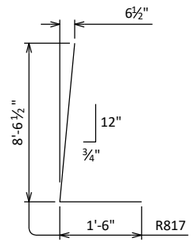
⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

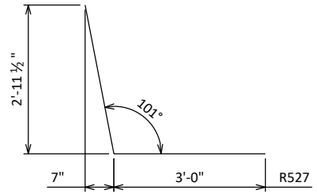
BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

BAR MARK	NO. REQ'D.	LENGTH
R405	2 SERIES OF 5	12'-4" TO 12'-11"
R406	2 SERIES OF 5	12'-7" TO 13'-2"
R407	2 SERIES OF 5	16'-5" TO 16'-11"
R809	1 SERIES OF 11	13'-7" TO 14'-7"
R812	1 SERIES OF 3	2'-11" TO 8'-1"
R520	1 SERIES OF 30	15'-6" TO 15'-10"
R821	1 SERIES OF 40	15'-2" TO 15'-6"







STATE PROJECT NUMBER

3050-04-81

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-28-57

DRAWN BY ABH | PLANS CK'D AMF

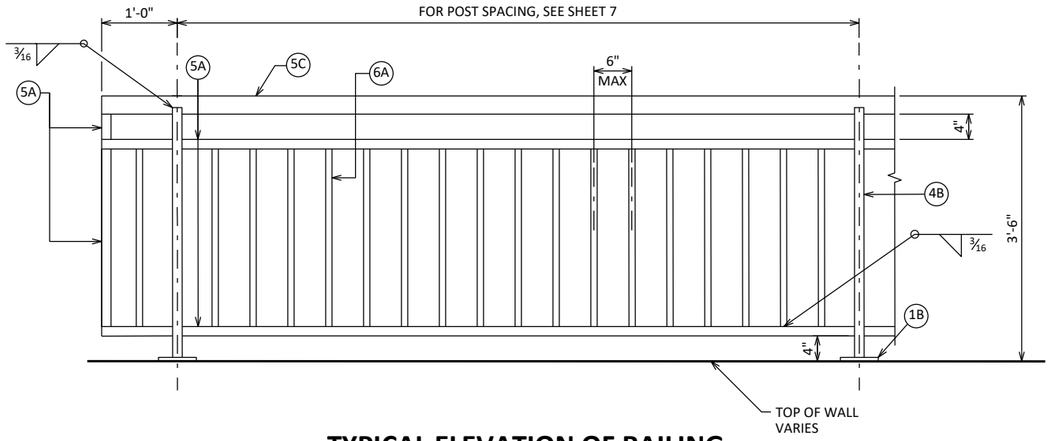
BILL OF BARS

SHEET 6 OF 7

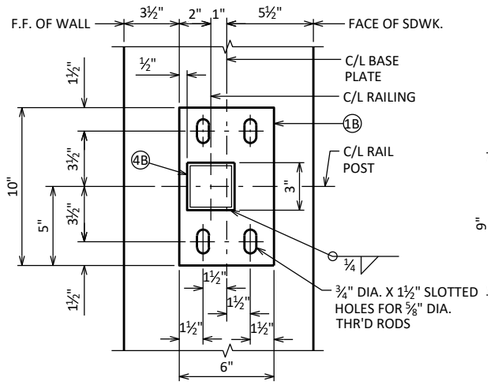
137

STATE PROJECT NUMBER

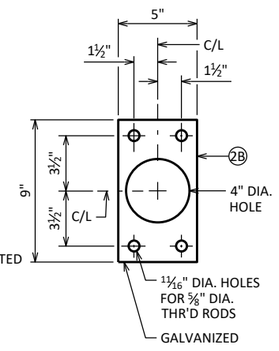
3050-04-81



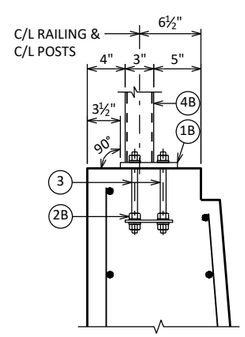
TYPICAL ELEVATION OF RAILING



TYPICAL RAIL POST BASE PLATE



ANCHOR PLATE



SECTION THRU WALL

⚹ ADJUST LOCATIONS OF BARS TO ALLOW PLACEMENT OF ANCHOR ASSEMBLY FOR RAILING AND BEAM GUARD.

LEGEND

(1B) PLATE ⅝" X 6" X 10" WITH ¾" X 1½" SLOTTED HOLES.

(2B) ¼" X 5" X 9" ANCHOR PLATE WITH 1 1/16" DIA. HOLES FOR THR'D RODS NO. 3.

(3) ⅝" DIA. X 9" LONG, TYPE 316 STAINLESS STEEL THREADED RODS (MIN. TENSILE STRENGTH = 70 KSI) WITH NUT AND WASHERS OF SAME ALLOY GROUP. ALTERNATIVE ANCHORAGE: CONCRETE ADHESIVE ANCHORS ⅝-INCH. EMBED 7" IN CONCRETE FOR RAIL POSTS. EMBED 5" IN CONCRETE FOR END RAILS. ADHESIVE ANCHORS SHALL CONFORM TO SECTIONS 502.2.12 OF THE STANDARD SPECIFICATIONS.

(4B) STRUCTURAL TUBING 3" X 3" X 3/16". PLACE VERTICAL. WELD TO NO. 1 & 5.

(5A) STRUCTURAL TUBING 3" X 1½" X 3/16" RAILS. WELD TO NO. 1 & NO. 4. INSIDE OF TUBE TO BE PAINTED AT ALL FIELD ERECTION & EXPANSION JOINTS.

(5C) STRUCTURAL TUBING 2½" DIA. (STANDARD SIZE) (2.875" O.D.). WELD TO NO. 1 & NO. 4. INSIDE OF TUBE TO BE PAINTED AT ALL FIELD ERECTION & EXPANSION JOINTS.

(6A) BAR 1" X 1" PICKETS. WELD TO NO. 5. PLACE VERTICAL.

(9A) RECTANGULAR SLEEVE FABRICATED FROM 3/16" PLATES. PROVIDE "SLIDING FIT".

(9B) CIRCULAR SLEEVE FABRICATED FROM STRUCTURAL TUBING 2" DIA. (STANDARD SIZE) (2.375" O.D.)

(10A) RECTANGULAR SLEEVE FABRICATED FROM 3/16" PLATES. (1'-4" @ FIELD ERECTION JTS.) (1'-4" @ STRIP SEAL EXP. JTS.)

(10B) CIRCULAR SLEEVE FABRICATED FROM STRUCTURAL TUBING 2" DIA. (STANDARD SIZE) (2.375" O.D.) (1'-4" @ FIELD ERECTION JTS.) (1'-4" @ STRIP SEAL EXP. JTS.)

RAILING NOTES

BID ITEM SHALL BE "RAILING STEEL PEDESTRIAN TYPE C2", WHICH SHALL INCLUDE ALL STEEL ITEMS SHOWN.

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

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

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

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

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

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

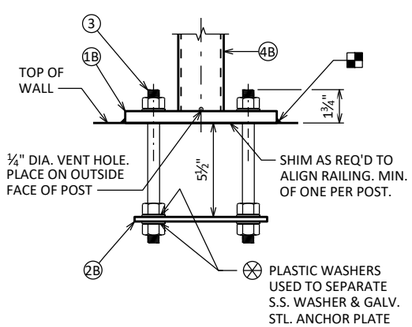
ALL JOINTS AND RECESSES IN CONCRETE PARAPET ARE TO BE VERTICAL.

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

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

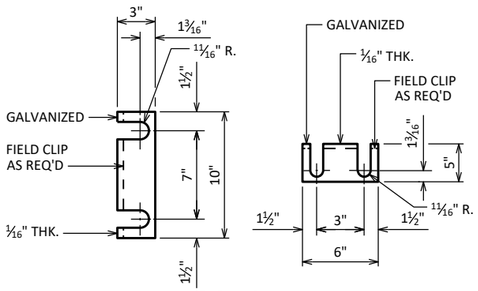
RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE 3 OR 4 POSTS.

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



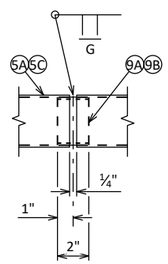
ANCHORAGE FOR RAIL POSTS

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



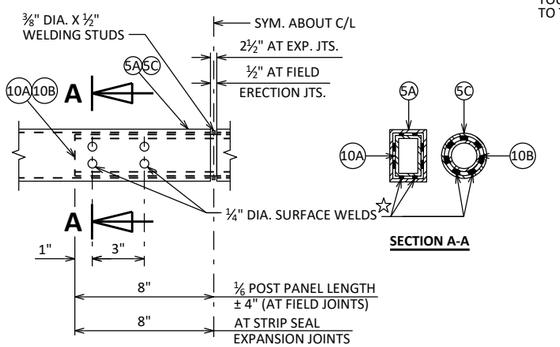
RAIL POST SHIM DETAIL

(2 SETS PER POST)



