

MAD

MARCH 2019

PROJECT ID:
WITH:

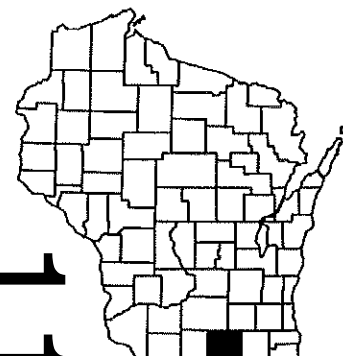
5989-05-26

COUNTY: ROCK

ORDER OF SHEETS

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

TOTAL SHEETS = 102



DESIGN DESIGNATION

A.A.D.T.	2017	=	N/A
A.A.D.T.	2037	=	N/A
D.H.V.		=	N/A
D.D.		=	N/A
T.		=	N/A
DESIGN SPEED		=	12 MPH
ESALS		=	N/A

CONVENTIONAL SYMBOLS

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

CITY OF BELOIT, POWERHOUSE RIVERWALK

PLEASANT STREET TO SOUTH OF PORTLAND AVENUE

NON-HIGHWAY
ROCK COUNTY

STATE PROJECT NUMBER

5989-05-26

R-12-E

T-1-N

END PROJECT
STA. 108+36.03
Y=205,259.42
X=490,623.85

STRUCTURE
B-53-0379

BEGIN PROJECT
STA. 100+00
Y=204,528.20
X=490,835.61

LAYOUT
SCALE 0 1/2 MILE

TOTAL NET LENGTH OF CENTERLINE = 0.158

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

STATE PROJECT

5989-05-26

FEDERAL PROJECT

PROJECT

WISC 2018139

CONTRACT

1

ACCEPTED FOR
CITY OF BELOIT

10/30/18
(Date)

(City Engineer)

ORIGINAL PLANS PREPARED BY

JEWELL

associates engineers, inc.

Engineers, Surveyors



DATE: 10/29/18

(Professional Engineer)

ORIGINAL PLANS PREPARED BY

Batterman

engineers surveyors planners



DATE: 10-26-2018

(Professional Engineer)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	BATTERMAN
Designer	BATTERMAN / JEWELL
Project Manager	ZACHARY PEARSON, P.E.
Regional Examiner	SW REGION
Regional Supervisor	OSCAR I. WINGER, P.E.

APPROVED FOR THE DEPARTMENT

DATE: 10-31-2018

(Signature)

E

GENERAL NOTES

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE NGVD 29.

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.

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE AND IS NOT SHOWN ON THE CROSS SECTIONS, BUT IS MEASURED AND PAID FOR AS EXCAVATION COMMON. THE LOCATION OF EBS SHALL BE DETERMINED BY THE ENGINEER.

BREAKER RUN SHALL BE USED IN ALL EBS AREAS.

THE EROSION CONTROL FEATURES ARE SHOWN ON THE PLAN AND ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH A TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

DISTURBED AREAS SHALL BE RESTORED AS DIRECTED BY THE ENGINEER.

NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.

THE CONTRACTOR IS TO WORK WITH UTMOST CARE AND PROTECT ALL SURVEY MARKERS. REMOVAL OF ANY SURVEY MARKER IS TO BE WITH THE APPROVAL OF THE ENGINEER.

DETAILS OF CONSTRUCTION NOT SHOWN ON THE PLAN SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

RESTORATION OF EXPOSED SLOPE AND DITCHES SHALL TAKE PLACE NOT MORE THAN 7 DAYS AFTER FINISHED GRADING IS COMPLETE.

ASPHALTIC SURFACE WEIGHT CALCULATIONS ARE BASED ON 112 LB/SY/INCH.

OFFSETS FOR INLETS AND MANHOLES ARE TO CENTER OF STRUCTURE. OFFSETS FOR APRON ENDWALLS ARE TO END OF PIPE.

THE CONTRACTOR SHALL COORDINATE ALL UTILITY ADJUSTMENTS WITH THE APPROPRIATE UTILITY.

THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTY OWNERS ALONG THE PROJECT AT ALL TIMES.

ORDER OF DETAIL SHEETS

- GENERAL NOTES
- PROPOSED TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- REMOVAL PLAN
- PLAN DETAILS
- EROSION CONTROL
- STORM SEWER
- PERMANENT SIGNING/PAVEMENT MARKINGS
- LIGHTING PLAN
- FENCING PLAN
- TRAFFIC CONTROL
- CONTROL POINT TIES

UTILITIES

ALLIANT ENERGY (ELECTRIC)
ATTN: DEAN COPP
935 WBR TOWNLINE ROAD
BELOIT, WI 53511
TELEPHONE: (608)364-6431
EMAIL: DEANCOPP@ALLIANTENERGY.COM

AT&T WISCONSIN
ATTN: CAROL ANASON
316 W. WASHINGTON AVENUE
MADISON, WI 53701
TELEPHONE: (608) 622-2079
EMAIL: CA2624@ATT.COM

CITY OF BELOIT WATER
ATTN: MIKE TINDER
2400 SPRINGBROOK COURT
BELOIT, WI 53511
TELEPHONE: (608) 364-5725
EMAIL: TINDERM@BELOITWI.GOV

CITY OF BELOIT LIGHTING
ATTN: JASON DUPUIS, P.E.
2400 SPRINGBROOK COURT
BELOIT, WI 53511
TELEPHONE: (608) 364-6735
EMAIL: DUPUISJ@BELOITWI.GOV

NOTE: UTILITIES NOT A MEMBER OF DIGGER’S HOTLINE.

RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIP- TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPE: TURF			.25 .32			.27 .34			.28 .36			.30 .38
PAVEMENT:												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

TOTAL PROJECT AREA = 0.40 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.35 ACRES

ABBREVIATIONS

- AC
AEW
ASPH
AVG
ADT
BAD
BM
CL
CC
CE
CONC
CMP
CPRC
CSCP
CSM
CTH
CULV
CP
C&G
D
DHV
DIA
DWY
E
ELEV
EW
ENT
ESALS
EX
EXC
EBS
EXIST
FF
FERT
FE
FG
FT
GV
IE
INL
INV

ACRES
APRON ENDWALL
ASPHALT
AVERAGE
AVERAGE DAILY TRAFFIC
BASE AGGREGATE DENSE
BENCHMARK
CENTERLINE OR CLASS
CENTER TO CENTER
COMMERCIAL ENTRANCE
CONCRETE
CORRUGATED METAL PIPE
CULVERT PIPE CORRUGATED STEEL
CORRUGATED STEEL CULVERT PIPE
CERTIFIED SURVEY MAP
COUNTY TRUNK HIGHWAYS
CULVERT
CULVERT PIPE
CURB & GUTTER
DEGREE OF CURVATURE
DESIGN HOURLY VOLUME
DIAMETER
DRIVEWAY
EAST
ELEVATION
ENDWALL
ENTRANCE
EQUIVALENT SINGLE AXLE LOADS
EXISTING
EXCAVATION
EXCAVATION BELOW SUBGRADE
EXISTING
FACE TO FACE
FERTILIZER
FEILD ENTRANCE
FINISHED GRADE
FOOT
GAS VALVE
INVERT ELEVATION
INLET
INVERT

IP
JCT
LHF
L
LS
LT
MH
NC
N
PT
PC
PI
PT
PL
PE
R/RAD
RCP
REQ'D
RT
R/W
RHF
SALV
SAN
SHLDR
SDD
STA
STM
SE
SS
SSPRC
TAN
TLE
T
TYP
VERT
VC
VOL
WV
W
X
Y

IRON PIPE
JUNCTION
LEFT HAND FORWARD
LENGTH
LUMP SUM
LEFT
MANHOLE
NORMAL CROWN
NORTH
POINT
POINT OF CURVATURE
POINT OF INTERSECTION
POINT OF TANGENCY
PROPERTY LINE
PRIVATE ENTRANCE
RADIUS
REINFORCED CONCRETE PIPE
REQUIRED
RIGHT
RIGHT-OF-WAY
RIGHT HAND FORWARD
SALVAGED
SANITARY SEWER
SHOULDER
STANDARD DETAIL DRAWINGS
STATION
STORM SEWER
SUPERELEVATION
STORM SEWER
STORM SEWER PIPE REINFORCED CONCRETE
TANGENT
TEMPORARY LIMITED EASEMENT
TRUCKS
TYPICAL
VERTICAL
VERTICAL CURVE
VOLUME
WATER VALVE
WELL
EAST GRID COORDINATE
NORTH GRID COORDINATE

DNR LIAISON

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
ATTN: ANDY BARTA
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
TELEPHONE: (608) 275-3308
EMAIL: ANDREW.BARTA@WISCONSIN.GOV

DESIGN CONTACT

R.H. BATTERMAN
ATTN: RYAN RUDZINSKI, P.E.
2857 BARTELLS DRIVE
BELOIT, WI 53511
TELEPHONE: (608) 365-4464
EMAIL: RRUDZINSKI@RHBATTERMAN.COM

CITY OF BELOIT ENGINEERING

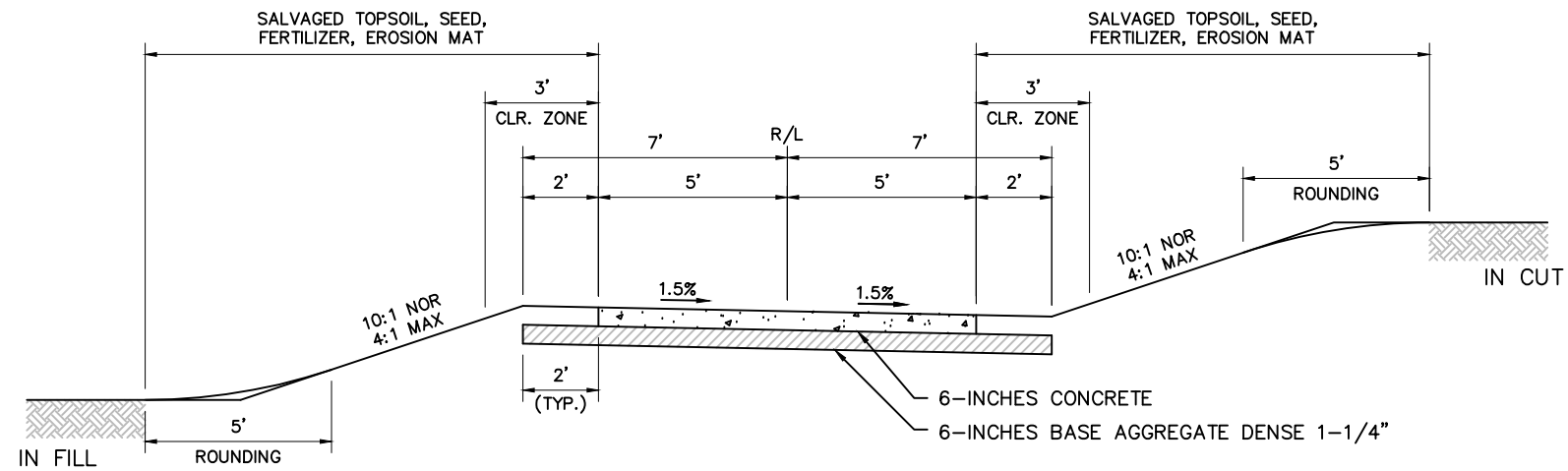
PUBLIC WORKS DIRECTOR
LAURA PIGATTI-WILLIAMSON
2351 SPRINGBROOK COURT
BELOIT, WI 53511
TELEPHONE: (608) 364-2929
EMAIL: WILLIAMSONL@BELOITWI.GOV

DESIGN CONTACT

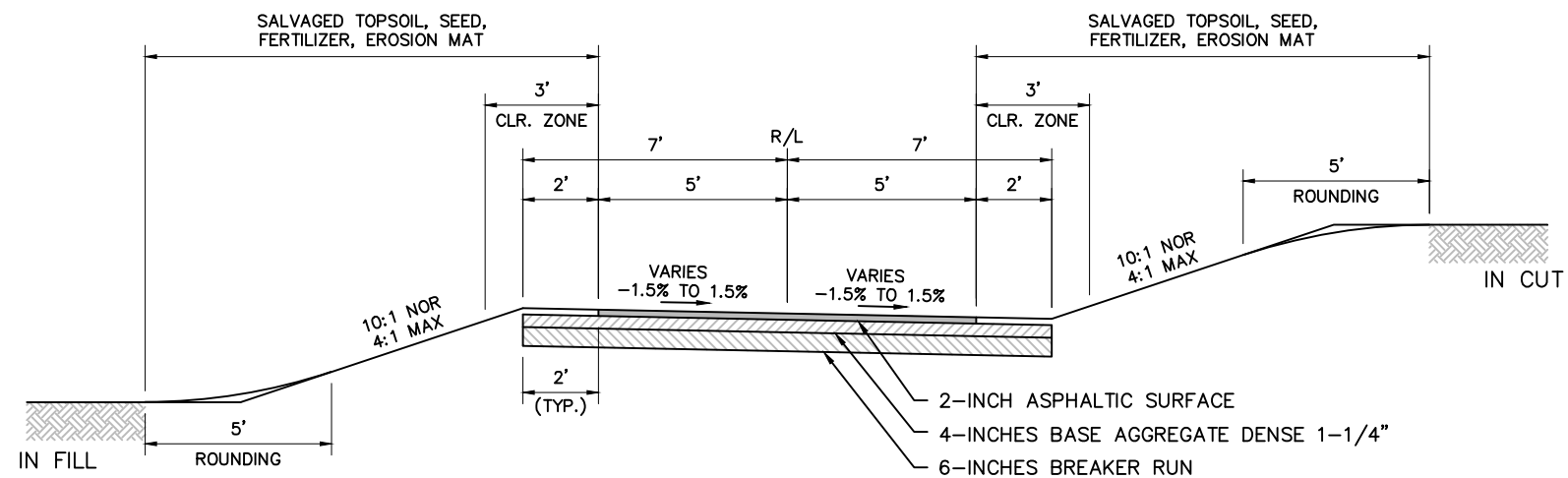
JEWELL ASSOCIATES ENGINEERS, INC.
ATTN: FRED GRUBER, P.E., P.L.S.
560 SUNRISE DRIVE
SPRING GREEN, WI 53588
TELEPHONE: (608) 588-7484
EMAIL: FRED.GRUBER@JEWELLASSOC.COM

DESIGN CONTACT

LIGHTING/FENCING
ANGUS-YOUNG ASSOCIATES, INC.
ATTN: JOE STADELMAN
555 S RIVER STREET
JANESVILLE, WI 53548
TELEPHONE: (608) 756-2326
EMAIL: JOES@ANGUSYOUNG.COM

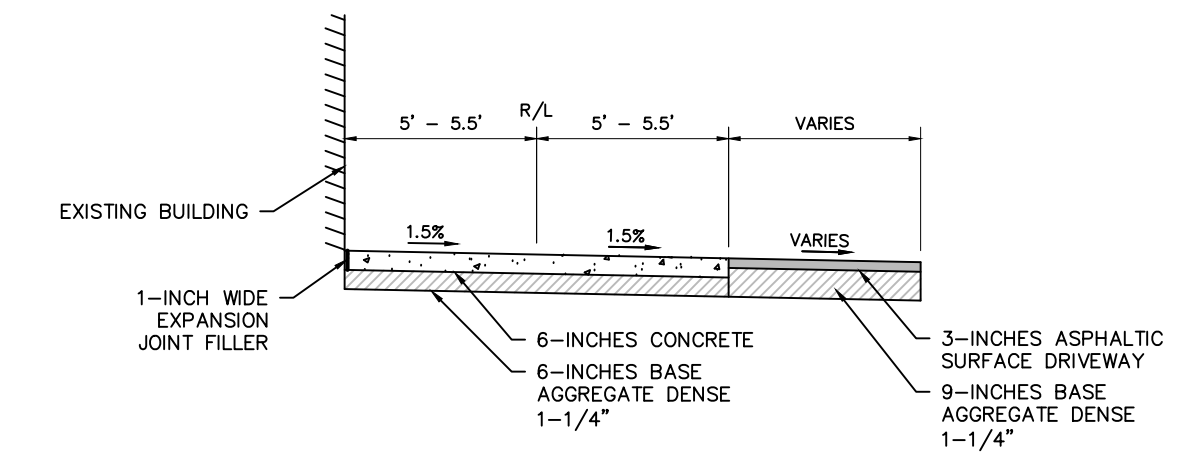


TYPICAL PROPOSED SHARED USE PATH CROSS SECTION (CONCRETE)

STA. 100+10 TO 101+15
STA. 101+98 TO 102+37

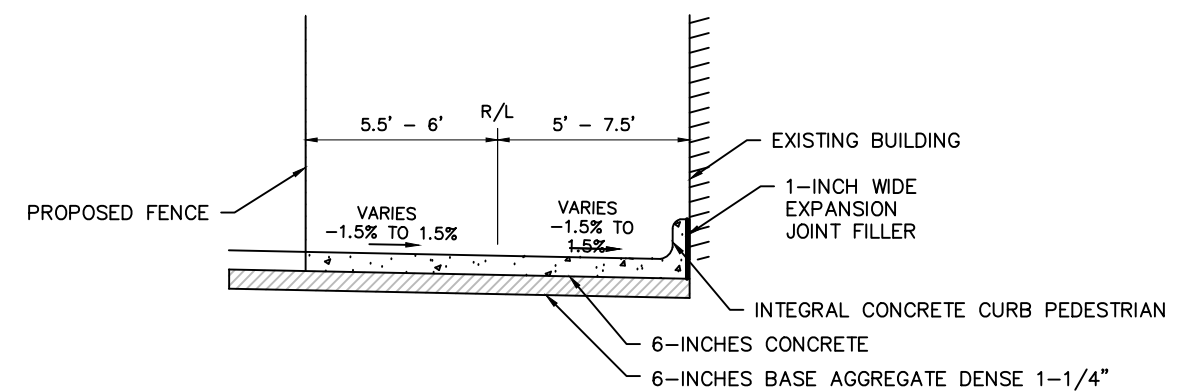
TYPICAL PROPOSED SHARED USE PATH CROSS SECTION (ASPHALT)

STA. 106+90 TO 108+36



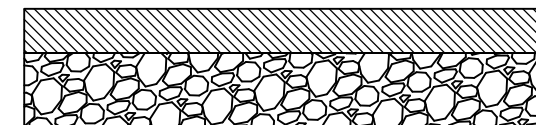
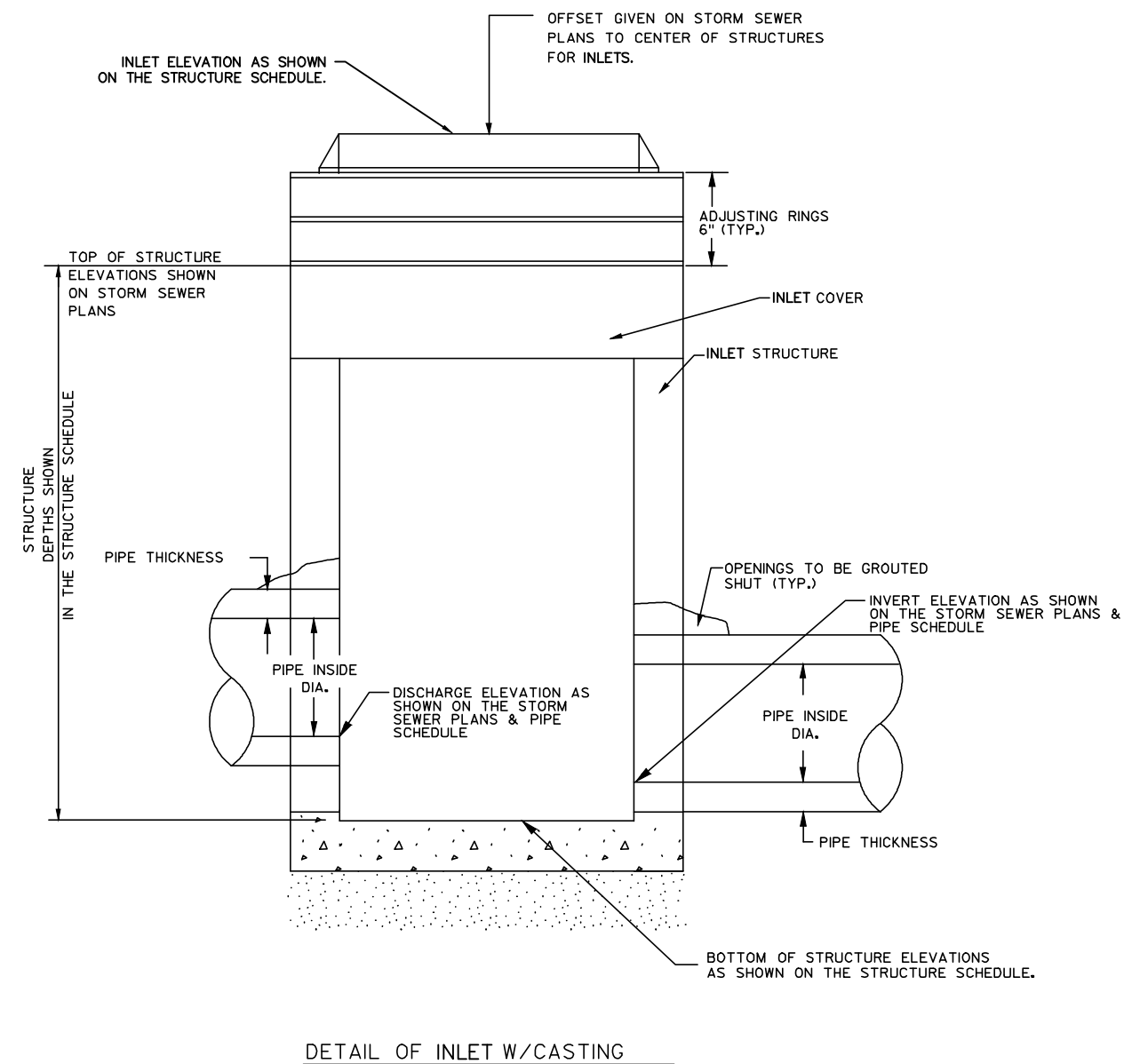
TYPICAL PROPOSED SHARED USE PATH CROSS SECTION (CONCRETE)

STA. 101+15 TO 101+47



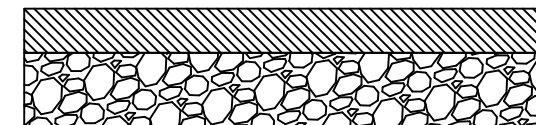
TYPICAL PROPOSED SHARED USE PATH CROSS SECTION (CONCRETE)

STA. 101+47 TO 101+98



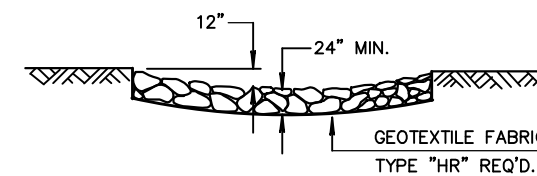
5-INCH ASPHALTIC SURFACE

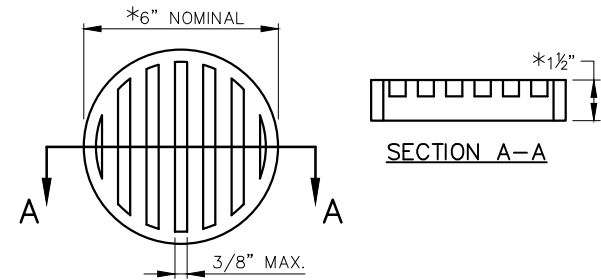
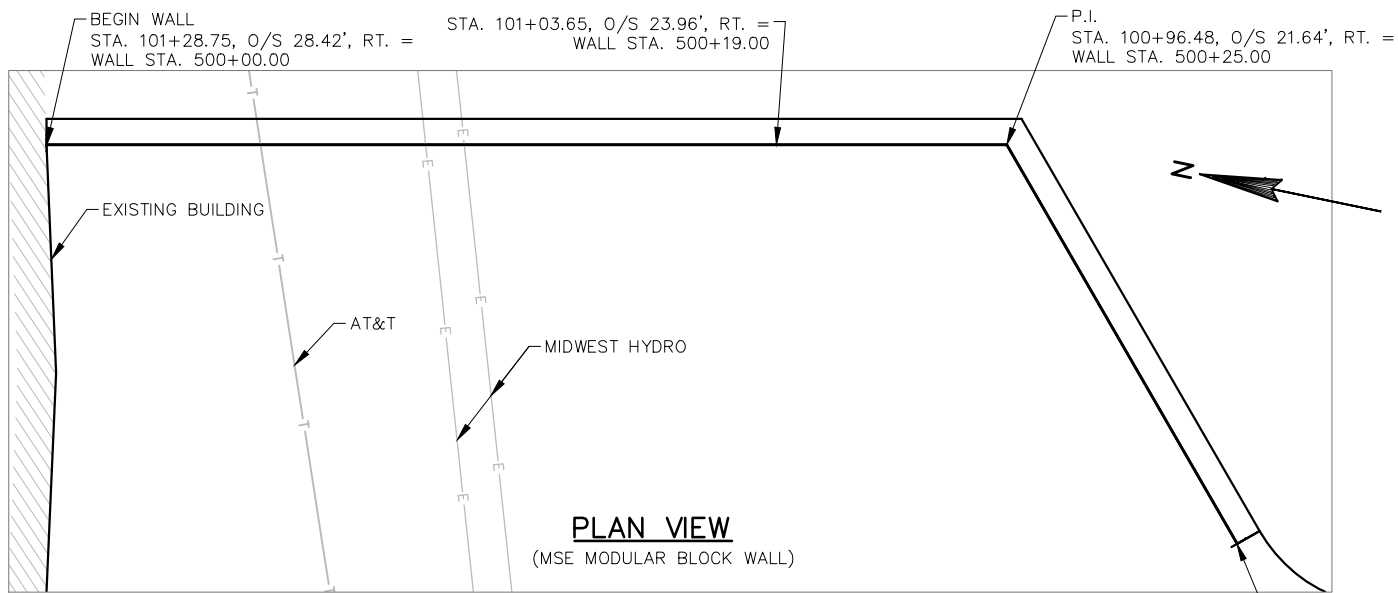
10-INCH 1 1/4" BASE AGGREGATE DENSE

TEMPORARY ASPHALT DETAIL

3-INCH ASPHALTIC SURFACE DRIVEWAY

9-INCH 1 1/4" BASE AGGREGATE DENSE

ASPHALTIC SURFACE DRIVEWAYRIPRAP HEAVY TREATMENT



NOTES:

*DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

ORIENT SCREEN SO SLOTS ARE VERTICAL.

THE RODENT SCREEN, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH LRFD."

THE RODENT SCREEN SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SCREEN TO THE EXPOSED ENDS OF THE PIPE UNDERDRAIN. THE SCREEN SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

DESIGN DATA

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS AND SHOP DRAWINGS FOR THE RETAINING WALLS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH LRFD".

PLANS, ELEVATIONS AND DETAILS SHOWN IN THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN ON THIS SHEET.

DESIGN RETAINING WALL TO PROVIDE FOR FINISHED GRADE SLOPED BEHIND WALL AS SHOWN.

DESIGN WALL FOR MAXIMUM NOMINAL ALLOWABLE BEARING CAPACITY OF 1,500 PSF.

ALLOWABLE WALL SYSTEMS

M.S.E. MODULAR BLOCK WALL.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BLOCK SHALL HAVE A STRAIGHT SPLIT FACE.

COLOR SELECTION TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

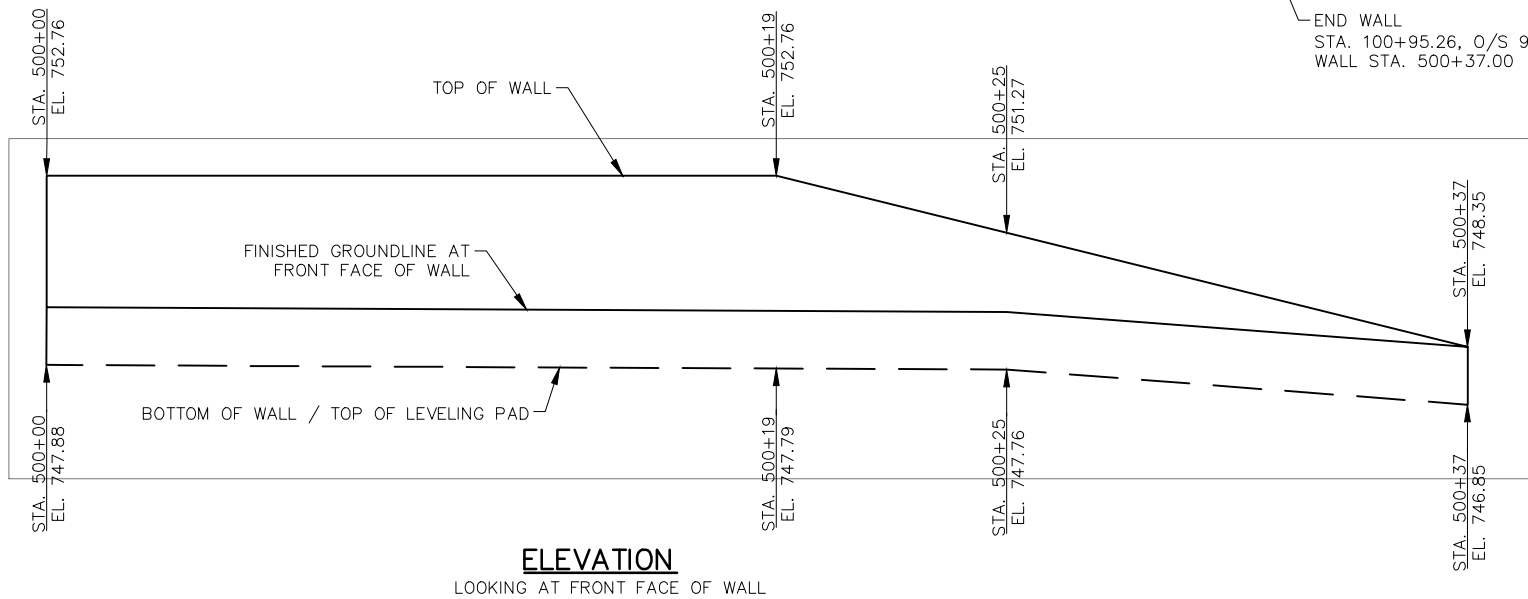
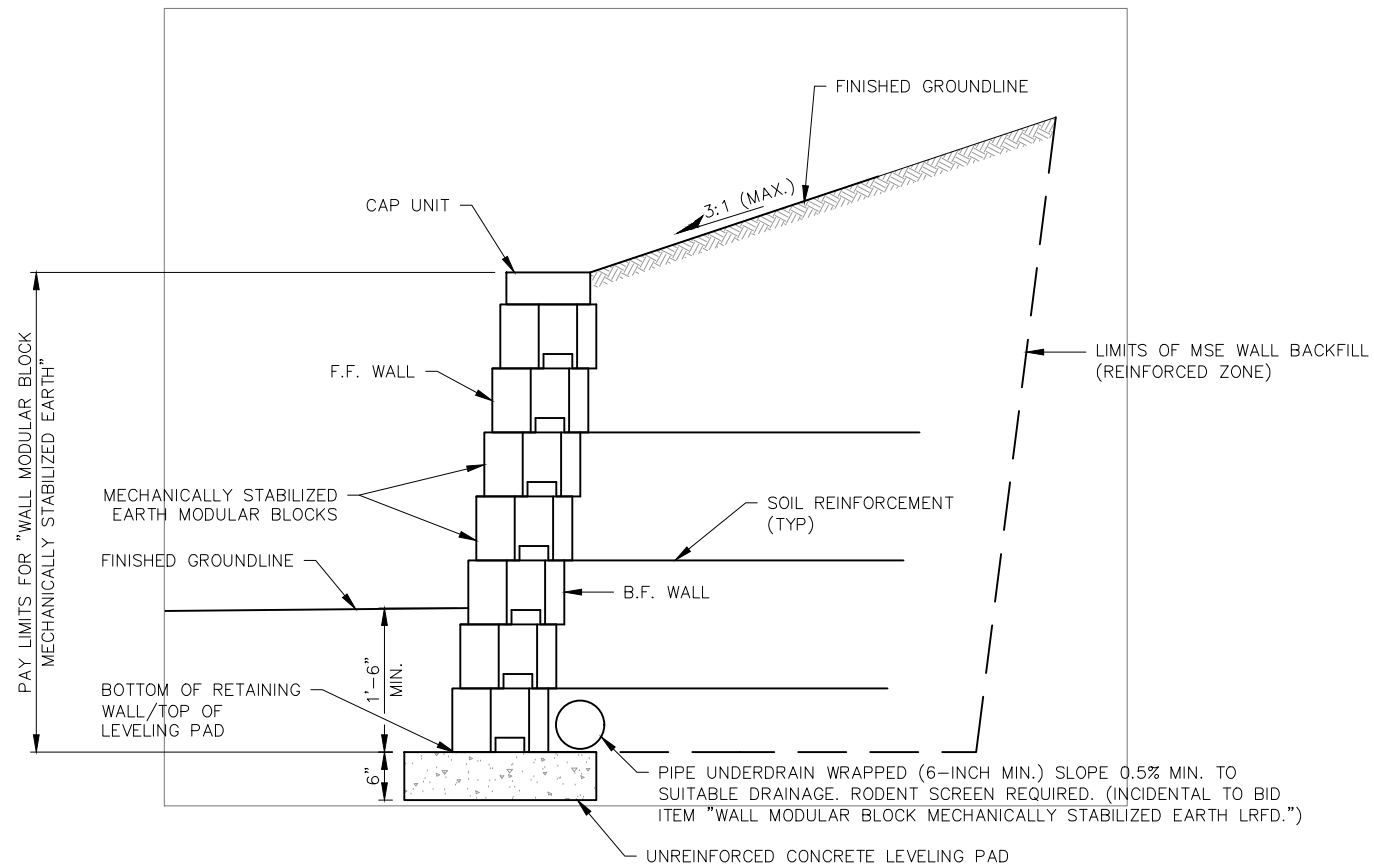
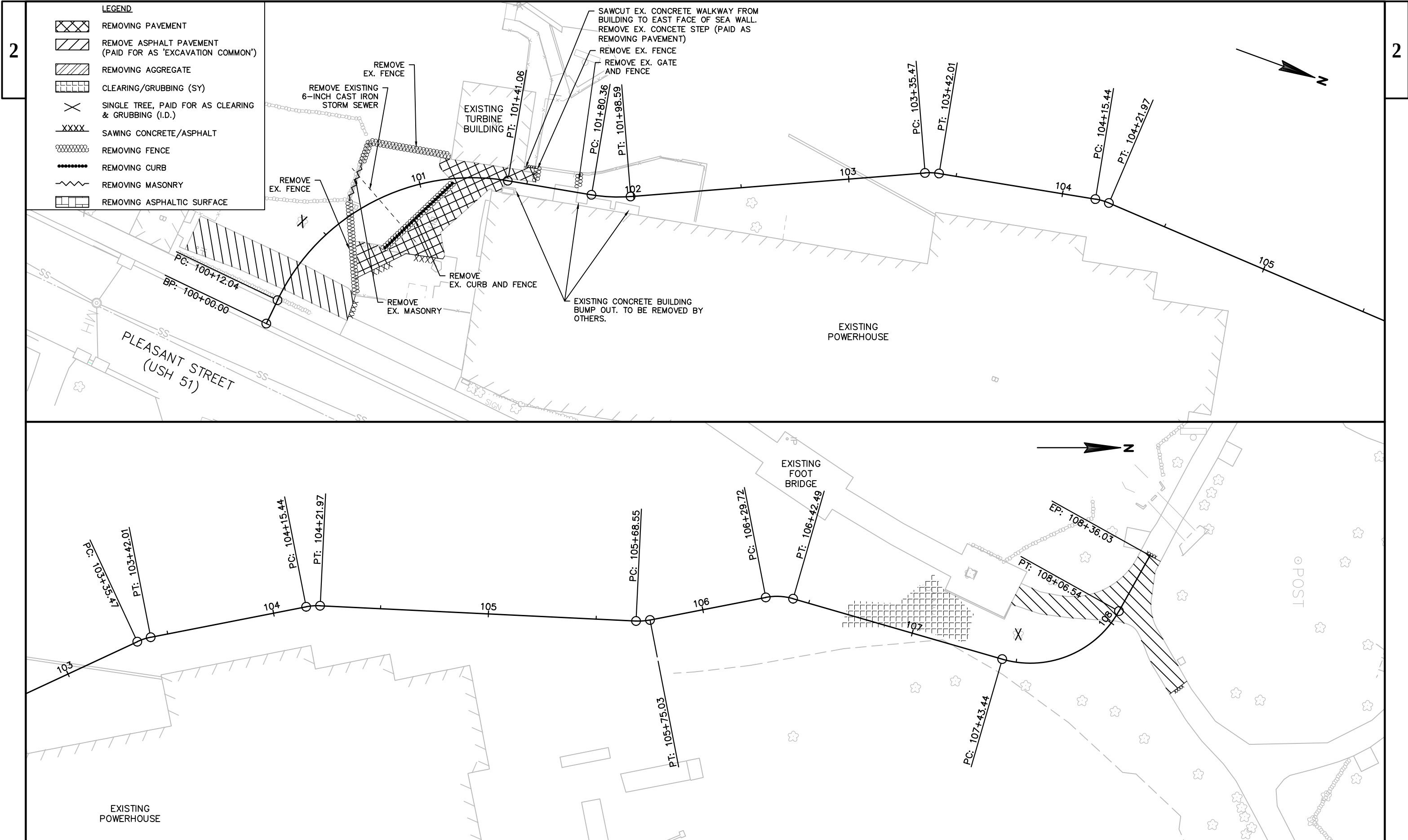


TABLE OF ELEVATIONS

STATION	TOP OF WALL ELEV.	GROUND ELEV.
500+00	752.76	749.38
500+19	752.76	749.29
500+25	751.27	749.26
500+37	748.35	748.35



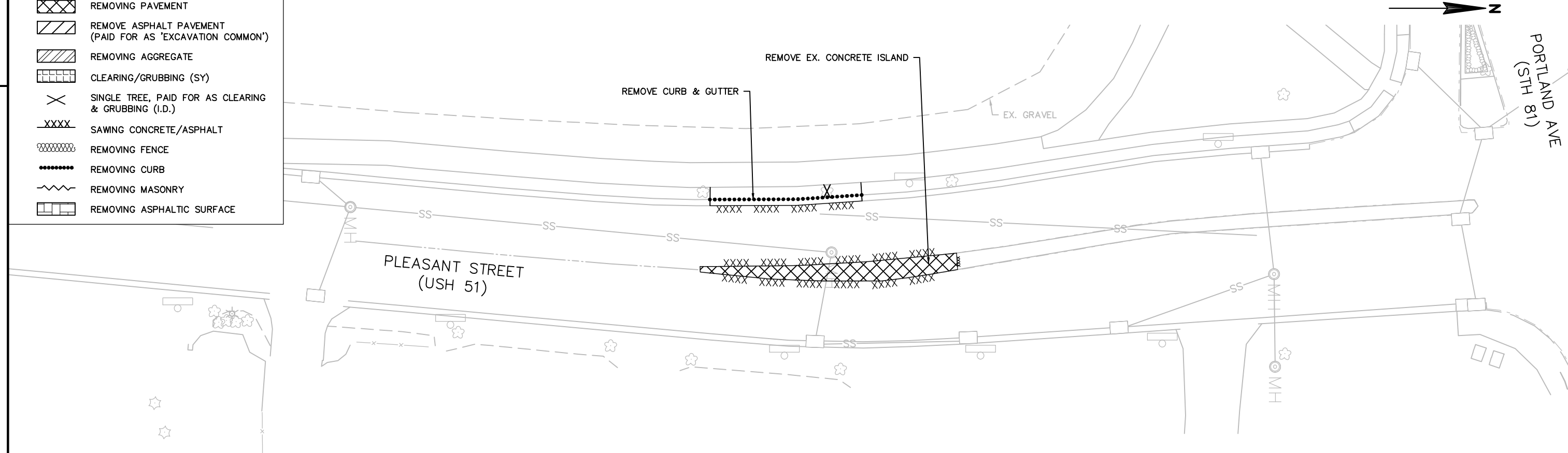
TYPICAL SECTION THRU RETAINING WALL



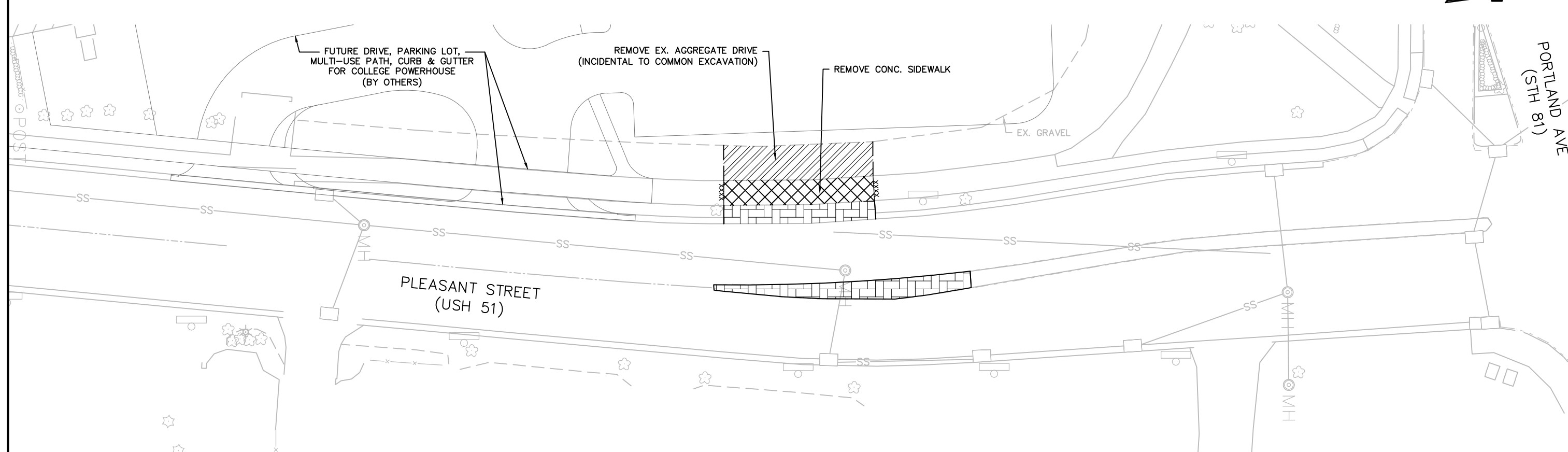
LEGEND

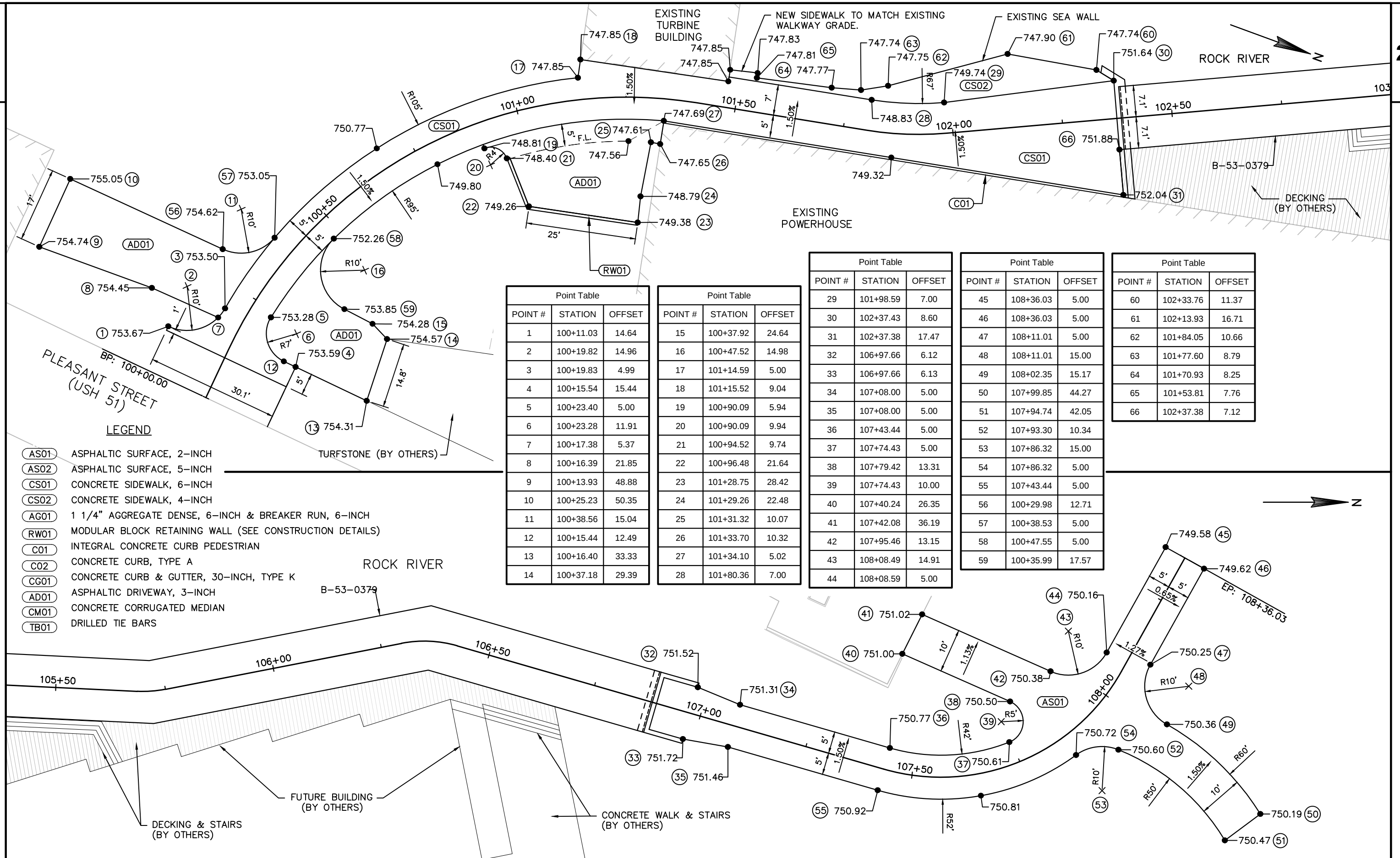
- | | |
|---|--|
|  | REMOVING PAVEMENT |
|  | REMOVE ASPHALT PAVEMENT
(PAID FOR AS 'EXCAVATION COMMON') |
|  | REMOVING AGGREGATE |
|  | CLEARING/GRUBBING (SY) |
|  | SINGLE TREE, PAID FOR AS CLEARING
& GRUBBING (I.D.) |
|  | SAWING CONCRETE/ASPHALT |
|  | REMOVING FENCE |
|  | REMOVING CURB |
|  | REMOVING MASONRY |
|  | REMOVING ASPHALTIC SURFACE |

PRECONSTRUCTION REMOVALS



POST CONSTRUCTION REMOVALS

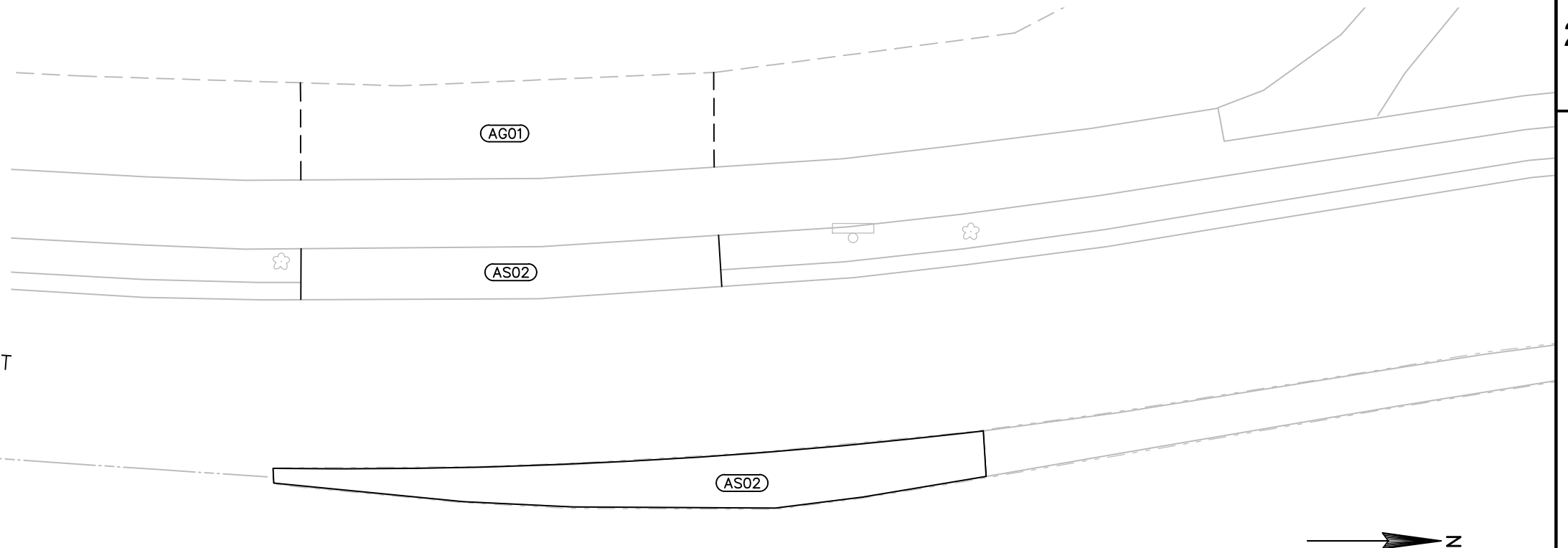




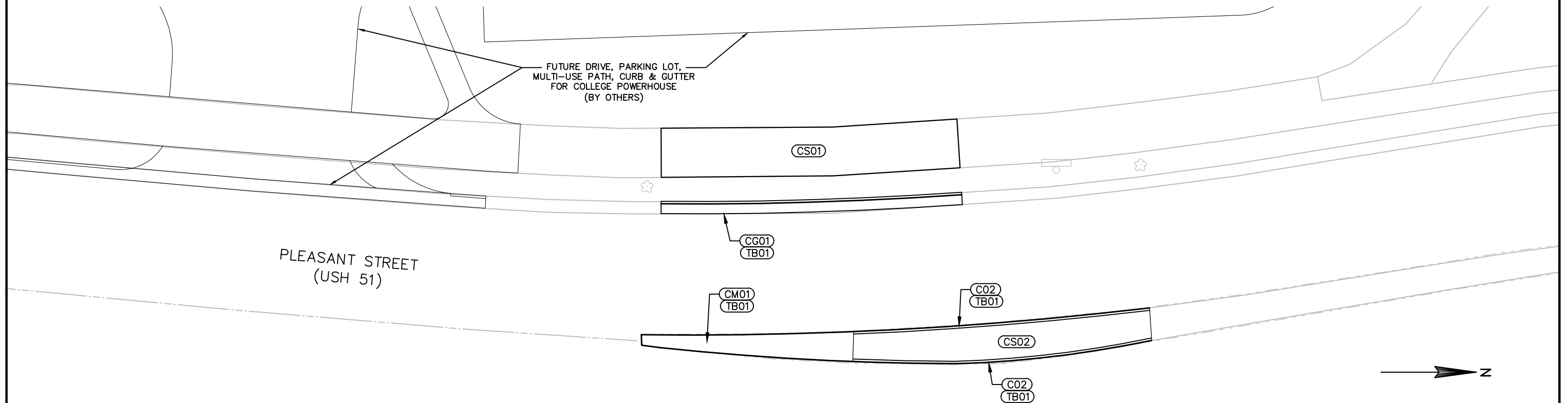
LEGEND

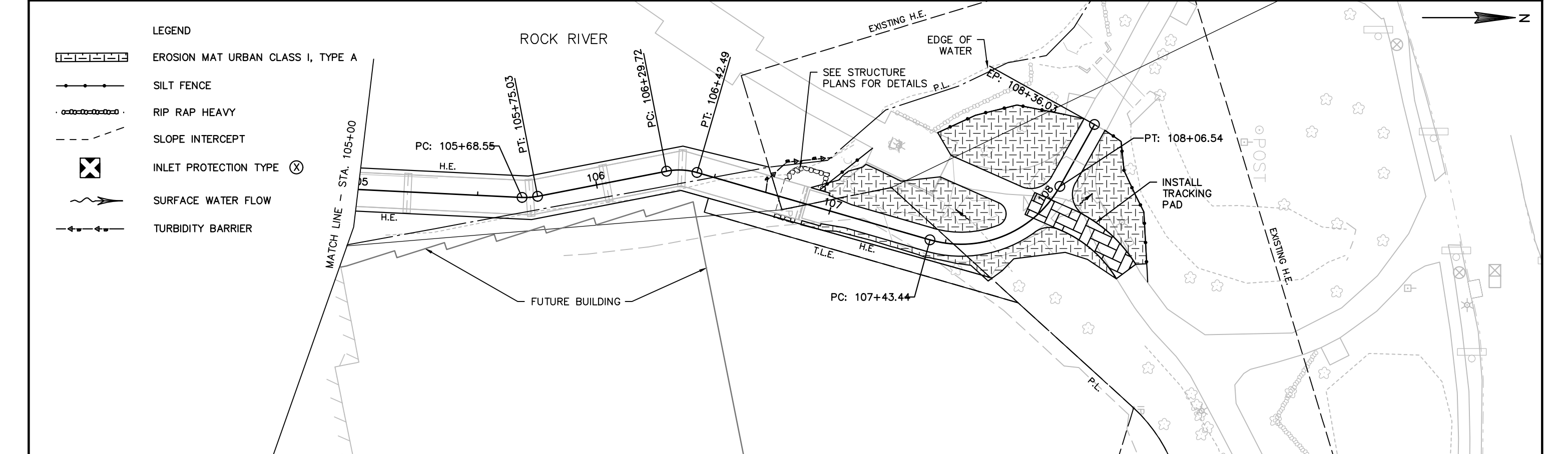
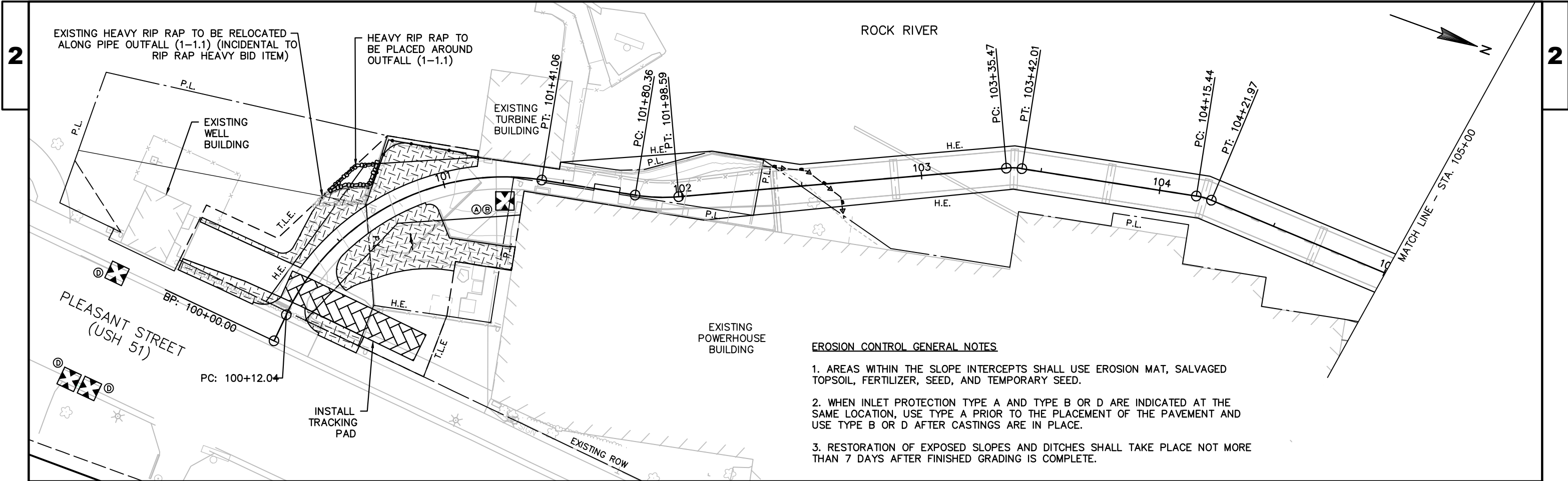
AS01	ASPHALTIC SURFACE, 2-INCH
AS02	ASPHALTIC SURFACE, 5-INCH
CS01	CONCRETE SIDEWALK, 6-INCH
CS02	CONCRETE SIDEWALK, 4-INCH
AG01	1 1/4" AGGREGATE DENSE, 6-INCH & BREAKER RUN, 6-INCH
RW01	MODULAR BLOCK RETAINING WALL (SEE CONSTRUCTION DETAILS)
C01	INTEGRAL CONCRETE CURB PEDESTRIAN
C02	CONCRETE CURB, TYPE A
CG01	CONCRETE CURB & GUTTER, 30-INCH, TYPE K
AD01	ASPHALTIC DRIVEWAY, 3-INCH
CM01	CONCRETE CORRUGATED MEDIAN
TB01	DRILLED TIE BARS

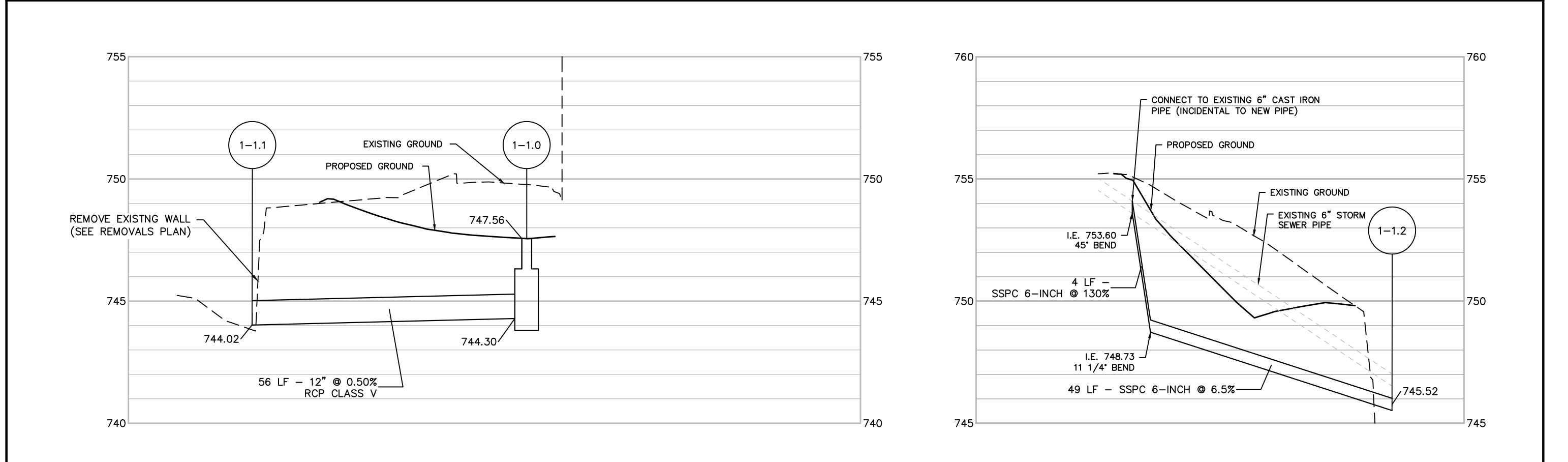
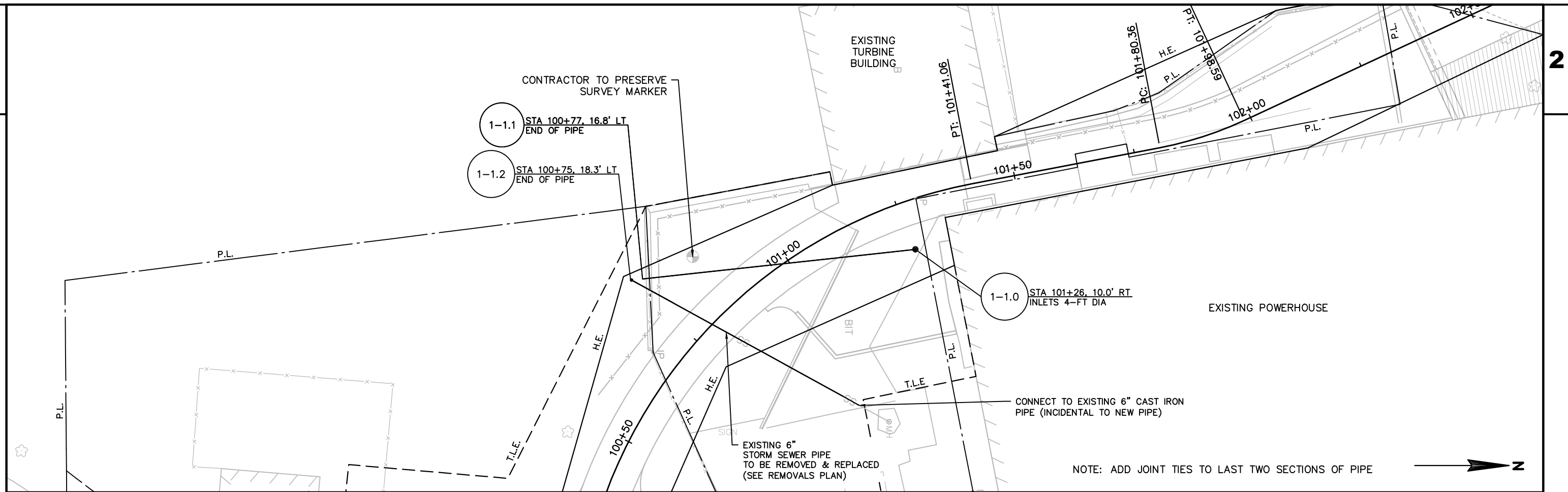
PRECONSTRUCTION PLAN DETAILS

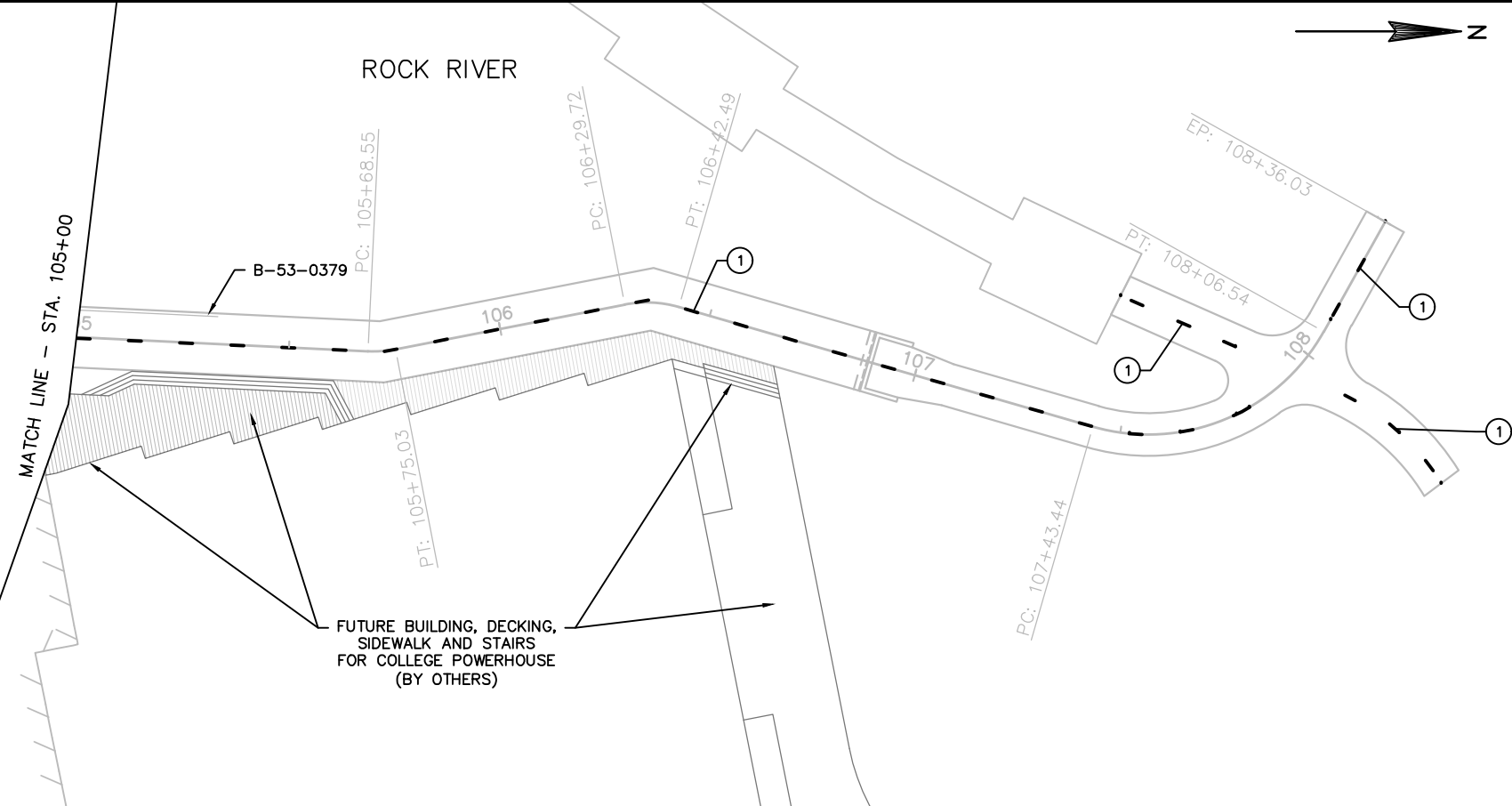
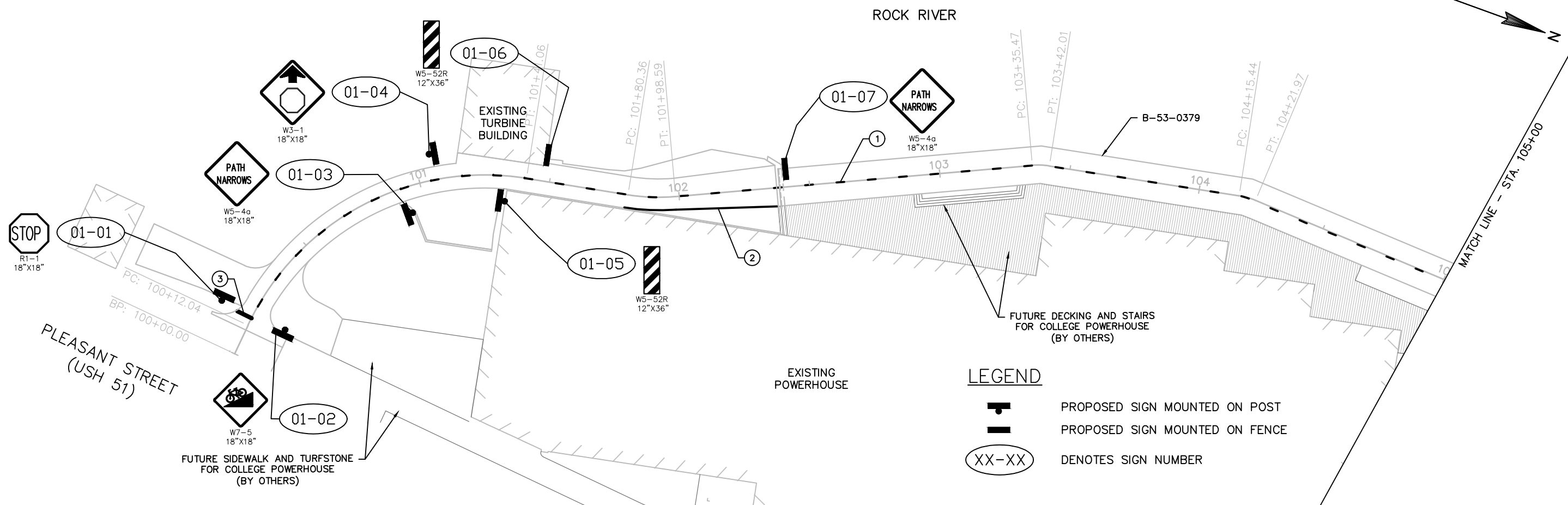


POST CONSTRUCTION PLAN DETAILS

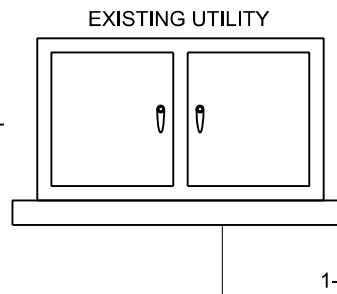
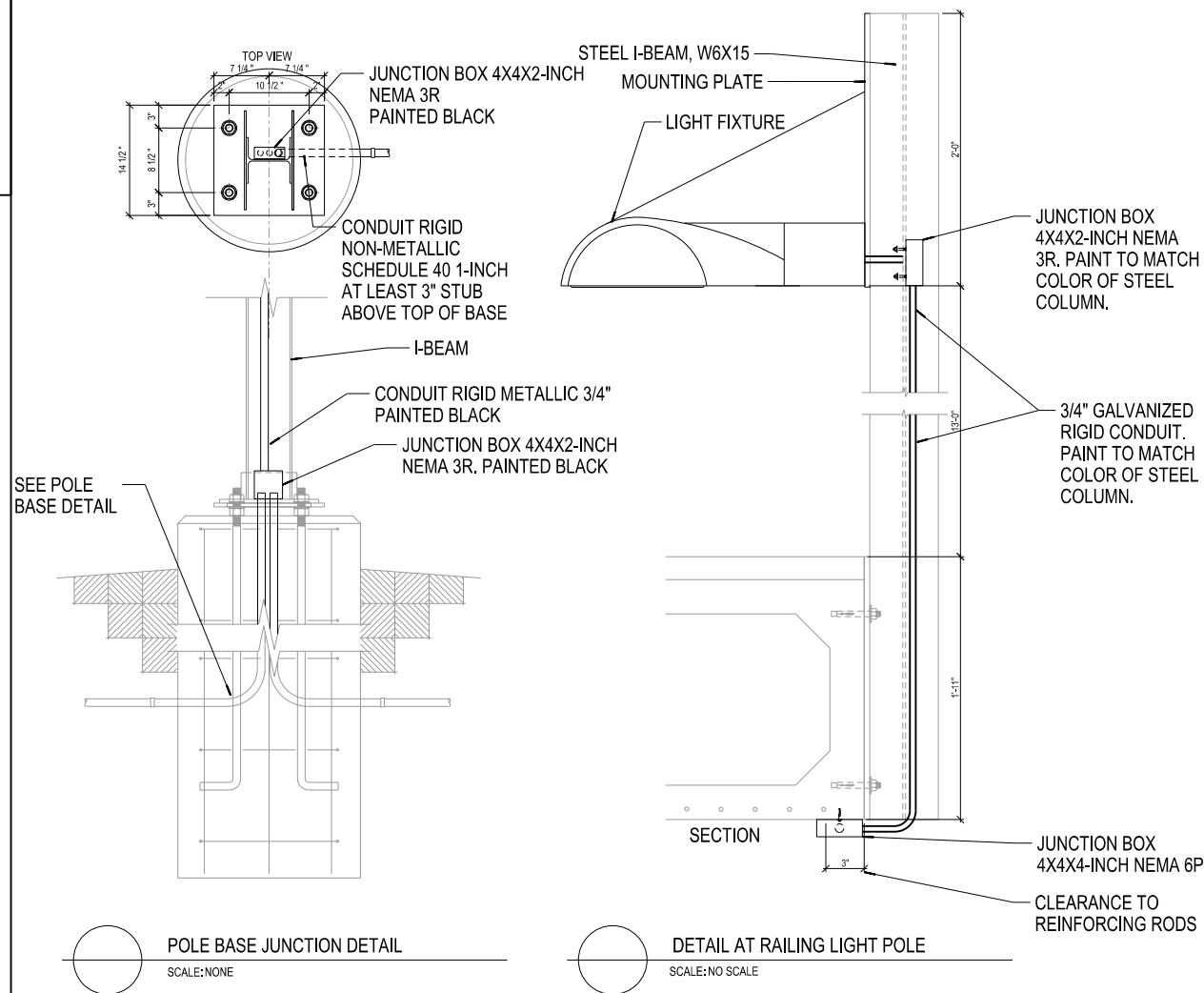








- ① MARKING LINE EPOXY 4-INCH, DOT PATTERN YELLOW (3 FT LINE 9 FT SKIP)
- ② MARKING LINE EPOXY 4-INCH, WHITE
- ③ MARKING STOP LINE EPOXY 12-INCH, WHITE
- ④ MARKING ISLAND NOSE EPOXY, YELLOW



PEDESTAL METER
240/120V 2P 3W
100A RATED

LVP-1
240/120V 2P 3W
100A RATED

INSTALL PER LOCAL UTILITY SERVICE RULES
ELECTRICAL METER BREAKER PEDESTAL ONE LINE DIAGRAM

NEW LUMINAIRE SCHEDULE

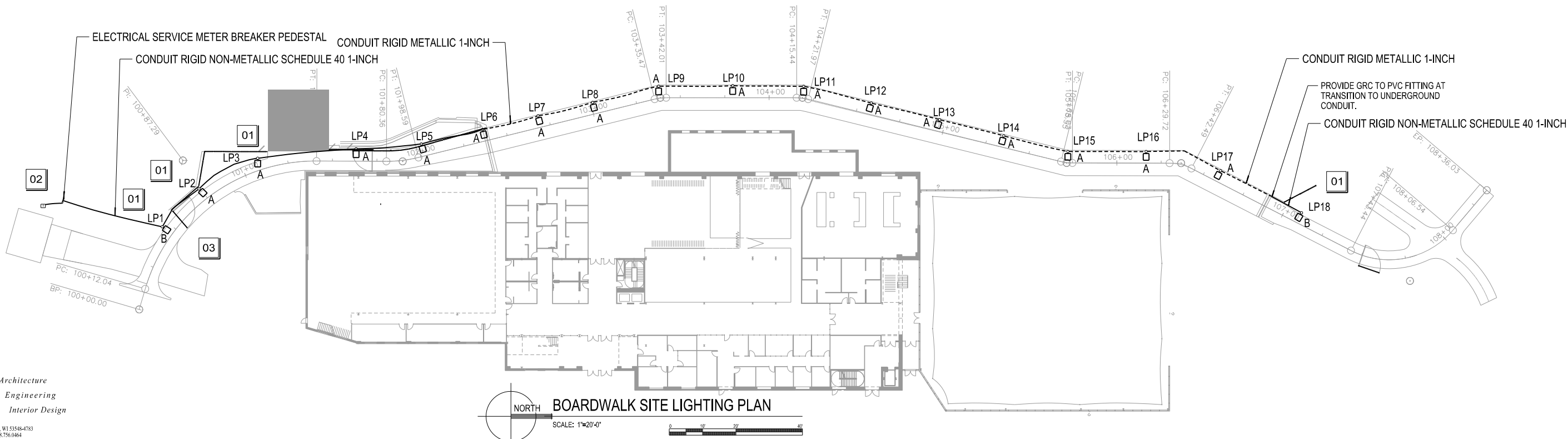
CALLOUT	SYMBOL	LAMP	DESCRIPTION	BALLAST / DRIVER	MOUNTING	MODEL	INPUT WATTS	VOLTS	NOTE 1	NOTE 2
A		(1) LED, 4000K	LED PATH LIGHT	LED DRIVER	WALL	LITHONIA AST1LED-42C-350-40K-SR3-MVOLT-WBA-VG-DBLXD OR PRE-APPROVED EQUAL	49	120V 1P 2W	MOUNT AT 13'-0" AFG	
B		(1) LED, 4000K	LED PATH LIGHT	LED DRIVER	POLE	LITHONIA AST1LED-42C-350-40K-SR5-MVOLT-WBA-VG-DBLXD OR PRE-APPROVED EQUAL	49	120V 1P 2W	MOUNT AT 13'-0" AFG	

GENERAL NOTES

- LIGHT FIXTURES TO BE MOUNTED TO I-BEAM AT 13'-0" TO BOTTOM A.F.G. UNLESS NOTED OTHERWISE. FEED VIA NEW CIRCUIT BREAKER INSTALLED IN LVP-1.
- UNDERGROUND CONDUIT TO BE IN CONDUIT RIGID NON-METALLIC SCHEDULE 40 1-INCH. EXPOSED CONDUIT TO BE CONDUIT RIGID METALLIC 1-INCH UNLESS NOTED OTHERWISE. JUNCTION BOXES LOCATED AT OR BELOW GRADE TO BE JUNCTION BOX 4X4X4-INCH NEMA 6P RATED. ALL OTHER JUNCTION BOXES TO BE JUNCTION BOX 4X4X2-INCH NEMA 3R RATED.
- RIVERWALK PORTION OF CIRCUIT TO BE MOUNTED TO UNDERSIDE OF BOARDWALK. JUNCTION BOXES TO BE MOUNTED TO STRUCTURE WITHIN 3" OF OUTER EDGE TO AVOID STEEL REINFORCING RODS. USE CONDUIT RIGID METALLIC 3/4-INCH AND ELECTRICAL WIRE LIGHTING 12AWG TO RUN CIRCUIT FROM JUNCTION BOX 4X4X4-INCH NEMA 6P RATED TO LIGHT FIXTURE JUNCTION BOX 4X4X2-INCH NEMA 3R RATED ALONG RIVER SIDE OF I-BEAM. WALL MOUNT FIXTURE TO PLATE ATTACHED TO I-BEAM. SEE DETAIL AT RAILING LIGHT POLE.
- CONTRACTOR TO PAINT VISBILE JUNCTION BOXES AND CONDUIT BLACK TO MATCH FENCE.
- FASTENERS, SUPPORTS, AND FITTINGS USED BELOW BOARDWALK ARE TO BE NEMA 6P RATED.

