GRE

MARCH 2018

PROJECT ID: 4321-03-71

WITH: N/A

COUNTY: MANITOWOC

ORDER OF SHEETS

TOTAL SHEETS = 84

31

DESIGN DESIGNATION

A.A.D.T.	(2018)	= 500
A.A.D.T.	(2038)	= 550
D.H.V.		= 3.5
D.D.		= 60/40
T.		= 4.1%
DESIGN SPEED		= 30 MPH
ESALS		= 52,000

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

UTILITIES

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

V REEDSVILLE, 4TH STREET

MUD CREEK BRIDGE

LOC STR

MANITOWOC COUNTY

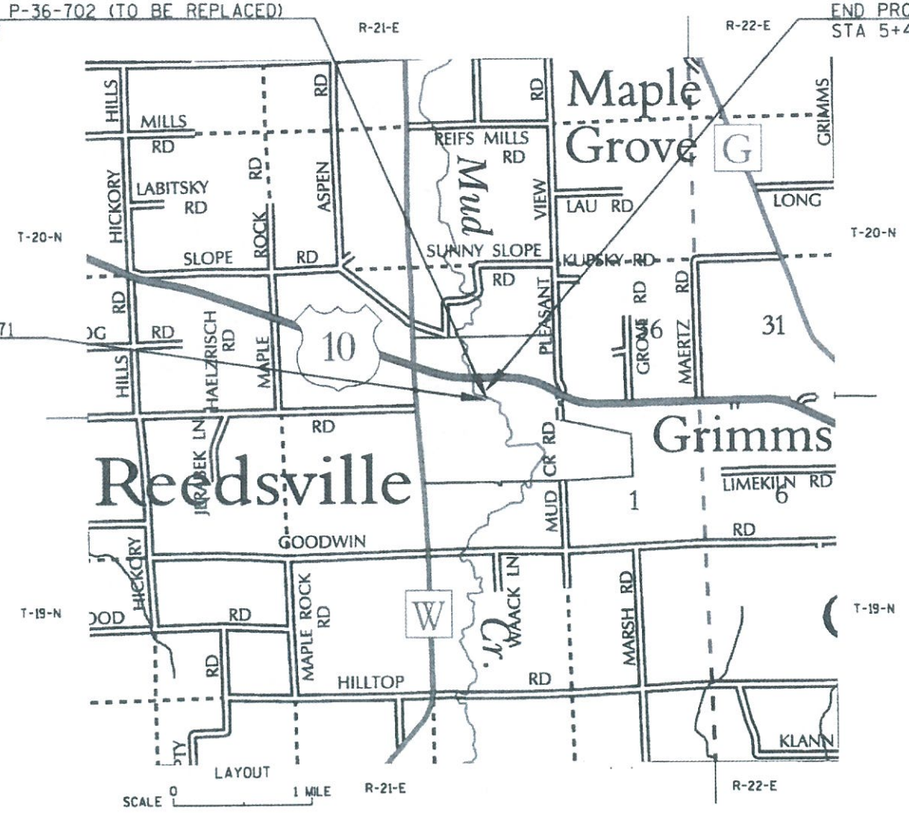
STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4321-03-71		

STATE PROJECT NUMBER
4321-03-71

EXISTING STRUCTURE P-36-702 (TO BE REPLACED)
STRUCTURE B-36-217

BEGIN PROJECT 4321-03-71
STA 3+45.00
Y = 323,832.032
X = 155,980.068

END PROJECT 4321-03-71
STA 5+45.00



TOTAL NET LENGTH OF CENTERLINE = 0.038 MILES

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COORDINATES REFERENCE SYSTEM (WISCRS), MANITOWOC COUNTY, NAD 83 (2011).

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO NAVD 88.

ACCEPTED FOR COUNTY OF MANITOWOC
DATE: 1/22/18
HIGHWAY COMMISSIONER

ORIGINAL PLANS PREPARED BY
AECOM

WISCONSIN
MICHELLE A. HOWE
E-43048
MADISON
WI
PROFESSIONAL ENGINEER

11/21/17 (Date) Michelle Howe (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	MIKE GONNERING
Designer	AECOM
Management Consultant	JT ENGINEERING, INC.

APPROVED FOR THE DEPARTMENT
DATE: 1/22/18 (Management Consultant Signature)

E

FILE NAME : P:\60479034\900_WORK\910-CAD\43210370\SHEETSPLAN\010101_TI.DWG
LAYOUT NAME - ****

PLOT DATE : 10/26/2017 3:25 PM

PLOT BY : SCHNEIDER, MICHAEL PLOT NAME :

WISDOT/CADDS SHEET 10

2

GENERAL NOTES

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

BE AWARE THAT ALL EXISTING UNDERGROUND AND ABOVE GROUND STRUCTURES AND FACILITIES WITHIN THE SCOPE OF THIS PROJECT MAY NOT BE LOCATED IN THE PLANS. THE CONTRACTOR IS FULLY RESPONSIBLE FOR HAVING THE UTILITIES LOCATED AND AVOIDING ALL UNDERGROUND AND ABOVE GROUND STRUCTURES AND FACILITIES.

RADII, ELEVATIONS, AND DIMENSIONS ARE GIVEN AT THE PAVEMENT EDGES, UNLESS OTHERWISE NOTED IN THE PLANS.

ADJUST TRAFFIC CONTROL DEVICE LOCATIONS TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

EROSION CONTROL ITEMS SHOWN IN THE MISCELLANEOUS QUANTITIES ARE AT SUGGESTED LOCATIONS. THE ENGINEER MAY MODIFY LOCATIONS TO FIT FIELD CONDITIONS.

WETLANDS, WATERWAYS, AND OTHER ENVIRONMENTALLY SENSITIVE AREAS SHALL BE PROTECTED AT ALL TIMES. DO NOT STORE EQUIPMENT OR MATERIALS NEAR THESE SITES UNLESS APPROVED BY THE ENGINEER.

THE ASPHALTIC SURFACE WEIGHT CALCULATIONS ARE BASED ON A UNIT WEIGHT OF 110 LBS/SY/IN OF DEPTH.

THE BASE AGGREGATE DENSE (BAD) 1 1/4-INCH WEIGHT CALCULATIONS ARE BASED ON A UNIT WEIGHT OF 2.0 TONS/CY.

DO NOT APPLY FERTILIZER WITHIN 20 FEET OF MUD CREEK.

DETAIL SHEET INDEX

UTILITIES

CHARTER COMMUNICATIONS
VINCE ALBIN
3520 DESTINATION DR
APPLETON, WI 54915
PHONE: (920) 378-0444
vince.albin@charter.com

VILLAGE OF REEDSVILLE
ROBERT MICHAELSON, MPU
1303 S. 8TH ST
MANITOWOC, WI 54220
PHONE: (920) 374-0959
rmichaelson@mpu.org

FRONTIER COMMUNICATIONS
RYAN OSNESS
118 DIVISION STREET
PLYMOUTH, WI 52073
PHONE: (920) 246-3530
ryan.d.osness@ftr.com

WPS GAS
KEVIN KOLB
933 S WILDWOOD AVE
SHEBOYGAN, WI 53081
PHONE: (920) 946-1958
kckolb@wisconsinpublicservice.com

WPS ELECTRIC
CURT BRADLEY
800 COLUMBUS ST
TWO RIVERS, WI 54241
PHONE: (920) 639-5866
cmbradley@wisconsinpublicservice.com

ABBREVIATIONS

AP	ACCESS POINT/ DRIVEWAY CONNECTION
AR	ACCESS RIGHTS
AC.	ACRES
ET.AL.	AND OTHERS
℄ OR C/L	CENTERLINE
CMCP	CORRUGATED METAL CULVERT PIPE
CSM	CERTIFIED SURVEY MAP
COR.	CORNER
D	DEGREE OF CURVE
D.D.	DIRECTION DISTRIBUTION
D.H.V.	DESIGN HOUR VOLUME
DOC.	DOCUMENT
E.	EAST
EASE.	EASEMENT
EL OR ELEV	ELEVATION
E.S.A.L.	EQUIVALENT SINGLE AXLE LOAD
EXIST.	EXISTING
H.E.	HIGHWAY EASEMENT
IP OR I.P.	IRON PIN
L	LENGTH OF CURVE
LN	LANE
LT. OR LT	LEFT
MIN.	MINIMUM

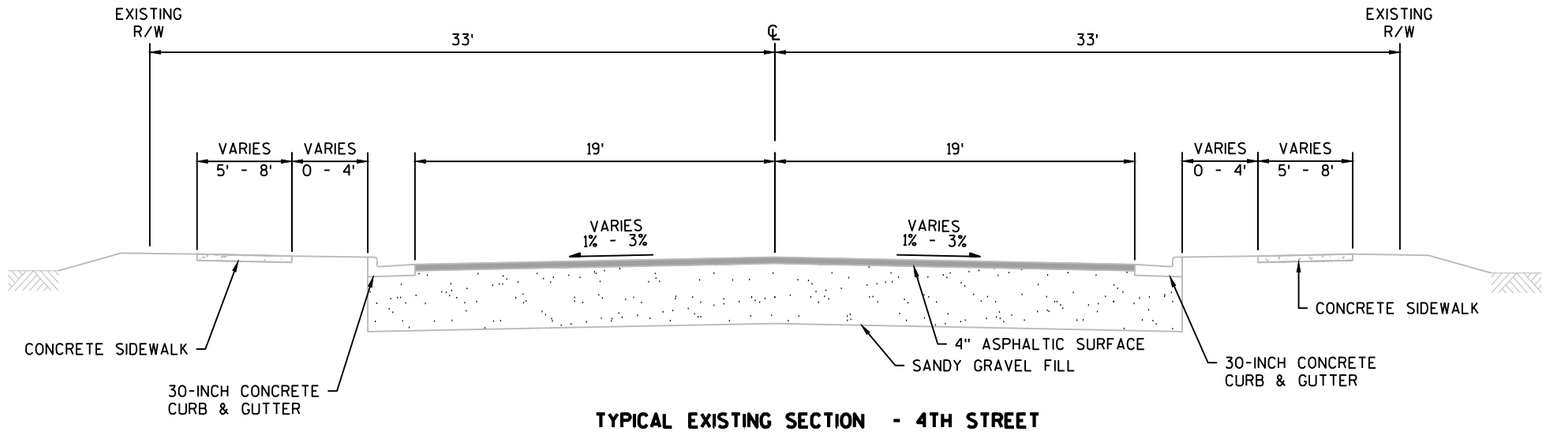
ABBREVIATIONS CONT.

MON.	MONUMENT
MP	ROADWAY MILEAGE
N.	NORTH
NOR.	NORMAL
O.C.	ON CENTER
P.	PAGE
PLE	PERMANENT LIMITED EASEMENT
PL	PROPERTY LINE
RCCP	REINFORCED CONCRETE CULVERT PIPE
(100')	RECORDED AS
R	RADIUS
ℜ OR R/L	REFERENCE LINE
ROR	RELEASE OF RIGHTS
REM.	REMAINING
RT OR RT.	RIGHT
R/W	RIGHT-OF-WAY
S.	SOUTH
S.E.	SUPEREVELVATION
SEC.	SECTION
SF	SQUARE FEET
STA.	STATION
T	TANGENT
TLE	TEMPORARY LIMITED EASEMENT
T. %	TRUCK (PERCENT OF)
V.	VOLUME

WISDNR

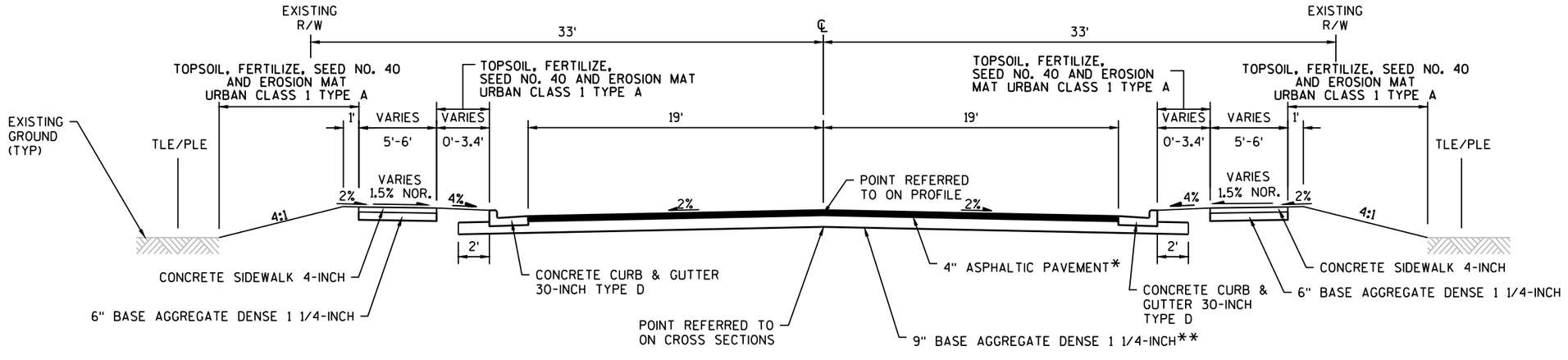
WISCONSIN DEPARTMENT OF NATURAL RESOURCES
NORTHERN REGION HQ
MATT SCHAEVE
2984 SHAWANO AVENUE
GREEN BAY, WI 54313
PHONE: (920) 366-1544
matthew.schaeve@wisconsin.gov

2



TYPICAL EXISTING SECTION - 4TH STREET

STA 3+45 - STA 3+57
STA 3+85 - STA 5+45



TYPICAL FINISHED SECTION - 4TH STREET

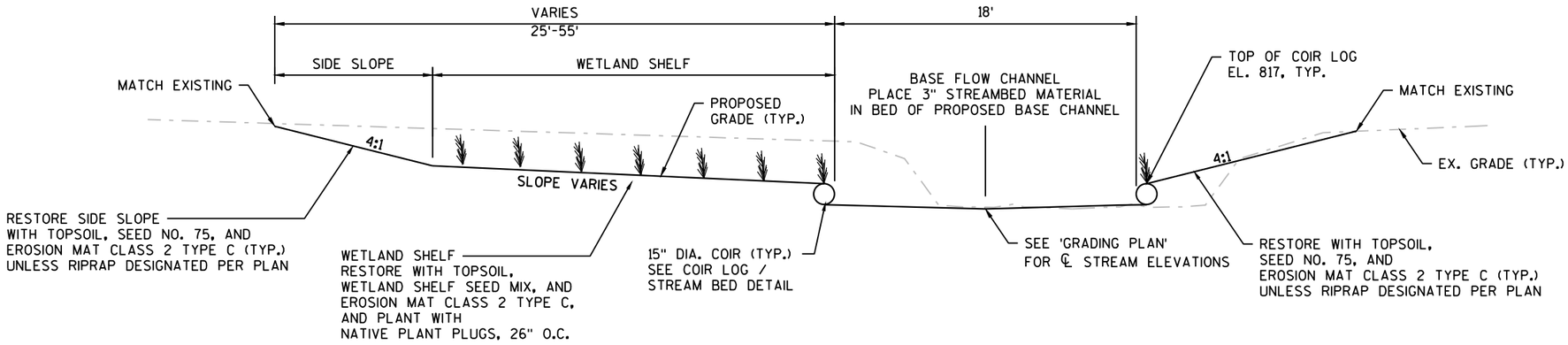
STA 3+45 - STA 3+97
STA 4+34 - STA 5+45

* ASPHALTIC PAVEMENT IS TO BE PLACED IN TWO LIFTS, USE
1.75-INCH ASPHALTIC SURFACE (UPPER LAYER)
2.25-INCH ASPHALTIC SURFACE (LOWER LAYER)

** CONCRETE PAVEMENT APPROACH SLAB
OVER 6" BASE AGGREGATE DENSE 1 1/4-INCH
STA. 3+76 - STA 3+97
STA. 4+34 - STA 4+55

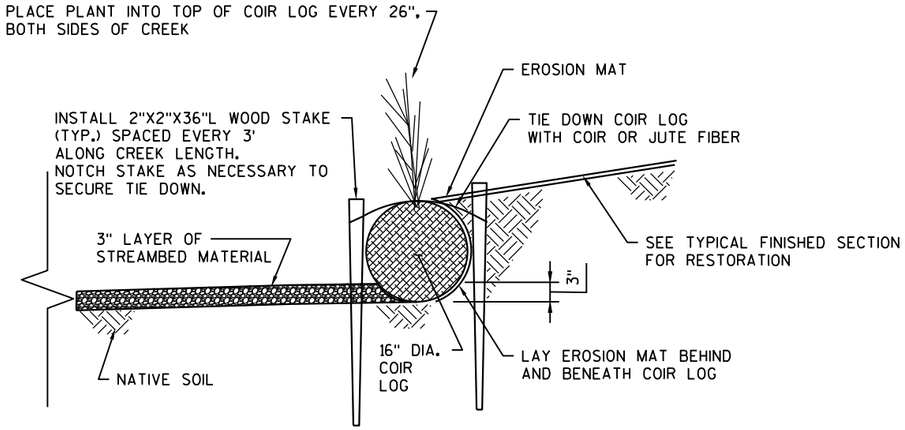
PROJECT NO: 4321-03-71	HWY: 4TH STREET	COUNTY: MANITOWOC	TYPICAL SECTION	SHEET 3	E

2

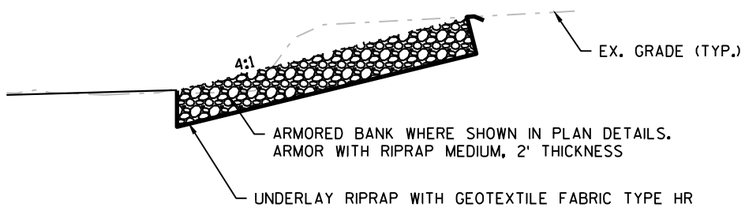


TYPICAL FINISHED SECTION - MUD CREEK

SECTION A-A (SEE GRADING PLAN)



COIR LOG / STREAM BED DETAIL - MUD CREEK

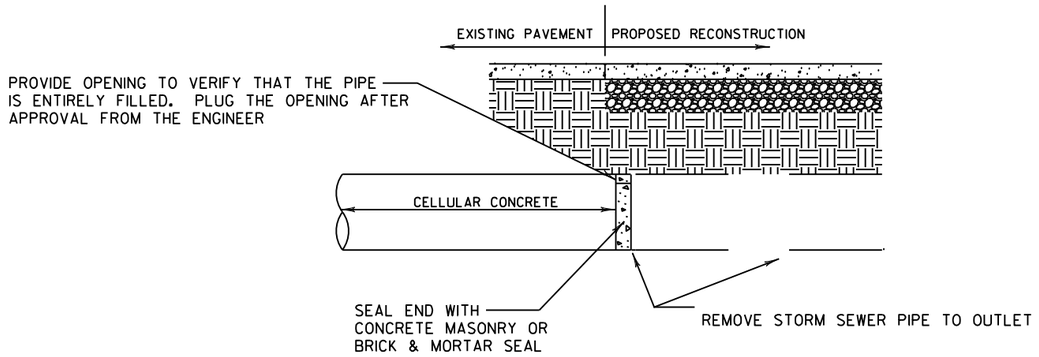


TYPICAL FINISHED SECTION - MUD CREEK

SECTION B-B (SEE GRADING PLAN)

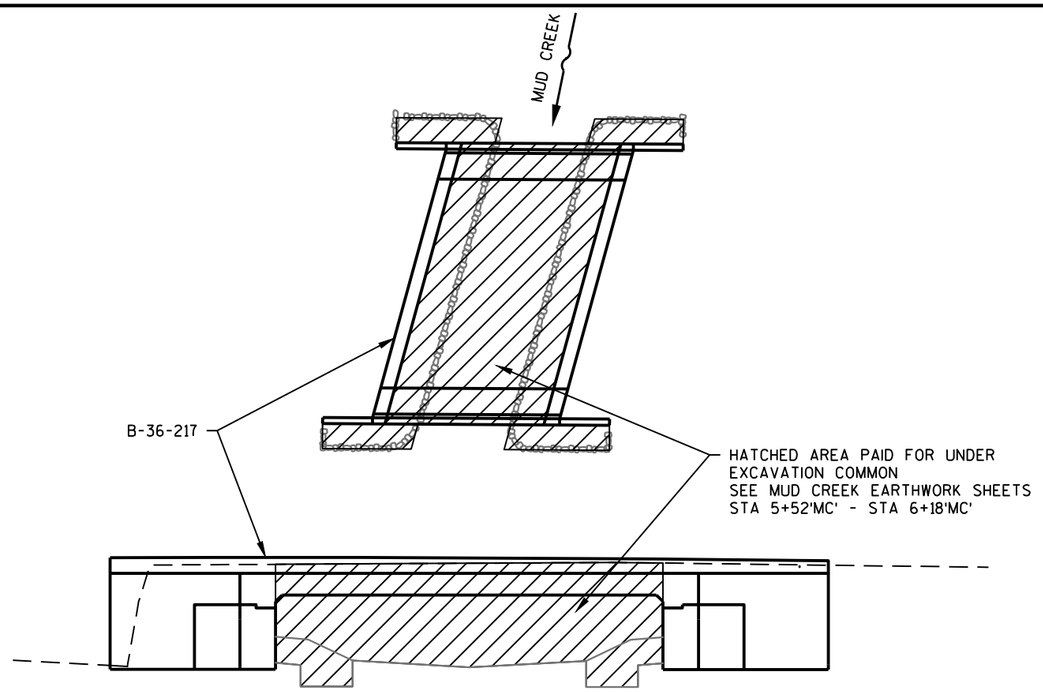
PROJECT NO: 4321-03-71	HWY: 4TH STREET	COUNTY: MANITOWOC	TYPICAL SECTION	SHEET 4	E

FILE NAME : P:\60479034\900_WORK\910-CAD\43210370\SHEETSPLAN\020301_TS.DWG
LAYOUT NAME - ****
PLOT DATE : 1/22/2018 4:23 PM PLOT BY : SCHNEIDER, MICHAEL PLOT NAME : PLOT SCALE : Custom
WISDOT/CADDS SHEET 42

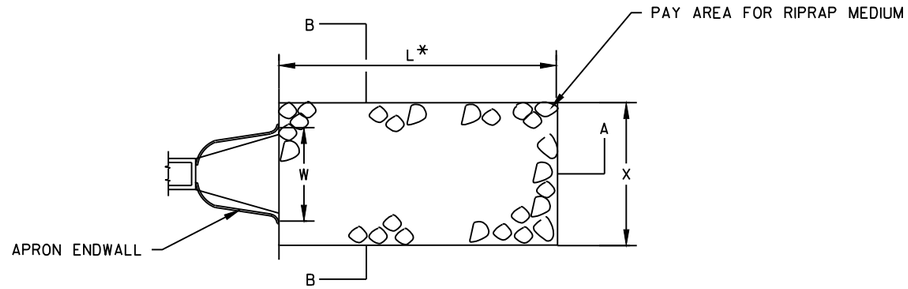


ABANDONING CULVERT PIPES DETAIL

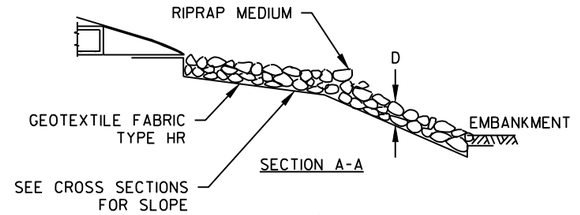
(SEE STORM SEWER PLANS FOR LOCATIONS)



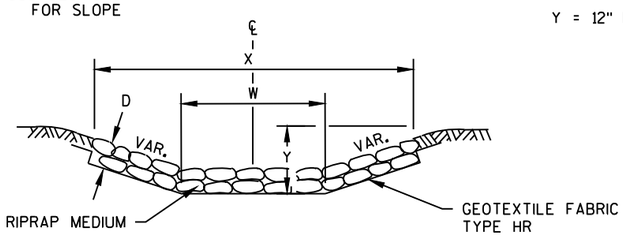
DETAIL OF EXCAVATION COMMON LIMITS AT B-36-217



PLAN VIEW



SECTION A-A



SECTION B-B

L^* = 3 x W (NOR.) OR 10' MIN. OR AS INDICATED IN THE PLANS OR AS DIRECTED BY THE ENGINEER.

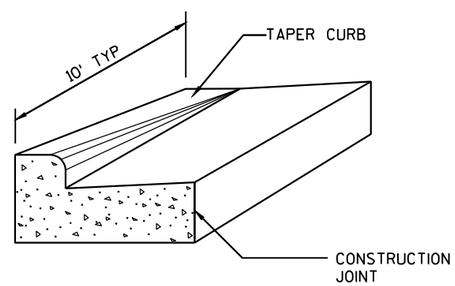
D = 18" FOR RIPRAP MEDIUM

X = W+5' FOR CULVERT DISCHARGE DOWN EMBANKMENT SLOPE

Y = 12" FOR CULVERT DISCHARGE DOWN EMBANKMENT SLOPE

RIPRAP MEDIUM AND GEOTEXTILE FABRIC DETAIL AT APRON ENDWALLS

(SEE STORM SEWER PLAN FOR LOCATIONS)



DETAIL OF DEPRESSED CURB & GUTTER

MILL STREET

PROPOSED SIDE SLOPES NOT RECEIVING WETLAND SHELF PLANTING OR ARMORING SHALL BE STABILIZED WITH TOPSOIL, SEED NO. 75, AND EROSION MAT URBAN CLASS 2 TYPE C

WATER (VILLAGE OF REEDSVILLE)

CONTAMINATED SOIL MANAGEMENT ZONE REMOVING AND DISPOSING OF CONTAMINATED MATERIAL

SLOPE INTERCEPT (TYP.)

+45, -320' LT

+45, -250' LT

+00, -250' LT

R/W

TLE

PLE

APPROXIMATE LIMITS OF WETLAND SHELF

℄ MUD CREEK

GRADE BREAK (EL. 817.2±)

2+00'MC'

3+00'MC'

4+00'MC'

5+00'MC'

6+00'MC'

7+00'MC'

8+00'MC'

9+00'MC

MUD CREEK

+00, -320' LT

P.L.

TYPICAL SECTION B-B (SEE TYPICAL SECTION SHEETS)

PROPOSED ARMORED BANK (TYP.)

TYPICAL SECTION A-A (SEE TYPICAL SECTION SHEETS)

℄ 4TH STREET

6+00

5+00

4+00

3+00

SEE STRUCTURE PLANS FOR RIPRAP DETAILS

MENASHA STREET

4TH STREET

CHARTER COMMUNICATIONS (ELECTRIC)

WPS (ELECTRIC)

WPS (GAS)

CAUTION

STORM SEWER (VILLAGE OF REEDSVILLE)

SANITARY SEWER (VILLAGE OF REEDSVILLE)

N

PROJECT NO: 4321-03-71	HWY: 4TH STREET	COUNTY: MANITOWOC	GRADING PLAN	SHEET 6	E

FILE NAME : P:\60479034\900_WORK\910-CAD\43210370\SHEETSPLAN\021201_PD.DWG
LAYOUT NAME - ****

PLOT DATE : 10/31/2017 8:01 PM PLOT BY : SCHNEIDER, MICHAEL PLOT NAME : PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 42

MILL STREET

WATER (VILLAGE OF REEDSVILLE)

℄ MUD CREEK

SLOPE INTERCEPT (TYP.)

R/W

TLE

PLE

2+00'MC'

3+00'MC'

4+00'MC'

5+00'MC'

6+00'MC'

7+00'MC'

8+00'MC'

9+00'MC

P.L.

REMOVE

REMOVE

1-4

STORM SEWER
(VILLAGE OF
REEDSVILLE)

℄ 4TH STREET

+54.5, 0.0'

CONCRETE PAVEMENT
APPROACH SLAB

DEPRESSED C&G STA 3+45 - STA 3+55
PAID FOR AS CONCRETE CURB &
GUTTER 30-INCH TYPE D

REMOVING FENCE

S1-1
36"X36"

S16-7L
30"X18"

1-3

CONCRETE PAVEMENT
APPROACH SLAB

MENASHA STREET

MUD CREEK

WEIGHT LIMIT 40 TONS

1-2

REMOVE

+76.7, 0.0'

CAUTION

CHARTER
COMMUNICATIONS
(ELECTRIC)

WPS (ELECTRIC)

WPS (GAS)

STOP

REMOVE

STOP

R1-1
30"X30"

1-1

CURB RAMP TYPE 4A1
WITH DETECTABLE WARNING FIELDS
AND MARKING CURB EPOXY REQ'D

CURB RAMP TYPE 1-A
WITH DETECTABLE WARNING FIELDS
AND MARKING CURB EPOXY REQ'D

MARKING CROSSWALK EPOXY
TRANSVERSE LINE 6-INCH

SANITARY SEWER
(VILLAGE OF REEDSVILLE)

4TH STREET

N

PROJECT NO: 4321-03-71	HWY: 4TH STREET	COUNTY: MANITOWOC	PLAN DETAILS	SHEET 7	E

FILE NAME : P:\60479034\900_WORK\910-CAD\43210370\SHEETSPLAN\021202_PD.DWG
LAYOUT NAME - ****

PLOT DATE : 10/31/2017 8:01 PM PLOT BY : SCHNEIDER, MICHAEL PLOT NAME : PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 42

MILL STREET

PLE (TYP.)

TLE (TYP.)

WORK ZONE

R/W

INLET PROTECTION TYPE B REQUIRED

INLET PROTECTION TYPE C REQUIRED

2+00'MC'

3+00'MC'

4+00'MC'

5+00'MC'

6+00'MC'

7+00'MC'

8+00'MC'

9+00'MC'

MUD CREEK

DEWATER/PUMP EXCAVATION TRENCH

TREAT DEWATER PRIOR TO DISCHARGE (E.G. FILTER BAG)

SEE STRUCTURE PLANS FOR TEMPORARY SHORING LOCATION

MENASHA STREET

4TH STREET

P.L.

P.L.

A

A

N

LEGEND

WORK ZONE

FLOW DIRECTION

℄ MUD CREEK
WORK ZONE

℄ EXISTING CHANNEL

3:1 MAX

EX. GRADE (TYP.)

MAINTAIN TEMPORARY BERM EL. 820.5±

SECTION A-A
(NOT TO SCALE)

PROJECT NO: 4321-03-71	HWY: 4TH STREET	COUNTY: MANITOWOC	SUGGESTED EROSION CONTROL/FLOW CONTROL STAGE 1	SHEET 8	E

2

2

MILL STREET

MENASHA STREET

4TH STREET

MUD CREEK

SLOPE INTERCEPT (TYP.)

PLE (TYP.)

TLE (TYP.)

℄ MUD CREEK

R/W

2+00'MC'

3+00'MC'

4+00'MC'

5+00'MC'

6+00'MC'

7+00'MC'

8+00'MC'

9+00'MC

TEMPORARY BLOCK CHANNEL AND PUMP AROUND CONSTRUCTION AREA

WORK ZONE

DEWATER/PUMP EXCAVATION TRENCH

TREAT DEWATER PRIOR TO DISCHARGE (E.G. FILTER BAG)

PREVENT BACKFLOW (E.G. SAND BAGS)

SEE STRUCTURE PLANS FOR TEMPORARY SHORING LOCATION

OPEN CHANNEL AT THE COMPLETION OF STAGE 1A/ AT THE BEGINNING OF STAGE 2

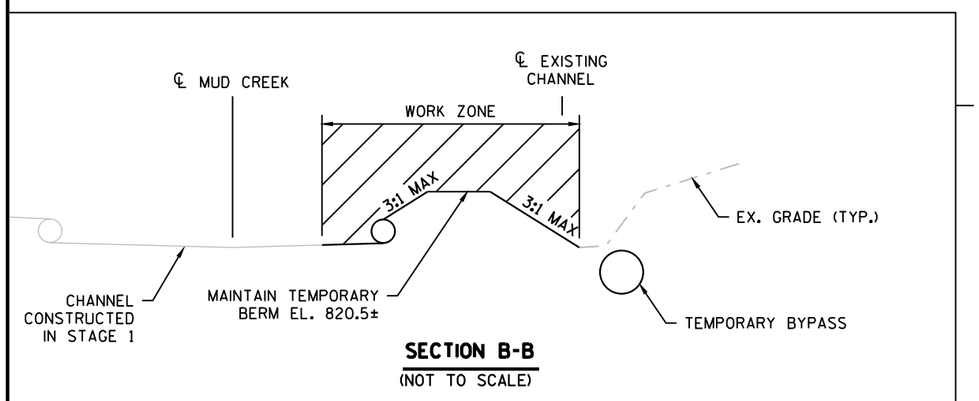
P.L.

N

LEGEND

WORK ZONE

FLOW DIRECTION



SECTION B-B
(NOT TO SCALE)

PROJECT NO: 4321-03-71	HWY: 4TH STREET	COUNTY: MANITOWOC	SUGGESTED EROSION CONTROL/FLOW CONTROL STAGE 1A	SHEET 9	E

2

2

MILL STREET

MENASHA STREET

4TH STREET

MUD CREEK

SLOPE INTERCEPT (TYP.)

PLE (TYP.)

TLE (TYP.)

℄ MUD CREEK

INLET PROTECTION
TYPE B REQUIRED

EROSION MAT URBAN
CLASS 1 TYPE A REQUIRED

EROSION MAT URBAN
CLASS 1 TYPE A REQUIRED
MINIMUM 2' WIDTH BEYOND
BACK OF SIDEWALK, TYP.

INLET PROTECTION
TYPE C REQUIRED

SILT FENCE REQUIRED

WORK ZONE

EROSION MAT URBAN
CLASS 1 TYPE A REQUIRED

INLET PROTECTION
TYPE C REQUIRED

TREAT DEWATER PRIOR TO
DISCHARGE (E.G. FILTER BAG)

DEWATER/PUMP EXCAVATION TRENCH

R/W

P.L.

2+00

3+00

4+00

5+00

6+00

7+00

8+00

9+00

N

LEGEND

WORK ZONE

FLOW DIRECTION

PROJECT NO: 4321-03-71	HWY: 4TH STREET	COUNTY: MANITOWOC	SUGGESTED EROSION CONTROL/FLOW CONTROL STAGE 2	SHEET 10	E

FILE NAME : P:\60479034\900_WORK\910-CAD\43210370\SHEETSPLAN\022001_EC2.DWG
LAYOUT NAME - ****

PLOT DATE : 10/31/2017 8:02 PM PLOT BY : SCHNEIDER, MICHAEL PLOT NAME : PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 42

2

STA 3+51, 44.5' LT
INLET COVERS TYPE H
CATCH BASINS 2.5X3-FT (I-1)

ADJUST INLET COVER

MENASHA ST

STA 4+05, 31.1' LT
APRON ENDWALLS FOR CULVERT
PIPE 12-INCH (E-2)

STA 3+99, 39.2' LT
APRON ENDWALLS FOR CULVERT
PIPE 12-INCH (E-1)

REMOVING STORM
SEWER 56'

STA 4+66, 46.1' LT
APRON ENDWALLS FOR
CULVERT PIPE STEEL 21" (E-3)

ADJUST INLET COVER

2+00 3+00 4+00 5+00 6+00 7+00

4TH STREET

REMOVING STORM
SEWER 24'

ABANDONING CULVERT PIPES

BEGIN PROJECT 4321-03-71
STA. 3+45

REMOVING STORM
SEWER 13'

MUD CREEK

ADJUST MANHOLE COVER

SLOPE INTERCEPT (TYP.)
SEE STRUCTURE PLANS
FOR RIPRAP DETAILS

R/W

END PROJECT 4321-03-71
STA. 5+45

N

830
825
820
815

I-1
822.40
E-1

SSP CLASS III-A 12-INCH
INVERT 1: 819.49
INVERT 2: 819.00
LENGTH: 48 FT
SLOPE: 1.01%

CONCRETE COLLARS FOR PIPE
EXISTING CPRC 12"
FINISHED SURFACE
E-2

SSP CLASS III-A 12-INCH
INVERT 1: 817.98
INVERT 2: 817.55
LENGTH: 48 FT
SLOPE: 0.91%

FINISHED SURFACE
E-3
EXISTING CMCP 21"

PROJECT NO: 4321-03-71	HWY: 4TH STREET	COUNTY: MANITOWOC	STORM SEWER	SHEET 11	E

NOTES:

SEE DETAIL C OF 'S.D.D. 15C2 SHEET A: BARRICADES AND SIGNS FOR MAINLINE CLOSURES' FOR ADVANCED SIGNING

SEE 'S.D.D. 15D30 SHEET A: TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION' FOR ADVANCED PEDESTRIAN SIGNING

LEGEND

- TYPE II BARRICADE WTH ATTACHED SIGN
- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT

MILL STREET

5TH STREET

MENASHA STREET

SIDEWALK CLOSED AHEAD
CROSS HERE
R9-11
48"X24"

BRIDGE OUT
R11-2-B
48"X30"

ROAD CLOSED TO THRU TRAFFIC
R11-4
60"X30"

SIDEWALK CLOSED
R9-9
24"X12"

R/W

TLE

PLE

6+00

5+00

4+00

3+00

MUD CREEK

10' MIN (TYP.)

4TH STREET

MANITOWOC STREET

N

PROJECT NO: 4321-03-71	HWY: 4TH STREET	COUNTY: MANITOWOC	TRAFFIC CONTROL	SHEET 12	E

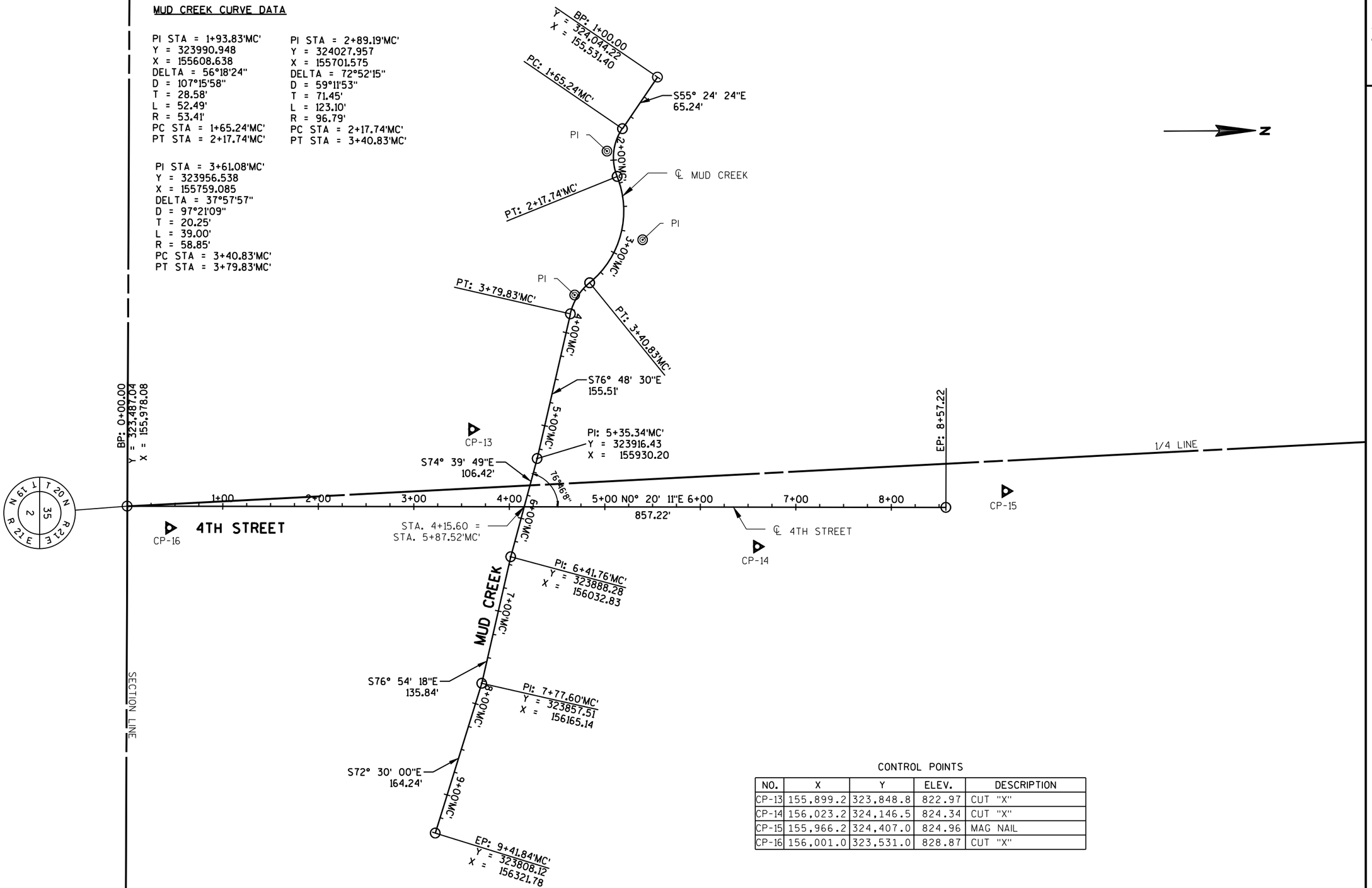
2

MUD CREEK CURVE DATA

PI STA = 1+93.83'MC'
Y = 323990.948
X = 155608.638
DELTA = 56°18'24"
D = 107°15'58"
T = 28.58'
L = 52.49'
R = 53.41'
PC STA = 1+65.24'MC'
PT STA = 2+17.74'MC'

PI STA = 2+89.19'MC'
Y = 324027.957
X = 155701.575
DELTA = 72°52'15"
D = 59°11'53"
T = 71.45'
L = 123.10'
R = 96.79'
PC STA = 2+17.74'MC'
PT STA = 3+40.83'MC'

PI STA = 3+61.08'MC'
Y = 323956.538
X = 155759.085
DELTA = 37°57'57"
D = 97°21'09"
T = 20.25'
L = 39.00'
R = 58.85'
PC STA = 3+40.83'MC'
PT STA = 3+79.83'MC'



CONTROL POINTS

NO.	X	Y	ELEV.	DESCRIPTION
CP-13	155,899.2	323,848.8	822.97	CUT "X"
CP-14	156,023.2	324,146.5	824.34	CUT "X"
CP-15	155,966.2	324,407.0	824.96	MAG NAIL
CP-16	156,001.0	323,531.0	828.87	CUT "X"

4321-03-71

Line	Item	Item Description	Unit	Total	Qty
0002	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. Station 3+70	LS	1.000	1.000
0004	204.0110	Removing Asphaltic Surface	SY	6.000	6.000
0006	204.0150	Removing Curb & Gutter	LF	320.000	320.000
0008	204.0155	Removing Concrete Sidewalk	SY	178.000	178.000
0010	204.0170	Removing Fence	LF	5.000	5.000
0012	204.0245	Removing Storm Sewer (size) 01. 4-Inch	LF	24.000	24.000
0014	204.0245	Removing Storm Sewer (size) 02. 12-Inch	LF	13.000	13.000
0016	204.0245	Removing Storm Sewer (size) 03. 21-Inch	LF	56.000	56.000
0018	204.0270	Abandoning Culvert Pipes	EACH	1.000	1.000
0020	205.0100	Excavation Common	CY	4,167.000	4,167.000
0022	205.0501.S	Excavation, Hauling, and Disposal of Petroleum Contaminated Soil	TON	490.000	490.000
0024	206.1000	Excavation for Structures Bridges (structure) 01. B-36-217	LS	1.000	1.000
0026	210.1500	Backfill Structure Type A	TON	440.000	440.000
0028	213.0100	Finishing Roadway (project) 01. 4321-03-71	EACH	1.000	1.000
0030	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	476.000	476.000
0032	415.0410	Concrete Pavement Approach Slab	SY	170.000	170.000
0034	455.0605	Tack Coat	GAL	66.000	66.000
0036	465.0105	Asphaltic Surface	TON	120.000	120.000
0038	502.0100	Concrete Masonry Bridges	CY	256.000	256.000
0040	502.3200	Protective Surface Treatment	SY	230.000	230.000
0042	502.3210	Pigmented Surface Sealer	SY	50.000	50.000
0044	505.0400	Bar Steel Reinforcement HS Structures	LB	7,710.000	7,710.000
0046	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	34,240.000	34,240.000
0048	511.1200	Temporary Shoring (structure) 01. B-36-217	SF	225.000	225.000
0050	513.7006	Railing Steel Type C1 (structure) 01. B-36-217	LF	115.000	115.000
0052	516.0500	Rubberized Membrane Waterproofing	SY	30.000	30.000
0054	517.1015.S	Concrete Staining Multi-Color (structure) 01. B-36-217	SF	1,004.000	1,004.000
0056	517.1050.S	Architectural Surface Treatment (structure) 01. B-36-217	SF	1,004.000	1,004.000
0058	520.1012	Apron Endwalls for Culvert Pipe 12-Inch	EACH	2.000	2.000
0060	520.8000	Concrete Collars for Pipe	EACH	1.000	1.000
0062	521.1021	Apron Endwalls for Culvert Pipe Steel 21-Inch	EACH	1.000	1.000
0064	550.0010	Pre-Boring Unconsolidated Materials	LF	128.000	128.000
0066	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	640.000	640.000
0068	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	371.000	371.000
0070	601.0600	Concrete Curb Pedestrian	LF	14.000	14.000
0072	602.0405	Concrete Sidewalk 4-Inch	SF	1,996.000	1,996.000
0074	602.0515	Curb Ramp Detectable Warning Field Natural Patina	SF	10.000	10.000

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Line	Item	Item Description	Unit	Total	Qty
0076	602.0615	Curb Ramp Detectable Warning Field Radial Natural Patina	SF	17.000	17.000
0078	606.0200	Riprap Medium	CY	78.000	78.000
0080	606.0300	Riprap Heavy	CY	100.000	100.000
0082	608.3012	Storm Sewer Pipe Class III-A 12-Inch	LF	96.000	96.000
0084	611.0624	Inlet Covers Type H	EACH	1.000	1.000
0086	611.1253	Catch Basins 2.5x3-FT	EACH	1.000	1.000
0088	611.8110	Adjusting Manhole Covers	EACH	1.000	1.000
0090	611.8115	Adjusting Inlet Covers	EACH	3.000	3.000
0092	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	200.000	200.000
0094	612.0902.S	Insulation Board Polystyrene (inch) 01. 3-Inch	SY	20.000	20.000
0096	619.1000	Mobilization	EACH	1.000	1.000
0098	624.0100	Water	MGAL	18.700	18.700
0100	625.0100	Topsoil	SY	4,556.000	4,556.000
0102	628.1504	Silt Fence	LF	431.000	431.000
0104	628.1520	Silt Fence Maintenance	LF	431.000	431.000
0106	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0108	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0110	628.2006	Erosion Mat Urban Class I Type A	SY	800.000	800.000
0112	628.2027	Erosion Mat Class II Type C	SY	4,069.000	4,069.000
0114	628.7010	Inlet Protection Type B	EACH	1.000	1.000
0116	628.7015	Inlet Protection Type C	EACH	4.000	4.000
0118	628.7560	Tracking Pads	EACH	2.000	2.000
0120	629.0210	Fertilizer Type B	CWT	0.500	0.500
0122	630.0140	Seeding Mixture No. 40	LB	15.000	15.000
0124	630.0175	Seeding Mixture No. 75	LB	40.000	40.000
0126	630.0200	Seeding Temporary	LB	5.000	5.000
0128	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	2.000	2.000
0130	637.2210	Signs Type II Reflective H	SF	5.180	5.180
0132	637.2230	Signs Type II Reflective F	SF	8.440	8.440
0134	638.2602	Removing Signs Type II	EACH	3.000	3.000
0136	638.3000	Removing Small Sign Supports	EACH	3.000	3.000
0138	642.5001	Field Office Type B	EACH	1.000	1.000
0140	643.0300	Traffic Control Drums	DAY	644.000	644.000
0142	643.0410	Traffic Control Barricades Type II	DAY	368.000	368.000
0144	643.0420	Traffic Control Barricades Type III	DAY	2,208.000	2,208.000
0146	643.0705	Traffic Control Warning Lights Type A	DAY	2,944.000	2,944.000
0148	643.0715	Traffic Control Warning Lights Type C	DAY	644.000	644.000
0150	643.0900	Traffic Control Signs	DAY	1,196.000	1,196.000
0152	643.5000	Traffic Control	EACH	1.000	1.000

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Line	Item	Item Description	Unit	Total	Qty
0154	644.1616.S	Temporary Pedestrian Safety Fence	LF	50.000	50.000
0156	645.0111	Geotextile Type DF Schedule A	SY	130.000	130.000
0158	645.0120	Geotextile Type HR	SY	406.000	406.000
0160	646.7420	Marking Crosswalk Epoxy Transverse Line 6-Inch	LF	76.000	76.000
0162	646.8120	Marking Curb Epoxy	LF	45.000	45.000
0164	646.9100	Marking Removal Line 8-Inch	LF	55.000	55.000
0166	650.4000	Construction Staking Storm Sewer	EACH	4.000	4.000
0168	650.4500	Construction Staking Subgrade	LF	122.000	122.000
0170	650.5000	Construction Staking Base	LF	122.000	122.000
0172	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	268.000	268.000
0174	650.6500	Construction Staking Structure Layout (structure) 01. B-36-217	LS	1.000	1.000
0176	650.7000	Construction Staking Concrete Pavement	LF	51.000	51.000
0178	650.9000	Construction Staking Curb Ramps	EACH	2.000	2.000
0180	650.9910	Construction Staking Supplemental Control (project) 01. 4321-03-71	LS	1.000	1.000
0182	650.9920	Construction Staking Slope Stakes	LF	813.000	813.000
0184	690.0150	Sawing Asphalt	LF	110.000	110.000
0186	690.0250	Sawing Concrete	LF	102.000	102.000
0188	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
0190	715.0502	Incentive Strength Concrete Structures	DOL	1,540.000	1,540.000
0192	999.1500.S	Crack and Damage Survey	LS	1.000	1.000
0194	SPV.0035	Special 01. Streambed Material	CY	105.000	105.000
0196	SPV.0060	Special 01. Native Plant Plug	EACH	1,720.000	1,720.000
0198	SPV.0060	Special 02. Utility Line Openings	EACH	4.000	4.000
0200	SPV.0090	Special 01. Coir Log	LF	1,076.000	1,076.000
0202	SPV.0105	Special 01. Sanitary Sewer System Television Inspection	LS	1.000	1.000
0204	SPV.0120	Special 01. Seed Water	MGAL	175.000	175.000
0206	SPV.0180	Special 01. Wetland Shelf Seed Mix	SY	910.000	910.000

EARTHWORK SUMMARY

			205.0100 EXCAVATION COMMON		SALVAGED/ UNUSEABLE PAVEMENT MATERIAL	AVAILABLE MATERIAL (5)	FILL (6)	MASS ORDINATE +/- (8)	205.0501.S*** EXCAVATION, HAULING, AND DISPOSAL OF PETROLEUM CONTAMINATED SOIL (2)	624.0100**
			CUT (2)	EBS EXCAVATION			FACTOR 1.25			WATER
STAGE	LOCATION	STATION - STATION	CY	CY	CY	CY	CY	CY	TON	MGAL
1	MUD CREEK	1+38'MC' - 7+83'MC'	3,012	0	0	3,012	231	2,781	490	6.1
1A	MUD CREEK	1+38'MC' - 7+83'MC'	625	0	0	625	1,050	-425	0	1.3
2	MUD CREEK	1+38'MC' - 7+83'MC'	195	0	0	0	925	-730	0	0.4
2	4TH STREET SOUTH	3+50.00 - 3+57.04	63	0	5	58	0	58	0	0.2
		3+57.04 - 3+84.97	0	0	0	0	443	-443	0	0.0
		3+84.97 - 3+89.57	12	0	3	9	0	9	0	0.1
2	4TH STREET NORTH	4+41.63 - 5+45.00	260	0	63	197	1	196	0	0.6
	PROJECT TOTALS		4,167	0	71	3,902	2,650	1,446	490	8.7
	TOTAL EXCAVATION COMMON		**4,167**							

**ADDITIONAL QUANTITY LISTED ELSEWHERE.

*** CATEGORY 0030

2) EXCAVATION, HAULING, AND DISPOSAL OF PETROLEUM CONTAMINATED SOIL QUANTITY NOT INCLUDED IN CUT. ALL OTHER SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSUABLE PAVEMENT MATERIAL.
6) FILL FACTOR = 1.25.
8) 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. MASS ORDINATE = AVAILABLE MATERIAL - FILL. THE MASS ORDINATE IS FOR INFORMATION PURPOSES ONLY AS COMMON EXCAVATION AND ROADWAY EMBANKMENT ARE NOT BALANCED FOR QUANTITY PURPOSES AND DOES NOT GUARANTEE THE QUALITY OF COMMON EXCAVATION, AND IF IT CAN BE REUSED ONSITE. ALL EBS EXCAVATION MATERIAL IS ASSUMED TO BE WASTED OFFSITE UNLESS OTHERWISE NOTED ON THE PLANS.