SHOP RAIL SPLICE DETAIL

(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



FIELD ERECTION JOINT DETAIL

☆ MIN. ⅝" FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-28-57

DRAWN BY ABH | PLANS CK'D AMF

RAILING DETAILS

SHEET 7 OF 7

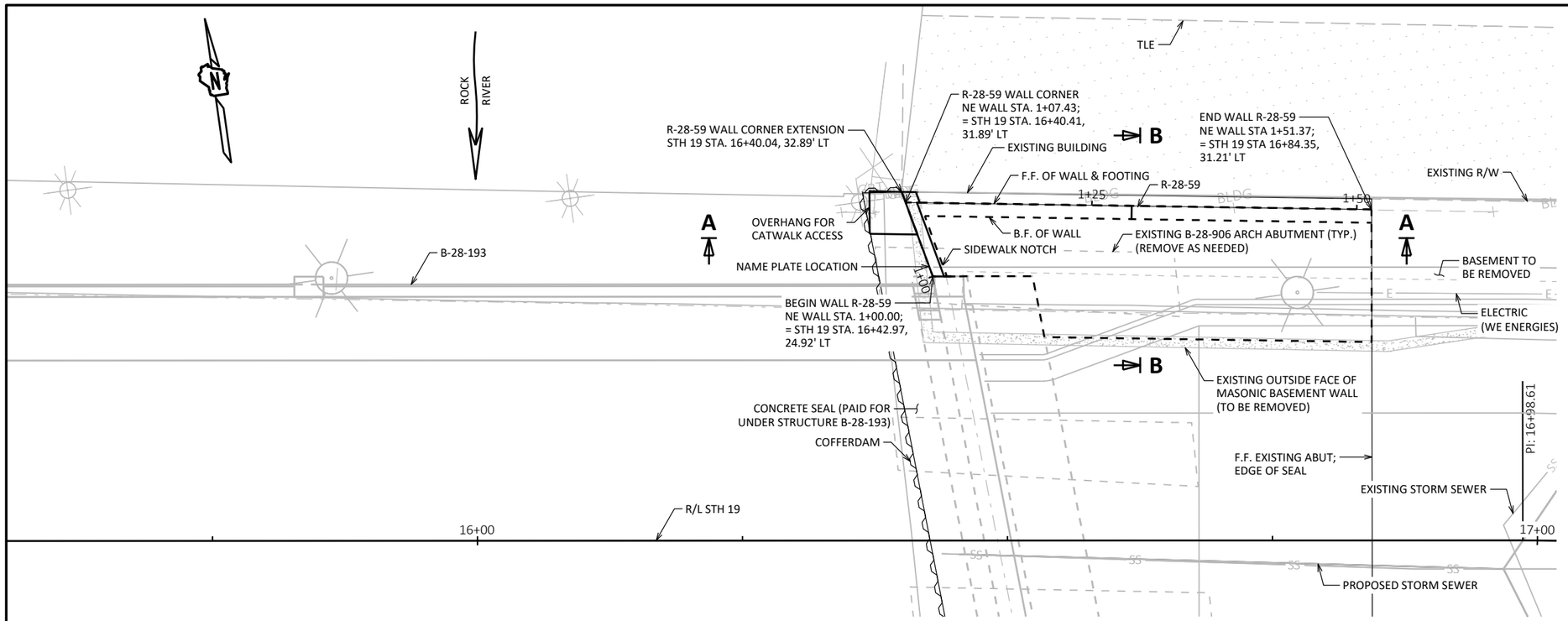
138

8

8

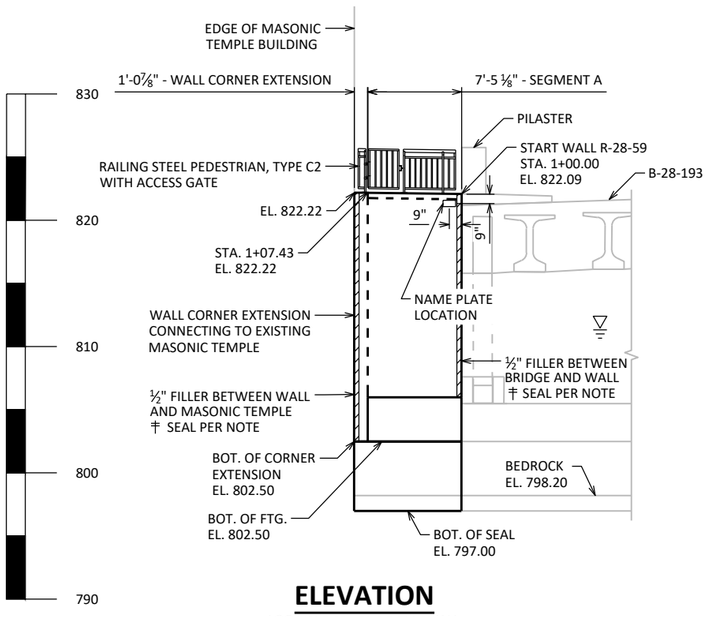
STATE PROJECT NUMBER

3050-04-81



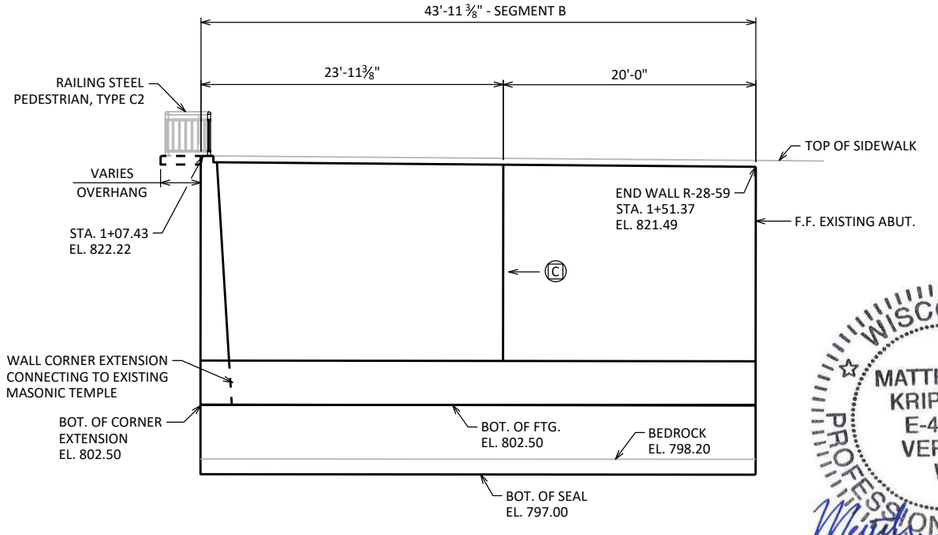
PLAN

CAST-IN-PLACE CONCRETE RETAINING WALL



ELEVATION

LOOKING EAST AT F.F. OF WALL



ELEVATION

LOOKING NORTH AT B.F. OF WALL

DESIGN DATA

LIVE LOAD:

RETAINING WALL IS DESIGNED FOR A LIVE LOAD SURCHARGE OF 240 PSF.

RETAINING WALL IS DESIGNED FOR FINISHED GRADE SLOPED BEHIND WALL AS SHOWN.

MATERIAL PROPERTIES:

CONCRETE MASONRY ——— f'_c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 ——— f_y = 60,000 P.S.I.

FOUNDATION DATA:

RETAINING WALL WITH SPREAD FOOTINGS TO BE SUPPORTED ON CONCRETE SEAL (PAID FOR UNDER STRUCTURE B-28-193) ON SOUND ROCK WITH A REQUIRED FACTORED BEARING RESISTANCE OF 11,250 PSF***. A GEOTECHNICAL ENGINEER, WITH THREE DAYS NOTICE, WILL DETERMINE THE FACTORED BEARING RESISTANCE BY VISUAL INSPECTION PRIOR TO CONSTRUCTION OF THE CONCRETE SEAL.

***THE FACTORED BEARING RESISTANCE IS THE VALUE USED FOR DESIGN.

LIST OF DRAWINGS

STRUCTURES DESIGN CONTACTS:

BUREAU OF STRUCTURES:
AARON BONK (608) 261-0261
CONSULTANT:
MATTHEW KRIPPNER (608) 828-8123

LEGEND

F.F. = FRONT FACE, B.F. = BACK FACE

Ⓒ = CONTRACTION JOINT. SEE SHEET 2 FOR DETAILS.

† SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE)

FOR SECTION A-A & B-B, SEE SHEET 5.

09/29/2023

NO.	DATE	REVISION	BY

AECOM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORATION

ACCEPTED SDR 11/28/23
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE R-28-59

NE WINGWALL FOR B-28-193

COUNTY	TOWN/CITY/VILLAGE
JEFFERSON	WATERTOWN

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATION

DESIGNED BY	DESIGNED CK'D	DRAWN BY	PLANS CK'D
NAR	MSK	ABH	AMF

GENERAL PLAN

SHEET 1 OF 8
139

I.D. 3050-04-01

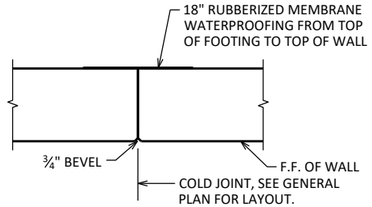
DATE: SEPT. 2023

STATE PROJECT NUMBER

3050-04-81

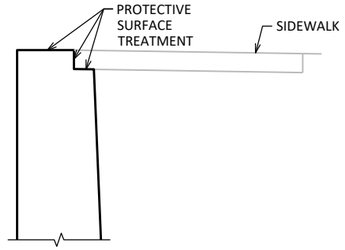
TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
210.1500	BACKFILL STRUCTURE TYPE A	TON	614
502.3200	PROTECTIVE SURFACE TREATMENT	SY	10
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	115
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	4100
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	7360
513.8011	RAILING STEEL PEDESTRIAN TYPE C2	LF	15
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	11
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	95
	NON-BID ITEMS		
	FILLER	SIZE	½"



VERTICAL CONTRACTION JOINT AT WALL

DO NOT RUN BAR STEEL THRU JOINT.



PROTECTIVE SURFACE TREATMENT LIMITS

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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.

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF JOINT FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW THE SURFACE OF CONCRETE).

ALL WALL STATIONING AND OFFSETS ARE GIVEN TO THE FRONT FACE OF WALL R-28-59.

COORDINATE THE CONSTRUCTION OF RETAINING WALL R-28-59 WITH THE EAST ABUTMENT OF BRIDGE B-28-193.

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.

THE QUANTITY FOR "BACKFILL STRUCTURE TYPE A" IS BASED ON THE PAY LIMITS SHOWN IN THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED FOR THE ENTIRE WALL LENGTH. BACKFILL PLACED BEYOND THE PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

THE COFFERDAM AND CONCRETE SEAL QUANTITY REQUIRED FOR CONSTRUCTION OF R-28-59 IS INCLUDED IN THE B-28-193 PLANS.

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

APPLY PROTECTIVE SURFACE TREATMENT BASED ON THE DETAIL SHOWN IN THE PLANS.

SEE B-28-193 PLANS FOR WATER ELEVATION INFORMATION.

F.F. = FRONT FACE, B.F. = BACK FACE

Ⓒ = CONTRACTION JOINT. SEE THIS SHEET FOR DETAILS.