KEYNOTES

- 01 POLE LIGHT FIXTURE TO BE INSTALLED ON NEW 6" CONCRETE BASE AND 15'-0" STEEL I-BEAM. MOUNT FIXTURE AT 13'-0" TO BOTTOM A.F.G. SEE POLE DETAL ES01/15.
- 02 PROVIDE AND INSTALL NEW METER AND 100A, 120/240V, 8 CIRCUIT LOAD CENTER COMBINATION WEATHERPROOF PANEL ON PEDESTAL MOUNT IN THIS AREA. PROVIDE GROUNDING COMPLIANT WITH NATIONAL ELECTRIC, LOCAL UTILITY, AND WISCONSIN DEPARTMENT OF TRANSPORTATION SPECIFICATIONS. PROVIDE 20A/1P CIRCUIT BREAKER AND CIRCUIT WIRING FOR BOARDWALK LIGHTING. FEED FROM EXISTING TRANSFORMER.
- 03 BOARDWALK LIGHTING TO BE CONTROLLED VIA 120V, SWIVEL TYPE, EXTERIOR PHOTOCCELL. PHOTOCCELL TO BE INTERMATIC EK4736S; TORK 2001 SERIES; OR PRE-APPROVED EQUAL. MOUNT TO JUNCTION BOX AT TOP OF POLE.



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PROJECT NO: 5989-05-26

HWY: NON HWY

COUNTY: ROCK

LIGHTING PLAN

SHEET

E

FILE NAME : J:\32200-32299\32205 POWERHOUSE RIVERWALK - CITY OF BELOIT\FILES TO AYA\9-14-17\LIGHTING PLAN WSDOT BORDER.DWG
LAYOUT NAME - GENERAL NOTES

PLOT DATE : 9/7/2017 9:37 AM

PLOT BY :

PLOT NAME :

PLOT SCALE : 1:60

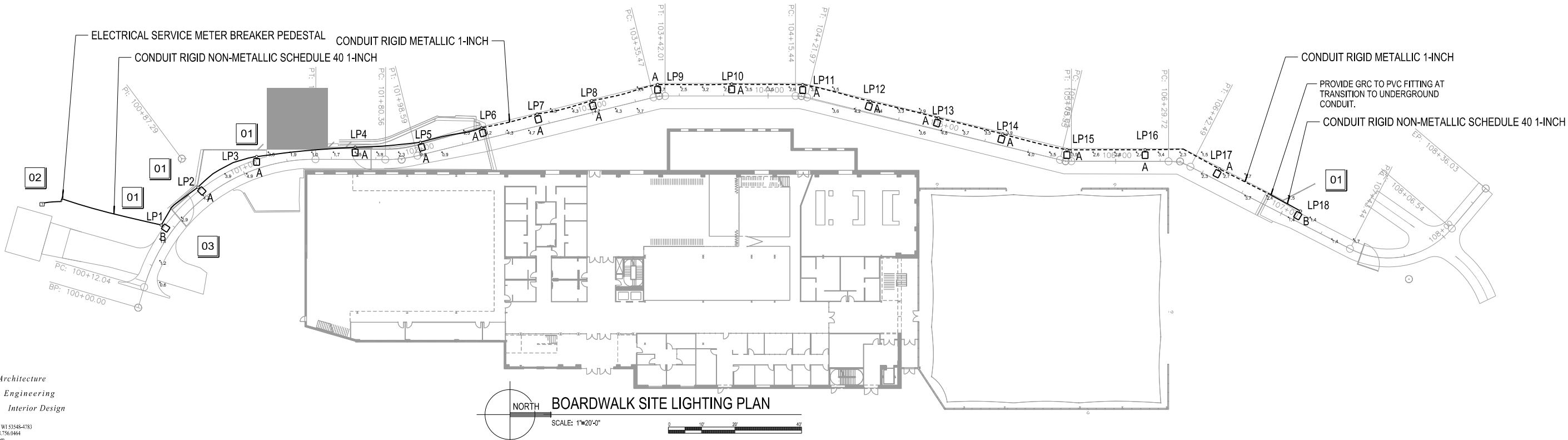
WSDOT/CADDs SHEET 42

Schedule						
Label	Catalog Number	Description	Lamp	Number Lamps	Lumens per Lamp	Wattage
A	AST1 LED 42C 350 40K SR3 MVOLT	AST1 AREA LIGHT 42 LEDs 350 mA DRIVE CURRENT 40K COLOR TEMP TYPE 3 DISTRIBUTION	HLM LIGHT ENGINE	1	5059	49
B	AST1 LED 42C 350 40K SR5 MVOLT	AST1 AREA LIGHT 42 LEDs 350 mA DRIVE CURRENT 40K COLOR TEMP TYPE 5 DISTRIBUTION	HLM LIGHT ENGINE	1	5350	49

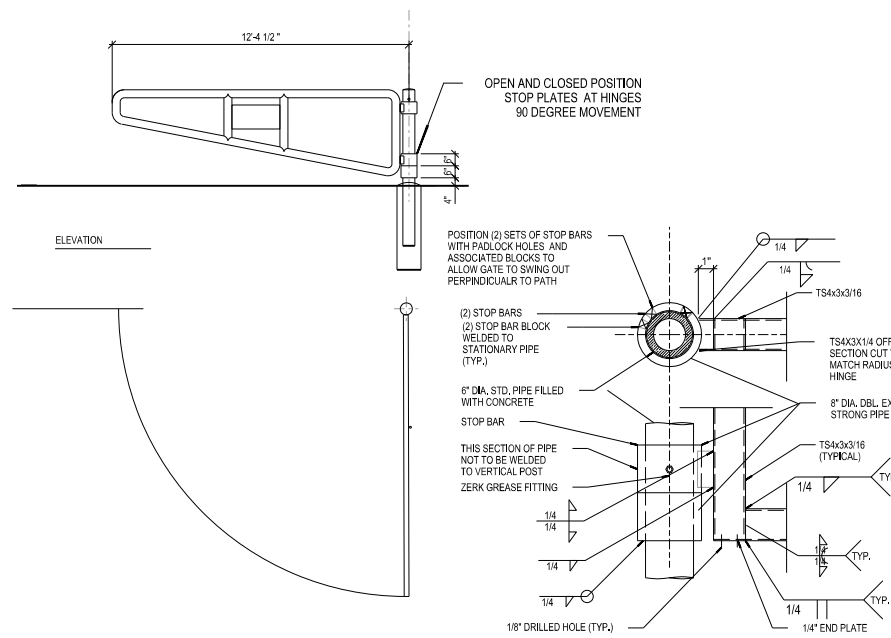
Statistics					
Description	Avg	Max	Min	Max/Min	Avg/Min
PATH	3.0 fc	4.9 fc	0.6 fc	8.2:1	5.0:1

KEYNOTES

- 01
- POLE LIGHT FIXTURE TO BE INSTALLED ON NEW 18" CONCRETE BASE AND 15'-0" STEEL I-BEAM. MOUNT FIXTURE AT 13'-0" TO BOTTOM A.F.G. SEE POLE DETAL ES01/15.



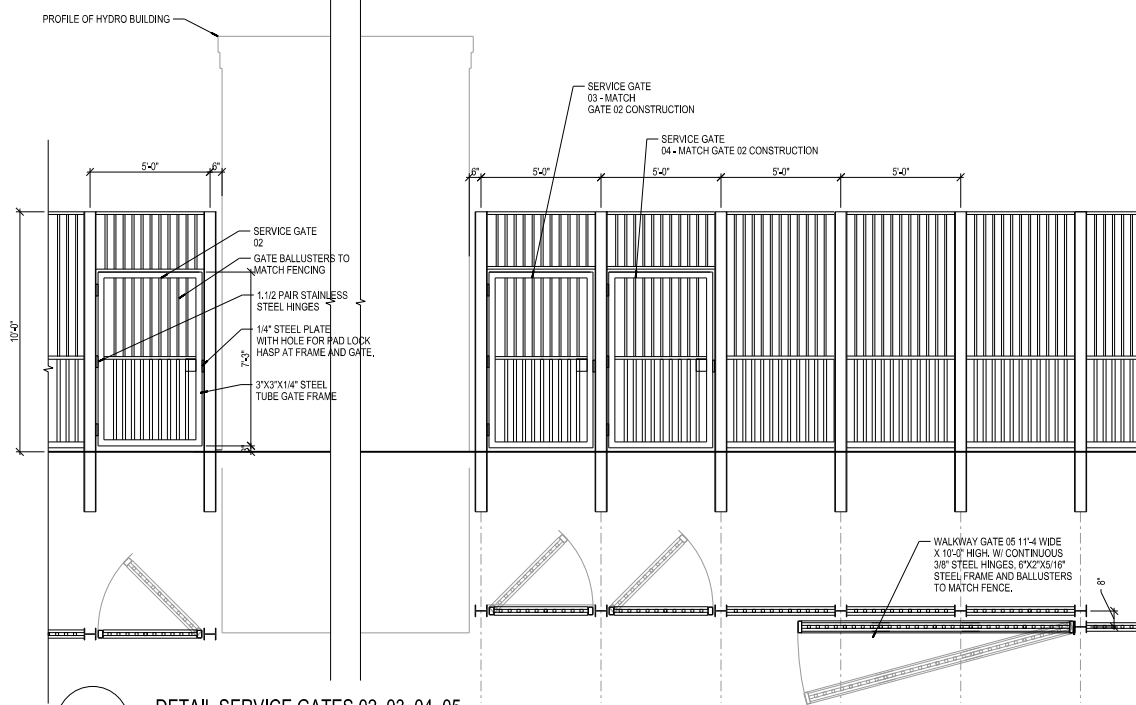
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DETAIL - GATES 01, 06

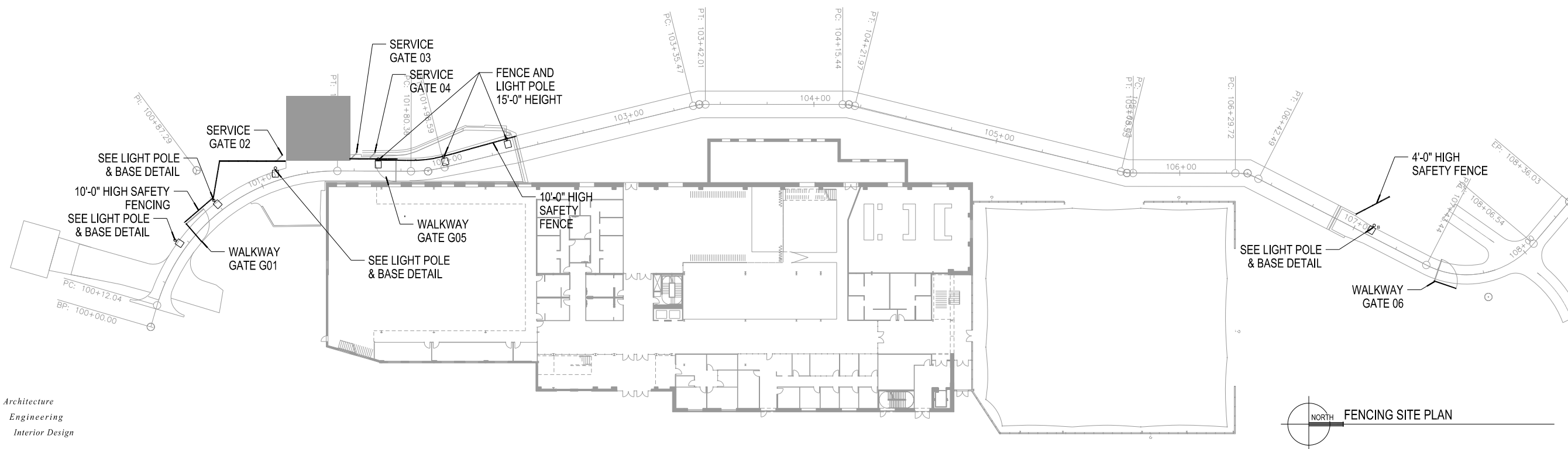
SCALE: 1/4"=1'-0"

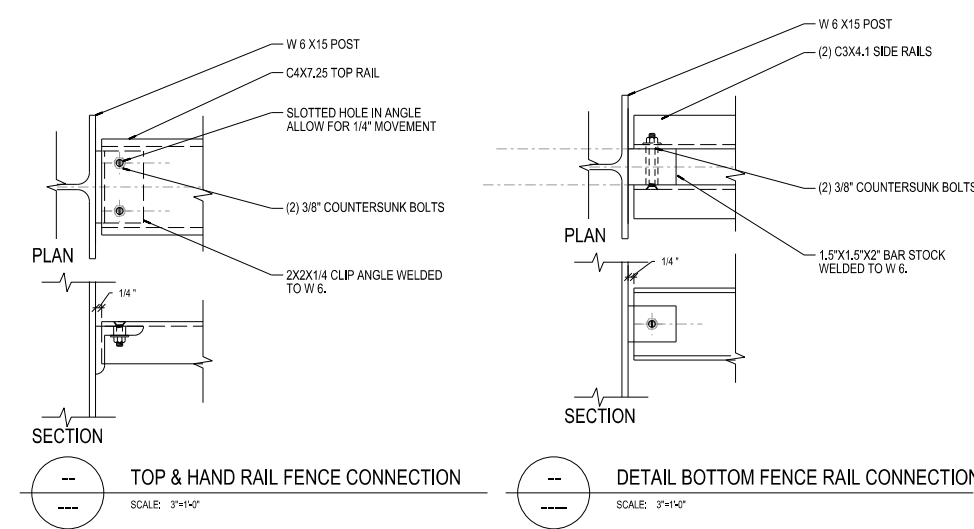
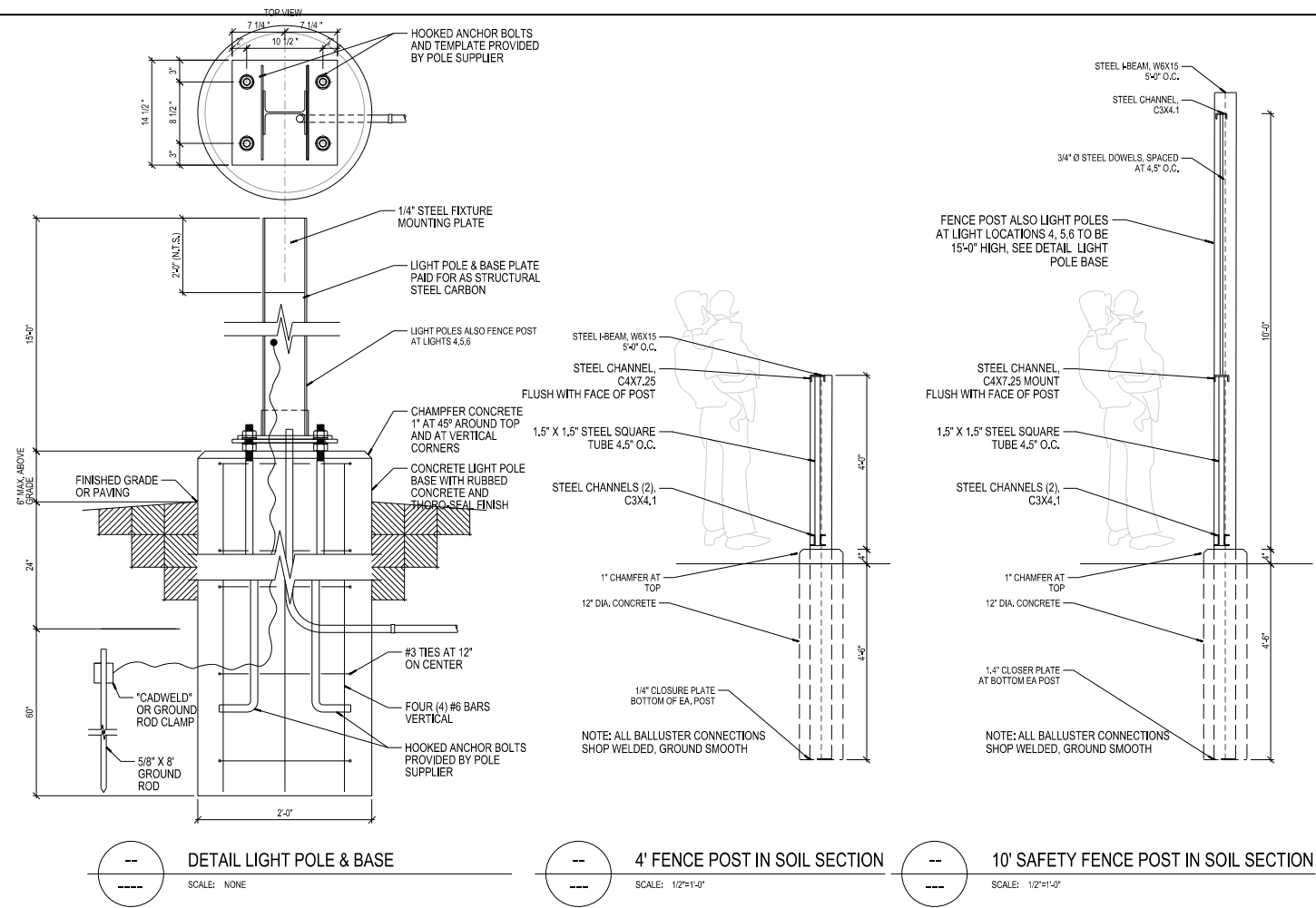
DETAIL 'C' - NOT TO SCALE

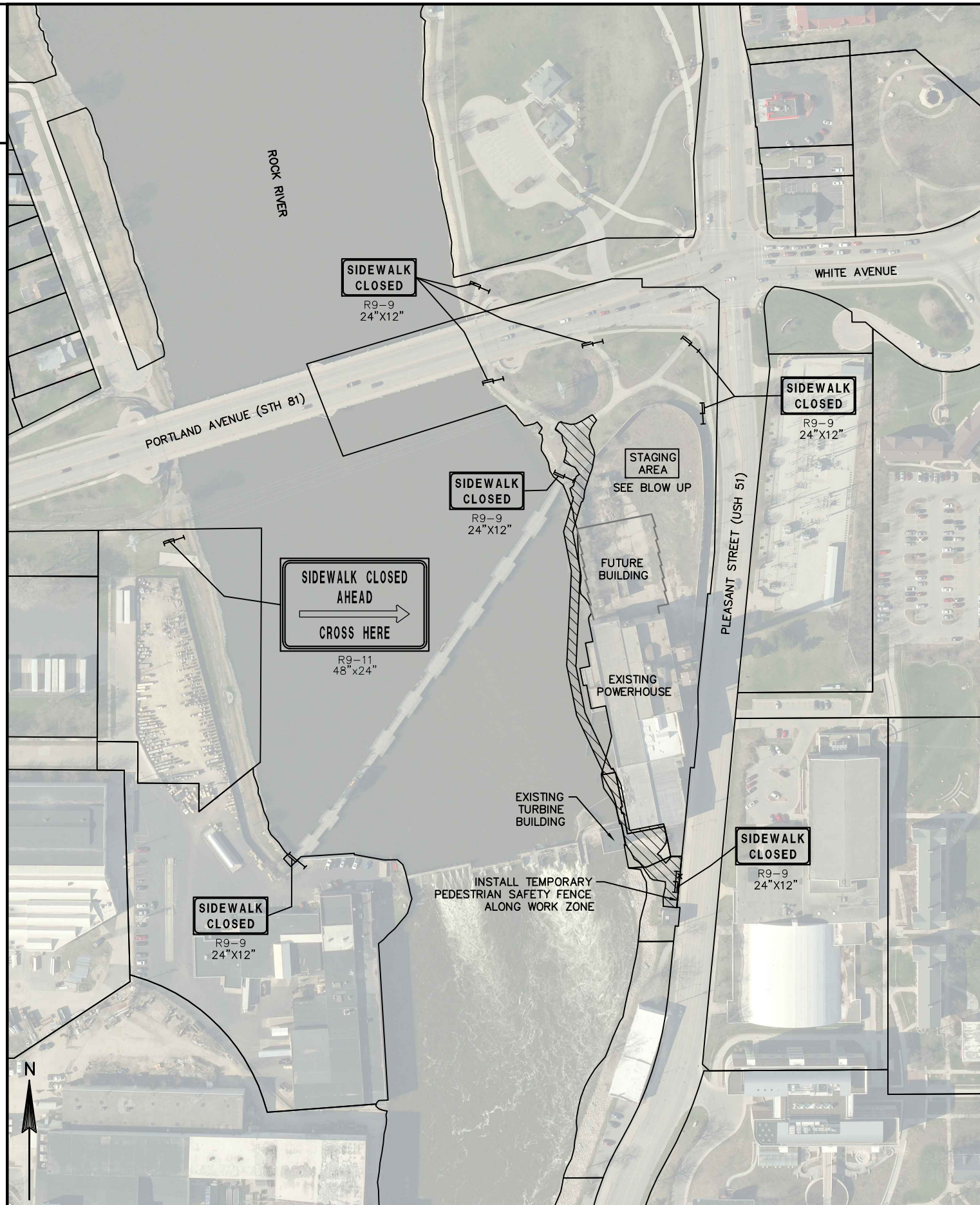


DETAIL SERVICE GATES 02, 03, 04, 05

SCALE: 1/4"=1'-0"







GENERAL NOTES:

ALL TRAFFIC CONTROL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED IN PLANS.

IF SIGNS ARE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS. MOUNT ALL PORTABLE TRAFFIC CONTROL SIGNS AT A MINIMUM OF 5 FEET, MEASURED FROM THE BOTTOM OF THE SIGN, ABOVE THE EDGE OF PAVEMENT.

ALL TRAFFIC CONTROL SIGNING SHALL CONFORM TO: PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE WISCONSIN SUPPLEMENT TO THE MUTCD, AND OTHER CONTRACT DOCUMENTS.

THE TURNING OF TRAFFIC CONTROL DEVICES WHEN NOT IN USE TO OBSCURE THE MESSAGE WILL NOT BE ALLOWED.

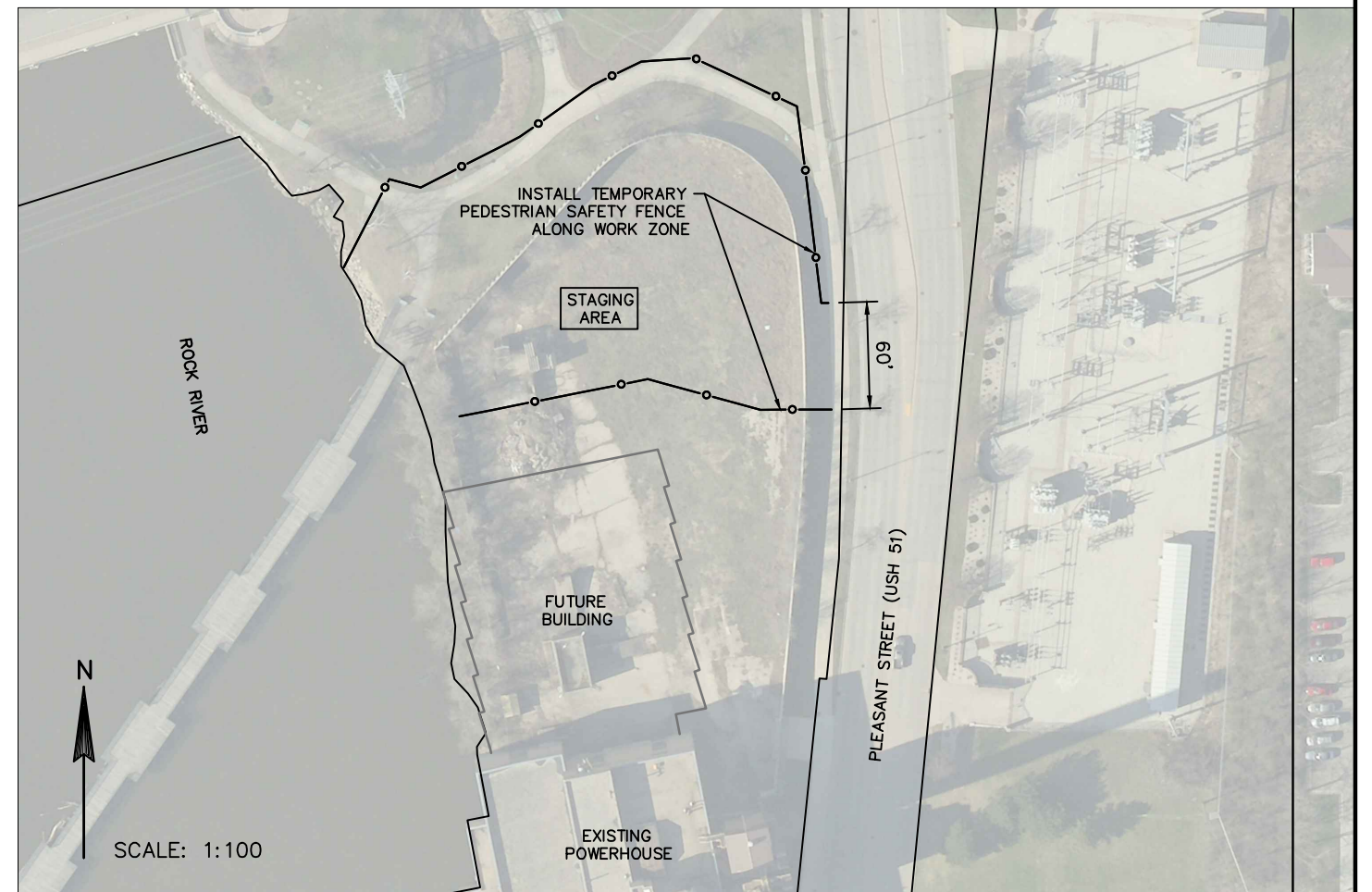
REFER TO THE FOLLOWING STANDARD DETAIL DRAWINGS FOR TRAFFIC CONTROL DEVICES, AS WELL AS OTHER STANDARD DETAIL DRAWINGS AS NECESSARY, UNLESS OTHERWISE DIRECTED BY THE ENGINEER:

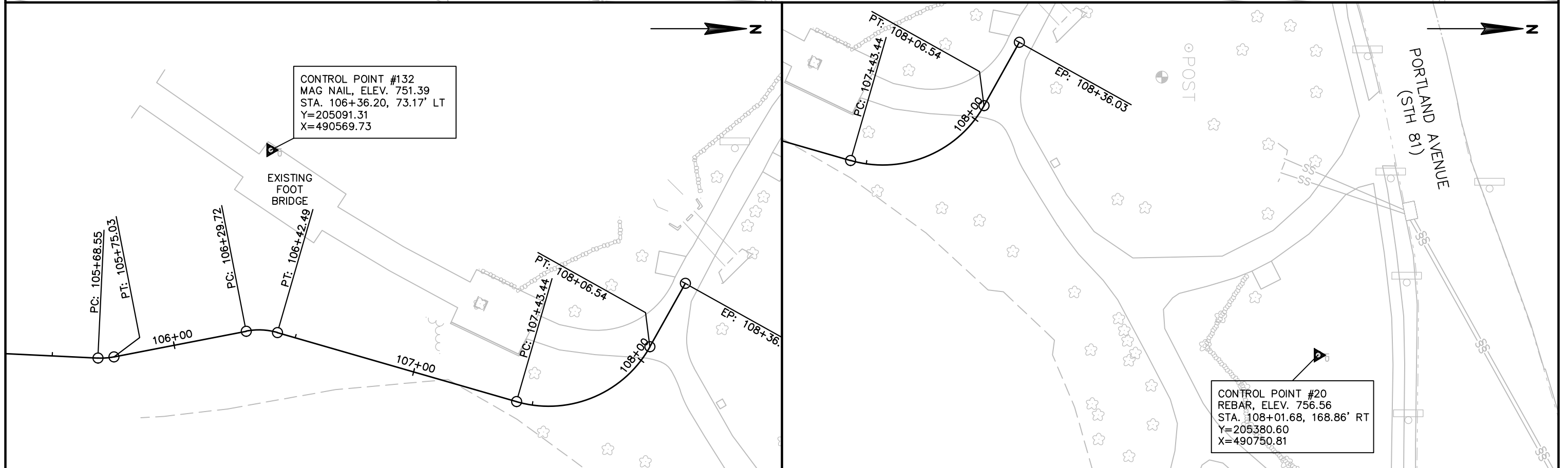
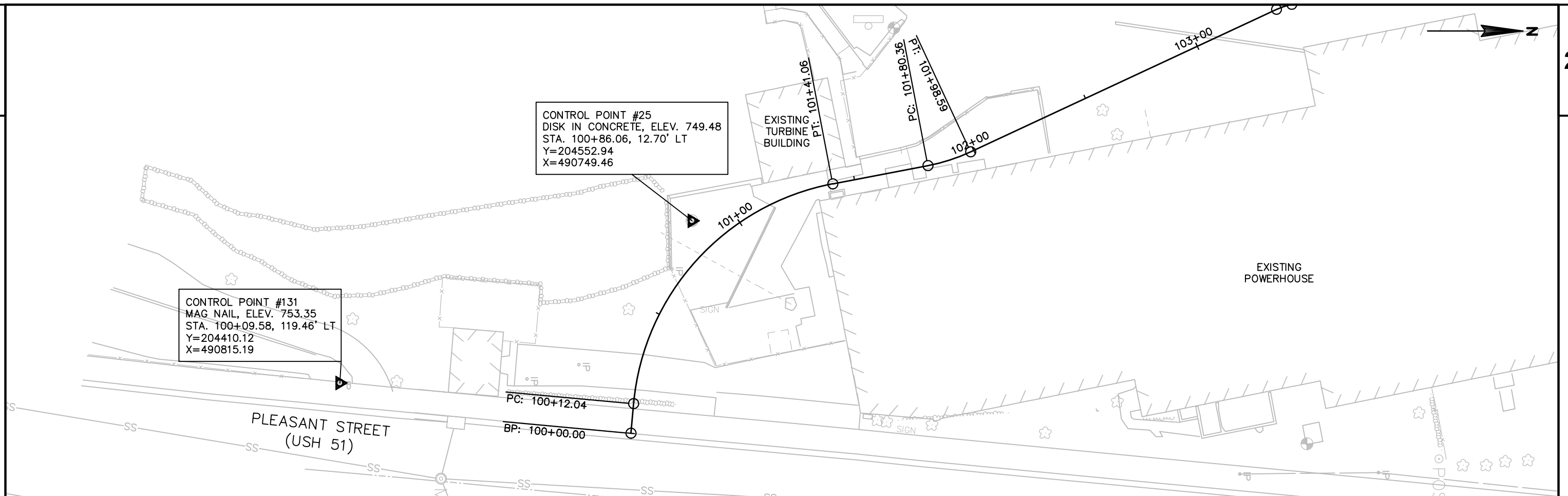
- TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON FREEWAY/EXPRESSWAY
- TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD
- TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
- TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATIONS

LEGEND

-  WORK AREA
-  TYPE II BARRICADE WITH ATTACHED SIGN
-  TYPE II BARRICADE

SIDEWALK CLOSED SIGNS ARE NOT NEEDED FOR THE ENTIRE DURATION OF THE PROJECT. PLACE SIDEWALK CLOSED SIGNS WHEN CONSTRUCTION ACTIVITIES ARE OCCURRING ON THE EXISTING PATHWAY.





Estimate Of Quantities

5989-05-26

Line	Item	Item Description	Unit	Total	Qty
0002	201.0110	Clearing	SY	100.000	100.000
0004	201.0120	Clearing	ID	20.000	20.000
0006	201.0210	Grubbing	SY	100.000	100.000
0008	201.0220	Grubbing	ID	20.000	20.000
0010	204.0100	Removing Pavement	SY	208.000	208.000
0012	204.0110	Removing Asphaltic Surface	SY	119.000	119.000
0014	204.0130	Removing Curb	LF	45.000	45.000
0016	204.0150	Removing Curb & Gutter	LF	61.000	61.000
0018	204.0155	Removing Concrete Sidewalk	SY	67.000	67.000
0020	204.0170	Removing Fence	LF	170.000	170.000
0022	204.0185	Removing Masonry	CY	2.000	2.000
0024	204.0245	Removing Storm Sewer (size) 01. 6-Inch	LF	45.000	45.000
0026	205.0100	Excavation Common	CY	637.000	637.000
0028	206.1000	Excavation for Structures Bridges (structure) 01. B-53-379	LS	1.000	1.000
0030	208.0100	Borrow	CY	50.000	50.000
0032	210.1500	Backfill Structure Type A	TON	140.000	140.000
0034	213.0100	Finishing Roadway (project) 01. 5989-05-26	EACH	1.000	1.000
0036	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	400.000	400.000
0038	311.0110	Breaker Run	TON	300.000	300.000
0040	416.0610	Drilled Tie Bars	EACH	101.000	101.000
0042	465.0105	Asphaltic Surface	TON	70.000	70.000
0044	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	40.000	40.000
0046	502.0100	Concrete Masonry Bridges	CY	93.000	93.000
0048	502.2000	Compression Joint Sealer Preformed Elastomeric (width) 01. 1-Inch	LF	72.000	72.000
0050	502.3200	Protective Surface Treatment	SY	1,010.000	1,010.000
0052	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	18,460.000	18,460.000
0054	506.0105	Structural Steel Carbon	LB	1,200.000	1,200.000
0056	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	80.000	80.000
0058	509.2500	Concrete Masonry Overlay Decks	CY	43.000	43.000
0060	516.0500	Rubberized Membrane Waterproofing	SY	11.000	11.000
0062	550.0500	Pile Points	EACH	34.000	34.000
0064	550.2126	Piling CIP Concrete 12 3/4 X 0.375-Inch	LF	2,120.000	2,120.000
0066	601.0105	Concrete Curb Type A	LF	121.000	121.000
0068	601.0417	Concrete Curb & Gutter 30-Inch Type K	LF	97.000	97.000
0070	601.0600	Concrete Curb Pedestrian	LF	105.000	105.000
0072	602.0405	Concrete Sidewalk 4-Inch	SF	800.000	800.000
0074	602.0415	Concrete Sidewalk 6-Inch	SF	3,500.000	3,500.000
0076	606.0300	Riprap Heavy	CY	45.000	45.000

Estimate Of Quantities

5989-05-26

Line	Item	Item Description	Unit	Total	Qty
0078	608.0512	Storm Sewer Pipe Reinforced Concrete Class V 12-Inch	LF	56.000	56.000
0080	608.6006	Storm Sewer Pipe Composite 6-Inch	LF	53.000	53.000
0082	611.0612	Inlet Covers Type C	EACH	1.000	1.000
0084	611.3004	Inlets 4-FT Diameter	EACH	1.000	1.000
0086	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	80.000	80.000
0088	616.0204	Fence Chain Link 4-FT	LF	257.000	257.000
0090	618.0100	Maintenance And Repair of Haul Roads (project) 01. 5989-05-26	EACH	1.000	1.000
0092	619.1000	Mobilization	EACH	1.000	1.000
0094	620.0100	Concrete Corrugated Median	SF	181.000	181.000
0096	624.0100	Water	MGAL	20.000	20.000
0098	625.0500	Salvaged Topsoil	SY	800.000	800.000
0100	628.1504	Silt Fence	LF	300.000	300.000
0102	628.1520	Silt Fence Maintenance	LF	600.000	600.000
0104	628.1905	Mobilizations Erosion Control	EACH	3.000	3.000
0106	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0108	628.2006	Erosion Mat Urban Class I Type A	SY	800.000	800.000
0110	628.6005	Turbidity Barriers	SY	100.000	100.000
0112	628.7005	Inlet Protection Type A	EACH	1.000	1.000
0114	628.7010	Inlet Protection Type B	EACH	1.000	1.000
0116	628.7020	Inlet Protection Type D	EACH	3.000	3.000
0118	628.7560	Tracking Pads	EACH	2.000	2.000
0120	629.0210	Fertilizer Type B	CWT	2.000	2.000
0122	630.0140	Seeding Mixture No. 40	LB	30.000	30.000
0124	630.0200	Seeding Temporary	LB	40.000	40.000
0126	634.0808	Posts Tubular Steel 2x2-Inch X 8-FT	EACH	5.000	5.000
0128	637.2210	Signs Type II Reflective H	SF	1.750	1.750
0130	637.2230	Signs Type II Reflective F	SF	15.000	15.000
0132	642.5201	Field Office Type C	EACH	1.000	1.000
0134	643.0300	Traffic Control Drums	DAY	3,000.000	3,000.000
0136	643.0410	Traffic Control Barricades Type II	DAY	3,500.000	3,500.000
0138	643.0705	Traffic Control Warning Lights Type A	DAY	1,800.000	1,800.000
0140	643.0900	Traffic Control Signs	DAY	2,500.000	2,500.000
0142	643.5000	Traffic Control	EACH	1.000	1.000
0144	644.1616.S	Temporary Pedestrian Safety Fence	LF	900.000	900.000
0146	645.0111	Geotextile Type DF Schedule A	SY	45.000	45.000
0148	645.0120	Geotextile Type HR	SY	75.000	75.000
0150	646.1020	Marking Line Epoxy 4-Inch	LF	320.000	320.000
0152	646.6020	Marking Stop Line Epoxy 12-Inch	LF	6.000	6.000
0154	646.8220	Marking Island Nose Epoxy	EACH	1.000	1.000

Estimate Of Quantities

5989-05-26

Line	Item	Item Description	Unit	Total	Qty
0156	650.4000	Construction Staking Storm Sewer	EACH	2.000	2.000
0158	650.4500	Construction Staking Subgrade	LF	383.000	383.000
0160	650.5000	Construction Staking Base	LF	383.000	383.000
0162	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	105.000	105.000
0164	650.6500	Construction Staking Structure Layout (structure) 01. B-53-379	LS	1.000	1.000
0166	650.8500	Construction Staking Electrical Installations (project) 01. 5989-05-26	LS	1.000	1.000
0168	650.9910	Construction Staking Supplemental Control (project) 01. 5989-05-26	LS	1.000	1.000
0170	650.9920	Construction Staking Slope Stakes	LF	383.000	383.000
0172	652.0105	Conduit Rigid Metallic 3/4-Inch	LF	350.000	350.000
0174	652.0110	Conduit Rigid Metallic 1-Inch	LF	500.000	500.000
0176	652.0210	Conduit Rigid Nonmetallic Schedule 40 1-Inch	LF	300.000	300.000
0178	652.0215	Conduit Rigid Nonmetallic Schedule 40 1 1/4-Inch	LF	20.000	20.000
0180	654.0105	Concrete Bases Type 5	EACH	4.000	4.000
0182	655.0610	Electrical Wire Lighting 12 AWG	LF	900.000	900.000
0184	655.0615	Electrical Wire Lighting 10 AWG	LF	2,500.000	2,500.000
0186	656.0200	Electrical Service Meter Breaker Pedestal (location) 01. 100+33	LS	1.000	1.000
0188	690.0150	Sawing Asphalt	LF	50.000	50.000
0190	690.0250	Sawing Concrete	LF	375.000	375.000
0192	715.0502	Incentive Strength Concrete Structures	DOL	558.000	558.000
0194	999.1500.S	Crack and Damage Survey	LS	1.000	1.000
0196	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	325.000	325.000
0198	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	425.000	425.000
0200	SPV.0060	Special 01. Walkway Gate	EACH	2.000	2.000
0202	SPV.0060	Special 02. Luminaire Utility LED A 350mA 49W	EACH	16.000	16.000
0204	SPV.0060	Special 03. Luminaire Utility LED B 350 mA 49W	EACH	2.000	2.000
0206	SPV.0060	Special 04. Junction Boxes 4x4x4-Inch NEMA 6P	EACH	14.000	14.000
0208	SPV.0060	Special 05. Junction Boxes 4x4x2-Inch NEMA 3R	EACH	22.000	22.000
0210	SPV.0060	Special 06. Locate And Reference Property Corners	EACH	5.000	5.000
0212	SPV.0060	Special 07. Reset Property Corners	EACH	5.000	5.000
0214	SPV.0090	Special 01. Railing Steel Pedestrian Special B-53-379	LF	672.000	672.000
0216	SPV.0090	Special 02. Prestressed Girders Box Type 21-Inch	LF	1,782.000	1,782.000
0218	SPV.0090	Special 03. Safety Fence 4-Foot	LF	20.000	20.000
0220	SPV.0090	Special 04. Safety Fence 10-Foot	LF	167.000	167.000
0222	SPV.0105	Special 01. Construction Access	LS	1.000	1.000
0224	SPV.0165	Special 01. Wall Modular Block Mechanically Stabilized Earth LRFD	SF	149.000	149.000

3

CLEARING AND GRUBBING						
		201.0110	201.0120	201.0210	201.0220	
		CLEARING	CLEARING	GRUBBING	GRUBBING	
STATION	LOCATION	SY	ID	SY	ID	
CATEGORY 0010						
100+47	LT	-	5	-	5	
106+67-107+25	LT/RT	100	-	100	-	
107+55	RT	-	9	-	9	
PLEASANT ST		-	6	-	6	
TOTAL CATEGORY 0010		100	20	100	20	
REMOVING CONCRETE SIDEWALK						
		204.0155 REMOVING CONCRETE SIDEWALK				
STATION	LOCATION	SY	NOTES			
CATEGORY 0010						
PLEASANT ST		67	POST CONSTRUCTION (SIDEWALK)			
TOTAL CATEGORY 0010		67				
REMOVING CURB						
		204.0130	204.0150			
		REMOVING CURB	REMOVING CURB & GUTTER			
STATION	LOCATION	LF	LF	NOTES		
CATEGORY 0010						
100+69-101+16	RT	45	-	-		
PLEASANT ST		-	61	PRECONSTRUCTION (ENTRANCE)		
TOTAL CATEGORY 0010		45	61			
REMOVING PAVEMENT						
		204.0100	204.0110			
		REMOVING PAVEMENT	REMOVING ASPHALTIC SURFACE			
STATION	LOCATION	SY	SY	NOTES		
CATEGORY 0010						
100+69-101+54	LT/RT	139		-		
PLEASANT ST		69		PRECONSTRUCTION (ISLAND)		
PLEASANT ST			50	POST CONSTRUCTION (ENTRANCE)		
PLEASANT ST			69	POST CONSTRUCTION (ISLAND)		
TOTAL CATEGORY 0010		208	119			

SAWING PAVEMENT					
		690.0150	690.0250		
		SAWING ASPHALT	SAWING CONCRETE		
STATION	LOCATION	LF	LF	NOTES	
CATEGORY 0010					
100+20-100+37	RT	12	-		
100+45-101+05	RT	-	45		
107+95-108+00	RT	10	-		
108+36	LT/RT	11	-		
PLEASANT ST		-	288	PRECONSTRUCTION (CURB & ISLAND)	
PLEASANT ST		-	20	POST CONSTRUCTION (SIDEWALK)	
SUBTOTAL		33	353		
UNDISTRIBUTED		17	22		
TOTAL CATEGORY 0010		50	375		
REMOVING FENCING					
204.0170					
REMOVING FENCE					
STATION		LOCATION	LF		
CATEGORY 0010					
100+69-101+16		RT	45		
100+38-101+15		LT	110		
101+54-101+75		LT	15		
TOTAL CATEGORY 0010			170		
REMOVING MASONRY					
204.1850					
REMOVING MASONRY					
STATION		LOCATION	CY		
CATEGORY 0010					
100+67-100+80		LT	2		
TOTAL CATEGORY 0010			2		
REMOVING STORM SEWER					
204.0245					
REMOVING STORM SEWER (SIZE) 01. 6-INCH					
STATION		LOCATION	LF		
CATEGORY 0010					
100+75-100+89		LT/RT	45		
TOTAL CATEGORY 0010			45		

3

3

BASE AGGREGATE ITEMS				
		305.0120	311.0110	
		BASE AGGREGATE DENSE 1 1/4-INCH	BREAKER RUN	
STATION		TON	TON	NOTES
CATEGORY 0010				
100+10-108+36		-	38	-
100+10-102+37		105	-	-
100+18-100+48		26	-	-
100+17-100+39		39	-	-
100+90-101+34		35	-	-
106+90-108+36		58	78	-
PLEASANT ST		31	28	PRECONSTRUCTION (ENTRANCE)
PLEASANT ST		28	-	PRECONSTRUCTION (ENTRANCE)
PLEASANT ST		27	-	POST CONSTRUCTION (SIDEWALK)
SUBTOTAL		349	144	
UNDISTRIBUTED		51	156	
TOTAL CATEGORY 0010		400	300	
CONCRETE SIDEWALK				
		602.0405	602.0415	
		CONCRETE SIDEWALK 4-INCH	CONCRETE SIDEWALK 6-INCH	
STATION	LOCATION	SF	SF	NOTES
CATEGORY 0010				
100+10-102+37	LT/RT	384	2836	
PLEASANT ST		-	603	POST CONSTRUCTION(SIDEWALK)
PLEASANT ST		383		POST CONSTRUCTION(ISLAND)
SUBTOTAL		767	3439	
UNDISTRIBUTED		33	61	
TOTAL CATEGORY 0010		800	3500	
CONCRETE CURB & GUTTER				
		601.0600	601.0417	601.0105
		CURB PEDESTRIAN	CURB & GUTTER, 30-INCH TYPE K	CURB TYPE A
STATION	LOCATION	LF	LF	LF
CATEGORY 0010				
101+34 - 102+37	RT	105	-	-
PLEASANT ST		-	97	-
PLEASANT ST		-	-	121
TOTAL CATEGORY 0010		105	97	121

ASPHALT PAVEMENT ITEMS				
		465.0105	465.0120	
		ASPHALTIC SURFACE	ASPHALTIC SURFACE	
			DRIVEWAYS AND FIELD	
			ENTRANCES	
	STATION	TON	TON	NOTES
CATEGORY 0010				
	100+18-100+48	-	9	
	100+17-100+39	-	13	
	100+90-101+34	-	12	
	106+90-108+36	29	-	
	PLEASANT ST	14	-	PRECONSTRUCTION (ENTRANCE)
	PLEASANT ST	19	-	PRECONSTRUCTION (ISLAND)
SUBTOTAL		62	34	
UNDISTRIBUTED		8	6	
TOTAL CATEGORY 0010		70	40	
CONCRETE CORRUGATED MEDIAN				
620.0100				
CONC				
CORRUGATED				
MEDIAN				
	STATION	LOCATION	SF	NOTES
CATEGORY 0010				
	PLEASANT ST		181	POST CONSTRUCTION (ISLAND)
TOTAL CATEGORY 0010			181	
DRILLED TIE BARS				
416.0610				
DRILLED TIE BARS				
	STATION	LOCATION	EA	NOTES
CATEGORY 0010				
	PLEASANT ST		32	POST CONSTRUCTION (ROADWAY)
	PLEASANT ST		69	POST CONSTRUCTION (ISLAND)
TOTAL CATEGORY 0010			101	
NOTES				
-				
CONSTRUCTION (ROADWAY)				
CONSTRUCTION (ISLAND)				

3

3

3

FENCING ITEMS

					SPV.0060.01	SPV.0090.03	SPV.0090.04
					WALKWAY GATE	SAFETY FENCE 4-FOOT	SAFETY FENCE 10-FOOT
STATION		LOCATION		EACH	LF	LF	
CATEGORY 0010		100+55		LT	1	-	-
100+55	-	101+15	LT	-	-	-	77
101+47	-	102+37	LT	-	-	-	90
106+98	-	107+09	LT	-	20	-	-
107+50		RT		1	-	-	-
TOTAL CATEGORY 0010					2	20	167

EROSION CONTROL ITEMS

PROJECT NO:5989-05-26	HWY:NON HWY	COUNTY:ROCK	MISCELLANEOUS QUANTITIES	SHEET	E
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3

3

LANDSCAPING ITEMS					
		625.0500	629.0210	630.0140	630.0200
		SALVAGED TOPSOIL	FERTILIZER TYPE B	SEEDING MIXTURE NO. 40	SEEDING TEMPORARY
STATION	LOCATION	SY	CWT	LB	LB
CATEGORY 0010					
100+00-108+36	LT/RT	734	1	15	20
SUBTOTAL		734	1	15	20
UNDISTRIBUTED		66	1	15	20
TOTAL CATEGORY 0010		800	2	30	40

PAVEMENT MARKING						
		646.1020	646.6020	646.8220		
		MARKING LINE EPOXY 4-INCH, WHITE	MARKING LINE EPOXY 4-INCH, YELLOW	MARKING STOP LINE EPOXY 12-INCH, WHITE	MARKING ISLAND NOSE EPOXY, YELLOW	
STATION	LOCATION	LF	LF	LF	EA	NOTES
CATEGORY 0010						
100+00-108+36	LT/RT	59	214	6	-	
PLEASANT ST		-	20	-	-	POST CONSTRUCTION - SIDEWALK
PLEASANT ST		-	-	-	1	POST CONSTRUCTION - ISLAND
SUBTOTAL		59	234	6	1	
UNDISTRIBUTED		11	16	-	-	
SUBTOTAL		70	250			
TOTAL CATEGORY 0010		320		6	1	

CONSTRUCTION STAKING										
		650.4000	650.4500	650.5000	650.5500	650.6500	650.8500	650.9910	650.9920	
		CONSTRUCTION STAKING STORM SEWER	CONSTRUCTION STAKING SUBGRADE	CONSTRUCTION STAKING BASE	CONSTRUCTION STAKING CURB & GUTTER	CONSTRUCTION STAKING STRUCTURE LAYOUT	CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL	CONSTRUCTION STAKING SLOPE STAKES	
STATION	LOCATION	EACH	LF	LF	LF	EACH	LS	LS	LF	
CATEGORY 0010										
100+00-108+36	LT/RT	-	-	-	-	-	1	1	-	
100+00-102+37	LT/RT	2	237	237	105	-	-	-	237	
106+90-108+36	LT/RT	-	146	146	-	-	-	-	146	
SUBTOTAL		2	383	383	105	-	1	1	383	
CATEGORY 0020										
102+37-106+90	LT/RT	-	-	-	-	1	-	-	-	
PROJECT TOTAL		2	383	383	105	1	1	1	383	

Division	From/To Station	205.0100 Common Excavation (1)		Salvaged/Unusable Pavement Material (4)	Available Material (5)	Reduced EBS in Fill (6)	Expanded EBS Backfill (7)	Unexpanded Fill	Expanded Fill (8)	Mass Ordinate +/- (9)	Waste	208.0100 Borrow	Comment:
		Cut (2)	EBS Excavation (3)			Factor 0.80	Factor 1.00		Factor 1.25				
Riverwalk	100+10 - 108+36	615	21	39	576	17	21	158	198	400	400	50	
Total Common Exc		637											

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.

(3) EBS Excavation to be backfilled with Select Borrow material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well.

(4) Salvaged/Unusable Pavement Material

(5) Available Material = Cut - Salvaged/Unusuable Pavement Material

(6) Reduced EBS in Fill - Excavated EBS material is usable in Fills outside the 1:1 slope. EBS in Fill Reduction factor = 0.8

(7) Expanded EBS Backfill - This is to be filled with Select Borrow material. EBS Backfill Factor = 1. Item number 208.1100

(8) Expanded Fill Factor = 1.25

Depending on selections: **Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced Marsh - Reduced EBS) * Fill Factor**

Expanded Fill = (Unexpanded Fill - Rock * Rock Factor - Reduced EBS) * Fill Factor

Expanded Fill = (Unexpanded Fill - Rock * Rock Factor - Reduced Marsh) * Fill Factor

Expanded Fill = (Unexpanded Fill - Rock * Rock Factor) * Fill Factor

(9) 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.

WIRING ITEMS						
	652.0105	652.0110	652.0210	652.0215	655.0610	655.0615
	CONDUIT RIGID METALLIC 3/4- INCH	CONDUIT RIGID METALLIC 1-INCH	CONDUIT RIGID NONMETALLIC SCHEDULE 40 1-INCH	CONDUIT RIGID NONMETALLIC SCHEDULE 40 1 1/4-INCH	ELECTRICAL WIRE LIGHTING 12 AWG	ELECTRICAL WIRE LIGHTING 10 AWG
LOCATION	LF	LF	LF	LF	LF	LF
CATEGORY 0010						
EX. UTILITY-METER	-	-	-	20	-	60
METER-LP1	-	-	58	-	-	174
LP1	17	-	-	-	40	-
LP1-LP2	-	-	30	-	-	90
LP2	17	-	-	-	40	-
LP2-LP3	-	-	38	-	-	114
LP3	17	-	-	-	40	-
LP3-LP4	-	-	56	-	-	168
LP4	17	-	-	-	40	-
LP4-LP5	-	-	36	-	-	108
LP5	17	-	-	-	40	-
LP5-LP6	-	-	36	-	-	108
LP6	17	-	-	-	40	-
LP6-LP7	-	32	-	-	-	96
LP7	17	-	-	-	40	-
LP7-LP8	-	32	-	-	-	96
LP8	17	-	-	-	40	-
LP8-LP9	-	38	-	-	-	114
LP9	17	-	-	-	40	-
LP9-LP10	-	42	-	-	-	126
LP10	17	-	-	-	40	-
LP10-LP11	-	40	-	-	-	120
LP11	17	-	-	-	40	-
LP11-LP12	-	38	-	-	-	114
LP12	17	-	-	-	40	-
LP12-LP13	-	38	-	-	-	114
LP13	17	-	-	-	40	-
LP13-LP14	-	36	-	-	-	108
LP14	17	-	-	-	40	-
LP14-LP15	-	36	-	-	-	108
LP15	17	-	-	-	40	-
LP15-LP16	-	44	-	-	-	132
LP16	17	-	-	-	40	-
LP16-LP17	-	44	-	-	-	132
LP17	17	-	-	-	40	-
LP17-LP18	-	32	20	-	-	156
LP18	17	-	-	-	40	-
SUBTOTAL	306	452	274	20	720	2238
UNDISTRIBUTED	44	48	26	-	180	262
TOTAL CATEGORY 0010	350	500	300	20	900	2500

PROPERTY CORNER ITEMS			
		SPV.0060.06 LOCATE AND REFERENCE PROPERTY CORNERS	SPV.0060.07 RESET PROPERTY CORNERS
STATION	LOCATION	EACH	EACH
CATEGORY 0010			
100+39	28.6' RT	1	1
100+68	5.5' LT	1	1
100+29	0.2' RT	1	1
106+81	5.1' RT	1	1
107+22	16.5' LT	1	1
TOTAL CATEGORY 0010		5	5

WATER		624.0100
		WATER
		MGAL
CATEGORY 0010	STATION	
	100+10-108+36	20
TOTAL CATEGORY 0010		20

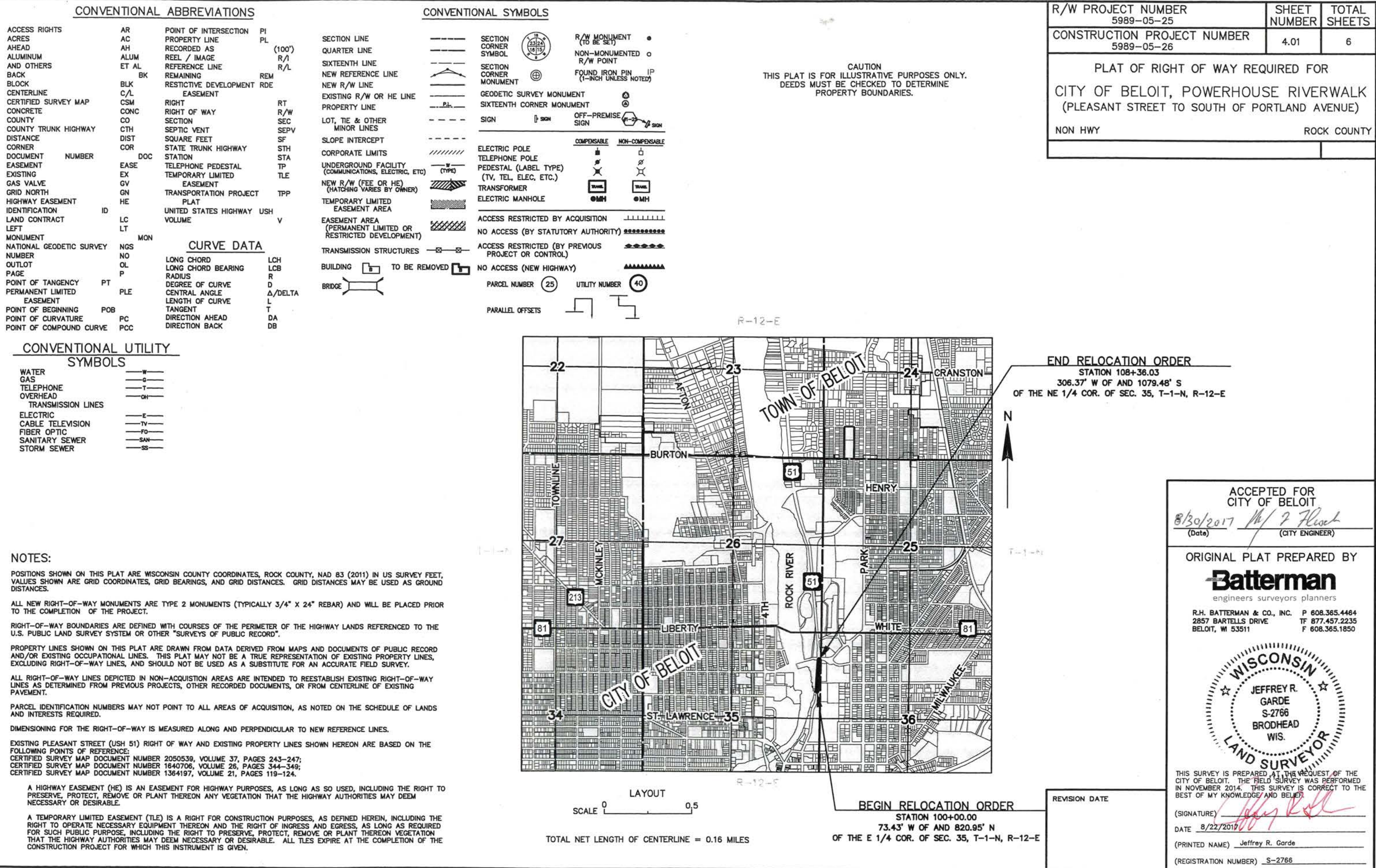
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PERMANENT SIGNING								
				634.0808	637.2210	637.2230		
				SIGN SIZE INxIN	POSTS TUBULAR STEEL 2x2-INCH x 8-FT	SIGNS TYPE II REFLECTIVE H	SIGNS TYPE II REFLECTIVE F	
SIGN NO.	STATION	SIGN CODE		EACH	SF	SF		MESSAGE
CATEGORY 0010								
1-01	100+16	R1-1	18x18	1	1.75			STOP
1-02	100+17	W7-5	18x18	1	-	2.25		STEEP GRADE
1-03	100+94	W5-4A	18x18	1	-	2.25		PATH NARROWS
1-04	101+06	W3-1	18x18	1	-	2.25		STOP AHEAD
1-05	101+34	W5-52R	12x36	1	-	3		BRIDGE HASH MARKS
1-06	101+48	W5-52R	12x36	-	-	3		BRIDGE HASH MARKS
1-07	102+41	W5-4A	18x18	-	-	2.25		PATH NARROWS
TOTAL CATEGORY 0010				5	1.75	15		

TRAFFIC CONTROL ITEMS						
	643.0300	643.0410	643.0705	643.0900	643.5000	644.1616.S
	TRAFFIC CONTROL DRUM S	TRAFFIC CONTROL BARRICADES TYPE II	TRAFFIC CONTROL WARNING LIGHTS TYPE A	TRAFFIC CONTROL SIGNS	TRAFFIC CONTROL	TEMPORARY PEDESTRIAN SAFETY FENCE
STATION	DAYS	DAYS	DAYS	DAYS	EACH	LF
CATEGORY 0010						
100+00-108+36	-	2700	1350	1200	1	100
PLEASANT ST	-	-	-	750	-	725
SUBTOTAL	0	2700	1350	1950	1	825
UNDISTRIBUTED	3000	800	450	550	-	75
TOTAL CATEGORY 0010	3000	3500	1800	2500	1	900

3

LIGHTING ITEMS										
				506.0105	654.0105	656.0200	SPV.0060.02	SPV.0060.03	SPV.0060.04	SPV.0060.05
				STRUCTURAL STEEL CARBON	CONCRETE BASES TYPE 5	ELECTRICAL SERVICE METER BREAKER PEDESTAL STA. 100+33	LUMINAIRE UTILITY LED A 350m A 49W	LUMINAIRE UTILITY LED B 350m A 49W	JUNCTION BOXES 4X4X4-INCH NEMA 6P	JUNCTION BOXES 4X4X2-INCH NEMA 3R
	STATION	LOCATION	DESCRIPTION	LB	EACH	LS	EACH	EACH	EACH	EACH
CATEGORY 0010										
	100+33	60' LT	METER	-	-	1	-	-	-	-
	100+46	9' LT	LP1	300	1	-	-	1	-	2
	100+75	9' LT	LP2	300	1	-	1	-	-	2
	101+10	9' LT	LP3	300	1	-	1	-	-	2
	101+64	7'LT	LP4	-	-	-	1	-	1	1
	102+02	7'LT	LP5	-	-	-	1	-	1	1
	102+37	7'LT	LP6	-	-	-	1	-	1	1
	102+70	7'LT	LP7	-	-	-	1	-	1	1
	103+01	7'LT	LP8	-	-	-	1	-	1	1
	103+39	7'LT	LP9	-	-	-	1	-	1	1
	103+80	7'LT	LP10	-	-	-	1	-	1	1
	104+19	7'LT	LP11	-	-	-	1	-	1	1
	104+57	7'LT	LP12	-	-	-	1	-	1	1
	104+97	7'LT	LP13	-	-	-	1	-	1	1
	105+34	7'LT	LP14	-	-	-	1	-	1	1
	105+72	7'LT	LP15	-	-	-	1	-	1	1
	106+17	7'LT	LP16	-	-	-	1	-	1	1
	106+58	7'LT	LP17	-	-	-	1	-	1	1
	107+09	7'LT	LP18	300	1	-	-	1	-	2
TOTAL CATEGORY 0010				1200	4	1	16	2	14	22



FILE NAME : J:\32200-32299\32205 POWERHOUSE RIVERWALK - CITY OF BELOIT\DESIGN\5989-05-25\RW\32205 - RW PLAT TITLE SHEET.DWG

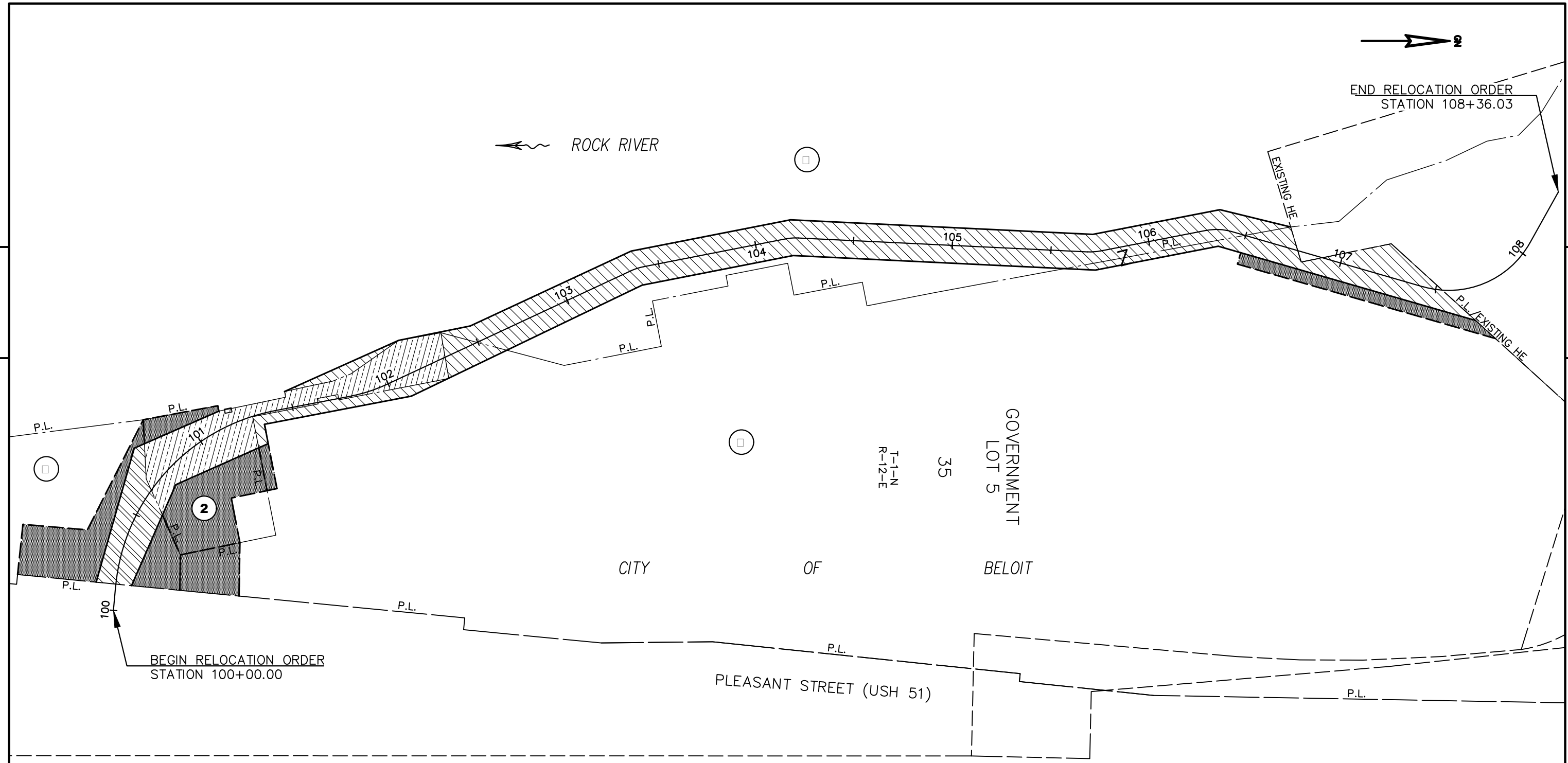
PLOT DATE : 8/23/2017 11:04 AM

PLOT BY : CARYN MELLOW

PLOT NAME :

LAYOUT NAME - #####

WISDOT/CADDs SHEET 50



										SECTION LINE		
REVISION DATE _____		DATE 8/22/2017		SCALE, FEET 0 25 50		HWY: NON HWY		STATE R/W PROJECT NUMBER 5989-05-25		PLAT SHEET 4. 03		
_____		GRID FACTOR _____				COUNTY: ROCK		CONSTRUCTION PROJECT NUMBER 5989-05-26		PS&E SHEET _____		E

SCHEDULE OF LANDS & INTERESTS REQUIRED				AREAS SHOWN IN THE TOTAL AREA COLUMN MAY BE APPROXIMATE AND ARE DERIVED FROM TAX ROLLS OR OTHER AVAILABLE SOURCES AND MAY NOT INCLUDE LANDS OF THE OWNER WHICH ARE NOT CONTIGUOUS TO THE AREA TO BE ACQUIRED.			OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTEREST TO THE CITY.	
PARCEL NUMBER	SHEET NUMBER	OWNER(S)	INTEREST REQUIRED	R/W ACRES OR SQUARE FEET REQUIRED			HE (SF)	TLE (SF)
				NEW	EXISTING	TOTAL		
1	4.04	CITY OF BELOIT	HE & TLE	---	---	---	1180	1989
2	4.04	MIDWEST HYDRO INC	HE & TLE	---	---	---	2960	1877
3	4.04 - 4.06	WISCONSIN POWER & LIGHT CO	HE & TLE	---	---	---	10158	1568
6	4.04	AT&T WISCONSIN (WISCONSIN BELL, INC)	RELEASE OF RIGHTS	---	---	---	---	---

REVISION DATE _____ _____ _____	DATE 8/22/2017	SCALE, FEET 	HWY: NON HWY	STATE R/W PROJECT NUMBER 5989-05-25	PLAT SHEET 4. 02	E
	GRID FACTOR _____		COUNTY: ROCK	CONSTRUCTION PROJECT NUMBER5989-05-26	PS&E SHEET _____	

TLE COURSE TABLE		
COURSE	BEARING	DISTANCE
100 - 124	S5° 35' 08"W	39.96'
124 - 125	N83° 53' 32"W	25.53'
125 - 126	N4° 56' 33"E	32.71'
126 - 127	N63° 04' 55"W	62.52'
127 - 128	N87° 08' 58"E	12.14'
128 - 101	S23° 38' 14"E	5.66'
101 - 100	S74° 08' 42"E	70.50'

123 - 130	N66° 20' 33"W	39.00'
130 - 135	N65° 47' 50"E	22.10'
135 - 136	S89° 09' 11"E	17.96'
136 - 123	S5° 35' 08"W	24.56'

128 - 127	S87° 08' 58"W	12.14'
127 - 129	N10° 39' 13"W	38.38'
129 - 102	N78° 38' 31"E	2.79'
102 - 128	S23° 38' 14"E	41.11'

130 - 122	N66° 20' 33"W	16.77'
122 - 131	N23° 56' 53"W	45.94'
131 - 132	N78° 58' 39"E	22.06'
132 - 133	S11° 38' 06"E	18.49'
133 - 134	N79° 08' 42"E	23.00'
134 - 135	S11° 38' 06"E	30.73'
135 - 130	S65° 47' 50"W	22.10'

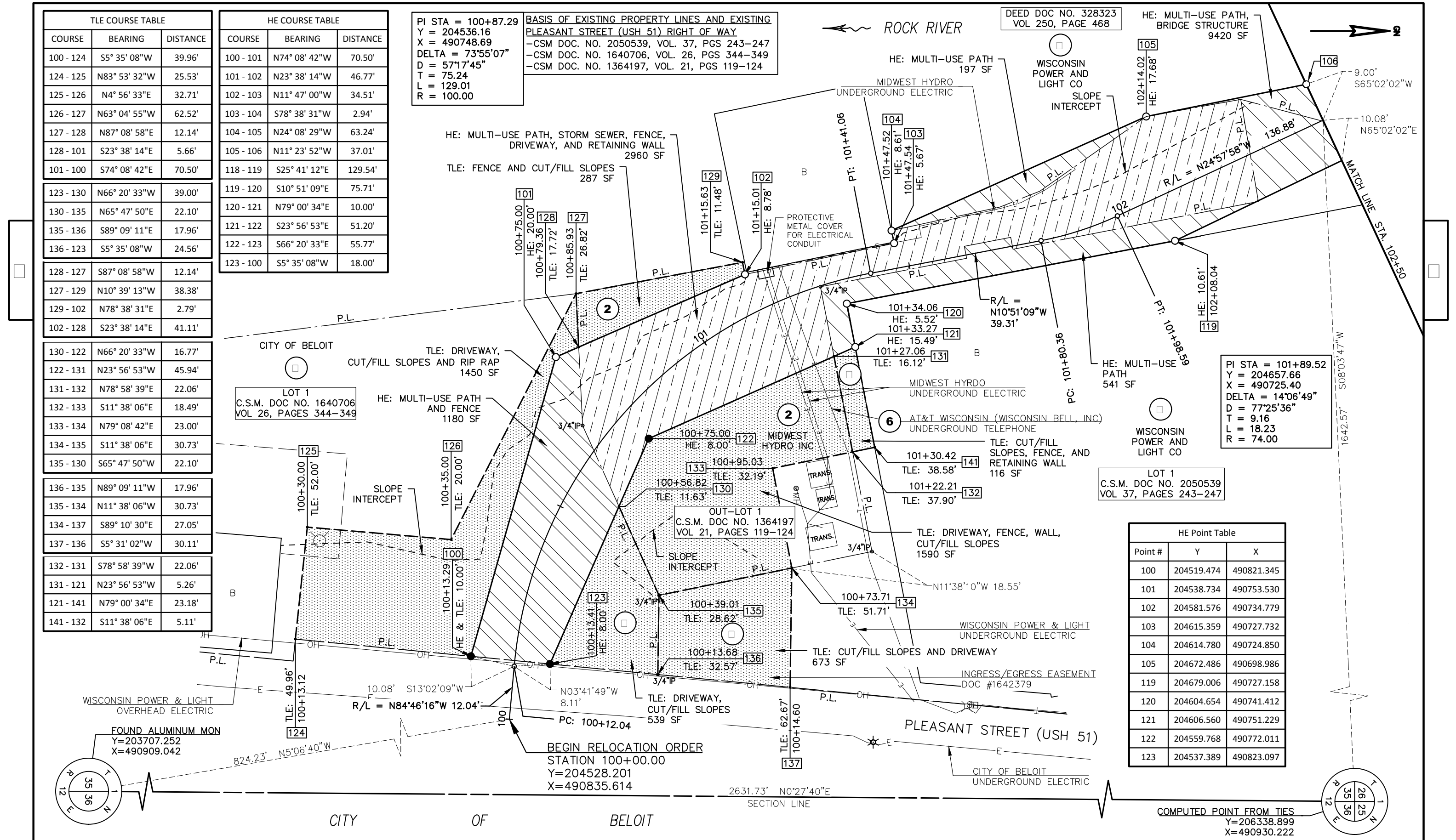
136 - 135	N89° 09' 11"W	17.96'
135 - 134	N11° 38' 06"W	30.73'
134 - 137	S89° 10' 30"E	27.05'
137 - 136	S5° 31' 02"W	30.11'

132 - 131	S78° 58' 39"W	22.06'
131 - 121	N23° 56' 53"W	5.26'
121 - 141	N79° 00' 34"E	23.18'
141 - 132	S11° 38' 06"E	5.11'

HE COURSE TABLE		
COURSE	BEARING	DISTANCE
100 - 101	N74° 08' 42"W	70.50'
101 - 102	N23° 38' 14"W	46.77'
102 - 103	N11° 47' 00"W	34.51'
103 - 104	S78° 38' 31"W	2.94'
104 - 105	N24° 08' 29"W	63.24'
105 - 106	N11° 23' 52"W	37.01'
118 - 119	S25° 41' 12"E	129.54'
119 - 120	S10° 51' 09"E	75.71'
120 - 121	N79° 00' 34"E	10.00'
121 - 122	S23° 56' 53"E	51.20'
122 - 123	S66° 20' 33"E	55.77'
123 - 100	S5° 35' 08"W	18.00'