ALL ITEMS CATEGORY 0010 UNLESS OTHERWISE NOTED.

FINISHING ROADWAY

PROJECT ID	213.0100.01 FINISHING ROADWAY EACH
4321-03-71	1
PROJECT TOTAL	**1**

REMOVING AND ABANDONING STORM SEWER

STAGE	STATION - STATION	LT/RT	204.0245.01 REMOVING STORM SEWER 4-INCH LF	204.0245.02 REMOVING STORM SEWER 12-INCH LF	204.0245.03 REMOVING STORM SEWER 21-INCH LF	204.0270 ABANDONING CULVERT PIPES EACH
1	4+16 - 4+66	LT	-	-	56	-
	STAGE 1 SUBTOTAL		0	0	56	0
2	3+04 - 3+45	RT	-	-	-	1
2	3+45 - 3+57	RT	-	13	-	-
2	3+52 - 3+64	LT	24	-	-	-
	STAGE 2 SUBTOTAL		24	13	0	1
	PROJECT TOTALS		**24**	**13**	**56**	**1**

REMOVALS

STAGE	STATION - STATION	204.0110 REMOVING ASPHALTIC SURFACE SY	204.0150 REMOVING CURB & GUTTER LF	204.0155 REMOVING CONCRETE SIDEWALK SY	204.0170 REMOVING FENCE LF
2	3+02 - 3+18	6	26	14	-
2	3+45 - 3+57	-	48	32	5
2	3+85 - 4+04	-	24	13	-
2	4+29 - 5+45	-	222	119	-
PROJECT TOTALS		**6**	**320**	**178**	**5**

ASPHALTIC SURFACE

STAGE	STATION - STATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
2	3+02 - 3+20	1	2
2	3+45 - 3+49	1	1
2	3+45 - 3+77	18	33
2	4+54 - 5+45	46	84
PROJECT TOTALS		**66**	**120**

CONCRETE PAVEMENT

STAGE	STATION - STATION	LOCATION	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY	601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D LF	601.0600 CONCRETE CURB PEDESTRIAN LF	602.0405 CONCRETE SIDEWALK 4-INCH SF
2	3+02 - 3+17	LT	--	24	14	118
2	3+45 - 4+02	LT	--	78	--	409
2	3+45 - 3+92	RT	--	47	--	308
2	3+77 - 4+02	LT/RT	85	--	--	--
2	4+29 - 4+54	LT/RT	85	--	--	--
2	4+39 - 5+45	LT	--	106	--	549
2	4+29 5+45	RT	--	116	--	612
	PROJECT TOTALS		**170**	**371**	**14**	**1,996**

BASE AGGREGATE DENSE

STAGE	STATION - STATION	305.0120 BASE AGGREGATE DENSE 1 1/4 TON	624.0100** WATER MGAL
2	3+01 - 3+18	8	1
2	3+45 - 4+04	161	3
2	4+27 - 5+45	307	6
	PROJECT TOTALS	**476**	**10**

**ADDITIONAL QUANTITY LISTED ELSEWHERE.

ALL ITEMS CATEGORY 0010 UNLESS OTHERWISE NOTED.

STORM SEWER STRUCTURES

STAGE	STRUCTURE	STATION	OFFSET*	520.8000 CONCRETE COLLARS FOR PIPE EACH	520.1012 APRON ENDWALLS FOR CULVERT PIPE 12-INCH EACH	521.1021 APRON ENDWALLS FOR CULVERT PIPE STEEL 21-INCH EACH	606.0200** RIPRAP MEDIUM CY	608.3012 STORM SEWER PIPE CLASS III-A 12-INCH LF	611.0624 INLET COVERS TYPE H EACH	611.1253 CATCH BASINS 2.5X3-FT EACH	611.8110 ADJUSTING MANHOLE COVERS EACH	611.8115 ADJUSTING INLET COVERS EACH	628.7010 INLET PROTECTION TYPE B	628.7015 INLET PROTECTION TYPE C	645.0120** GEOTEXTILE FABRIC TYPE HR SY
1	E-3	4+66	46.1' LT	-	-	1	6	-	-	-	-	-	-	-	21
	STAGE 1 SUBTOTALS			0	0	1	6	0	0	0	0	0	0	0	21
2		3+04	19' RT	-	-	-	-	-	-	-	-	-	-	1	-
2		3+09	23' LT	-	-	-	-	-	-	-	-	1	-	1	-
2	I-1	3+51	44.5' LT	-	-	-	-	-	1	1	-	-	-	-	-
2	E-1	3+99	39.2' LT	-	1	-	5	48	-	-	-	-	-	-	16
2	E-2	4+05	31.1' LT	1	1	-	-	48	-	-	-	-	-	-	-
2		4+68	20' RT	-	-	-	-	-	-	-	-	1	-	1	-
2		4+79	38' LT	-	-	-	-	-	-	-	-	-	1	-	-
2		4+80	20' LT	-	-	-	-	-	-	-	-	1	-	1	-
2		4+82	6' RT	-	-	-	-	-	-	-	1	-	-	-	-
	STAGE 2 SUBTOTALS			1	2	0	5	96	1	1	1	3	1	4	16
			PROJECT TOTALS	**1**	**2**	**1**	**11**	**96**	**1**	**1**	**1**	**3**	**1**	**4**	**37**

REMARKS
*STATIONS AND OFFSETS ARE TO CENTER OF STRUCTURE
** ADDITIONAL QUANTITIES LISTED ELSEWHERE

MOBILIZATION

PROJECT ID	619.1000 EACH
4321-03-71	1
PROJECT TOTAL	**1**

CURB RAMP DETECTABLE WARNING FIELD

STAGE	STATION - STATION	602.0515 CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA SF	602.0615 CURB RAMP DETECTABLE WARNING FIELD RADIAL NATURAL PATINA SF
2	3+02 - 3+17	10	-
2	3+55 - 3+61	-	17
	PROJECT TOTALS	**10**	**17**

MOBILIZATIONS EROSION CONTROL

PROJECT ID	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
4321-03-71	5	3
PROJECT TOTALS	**5**	**3**

ALL ITEMS CATEGORY 0010 UNLESS OTHERWISE NOTED.

EROSION CONTROL

STAGE	LOCATION	STATION	606.0200** RIPRAP MEDIUM CY	628.1504 SILT FENCE LF	628.7560 TRACKING PADS EACH	628.1520 SILT FENCE MAINTENANCE LF	645.0120** GEOTEXTILE FABRIC TYPE HR SY
1	MUD CREEK ARMORED BANK	1+38'MC' - 1+73'MC'	18	-	-	-	75
1	MUD CREEK ARMORED BANK	1+73'MC' - 2+15'MC'	49	-	-	-	144
	STAGE 1 SUBTOTALS		67	0	0	0	219
2	MUD CREEK		-	345	-	345	-
	STAGE 2 SUBTOTALS		0	345	0	345	0
	UNDISTRIBUTED		0	86	2	86	0
	PROJECT TOTALS		**67**	**431**	**2**	**431**	**219**

** ADDITIONAL QUANTITY LISTED ELSEWHERE

PERMANENT SIGNING

STAGE	SIGN #	SIGN CODE	SIGN TYPE	SIGN SIZE INCHES	637.2210 SIGNS TYPE II REFLECTIVE H SF	637.2230 SIGNS TYPE II REFLECTIVE F SF	634.0614 POSTS WOOD 4X6-INCH X 14-FT EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
2	1-1	R1-1	II	30 X 30	5.18	-	1	1	1	STOP
2	1-2	R12-1	II	24 X 30	-	-	-	1	1	40 TONS
2	1-3	S1-1	II	30 X 30	-	4.69	1	-	-	SCHOOL ZONE
2		S16-7L	II	30 X 18	-	3.75	-	-	-	ARROW
2	1-4	S1-1	II	36 X 36	-	-	-	1	1	SCHOOL ZONE
		S16-7L	II	30 X 18	-	-	-	-	-	ARROW
	PROJECT TOTALS				**5.18**	**8.44**	**2**	**3**	**3**	

FIELD OFFICE

PROJECT ID	642.5001 FIELD OFFICE TYPE B EACH
4321-03-71	1
PROJECT TOTAL	**1**

TRAFFIC CONTROL

PROJECT ID	643.5000 TRAFFIC CONTROL EACH
4321-03-71	1
PROJECT TOTAL	**1**

SAFETY FENCE

LOCATION	644.1616.S TEMPORARY PEDESTRIAN SAFETY FENCE LF
UNDISTRIBUTED	50
PROJECT TOTAL	**50**

ALL ITEMS CATEGORY 0010 UNLESS OTHERWISE NOTED.

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STREAM REALIGNMENT ITEMS

STAGE	LOCATION	SPV.0090.01 COIR LOG LF	SPV.0035.01 STREAMBED MATERIAL CY	SPV.0060.01 NATIVE PLANT PLUG EACH	SPV.0180.01 WETLAND SHELF SEED MIX SY	630.0175 SEEDING MIXTURE NO.75 LB
1	MUD CREEK	557	54	891	471	20
	STAGE 1 SUBTOTALS	557	54	891	471	20
2	MUD CREEK	519	51	829	439	19
	STAGE 2 SUBTOTALS	519	51	829	439	19
	PROJECT TOTAL	**1,076**	**105**	**1,720**	**910**	**40**

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FINISHING ITEMS

STAGE	LOCATION	625.0100 TOPSOIL SY	628.2006 EROSION MAT URBAN CLASS I TYPE A SY	628.2027 EROSION MAT CLASS II TYPE C SY	629.0210 FERTILIZER TYPE B CWT	630.0140 SEEDING MIXTURE NO.40 LB	630.0200 SEEDING TEMPORARY LB	SPV.0120.01 SEED WATER MGAL
1	PROJECT	1,888	332	1,686	0.2	6	-	-
	STAGE 1 SUBTOTAL	1,888	332	1,686	0	6	0	0
2		1,757	309	1,569	0.2	6	-	-
	STAGE 2 SUBTOTAL	1,757	309	1,569	0	6	0	0
	UNDISTRIBUTED	911	160	814	0.1	3	5	175
	PROJECT TOTALS	**4,556**	**800**	**4,069**	**0.5**	**15**	**5**	**175**

TRAFFIC CONTROL ITEMS

STAGES	LOCATION	ESTIMATED STAGE DURATION DAYS	643.0300 TRAFFIC CONTROL DRUMS EACH	643.0300 DAYS	643.0410 TRAFFIC CONTROL BARRICADES TYPE II EACH	643.0410 DAYS	643.0420 TRAFFIC CONTROL BARRICADES TYPE III EACH	643.0420 DAYS	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A EACH	643.0705 DAYS	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C EACH	643.0715 DAYS	643.0900 TRAFFIC CONTROL SIGNS EACH	643.0900 DAYS	NOTES
1 & 2	PROJECT	92	7	644	4	368	24	2,208	32	2,944	7	644	13	1,196	**
PROJECT TOTALS				644		368		2,208		2,944		644		1,196	

** SEE 'BARRICADES AND SIGNS FOR MAINLINE CLOSURES' AND 'TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION'

ALL ITEMS CATEGORY 0010 UNLESS OTHERWISE NOTED.

PERMANENT MARKINGS

STAGE	LOCATION	STATION	-	STATION	646.7420 MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH LF	646.8120 MARKING CURB EPOXY LF	646.9100 MARKING REMOVAL LINE 8-INCH LF
2	4TH STREET	3+02	-	3+16	-	23	-
		3+14	-	3+55	76	-	55
		3+51	-	3+64	-	22	-
PROJECT TOTALS					**76**	**45**	**55**

SAWING PAVEMENT

STAGE	LOCATION	STATION	-	STATION	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF
2	4TH STREET	3+02	-	3+20	-	65
		3+45	-	3+45	72	23
		5+45	-	5+45	38	14
PROJECT TOTAL					**110**	**102**

STAKING

LOCATION	STATION	-	STATION	650.4000 CONSTRUCTION STAKING STORM SEWER EACH	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF	650.6500.01* CONSTRUCTION STAKING STRUCTURE LAYOUT B-36-217 LS	650.7000 CONSTRUCTION STAKING CONCRETE PAVEMENT LF	650.9000 CONSTRUCTION STAKING CURB RAMPS EACH	650.9910.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL 4321-03-71 LS	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
4TH STREET	3+02	-	3+17	-	-	-	24	-	-	1	-	-
	3+45	-	3+76	1	31	31	62	-	-	1	-	31
	3+76	-	4+02	-	-	-	-	-	26	-	-	26
	3+97	-	4+34	2	-	-	-	1	-	-	-	-
	4+29	-	4+54	-	-	-	-	-	25	-	-	25
	4+54	-	5+45	1	91	91	182	-	-	-	-	91
MUD CREEK	1+38'MC'	-	7+78'MC'	-	-	-	-	-	-	-	-	640
UNDISTRIBUTED				-	-	-	-	-	-	-	1	-
PROJECT TOTALS				**4**	**122**	**122**	**268**	**1**	**51**	**2**	**1**	**813**

*CATEGORY 0020

UTILITY LINE OPENINGS

LOCATION	** SPV.0060.02 UTILITY LINE OPENINGS EACH
PROJECT	4
PROJECT TOTAL	**4**

** CATEGORY 0030

ALL ITEMS CATEGORY 0010 UNLESS OTHERWISE NOTED.

R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
4321-03-00		
STATE PROJECT NUMBER 4321-03-00	4.01	2

PLAT OF RIGHT-OF-WAY REQUIRED FOR

V REEDSVILLE, 4TH STREET
MUD CREEK BRIDGE

LOC STR — MANITOWOC COUNTY

CONSTRUCTION PROJECT NUMBER
4321-03-71

CONVENTIONAL SYMBOLS

SECTION LINE
QUARTER LINE
SIXTEENTH LINE
NEW REFERENCE LINE
NEW R/W LINE
EXISTING R/W OR HE LINE
PROPERTY LINE
LOT, TIE & OTHER MINOR LINES
SLOPE INTERCEPT
CORPORATE LIMITS
NEW R/W (FEE OR HE) (HATCHING VARIES BY OWNER)
TEMPORARY LIMITED EASEMENT AREA
EASEMENT AREA (PERMANENT LIMITED OR RESTRICTED DEVELOPMENT)
PARALLEL OFFSETS

SECTION CORNER SYMBOL
SECTION CORNER MONUMENT
GEODETIC SURVEY MONUMENT
SIXTEENTH CORNER MONUMENT
SIGN
OFF-PREMISE SIGN
ACCESS RESTRICTED BY ACQUISITION
NO ACCESS (BY STATUTORY AUTHORITY)
ACCESS RESTRICTED (BY PREVIOUS PROJECT OR CONTROL)
NO ACCESS (NEW HIGHWAY)
PARCEL NUMBER 25
UTILITY NUMBER 40
R/W BOUNDARY POINT 100
PLE BOUNDARY POINT 2000
TLE BOUNDARY POINT 3000
BUILDING
TO BE REMOVED

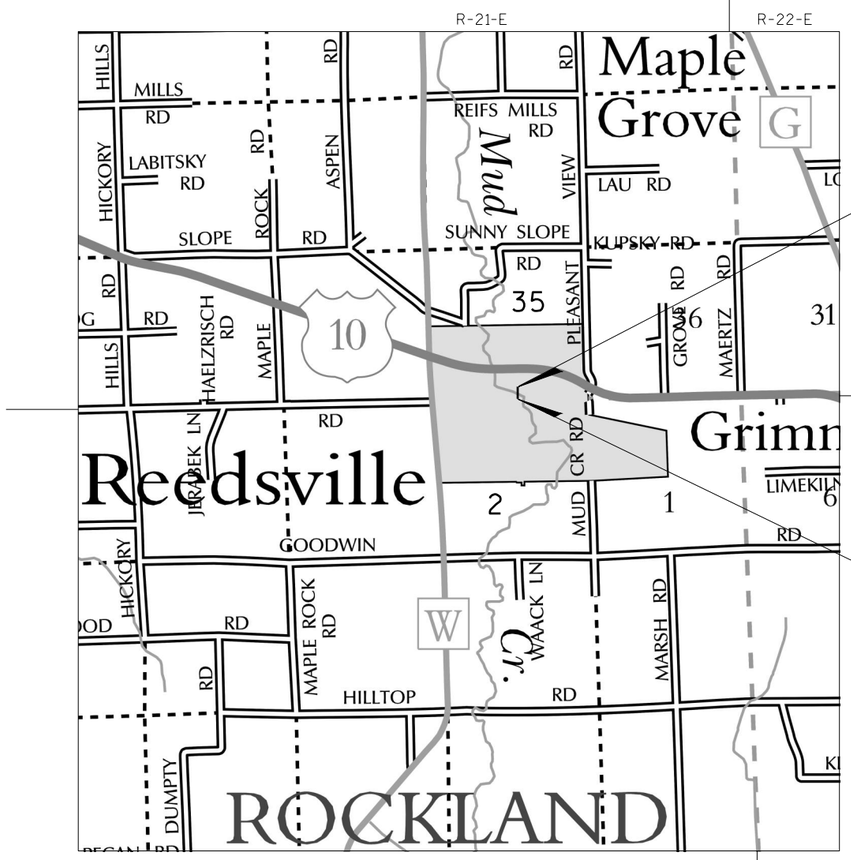
R/W MONUMENT (TO BE SET)
NON-MONUMENTED R/W POINT
FOUND IRON PIN (1-INCH UNLESS NOTED) IP

CONVENTIONAL UTILITY SYMBOLS

	NON COMPENSABLE	COMPENSABLE
WATER	W	
GAS	G	
TELEPHONE	T	
OVERHEAD TRANSMISSION LINES ELECTRIC	OH	
CABLE TELEVISION	TV	
FIBER OPTIC	FO	
SANITARY SEWER	SAN	
STORM SEWER	SS	
POWER POLE		
TELEPHONE POLE		
TELEPHONE PEDESTAL		
ELECTRIC TOWER		

CURVE DATA

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE OR DELTA	Δ/DELTA
LENGTH OF CURVE	L
TANGENT	TAN



END RELOCATION ORDER
STA. 5+50.00
549.89' NORTH AND 3.00' EAST OF THE SOUTH QUARTER CORNER OF SECTION 35, T20N, R21E.

T-20-N

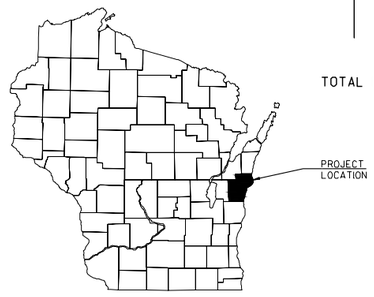
T-19-N

BEGIN RELOCATION ORDER
STA. 3+04.47
304.36' NORTH AND 1.56' EAST OF THE SOUTH QUARTER CORNER OF SECTION 35, T20N, R21E.

N

LAYOUT
SCALE 0 0.5 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.047 MI.



CONVENTIONAL ABBREVIATIONS

ACCESS POINT/ DRIVEWAY CONNECTION	AP	PERMANENT LIMITED EASEMENT	PLE
ACCESS RIGHTS	AR	PROPERTY LINE	PL
ACRES	AC	RECORDED AS	(100')
AND OTHERS	ET AL	REFERENCE LINE	R/L
CENTERLINE	C/L	RELEASE OF RIGHTS	ROR
CERTIFIED SURVEY MAP	CSM	REMAINING	REM
CORNER	COR	RESTRICTED DEVELOP EASEMENT	RDE
DOCUMENT	DOC	RIGHT-OF-WAY	R/W
EASEMENT	EASE	SECTION	SEC
HIGHWAY EASEMENT	HE	STATION	STA
LAND CONTRACT	LC	TEMPORARY LIMITED EASEMENT	TLE
MONUMENT	MON	VOLUME	V
PAGE	P		

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATES REFERENCE SYSTEM (WISCRS), MANITOWOC COUNTY, NAD 83 (2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY 3/4"X24" IRON REBARS) UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

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

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

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

A PERMANENT LIMITED EASEMENT (PLE) IS A RIGHT FOR CONSTRUCTION AND MAINTENANCE PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE, BUT WITHOUT PREJUDICE TO THE OWNER'S RIGHTS TO MAKE OR CONSTRUCT IMPROVEMENTS ON SAID LANDS OR TO FLATTEN THE SLOPES, SAID ACTIVITIES WILL NOT IMPAIR OR OTHERWISE ADVERSELY AFFECT THE HIGHWAY FACILITIES.

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

FOR THE LATEST ACCESS/DRIVEWAY INFORMATION, CONTACT THE VILLAGE OF REEDSVILLE.

ORIGINAL PLAT PREPARED BY

AECOM

WISCONSIN
LANCE J. HABECK
S-1444
PLOVER, WI
LAND SURVEYOR

Lance J. Habeck

LANCE J. HABECK, PLS-1444

DATE: 4/6/2017

REVISION DATE
10/25/2017

VILLAGE OF REEDSVILLE

APPROVED FOR THE VILLAGE OF REEDSVILLE

DATE:_____ _____ (Signature)

SCHEDULE OF LANDS & INTERST REQUIRED

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

PARCEL NUMBER	OWNER	INTEREST REQUIRED	AREAS ACRES REQUIRED NEW	EXISTING	TOTAL	TLE ACRES	PLE ACRES
1	REEDSVILLE PUBLIC SCHOOL DISTRICT	FEE, PLE, TLE	0.01	-----	0.01	0.13	0.49
2	DANIEL H. DENOR & RUTH A. DENOR	PLE, TLE	-----	-----	-----	0.01	0.10
3	NANCY HILLMAN & ANDY BUBOLZ	PLE, TLE	-----	-----	-----	0.01	0.05
4	STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	FEE, PLE, TLE	0.16	-----	0.16	0.16	0.58

GN

PI = 0+00.00
Y = 323487.038
X = 155978.080

PI = 8+57.22
Y = 324344.245
X = 155983.111

SCALE, FEET 0 25 50

1" IRON PIPE FOUND
Y = 328790.755
X = 155725.247

T 20 N R 21 E
26
35

NOTE: EXISTING RIGHT OF WAY FOR 4TH STREET AND MENASHA STREET IS DEFINED BY THE ORIGINAL PLAT OF THE VILLAGE OF REEDSVILLE. THE EXISTING RIGHT OF WAY FOR THE CHICAGO AND NORTHWESTERN RAILROAD IS DEFINED BY A PREVIOUS WDOT PLAT PROJECT 1000-23-52.

TLE COURSE TABLE

POINT - POINT	BEARING	DISTANCE
108 - 3001	N89°34'56"W	48.25'
3001 - 3002	N71°28'09"W	153.30'
3002 - 3003	N00°24'51"E	14.55'
3003 - 3004	N82°25'41"W	20.12'
3004 - 3005	N71°28'09"W	131.57'
3005 - 3006	N18°31'51"E	11.47'
3006 - 2001	S56°57'53"E	25.82'
2002 - 3007	N56°57'53"W	8.26'
3007 - 3008	N18°31'51"E	47.51'
3008 - 3009	N75°20'26"E	123.28'
3009 - 3010	S71°28'09"E	275.86'
3010 - 3011	N00°20'15"E	18.83'
3011 - 3015	S89°35'38"E	5.01'
3015 - 2005	S00°20'54"W	41.51'
3016 - 3012	N89°36'24"E	5.00'
3012 - 3013	S00°20'15"W	60.18'
3013 - 3014	S71°28'09"E	177.71'
3014 - 2007	S18°31'51"W	15.00'
2006 - 3016	N00°20'15"E	74.34'

VILLAGE OF REEDSVILLE

END RELOCATION ORDER
STA 5+50.00
Y = 324037.029
X = 155981.308

TLE FOR GRADING

SLOPE INTERCEPT

PLE FOR CHANNEL CHANGE

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

FORMER CHICAGO AND NORTHWESTERN RAILROAD

NANCY HILLMAN & ANDY BUBOLZ

DANIEL H. DENOR & RUTH A. DENOR

REEDSVILLE PUBLIC SCHOOL DISTRICT

BLOCK 44

BLOCK 45

BLOCK 52

BLOCK 53

REEDSVILLE

VILLAGE OF REEDSVILLE

QUARTER LINE

1/4 LINE

GAR.

HSE

SE-SW
SEC 35

SW-SE
SEC 35

13' VACATED ALLEY

4TH STREET

MENASHA STREET

ORIGINAL

(VACATED MENASHA STREET)

APPROXIMATE EXISTING STREAM EDGE

B-36-217

SURVEY NAIL FOUND
Y = 323487.144
X = 155978.312

BEGIN RELOCATION ORDER
STA 3+04.47
Y = 323791.503
X = 155979.867

PLE - WATERWAY AREAS
PARCEL 1 = 0.21 ACRES
PARCEL 2 = 0.05 ACRES
PARCEL 3 = 0.03 ACRES
PARCEL 4 = 0.01 ACRES

R/W COORIDNATE TABLE

POINT	EASTING	NORTHING
100	323863.944	155947.533
101	324037.221	155948.554
102	324037.200	155952.066
103	324036.833	156014.553
104	323797.539	156013.143
105	323793.161	155963.710
106	323791.691	155947.104
107	323798.426	155881.170
108	323864.214	155910.468
500	323487.144	155978.312
501	328790.755	155725.247

RIGHT OF WAY COURSE TABLE

POINT - POINT	BEARING	DISTANCE
100 - 101	N00°20'15"E	173.28'
101 - 102	S89°39'49"E	3.51'
102 - RL	S89°39'49"E	29.24'
RL - 103	S89°39'49"E	33.25'
102 - 103	S89°39'49"E	62.49'
101 - 103	S89°39'49"E	66.00'
103 - 104	S00°20'15"W	239.30'
104 - RL	S84°56'19"W	33.39'
RL - 105	S84°56'19"W	16.24'
104 - 105	S84°56'19"W	49.63'
105 - 106	S84°56'19"W	16.67'
104 - 106	S84°56'19"W	66.30'
106 - 107	N84°10'02"W	66.28'
107 - 108	N24°00'19"E	72.02'
108 - 100	S89°34'56"E	37.07'
500 - 105	N02°43'55"W	306.37'
105 - 102	N02°43'55"W	244.32'
102 - 501	N02°43'55"W	4759.01'

TLE STATION AND OFFSET TABLE

POINT	STATION	OFFEST
3001	3+76.84	118.07
3002	4+24.71	263.70
3003	4+39.25	263.68
3004	4+41.79	283.65
3005	4+82.87	408.64
3006	4+93.76	405.06
3007	5+12.18	433.74
3008	5+57.31	418.91
3009	5+89.21	299.82
3010	5+03.07	37.76
3011	5+21.90	37.76
3012	5+15.12	38.25
3013	4+54.94	38.24
3014	3+99.45	207.07
3015	5+21.89	32.75
3016	5+15.13	33.25

PLE COURSE TABLE

POINT - POINT	BEARING	DISTANCE
108 - 2001	N71°28'09"W	330.00'
2001 - 2002	N56°57'53"W	51.65'
2002 - 2003	N18°31'51"E	42.86'
2003 - 2004	N75°20'26"E	99.02'
2004 - 2005	S71°28'09"E	300.00'
2005 - 100	S71°28'09"E	103.66'
104 - 2011	N00°20'15"E	38.74'
2011 - 2006	N00°20'15"E	91.35'
2006 - 2007	S71°28'09"E	178.04'
2007 - 2008	S18°31'51"W	54.83'
2008 - 2009	N77°05'60"W	32.20'
2009 - 2010	S88°17'18"W	41.02'
2010 - 2011	N81°56'33"W	80.32'

R/W STATION AND OFFSET TABLE

POINT	STATION	OFFEST
100	3+76.72	32.76
101	5+50.00	32.75
102	5+50.00	29.24
103	5+50.00	33.25
104	3+10.70	33.24
105	3+06.03	16.17
106	3+04.47	32.76
107	3+10.81	98.74
108	3+76.77	69.82

PLE COORDINATE TABLE

POINT	EASTING	NORTHING
2001	323969.093	155597.578
2002	323997.248	155554.281
2003	324037.886	155567.903
2004	324062.945	155663.698
2005	323967.601	155948.144
2006	323927.627	156013.909
2007	323871.043	156182.719
2008	323819.052	156165.292
2009	323826.240	156133.906
2010	323825.015	156092.902
2011	323836.274	156013.371

PLE STATION AND OFFSET TABLE

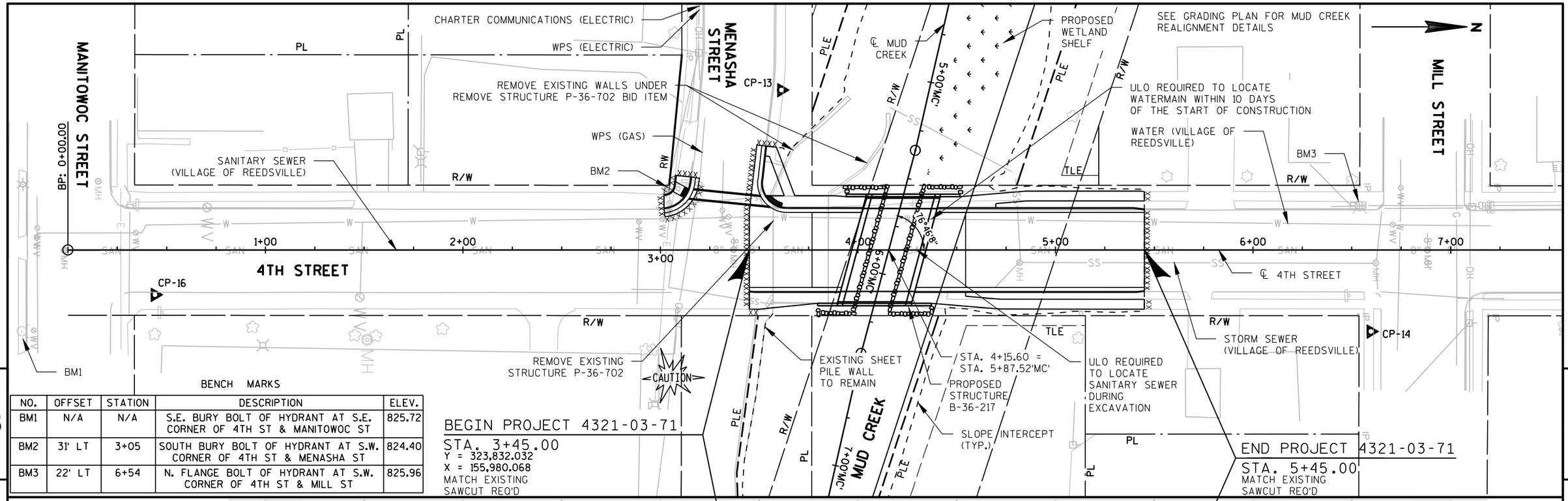
POINT	STATION	OFFEST
2001	4+79.81	383.32
2002	5+07.71	426.79
2003	5+48.43	413.40
2004	5+74.05	317.76
2005	4+80.38	32.76
2006	4+40.79	33.24
2007	3+85.20	202.38
2008	3+33.11	185.26
2009	3+40.11	153.83
2010	3+38.65	112.84
2011	3+49.44	33.24

REVISION DATE 10/25/17	DATE 8/8/17	SCALE, FEET 0 25 50	HWY: 4TH STREET	STATE R/W PROJECT NUMBER 4321-03-00
	GRID FACTOR N/A		COUNTY: MANITOWOC	CONSTRUCTION PROJECT NUMBER 4321-03-71

PLAT SHEET 4.02
PS&E SHEET 24 E

FILE NAME : P:\60479034\900_WORK\910-CAD\43210370\SHEETSPLAN\040101_RP.DWG
LAYOUT NAME - ****
PLOT DATE : 10/25/2017 9:17 AM PLOT BY : SCHNEIDER, MICHAEL PLOT NAME :

WISDOT/CADDS SHEET 75

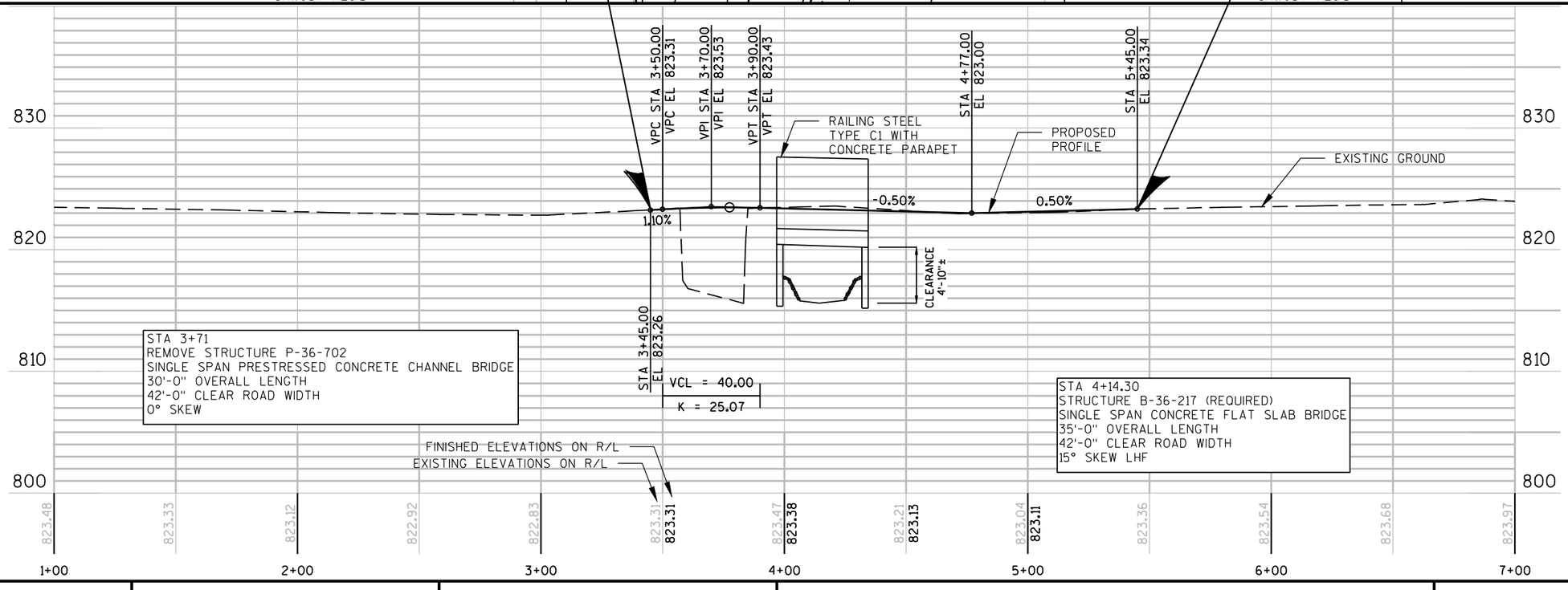


BENCH MARKS

NO.	OFFSET	STATION	DESCRIPTION	ELEV.
BM1	N/A	N/A	S.E. BURY BOLT OF HYDRANT AT S.E. CORNER OF 4TH ST & MANITOWOC ST	825.72
BM2	31' LT	3+05	SOUTH BURY BOLT OF HYDRANT AT S.W. CORNER OF 4TH ST & MENASHA ST	824.40
BM3	22' LT	6+54	N. FLANGE BOLT OF HYDRANT AT S.W. CORNER OF 4TH ST & MILL ST	825.96

BEGIN PROJECT 4321-03-71
STA. 3+45.00
Y = 323,832.032
X = 155,980.068
MATCH EXISTING
SAWCUT REQ'D

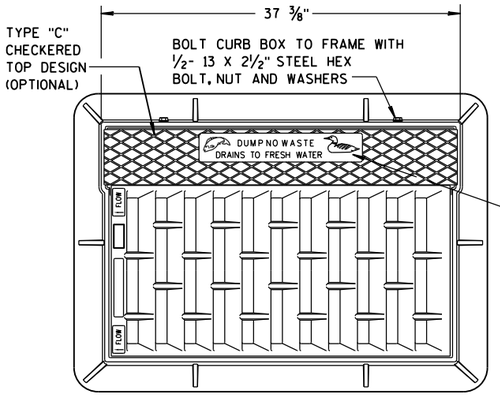
END PROJECT 4321-03-71
STA. 5+45.00
MATCH EXISTING
SAWCUT REQ'D



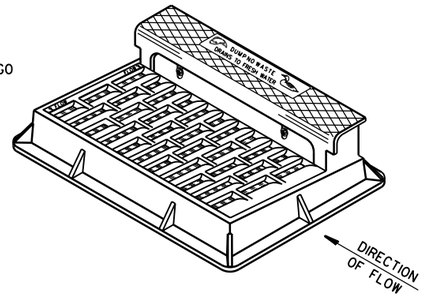
PROJECT NO: 4321-03-71	HWY: 4TH STREET	COUNTY: MANITOWOC	PLAN AND PROFILE: 4TH STREET	SHEET 25	E

Standard Detail Drawing List

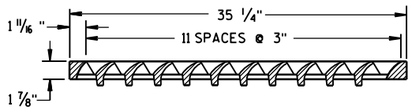
08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A09-02	CATCH BASINS 2X3-FT AND 2.5X3-FT
08D01-20A	CONCRETE CURB & GUTTER
08D01-20B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D05-19A	CURB RAMPS TYPES 1 AND 1-A
08D05-19B	CURB RAMPS TYPES 2 AND 3
08D05-19C	CURB RAMPS TYPES 4A AND 4A1
08D05-19D	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
08E14-01	TRACKING PAD
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
12A03-10	NAME PLATE (STRUCTURES)
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C33-02	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D30-03A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS

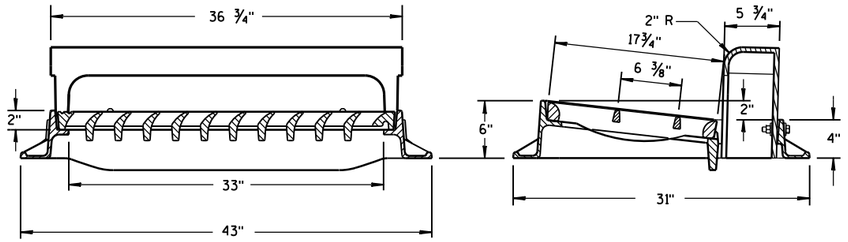


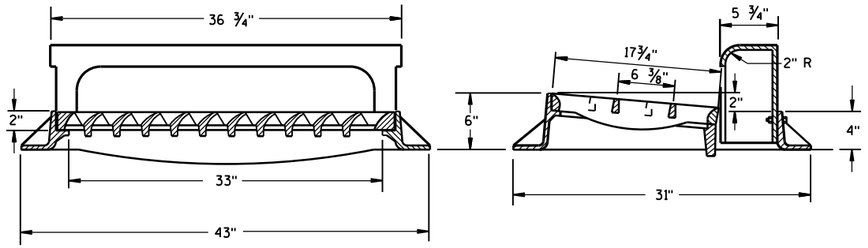
NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

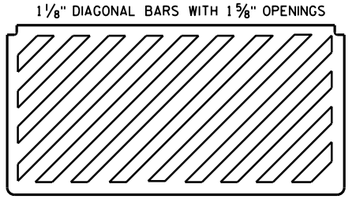






TYPE "H"

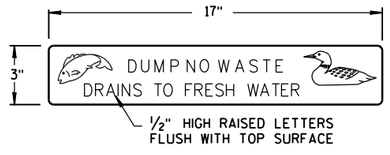
NOTE: EITHER CASTING IS ACCEPTABLE



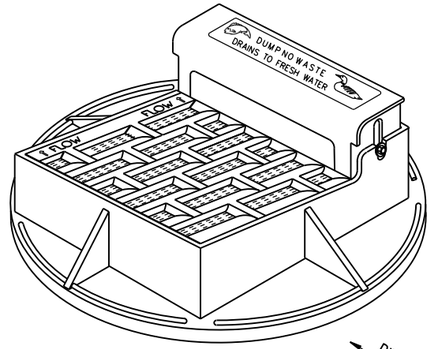
SPECIAL GRATE FOR TYPE "H" COVER

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

(NOTED AS TYPE H-S ON DRAINAGE TABLE)

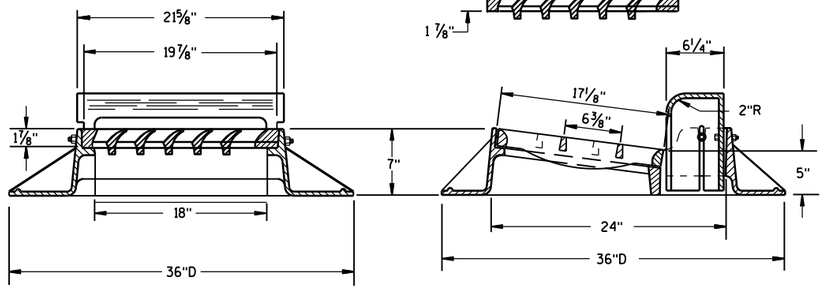


LOGO DETAIL



NOTE: CURB BOX ADJUSTABLE 4" TO 9"

NOTE:
GRATE IS REVERSIBLE.



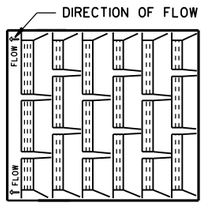
TYPE "A"

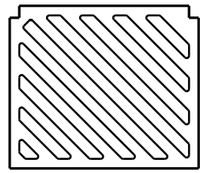
GENERAL NOTES

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

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

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

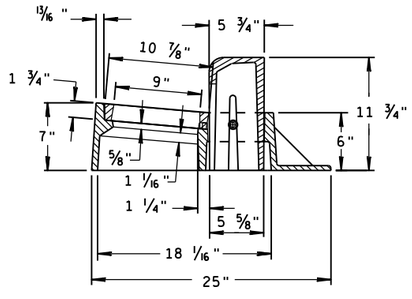


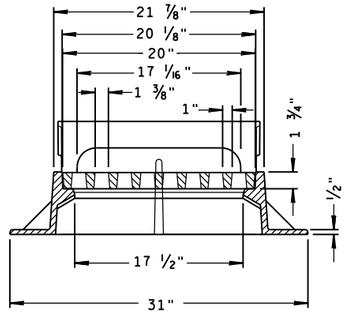


SPECIAL GRATE FOR TYPE "A" COVER

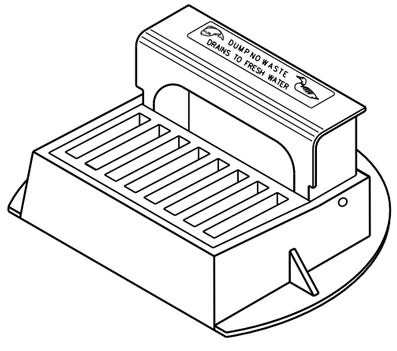
(MEASURES 19 3/4" X 17" X 1 7/8")

(NOTED AS TYPE A-S ON DRAINAGE TABLE)





TYPE "Z"



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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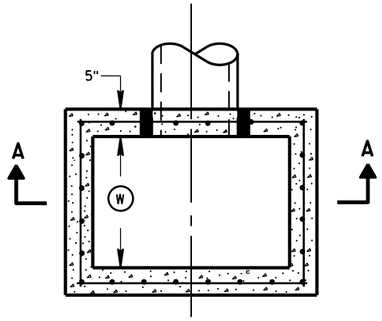
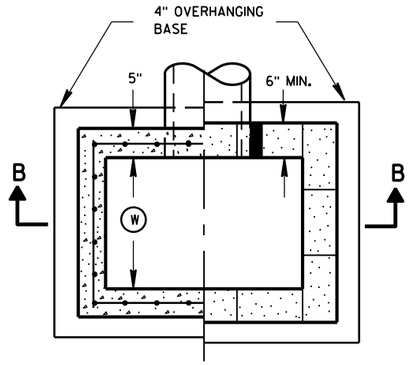
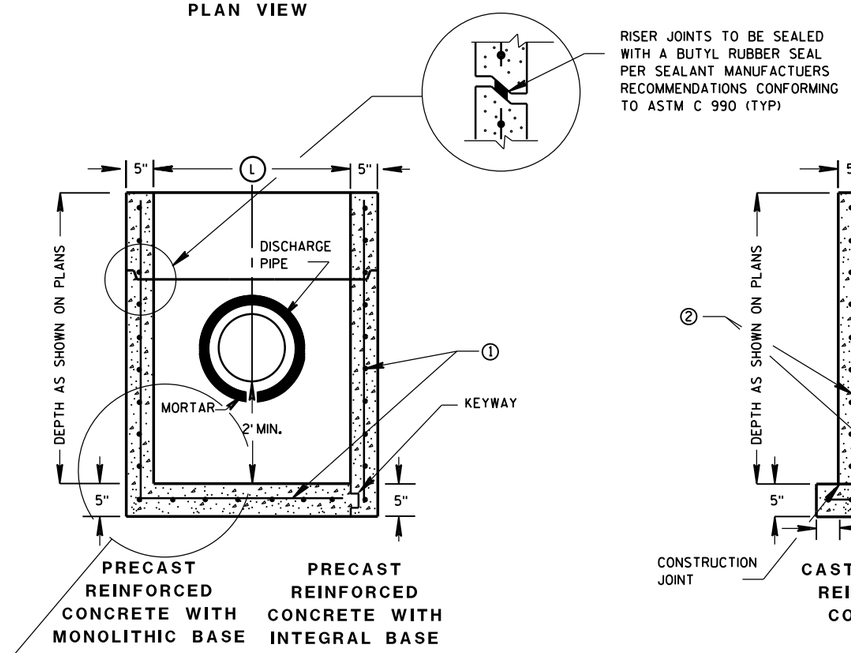
S.D.D. 8 A 5-19a



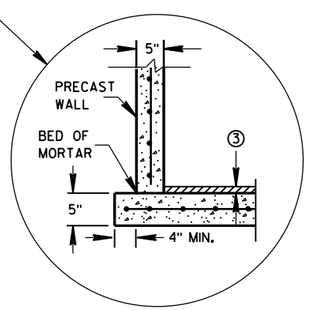
PLAN VIEW



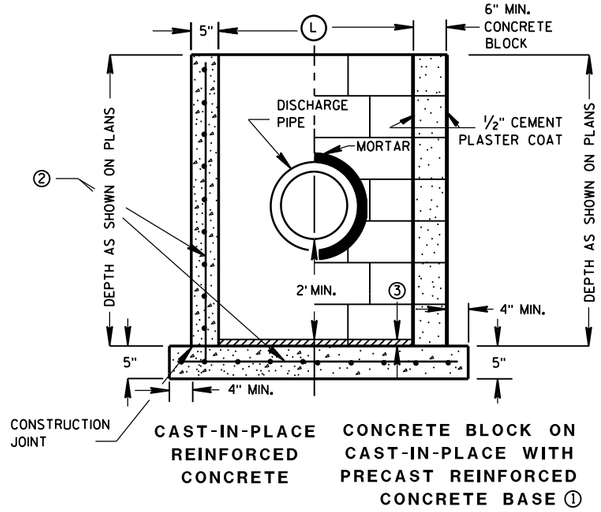
PLAN VIEW



SECTION A-A



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION



SECTION B-B

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

① FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

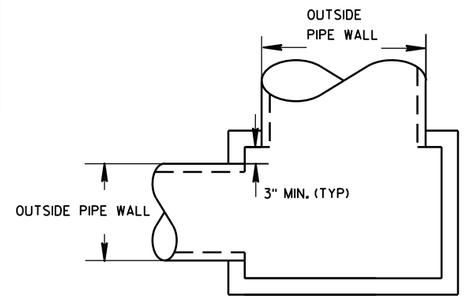
③ 1" CONCRETE KEY POURED AFTER INSTALLATION. 2' SUMP MEASURED FROM TOP OF KEY.