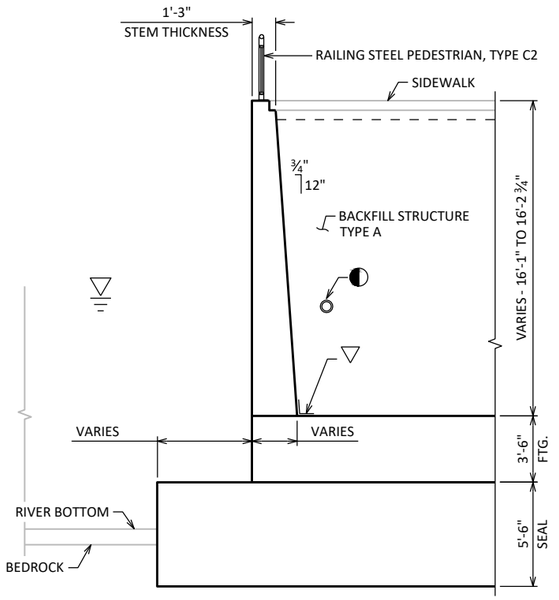
◑ PIPE UNDERDRAIN WRAPPED 6-INCH
SLOPE 0.5% MIN. TO STORM SEWER OUTLET PIPE.
COORDINATE INSTALLATION WITH PIPE UNDERDRAIN AT E. ABUT OF B-28-193.

◪ COMBINATION DRAINAGE/COVER BOARD WITH 2" RIGID INSULATION OVER SPRAY APPLIED WATERPROOFING TO EXTERIOR FACE OF EXISTING AND NEW INFILL MASONRY WALL BY OTHERS

⬣ PIPE UNDERDRAIN WRAPPED 6-INCH
SLOPE 0.5% MIN.
TIE INTO PIPE UNDERDRAIN AT B.F. OF WALL.

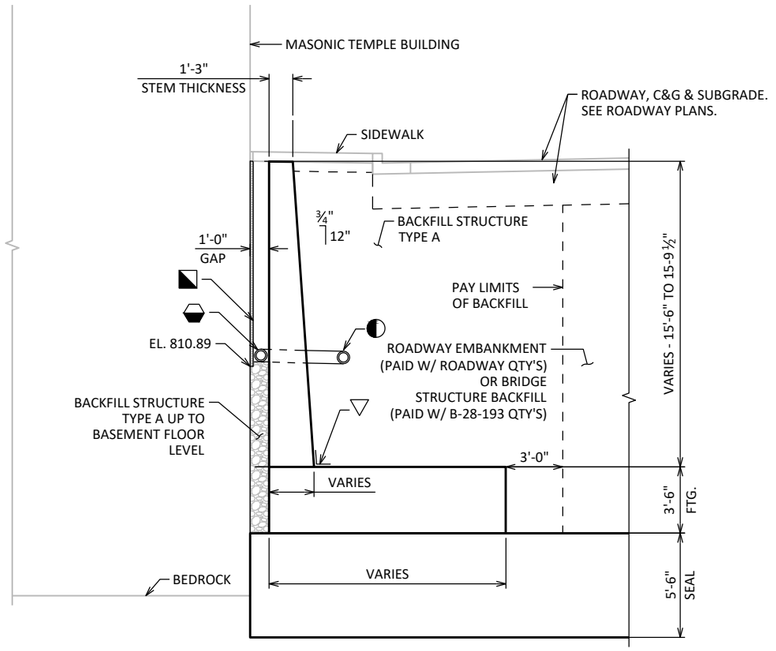
▽ 18" RUBBERIZED MEMBRANE WATERPROOFING

ǂ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD TO ⅛" BELOW SURFACE OF CONC.)



TYPICAL SECTION THRU SEGMENT A

(LOOKING NORTH)



TYPICAL SECTION THRU SEGMENT B

(LOOKING EAST)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-28-59

DRAWN BY ABH | PLANS CK'D AMF

TYPICAL SECTION, QUANTITIES & NOTES

SHEET 2 OF 8

140

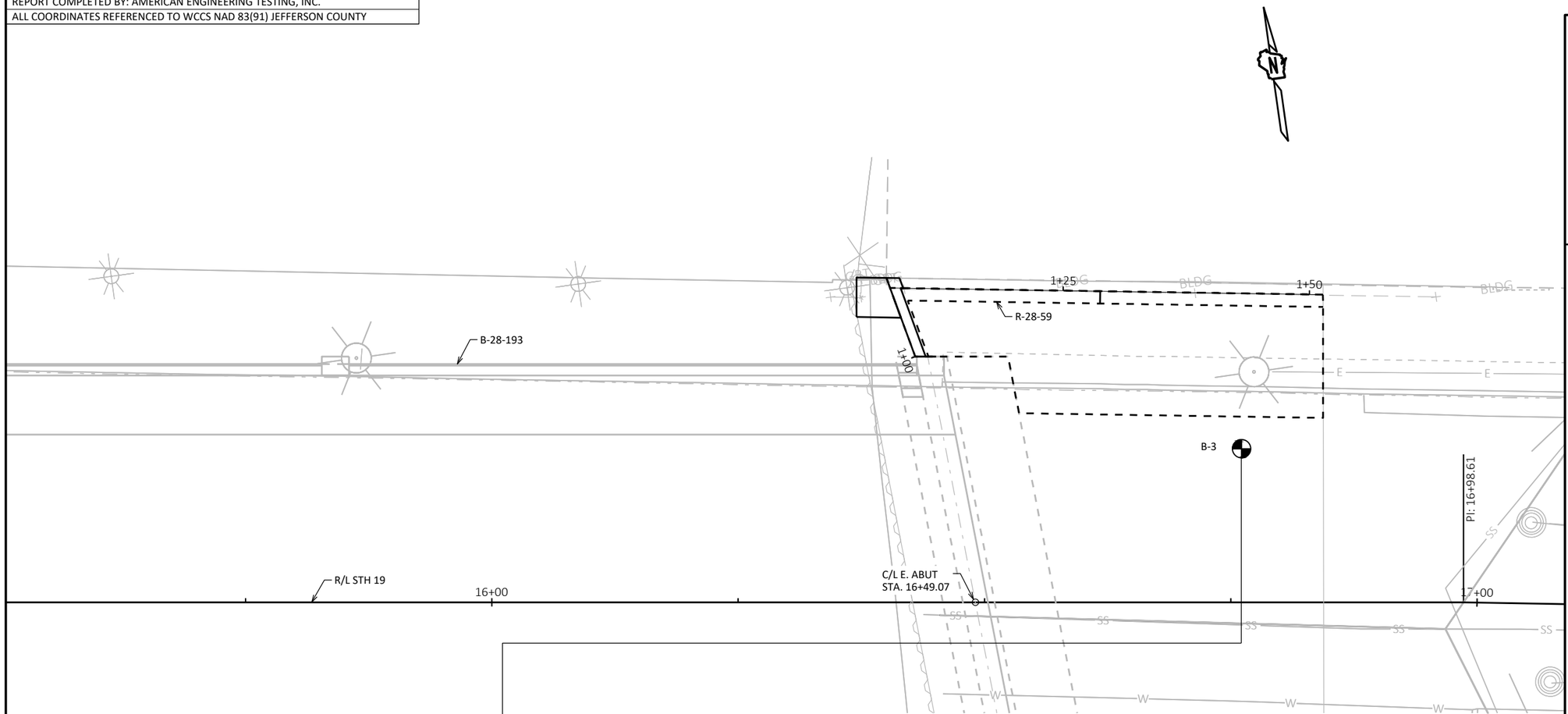
8

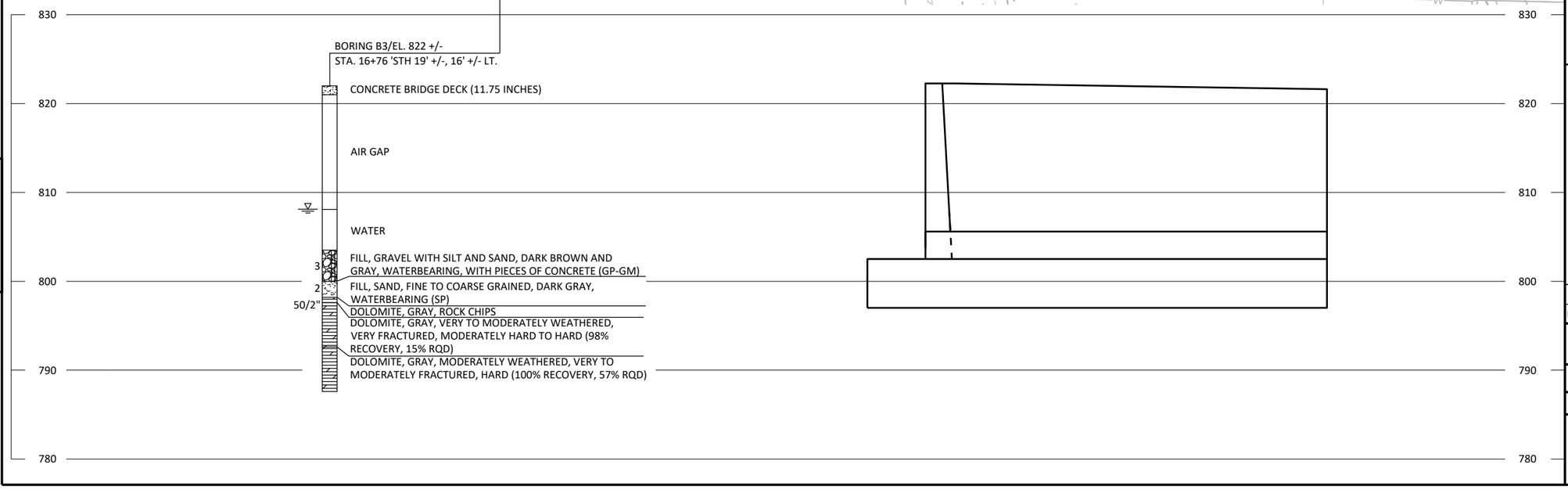
8

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-3	JULY 26, 2022	877434.871	627649.651
BORINGS COMPLETED BY: AMERICAN ENGINEERING TESTING, INC.			
REPORT COMPLETED BY: AMERICAN ENGINEERING TESTING, INC.			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) JEFFERSON COUNTY			