PI STA = 100+87.29
Y = 204536.16
X = 490748.69
DELTA = 73°55'07"
D = 57°17'45"
T = 75.24
L = 129.01
R = 100.00

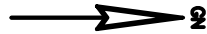
BASIS OF EXISTING PROPERTY LINES AND EXISTING PLEASANT STREET (USH 51) RIGHT OF WAY
—CSM DOC. NO. 2050539, VOL. 37, PGS 243–247
—CSM DOC. NO. 1640706, VOL. 26, PGS 344–349
—CSM DOC. NO. 1364197, VOL. 21, PGS 119–124



PI STA = 101+89.52
Y = 204657.66
X = 490725.40
DELTA = 14°06'49"
D = 77°25'36"
T = 9.16
L = 18.23
R = 74.00

HE Point Table		
Point #	Y	X
100	204519.474	490821.345
101	204538.734	490753.530
102	204581.576	490734.779
103	204615.359	490727.732
104	204614.780	490724.850
105	204672.486	490698.986
119	204679.006	490727.158
120	204604.654	490741.412
121	204606.560	490751.229
122	204559.768	490772.011
123	204537.389	490823.097

REVISION DATE	DATE 8/22/2017	SCALE, FEET	HWY: NON HWY	STATE R/W PROJECT NUMBER 5989-05-25	PLAT SHEET 4. 04
	GRID FACTOR	0 10 20	COUNTY: ROCK	CONSTRUCTION PROJECT NUMBER 5989-05-26	PS&E SHEET



ROCK RIVER

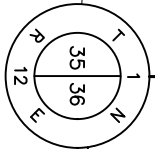
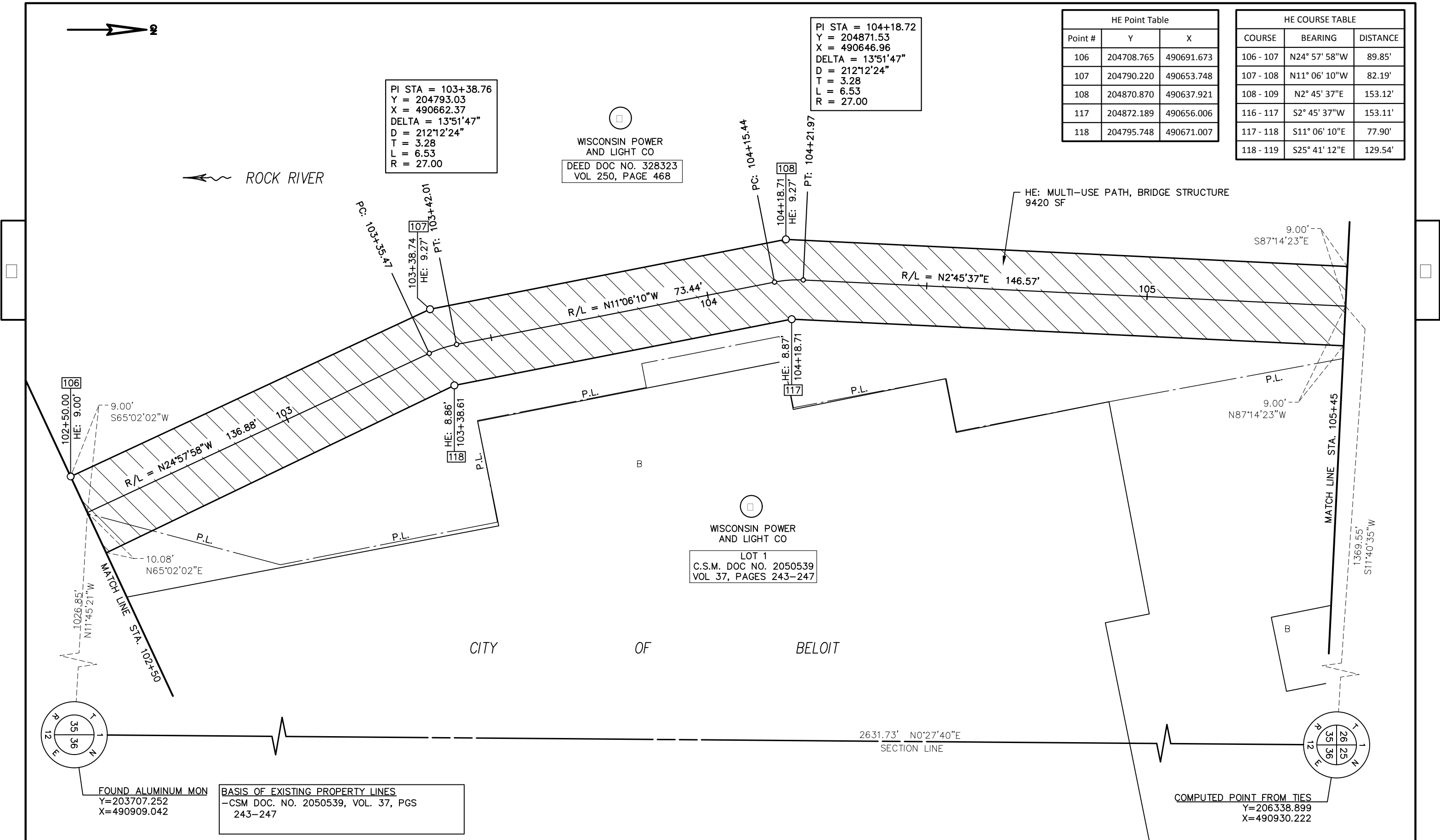
PI STA = 103+38.76
Y = 204793.03
X = 490662.37
DELTA = 13°51'47"
D = 212°12'24"
T = 3.28
L = 6.53
R = 27.00

WISCONSIN POWER
AND LIGHT CO
DEED DOC NO. 328323
VOL 250, PAGE 468

PI STA = 104+18.72
Y = 204871.53
X = 490646.96
DELTA = 13°51'47"
D = 212°12'24"
T = 3.28
L = 6.53
R = 27.00

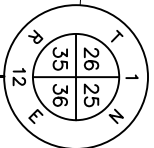
HE Point Table		
Point #	Y	X
106	204708.765	490691.673
107	204790.220	490653.748
108	204870.870	490637.921
117	204872.189	490656.006
118	204795.748	490671.007

HE COURSE TABLE		
COURSE	BEARING	DISTANCE
106 - 107	N24° 57' 58"W	89.85'
107 - 108	N11° 06' 10"W	82.19'
108 - 109	N2° 45' 37"E	153.12'
116 - 117	S2° 45' 37"W	153.11'
117 - 118	S11° 06' 10"E	77.90'
118 - 119	S25° 41' 12"E	129.54'



FOUND ALUMINUM MON
Y=203707.252
X=490909.042

BASIS OF EXISTING PROPERTY LINES
-CSM DOC. NO. 2050539, VOL. 37, PGS
243-247



COMPUTED POINT FROM TIES
Y=206338.899
X=490930.222

REVISION DATE	

DATE	8/22/2017
GRID FACTOR	

SCALE, FEET
0 10 20

HWY: NON HWY
COUNTY: ROCK

STATE R/W PROJECT NUMBER 5989-05-25
CONSTRUCTION PROJECT NUMBER 5989-05-26

PLAT SHEET	4. 05
PS&E SHEET	

E

HE COURSE TABLE		
COURSE	BEARING	DISTANCE
108 - 109	N2° 45' 37"E	153.12'
109 - 110	N11° 00' 00"W	65.54'
110 - 111	N13° 45' 47"E	36.84'
111 - 112	N73° 09' 15"E	18.55'
112 - 113	N11° 28' 46"W	46.52'
113 - 114	N42° 18' 40"E	57.70'
114 - 115	S16° 06' 11"W	135.55'
115 - 116	S11° 00' 00"E	63.37'
116 - 117	S2° 45' 37"W	153.11'

TLE COURSE TABLE		
COURSE	BEARING	DISTANCE
139 - 138	N73° 53' 49"W	6.00'
138 - 114	N16° 06' 11"E	123.71'
114 - 140	N42° 18' 40"E	13.59'
140 - 139	S16° 06' 11"W	135.90'

PI STA = 106+36.23
Y = 205087.74
X = 490642.04
DELTA = 27°06'11"
D = 212°12'24"
T = 6.51
L = 12.77
R = 27.00

DEED DOC NO. 328323
VOL 250, PAGE 468

END RELOCATION ORDER
STATION 108+36.03
Y=205259.420
X=490623.852

OUT-LOT 1
C.S.M. DOC NO. 2050539
VOL 37, PAGES 243-247

PI STA = 107+80.77
Y = 205226.84
X = 490682.20
DELTA = 76°55'35"
D = 121°54'21"
T = 37.34
L = 63.10
R = 47.00

HE Point Table		
Point #	Y	X
109	205023.814	490645.295
110	205088.149	490632.790
111	205123.928	490641.554
112	205129.303	490659.305
113	205174.893	490650.046
114	205217.559	490688.885
115	205087.325	490651.287
116	205025.117	490663.379

PI STA = 105+71.81
Y = 205024.47
X = 490654.34
DELTA = 13°45'37"
D = 212°12'24"
T = 3.26
L = 6.48
R = 27.00

LOT 1
C.S.M. DOC NO. 2050539
VOL 37, PAGES 243-247

FOUND ALUMINUM MON
Y=203707.252
X=490909.042

COMPUTED POINT FROM TIES
Y=206338.899
X=490930.222

BASIS OF EXISTING PROPERTIES
-CSM DOC. NO. 2050539, VOL. 37, PGS
243-247

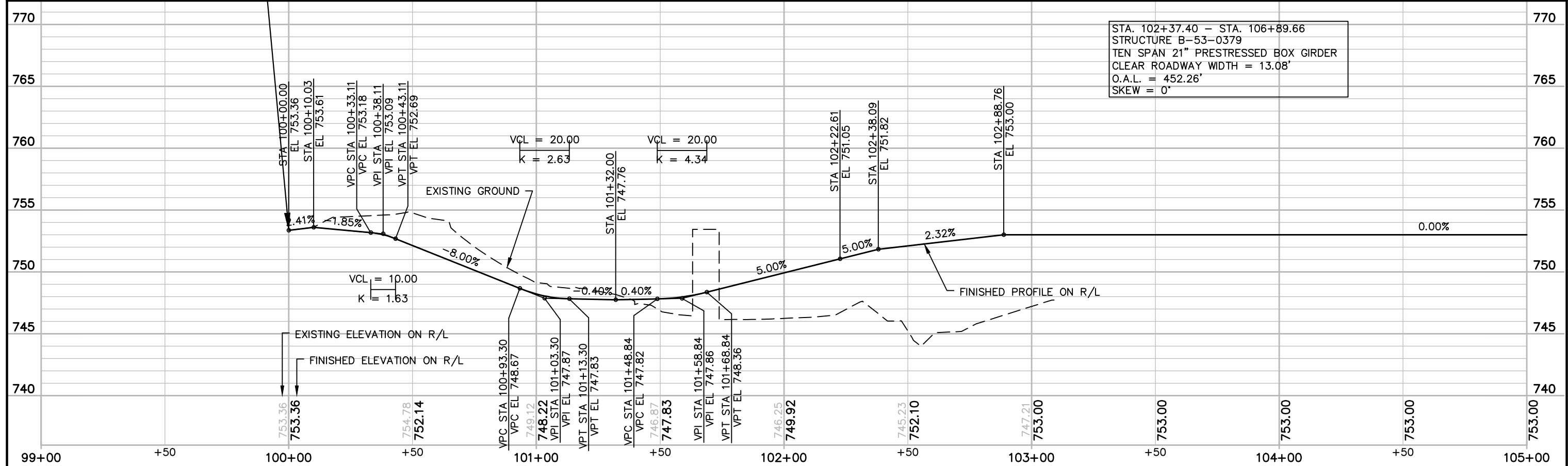
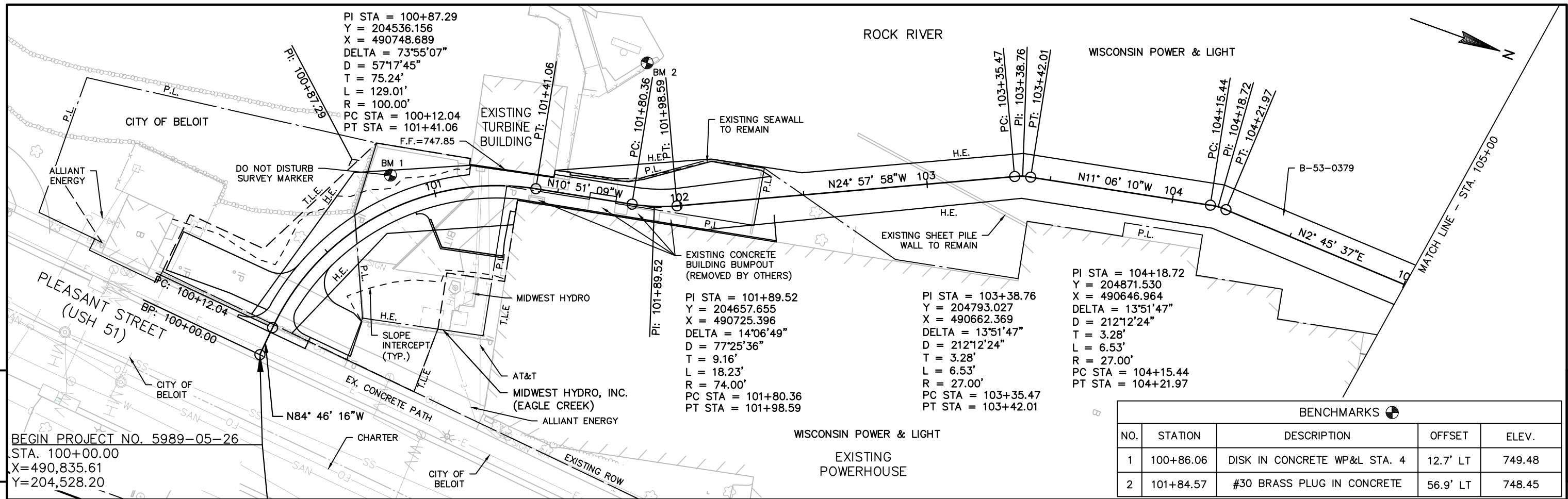
REVISION DATE	DATE 8/22/2017
	GRID FACTOR



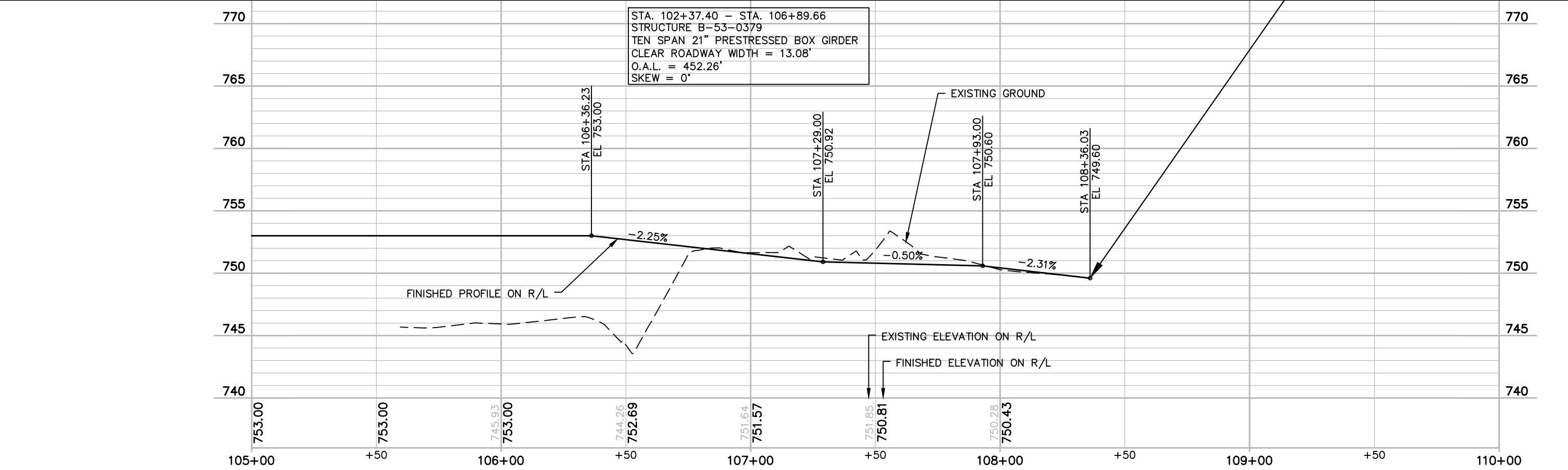
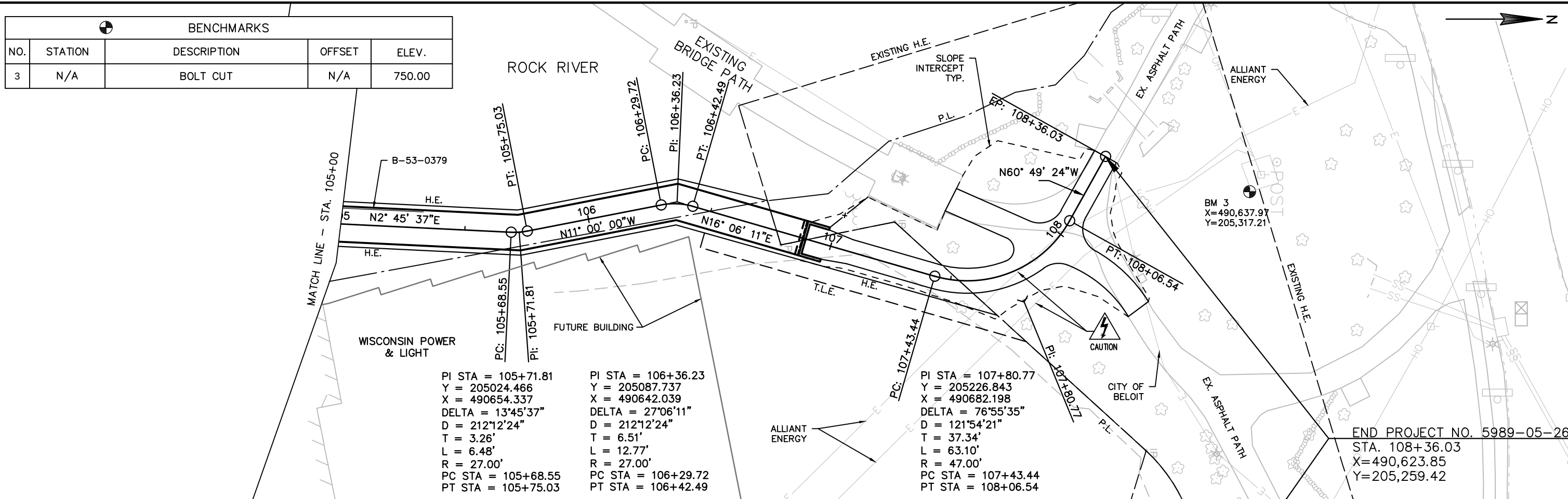
HWY: NON HWY
COUNTY: ROCK

STATE R/W PROJECT NUMBER 5989-05-25
CONSTRUCTION PROJECT NUMBER5989-05-26

PLAT SHEET 4. 06
PS&E SHEET

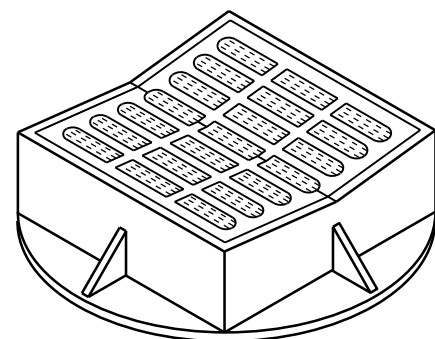
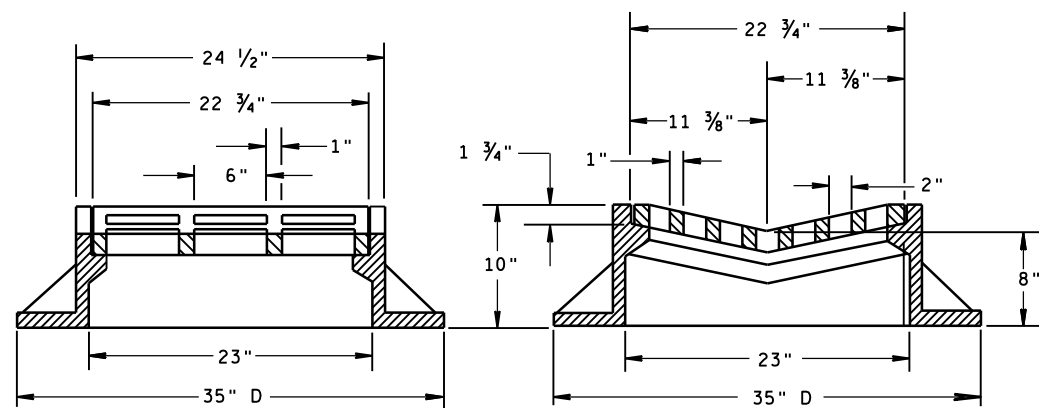


BENCHMARKS				
NO.	STATION	DESCRIPTION	OFFSET	ELEV.
3	N/A	BOLT CUT	N/A	750.00

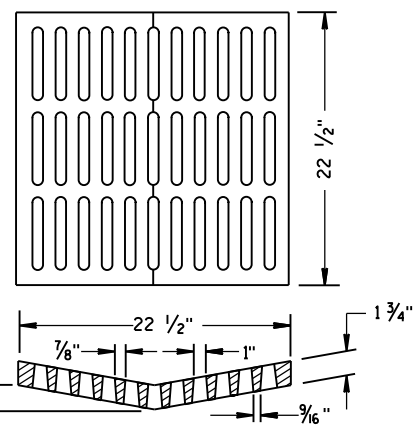


Standard Detail Drawing List

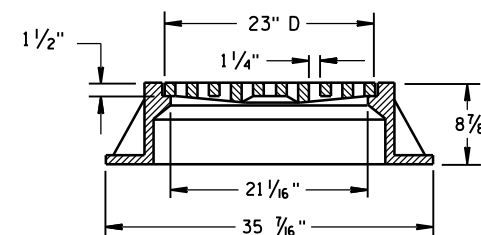
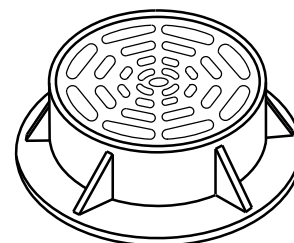
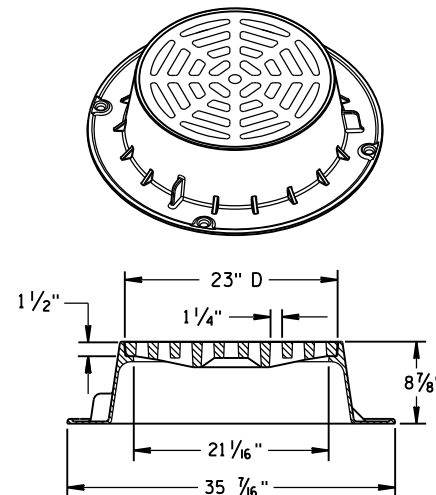
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08C06-02	INLETS 3-FT AND 4-FT DIAMETER
08D01-20A	CONCRETE CURB & GUTTER
08D01-20B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D05-19A	CURB RAMPS TYPES 1 AND 1-A
08D05-19B	CURB RAMPS TYPES 2 AND 3
08D05-19C	CURB RAMPS TYPES 4A AND 4A1
08D05-19D	CURB RAMPS TYPE 4B AND 4B1
08D05-19E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D05-19F	CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS
08D05-19G	CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E11-02	TURBIDITY BARRIER
08E14-01	TRACKING PAD
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09B02-10	CONDUIT
09C02-07	CONCRETE BASES, TYPES 1, 2, 5, & 6
09D01-05	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09D04-02	LIGHTING CONTROL CABINET 120/240 VOLT
12A03-10	NAME PLATE (STRUCTURES)
15C12-06	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15D20-04	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D29-05	TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD
15D30-04A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-04B	TRAFFIC CONTROL, TEMPORARY ADA COMPLIANT PEDESTRIAN ACCOMMODATION
15D30-04C	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS



TYPE "B"

ALTERNATIVE GRATE FOR
TYPE "B" COVER

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



TYPE "C"

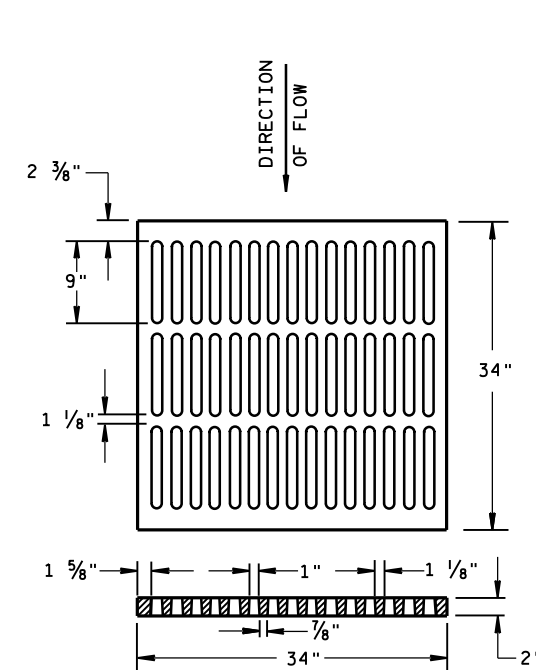
NOTE: EITHER CASTING IS ACCEPTABLE

GENERAL NOTES

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

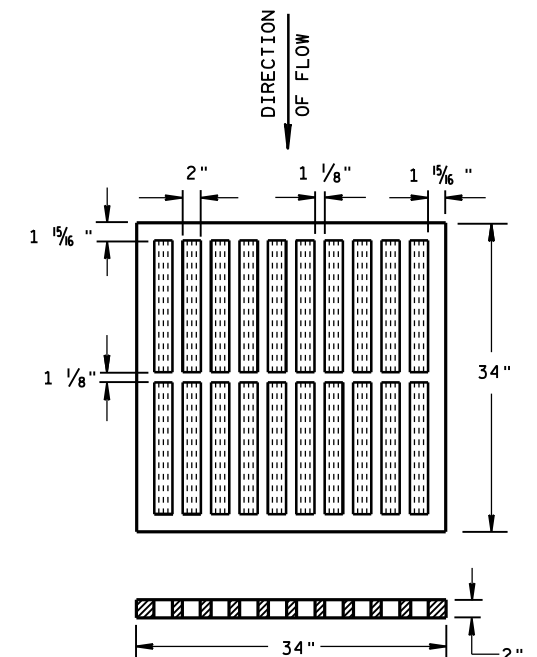
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



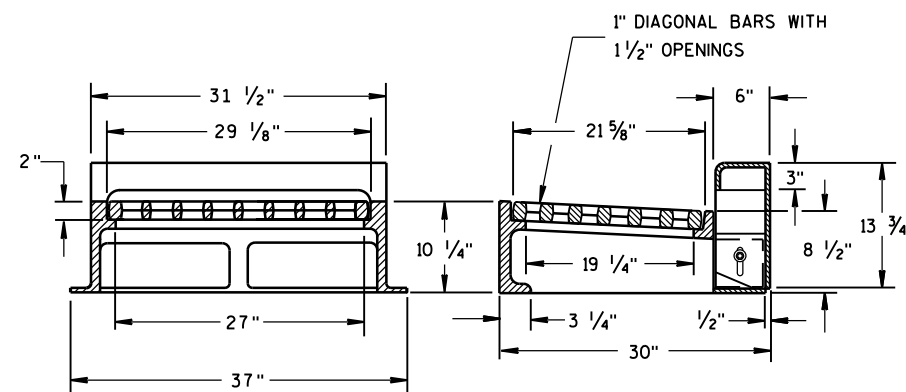
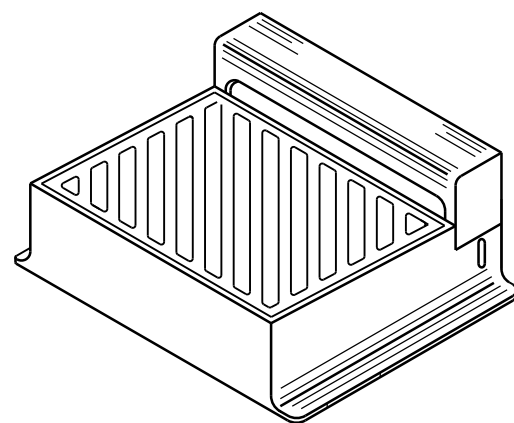
ALTERNATIVE TYPE "MS"

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



TYPE "MS"

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



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

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

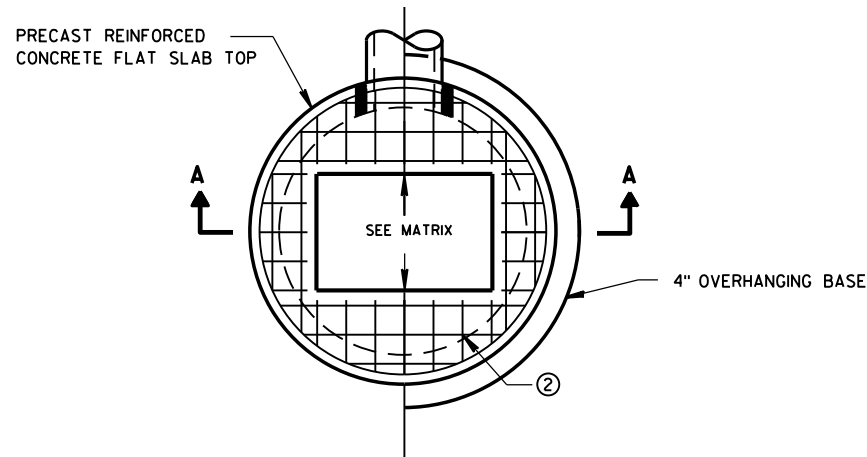
DIRECTION
OF FLOW

INLET COVERS
 TYPE B, B-A, C,
 MS, MS-A, & WM

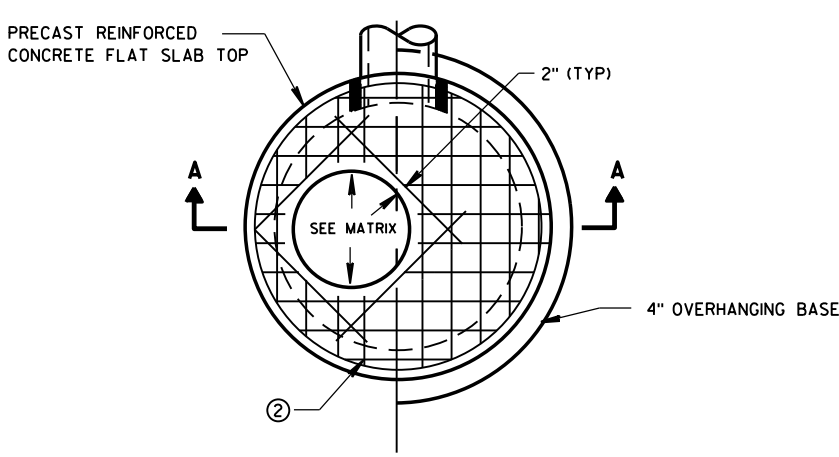
STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

APPROVED
 11/27/2013
 DATE
 FHWA

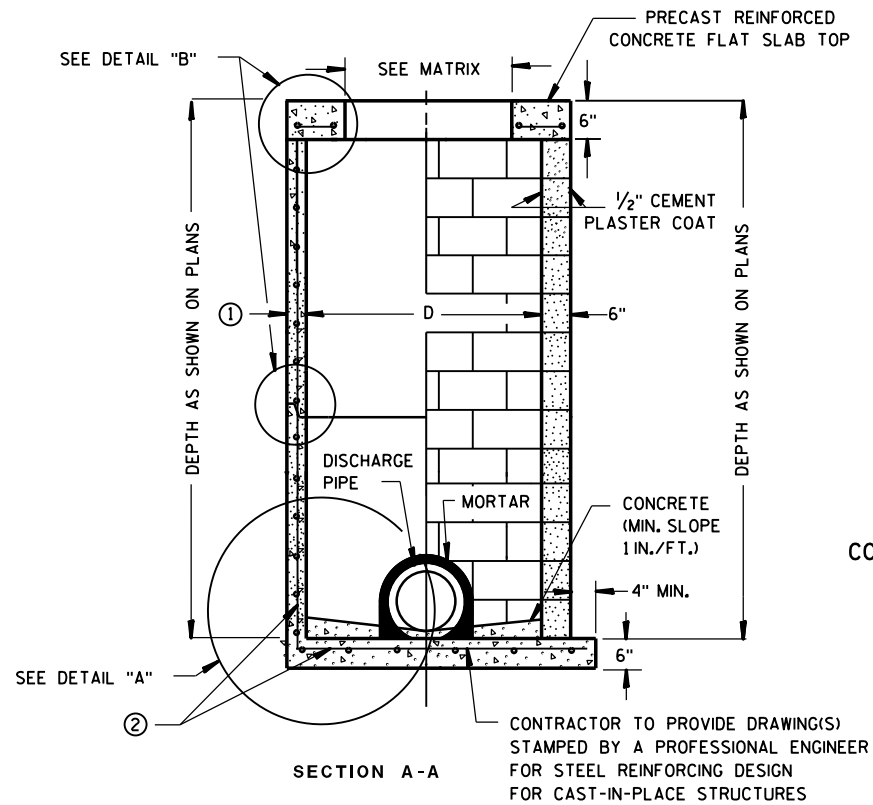
/S/ Jerry H. Zogg
 ROADWAY STANDARDS DEVELOPMENT
 ENGINEER



PLAN VIEW RECTANGULAR OPENING



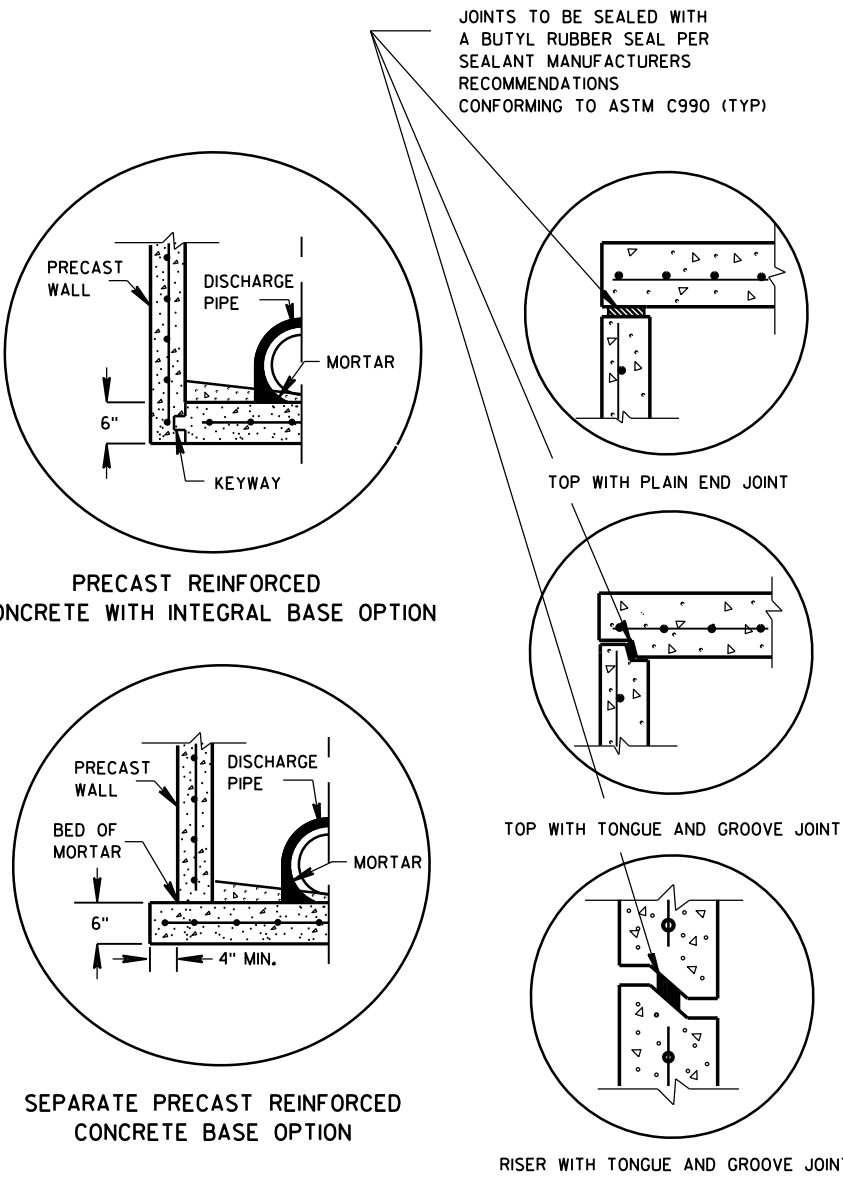
PLAN VIEW CIRCULAR OPENING



PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②

CIRCULAR INLETS W/ FLAT TOP



DETAIL "A"

DETAIL "B"

INLETS 3-FT AND 4-FT DIAMETER

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 INLET 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.

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

ALL PRECAST INLET 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.

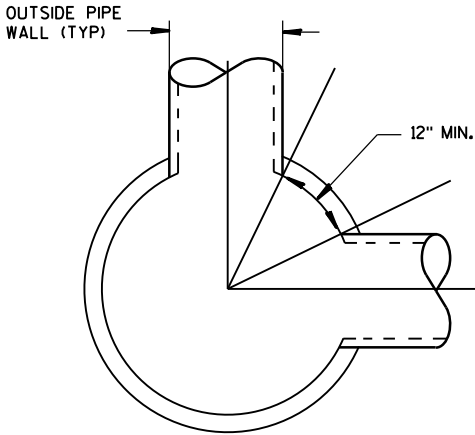
4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

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 "C".

- ① MINIMUM WALL THICKNESS SHALL BE 4-IN FOR 3-FT DIAMETER AND 5-IN FOR 4-FT DIAMETER PRECAST INLETS.
- ② FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

INLET COVER OPENING MATRIX

	INLET COVER TYPE	ALL A'S	ALL B'S	BW	C	F	ALL H'S	S	T	V	WM	Z
INLET SIZE	OPENING SIZE (FT)											
3-FT	2 DIA.				X							X
	2X2	X	X					X		X		
4-FT	2 DIA.				X							X
	2X2	X	X					X		X		
	2X2.5			X				X	X	X	X	
	2X3						X					
	2.5X3					X						



DETAIL "C"

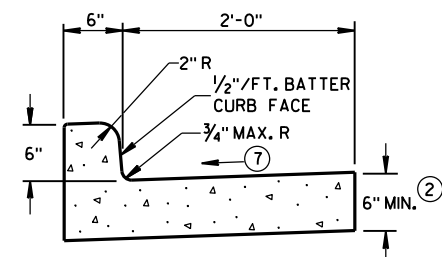
PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18

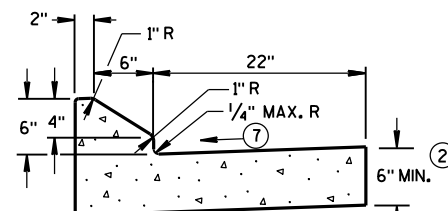
INLETS 3-FT AND 4-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

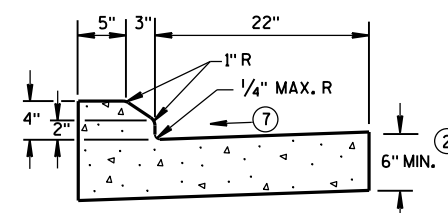
APPROVED
Sept., 2016 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR



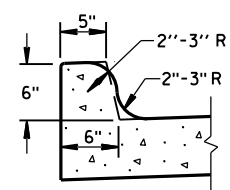
TYPES A^① & D



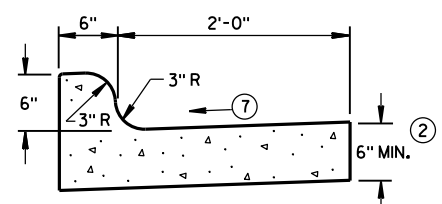
6" SLOPED CURB TYPES G^① & J



4" SLOPED CURB TYPES G^① & J

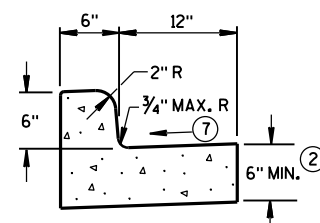


TYPES K^① & L
(OPTIONAL CURB SHAPE)



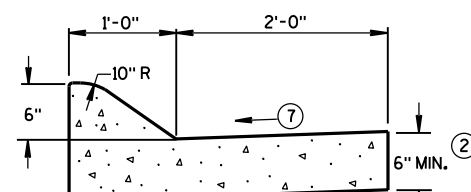
TYPES K^① & L

CONCRETE CURB & GUTTER 30"

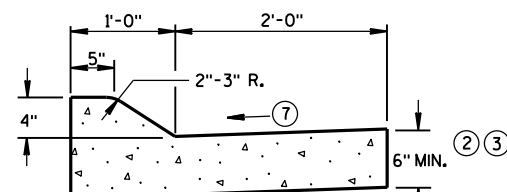


TYPES A^① & D

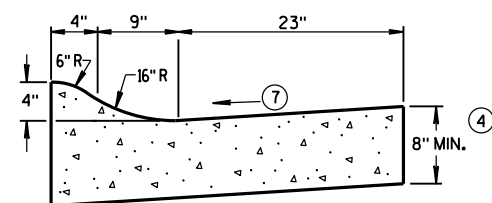
CONCRETE CURB & GUTTER 18"



6" SLOPED CURB TYPES A^① & D

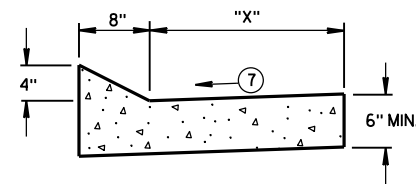


4" SLOPED CURB TYPES A^① & D



4" SLOPED CURB TYPES R⁽¹⁾ & T⁽⁵⁾

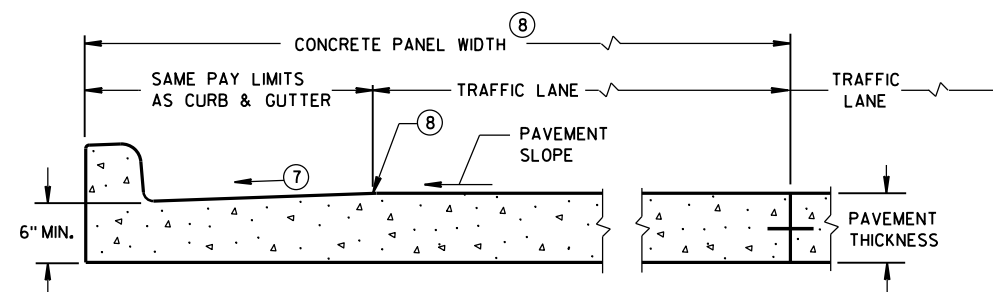
CONCRETE CURB & GUTTER 36"



TYPES TBT & TBTT^①

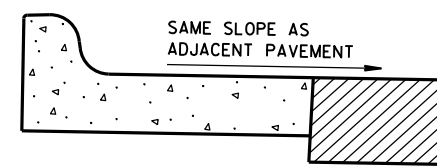
CONCRETE CURB & GUTTER

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



*

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



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

GENERAL NOTES

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

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

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

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
- ④ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑤ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
- ⑦ USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
- ⑧ INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

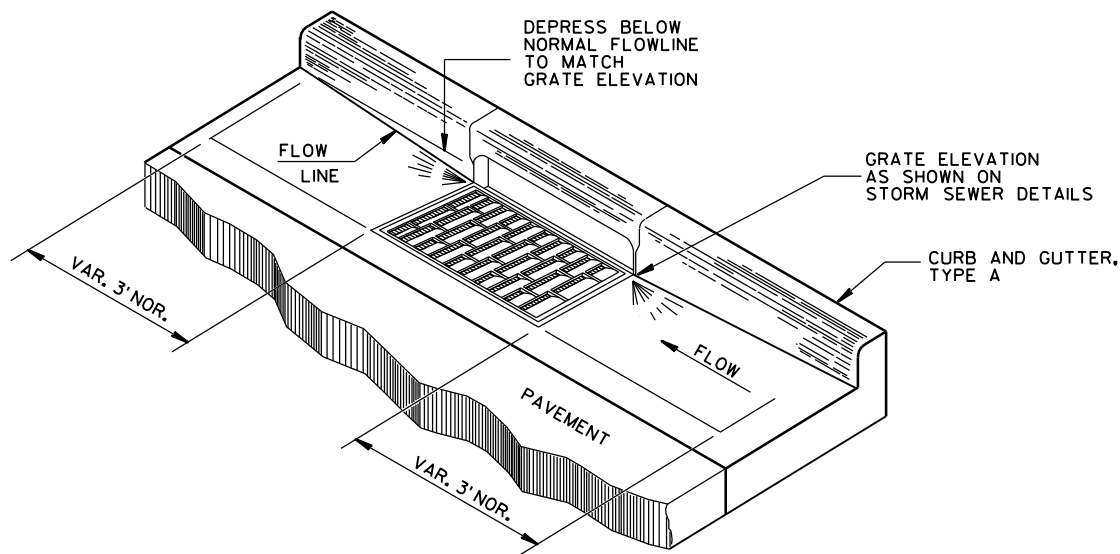
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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

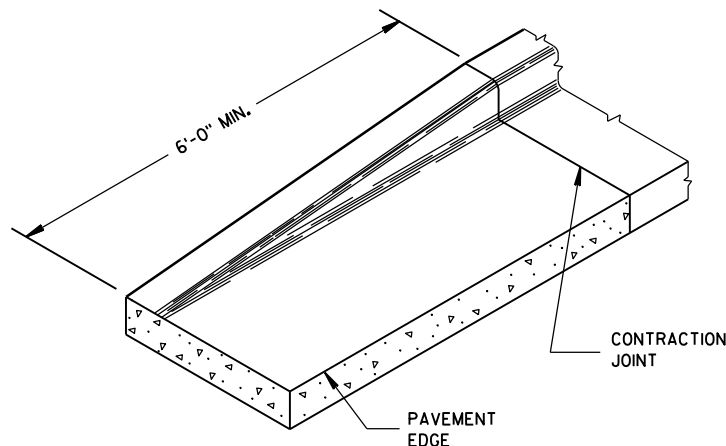
* BIKE LANE IS NOT SHOWN.

CONCRETE CURB & GUTTER

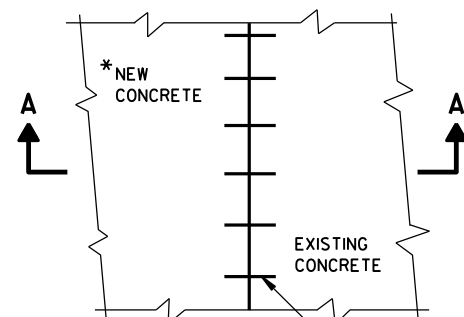
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



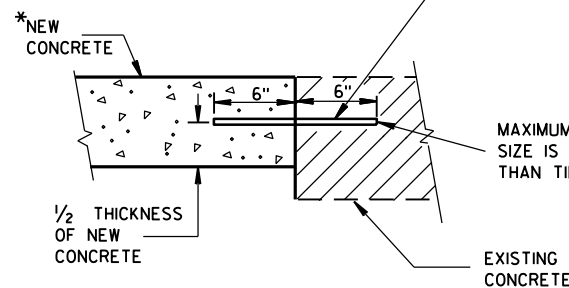
DETAIL OF CURB AND GUTTER AT INLETS
(TYPE H INLET COVER SHOWN)



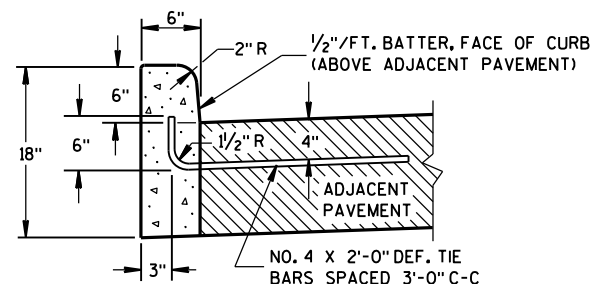
END SECTION CURB & GUTTER



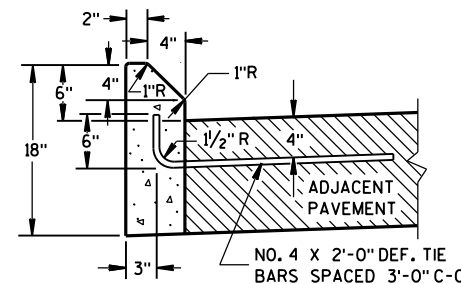
PLAN VIEW



SECTION A-A
TIE BARS DRILLED
INTO EXISTING PAVEMENT



TYPES A^① & D

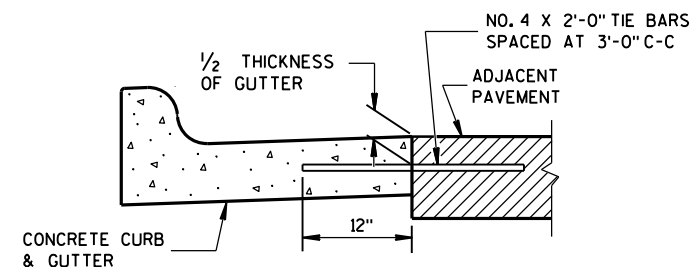


TYPES G^① & J

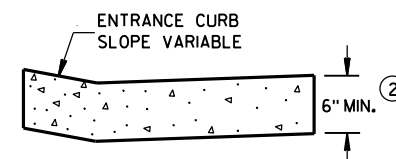
GENERAL NOTES

- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.
- PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.
- UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.
 - ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
 - ③ REFER TO SDD 8D18 AND SDD 8D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.

CONCRETE CURB

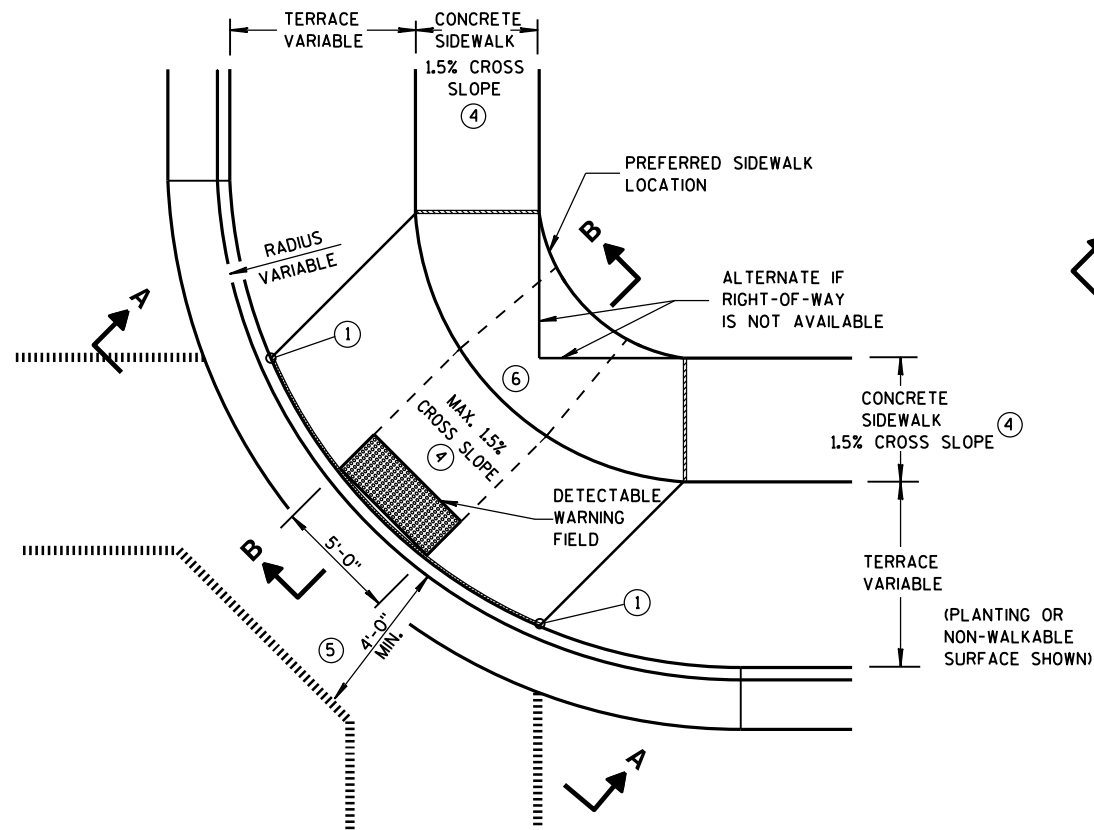


TYPICAL TIE BAR LOCATION^①

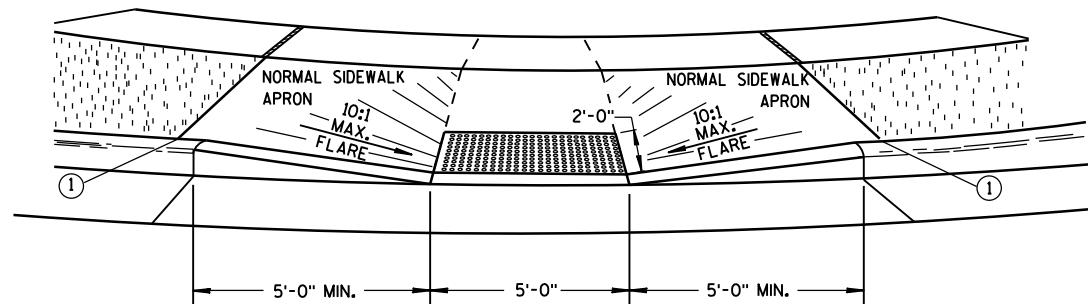


DRIVEWAY ENTRANCE CURB^⑨
(WHEN DIRECTED BY THE ENGINEER)

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

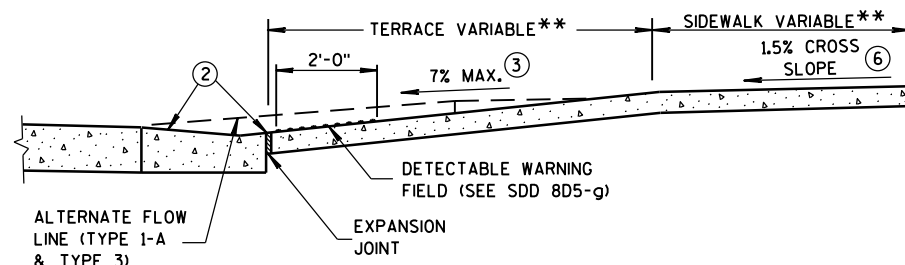


**PLAN VIEW
TYPE 1 RAMP**
(CENTER OF CORNER RADIUS)

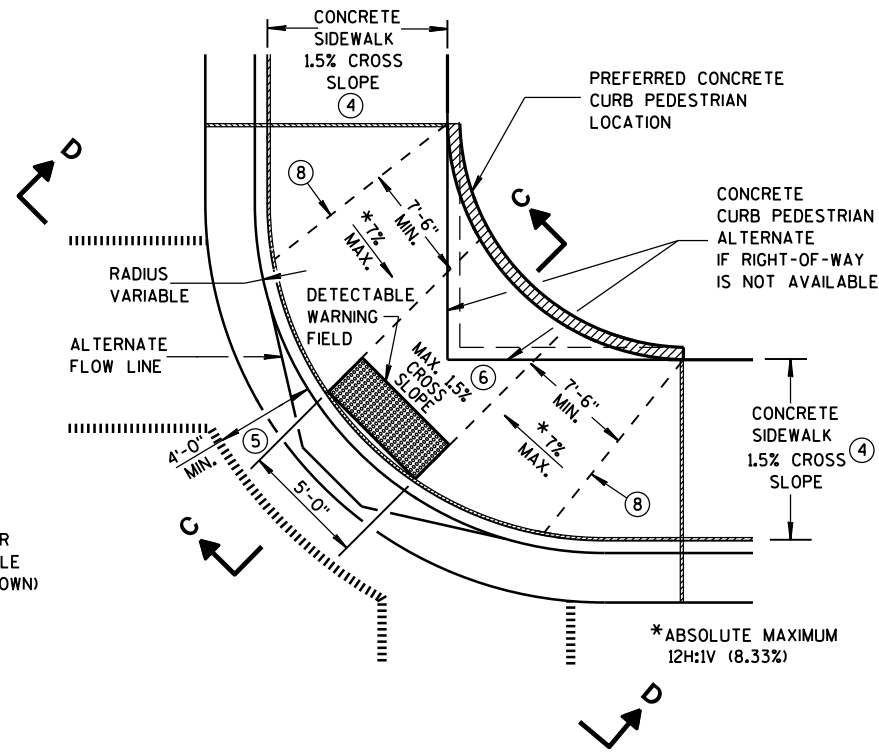


VIEW A-A

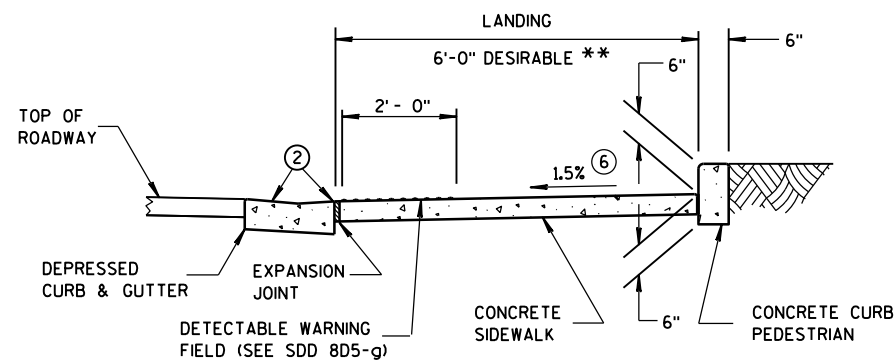
** WIDTH SHOWN ELSEWHERE
IN THE PLANS



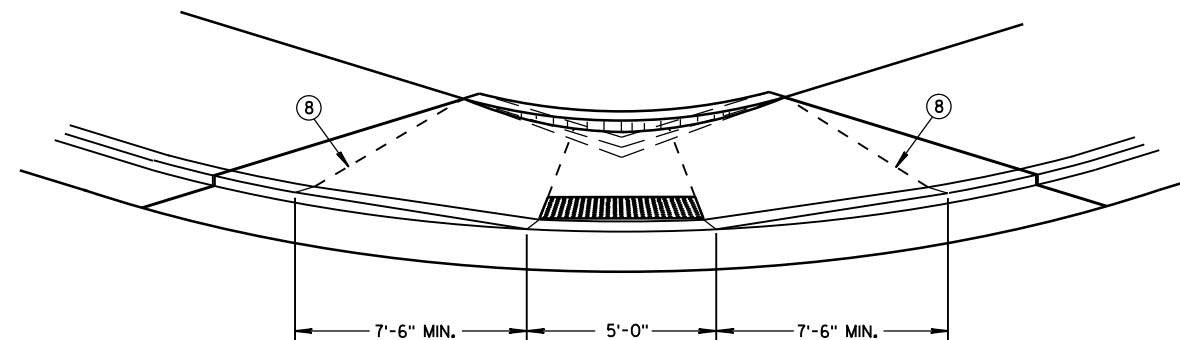
SECTION B-B



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



SECTION C-C



VIEW D-D

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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

WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAL FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

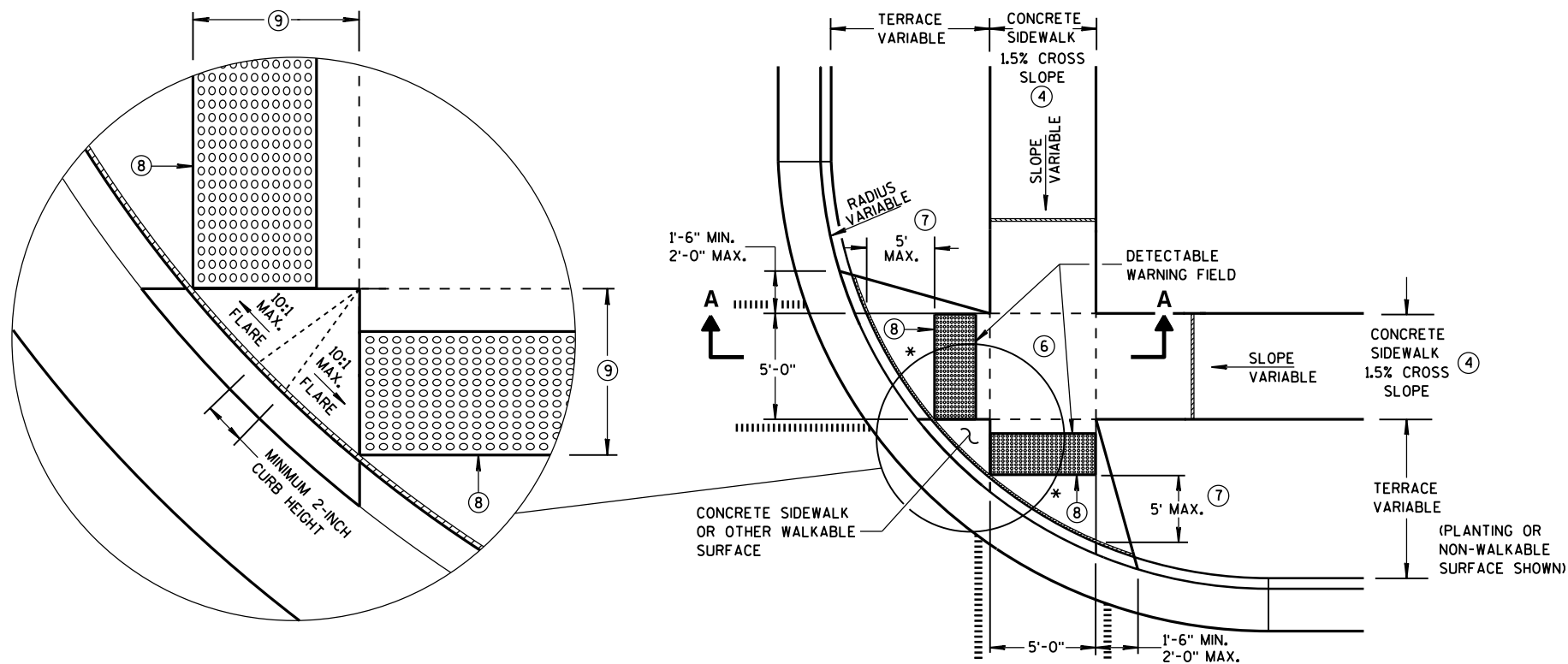
- ① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB. POINT LOCATION MAY BE ADJUSTED TO ALIGN WITH BEGINNING OF FULL-HEIGHT CURB IF THIS DISTANCE IS SHORT.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑤ PROVIDE A LEVEL LANDING IN THE STREET AND GUTTER AREA. (2% MAXIMUM SLOPE IN ANY DIRECTION). WHEN THE GUTTER SLOPE EXCEEDS 2%, CONSTRUCT THE LEVEL LANDING IN THE STREET AREA.
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

LEGEND

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

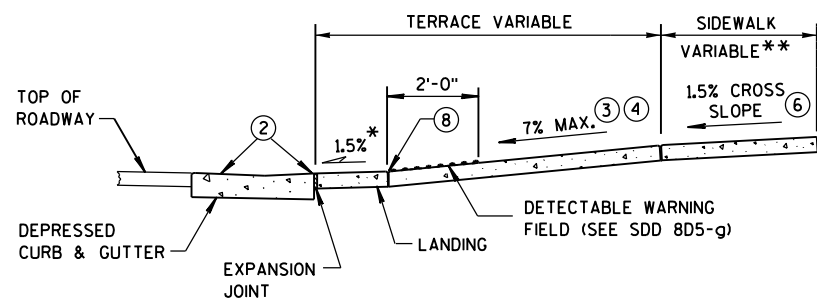
**CURB RAMPS
TYPES 1 AND 1-A**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



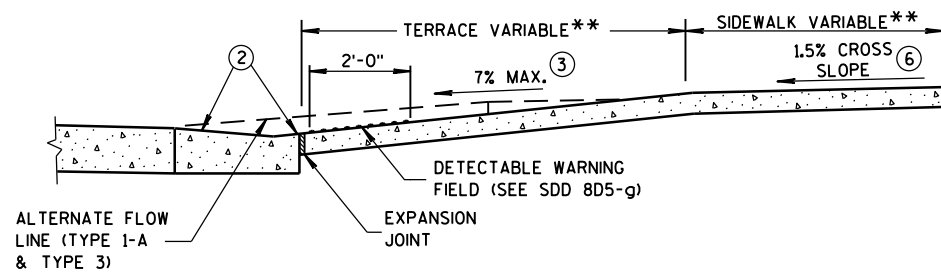
**PLAN VIEW
TYPE 2 RAMP**
(ON LINE WITH SIDEWALK)

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



SECTION A-A

** WIDTH SHOWN ELSEWHERE
IN THE PLANS



SECTION B-B

GENERAL NOTES

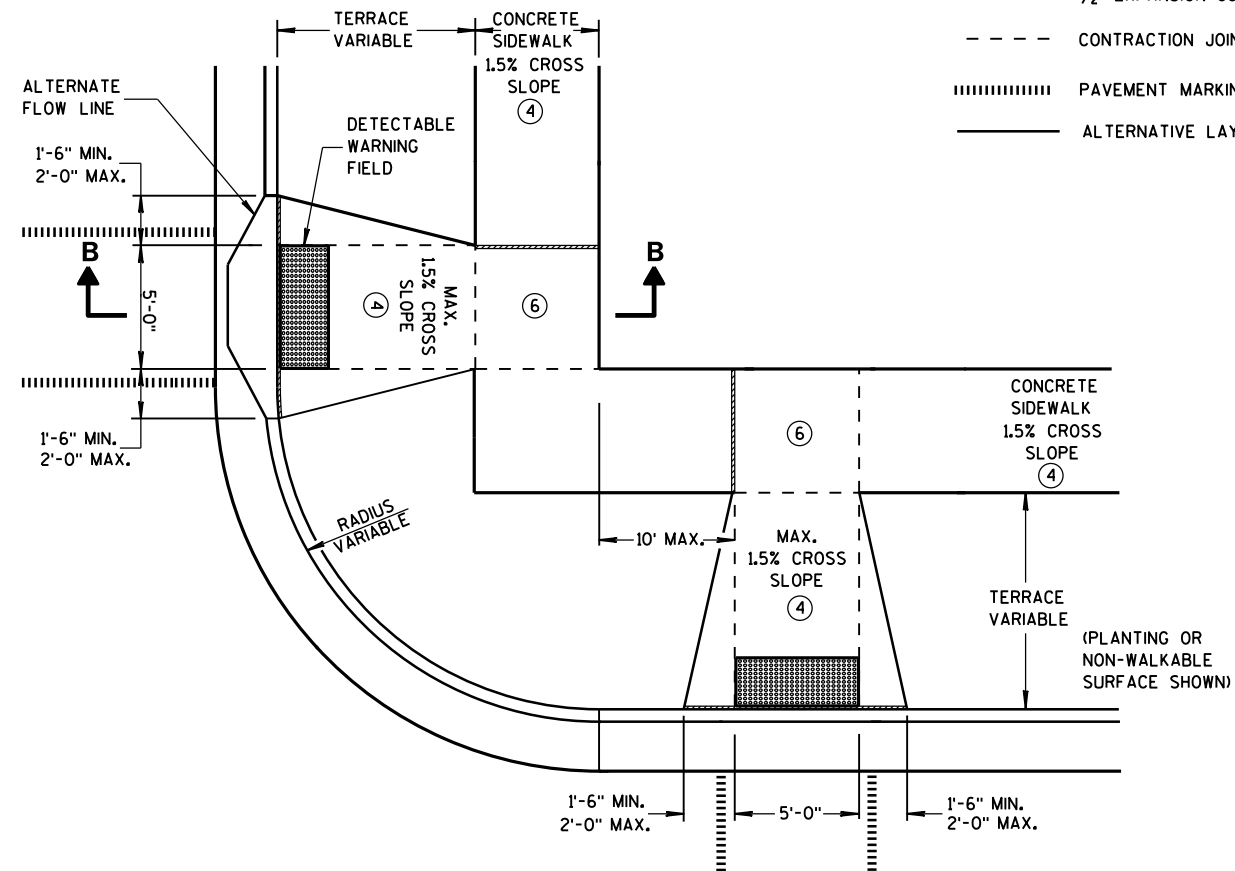
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.
- ⑦ WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- ⑨ WHEN THIS DISTANCE IS LESS THAN 6'-0", IT MAY BE DIFFICULT TO ACHIEVE A 7% SLOPE OR FLATTER ALONG THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 7% SLOPE OR FLATTER ON RAMP. CONSTRUCT 2-INCH MINIMUM CURB HEIGHT BETWEEN 10:1 FLARES.

LEGEND

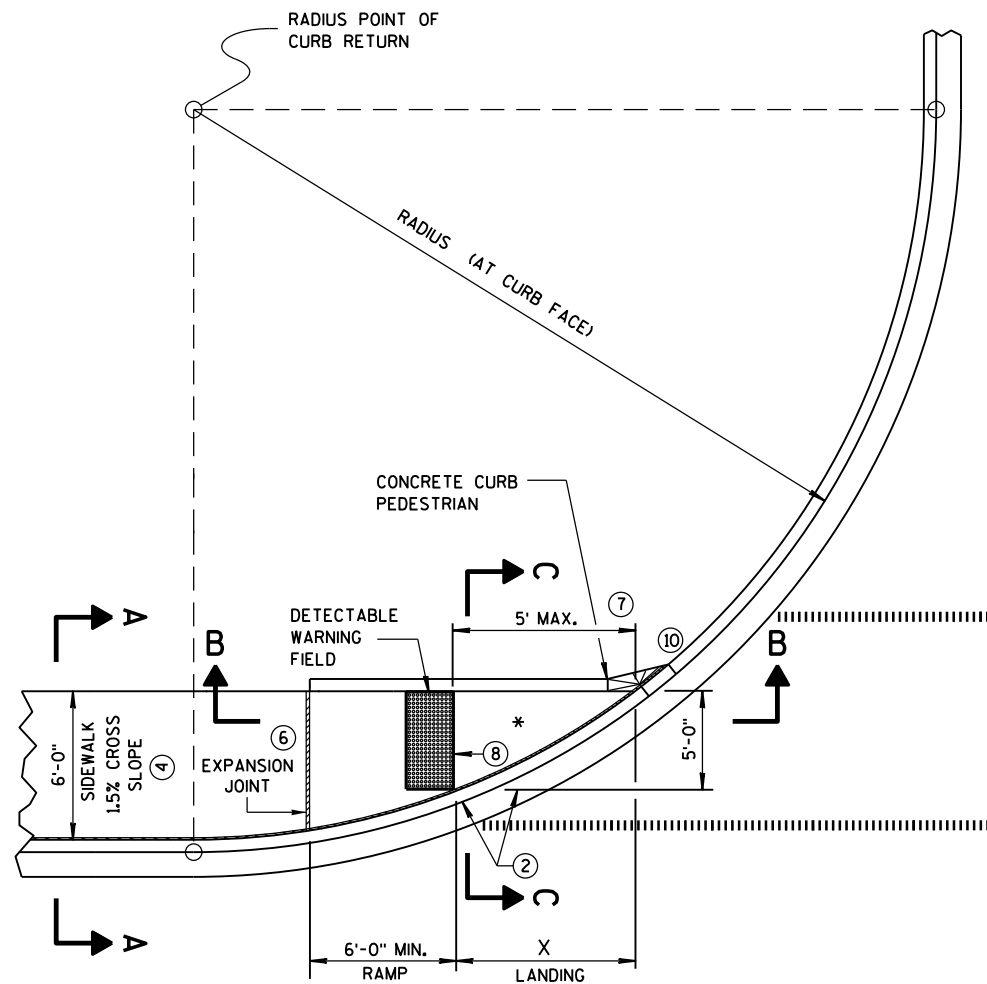
- 1/2" EXPANSION JOINT-SIDEWALK
- - - - CONTRACTION JOINT FIELD LOCATED
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



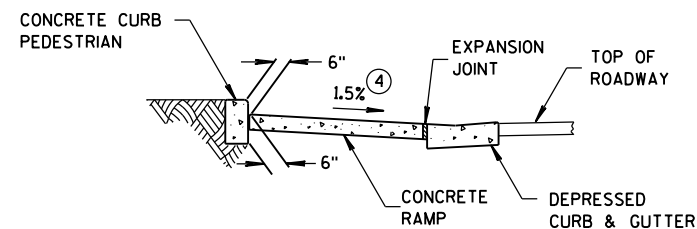
**PLAN VIEW
TYPE 3 RAMP**
(OUTSIDE OF CROSSWALK AREA)

**CURB RAMPS
TYPES 2 AND 3**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

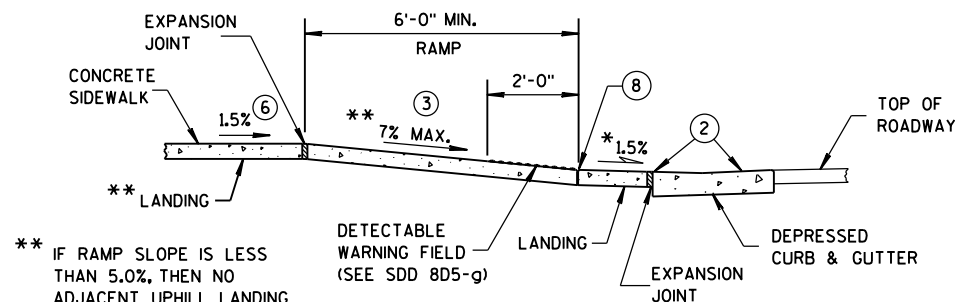


CURB RAMP TYPE 4A
PLAN VIEW



SECTION C-C FOR TYPE 4A

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

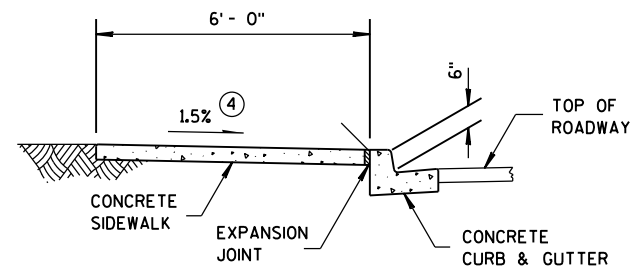


SECTION B-B FOR TYPE 4A

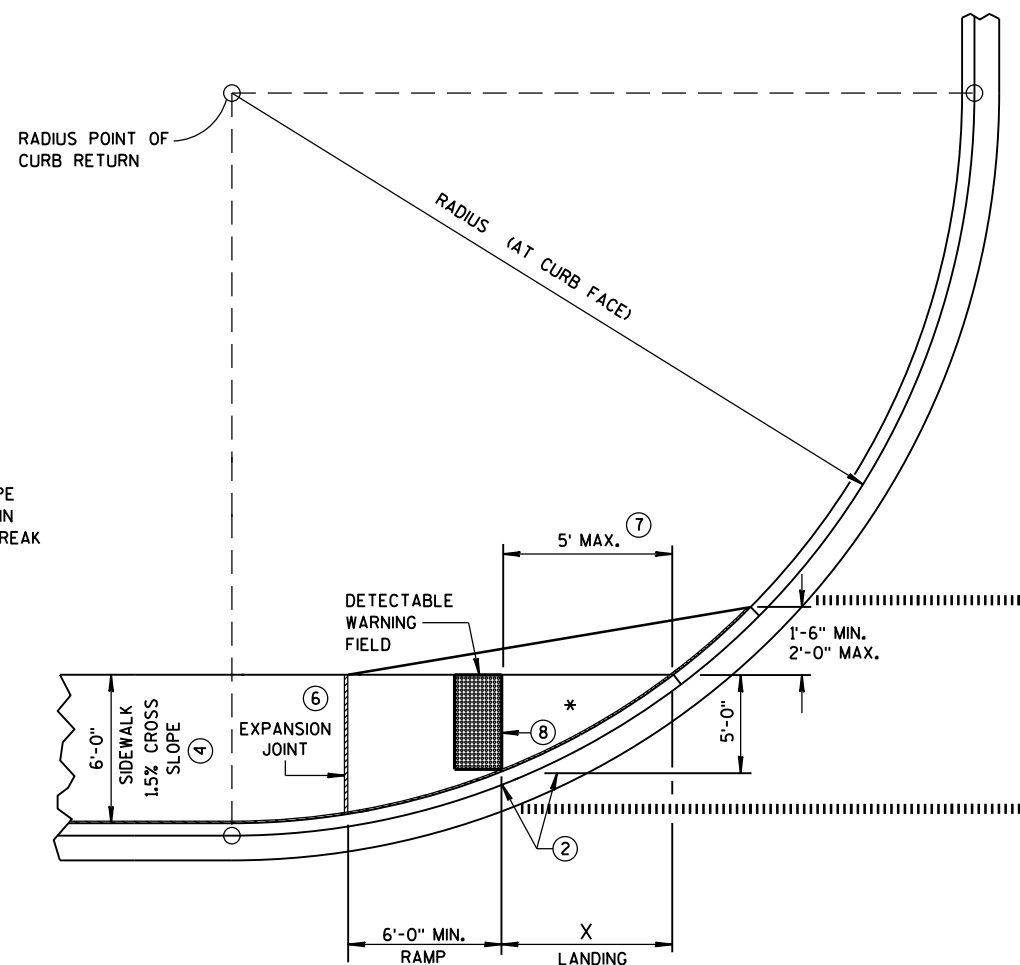
** IF RAMP SLOPE IS LESS
THAN 5.0%, THEN NO
ADJACENT UPHILL LANDING
IS REQUIRED

RADIUS (AT CURB FACE)	X
10 FEET	4'-7"
15 FEET	6'-5½"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A-A FOR TYPE 4A



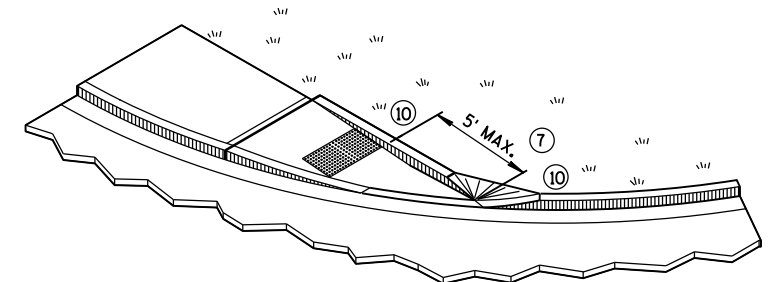
CURB RAMP TYPE 4A1
PLAN VIEW

GENERAL NOTES

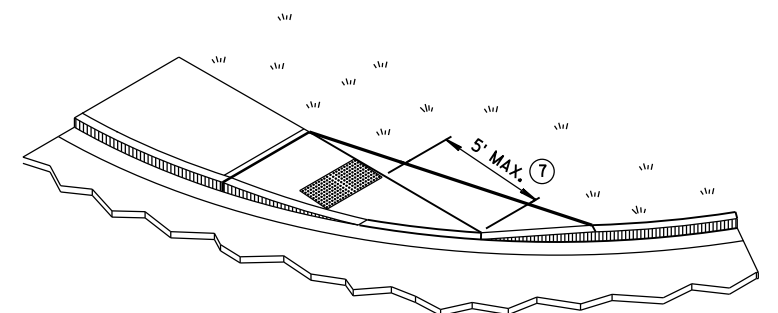
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.
- ⑦ WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- ⑩ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.