CATCH BASIN COVER MATRIX

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

PIPE MATRIX

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



DETAIL "A"

CATCH BASINS 2X3-FT AND 2.5X3-FT

CATCH BASINS 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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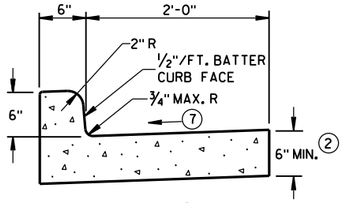
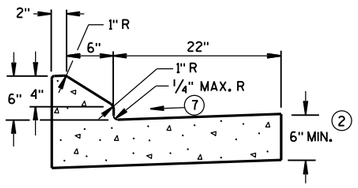
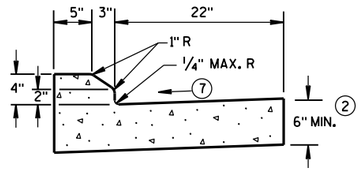
S.D.D. 8 A 9-2



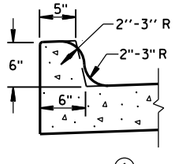
TYPES A (1) & D



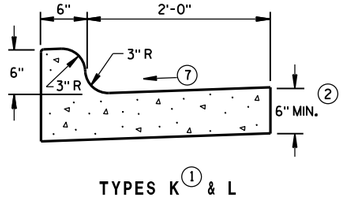
6" SLOPED CURB TYPES G (1) & J



4" SLOPED CURB TYPES G (1) & J

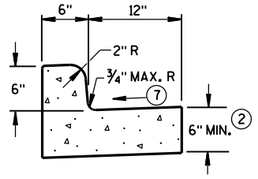


TYPES K (1) & L
(OPTIONAL CURB SHAPE)



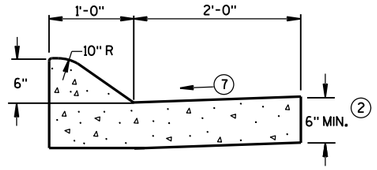
TYPES K (1) & L

CONCRETE CURB & GUTTER 30"

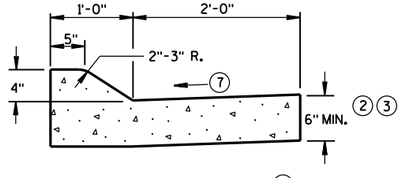


TYPES A (1) & D

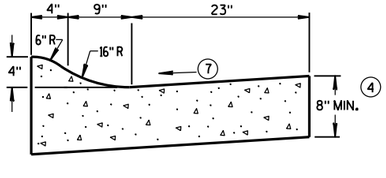
CONCRETE CURB & GUTTER 18"



6" SLOPED CURB TYPES A (1) & D

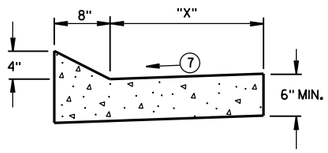


4" SLOPED CURB TYPES A (1) & D



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"

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.

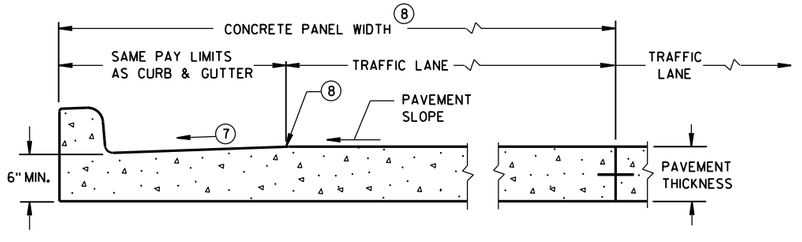
(6) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

(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.

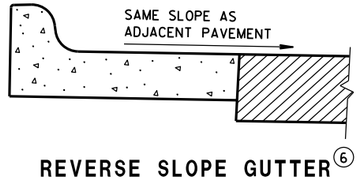
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT *
WITH INTEGRAL CURB & GUTTER

* BIKE LANE IS NOT SHOWN.



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

CONCRETE CURB & GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 8 D 1-20a

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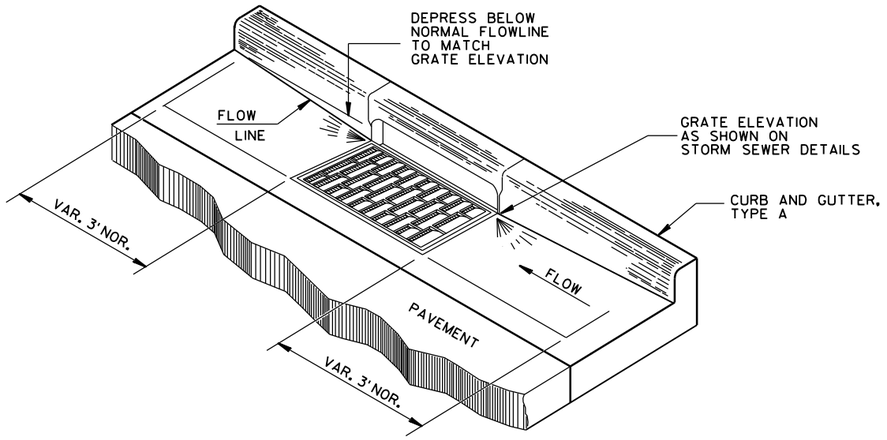
S.D.D. 8 D 1-20a



DETAIL OF CURB AND GUTTER AT INLETS

(TYPE H INLET COVER SHOWN)

GENERAL NOTES

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

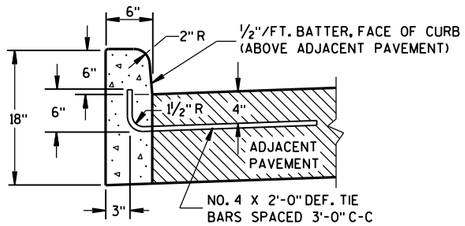
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

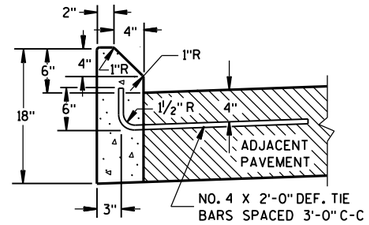
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.

(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.

(9) REFER TO SDD 8D18 AND SDD 8D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.

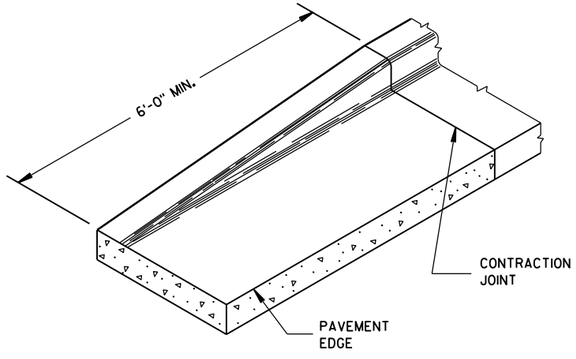


TYPES A(1) & D

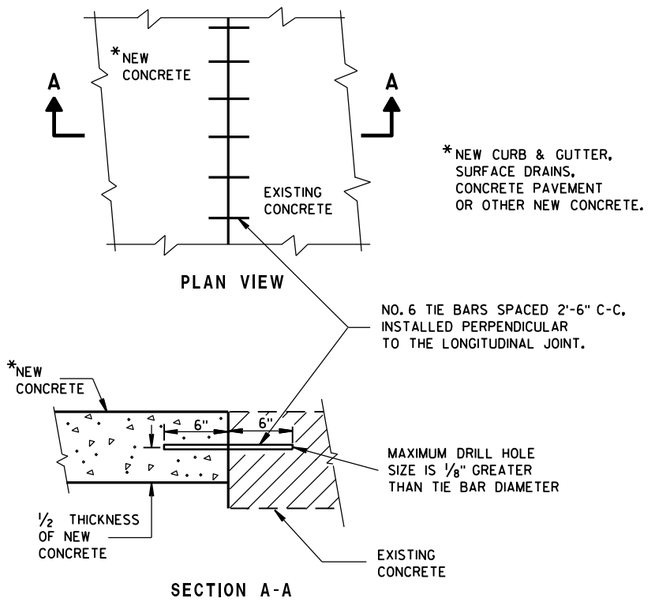


TYPES G(1) & J

CONCRETE CURB



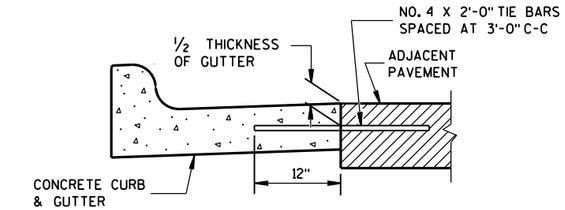
END SECTION CURB & GUTTER



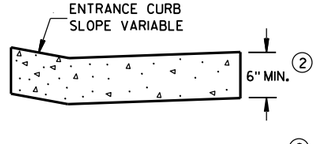
PLAN VIEW

SECTION A-A

TIE BARS DRILLED INTO EXISTING PAVEMENT



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

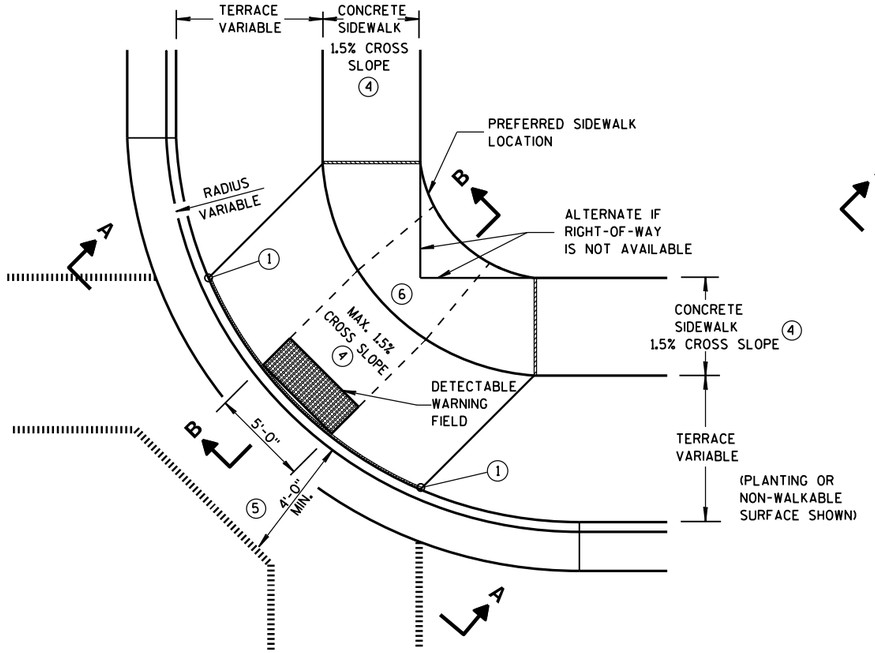
APPROVED
June, 2017 — DATE
/S/ Rodney Taylor
ROADWAY STANDARDS 30 UNIT SUPERVISOR — ENT
FHWA

6

S.D.D. 8 D 1-20b

6

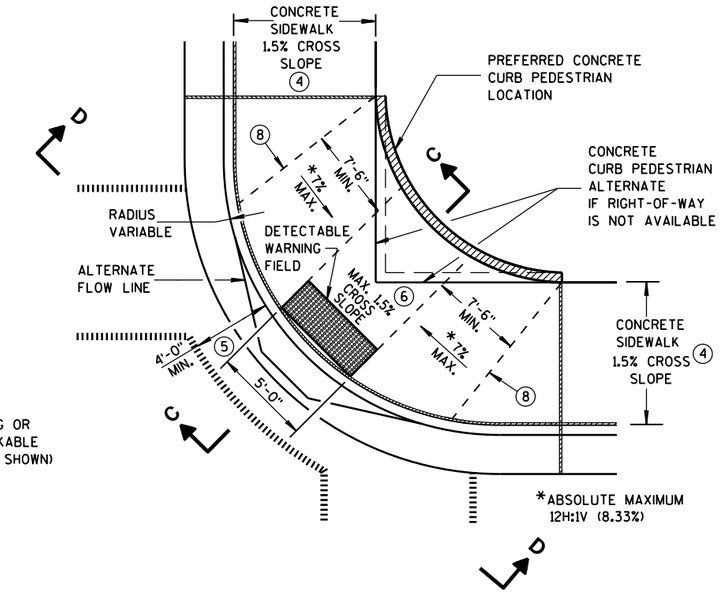
S.D.D. 8 D 1-20b



PLAN VIEW

TYPE 1 RAMP

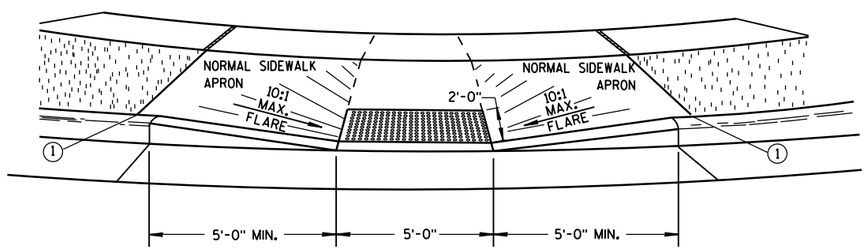
(CENTER OF CORNER RADIUS)



PLAN VIEW

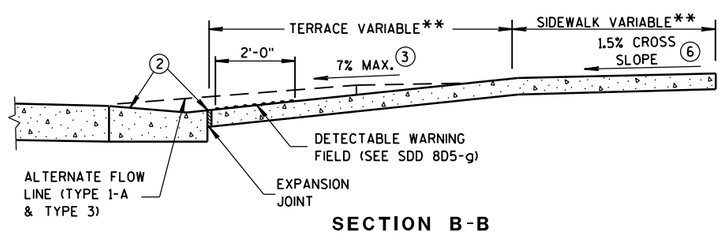
TYPE 1-A RAMP

(NO TERRACE)

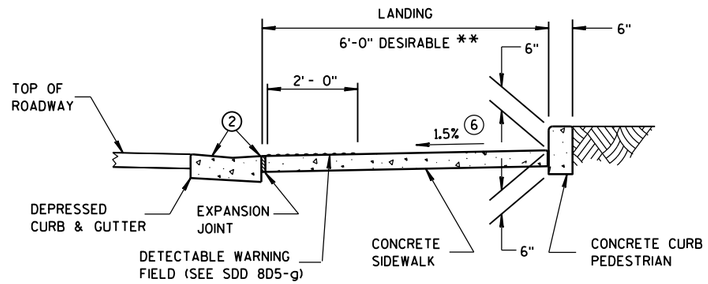


VIEW A-A

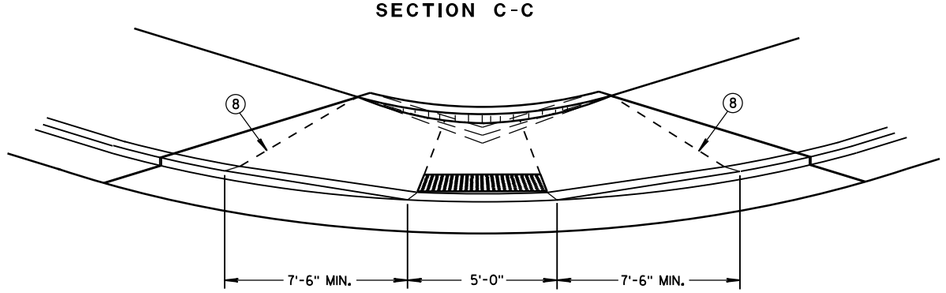
** WIDTH SHOWN ELSEWHERE IN THE PLANS



SECTION B-B



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

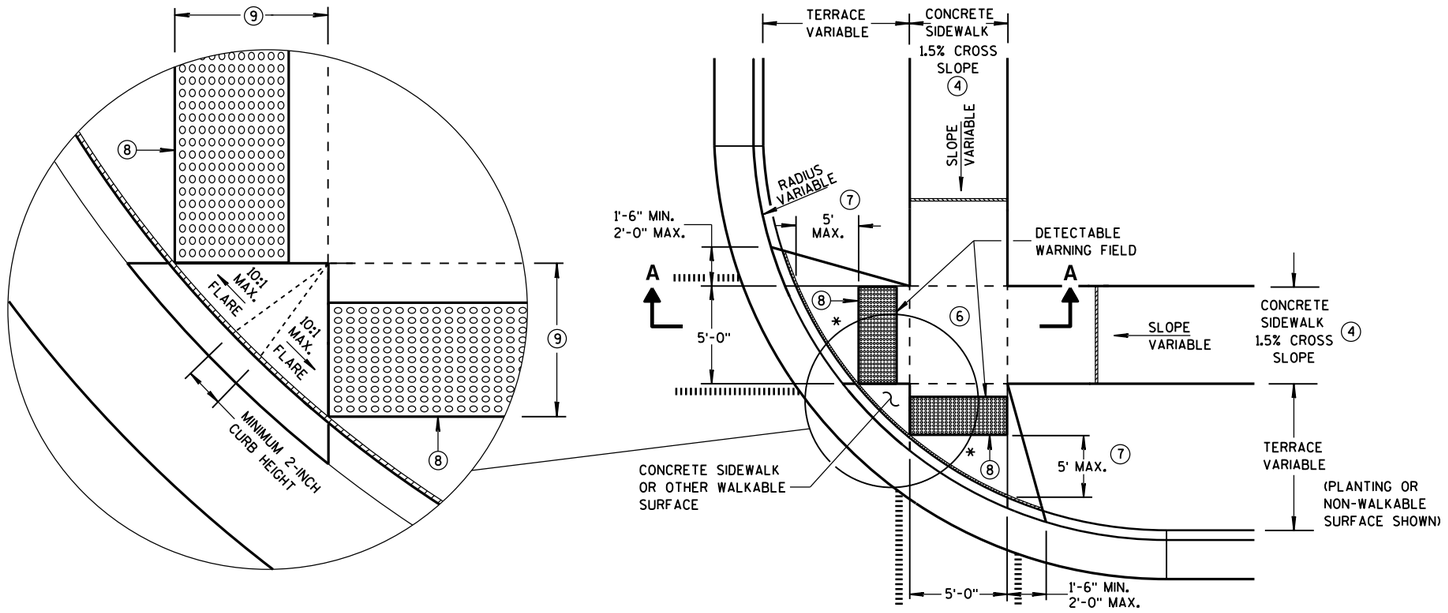
- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT

CURB RAMPS TYPES 1 AND 1-A

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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



PLAN VIEW

TYPE 2 RAMP

(ON LINE WITH SIDEWALK)

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.

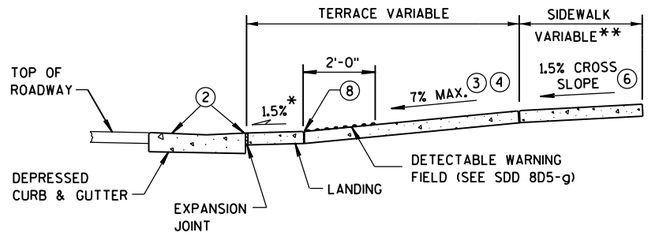
(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.

(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.

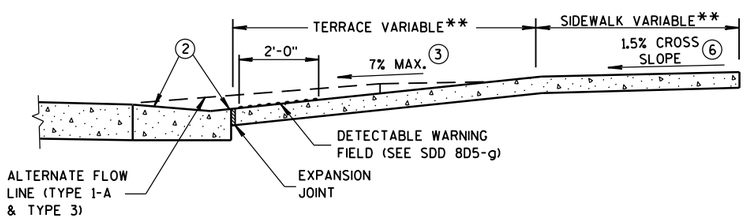
(9) WHEN THIS DISTANCE IS LESS THAN 6'-0", IT MAY BE DIFFICULT TO ACHIEVE A 7% SLOPE OR FLATTER ALONG THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 7% SLOPE OR FLATTER ON RAMP. CONSTRUCT 2-INCH MINIMUM CURB HEIGHT BETWEEN 10:1 FLARES.

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

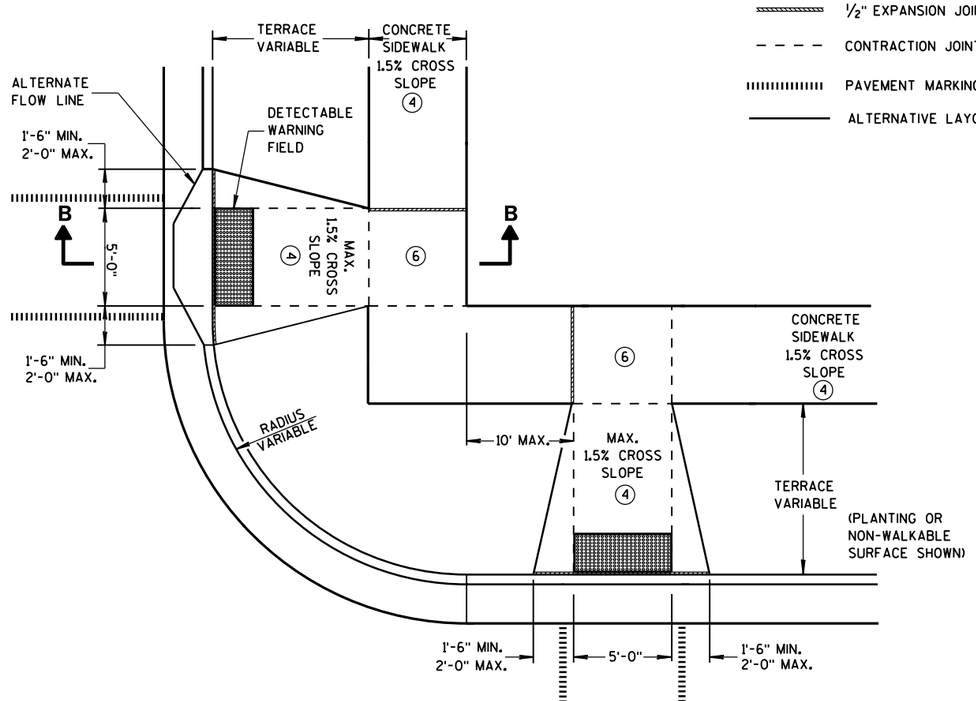


SECTION A-A

** WIDTH SHOWN ELSEWHERE IN THE PLANS



SECTION B-B



PLAN VIEW

TYPE 3 RAMP

(OUTSIDE OF CROSSWALK AREA)

LEGEND

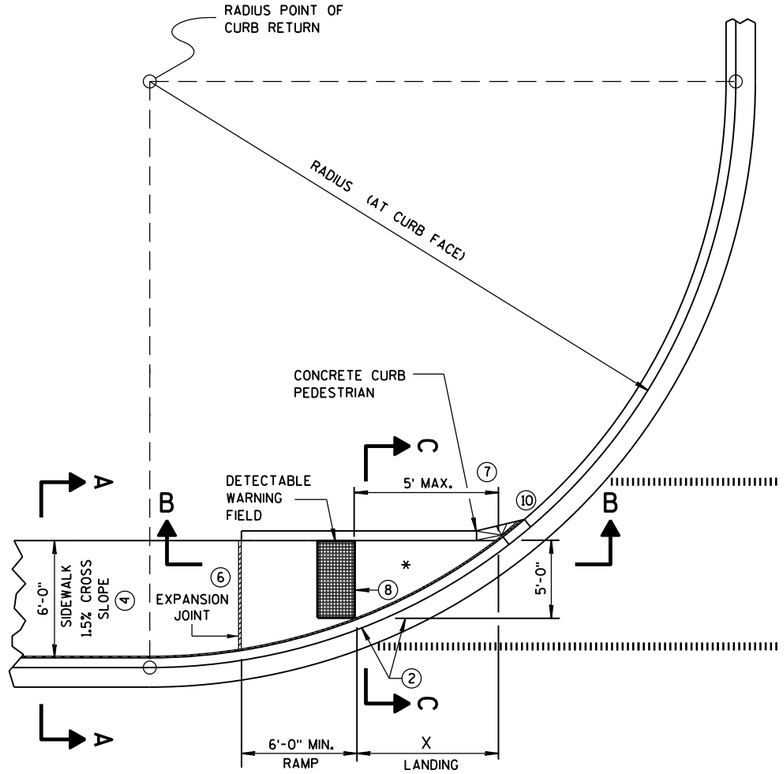
- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT

CURB RAMPS TYPES 2 AND 3

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

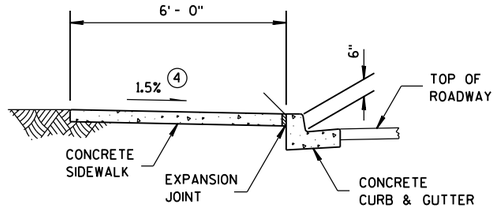
S.D.D. 8 D 5-19b



CURB RAMP TYPE 4A
PLAN VIEW

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

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A-A FOR TYPE 4A

GENERAL NOTES

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

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.

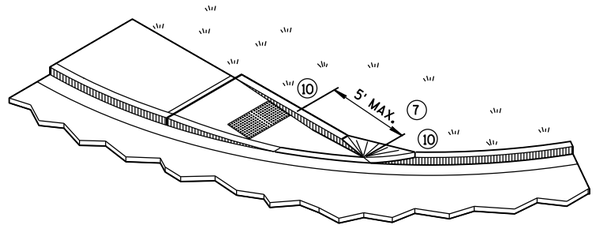
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.

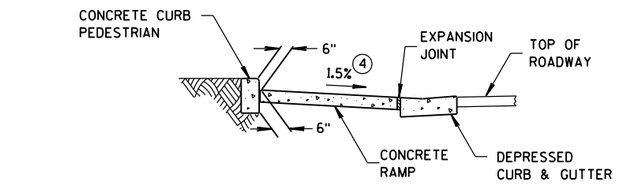
(7) WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

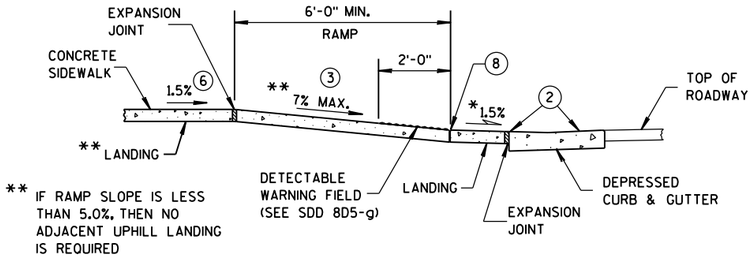
(10) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.



ISOMETRIC VIEW FOR TYPE 4A



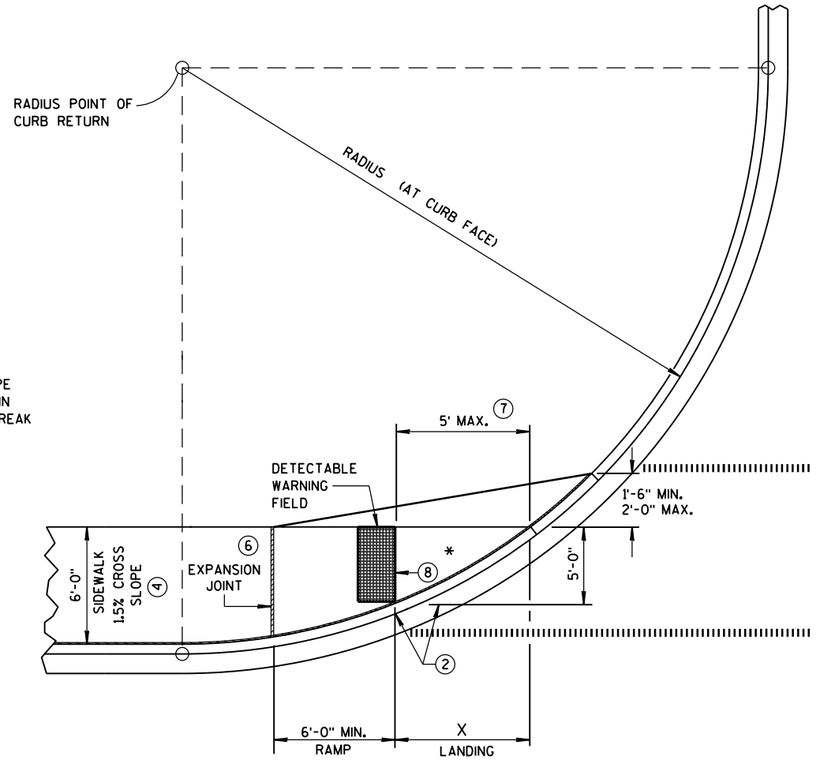
SECTION C-C FOR TYPE 4A



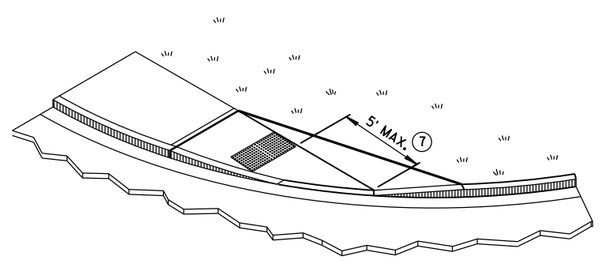
** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

SECTION B-B FOR TYPE 4A

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



CURB RAMP TYPE 4A1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

½" EXPANSION JOINT-SIDEWALK

CONTRACTION JOINT FIELD LOCATED

PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPES 4A AND 4A1

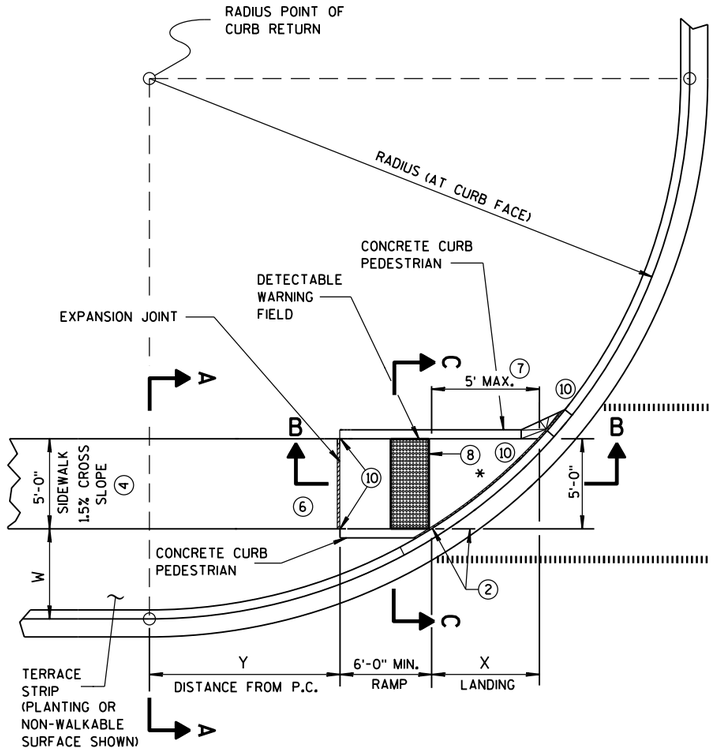
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

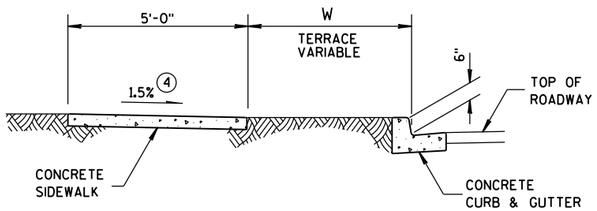
S.D.D. 8 D 5-19c

6

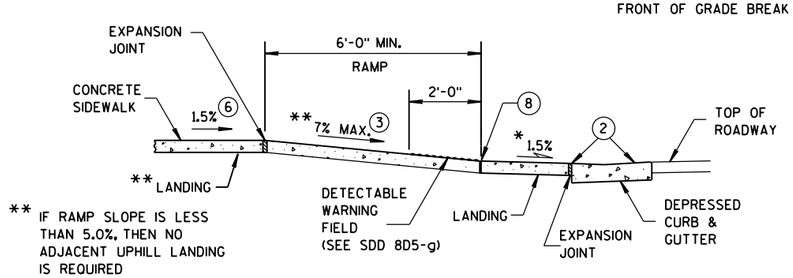
S.D.D. 8 D 5-19c



CURB RAMP TYPE 4B
PLAN VIEW



SECTION A-A FOR TYPE 4B



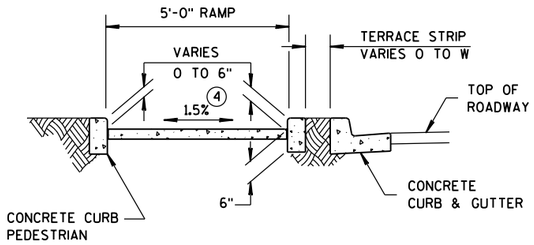
* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

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

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'-10¼"	0'-5"	2'-1"	1'-4½"	1'-5"	2'-1"	0'-10"	2'-7½"	0'-3¼"	3'-0¼"						
15 FEET	4'-6¾"	2'-1¾"	3'-9"	3'-5¼"	3'-1¼"	4'-6"	2'-6¾"	5'-4½"	2'-1"	6'-1"	1'-8"	6'-8½"	1'-3¼"	7'-2½"	0'-10¾"	7'-7¼"
20 FEET	5'-9¾"	3'-6½"	4'-11½"	5'-1¾"	4'-3¼"	6'-5½"	3'-8¾"	7'-7"	3'-3"	8'-6½"	2'-10"	9'-4½"	2'-5½"	10'-1¼"	2'-1¼"	10'-9"
30 FEET			6'-9¼"	7'-11¼"	6'-0¼"	9'-8"	5'-5"	11'-1¾"	4'-10¾"	12'-5¾"	4'-5½"	13'-7¾"	4'-0¾"	14'-8½"	3'-8½"	15'-8¼"
40 FEET									6'-1¾"	15'-8½"	5'-8"	17'-2"	5'-3"	18'-5¾"	4'-10¾"	19'-8¼"
50 FEET															5'-10¼"	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



SECTION C-C FOR TYPE 4B

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.

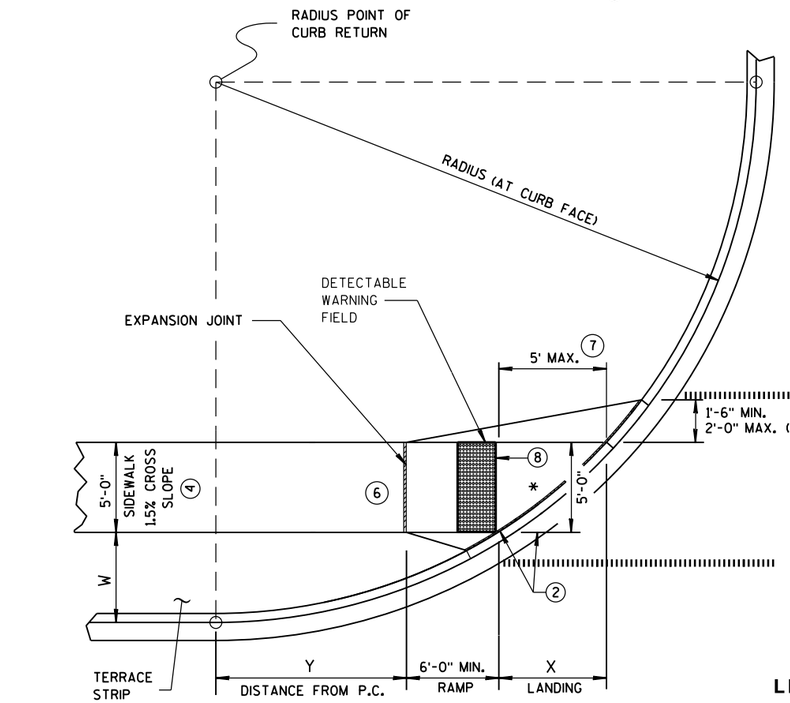
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.

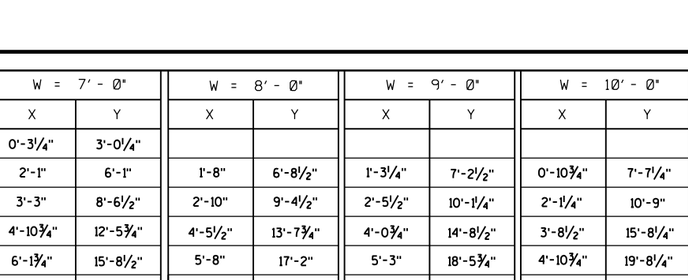
(7) WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

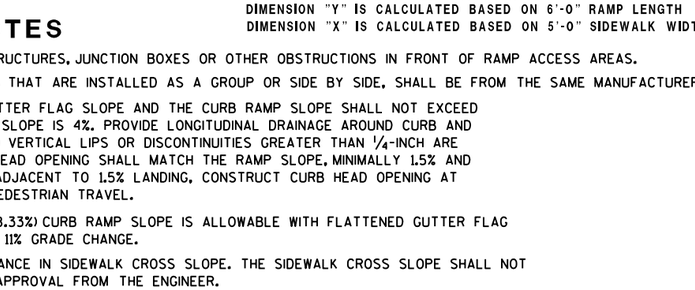
(10) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.



CURB RAMP TYPE 4B1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4B



ISOMETRIC VIEW FOR TYPE 4B1

LEGEND

½" EXPANSION JOINT-SIDEWALK

CONTRACTION JOINT FIELD LOCATED

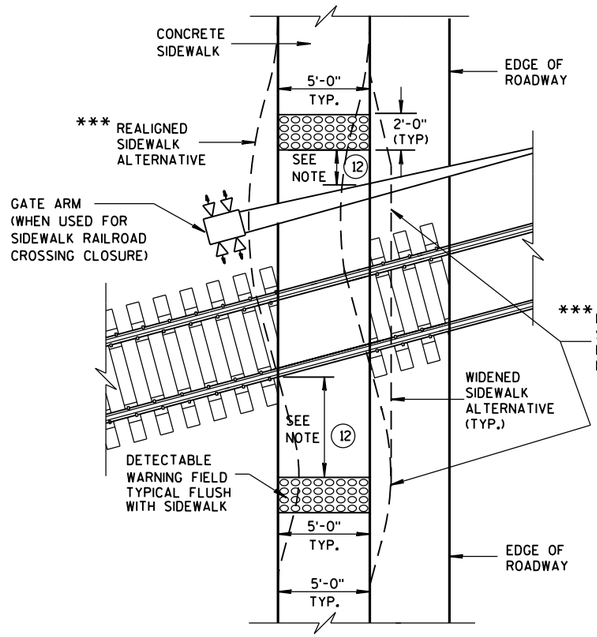
PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS TYPE 4B AND 4B1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

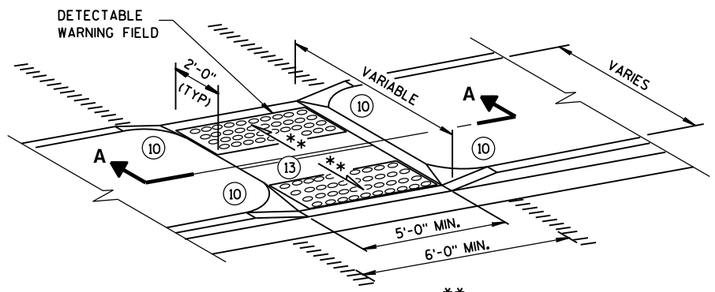
6

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



*** DETAILS TO BE DETERMINED BY DESIGNER

TYPE 8
DETECTABLE WARNINGS AT RAILROAD CROSSING



** 1% MIN. (PROVIDE DRAINAGE)

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.

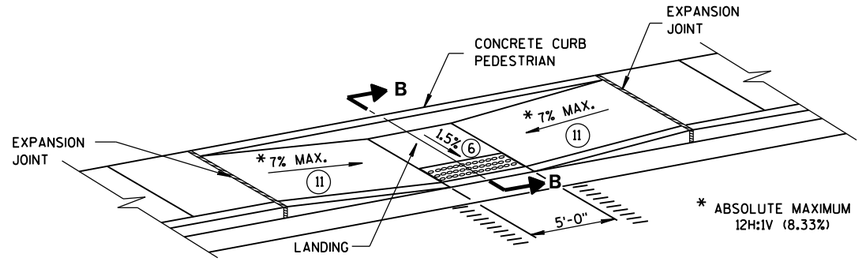
(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.

(10) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

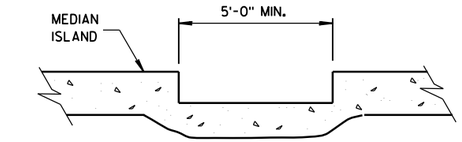
(11) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

(12) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 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.

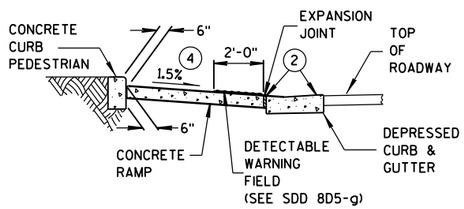
(13) DO NOT INSTALL DETECTABLE WARNING FIELDS AT THE EDGES OF STREET-LEVEL PEDESTRIAN REFUGE ISLANDS IF A MINIMUM 2-FOOT CONCRETE SURFACE WITHOUT DETECTABLE WARNINGS (MEASURED IN THE DIRECTION OF PEDESTRIAN TRAVEL) CANNOT BE ACHIEVED.



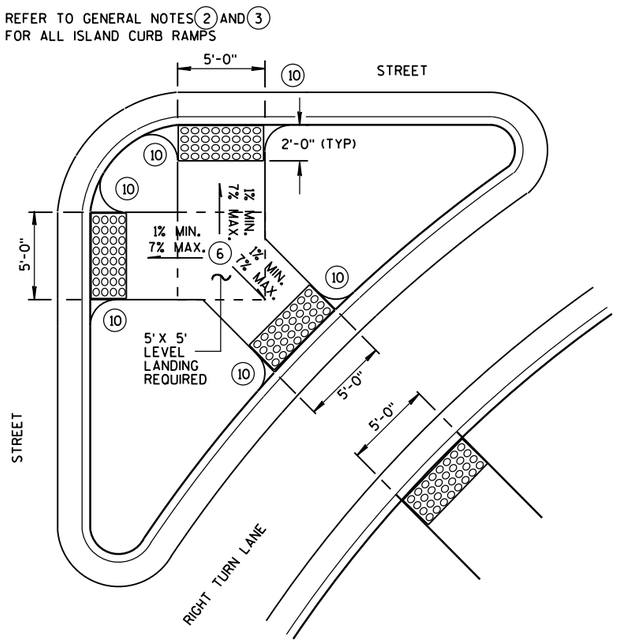
MID-BLOCK CROSSING
TYPE 7A



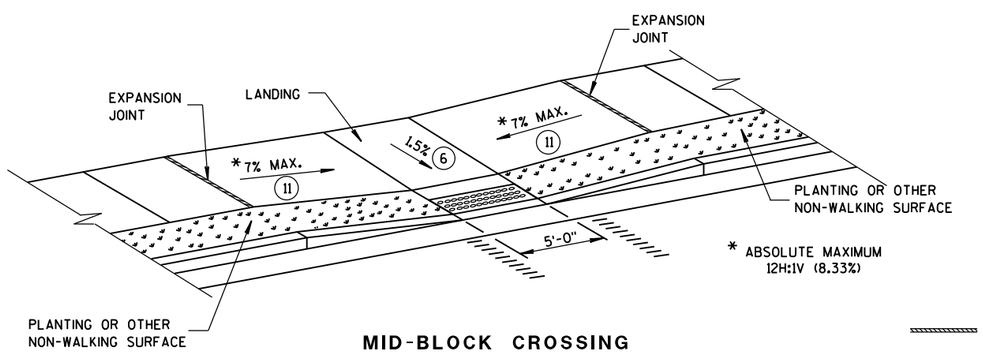
SECTION A-A



SECTION B-B



TYPE 6
DETECTABLE WARNING AT ISLANDS



MID-BLOCK CROSSING
TYPE 7B

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

LEGEND

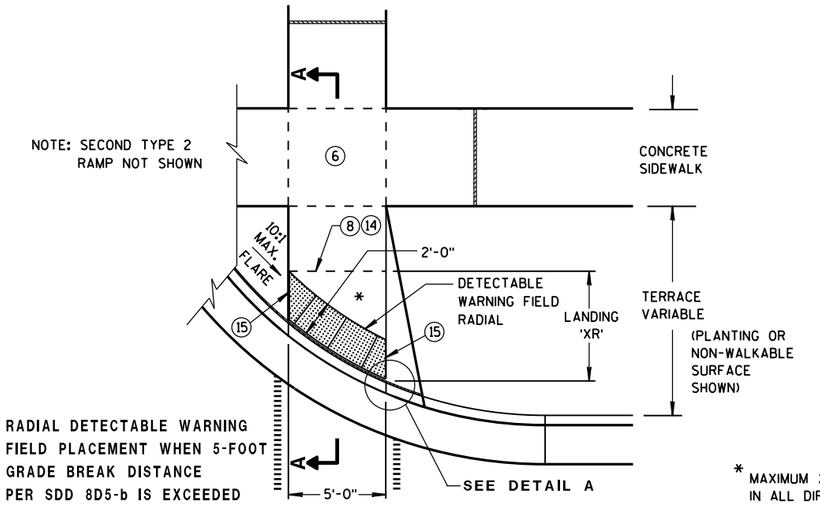
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 8 D 5-19e

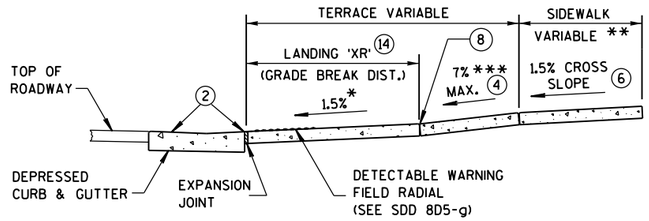


TYPE 2 RAMP
PLAN VIEW
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)
(ON LINE WITH SIDEWALK)

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

LEGEND

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



** WIDTH SHOWN ELSEWHERE IN THE PLANS

*** ABSOLUTE MAXIMUM 12H:1V (8.33%)

SECTION A-A

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.

(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.

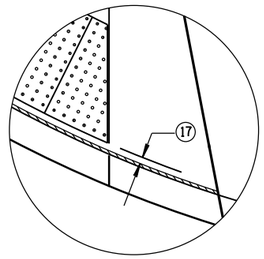
(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

(14) CONSULT ENGINEER IF GRADE BREAK LOCATION (END OF LANDING DIMENSION 'XR') REQUIRES FIELD ADJUSTMENT WHEN ESTABLISHING FINAL RADIAL DETECTABLE WARNING FIELD LOCATION.

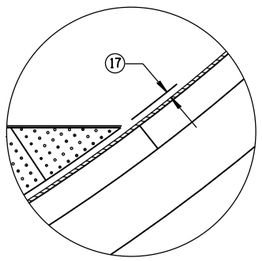
(15) FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN 1/8" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.

(16) USE 1'X 2' RECTANGULAR END PLATE AT END OF TYPE 4A1 RAMP AND PROVIDE MINIMUM 2'-0" DETECTABLE WARNING FIELD COVERAGE (IN DIRECTION OF PEDESTRIAN TRAVEL) ALONG THE ENTIRE CURB RAMP WIDTH.

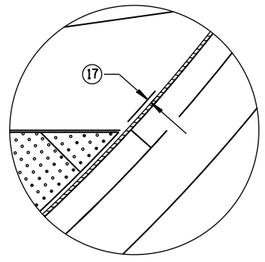
(17) A MAXIMUM 3-INCH CONCRETE BORDER WIDTH IS ALLOWABLE IN FRONT OF RADIAL DETECTABLE WARNING FIELD FOR CONSTRUCTABILITY PURPOSES. CONCRETE BORDER WIDTH MAY VARY UP TO 1 INCH.