STATE PROJECT NUMBER

3050-04-81

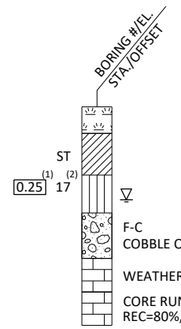




MATERIAL SYMBOLS

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 R-28-59

DRAWN BY ABH | PLANS CK'D AMF

SUBSURFACE EXPLORATION

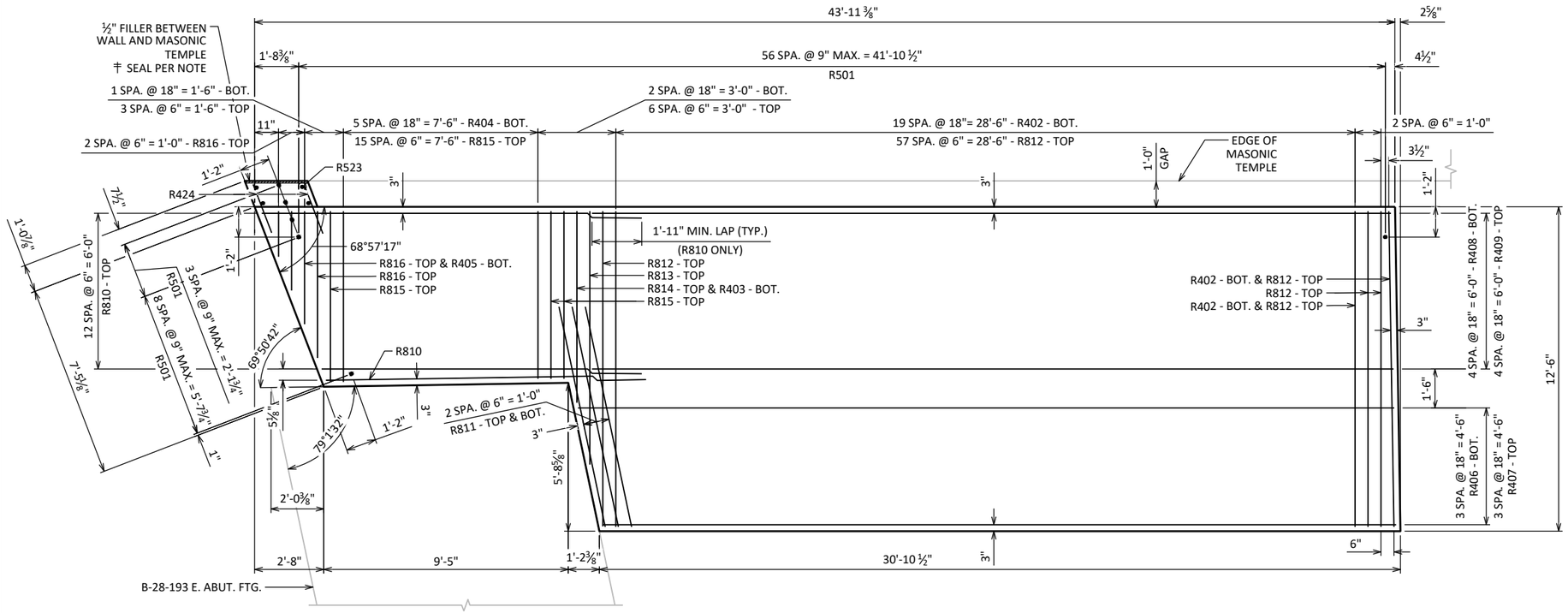
SHEET 3 OF 8
141

8

8

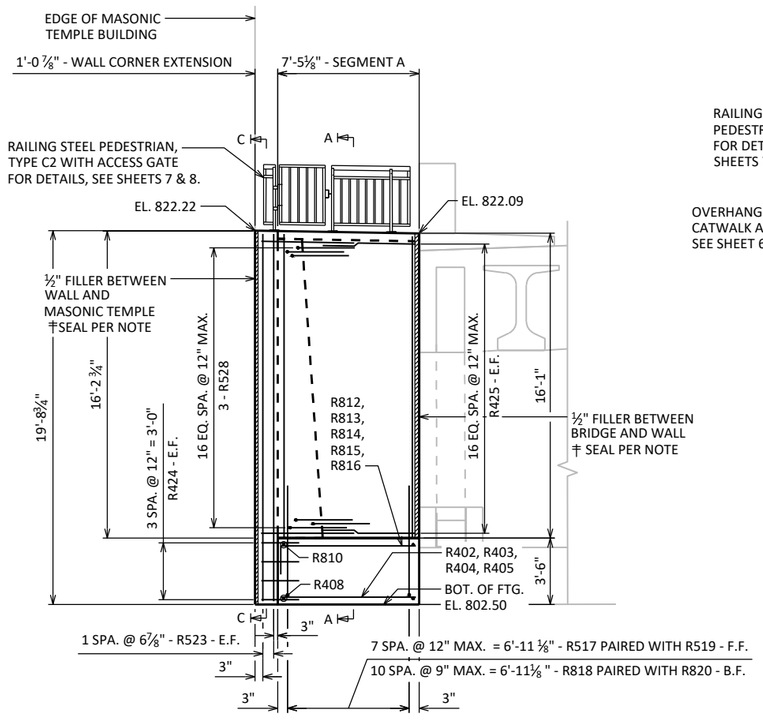
STATE PROJECT NUMBER

3050-04-81



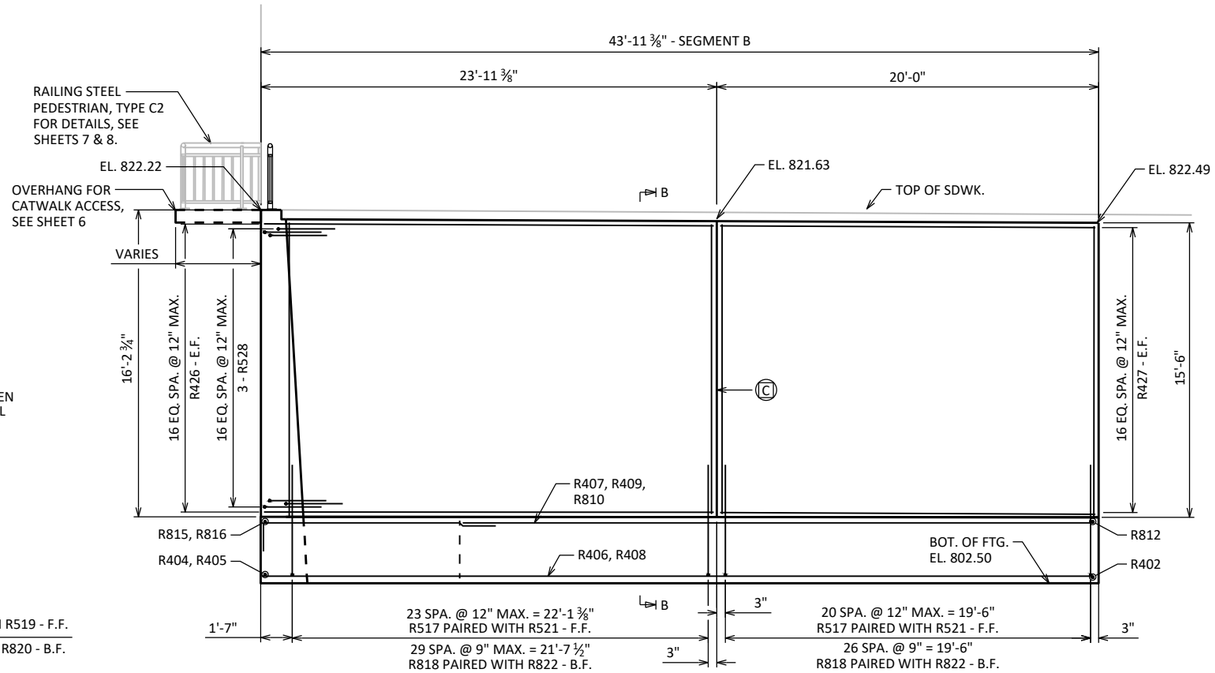
PLAN

(SHOWING FOOTING REINFORCEMENT)



ELEVATION

(LOOKING EAST AT F.F. OF WALL)



ELEVATION

(LOOKING NORTH AT B.F. OF WALL)

LEGEND

F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE

Ⓒ = CONTRACTION JOINT. SEE SHEET 2 FOR DETAILS.

FOR SECTION A-A, B-B & C-C, SEE SHEET 5.