ISOMETRIC VIEW FOR TYPE 4A



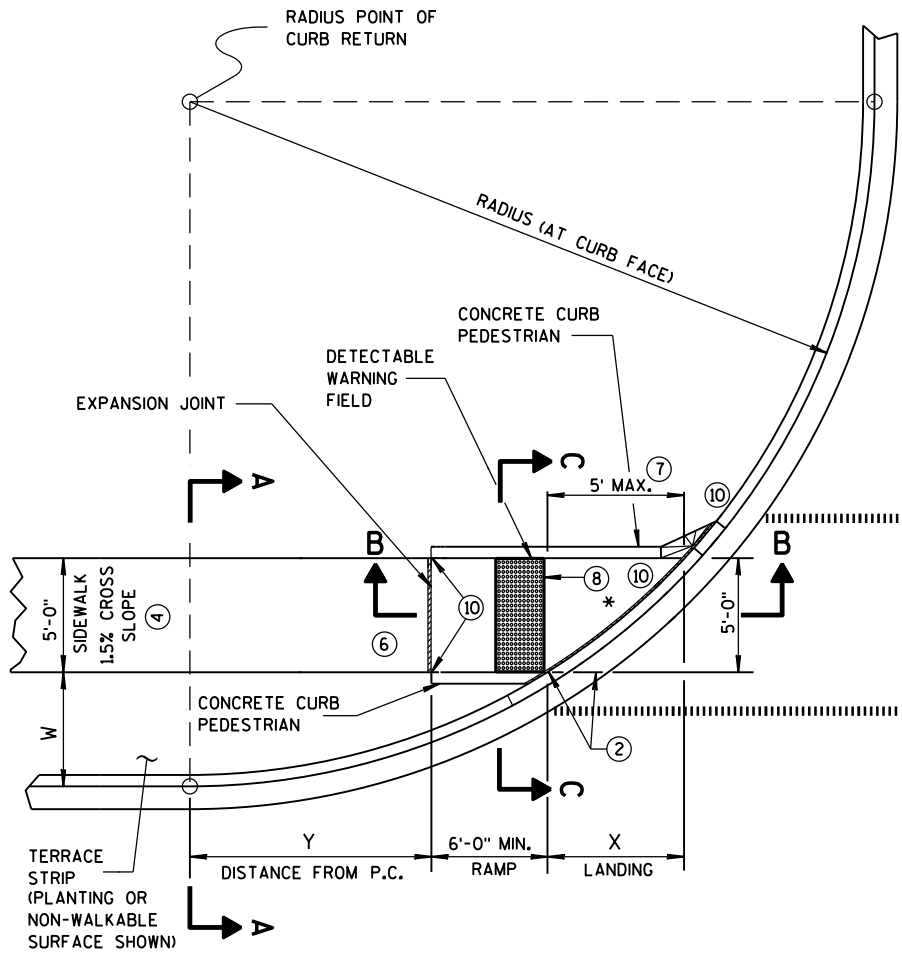
ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

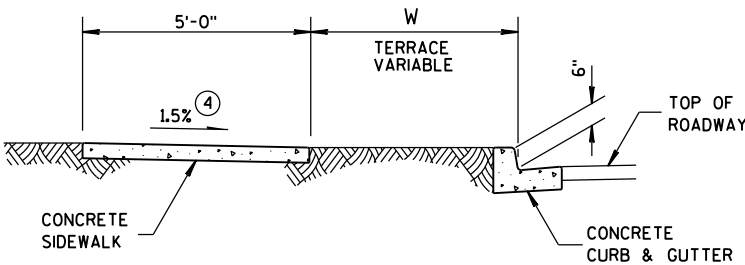
- ½" EXPANSION JOINT-SIDEWALK
- - - CONTRACTION JOINT FIELD LOCATED
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPES 4A AND 4A1

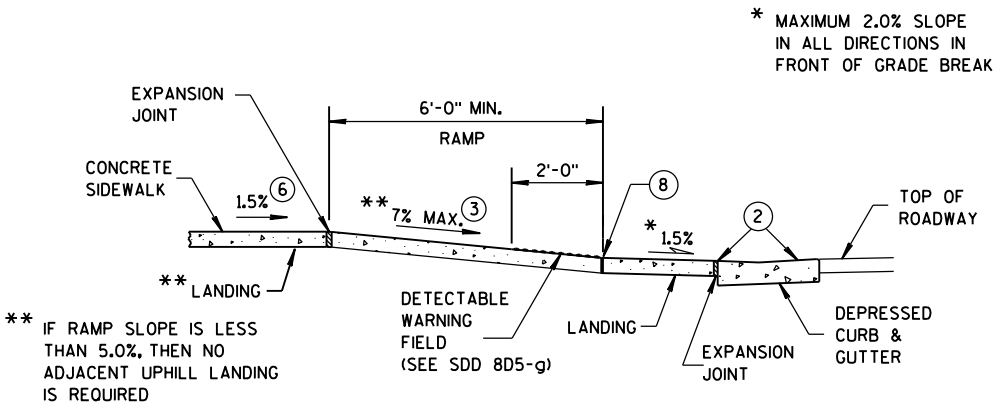
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**CURB RAMP TYPE 4B
PLAN VIEW**



SECTION A-A FOR TYPE 4B



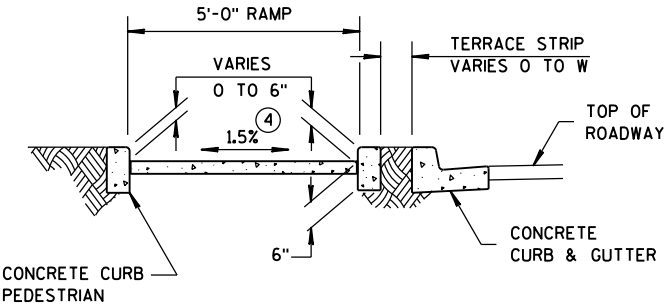
SECTION B-B FOR TYPE 4B

RADIUS (AT CURB FACE)	W = 3' - 0"		W = 4' - 0"		W = 5' - 0"		W = 6' - 0"		W = 7' - 0"		W = 8' - 0"		W = 9' - 0"		W = 10' - 0"	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
10 FEET	2'-10 1/4"	0'-5"	2'-1"	1'-4 1/2"	1'-5"	2'-1"	0'-10"	2'-7 1/2"	0'-3 1/4"	3'-0 1/4"						
15 FEET	4'-6 3/4"	2'-1 3/4"	3'-9"	3'-5 1/4"	3'-1 1/4"	4'-6"	2'-6 3/4"	5'-4 1/2"	2'-1"	6'-1"	1'-8"	6'-8 1/2"	1'-3 1/4"	7'-2 1/2"	0'-10 3/4"	7'-7 1/4"
20 FEET	5'-9 3/4"	3'-6 1/2"	4'-11 1/2"	5'-1 3/4"	4'-3 1/4"	6'-5 1/2"	3'-8 3/4"	7'-7"	3'-3"	8'-6 1/2"	2'-10"	9'-4 1/2"	2'-5 1/2"	10'-1 1/4"	2'-1 1/4"	10'-9"
30 FEET			6'-9 1/4"	7'-11 1/4"	6'-0 1/4"	9'-8"	5'-5"	11'-1 3/4"	4'-10 3/4"	12'-5 3/4"	4'-5 1/2"	13'-7 3/4"	4'-0 3/4"	14'-8 1/2"	3'-8 1/2"	15'-8 1/4"
40 FEET									6'-1 3/4"	15'-8 1/2"	5'-8"	17'-2"	5'-3"	18'-5 3/4"	4'-10 3/4"	19'-8 1/4"
50 FEET															5'-10 1/4"	23'-2"

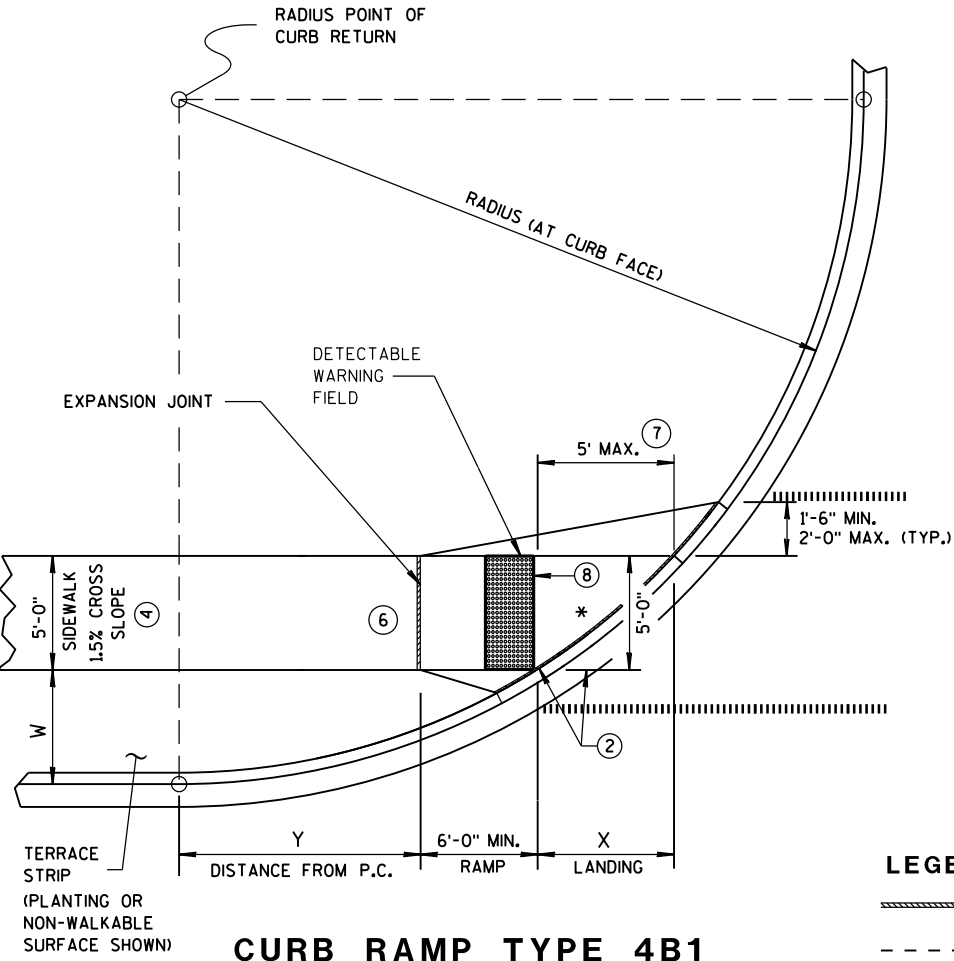
INTERMEDIATE RADII CAN BE INTERPOLATED
DIMENSION "Y" IS CALCULATED BASED ON 6'-0" RAMP LENGTH
DIMENSION "X" IS CALCULATED BASED ON 5'-0" SIDEWALK WIDTH

GENERAL NOTES

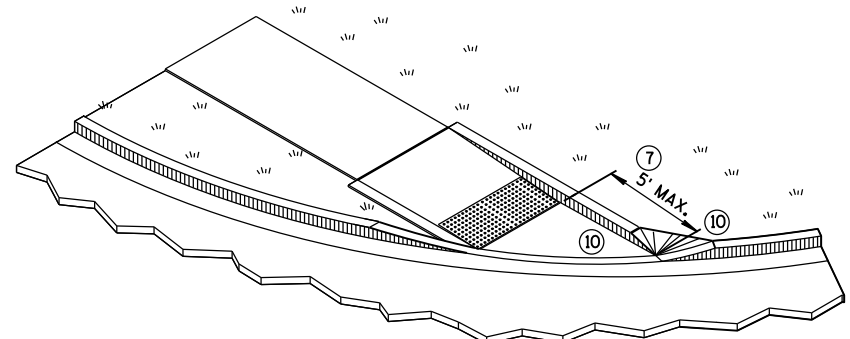
- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS. DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.
- WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
- PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.



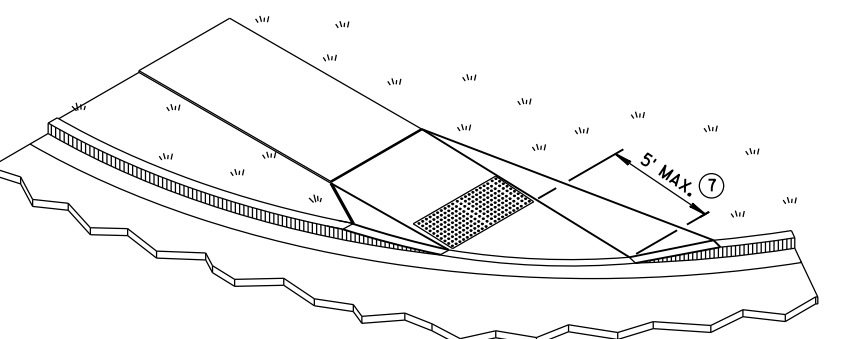
SECTION C-C FOR TYPE 4B



**CURB RAMP TYPE 4B1
PLAN VIEW**



ISOMETRIC VIEW FOR TYPE 4B



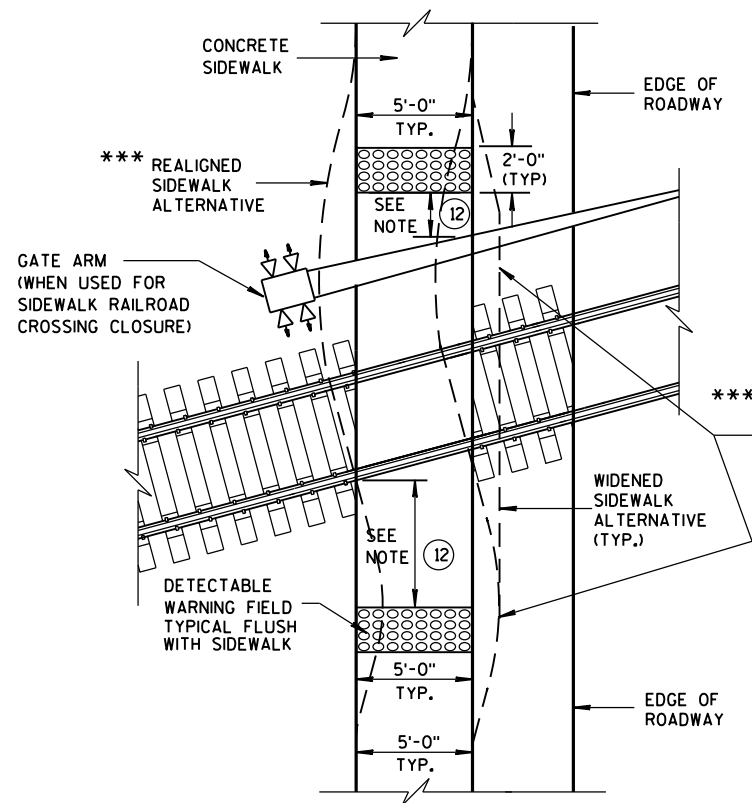
ISOMETRIC VIEW FOR TYPE 4B1

LEGEND

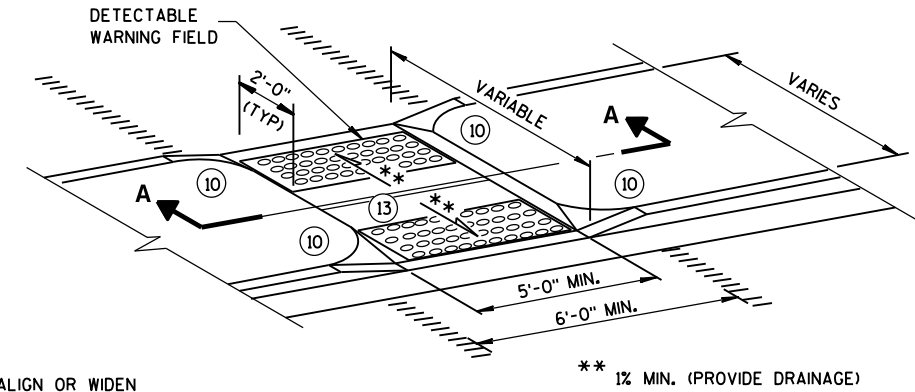
- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



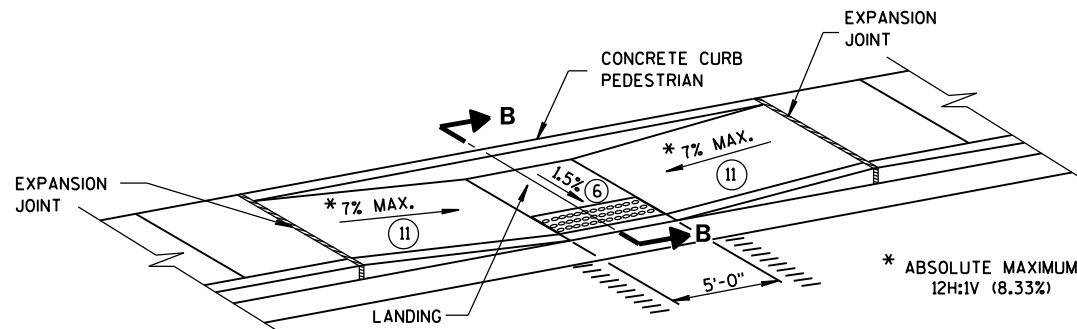
TYPE 8
DETECTABLE WARNINGS
AT RAILROAD CROSSING



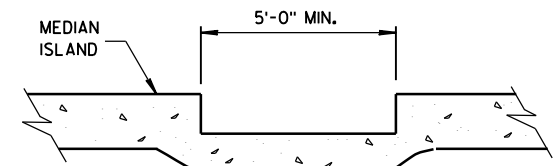
MEDIAN ISLAND
NON-ELEVATED PEDESTRIAN CROSSING
TYPE 5

GENERAL NOTES

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

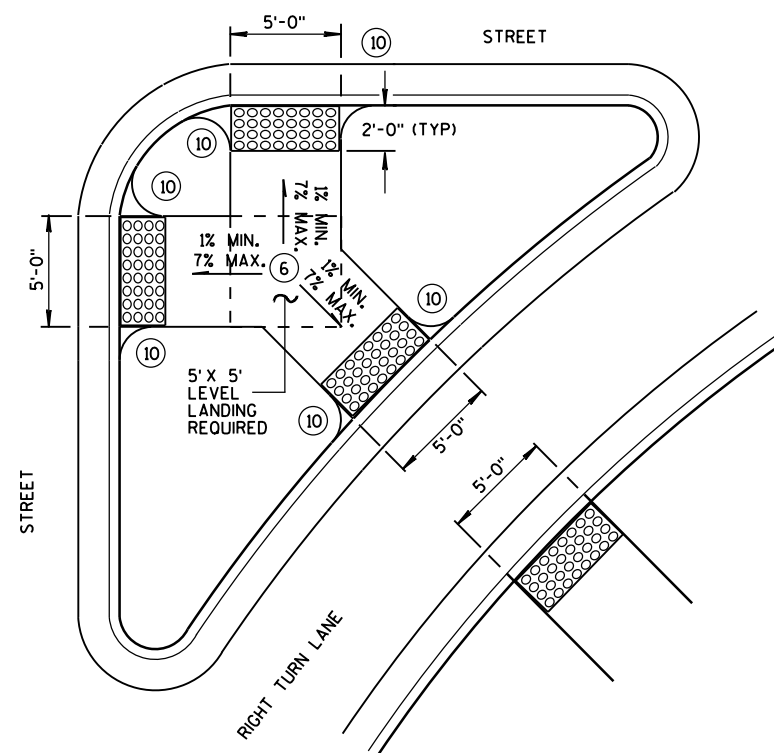


MID-BLOCK CROSSING
TYPE 7A

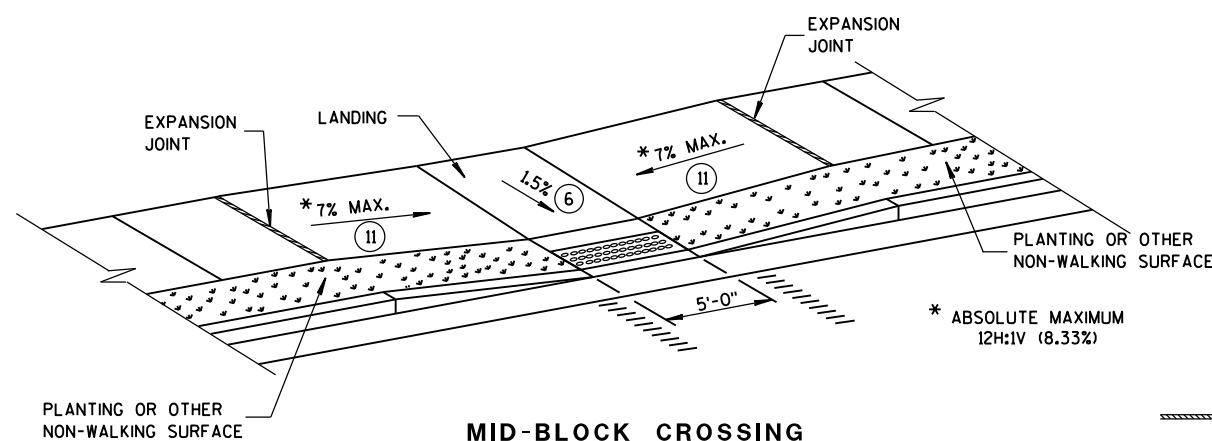


SECTION A-A

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

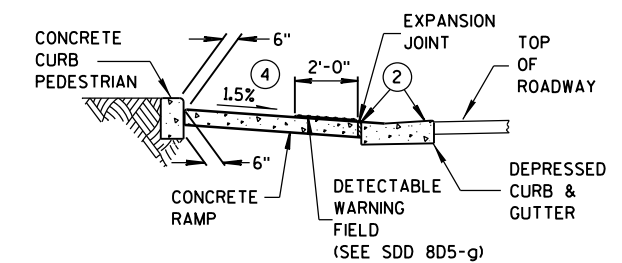


TYPE 6
DETECTABLE WARNING AT ISLANDS



MID-BLOCK CROSSING
TYPE 7B

NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMP
MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.



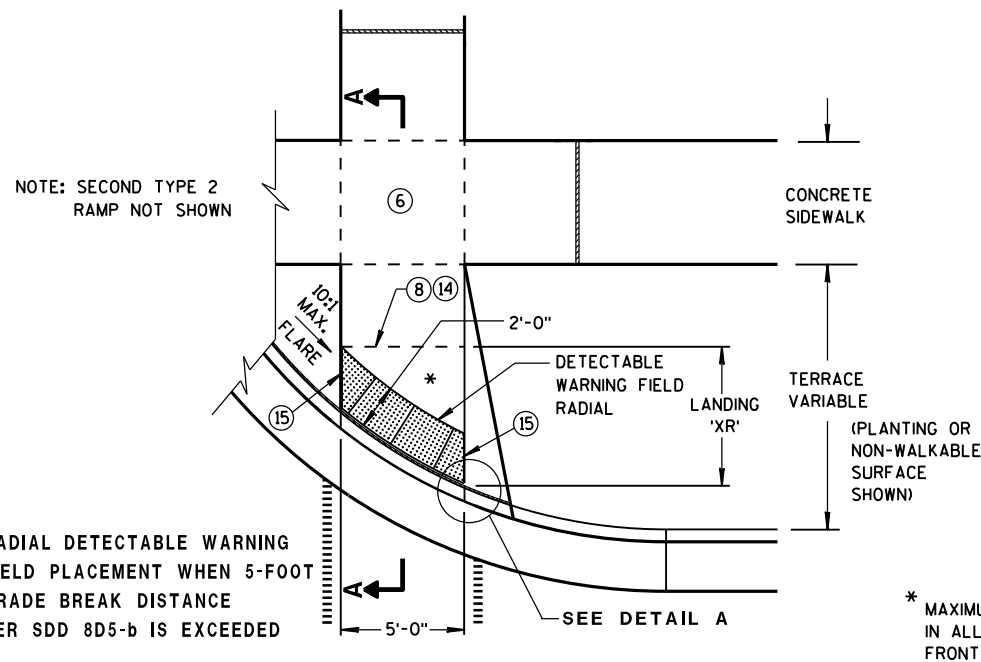
SECTION B-B

LEGEND

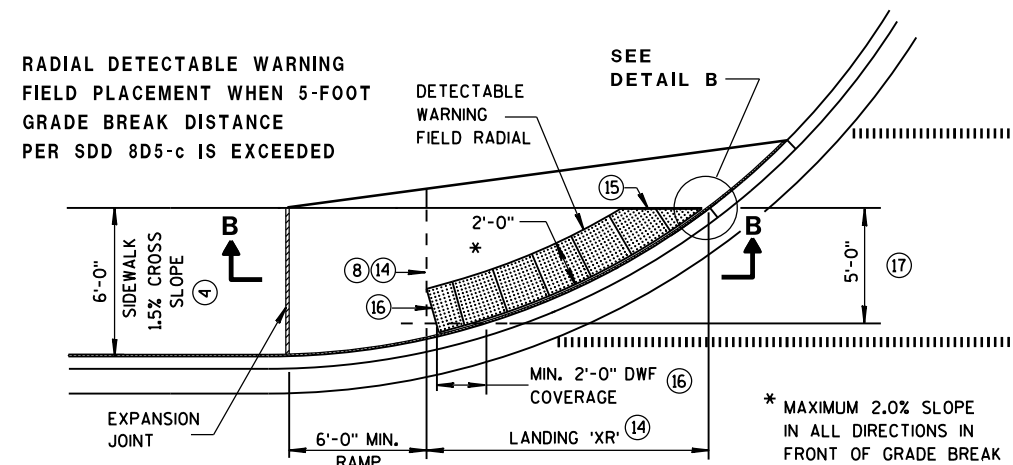
- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMP
TYPES 5, 6, 7A, 7B & 8

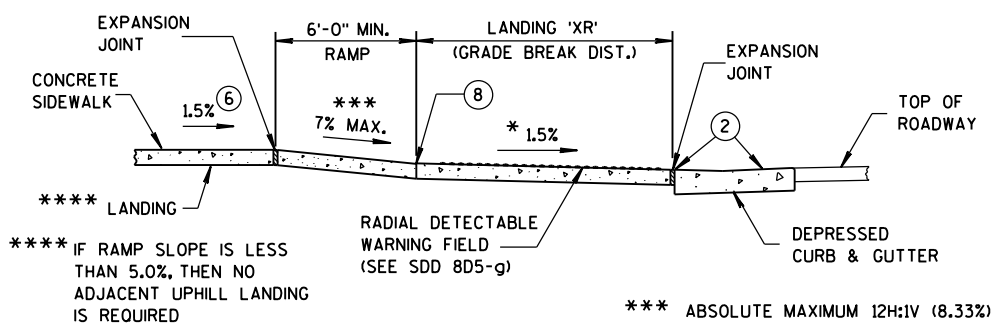
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



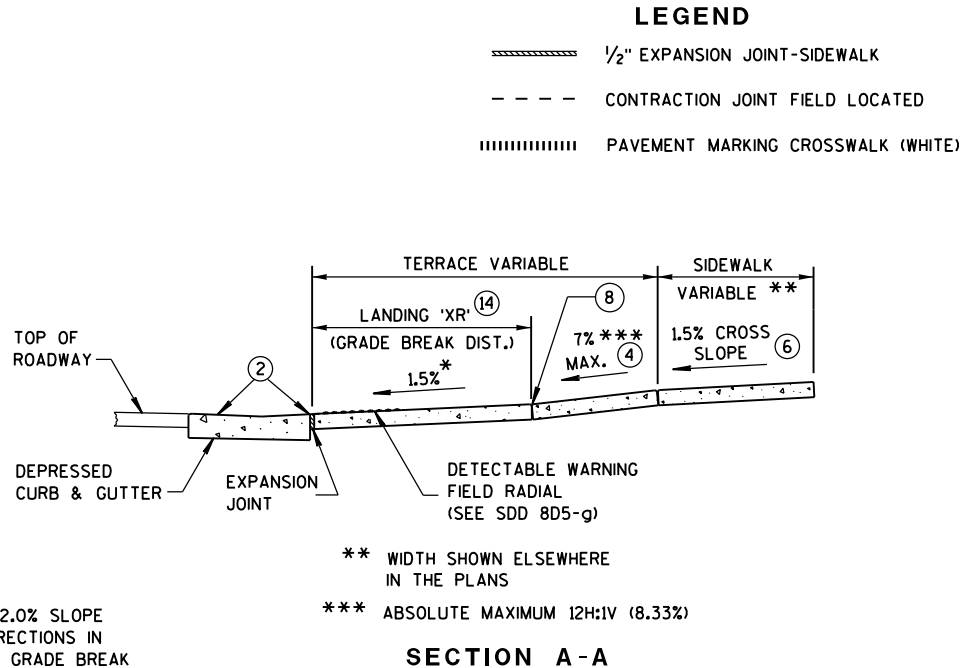
TYPE 2 RAMP
PLAN VIEW
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)
(ON LINE WITH SIDEWALK)



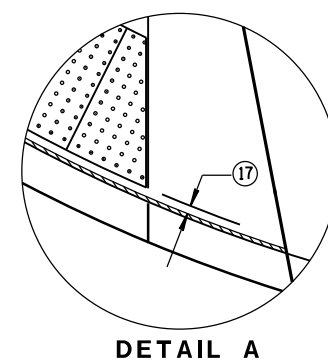
CURB RAMP TYPE 4A1
PLAN VIEW
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)



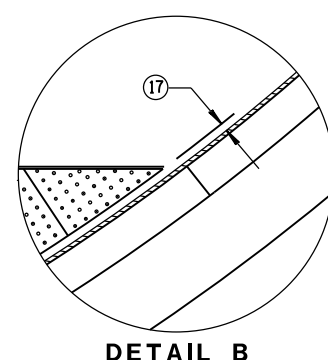
SECTION B-B FOR TYPE 4A1



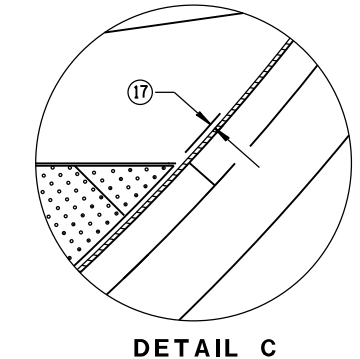
SECTION A-A



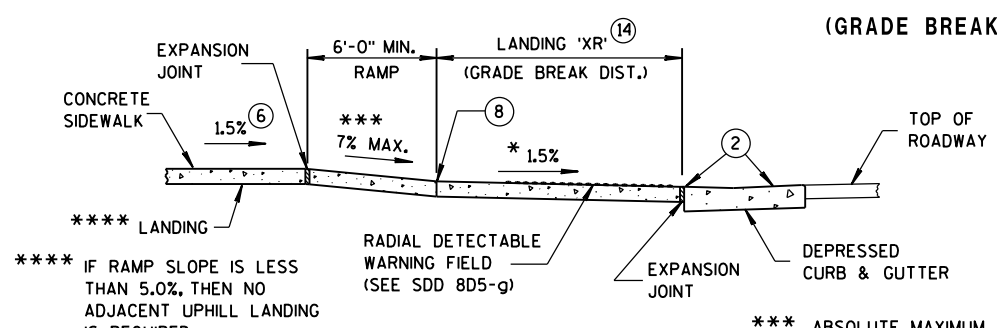
DETAIL A



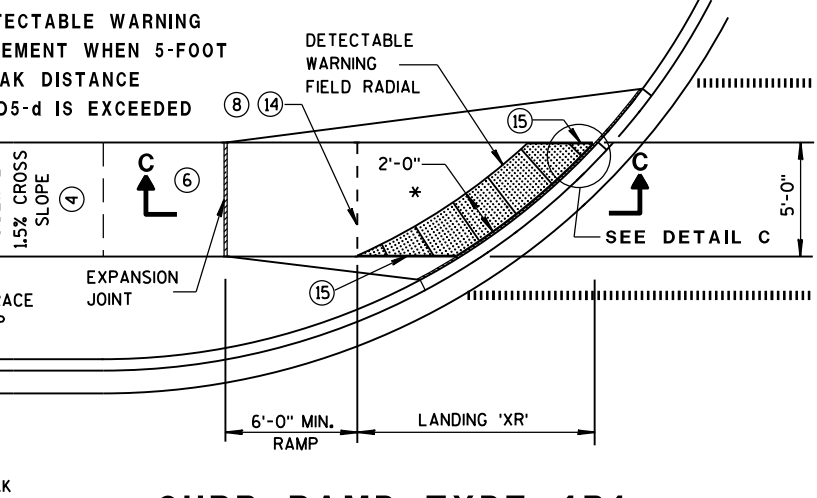
DETAIL B



DETAIL C



SECTION C-C FOR TYPE 4B1

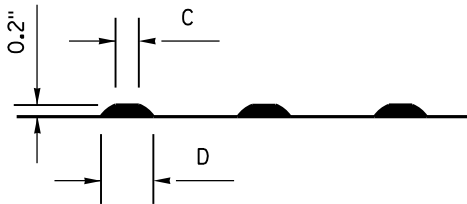
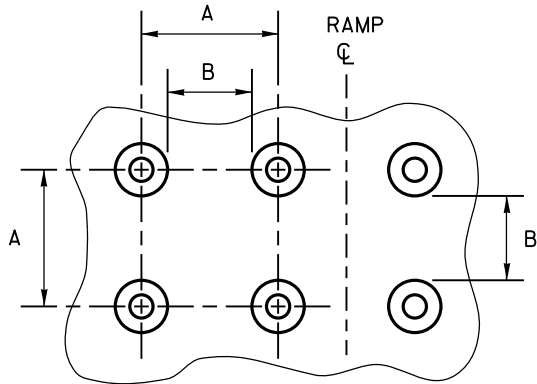


CURB RAMP TYPE 4B1
PLAN VIEW
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)

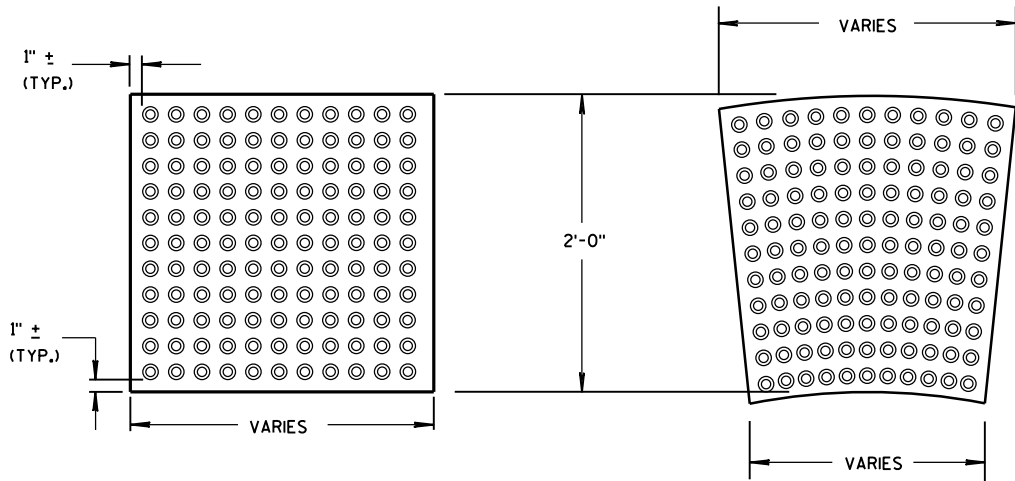
- LEGEND**
- 1/2" EXPANSION JOINT-SIDEWALK
 - CONTRACTION JOINT FIELD LOCATED
 - PAVEMENT MARKING CROSSWALK (WHITE)
- GENERAL NOTES**
- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
 - DETECTABLE WARNING FIELDS (DWFs) THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
 - APPLY RADIAL DETECTABLE WARNING PLACEMENT SIMILARLY FOR TYPE 4A AND 4A1 CURB RAMPS AND SIMILARLY FOR TYPE 4B AND 4B1 CURB RAMPS. TYPE 4A AND 4B CURB RAMPS ARE NOT SHOWN.
 - REFER TO SDD 8D5-g FOR ADDITIONAL RADIAL PLATE REQUIREMENTS.
 - FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FIELD ARE PROHIBITED.
 - DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.
 - GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
 - ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
 - ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
 - PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.
 - PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
 - CONSULT ENGINEER IF GRADE BREAK LOCATION (END OF LANDING DIMENSION 'XR') REQUIRES FIELD ADJUSTMENT WHEN ESTABLISHING FINAL RADIAL DETECTABLE WARNING FIELD LOCATION.
 - FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN 1/8" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.
 - USE 1'X 2' RECTANGULAR END PLATE AT END OF TYPE 4A1 RAMP AND PROVIDE MINIMUM 2'-0" DETECTABLE WARNING FIELD COVERAGE (IN DIRECTION OF PEDESTRIAN TRAVEL) ALONG THE ENTIRE CURB RAMP WIDTH.
 - A MAXIMUM 3-INCH CONCRETE BORDER WIDTH IS ALLOWABLE IN FRONT OF RADIAL DETECTABLE WARNING FIELD FOR CONSTRUCTABILITY PURPOSES. CONCRETE BORDER WIDTH MAY VARY UP TO 1 INCH.

	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

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



TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL



RECTANGULAR
PLATES

RADIAL
PLATES

DETECTABLE WARNING FIELDS (TYPICAL)

PLAN VIEW

GENERAL NOTES

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

PLACE ALL DETECTABLE WARNING FIELD SYSTEMS IN ACCORDANCE TO THE MANUFACTURER'S RECOMMENDATION.

FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FIELD ARE PROHIBITED.

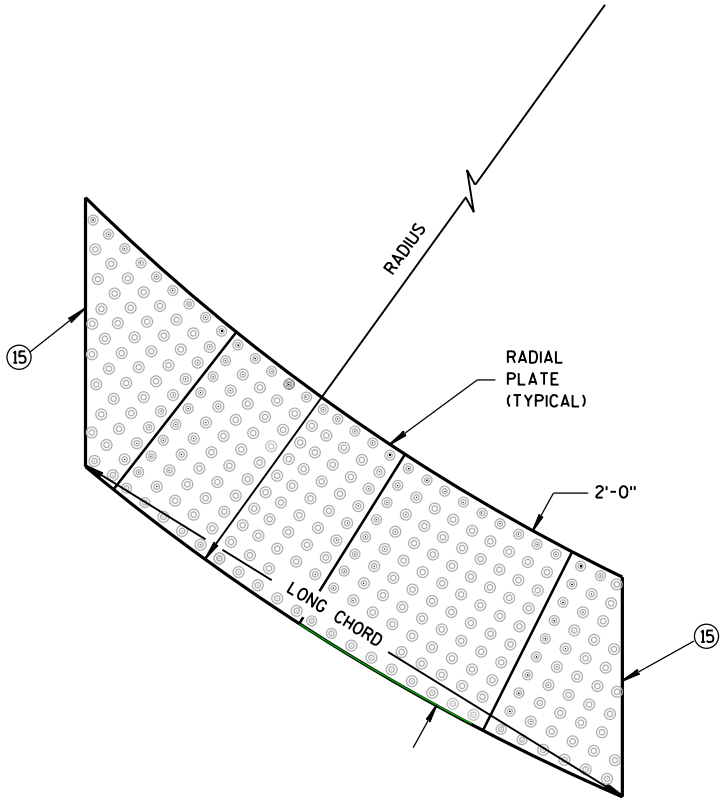
DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

FOR RADIAL DETECTABLE WARNING FIELD APPLICATIONS WHERE STANDARD RADIAL PLATES ARE NOT AVAILABLE AT AN INTERSECTION CURB RADIUS, A COMBINATION OF SQUARE OR RECTANGULAR PLATES AND RADIAL PLATES MAY BE USED TO FORM RADIAL CONFIGURATION. RADIAL WEDGES IN COMBINATION WITH SQUARE PANELS ARE ALSO ACCEPTABLE. FOLLOW MANUFACTURER'S RECOMMENDATIONS.

REFER TO CONTRACT AND STANDARD SPECIFICATIONS FOR FIELD CUTTING REQUIREMENTS.

DO NOT EMBED IN CONCRETE ANY FIELD-CUT PLATES WITH CUT EDGES SHORTER THAN 6 INCHES. CONSULT WITH MANUFACTURER FOR RE-DRILLING AND ANCHORING REQUIREMENTS OF FIELD-CUT PLATES.

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

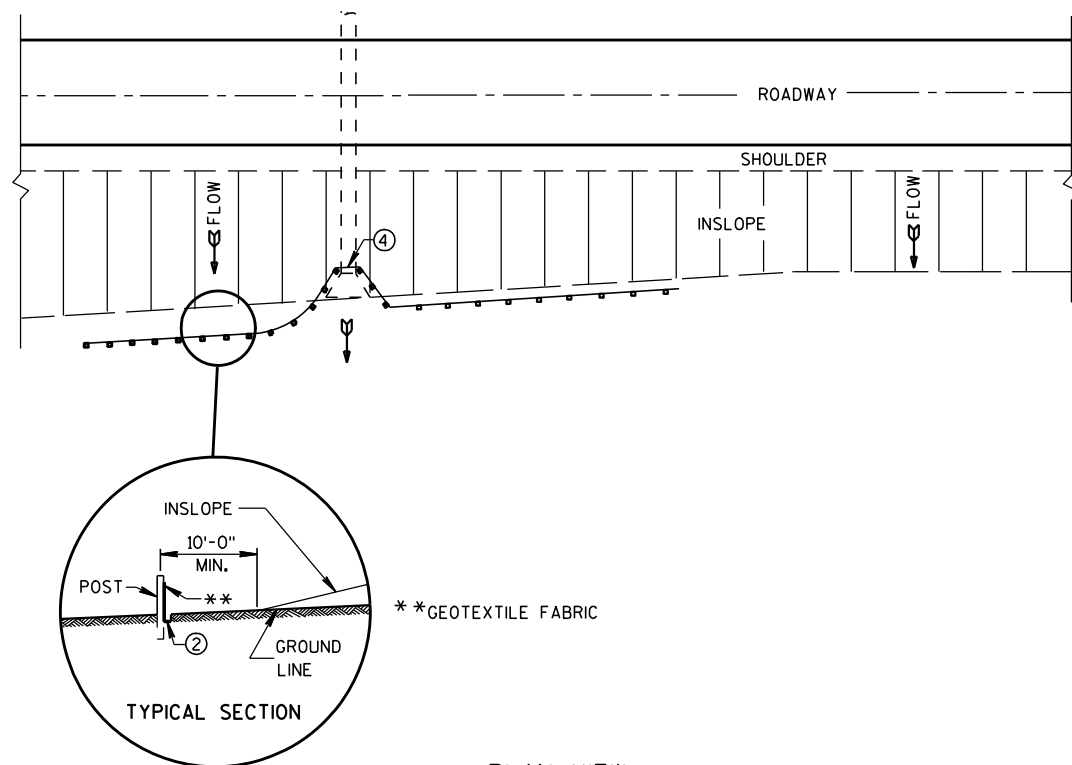


RADIAL DETECTABLE
WARNING FIELD ATTRIBUTES

CURB RAMPS
RECTANGULAR AND RADIAL
DETECTABLE WARNING PLATES

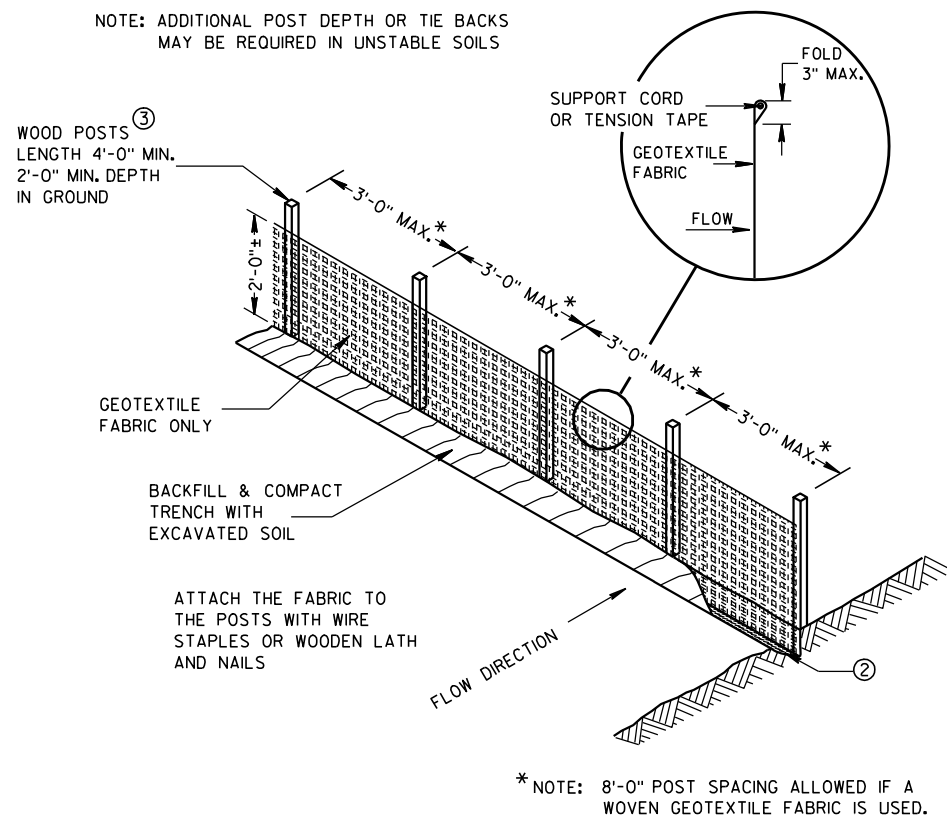
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2017 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR

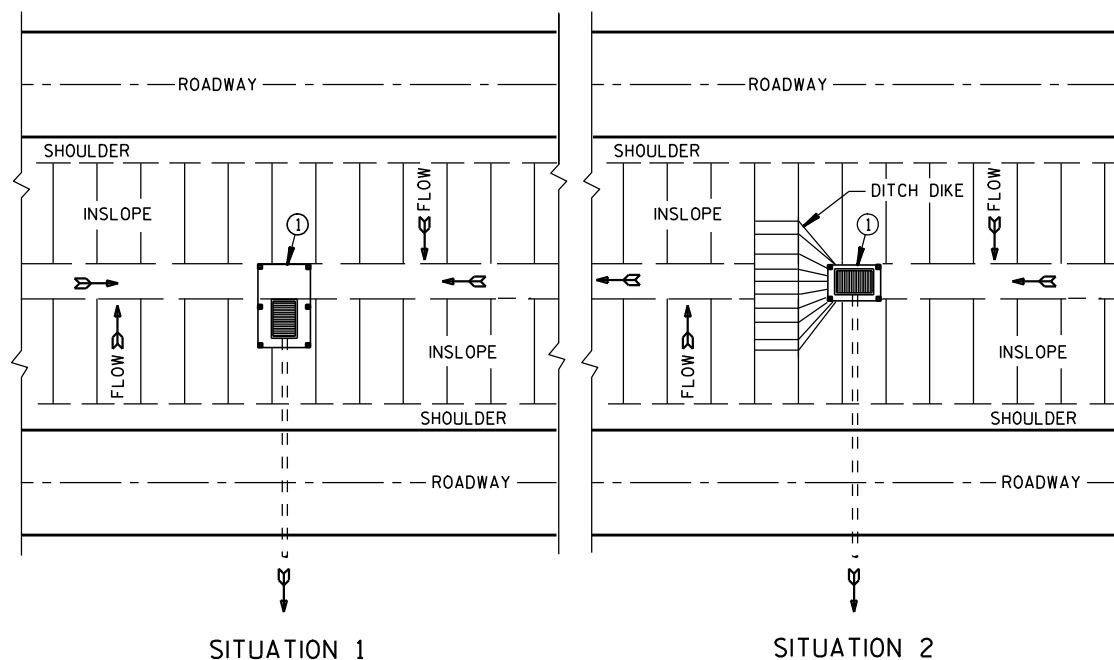


TYPICAL APPLICATION OF SILT FENCE

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

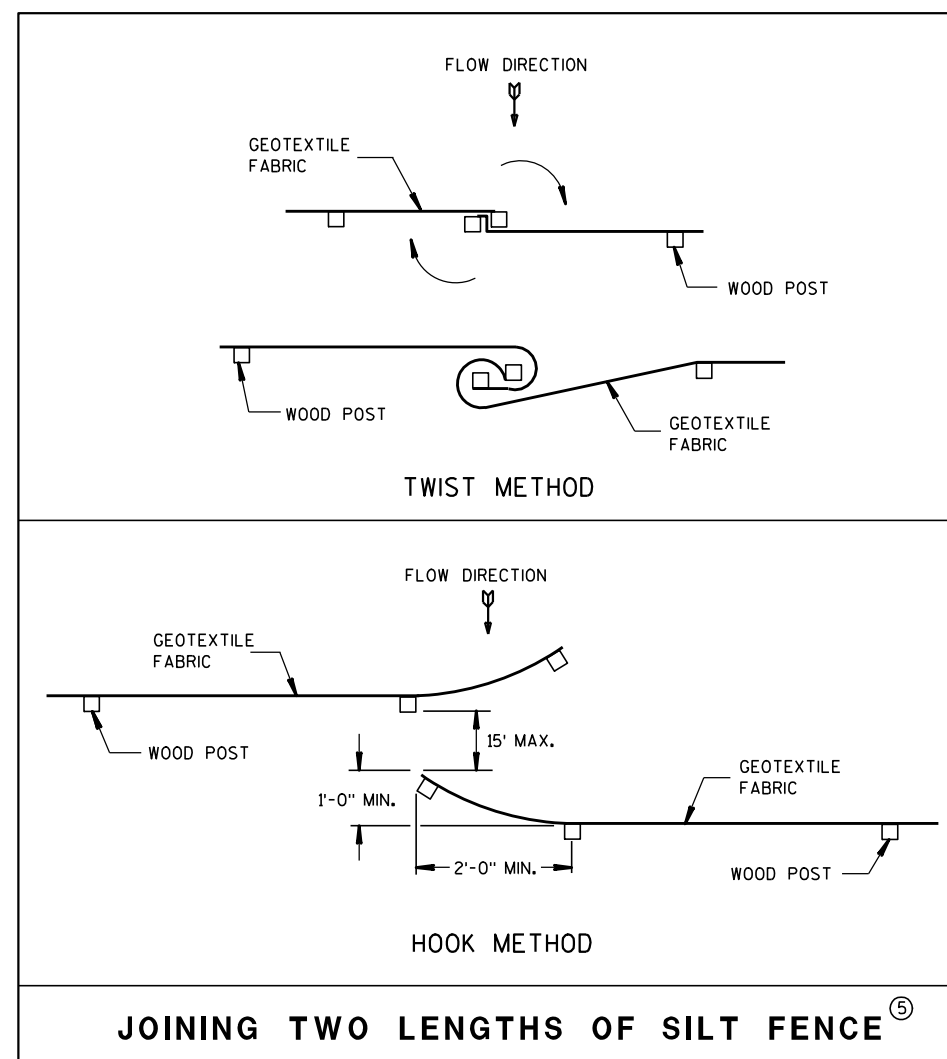


SILT FENCE



PLAN VIEW

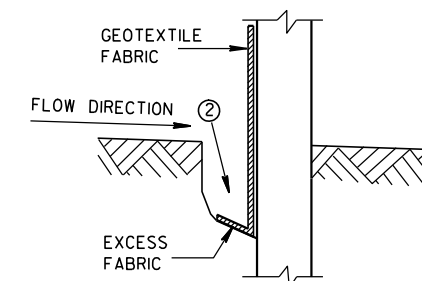
SILT FENCE AT MEDIAN SURFACE DRAINS



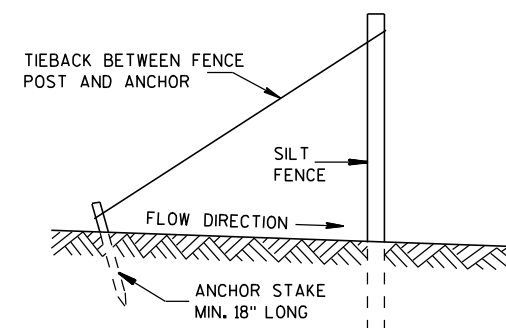
GENERAL NOTES

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

- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



TRENCH DETAIL



SILT FENCE TIE BACK (WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

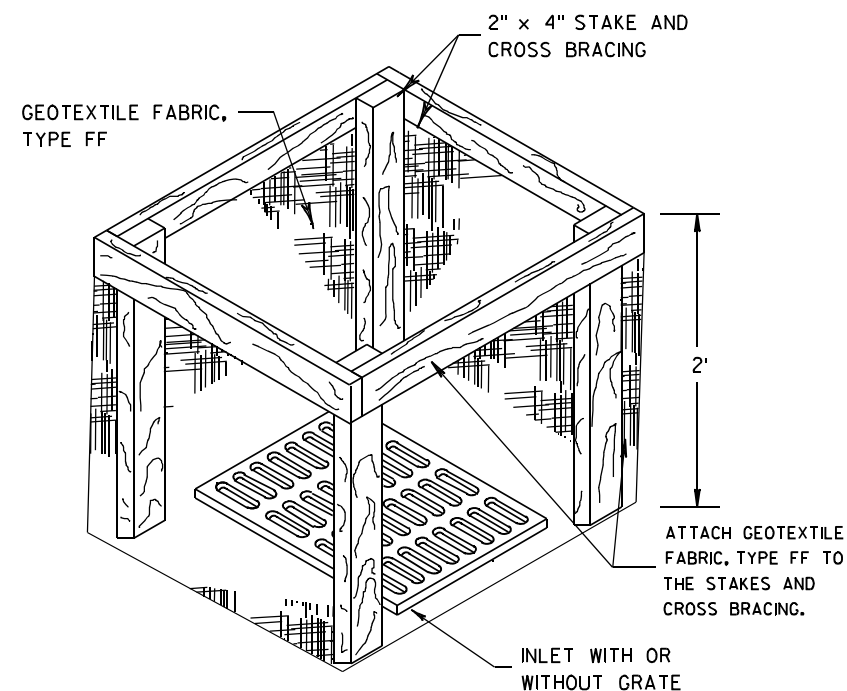
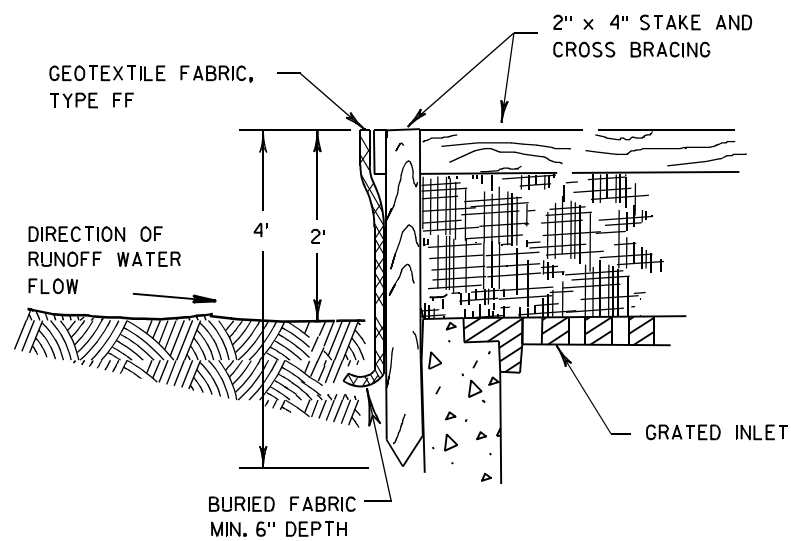
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4-29-05
DATE

FHWA

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



INLET PROTECTION, TYPE A

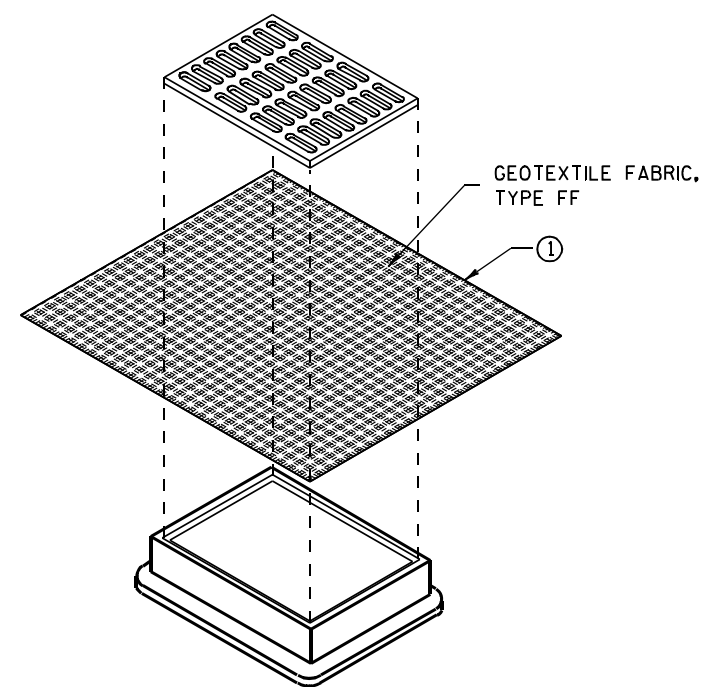
GENERAL NOTES

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

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

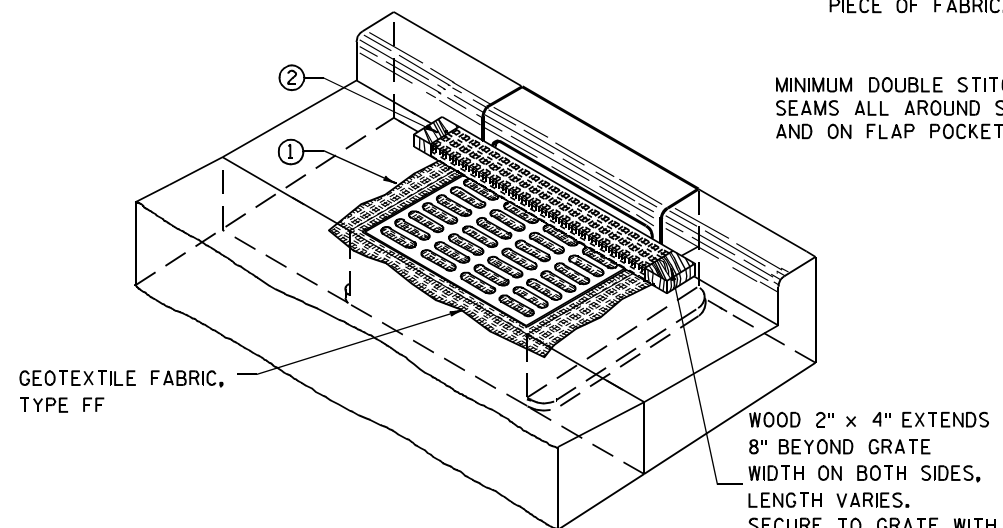
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

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



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

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

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

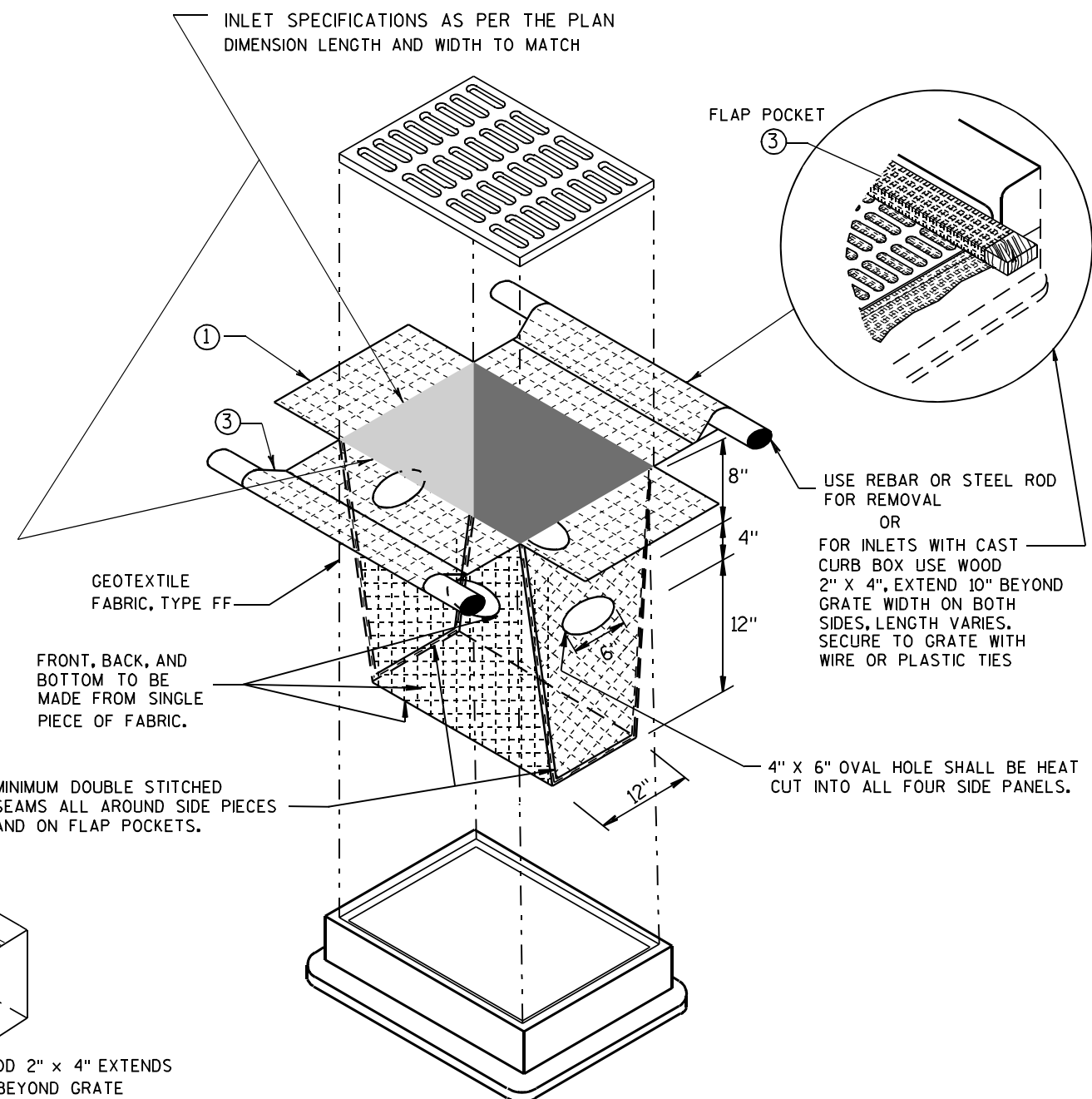
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

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

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

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



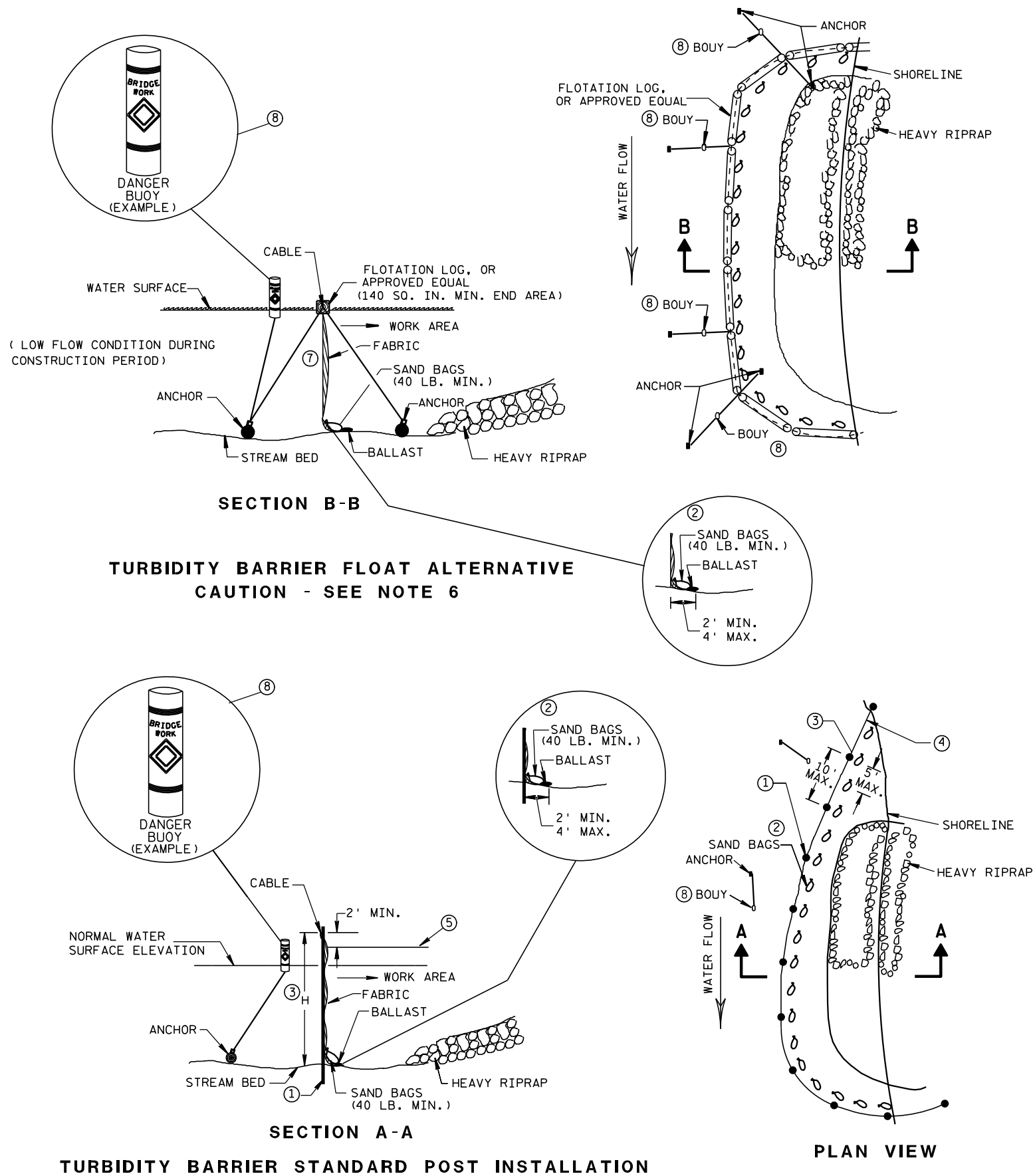
INLET PROTECTION, TYPE D

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



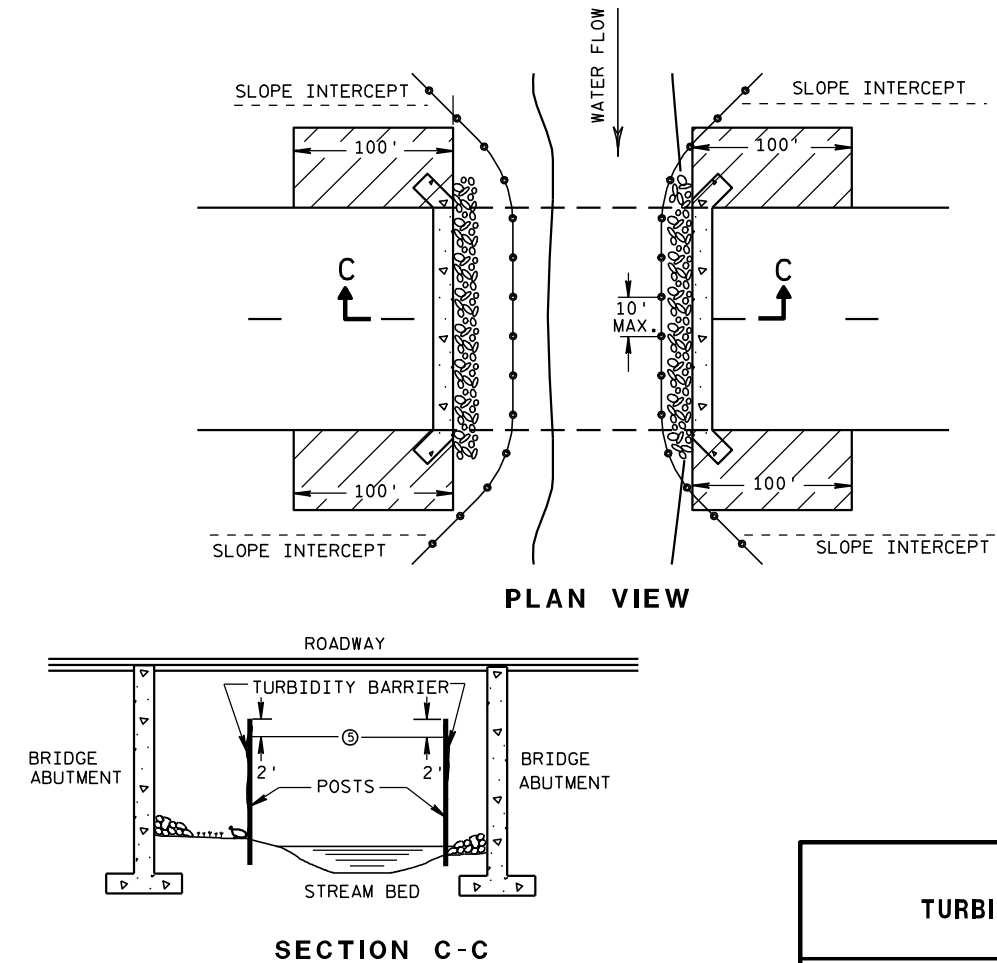
TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

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

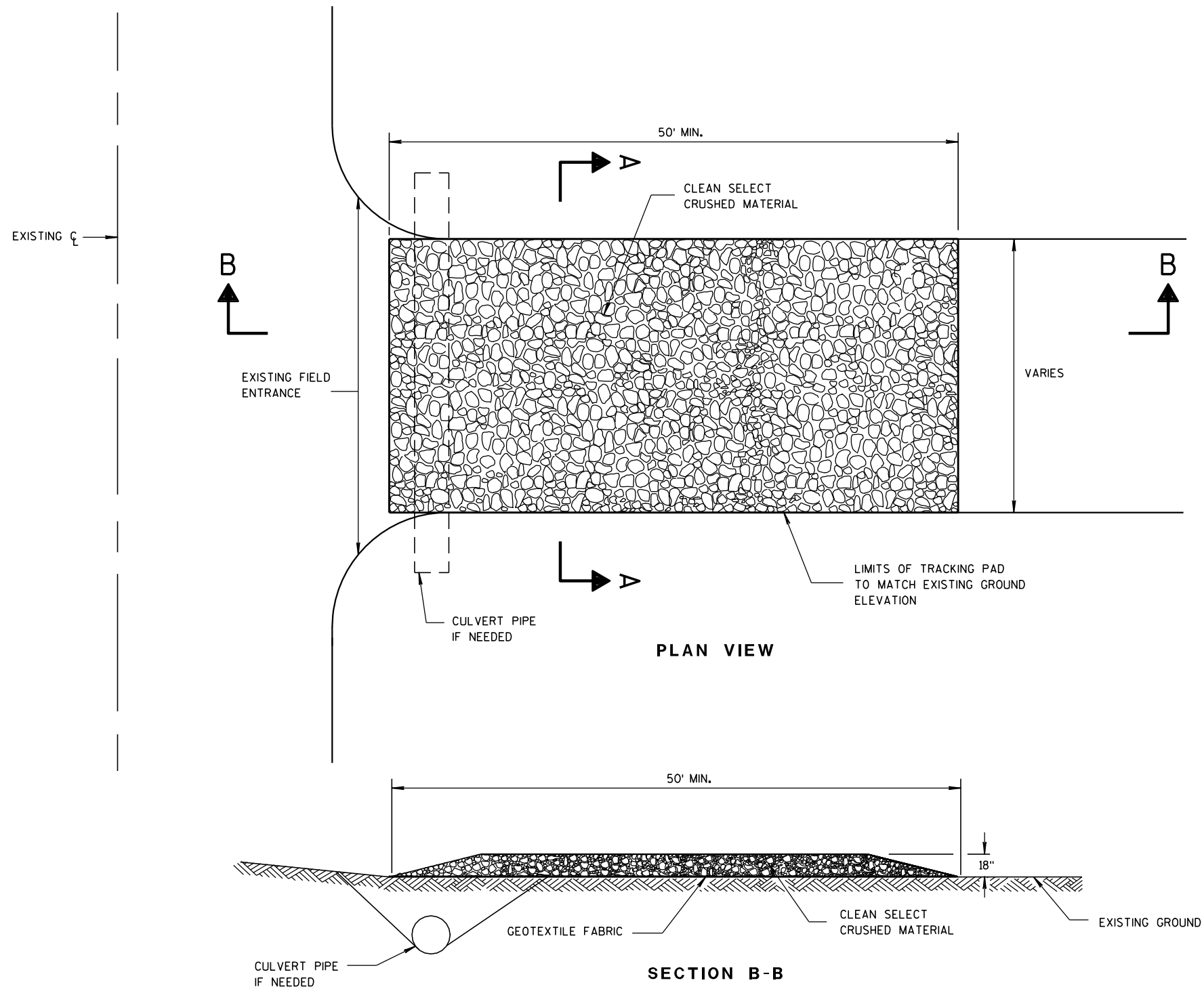
TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

- ① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
- ② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.
- ③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.
- ④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.
- ⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE 02 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.
- ⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.
- ⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.
- ⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 6/04/02 DATE	/S/ Beth Canestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	



TRACKING PAD

GENERAL NOTES

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

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

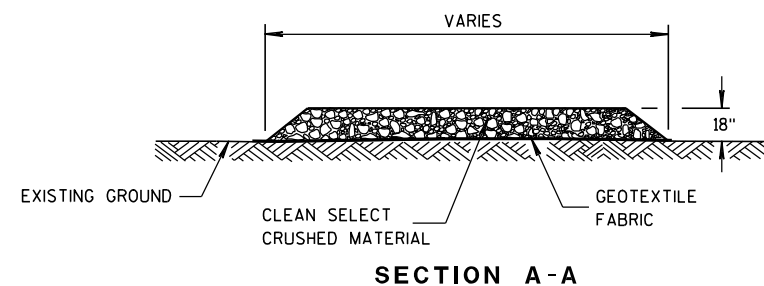
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

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

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

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

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

**TRACKING PAD**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/24/2011

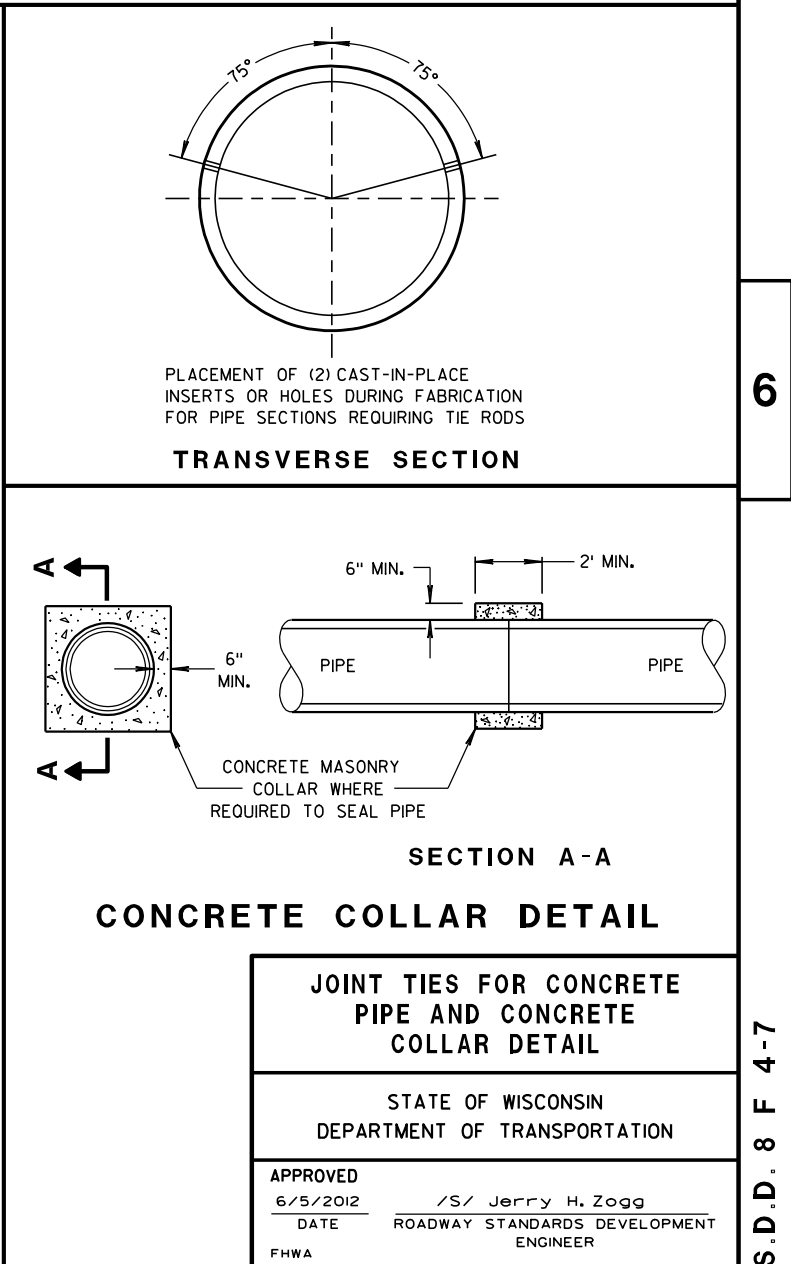
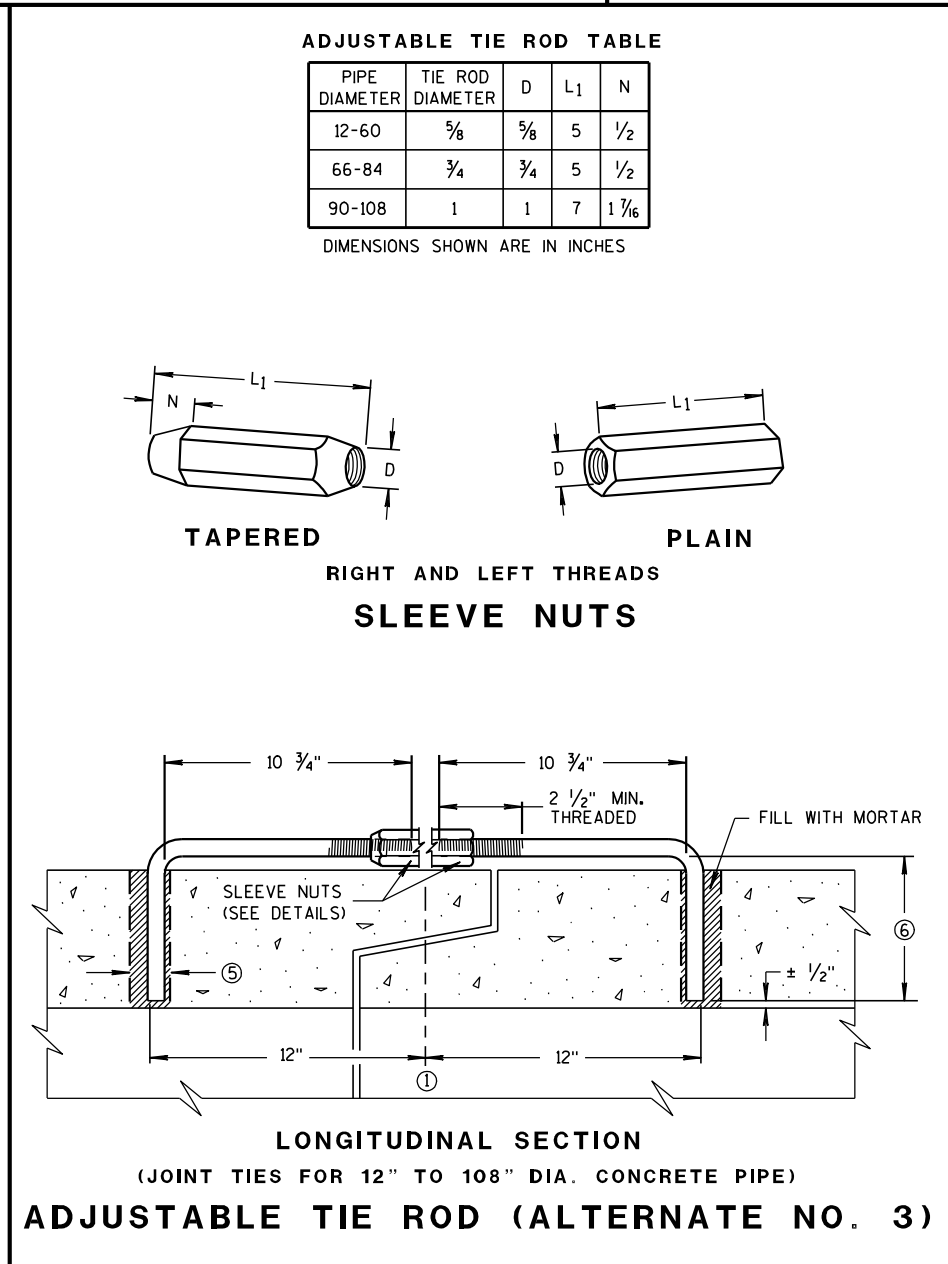
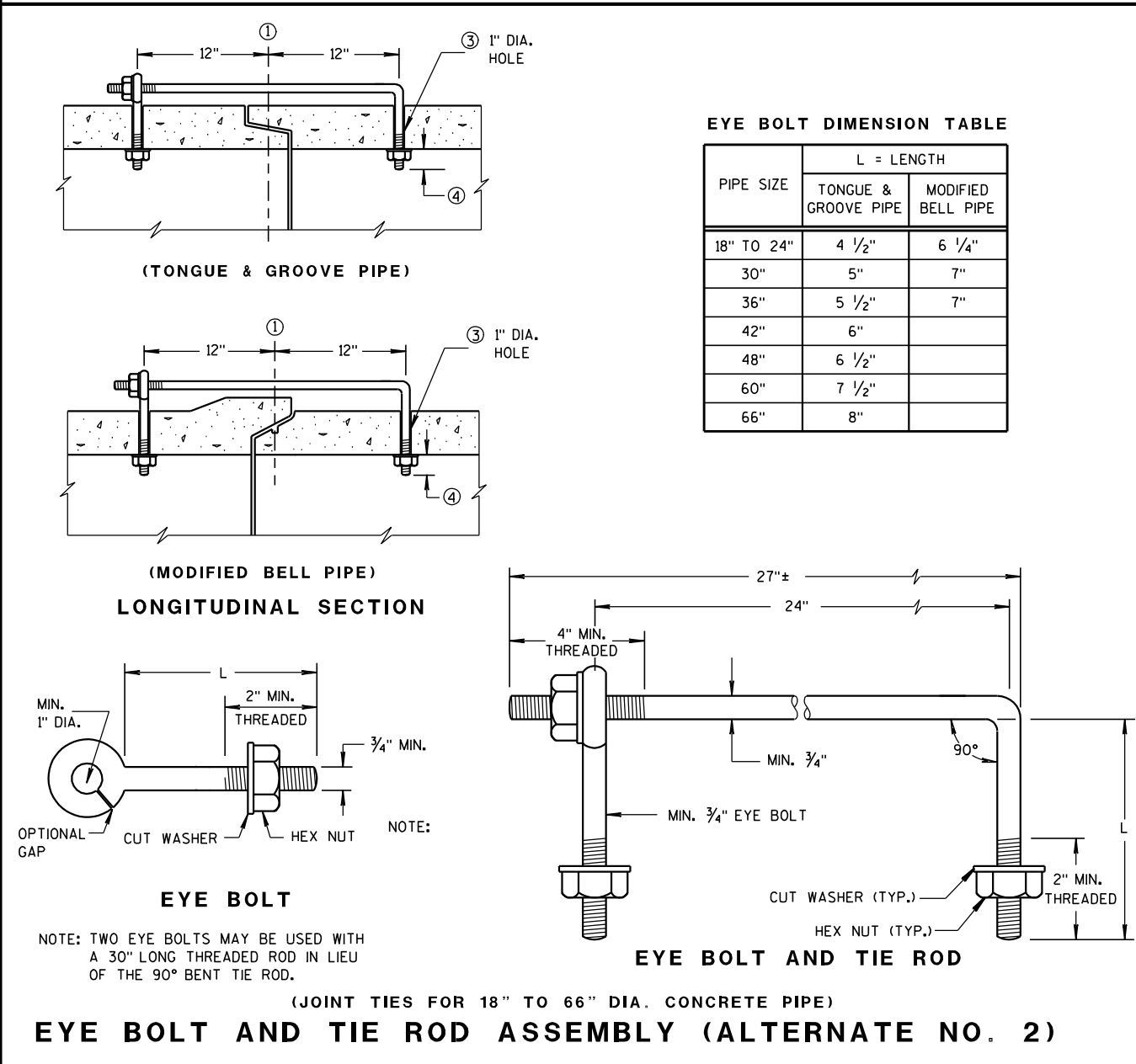
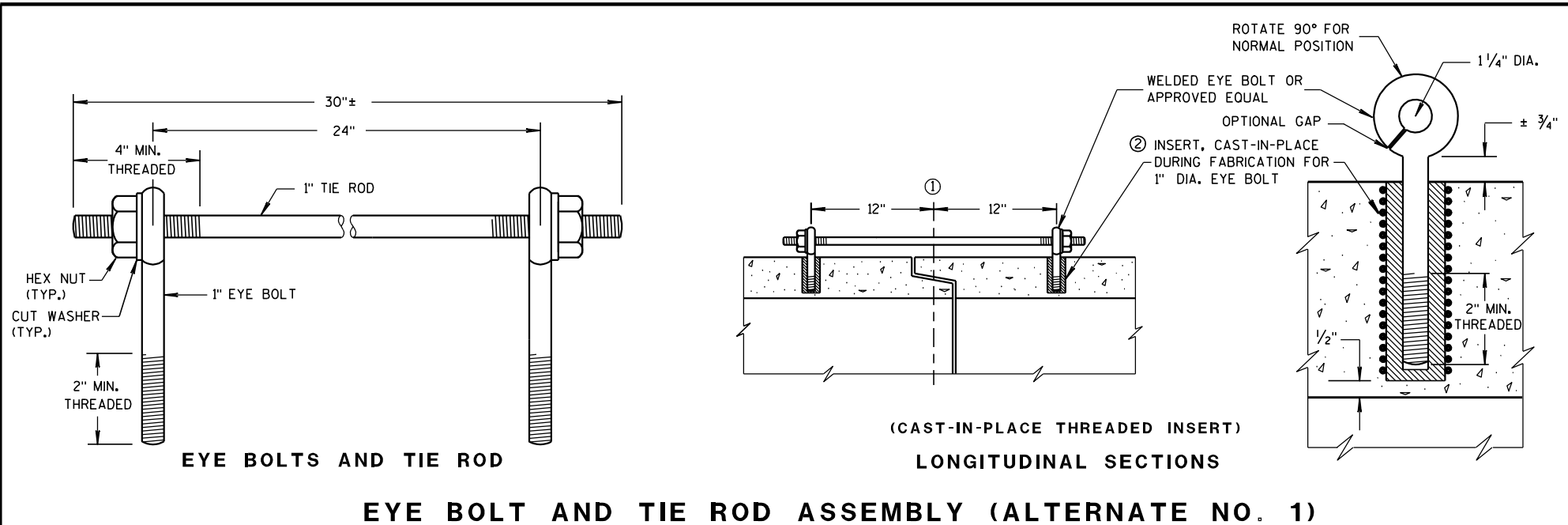
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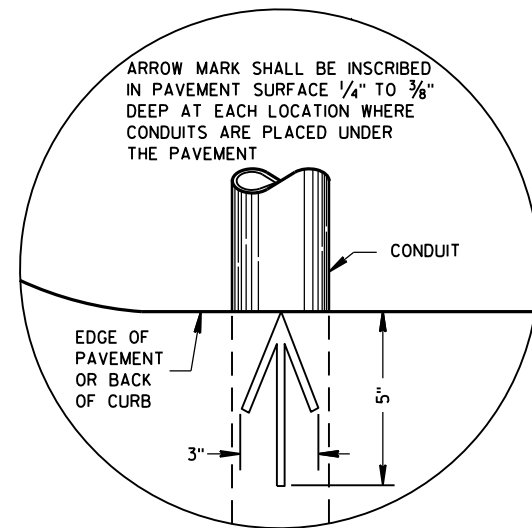
FHWA

/S/ Jerry H. Zogg

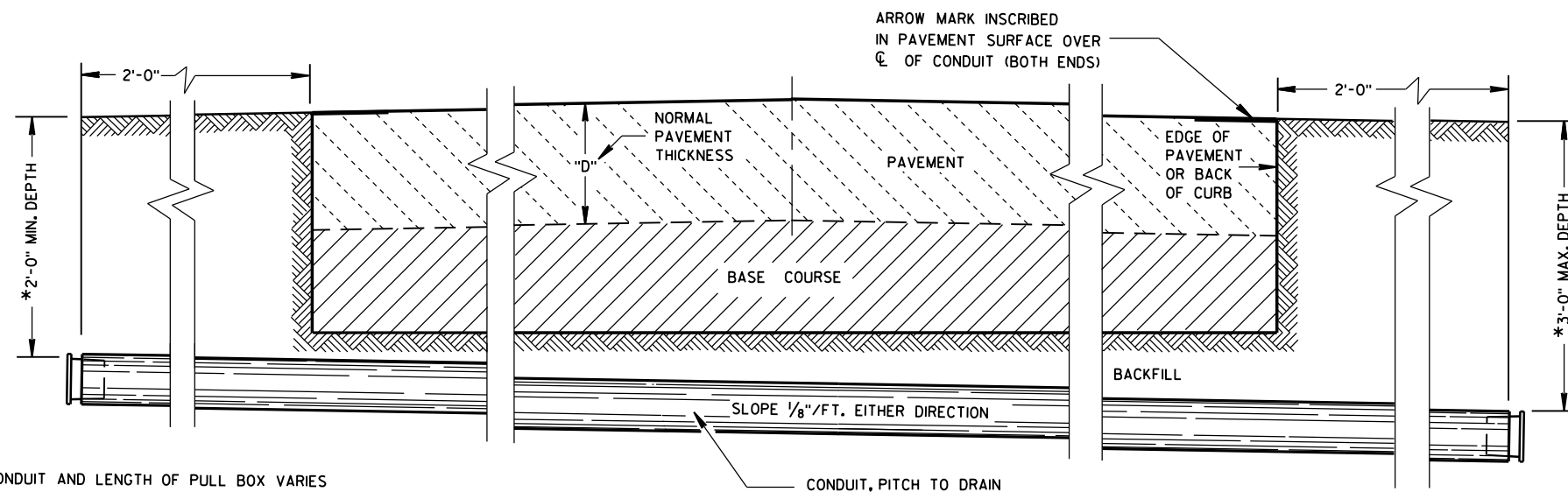
ROADWAY STANDARDS DEVELOPMENT

ENGINEER





PLAN VIEW
ARROW MARK



SIDE ELEVATION
DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

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

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.

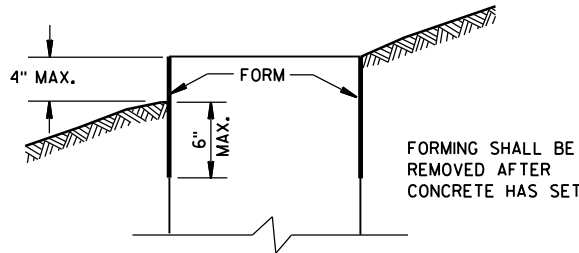
ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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 DRAWING SHALL 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 AS 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 AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X 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 NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

GENERAL NOTES (CONTINUED)

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

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC 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 1, TYPE 2, TYPE 5, AND TYPE 6 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE OF THE TYPE 2 AND TYPE 5 BASES 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" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND END SHALL NOT BE THREADED.

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

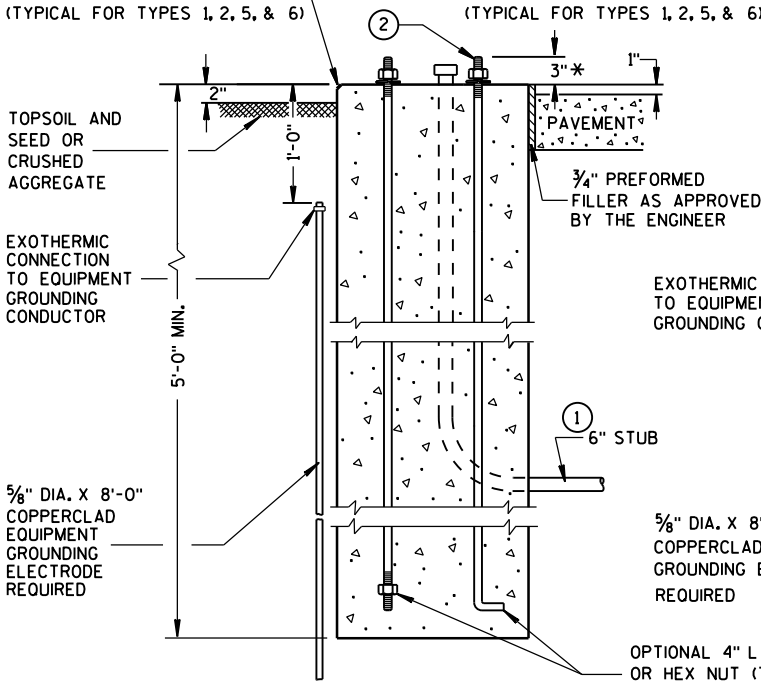
WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

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

- 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 BY THE ENGINEER.

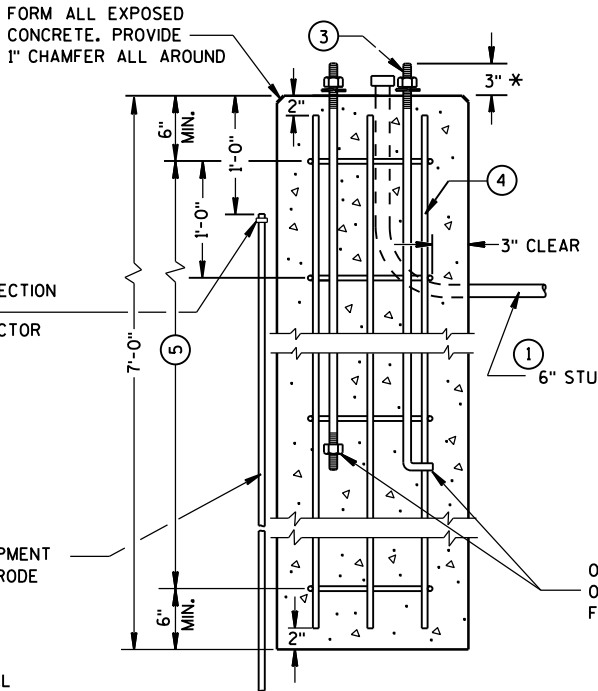
- 2 (4) 1" DIA. X 3'-6" ANCHOR RODS.
3 (4) 1" DIA. X 5'-0" ANCHOR RODS.
4 (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.
5 (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.
6 (4) 1" DIA. X 3'-6" ANCHOR RODS.
7 (6) NO. 4 X 4'-8" BAR STEEL REINFORCEMENT.
8 (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

HALF SECTION IN UNPAVED AREA
(TYPICAL FOR TYPES 1, 2, 5, & 6)

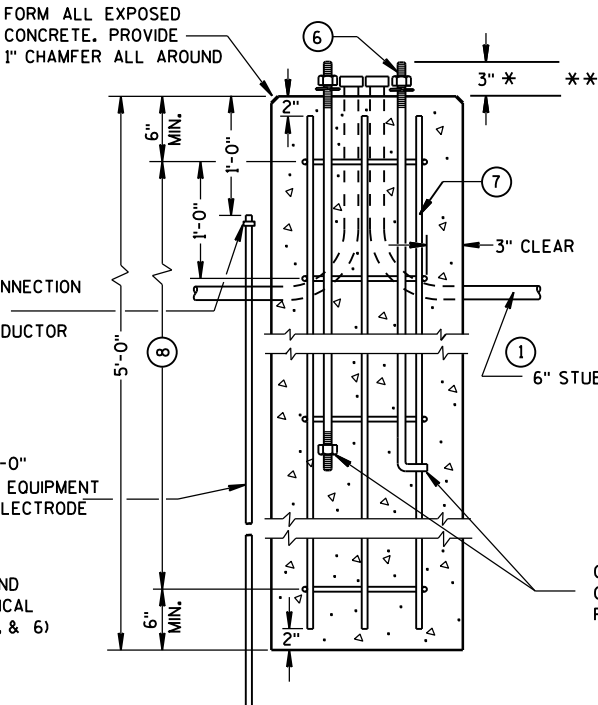


TYPE 1

HALF SECTION IN PAVEMENT
(TYPICAL FOR TYPES 1, 2, 5, & 6)



TYPE 2



TYPE 5 & 6

CONCRETE BASES

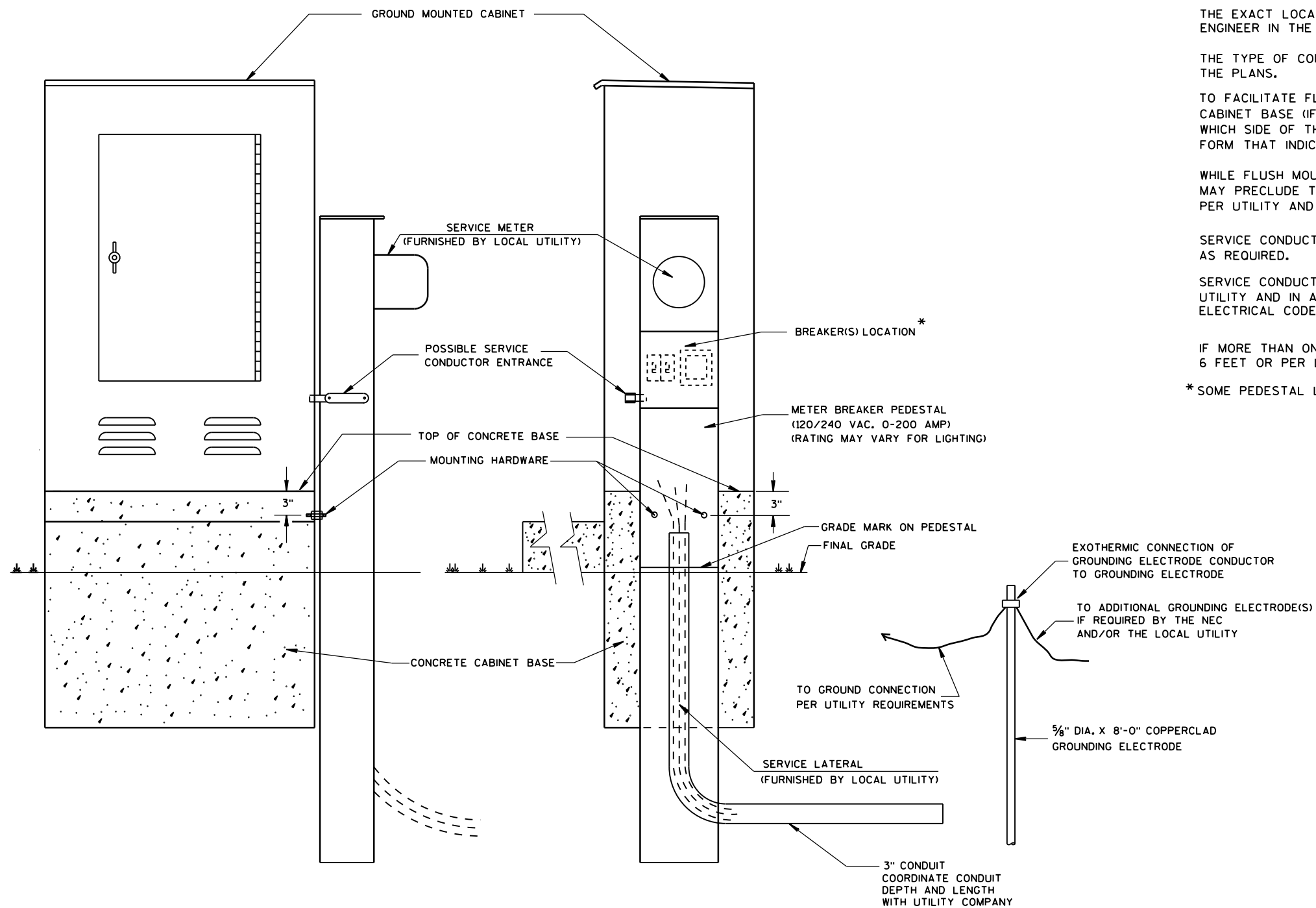
* ANY ANCHOR ROD PROJECTION SHORTER THAN 2 3/4" OR LONGER THAN 3 1/4" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

** FOR NONBREAKAWAY INSTALLATIONS, 4 1/2" ± 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
Sept. 2014 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL ENGINEER
FHWA



TYPICAL CABINET SERVICE INSTALLATION

GENERAL NOTES

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

THE EXACT LOCATION OF THE METER BREAKER PEDESTAL SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

THE TYPE OF CONCRETE CABINET BASE TO BE INSTALLED SHALL BE AS CALLED FOR IN THE PLANS.

TO FACILITATE FLUSH MOUNTING OF THE METER BREAKER PEDESTAL AGAINST THE SIDE OF THE CABINET BASE (IF FLUSH MOUNTING POSSIBLE, CONFER WITH THE LOCAL UTILITY TO DETERMINE WHICH SIDE OF THE CONCRETE BASE THE ELECTRICAL SERVICE LATERAL WILL APPROACH, THEN FORM THAT INDICATED SIDE FOR FULL SIDE DEPTH.

WHILE FLUSH MOUNTING IS THE MOST DESIRABLE MOUNTING CONFIGURATION UTILITY REQUIREMENTS MAY PRECLUDE THIS OPTION. CONTRACTOR MUST PROVIDE UTILITY APPROVED PEDESTAL AND INSTALL PER UTILITY AND MANUFACTURERS REQUIREMENTS.

SERVICE CONDUCTOR ENTRANCES SHALL BE RIGID METALLIC CONDUIT, NIPPLES AND/OR CONDULETS AS REQUIRED.

SERVICE CONDUCTOR ENTRANCES SHALL BE SIZED AND LOCATED AS REQUIRED BY THE LOCAL UTILITY AND IN ACCORDANCE WITH APPROPRIATE ARTICLES OF THE LATEST ACCEPTED NATIONAL ELECTRICAL CODE.

IF MORE THAN ONE GROUNDING ELECTRODE IS REQUIRED, THE DISTANCE APART SHALL BE 6 FEET OR PER LOCAL UTILITY REGULATIONS.

* SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.

CABINET SERVICE INSTALLATION
(METER BREAKER PEDESTAL)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGINEER

FHWA

FRONT INTERIOR
ELEVATION

SIDE VIEW

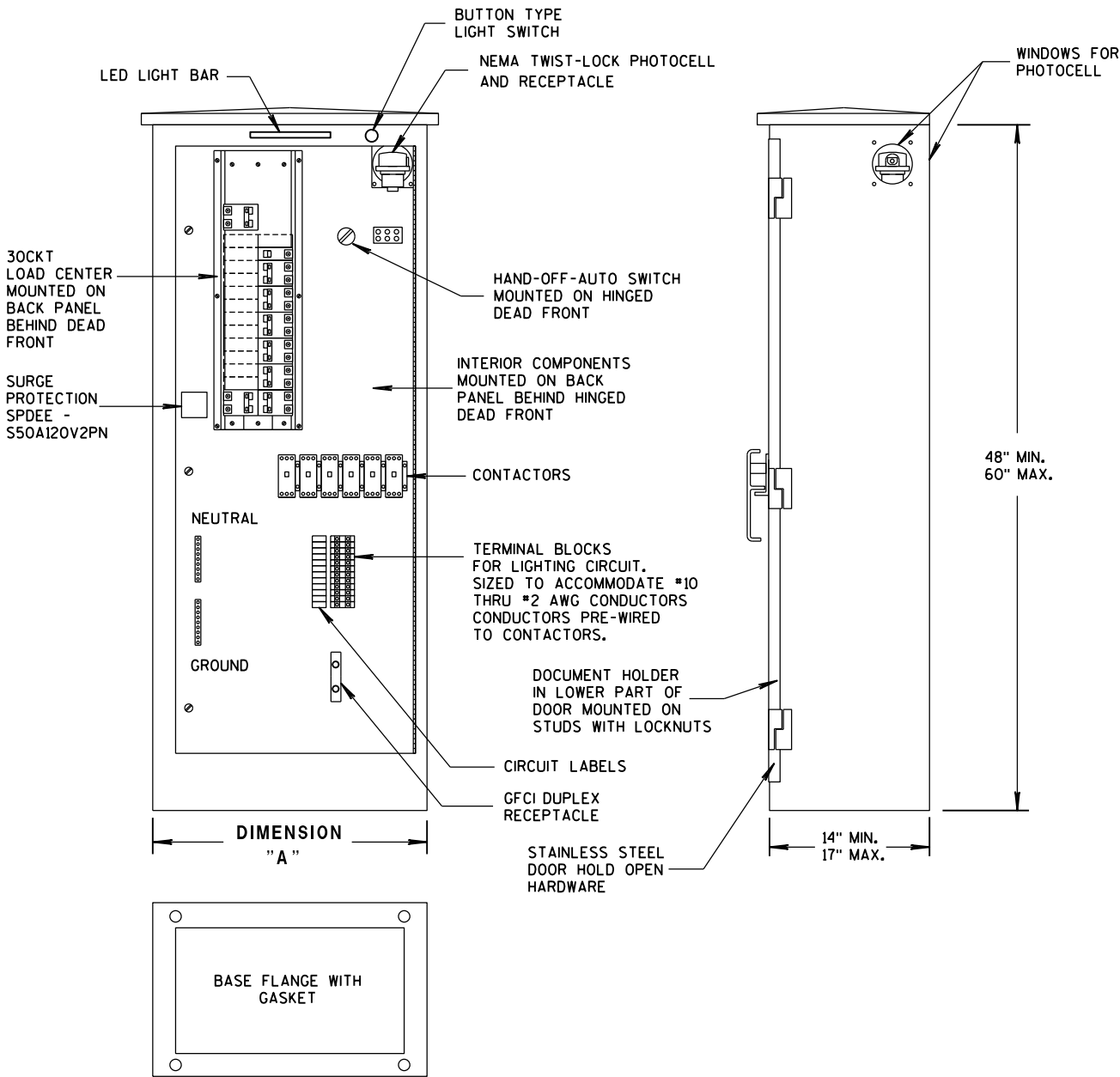
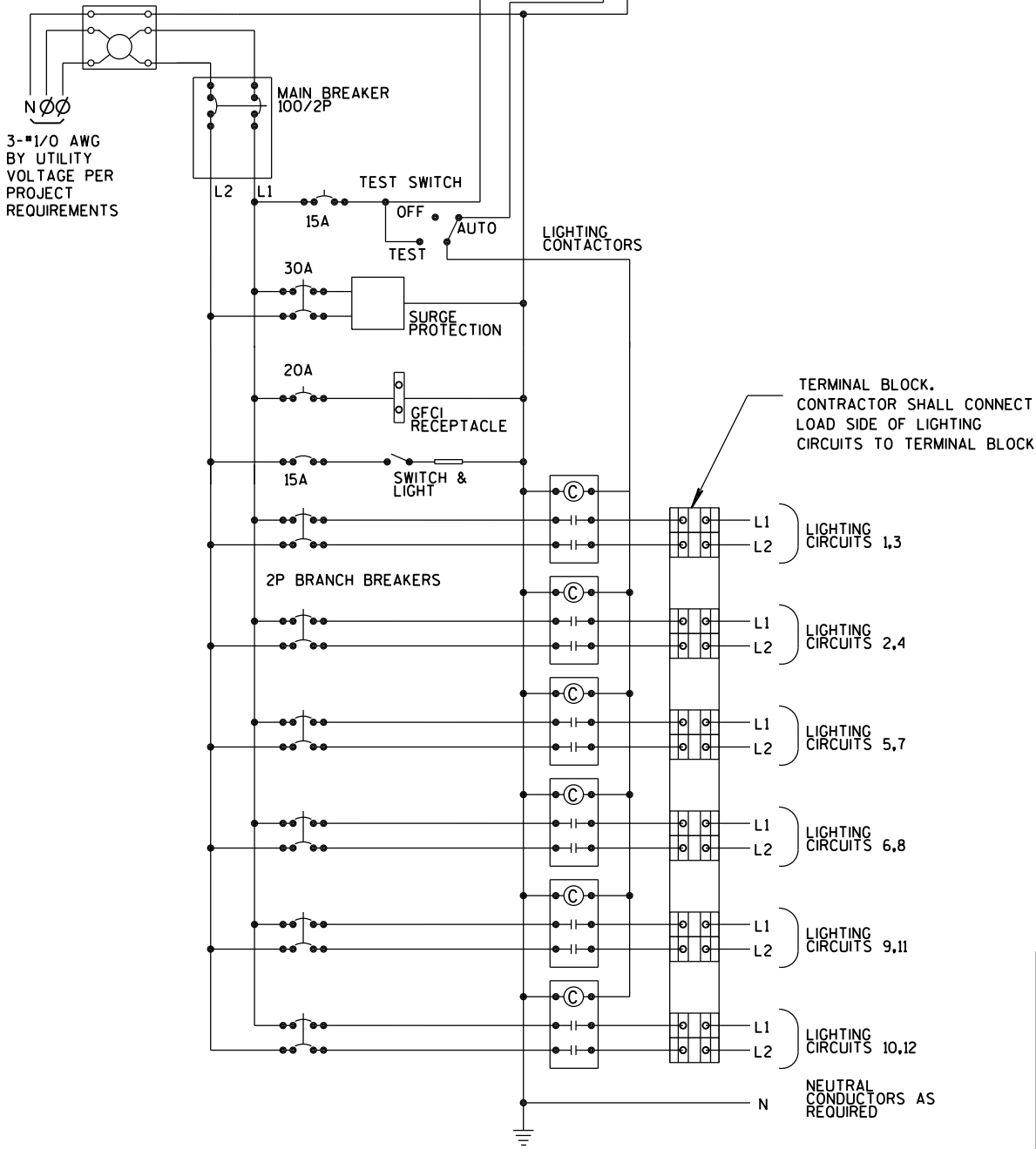


TABLE OF DIMENSIONS (INCHES)

CONCRETE BASE TYPE	CABINET WIDTH	DIMENSION "A"
L24	24"	24"
L30	30"	30"

LIGHTING CONTROL CABINET

UTILITY METER PEDESTAL PROVIDED BY CONTRACTOR UNDER SEPARATE BID ITEM. MAY, OR MAY NOT BE ATTACHED TO OUTSIDE OF CONTROL CABINET PER PROJECT REQUIREMENTS



CONTROL CABINET SCHEMATIC

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.

ALL INTERNAL ELECTRICAL COMPONENTS WILL BE PRE-WIRED BY THE CABINET FABRICATOR.

ALL CONDUIT ENTRIES SHALL BE SEALED WITH AN APPROPRIATE DUCT SEALING COMPOUND.

ORIENT PHOTOCELL AWAY FROM AMBIENT LIGHT SOURCES AND ONCOMING TRAFFIC HEADLIGHTS.

THE CONTRACTOR SHALL TOUCH UP ANY DAMAGE TO THE ANODIZED FINISH CAUSED BY THE INSTALLATION PROCESS. COLOR MATCH PAINT SHALL BE USED.

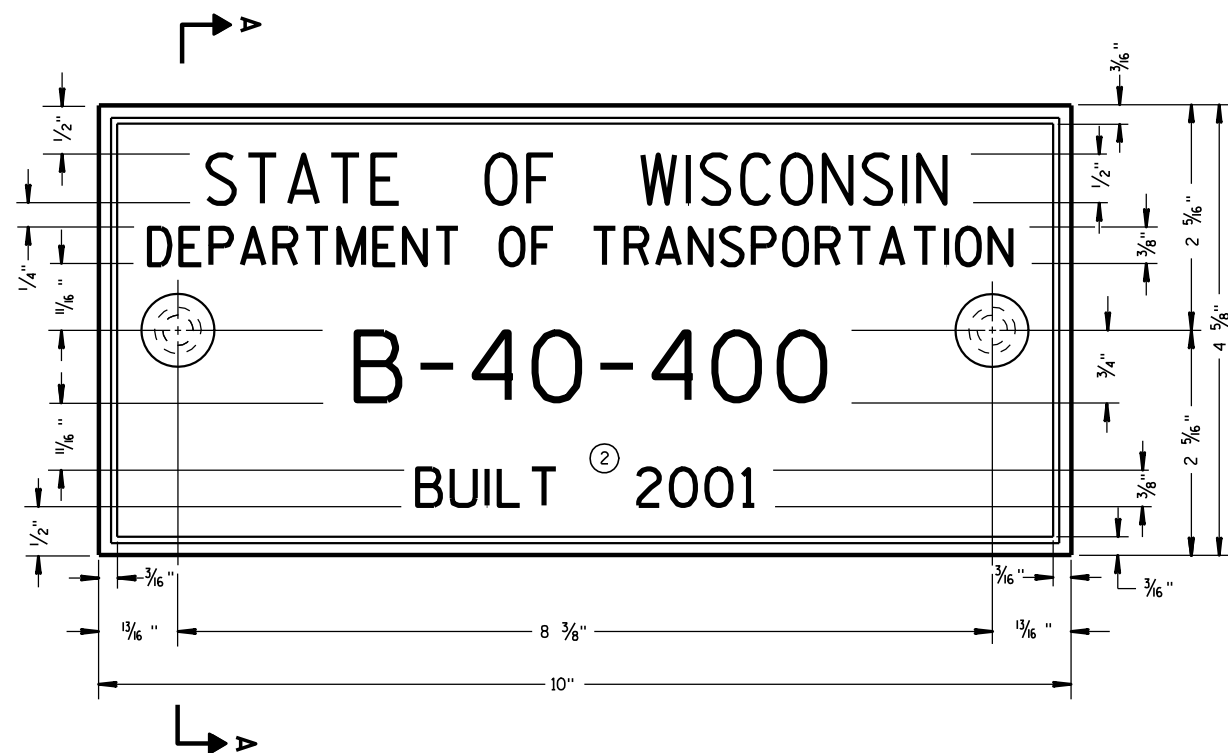
A COMPLETE LIGHTING OR ELECTRICAL PLAN SHALL BE SECURELY PLACED IN THE DOCUMENT HOLDER ATTACHED TO THE DOOR.

LIGHTING CONTROL CABINET
120/240 VOLT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

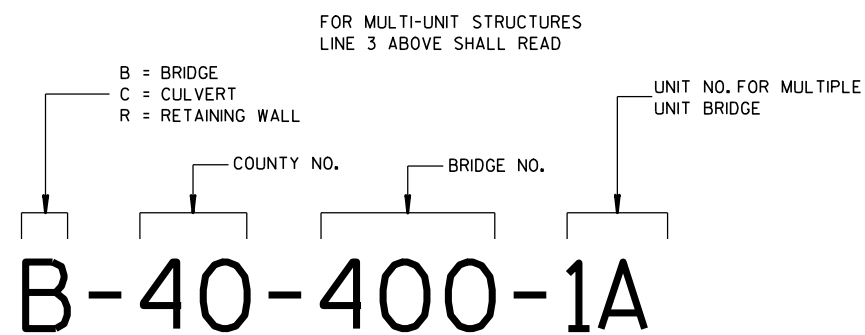
APPROVED
DATE
FWHA

/S/ Thomas Gorring
STATE LIGHTING ENGINEER FOR HWYS.



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)



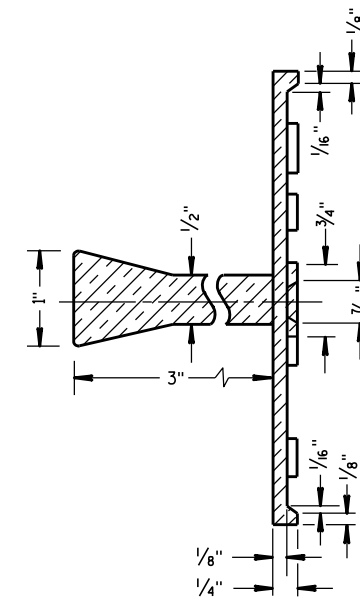
NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

GENERAL NOTES

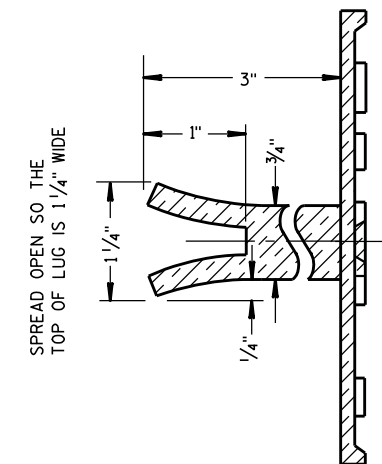
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

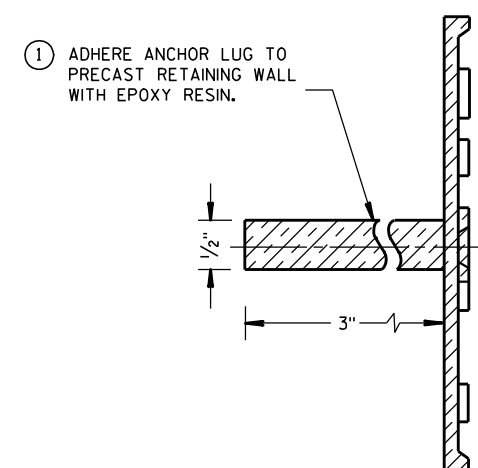
- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE
(STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10
DATE

FHWA

/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER

LEGEND

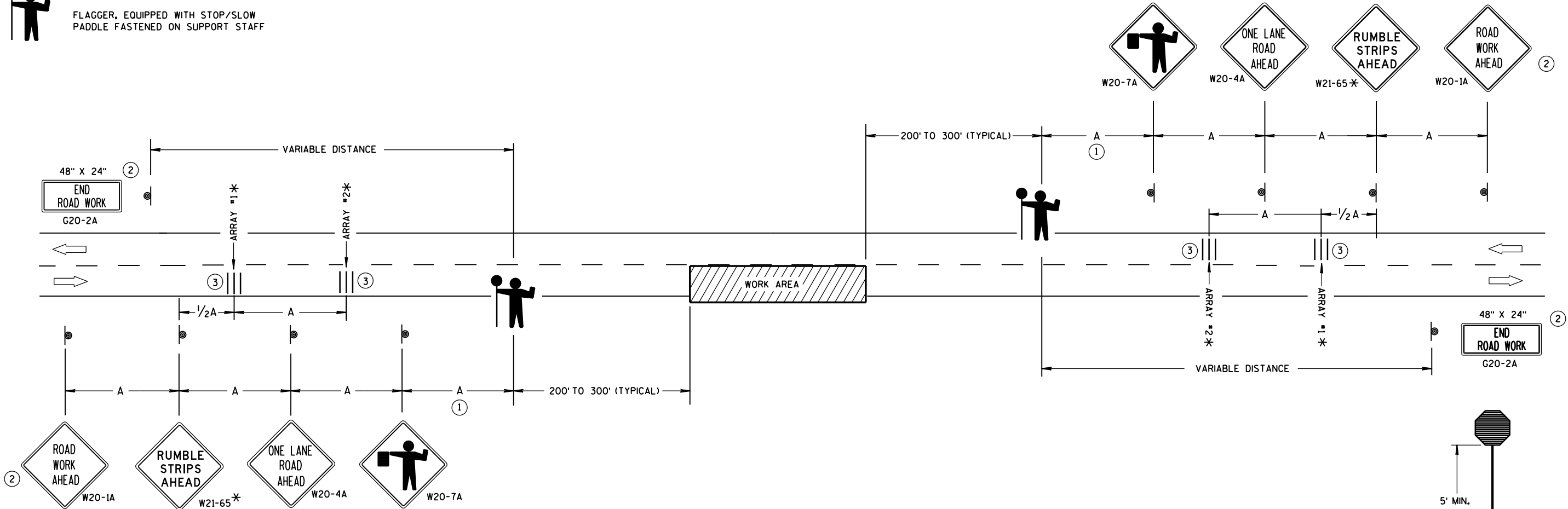
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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



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



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

GENERAL NOTES

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

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

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

"W0" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

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

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS. PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

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

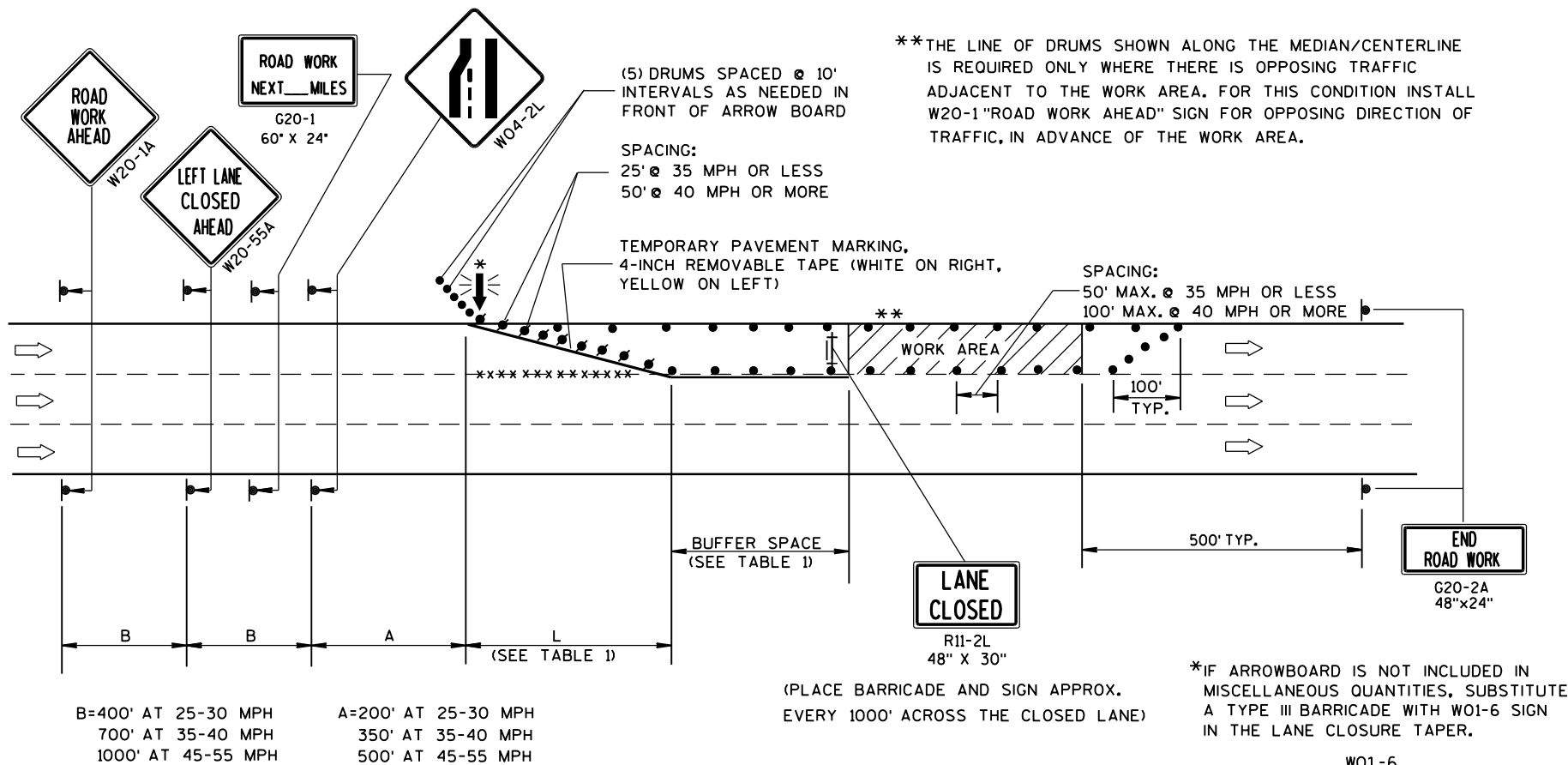
FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, REMOVE TEMPORARY RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

- * UTILIZE TEMPORARY RUMBLE STRIPS WHEN FLAGGING OPERATION IS ANTICIPATED TO BE STATIONARY IN EXCESS OF TWO HOURS.
- ① FOR A MOVING WORK OPERATION, SIGNING AND TEMPORARY RUMBLE STRIPS (IF USED) SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3,500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
- ② SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.
- ③ EACH TEMPORARY RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

TRAFFIC CONTROL FOR
LANE CLOSURE WITH
FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 /S/ Andrew Heldtke
DATE WORK ZONE ENGINEER
FHWA



GENERAL NOTES

THIS LANE CLOSURE DETAIL IS TYPICAL FOR CLOSING THE LEFT LANE. FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

ON UNDIVIDED ROADWAYS, OMIT THE SIGNS SHOWN ON LEFT SIDE OF ROAD.

W20-1A, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

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

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

PLACE THE ARROWBOARD AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE LANE CLOSURE TAPER, PREFERABLY ON THE SHOULDER OR TERRACE.

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

BARRICADES IN A CLOSED LANE 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.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

TABLE 1
TAPER AND BUFFER SPACE
FOR 12' LANE WIDTH

S	L	BUFFER SPACE
25	125'	55'
30	180'	85'
35	245'	120'
40	320'	170'
45	540'	220'
50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

L = TAPER LENGTH IN FEET

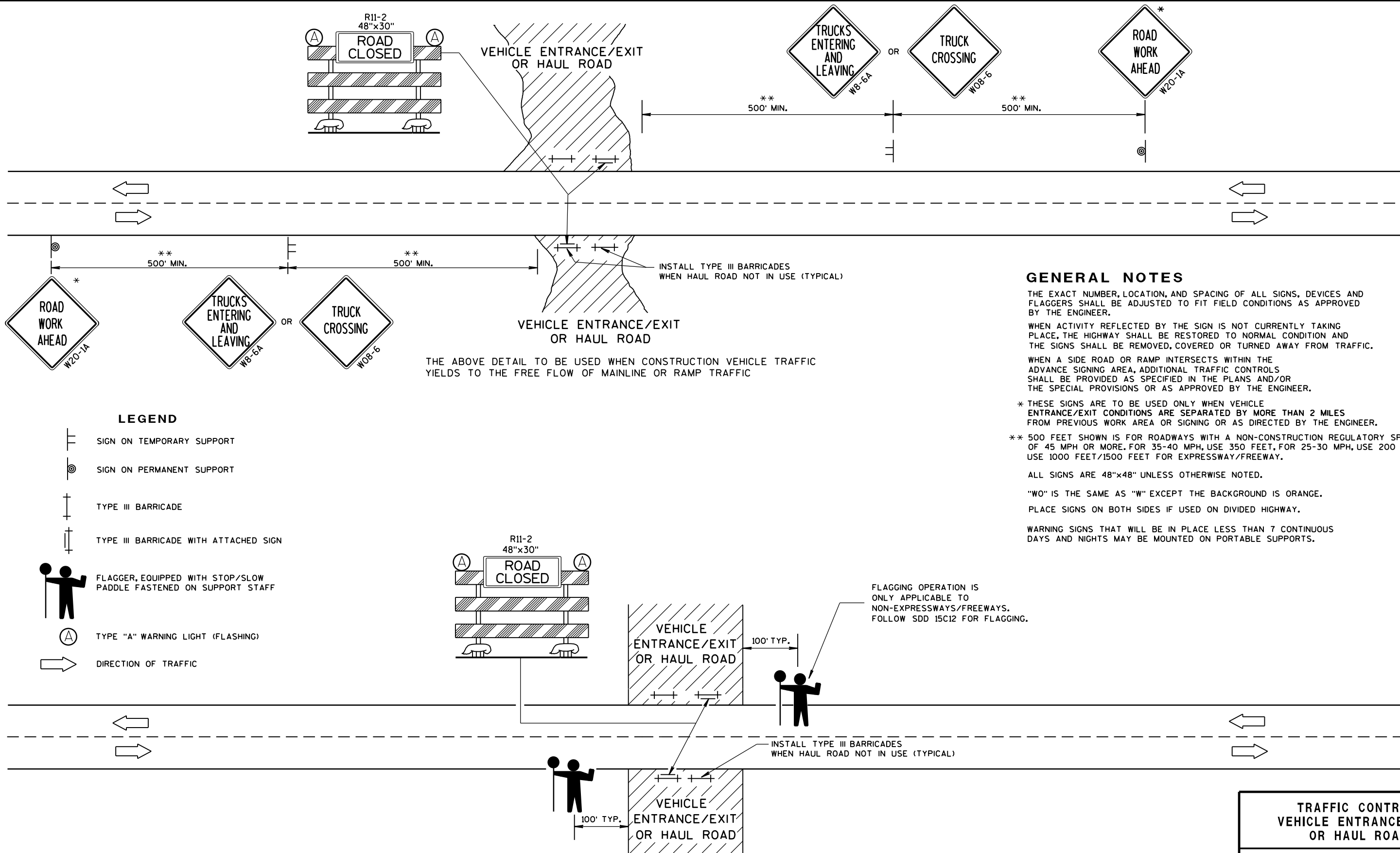
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- WORK AREA

TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2016 DATE	/S/ Peter Amakobe Atepe STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA	



TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

4' MINIMUM
5' DESIRABLE

**SIDEWALK
CLOSED**

R9-9
24" x 12"

4' MINIMUM
5' DESIRABLE

5' MINIMUM
10' DESIRABLE

TEMPORARY
PEDESTRIAN
ACCESS. SEE
SDD 15 D 30
SHEET "C".

6

4' MINIMUM
5' DESIRABLE

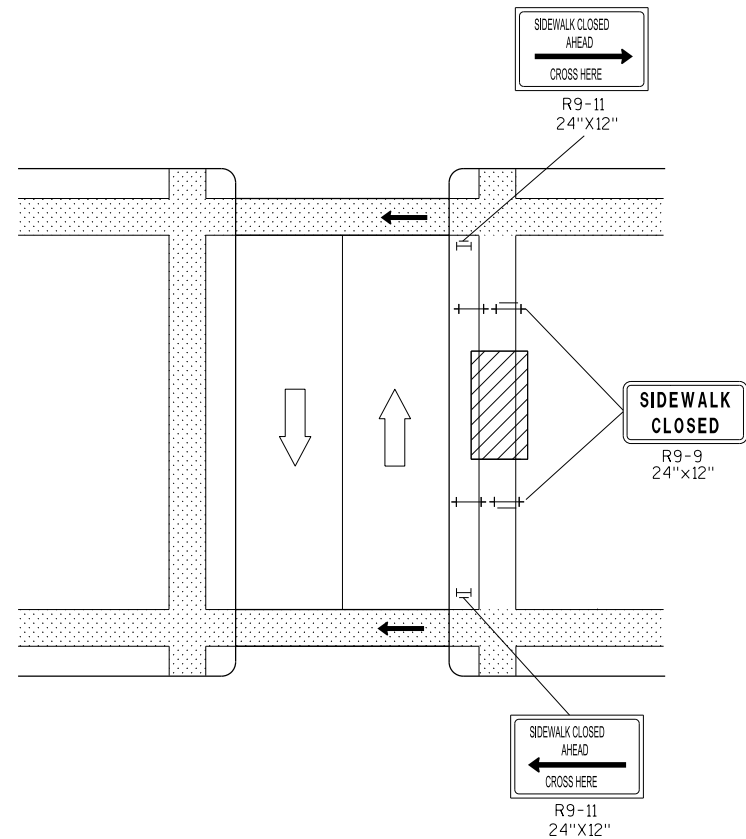
**SIDEWALK
CLOSED**

R9-9
24"x12"

①

TEMPORARY
PEDESTRIAN
ACCESS. SEE
SDD 15 D 30
SHEET "C".

S.D.D. 15 D 30-4a



The diagram illustrates a four-way intersection with a central work zone shaded in the bottom-left quadrant. The intersection is divided into four quadrants by a horizontal and vertical road. Various traffic signs and their dimensions are shown, along with their placement relative to the intersection and the work zone.

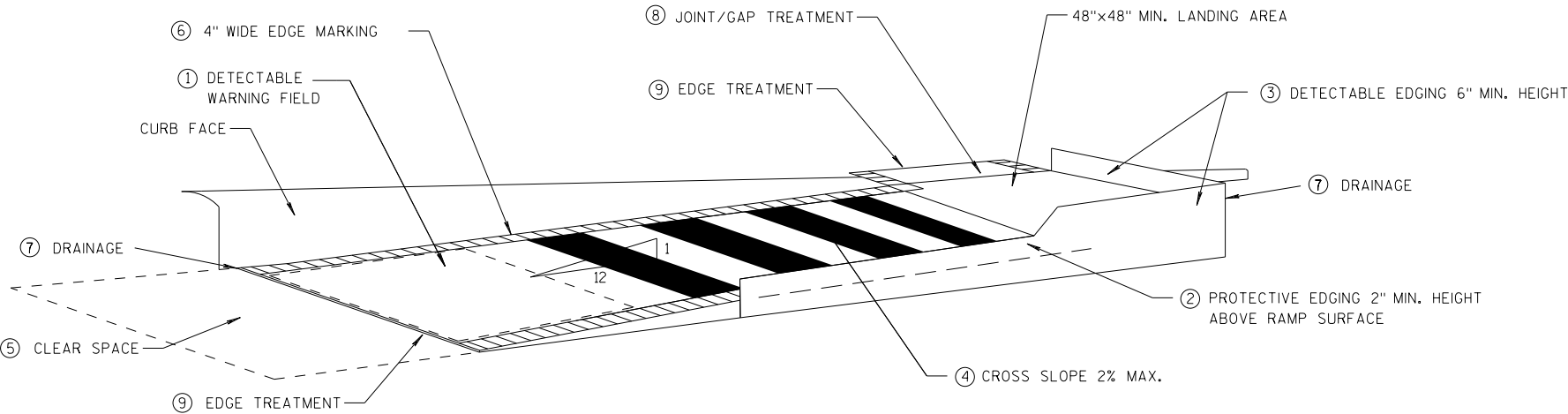
- Top-Left Quadrant:**
 - Sign 2: **ROAD WORK AHEAD** (W20-1)
 - Sign 1: **SIDEWALK CLOSED AHEAD** (R9-11, 24"X12") with an arrow pointing left.
- Top-Right Quadrant:**
 - Sign 3: **PEDESTRIAN CROSSWALK** (R9-8, 36"X18" (OPTIONAL))
 - Sign 3: **W011-2** (Pedestrian crossing sign)
 - Sign 3: **W016-7L** (Left-turn arrow sign)
 - Sign 3: **AHEAD** (W016-9P)
- Bottom-Left Quadrant:**
 - Sign 5: **SIDEWALK CLOSED AHEAD** (R9-11, 24"X12") with an arrow pointing left.
 - Sign 7: **SIDEWALK CLOSED** (R9-9, 24"X12")
 - Sign 6: **SIDEWALK CLOSED AHEAD** (R9-11, 24"X12") with an arrow pointing right.
- Bottom-Right Quadrant:**
 - Sign 4: **SIDEWALK CLOSED AHEAD** (R9-11A, 24"X12") with an arrow pointing right.

Numbered callouts (1-7) point to specific signs and features. The work zone is indicated by a shaded area in the bottom-left quadrant, with a dashed line and arrows showing the path of traffic through the intersection.

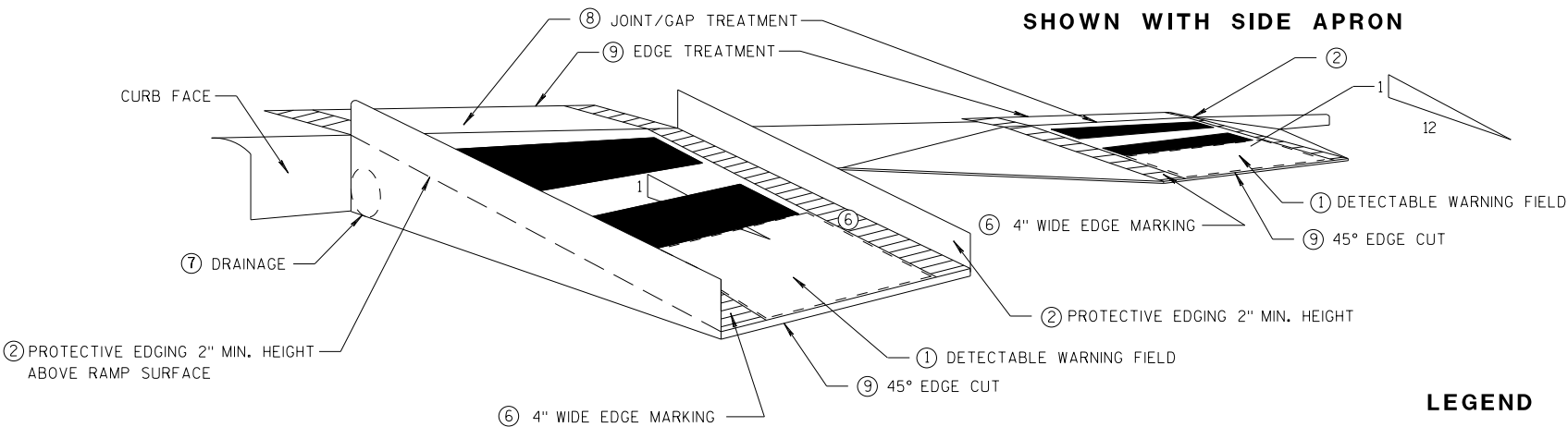
6

GENERAL NOTES

- NOTIFY THE BUS COMPANY 7 DAYS IN ADVANCE OF THE BUS STOP RELOCATION.
ALTERNATE SIDEWALK WORK BETWEEN LEFT AND RIGHT SIDE OF ROADWAY TO MAINTAIN PEDESTRIAN ACCESS.
- 1 CURB RAMP SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE. INSTALL CONTRASTING DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS. REFER TO SDD 805 SHEET "E".
 - 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 RAMP 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 CURB RAMP AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.
 - 5 CLEAR SPACE OF 48"x48" MIN. SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
 - 6 THE CURB RAMP WALKWAY EDGE SHALL BE MARKED WITH A YELLOW COLOR, 4" WIDE MARKING, UNLESS A CONTRASTING DETECTABLE WARNING FIELD IS PROVIDED.
 - 7 DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.
 - 8 LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.
 - 9 CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". LATERAL EDGES SHALL BE VERTICAL UP TO 1/4" HIGH, AND BEVELED AT 1:2 BETWEEN 1/4" AND 1/2".
 - 10 5' WIDE MIN. WITH PEDSETRIAN SAFETY FENCE, 10' WIDE MIN. WITHOUT PEDESTRIAN SAFETY FENCE.

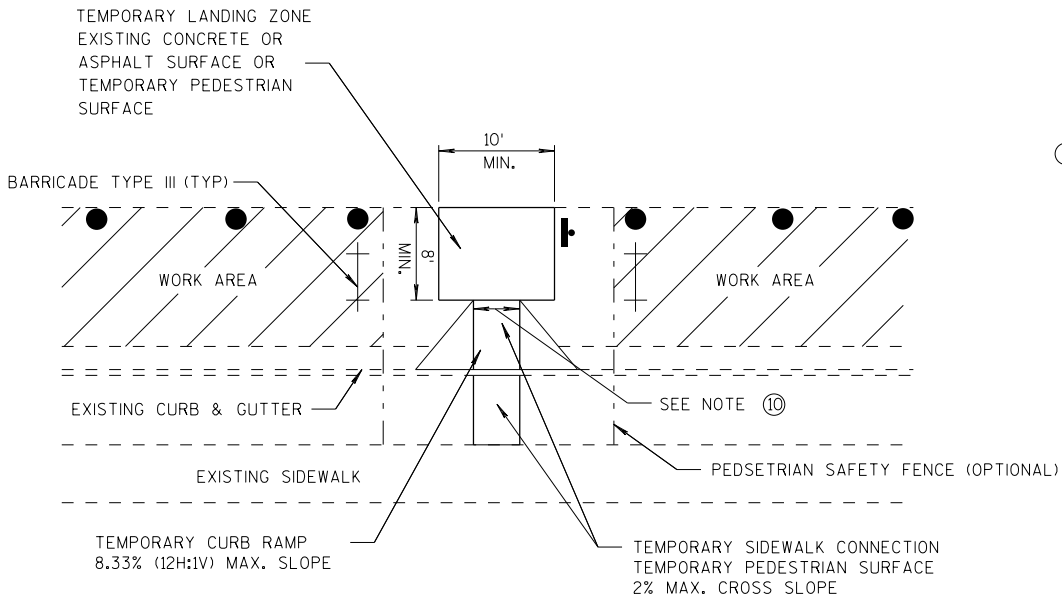


TEMPORARY CURB RAMP
PARALLEL TO CURB



SHOWN WITH PROTECTIVE EDGE

TEMPORARY CURB RAMP
PERPENDICULAR TO CURB



TEMPORARY BUS STOP PAD

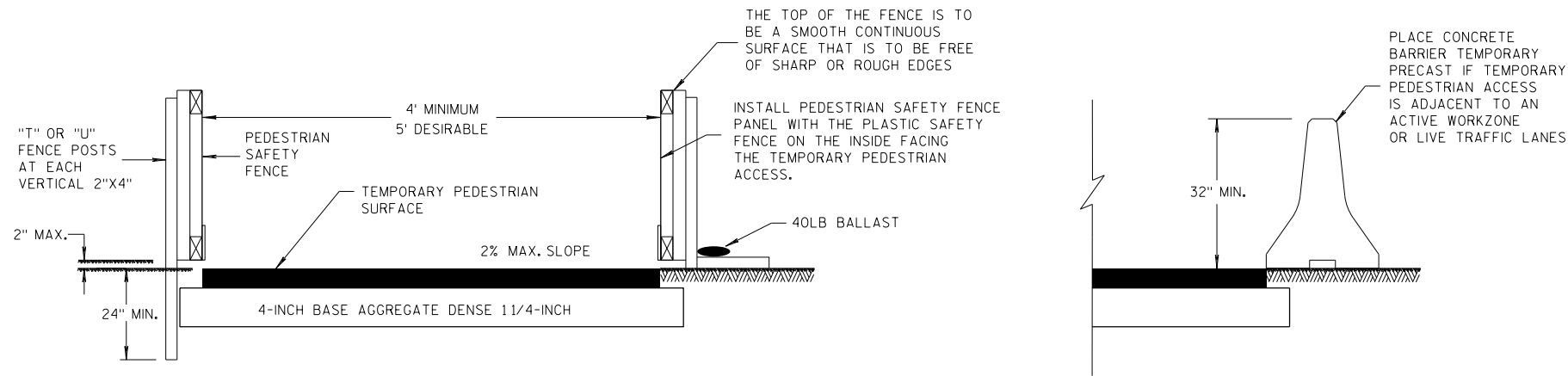
LEGEND

- WORK AREA
- TYPE III BARRICADE
- TRAFFIC CONTROL DRUM

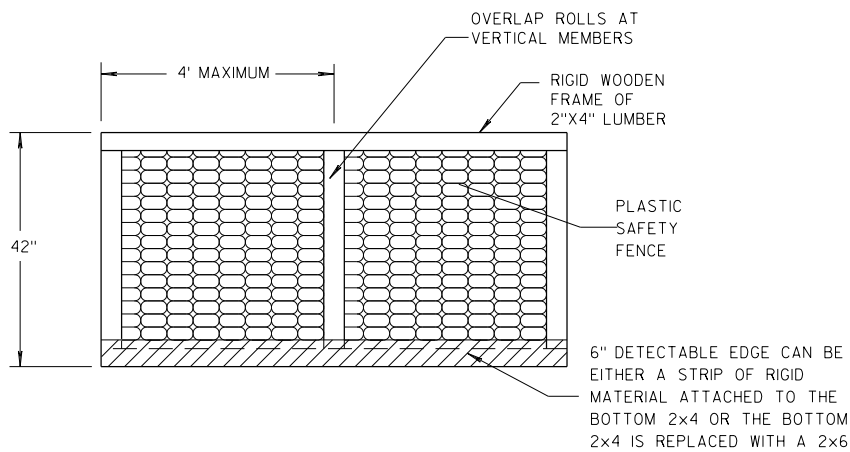
TRAFFIC CONTROL,
TEMPORARY ADA COMPLIANT
PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

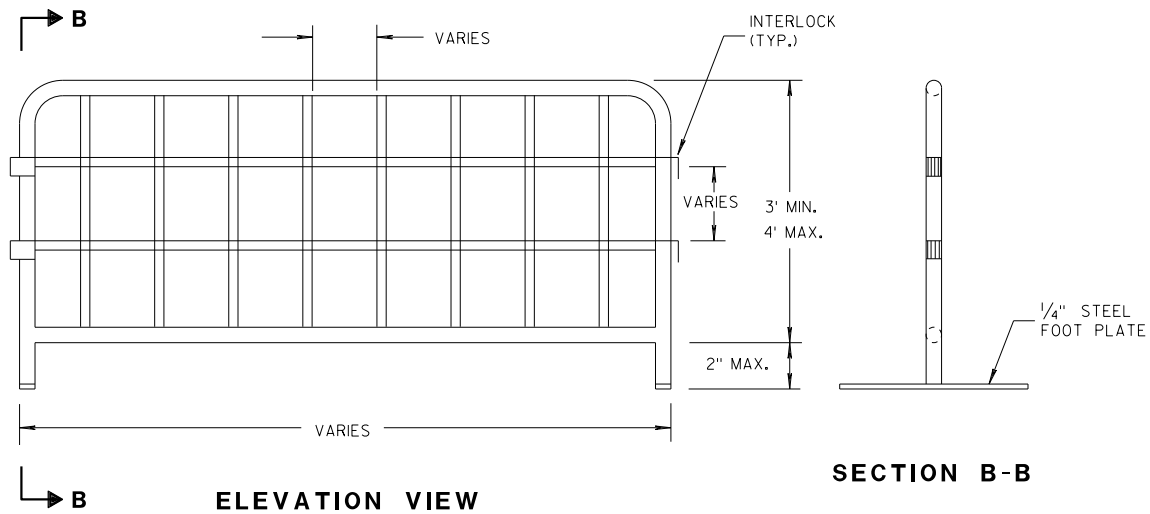
APPROVED
DATE 7/2018 /S/ Andrew Heidtke
WORK ZONE ENGINEER
FHWA



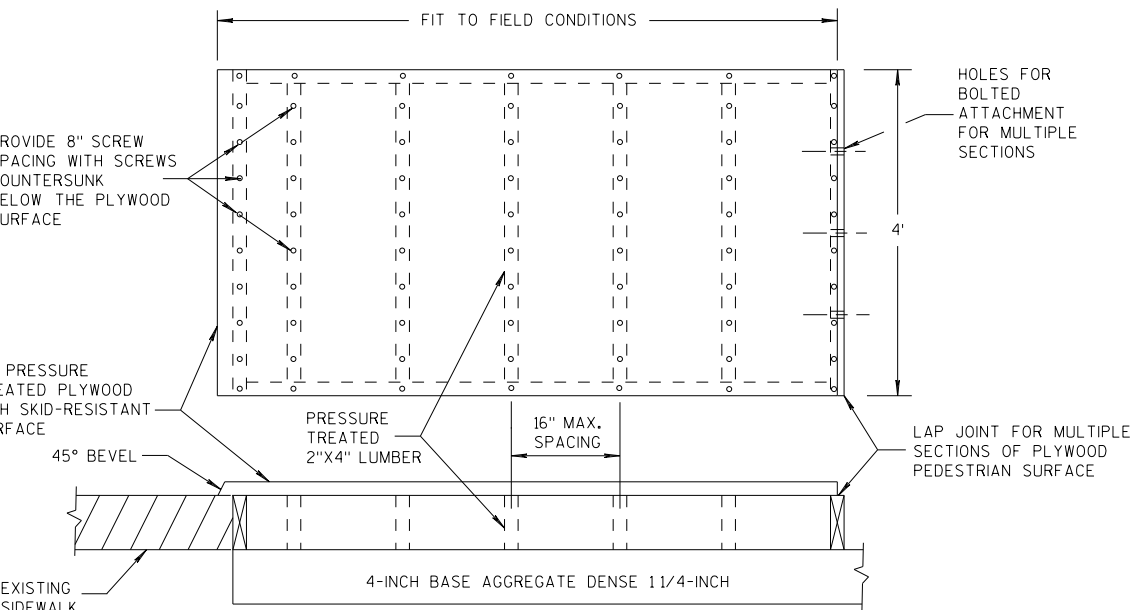
TEMPORARY PEDESTRIAN ACCESS



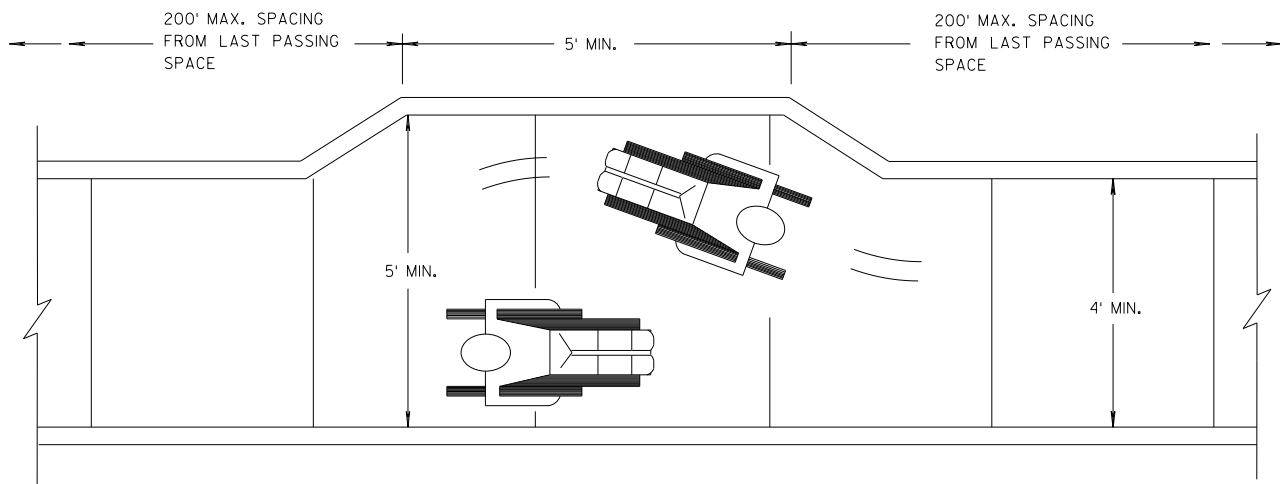
PEDESTRIAN SAFETY FENCE



TEMPORARY PEDESTRIAN STEEL BARRICADE



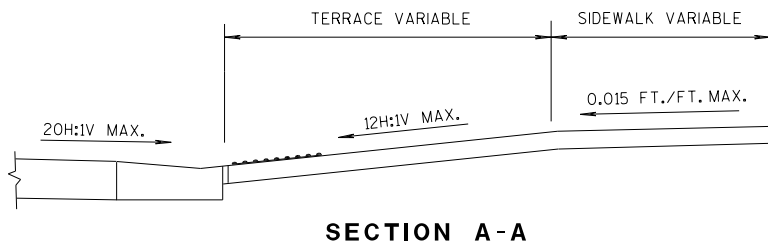
TEMPORARY PEDESTRIAN SURFACE PLYWOOD



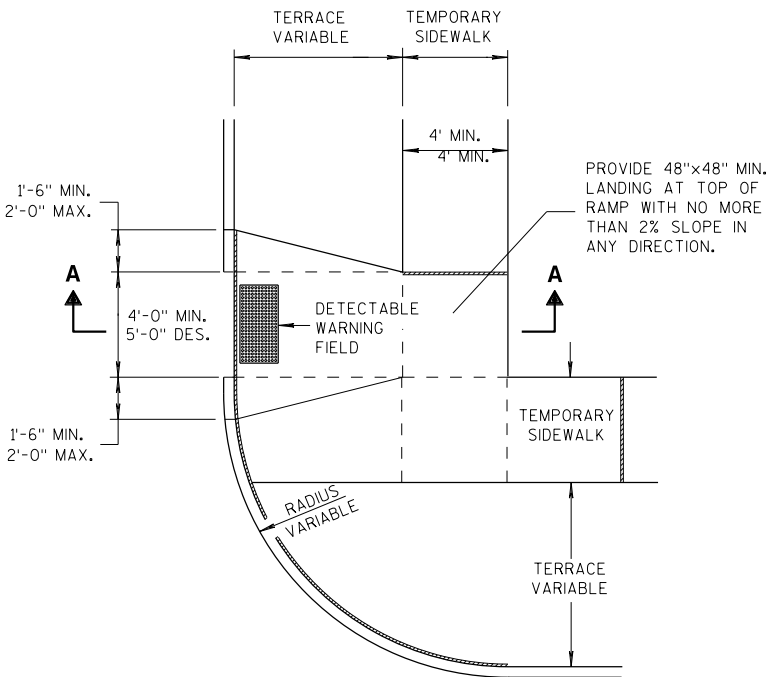
NARROW SIDEWALK PASSING DETAIL

GENERAL NOTES

- ① INTERCHANGEABLE WITH THE PEDESTRIAN SAFETY FENCE.