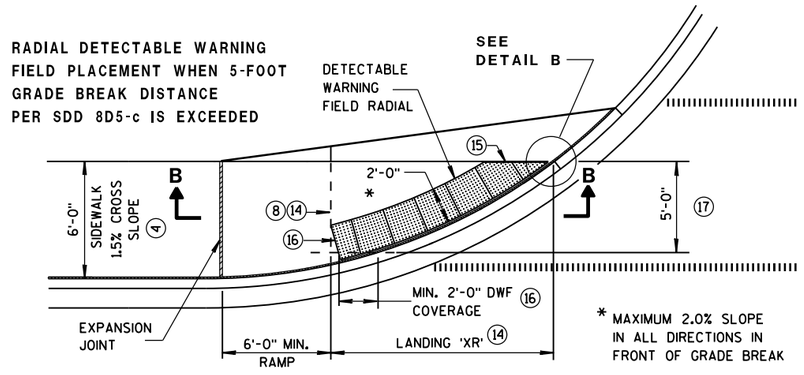
DETAIL A



DETAIL B

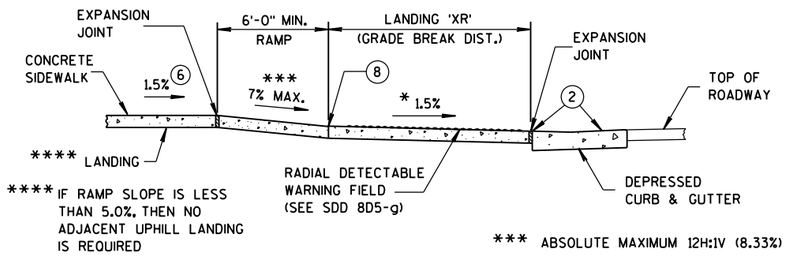


DETAIL C



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

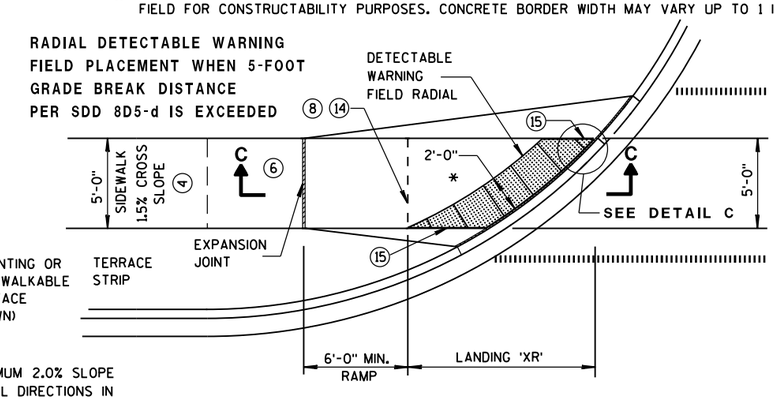
CURB RAMP TYPE 4A1
PLAN VIEW
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)



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

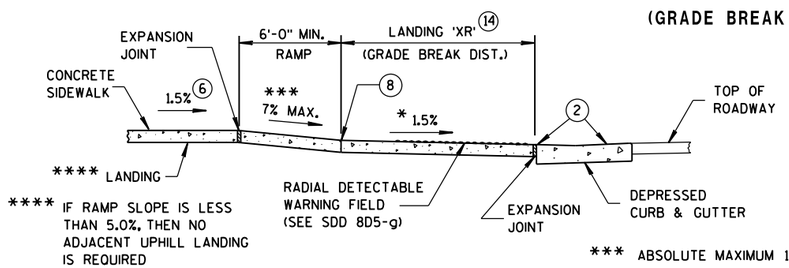
*** ABSOLUTE MAXIMUM 12H:1V (8.33%)

SECTION B-B FOR TYPE 4A1



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

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



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

*** ABSOLUTE MAXIMUM 12H:1V (8.33%)

SECTION C-C FOR TYPE 4B1

CURB RAMPS
RADIAL DETECTABLE WARNING FIELD APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

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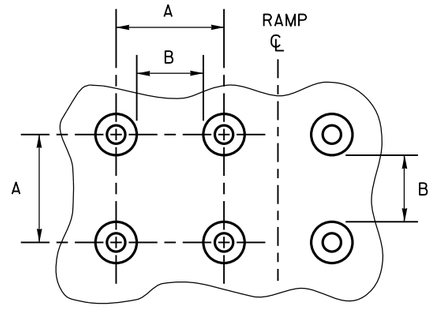
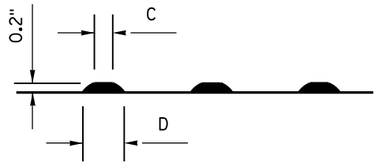
	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

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



PLAN VIEW



ELEVATION VIEW

TRUNCATED DOMES

DETECTABLE WARNING PATTERN DETAIL

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.

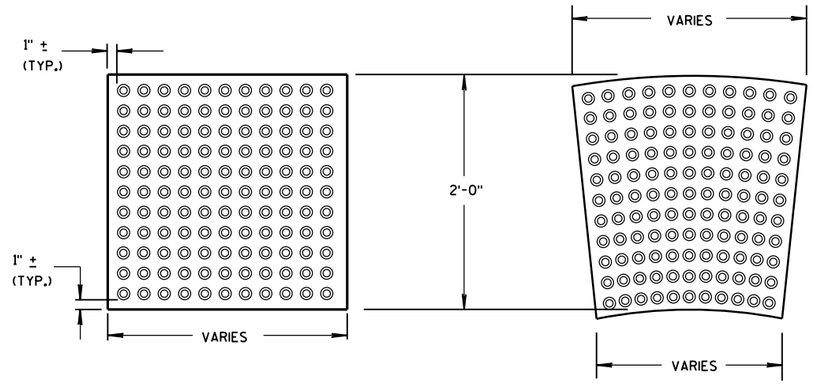
DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

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.

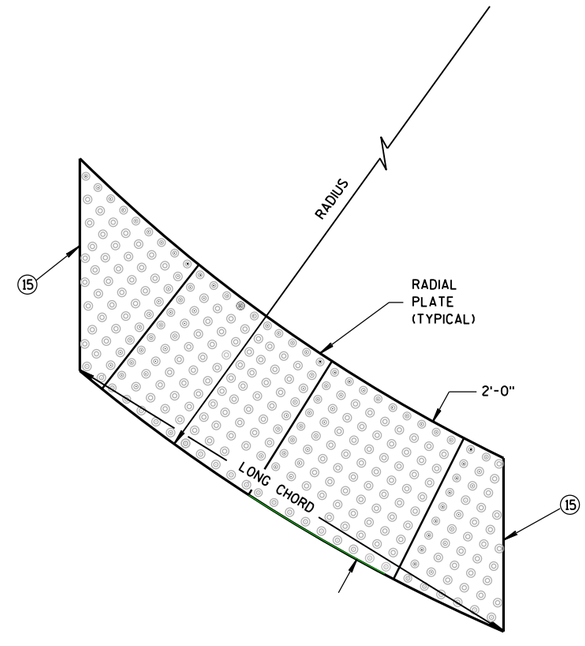


RECTANGULAR PLATES

RADIAL PLATES

DETECTABLE WARNING FIELDS (TYPICAL)

PLAN VIEW



RADIAL DETECTABLE WARNING FIELD ATTRIBUTES

CURB RAMPS
RECTANGULAR AND RADIAL
DETECTABLE WARNING PLATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2017 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERV
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FHWA

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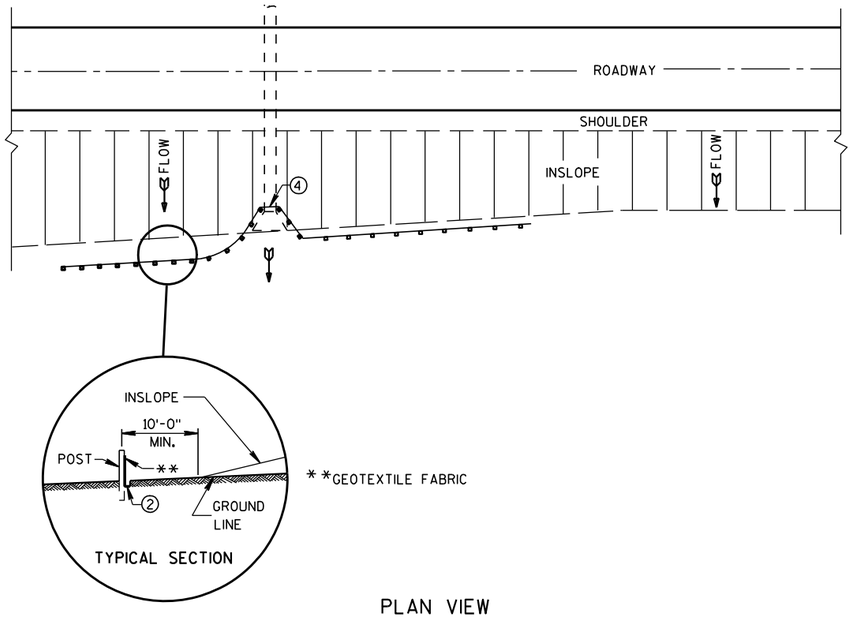
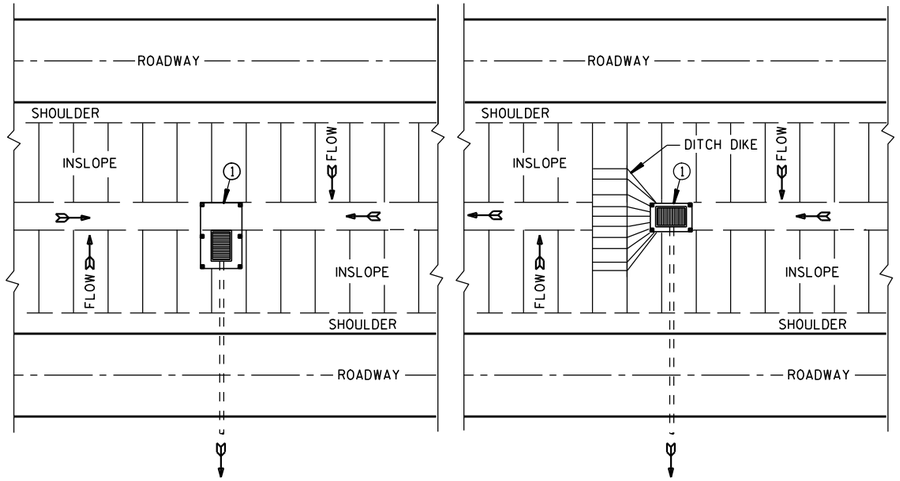


PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



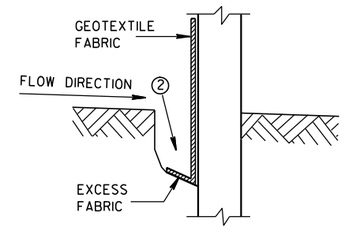
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

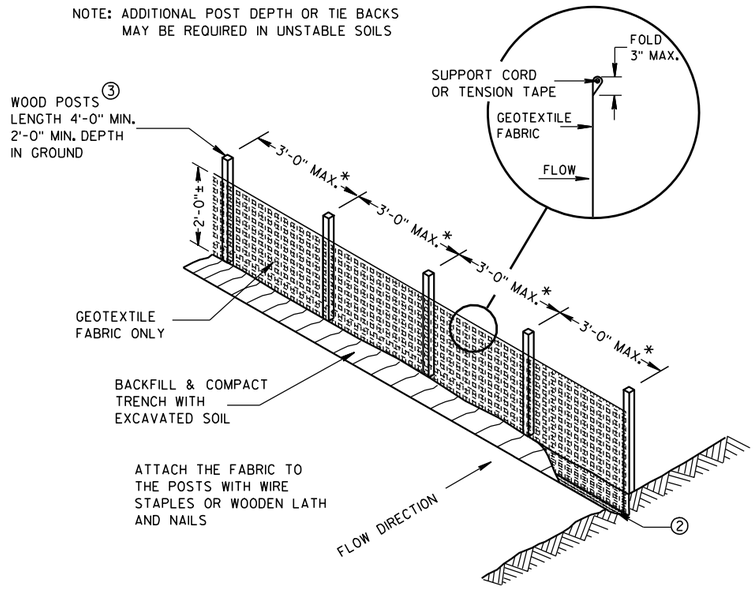
GENERAL NOTES

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

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

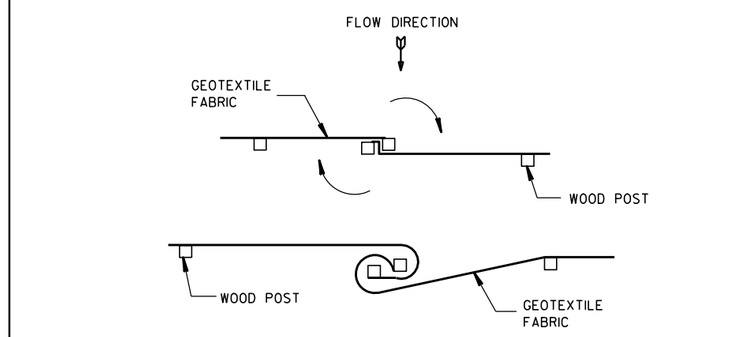


TRENCH DETAIL

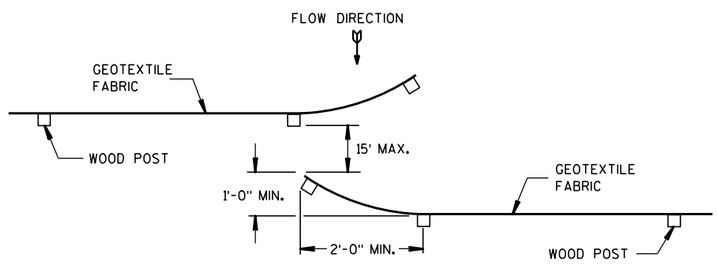


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

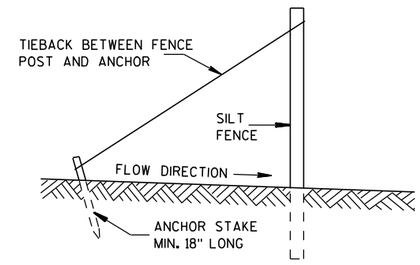


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
4-29-05 DATE	/S/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

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S.D.D. 8 E 9-6

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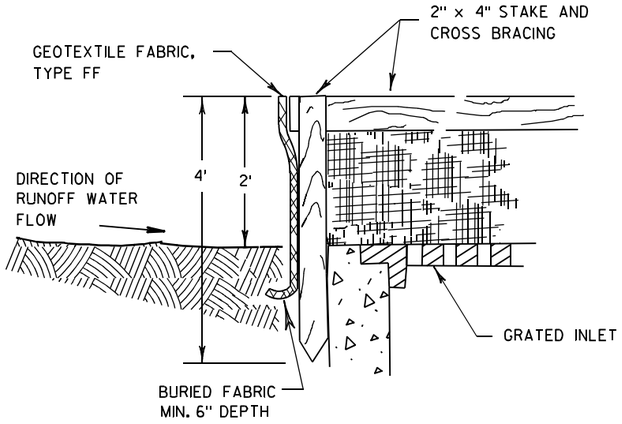
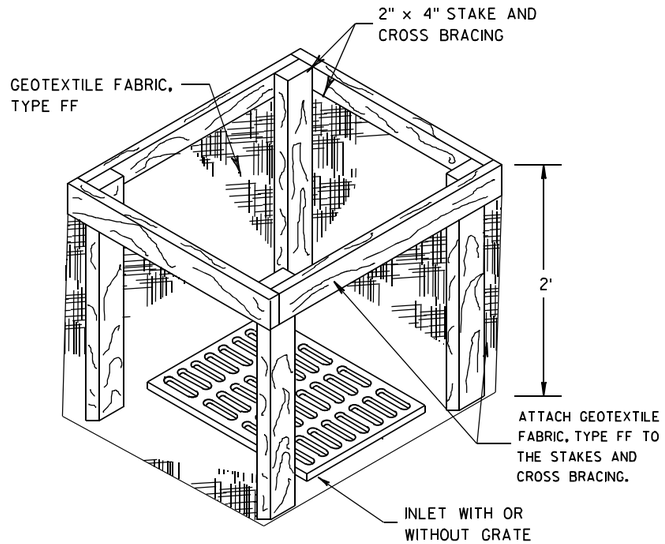
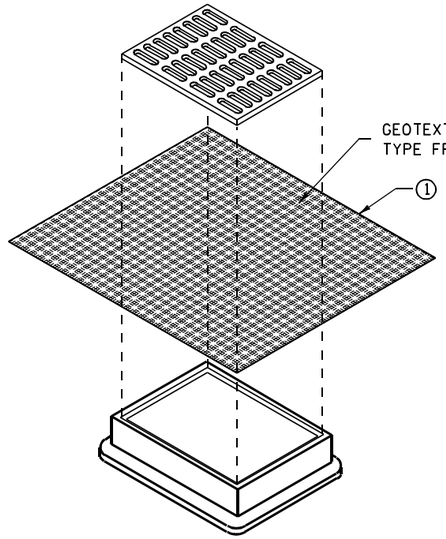
S.D.D. 8 E 9-6



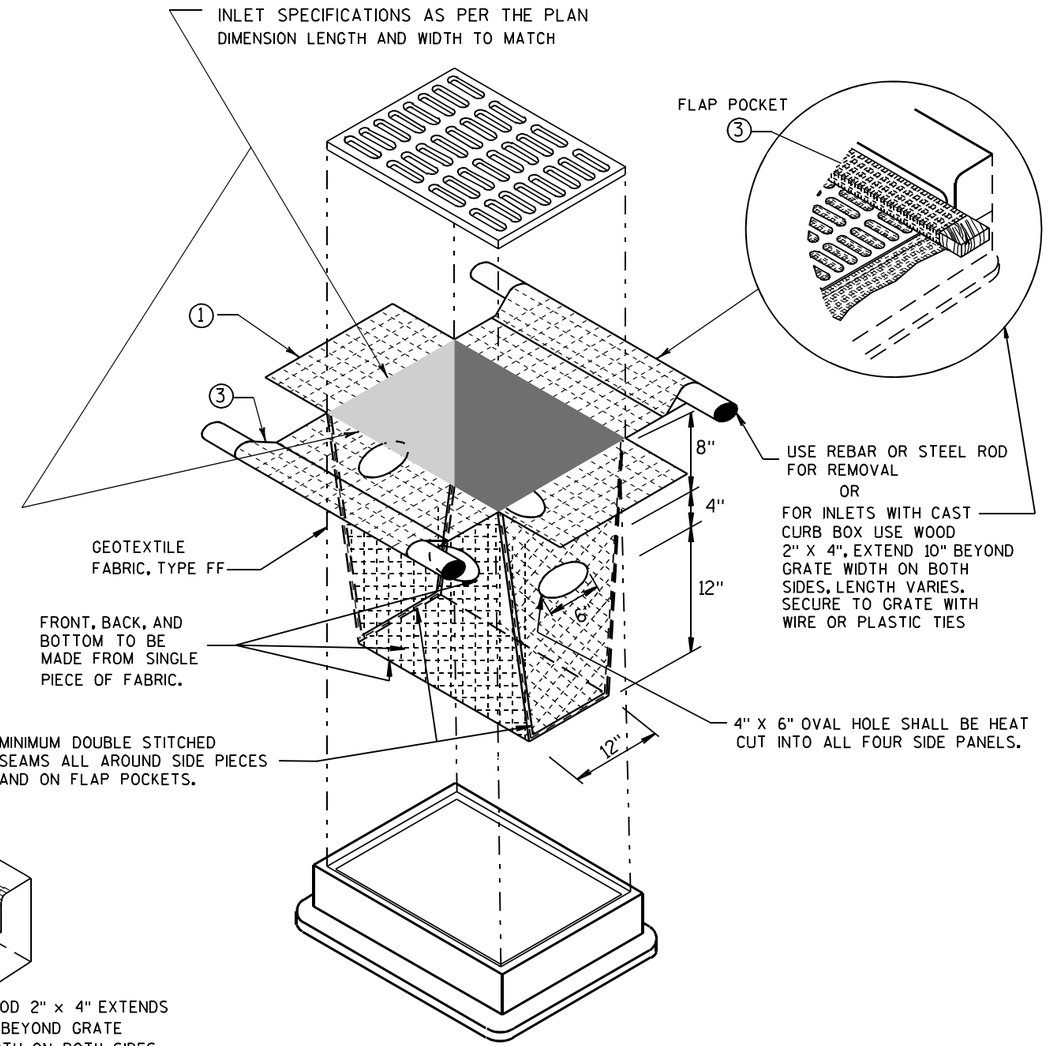


INLET PROTECTION, TYPE A



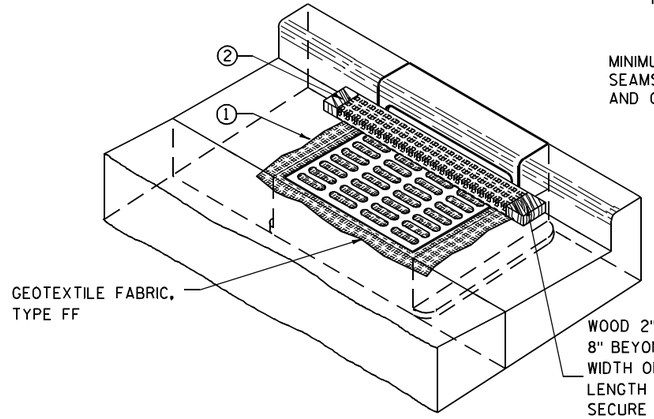
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE D

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

GENERAL NOTES

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

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

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

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/16/02
DATE

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

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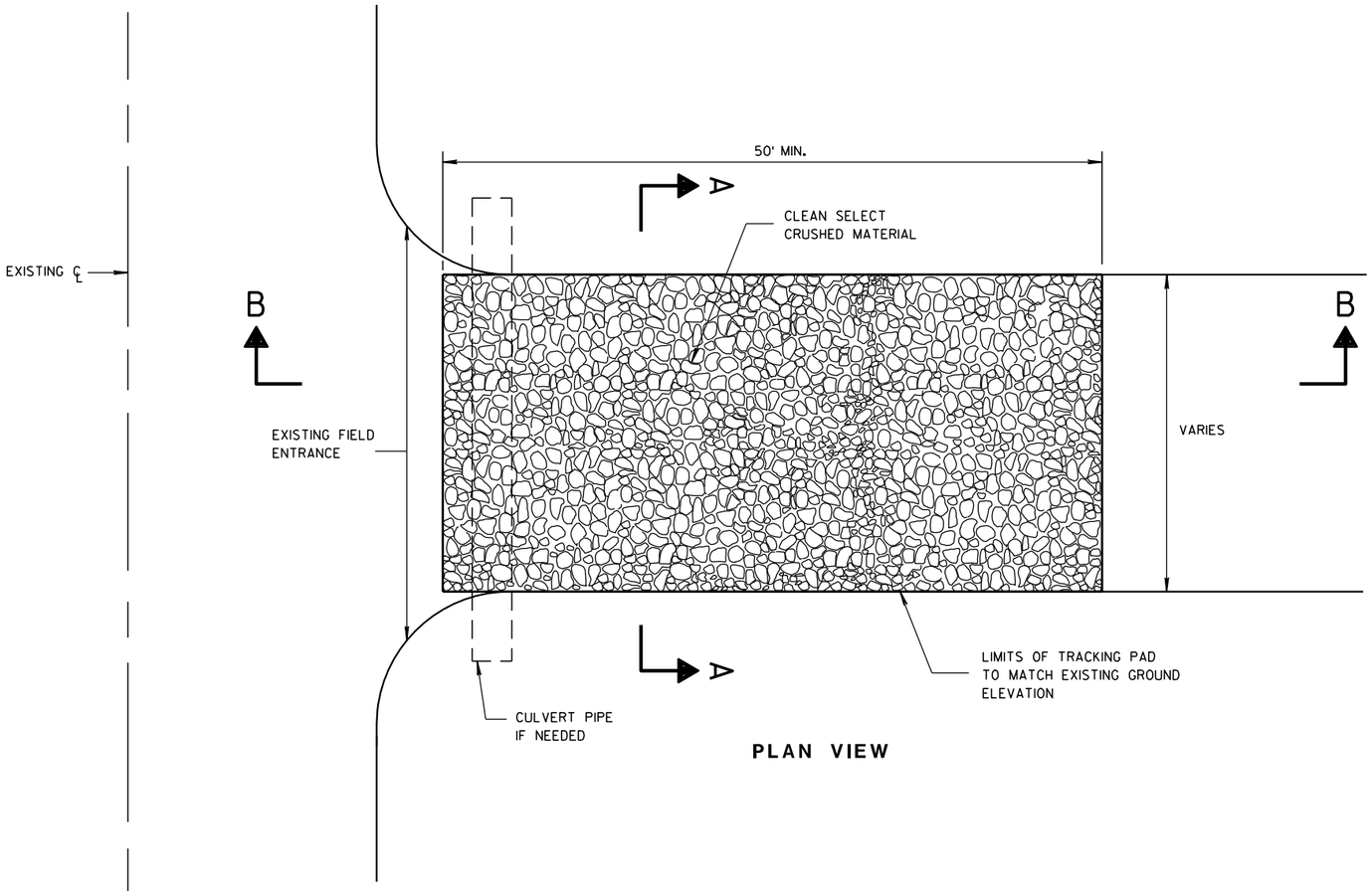
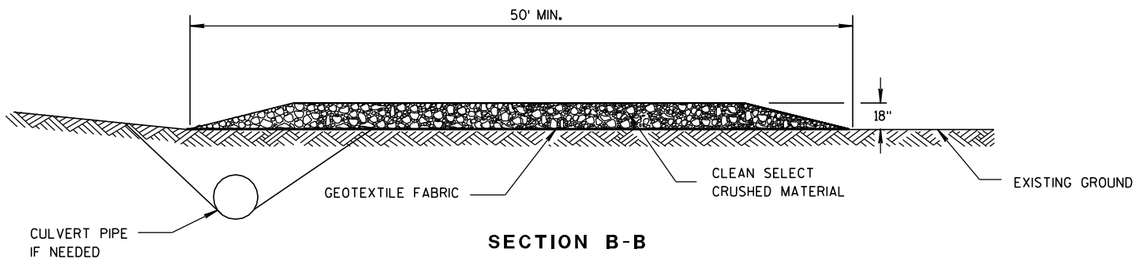
S.D.D. 8 E 10-2



PLAN VIEW



SECTION B-B

GENERAL NOTES

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

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

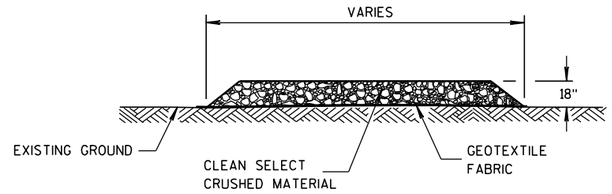
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

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

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

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

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



SECTION A-A

TRACKING PAD

6

S.D.D. 8 E 14-1

TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/24/2011	/S/ Jerry H. Zoda	
DATE	ROADWAY STANDARDS ENGINEER	ENT

FHWA

6

S.D.D. 8 E 14-1

METAL APRON ENDWALLS

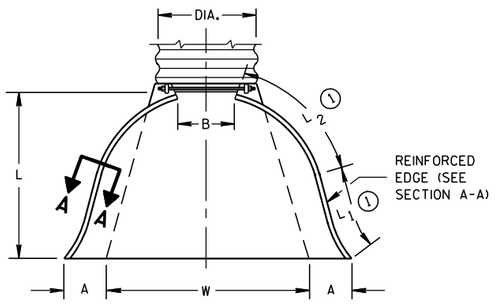
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109×	.105×	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

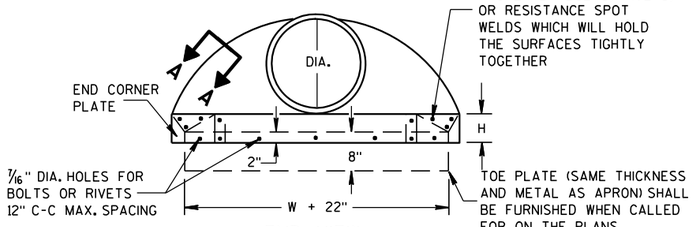
REINFORCED CONCRETE APRON ENDWALLS

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

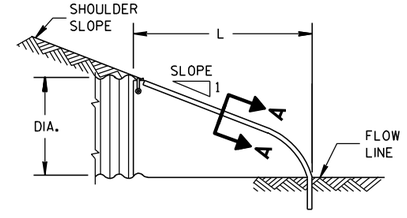
*MINIMUM
**MAXIMUM



PLAN VIEW

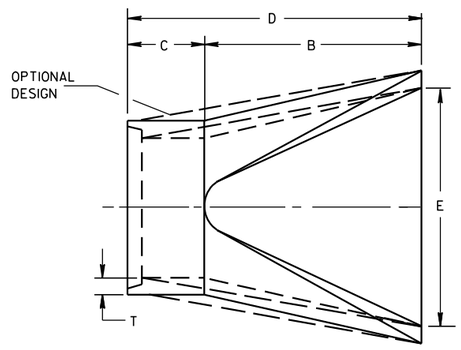


END VIEW

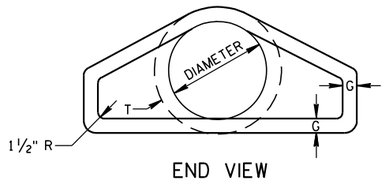


SIDE ELEVATION

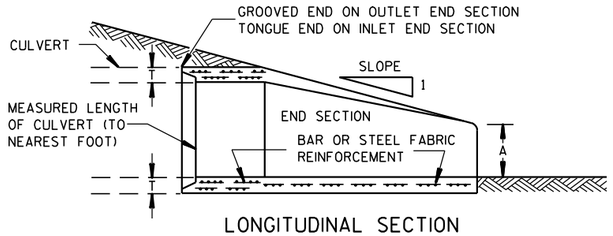
METAL ENDWALLS



PLAN

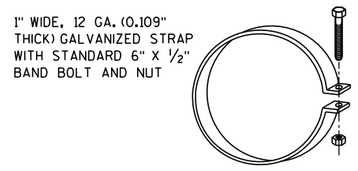


END VIEW



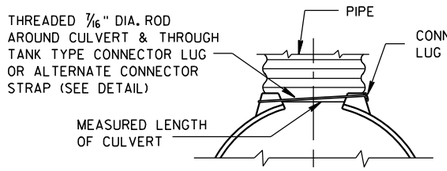
LONGITUDINAL SECTION

CONCRETE ENDWALLS

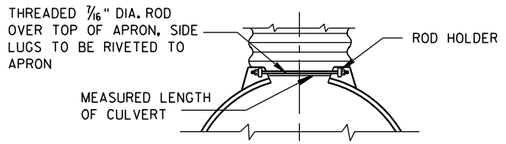


ALTERNATE FOR TYPE 1 CONNECTION

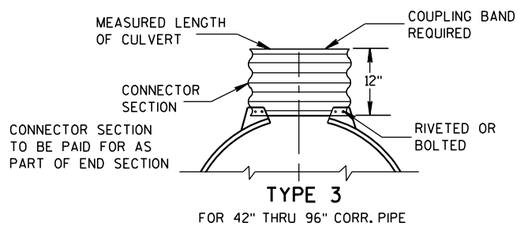
END SECTION CONNECTOR STRAP



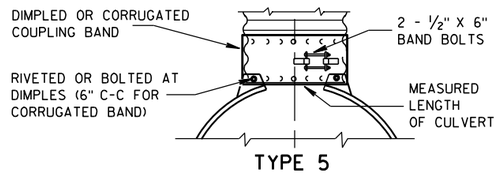
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

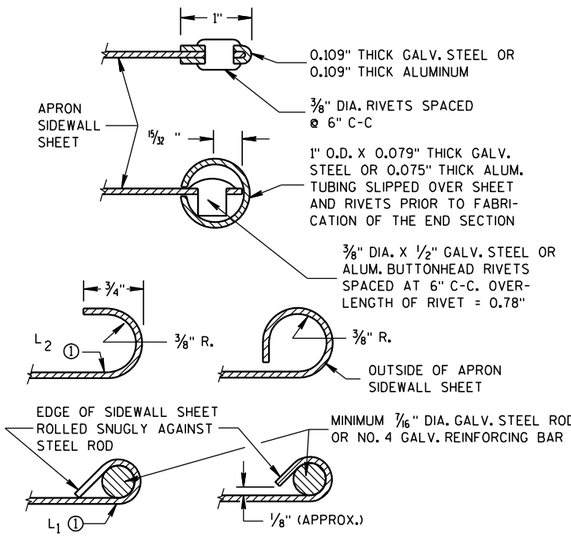
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

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

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

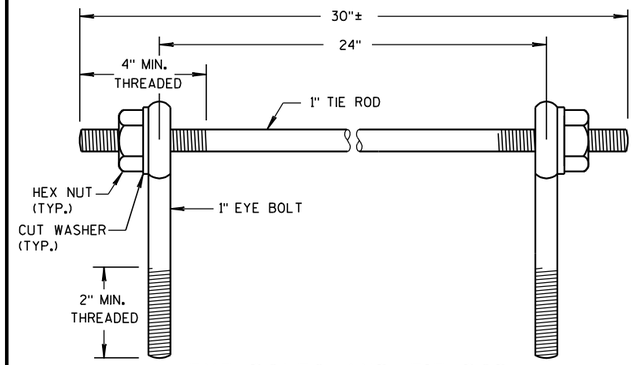
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

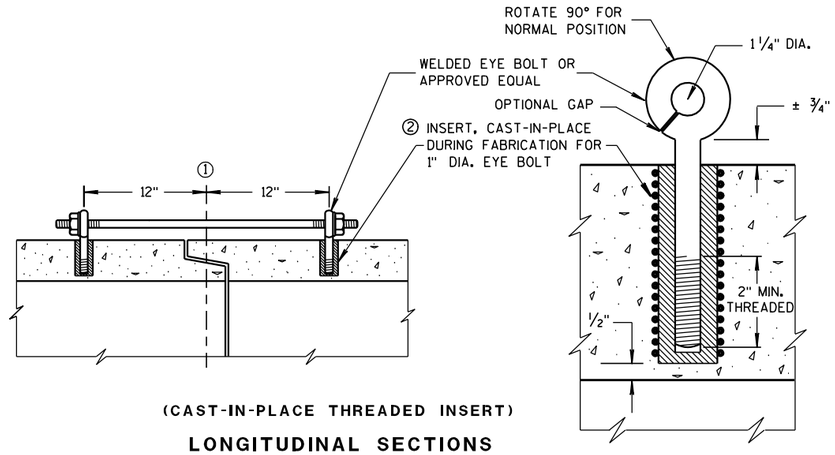
APPROVED
11/30/94 — DATE
/S/ Rory L. Rhinesmith — CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 F 1-11



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

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

GENERAL NOTES

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

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

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

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

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

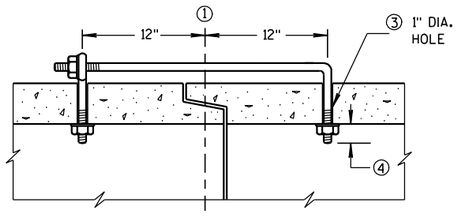
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

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

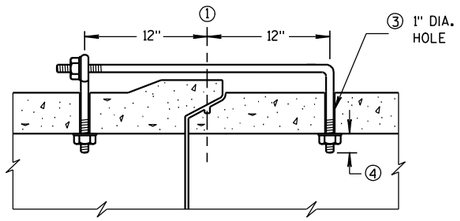
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

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



(TONGUE & GROOVE PIPE)

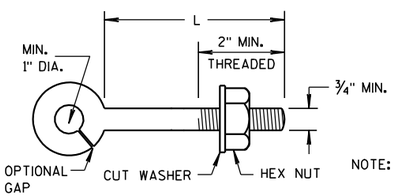


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

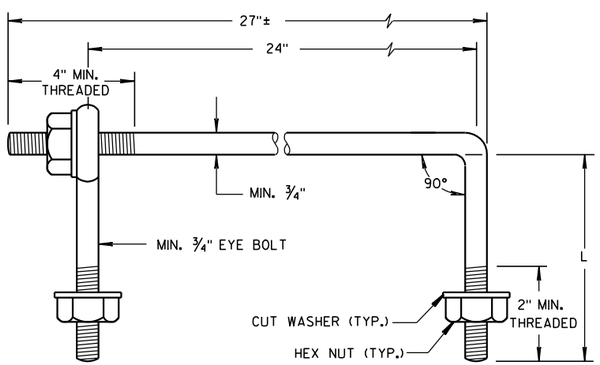
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

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



EYE BOLT AND TIE ROD

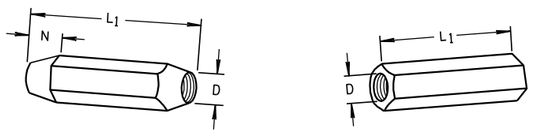
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

ADJUSTABLE TIE ROD TABLE

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

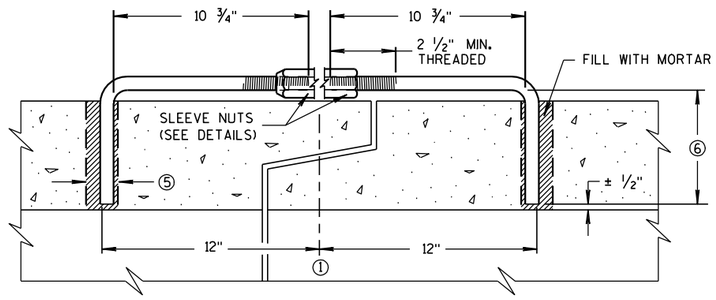
DIMENSIONS SHOWN ARE IN INCHES



TAPERED PLAIN

RIGHT AND LEFT THREADS

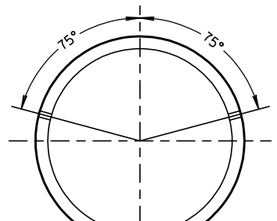
SLEEVE NUTS



LONGITUDINAL SECTION

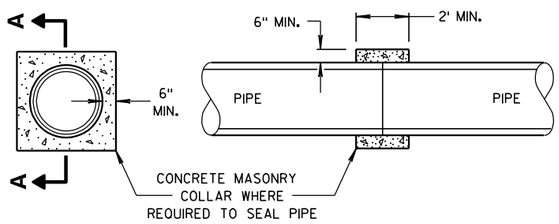
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



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

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

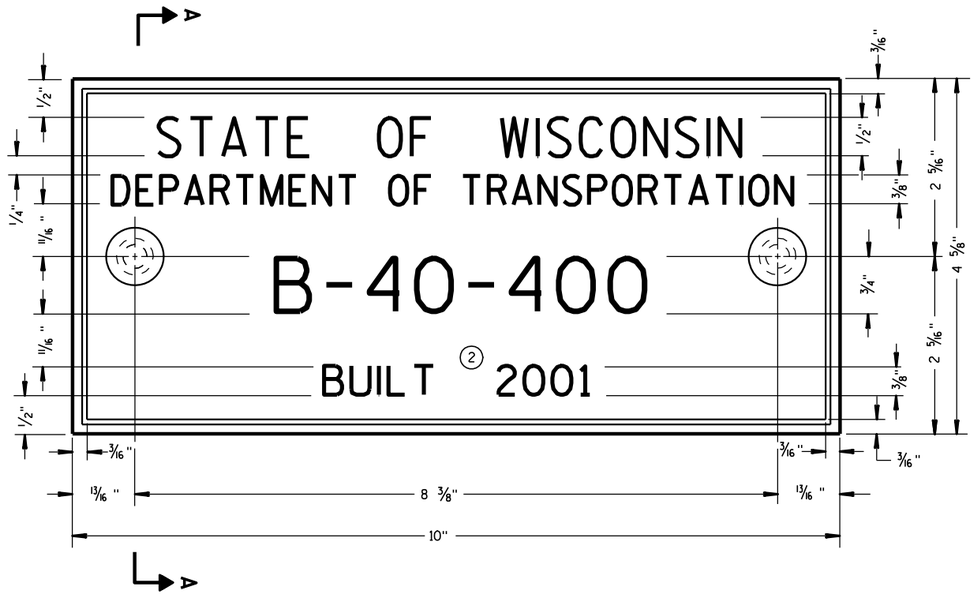
JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

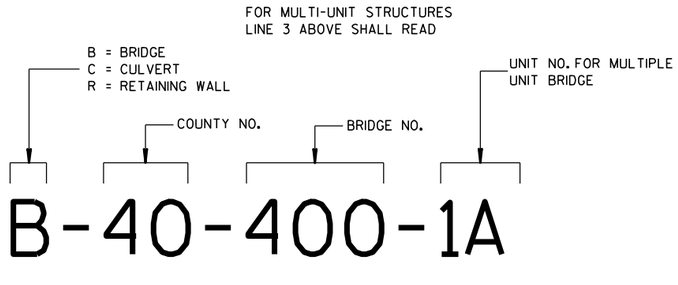
APPROVED
6/5/2012 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
42
FHWA

6

S.D.D. 8 F 4-7



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



NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

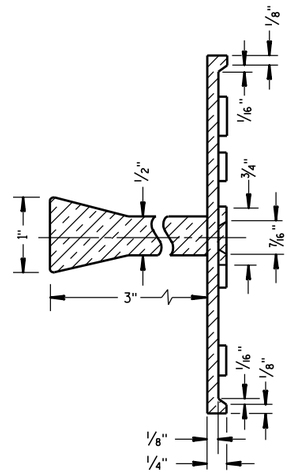
GENERAL NOTES

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.

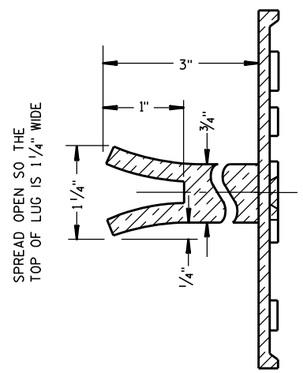
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(1) EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

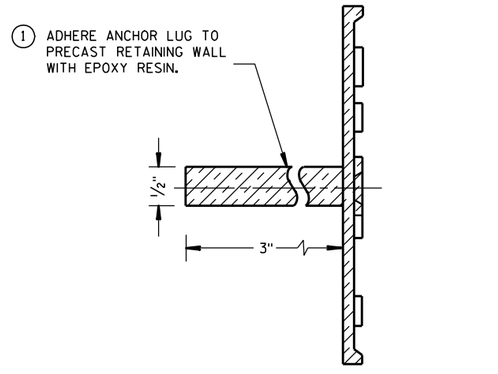
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

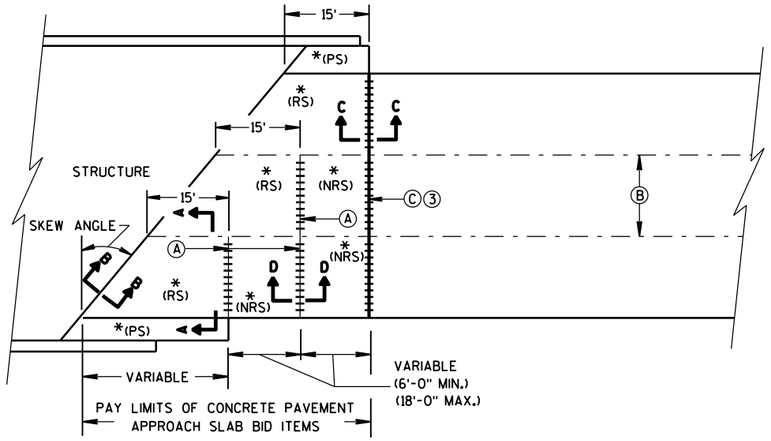
APPROVED

3/26/10 DATE — /S/ Scot Beck — CHIEF STRUCTURAL DEVELOPMENT ENGINEER

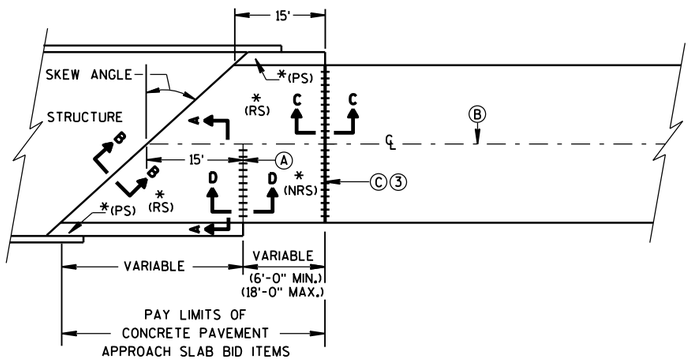
FHWA

6

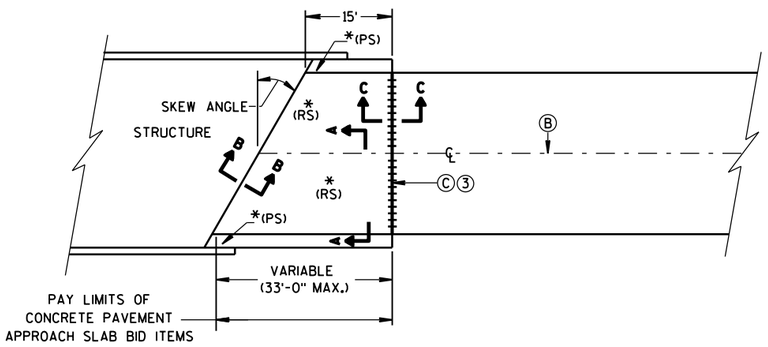
S.D.D. 12 A 3-10



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >20°
(PAVEMENT WIDTH ≤30')



SKEWS ≤20°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

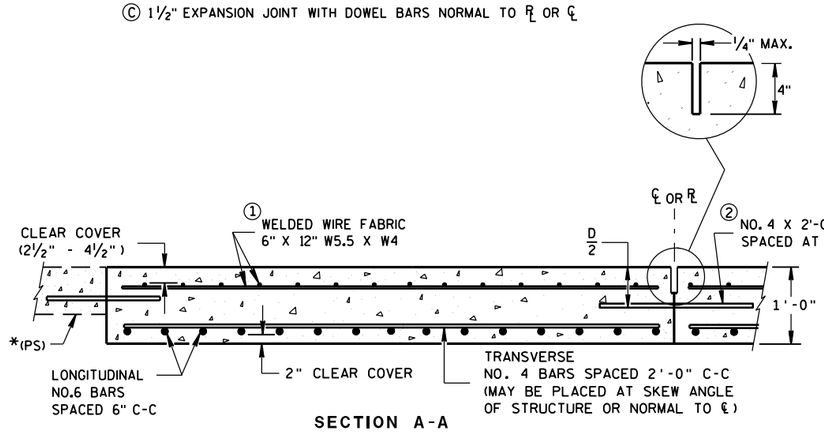
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

***STANDARD DOWEL BAR DIAMETER
(SEE SDD 13C11, & SDD 13C13)

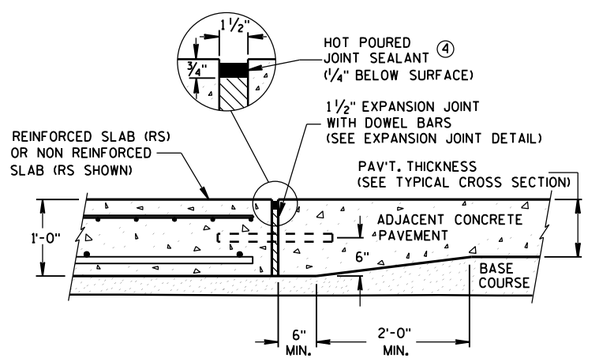
Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄

Ⓑ STANDARD LONGITUDINAL JOINT WITH TIE BARS.

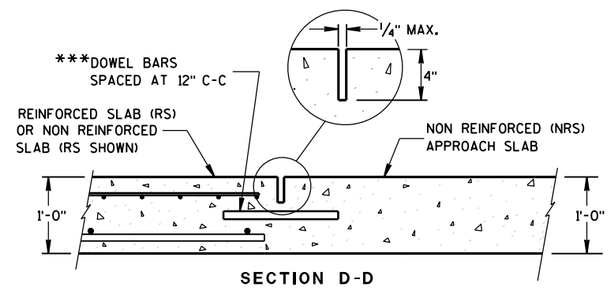
Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

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

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

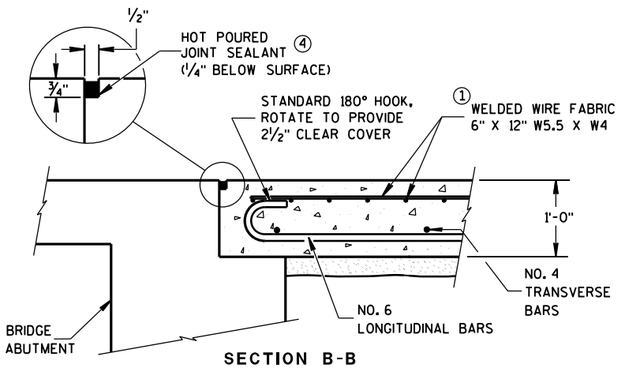
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

② THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.

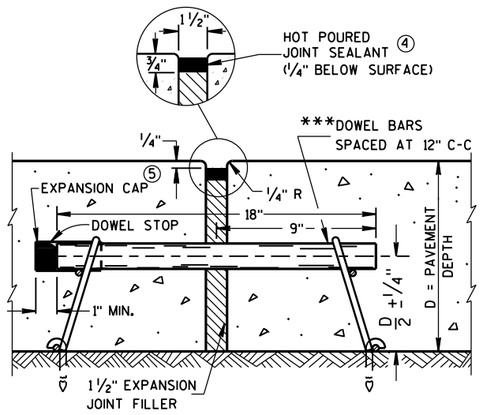
③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

④ USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.