‡ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-28-59

DRAWN BY ABH | PLANS CK'D AMF

WALL DETAILS 1

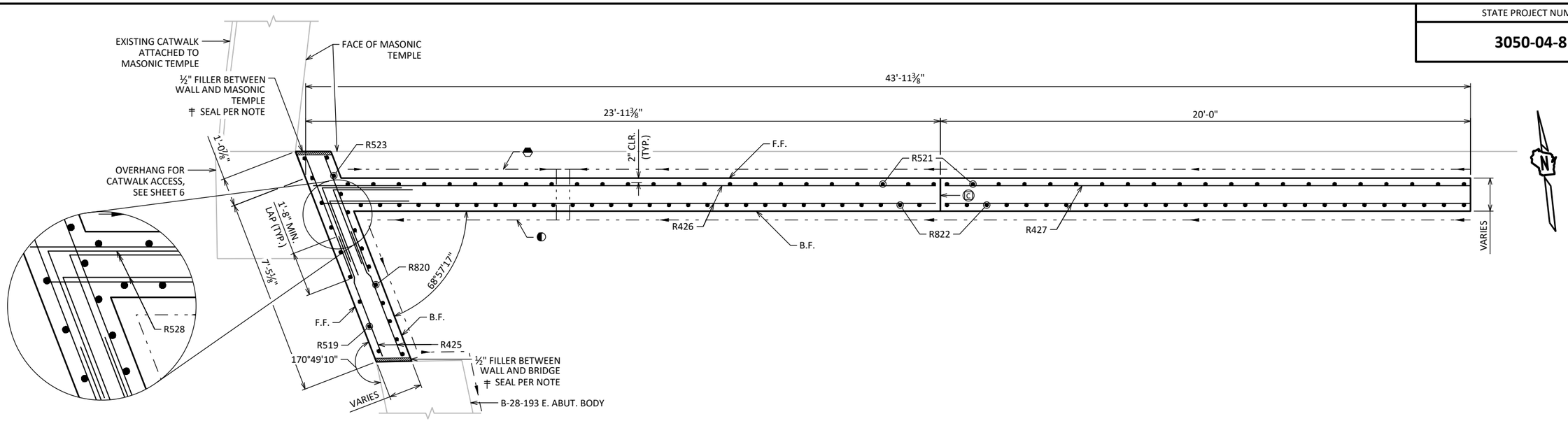
SHEET 4 OF 8
142

8

8

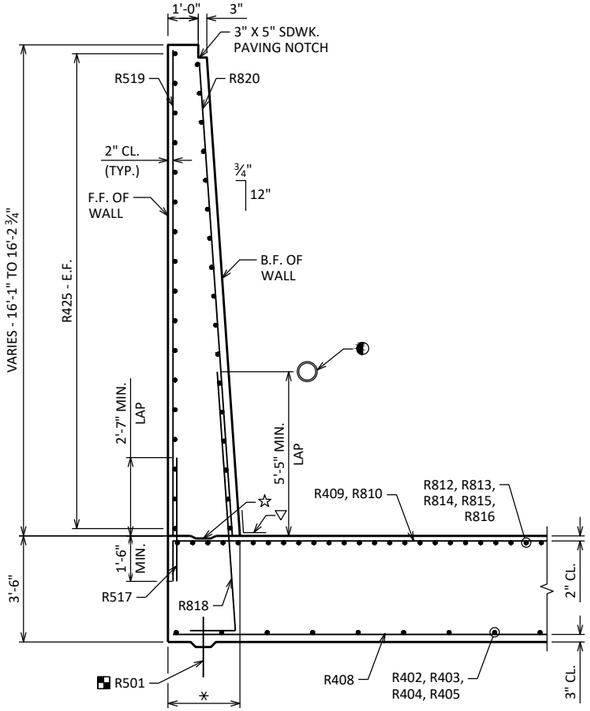
STATE PROJECT NUMBER

3050-04-81



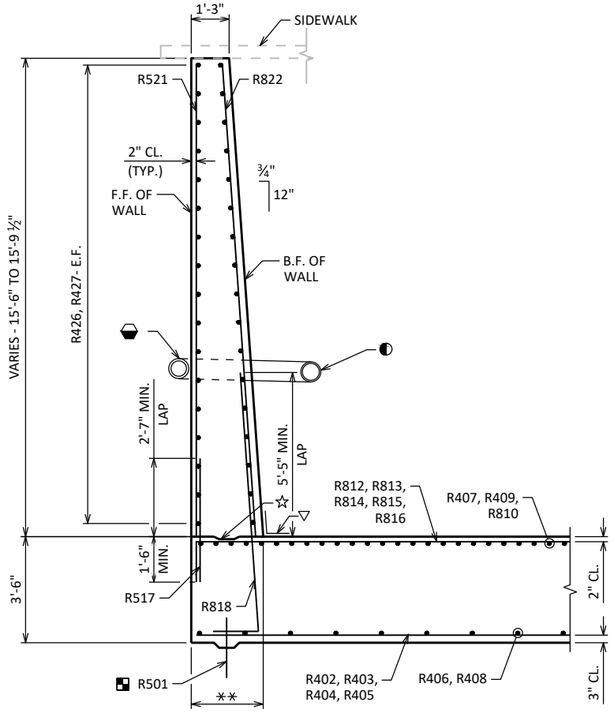
PLAN

(SHOWING WALL REINFORCEMENT)



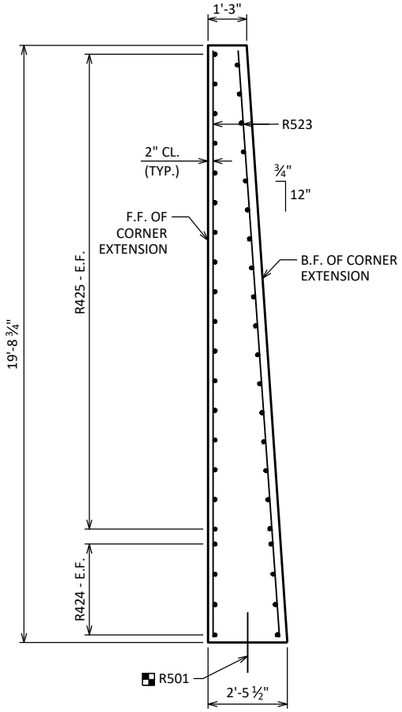
SECTION A-A

(LOOKING NORTH)



SECTION B-B

(LOOKING EAST)



SECTION C-C

(LOOKING NORTH)

✳ VARIES 2'-2 ⅞" (STA. 1+07.43) TO 2'-3" (STA. 1+00.00)

✳✳ VARIES 2'-2 ⅝" (STA. 1+51.37) TO 2'-2 ⅞" (STA. 1+07.43)

LEGEND

F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE

☆ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6"

◐ PIPE UNDERDRAIN WRAPPED 6-INCH SLOPE 0.5% MIN. TO STORM SEWER OUTLET PIPE. COORDINATE INSTALLATION WITH PIPE UNDERDRAIN AT E. ABUT. OF B-28-193

◒ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TIE INTO UNDERDRAIN AT B.F. OF WALL.

▪ BARS @ 9" CTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

▽ 18" RUBBERIZED MEMBRANE WATERPROOFING

Ⓒ = CONTRACTION JOINT. SEE SHEET 2 FOR DETAILS.

FOR SECTION A-A, B-B & C-C LOCATIONS, SEE SHEET 4.

‡ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GREY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-28-59

DRAWN BY ABH | PLANS CK'D AMF

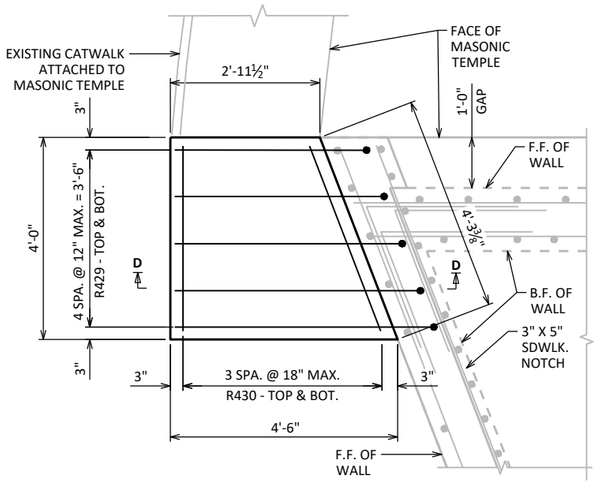
WALL DETAILS 2

SHEET 5 OF 8

143

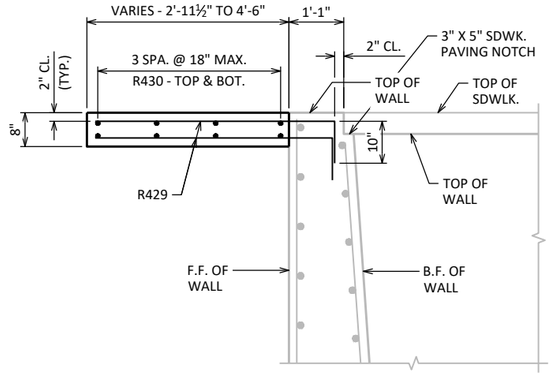
8

8



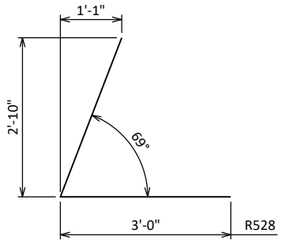
PLAN

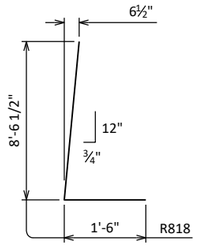
(SHOWING OVERHANG REINFORCEMENT)

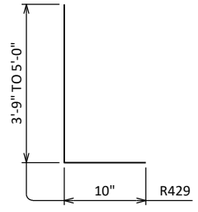


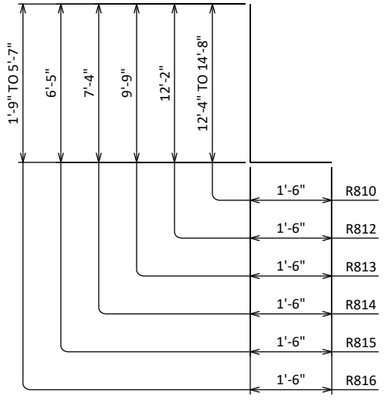
SECTION D-D

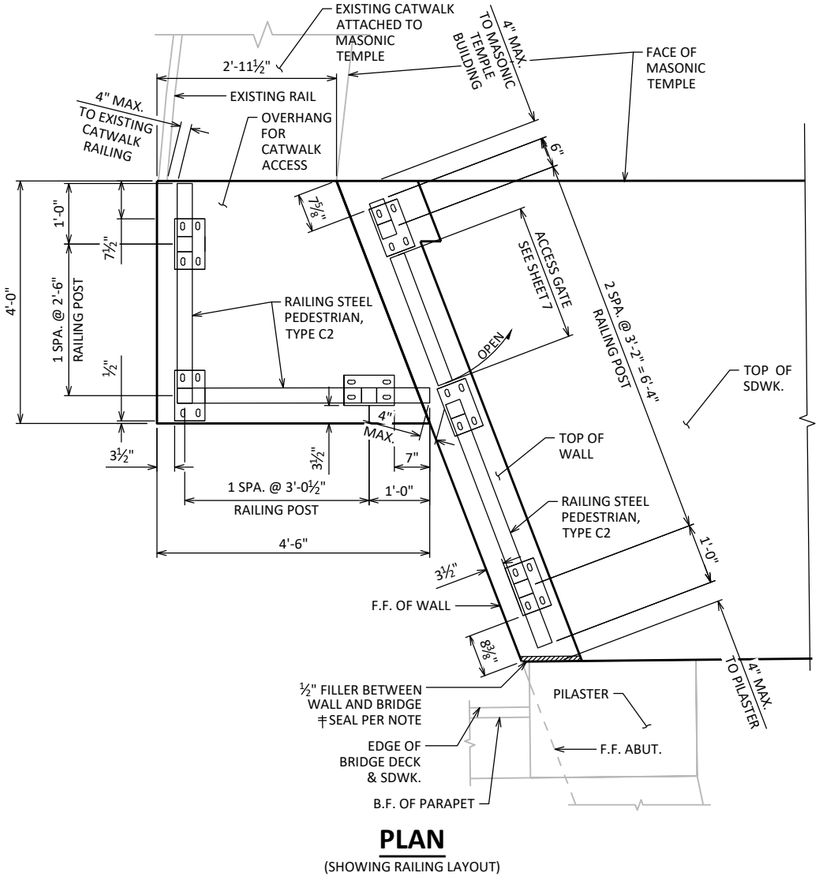
(LOOKING NORTH)