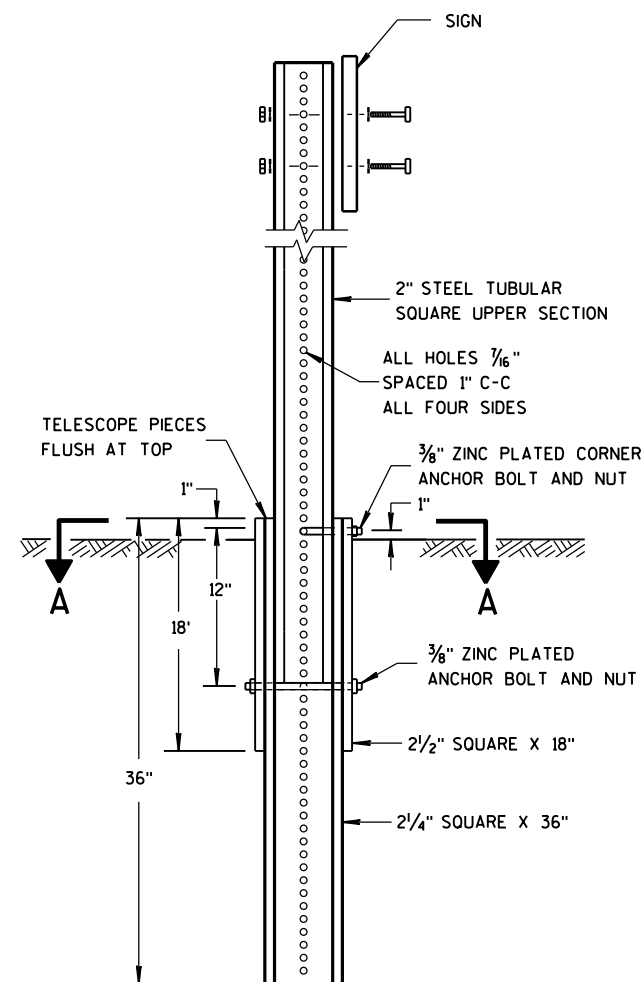


SECTION A-A



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

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 7/2018 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

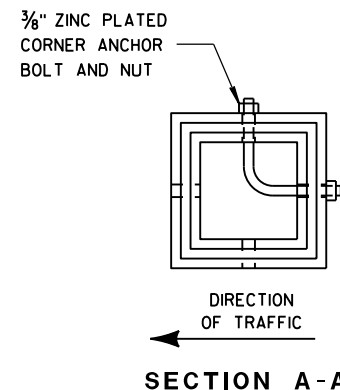


DETAIL OF TUBULAR
STEEL SIGN POST

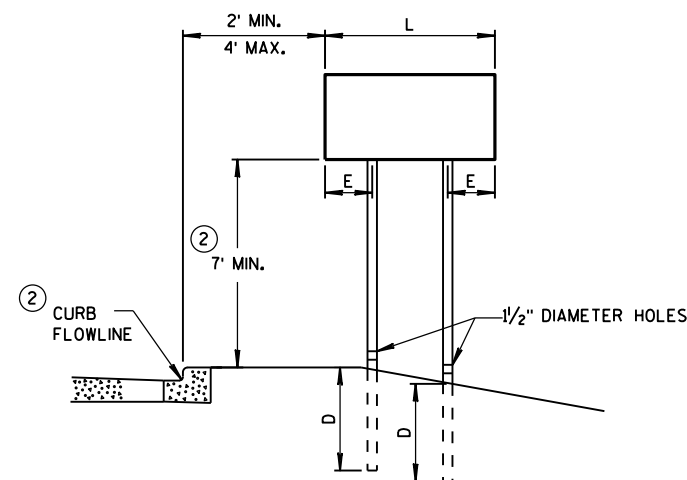
TUBULAR STEEL POSTS

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

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL
BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).
SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED
ON TUBULAR STEEL POSTS.



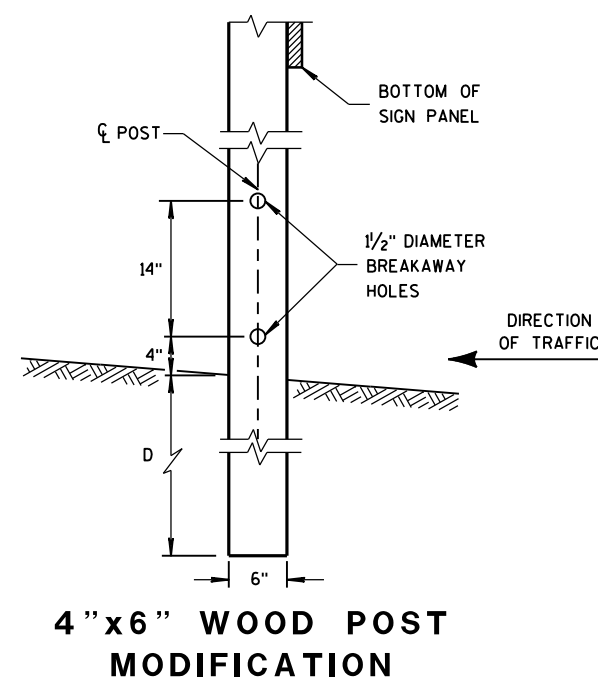
SECTION A-A



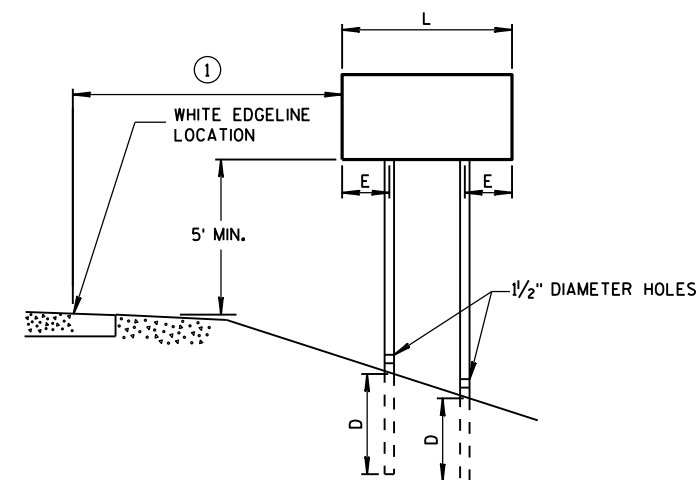
URBAN AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

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



4 "x6 " WOOD POST
MODIFICATION



RURAL AREA

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

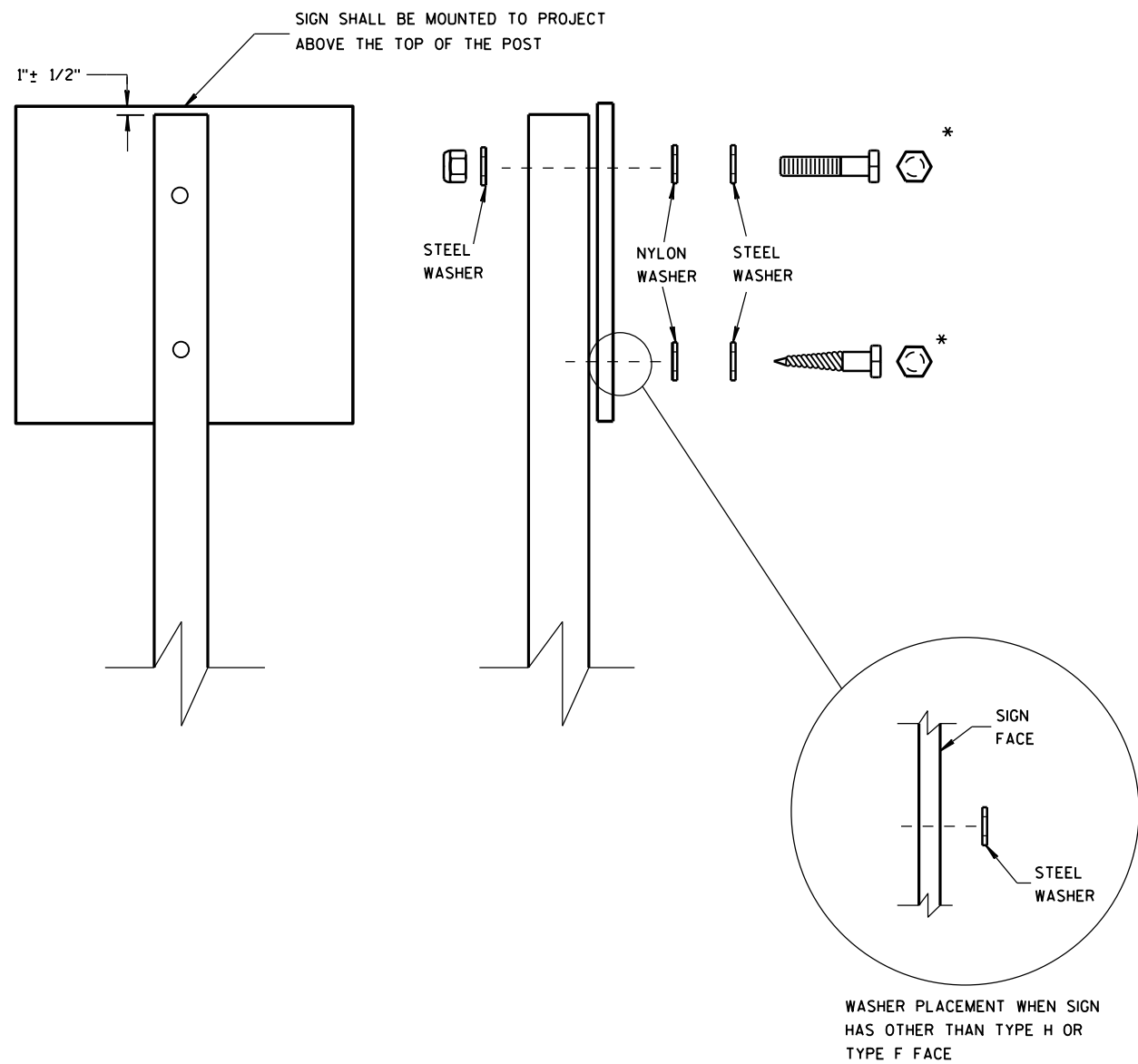
SEE NOTE ③

GENERAL NOTES

- ① 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.
- ② THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.
- ③ FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.

TEMPORARY TRAFFIC CONTROL
SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

- A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3
- B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" x 3"
 - MACHINE BOLTS - 5/16" x 6-1/2" OR 7" LENGTH W/ NUTS

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

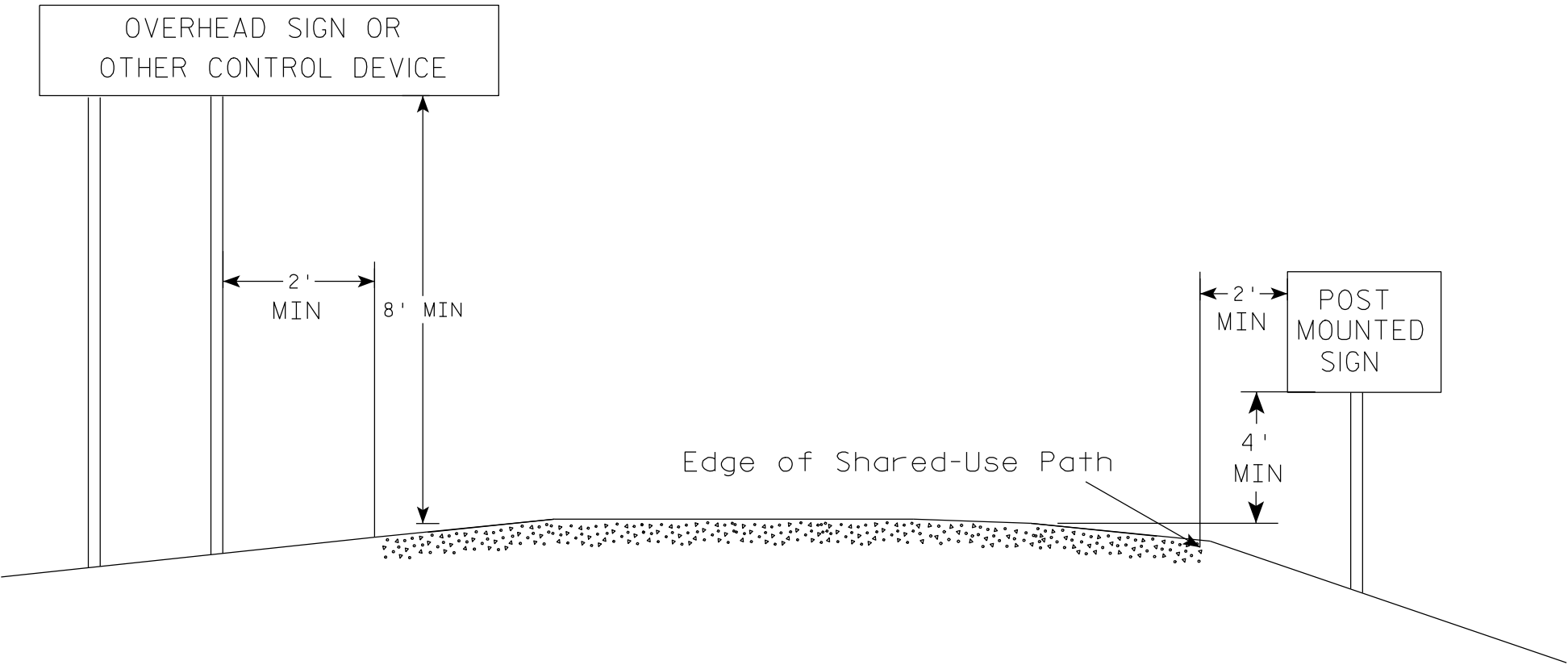
- WASHERS (ALL POSTS) -
- 1-1/4" O.D. x 3/8" I.D. x 1/16" STEEL
 - 1-1/4" O.D. x 3/8" I.D. x .080 NYLON FOR ALL TYPE H SIGNS

* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

ATTACHMENT OF SIGNS TO POSTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Andrew Heldtke WORK ZONE ENGINEER
FHWA	

GENERAL NOTES

- 1. Signs wider than 4 feet or larger than 20 sq. ft. shall be mounted on multiple posts. Refer to plate A4-4.
- 2. Offset distance shall be consistent with existing signs or consistent throughout length of project.



POST EMBEDMENT DEPTH

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

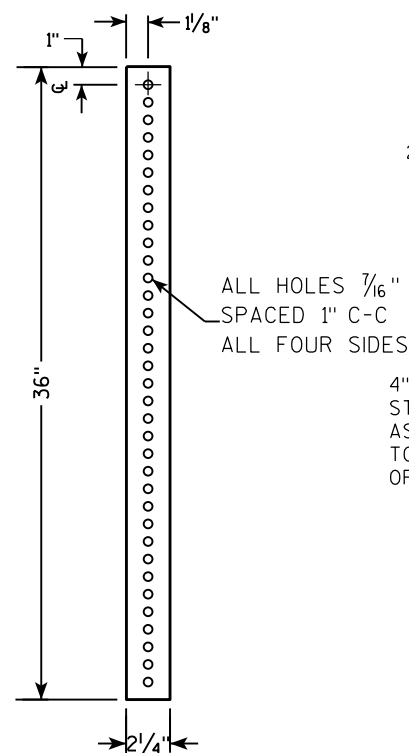
TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON MULTI USE PATHS

WISCONSIN DEPT OF TRANSPORTATION

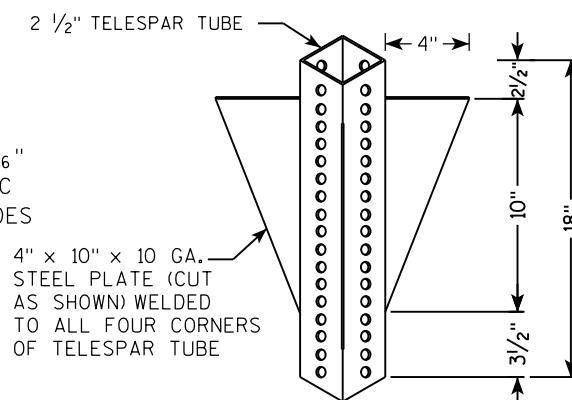
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/5/2012 PLATE NO. A4-3S.1

**2 1/4" SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH**



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



TECHNICAL DRAWING OF A SIGN POST ASSEMBLY.

Labels and Dimensions:

- 18" DIA SCHEDULE 40 PVC BOX-OUT** (Bottom section)
- 36"** (Height of the box-out)
- 13"** (Width of the sign plate)
- 18"** (Width of the soil stabilizing sleeve)
- 2 1/2" GRAVEL OR DIRT** (Material around the sleeve)
- 2 1/4" SQUARE X 36"** (Main post section)
- 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)**
- 3/8" ZINC PLATED CORNER ANCHOR BOLT AND NUT**
- 3/8" ZINC PLATED ANCHOR BOLT AND NUT**
- 2" STEEL TUBULAR SQUARE UPPER SECTION**
- ALL HOLES 7/16" SPACED 1" C-C ALL FOUR SIDES**
- SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL**
- SIGN** (At the top)
- TELESCOPE PIECES FLUSH AT TOP**

TECHNICAL DRAWING OF A SIGNPOST ASSEMBLY.

Side View Dimensions:

- Overall height: 36"
- Section A-A: 18" (top section), 12" (bottom section)
- Section B-B: 18" (top section), 12" (bottom section)

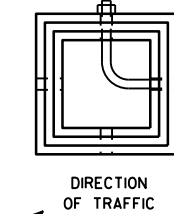
End View Dimensions:

- Overall width: 2 1/4" SQUARE X 36"
- Section A-A: 18" (top section), 12" (bottom section)
- Section B-B: 18" (top section), 12" (bottom section)

Material and Assembly Specifications:

- 2" STEEL TUBULAR SQUARE UPPER SECTION
- ALL HOLES 7/16" SPACED 1" C-C ALL FOUR SIDES
- 3/8" ZINC PLATED CORNER ANCHOR BOLT AND NUT
- 3/8" ZINC PLATED ANCHOR BOLT AND NUT
- 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)
- SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL
- SIGN

3/8" ZINC PLATED CORNER
ANCHOR BOLT AND NUT



SECTION A-A

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

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

TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R. Ranch

for State Traffic Engineer

DATE 2/05/15 PLATE NO. A4-9.9

PROJECT NO: 5989-05-26

HWY: NON HWY

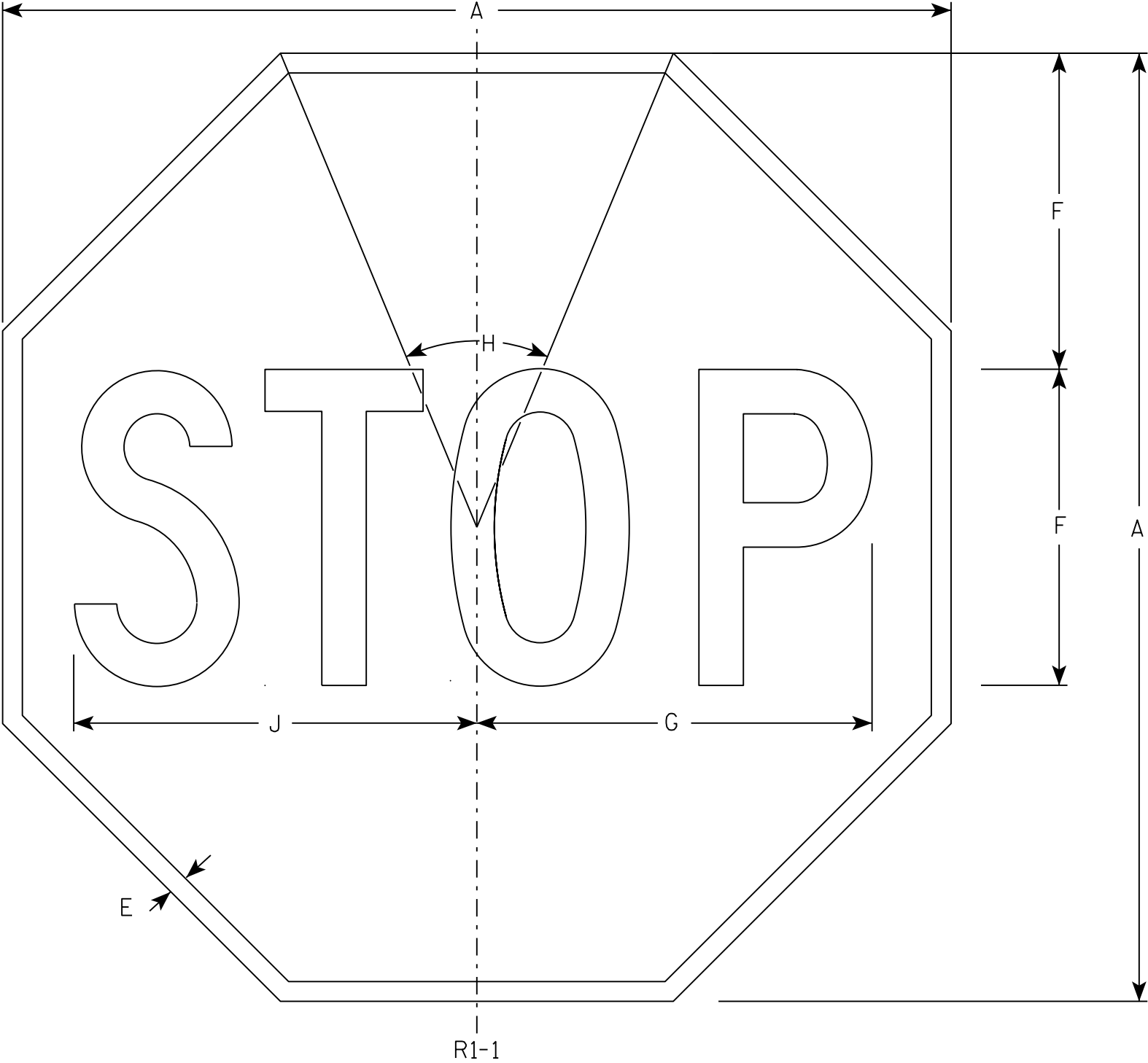
COUNTY: ROCK

SIGN PLATES

SHEET NO:

E

7



NOTES

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

7

R1-1

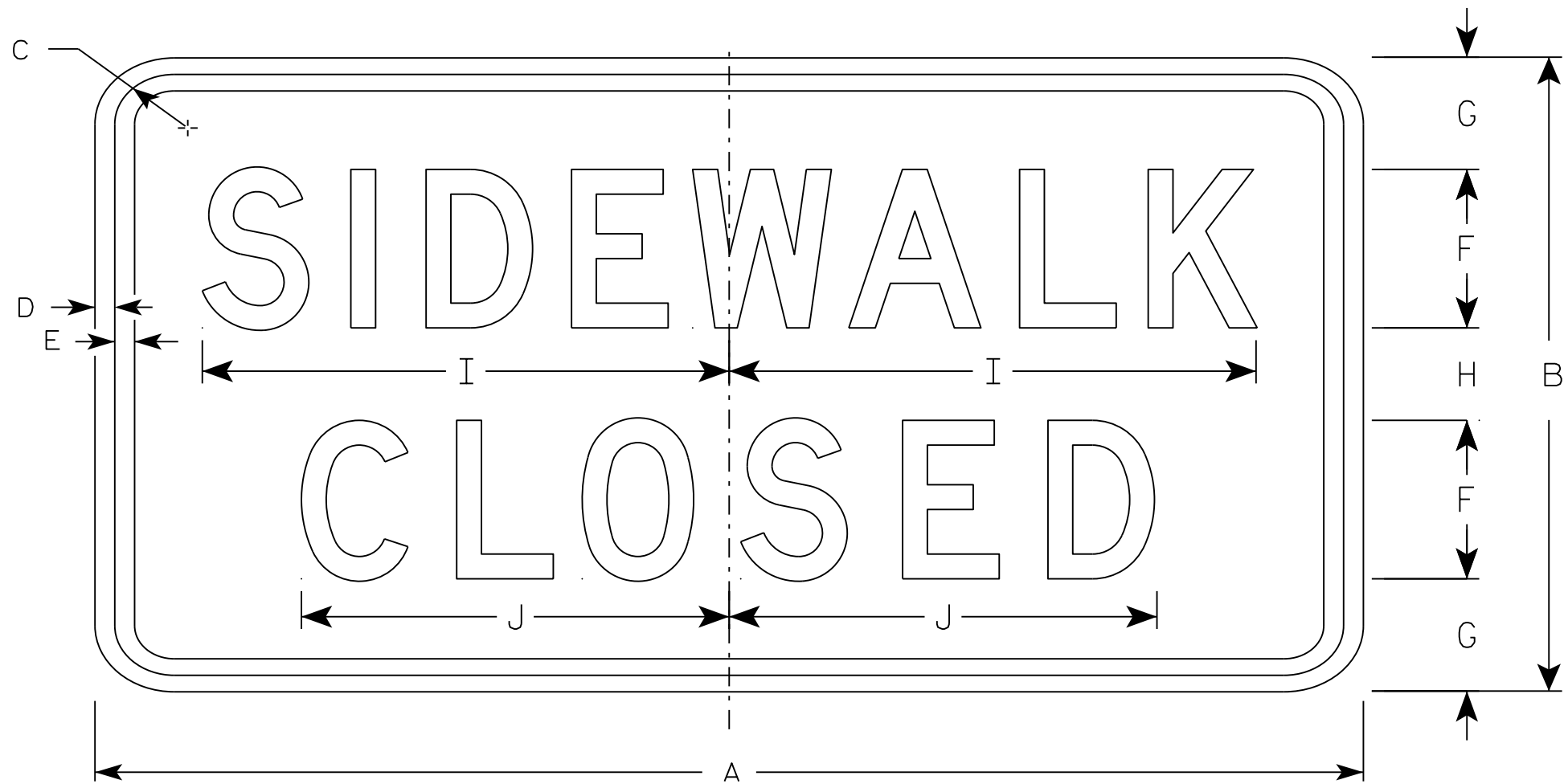
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°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

STANDARD SIGN
R1 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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



R9-9

NOTES

- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - White
Message - Black
- 3. Message Series - C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. Use Size 2 for Sidewalks. Use Size 3 for Paths and Trails.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 ¾	½	½	3	2 ⅛	1 ¾	10	8 ⅛																	2.0
2M	24	12	1 ¾	½	½	3	2 ⅛	1 ¾	10	8 ⅛																	2.0
3	30	18	1 ¾	½	½	4	3 ½	3	12 ½	10 ¼																	3.75
4																											
5																											

STANDARD SIGN
R9-9

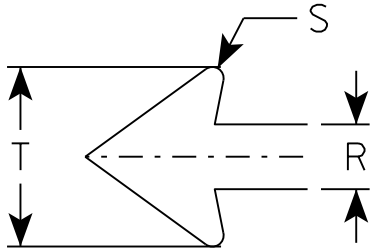
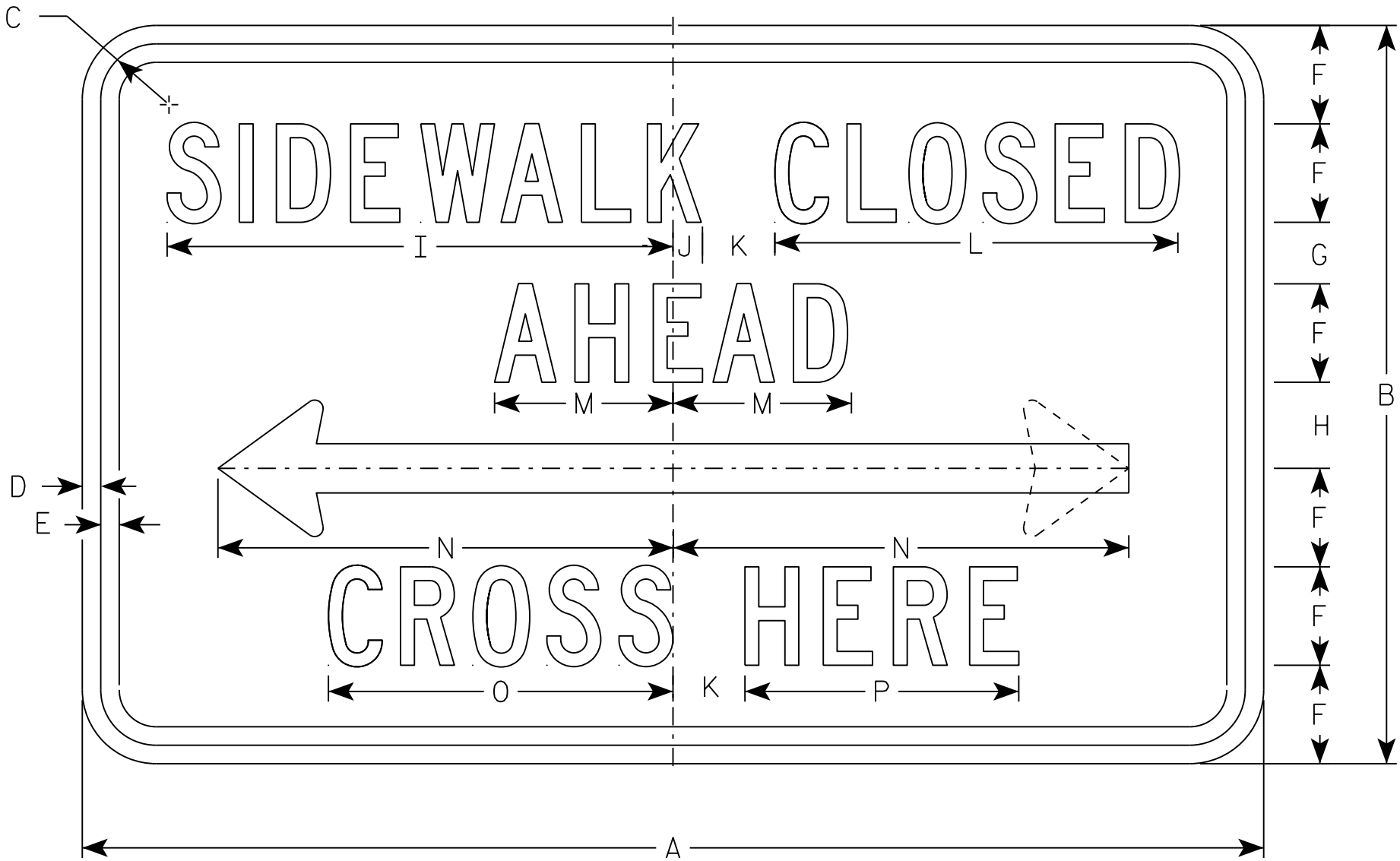
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

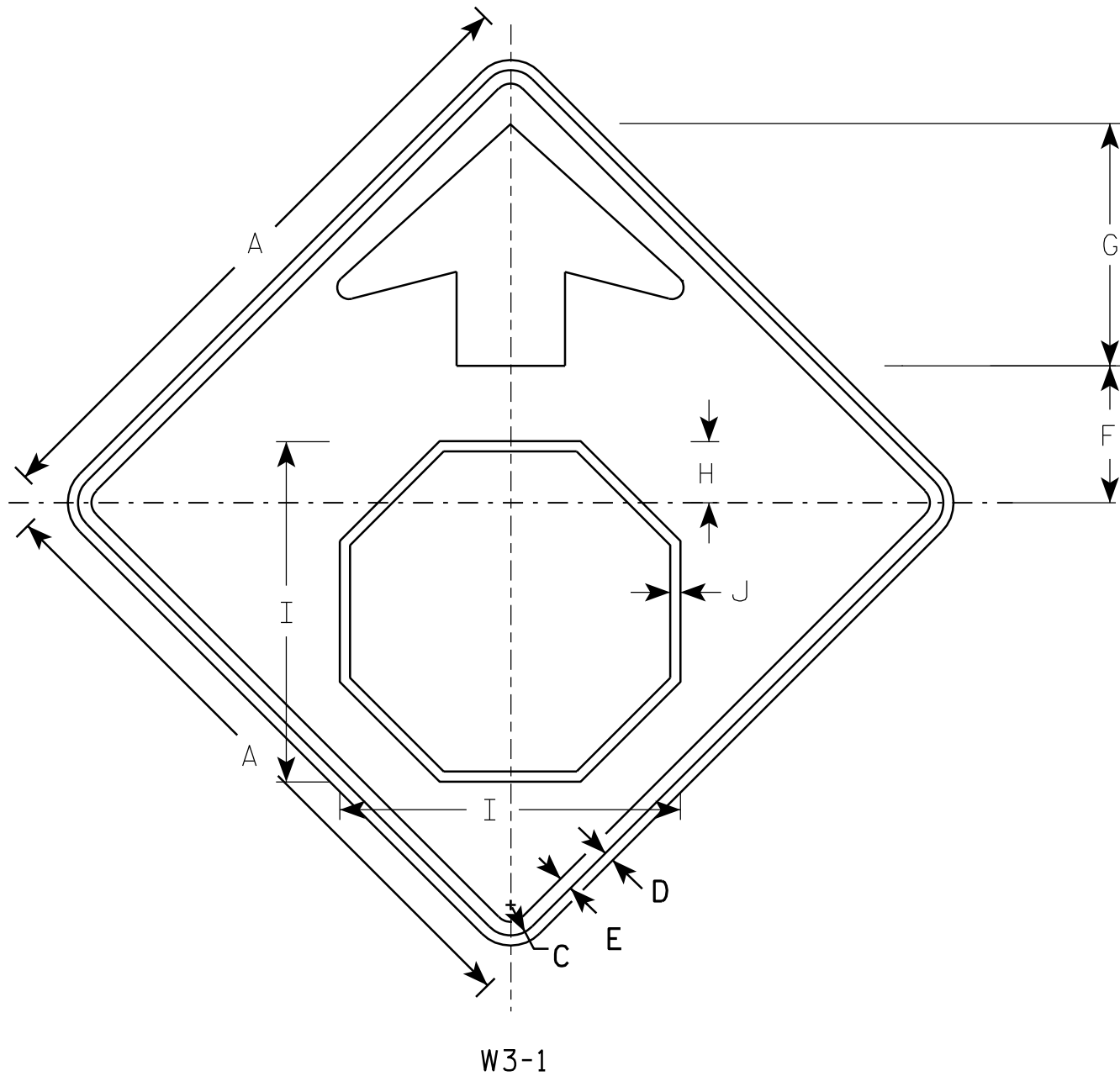
NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
Background - White
Message - Black
- 3. Message Series - C except Size 1 is Series D
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. Use Size 2 for Sidewalks. Use Size 3 for Paths and Trails.



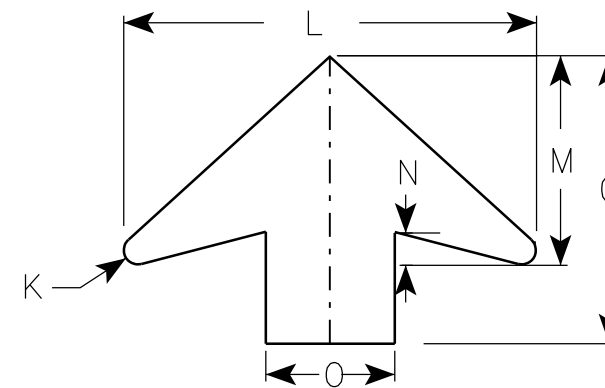
R9-11

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



NOTES

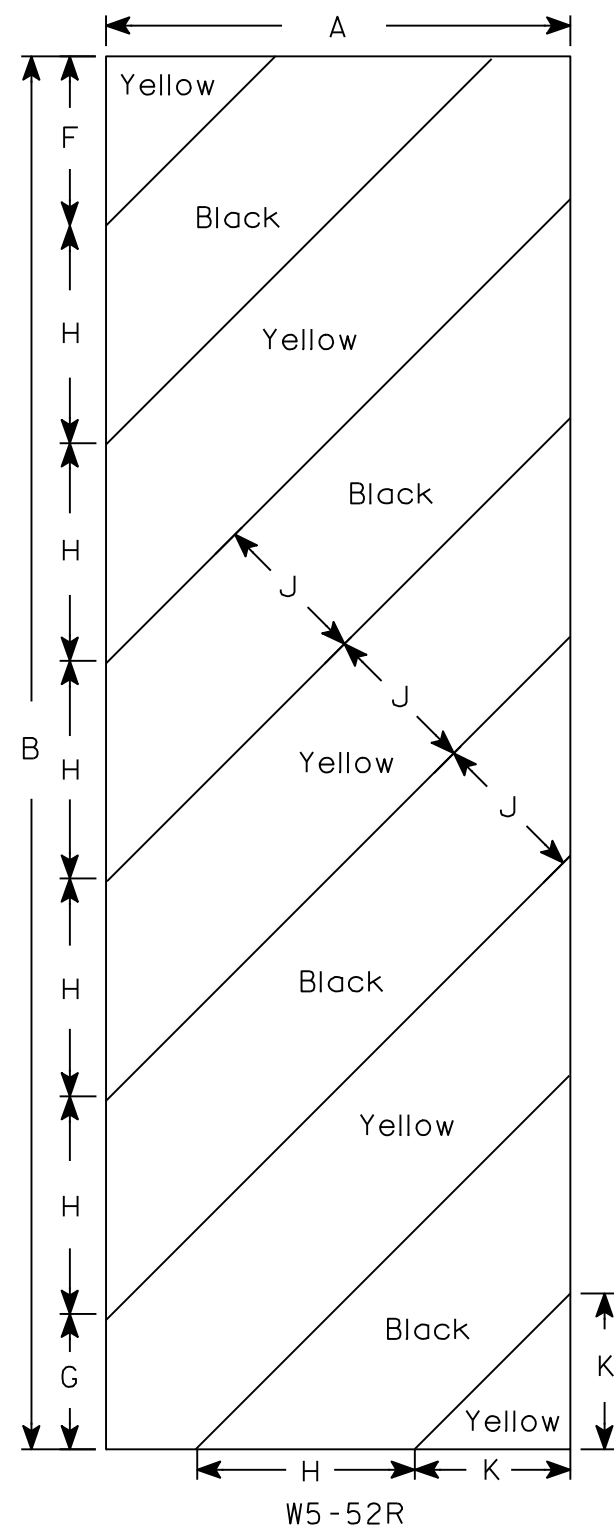
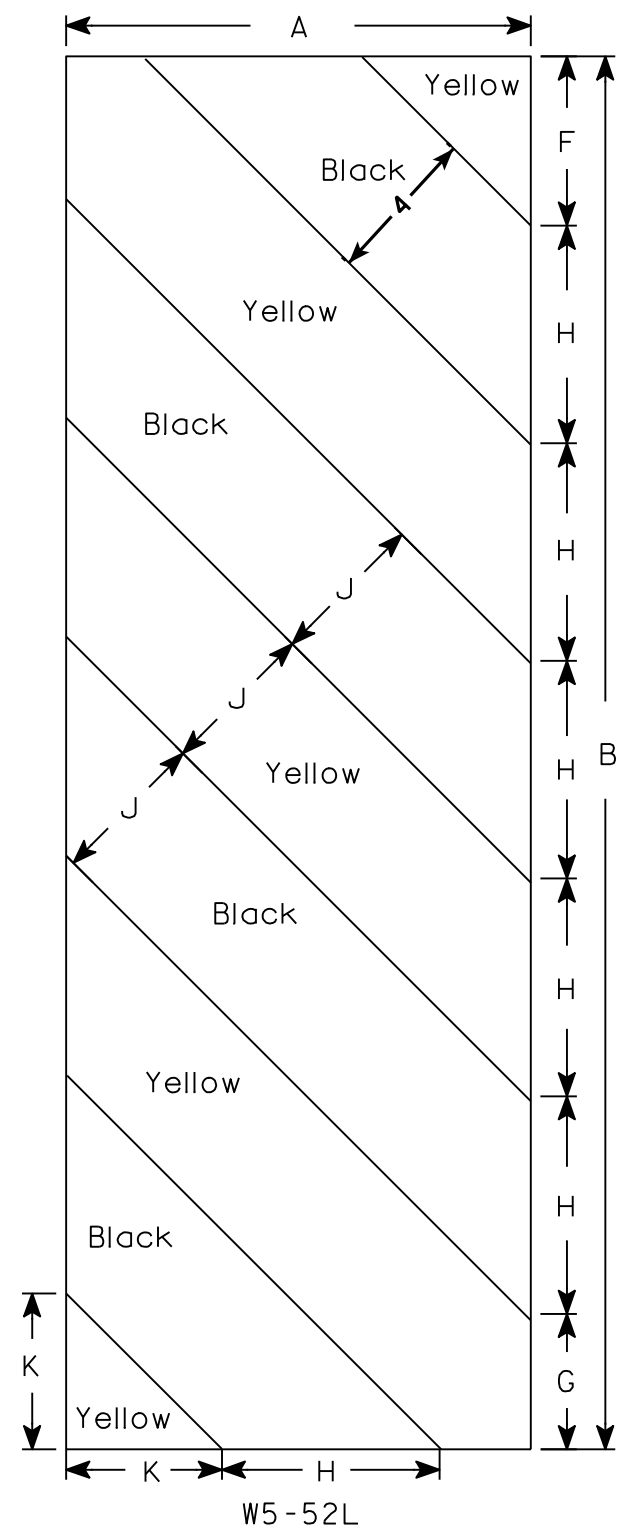
1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
 Background - YELLOW
 Arrow & Border - BLACK
 Stop Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 ³ / ₈	1/2	5/8	6 1/4	11 1/4	2 7/8	15 3/4	1/2	1/2	16	8	1 1/4	5												6.25
2S	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
2M	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
3	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0

STANDARD SIGN	
W3-1	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	 for State Traffic Engineer
DATE 6/7/10	PLATE NO. W3-1.12



NOTES

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

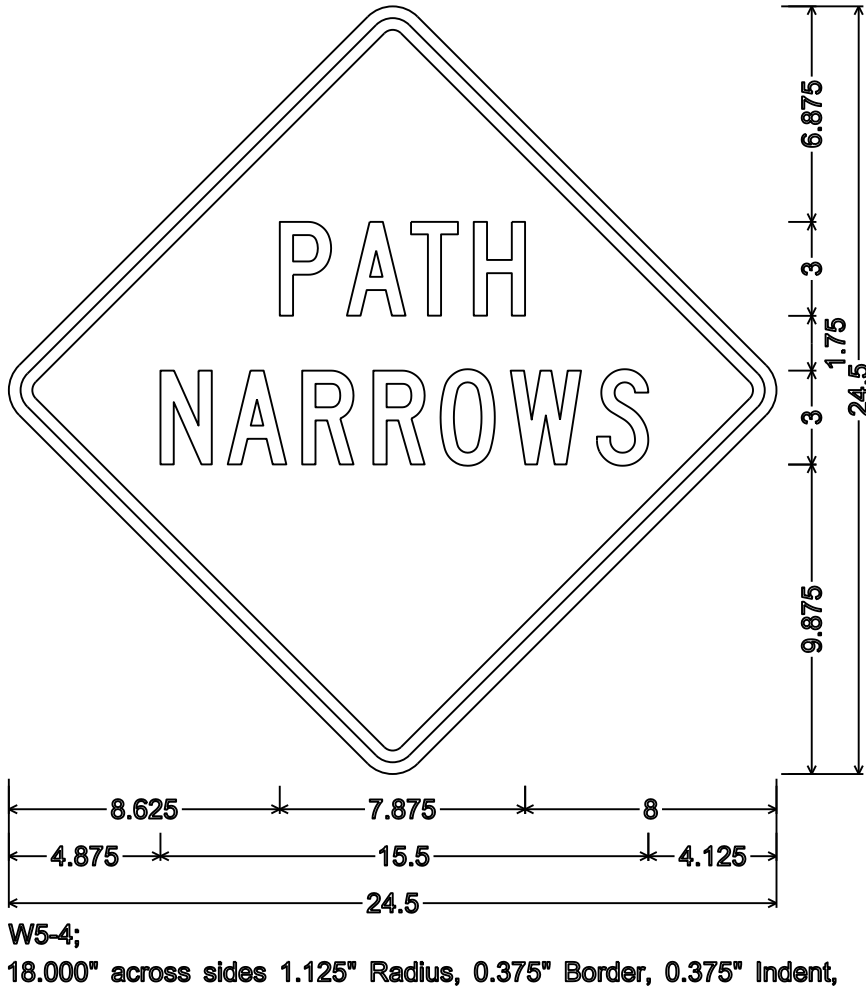
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3⁄8	3 1⁄2	5 5⁄8	45°	4	4																3.0
2M	12	36				4 3⁄8	3 1⁄2	5 5⁄8	45°	4	4																3.0
3	18	54				6	5 1⁄2	8 1⁄2	45°	6	6 9⁄16																6.75
4																											
5																											

STANDARD SIGN
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

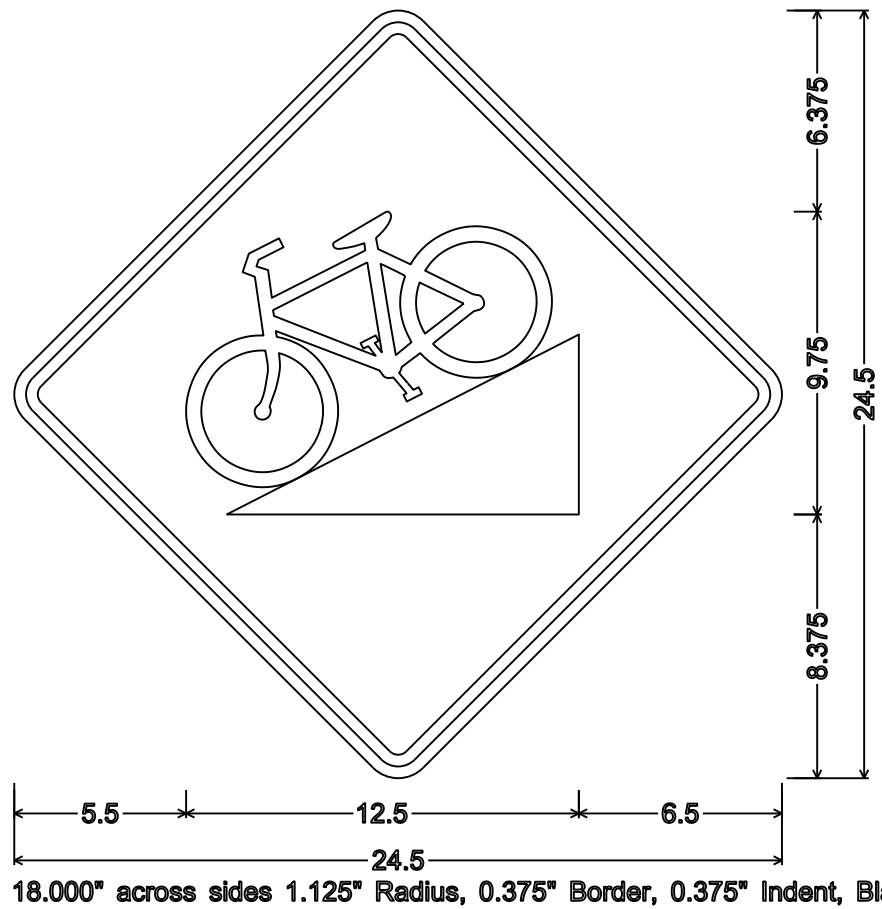
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W5-52.9



NOTES

- 1. All Signs Type II - Type F Reflective
- 2. Color:
 - Background - Yellow
 - Message - Black
- 3. Message Series - C



DESIGN DATA

LIVE LOAD:

DESIGN LOADING _____ H-10 VEHICLE OR
90 PSF PEDESTRIAN

MATERIAL PROPERTIES

CONCRETE MASONRY, SLAB _____ f'_c = 4,000 P.S.I.
ALL OTHER _____ f'_c = 3,500 P.S.I.
HIGH-STRENGTH BAR STEEL _____
REINFORCEMENT, GRADE 60 _____ f_y = 60,000 P.S.I.
PRESTRESSED BOX GIRDERS-CONCRETE MASONRY _____ f'_c = 5,000 P.S.I.
STRANDS-0.5" DIA. WITH AN ULTIMATE _____ f_y = 270,000 P.S.I.
TENSILE STRENGTH OF _____

FOUNDATION DATA

ABUTMENTS AND PIERS TO BE SUPPORTED ON PILING CIP 12 $\frac{3}{4}$ -INCH X 0.375-INCHES DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 80 TONS** PER PILE FOR ABUTMENTS AND 210 TONS** PER PILE FOR PIERS AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH OF 50 FT FOR SOUTH ABUTMENT, 65 FEET FOR PIERS AND 55 FEET FOR NORTH ABUTMENT PILES.

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

HYDRAULIC DATA

100 YEAR FREQUENCY
DRAINAGE AREA _____ 3474 SQ. MI.
 Q_{100} TOTAL _____ 16,900 C.F.S.
AT STRUCTURE _____ 16,900 C.F.S.
OVERTOPPING ROADWAY _____ N/A
VELOCITY - AT STRUCTURE _____ 2.99 F.P.S.
WATERWAY AREA - AT STRUCTURE _____ 5,652 SQ. FT.
HIGH WATER₁₀₀ ELEVATION _____ 748.47
SCOUR CRITICAL CODE _____ 5
EROSION CONTROL
 Q_2 _____ 7,700 C.F.S.
HIGH WATER₂ ELEVATION _____ 743.44

LIST OF DRAWINGS

- GENERAL PLAN (1 OF 3) _____ 1.
GENERAL PLAN (2 OF 3) _____ 2.
GENERAL PLAN (3 OF 3) _____ 3.
CROSS SECTIONS AND QUANTITIES _____ 4.
SUBSURFACE EXPLORATION _____ 5.
SOUTH ABUTMENT _____ 6.
SOUTH ABUTMENT DETAILS _____ 7.
NORTH ABUTMENT _____ 8.
NORTH ABUTMENT DETAILS _____ 9.
PIERS 1, 3, 5, 7, AND 9 DETAILS _____ 10.
PIERS 2, 4, 6, AND 8 DETAILS _____ 11.
PRESTRESSED CONCRETE BOX GIRDER _____ 12.
PRESTRESSED CONCRETE BOX GIRDER TABLE _____ 13.
PRESTRESSED CONCRETE BOX GIRDER DETAILS _____ 14.
DECK PLAN & GIRDER LAYOUT (1 OF 2) _____ 15.
DECK PLAN & GIRDER LAYOUT (2 OF 2) _____ 16.
RAILING DETAILS _____ 17.
WINGWALL RAILING DETAILS _____ 18.
CHAIN LINK FENCE DETAILS (1 OF 2) _____ 19.
CHAIN LINK FENCE DETAILS (2 OF 2) _____ 20.



NO.	DATE	REVISION	BY
JEWELL associates engineers, inc. Engineers - Architects - Surveyors			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED	William C. Dreher SDR CHIEF STRUCTURES DESIGN ENGINEER		11/01/18 DATE
STRUCTURE B-53-379			
POWERHOUSE RIVERWALK OVER ROCK RIVER			
COUNTY	ROCK	TOWN/CITY/VILLAGE	BELOIT
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	TR	DESIGN CK'D.	PTB
DRAWN BY		RBH	PLANS CK'D.
GENERAL PLAN (1 OF 3)		SHEET 1 OF 20	

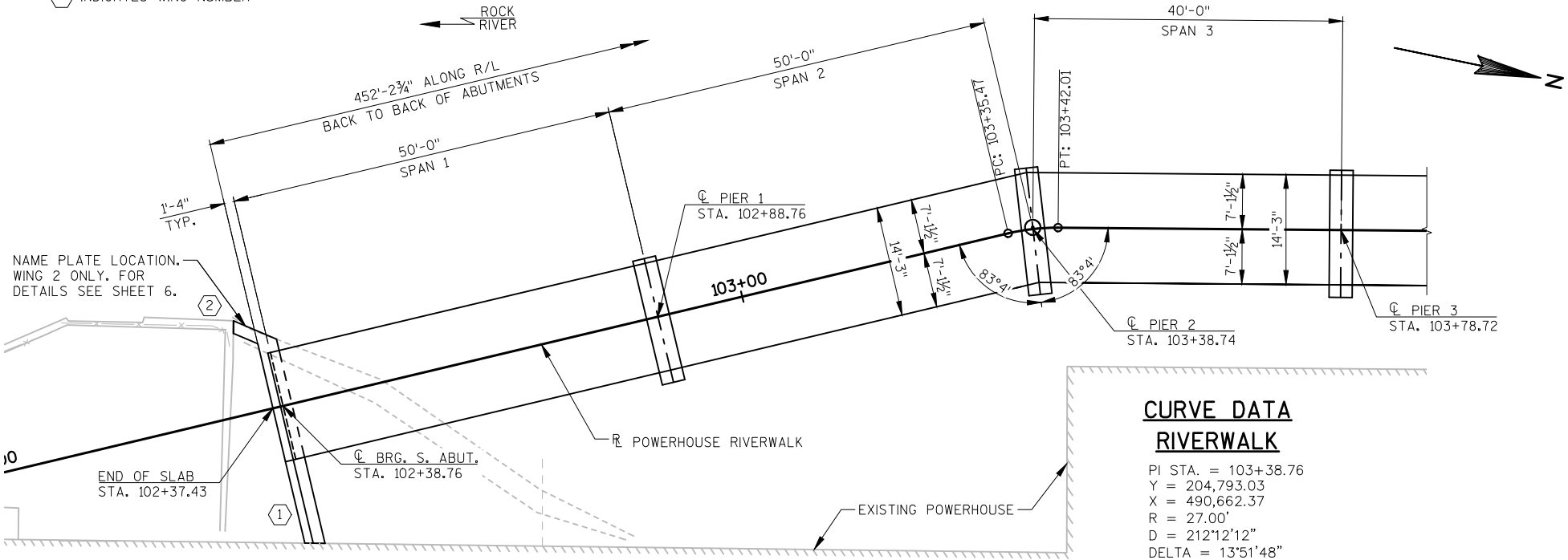
DESIGN CONSULTANT

TOM ROMENESKO, PE
(608) 588-7484

BRIDGE OFFICE CONTACT

WILLIAM DREHER, PE
(608) 266-8489

INDICATES WING NUMBER

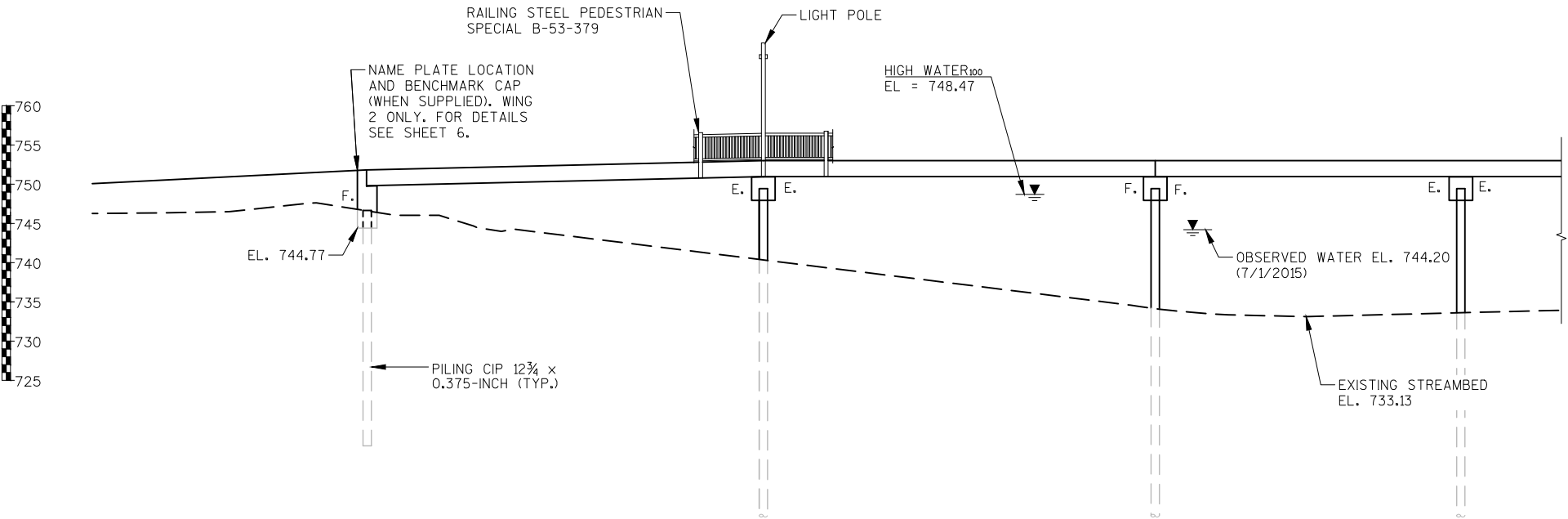


CURVE DATA
RIVERWALK

PI STA. = 103+38.76
Y = 204,793.03
X = 490,662.37
R = 27.00'
D = 212°12'12"
DELTA = 13°51'48"
L = 6.53'
T = 3.28'
C = 6.52'
PC STA. = 103+35.47
Y = 204,790.05
X = 490,663.75
PT STA. = 103+42.01
Y = 204,796.25
X = 490,661.74

PLAN

(TEN SPAN - 21" PRESTRESSED CONCRETE BOX GIRDERS)



ELEVATION

(PERPENDICULAR TO CENTERLINE)

BENCH MARKS

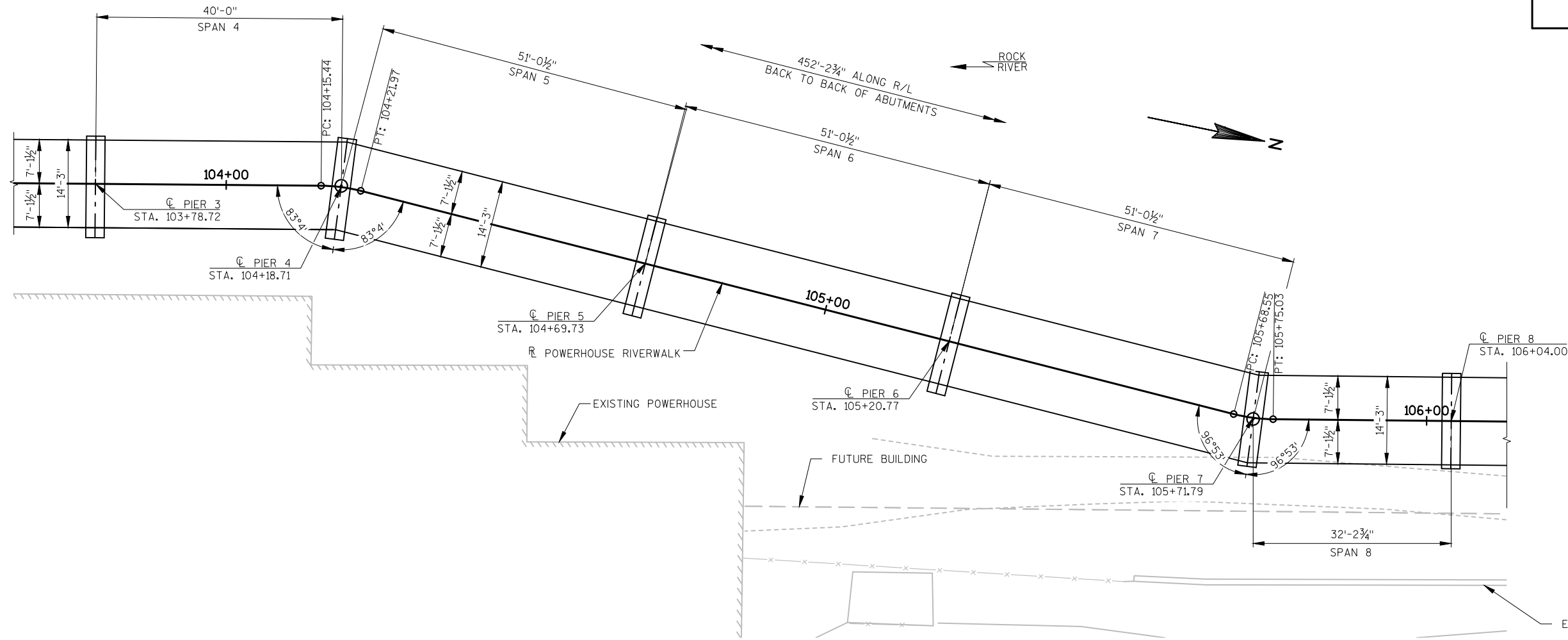
NO.	STA.	DESCRIPTION	ELEV.
1	100+86	DISK IN CONCRETE WP&L STA 4, 12.7' LT.	749.48
2	101+84	*30 BRASS PLUG IN CONCRETE, 56.9' LT.	748.45

CURVE DATA
RIVERWALK

PI STA. = 104+18.72
Y = 204,871.53
X = 490,646.96
R = 26.98'
D = 212'22'44"
DELTA = 13'51'47"
L = 6.53'
T = 3.28'
C = 6.51'
PC STA. = 104+15.44
Y = 204,868.31
X = 490,647.60
PT STA. = 104+21.97
Y = 204,874.81
X = 490,647.12

CURVE DATA
RIVERWALK

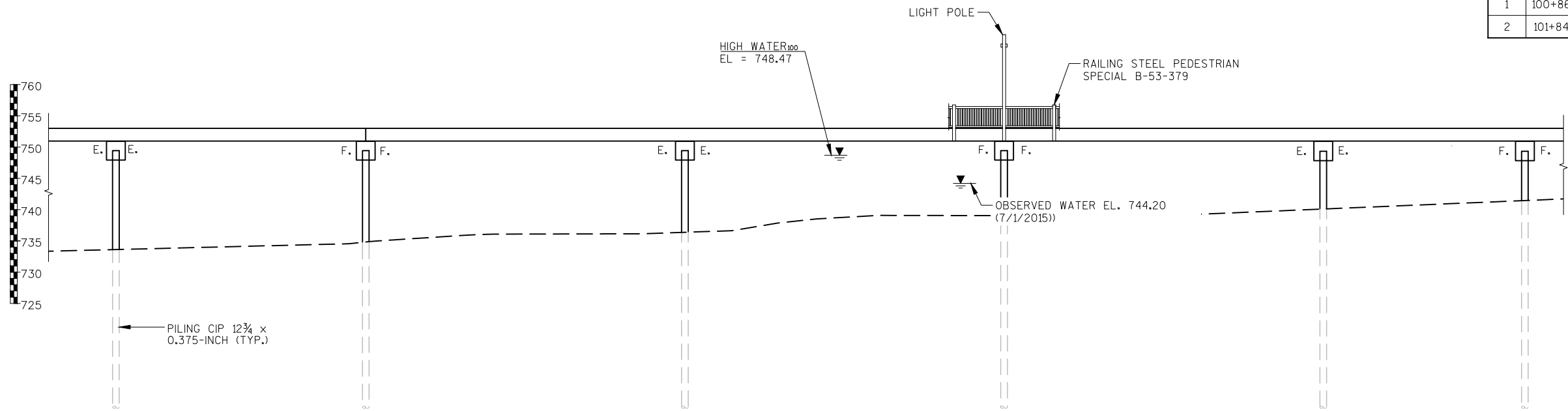
PI STA. = 105+71.81
Y = 205,024.47
X = 490,654.34
R = 27.00'
D = 212'12'24"
DELTA = 13'45'38"
L = 6.48'
T = 3.26'
C = 6.47'
PC STA. = 105+68.55
Y = 205,021.21
X = 490,654.18
PT STA. = 105+75.03
Y = 205,027.67
X = 490,653.72



PLAN
(TEN SPAN - 21" PRESTRESSED CONCRETE BOX GIRDERS)

BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
1	100+86	DISK IN CONCRETE WP&L STA 4, 12.7' LT.	749.48
2	101+84	#30 BRASS PLUG IN CONCRETE, 56.9' LT.	748.45



ELEVATION
(PERPENDICULAR TO CENTERLINE)

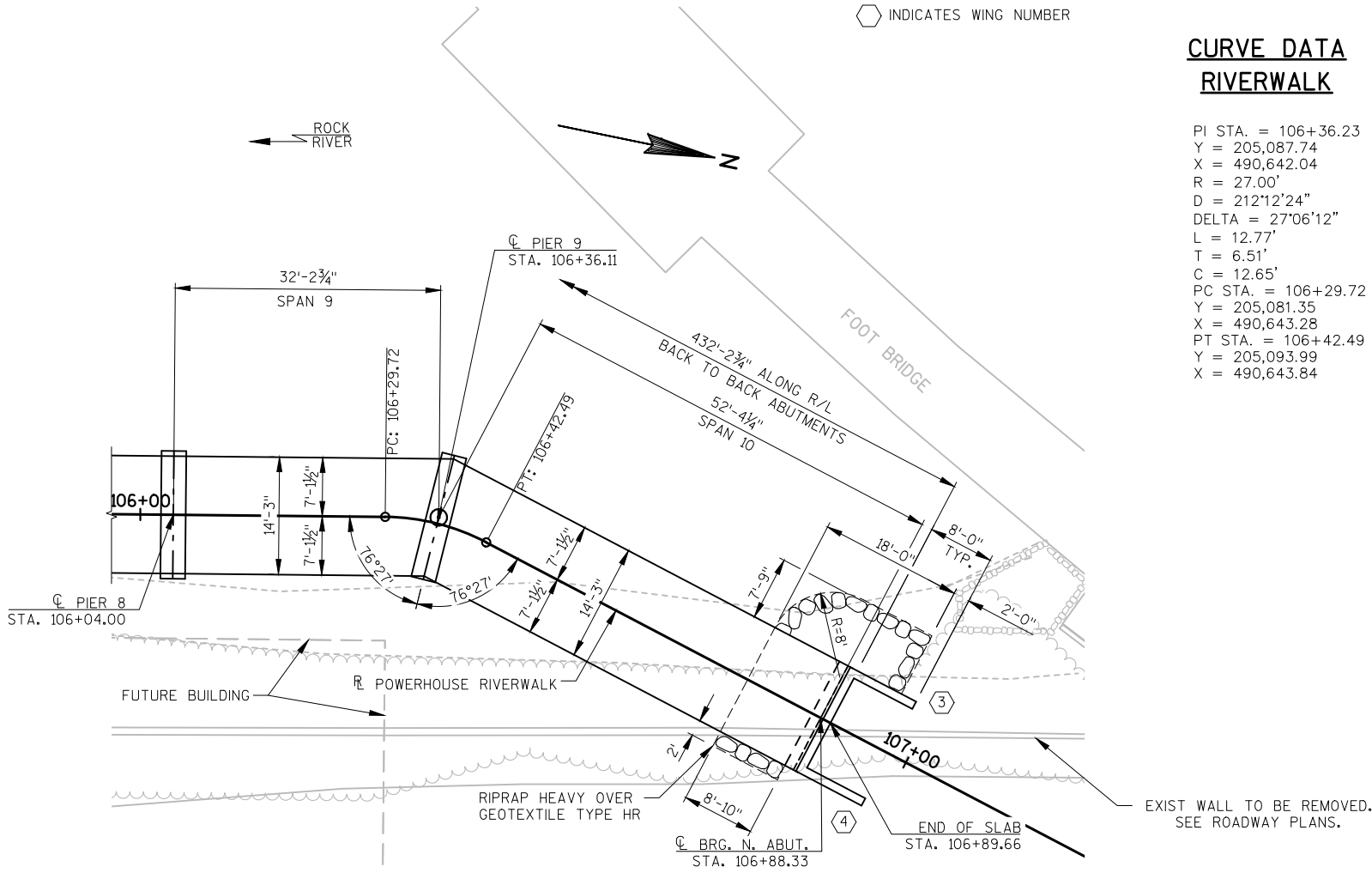
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-53-379			
DRAWN BY		RBH	PLANS CKD. PTB
GENERAL PLAN (2 OF 3)			SHEET 2 OF 20

CURVE DATA
RIVERWALK

PI STA. = 106+36.23
Y = 205,087.74
X = 490,642.04
R = 27.00'
D = 212°12'24"
DELTA = 27°06'12"
L = 12.77'
T = 6.51'
C = 12.65'
PC STA. = 106+29.72
Y = 205,081.35
X = 490,643.28
PT STA. = 106+42.49
Y = 205,093.99
X = 490,643.84

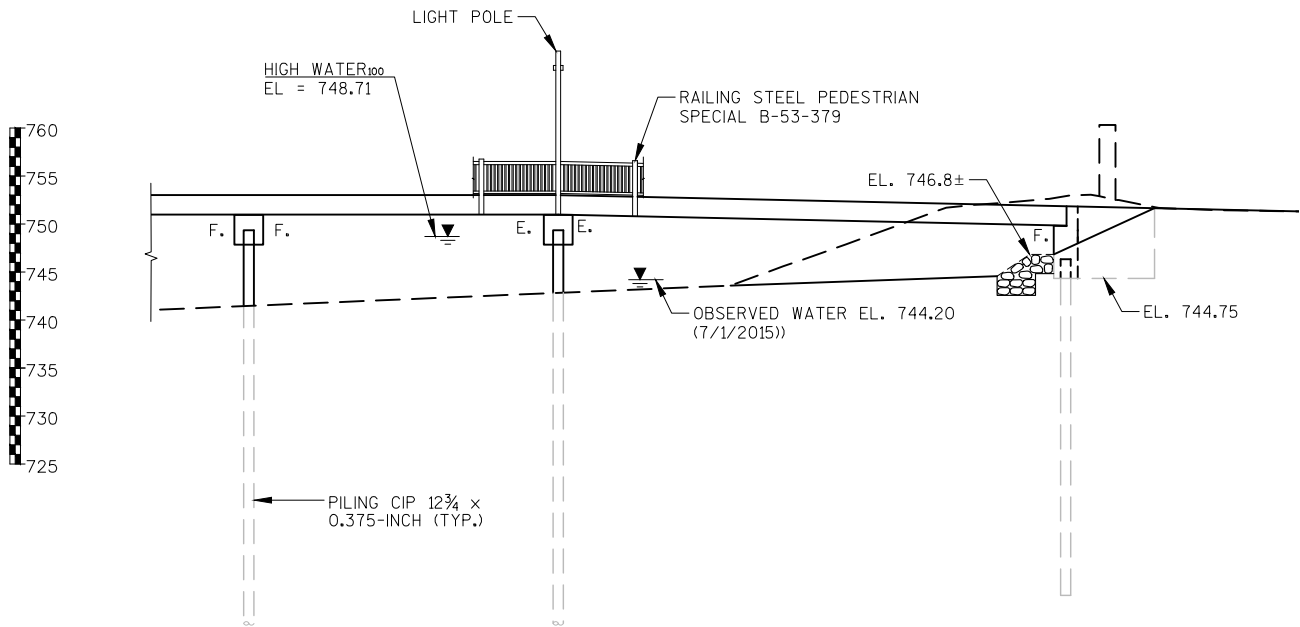
GENERAL NOTES

- DRAWINGS SHALL NOT BE SCALED.
- ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE NORTH AMERICA VERTICAL DATUM OF 1988 (NAVD 88).
- BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
- JOINT FILLER SHALL CONFORM TO A.A.S.H.T.O. DESIGNATION M153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M213.
- THE SLOPE OF FILL IN FRONT OF THE NORTH ABUTMENT SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON SHEET 3 AND IN THE ABUTMENT DETAILS, OR AS DIRECTED BY THE ENGINEER IN THE FIELD.
- AT THE BACK FACE OF ABUTMENTS, ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE A. SEE SHEET 7 FOR DETAIL.
- APPLY PROTECTIVE SURFACE TREATMENT TO THE TOP OF THE DECK, THE SIDES OF THE BOX GIRDERS AND EXTERIOR 12" OF THE UNDERSIDE OF THE BOX GIRDERS.
- ALL STATIONS AND ELEVATIONS SHOWN ARE IN FEET.
- THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.
- THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.