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



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE
/S/ Peter Kemp, P.E.
PAVEMENT SUPER
FHWA

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S.D.D. 13 B 2-8a

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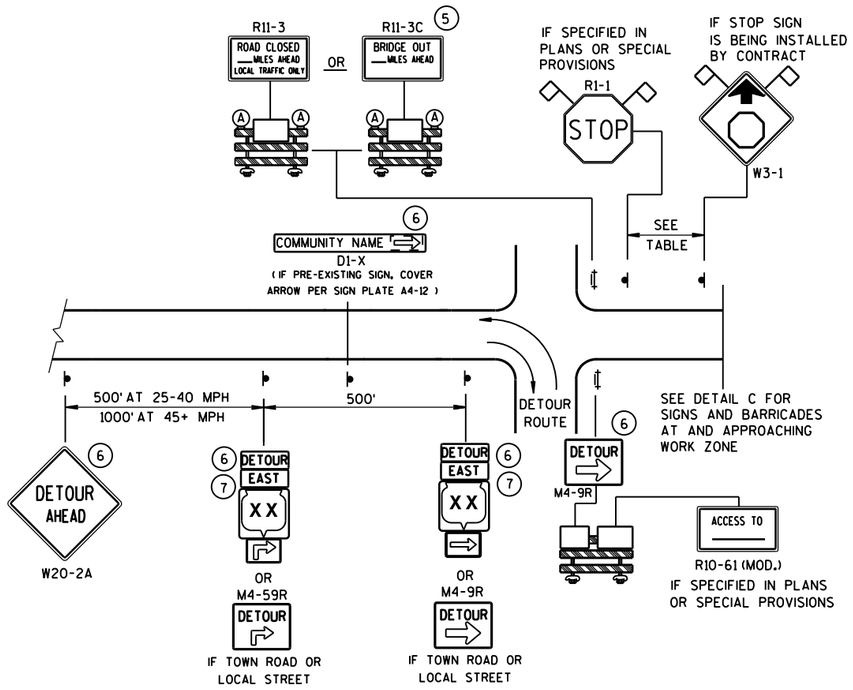
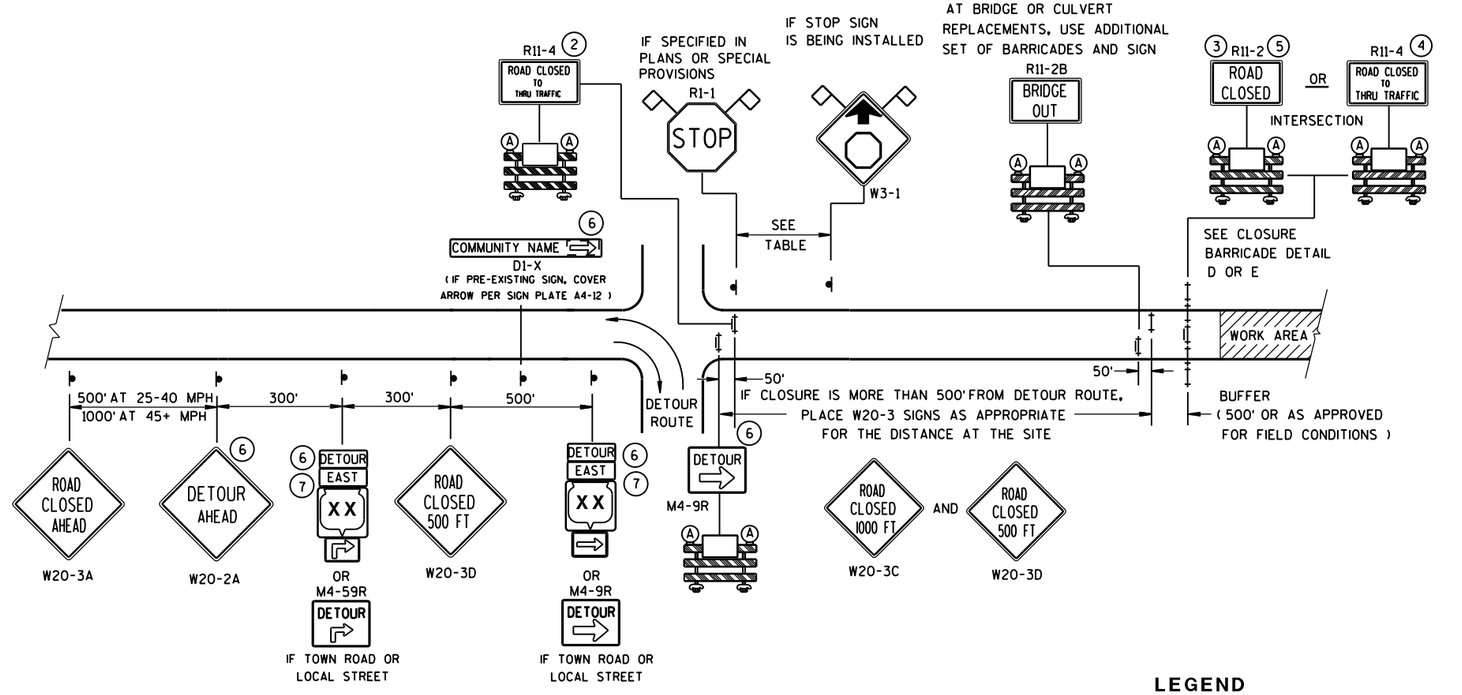
S.D.D. 13 B 2-8a



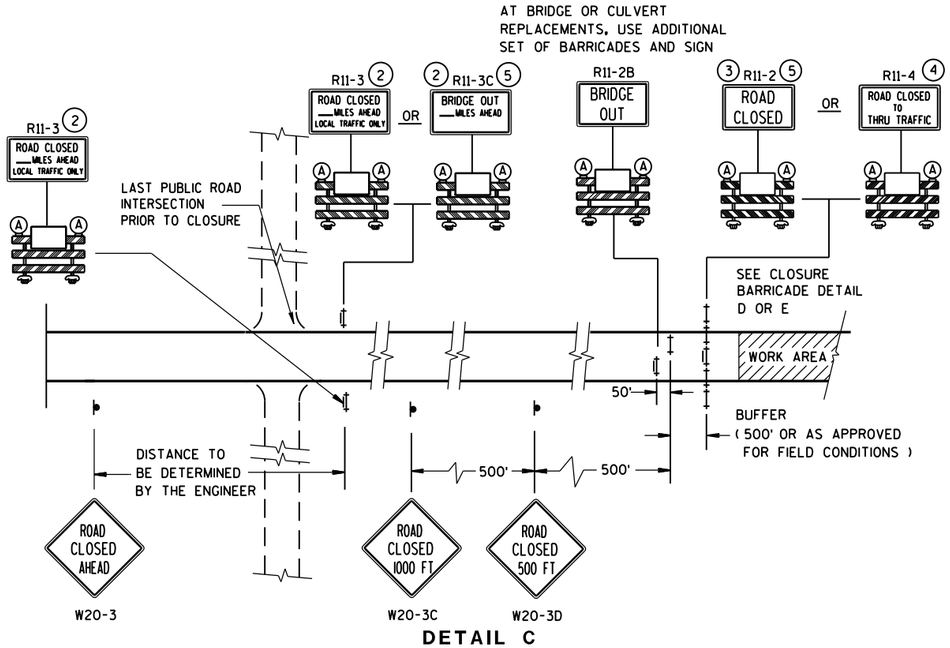
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1 OR M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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S.D.D. 15 C 2-6a

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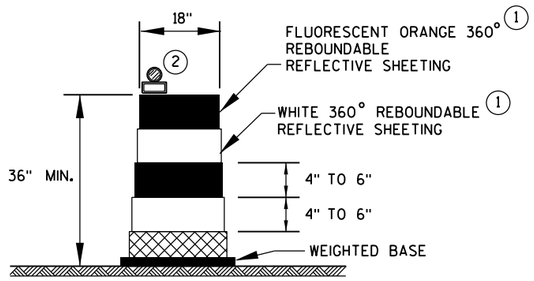
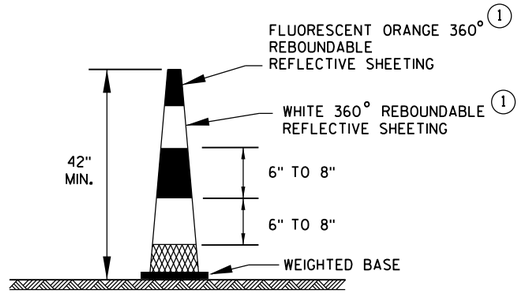
S.D.D. 15 C 2-6a



DRUM

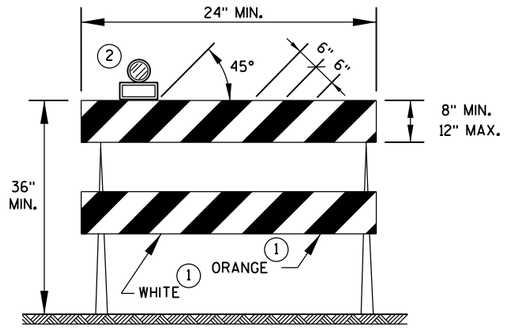


42" CONE

DO NOT USE IN TAPERS
1/2 SPACING OF DRUMS

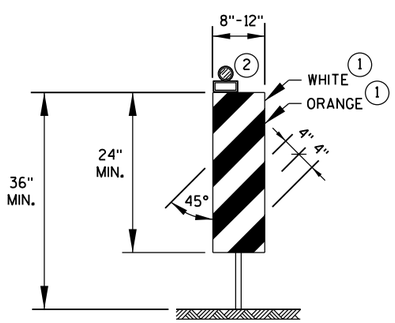
GENERAL NOTES

1. REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
2. LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.



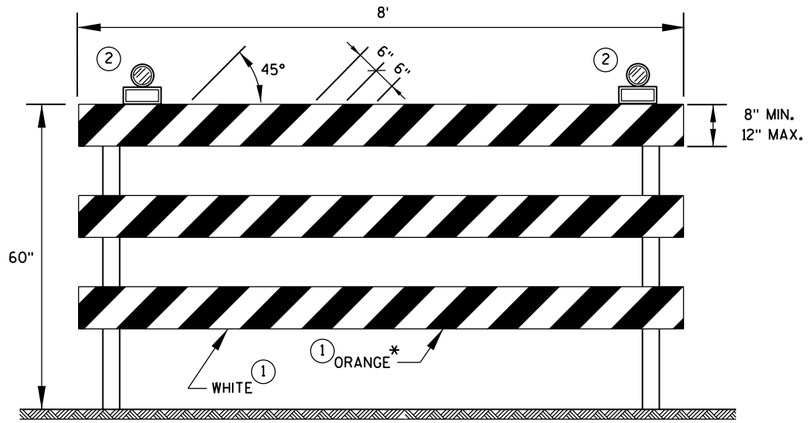
TYPE 2 BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD TO THE TRAFFIC SIDE FOR CHANNELIZATION.



VERTICAL PANEL

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



TYPE 3 BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION, USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2017 — DATE

/S/ Andrew Heidtke — WORK ZONE ENG

FHWA

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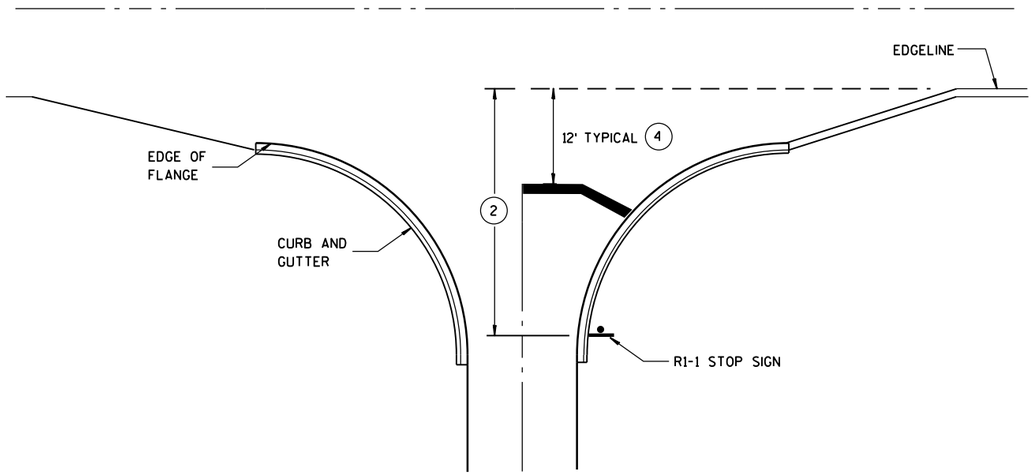
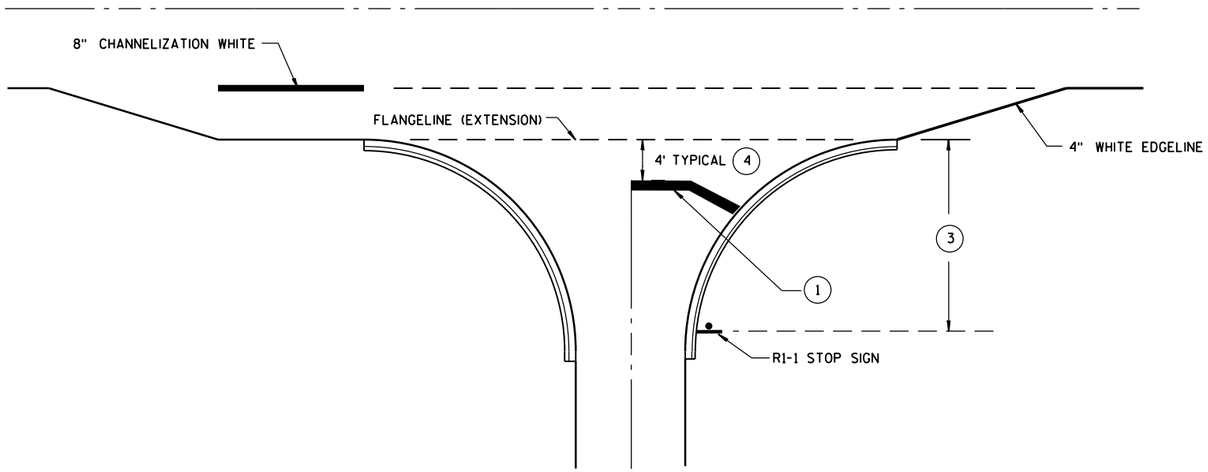
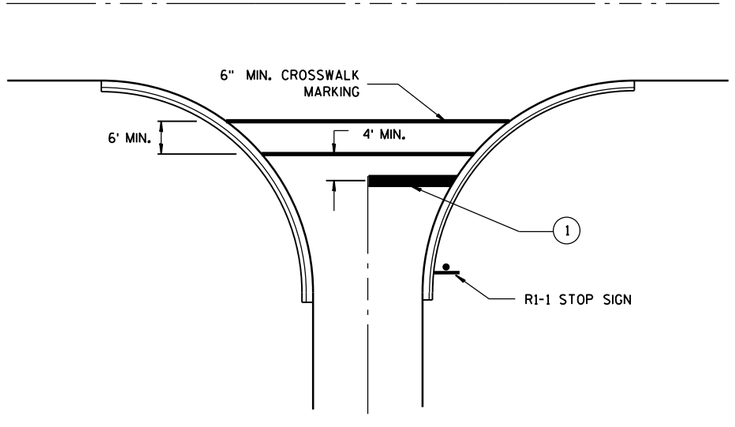
S.D.D. 15 C 11-7b



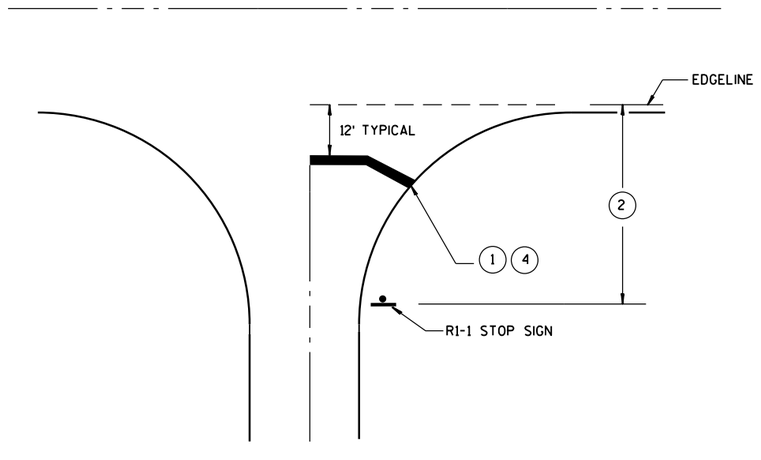
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

GENERAL NOTES

1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE THAN NO STOP LINE IS REQUIRED.
3. IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.
4. MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES. (NO CLOSER THAN 4 FEET).

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4-18-2016
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MAR

NEER

FHWA

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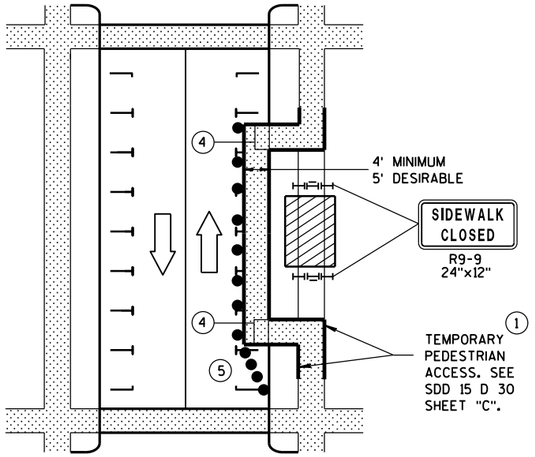
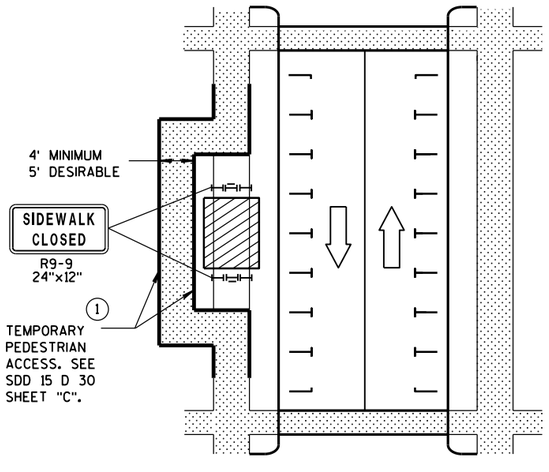
S.D.D. 15 C 33-2

NOTE: MAY BE USED ON ROADWAY WITH POSTED SPEED OF LESS THAN 40 MPH.

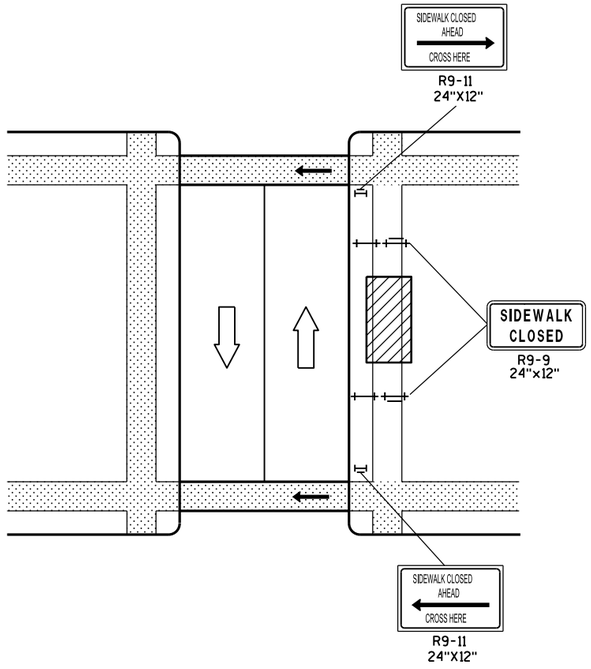


MID-BLOCK SIDEWALK CLOSURE IN PARKING LANE

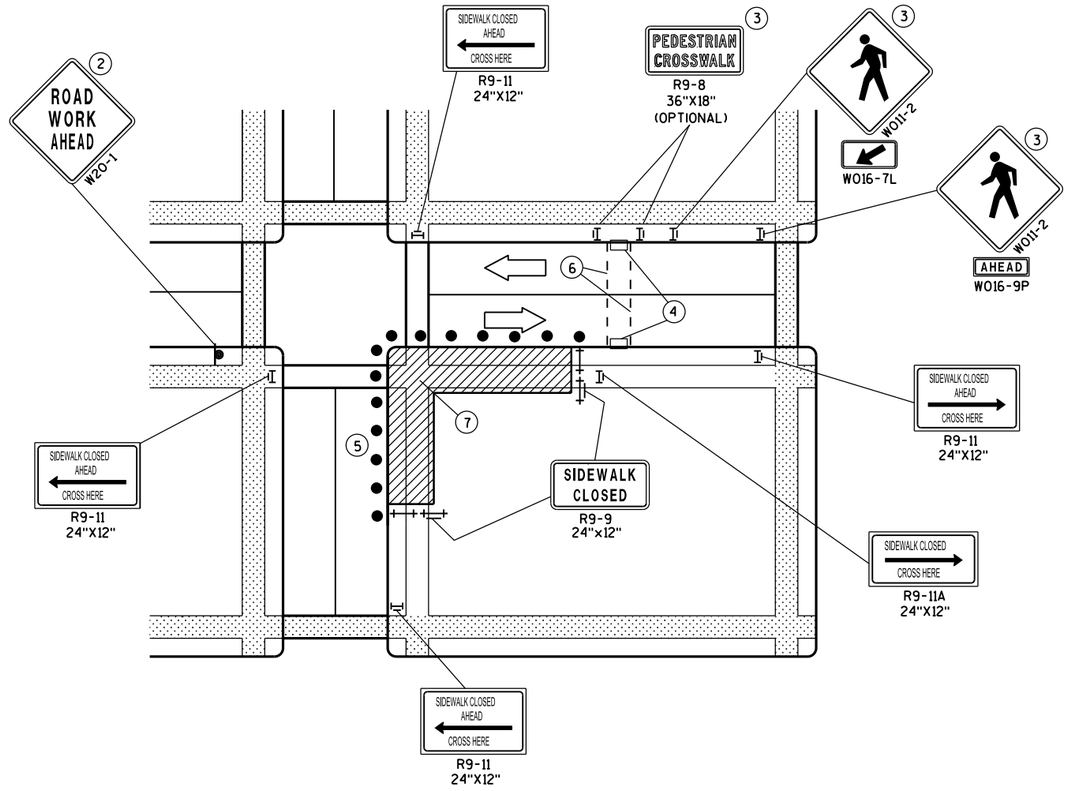
NOTE: LAYOUT SAME AS ABOVE.



SIDEWALK DIVERSION



MID-BLOCK SIDEWALK CLOSURE



CORNER SIDEWALK CLOSURE WITH TEMPORARY CROSSWALK

GENERAL NOTES

WHEN CLOSING OR RELOCATING CROSSWALKS OR SIDEWALKS, PROVIDE DETECABLE TEMPORARY FACILITIES AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES.

TEMPORARY TRAFFIC CONTROL DEVICES FOR PEDESTRIANS ARE SHOWN. OTHER DEVICES MAY BE NECESSARY TO CONTROL VEHICULAR TRAFFIC. STAGE WORK, AS NECESSARY, TO PROVIDE A TEMPORARY PEDESTRIAN ACCESS ROUTE AT ALL TIMES. FOR ROADWAYS WITH NO AVAILABLE DETOURS, MAINTAIN ONE OPEN SIDEWALK AT ALL TIMES.

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

FOR NIGHTTIME CLOSURE USE TYPE "A" FLASHING WARNING LIGHTS ON BARRICADES, SUPPORTING SIGNS AND CLOSING SIDEWALK. USE TYPE "C" STEADY BURN LIGHTS ON CHANNELIZING DEVICES SEPARATING THE WORK AREA FROM VEHICULAR TRAFFIC.

PEDESTRIAN TRAFFIC SIGNAL DISPLAY CONTROLLING CLOSED CROSSWALK SHALL BE COVERED OR DEACTIVATED.

POST MOUNTED SIGNS LOCATED ADJACENT TO A SIDEWALK SHALL HAVE A 7 FOOT MINIMUM CLEARANCE FROM THE BOTTOM OF THE SIGN TO THE SIDEWALK SURFACE.

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

(1) IF SIDEWALK CLOSURE AFFECTS AN ACCESSIBLE AND DETECTABLE FACILITY, MAINTAIN ACCESSIBILITY AND DETECTABILITY ALONG THE ALTERNATE PEDESTRIAN ROUTE.

(2) "ROAD WORK AHEAD" SIGNS ARE NOT REQUIRED IF THE SIDEWALK CLOSURE OCCURS WITHIN A LARGER WORK ZONE WHERE ADVANCE WARNING SIGNS ARE ALREADY PRESENT, OR IF THE WORK AREA AND EQUIPMENT ARE MORE THAN 2 FEET BEHIND THE CURB.

(3) IF TEMPORARY PEDESTRIAN CROSSWALK IS NOT PROVIDED, OMIT R9-8 AND W011-2 SIGN ASSEMBLIES. IF PROVIDED INCLUDE ON BOTH SIDES OF THE CROSSWALK.

(4) TEMPORARY CURB RAMPS. SEE SDD 15 D 30 SHEET "B".

(5) DRUMS OR BARRICADES AT 25 FOOT SPACING. STREET PARKING SHALL BE PROHIBITED FOR AT LEAST 50 FEET IN ADVANCE OF THE MID-BLOCK CROSSWALK.

(6) TEMPORARY PAVEMENT MARKING FOR CROSSWALK LINES.

(7) LIMIT WORK TO ONE QUADRANT AT A TIME TO MINIMIZE PEDESTRIAN DISRUPTION.

LEGEND

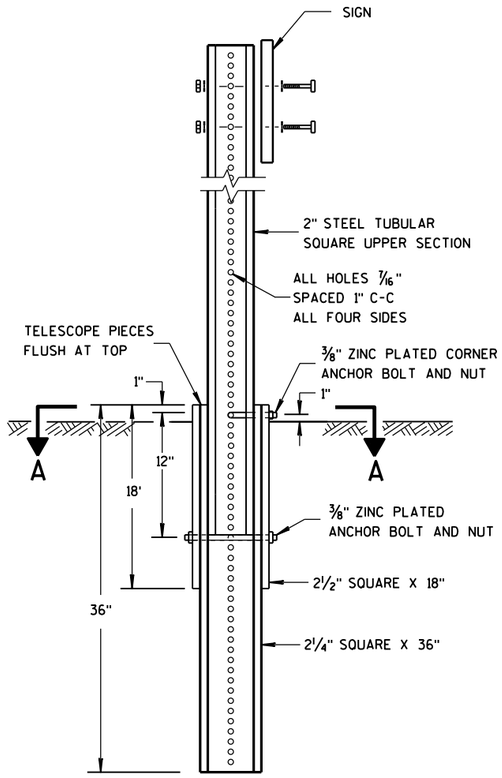
- SIGN ON PERMANENT SUPPORT
- UNDER PEDESTRIAN TRAFFIC
- WORK AREA
- PEDESTRIAN CHANNELIZATION DEVICE
- TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- TYPE III BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- DIRECTION OF TRAFFIC
- TRAFFIC CONTOL DRUM

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

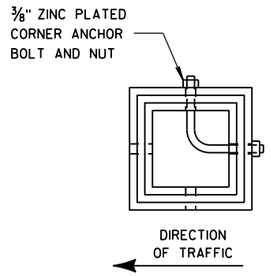
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

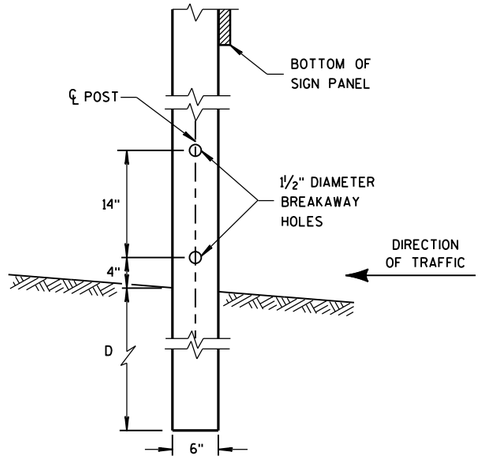
S.D.D. 15 D 30-3a



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



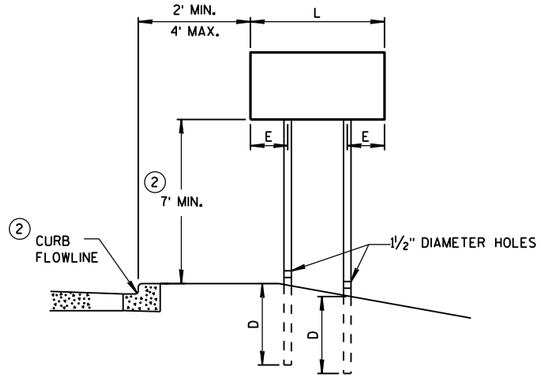
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

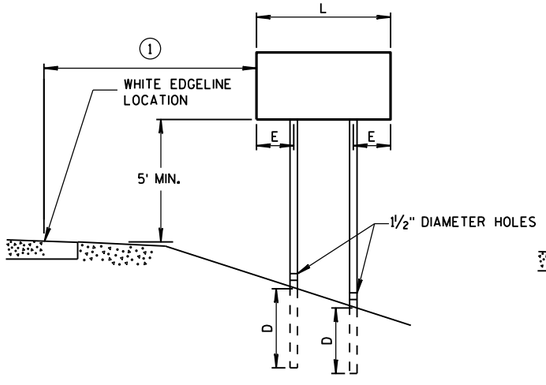
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

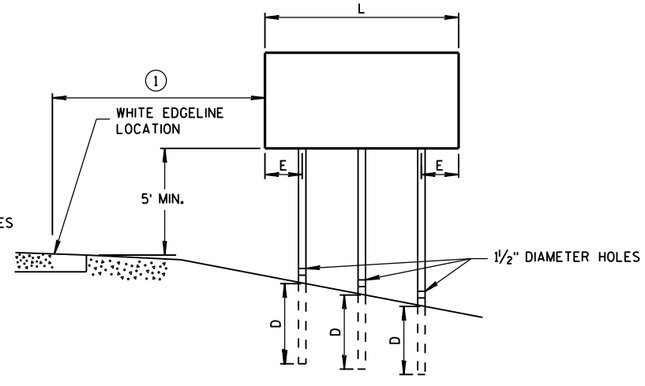
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK 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.



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

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.

WOOD POST EMBEDMENT DEPTH

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

4" X 6" WOOD POST

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)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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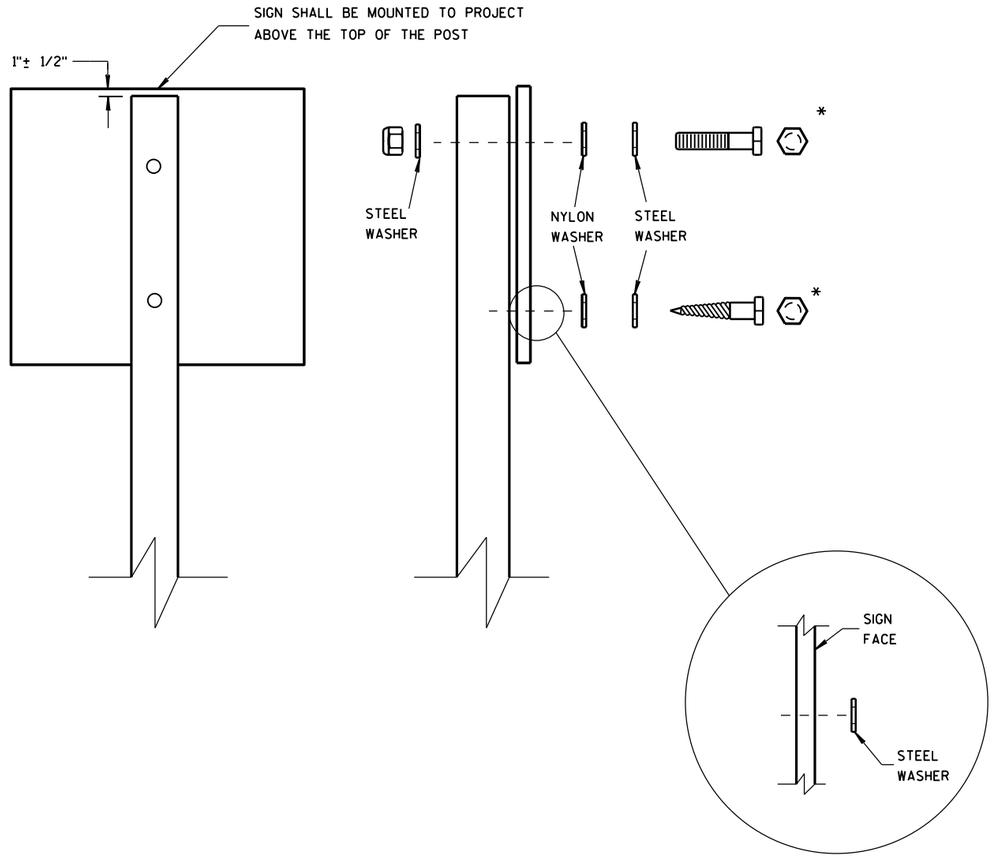
S.D.D. 15 D 38-2a



WASHER PLACEMENT WHEN SIGN HAS OTHER THAN TYPE H OR TYPE F FACE

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.

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S.D.D. 15 D 38-2b

S.D.D. 15 D 38-2b

ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

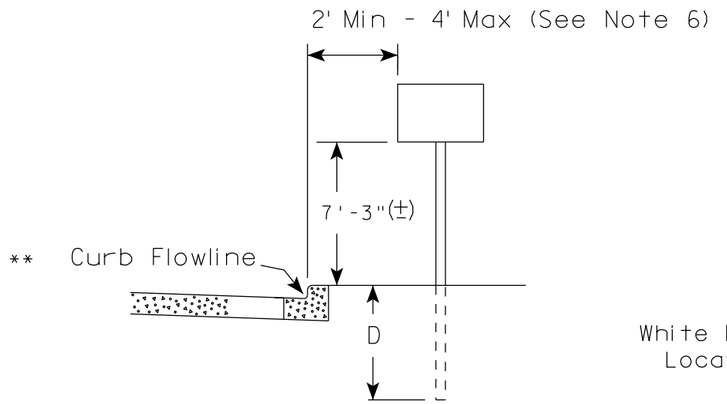
APPROVED

June 2017
DATE

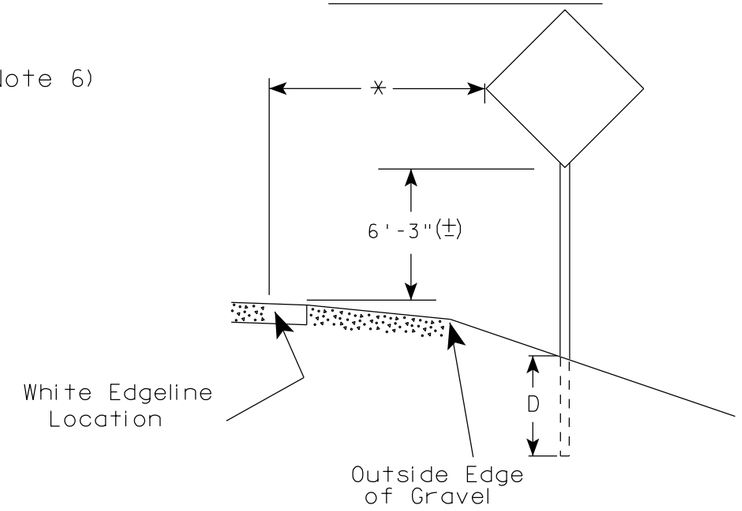
/S/ Andrew Heldtke
WORK ZONE ENG

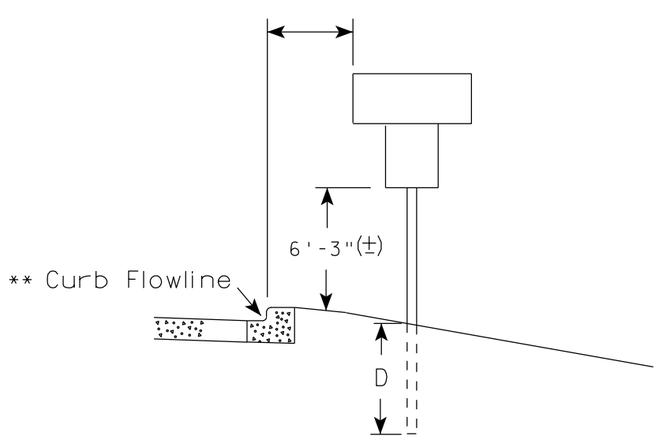
FHWA

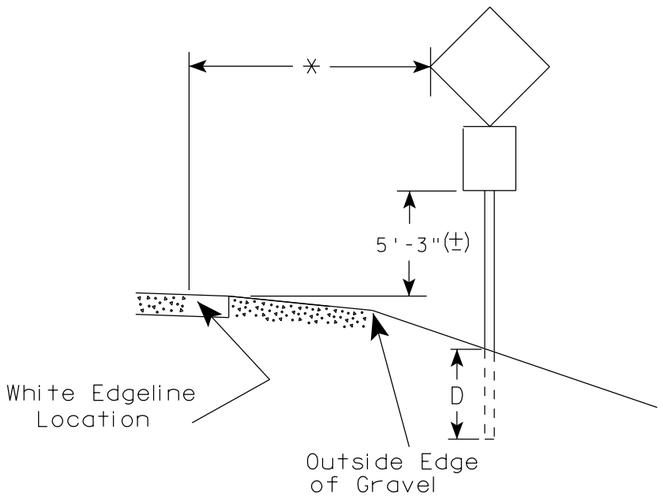
URBAN AREA



RURAL AREA (See Note 2)







GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

POST EMBEDMENT DEPTH

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

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

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

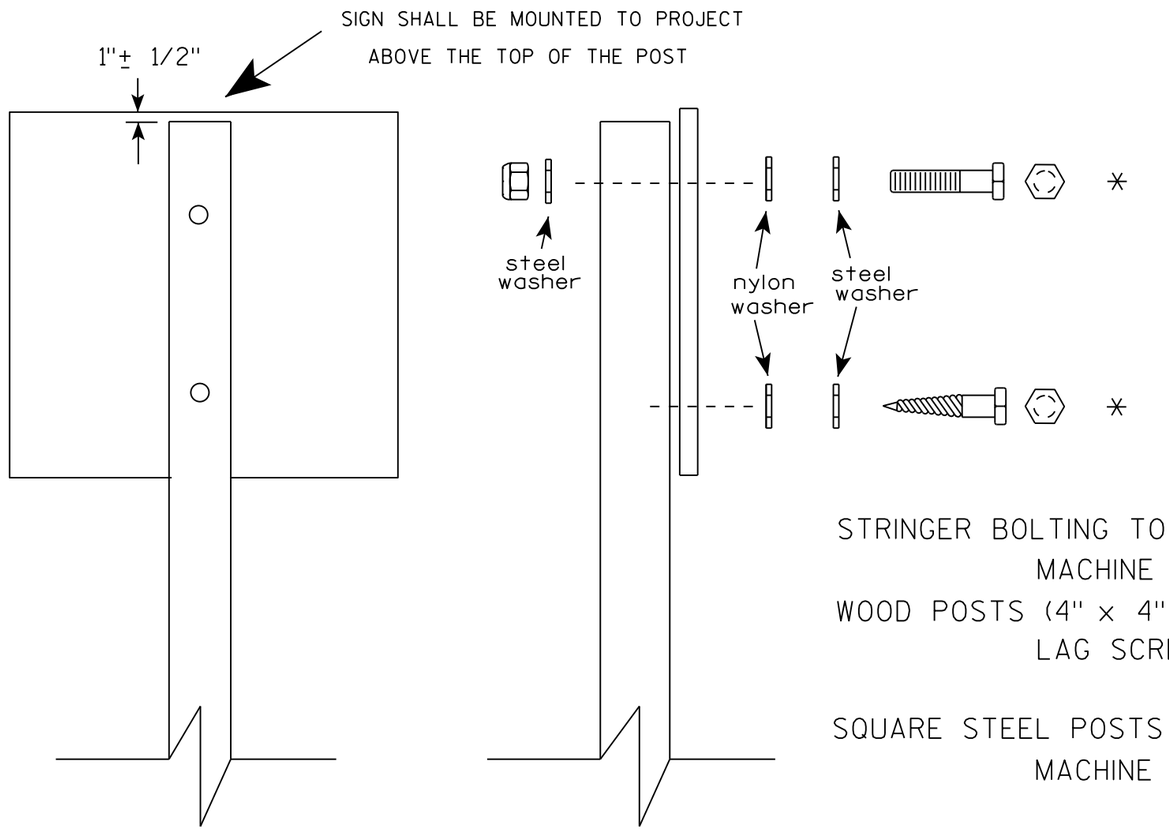
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-3.20

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



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

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

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

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts
WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)
SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON

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

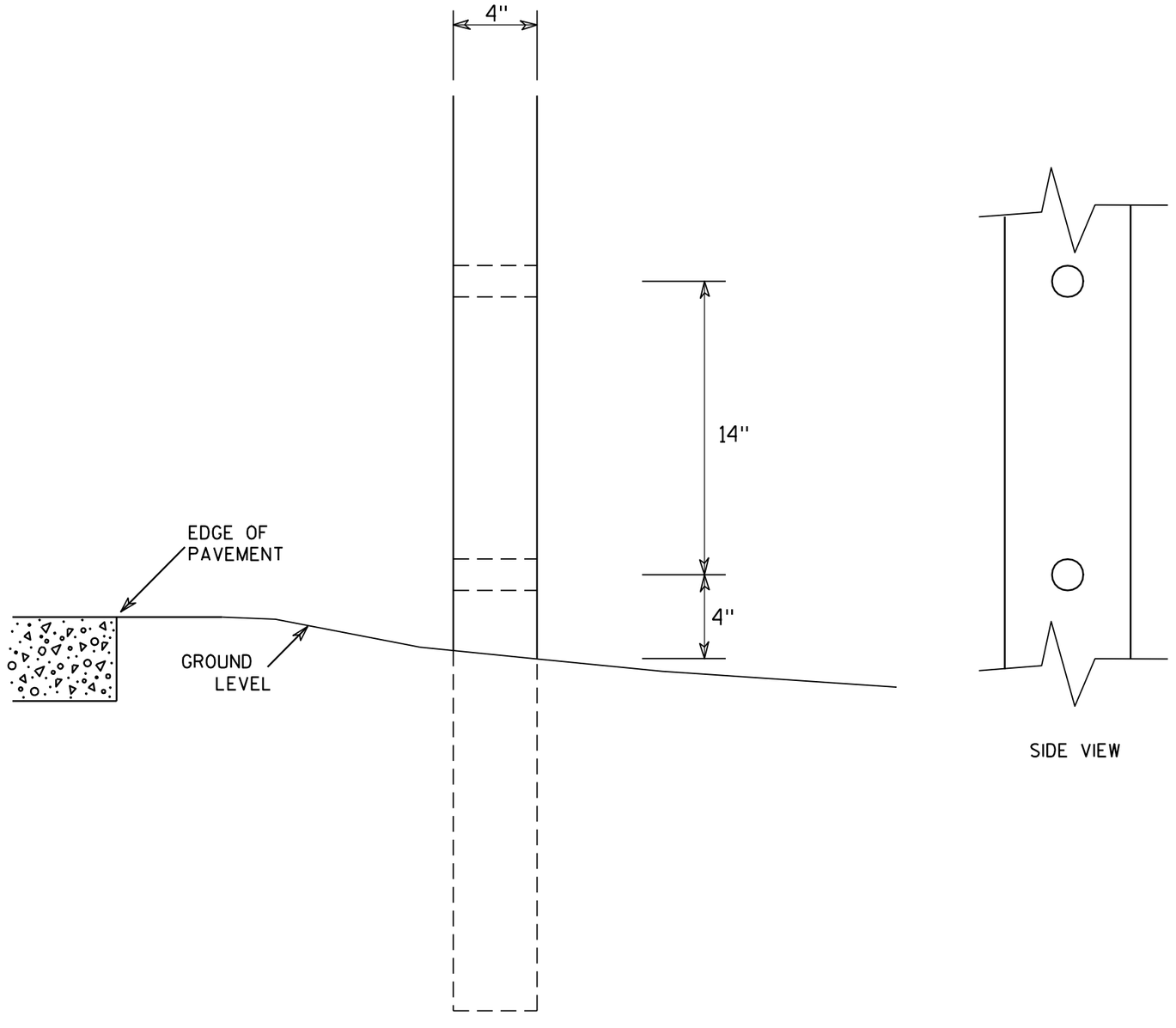
ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 8/11/16 PLATE NO. A4-8.8

PROJECT NO: SHEET NO: E



SIDE VIEW

GENERAL NOTES

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

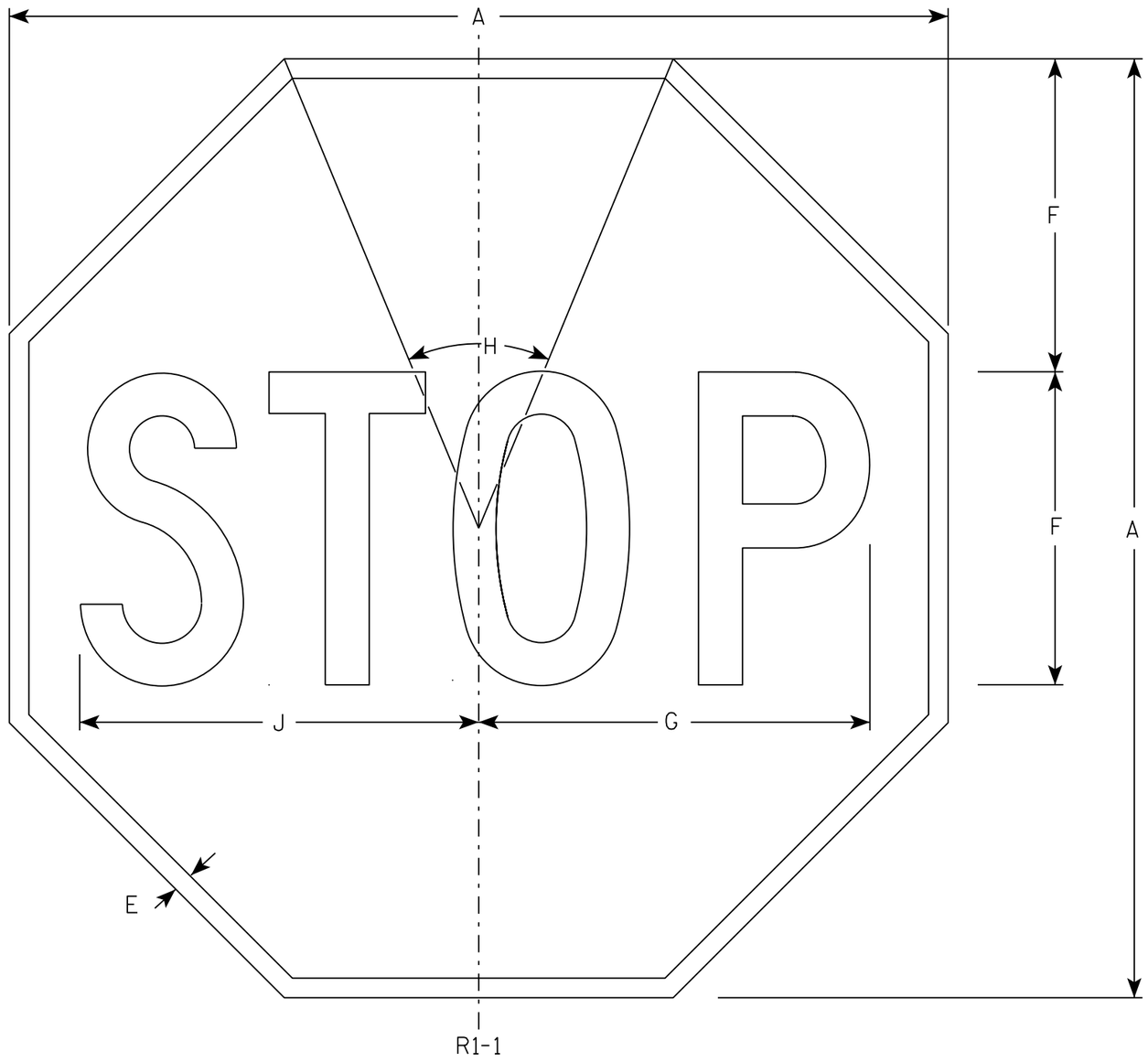
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

DATE 3/27/97 PLATE NO. A4-11.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 53	E



NOTES

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

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

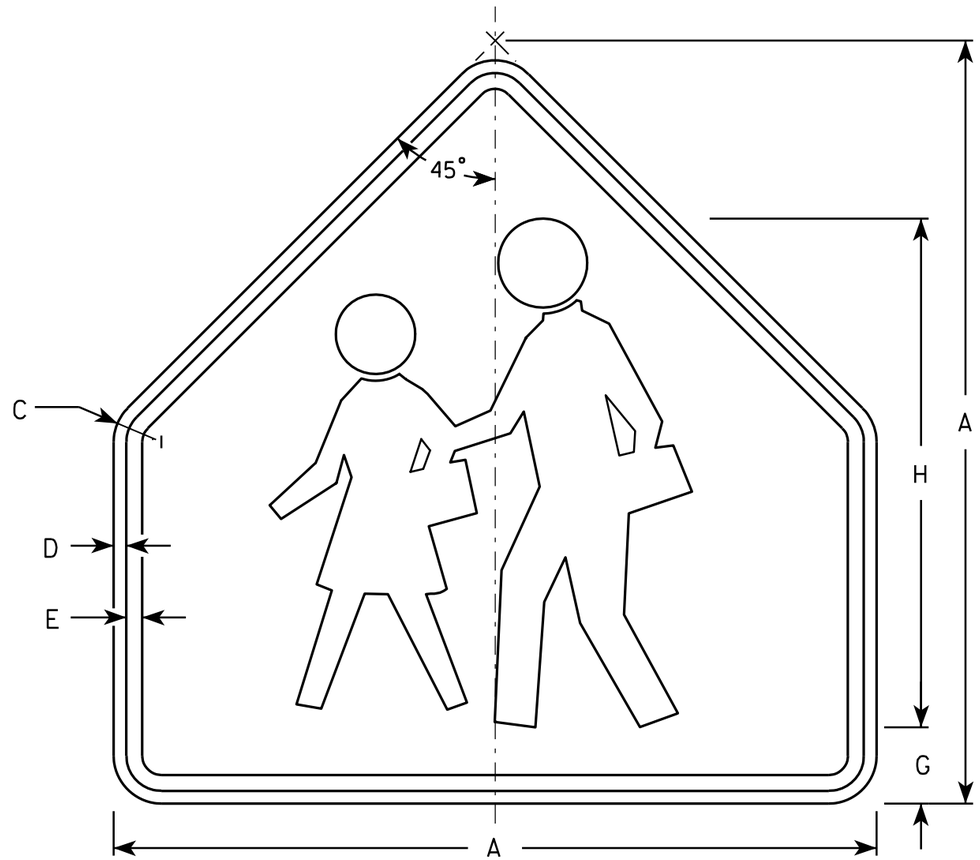
STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 54	E



S1-1

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		3	20																			4.69
2	36		1 5/8	5/8	3/4		3 1/2	24																			6.75
3	36		1 5/8	5/8	3/4		3 1/2	24																			6.75
4	48		2 1/4	3/4	1		4 3/4	32																			12
5																											

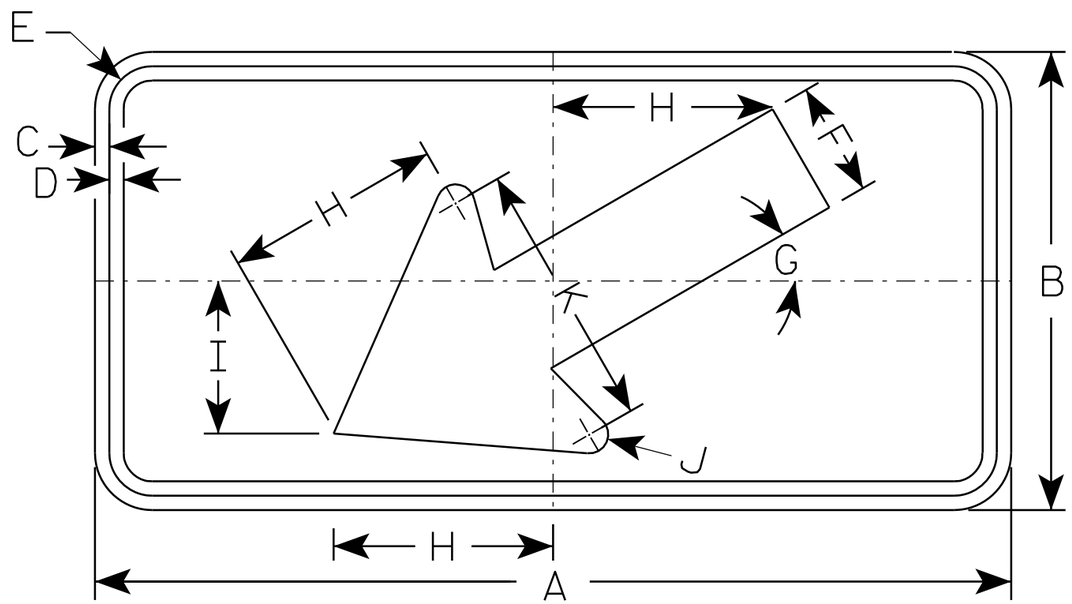
STANDARD SIGN
S1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 55	E



S16-7L

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow-Green
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. S16-7R are the same as S16-7L except the arrow is reversed along the vertical centerline.