PLAN

(SHOWING RAILING LAYOUT)

STATE PROJECT NUMBER

3050-04-81

BILL OF BARS

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

MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
NON-COATED BARS					TOTAL WEIGHT = 4100 LBS
R501	68	2-0			FTG./SEAL INTERFACE VERT.
R402	21	12-2			FTG. TRAN. BOT.
R403	1	7-4			FTG. TRAN./LONGIT. BOT.
R404	6	6-5			FTG. TRAN./LONGIT. BOT.
R405	1	4-4			FTG. TRAN./LONGIT. BOT.
R406	4	31-0		⚠	FTG. LONGIT. BOT.
R407	4	31-0		⚠	FTG. LONGIT. TOP
R408	5	42-5		⚠	FTG. TRAN./LONG. BOT.
R409	5	30-9			FTG. LONG. TOP
R810	14	14-9	X	⚠	FTG. TRAN./LONGIT. TOP
R811	3	8-9			FTG. ALONG ABUT. TOP/BOT.
R812	62	13-5	X		FTG. TRAN. TOP
R813	1	11-0	X		FTG. TRAN./LONGIT. TOP
R814	1	8-7	X		FTG. TRAN./LONGIT. TOP
R815	19	7-8	X		FTG. TRAN./LONGIT. TOP
R816	4	4-11	X	⚠	FTG. TRAN./LONGIT. TOP
COATED BARS					TOTAL WEIGHT = 7360 LBS
R517	53	4-1			FTG. DOWEL F.F.
R818	68	9-10	X		FTG. DOWEL B.F.
R519	8	16-0		⚠	WALL VERT. F.F.
R820	11	15-7		⚠	WALL VERT. B.F.
R521	45	15-5		⚠	WALL VERT. F.F.
R822	57	15-5		⚠	WALL VERT. B.F.
R523	4	19-4			WALL EXTENSION VERT. E.F.
R424	8	2-0			WALL EXTENSION HORIZ. INTO FTG.
R425	68	5-5			WALL HORIZ. E.F.
R426	34	23-7			WALL HORIZ. E.F.
R427	34	19-8			WALL HORIZ. E.F.
R528	51	5-10	X		WALL CORNER HORIZ.
R429	10	5-2	X	⚠	OVERHANG LONG. TOP/BOT.
R430	8	3-8			OVERHANG TRAN. TOP/BOT.

⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

BAR MARK	NO. REQ'D.	LENGTH
R406	1 SERIES OF 4	30'-7" TO 31'-5"
R407	1 SERIES OF 4	30'-7" TO 31'-5"
R408	1 SERIES OF 5	41'-3" TO 43'-6"
R810	1 SERIES OF 14	13'-7" TO 15'-11"
R816	1 SERIES OF 4	3'-0" TO 6'-10"
R519	1 SERIES OF 8	15'-11" TO 16'-0"
R820	1 SERIES OF 11	15'-6" TO 15'-7"
R521	1 SERIES OF 45	15'-4" TO 15'-7"
R822	1 SERIES OF 57	15'-4" TO 15'-7"
R429	2 SERIES OF 5	4'-7" TO 5'-10"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-28-59

DRAWN BY ABH | PLANS CK'D AMF

OVERHANG & BILL OF BARS

SHEET 6 OF 8

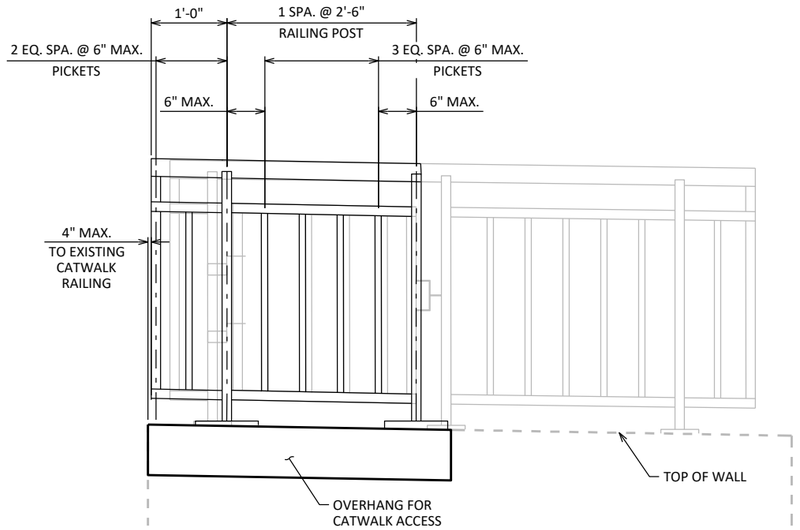
144

8

8

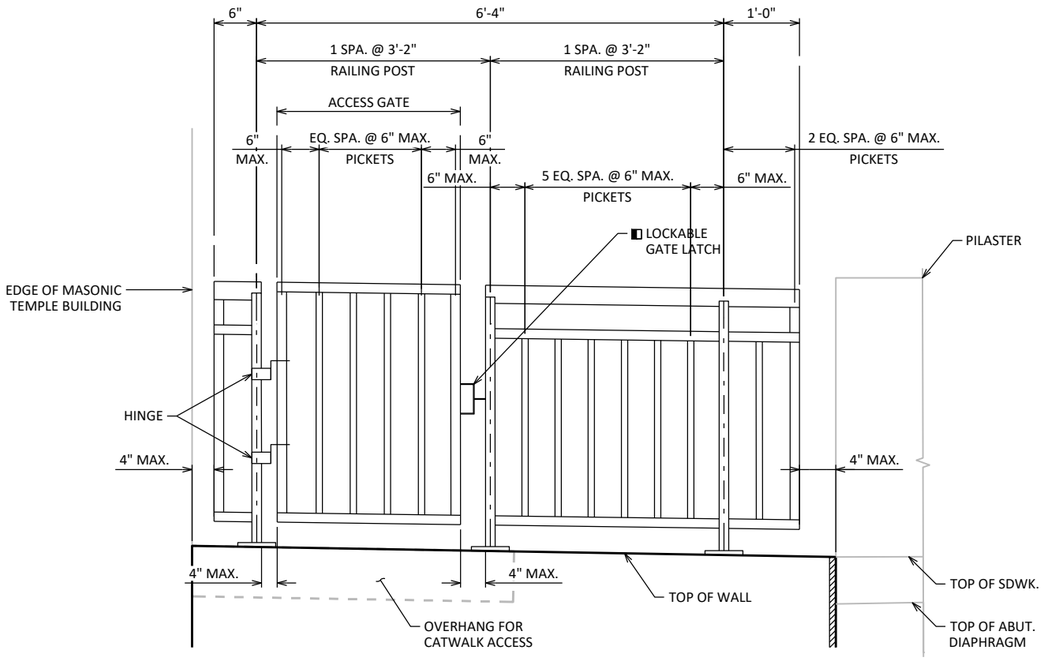
STATE PROJECT NUMBER

3050-04-81



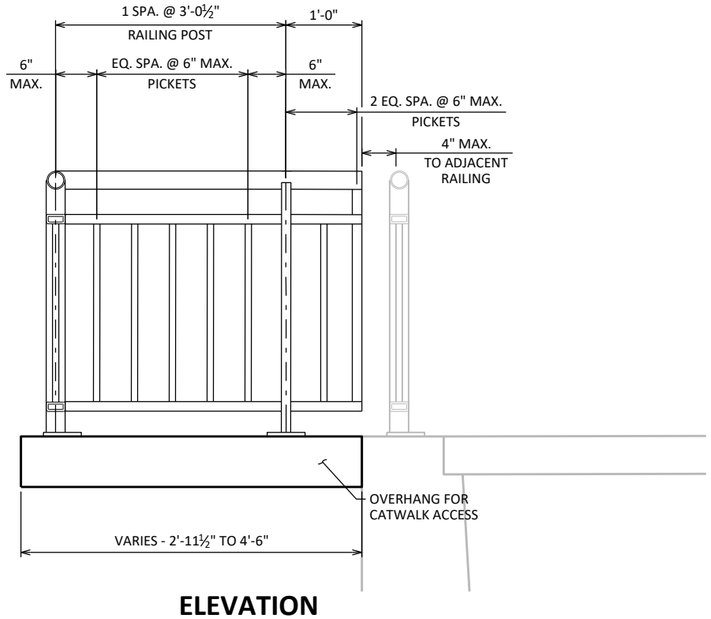
ELEVATION

RAILING ON TOP OF OVERHANG (LOOKING EAST)



ELEVATION

RAILING ON TOP OF WALL (LOOKING EAST)



ELEVATION

RAILING ON TOP OF OVERHANG (LOOKING NORTH)