PLAN

(TEN SPAN - 21" PRESTRESSED CONCRETE BOX GIRDERS)



ELEVATION

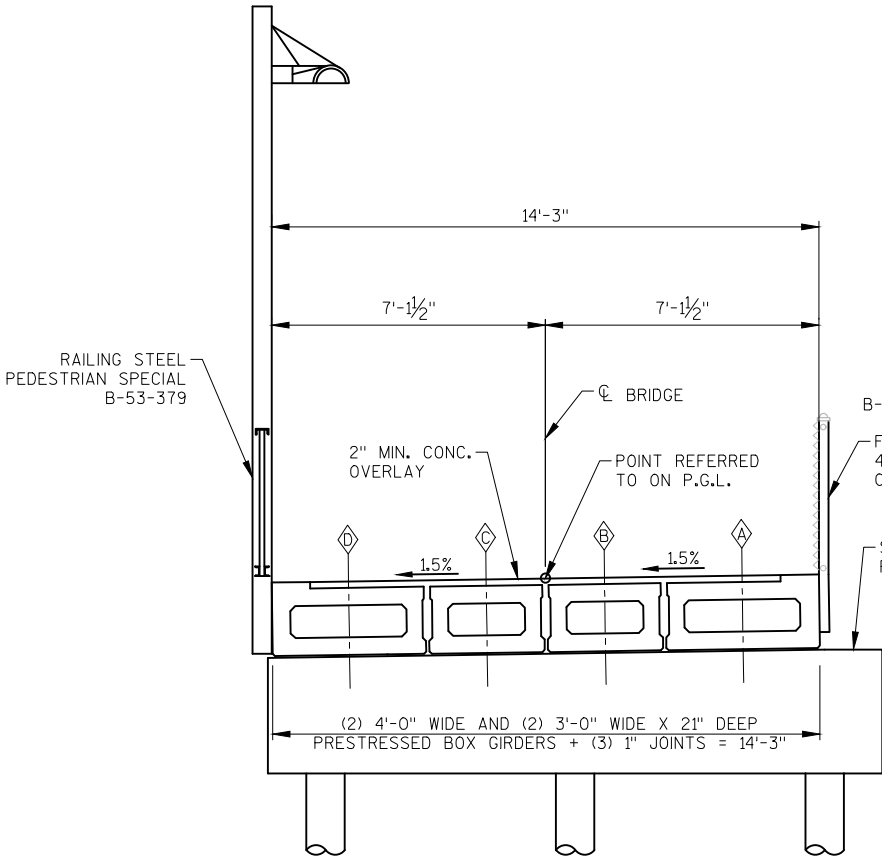
(PERPENDICULAR TO CENTERLINE)

BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
1	100+86	DISK IN CONCRETE WP&L STA 4, 12.7' LT.	749.48
2	101+84	#30 BRASS PLUG IN CONCRETE, 56.9' LT.	748.45

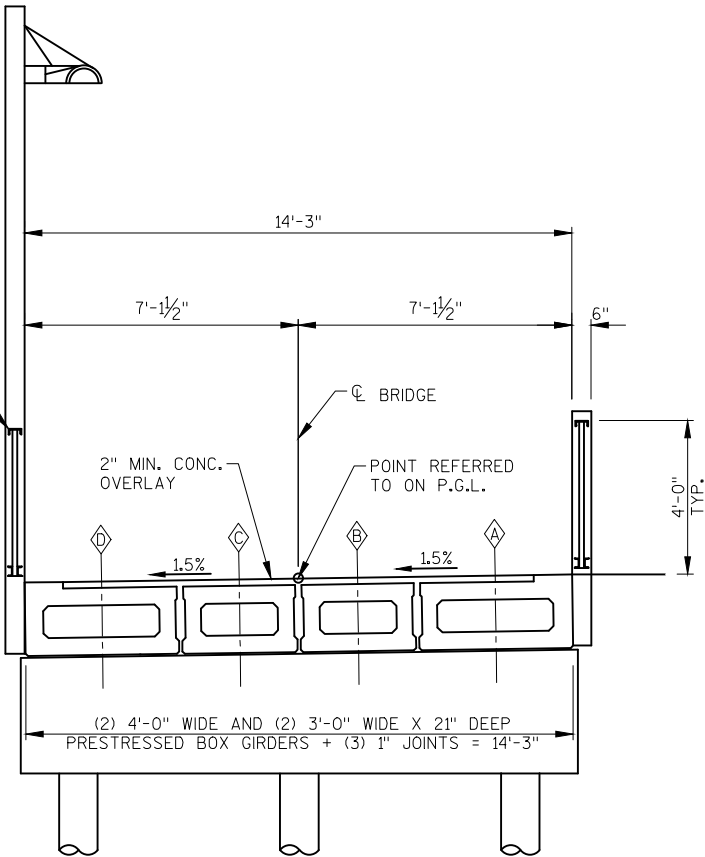
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-53-379			
DRAWN BY RBH		PLANS CKD. PTB	
GENERAL PLAN (3 OF 3)			SHEET 3 OF 20

◇ INDICATES GIRDER LINE



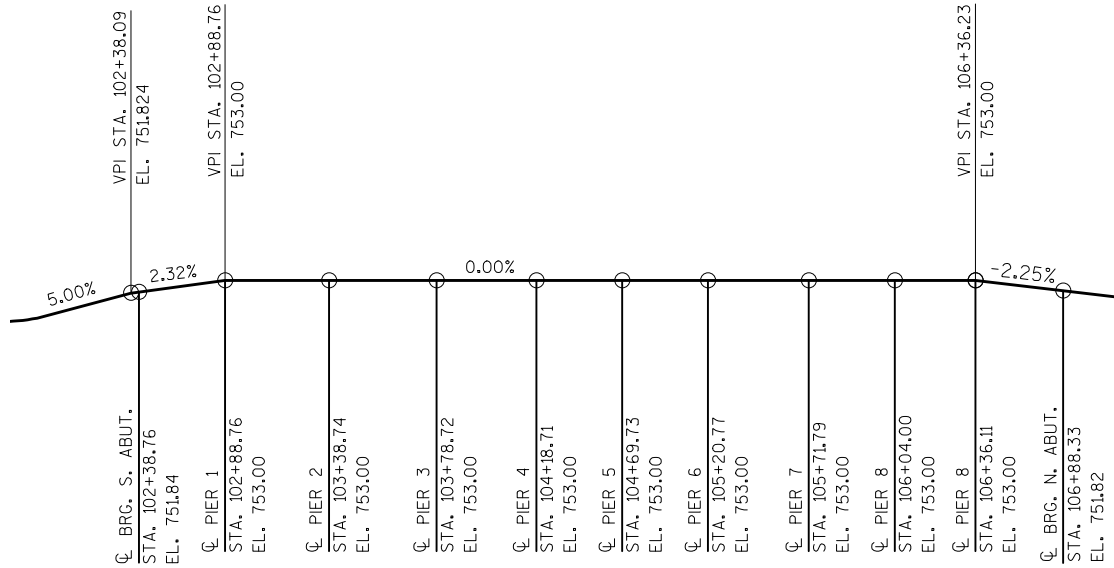
CROSS SECTION THROUGH STRUCTURE

(SOUTH END OF BRIDGE TO PIER 6)
LOOKING NORTH



CROSS SECTION THROUGH STRUCTURE

(PIER 6 TO NORTH END OF BRIDGE)
LOOKING NORTH



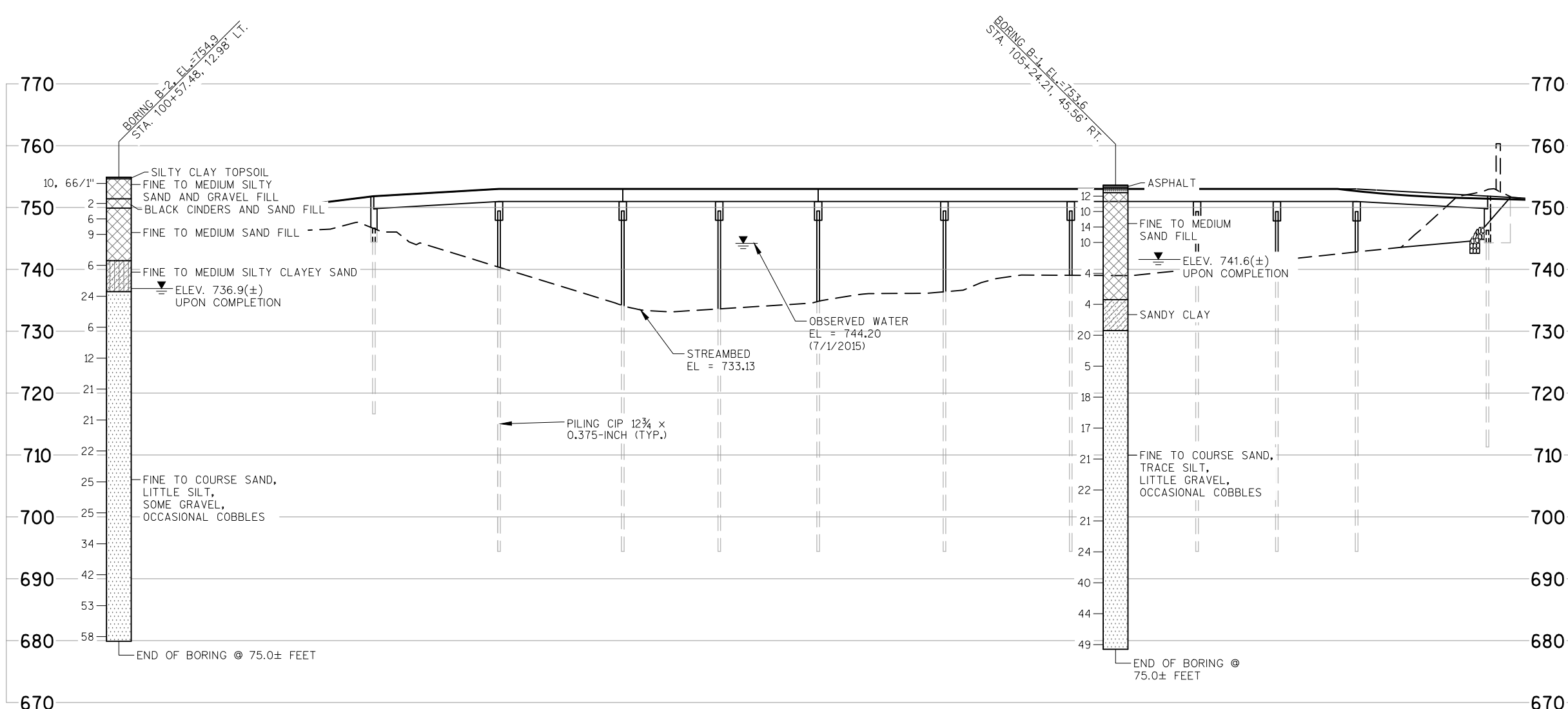
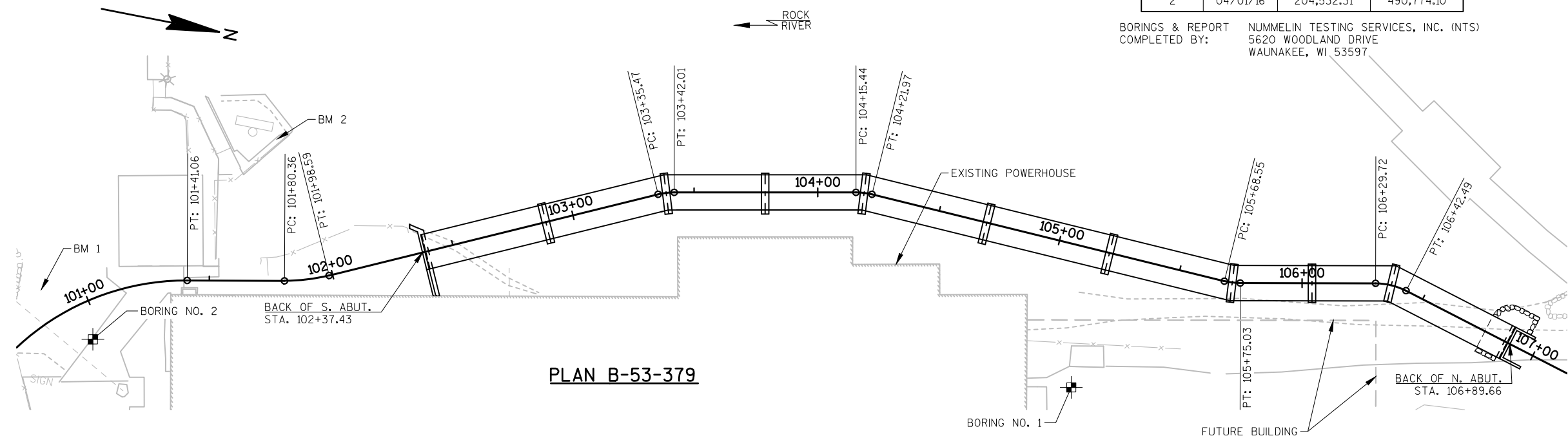
PROFILE GRADE LINE

BELOIT POWERHOUSE RIVERWALK

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	ITEM DESCRIPTION	UNIT	S. ABUT.	PIER 1	PIER 2	PIER 3	PIER 4	PIER 5	PIER 6	PIER 7	PIER 8	PIER 9	N. ABUT.	SUPER.	TOTALS
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-53-379	LS	--	--	--	--	--	--	--	--	--	--	--	--	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	85	--	--	--	--	--	--	--	--	--	55	--	140
502.0100	CONCRETE MASONRY BRIDGES	CY	15.5	6.6	6.6	6.6	6.6	6.6	6.6	6.2	6.2	6.2	19.3	--	93
502.2000	COMPRESSION JOINT SEALER PREFORMED ELASTOMERIC (1-INCH)	LF	--	--	--	--	--	--	--	--	--	--	--	72	72
502.3200	PROTECTIVE SURFACE TREATMENT	SY	--	--	--	--	--	--	--	--	--	--	--	1,010	1,010
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,680	1,560	1,590	1,560	1,590	1,560	1,590	1,520	1,560	1,520	1,650	1,080	18,460
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EA	4	8	8	8	8	8	8	8	8	8	4	--	80
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	--	--	--	--	--	--	--	--	--	--	--	43	43
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	5	--	--	--	--	--	--	--	--	--	6	--	11
550.2126	PILING CIP CONCRETE 12 3/4 X 0.375-INCH	LF	200	195	195	195	195	195	195	195	195	195	165	--	2,120
550.0500	PILE POINTS	EACH	4	3	3	3	3	3	3	3	3	3	3	--	34
606.0300	RIPRAP HEAVY	CY	--	--	--	--	--	--	--	--	--	--	25	--	25
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	30	--	--	--	--	--	--	--	--	--	50	--	80
616.0204	FENCE CHAIN LINK 4-FT	LF	--	--	--	--	--	--	--	--	--	--	--	257	257
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	25	--	--	--	--	--	--	--	--	--	20	--	45
645.0120	GEOTEXTILE TYPE HR	SY	--	--	--	--	--	--	--	--	--	--	50	--	50
SPV.0090.01	RAILING STEEL PEDESTRIAN SPECIAL B-53-379	LF	--	--	--	--	--	--	--	--	--	--	--	672	672
SPV.0090.02	PRESTRESSED GIRDERS BOX TYPE 21-INCH	LF	--	--	--	--	--	--	--	--	--	--	--	1,782	1,782
NON-BID ITEMS															
	FILLER	SIZE	--	--	--	--	--	--	--	--	--	--	--	--	½" & ¾"
	NAME PLATE														

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-53-379			
DRAWN BY RBH		PLANS CK'D. PTB	
CROSS SECTIONS AND QUANTITIES			SHEET 4 OF 20



SOIL BORINGS			
BORING NUMBER	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	03/31/16	204,968.80	490,708.30
2	04/01/16	204,532.31	490,774.10

BORINGS & REPORT COMPLETED BY: NUMMELIN TESTING SERVICES, INC. (NTS) 5620 WOODLAND DRIVE WAUNAKEE, WI 53597

STATE PROJECT NUMBER

5989-05-26

MATERIAL SYMBOLS

Asphalt

Concrete

Sand

Boulders or Cobbles

Shale

Topsoil

Fill

Clay

Limestone

Sandstone

Peat

Gravel

Silt

Bedrock (unknown)

Igneous/meta

LEGEND OF BORING

BORING #/ EL STA./OFF SET

ST

0.25

17

(1), (2)

F-C COBBLE OR BOULDER

WEATHERED LIMESTONE

CORE RUN #1 - 24'-29' REC=80%, ROD=72%

(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 ELEVATIONS

AT TIME OF DRILLING

END OF DRILLING

AFTER DRILLING

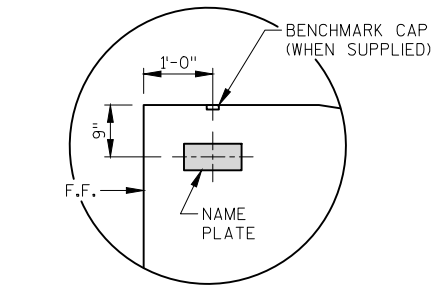
ABBREVIATIONS

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

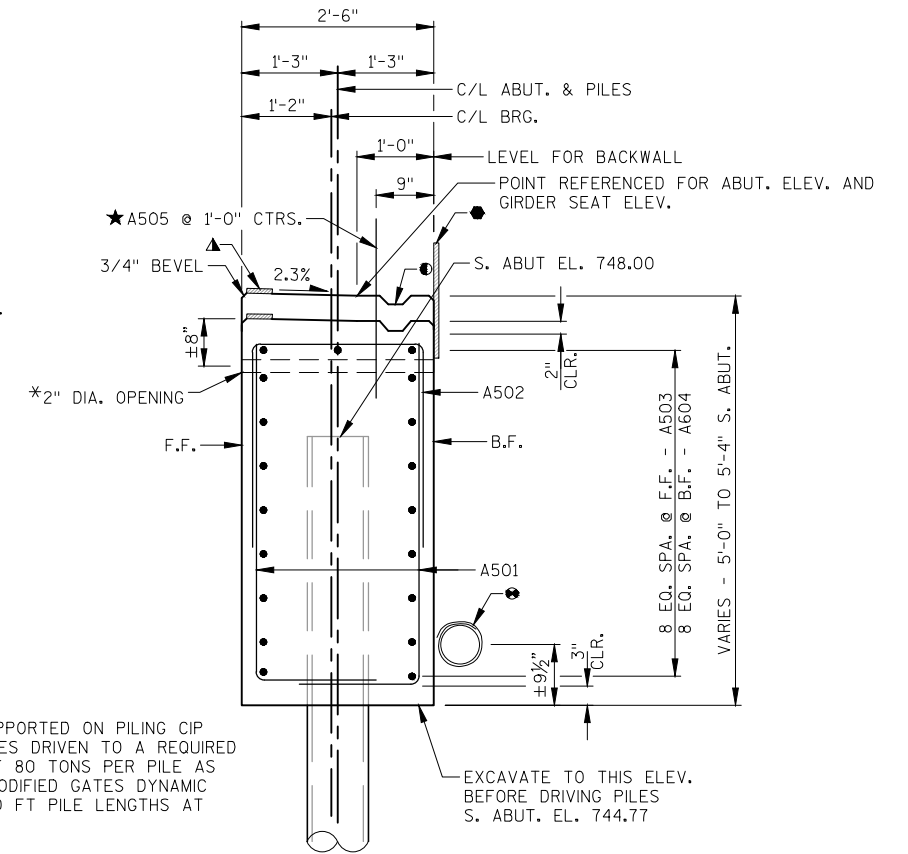
SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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.

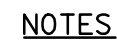
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-53-379			
DRAWN BY		PLANS CKD.	PTB
SUBSURFACE EXPLORATION			SHEET 5 OF 20



WING 2 ONLY



ABUTMENTS TO BE SUPPORTED ON PILING CIP
12 $\frac{1}{2}$ -INCH X 0.375-INCHES DRIVEN TO A REQUIRED
DRIVING RESISTANCE OF 80 TONS PER PILE AS
DETERMINED BY THE MODIFIED GATES DYNAMIC
FORMULA. ESTIMATE 50 FT PILE LENGTHS AT
SOUTH ABUTMENT.



SEE SHEET 7 FOR SECTION A-A AND SECTION B-B



- ① KEEDY CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6.
- VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING EXTEND FROM 9" BELOW BRIDGE SEAT TO 1" BELOW TOP OF WINGS.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. (HORIZONTAL)
- ▲ ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD ½" BELOW SURFACE OF CONCRETE)
- ▲ ¾" PREFORMED FILLER, EXTEND BETWEEN EDGES OF DECK. EXTEND IN FRONT OF BEARING PAD AS SHOWN.
- ★ A505 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET. EMBED BAR 1'-0".
- PILE SPACING MEASURED AT BASE OF ABUTMENT.
- PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 2. RODENT SCREEN TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."
- ◇ INDICATES GIRDER LINE
- * OPENING TO BE INCIDENTAL TO CONCRETE MASONRY BRIDGE BID ITEM

NO.	DATE	REVISION	BY
STRUCTURE B-53-379			
DRAWN BY		RBH	PLANS CK'D. PTB
SOUTH ABUTMENT		SHEET 6 OF 20	

BILL OF BARS
SOUTH ABUTMENT 1.680 LB (COATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	BAR SERIES	LOCATION
A501	54	6-1	X	X		BODY - VERT. - STIRRUP
A502	27	7-7	X	X		BODY - VERT. - STIRRUP - TOP
A503	9	27-0		X		BODY - HORIZ. - F.F.
A604	9	27-8		X		BODY - HORIZ. - B.F.
A505	13	2-0		X		BODY - VERT. - DOWELS
A606	14	8-0	X	X		WING 1 - VERT. - STIRRUP
A407	4	11-1		X		WING 1 - HORIZ. - F.F.
A408	4	10-6		X		WING 1 - HORIZ. - B.F.
A409	8	6-9	X	X	*	WING 2 - VERT. - F.F. & B.F.
A810	5	5-11		X		WING 2 - HORIZ. - B.F.
A411	5	6-7	X	X		WING 2 - HORIZ. - F.F.
A412	1	6-0	X	X		WING 2 - HORIZ. - F.F.
A813	1	5-4		X		WING 2 - HORIZ. - B.F.
A414	1	5-4	X	X		WING 2 - HORIZ. - F.F.
A815	1	4-8		X		WING 2 - HORIZ. - B.F.
A416	1	4-8	X	X		WING 2 - HORIZ. - F.F.
A817	1	4-0		X		WING 2 - HORIZ. - B.F.
A418	2	2-6		X		WING 2 - HORIZ. - F.F. - B.F.
A419	2	1-10		X		WING 2 - HORIZ. - F.F. - B.F.
A420	3	6-10	X	X		WING 2 - HORIZ. - TOP
A421	6	6-6		X		WING 2 - VERT.
A422	2	6-6	X	X		WING 2 - HORIZ. - TOP

NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

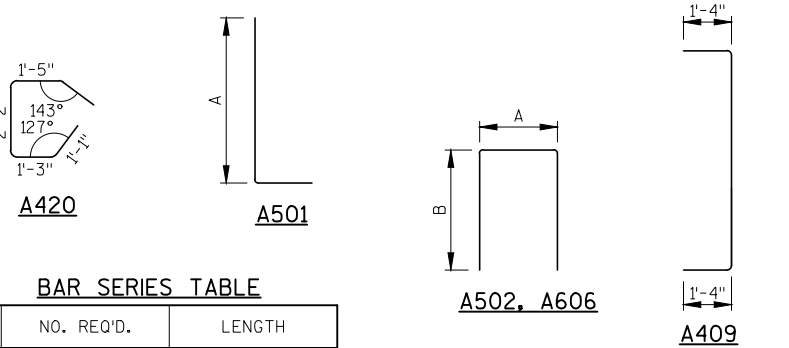
SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE THIS SHEET FOR BILL OF BARS.

* LENGTH SHOWN IS AN AVERAGE LENGTH ONLY. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

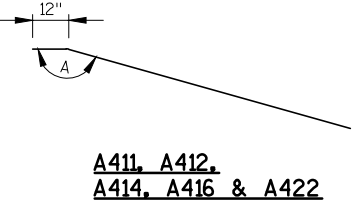
BAR SERIES TABLE

BAR MARK	NO. REQ'D.	LENGTH
A409	2 SERIES OF 4	8-3 TO 5-3

BUNDLE AND TAG EACH SERIES SEPARATELY.



MARK	'A'	'B'
A501	4'-7"	-
A502	2'-2"	2'-10"
A606	0'-10"	3'-9"
A411	126.5°	-
A412	126.5°	-
A414	126.5°	-
A416	126.5°	-
A422	135.4°	-

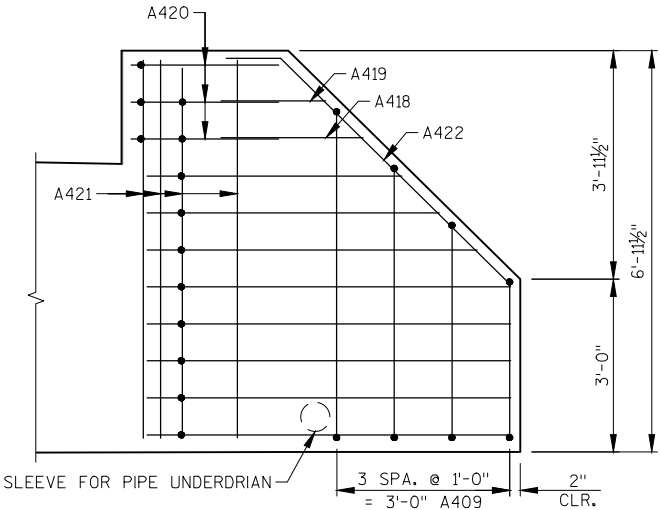


A411, A412,
A414, A416 & A422

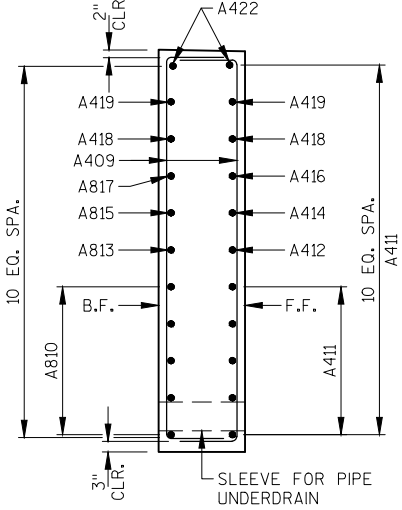
LEGEND

- KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6 WITH HORIZONTAL 18" RUBBERIZED MEMBRANE WATERPROOFING AT BACK FACE.

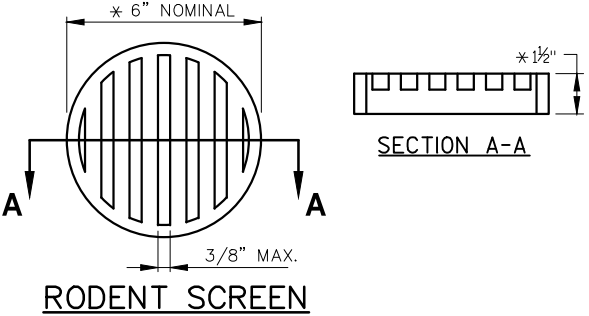
NO.	DATE	REVISION	BY
STRUCTURE B-53-379			
DRAWN BY		PLANS CK'D.	PTB
SOUTH ABUTMENT DETAILS		SHEET 7 OF 20	



F.F. ELEVATION - WING 2
(LOOKING EAST)



SECTION B - B



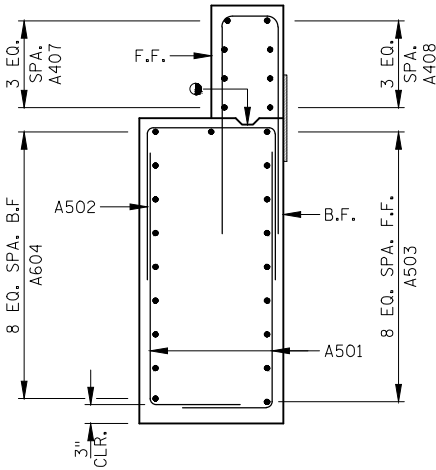
NOTES:

*DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

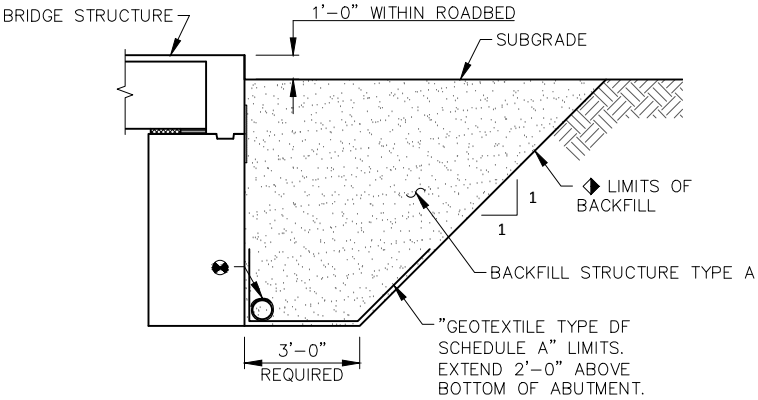
ORIENT SCREEN SO SLOTS ARE VERTICAL.

THE RODENT SCREEN, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SCREEN SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SCREEN TO THE EXPOSED ENDS OF THE PIPE UNDERDRAIN. THE SCREEN SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

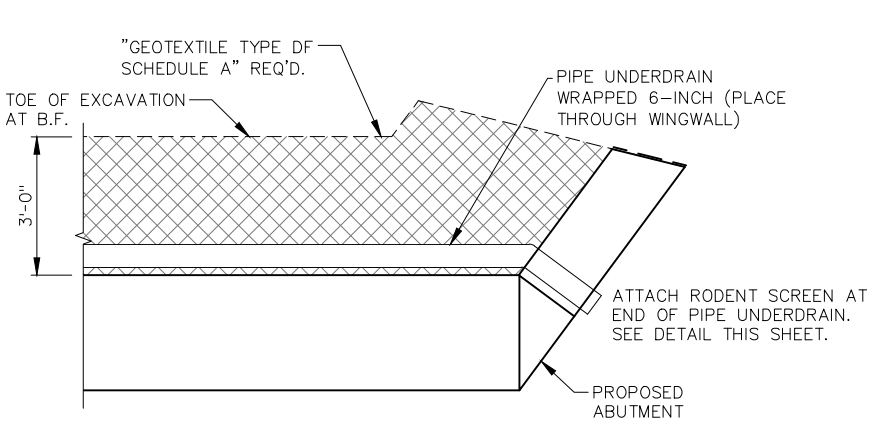


SECTION A - A

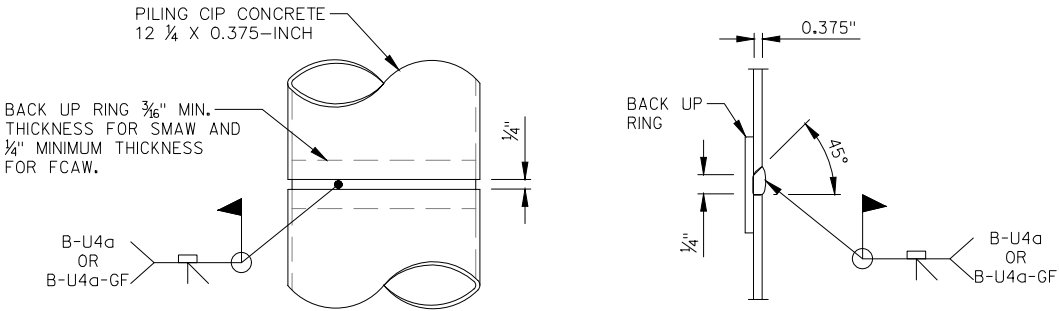


BACKFILL STRUCTURE DETAL
(TYPICAL AT BOTH ABUTMENTS)

- BACKFILL STRUCTURE TYPE A PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO THE BID ITEM "EXCAVATION FOR STRUCTURES B-53-379". LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON THIS SHEET. RODENT SCREEN TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."



PIPE UNDERDRAIN DETAIL - SOUTH ABUTMENT

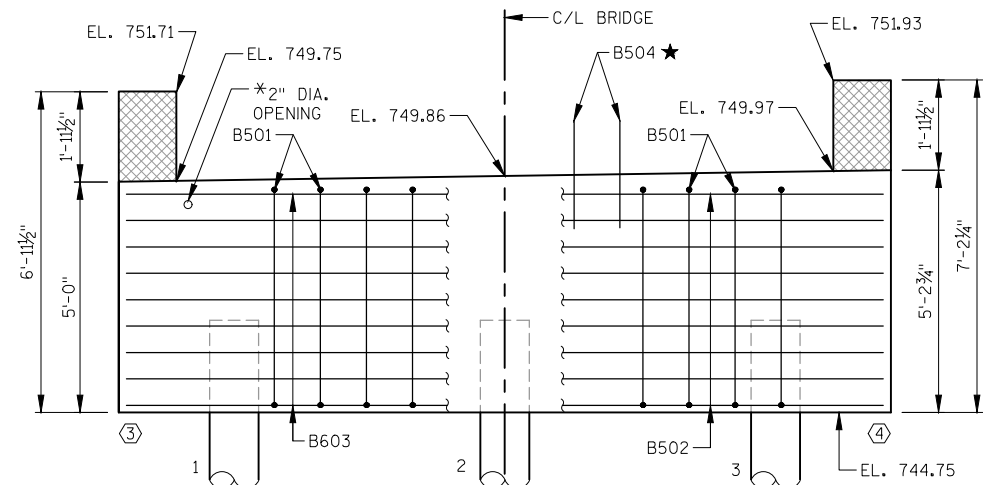


CAST-IN-PLACE
'PIPE PILE'

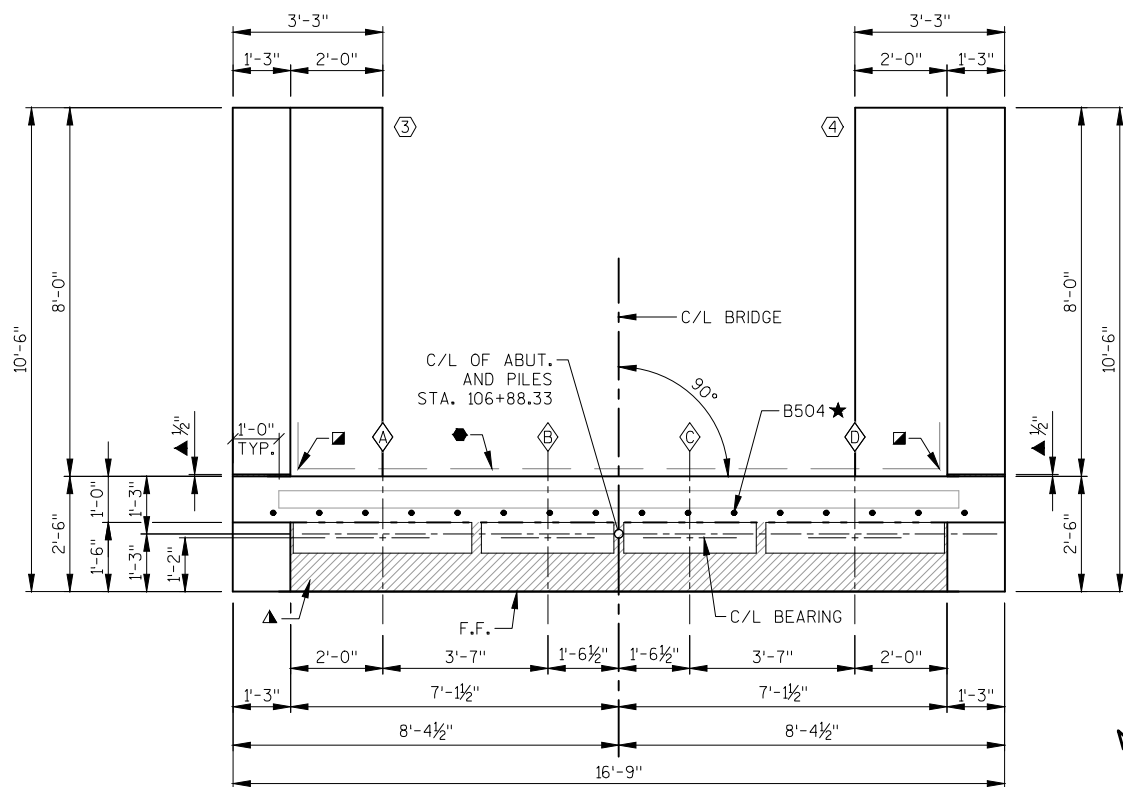
C.I.P. PILE
WELD DETAIL

NOTES:

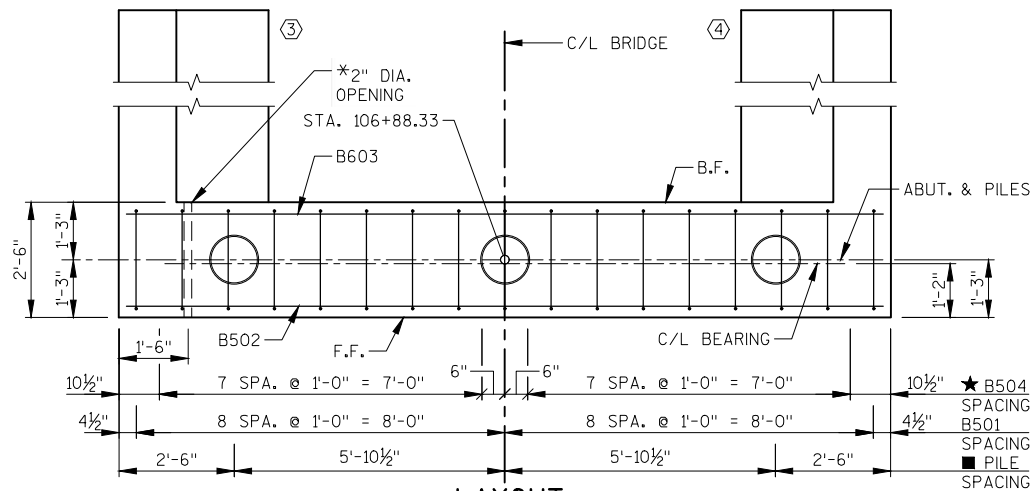
CAST-IN-PLACE PILE SHELL MATERIAL SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS



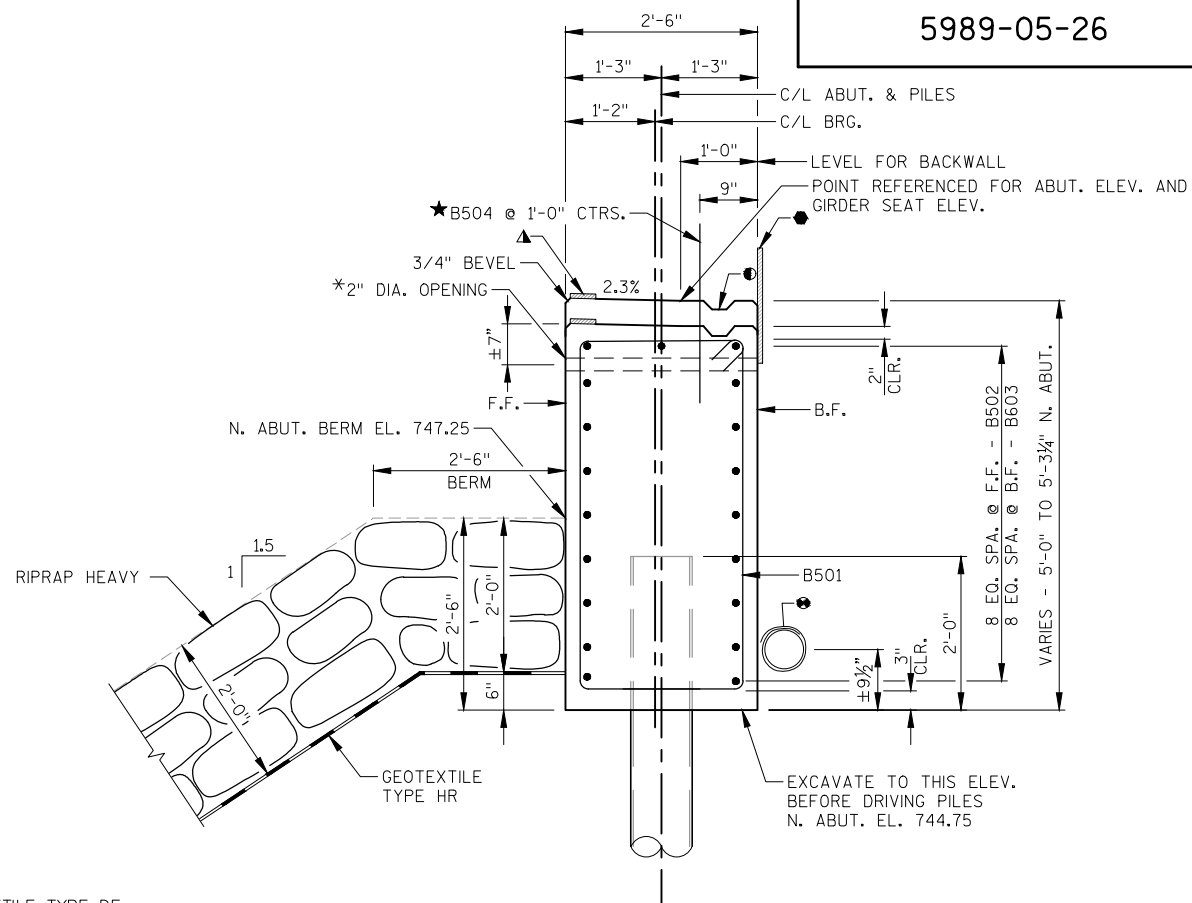
BACK FACE BAR STEEL REINF. FRONT FACE BAR STEEL REINF.
ELEVATION
(NORTH ABUTMENT LOOKING NORTH)



PLAN

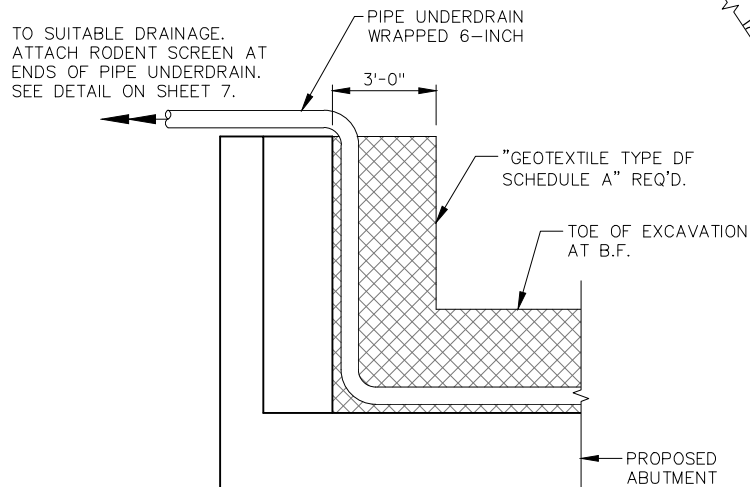


LAYOUT



TYPICAL SECTION THROUGH ABUTMENT BODY

ABUTMENTS TO BE SUPPORTED ON PILING CIP 12 3/4-INCH X 0.375-INCHES DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 80 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 55 FT PILE LENGTHS AT NORTH ABUTMENT.



PIPE UNDERDRAIN DETAIL – NORTH ABUTMENT

LEGEND

- KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6.
- VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING EXTEND FROM 9" BELOW BRIDGE SEAT TO 1" BELOW TOP OF WINGS.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. (HORIZONTAL)
- 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE)
- 3/4" PREFORMED FILLER, EXTEND BETWEEN EDGES OF DECK. EXTEND IN FRONT OF BEARING PAD AS SHOWN.
- B504 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET. EMBED BAR 1'-0".
- PILE SPACING MEASURED AT BASE OF ABUTMENT.
- PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 2. RODENT SCREEN TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."
- INDICATES GIRDER LINE
- * OPENING TO BE INCIDENTAL TO CONCRETE MASONRY BRIDGE BID ITEM

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 9 FOR BILL OF BARS.

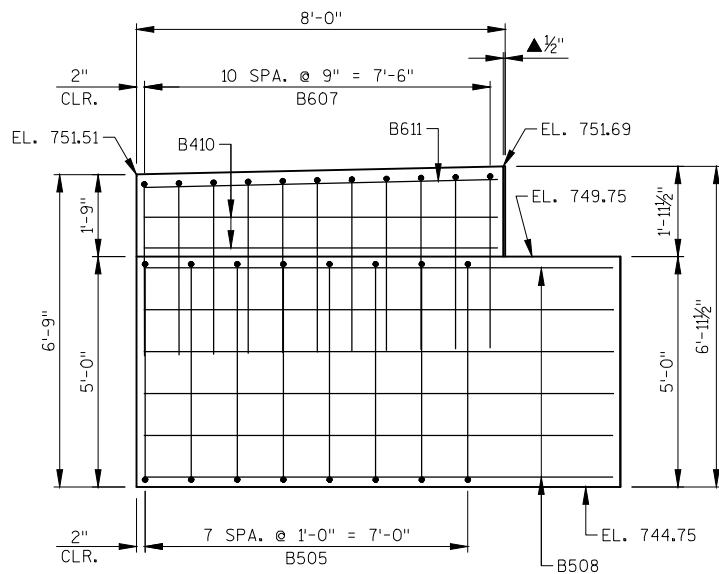
DO NOT PLACE FILL HIGHER THAN 3 FEET FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

SPACE REINFORCEMENT TO MISS PILING

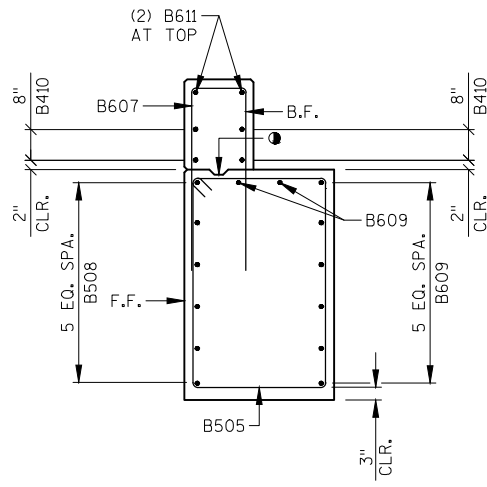
F.F. – FRONT FACE

B.F. – BACK FACE

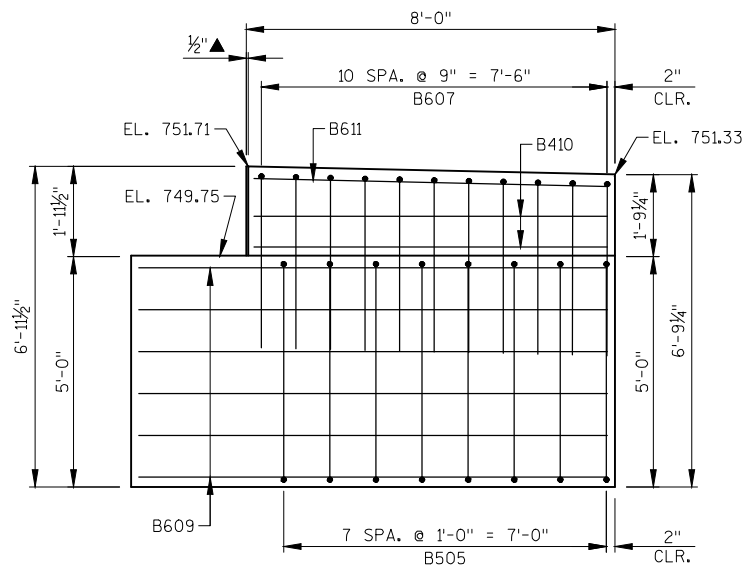
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-53-379			
DRAWN BY RBH		PLANS CKD. PTB	
NORTH ABUTMENT			SHEET 8 OF 20



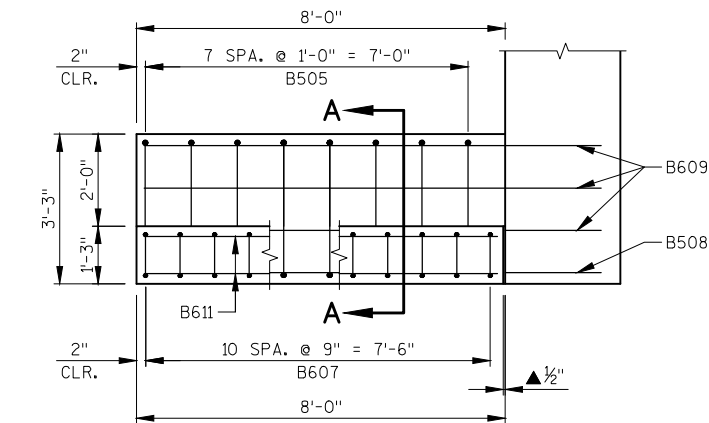
F.F. ELEVATION - WING 3
(LOOKING EAST)



SECTION A-A



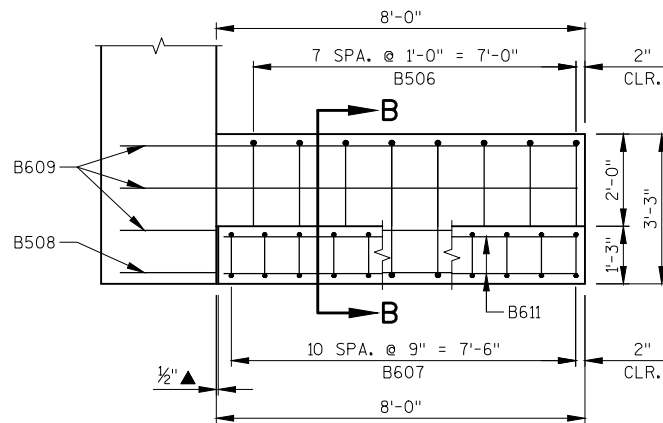
B.F. ELEVATION - WING 3
(LOOKING WEST)



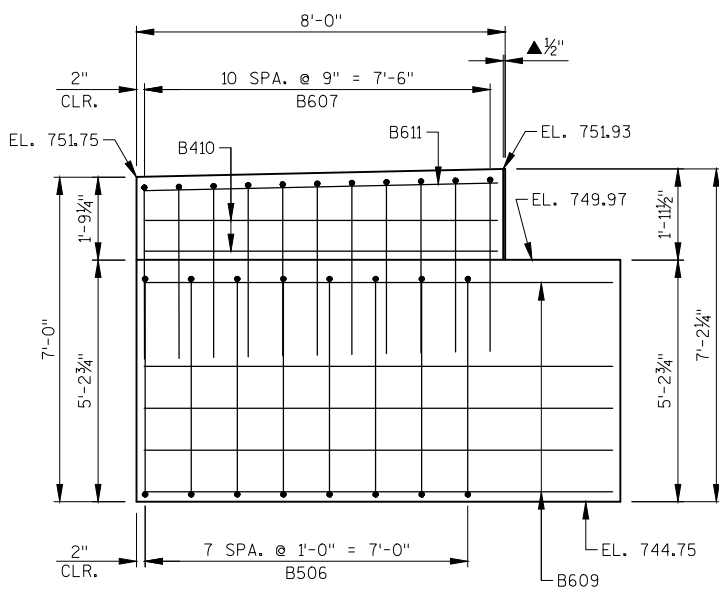
PLAN VIEW - WING 3

LEGEND

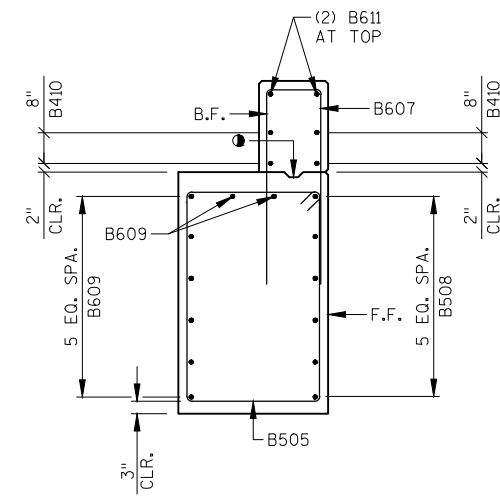
- OPTIONAL CONSTRUCTION JOINT. FORM KEYWAY WITH A BEVELED 2X6. PLACE 18" RUBBERIZED MEMBRANE WATERPROOFING AT BACK FACE AND 3/4" "V" GROOVE AT FRONT FACE IF USED.
- 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING, GRAY, NON-BITUMINUOUS JOINT SEALER (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.



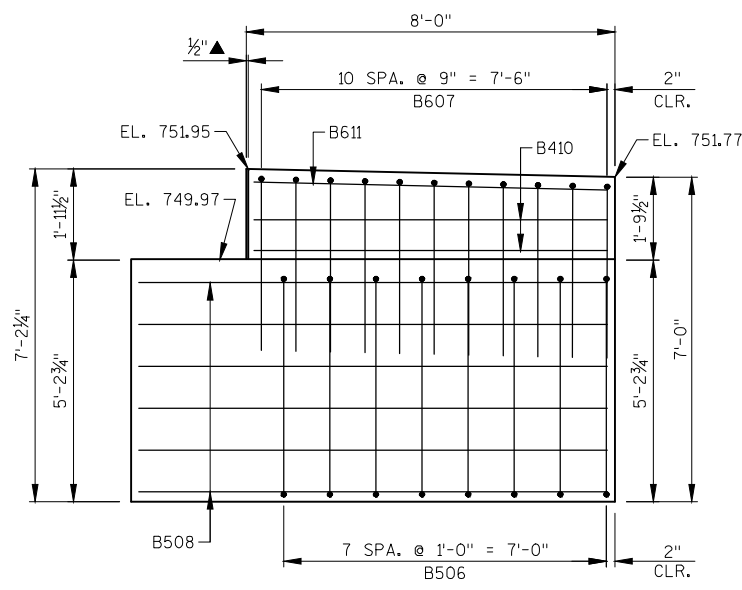
PLAN VIEW - WING 4



B.F. ELEVATION - WING 4
(LOOKING EAST)



SECTION B-B



F.F. ELEVATION - WING 4
(LOOKING WEST)

BILL OF BARS

NORTH ABUTMENT

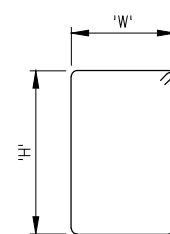
1.650 LB (COATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
B501	17	14-2	X	X	BODY - VERT.
B502	9	16-5		X	BODY - HORIZ. - F.F.
B603	9	16-5		X	BODY - HORIZ. - B.F.
B504	16	2-0		X	BODY - VERT. - DOWELS
B505	8	15-8	X	X	WING 3 - VERT.
B506	8	16-2	X	X	WING 4 - VERT.
B607	22	8-1	X	X	WINGS - TOP - STIRRUP
B508	12	10-2		X	WINGS - HORIZ. - F.F.
B609	16	10-2		X	WINGS - HORIZ. - B.F. & TOP
B410	8	7-7		X	WINGS - HORIZ. - TOP
B611	4	7-7		X	WINGS - HORIZ. - TOP

NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

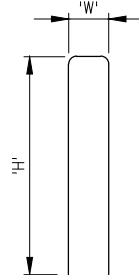
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE THIS SHEET FOR BILL OF BARS.



MARK	'W'	'H'
B501	2-2	4-7
B505	2-11	4-7
B506	2-11	4-10

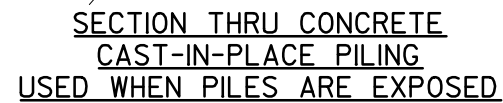
B501, B505, B506



MARK	'W'	'H'
B607	0-11	3-9

B607

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-53-379			
DRAWN BY RBH		PLANS CK'D. PTB	
NORTH ABUTMENT DETAILS		SHEET 9 OF 20	



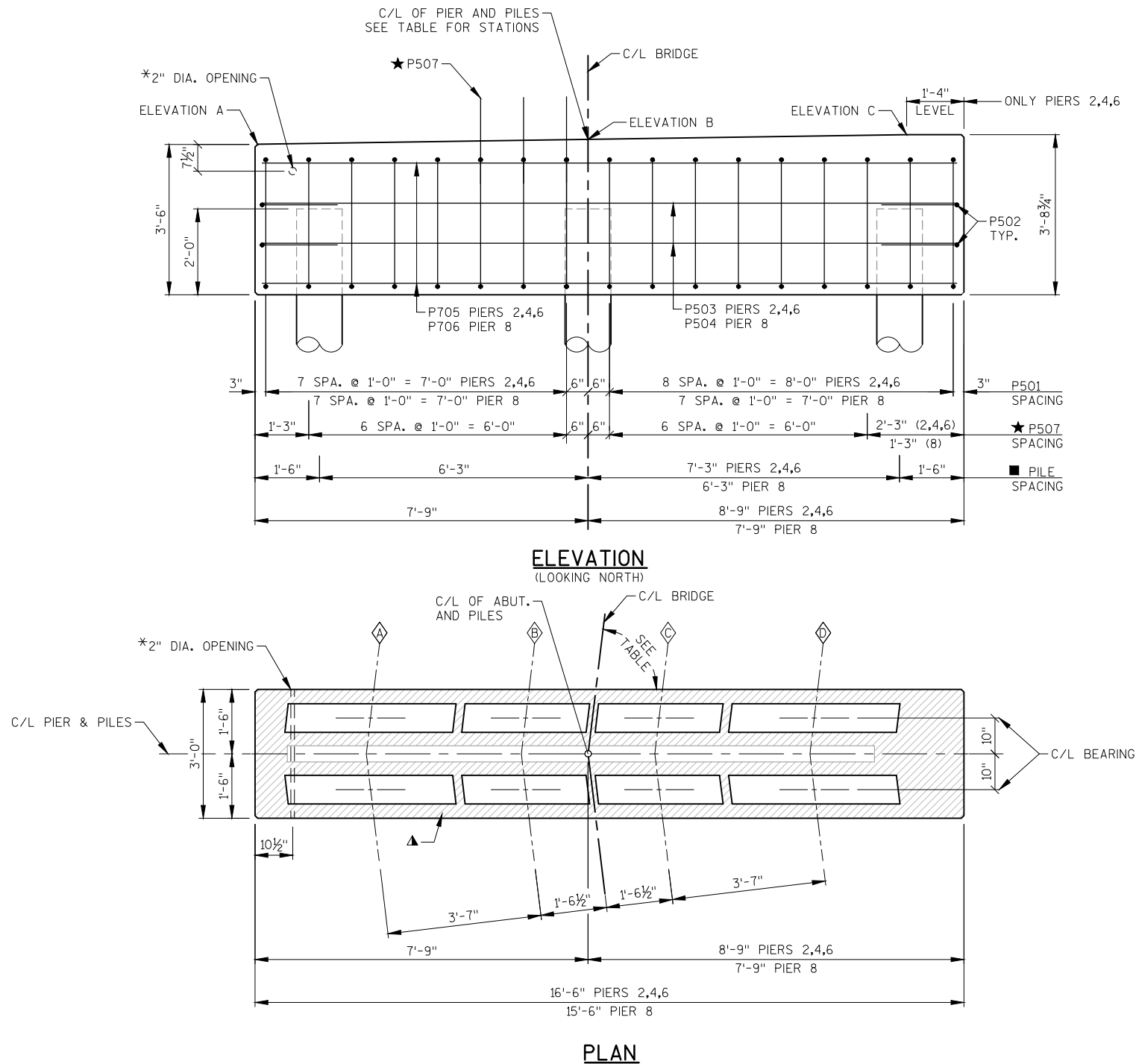
NOTES

SPACE REINFORCEMENT TO MISS PILING.

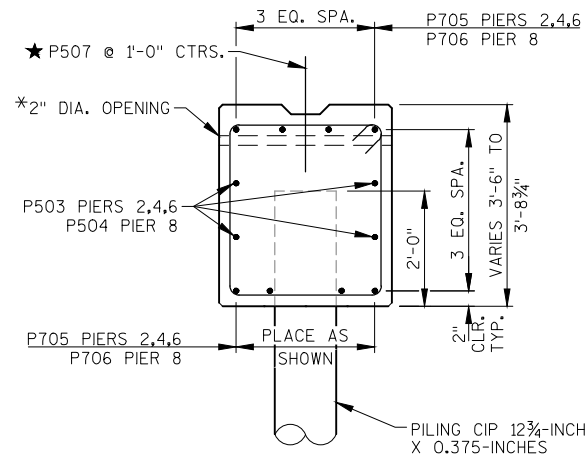
PIER	C/L STA.	ELEVATION A	ELEVATION B	ELEVATION C	SKEW ANGLE
1	102+88.76	750.92	751.04	751.15	90°
3	103+38.74	750.92	751.04	751.15	90°
5	104+69.73	750.92	751.04	751.15	90°
7	105+71.79	750.92	751.04	751.15	96°53'
9	106+36.11	750.92	751.04	751.15	76°27'

★ EXTEND 1'-2" INTO CONCRETE CAP. TERMINATE REINFORCEMENT 10'-0" BELOW STREAMBED.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-53-379			
		DRAWN BY	RBH PLANS CK'D. PTB
PIERS 1, 3, 5, 7, AND 9 DETAILS		SHEET 10 OF 20	



PIER	C/L STA.	ELEVATION A	ELEVATION B	ELEVATION C	SKEW ANGLE
2	103+38.74	750.92	751.04	751.15	83°4'
4	104+18.71	750.92	751.04	751.15	83°4'
6	105+20.77	750.92	751.04	751.15	90°
8	106+04.00	750.92	751.04	751.15	90°

**TYPICAL SECTION THROUGH PIER BODY**

PIERS TO BE SUPPORTED ON PILING CIP 12¾-INCH X 0.375-INCHES DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 210 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 65 FT PILE LENGTHS AT PIERS.

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE THIS SHEET FOR BILL OF BARS.

SPACE REINFORCEMENT TO MISS PILING

SEE SHEET 10 FOR PILING REINFORCEMENT

LEGEND

▲ ¾" PREFORMED FILLER, EXTEND FULL LENGTH OF PIER CAP BETWEEN EDGES OF DECK. EXTEND IN FRONT OF BEARING PAD AS SHOWN.

★ P507 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET. EMBED BAR 1'-0".

■ PILE SPACING MEASURED AT BASE OF PIER CAP.

◇ INDICATES GIRDER LINE

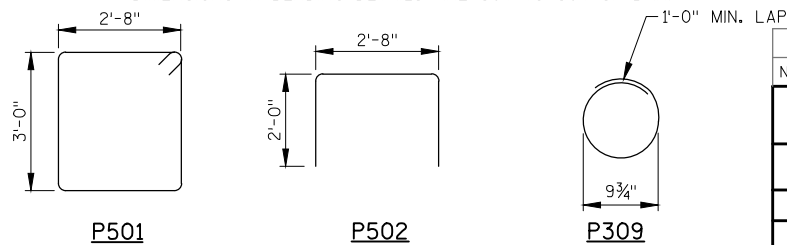
* OPENING TO BE INCIDENTAL TO CONCRETE MASONRY BRIDGE BID ITEM

BILL OF BARS PIERS**8.130 LB (COATED)**

BAR MARK	NUMBER REQ'D. PER PIER									TOTAL NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
	1	2	3	4	5	6	7	8	9					
P501	17	17	17	17	17	17	16	16	16	150	12-0	X	X	PIERS - STIRRUP
P502	4	4	4	4	4	4	4	4	4	36	6-5	X	X	PIERS - HORIZ. - ENDS
P503	4	4	4	4	4	4	--	--	--	24	16-2		X	PIERS 1-6 - HORIZ.
P504	--	--	--	--	--	--	4	4	4	12	15-2		X	PIERS 7-9 - HORIZ.
P705	8	8	8	8	8	8	--	--	--	48	16-2		X	PIERS 1-6 - HORIZ.
P706	--	--	--	--	--	--	8	8	8	24	15-2		X	PIERS 7-9 - HORIZ.
P507	--	14	--	14	--	14	--	14	--	56	2-0		X	PIERS 2,4,6,8 - DOWELS
P708	18	18	18	18	18	18	18	18	18	162	25-6		X	PILING - VERT.
P309	36	36	36	36	36	36	36	36	36	324	3-7	X	X	PILING - STIRRUP

NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-53-379			
DRAWN BY		RBH	PLANS CK'D. PTB
PIERS 2, 4, 6, AND 8 DETAILS			SHEET 11 OF 20

NOTES

SEE SHEET 13 FOR TABLE OF D, E, F, & G.

ULTIMATE DESIGN STRESS OF CONCRETE MASONRY GIRDER = 5,000 P.S.I.

MIN. CONCRETE STRENGTH AT TIME OF TRANSFER = 4,250 P.S.I.

* STRAND SPACING FOR GIRDERS IN SPANS 1, 2, 5, 6, 7, & 10.

** STRAND SPACING FOR GIRDERS IN SPANS 3, 4, 8, & 9.

*** PLACE AT 5" MAX. SPACING UNTIL PERPENDICULAR TO THE $\perp$ OF THE GIRDER.

PRESTRESSING STRANDS SHALL BE 0.5" DIA. 7-WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE DESIGN STRENGTH OF 270,000 P.S.I. SEE GIRDER DATA TABLE ON SHEET 13 FOR NUMBER OF STRAIGHT STANDS REQUIRED PER GIRDER.

CONCRETE MIX FOR THE PRESTRESSED GIRDERS SHALL CONFORM TO SECTION 503.2.2 OF THE STANDARD SPECIFICATIONS.

TOTAL: INITIAL PRESTRESS FORCE SHOWN IN GIRDER DATA TABLE ON SHEET 13.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING THE GIRDERS. FOUR-WAY SLING MUST BE USED TO ENGAGE ALL FOUR LIFTING DEVICES ON BOTH ENDS OF UNITS.

VOIDS SHALL BE VENTED AND DRAINED BY CASTING (2)-1" ϕ TUBES AT EACH END AND CENTER OF VOID SEGMENT. LOCATE TUBES AT BOTTOM EDGES OF THE CORNER FILLETS, AVOID STRAND LOCATIONS.

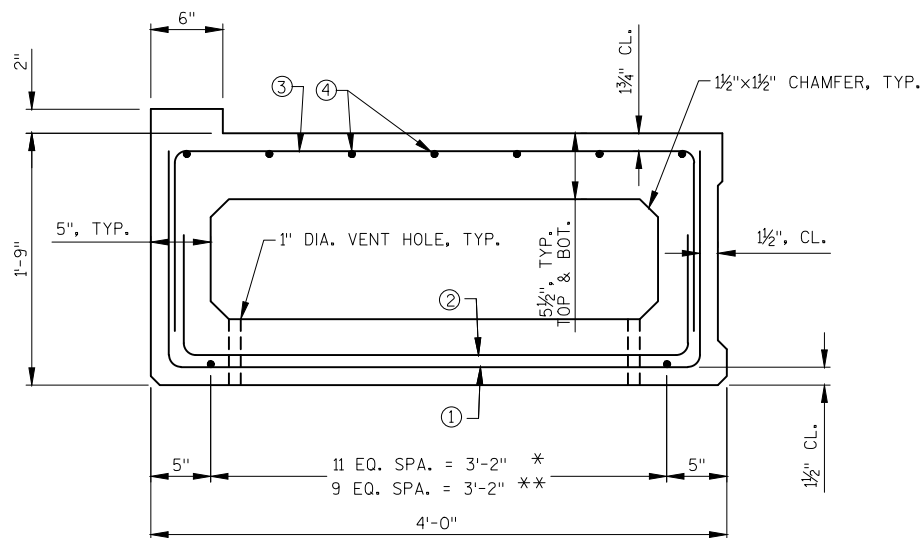
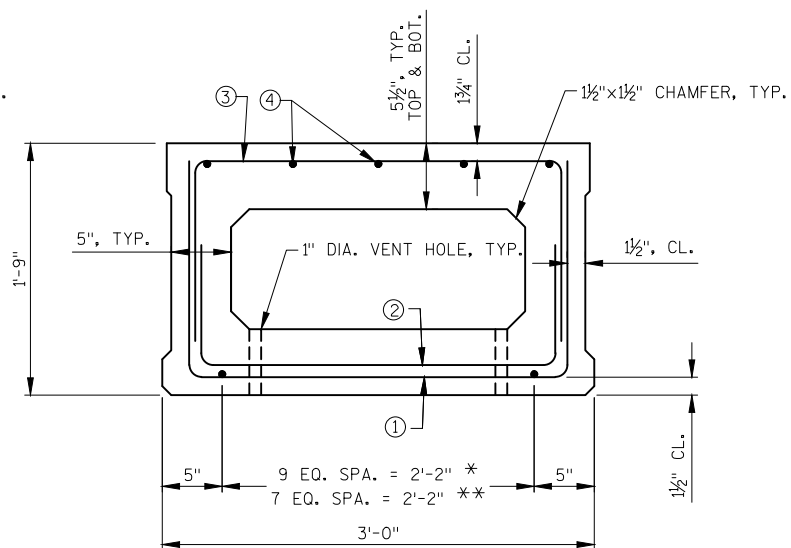
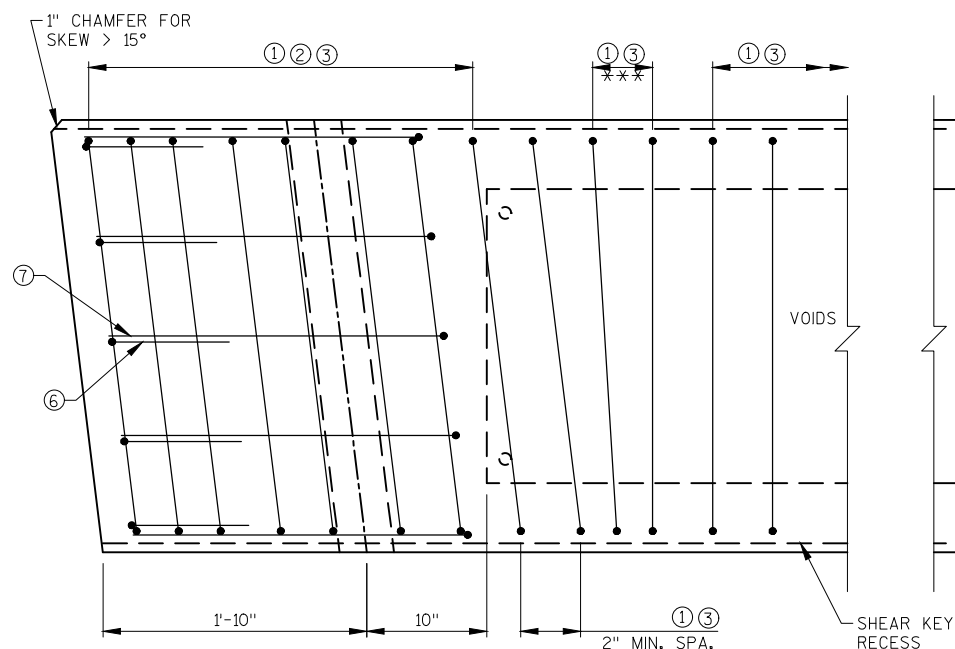
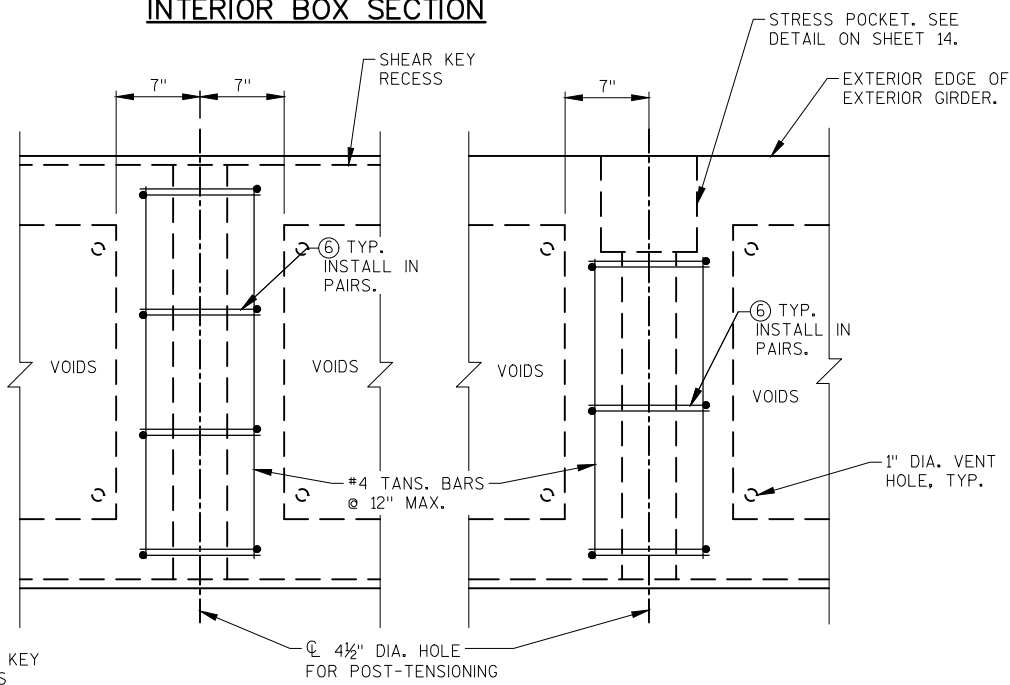
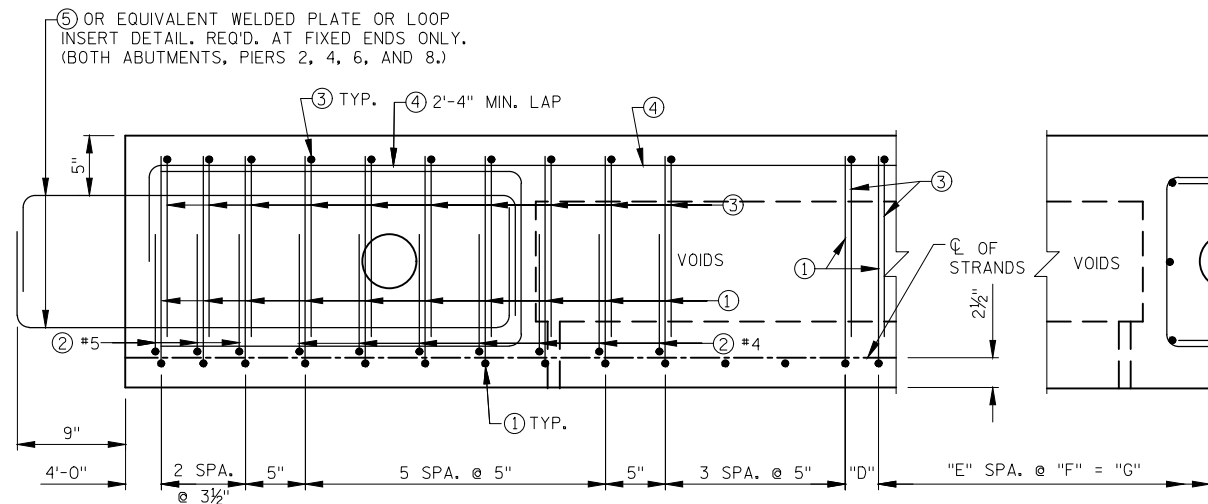
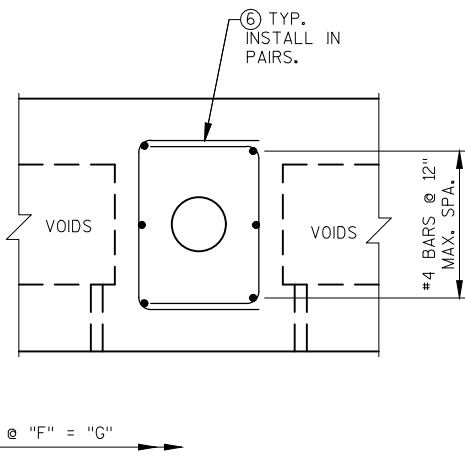
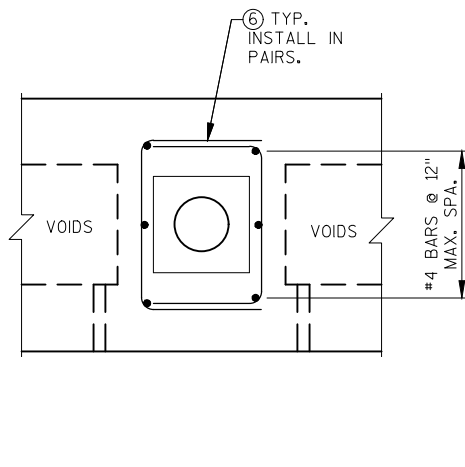
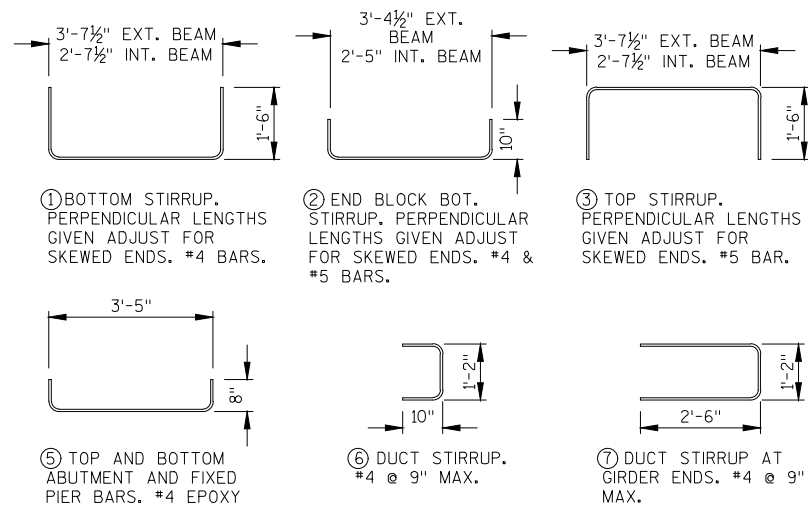
ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

STRANDS SHALL BE FLUSH WITH END OF GIRDER. AT ABUTMENTS, END OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER.