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	24	12	3/8	3/8	1 1/8	3	30°	5 3/4	4	1/2	7																2.0
2S	30	18	3/8	1/2	1 1/8	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
2M	30	18	3/8	1/2	1 1/8	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
3	30	18	3/8	1/2	1 1/8	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
4	48	24	1/2	5/8	1 3/8	6	30°	11 1/2	8	1	14																8.0
5																											

STANDARD SIGN
S16-7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/22/13 PLATE NO. S16-7.1

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 56 | E

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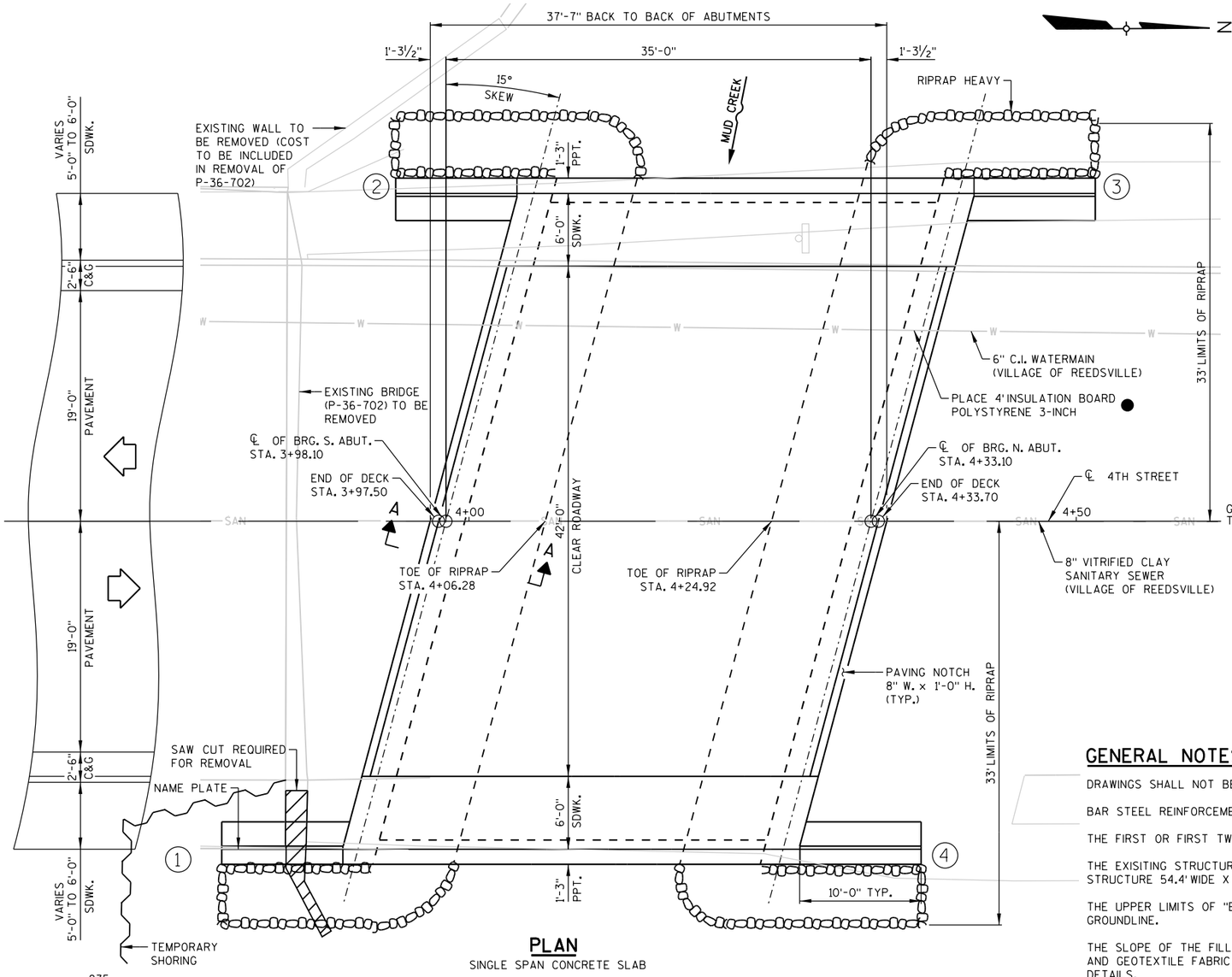
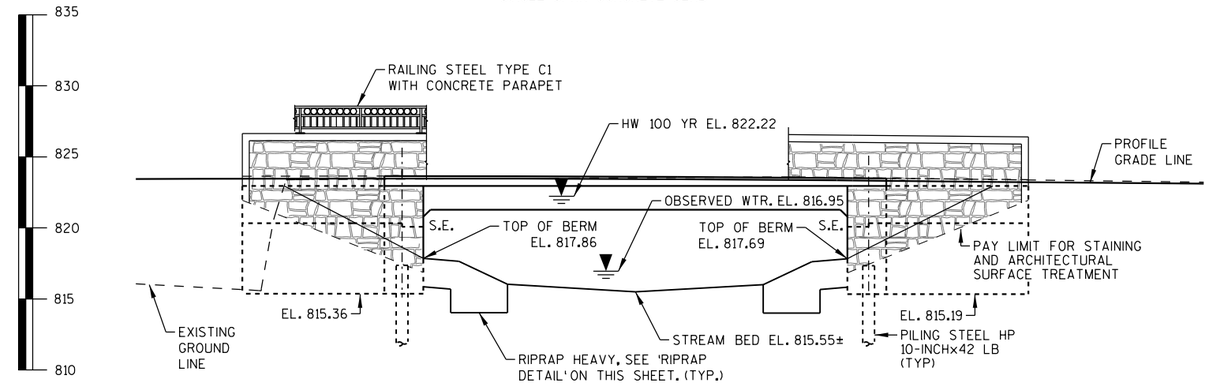


PLAN
SINGLE SPAN CONCRETE SLAB



ELEVATION
NORMAL TO ℄ OF CREEK

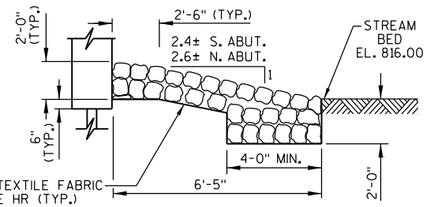
LIST OF DRAWINGS

LEGEND

(X) WING NUMBER

ABUTMENT TO BE REMOVED IN ENTIRETY

● INSULATE EXISTING UTILITY FROM BACK FACE OF ABUTMENT TO BACK FACE OF ABUTMENT WITH 4' WIDE INSULATION BOARD POLYSTYRENE 3-INCH.



RIPRAP DETAIL

WISCONSIN
MICHELLE A. HOWE
E-43048
MADISON
WI
PROFESSIONAL ENGINEER
Michelle Howe 11/1/2017

DESIGN DATA

LIVELOAD:

DESIGN RATING: HL-93
INVENTORY RATING FACTOR: 1.30
OPERATIONAL RATING FACTOR: 1.69
MAX. STANDARD PERMIT VEHICLE LOAD: 250 KIPS
STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 PSF

MATERIAL PROPERTIES

CONCRETE MASONRY - SLAB —— f'c = 4,000 PSI
- ALL OTHER —— f'c = 3,500 PSI

HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 —— fy = 60,000 PSI

FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 10-INCHx42 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 40'-0" AT NORTH AND SOUTH ABUTMENTS.

** 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.

PILES 4-7 AT S. ABUT. AND PILES 2-5 AT N. ABUT. TO BE PRE-BORED TO AN ELEV. OF 800.00±.

HYDRAULIC DATA:

100 YEAR FREQUENCY
0100 —— 700 CFS
VEL. —— 4.6 FPS
HW 100 —— 822.22
WATERWAY AREA —— 152 SQ. FT.
DRAINAGE AREA —— 21 SQ. MI.
ROADWAY OVERTOPPING —— NA
SCOUR CRITICAL CODE —— 5

2 YEAR FREQUENCY
Q2 —— 215 CFS
VEL. —— 2.8 FPS
HW2 —— 819.28

TRAFFIC DATA:

A.D.T. (2018) = 500
A.D.T. (2038) = 550
DESIGN SPEED = 30 MPH

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

THE EXISITING STRUCTURE, P-36-702, IS A SINGLE SPAN PRESTRESSED CONCRETE CHANNEL STRUCTURE 54.4' WIDE X 31.6' LONG.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-36-217" SHALL BE THE EXISTING GROUNDLINE.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE FABRIC TYPE 'HR' TO THE EXTENT SHOWN ON THIS SHT. AND IN THE ABUTMENT DETAILS.

EXISTING STRUCTURE FOOTINGS ARE TO BE LEFT IN PLACE 5' ON EITHER SIDE OF EXISTING SANITARY SEWER AND WATER MAIN, AS UTILITIES ARE ENCASED IN EXISTING STRUCTURE.

THE ESTIMATED ELEVATION OF THE EXISTING SANITARY SEWER ALONG 4th STREET IS BELOW 814.40+/-. THE ELEVATION OF THE EXISTING WATERMAIN IS UNKNOWN BUT IS ANTICIPATED TO BE SIMILIAR TO THE SANITARY SEWER ELEVATION. UTILITIES ARE NOT ANTICIPATED TO IMPACT THE PROPOSED STRUCTURE.

THE CONTRACTOR SHALL PROVIDE FULL-WIDTH AND FULL DEPTH SAW CUTS AT EXISTING ABUTMENTS AT ELEVATIONS OF 817.50± FOR REMOVAL.

REMOVAL OF EXISTING RETAINING WALLS WEST OF THE EXISTING BRIDGE TO BE INCLUDED IN THE BID ITEM 'REMOVING OLD STRUCTURE WITH MINIMAL DEBRIS STATION 3+70'.

SEE SECTION A-A RIPRAP DETAIL ON SHEET 5.

BENCH MARK TABLE

NO.	STATION	DESCRIPTION	ELEVATION
BM-1	N/A	SE BURY BOLT OF HYDRANT @ SE CRNR. 4TH ST. & MANITOWOC ST.	825.72
BM-2	3+05	SOUTH BURY BOLT OF HYDRANT @ SW CRNR. 4TH ST. & MENASHA ST.	824.40
BM-3	6+54	NORTH FLG. BOLT OF HYD. @ SW CRNR. OF 4TH ST. & MILL ST.	825.96

STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:
BILL DREHER (608) 266-8489

CONSULTANT:
MICHELLE HOWE (608) 828-8145

NO.	DATE	REVISION	BY

AECOM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 11/08/17
CHIEF STRUCTURES DESIGN ENGINEER DATE

STATE PROJECT NUMBER
4321-03-71

STRUCTURE B-36-217

4TH STREET OVER MUD CREEK

COUNTY MANITOWOC
~~TOWN/CITY~~/VILLAGE REEDSVILLE

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	MAH	DESIGN CK'D.	MSK	DRAWN BY	MES	PLANS CK'D.	MAH

GENERAL PLAN

SHEET 1 OF 15
57

8

8

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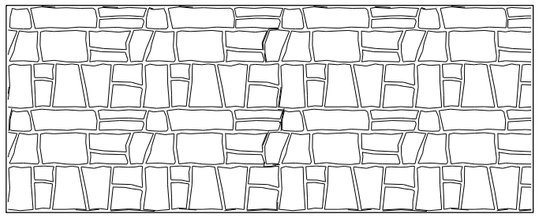
STATE PROJECT NUMBER

4321-03-71

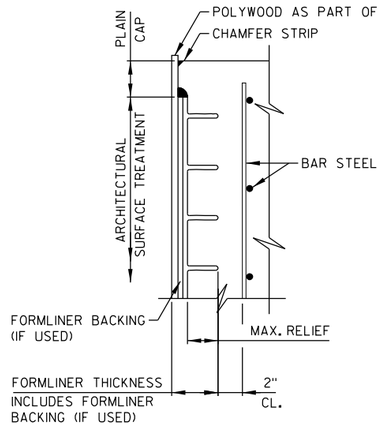


RUSTIC ASHLAR

FORMLINER THICKNESS = 3"
SIZE = 8" TO 32"
MAX. RELIEF = 2"

CONCRETE STAINING SCHEDULE

COLOR	FEDERAL COLOR
BASE COLOR	36521
GROUT COLOR	26622
ACCENT COLOR #1	33446
ACCENT COLOR #2	30257
ACCENT COLOR #3	20180
ACCENT COLOR #4	30372



SECTION THRU FORMLINER

ABUTMENT NOTES

THE FORMLINER COURSING ON THE WINGS SHALL BE VERTICALLY ALIGNED WITH THE FORMLINER COURSING ON THE FRONT OF THE ABUTMENT.

THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS CONSTRUCTION JOINTS.

FORMLINER COURSING ON ABUTMENTS AND WINGS SHALL BE LEVEL.

WRAP AROUND/MATCH FORMLINER PATTERN AT CORNERS.

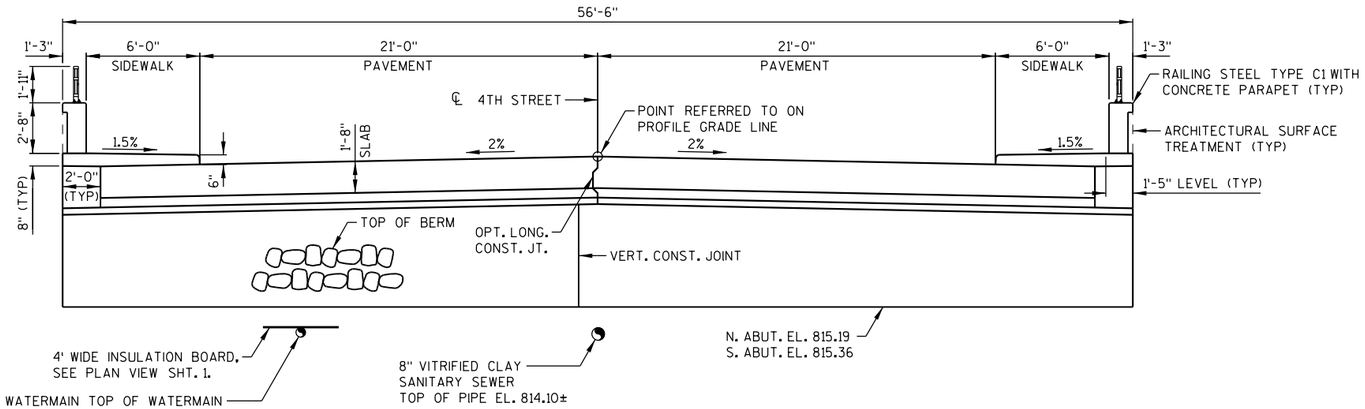
PARAPET NOTES

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

STAINING NOTES

IF TOUCH UP STAINING IS REQUIRED AFTER INSTALLATION IS COMPLETE, ALL TOUCH UP STAINING IS TO BE DONE TO THE SATISFACTION OF THE FIELD ENGINEER AT NO ADDITIONAL COST.

MULTI-COLOR STAINING SHOULD REPLICATE STRUCTURE B-36-213, LOCATED ON MANITOWOC STREET OVER MUD CREEK.



CROSS SECTION THRU ROADWAY

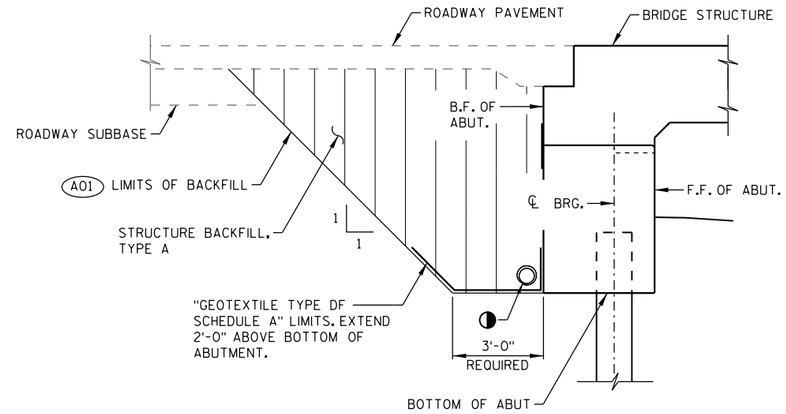
(LOOKING UPSTATION)

TOTAL ESTIMATED QUANTITIES

ALL ITEMS ARE CATEGORY 0020 UNLESS NOTED.

	BID ITEM NUMBER	BID ITEM	UNIT	SOUTH ABUTMENT	NORTH ABUTMENT	SUPER.	TOTALS
	203.0600.S	REMOVING OLD STRUCUTRE OVER WATERWAY WITH MINIMAL DEBRIS STATION 3+70	LS				1
	206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-36-217	LS				1
	210.1500	BACKFILL STRUCTURE TYPE A	TON	220	220		440
	502.0100	CONCRETE MASONRY BRIDGES	CY	51	51	154	256
	502.3200	PROTECTIVE SURFACE TREATMENT	SY			230	230
	502.3210	PIGMENTED SURFACE SEALER	SY	9	9	32	50
	505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	3,855	3,855		7,710
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,785	1,785	30,670	34,240
	511.1200	TEMPORARY SHORING B-36-217	SF	225			225
	513.7006	RAILING STEEL TYPE C1 B-36-217	LF			115	115
	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	15	15		30
**	517.1015.S	CONCRETE STAINING MULTI-COLOR STRUCTURE B-36-217	SF	412	412	180	1,004
**	517.1050.S	ARCHITECTURAL SURFACE TREATMENT STRUCTURE B-36-217	SF	412	412	180	1,004
**	550.0010	PRE-BORING UNCONSOLIDATED MATERIALS	LF	64	64		128
	550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	320	320		640
	606.0300	RIPRAP HEAVY	CY	50	50		100
	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	100	100		200
**	612.0902.S	INSULATION BOARD POLYSTYRENE 3 - INCH	SY	10	10		20
	645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	65	65		130
	645.0120	GEOTEXTILE TYPE HR	SY	75	75		150
	999.1500.S	CRACK AND DAMAGE SURVEY	LS				1
**	SPV.0105.01	SANITARY SEWER SYSTEM TELEVISION INSPECTION	LS				1
		NON-BID ITEMS					
		FILLER	SIZE				1/2" & 3/4"

** CATEGORY 0030



BACKFILL STRUCTURE LIMITS

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-36-217" SHALL BE THE EXISTING GROUNDLINE.

(A01) BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

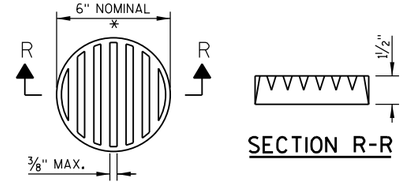
AT THE BACKFACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.

THE QUANTITY OF "BACKFILL STRUCTURE TYPE A", BID ITEM 210.1500 AND GEOTEXTILE TYPE DF SCHEDULE A, BID ITEM 645.011, IS CALCULATED BASED ON STANDARD 9.01 IN THE WISCONSIN DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL.

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

◑ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.

EXCAVATION FROM FACE TO FACE OF PROPOSED ABUTMENT INCLUDED IN ROADWAY QUANTITIES. SEE ROADWAY PLANS FOR MORE INFORMATION.



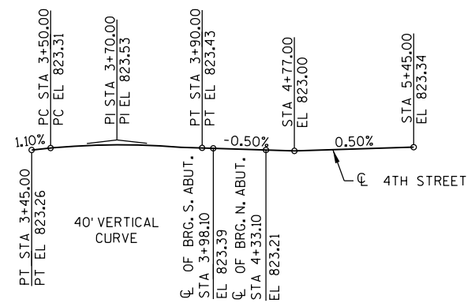
SECTION R-R

RODENT SHIELD DETAIL

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

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

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



PROFILE GRADE LINE

4TH STREET

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-217

DRAWN BY KAM | PLANS CK'D. MAH

CROSS SECTION & QUANTITIES

SHEET 2 OF 15
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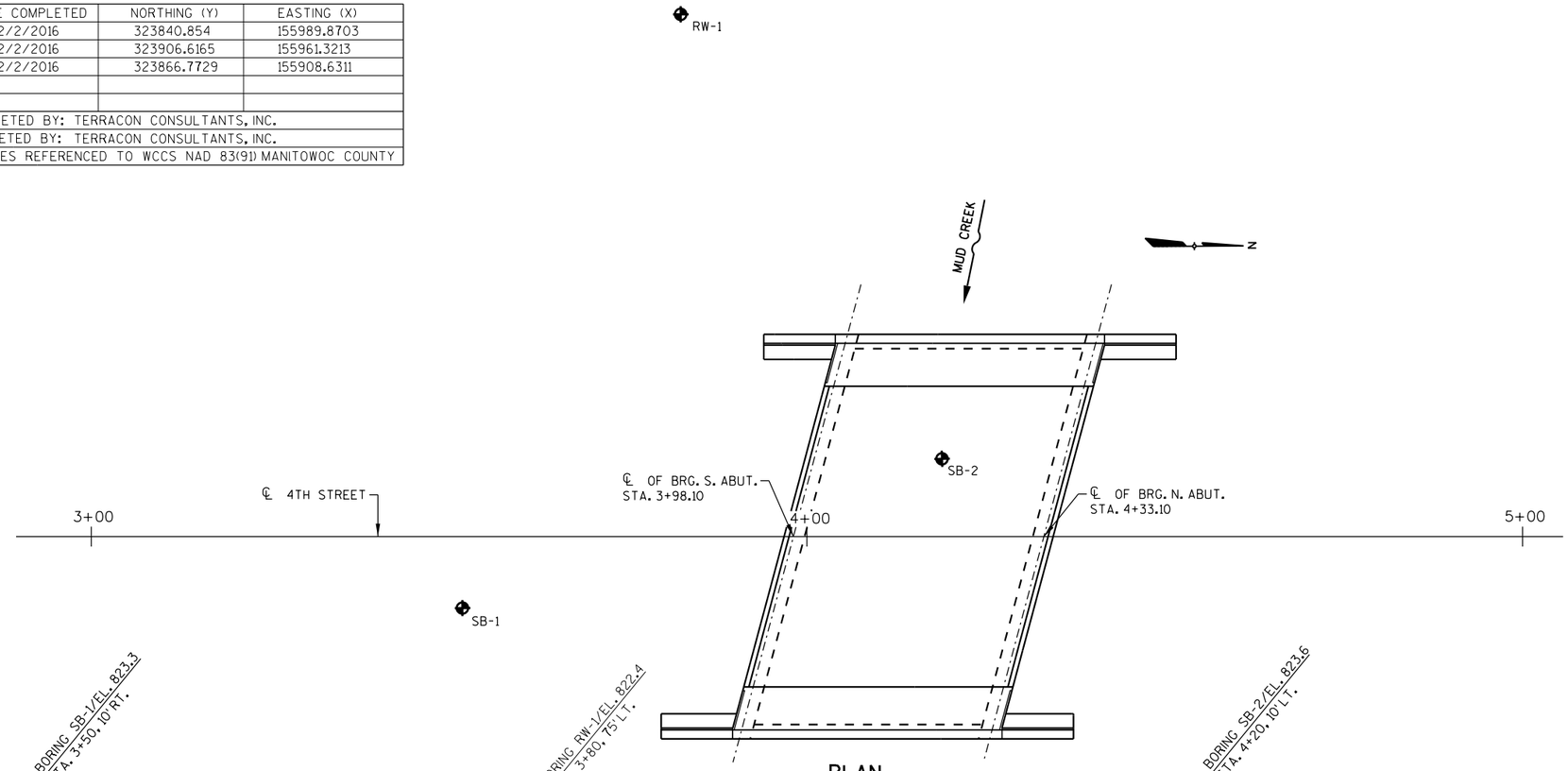
8

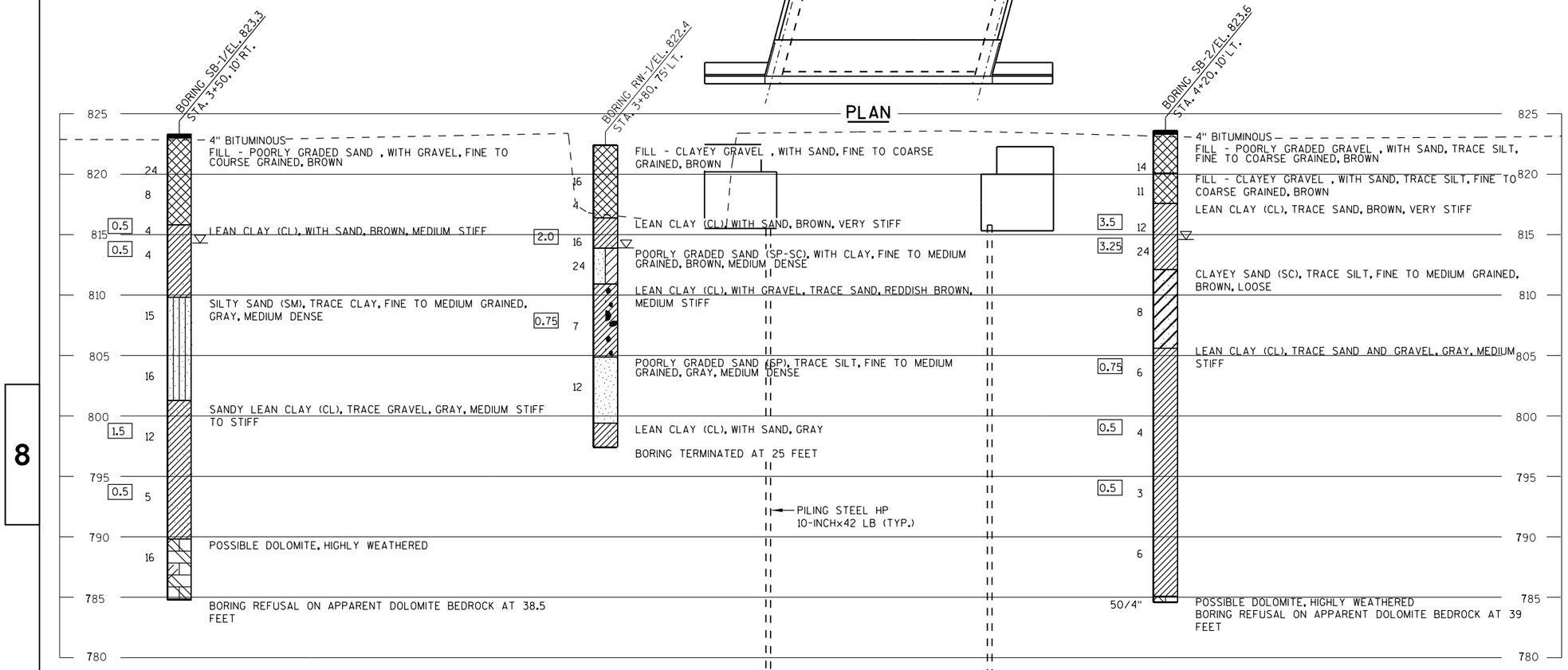
8

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
SB-1	2/2/2016	323840.854	155989.8703
SB-2	2/2/2016	323906.6165	155961.3213
RW-1	2/2/2016	323866.7729	155908.6311

BORINGS COMPLETED BY: TERRACON CONSULTANTS, INC.
REPORT COMPLETED BY: TERRACON CONSULTANTS, INC.
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) MANITOWOC COUNTY



PLAN



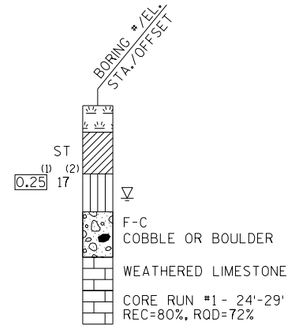
STATE PROJECT NUMBER

4321-03-71

MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

- ▽ AT TIME OF DRILLING
- ▼ END OF DRILLING
- ▽ AFTER DRILLING

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-217

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SUBSURFACE EXPLORATION

SHEET 3 OF 15

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SCALE =

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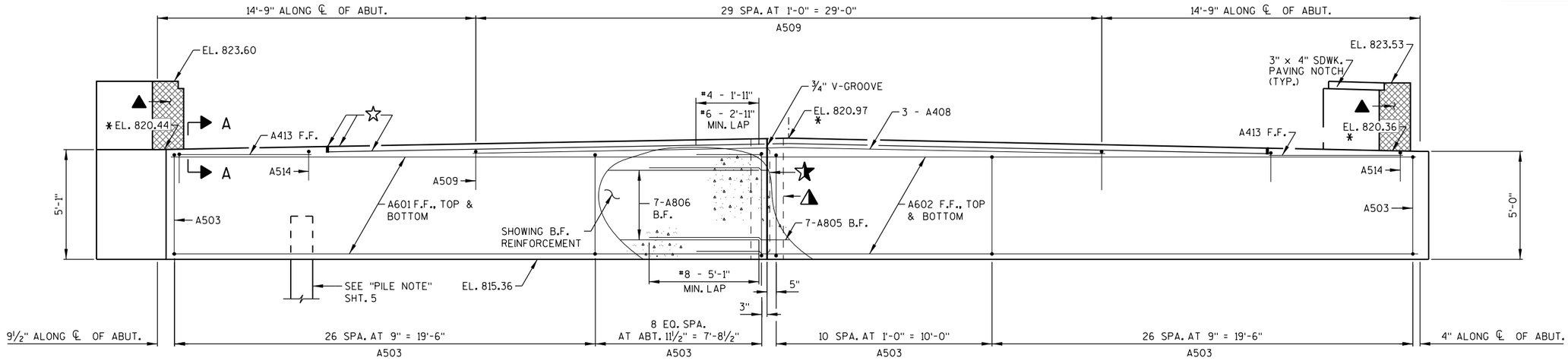
BATCH PRINT SHEET 4 OF 15

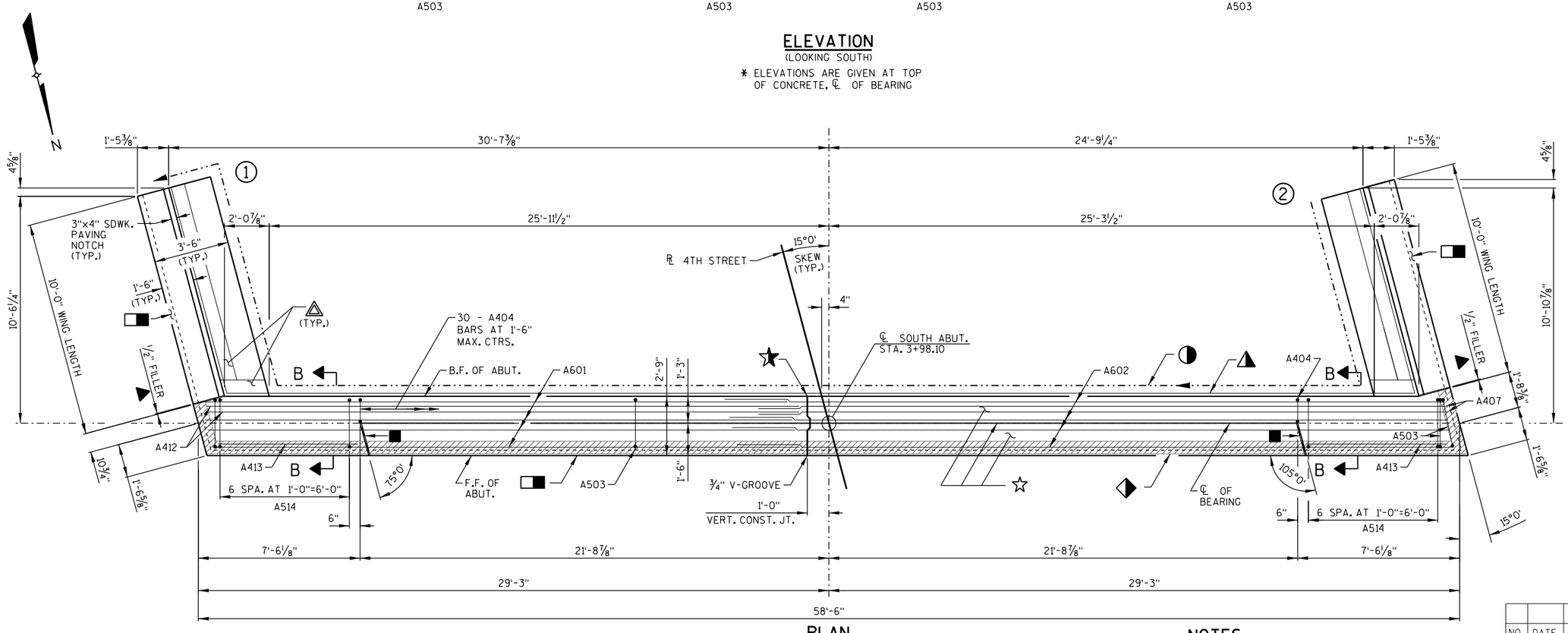
STATE PROJECT NUMBER
4321-03-71



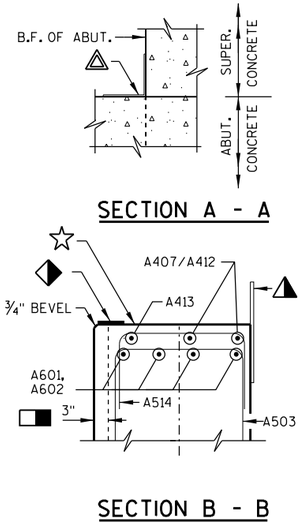
ELEVATION

(LOOKING SOUTH)

* ELEVATIONS ARE GIVEN AT TOP OF CONCRETE, ℄ OF BEARING



PLAN



NOTES

SPACE A503 BARS TO MISS PILING.

SEE SHEET 6 FOR WING DETAILS.

½" FILLER INCLUDED IN WING LENGTH.

SEE SHT. 2 FOR ARCHITECTURAL SURFACE TREATMENT ON WINGS AND F.F. OF ABUTMENT.

LEGEND

FOR SYMBOL DESCRIPTIONS, SEE SHT. 5.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-217

DRAWN BY	KAM	PLANS CK'D.	MAH

SOUTH ABUTMENT

SHEET 4 OF 15

60

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PLOT TIME: 7:34:08 AM
BATCH PRINT SHEET 5 OF 15

STATE PROJECT NUMBER

4321-03-71

LEGEND

- PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. SEE BACKFILL DETAIL SHT. 2 FOR PLACEMENT. ATTACH RODENT SHIELD AT EXPOSED ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 2. DISCHARGE LOCATION TO BE DETERMINED BY ENGINEER IN THE FIELD.
- ½" FILLER TO EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF FILLER WITH NON-STAINING NON-BITUMINOUS JOINT SEALER. COLOR TO MATCH STAIN. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).
- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- ¾" × 7" FILLER - TO EXTEND FULL LENGTH OF ABUTMENT BODY.
- STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHELENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING THE SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- PLACE BOTTOM HALF OF RUBBERIZED MEMBRANE WATERPROOFING HORIZONTAL IN THIS AREA. SEE SECTION A-A ON SHEET 4 & G-G ON SHEET 7.
- VERTICAL CONSTRUCTION JOINT KEYWAY FORMED BY BEVELED 2" × 8". RUN BAR STEEL THRU JOINT. ¾" "V" GROOVE AT FRONT FACE. SEAL BACKFACE WITH 18" RUBBERIZED MEMBRANE WATERPROOFING. SEE SHEET 10 FOR ALTERNATE CONSTRUCTION JOINT.
- OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2" × 6" KEYWAY WITH R.M.W. ON BACKFACE.
- ¾" CORK FILLER ON VERTICAL FACE ONLY.
- (X) INDICATES WING NUMBER
- ARCHITECTURAL SURFACE TREATMENT. FOR DETAILS SEE SHEET 2.
- 8" MIN. SIDEWALK THICKNESS ALSO REQD. AT EDGE OF SLAB.
- HORIZ. CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.
- CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH, FOR DECK POUR. MATCH BRIDGE X-SLOPE.
- MAY VARY AT UTILITY LOCATION.

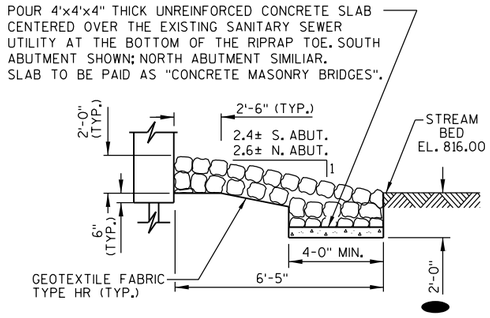
N

PILE NOTES

ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 10-INCH×42 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180** TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 40'-0". SEE SHEET 8 FOR PILE SPLICE DETAIL.

** 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.

PILES 4-7 TO BE PRE-BORED TO AN ELEVATION OF 800.00±.



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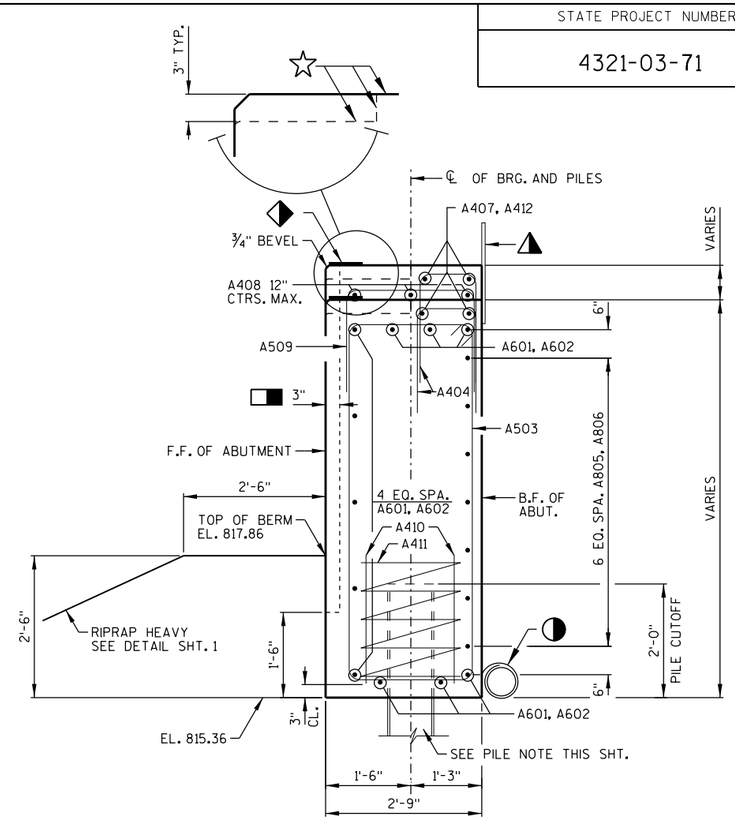
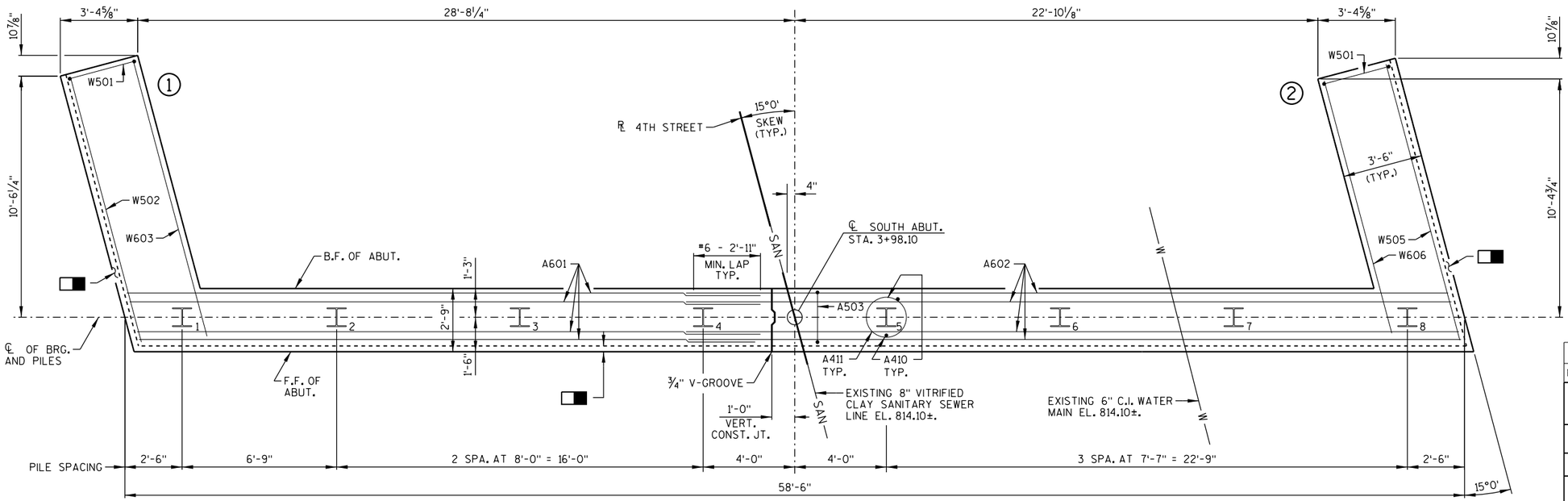


TYPICAL SECTION THRU BODY

LOOKING EAST



PILE PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-217

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SOUTH ABUTMENT PILE PLAN, & LEGEND

SHEET 5 OF 15

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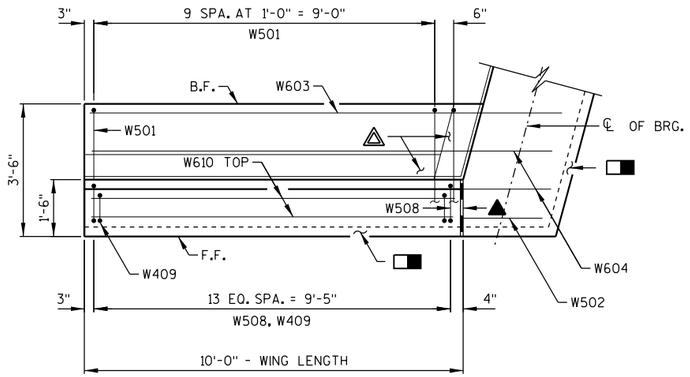
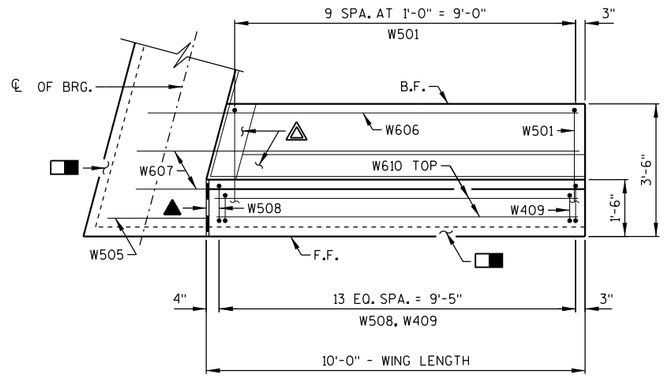
STATE PROJECT NUMBER

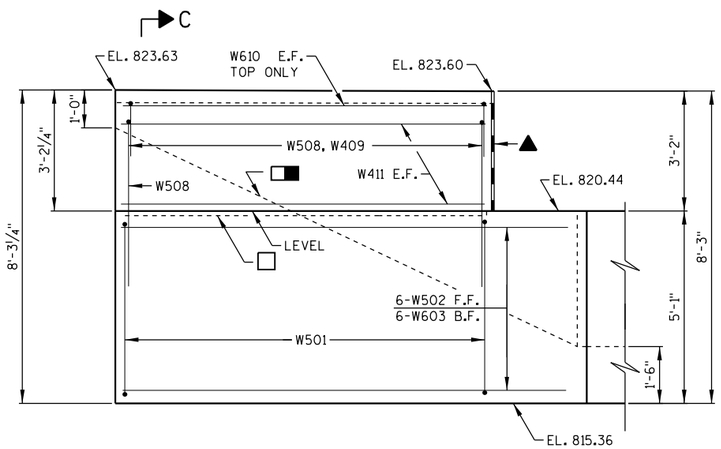
4321-03-71



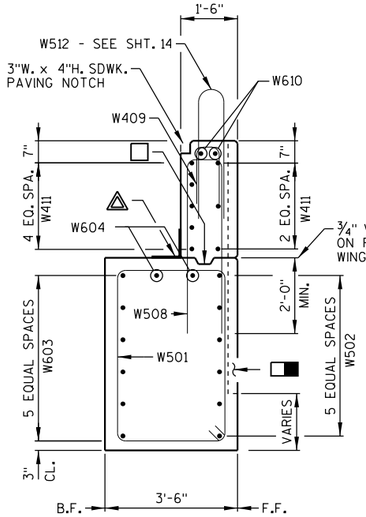
PLAN - WING 1



PLAN - WING 2



ELEVATION - WING 1



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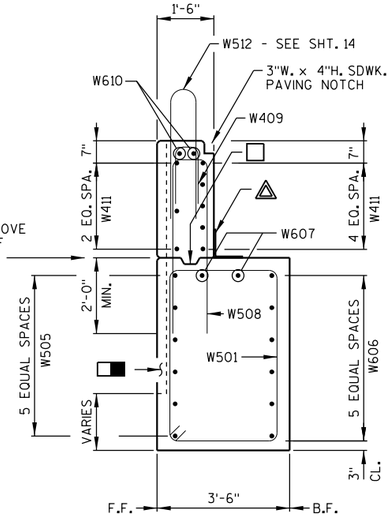

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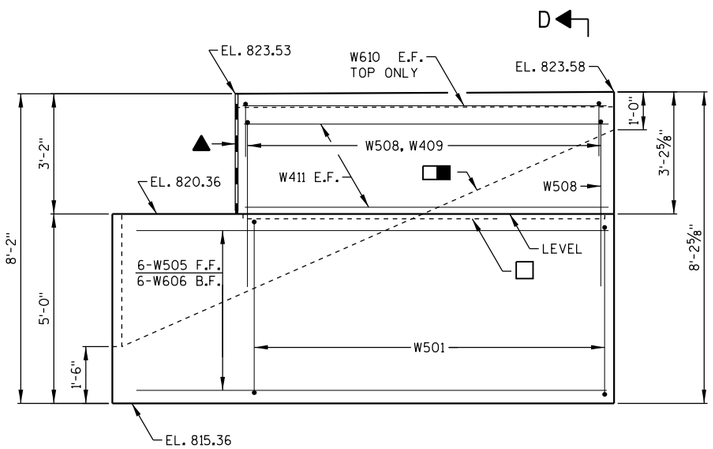

ELEVATION - WING 2

LEGEND

FOR SYMBOL DESCRIPTIONS, SEE SHT. 5.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-217

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WINGS 1 & 2

SHEET 6 OF 15
62

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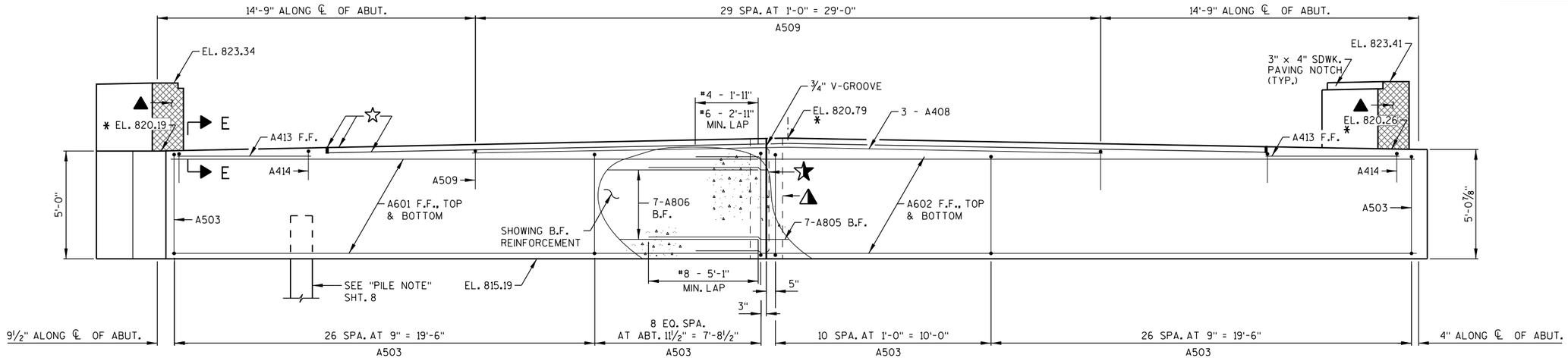
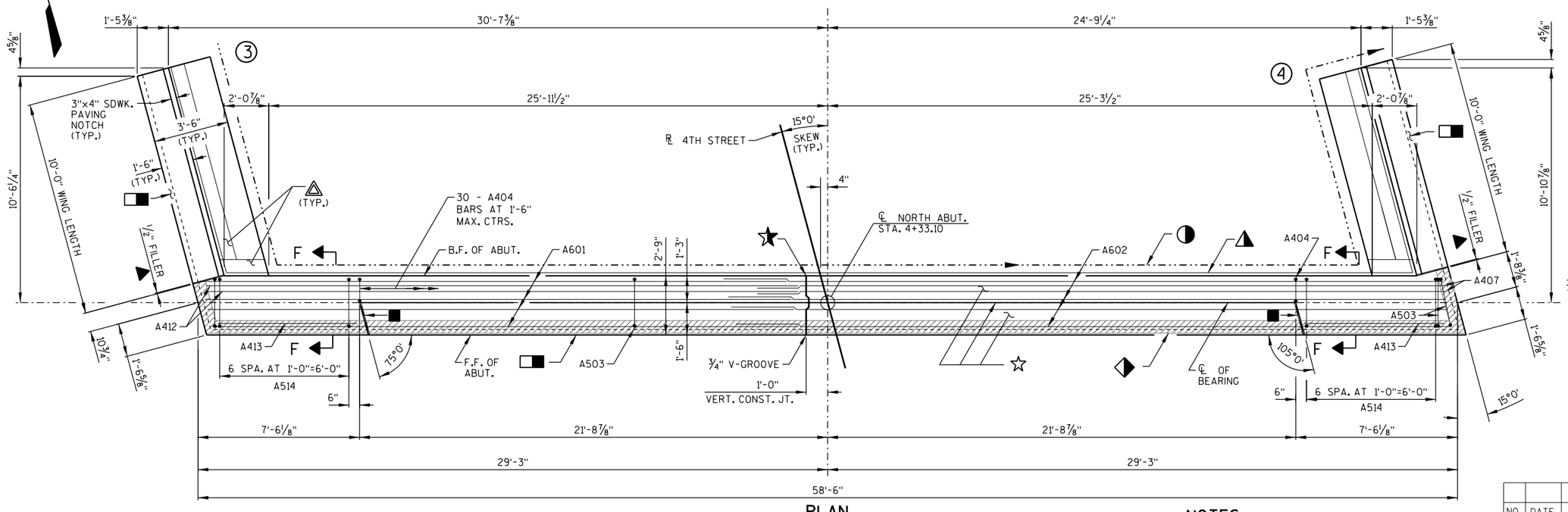


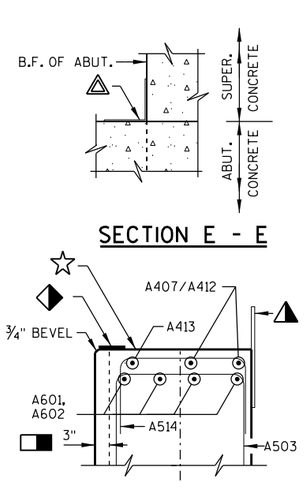
ELEVATION

(LOOKING NORTH)

* ELEVATIONS ARE GIVEN AT TOP OF CONCRETE, ℄ OF BEARING



PLAN



NOTES

SPACE A503 BARS TO MISS PILING.