NOTES

◧ GATE HARDWARE TO BE DESIGNED BY CONTRACTOR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-28-59

DRAWN BY ABH | PLANS CK'D AMF

RAILING DETAILS 1

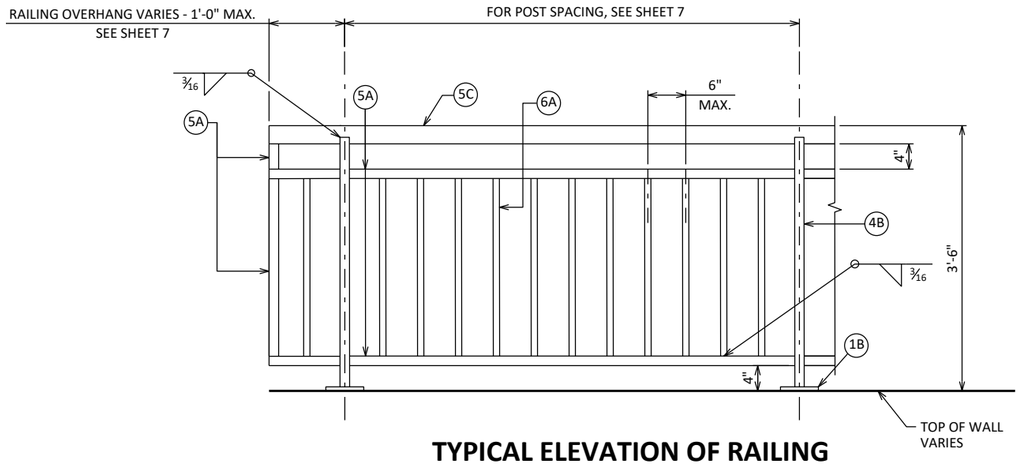
SHEET 7 OF 8

8

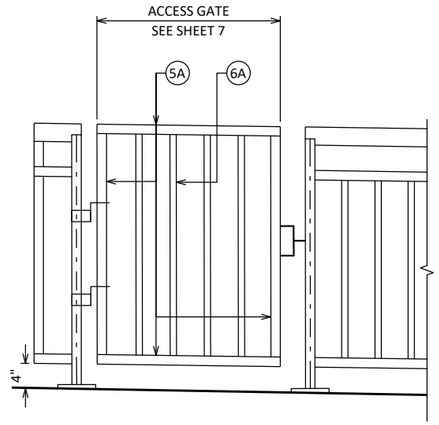
8

STATE PROJECT NUMBER

3050-04-81



TYPICAL ELEVATION OF RAILING



GATE ELEVATION

(LOOKING EAST)

LEGEND

- (1B) PLATE ⅝" X 6" X 10" WITH ¾" X 1½" SLOTTED HOLES.
- (2B) ¼" X 5" X 9" ANCHOR PLATE WITH $^{11}/_{16}$" DIA. HOLES FOR THR'D RODS NO. 3.
- (3) ⅝" DIA. X 9" LONG, TYPE 316 STAINLESS STEEL THREADED RODS (MIN. TENSILE STRENGTH = 70 KSI) WITH NUT AND WASHERS OF SAME ALLOY GROUP. ALTERNATIVE ANCHORAGE: CONCRETE ADHESIVE ANCHORS ⅝-INCH. EMBED 7" IN CONCRETE FOR RAIL POSTS. EMBED 5" IN CONCRETE FOR END RAILS. ADHESIVE ANCHORS SHALL CONFORM TO SECTIONS 502.2.12 OF THE STANDARD SPECIFICATIONS.
- (4B) STRUCTURAL TUBING 3" X 3" X $^{3}/_{16}$". PLACE VERTICAL. WELD TO NO. 1 & 5.
- (5A) STRUCTURAL TUBING 3" X 1½" X $^{3}/_{16}$" RAILS. WELD TO NO. 1 & NO. 4. INSIDE OF TUBE TO BE PAINTED AT ALL FIELD ERECTION & EXPANSION JOINTS.
- (5C) STRUCTURAL TUBING 2½" DIA. (STANDARD SIZE) (2.875" O.D.). WELD TO NO. 1 & NO. 4. INSIDE OF TUBE TO BE PAINTED AT ALL FIELD ERECTION & EXPANSION JOINTS.
- (6A) BAR 1" X 1" PICKETS. WELD TO NO. 5. PLACE VERTICAL.
- (9A) RECTANGULAR SLEEVE FABRICATED FROM $^{3}/_{16}$" PLATES. PROVIDE "SLIDING FIT".
- (9B) CIRCULAR SLEEVE FABRICATED FROM STRUCTURAL TUBING 2" DIA. (STANDARD SIZE) (2.375" O.D.)
- (10A) RECTANGULAR SLEEVE FABRICATED FROM $^{3}/_{16}$" PLATES. (1'-4" @ FIELD ERECTION JTS.) (1'-4" @ STRIP SEAL EXP. JTS.)
- (10B) CIRCULAR SLEEVE FABRICATED FROM STRUCTURAL TUBING 2" DIA. (STANDARD SIZE) (2.375" O.D.) (1'-4" @ FIELD ERECTION JTS.) (1'-4" @ STRIP SEAL EXP. JTS.)

RAILING NOTES

BID ITEM SHALL BE "RAILING STEEL PEDESTRIAN TYPE C2", WHICH SHALL INCLUDE ALL STEEL ITEMS SHOWN.

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

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

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

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

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

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

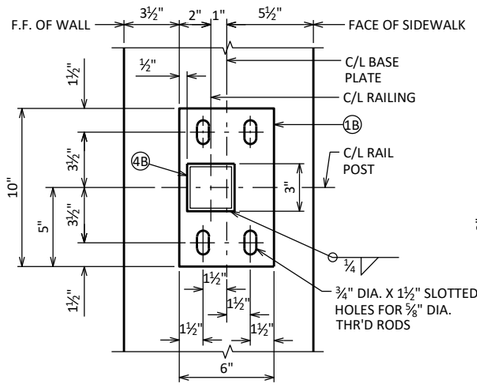
ALL JOINTS AND RECESSES IN CONCRETE PARAPET ARE TO BE VERTICAL.

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

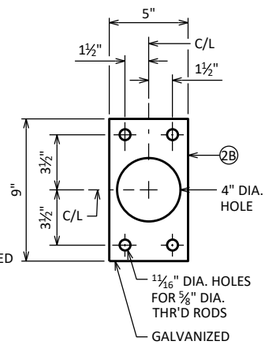
VENT HOLES SHALL BE DRILLED IN POST AND RAIL MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

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

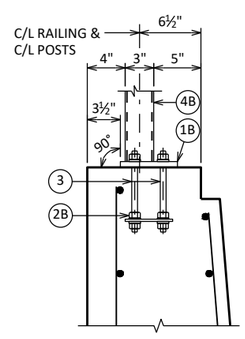
◧ GATE HARDWARE TO BE DESIGNED BY CONTRACTOR



TYPICAL RAIL POST BASE PLATE

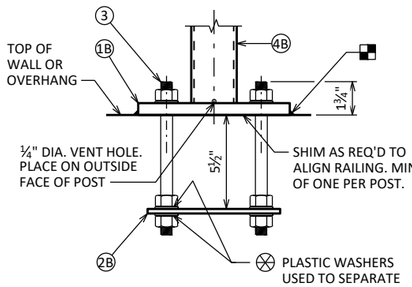


ANCHOR PLATE



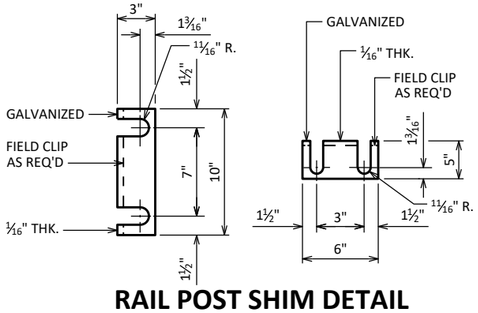
SECTION THRU WALL

⚹ ADJUST LOCATIONS OF BARS TO ALLOW PLACEMENT OF ANCHOR ASSEMBLY FOR RAILING.



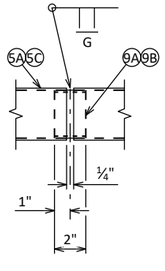
ANCHORAGE FOR RAIL POSTS

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



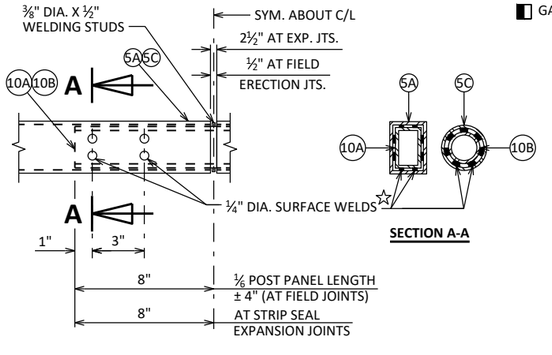
RAIL POST SHIM DETAIL

(2 SETS PER POST)