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

WELDED PLATE OR LOOP INSERT DETAIL, IF USED, SHALL PROVIDE AN EQUIVALENT PULLOUT CAPACITY TO THE YIELD STRENGTH OF #4 BARS. SEE SHEET 14 FOR DETAILS.

EACH BEAM SHALL BE MARKED SHOWING CASTING DATE AND INDIVIDUAL IDENTIFICATION NUMBERS. MARKINGS SHALL BE MADE ON THE TOP OF THE BEAM, NEAR THE END SO LOCATED THAT THEY WILL BE CLEARLY VISIBLE. ALL MARKINGS TO BE STENCILED AND BE CLEARLY LEGIBLE. FOR BEAM LAYOUT, SEE SHEETS 15 AND 16.

**EXTERIOR BOX SECTION****INTERIOR BOX SECTION****PART GIRDER PLAN WITH SKEW****INTERIOR DUCT PLAN****EXTERIOR DUCT PLAN****PART GIRDER ELEVATION WITH NO SKEW****INTERIOR DUCT ELEVATION****EXTERIOR DUCT ELEVATION**

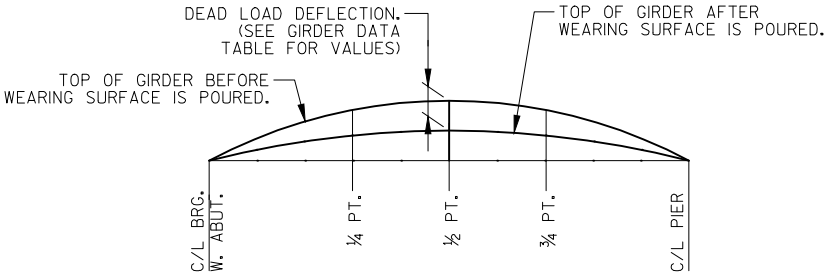
④ NO. 4 BARS FULL LENGTH OF GIRDERS WITH 8" BENDS AT GIRDER ENDS AND 2'-4" MIN. LAP.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-53-379			
DRAWN BY		TR	PLANS CK'D. PTB
PRESTRESSED CONCRETE BOX GIRDER		SHEET 12 OF 20	

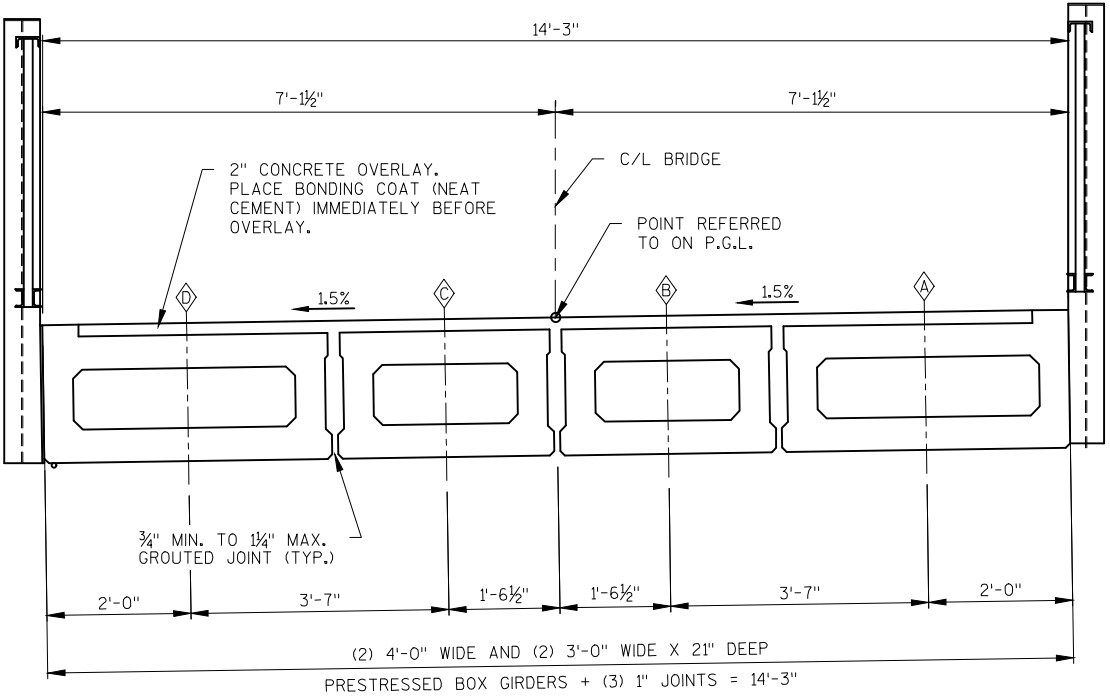
GIRDER DATA

SPAN	GIRDER LINE	GIRDER NO.	WIDTH (FEET)	LENGTH	TOTAL NO. OF STRANDS	TOTAL INITIAL PRESTRESS FORCE (KIPS)	DEAD LOAD DEFL. (INCHES)		RESIDUAL CAMBER (INCHES)	"D" (INCHES)	"E"	"F" (INCHES)	"G"
							¼ PT.	½ PT.					
1	D	1	4'-0"	50'-3½"	12	372.0	0	⅞	0	7¾	39	12	39'-0"
	C	2	3'-0"	50'-3½"	10	310.0	0	⅞	0	7¾	39	12	39'-0"
	B	3	3'-0"	50'-3½"	10	310.0	0	⅞	0	7¾	39	12	39'-0"
	A	4	4'-0"	50'-3½"	12	372.0	0	⅞	0	7¾	39	12	39'-0"
2	D	5	4'-0"	50'-0⅞"	12	372.0	0	⅞	0	7⅞	39	12	39'-0"
	C	6	3'-0"	49'-7¾"	10	310.0	0	⅞	0	11	38	12	38'-0"
	B	7	3'-0"	49'-3¼"	10	310.0	0	⅞	0	8¾	38	12	38'-0"
	A	8	4'-0"	48'-10"	12	372.0	0	⅞	0	6½	38	12	38'-0"
3	D	9	4'-0"	40'-0⅞"	10	310.0	0	0	⅞	7⅞	29	12	29'-0"
	C	10	3'-0"	39'-7¾"	8	248.0	0	0	⅞	11	28	12	28'-0"
	B	11	3'-0"	39'-3¼"	8	248.0	0	0	⅞	8¾	28	12	28'-0"
	A	12	4'-0"	38'-10"	10	310.0	0	0	⅞	6½	28	12	28'-0"
4	D	13	4'-0"	40'-0⅞"	10	310.0	0	0	⅞	7⅞	29	12	29'-0"
	C	14	3'-0"	39'-7¾"	8	248.0	0	0	⅞	11	28	12	28'-0"
	B	15	3'-0"	39'-3¼"	8	248.0	0	0	⅞	8¾	28	12	28'-0"
	A	16	4'-0"	38'-10"	10	310.0	0	0	⅞	6½	28	12	28'-0"
5	D	17	4'-0"	51'-1⅞"	12	372.0	0	⅞	0	8⅞	40	12	40'-0"
	C	18	3'-0"	50'-8¼"	10	310.0	0	⅞	0	11¼	39	12	39'-0"
	B	19	3'-0"	50'-3¾"	10	310.0	0	⅞	0	9	39	12	39'-0"
	A	20	4'-0"	49'-10½"	12	372.0	0	⅞	0	6¾	39	12	39'-0"
6	D	21	4'-0"	50'-6"	12	372.0	0	⅞	0	9	39	12	39'-0"
	C	22	3'-0"	50'-6"	10	310.0	0	⅞	0	9	39	12	39'-0"
	B	23	3'-0"	50'-6"	10	310.0	0	⅞	0	9	39	12	39'-0"
	A	24	4'-0"	50'-6"	12	372.0	0	⅞	0	9	39	12	39'-0"
7	D	25	4'-0"	49'-10⅞"	12	372.0	0	⅞	0	9⅞	38	12	38'-0"
	C	26	3'-0"	50'-3¾"	10	310.0	0	⅞	0	6¾	39	12	39'-0"
	B	27	3'-0"	50'-8¼"	10	310.0	0	⅞	0	9	39	12	39'-0"
	A	28	4'-0"	51'-1⅞"	12	372.0	0	⅞	0	11¼	39	12	39'-0"
8	D	29	4'-0"	31'-0⅞"	10	310.0	0	0	⅞	11	19	12	19'-0"
	C	30	3'-0"	31'-6"	8	248.0	0	0	⅞	7⅞	20	12	20'-0"
	B	31	3'-0"	31'-10½"	8	248.0	0	0	⅞	10⅞	20	12	20'-0"
	A	32	4'-0"	32'-3⅝"	10	310.0	0	0	⅞	6¾	21	12	21'-0"
9	D	33	4'-0"	32'-11"	10	310.0	0	0	⅞	8¾	22	12	22'-0"
	C	34	3'-0"	32'-0¾"	8	248.0	0	0	⅞	8½	21	12	21'-0"
	B	35	3'-0"	31'-3¾"	8	248.0	0	0	⅞	10	20	12	20'-0"
	A	36	4'-0"	30'-5⅝"	10	310.0	0	0	⅞	11⅝	19	12	19'-0"
10	D	37	4'-0"	53'-10½"	12	372.0	0	⅞	0	8⅞	43	12	43'-0"
	C	38	3'-0"	53'-0¼"	10	310.0	0	⅞	0	8¼	42	12	42'-0"
	B	39	3'-0"	52'-3¼"	10	310.0	0	⅞	0	9¾	41	12	41'-0"
	A	40	4'-0"	51'-4⅞"	12	372.0	0	⅞	0	11⅞	40	12	40'-0"

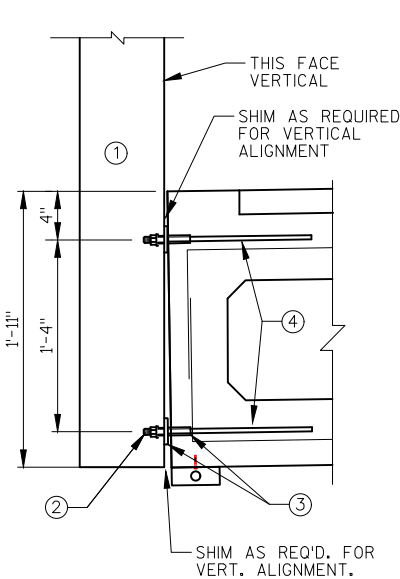
NOTES: THE FOLLOWING DATA APPLIES TO ALL GIRDERS. CONCRETE STRENGTH $f'c$ = 5,000 PSI
CONCRETE RELEASE STRENGTH $f'ci$ = 4,250 PSI
SEE SHEET 12 FOR STIRRUP SPACING DATA LOCATION FOR 'D', 'E', 'F', 'G'.



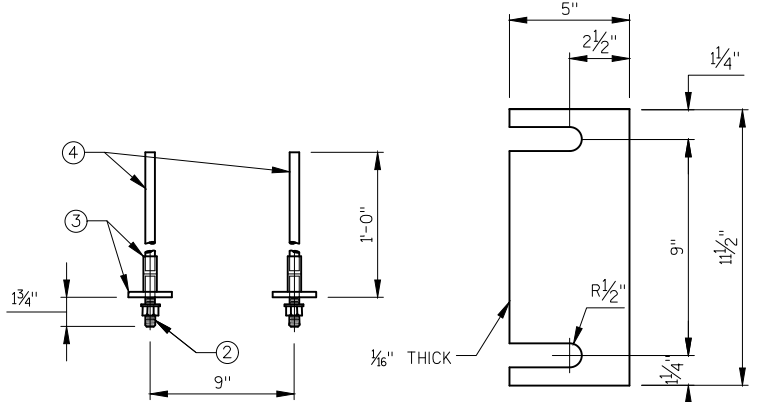
DEAD LOAD DEFLECTION DIAGRAM



TYPICAL CROSS SECTION
LOOKING NORTH



SECTION THRU RAILING

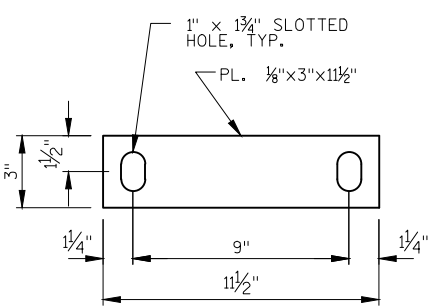


ANCHOR DETAIL - PLAN

ANCHORS MAY BE FABRICATED IN A CAGE IF OPTED BY THE MFG'R.

POST SHIM DETAIL

(14 PER POST)



RAIL POST VERTICAL
ADJUSTMENT PLATE

(1 PER POST)

LEGEND

- ① W6x15 POST. SEE SHEET 19 FOR RAILING DETAILS. PLACE POSTS VERTICAL.
 - ② ½" DIA. STUD WITH NUT & WASHER. FOUR REQ'D. PER POST. A325 STEEL. *
 - ③ THREADED BAR COUPLER FOR ½"Ø STUD. ACCEPTABLE PRODUCTS ARE WILLIAMS REBAR FLANGE COUPLERS BY WILLIAMS FORM ENGINEERING CORP. OR DOWEL BAR REPLACEMENTS BY DAYTON SUPERIOR. FOUR REQ'D PER POST. EXPOSED FLANGE TO BE GALVANIZED.*
 - ④ ANCHOR BAR ½" DIA. THREADED REINFORCEMENT BAR GRADE 60. FOUR REQ'D PER POST.**
- * SHALL BE MECHANICALLY GALVANIZED OR ELECTRO-PLATED.
** NOT GALVANIZED OR ELECTRO-PLATED.

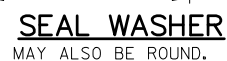
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-53-379			
DRAWN BY		TR	PLANS CK'D. PTB
PRESTRESSED CONCRETE BOX GIRDER TABLE		SHEET 13 OF 20	

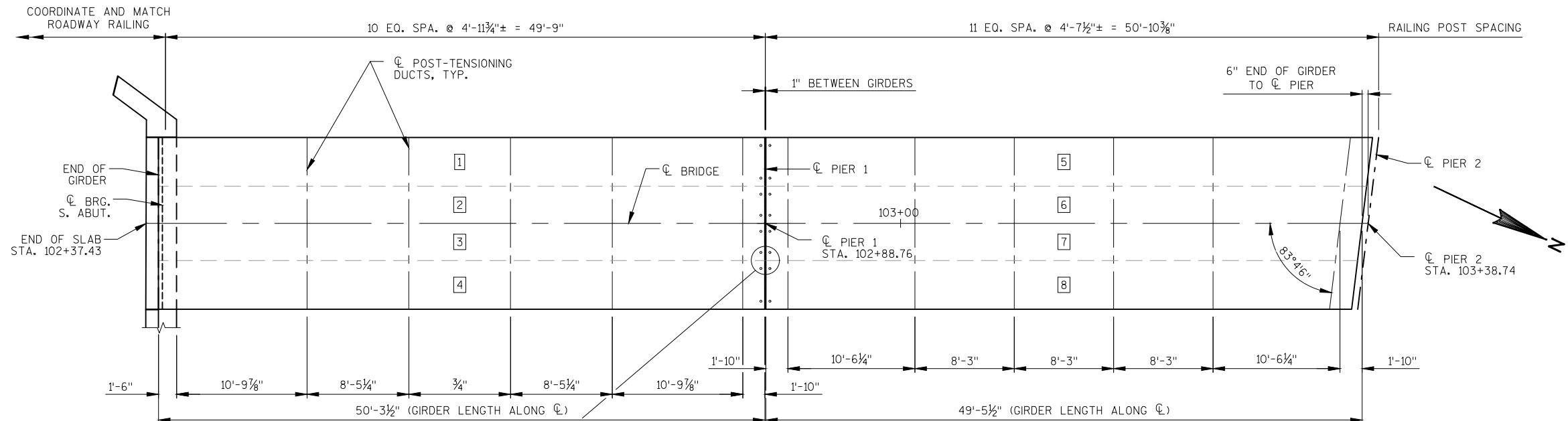
ABUTMENT BACKWALLS, PIER DIAPHRAGMS, AND CONCRETE OVERLAY SHALL NOT BE POURED UNTIL AFTER THE POST-TENSIONING HAS BEEN COMPLETED.

2" DIA. DOWEL HOLES. (2 HOLES PER BEAM AT PIERS). AFTER BEAMS ARE ERECTED AND POST-TENSIONED. DRILL HOLES IN PIER FOR DOWELS. FILL WITH HOT POURED RUBBER-ASPHALT TYPE FILLER TO 3" ABOVE DOWELS. FILL REMAINDER OF HOLE WITH NON-SHRINK GROUT. DOWELS, AND ALL MATERIALS NEEDED TO INSTALL DOWELS SHALL BE INCIDENTAL TO BID ITEM PRESTRESSED GIRDERS BOX TYPE 21-INCH.

1,080 LB (COATED)

▽ 15 STIRRUPS REQ'D. AT S. ABUT., PIERS 2, 4, 7, AND 9.
17 STIRRUPS REQ'D. AT N. ABUT.





2" DIA. DOWEL HOLES
(SEE SHEET 14 FOR
MORE DETAILS)

CENTERLINE OF PIER

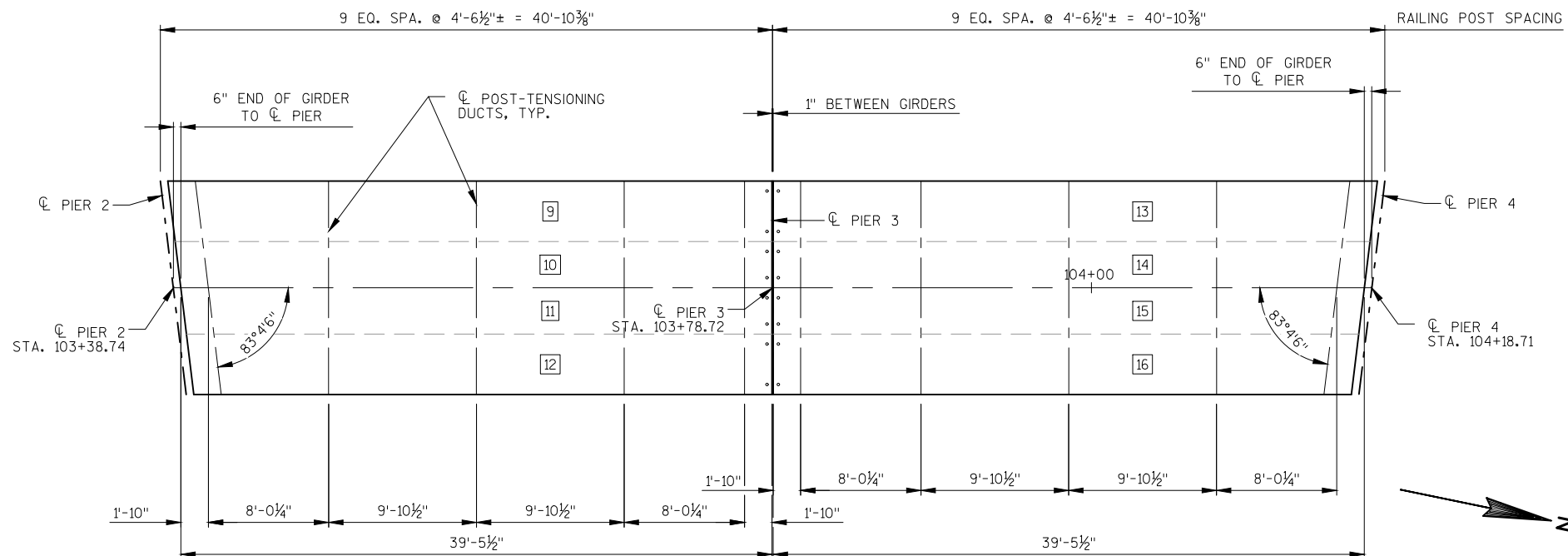
DOWEL DETAIL
(TYPICAL AT PIERS)

PLAN – SPANS 1 & 2

NOTES

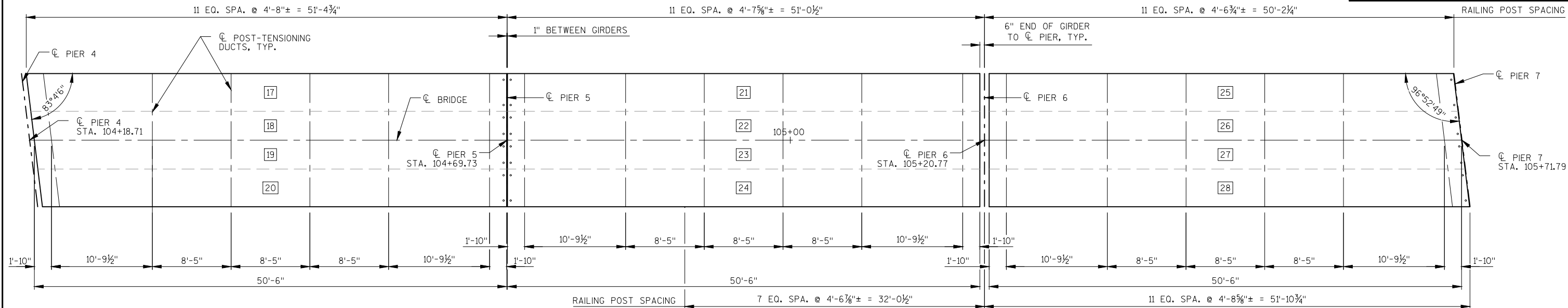
EACH BEAM SHALL BE MARKED SHOWING CASTING DATE AND INDIVIDUAL IDENTIFICATION NUMBERS. MARKINGS SHALL BE MADE ON THE TOP OF THE BEAM, NEAR THE END SO LOCATED THAT THEY WILL BE CLEARLY VISIBLE. ALL MARKINGS TO BE STENCILED AND BE CLEARLY LEGIBLE.

1 INDICATES GIRDER NUMBER, SEE SHEET 13 FOR GIRDER DATA TABLE.



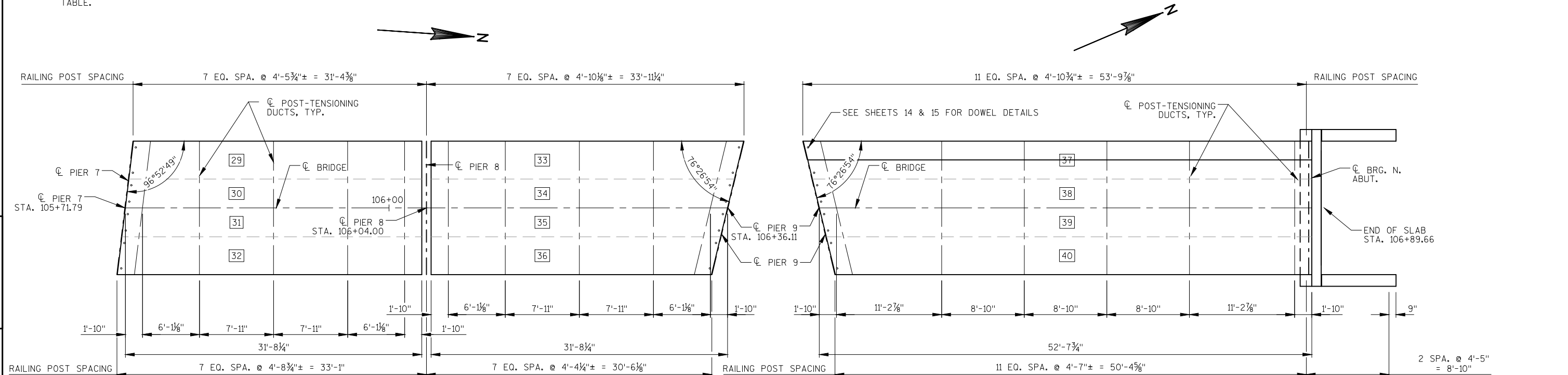
PLAN – SPANS 3 & 4

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-53-379			
DRAWN BY		TR	PLANS CK'D. PTB
DECK PLAN & GIRDER LAYOUT (1 OF 2)		SHEET 15 OF 20	

**NOTES**

EACH BEAM SHALL BE MARKED SHOWING CASTING DATE AND INDIVIDUAL IDENTIFICATION NUMBERS. MARKINGS SHALL BE MADE ON THE TOP OF THE BEAM, NEAR THE END SO LOCATED THAT THEY WILL BE CLEARLY VISIBLE. ALL MARKINGS TO BE STENCILED AND BE CLEARLY LEGIBLE.

1 INDICATES GIRDER NUMBER, SEE SHEET 13 FOR GIRDER DATA TABLE.

PLAN – SPANS 5, 6, & 7**PLAN – SPANS 8 & 9****PLAN – SPAN 10**

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-53-379			
DRAWN BY		TR	PLANS CK'D. PTB
DECK PLAN & GIRDER LAYOUT (2 OF 2)		SHEET 16 OF 20	

NOTES

BID ITEM SHALL BE "RAILING STEEL PEDESTRIAN SPECIAL B-53-379. WHICH SHALL INCLUDE ALL STEEL ITEMS SHOWN INCLUDING POSTS FOR LIGHTING. LIGHT FIXTURES, WIRING, CONDUIT, JUNCTION BOXES, AND ANY INCIDENTALS REQUIRED TO INSTALL LIGHTING SYSTEM IS INCLUDED IN ROADWAY QUANTITIES.

POST CONNECTION 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 CUTS.

ENDS OF STRUCTURAL SECTIONS AND TUBES SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.

ALL PLATES, AND SECTIONS 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 VERTICAL.

SEE DECK PLAN SHEETS FOR POST SPACING.

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

STEEL SHIMS SHALL BE PROVIDED & USED AT CONNECTION PLATE, WHERE REQUIRED FOR ALIGNMENT, AND SHALL BE GALVANIZED.

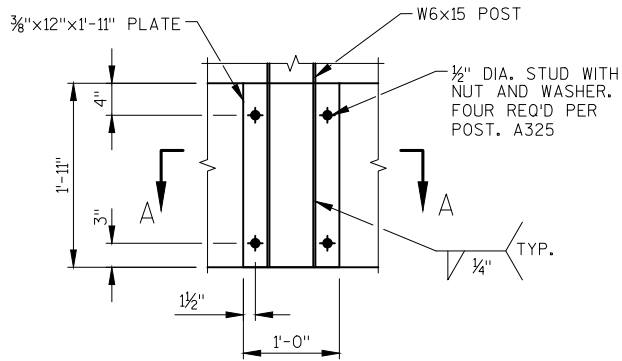
ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, THE STEEL RAILING SHALL BE GIVEN A No. 6 BLAST CLEANING PER SSPC SPECIFICATIONS.

PAINT OVER GALVANIZING WITH AN APPROVED TIE COAT AND TOP COAT AS SPECIFIED IN THE CONTRACT DOCUMENTS. THE RAILING SHALL BE PAINTED FEDERAL COLOR NO. : 27038 (BLACK).

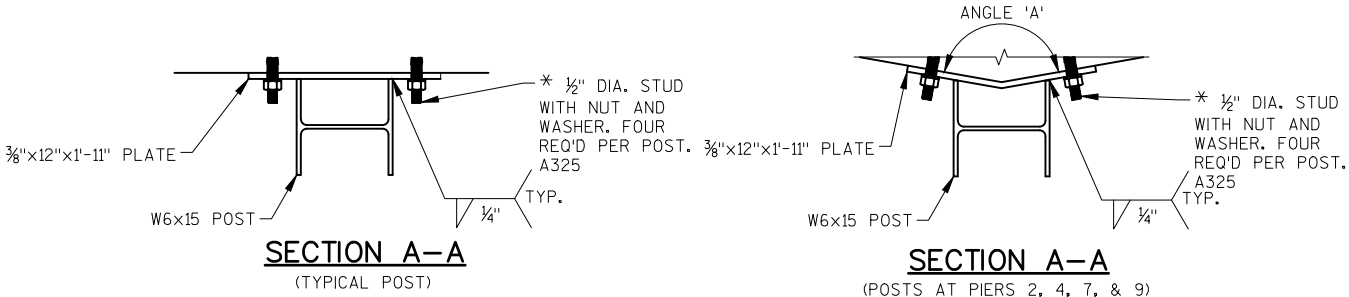
TOUCH-UP PAINTING TO BE DONE AT COMPLETION OF STEEL RAILING INSTALLATION TO THE SATISFACTION OF THE ENGINEER AT NO EXTRA COST.

LEGEND

- * POSTS AND RAIL CONNECTIONS SHALL HAVE HOLES SLOTTED 1/4" TO ALLOW FOR LONGITUDINAL BRIDGE MOVEMENT. BOLTS SHALL BE SNUG TIGHTENED.
- ** LIGHT POLES ARE LOCATED ON LEFT SIDE OF BRIDGE ONLY AT STATIONS 102+70, 103+01, 103+39, 103+80, 104+19, 104+57, 104+97, 105+34, 105+72, 106+17, & 106+58.
- *** ANCHORAGES FOR CONDUIT AND JUNCTION BOXES MUST BE LOCATED IN THE OUTER 3" OF THE BOX GIRDER WIDTH. SEE LIGHTING PLANS FOR DETAILS.



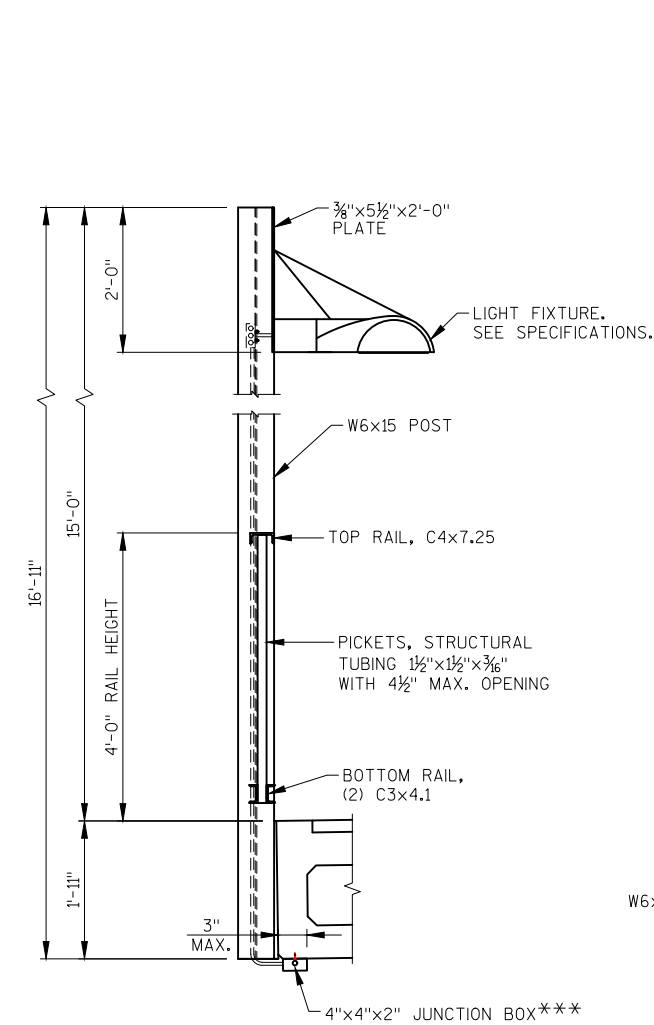
RAIL POST CONNECTION DETAIL



SECTION A-A

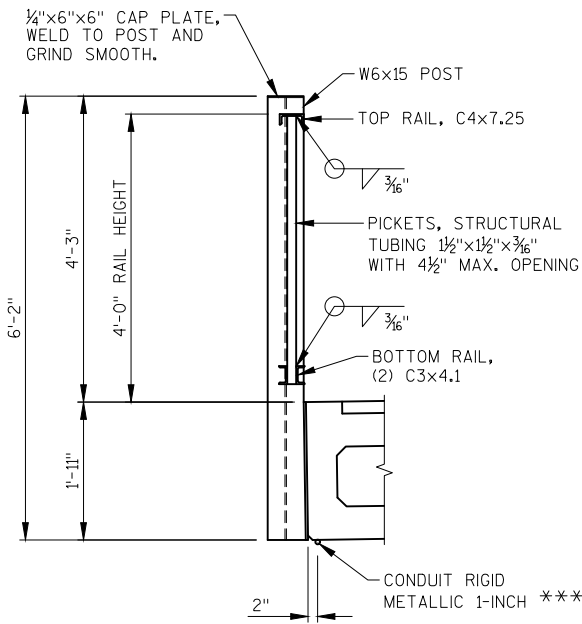
(POSTS AT PIERS 2, 4, 7, & 9)

ANGLE 'A'		
PIER NO.	LEFT	RIGHT
2	166° 08'	NA
4	166° 08'	NA
7	193° 46'	166° 14'
9	152° 54'	207° 06'

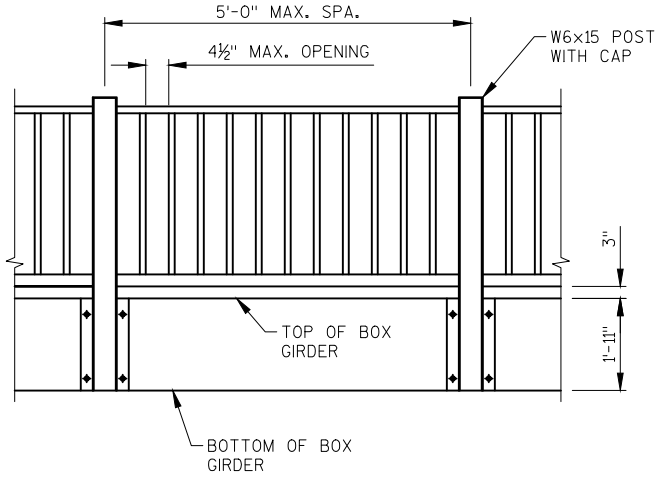


SECTION THROUGH RAILING

(AT LIGHT POLE**)

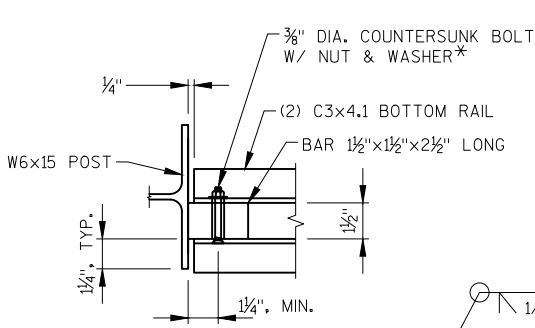


SECTION THROUGH RAILING

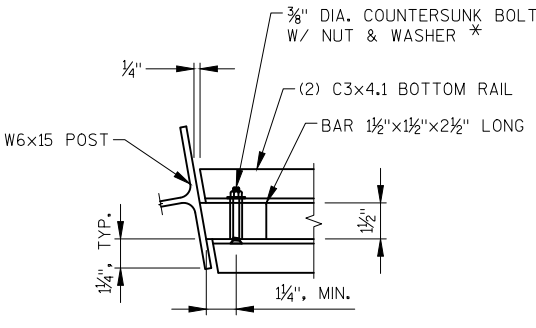


PARTIAL RAIL ELEVATION

(OUTSIDE VIEW)

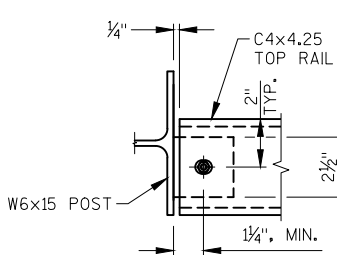


PLAN

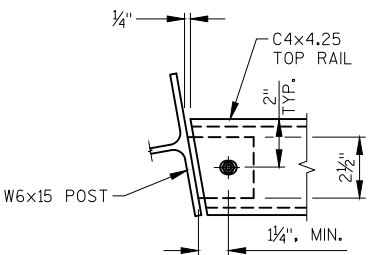


PLAN

(POSTS AT PIERS 2, 4, 7, & 9)

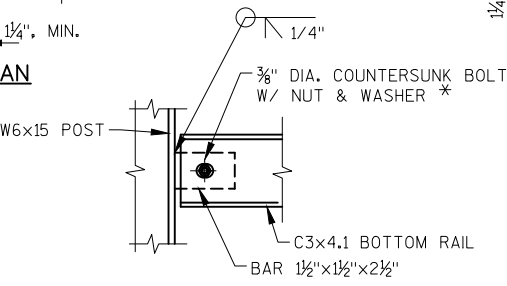


PLAN



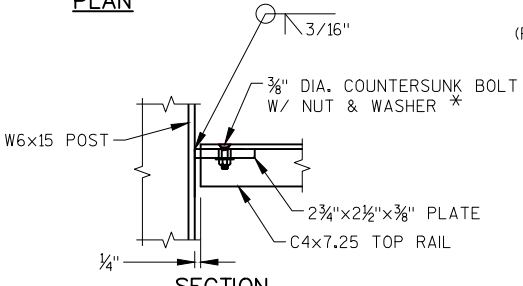
PLAN

(POSTS AT PIERS 2, 4, 7, & 9)



SECTION

BOTTOM RAIL TO POST CONNECTION



SECTION

TOP RAIL TO POST CONNECTION

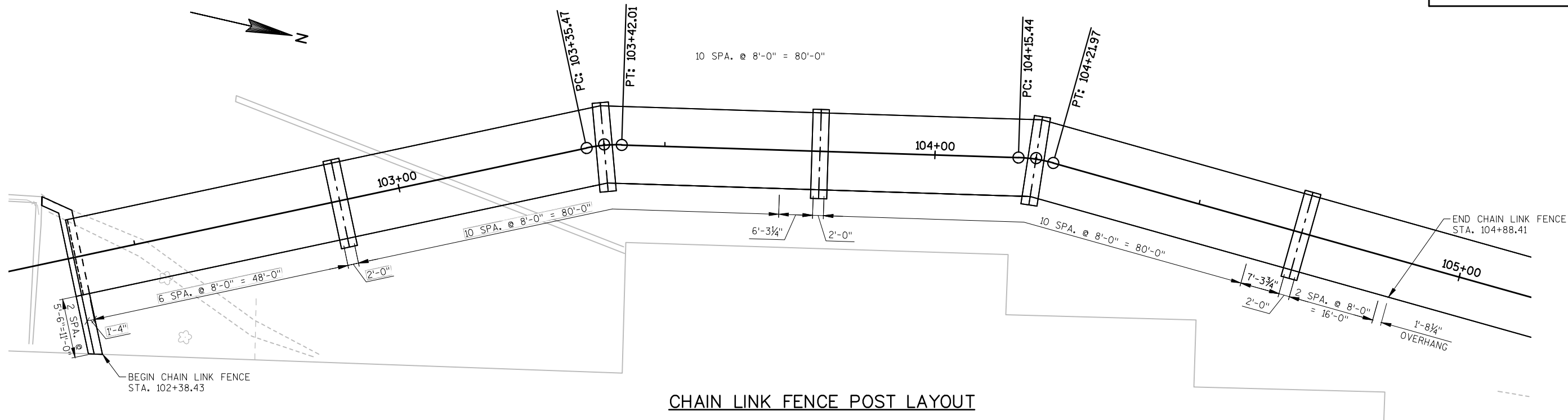
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-53-379			
DRAWN BY		TR	PLANS CK'D. PTB
RAILING DETAILS			SHEET 17 OF 20

SEE NOTES ON PREVIOUS SHEET.

 CAULK AROUND PERIMETER OF BASE PLATES AND FILL BOLT SLOT OPENINGS IN SHIMS AND BASE PLATES WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-53-379			
DRAWN BY		TR	PLANS CK'D.
WINGWALL RAILING DETAILS		SHEET 18 OF 20	



CHAIN LINK FENCE POST LAYOUT

NOTES:

SEE NEXT SHEET FOR ADDITIONAL CHAIN LINK FENCE DETAILS.

POSTS ARE TO BE SET VERTICAL

ALL FENCE COMPONENTS SHALL BE GALVANIZED STEEL, EXCEPT THE FENCE FABRIC WHICH MAY BE ALUMINUM - COATED STEEL OR GALVANIZED STEEL

FABRIC SHALL CONFORM TO ASTM A491 OR A392, CLASS 2, STEEL RAILS, POSTS AND POST SLEEVES SHALL CONFORM TO ASTM F1083, STANDARD WEIGHT PIPE (SCHEDULE 40), FITTINGS SHALL CONFORM TO ASTM F626.

THE BID ITEM SHALL BE "FENCE CHAIN LINK 4-FT B-53-379", LF.

COMPLETE ANY REQUIRED WELDING OF COMPONENTS BEFORE GALVANIZING.

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.

ANCHOR PLATES SHALL BE ASTM A709.

ALL POST SPACING ARE MEASURED HORIZONTALLY ALONG THE C/L OF THE POST.

CAULK AROUND PERIMETER BOLTS AT CONNECTION TO BOX GIRDER.

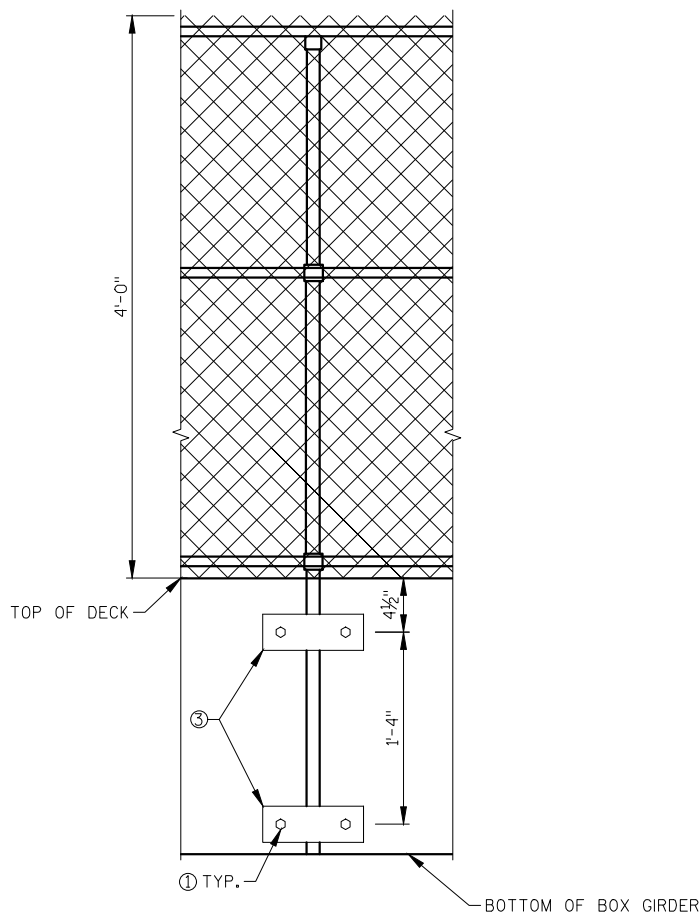
ATTACH FABRIC TO RAILS AND TO POSTS WITHOUT TENSION BANDS, WITH TIE WIRES (ROUND, 9-GAGUGE) SPACED AT 1'-0"

BOLT RAIL TO RAIL END TO SECURE OVERHANG SECTION. ALTERNATE IS TO WELD RAIL DIRECTLY TO END POST.

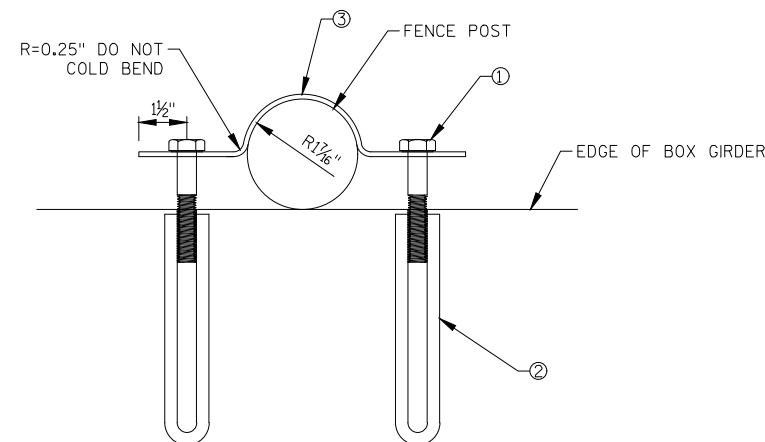
MINIMUM LENGTH OF TOP RAIL BETWEEN SPLICES SHALL BE 20'-0" LOCATE SPLICES NEAR ¼ POINT OF POST SPACING.

LEGEND

- ① ½" DIA. GRADE 5 BOLT - FOUR REQ'D. PER POST
② 4,800 LBS STRAIGHT LOOP FERRULE INSERT OR EQUIVALENT
③ ¼" X 3" X 10" PLATE WITH 2 - ⅝" DIA. HOLES

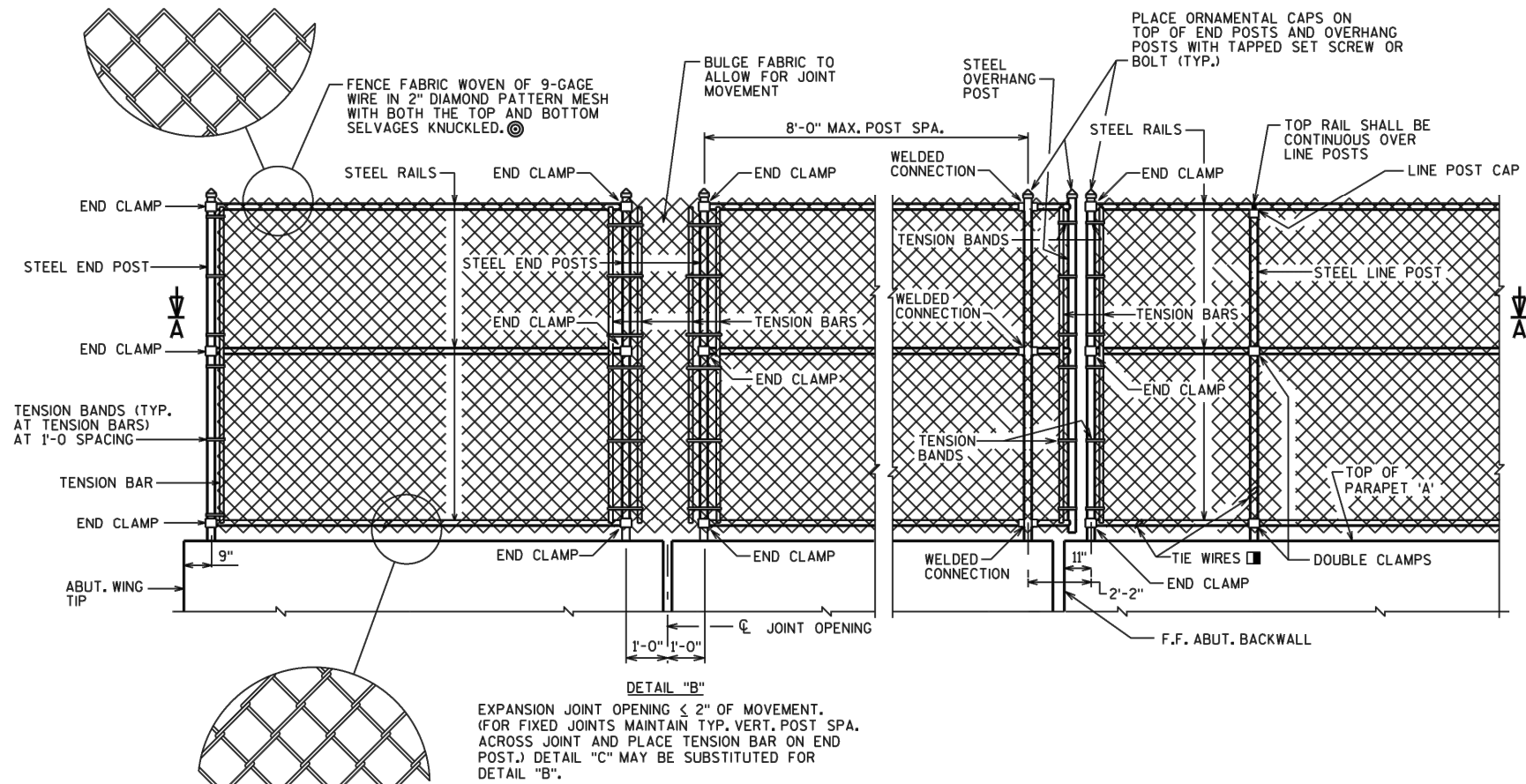


FENCE PART ELEVATION – OUTSIDE VIEW

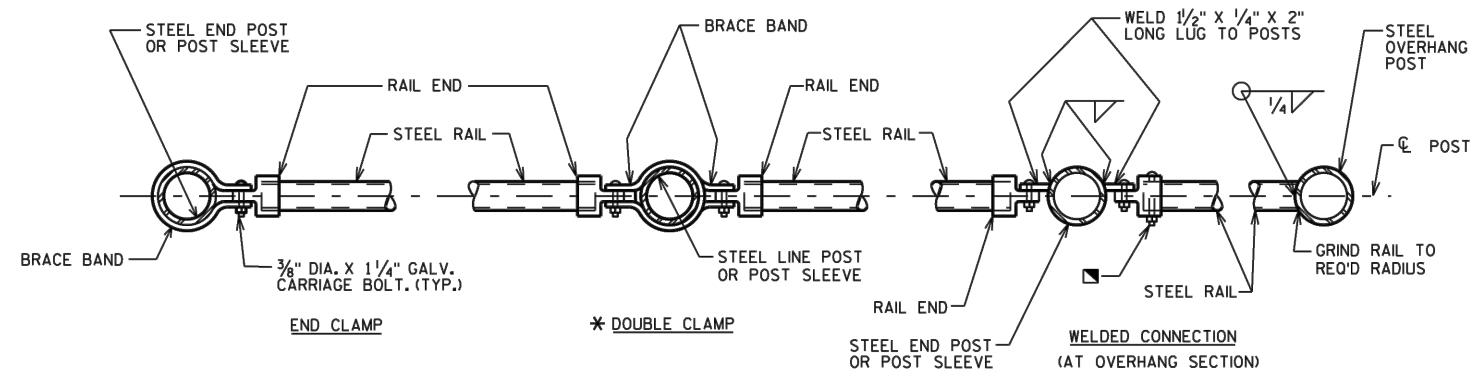


POST ATTACHMENT DETAIL

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-53-379			
DRAWN BY RBH		PLANS CK'D. PTB	
CHAIN LINK FENCE DETAILS (1 OF 2)		SHEET 19 OF 20	



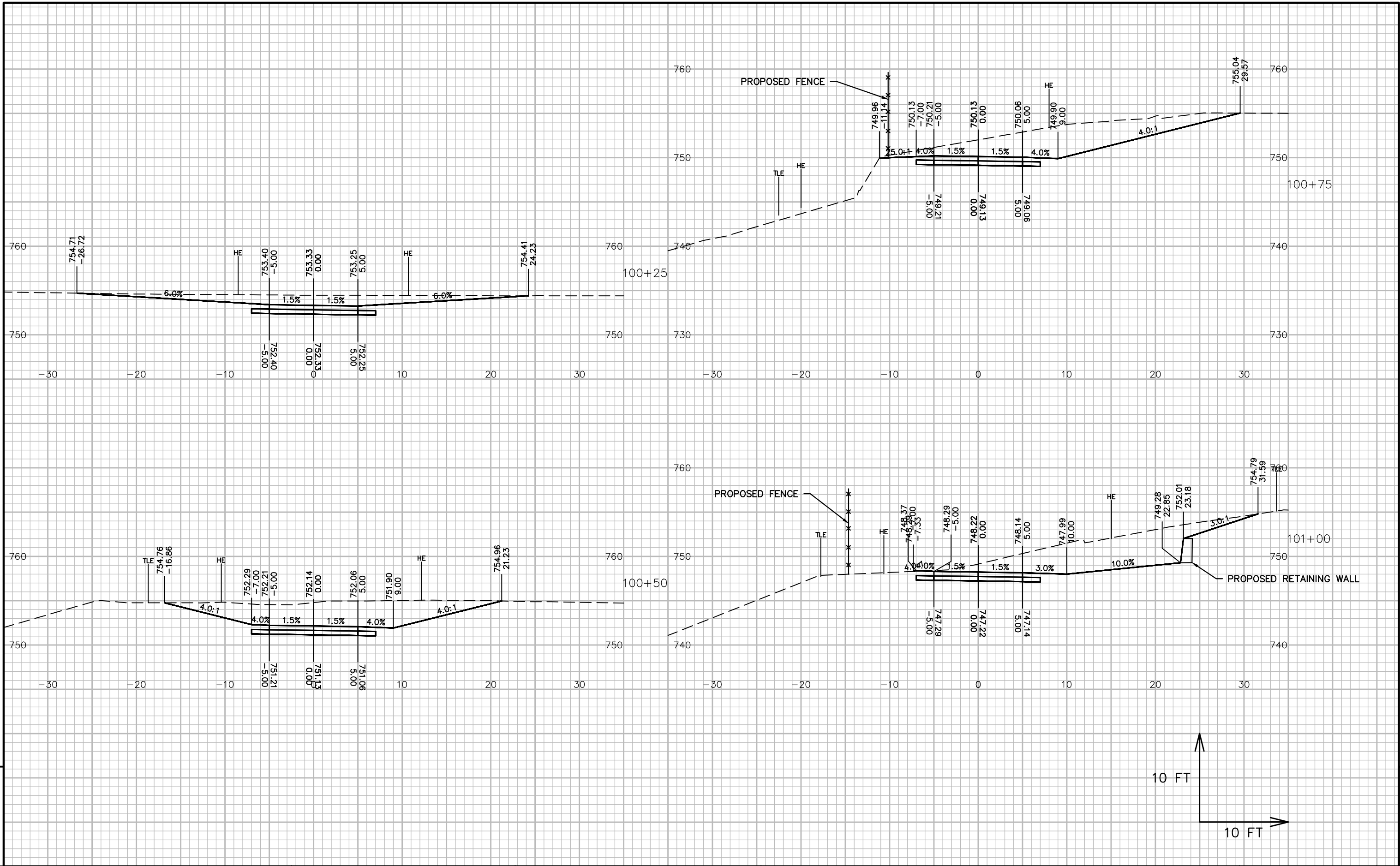
FENCE PART ELEVATION

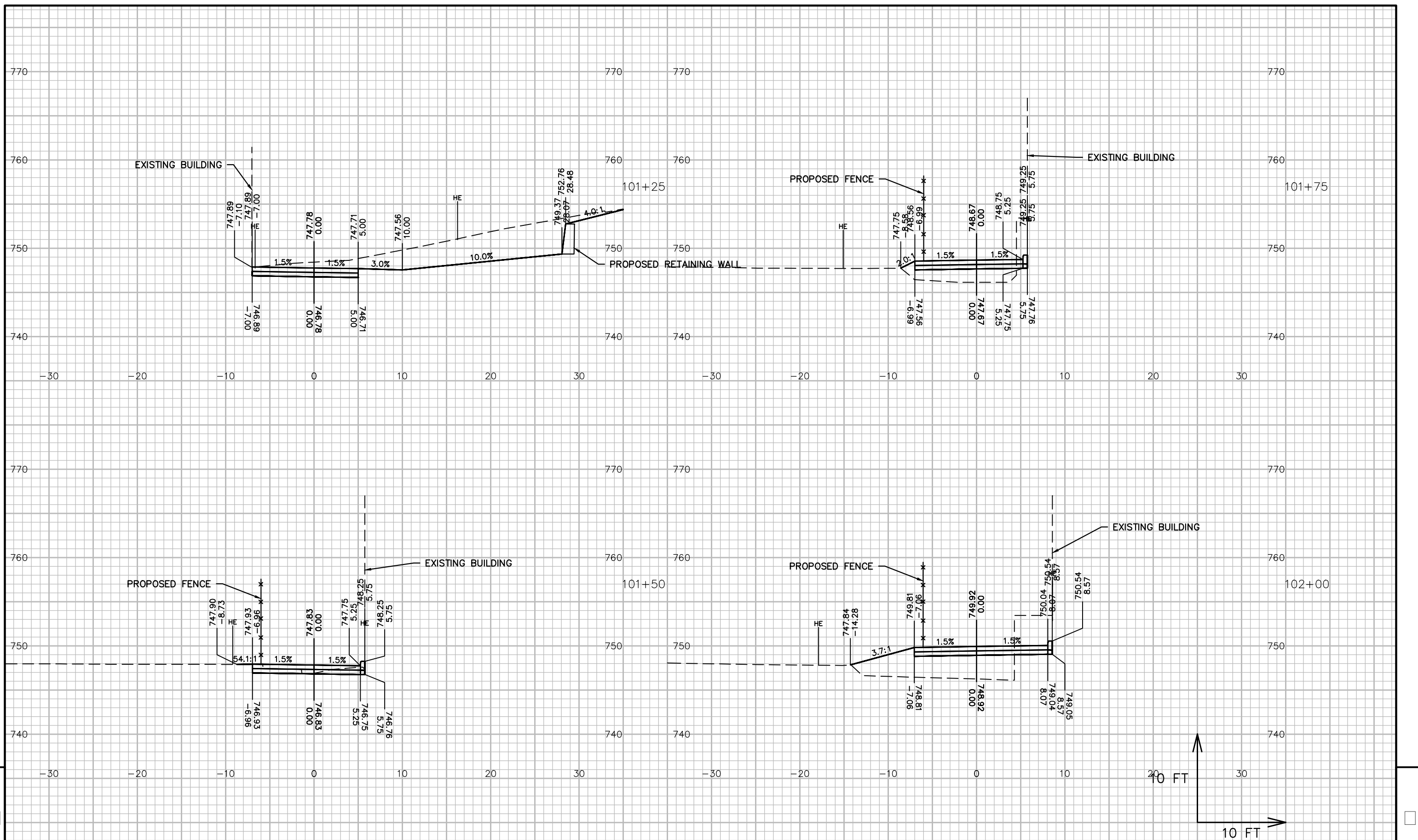


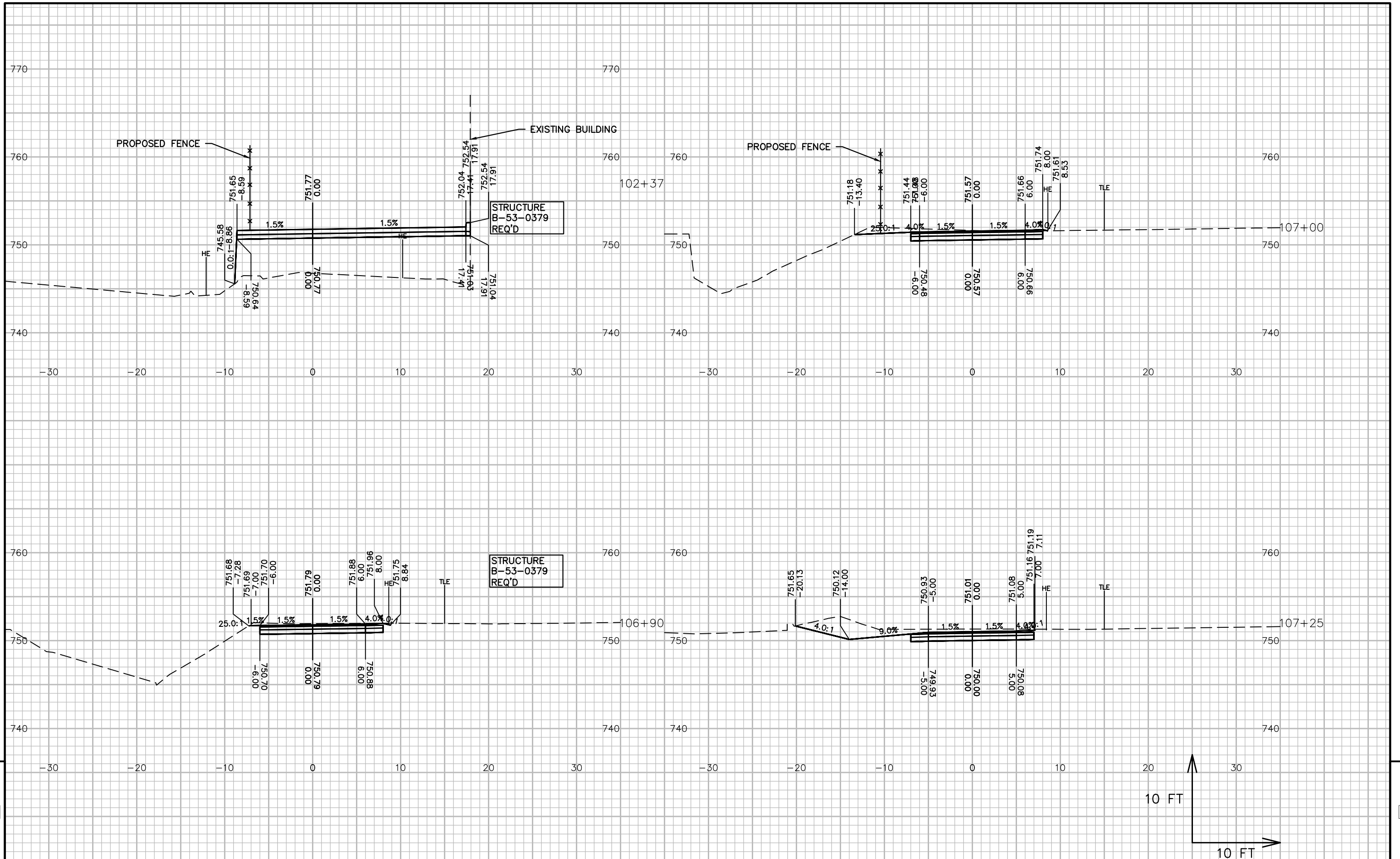
SECTION A-A

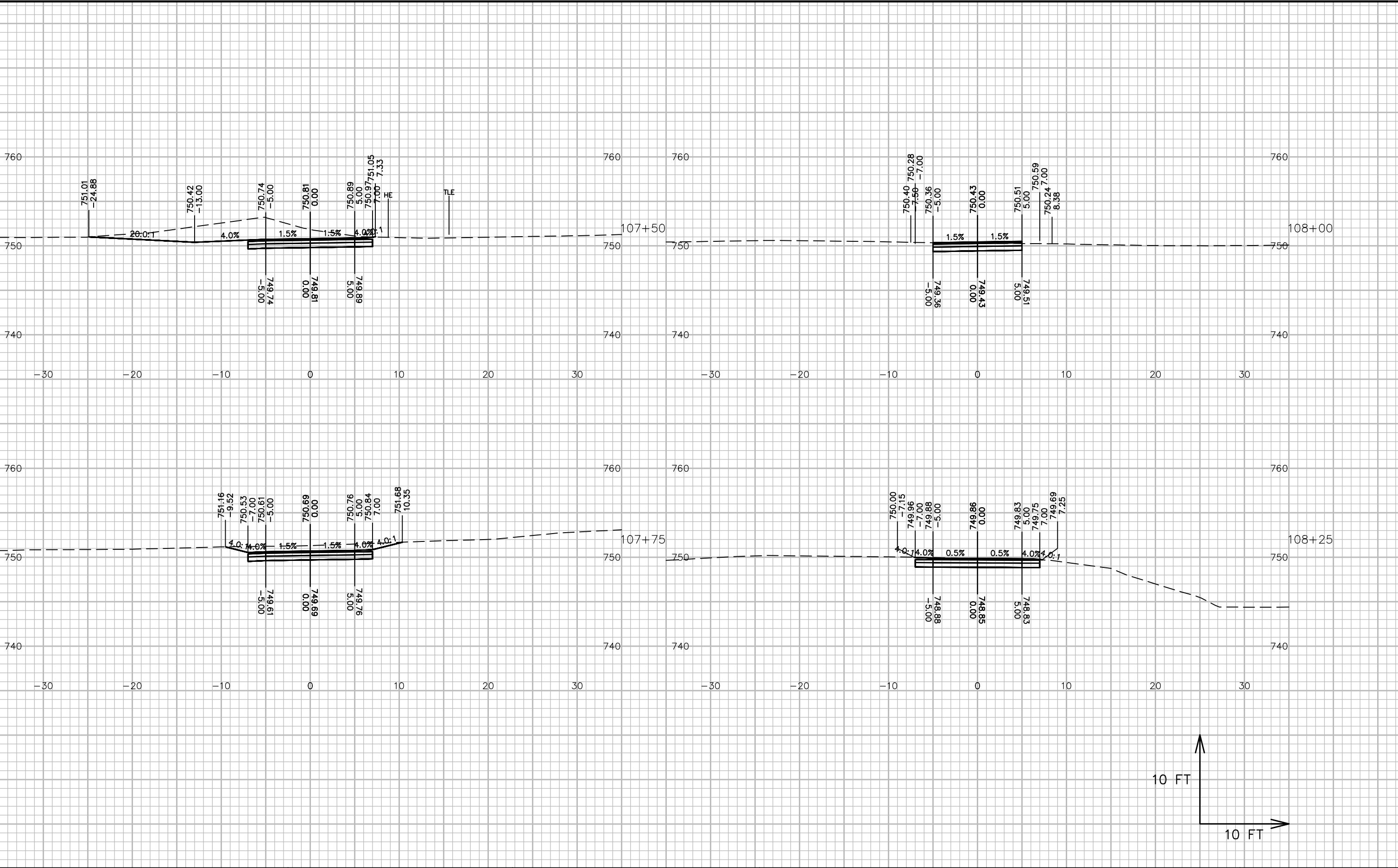
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-53-379			
DRAWN BY		RBH	PLANS CK'D. PTB
CHAIN LINK FENCE DETAILS (2 OF 2)		SHEET 20 OF 20	

Riverwalk (100+10 - 108+36)															
STATION	Real Station	Distance	AREA (SF)				Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)				
			Cut	Salvaged/Unusable Pavement Material	Fill	EBS	Cut	Salvaged/Unusable Pavement Material	Fill	EBS	Cut 1.00	Expanded Fill 1.25	Expanded EBS Backfill 1.30	Reduced EBS in Fill 0.80	Mass Ordinate
							Note 1	Note 2	Note 3		Note 1		Note 5	Note 7	Note 8
100+10	10010.00	0.00	9.96	0.00	0.00	0.00	0	0	0	0	0	0	0	0	0
100+25	10025.00	15.00	47.46	11.11	0.05	2.50	16	3	0	1	16	0	1	1	12
100+50	10050.00	25.00	88.36	0.00	0.00	2.50	63	5	0	2	79	0	4	2	68
100+75	10075.00	25.00	81.23	5.35	2.82	2.50	79	2	1	2	157	2	7	4	141
101+00	10100.00	25.00	95.17	5.35	0.00	2.50	82	5	1	2	239	3	10	6	214
101+25	10125.00	25.00	90.97	5.35	0.00	0.00	86	5	0	1	325	3	11	7	294
101+50	10150.00	25.00	7.19	5.35	0.11	0.00	45	5	0	0	371	3	11	7	335
101+75	10175.00	25.00	6.69	0.00	21.31	0.00	6	2	10	0	377	16	11	7	326
102+00	10200.00	25.00	18.63	0.00	48.78	0.00	12	0	32	0	389	56	11	7	297
102+25	10225.00	25.00	0.00	0.00	92.93	0.00	9	0	66	0	397	138	11	7	224
102+37	10237.00	12.00	0.02	0.00	119.71	0.00	0	0	47	0	397	197	11	7	165
106+90	10690.00	0.00	25.69	0.00	0.00	0.00	0	0	0	0	397	197	11	7	165
107+00	10700.00	10.00	22.54	0.00	0.28	2.50	9	0	0	0	406	197	12	7	173
107+25	10725.00	25.00	42.28	0.00	0.00	2.50	30	0	0	2	436	198	15	9	201
107+50	10750.00	25.00	75.06	3.09	0.00	2.50	54	1	0	2	491	198	18	11	252
107+75	10775.00	25.00	39.94	3.09	0.00	2.50	53	3	0	2	544	198	21	13	301
108+00	10800.00	25.00	45.69	3.09	0.00	2.50	40	3	0	2	584	198	24	15	336
108+25	10825.00	25.00	13.01	3.09	0.01	2.50	27	3	0	2	611	198	27	17	358
108+36	10836.00	11.00	9.65	3.09	0.00	0.00	5	1	0	1	615	198	28	17	361
							615	39	158	21					









PROJECT NO:5989-05-26

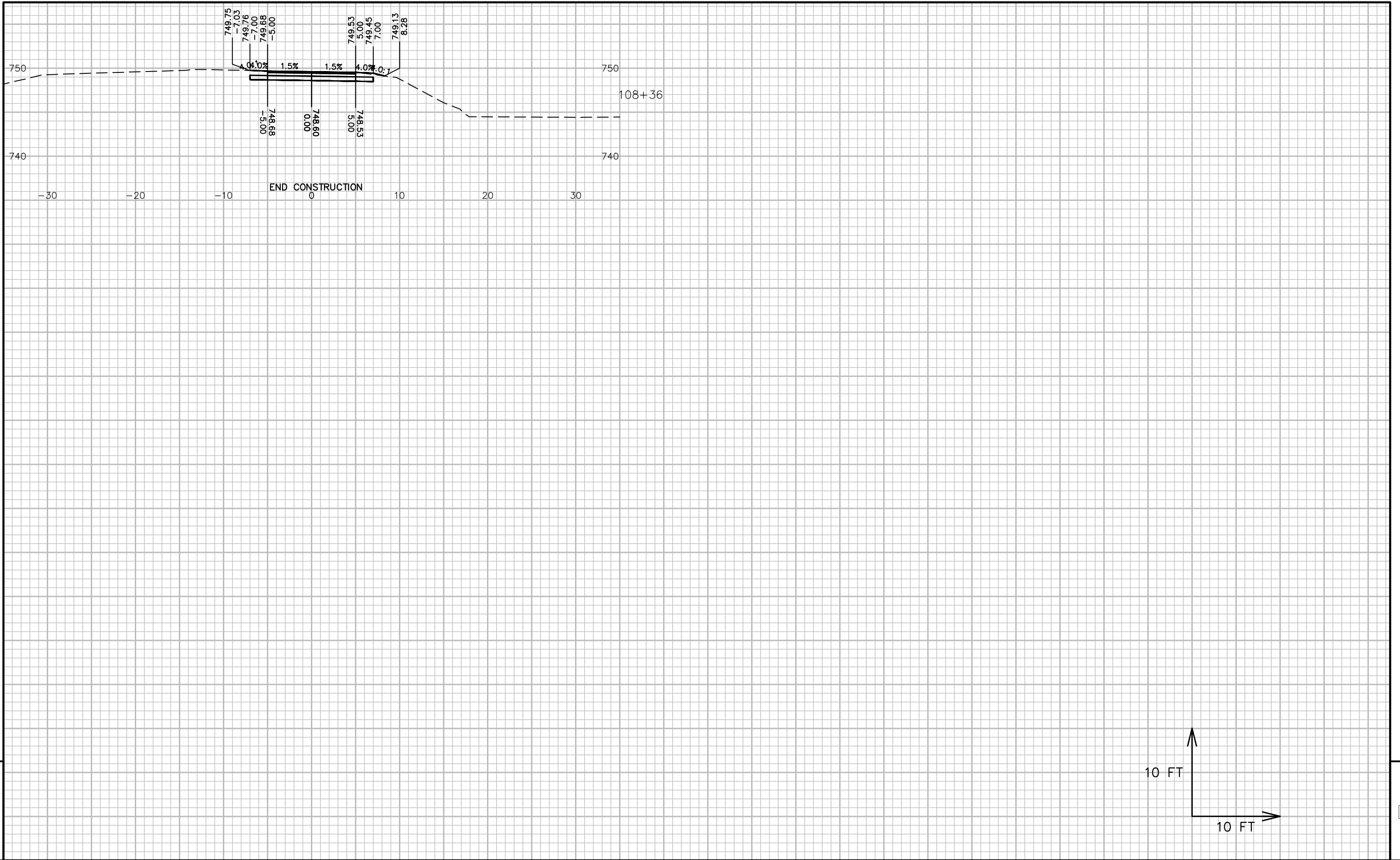
HWY:NON HWY

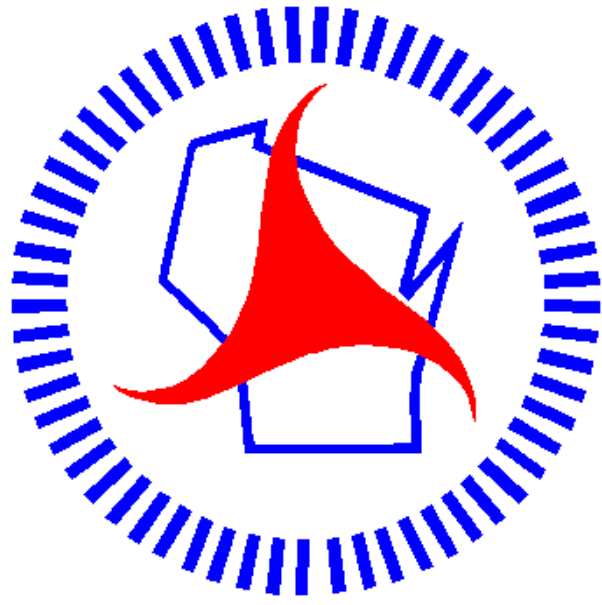
COUNTY:ROCK

CROSS SECTIONS: RIVERWALK

SHEET

E





Wisconsin Department of Transportation

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