SEE SHEET 9 FOR WING DETAILS.

½" FILLER INCLUDED IN WING LENGTH.

SEE SHT. 2 FOR ARCHITECTURAL SURFACE TREATMENT ON WINGS AND F.F. OF ABUTMENT.

LEGEND

FOR SYMBOL DESCRIPTIONS, SEE SHT. 5.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-217

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NORTH ABUTMENT

SHEET 7 OF 15
63

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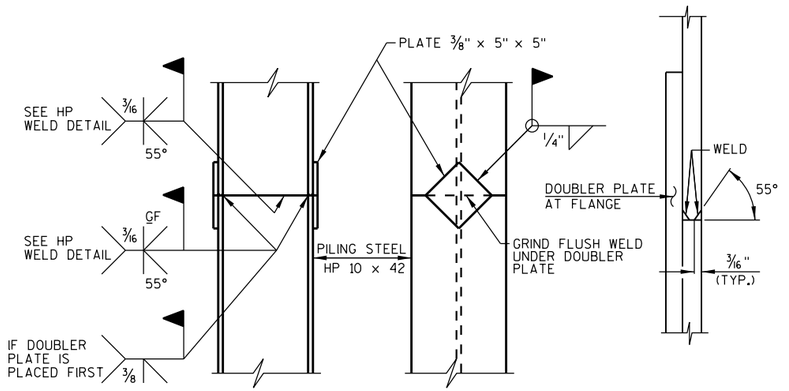


PILE SPLICE DETAIL

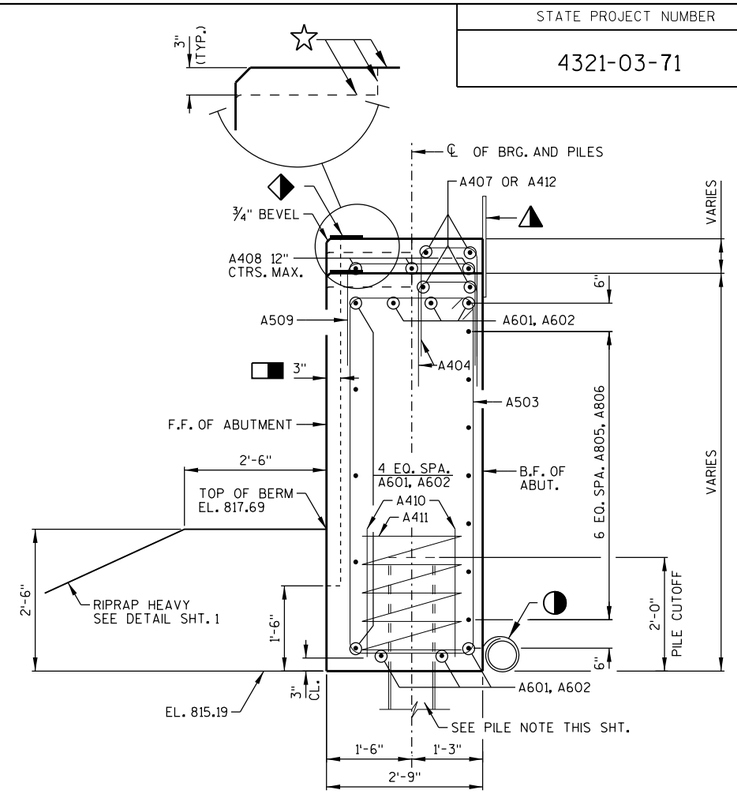
HP WELD DETAIL
(FLANGE SHOWN, WEB SIMILAR)

PILE NOTES
ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 10-INCHx42 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180** TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 40'-0". SEE SHEET 8 FOR PILE SPLICE DETAIL.

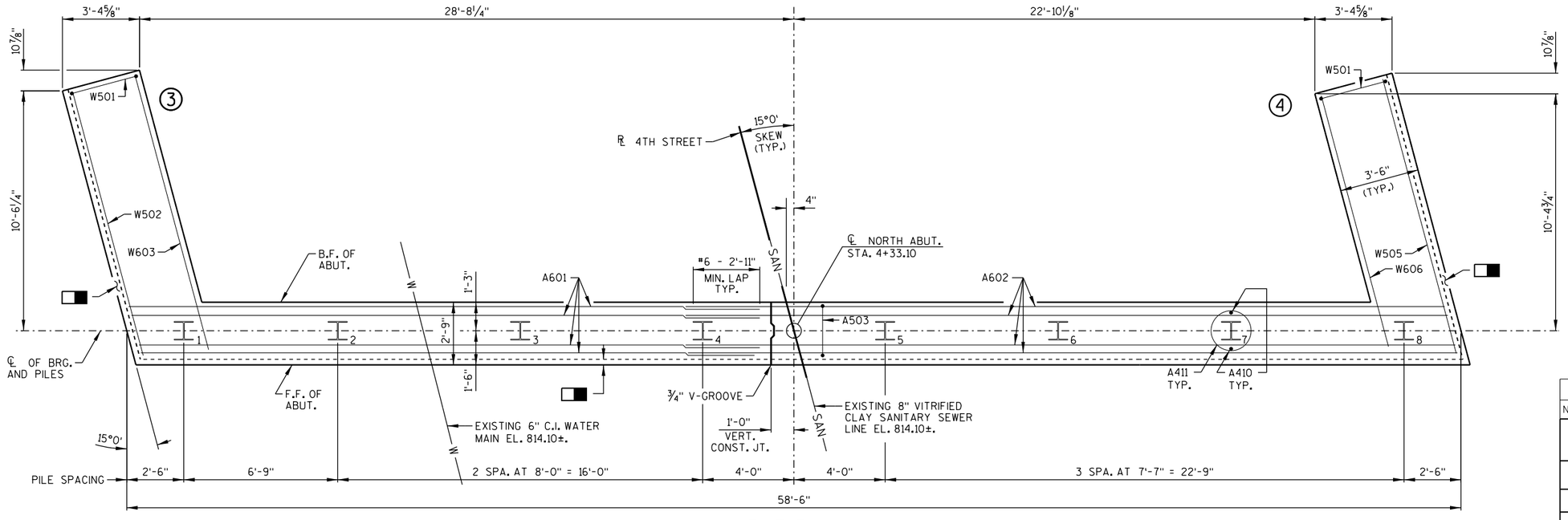
** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

PILES 2-5 TO BE PRE-BORED TO AN ELEVATION OF 800.00±.

LEGEND
FOR SYMBOL DESCRIPTIONS SEE SHT. 5.



TYPICAL SECTION THRU BODY
LOOKING WEST



PILE PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-217

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NORTH ABUTMENT PILE PLAN

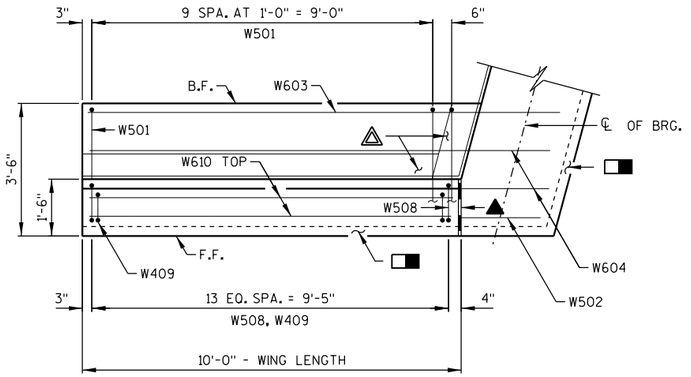
SHEET 8 OF 15
64

8

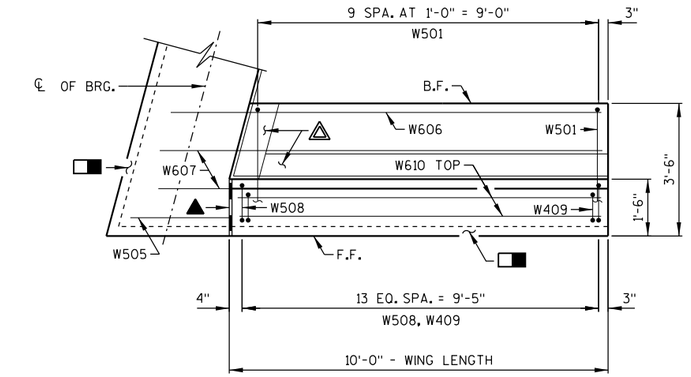
8

STATE PROJECT NUMBER

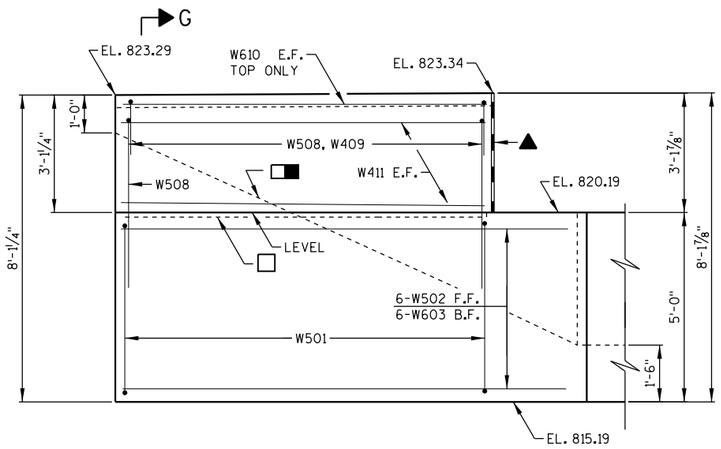
4321-03-71



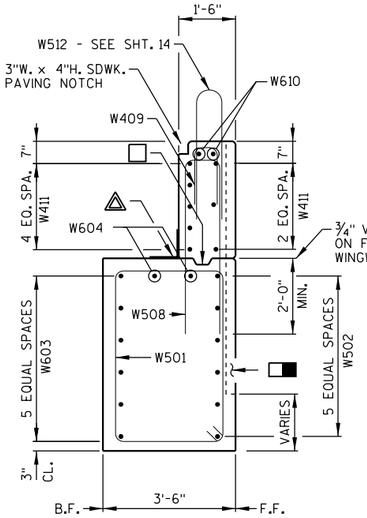
PLAN - WING 3



PLAN - WING 4



ELEVATION - WING 3



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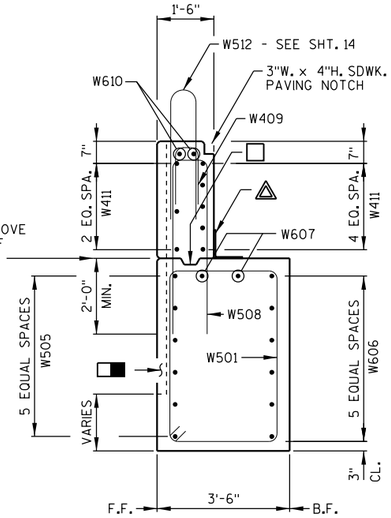

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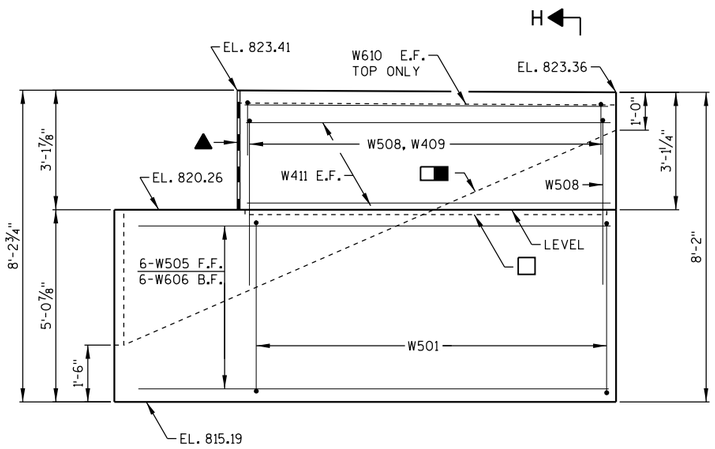

ELEVATION - WING 4

LEGEND

FOR SYMBOL DESCRIPTIONS, SEE SHT. 5.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-217

DRAWN BY KAM | PLANS CK'D. MAH

WINGS 3 & 4

SHEET 9 OF 15
65

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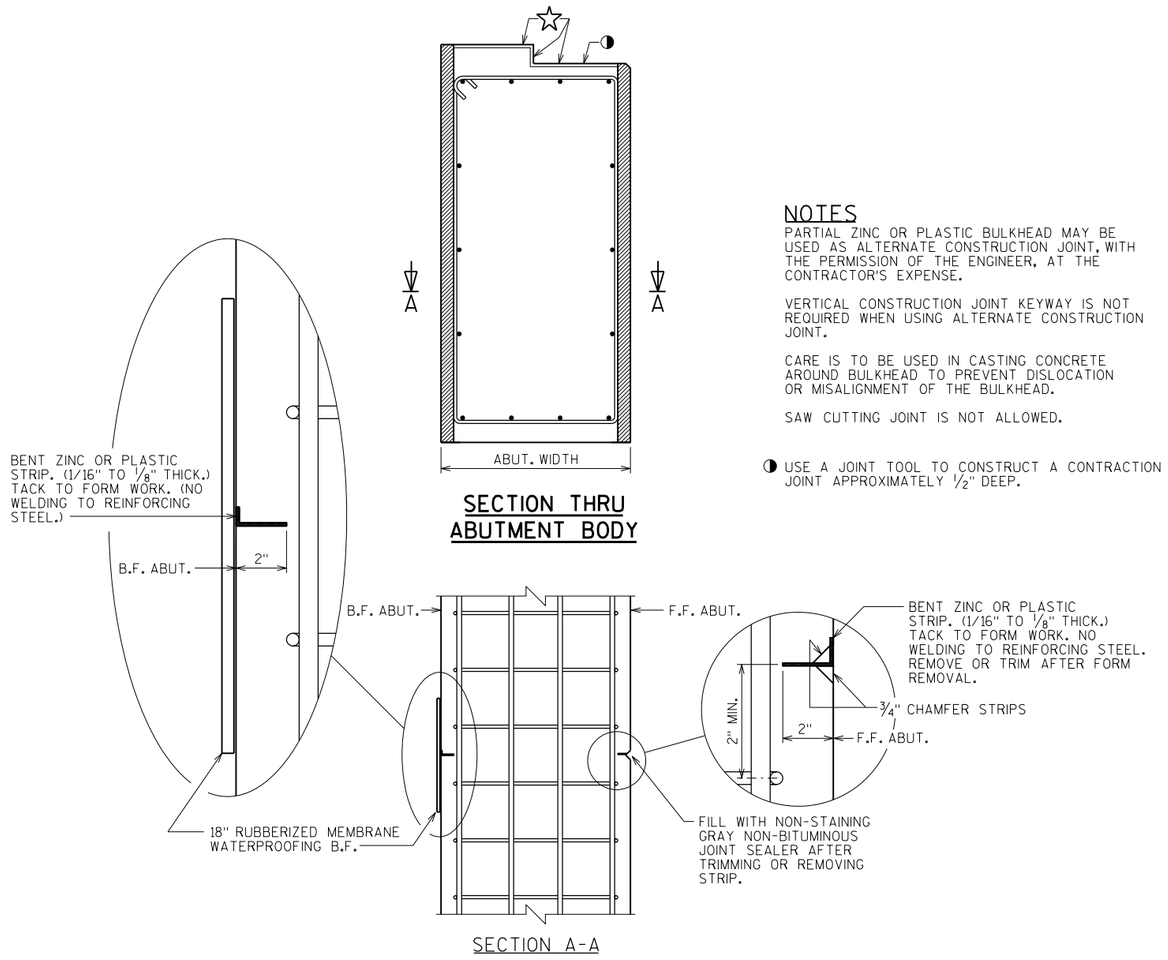


SECTION A-A

SECTION THRU ABUTMENT BODY

NOTES

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

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

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

SAW CUTTING JOINT IS NOT ALLOWED.

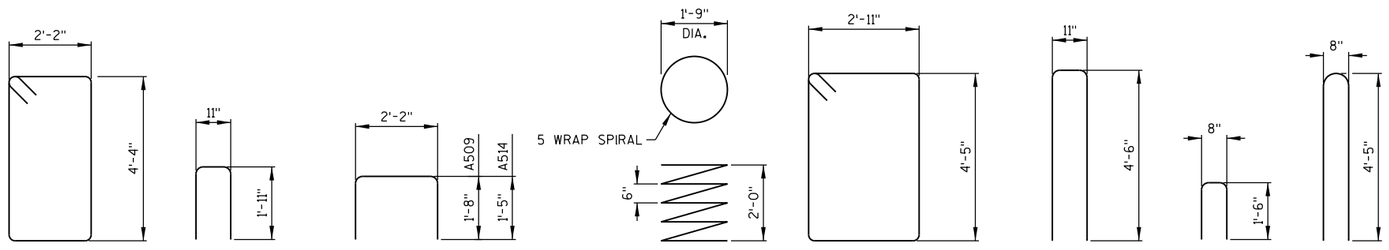
◑ USE A JOINT TOOL TO CONSTRUCT A CONTRACTION JOINT APPROXIMATELY 1/2" DEEP.

ALTERNATE CONSTRUCTION JOINT AT ABUTMENT

BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
QUANTITIES ARE FOR BOTH ABUTMENTS AND WINGS 1 THRU 4

MARK	NO.	LENGTH	BENT	LOCATION	
NON-COATED BARS					TOTAL WEIGHT = 7,710 LBS
A601	22	27-3		ABUTMENT - F.F., TOP & BOT.	HORIZ.
A602	22	33-3		ABUTMENT - F.F., TOP & BOT.	HORIZ.
A503	146	13-7	X	ABUTMENT - STIRRUP	VERT.
A404	60	4-7	X	ABUTMENT - TOP	VERT.
A805	14	34-11		ABUTMENT - B.F.	HORIZ.
A806	14	27-10		ABUTMENT - B.F.	HORIZ.
A407	4	31-11		ABUTMENT - TOP	HORIZ.
A408	6	29-0		ABUTMENT - TOP	HORIZ.
A509	60	5-3	X	ABUTMENT - TIE, TOP	VERT.
A410	32	2-3		ABUTMENT - PILE REINFORCEMENT	VERT.
A411	16	28-0	X	ABUTMENT - PILE REINFORCEMENT	VERT.
A412	4	27-8		ABUTMENT - TOP	HORIZ.
A413	4	6-11		ABUTMENT - TOP-ENDS	HORIZ.
A514	28	4-9	X	ABUTMENT - TOP-ENDS	VERT.
COATED BARS					TOTAL WEIGHT = 3,570 LBS
W501	42	15-3	X	WINGS 1 - 4, STIRRUP	VERT.
W502	12	11-9		WINGS 1 & 3 - F.F.	HORIZ.
W603	12	12-5		WINGS 1 & 3 - B.F.	HORIZ.
W604	4	12-2		WINGS 1 & 3, TOP/SUBSTRUCTURE	HORIZ.
W505	12	12-5		WINGS 2 & 4 - F.F.	HORIZ.
W606	12	11-5		WINGS 2 & 4 - B.F.	HORIZ.
W607	4	11-10		WINGS 2 & 4, TOP/SUBSTRUCTURE	HORIZ.
W508	56	9-8	X	WINGS 1 - 4, WINGWALL	VERT.
W409	56	3-6	X	WINGS 1 - 4, TOP	HORIZ.
W610	8	9-5		WINGS 1 - 4, WINGWALL TOP	HORIZ.
W411	32	9-5		WINGS 1 - 4, WINGWALL - F.F.	HORIZ.
W512	72	9-3	X	WINGS 1 - 4, WINGWALL	VERT.
W513	32	9-7		WINGS 1 - 4, PARAPET	HORIZ.



A503 A404 A509, A514 A411 W501 W508 W409 W512

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-217

DRAWN BY KAM | PLANS CK'D. MAH

ABUTMENT REINFORCING DETAILS

SHEET 10 OF 15
66

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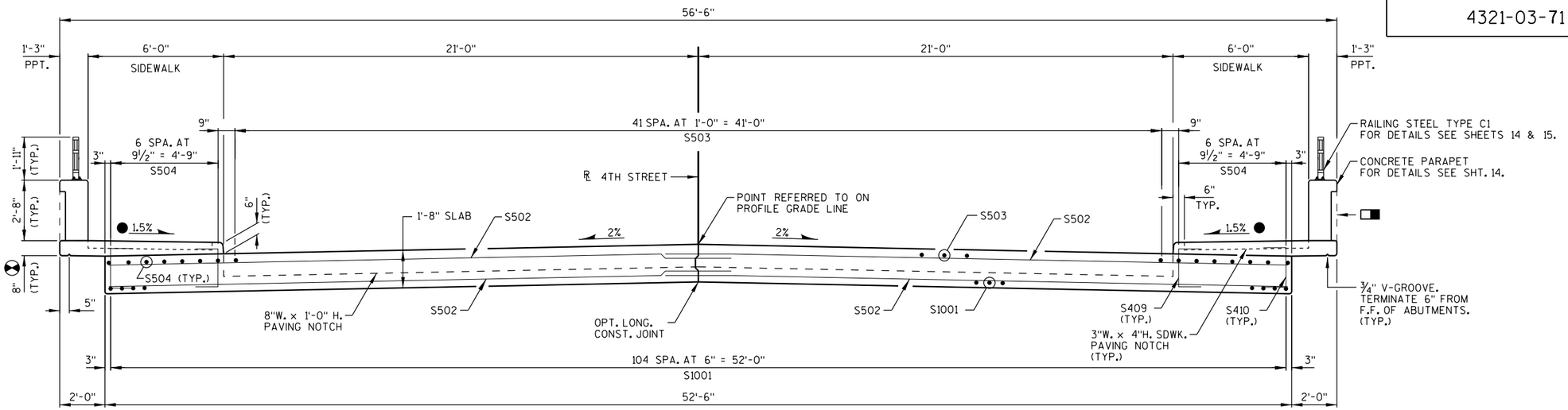
STATE PROJECT NUMBER

4321-03-71



CROSS SECTION THRU ROADWAY

NOTES

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

CAMBER SPAN AS SHOWN TO PROVIDE FOR DEADLOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

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

PARAPETS AND SIDEWALKS PLACED ON TOP OF THE SLAB SHALL BE POURED AFTER FALSEWORK HAS BEEN RELEASED.

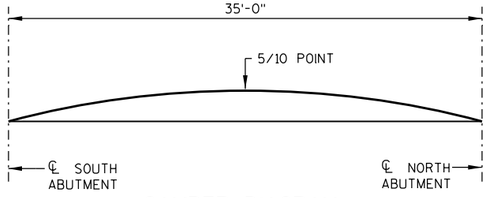
SLAB FALSEWORK TO BE SUPPORTED ON PILES OR THE SUBSTRUCTURE UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE ℄ OF ABUTMENTS AND AT 5/10 PT. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG GUTTER LINES AND CROWN OR ℄.

LEGEND

● ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

FOR ALL OTHER SYMBOL DESCRIPTIONS SEE SHT. 5.

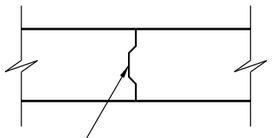


CAMBER DIAGRAM

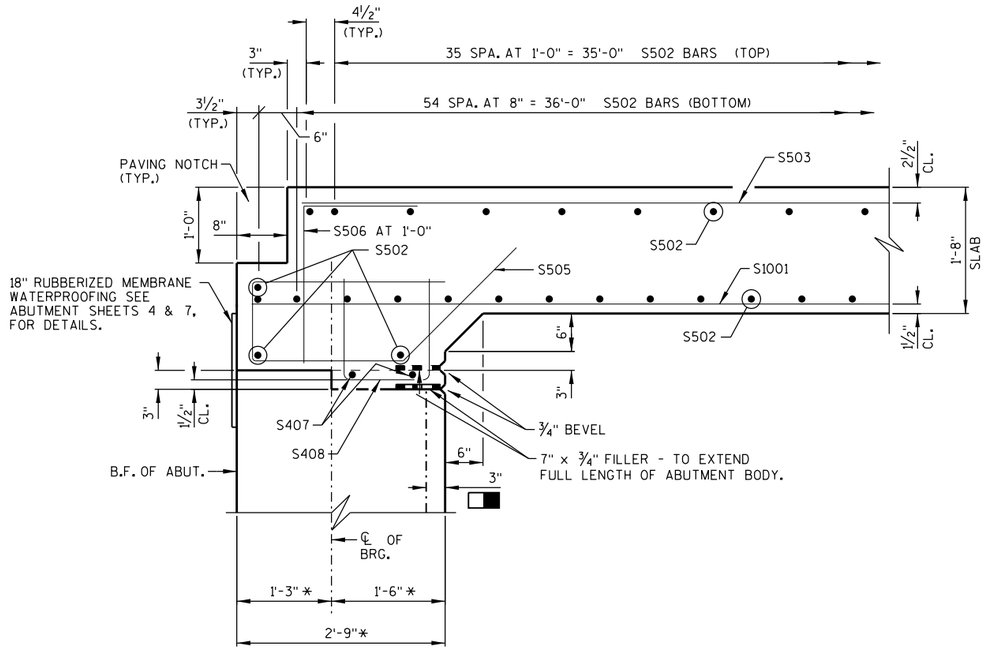
	℄ BRG. S. ABUT.	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	℄ BRG. N. ABUT.
CAMBER (IN.)	0.0	0.4	0.7	0.9	1.1	1.1	1.1	0.9	0.7	0.4	0.0

TOP OF DECK ELEVATIONS

	℄ BRG. S. ABUT.	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	℄ BRG. N. ABUT.
WEST EDGE OF DECK	822.82	822.81	822.79	822.77	822.75	822.74	822.72	822.70	822.68	822.67	822.65
℄ OF DECK	823.39	823.37	823.35	823.34	823.32	823.30	823.28	823.27	823.25	823.23	823.21
EAST EDGE OF DECK	822.89	822.88	822.86	822.84	822.82	822.81	822.79	822.77	822.75	822.74	822.72



OPTIONAL LONGITUDINAL CONSTRUCTION JOINT



PARTIAL LONGITUDINAL SECTION

* DIMENSIONS ARE GIVEN NORMAL TO ℄ OF SUBSTRUCTURE UNITS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-217

DRAWN BY KAM | PLANS CK'D. MAH

SUPERSTRUCTURE

SHEET 11 OF 15
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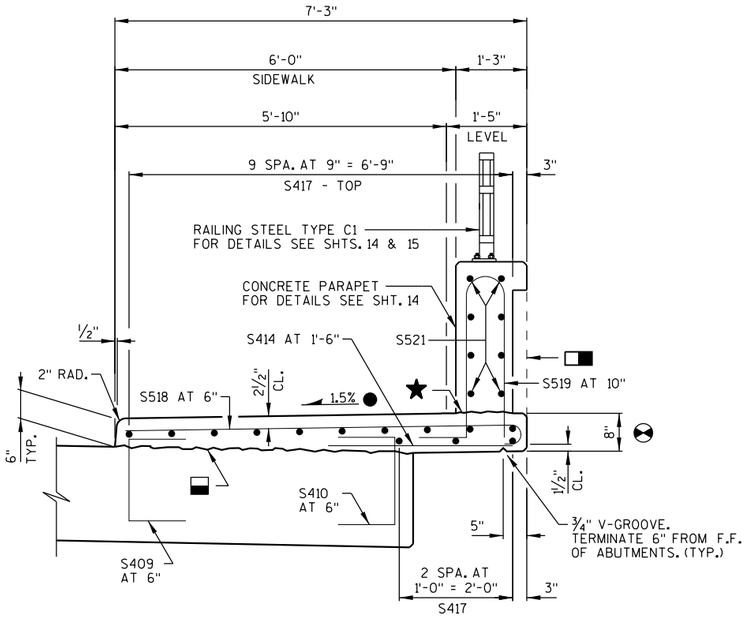
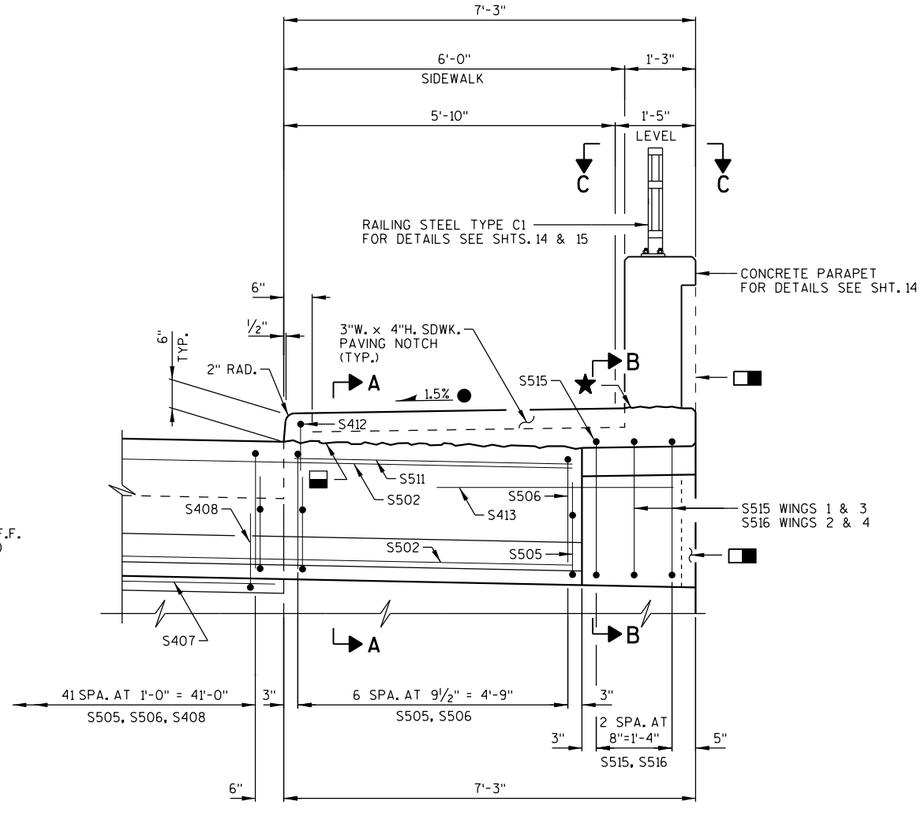
STATE PROJECT NUMBER

4321-03-71



TYPICAL SECTION THRU SIDEWALK

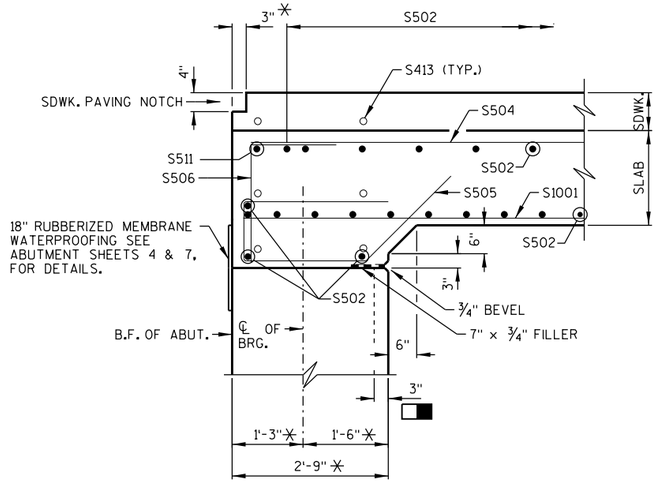


PART SECTION AT ABUTMENT

LEGEND

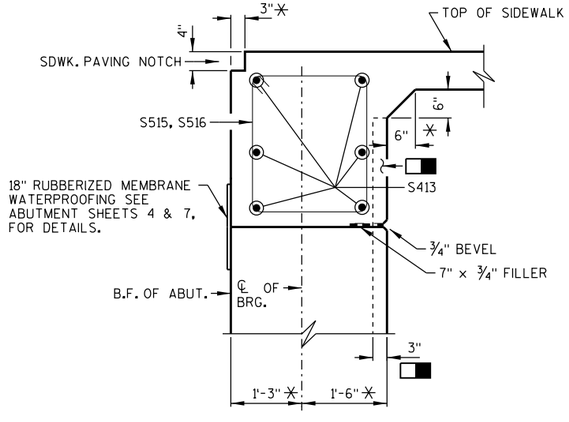
- ● 0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ✳ DIMENSIONS MEASURED NORMAL TO ℄ OF SUBSTRUCTURE.

FOR ADDITIONAL SYMBOL DESCRIPTIONS SEE LEGEND ON SHT. 5.



SECTION A-A

✳ DIMENSIONS ARE GIVEN NORMAL TO ℄ OF SUBSTRUCTURE UNITS.



SECTION B-B

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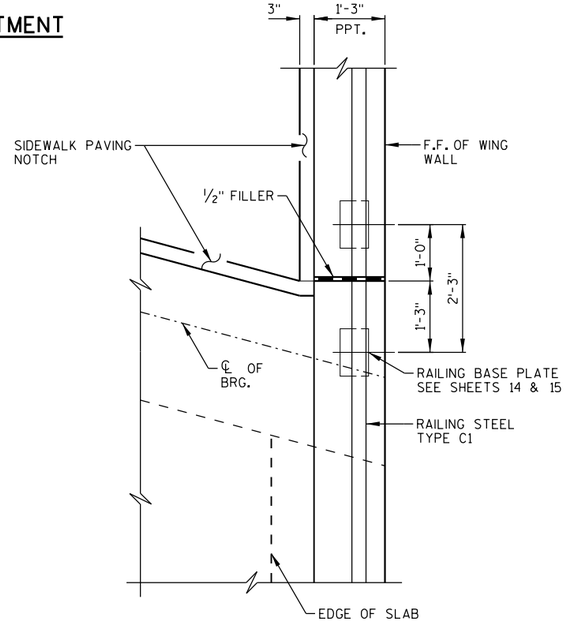

SECTION C-C

WING 4 SHOWN - WINGS 1, 2, & 3 SIMILIAR

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-217

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SUPERSTRUCTURE - SIDEWALK DETAILS

SHEET 12 OF 15

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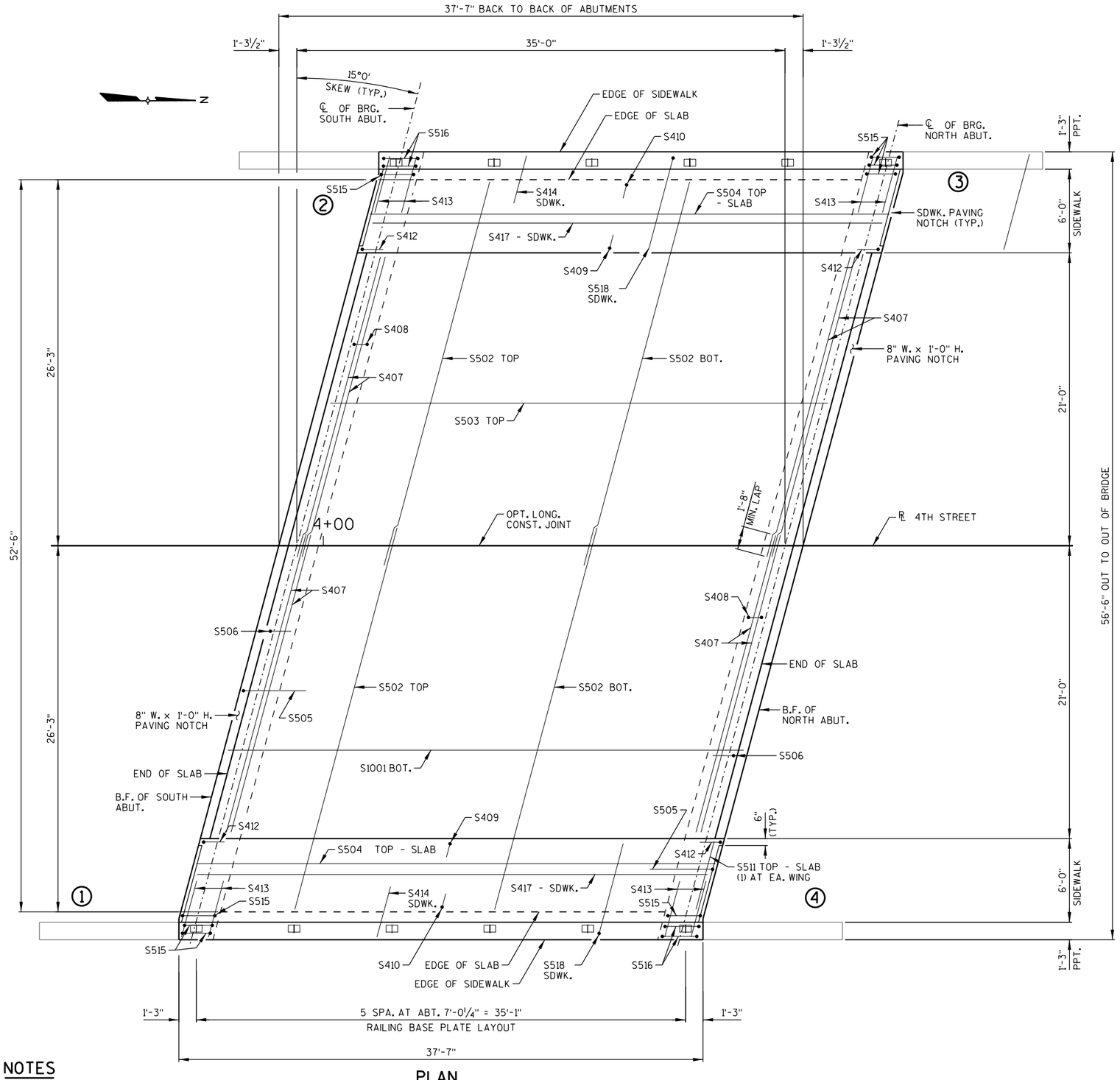


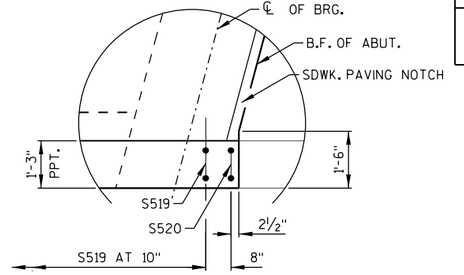
PLAN

NOTES

LAP TRANSVERSE NO. 5 BARS 2'-11" MIN. IN SLAB.

ALL TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE PLACED PARALLEL TO SUBSTRUCTURE UNITS.

FOR RAISED SIDEWALK SEE SHT. 12.



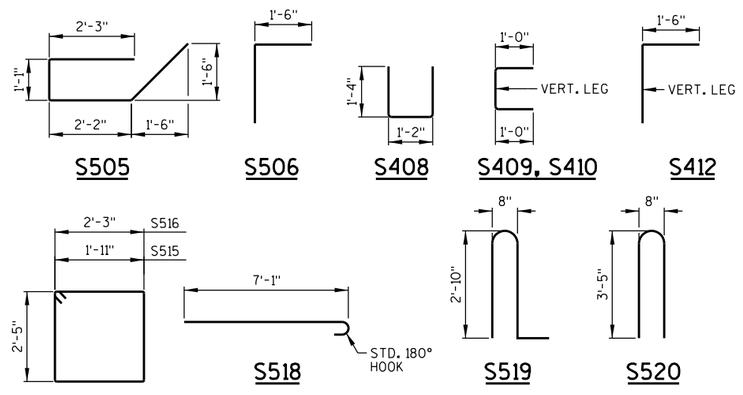
CORNER DETAIL

WING 4 SHOWN, WINGS 1, 2 & 3 SIMILIAR

BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

MARK	NO. REQ'D.	LENGTH	BENT	LOCATION
COATED BARS				TOTAL WEIGHT = 30,670 LBS
S1001	105	37-3		SLAB - BOTTOM LONG.
S502	202	28-6		SLAB - TOP & BOTTOM TRANS.
S503	42	35-10		SLAB - TOP LONG.
S504	14	37-3		SLAB - TOP, BENEATH SDWK'S, LONG.
S505	112	7-5	X	SLAB - ENDS VERT.
S506	112	3-5	X	SLAB - ENDS VERT.
S407	8	22-5		SLAB - ABUT. NOTCH TRANS.
S408	88	3-8	X	SLAB - ABUT. NOTCH VERT.
S409	152	3-4	X	SLAB - SDWK. TIE VERT.
S410	152	3-6	X	SLAB - SDWK. TIE VERT.
S511	4	5-0		SLAB - TOP BENEATH SDWK AT WINGS. TRANS.
S412	4	2-11	X	SLAB - SDWK. TIE AT END OF CURB VERT.
S413	24	4-2		SLAB - ABUT. AT SDWK. TRANS.
S414	52	3-0		SDWK. - BOTTOM TRANS.
S515	8	9-3	X	SDWK. - AT ABUT. ENDS VERT.
S516	4	9-11	X	SDWK. - AT ABUT. ENDS WINGS 2 & 4 VERT.
S417	26	36-9		SDWK. LONG.
S518	150	7-8	X	SDWK. TRANS.
S519	88	6-9	X	SDWK. - PARAPET VERT.
S520	4	7-3	X	SDWK. - PARAPET VERT.
S521	16	37-1		SDWK. - PARAPET LONG.