SHOP RAIL SPLICE DETAIL

(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



FIELD ERECTION JOINT DETAIL

☆ MIN. ⅜" FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-28-59

DRAWN BY ABH | PLANS CK'D AMF

RAILING DETAILS 2

SHEET 8 OF 8

146

8

8

DIVISION 1 - STH19-PROP-2022

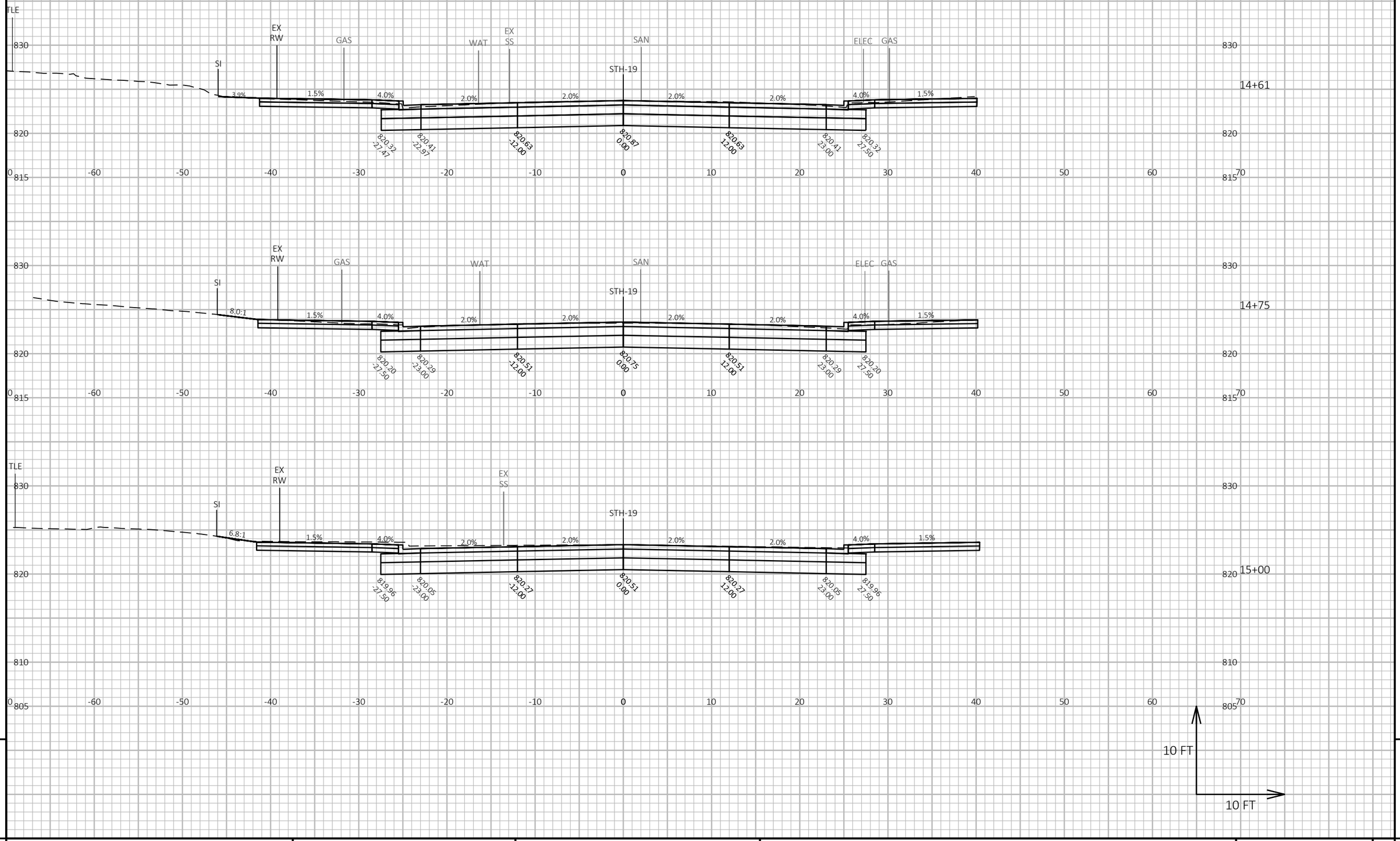
STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT 1.00	EXPANDED FILL 1.25	MASS ORDINATE
						NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 8
14+60.81	1460.81	0.00	176.00	0.00	0.00	0	0	0	0	0	0
14+75.00	1475.00	14.19	173.40	0.00	0.00	92	0	0	92	0	92
15+00.00	1500.00	25.00	188.01	0.00	0.00	167	0	0	259	0	259
15+25.00	1525.00	25.00	102.51	0.00	0.00	135	0	0	394	0	394
16+50.00	1650.00	125.00	63.84	0.00	0.00	385	0	0	779	0	779
16+75.00	1675.00	25.00	175.55	0.00	0.00	111	0	0	890	0	890
17+00.00	1700.00	25.00	159.53	0.00	0.00	155	0	0	1,045	0	1,045
17+25.00	1725.00	25.00	147.90	0.00	0.00	142	0	0	1,187	0	1,187
17+50.00	1750.00	25.00	156.14	0.00	0.00	141	0	0	1,328	0	1,328
17+56.57	1756.57	6.57	154.32	0.00	0.07	38	0	0	1,366	0	1,366

NOTES:	
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	IF MARSH AND EBS TO BE BACKFILLED WITH GRANULAR: [CUT - SALVAGED PAVT - ((FILL - EXPANDED ROCK) * FILL FACTOR)]

9

9

PROJECT NO: 3050-04-81	HWY: STH 19	COUNTY: JEFFERSON	EARTHWORK DATA	SHEET 147	E



PROJECT NO: 3050-04-81	HWY: STH 19	COUNTY: JEFFERSON	CROSS SECTIONS: STH 19 XS	SHEET 148 E

FILE NAME : N:\PDS\C3D\30500401\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - XS-01

PLOT DATE : 10/19/2023 11:24 AM

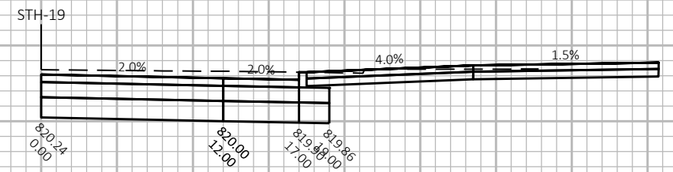
PLOT BY : HERRERA BAUTISTA, PE

PLOT NAME :

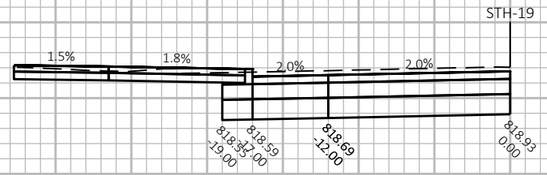
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

TYING INTO PROPOSED
STRUCTURE B-28-193

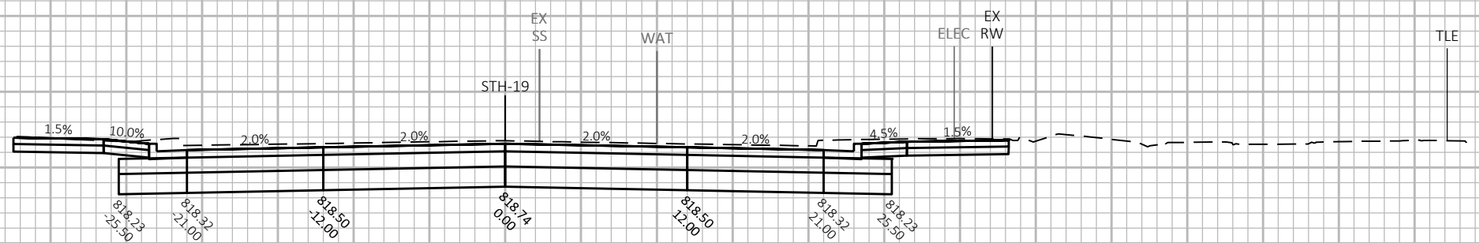


15+27



TYING INTO PROPOSED
STRUCTURE B-28-193

16+50



16+75

10 FT

10 FT

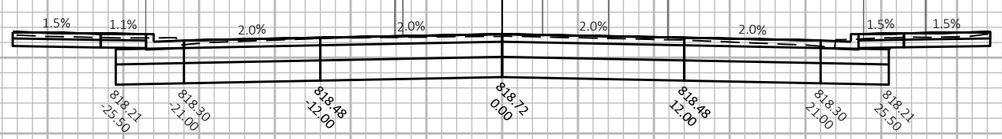
PROJECT NO: 3050-04-81	HWY: STH 19	COUNTY: JEFFERSON	CROSS SECTIONS: STH 19 XS	SHEET 149	E

FILE NAME : N:\PDS\C3D\30500401\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - XS-02

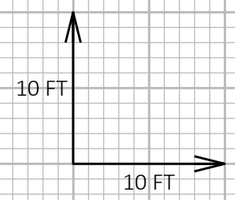
PLOT DATE : 10/19/2023 11:25 AM PLOT BY : HERRERA BAUTISTA, PE PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

17+00



17+25



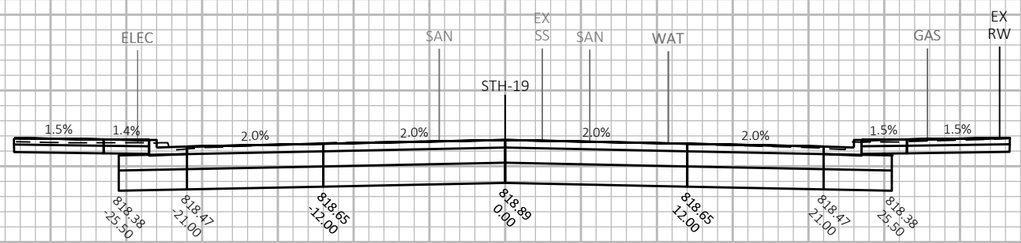
PROJECT NO: 3050-04-81	HWY: STH 19	COUNTY: JEFFERSON	CROSS SECTIONS: STH 19 XS	SHEET 150	E

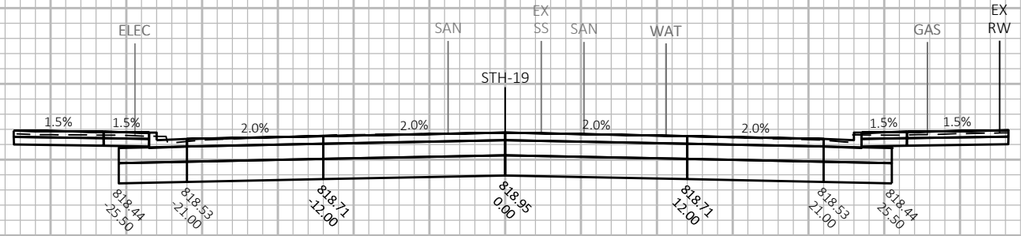
FILE NAME : N:\PDS\C3D\30500401\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - XS-03

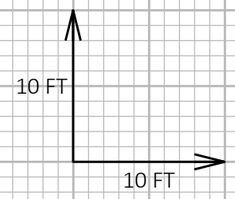
PLOT DATE : 10/19/2023 11:25 AM PLOT BY : HERRERA BAUTISTA, PE PLOT NAME :

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

WISDOT/CADDS SHEET 49







9

9

PROJECT NO: 3050-04-81	HWY: STH 19	COUNTY: JEFFERSON	CROSS SECTIONS: STH 19 XS	SHEET 151	E

FILE NAME : N:\PDS\C3D\30500401\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - XS-04

PLOT DATE : 10/19/2023 11:25 AM

PLOT BY : HERRERA BAUTISTA, PE

PLOT NAME :

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

Wisconsin Department of Transportation

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