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-217

DRAWN BY KAM | PLANS CK'D. MAH

SUPERSTRUCTURE - PLAN

SHEET 13 OF 15
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STATE PROJECT NUMBER

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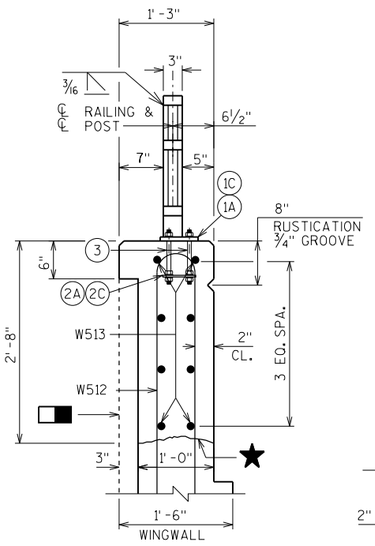
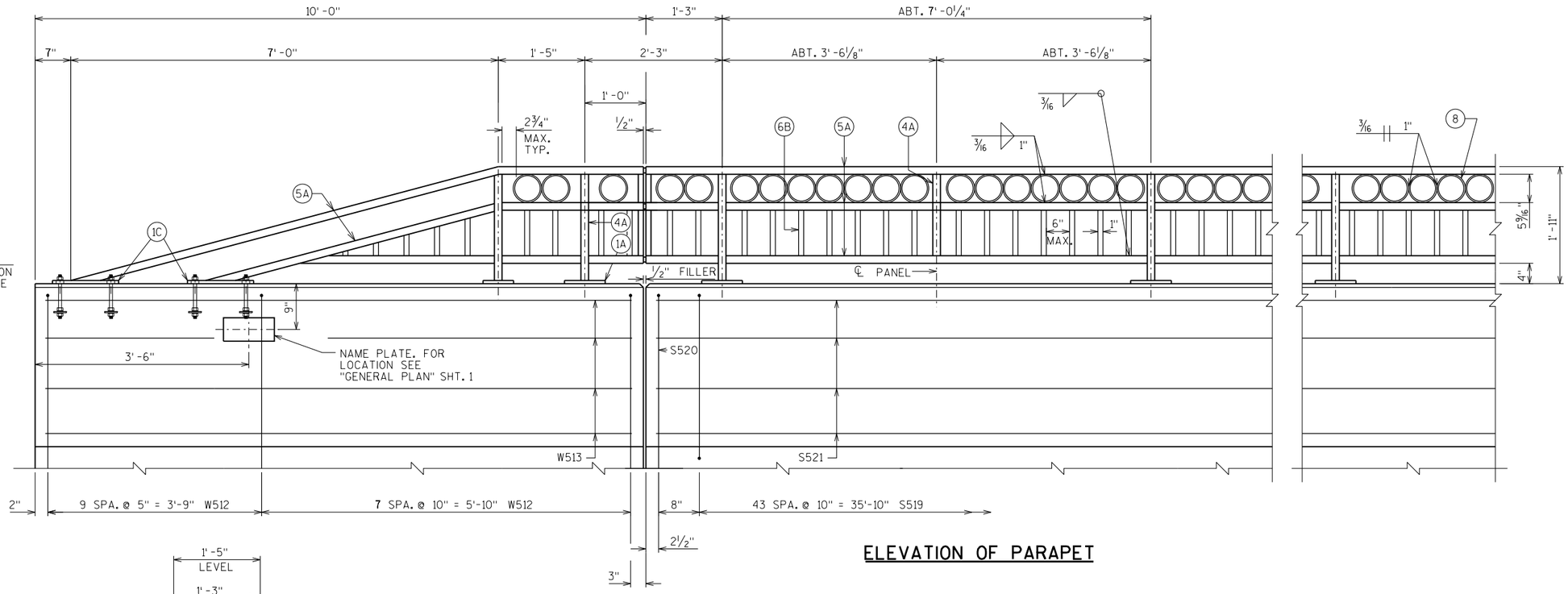
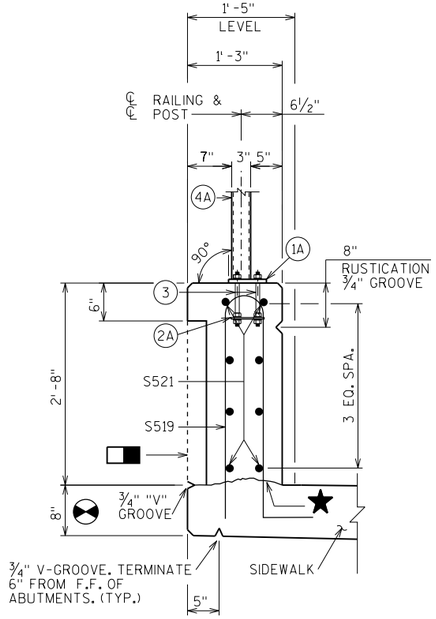


SECTION THRU PARAPET ON WINGS



ELEVATION OF PARAPET



SECTION THRU PARAPET ON BRIDGE

LEGEND

FOR SYMBOL DESCRIPTIONS SEE SHT. 5.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-217

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COMBINATION RAIL TYPE "C1"

SHEET 14 OF 15
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STATE PROJECT NUMBER

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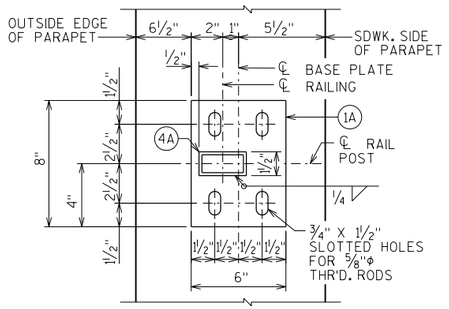

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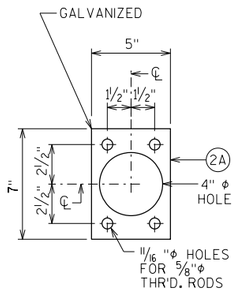
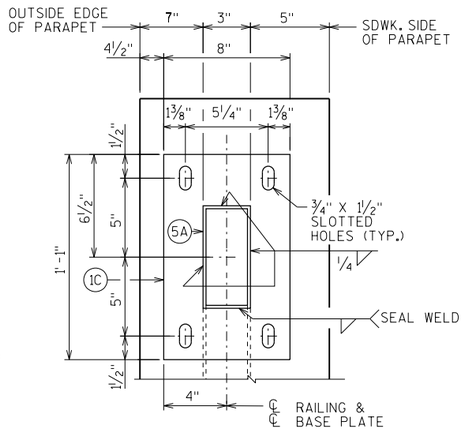
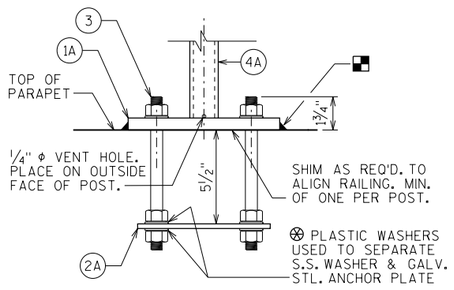


ANCHOR PLATE

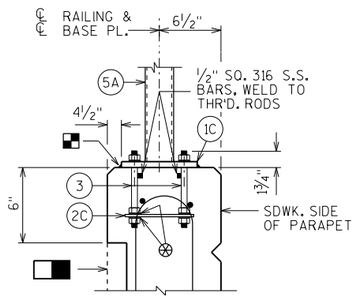


END RAIL BASE PLATE



ANCHORAGE FOR RAIL POSTS

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



ANCHORAGE FOR END RAIL

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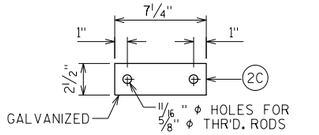
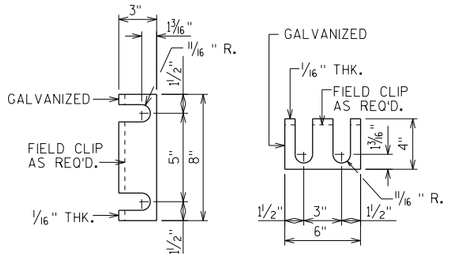


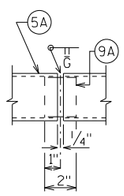
END RAIL ANCHOR PLATE

FOR END RAIL BASE PLATES
2 REQ'D. PER END RAIL BASE PLATE



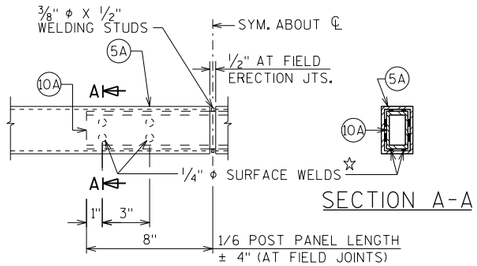
RAIL POST SHIM DETAIL

(2 SETS PER POST)



SHOP RAIL SPLICE DETAIL

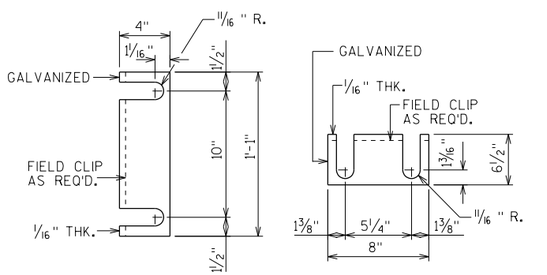
(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



SECTION A-A

FIELD ERECTION JOINT DETAIL

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



END RAIL SHIM DETAIL

(2 SETS PER POST)

LEGEND

(1A) PLATE ⅝" X 6" X 8" WITH ¾" X 1½" SLOTTED HOLES.

(1C) PLATE ⅝" X 8" X 1'-1" WITH ¾" X 1½" SLOTTED HOLES.

(2A) ¼" X 5" X 7" ANCHOR PLATE WITH 11/16 " Φ HOLES FOR THR'D. RODS NO. 3.

(2C) ¼" X 2½" X 7¼" ANCHOR PLATE WITH 11/16 " Φ HOLES FOR THR'D. RODS NO. 3.

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

(4A) STRUCTURAL TUBING 3" X 1½" X 3/16". PLACE VERTICAL. WELD TO NO. 1A & 5A.

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

(6B) BAR 1" X 1½" PICKETS. WELD TO NO. 5A. (SPACE AT 6" MAX. ℄ - ℄ SPACING). PLACE VERTICAL.

(8) STRUCTURAL TUBING 5" Φ (STANDARD SIZE) (5.563" O.D.) 1½" LONG SLICES. WELD TO NO. 5A.

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

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

RAILING NOTES

BID ITEM SHALL BE "RAILING STEEL TYPE C1 B-36-217", WHICH SHALL INCLUDE ALL STEEL ITEMS SHOWN.

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

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

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

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

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

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

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

ALL MATERIAL (EXCEPT NO. 3) 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 "BRIDGE SPECIAL PROVISIONS". THE RAILING SHALL BE PAINTED FEDERAL COLOR NO. 27038, BLACK.

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

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

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-217

DRAWN BY KAM | PLANS CK'D. MAH

COMBINATION RAIL TYPE "C1" DETAILS

SHEET 15 OF 15
71

8

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Mud Creek Stage 1

STATION TO STATION	NOTES	Incremental Vol (CY) (Unadjusted) Cut	Salvaged/ Unusable Pavement Material	Fill	Cumulative Vol (CY) Cut 1.00	Fill 1.25	Mass Ordinate Note 1
1+38'MC' - 7+83'MC'	EXCLUDES B-36-217[2]	2365		185	2365	231	2134
5+52'MC' - 6+18'MC'	AT B-36-217[2]	647			3012	231	2781
		3012	0	185			

Notes: 1 - MASS ORDINATE = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL - (FILL - REDUCED FILL IN EBS) x FILL FACTOR
2 - SEE CONSTRUCTION DETAILS (DETAIL OF EXCAVATION COMMON LIMITS AT B-36-217)

Mud Creek Stage 1A

STATION TO STATION	NOTES	Incremental Vol (CY) (Unadjusted) Cut	Salvaged/ Unusable Pavement Material	Fill	Cumulative Vol (CY) Cut 1.00	Fill 1.25	Mass Ordinate Note 1
1+38'MC' - 7+83'MC'	EXCLUDES B-36-217[2]	625		840	625	1050	-425
		625	0	840			

Notes: 1 - MASS ORDINATE = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL - (FILL - REDUCED FILL IN EBS) x FILL FACTOR
2 - SEE CONSTRUCTION DETAILS (DETAIL OF EXCAVATION COMMON LIMITS AT B-36-217)

4TH Street - South Stage 2

STATION	Distance	AREA (SF) Cut	AREA (SF) Salvaged/ Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut	Incremental Vol (CY) (Unadjusted) Salvaged/ Unusable Pavement Material	Incremental Vol (CY) (Unadjusted) Fill	Cumulative Vol (CY) Cut 1.00	Cumulative Vol (CY) Fill 1.25	Mass Ordinate Note 1
3+50.000	0	91.4	16.5	0.0	0	0	0	0	0	0
3+57.040	7.04	61.8	16.5	0.0	63	5	0	63	0	58
					63	5	0			

4TH Street - Existing Bridge Stage 2

STATION	Distance	AREA (SF) Cut	AREA (SF) Salvaged/ Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut	Incremental Vol (CY) (Unadjusted) Salvaged/ Unusable Pavement Material	Incremental Vol (CY) (Unadjusted) Fill	Cumulative Vol (CY) Cut 1.00	Cumulative Vol (CY) Fill 1.25	Mass Ordinate Note 1
3+57.040	0	0.0	0.0	342.5	0	0	0	0	0	0
3+84.970	27.93	0.0	0.0	342.5	0	0	354	0	443	-443
					0	0	354			

4TH Street - Between Structures Stage 2

STATION	Distance	AREA (SF) Cut	AREA (SF) Salvaged/ Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut	Incremental Vol (CY) (Unadjusted) Salvaged/ Unusable Pavement Material	Incremental Vol (CY) (Unadjusted) Fill	Cumulative Vol (CY) Cut 1.00	Cumulative Vol (CY) Fill 1.25	Mass Ordinate Note 1
3+84.970	0	58.5	16.5	0.0	0	0	0	0	0	0
3+89.570	4.6	80.4	16.5	0.0	12	2.81	0	12	0	9
					12	3	0			

Notes: 1 - MASS ORDINATE = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL - (FILL - REDUCED FILL IN EBS) x FILL FACTOR

4TH Street - North Stage 2

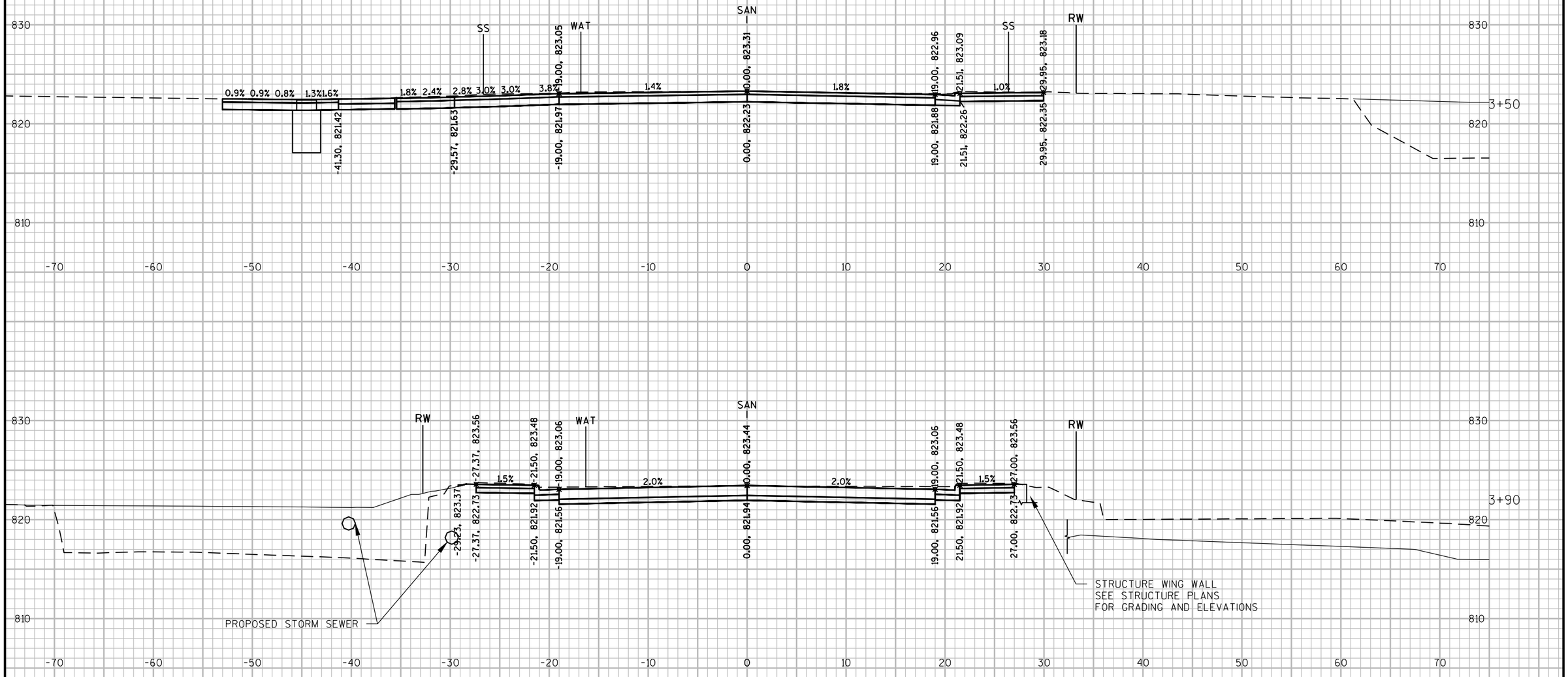
Station	Distance	AREA (SF) Cut	AREA (SF) Salvaged/ Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut	Incremental Vol (CY) (Unadjusted) Salvaged/ Unusable Pavement Material	Incremental Vol (CY) (Unadjusted) Fill	Cumulative Vol (CY) Cut 1.00	Cumulative Vol (CY) Fill 1.25	Mass Ordinate Note 1
4+41.628		85.53	16.5	0.1	0	0	0	0	0	0
4+50.000	8.372	81.15	16.5	0.11	26	5.12	0	26	0	21
5+00.000	50.000	60.58	16.5	0.54	131	30.56	1	157	1	126
5+45.000	45.000	63.25	16.5	0.01	103	27.50	0	260	1	196
					260	63	1			

Mud Creek Stage 2

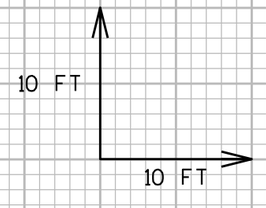
STATION TO STATION	NOTES	Incremental Vol (CY) (Unadjusted) Cut	Incremental Vol (CY) (Unadjusted) Salvaged/ Unusable Pavement Material	Incremental Vol (CY) (Unadjusted) Fill	Cumulative Vol (CY) Cut 1.00	Cumulative Vol (CY) Fill 1.25	Mass Ordinate Note 1
1+38'MC' - 7+83'MC'	EXCLUDES B-36-217[2]	195		740	195	925	-730
		195	0	740			

Notes: 1 - MASS ORDINATE = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL - (FILL - REDUCED FILL IN EBS) x FILL FACTOR
2 - SEE CONSTRUCTION DETAILS (DETAIL OF EXCAVATION COMMON LIMITS AT B-36-217)

BEGIN PROJECT STA 3+45



PROPOSED STRUCTURE
B-36-217
STA 4+14



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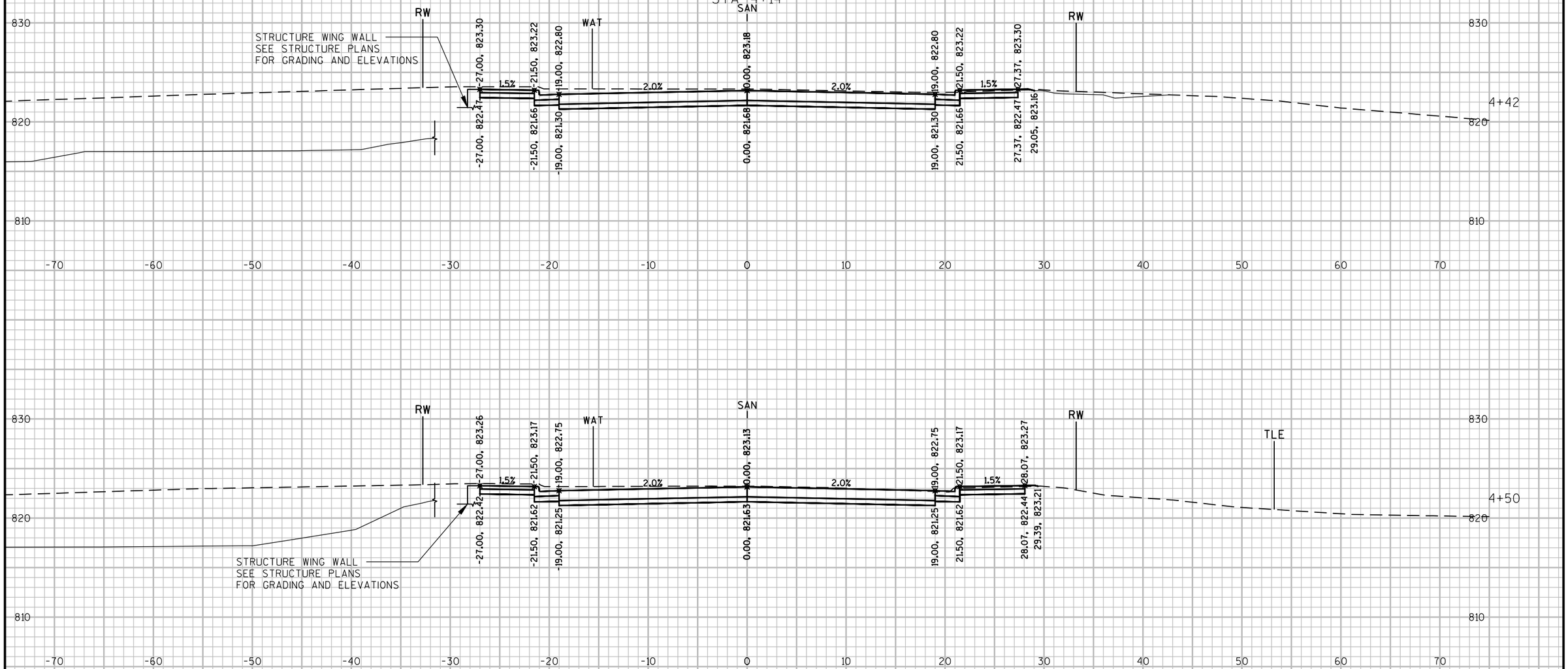
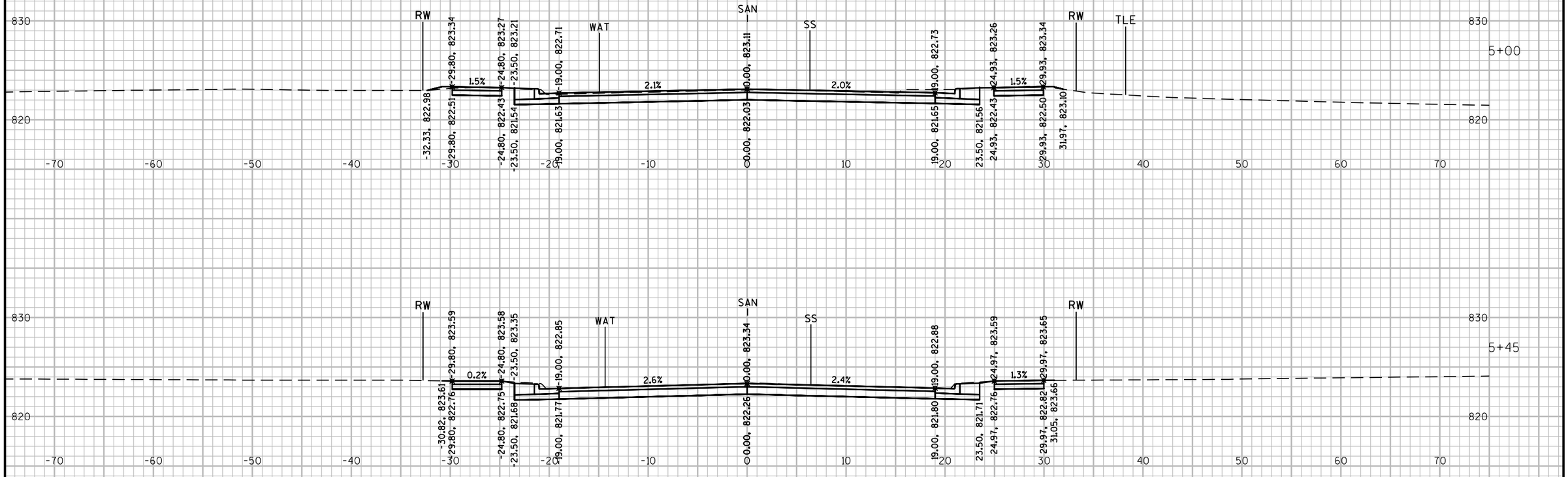
PROJECT NO: 4321-03-71	HWY: 4TH STREET	COUNTY: MANITOWOC	CROSS SECTIONS: STA 3+50 - STA 3+90	SHEET 75	E

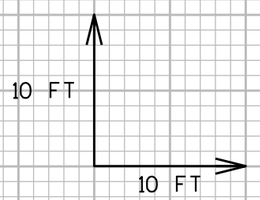
PROPOSED STRUCTURE
B-36-217
STA 4+14



PROJECT NO: 4321-03-71	HWY: 4TH STREET	COUNTY: MANITOWOC	CROSS SECTIONS: STA 4+42 - STA 4+50	SHEET 76	E



END PROJECT STA 5+45



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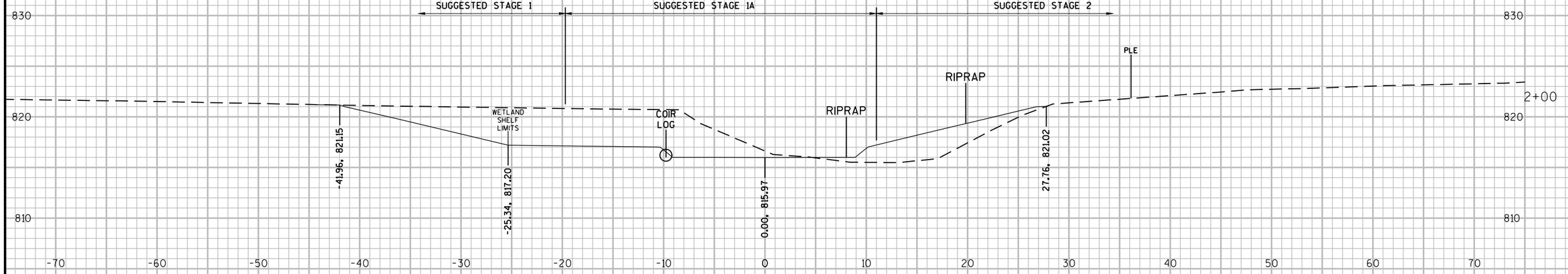
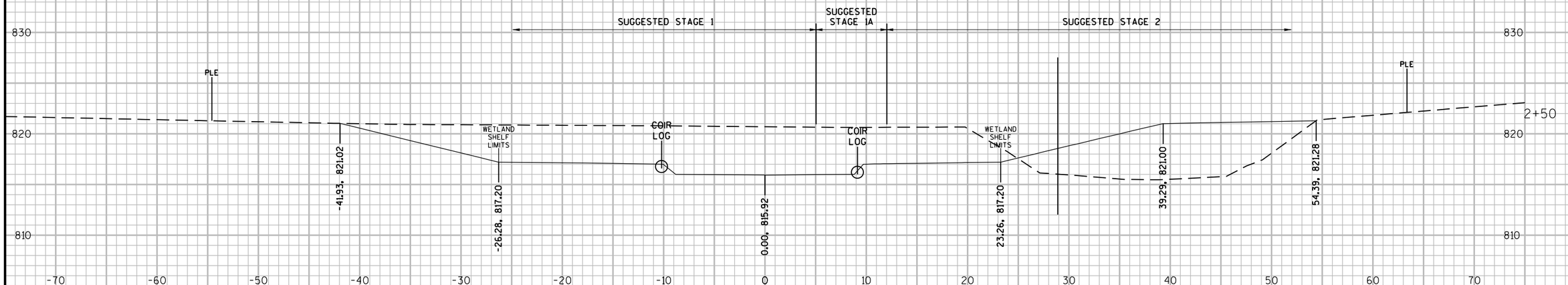
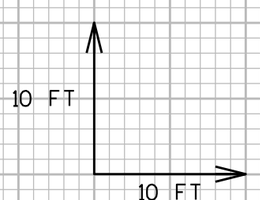
PROJECT NO: 4321-03-71	HWY: 4TH STREET	COUNTY: MANITOWOC	CROSS SECTIONS: STA 5+00 - STA 5+45	SHEET 77	E

BEGIN CONSTRUCTION STA 2+00







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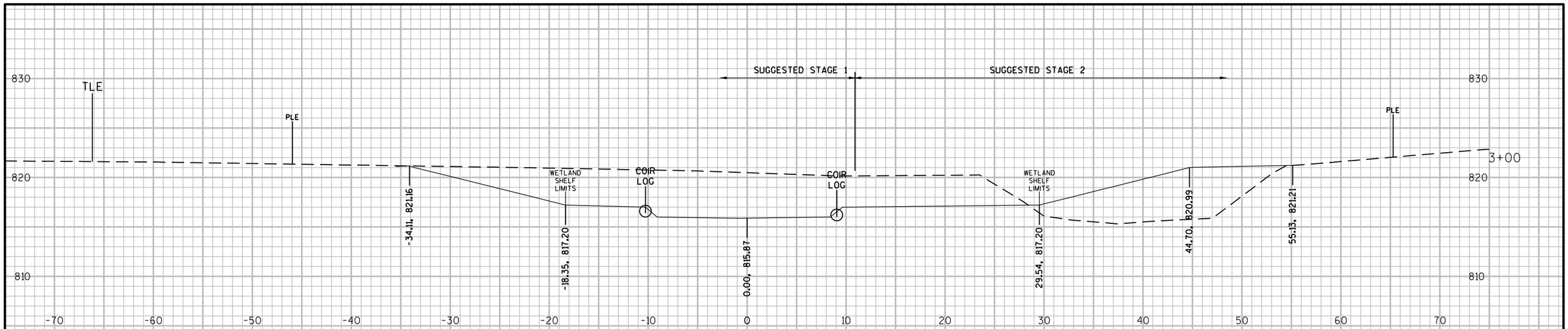
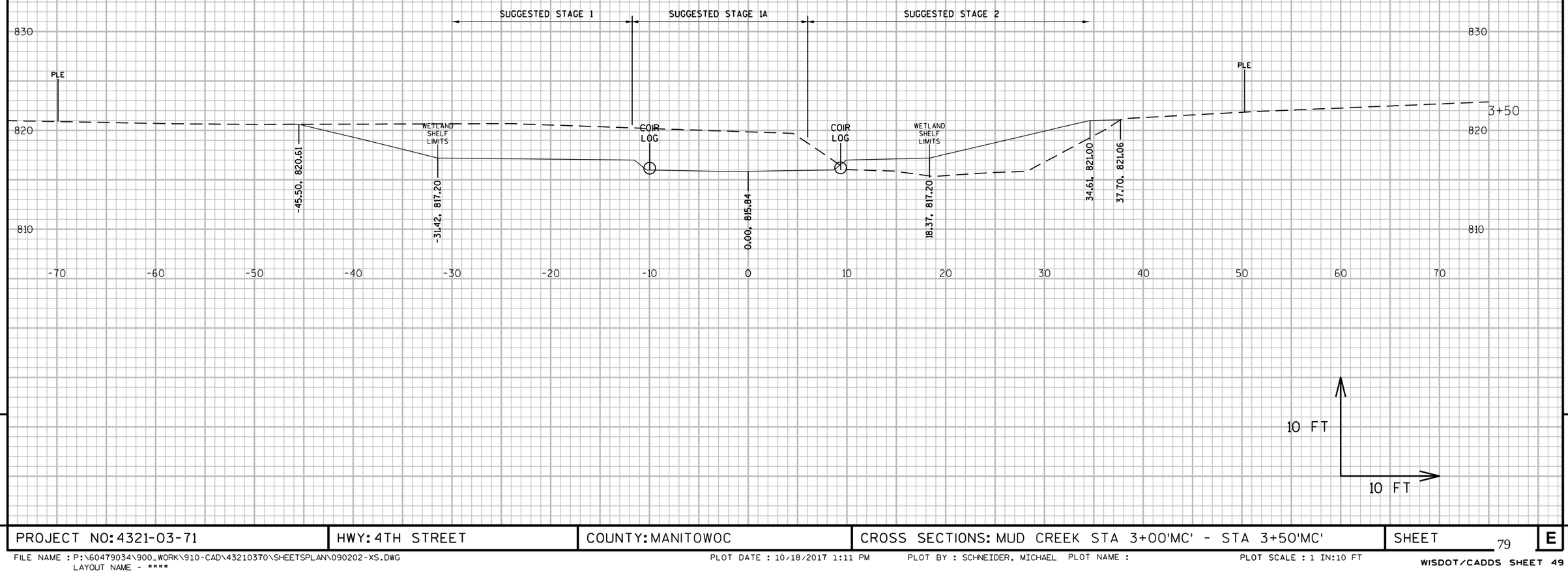
PROJECT NO: 4321-03-71	HWY: 4TH STREET	COUNTY: MANITOWOC	CROSS SECTIONS: MUD CREEK STA 2+00'MC' - STA 2+50'MC'	SHEET 78	E

FILE NAME : P:\60479034\900_WORK\910-CAD\43210370\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - ****
PLOT DATE : 10/18/2017 1:11 PM PLOT BY : SCHNEIDER, MICHAEL PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 49





PROJECT NO: 4321-03-71	HWY: 4TH STREET	COUNTY: MANITOWOC	CROSS SECTIONS: MUD CREEK STA 3+00'MC' - STA 3+50'MC'	SHEET 79	E

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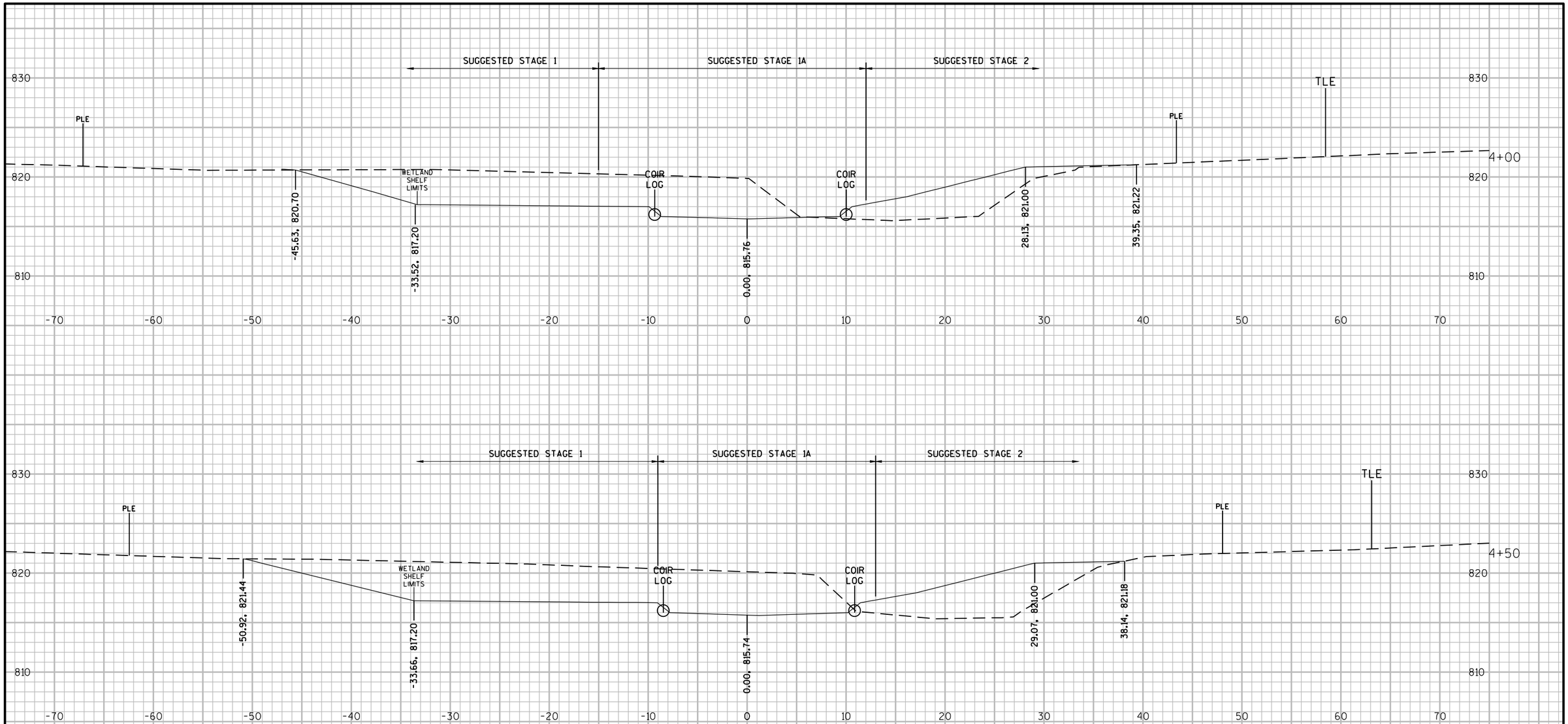
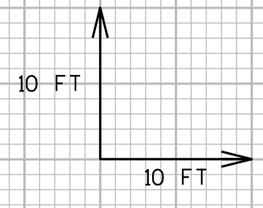
LAYOUT NAME - ****

PLOT DATE : 10/18/2017 1:11 PM PLOT BY : SCHNEIDER, MICHAEL PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49





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PROJECT NO: 4321-03-71	HWY: 4TH STREET	COUNTY: MANITOWOC	CROSS SECTIONS: MUD CREEK STA 4+00'MC' - STA 4+50'MC'	SHEET 80	E

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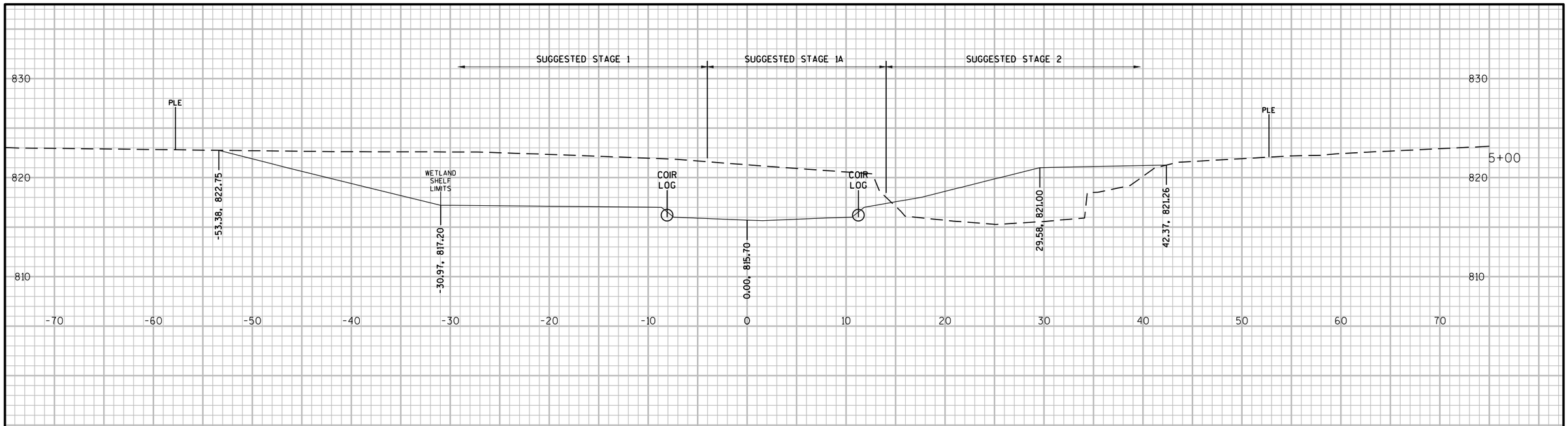
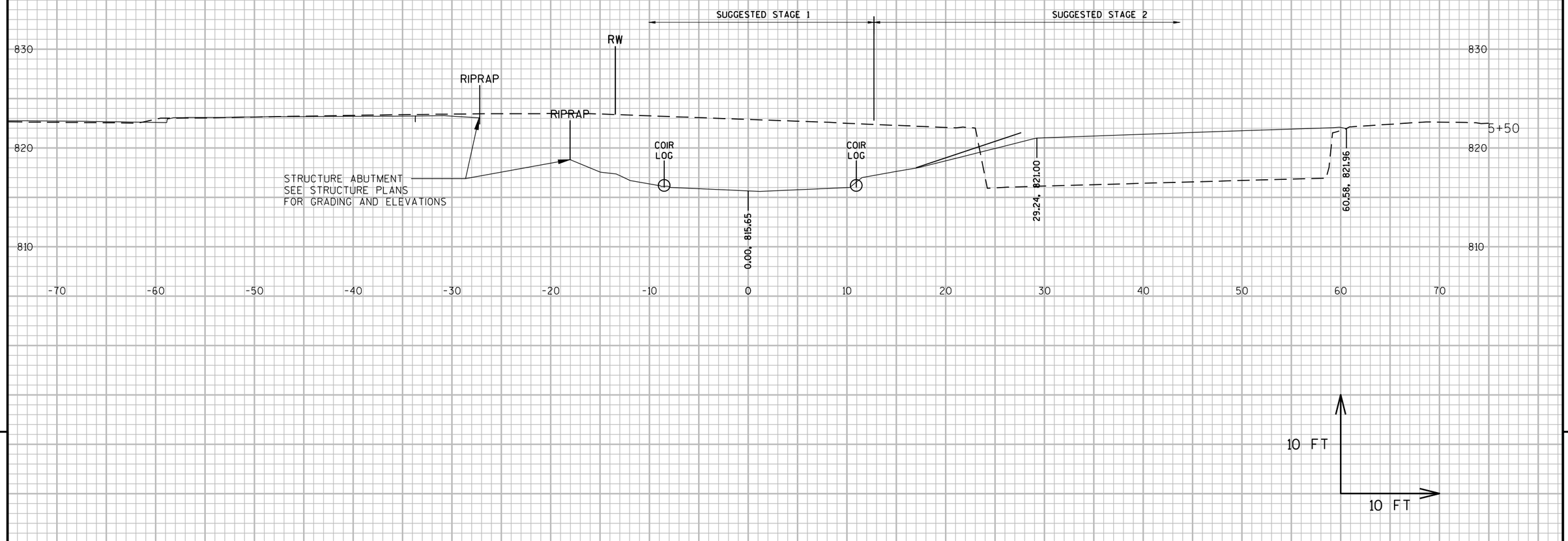
WISDOT/CADDS SHEET 49





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PROJECT NO: 4321-03-71	HWY: 4TH STREET	COUNTY: MANITOWOC	CROSS SECTIONS: MUD CREEK STA 5+00'MC' - STA 5+50'MC'	SHEET 81	E

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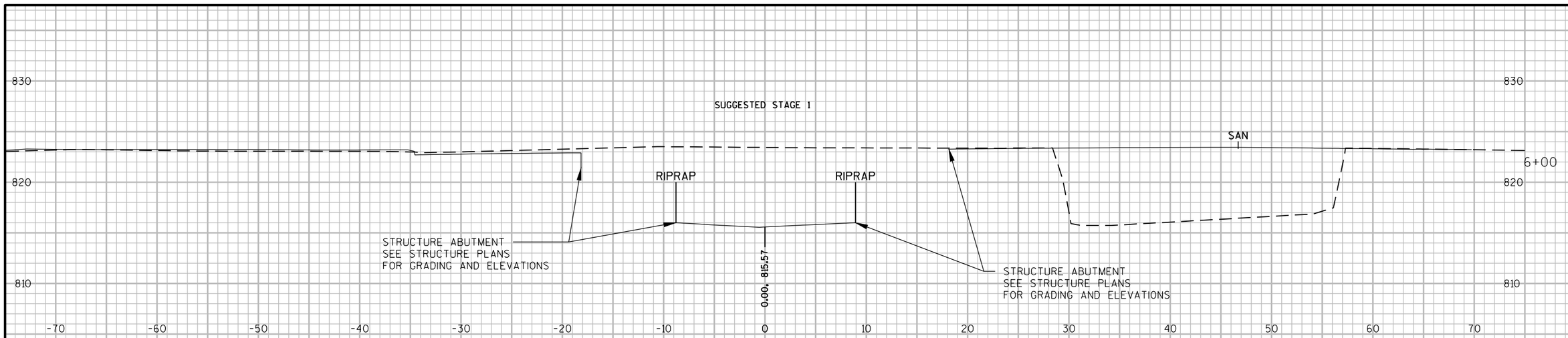
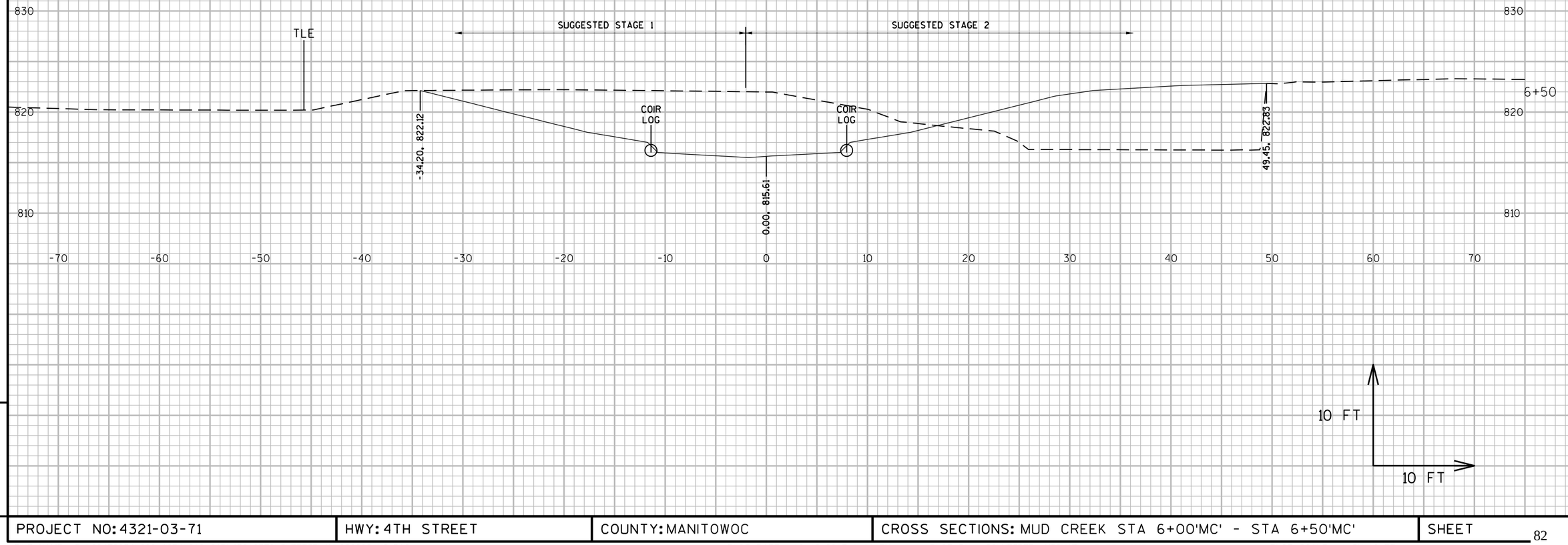
WISDOT/CADDS SHEET 49





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PROJECT NO: 4321-03-71	HWY: 4TH STREET	COUNTY: MANITOWOC	CROSS SECTIONS: MUD CREEK STA 6+00'MC' - STA 6+50'MC'	SHEET 82	E

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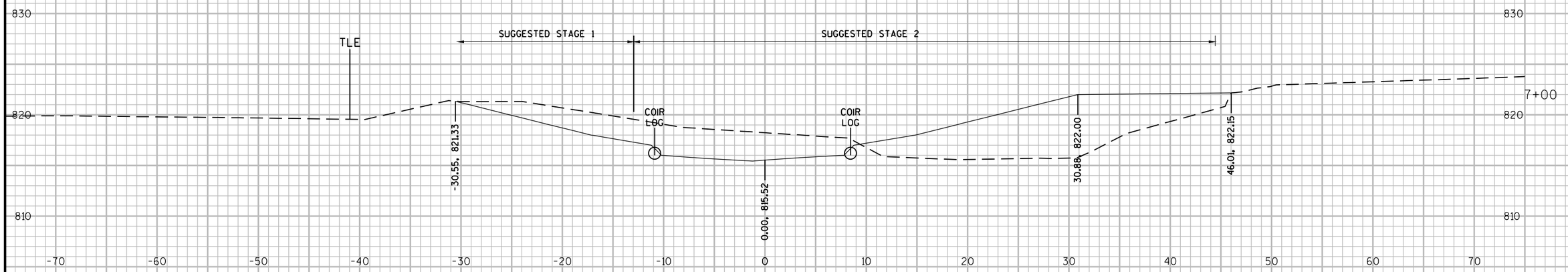
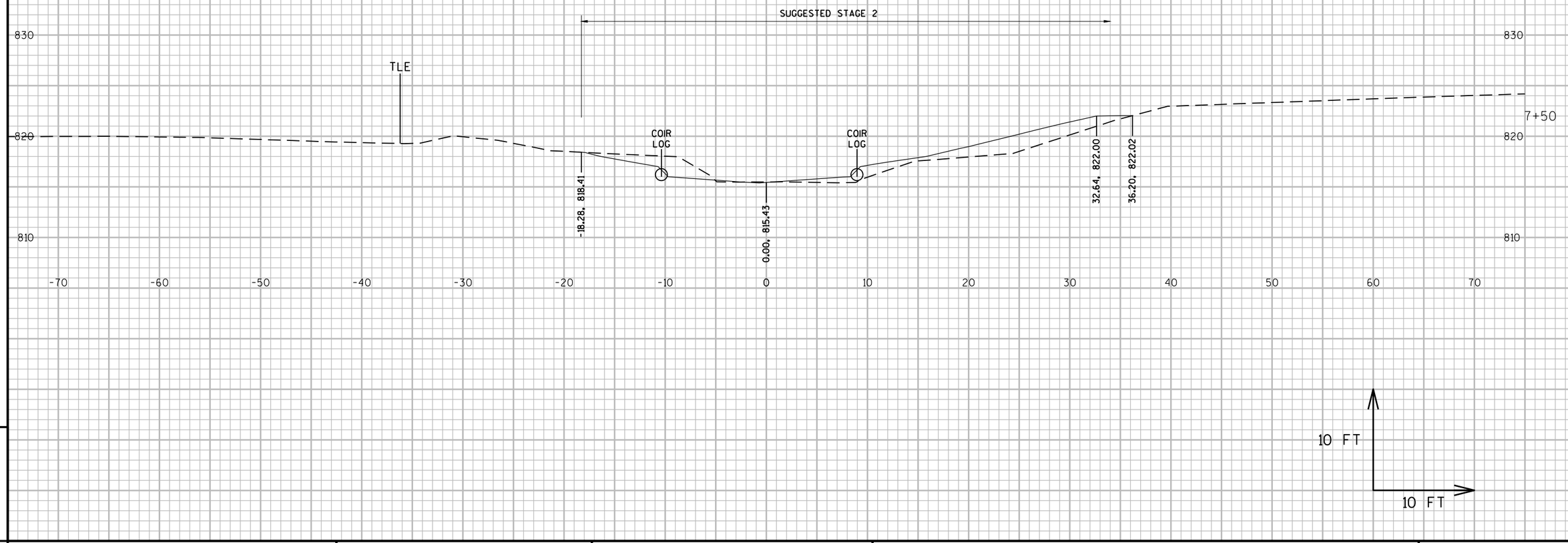
WISDOT/CADDS SHEET 49





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PROJECT NO: 4321-03-71	HWY: 4TH STREET	COUNTY: MANITOWOC	CROSS SECTIONS: MUD CREEK STA 7+00'MC' - STA 7+50'MC'	SHEET 83	E

FILE NAME : P:\60479034\900_WORK\910-CAD\43210370\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - ****

PLOT DATE : 10/18/2017 1:11 PM PLOT BY : SCHNEIDER, MICHAEL PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

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